Annual Report
July 2017 - June 2018

Delafield Sanitary Transfer and Landfill
WDNR License No. 00719
Waukesha County, Wisconsin

Prepared for:
Wisconsin Department of Natural Resource
101 S. Webster St.
Madison, WI 53703

Prepared by:
Environmental Sampling Corporation
P.O. Box 12
Muskego, WI 53150

June 2018

ENVIRONMENTAL SAMPLING CORPORATION

Dedicated to Environmental Monitoring, Science & Technology

June 29, 2018

Mr. Jason Lowery
Wisconsin Department of Natural Resources
101 S. Webster St.
Madison, WI 53703

Re: Annual Report: July 2017-June 2018
Delafield Sanitary Transfer and Landfill - WDNR License No. 00719
Delafield, Wisconsin

Dear Mr. Lowery:

With this submission, Environmental Sampling Corporation (ESC) is providing an Annual Report to summarize the monitoring activities conducted during the fiscal year beginning July 2017 to June 2018. This Annual Report is separated into subparts based on the Documentation and Submittals Section of the April 24, 2017 Bidding Documents. The Annual Report sections are as follows: Annual Inspection Reports; Gas Probe Reports; Gas Extraction System Reports; Groundwater and Leachate Monitoring Reports; Private Well Owner Monitoring Reports; and Leachate System and Landfill Cover Evaluation.

Annual Inspection Reports

ESC staff conducted the annual inspection on May 1, 2018. The annual inspection report is provided as **Attachment 1**. ESC coordinated the annual inspection with the regrading of the 6-inch bypass header on the North side of the landfill. Below is a summary of the landfill conditions on May 1, 2018.

- Overall, the landfill site was in good condition. The landfill cover generally appeared to be well vegetated and in good condition with grass approximately six inches long at the time of the inspection. There are two areas of settlement on the landfill that have resulted in ponded surface water.
    - The first area is located on the northeast side near the pine trees. This area was filled in and corrected on May 1, 2018 with the extra soils from regrading the 6-inch bypass header area. Additional soil will be needed to complete the corrective action in this area. ESC has proposed to complete the regrading with excess soil from the final connection of the Gas bypass Header Remediation CS-3 & HMP-7 Area after the work is completed.
    - The second area is located on the West side of the landfill near CS-2 and GP-9. There is a flat area between the landfill and CS-2 and GP-9 which has tire ruts, cover settlement, and ponded surface water. Filling this area and regrading may not be an option due to significant settlement of the landfill and the cost for delivery of additional soils. This area needs to be surveyed so that the ponded surface water can drain off the area with minimal disturbance to the landfill cap and surrounding area. ESC also believes the ponded water in this area contributes to the gas detected in GP-9. The ponded surface water is infiltrating and likely contributing to landfill gas generation and migration issues in this area. Additional information can be found in the gas probe section of this annual report.

- Landfill slopes were in good condition. There were no rills or gully erosion. The grass on the slopes was approximately six inches long at the time of the inspection.

- The Gas Blower and Air Compressor areas are in good condition. The Gas Blower area is fenced in and the building is locked and secured.

- The Leachate Load out area appeared to be in good condition in May 2018. In May 2018, no areas of ponded water or stained water were observed. However, recent rains (June 2018) and ponded stained water in the leachate loadout area is indicative of environmental issues associate with this infrastructure.

Gas Probe Reports

The facility currently has 26 gas probes. ESC staff monitored the gas probes monthly, at a minimum, during the July 2017-June 2018 reporting period. As a result of measured offsite subsurface gas migration, increased monitoring of landfill gas was performed. Due to scheduling conflicts in October 2017, the landfill gas monitoring was conducted on September 29, 2017, to fulfill the October 2017 monitoring requirement. There were no other deviations of the routine monitoring program during the reporting period.

Gas probe monitoring results were provided to the WDNR via email on a monthly basis throughout the reporting period and are also provided with this Annual Report as **Attachment 2**. A data file containing analytical results and a data certification page will also be submitted to the WDNR GEMS data submittal contact.

Methane gas was reported in several gas probes at levels that exceeded the WDNR Explosive Gas Limits (i.e. 5% methane) during the monthly monitoring events. A summary of the exceedances is provided as **Table 1**. Remediation efforts were performed during the reporting period and were effective in reducing the concentration and frequency of methane detections. A summary of methane detected in the gas probes during the July 2017 – June 2018 reporting period is provided as **Table 2**. Effects of the remediation efforts are discussed below.

Methane gas detected in GP-1 and GP-2, located along the North side of the landfill, were corrected with the installation of the 6-inch bypass header line, which reestablished vacuum to numerous gas extraction wells on the North side of the site.

Methane gas detected in GP-3 and GP-4, located on the East side of the landfill, were corrected with the installation of the temporary, above-ground, jumper line, which connected EW-6 to EW-2. The jumper line established vacuum at EW-2 and eliminated gas migration in this area.

Methane has also been detected periodically at GP-9. This probe is located on the West side of the landfill near the areas of settlement the landfill and CS-2/GP-9. As indicated previously, landfill cap settlement may be contributing to the subsurface gas migration issue in this area. It is likely that the methane detected in GP-9, a shallow probe only 8 feet deep, is affected by the ponded water in this area. During the reporting period, this probe was also affected by water and ice in the gas probe. In an attempt to reduce the methane concentrations at GP-9, vacuum at the two adjacent gas wells in the landfill, EW-14 and EW-15, has been increased. Although these gas well have poor methane quality and high oxygen, the increase in vacuum may assist in reducing gas migration in the area of gas probe GP-9. As an additional form of remediation, the gas probe has recently been fitted with a venting sample port to eliminate gas migration. As a result, the gas detected in the GP-9 has

reduced. ESC will continue to monitor the probe and evaluate the presence of water and gas quality in this area. It is anticipated that additional planned remediation efforts will continue to assist in reducing the landfill gas migration in the probes.

Gas Extraction System Reports

ESC staff conducted monthly monitoring of gas blower, the 31 gas extraction wells, eight header points and gas condensate sumps during the July 2017-June 2018 reporting period. Although Bid Documents indicate bi-monthly monitoring of the gas blower and gas extraction wells, the methane gas present in the probes made it necessary to increase the gas extraction well monitoring frequency in order to identify issues with the gas extraction system. Repairs performed on the gas extraction system helped to address the landfill gas migration. Remediation efforts began in August 2017 and were also conducted in December 2017. ESC and the WDNR have successfully performed and completed the following upgrades, repairs, and recordkeeping improvements to the Delafield Sanitary and Transfer Gas Collection System.

- Removed an 8" valve near CS-2 in September 2017 and reestablished vacuum to the West and North side of the landfill.
- Installed a 6" Jumper on the North side of the landfill in December 2017 which reestablished vacuum to four gas wells (EW-19, EW-20, EW-21, and EW-22), thereby, preventing off site gas migration on the North side.
- Conducted minor repairs to numerous gas well heads throughout the reporting period.
- Installed a New York Gas Blower Model # 2204A -7.5Hp Pressure Blower during January 2018 which provides +10" of vacuum throughout the entire system (See **Attachment 3** for details and specifications).
- Performed minor modifications to the flare station during August and September 2017.
- Performed and collected 12 months of Wellfield and Gas Probe Gas Data whereby trends in the Wellfield and Gas Probes could be established.
- Corrected the oxygen issues at CMP-7 and CS-3 during April and May 2018 without invasive excavation work in these areas.
- Installed a temporary above-ground Jumper line during May 2018 from EW-6 to EW-2 which established vacuum at EW-2 and prevented off-site gas migration in the area.
- During the last 12 months ESC has increased the gas flow from an average of 225 SCFM to over 325 SCFM - a 44% increase.
- During the last 12 months ESC has increased the gas system operation (up time) from 35% to over 50% each month (a 43% increase) since the improvements listed above have been completed.
- Established ID numbers to upload Environmental Monitoring and Compliance Program data to the GEMS Database.
- Performed, collected, and recorded environmental monitoring data in the WDNR GEMS Database.

Gas extraction system monitoring results were provided to the WDNR via email monthly throughout the reporting period and are also provided with this Annual Report as **Attachment 4**. A data file containing analytical results and a data certification page will also be submitted to the WDNR GEMS data submittal contact.

An annual gas blower sample was collected on April 27, 2018 and analyzed for VOCs by Method TO-15. Gas quality readings for percent methane, carbon dioxide, oxygen, and balance gases were also measured in the field prior to sample collection. A summary of the gas blower analytical data is provided as **Attachment 5**. A

data file containing the laboratory analytical results and a data certification page will also be submitted to the WDNR GEMS data submittal contact.

Groundwater and Leachate Monitoring Reports:

The semi-annual groundwater and leachate monitoring events were conducted in October 2017 and April 2018 in accordance with the April 24, 2017 Bidding Documents. Information pertaining to the October 2017 monitoring event was provided to the WDNR under separate cover on March 19, 2018. Information pertaining to the April 2018 semi-annual monitoring event is provided below.

ESC staff was on site on April 27, 2018 to conduct the following semi-annual monitoring:

- Sample two groundwater monitoring wells, and
- Sample one leachate monitoring location

A summary of the monitoring is provided in the following sections titled Groundwater Monitoring and Leachate Monitoring. A data file containing analytical results and a data certification page will also be submitted to the WDNR GEMS data submittal contact.

Groundwater Monitoring

Semi-annual groundwater monitoring at the facility includes depth to water measurements and sample collection at two groundwater monitoring wells (NR-2A and NR-2B). Water levels were recorded, and the groundwater wells were purged and sampled with disposable polyethylene bailers. Monitoring wells had three well volumes purged before sample collection.

The groundwater samples were analyzed for field parameters, inorganic parameters included in the bid documents, and volatile organic compounds (VOCs). Samples were unfiltered, with the exception of dissolved iron and dissolved manganese. Samples collected for these parameters were field filtered using disposable 0.45-micron filters. All samples were placed on ice, chain-of-custody was established, and samples were sent to CT laboratories (WDNR Lab Certification #15-7066030) for analysis via Waltco courier service.

Field parameters (pH, specific conductivity and temperature), were measured using a dual Cole-Parmer pH and conductivity meter which was calibrated and checked in the field during the sampling event. ESC personnel also recorded depth-to-water measurements, sample color, odor, and turbidity.

The groundwater quality results for the samples collected from the two monitoring wells were compared to the WDNR NR140 Preventative Action Limits (PALs) and Enforcement Standards (ES) for Public Health and Public Welfare parameters. Exceedances of NR140 standards for Public Health and Public Welfare are summarized below, followed by a discussion of VOC detections.

NR140 Pubic Health Parameter Exceedances:

Concentrations of arsenic exceeded the NR 140 PAL and concentrations of manganese (total and dissolved) exceeded the NR 140 ES or PAL in the samples collected from groundwater monitoring wells NR-2A and NR-2B. Concentrations of arsenic in the samples collected from NR-2A and NR-2B were similar to historic data available in the GEMS Database. Concentrations of total and dissolved manganese were within the range of available

historic data for samples collected from NR-2B, but were increased from the typical historic data available for NR-2A.

The concentration of chromium in the sample collected from NR-2A exceeded the NR 140 PAL and the concentration of lead in the sample collected from NR-2A exceeded the NR 140 ES. The concentrations of chromium and lead were within the range of historic data available for NR-2A. A summary of NR140 Public Health Parameter exceedances is provided as **Table 3**.

NR140 Pubic Welfare Parameter Exceedances:

The concentration of chloride in the sample collected from NR-2B exceeded the NR 140 PAL. The reported concentration was similar to available historic data. Concentrations of dissolved iron in the samples collected from NR-2A and NR-2B exceeded the NR 140 ES. The reported concentration were within the range of available historic data for samples Concentrations of manganese (total and dissolved) in the samples collected from NR-2A and NR-2B also exceeded the NR 140 ES. The WDNR has established both Public Health and Public Welfare parameters for manganese. As indicated above, the concentrations of total and dissolved manganese were within the range of available historic data for samples collected from NR-2B but were increased from the typical historic data available for NR-2A. A summary of NR140 Public Welfare Parameter exceedances is provided as **Table 4**.

VOC Detections:

No VOCs were detected in the sample collected from NR-2A. Two VOCs, 1,1-dichloroethane and 1,4-dichlorobenzene, were detected at concentrations less than NR 140 standards in the sample collected from NR-2B. These concentrations were less than the LOQ which cannot be confirmed by the laboratory and should be considered estimates. No other VOCs were detected in the sample collected from NR-2B.

Leachate Monitoring

A sample was collected from the Leachate Wet Well in April 2018 with a disposable polyethylene bailer. Samples were analyzed for field parameters, inorganic parameters included in the bid documents, and VOCs. Leachate analytical results were compared to historic data from the last five years that was available in the GEMS Database (i.e. November 2013, July 2014, May 2015, May 2016) and data collected during the October 2017 semi-annual monitoring event. Concentrations of alkalinity, hardness, chloride, sulfate, cyanide, TKN, antimony, beryllium, cadmium, calcium, chromium, copper, dissolved iron, magnesium, total and dissolved manganese, lead, selenium, sodium, thallium, zinc, and field pH were similar to available historic data. Concentrations of nitrate+nitrite nitrogen, arsenic, barium, field conductivity, and VOCs were reduced from available historic data. Select parameters (e.g. BOD, COD, TSS, ammonia nitrogen for example) were analyzed periodically over the past five years but were not required by the current Bid Documents.

Private Well Owner Monitoring Reports

The semi-annual private well monitoring events were conducted in October 2017 and April 2018 in accordance with the April 24, 2017 Bidding Documents. Information pertaining to the October 2017 private well monitoring event was provided to the WDNR under separate cover on March 19, 2018. Letters containing laboratory analytical results were sent to the homeowners and WDNR on December 5, 2017. Information pertaining to the April 2018 semi-annual monitoring event is provided below.

Six private well water samples were collected during the semi-annual monitoring event on April 27, 2018. The private well samples were collected after the wells had been purged for 15 minutes. The private well water samples were analyzed for field parameters, inorganic parameters included in the bid documents, and VOCs (Method 524.2).

Laboratory analytical data indicates that there were no exceedances of the primary drinking water standards for the six private well samples collected. There was one exceedance of the Secondary Standard for manganese in the sample collected from private well 11. The reported concentration of manganese was increased from available historic data for this private well. The VOC chloromethane was reported a low levels less than drinking water standards in the samples collected from each of the six private well samples collected. Chloromethane was also reported in the laboratory quality control method blank. Chloromethane is a common laboratory contaminant; the presence of chloromethane in the samples is likely a result of laboratory contamination and does not represent the actual drinking water quality. Private well letters were provided to the homeowners and the WDNR on May 23, 2018.

Leachate System and Landfill Cover Evaluation

As indicated in the Bidding Documents, the existing landfill cover a limited clay content and is not in compliance with NR 504.07, Wis. Adm. Code. The permeable cover results in additional surface water infiltration and decreases the efficiency of the gas collection system. As part of this first annual report, ESC is to assess the landfill cover and leachate extraction system by providing responses to the five points identified below.

- **A recommendation of whether to pursue temporary suspension of the leachate extraction in order to evaluate the effects of a permanent shut-down of the leachate extraction system.**

- **If WDNR were going to pursue this evaluation, how long should it take and what additional testing of the leachate, groundwater, and/or gas should be conducted before and during the suspension;**

- **A statement regarding the potential and most likely impacts of a permanent shut-down based upon the data that is available, including cost savings;**

  Response:
  ESC has prepared a document titled, "Delafield Scope of Work Letter – July 2018 – July 2019", dated June 26, 2018, which addresses the leachate and surface water issues at the facility.

- **A recommendation of whether to upgrade the landfill cover to bring it into compliance or partial compliance with s. NR 504.07, Wisc. Adm. Code.**
- **A statement regarding the potential and most likely impacts of these improvements including costs**.

  Response:
  The site is in good condition given the age of the facility. ESC has identified two areas of concern and has proposed a plan to correct these areas through positive drainage and minimal soil regrading. Details were provided in the "Delafield Scope of Work Letter – July 2018 – July 2019", dated June 26, 2018. As indicated in this document, these areas need to be surveyed so that the

areas can be drained with minimal disturbance to the landfill cap and surrounding area. Regrading the site in the settlement areas would promote positive drainage off the landfill cover. Directing surface water flow off the landfill cover will reduce the amount of precipitation infiltrating into the landfill in these discreet localized areas. ESC has measured the leachate levels in the gas extraction wells and have found less than 50% of the well screen submerged.

The existing landfill cap has adequate cover soils with good vegetation. The cover soils appear to consist of a mix of glacial till and are not uniform in type or thickness based on the limited investigative work performed by ESC. The work necessary to bring the existing landfill cap up to NR 504 standards would be a massive undertaking requiring soil and waste regrading, import and placement of new uniform low permeability soils, documentation and re-vegetation work. The cost for this potential remedial work would be in excess of one million dollars. The existing waste mass and cover have been in place for approximately 50 years. The waste has degraded over this time period and has a decreasing environmental risk. In the short term (next 50 years), the environmental improvements associated with a major landfill cap improvement effort, would likely be negligible.

This letter satisfies the annual reporting requirements for the July 2017 – June 2018 fiscal year. If you have any questions or comments regarding this submittal, please contact the undersigned at 414-427-5033.

Sincerely,
Environmental Sampling Corporation

Frank Perugini
Director of Operation

Tracy Ipavec
Sr. Environmental Specialist

Attachments

cc: Gerald DeMers: WDNR – Milwaukee (electronic copy)
Angela Carey: WDNR – Madison (electronic copy)
GEMS Data Submittal Contact: WDNR-Madison w/CD
Todd Watermolen: ESC (electronic copy)
Frank Perugini: ESC (electronic copy)

Tables

Table 1

Exceedance Summary
Explosive Gas Limits

Delafield Sanitary Transfer and Landfill
License #00719
July 2017 - June 2018

WELL ID#	WDNR ID#	ANALYTE	WDNR CODE	SAMPLE DATE	RESULT	UNITS	EXCEEDS
July 2017							
GP-1-10	355	Methane (%)	88547	7/13/17	52.2	%	LEL (5% methane)
GP-1-15	356	Methane (%)	88547	7/13/17	52.7	%	LEL (5% methane)
GP-2-10	357	Methane (%)	88547	7/13/17	18.2	%	LEL (5% methane)
GP-4-10	360	Methane (%)	88547	7/13/17	19.0	%	LEL (5% methane)
GP-9-8	374	Methane (%)	88547	7/13/17	7.5	%	LEL (5% methane)
August 2017							
GP-1-10	355	Methane (%)	88547	8/11/17	59.1	%	LEL (5% methane)
GP-1-15	356	Methane (%)	88547	8/11/17	51.7	%	LEL (5% methane)
GP-2-10	357	Methane (%)	88547	8/11/17	9.2	%	LEL (5% methane)
GP-9-8	374	Methane (%)	88547	8/11/17	7.5	%	LEL (5% methane)
September 2017							
GP-1-10	355	Methane (%)	88547	9/5/17	47.3	%	LEL (5% methane)
GP-1-15	356	Methane (%)	88547	9/5/17	48.4	%	LEL (5% methane)
GP-3-25	359	Methane (%)	88547	9/5/17	6.0	%	LEL (5% methane)
GP-9-8	374	Methane (%)	88547	9/5/17	6.8	%	LEL (5% methane)
October 2017							
GP-1-10	355	Methane (%)	88547	9/29/17	44.8	%	LEL (5% methane)
GP-1-15	356	Methane (%)	88547	9/29/17	45.5	%	LEL (5% methane)
GP-3-25	359	Methane (%)	88547	9/29/17	58.2	%	LEL (5% methane)
November 2017							
GP-1-10	355	Methane (%)	88547	11/1/17	43.7	%	LEL (5% methane)
GP-1-15	356	Methane (%)	88547	11/1/17	41.4	%	LEL (5% methane)
GP-3-25	359	Methane (%)	88547	11/1/17	15.4	%	LEL (5% methane)
GP-9-8	374	Methane (%)	88547	11/1/07	6.6	%	LEL (5% methane)
December 2017							
GP-1-15	356	Methane (%)	88547	12/1/17	41.1	%	LEL (5% methane)
GP-9-8	374	Methane (%)	88547	12/1/17	9.9	%	LEL (5% methane)
GP-1-15	356	Methane (%)	88547	12/15/17	30.0	%	LEL (5% methane)
GP-9-8	374	Methane (%)	88547	12/15/17	11.8	%	LEL (5% methane)

Table 1

Exceedance Summary
Explosive Gas Limits

Delafield Sanitary Transfer and Landfill
License #00719
July 2017 - June 2018

WELL ID#	WDNR ID#	ANALYTE	WDNR CODE	SAMPLE DATE	RESULT	UNITS	EXCEEDS
January 2018							
GP-1-15	356	Methane (%)	88547	1/15/18	5.9	%	LEL (5% methane)
GP-3-25	359	Methane (%)	88547	1/12/18	58.6	%	LEL (5% methane)
GP-3-25	359	Methane (%)	88547	1/15/18	56.1	%	LEL (5% methane)
GP-9-8	374	Methane (%)	88547	1/15/18	13.1	%	LEL (5% methane)
February 2018							
GP-3-25	359	Methane (%)	88547	2/2/18	55.5	%	LEL (5% methane)
March 2018							
GP-3-25	359	Methane (%)	88547	3/2/18	53.3	%	LEL (5% methane)
April 2018							
GP-3-25	359	Methane (%)	88547	4/7/18	62.7	%	LEL (5% methane)
GP-9-8	374	Methane (%)	88547	4/7/18	14.6	%	LEL (5% methane)
May 2018							
No exceedances of the LEL for methane							
June 2018							
No exceedances of the LEL for methane							

Notes:
Due to a scheduling conflict, the October 2017 event was conducted on September 29, 2017.
LEL - Lower explosive limit
The exceedance summary above indicates all methane detections in gas probes that were reported at a concentration in excess of the LEL for methane (i.e. 5%) in accordance with NR 507.22(1)(c) as indicated below. There are no facility structures for which the limit of 25% of LEL would apply.

> *"The owner or operator shall immediately notify the department and take all necessary steps to protect public health and welfare if a stabilized reading exceeds the lower explosive limit of any explosive gas generated by the waste fill in the soils outside of the limits of filling or air within 200 feet of the landfill property boundary or beyond the landfill property boundary, or 25% of the lower explosive limit in any facility structure, excluding gas control or recovery system components."*

Table 2

Summary of Monitoring Locations with Methane Gas Detections

Delafield Sanitary Transfer and Landfill
License #00719
July 2017 - June 2018

WELL ID# (DID)	Methane (%)							
	GP-1-10 (355)	GP-1-15 (356)	GP-2-10 (357)	GP-3-25 (359)	GP-4-10 (360)	GP-9-8 (374)	GP-9-22 (375)	Boat Comp. (379)
07/13/17	52.2	52.7	18.2	0.8	19.0	7.5	0.1	0.0
08/11/17	59.1	51.7	9.2	0.9	0.0	7.5	0.0	0.0
09/05/17	47.3	48.4	4.8	6.0	0.0	6.8	0.0	0.0
09/29/17	44.8	45.5	1.6	58.2	0.0	0.0	0.0	0.0
11/01/17	43.7	41.4	0.4	15.4	0.0	6.6	0.0	0.0
12/01/17	0.1	41.1	0.0	0.6	0.0	9.9	0.0	0.0
12/15/17	0.7	30.0	0.2	0.6	0.0	11.8	0.0	1.4
01/12/18	0.0	--	--	58.6	0.0	--	--	0.0
01/15/18	--	5.9	0.0	56.1	--	13.1	0.0	--
02/02/18	0.0	0.0	0.0	55.5	0.0	1.7	0.0	0.0
03/02/18	0.0	0.7	0.0	53.3	0.0	0.0	0.0	0.0
04/07/18	0.0	0.0	0.0	62.7	0.0	14.6	0.0	0.0
05/02/18	0.0	0.0	0.0	0.0	0.8/0.0	0.1	0.0	0.0
06/14/18	0.0	0.0	0.3/0.0	0.0	0.0	3.8/2.9	0.0	0.0

Notes:
Due to a scheduling conflict. The October 2017 event was conducted on September 29, 2017.

Table 3

Exceedance Summary
NR 140 Preventive Action Limit and Enforement Standard
Public Health Parameters

Delafield Sanitary Transfer and Landfill
License #00719
April 2018

WELL ID#	WDNR ID#	ANALYTE	WDNR CODE	SAMPLE DATE	RESULT	UNITS	EXCEEDS
NR-2A	380	Arsenic, total	01002	4/27/18	2.2	ug/L	PAL (1.0)
NR-2A	380	Chromium, total	01034	4/27/18	38.7	ug/L	PAL (10)
NR-2A	380	Manganese, total	01055	4/27/18	1,410	ug/L	ES (300)
NR-2A	380	Manganese, dissolved	01056	4/27/18	281	ug/L	PAL (60)
NR-2A	380	Lead, total	01051	4/27/18	37.5	ug/L	ES (15)
NR-2B	381	Arsenic, total	01002	4/27/18	9.3	ug/L	PAL (1.0)
NR-2B	381	Manganese, total	01055	4/27/18	156	ug/L	PAL (60)
NR-2B	381	Manganese, dissolved	01056	4/27/18	164	ug/L	PAL (60)

Notes:
PAL -NR 140 Preventive Action Limits for Public Health parameters
ES - NR 140 Enforcement Standards for Public Health parameters

Table 4

Exceedance Summary
NR 140 Preventive Action Limit and Enforement Standard
Public Welfare Parameters

Delafield Sanitary Transfer and Landfill
License #00719
April 2018

WELL ID#	WDNR ID#	ANALYTE	WDNR CODE	SAMPLE DATE	RESULT	UNITS	EXCEEDS
NR-2A	380	Iron, dissolved	01046	4/27/18	1,040	ug/L	ES (300)
NR-2A	380	Manganese, total	01055	4/27/18	1,410	ug/L	ES (50)
NR-2A	380	Manganese, dissolved	01056	4/27/18	281	ug/L	ES (50)
NR-2B	381	Chloride	00940	4/27/18	130	mg/L	PAL (125)
NR-2B	381	Iron, dissolved	01046	4/27/18	2,160	ug/L	ES (300)
NR-2B	381	Manganese, total	01055	4/27/18	156	ug/L	ES (50)
NR-2B	381	Manganese, dissolved	01056	4/27/18	164	ug/L	ES (50)

Notes:
PAL -NR 140 Preventive Action Limits for Public Welfare parameters
ES - NR 140 Enforcement Standards for Public Welfare parameters

Attachment 1

Annual Inspection Report

Operation and Maintenance Inspection Report
Sanitary Transfer and Landfill
Delafield, Wisconsin

Inspector: Frank Perugini

Company: ESC

Project: Delafield – Annual Inspection

Location: Delafield, WI

Date/Time: May 1, 2018

Project No.:

Weather	Clear	P. Cloudy	Cloudy	Fog
Temperature	High	**78 deg. F**	---	---
Wind	Calm	Medium	High	---
Precipitation (**None**)	Rain	Light	Moderate	Heavy
	Snow	Light	Moderate	Heavy

Type of Inspection Monthly ☐ Bi-monthly ☐ Quarterly ☐ Semi-annual ☐ **Annual** ☒ Special ☐

Persons/Equipment Present: Frank Perugini – ESC, Tag George - UPC

General Description of Site Conditions:

The site overall was in good condition. There are two areas of settlement resulting in ponding of surface water. The first area is located on the North side near the pine trees. This area was filled in and corrected on May 1, 2018 with extra soil from the regrading of the 6" Jumper/Header Area.

The second area is located on the West side of the landfill near CS-2 and GP-9. There is a flat area between the landfill and CS-2 and GP-9 which has tire ruts and has settled and has ponded surface water. This area needs to be surveyed so that we can drain this area with minimal disturbance to the landfill cap and surrounding area.

The landfill slopes were in good condition. There were no rills or gully erosion. Grass is approximately 6" long.

Specific Inspection Items	Frequency	Tasks / Potential Problem Areas	Status *	Notes
Flare operation	Monthly	Flare not lit	(1) OK	Flare is operational
Leachate extraction system general operation	Monthly	Tank empty and sump pump not running when high float is tilted	(1) OK	Leachate is hauled approx.. daily
Gas probe readings	Monthly	Probe results indicate off-site gas migration	(1) OK	Refer to Annual Report
Gas probe pressure differentials	Bi-monthly	System not properly balanced	(1) OK	
Flare drive belt and blower	Bi-monthly	Replace belt if belt wear is excessive Lubricate blower	(1) OK	
Air compressor for pneumatic pumps	Bi-monthly	Verify that air compressor is operating	(1) OK	
Air compressor belts	Quarterly	Replace belt if belt wear is excessive	(1) OK	
Air compressor filters and oil	Quarterly	Replace air filter and oil	(1) OK	
Leachate tank floats	Semi-annual	Clean floats	(1) OK	
Groundwater and leachate monitoring	Semi-annual	See Table 2 for sample locations; Table 3 for analytes	(1) OK	
Condition of two monitoring wells and wellhead covers	Semi-annual	Signs of tampering, casing damaged, lock missing.	(1) OK	
Gas probe sampling at blower	Annually	Sample for benzene, vinyl chloride % methane, % CO2, % O2	(1) OK – completed	Refer to Photo 4
Inspect and clean pneumatic condensate pumps	Annually	Check pumps for operation Clean pumps	(1) OK – completed	
Final cover vegetation	Annually	Bare spots, stressed vegetation, deep rooted vegetation.	(1) OK	Site is in good shape
Final cover slope	Annually	Gullies, erosion, lack of vegetation, subsidence, ponding.	(2) Two areas w/ponding	Refer to Photos 1-3
Evidence of burrowing animals	Annually	Damage to final cover, evidence of waste.	(1) OK	None
Gas extraction wells and header	Annually	Torn flexible hosing, signs of tampering, damaged or blocked vent risers, stressed vegetation	(1) OK	Refer to Photos 5-8

* (1) Acceptable - No Maintenance Required. (2) Not Acceptable - Identify Required Maintenance.

Summary of Deficiencies and/or Corrective Actions: Two areas of ponded surface water on landfill

Signature of Inspector _____ Date _____

DELAFIELD SANITARY TRANSFER AND LANDFILL
ANNUAL REPORT: JULY 2017 – JUNE 2018

Photo 1

Settlement Area 1 – Located on the North Side near the pine trees looking East. Before filling In and regrading.

Photo 2

Settlement Area 1 –Looking North - After filling and regrading.

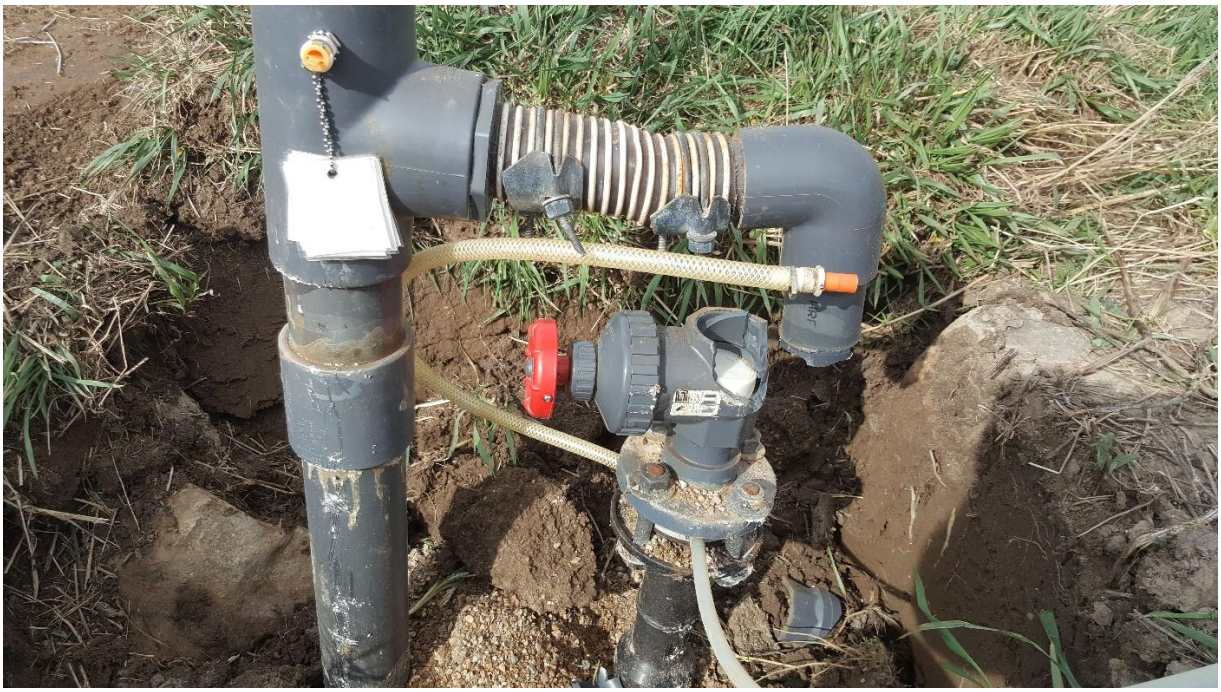
Photo 3

Settlement Area 2 – Located on West Side of Landfill near CS-2 and MP-9. Looking West. Area needs to be surveyed so that drainage can occur.

Photo 4

Blower Flare Station – Looking Northeast. The new blower, motor and insulation on the demister tank

Photo 5



Broken valve at EW-6. Repaired May 2018.

Photo 6

Broken Kanaflex hose. Repaired April 2018.

Photo 7

EW-6 Looking North with a temporary 1 ¼" diameter HDPE temporary Jumper Line connected to EW-2.

Photo 8

EW-2 Looking West with a temporary 1 ¼" diameter HDPE temporary Jumper Line connected to EW-6.

Attachment 2

Gas Probe Monitoring Reports

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS PROBES MONITORING LOG

Date & Time: 7/13/2017 11:25 AM

Temp (^{o}F) : 78^{o} F

Current Conditions/Rel. Humidity: Partly Cloudy / 69%

Barometric Pressure (in. Hg): 29.95

Trend: F S R (circle one)

Condition of Ground Surface/Recent Precipitation: Damp

Monitored By: Scott Freimark (ESC)

Gas Detector Make and Model No.: GEM 5000

Serial No.: G501764

Date Meter Last Calibrated: 7/13/2017

Calibration Methane Span Gas: 50%

Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 11:30

Field Check – End Time: 14:40

Probe ID	ID No.	Depth	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Vacuum/ Pressure (in. water)	Comments
MP-01 yellow	355	10	7/13/17 12:30	52.2	30.0	0.0	17.7	+0.03	Methane concentration >1.25% above the lower explosive limit, Probe is Out of Complianance, Positive Pressure, Missing cap
MP-01 orange	356	15	7/13/17 12:25	52.7	23.8	0.2	73.3	+0.08	Methane concentration >1.25% above the lower explosive limit, Probe is Out of Complianance, Positive Pressure,
MP-02 yellow	357	10	7/13/17 12:57	18.2	22.9	0.0	58.9	-0.03	Methane concentration >1.25% above the lower explosive limit, Probe is Out of Complianance
MP-03 yellow	358	10	7/13/17 12:00	0.0	0.0	19.8	80.1	+0.03	Positive Pressure
MP-03 red	359	25	7/13/17 12:10	0.8	0.1	19.8	79.2	+0.13	Methane concentration approaching the lower explosive limit, Positive Pressure,
MP-04 yellow	360	10	7/13/17 11:35	19.0	19.6	1.3	60.1	-0.00	Methane concentration >1.25% above the lower explosive limit, Probe is Out of Complianance
MP-04 red	361	27	7/13/17 1:40	0.0	0.1	19.6	80.2	-0.00	
MP-05 yellow	362	10	7/13/17 14:35	0.0	0.1	21.3	78.6	+0.02	Positive Pressure
MP-06 yellow	363	10	7/13/17 14:03	0.0	0.7	19.1	80.1	-0.04	
MP-06 orange	364	19	7/13/17 14:07	0.0	1.0	18.7	80.2	-0.05	
MP-06 red	365	30	7/13/17 14:12	0.0	1.6	18.3	80.0	-0.00	
MP-06B yellow	366	11	7/13/17 13:49	0.0	2.3	13.2	84.4	-0.01	
MP-06B orange	367	22	7/13/17 13:53	0.0	4.0	11.9	84.0	-0.00	
MP-06B red	368	34	7/13/17 13:58	0.0	5.9	9.6	84.5	-0.00	
MP-07 yellow	369	9	7/13/17 13:38	0.0	5.0	13.1	81.9	+0.01	Positive Pressure
MP-07 red	370	18	7/13/17 13:42	0.0	9.9	7.3	82.8	-0.02	
MP-8 yellow	371	10	7/13/17 13:05	0.0	0.8	19.1	80.1	-0.02	
MP-08 orange	372	30	7/13/17 13:09	0.0	2.6	18.0	79.4	+0.04	Positive Pressure
MP-08 red	373	50	7/13/17 13:14	0.0	5.8	13.0	87.7	+0.07	Positive Pressure
MP-09 yellow	374	8	7/13/17 13:23	7.5	5.5	3.1	83.9	+0.06	Methane concentration >1.25% above the lower explosive limit, Probe is Out of Complianance, Positive Pressure, pump failed probe watered out
MP-09 orange	375	22	7/13/17 13:28	0.1	5.4	10.9	83.5	-0.02	Methane concentration approaching the lower explosive limit, missing cap,
MP-10 yellow	376	10	7/13/17 12:48	0.0	7.4	11.4	81.2	+0.02	Positive Pressure
MP-10 orange	377	23	7/13/17 12:51	0.0	8.8	9.0	82.2	+0.04	Positive Pressure
MP-10 red	378	38	7/13/17 12:45	0.0	14.5	2.5	82.7	+0.01	Positive Pressure
Boat Comp.	379	NA	7/13/17 11:55	0.0	3.1	16.0	80.9	-0.00	

COMMENTS: Gas Collection System was restarted at 10:30

Gas probes with positive pressure

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS PROBES MONITORING LOG

Date & Time: 8/11/2017 12:25 PM

Temp (^{o}F) : 70^{0} F

Current Conditions/Rel. Humidity: Cloudy / 62%

Barometric Pressure (in. Hg): 29.97

Trend: F S (R) (circle one)

Condition of Ground Surface/Recent Precipitation: Damp

Monitored By: Scott Freimark (ESC)

Gas Detector Make and Model No.: GEM 5000

Serial No.: G501764

Date Meter Last Calibrated: 8/11/2017

Calibration Methane Span Gas: 50%

Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 12:25

Field Check – End Time: 14:15

Probe ID	ID No.	Depth	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Vacuum/ Pressure (in. water)	Comments
MP-01 yellow	355	10	8/11/17 13:00	59.1	34.8	0.0	6.0	0.00	Methane concentration >1.25% above the lower explosive limit, Probe is Out of Compliananace, Missing cap
MP-01 orange	356	15	8/11/17 13:05	51.7	23.8	0.2	24.3	+0.02	Methane concentration >1.25% above the lower explosive limit, Probe is Out of Compliananace, Positive Pressure,
MP-02 yellow	357	10	8/11/17 12:55	9.2	23.6	0.1	66.9	-0.01	Methane concentration >1.25% above the lower explosive limit, Probe is Out of Compliananace
MP-03 yellow	358	10	8/11/17 12:50	0.0	0.0	20.6	79.4	+0.03	Positive Pressure
MP-03 red	359	25	8/11/17 12:45	0.9	0.2	20.4	78.5	+0.14	Methane concentration approaching the lower explosive limit, Positive Pressure
MP-04 yellow	360	10	8/11/17 12:35	0.0	5.3	15.7	79.0	-0.00	
MP-04 red	361	27	8/11/17 12:40	0.0	0.0	20.6	79.4	-0.00	
MP-05 yellow	362	10	8/11/17 12:30	0.0	0.0	20.7	79.3	-0.01	
MP-06 yellow	363	10	8/11/17 14:05	0.0	1.4	19.6	79.0	-0.01	
MP-06 orange	364	19	8/11/17 14:05	0.0	1.2	18.6	80.2	-0.02	
MP-06 red	365	30	8/11/17 14:10	0.0	1.3	19.0	79.7	-0.00	
MP-06B yellow	366	11	8/11/17 13:50	0.0	3.2	14.5	82.2	+0.01	Positive Pressure
MP-06B orange	367	22	8/11/17 13:50	0.0	4.3	12.4	83.3	+0.02	Positive Pressure
MP-06B red	368	34	8/11/17 13:55	0.0	5.5	10.6	83.8	-0.00	
MP-07 yellow	369	9	8/11/17 13:45	0.0	6.3	13.0	80.7	0.00	
MP-07 red	370	18	8/11/17 13:45	0.0	9.7	10.0	80.3	+0.02	Positive Pressure
MP-8 yellow	371	10	8/11/17 13:35	0.0	0.9	20.3	78.8	-0.00	
MP-08 orange	372	30	8/11/17 13:35	0.0	2.6	18.7	78.7	-0.02	
MP-08 red	373	50	8/11/17 13:40	0.0	4.8	15.0	80.3	-0.02	
MP-09 yellow	374	8	8/11/17 13:25	7.5	6.4	0.4	85.7	-0.01	Methane concentration >1.25% above the lower explosive limit, Probe is Out of Compliananace
MP-09 orange	375	22	8/11/17 13:30	0.0	0.2	20.9	78.9	-0.01	
MP-10 yellow	376	10	8/11/17 13:10	0.0	6.5	12.4	81.0	+0.02	Positive Pressure
MP-10 orange	377	23	8/11/17 13:15	0.0	8.5	10.1	81.5	+0.02	Positive Pressure
MP-10 red	378	38	8/11/17 13:20	0.0	15.8	2.3	81.9	+0.01	Positive Pressure
Boat Comp.	379	NA	8/11/17 12:40	0.0	2.5	17.4	80.2	-0.00	

COMMENTS: Gas Collection System was restarted at 8:00

Gas probes with positive pressure

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS PROBES MONITORING LOG

Date & Time: 9/5/2017 15:00:00 PM

Temp (°F) : 60° F

Current Conditions/Rel. Humidity: Mostly Cloudy / 65%

Barometric Pressure (in. Hg): 29.9

Trend: F S R (circle one)

Condition of Ground Surface/Recent Precipitation: Damp drizzle

Monitored By: Scott Freimark (ESC)

Gas Detector Make and Model No.: GEM 5000

Serial No.: G501764

Date Meter Last Calibrated: 9/5/2017

Calibration Methane Span Gas: 50%

Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 15:05

Field Check – End Time: 16:25

Probe ID	ID No.	Depth	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Vacuum/ Pressure (in. water)	Comments
MP-01 yellow	355	10	9/5/17 14:25	47.3	31.3	0.0	21.3	-0.02	Methane concentration >1.25% above the lower explosive limit, Probe is Out of Compliananace, Missing cap
MP-01 orange	356	15	9/5/17 14:30	48.4	24.3	0.2	26.6	+0.01	Methane concentration >1.25% above the lower explosive limit, Probe is Out of Compliananace, Positive Pressure,
MP-02 yellow	357	10	9/5/17 16:25	4.8	23.7	0.2	71.3	0.00	Methane concentration >1.25% above the lower explosive limit, Probe is Out of Compliananace
MP-03 yellow	358	10	9/5/17 16:22	0.0	9.2	3.6	83.2	0.00	
MP-03 red	359	25	9/5/17 16:18	6.0	1.6	19.8	72.1	+0.11	Methane concentration >1.25% above the lower explosive limit, Probe is Out of Compliananace, Positive Pressure,
MP-04 yellow	360	10	9/5/17 16:09	0.0	4.7	16.9	78.4	0.00	
MP-04 red	361	27	9/5/17 16:13	0.0	0.1	21.6	78.3	+0.01	Positive Pressure
MP-05 yellow	362	10	9/5/17 16:05	0.0	5.9	13.2	80.9	0.00	
MP-06 yellow	363	10	9/5/17 15:27	0.0	1.5	20.0	78.5	+0.03	Positive Pressure
MP-06 orange	364	19	9/5/17 15:29	0.0	1.7	18.0	80.3	+0.01	Positive Pressure
MP-06 red	365	30	9/5/17 15:31	0.0	0.7	20.1	79.2	+0.02	Positive Pressure
MP-06B yellow	366	11	9/5/17 15:20	0.0	0.2	21.0	78.8	+0.01	Positive Pressure
MP-06B orange	367	22	9/5/17 15:22	0.0	3.3	16.3	80.3	+0.01	Positive Pressure
MP-06B red	368	34	9/5/17 15:25	0.0	3.6	15.1	81.2	+0.01	Positive Pressure
MP-07 yellow	369	9	9/5/17 15:10	0.0	6.8	15.0	78.2	0.00	
MP-07 red	370	18	9/5/17 15:15	0.0	9.4	10.6	80.0	+0.01	Positive Pressure
MP-8 yellow	371	10	9/5/17 15:42	0.0	0.6	21.2	78.2	+0.01	Positive Pressure
MP-08 orange	372	30	9/5/17 15:45	0.0	2.6	19.8	77.6	+0.01	Positive Pressure
MP-08 red	373	50	9/5/17 15:48	0.0	4.6	15.7	79.7	0.00	
MP-09 yellow	374	8	9/5/17 15:35	6.8	6.8	0.5	85.9	0.00	Methane concentration >1.25% above the lower explosive limit, Probe is Out of Compliananace
MP-09 orange	375	22	9/5/17 15:38	0.0	0.1	21.6	78.3	-0.02	
MP-10 yellow	376	10	9/5/17 15:52	0.0	6.7	14.0	79.3	+0.02	Positive Pressure
MP-10 orange	377	23	9/5/17 15:55	0.0	8.7	10.9	80.4	0.00	
MP-10 red	378	38	9/5/17 15:57	0.0	13.7	5.7	80.6	0.00	
Boat Comp.	379	NA	9/5/17 16:16	0.0	2.6	18.4	79.0	0.00	

COMMENTS: Gas Collection System was restarted at 8:00

Gas probes with positive pressure

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS PROBES MONITORING LOG

Date & Time: October event (9/29/2017) 10:10 AM

Temp (°F) : 55° F

Current Conditions/Rel. Humidity: Partly Cloudy / 61%

Barometric Pressure (in. Hg): 30.21

Trend: F S R (circle one)

Condition of Ground Surface/Recent Precipitation: Dry- None

Monitored By: Scott Freimark (ESC)

Gas Detector Make and Model No.: GEM 5000

Serial No.: G501764

Date Meter Last Calibrated: 9/29/2017

Calibration Methane Span Gas: 50%

Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 10:10

Field Check – End Time: 12:15

Probe ID	ID No.	Depth	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Vacuum/ Pressure (in. water)	Comments
MP-01 yellow	355	10	9/29/2017 12:06	44.8	26.6	0	28.6	0.00	Methane concentration >1.25% above the lower explosive limit, Probe is Out of Complianance, Missing cap
MP-01 orange	356	15	9/29/2017 12:11	45.5	24.8	0.1	29.6	0.00	Methane concentration >1.25% above the lower explosive limit, Probe is Out of Complianance
MP-02 yellow	357	10	9/29/2017 12:01	1.6	22.8	0	75.6	0.00	Methane concentration >1.25% above the lower explosive limit, Probe is Out of Complianance
MP-03 yellow	358	10	9/29/2017 11:51	0	10.5	12.8	76.7	+0.01	Positive Pressure
MP-03 red	359	25	9/29/2017 11:48	58.2	13.6	5.6	22.6	+0.13	Methane concentration >1.25% above the lower explosive limit, Probe is Out of Complianance, Positive pressure
MP-04 yellow	360	10	9/29/2017 11:37	0	2.6	18.6	78.8	0.00	
MP-04 red	361	27	9/29/2017 11:39	0	0	21.6	78.4	-0.01	
MP-05 yellow	362	10	9/29/2017 11:20	0	5.1	15.4	79.5	+0.02	Positive Pressure
MP-06 yellow	363	10	9/29/2017 11:07	0	2.8	17.7	79.5	+0.01	Positive Pressure
MP-06 orange	364	19	9/29/2017 11:10	0	2.9	15.6	81.5	0.00	
MP-06 red	365	30	9/29/2017 11:13	0	2.6	17	80.4	+0.01	Positive Pressure
MP-06B yellow	366	11	9/29/2017 10:56	0	0.6	20.6	78.8	-0.02	
MP-06B orange	367	22	9/29/2017 10:59	0	3.7	17.6	78.7	0.00	
MP-06B red	368	34	9/29/2017 11:04	0	4.3	15.6	80.1	-0.01	
MP-07 yellow	369	9	9/29/2017 10:49	0	6.7	16.5	76.8	+0.01	Positive Pressure
MP-07 red	370	18	9/29/2017 10:53	0	7.4	15.9	76.7	0.00	
MP-8 yellow	371	10	9/29/2017 10:38	0	0.5	20.7	78.8	-0.02	
MP-08 orange	372	30	9/29/2017 10:41	0	2.1	20	77.9	0.00	
MP-08 red	373	50	9/29/2017 10:45	0	3.6	17.6	78.8	+0.01	Positive Pressure
MP-09 yellow	374	8	9/29/2017 10:30	0	8.3	0.3	91.4	+0.01	Positive Pressure
MP-09 orange	375	22	9/29/2017 10:34	0	0.1	21.1	78.8	-0.04	Positive Pressure
MP-10 yellow	376	10	9/29/2017 10:17	0	4.3	17.3	78.4	+0.01	Positive Pressure
MP-10 orange	377	23	9/29/2017 10:20	0	6.2	14.8	79	-0.02	
MP-10 red	378	38	9/29/2017 10:24	0	12.4	7.3	80.3	+0.03	Positive Pressure
Boat Comp.	379	NA	9/29/2017 11:42	0	2.7	18.7	78.6	-0.01	

COMMENTS: Gas Collection System was restarted at 9:15

Gas probes with positive pressure

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS PROBES MONITORING LOG

Date & Time: 11/1/2017 12:05 PM

Temp (°F): 40° F — Current Conditions/Rel. Humidity: Cloudy / 70%

Barometric Pressure (in. Hg): 29.96 — Trend: (F) S R (circle one)

Condition of Ground Surface/Recent Precipitation: Dry- None

Monitored By: Scott Freimark (ESC)

Gas Detector Make and Model No.: GEM 5000 — Serial No.: G501764

Date Meter Last Calibrated: 11/1/2017

Calibration Methane Span Gas: 50% — Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 12:05 — Field Check – End Time: 14:10

Probe ID	ID No.	Depth	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Vacuum/ Pressure (in. water)	Comments
MP-01 yellow	355	10	11/1/2017 13:40	43.7	33.4	0	22.9	+0.03	Methane concentration >1.25% above the lower explosive limit, Probe is Out of Complianance, positive pressure,Missing cap
MP-01 orange	356	15	11/1/2017 13:44	41.4	25.9	0.1	32.6	+0.03	Methane concentration >1.25% above the lower explosive limit, Probe is Out of Complianance, Positive Pressure,
MP-02 yellow	357	10	11/1/2017 13:34	0.4	20.9	0.4	78.3	0.00	Methane concentration approaching the lower explosive limit
MP-03 yellow	358	10	11/1/2017 12:34	0	0.1	21.8	78.1	+0.03	Positive pressure
MP-03 red	359	25	11/1/2017 12:31	15.4	3.4	17.3	63.9	+1.25	Methane concentration >1.25% above the lower explosive limit, Probe is Out of Complianance, positive pressure, pressure surging
MP-04 yellow	360	10	11/1/2017 12:14	0	3.8	17.3	78.9	0.00	
MP-04 red	361	27	11/1/2017 12:18	0	6.5	13.7	79.8	-0.01	
MP-05 yellow	362	10	11/1/2017 12:09	0	0.1	21.3	78.6	+0.02	Positive pressure
MP-06 yellow	363	10	11/1/2017 13:19	0	2.4	17.9	79.7	0.00	
MP-06 orange	364	19	11/1/2017 13:23	0	4.3	13.9	81.8	0.00	
MP-06 red	365	30	11/1/2017 13:27	0	5	12.5	82.5	+0.01	Positive pressure
MP-06B yellow	366	11	11/1/2017 13:07	0	1.5	20.8	77.7	+0.01	Positive pressure
MP-06B orange	367	22	11/1/2017 13:11	0	4.3	17.3	78.4	-0.01	
MP-06B red	368	34	11/1/2017 13:16	0	5	16.4	78.6	+0.02	Positive pressure
MP-07 yellow	369	9	11/1/2017 13:00	0	5.8	16.9	77.3	+0.02	Positive pressure
MP-07 red	370	18	11/1/2017 13:04	0	6.9	16.7	76.4	0.00	
MP-8 yellow	371	10	11/1/2017 12:42	0	1.6	20.3	78.1	+0.01	Positive pressure
MP-08 orange	372	30	11/1/2017 12:46	0	2.8	19.9	77.3	+0.01	Positive pressure
MP-08 red	373	50	11/1/2017 12:50	0	5.9	14.4	79.7	-0.01	
MP-09 yellow	374	8	11/1/2017 14:01	6.6	7.8	0.1	85.5	+0.01	Methane concentration >1.25% above the lower explosive limit, Probe is Out of Complianance, Positive Pressure,
MP-09 orange	375	22	11/1/2017 14:04	0	0.1	22.1	77.8	+0.02	Positive pressure
MP-10 yellow	376	10	11/1/2017 13:49	0	5.9	15.3	78.8	+0.03	Positive pressure
MP-10 orange	377	23	11/1/2017 13:52	0	7.8	13.9	78.3	0.00	
MP-10 red	378	38	11/1/2017 13:55	0	11.7	10.1	78.2	+0.01	Positive pressure
Boat Comp.	379	NA	11/1/2017 12:21	0	2.6	18.5	78.9	+0.02	Positive pressure

COMMENTS: Gas Collection System was restarted at 10:45

Gas probes with positive pressure

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS PROBES MONITORING LOG

Date & Time: 12/1/2017 09:00:00 A.M

Temp (°F): 35° F

Current Conditions/Rel. Humidity: Sunny / 43%

Barometric Pressure (in. Hg): 30.15

Trend: (S) R (circle one)

Condition of Ground Surface/Recent Precipitation: Dry- None

Monitored By: Scott Freimark (ESC)

Gas Detector Make and Model No.: GEM 5000

Serial No.: G501764

Date Meter Last Calibrated: 12/1/2017

Calibration Methane Span Gas: 50%

Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 9:00

Field Check – End Time: 10:40

Probe ID	ID No.	Depth	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Vacuum/ Pressure (in. water)	Comments
MP-01 yellow	355	10	12/1/2017 9:22	0.1	12.9	12.1	74.9	-0.01	Methane concentration approaching the lower explosive limit
MP-01 orange	356	15	12/1/2017 9:27	41.1	25.8	0.2	32.9	-0.02	Methane concentration >1.25% above the lower explosive limit, Probe is Out of Complianance, Positive Pressure,
MP-02 yellow	357	10	12/1/2017 9:18	0	19.9	1	79.1	-0.01	
MP-03 yellow	358	10	12/1/2017 9:14	0	0.1	22.4	77.5	+0.02	Positive pressure
MP-03 red	359	25	12/1/2017 9:10	0.6	0.2	22	77.2	+0.03	Methane concentration approaching the lower explosive limit, positive pressure
MP-04 yellow	360	10	12/1/2017 8:57	0	4	17.3	78.7	+0.01	Positive pressure
MP-04 red	361	27	12/1/2017 9:02	0	5.5	15	79.5	0.00	
MP-05 yellow	362	10	12/1/2017 10:38	0	0.1	21.8	78.1	+0.01	Positive pressure
MP-06 yellow	363	10	12/1/2017 10:22	0	1	21.1	77.9	0.00	
MP-06 orange	364	19	12/1/2017 10:26	0	2.7	18.5	78.8	0.00	
MP-06 red	365	30	12/1/2017 10:32	0	5.2	15.7	79.1	+0.01	Positive pressure
MP-06B yellow	366	11	12/1/2017 10:11	0	1.7	20.5	77.8	0.00	
MP-06B orange	367	22	12/1/2017 10:15	0	3	19.1	77.9	0.00	
MP-06B red	368	34	12/1/2017 10:19	0	4.5	17.2	78.3	+0.01	Positive pressure
MP-07 yellow	369	9	12/1/2017 10:04	0	4.8	18.3	76.9	0.00	
MP-07 red	370	18	12/1/2017 10:08	0	5.2	18.3	76.5	-0.01	
MP-8 yellow	371	10	12/1/2017 9:53	0	1.2	21.4	77.4	0.00	
MP-08 orange	372	30	12/1/2017 9:57	0	2.7	20.1	77.2	-0.02	
MP-08 red	373	50	12/1/2017 10:01	0	5.8	14.6	79.6	-0.01	
MP-09 yellow	374	8	12/1/2017 9:47	9.9	6.2	0.8	83.1	0.00	Methane concentration >1.25% above the lower explosive limit, Probe is Out of Complianance
MP-09 orange	375	22	12/1/2017 9:50	0	0.1	22.2	77.7	0.00	
MP-10 yellow	376	10	12/1/2017 9:35	0	4.2	18.2	77.6	-0.03	
MP-10 orange	377	23	12/1/2017 9:38	0	5.4	16.5	78.1	-0.01	
MP-10 red	378	38	12/1/2017 9:42	0	7.9	14.3	77.8	-0.02	
Boat Comp.	379	NA	12/1/2017 9:05	0	0.2	21.8	78	+0.02	Positive pressure

COMMENTS: Gas Collection System was running upon arrival

Gas probes with positive pressure

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS PROBES MONITORING LOG

Date & Time: 12/15/2017 12:30 PM

Temp (°F): 28° F

Current Conditions/Rel. Humidity: Cloudy / 56%

Barometric Pressure (in. Hg): 29.88

Trend: F S R (circle one)

Condition of Ground Surface/Recent Precipitation: Snow Cover/ Flurry

Monitored By: Scott Freimark (ESC)

Gas Detector Make and Model No.: GEM 5000

Serial No.: G501764

Date Meter Last Calibrated: 12/15/2017

Calibration Methane Span Gas: 50%

Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 12:30

Field Check – End Time: 15:30

Probe ID	ID No.	Depth	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Vacuum/ Pressure (in. water)	Comments
MP-01 yellow	355	10	12/15/2017 13:25	0.7	19.8	9.2	70.3	-0.02	Methane concentration approaching the lower explosive limit, Trapped gas peaked at 10% CH4, Stablized after 3 Cycles (3 minutes)
MP-01 orange	356	15	12/15/2017 13:30	30.0	25.8	0.1	44.1	-0.01	Methane concentration >1.25% above the lower explosive limit, Probe is Out of Complianance, Stablized after 4 Cycles (4 minutes)
MP-02 yellow	357	10	12/15/2017 13:20	0.2	19.9	0.1	79.8	0.00	Methane concentration approaching the lower explosive limit, Stablized after 2 Cycles (2 minutes)
MP-03 yellow	358	10	12/15/2017 13:15	0.0	0.1	22.4	77.5	+0.04	Positive Pressure
MP-03 red	359	25	12/15/2017 13:10	0.6	0.2	22.1	77.1	+0.05	Methane concentration approaching the lower explosive limit, Trapped gas peaked at 30% CH4, Stablized after 4 Cycles (4 minutes)
MP-04 yellow	360	10	12/15/2017 13:00	0.0	2.3	19.3	78.4	-0.01	
MP-04 red	361	27	12/15/2017 13:05	0.0	0.1	21.5	78.4	-0.02	
MP-05 yellow	362	10	12/15/2017 15:27	0.0	0.1	22.4	77.5	+0.03	Positive Pressure
MP-06 yellow	363	10	12/15/2017 15:12	0.0	1.1	21.8	77.1	0.00	
MP-06 orange	364	19	12/15/2017 15:16	0.0	2.9	19.9	77.2	+0.02	Positive Pressure
MP-06 red	365	30	12/15/2017 15:20	0.0	5.4	16.7	77.9	-0.02	
MP-06B yellow	366	11	12/15/2017 15:00	0.0	1.8	21	77.2	0.00	
MP-06B orange	367	22	12/15/2017 15:04	0.0	3.2	19.8	77	0.00	
MP-06B red	368	34	12/15/2017 15:08	0.0	4.2	18.6	77.2	-0.02	
MP-07 yellow	369	9	12/15/2017 14:54	0.0	4.7	19.3	76	-0.01	
MP-07 red	370	18	12/15/2017 14:56	0.0	4.5	19.8	75.7	-0.01	
MP-8 yellow	371	10	12/15/2017 14:45	0.0	1.7	21	77.3	-0.01	
MP-08 orange	372	30	12/15/2017 14:48	0.0	3.1	19.5	77.4	0.00	
MP-08 red	373	50	12/15/2017 14:53	0.0	6.4	14.2	79.4	0.00	
MP-09 yellow	374	8	12/15/2017 14:07	11.8	6.2	0.8	81.2	+0.02	Methane concentration >1.25% above the lower explosive limit, Probe is Out of Complianance, positive pressure Stablized after 3 Cycles (3 minutes)
MP-09 orange	375	22	12/15/2017 14:11	0.0	0.1	22.6	77.3	-0.03	
MP-10 yellow	376	10	12/15/2017 13:55	0.0	4.4	18.3	77.3	+0.01	Positive Pressure
MP-10 orange	377	23	12/15/2017 13:58	0.0	5.3	17.6	77.1	0.00	
MP-10 red	378	38	12/15/2017 14:02	0.0	10.8	10.6	78.6	-0.01	
Boat Comp.	379	NA	12/15/2017 13:07	1.4	6.4	14.4	77.8	-0.03	Methane concentration >1.25% above the lower explosive limit, Probe is Out of Complianance, Stablized after 3 Cycles (3 minutes)

COMMENTS:

Gas probes with positive pressure

Gas Probes with CH4%

Gas Collection System was re-started at 12:30 upon my arrival

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS PROBES MONITORING LOG

Date & Time: 1/12/2018 10:20 AM & 1/15/18 12:20 PM

Temp (°F): 18° F / 27°F — Current Conditions/Rel. Humidity: Mostly Cloudy / 68% & Cloudy / 75%

Barometric Pressure (in. Hg): 30.19 /30.17 — Trend: F S R (circle one)

Condition of Ground Surface/Recent Precipitation: Dry - None / Snow - Flurries

Monitored By: Scott Freimark (ESC)

Gas Detector Make and Model No.: GEM 5000 — Serial No.: G501764

Date Meter Last Calibrated: 1/12/2018 & 1/15/18

Calibration Methane Span Gas: 50% — Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 10:20 12:20 — Field Check – End Time: 11:10 15:15

Probe ID	ID No.	Depth	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Vacuum/ Pressure (in. water)	Comments
MP-01 yellow	355	10	1/15/2018 14:19	0	6.9	17.7	75.4	+0.03	Trapped gas peaked at 1% CH4, Stablized after 2 Cycles (2 minutes)
MP-01 orange	356	15	1/15/2018 14:24	5.9	22.4	0.3	71.4	+0.01	Methane concentration >1.25% above the lower explosive limit, Probe is Out of Compliance, Stablized after 4 Cycles (4 minutes)
MP-02 yellow	357	10	1/15/2018 14:15	0	18.3	0.4	81.3	+0.02	Stablized after 2 Cycles (2 minutes)
MP-03 yellow	358	10	1/12/2018 11:06	0	1.2	21	77.8	+0.05	Positive Pressure
MP-03 red	359	25	1/12/2018 11:01	58.6	13.1	5.8	22.5	+0.11	Methane concentration >1.25% above the lower explosive limit, Probe is Out of Compliance, Trapped gas peaked at 65% CH4, Positive Pressure Stablized after 5 Cycles (5 minutes)
MP-03 red	359	25	1/15/2018 15:17	56.1	12.1	6.3	25.5	+0.05	Methane concentration >1.25% above the lower explosive limit, Probe is Out of Compliance, Trapped gas peaked at 68% CH4, Positive Pressure Stablized after 5 Cycles (5 minutes)
MP-04 yellow	360	10	1/12/2018 10:28	0	1.6	22.1	76.3	+0.01	Positive Pressure
MP-04 red	361	27	1/12/2018 10:26	0	0.1	23.8	76.1	+0.02	Positive Pressure
MP-05 yellow	362	10	1/12/2018 10:48	0	2.2	20.6	77.2	+0.03	Positive Pressure
MP-06 yellow	363	10	1/15/2018 15:03	0	0.6	22.7	76.7	0.00	
MP-06 orange	364	19	1/15/2018 15:06	0	1.3	22.6	76.1	+0.01	Positive Pressure
MP-06 red	365	30	1/15/2018 15:10	0	0.1	23.2	76.7	-0.01	
MP-06B yellow	366	11	1/15/2018 14:56	0	0.7	22.7	76.6	0.00	
MP-06B orange	367	22	1/15/2018 14:58	0	2.5	21.2	76.3	-0.02	
MP-06B red	368	34	1/15/2018 15:01	0	2.1	21.5	76.4	-0.03	
MP-07 yellow	369	9	1/15/2018 14:50	0	3.6	21.3	75.1	0.00	
MP-07 red	370	18	1/15/2018 14:53	0	3.3	21.7	75	0.00	
MP-8 yellow	371	10	1/15/2018 14:43	0	2.2	20.5	77.3	0.00	
MP-08 orange	372	30	1/15/2018 14:45	0	3.4	19.7	76.9	+0.01	Positive Pressure
MP-08 red	373	50	1/15/2018 14:47	0	6.5	14.7	78.8	+0.01	Positive Pressure
MP-09 yellow	374	8	1/15/2018 14:38	13.1	5.4	1	80.5	-0.01	Methane concentration >1.25% above the lower explosive limit, Probe is Out of Compliance Stablized after 3 Cycles (3 minutes)
MP-09 orange	375	22	1/15/2018 14:40	0	0.1	23.1	76.8	0.00	
MP-10 yellow	376	10	1/15/2018 14:27	0	3.1	20.5	76.4	+0.02	Positive Pressure
MP-10 orange	377	23	1/15/2018 14:31	0	3.3	19.9	76.8	-0.01	
MP-10 red	378	38	1/15/2018 14:34	0	10	11.6	78.4	0.00	
Boat Comp.	379	NA	1/12/2018 10:33	0	3.1	20	76.9	+0.01	Positive Pressure

COMMENTS:

Gas probes with positive pressure

Gas Probes with CH4%

Gas Collection System was re-started at 09:00 upon my arrival on 1/12/18

Gas Collection System was re-started at 12:00 upon my arrival on 1/15/18

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS PROBES MONITORING LOG

Date & Time: 2/2/2018 10:10 AM

Temp (°F): 10°F — Current Conditions/Rel. Humidity: Sunny / 51%

Barometric Pressure (in. Hg): 29.6 — Trend: F S R (circle one)

Condition of Ground Surface/Recent Precipitation: Dry - None

Monitored By: Scott Freimark (ESC)

Gas Detector Make and Model No.: GEM 5000 — Serial No.: G501764

Date Meter Last Calibrated: 2/2/2018

Calibration Methane Span Gas: 50% — Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 10:15 — Field Check – End Time: 12:15

Probe ID	ID No.	Depth	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Vacuum/ Pressure (in. water)	Comments
MP-01 yellow	355	10	2/2/2018 10:37	0	0.8	24.5	74.7	-0.03	Trapped gas peaked at 0.4% CH4, Stablized after 2 Cycles (2 minutes)
MP-01 orange	356	15	2/2/2018 10:42	0	17.9	0.8	81.3	-0.08	Stablized after 3 Cycles (3 minutes)
MP-02 yellow	357	10	2/2/2018 10:33	0	11.4	11.1	77.5	-0.01	Stablized after 2 Cycles (2 minutes)
MP-03 yellow	358	10	2/2/2018 10:29	0	0.1	25	74.9	+0.03	Positive Pressure
MP-03 red	359	25	2/2/2018 10:25	55.5	12.6	5.8	26.1	+0.09	Methane concentration >1.25% above the lower explosive limit, Probe is Out of Complianance, Trapped gas peaked at 60% CH4, Positive Pressure Stablized after 5 Cycles (5 minutes)
MP-04 yellow	360	10	2/2/2018 10:15	0	0.6	23.7	75.7	+0.05	Positive Pressure
MP-04 red	361	27	2/2/2018 10:19	0	0.1	24.9	75	-0.01	
MP-05 yellow	362	10	2/2/2018 11:52	0	2.1	17.7	80.2	+0.04	Positive Pressure
MP-06 yellow	363	10	2/2/2018 11:37	0	0.5	21.5	78	-0.01	
MP-06 orange	364	19	2/2/2018 11:42	0	0.7	23.1	76.2	+0.01	Positive Pressure
MP-06 red	365	30	2/2/2018 11:47	0	2.4	22	75.6	-0.02	
MP-06B yellow	366	11	2/2/2018 11:27	0	0.6	23	76.4	+0.04	Positive Pressure
MP-06B orange	367	22	2/2/2018 11:30	0	1.9	21.2	76.9	+0.03	Positive Pressure
MP-06B red	368	34	2/2/2018 11:33	0	3.6	20	76.4	-0.02	
MP-07 yellow	369	9	2/2/2018 11:21	0	3.2	21.3	75.5	+0.01	Positive Pressure
MP-07 red	370	18	2/2/2018 11:24	0	3.4	21.6	75	+0.02	Positive Pressure
MP-8 yellow	371	10	2/2/2018 11:09	0	1.5	23	75.5	-0.01	
MP-08 orange	372	30	2/2/2018 11:12	0	3.2	21	75.8	-0.01	
MP-08 red	373	50	2/2/2018 11:16	0	6.2	15.8	78	-0.01	
MP-09 yellow	374	8	2/2/2018 12:06	1.7	0.6	21.4	76.3	+0.10	Methane concentration >1.25% above the lower explosive limit, Probe is Out of Complianance, Positive Pressure Pump failed after 30 second, water in probe (frozen)
MP-09 orange	375	22	2/2/2018 11:05	0	0.1	24.7	75.2	-0.02	
MP-10 yellow	376	10	2/2/2018 10:46	0	2.7	21.9	75.4	+0.01	Positive Pressure
MP-10 orange	377	23	2/2/2018 10:49	0	4.5	20.3	75.2	0.00	
MP-10 red	378	38	2/2/2018 10:53	0	4.2	21.7	74.1	-0.01	
Boat Comp.	379	NA	2/2/2018 10:21	0	2.1	23.2	74.7	-0.01	

COMMENTS:

Gas probes with positive pressure

Gas Probes with CH4%

Gas Collection System was running upon my arrival on 2/2/18

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS PROBES MONITORING LOG

Date & Time: 3/2/2018 8:45 AM

Temp (°F): 40°F — Current Conditions/Rel. Humidity: Sunny / 45%

Barometric Pressure (in. Hg): 30.46 — Trend: (F) S R (circle one)

Condition of Ground Surface/Recent Precipitation: Dry - None

Monitored By: Scott Freimark (ESC)

Gas Detector Make and Model No.: GEM 5000 — Serial No.: G501764

Date Meter Last Calibrated: 3/2/2018

Calibration Methane Span Gas: 50% — Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 10:40 — Field Check – End Time: 12:00

Probe ID	ID No.	Depth	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Vacuum/ Pressure (in. water)	Comments
MP-01 yellow	355	10	3/2/2018 9:14	0	5.5	14.7	79.8	-0.02	Trapped gas peaked at 1.0% CH4, Stablized after 2 Cycles (2 minutes)
MP-01 orange	356	15	3/2/2018 9:22	0.7	18	0.2	81.1	-0.02	Methane concentration approaching the lower explosive limit Stablized after 5 Cycles (5 minutes)
MP-02 yellow	357	10	3/2/2018 9:10	0	10.7	8.5	80.8	-0.01	
MP-03 yellow	358	10	3/2/2018 9:07	0	0.1	22.6	77.3	0.00	
MP-03 red	359	25	3/2/2018 9:01	53.3	10.7	6.3	29.7	+0.03	Methane concentration >1.25% above the lower explosive limit, Probe is Out of Compliance, Trapped gas peaked at 64% CH4, Positive Pressure Stablized after 5 Cycles (5 minutes)
MP-04 yellow	360	10	3/2/2018 8:45	0	1.1	20	78.9	-0.02	
MP-04 red	361	27	3/2/2018 8:48	0	0.1	21.8	78.1	+0.02	Positive Pressure
MP-05 yellow	362	10	3/2/2018 10:29	0	0	22	78	-0.01	
MP-06 yellow	363	10	3/2/2018 10:06	0	0.2	21.4	78.4	-0.02	
MP-06 orange	364	19	3/2/2018 10:09	0	1.2	19.5	79.3	-0.02	
MP-06 red	365	30	3/2/2018 10:12	0	2.7	19.5	77.8	-0.01	
MP-06B yellow	366	11	3/2/2018 10:15	0	0.3	21.3	78.4	0.00	
MP-06B orange	367	22	3/2/2018 10:19	0	0.3	21.5	78.2	-0.01	
MP-06B red	368	34	3/2/2018 10:23	0	1.4	20.4	78.2	0.00	
MP-07 yellow	369	9	3/2/2018 10:00	0	2.9	18.1	79	-0.01	
MP-07 red	370	18	3/2/2018 10:03	0	3.2	18.7	78.1	-0.03	
MP-8 yellow	371	10	3/2/2018 9:48	0	0.7	21.8	77.5	0.00	
MP-08 orange	372	30	3/2/2018 9:52	0	2.5	19.9	77.6	0.00	
MP-08 red	373	50	3/2/2018 9:56	0	5.6	14.6	79.8	-0.03	
MP-09 yellow	374	8	3/2/2018 9:37	0	0.5	21.6	77.9	+0.05	Positive Pressure Pump failed after 50 second, water in probe (frozen)
MP-09 orange	375	22	3/2/2018 9:41	0	0.1	22.2	77.7	0.00	
MP-10 yellow	376	10	3/2/2018 9:26	0	2.9	16.6	80.5	-0.01	
MP-10 orange	377	23	3/2/2018 9:29	0	4.5	15.7	79.8	-0.01	
MP-10 red	378	38	3/2/2018 9:33	0	6.6	16	77.4	0.00	
Boat Comp.	379	NA	3/2/2018 8:51	0	0	22	78	+0.01	Positive Pressure

COMMENTS:

Gas probes with positive pressure

Gas Probes with CH4%

Gas Collection System was running upon my arrival on 3/2/18

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS PROBES MONITORING LOG

Date & Time: 4/7/2018 9:20 AM

Temp (°F): 20°F — Current Conditions/Rel. Humidity: Sunny / 58%

Barometric Pressure (in. Hg): 30.15 — Trend: F S (S) (circle one)

Condition of Ground Surface/Recent Precipitation: Dry - None

Monitored By: Scott Freimark (ESC)

Gas Detector Make and Model No.: GEM 5000 — Serial No.: G501764

Date Meter Last Calibrated: 4/7/2018

Calibration Methane Span Gas: 15% — Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 9:20 — Field Check – End Time: 11:00

Probe ID	ID No.	Depth	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Vacuum/ Pressure (in. water)	Comments
MP-01 yellow	355	10	4/7/2018 9:51	0	3.3	20.8	75.9	-0.08	Stablized after 2 Cycles (2 minutes)
MP-01 orange	356	15	4/7/2018 9:56	0	15.3	1.8	82.9	-0.10	Stablized after 3 Cycles (3 minutes)
MP-02 yellow	357	10	4/7/2018 9:46	0	12.1	7.8	80.1	+0.01	
MP-03 yellow	358	10	4/7/2018 9:42	0	0.1	23.1	76.8	+0.03	
MP-03 red	359	25	4/7/2018 9:39	62.7	11.6	4.3	21.4	+0.02	Methane concentration >1.25% above the lower explosive limit, Probe is Out of Complianance, Trapped gas peaked at 67% CH4, Positive Pressure Stablized after 5 Cycles (5 minutes)
MP-04 yellow	360	10	4/7/2018 9:27	0	1.3	21.5	77.2	+0.03	
MP-04 red	361	27	4/7/2018 9:30	0	0.1	23	76.9	+0.02	Positive Pressure
MP-05 yellow	362	10	4/7/2018 10:57	0	0.1	22.2	77.7	+0.01	
MP-06 yellow	363	10	4/7/2018 10:45	0	0.3	21.6	78.1	+0.02	
MP-06 orange	364	19	4/7/2018 10:48	0	0.6	21.3	78.1	0.00	
MP-06 red	365	30	4/7/2018 10:53	0	1.7	20.4	77.9	+0.01	
MP-06B yellow	366	11	4/7/2018 10:36	0	0.1	21.2	78.7	0.00	
MP-06B orange	367	22	4/7/2018 10:39	0	1.2	20.2	78.6	-0.01	
MP-06B red	368	34	4/7/2018 10:43	0	2.7	19.5	77.8	0.00	
MP-07 yellow	369	9	4/7/2018 10:30	0	2.9	19.5	77.6	+0.02	
MP-07 red	370	18	4/7/2018 10:33	0	2.8	19.4	77.8	+0.01	
MP-8 yellow	371	10	4/7/2018 10:19	0	0.8	21.3	77.9	+0.01	
MP-08 orange	372	30	4/7/2018 10:22	0	2.3	20.3	77.4	+0.01	
MP-08 red	373	50	4/7/2018 10:26	0	5.4	15.2	79.4	+0.01	
MP-09 yellow	374	8	4/7/2018 10:11	14.6	3.6	4.9	76.9	+0.01	Methane concentration >1.25% above the lower explosive limit, Probe is Out of Complianance, Pump failed after 100 second, water in probe (frozen)
MP-09 orange	375	22	4/7/2018 10:16	0	0.1	22.1	77.8	-0.08	
MP-10 yellow	376	10	4/7/2018 10:00	0	2.7	19.8	77.5	0.00	
MP-10 orange	377	23	4/7/2018 10:02	0	3.9	18.6	77.5	0.00	
MP-10 red	378	38	4/7/2018 10:06	0	5.2	17.2	77.6	+0.03	
Boat Comp.	379	NA	4/7/2018 9:33	0	2.3	20.6	77.1	0.00	

COMMENTS:

	Gas probes with positive pressure
	Gas Probes with CH4%

Gas Collection System was started upon my arrival on 4/7/18

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS PROBES MONITORING LOG

Date & Time: 5/2/2018 9:20 AM

Temp (°F): 65°F — Current Conditions/Rel. Humidity: Partly Sunny / 81%

Barometric Pressure (in. Hg): 29.83 — Trend: F (S) R (circle one)

Condition of Ground Surface/Recent Precipitation: Damp - Previous Night

Monitored By: Scott Freimark (ESC)

Gas Detector Make and Model No.: GEM 5000 — Serial No.: G501764

Date Meter Last Calibrated: 5/2/2018

Calibration Methane Span Gas: 15% — Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 9:30 — Field Check – End Time: 11:25

Probe ID	ID No.	Depth	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Vacuum/ Pressure (in. water)	Comments
MP-01 yellow	355	10	5/2/2018 10:16	0	4.7	13.2	82.1	-0.41	
MP-01 orange	356	15	5/2/2018 10:19	0	5.2	15.5	79.3	-0.18	
MP-02 yellow	357	10	5/2/2018 10:12	0	14.1	1.8	84.1	+0.01	Positive Pressure
MP-03 yellow	358	10	5/2/2018 10:06	0	0	20.3	79.7	+0.01	Positive Pressure
MP-03 red	359	25	5/2/2018 10:04	0	0	20.4	79.5	+0.04	5 cycles, Peak Ch4 =30%, Positive Pressure, Probe open to atmosphere (vented)
MP-04 yellow	360	10	5/2/2018 9:40	0.8	3.4	13.5	82.3	+0.03	4 Cycles, Methane concentration <1.25% above the lower explosive limit, Pump failed after <60 seconds, water in probe, Positive Pressure, Probe open to atmosphere (vented)
			5/2/2018 16:35	0	0.1	20.7	79.2	-0.01	
MP-04 red	361	27	5/2/2018 9:45	0	4	16	80	0.00	
MP-05 yellow	362	10	5/2/2018 11:18	0	0	20.4	79.6	0.00	
MP-06 yellow	363	10	5/2/2018 11:08	0	0.3	19.5	80.2	+0.02	Positive Pressure
MP-06 orange	364	19	5/2/2018 11:11	0	0.8	19.2	80	+0.01	Positive Pressure
MP-06 red	365	30	5/2/2018 11:14	0	1.6	18.6	79.8	+0.02	Positive Pressure
MP-06B yellow	366	11	5/2/2018 10:58	0	0.8	18.9	80.3	+0.02	Positive Pressure
MP-06B orange	367	22	5/2/2018 11:01	0	1.9	18.2	79.9	-0.03	
MP-06B red	368	34	5/2/2018 11:04	0	2.3	18.3	79.4	+0.01	Positive Pressure
MP-07 yellow	369	9	5/2/2018 10:51	0	2.6	17.2	80.2	0.00	
MP-07 red	370	18	5/2/2018 10:54	0	2.8	17.7	79.5	+0.04	Positive Pressure
MP-8 yellow	371	10	5/2/2018 10:40	0	0.3	20.2	79.5	0.00	
MP-08 orange	372	30	5/2/2018 10:44	0	1.4	19.5	79.1	0.00	
MP-08 red	373	50	5/2/2018 10:48	0	4.4	15.3	80.3	0.00	
MP-09 yellow	374	8	5/2/2018 10:33	0.1	0.9	19	80	+0.08	Methane concentration <1.25% above the lower explosive limit, Pump failed after <60 seconds, water in probe, Positive Pressure, Probe open to atmosphere (vented)
MP-09 orange	375	22	5/2/2018 10:36	0	0	20.5	79.5	-0.05	
MP-10 yellow	376	10	5/2/2018 10:23	0	2.1	18.5	79.4	0.00	
MP-10 orange	377	23	5/2/2018 10:26	0	3	17.1	79.9	0.00	
MP-10 red	378	38	5/2/2018 10:29	0	8	11.4	80.6	-0.02	
Boat Comp.	379	NA	5/2/2018 9:50	0	1.5	18.8	79.7	+0.01	Positive Pressure

COMMENTS:

Gas probes with positive pressure

Gas Probes with CH4%

Gas Collection System was started upon my arrival on 5/2/18

Second gas reading taken at MP-4Y after the probe was opened to the atmosphere and vacuum was applied to G-2.

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS PROBES MONITORING LOG

Date & Time: 6/4/2018 9:30 AM

Temp (°F): 63°F — Current Conditions/Rel. Humidity: Sunny / 59%

Barometric Pressure (in. Hg): 30.03 — Trend: (F) S R (circle one)

Condition of Ground Surface/Recent Precipitation: Dry - None

Monitored By: Scott Freimark (ESC)

Gas Detector Make and Model No.: GEM 5000 — Serial No.: G501764

Date Meter Last Calibrated: 6/4/2018

Calibration Methane Span Gas: 15% — Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 9:30 — Field Check – End Time: 11:15

Probe ID	ID No.	Depth	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Vacuum/ Pressure (in. water)	Comments
MP-01 yellow	355	10	6/4/2018 10:00	0.0	13.1	1.9	85.0	-0.08	
MP-01 orange	356	15	6/4/2018 10:04	0.0	4.3	14.8	80.9	-0.07	
MP-02 yellow	357	10	6/4/2018 9:54	0.3	17.6	0.0	82.2	+0.01	3 Cycles, Methane concentration <1.25% below the lower explosive limit, Positive Pressure, Probe open to atmosphere (vented)
			6/4/2018 15:20	0.0	8.6	9.7	81.6	0.00	
MP-03 yellow	358	10	6/4/2018 9:48	0.0	0.1	19.7	80.3	0.00	
MP-03 red	359	25	6/4/2018 9:46	0.0	0.0	19.7	80.3	-0.01	
MP-04 yellow	360	10	6/4/2018 9:33	0.0	0.1	19.3	80.5	-0.03	
MP-04 red	361	27	6/4/2018 9:36	0.0	0.0	19.5	80.4	-0.01	
MP-05 yellow	362	10	6/4/2018 11:13	0.0	0.0	20.0	80.0	+0.01	Positive Pressure
MP-06 yellow	363	10	6/4/2018 11:03	0.0	1.2	18.1	80.7	+0.01	Positive Pressure
MP-06 orange	364	19	6/4/2018 11:05	0.0	1.0	17.9	81.1	-0.02	
MP-06 red	365	30	6/4/2018 11:09	0.0	1.6	17.6	80.8	-0.01	
MP-06B yellow	366	11	6/4/2018 10:53	0.0	0.7	18.1	81.2	+0.05	Positive Pressure
MP-06B orange	367	22	6/4/2018 10:56	0.0	1.9	17.2	80.9	+0.01	Positive Pressure
MP-06B red	368	34	6/4/2018 11:00	0.0	2.6	17.5	79.9	+0.01	Positive Pressure
MP-07 yellow	369	9	6/4/2018 10:47	0.0	3.8	14.8	81.4	+0.02	Positive Pressure
MP-07 red	370	18	6/4/2018 10:50	0.0	4.0	14.3	81.7	0.00	
MP-8 yellow	371	10	6/4/2018 10:36	0.0	0.5	19.0	80.5	-0.03	
MP-08 orange	372	30	6/4/2018 10:40	0.0	1.3	18.5	80.2	-0.01	
MP-08 red	373	50	6/4/2018 10:44	0.0	3.2	16.5	80.2	-0.01	
MP-09 yellow	374	8	6/4/2018 10:25	3.8	5.3	0.6	90.3	-0.03	
			6/4/2018 14:55	2.9	5.3	0.8	91.0	0.00	3 Cycles, Methane concentration >1.25%, above the lower explosive limit, Probe open to atmosphere (vented)
MP-09 orange	375	22	6/4/2018 10:27	0.0	0.2	19.1	80.7	-0.04	
MP-10 yellow	376	10	6/4/2018 10:13	0.0	2.6	16.3	81.1	0.00	
MP-10 orange	377	23	6/4/2018 10:15	0.0	4.9	13.1	82.0	+0.01	Positive Pressure
MP-10 red	378	38	6/4/2018 10:17	0.0	9.5	9.1	81.4	+0.02	Positive Pressure
Boat Comp.	379	NA	6/4/2018 9:38	0.0	1.6	18.3	80.1	-0.01	

COMMENTS:

Gas probes with positive pressure

Gas Probes with CH4%

Gas Collection System was running upon my arrival on 6/4/18

Second gas reading taken at MP-2Y & MP-9Y after the probes were opened to the atmosphere and additional vacuum was applied to adjacent gas extraction wells.

Attachment 3

Gas Blower Details and Specifications

The New York Blower Company

Date: 11/16/2017

Sequence: 1
Revision:

Control: 1
Chg Order: 0
Processor: CBU

Customer: **ENVIRONMENTAL SAMPLING CORP**

Tagging: DELAFIELD LANDFILL

FAN INFORMATION

Quantity:	1
Product Line:	Pressure Blower
Size:	2204A
Class/Wheel Type:	NA / ALM
Rotation:	CW
Arrangement:	10
Discharge:	BH
Motor Position:	
Motor By:	NYB
Mounting By:	NYB

Bearing Mfg. & Model:
BRG 1-7/16 P2B-DLMAH-107 (or equal)
Part number: A9100620

Total fan wt. With accessories: 501 lbs

DRIVE INFORMATION

QTY	DESCRIPTION	PART NUMBER	
1	Motor Sheave	2BK52H	A9900879
1	Motor Bushing	H X 1 3/8	A9900134
1	Fan Sheave	2B5V42	A9901600
1	Fan Bushing	P1 X 1 7/16	A9900118
2	Belt	BX43	A9903573
	Belt Centers:	15.49	in

SF: 2.28
Belt Tens: 3.51 lb should deflect belt 0.24 in.

FAN PERFORMANCE DATA

Capacity	Volume (CFM)	Pressure (in wg)	Speed (RPM)	Power (BHP)	Temp (F)	Density (lb/ft3)	Altitude (FT)	Max SS
OPERATING	0	0 (FSP)	3800	0	70	0.075	0	3900
STANDARD								
COLD START								
FUTURE								
TEST								
PURGE								

SALES MEMO INFORMATION

QTY	DESCRIPTION	Drawing#
1	CW BH Size 2204A7.5 Pressure Blower ALM Arr-10 Flanged Inlet 06	
1	7-1/2 HP 3600 RPM 3-60-230/460 TE Premium Efficiency, Frame: 213T, F1 conduit box location, cast iron, ball bearing, Baldor; A9500719BAL	
1	Motor Mounting, frame 213T	
1	V-Belt Drive: Constant, Service Factor = 1.50	
1	Cleanout Door: Bolted-Flush, Steel, 3:00 (standard)	
1	Drain Plug: Steel	

QTY	DESCRIPTION	Drawing#
1	Drain: Steel	
1	Weather Cover/Belt Guard, Steel	

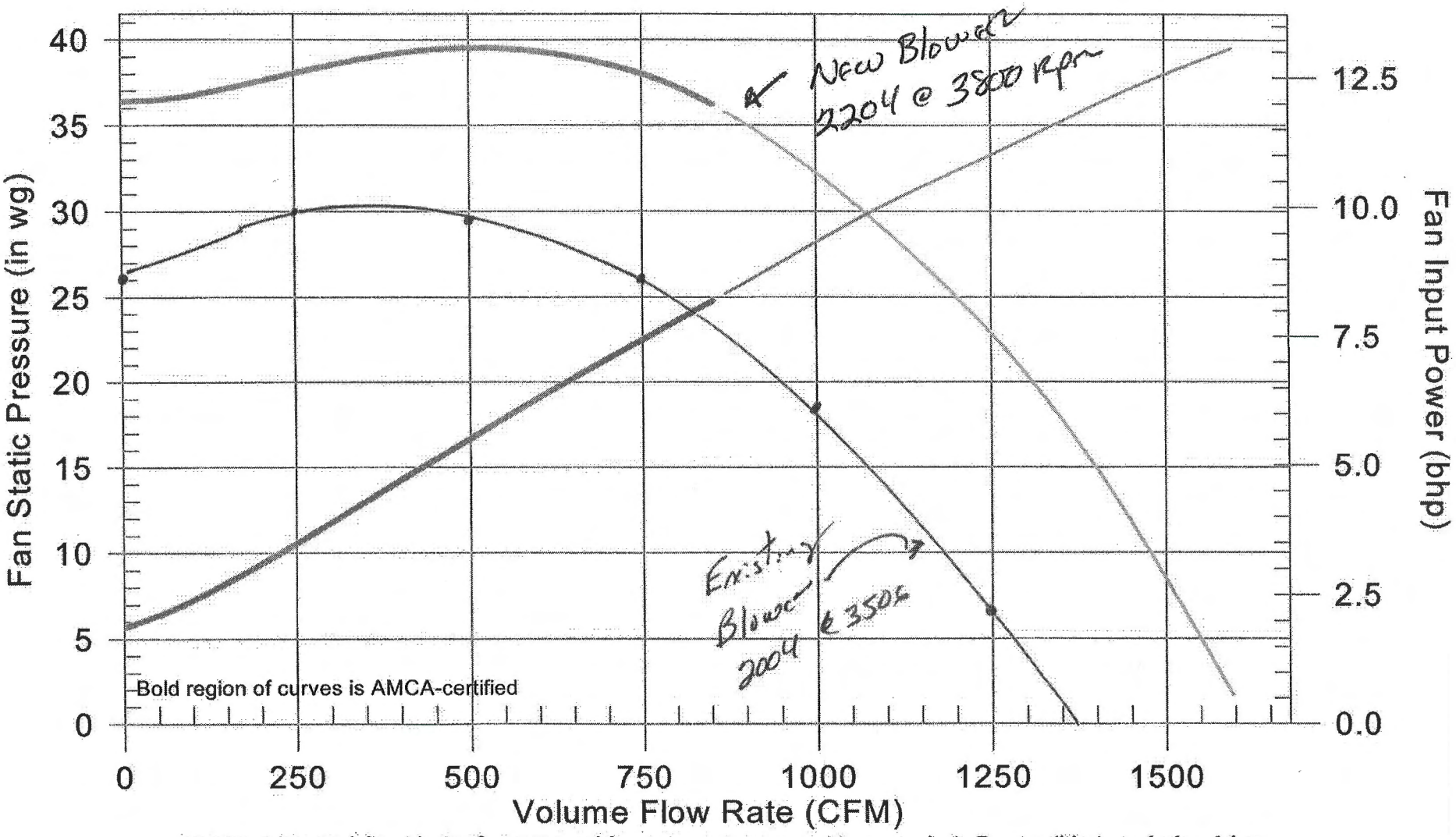
The New York Blower Company

Fan-to-Size

Pressure Blower
2204 Aluminum
Arr.: 10

Speed: 3800 rpm

Temp.: 70 Deg F
Altitude: 0 ft
Density: 0.0713 lb/ft3

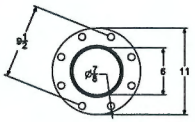


AMCA Licensed for Air Performance without Appurtenances (Accessories). Power (bhp) excludes drives.
Performance certified is for installation type: B - free inlet, ducted outlet.

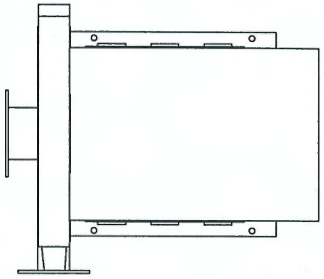
[v1.90.00-R -- May 2016] Date Printed: 10/10/2017

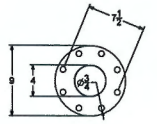
Your Sales Representative:
Air Engineers of Wisconsin, LLC
Phone: 262-544-4768

SYM.	DATE	ECN	SIG.	DESCRIPTION	ENG.

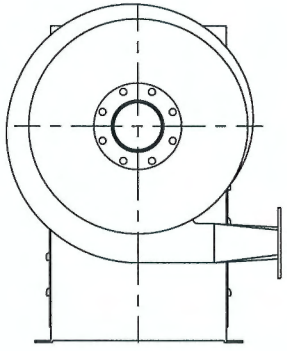


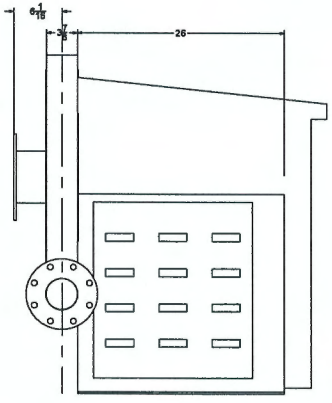
INLET FLANGE

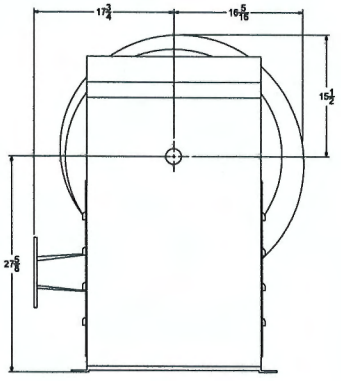


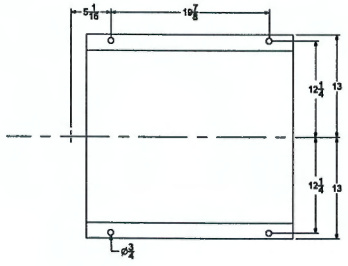


OUTLET FLANGE









EST FAN SHIPPING WEIGHT 501.3#
EST SHIPPING DIM 58 W X 63 L X 55 H

CUSTOMER ENVIRONMENTAL SAMPLING CORP
CUSTOMER'S NO. credit card -Frank
FILE NO. 2018-02613-01
TAGGING DELAFIELD LANDFILL

2204 Pressure Blower
CW BH
Arrangement 10

DRAWN CBU

DATE 11/20/2017

nyb THE NEW YORK BLOWER COMPANY
7660 Quincy Street
Willowbrook, IL 60527-5594
Visit us on the Web: http://www.nyb.com
Phone: (630) 323-7910 Email: nyb@nyb.com

DRAWING NUMBER
2018-02613-001-02

Attachment 4

Gas Extraction System Monitoring Reports

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

GREEN ZONE

Date & Time: 7/14/17 9:00

Temp (^{0}F) : 62^{0}F Current Conditions/Rel. Humidity: Mostly Cloudy 85%

Barometric Pressure (in. Hg): 30.09 Trend: F (S) R (circle one)

Condition of Ground Surface/Recent Precipitation: Dry

Monitored By: SRF -ESC

Gas Detector Make and Model No.: GEM 5000 Serial No.: G501764

Date Meter Last Calibrated: 7/14/2017

Calibration Methane Span Gas: 50% Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 9:05 Field Check – End Time: 15:45

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
HMP-3	7/14/2017 12:48	27.6	20.8	2.1	49.5	NA	NA	-0.49	NA	NA	Low header vacuum
EW-4	7/14/2017 12:15	38.9	24.2	0	36.9	-0.36	NA	-0.5	5 No change	NA	Low header vacuum
EW-24	7/14/2017 12:09	16.3	20.1	0.1	63.5	-0.26	NA	-0.51	5 No change	NA	Manhole cover doesn't close, low header vacuum
EW-5	7/14/2017 12:03	0	0.4	20.5	79.1	-0.03	NA	-0.5	5 No change	NA	Low header vacuum
EW-25	7/14/2017 11:58	29	21.5	0	49.5	-0.35	NA	-0.52	5 No change	NA	Low header vacuum
EW-12	7/14/2017 14:01	35.2	20.4	0.1	44.3	-0.28	NA	-0.42	5 No change	NA	Low header vacuum
EW-13	7/14/2017 11:52	7.3	19.6	0	73.1	-0.22	NA	-0.73	5 No change	NA	Manhole cover doesn't close, low header vacuum
HMP-4	7/14/2017 11:46	34.9	22.7	3.2	39.2	NA	NA	-0.48	NA	NA	Low header vacuum
EW-14	7/14/2017 11:41	26.6	19	0	54.4	-0.48	NA	-0.5	5 No change	NA	Low header vacuum
G-4	7/14/2017 14:28	11.2	7.5	13.6	67.7	-0.46	NA	-0.38	5 No change	NA	Low header vacuum
EW-15	7/14/2017 11:34	29.3	19.5	0.1	51.1	-0.31	NA	-0.5	5 No change	NA	Manhole cover doesn't close, low header vacuum
G-3	7/14/2017 14:22	1.7	1	20.4	76.9	-0.49	NA	-0.47	5 No change	NA	Low header vacuum
EW-16	7/14/2017 11:27	24.3	21.1	5.8	48.8	-0.31	NA	-0.45	5 No change	NA	Low header vacuum
HMP-5	7/14/2017 10:46	59.8	33.1	0.7	6.4	NA	NA	-0.49	NA	NA	Low header vacuum
EW-17	7/14/2017 10:39	21.8	13.1	12.5	52.6	-0.5	NA	-0.48	5 No change	NA	Low header vacuum
CS-2											
Blower - Inlet (Initial)	7/14/2017 9:12	21.8	17.6	7.1	53.5	NA	NA	-12.83	NA	292	
Blower - Outlet (Initial)	7/14/2017 9:15	23.3	18.8	6.2	51.7	NA	NA	+7.79	NA	292	

COMMENTS:

	Gas wells with positive pressure
	Gas wells with low header pressure <10.0"
	Gas wells with high CH4 quality >50%
	Gas wells with low CH4 quality <20%

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

ORANGE ZONE

Date & Time: 7/14/17 9:00

Temp (^{0}F) : 62^{0}F Current Conditions/Rel. Humidity: Mostly Cloudy 85%

Barometric Pressure (in. Hg): 30.09 Trend: F (S) R (circle one)

Condition of Ground Surface/Recent Precipitation: Dry

Monitored By: SRF -ESC

Gas Detector Make and Model No.: GEM 5000 Serial No.: G501764

Date Meter Last Calibrated: 7/14/2017

Calibration Methane Span Gas: 50% Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 9:05 Field Check – End Time: 15:45

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
EW-9	7/14/2017 14:07	45	24.6	0.1	30.3	-5.42	-5.53	-9.75	5/7 Increased	NA	
EW-8	7/14/2017 13:18	1.7	1	20.4	76.9	-10.11	-9	-10.15	5/1 Decreased	NA	
G-5	7/14/2017 13:24	28.2	22.8	1.5	47.5	-6.48	NA	-10.11	5 No change	NA	
G-6	7/14/2017 13:31	20	14.5	8.6	56.9	-3.62	NA	-10.1	5 No change	NA	
G-7	7/14/2017 13:53	1.1	1.7	19.7	77.5	-2.28	-1.9	-10.58	5/2 Decreased	NA	
G-8	7/14/2017 13:46	8.4	6	17	68.6	-4.33	-3.7	-9.8	5/2 Decreased	NA	
HMP-2	7/14/2017 13:38	21.4	18.7	5.6	54.3	NA	NA	-9.5	NA	NA	
EW-10	7/14/2017 12:39	45.4	30.9	0.1	23.6	-1.22	-1.33	-10.23	5/8 Increased	NA	Manhole cover doesn't close
EW-11	7/14/2017 12:31	0.6	11.7	9.1	78.6	-0.38	NA	-10.57	5 No change	NA	Manhole cover doesn't close
EW-23	7/14/2017 12:23	5.5	8.7	13.1	72.7	-2.65	-2.04	-9.74	5/3 Decreased	NA	
CS-1											
Blower - Inlet (Initial)	7/14/2017 9:12	21.8	17.6	7.1	53.5	NA	NA	-12.83	NA	292	
Blower - Outlet (Initial)	7/14/2017 9:15	23.3	18.8	6.2	51.7	NA	NA	+7.79	NA	292	

COMMENTS:

	Gas wells with positive pressure
	Gas wells with low header pressure <10.0"
	Gas wells with high CH4 quality >50%
	Gas wells with low CH4 quality <20%

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

YELLOW ZONE

Date & Time: 7/14/17 9:00

Temp (^{0}F) : 62^{0}F Current Conditions/Rel. Humidity: Mostly Cloudy 85%

Barometric Pressure (in. Hg): 30.09 Trend: F (S) R (circle one)

Condition of Ground Surface/Recent Precipitation: Dry

Monitored By: SRF -ESC

Gas Detector Make and Model No.: GEM 5000 Serial No.: G501764

Date Meter Last Calibrated: 7/14/2017

Calibration Methane Span Gas: 50% Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 9:05 Field Check – End Time: 15:45

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
EW-7	7/14/2017 9:35	40.8	27.1	0.2	31.9	-1.55	-1.68	-11.14	5/6 Increased	NA	Manhole cover doesn't close
EW-6	7/14/2017 9:45	20.9	24.7	1.5	52.9	-4.55	-4.5	-5.98	5/4 Decreased	NA	
EW-2	7/14/2017 9:50	63.7	31.8	0.9	3.6	0.02	NA	-6.02	6/7 Increased	NA	No protective cover
HMP-8	7/14/2017 14:39	25.7	22.1	4	48.2	NA	NA	-9.75	NA	NA	
EW-1	7/14/2017 9:56	36.8	28.8	0	34.4	-1.49	-1.55	-10.62	5/6 Increased	NA	No protective cover
EW-22	7/14/2017 10:04	5.4	18.5	4.7	71.4	-4.33	-4.01	-9.26	5/3 Decreased	NA	Mice in manhole
EW-21	7/14/2017 10:10	21.6	21.3	4.6	52.5	-3.06	-2.9	-9.4	5/4 Decreased	NA	
G-1	7/14/2017 14:13	28.7	16.1	9.5	45.7	-2.09	NA	-9.00	5 No change	NA	Manhole cover doesn't close
HMP-7	7/14/2017 14:34	0.1	0.1	21.1	78.7	NA	NA	-9.02	NA	NA	
EW-20	7/14/2017 10:17	69.3	30.6	0.1	0	0.08	NA	+0.04	10 No change	NA	Manhole cover doesn't close, no header vacuum
EW-19	7/14/2017 10:23	63.3	35.1	0	1.6	0.08	NA	+0.05	10 No change	NA	No header vacuum
G-2	7/14/2017 14:18	70.1	29.8	0.1	0	0.03	NA	+0.04	5 No change	NA	Manhole cover doesn't close, no header vacuum
EW-18	7/14/2017 10:31	64.5	34.7	0	0.8	-0.32	-0.38	-0.51	5/7 Increased	NA	No manhole cover, low header vacuum
HMP-6	7/14/2017 10:35	64.2	34.5	0	1	NA	NA	-0.5	NA	NA	Low header vacuum
CS-3											
Blower - Inlet (Initial)	7/14/2017 9:12	21.8	17.6	7.1	53.5	NA	NA	-12.83	NA	292	
Blower - Outlet (Initial)	7/14/2017 9:15	23.3	18.8	6.2	51.7	NA	NA	+7.79	NA	292	

COMMENTS:

	Gas wells with positive pressure
	Gas wells with low header pressure <10.0"
	Gas wells with high CH4 quality >50%
	Gas wells with low CH4 quality <20%

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

GREEN ZONE

Date & Time: 8/11/17 8:00

Temp (^{0}F) : 67^{0}F Current Conditions/Rel. Humidity: Cloudy 84%

Barometric Pressure (in. Hg): 29.96 Trend: F (S) R (circle one)

Condition of Ground Surface/Recent Precipitation: Damp

Monitored By: SRF -ESC

Gas Detector Make and Model No.: GEM 5000 Serial No.: G501764

Date Meter Last Calibrated: 8/11/2017

Calibration Methane Span Gas: 50% Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 8:00 Field Check – End Time: 12:25

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
HMP-3	8/11/2017 11:05	25.4	22.1	1.5	51	NA	NA	-0.86	NA	NA	Low header vacuum
EW-4	8/11/2017 10:58	27.7	24.1	0	48.2	-0.45	-0.45	-0.86	5 No change	NA	Low header vacuum
EW-24	8/11/2017 10:54	13.1	20.4	0	66.5	-0.42	-0.39	-0.88	5 No change	NA	Manhole cover doesn't close, low header vacuum
EW-5	8/11/2017 10:49	0.1	0.6	20.3	79	-0.01	-0.01	-0.85	5 No change	NA	Low header vacuum
EW-25	8/11/2017 10:46	21.5	21.8	0	56.7	-0.53	-0.51	-0.9	5 No change	NA	Low header vacuum
EW-12	8/11/2017 10:39	26.7	20.6	0.5	52.2	-0.52	-0.5	-0.84	5 No change	NA	Low header vacuum
EW-13	8/11/2017 10:34	8.2	19.5	0	72.3	-0.32	-0.44	-0.84	5 No change	NA	Manhole cover doesn't close, low header vacuum
HMP-4	8/11/2017 10:30	38.3	25.1	1.7	34.9	NA	NA	-0.79	NA	NA	Low header vacuum
EW-14	8/11/2017 10:26	22.2	20.5	0	57.3	-0.8	-0.8	-0.8	5 No change	NA	Low header vacuum
G-4	8/11/2017 10:17	16.5	12.1	12.3	59.1	-0.56	-0.58	-0.78	5 No change	NA	Low header vacuum
EW-15	8/11/2017 10:12	21.7	18.6	0	59.7	-0.44	-0.45	-0.79	5 No change	NA	Manhole cover doesn't close, low header vacuum
G-3	8/11/2017 10:07	6.3	3.2	18.7	71.8	-0.77	-0.77	-0.79	5 No change	NA	Low header vacuum
EW-16	8/11/2017 10:02	38.8	29.8	1.8	29.6	-0.53	-0.53	-0.9	5 No change	NA	Low header vacuum
HMP-5	8/11/2017 9:56	60.1	33.1	0.3	6.5	NA	NA	-0.74	NA	NA	Low header vacuum
EW-17	8/11/2017 9:52	3.2	2.4	19.7	74.7	-0.78	-0.78	-0.81	5 No change	NA	Low header vacuum
CS-2	8/11/2017 10:20	No readings collected , no samplnig port installed									
Blower - Inlet (Final)	8/11/2017 12:16	20.5	19.5	4.4	55.6	NA	NA	-13.36	NA	277	
Blower - Outlet (Final)	8/11/2017 12:19	20.7	19.7	4.2	55.4	NA	NA	+7.70	NA	277	

COMMENTS:

	Gas wells with positive pressure
	Gas wells with low header pressure <10.0"
	Gas wells with high CH4 quality >50%
	Gas wells with low CH4 quality <20%

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

ORANGE ZONE

Date & Time: 8/11/17 8:00

Temp (^{0}F) : 67^{0}F Current Conditions/Rel. Humidity: Cloudy 84%

Barometric Pressure (in. Hg): 29.96 Trend: F S R (circle one)

Condition of Ground Surface/Recent Precipitation: Damp

Monitored By: SRF -ESC

Gas Detector Make and Model No.: GEM 5000 Serial No.: G501764

Date Meter Last Calibrated: 8/11/2017

Calibration Methane Span Gas: 50% Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 8:00 Field Check – End Time: 12:25

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
EW-9	8/11/2017 11:59	32.7	25	0.2	42.1	-5.75	-5.81	-10.5	7/10 Increased	NA	
EW-8	8/11/2017 12:10	68.6	31.3	0.1	0	+0.08	-5.97	-11.5	0/1 Increased	NA	
G-5	8/11/2017 11:52	21.7	23.2	1.4	53.7	-7.01	-7.01	-11	5 No change	NA	
G-6	8/11/2017 11:45	12.9	11.3	11.5	64.3	-3.68	-1.57	-11	5/1 Decreased	NA	
G-7	8/11/2017 11:38	2.2	3.1	18.4	76.3	-0.54	-0.54	-11	2 No change	NA	
G-8	8/11/2017 11:32	10.2	7.2	16.2	66.4	-2.97	-1.47	-10.5	2/1 Decreased	NA	
HMP-2	8/11/2017 11:27	22.7	22.4	1.6	53.3	NA	NA	-9.88	NA	NA	
EW-10	8/11/2017 11:23	34.8	30	0	35.2	-1.24	-1.45	-10.5	8/10 Increased	NA	Manhole cover doesn't close
EW-11	8/11/2017 11:15	5.4	18.3	0	76.3	-0.25	-0.25	-10.5	1 No change	NA	Manhole cover doesn't close
EW-23	8/11/2017 11:10	4.3	13.8	3.9	78	-0.86	-0.86	-10	1 No change	NA	
CS-1	8/11/2017 12:23	0.4	0.4	20.3	78.9	NA	NA	-10.58	NA	NA	Air hose running to LCH tank
Blower - Inlet (Initial)	8/11/2017 8:09	31.4	23.4	2.7	42.5	NA	NA	-12.93	NA	302	
Blower - Outlet (Initial)	8/11/2017 8:12	30.2	22.9	2.9	44	NA	NA	+7.59	NA	298	

COMMENTS:

	Gas wells with positive pressure
	Gas wells with low header pressure <10.0"
	Gas wells with high CH4 quality >50%
	Gas wells with low CH4 quality <20%

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

YELLOW ZONE

Date & Time: 8/11/17 8:00

Temp (^{0}F) : 67^{0}F Current Conditions/Rel. Humidity: Cloudy 84%

Barometric Pressure (in. Hg): 29.96 Trend: F S R (circle one)

Condition of Ground Surface/Recent Precipitation: Damp

Monitored By: SRF -ESC

Gas Detector Make and Model No.: GEM 5000 Serial No.: G501764

Date Meter Last Calibrated: 8/11/2017

Calibration Methane Span Gas: 50% Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 8:00 Field Check – End Time: 12:25

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
EW-7	8/11/2017 8:27	39.3	27	0.1	33.6	-1.22	-1.21	-11	6/10 Increased	NA	Manhole cover doesn't close
EW-6	8/11/2017 8:34	30.6	25.9	0	43.5	-4.93	-4.93	-6.5	4 No change	NA	
EW-2	8/11/2017 8:38	61.4	30.1	1.1	7.4	+0.02	+0.02	-6	7 No change	NA	No protective cover
HMP-8	8/11/2017 8:41	35.5	26.8	0.7	37	N/A	N/A	-10.05	NA	NA	
EW-1	8/11/2017 8:46	25.5	27.4	0	47.1	-1.54	-1.54	-10.5	6 No change	NA	No protective cover
EW-22	8/11/2017 8:51	20.5	20	0.3	59.2	-4.31	-4.26	-10	3 No change	NA	Surge
EW-21	8/11/2017 8:56	26.4	22.4	3.7	47.5	-3.16	-3.16	-9	4 No change	NA	
G-1	8/11/2017 9:02	29.6	20.3	7.6	42.5	-1.79	-1.79	-9.00	5 No change	NA	Manhole cover doesn't close
HMP-7	8/11/2017 9:08	24.2	17.2	8.2	50.4	N/A	N/A	-9.15	NA	NA	
EW-20	8/11/2017 9:18	68.5	31.4	0.1	0	+0.07	+0.07	+0.04	10 No change	NA	Manhole cover doesn't close, no header vacuum
EW-19	8/11/2017 9:23	64.5	35.5	0	0	+0.08	+0.06	+0.05	10 No change	NA	No header vacuum
G-2	8/11/2017 9:28	69.4	30.6	0	0	+0.13	+0.06	+0.06	5 No change	NA	Manhole cover doesn't close, no header vacuum
EW-18	8/11/2017 9:34	63.1	34	0	2.9	-0.27	-0.28	-0.83	7 No change	NA	No manhole cover, low header vacuum
HMP-6	8/11/2017 9:34	63.1	34	0	2.9	N/A	N/A	-0.83	NA	NA	Low header vacuum
CS-3	8/11/2017 9:41	0.1	0.1	21	78.9	N/A	N/A	-9.02	NA	NA	Air leak in the regultor
Blower - Inlet (Initial)	8/11/2017 8:09	31.4	23.4	2.7	42.5	NA	NA	-12.93	NA	302	
Blower - Outlet (Initial)	8/11/2017 8:12	30.2	22.9	2.9	44	NA	NA	+7.59	NA	298	

COMMENTS:

	Gas wells with positive pressure
	Gas wells with low header pressure <10.0"
	Gas wells with high CH4 quality >50%
	Gas wells with low CH4 quality <20%

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

GREEN ZONE

Date & Time: 9/5/17 12:00

Temp (^{0}F) : 59^{0}F Current Conditions/Rel. Humidity: Cloudy 63%

Barometric Pressure (in. Hg): 29.89 Trend: F S R (circle one)

Condition of Ground Surface/Recent Precipitation: Dry

Monitored By: SRF -ESC

Gas Detector Make and Model No.: GEM 5000 Serial No.: G501764

Date Meter Last Calibrated: 9/5/2017

Calibration Methane Span Gas: 50% Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 12:00 Field Check – End Time: 13:45

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
HMP-3	9/5/2017 12:05	15.9	18.8	4.4	60.9	NA	NA	-8.25	NA	NA	
EW-4	9/5/2017 12:15	27.0	24.8	0.0	48.2	-1.48	-1.48	-8.0	5 No change	NA	
EW-24	9/5/2017 12:20	5.3	19.0	1.8	73.9	-1.51	-1.48	-9.0	5/1 Decreased	NA	Manhole cover doesn't close
EW-5	9/5/2017 12:30	0.0	0.1	20.9	79.0	-0.0	-0.0	-8.0	0 No change	NA	
EW-25	9/5/2017 12:35	14.1	21.3	1.0	63.6	-2.22	-1.04	-9.0	5/1 Decreased	NA	
EW-12	9/5/2017 12:45	19.5	20.7	0.7	59.0	-2.37	-1.25	-9.5	5/1 Decreased	NA	
EW-13	9/5/2017 12:50	1.0	14.4	6.9	77.9	-1.72	-0.65	-10.0	5/1 Decreased	NA	Manhole cover doesn't close
HMP-4	9/5/2017 12:55	20.1	18.6	6.3	55.0	NA	NA	-8.68	NA	NA	
EW-14	9/5/2017 13:00	9.9	16.7	4.8	68.6	-7.13	-2.95	-9.5	5/1 Decreased	NA	
G-4	9/5/2017 13:10	4.8	3.9	17.9	73.4	-4.85	-1.06	-9.5	5/1 Decreased	NA	
EW-15	9/5/2017 13:15	12.0	18.0	1.4	68.5	-2.27	-1.30	-10.5	5/1 Decreased	NA	Manhole cover doesn't close
G-3	9/5/2017 13:20	16.8	6.7	13.2	63.3	-9.61	-7.54	-10	5/1 Decreased	NA	
EW-16	9/5/2017 13:30	11.3	12.8	12.3	63.6	-3.04	-1.48	-11	5/1 Decreased	NA	
HMP-5	9/5/2017 13:40	43.9	31.3	0.5	24.4	NA	NA	-10.07	NA	NA	
EW-17	9/5/2017 13:45	0.6	1.0	20.6	77.8	-8.31	-1.00	-10.5	5/1 Decreased	NA	
CS-2	9/5/2017 13:35	No readings collected , no samplnig port installed									
Blower - Inlet (Final)	9/5/2017 14:50	21.4	21.1	4.0	53.5	NA	NA	-15.28	NA	305	
Blower - Outlet (Final)	9/5/2017 14:53	21.4	21.1	3.9	53.6	NA	NA	+6.28	NA	305	

COMMENTS:

	Gas wells with positive pressure
	Gas wells with low header pressure <10.0"
	Gas wells with high CH4 quality >50%
	Gas wells with low CH4 quality <20%

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

ORANGE ZONE

Date & Time: 9/5/17 11:00

Temp (°F): 57°F Current Conditions/Rel. Humidity: Partly Cloudy 67%

Barometric Pressure (in. Hg): 29.89 Trend: F S R (circle one)

Condition of Ground Surface/Recent Precipitation: Dry

Monitored By: SRF -ESC

Gas Detector Make and Model No.: GEM 5000 Serial No.: G501764

Date Meter Last Calibrated: 9/5/2017

Calibration Methane Span Gas: 50% Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 11:00 Field Check – End Time: 16:35

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
EW-9	9/5/2017 11:00	34.0	26.2	0.1	39.7	-4.83	-4.82	-9.0	10 No change	NA	
EW-8	9/5/2017 11:05	21.8	24.4	2.5	51.3	-3.33	-2.3	-10.0	1/<1 Decreased	NA	Valve issue
G-5	9/5/2017 11:15	22.6	23.9	2.1	51.4	-4.6	-3.64	-9.5	5/2 Decreased	NA	
G-6	9/5/2017 11:20	14.0	10.9	12.3	62.8	-1.06	-1.07	-8.5	1 no change	NA	
G-7	9/5/2017 11:30	1.2	1.3	20.3	77.2	-0.44	-0.02	-9.5	2/0 decreased	NA	valve closed
G-8	9/5/2017 11:40	10.8	7.5	16.6	65.0	-1.19	-0.9	-9.0	1/<1 Decreased	NA	
HMP-2	9/5/2017 11:45	16.7	19.4	4.4	59.5	NA	NA	-8.35	NA	NA	Pro casing needs repair
EW-10	9/5/2017 11:50	37.8	31.7	0.0	30.4	-1.15	-1.45	-9.5	8/10 Increased	NA	Manhole cover doesn't close, valve issue
EW-11	9/5/2017 12:00	1.1	17.5	1.9	79.5	-0.16	-0.02	-8.0	1/0 Decreased	NA	valve closed
EW-23	9/5/2017 12:05	2.2	9.2	12.9	75.7	-0.72	-0.01	-8.0	1/0 Decreased	NA	valve closed
CS-1	9/5/2017 16:35	0.0	0.3	21.0	78.7	NA	NA	-12.77	NA	NA	
Blower - Inlet (Initial)	9/5/2017 9:05	19.0	19.3	4.9	56.8	NA	NA	-12.78	NA	335	
Blower - Outlet (Initial)	9/5/2017 9:10	19.1	19.3	4.8	56.7	NA	NA	+7.70	NA	335	

COMMENTS:

	Gas wells with positive pressure
	Gas wells with low header pressure <10.0"
	Gas wells with high CH4 quality >50%
	Gas wells with low CH4 quality <20%

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

YELLOW ZONE

Date & Time: 9/5/17 9:00

Temp (°F): 52°F Current Conditions/Rel. Humidity: Cloudy 77%

Barometric Pressure (in. Hg): 29.84 Trend: F S R (circle one)

Condition of Ground Surface/Recent Precipitation: Dry

Monitored By: SRF -ESC

Gas Detector Make and Model No.: GEM 5000 Serial No.: G501764

Date Meter Last Calibrated: 9/5/2017

Calibration Methane Span Gas: 50% Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 9:15 Field Check – End Time: 14:15

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
EW-7	9/5/2017 9:20	35.6	27.0	0.1	37.1	-0.60	-0.60	-5.0	5/1 Decreased	NA	Manhole cover doesn't close, Valve Issue
EW-6	9/5/2017 9:35	18.3	23.9	1.3	56.4	-2.39	-1.00	-3.0	4/2 Decreased	NA	
EW-2	9/5/2017 9:35	64.6	33.4	0.2	1.6	+0.01	+0.02	-5.0	7 No change	NA	No protective cover, Vacuum Issue
HMP-8	9/5/2017 9:35	22.4	24.4	1.6	51.6	N/A	N/A	-4.42	NA	NA	
EW-1	9/5/2017 9:35	26.8	27.7	0.1	45.4	-0.86	-0.90	-5.0	6/7 Increased	NA	
EW-22	9/5/2017 9:35	7.7	20.5	0.7	71.2	-2.11	-1.02	-4.5	3/1 Decreased	NA	Surge
EW-21	9/5/2017 9:35	21.2	26.2	0.4	52.3	-1.88	-1.87	-5.0	4 No change	NA	
G-1	9/5/2017 9:35	36.5	24	5.3	34.2	-0.07	-0.50	-5.0	0/10 Increased	NA	Manhole cover doesn't close, taped port
HMP-7	9/5/2017 9:35	9.3	10.2	14.4	67.6	N/A	N/A	-3.75	NA	NA	O2 Issue
EW-20	9/5/2017 9:35	68.4	31.6	0.0	0.0	+0.02	+0.02	+0.02	10 No change	NA	Manhole cover doesn't close, no header vacuum
EW-19	9/5/2017 9:35	43	26.9	6.0	23.6	0.00	0.00	0.0	10 No change	NA	No header vacuum
G-2	9/5/2017 9:35	69.1	31	0.0	0.0	+0.03	+0.03	+0.03	5 No change	NA	Manhole cover doesn't close, no header vacuum
EW-18	9/5/2017 9:35	56.8	33.3	0.0	9.7	-2.67	-2.75	-11.5	7/10 Increased	NA	No manhole cover, low header vacuum Valve Issue
HMP-6	9/5/2017 9:35	52	31.1	1.4	15.6	N/A	N/A	-10.75	NA	NA	Low header vacuum
CS-3	9/5/2017 9:35	0.0	0.1	20.4	79.5	N/A	N/A	-0.15	NA	NA	Air leak in the regultor
Blower - Inlet (Initial)	9/5/2017 9:05	19.0	19.3	4.9	56.8	NA	NA	-12.78	NA	335	
Blower - Outlet (Initial)	9/5/2017 9:10	19.1	19.3	4.8	56.7	NA	NA	+7.70	NA	335	

COMMENTS:

	Gas wells with positive pressure
	Gas wells with low header pressure <10.0"
	Gas wells with high CH4 quality >50%
	Gas wells with low CH4 quality <20%

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

GREEN ZONE

Date & Time: October event (9/28/2017 9:00:00 AM)

Temp (°F): 53°F Current Conditions/Rel. Humidity: Sunny 82%

Barometric Pressure (in. Hg): 30.2 Trend: F S S (circle one)

Condition of Ground Surface/Recent Precipitation: Dry - None

Monitored By: SRF -ESC

Gas Detector Make and Model No.: GEM 5000 Serial No.: G501764

Date Meter Last Calibrated: 9/28/2017

Calibration Methane Span Gas: 50% Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 11:10 Field Check – End Time: 13:40

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
HMP-3	9/28/2017 12:49	14.1	18.5	3.8	63.6	NA	NA	-11	NA	NA	Low methane concentration
EW-4	9/28/2017 12:53	18.5	22.9	0	58.6	-1.43	-1.43	-10.8	5 No change	NA	Low methane concentration
EW-24	9/28/2017 13:01	1.7	15.4	5.1	77.8	-1.62	-0.58	-11.5	1/<1 Decreased	NA	Low methane concentration, high oxygen concentration, manhole cover doesn't close
EW-5	9/28/2017 13:03	0	0.1	20.6	79.3	-0.01	-0.02	-10.8	0 No change	NA	No methane concentration, high oxygen concentration, valve closed, manhole cover doesn't close
EW-25	9/28/2017 13:08	10.7	20	0.2	69.1	-0.78	-0.79	-11.5	1 No change	NA	Low methane concentration
EW-12	9/28/2017 13:13	14.1	20.1	0.3	65.5	-1.18	-1.2	-11.75	1 No change	NA	Low methane concentration
EW-13	9/28/2017 13:17	0.7	16.3	1.1	81.9	-0.51	-0.52	-11.5	1 No change	NA	Low methane concentration, manhole cover doesn't close
HMP-4	9/28/2017 13:22	21.3	19.9	4.8	54	NA	NA	-11.34	NA	NA	
EW-14	9/28/2017 13:31	7.1	13.5	7	72.4	-2.54	-0.05	-11	1/<1 Decreased	NA	Low methane concentration, high oxygen concentration
G-4	9/28/2017 13:43	7.7	4.3	17.2	70.8	-1.07	-0.99	-11	1 No change	NA	Low methane concentration, high oxygen concentration, Water in kanaflex
EW-15	9/28/2017 13:50	11.1	18.8	0.2	69.9	-0.74	-0.75	-11	1 No change	NA	Low methane concentration, manhole cover doesn't close
G-3	9/28/2017 11:27	21	10.9	9.4	58.7	-8.59	-7.95	-10.75	1/<1 Decreased	NA	High oxygen concentration, valve issue
EW-16	9/28/2017 11:17	10	13	10.2	66.8	-0.73	-0.74	-11	1 No change	NA	Low methane concentration, high oxygen concentration
HMP-5	9/28/2017 11:13	39.7	30	0.3	30	NA	NA	-10.68	NA	NA	
EW-17	9/28/2017 11:09	0.8	1.4	19.8	78	-0.96	-0.96	-10.75	1 No change	NA	Low methane concentration, high oxygen concentration
CS-2		No readings collected , no samplnig port installed									
Blower - Inlet (Initial)	9/28/2017 9:08	21.9	22.8	2.3	53	NA	NA	-16.08	NA	312	
Blower - Outlet (Initial)	9/28/2017 9:12	21.1	22.3	2.6	54	NA	NA	+6.05	NA	312	

COMMENTS:

	Gas wells with positive pressure
	Gas wells with low header pressure <10.0"
	Gas wells with high CH4 quality >50%
	Gas wells with low CH4 quality <20%

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

ORANGE ZONE

Date & Time: October event (9/28/2017 9:00:00 AM)

Temp (°F): 53°F Current Conditions/Rel. Humidity: Sunny 82%

Barometric Pressure (in. Hg): 30.2 Trend: F S R (circle one)

Condition of Ground Surface/Recent Precipitation: Dry - None

Monitored By: SRF -ESC

Gas Detector Make and Model No.: GEM 5000 Serial No.: G501764

Date Meter Last Calibrated: 9/28/2017

Calibration Methane Span Gas: 50% Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 11:35 Field Check – End Time: 12:35

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
EW-9	9/28/2017 11:37	28.7	25.8	0.3	45.2	-5.48	-5.47	-12.0	10 FO	NA	Valve issue
EW-8	9/28/2017 11:47	33.1	27.3	0	39.6	-1.62	-2.85	-12.5	<1 No change	NA	Valve issue
G-5	9/28/2017 11:54	20.5	23.4	1.8	54.3	-3.3	-3.31	-12.3	2 No change	NA	
G-6	9/28/2017 12:01	13.8	10.7	12.4	63.1	-1.01	-0.81	-11.8	1/<1 Decreased	NA	Low methane concentration, high oxygen concentration
G-7	9/28/2017 12:08	4.7	4.2	17.8	73.3	-0.01	-0.01	-12.0	0 No change	NA	Low methane concentration, high oxygen concentration, valve closed
G-8	9/28/2017 12:14	10.5	8.4	15.5	65.6	-0.98	-0.76	-11.5	1/<1 Decreased	NA	Low methane concentration, high oxygen concentration
HMP-2	9/28/2017 12:18	16.6	20	3.7	59.7	NA	NA	-11.50	NA	NA	Low methane concentration, Pro casing needs repair, needs new port
EW-10	9/28/2017 12:23	31.5	30.5	0.1	37.9	-1.24	-1.24	-13.0	10 FO	NA	Manhole cover doesn't close, valve issue
EW-11	9/28/2017 12:35	16.8	24.8	0	58.4	-0.01	-0.21	-11.3	0/<1 Increased	NA	Low methane concentration
EW-23	9/28/2017 12:45	9.4	16.8	0.3	73.5	-0.04	-0.15	-12.3	0/<1 Increased	NA	Low methane concentration
CS-1	9/28/2017 13:52	8.4	8.8	13.2	69.6	NA	NA	-12.79	NA	NA	Low methane concentration, high oxygen concentration
Blower - Inlet (Final)	9/28/2017 14:00	21.4	21.4	3.3	53.9	NA	NA	-14.88	NA	315	
Blower - Outlet (Final)	9/28/2017 14:04	21.2	21	3.6	54.2	NA	NA	+6.49	NA	315	

COMMENTS:

	Gas wells with positive pressure
	Gas wells with low header pressure <10.0"
	Gas wells with high CH4 quality >50%
	Gas wells with low CH4 quality <20%

FO = Valve full open

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

YELLOW ZONE

Date & Time: October event (9/28/2017 9:00:00 AM)

Temp (°F): 53°F Current Conditions/Rel. Humidity: Sunny 82%

Barometric Pressure (in. Hg): 30.2 Trend: F S (S) (circle one)

Condition of Ground Surface/Recent Precipitation: Dry - None

Monitored By: SRF -ESC

Gas Detector Make and Model No.: GEM 5000 Serial No.: G501764

Date Meter Last Calibrated: 9/28/2017

Calibration Methane Span Gas: 50% Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 9:00 Field Check – End Time: 11:05

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
EW-7	9/28/2017 9:21	37.2	27	0.2	35.6	-0.96	-0.96	-6.5	10 FO	NA	Low header vacuum, valve issue, manhole cover doesn't close
EW-6	9/28/2017 9:26	19.7	23.7	1	55.6	-0.52	-0.48	-5.0	2 No change	NA	Low methane concentration, low header vacuum
EW-2	9/28/2017 9:37	64.4	32.7	0.5	2.4	+0.01	+0.01	-6.5	7	NA	Well has positive pressure, High methane concentration, low header vacuum, No protective cover, valve opened/excerised with no change in vacuum, issue with valve and/or lateral
HMP-8	9/28/2017 9:43	24.1	24.2	2.5	49.2	N/A	N/A	-5.36	NA	NA	Low header vacuum
EW-1	9/28/2017 10:06	27.6	28.3	0	44.1	-1.13	-1.12	-8.5	7/10 Increased	NA	Low header vacuum, no protective casing, Valve Issue
EW-22	9/28/2017 10:11	11.9	21.5	0.4	66.2	-1.34	-1.35	-7	1 No change	NA	Low methane concentration, low header vacuum, Mice in manhole, Vacuum in header surging
EW-21	9/28/2017 10:25	18.5	22.4	1.3	57.8	-2.26	-2.39	-8.0	4 No change	NA	Low methane concentration, low header vacuum, Vacuum in header surging
G-1	9/28/2017 10:31	30.9	20.9	7.4	40.8	-1.06	-1.06	-4.5	10 FO	NA	High oxygen concentration, Low header vacuum, valve issue, Manhole cover doesn't close
HMP-7	9/28/2017 10:37	2.3	5.3	17.2	75.2	N/A	N/A	-7.02	NA	NA	Low methane concentration, high oxygen concentration, Low header vacuum
EW-20	9/28/2017 10:46	68.1	31.8	0.1	0	+0.03	+0.03	+0.02	10 FO	NA	No header vacuum, Well has positive pressure, High methane concentration, Manhole cover doesn't close
EW-19	9/28/2017 10:50	63.3	36.6	0	0.1	+0.06	+0.06	+0.06	10 FO	NA	No header vacuum, Well has positive pressure, High methane concentration
G-2	9/28/2017 10:54	69.2	30.7	0.1	0	+0.05	+0.06	+0.04	10 FO	NA	No header vacuum, Well has positive pressure, High methane concentration, Manhole cover doesn't close
EW-18	9/28/2017 10:58	40.6	30	0.5	28.9	-2.55	-2.56	-12	10 FO	NA	Manhole cover doesn't close, valve issue
HMP-6	9/28/2017 11:03	31.8	23.9	4.5	39.8	N/A	N/A	-10.62	NA	NA	
CS-3	9/28/2017 10:39	0	0.1	20.8	79.1	N/A	N/A	-0.02	NA	NA	No methane concentration, high oxygen concentration, low header vacuum,Air leak in the regultor
Blower - Inlet (Initial)	9/28/2017 9:08	21.9	22.8	2.3	53	NA	NA	-16.08	NA	312	
Blower - Outlet (Initial)	9/28/2017 9:12	21.1	22.3	2.6	54	NA	NA	+6.05	NA	312	

COMMENTS:

	Gas wells with positive pressure
	Gas wells with low header pressure <10.0"
	Gas wells with high CH4 quality >50%
	Gas wells with low CH4 quality <20%

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

GREEN ZONE

Date & Time: 11/3/17 13:40

Temp (°F): 35°F Current Conditions/Rel. Humidity: Sunny 65%

Barometric Pressure (in. Hg): 30.02 Trend: (F) S R (circle one)

Condition of Ground Surface/Recent Precipitation: Dry - None

Monitored By: SRF -ESC

Gas Detector Make and Model No.: GEM 5000 Serial No.: G501764

Date Meter Last Calibrated: 11/3/2017

Calibration Methane Span Gas: 50% Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 13:40 Field Check – End Time: 15:10

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
HMP-3	11/3/2017 13:44	19.3	21.9	2.2	56.6	NA	NA	-11.65	NA	NA	Low methane concentration
EW-4	11/3/2017 13:48	22.1	24.2	0.1	53.6	-1.68	-1.68	-11	5 No change	NA	
EW-24	11/3/2017 13:51	4.6	17.9	4.1	73.4	-0.66	-0.66	-13.71	<1 No Change	NA	Low methane concentration, manhole cover doesn't close
EW-5	11/3/2017 13:54	0.1	0.2	21.5	78.2	-0.01	-0.01	-11	0 No change	NA	Low methane concentration, high oxygen concentration, valve closed, manhole cover doesn't close
EW-25	11/3/2017 13:57	11.5	21.4	0.7	66.4	-1	-0.99	-13.69	1 No change	NA	Low methane concentration
EW-12	11/3/2017 14:01	17.1	22.5	0.1	60.3	-1.34	-1.33	-13.72	1 No change	NA	Low methane concentration
EW-13	11/3/2017 14:05	0.9	17	4	78.1	-0.69	-0.69	-13.63	1 No change	NA	Low methane concentration, manhole cover doesn't close
HMP-4	11/3/2017 14:08	28.4	24	2.2	45.4	NA	NA	13.48	NA	NA	
EW-14	11/3/2017 14:12	21.4	19.8	1	57.8	-0.36	-1.14	-13.54	1/2 Increased	NA	Increased to assist with gas probe MP-09 methane
G-4	11/3/2017 14:17	11.7	15	6.7	66.6	-0.45	-0.46	-13.32	1 No change	NA	Low methane concentration, high oxygen concentration, Water in kanaflex
EW-15	11/3/2017 14:23	11.3	19.4	1	68.3	-1.18	-1.54	-13.45	1/2 Increased	NA	Low methane concentration, manhole cover doesn't close, Increased to assist with gas probe MP-09 methane
G-3	11/3/2017 14:27	12.9	6.5	15.6	65	-4.44	-4.43	-12.84	<1 No Change	NA	Low methane concentration, high oxygen concentration, valve issue
EW-16	11/3/2017 14:32	13.6	13.6	11.4	61.4	-0.24	-0.4	-12.77	1 No change	NA	Low methane concentration, high oxygen concentration
HMP-5	11/3/2017 14:35	41.7	29.4	0.6	28.3	NA	NA	-12.71	NA	NA	
EW-17	11/3/2017 14:39	6.3	5.8	18.1	69.8	-0.03	-0.03	-12.69	<1 No change	NA	Low methane concentration, high oxygen concentration
CS-2		No readings collected , no samplnig port installed									
Blower - Inlet (Final)	11/3/2017 14:59	24.5	23.6	3	48.9	NA	NA	-16.66	NA	317	
Blower - Outlet (Final)	11/3/2017 15:03	23.9	23	3.5	49.6	NA	NA	+5.99	NA	317	

COMMENTS:

	Gas wells with positive pressure
	Gas wells with low header pressure <10.0"
	Gas wells with high CH4 quality >50%
	Gas wells with low CH4 quality <20%

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

ORANGE ZONE

Date & Time: 11/3/17 12:40

Temp (°F): 35°F Current Conditions/Rel. Humidity: Sunny 65%

Barometric Pressure (in. Hg): 30.02 Trend: (F) S R (circle one)

Condition of Ground Surface/Recent Precipitation: Dry - None

Monitored By: SRF -ESC

Gas Detector Make and Model No.: GEM 5000 Serial No.: G501764

Date Meter Last Calibrated: 11/3/2017

Calibration Methane Span Gas: 50% Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 12:40 Field Check – End Time: 15:10

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
EW-9	11/3/2017 12:55	37.8	27.6	0.1	34.5	-5.87	-5.87	-14.7	10 FO	NA	Valve issue
EW-8	11/3/2017 12:49	25.6	24.4	4.9	45.1	-4.77	-4.75	-14.01	<1 No change	NA	Valve issue
G-5	11/3/2017 13:00	25.2	24.4	2.2	48.2	-4.55	-4.55	-14.56	2 No change	NA	
G-6	11/3/2017 13:06	18.7	13.4	11.2	56.7	-0.35	-0.37	-14.38	<1 No change	NA	Low methane concentration, high oxygen concentration
G-7	11/3/2017 13:14	7.6	11.4	9.2	71.8	-0.02	-0.02	-14.34	0 No change	NA	Low methane concentration, high oxygen concentration, valve closed
G-8	11/3/2017 13:19	10.6	8.4	16.2	64.8	-0.56	-0.57	-14.08	<1 No change	NA	Low methane concentration, high oxygen concentration
HMP-2	11/3/2017 13:22	22.4	23.4	2.2	52	NA	NA	-14.01	NA	NA	Pro casing needs repair, new port installed
EW-10	11/3/2017 13:27	38.1	32.4	0.1	29.4	-1.35	-1.35	-14.24	10 FO	NA	Manhole cover doesn't close, valve issue
EW-11	11/3/2017 13:34	20.9	26.4	0	52.7	-0.02	-0.35	-13.7	<1 No change	NA	
EW-23	11/3/2017 13:41	2	14.2	8.6	75.2	-0.12	-0.11	-13.68	<1 No change	NA	Low methane concentration, high oxygen concentration
CS-1	11/3/2017 15:08	10.5	10.7	13	65.8	NA	NA	-13.99	NA	NA	Low methane concentration, high oxygen concentration
Blower - Inlet (Initail)	11/3/2017 10:02	24.3	24.4	2.2	49.1	NA	NA	-17.28	NA	305	
Blower - Outlet (Initail)	11/3/2017 10:05	23.2	23.4	3	50.4	NA	NA	+5.80	NA	305	

COMMENTS:

	Gas wells with positive pressure
	Gas wells with low header pressure <10.0"
	Gas wells with high CH4 quality >50%
	Gas wells with low CH4 quality <20%

FO = Valve Full Open

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

YELLOW ZONE

Date & Time: 11/3/17 10:00

Temp (°F): 35°F Current Conditions/Rel. Humidity: Sunny 65%

Barometric Pressure (in. Hg): 30.02 Trend: (F) S R (circle one)

Condition of Ground Surface/Recent Precipitation: Dry - None

Monitored By: SRF -ESC

Gas Detector Make and Model No.: GEM 5000 Serial No.: G501764

Date Meter Last Calibrated: 11/3/2017

Calibration Methane Span Gas: 50% Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 10:00 Field Check – End Time: 14:45

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
EW-7	11/3/2017 10:21	37.6	28.2	0	34.2	-1.18	-1.17	-9.87	10 FO	NA	Low header vacuum, valve issue, manhole cover doesn't close
EW-6	11/3/2017 10:29	18.8	24.5	2.3	54.4	-0.84	-0.82	-7.90	2 No change	NA	Low methane concentration, low header vacuum
EW-2	11/3/2017 11:22	56.2	32.2	1.2	10.4	+0.04	+0.04	-8.00	7/10 Increased	NA	Well has positive pressure, High methane concentration, low header vacuum, No protective cover
HMP-8	11/3/2017 11:26	23.8	24.3	3.3	48.6	NA	NA	-9.29	NA	NA	Low header vacuum
EW-1	11/3/2017 11:32	30.7	29.6	0	39.7	-1.38	-1.37	-10.26	10 FO	NA	No protective casing, Valve Issue
EW-22	11/3/2017 11:39	9	23	0.5	67.5	-1.49	-2.66	-8.84	1/2 Increased	NA	Low methane concentration, low header vacuum, Mice in manhole, Vacuum in header surging, Increased to assist with gas probe MP-02 methane
EW-21	11/3/2017 11:45	17	23.9	2.6	56.5	-2.92	-2.96	-8.8	4/5 Increased	NA	Low methane concentration, low header vacuum, Mice in manhole, Vacuum in header surging, Increased to assist with gas probe MP-02 methane
G-1	11/3/2017 11:50	29.5	19.1	9	42.4	-1.61	-1.61	-8.00	10 FO	NA	High oxygen concentration, Low header vacuum, valve issue, Manhole cover doesn't close
HMP-7	11/3/2017 11:54	2.8	4.1	19.5	73.6	NA	NA	-8.09	NA	NA	Low methane concentration, high oxygen concentration, Low header vacuum
EW-20	11/3/2017 12:02	67.5	32.2	0.3	0	+0.04	+0.03	+0.01	10 FO	NA	No header vacuum, Well has positive pressure, High methane concentration, Manhole cover doesn't close
EW-19	11/3/2017 12:08	35.3	24.6	6.5	33.6	+0.05	+0.05	+0.02	10 FO	NA	No header vacuum, Well has positive pressure
G-2	11/3/2017 12:14	61.5	31.1	0.4	7	+0.07	+0.08	+0.04	10 FO	NA	No header vacuum, Well has positive pressure, High methane concentration, Manhole cover doesn't close
EW-18	11/3/2017 14:50	43.8	30.7	0	25.5	-3.00	-3.00	-14.00	10 FO	NA	Manhole cover doesn't close, valve issue
HMP-6	11/3/2017 14:46	25.9	18.3	9.1	46.7	NA	NA	-12.68	NA	NA	High oxygen concentration
CS-3	11/3/2017 11:56	0.1	0.1	22.3	77.5	NA	NA	+0.04	NA	NA	Low methane concentration, high oxygen concentration,Positive pressure, Air leak in the regultor
Blower - Inlet (Initial)	11/3/2017 10:02	24.3	24.4	2.2	49.1	NA	NA	-17.28	NA	305	
Blower - Outlet (Initial)	11/3/2017 10:05	23.2	23.4	3	50.4	NA	NA	+5.80	NA	305	

COMMENTS:

	Gas wells with positive pressure
	Gas wells with low header pressure <10.0"
	Gas wells with high CH4 quality >50%
	Gas wells with low CH4 quality <20%

FO = Valve full open

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

GREEN ZONE

Date & Time: 12/1/17 11:55

Temp (°F): 45°F Current Conditions/Rel. Humidity: Cloudy 43%

Barometric Pressure (in. Hg): 30.14 Trend: F S R (circle one)

Condition of Ground Surface/Recent Precipitation: Dry - None

Monitored By: SRF -ESC

Gas Detector Make and Model No.: GEM 5000 Serial No.: G501764

Date Meter Last Calibrated: 12/1/2017

Calibration Methane Span Gas: 50% Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 11:55 Field Check – End Time: 13:20

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
HMP-3	12/1/2017 11:54	18.7	20.9	3.2	57.2	NA	NA	-11.65	NA	NA	Low methane concentration
EW-4	12/1/2017 11:58	24.1	24.1	0.2	51.6	-1.64	-1.64	-13	5 No change	NA	
EW-24	12/1/2017 12:08	4	17.3	4.7	74	-0.65	-0.5	-13	1 / <1 Decreased	NA	Low methane concentration, manhole cover doesn't close
EW-5	12/1/2017 12:11	0	0.2	21.7	78.1	-0.01	-0.01	-13	0 No change	NA	No methane concentration, high oxygen concentration, valve closed, manhole cover doesn't close
EW-25	12/1/2017 12:16	12.6	21.4	0.9	65.1	-0.91	-0.75	-13.25	1 / <1 Decreased	NA	Low methane concentration
EW-12	12/1/2017 12:19	18.1	22	0.1	59.8	-1.35	-1.35	-13.45	1 No change	NA	Low methane concentration
EW-13	12/1/2017 12:25	1	17.6	3.7	77.7	-0.62	-0.2	-13.63	1 / <1 Decreased	NA	Low methane concentration, manhole cover doesn't close
HMP-4	12/1/2017 12:29	24.3	21.5	4	50.2	NA	NA	-13.5	NA	NA	
EW-14	12/1/2017 12:33	13.4	17.7	3.3	65.6	-1.47	-1.55	-13.46	2/2.5 Increased	NA	Low methane concentration, Increased to assist with gas probe MP-09 methane
G-4	12/1/2017 12:45	4.4	3.3	19.2	73.1	-0.44	-0.46	-13.56	1 No change	NA	Low methane concentration, high oxygen concentration
EW-15	12/1/2017 12:52	9.9	18.3	2.2	69.6	-1.56	-1.76	-14.02	2/2.5 Increased	NA	Low methane concentration, manhole cover doesn't close, Increased to assist with gas probe MP-09 methane
G-3	12/1/2017 13:05	15	7.2	14.4	63.4	-4.51	-2.35	-13.67	1 / <1 Decreased	NA	Low methane concentration, high oxygen concentration, valve issue, Manhole cover doesn't close
EW-16	12/1/2017 13:09	14.9	13.2	12.2	59.7	-0.47	-0.46	-13.8	1 No change	NA	Low methane concentration, high oxygen concentration
HMP-5	12/1/2017 13:12	43.5	29.9	0.3	26.3	NA	NA	-13.72	NA	NA	
EW-17	12/1/2017 13:22	22.1	21.8	6.5	49.6	-0.1	-0.1	-13.68	<1 No change	NA	High oxygen concentration
CS-2		No readings collected , no samplnig port installed									
Blower - Inlet (Final)	12/1/2017 14:27	27	23.9	3.1	46	NA	NA	-17.23	NA	315	
Blower - Outlet (Final)	12/1/2017 14:30	26.3	23.2	3.6	46.9	NA	NA	+5.71	NA	315	

COMMENTS:

	Gas wells with positive pressure
	Gas wells with low header pressure <10.0"
	Gas wells with high CH4 quality >50%
	Gas wells with low CH4 quality <20%

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

ORANGE ZONE

Date & Time: 12/1/17 8:45

Temp (°F): 35°F Current Conditions/Rel. Humidity: Sunny 43%

Barometric Pressure (in. Hg): 30.14 Trend: F S R (circle one)

Condition of Ground Surface/Recent Precipitation: Dry - None

Monitored By: SRF -ESC

Gas Detector Make and Model No.: GEM 5000 Serial No.: G501764

Date Meter Last Calibrated: 12/1/2017

Calibration Methane Span Gas: 50% Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 8:45 Field Check – End Time: 14:40

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
EW-9	12/1/2017 11:10	40.5	27.7	0.2	31.6	-5.7	-5.7	-13.4	10 FO	NA	Valve issue
EW-8	12/1/2017 11:00	22.6	24.2	4.7	48.5	-3.46	-3.44	-14	<1 No change	NA	Valve issue
G-5	12/1/2017 11:15	26.8	23.6	2.7	46.9	-4.76	-4.96	-14.17	2 / 3 Increased	NA	
G-6	12/1/2017 11:19	21	13.6	11.3	54.1	-0.31	-0.31	-13.7	<1 No change	NA	High oxygen concentration
G-7	12/1/2017 11:26	8.5	8.4	14.1	69	+0.02	-0.05	-13.75	0 / <1 Increased	NA	Low methane concentration, high oxygen concentration, positive pressure
G-8	12/1/2017 11:31	12.2	9.2	16.1	62.5	-0.54	-0.54	-13.41	<1 No change	NA	Low methane concentration, high oxygen concentration
HMP-2	12/1/2017 11:36	22.2	22.8	2.9	52.1	NA	NA	-13.30	NA	NA	Pro casing needs repair
EW-10	12/1/2017 11:40	40.2	32.8	0.2	26.8	-1.29	-1.29	-14.31	10 FO	NA	Manhole cover doesn't close, valve issue
EW-11	12/1/2017 11:45	14.9	26.1	0.1	58.9	+0.01	-0.1	-13.1	<1 / 1 Increased	NA	Low methane concentration, positive pressure
EW-23	12/1/2017 11:50	4.1	12.7	11.5	71.7	-0.07	-0.07	-13.05	<1 No change	NA	Low methane concentration, high oxygen concentration
CS-1	12/1/2017 14:33	2.6	2.8	19.9	74.7	NA	NA	-14.82	NA	NA	Low methane concentration, high oxygen concentration
Blower - Inlet (Initail)	12/1/2017 8:49	25.2	23.2	3.2	48.4	NA	NA	-16.82	NA	319	
Blower - Outlet (Initail)	12/1/2017 8:53	24.7	22.7	3.6	49	NA	NA	+6.04	NA	319	

COMMENTS:

	Gas wells with positive pressure
	Gas wells with low header pressure <10.0"
	Gas wells with high CH4 quality >50%
	Gas wells with low CH4 quality <20%

FO = Valve full open

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

YELLOW ZONE

Date & Time: 12/1/17 13:25

Temp (°F): 45°F Current Conditions/Rel. Humidity: Cloudy 43%

Barometric Pressure (in. Hg): 30.17 Trend: F S (R) (circle one)

Condition of Ground Surface/Recent Precipitation: Dry - None

Monitored By: SRF -ESC

Gas Detector Make and Model No.: GEM 5000 Serial No.: G501764

Date Meter Last Calibrated: 12/1/2017

Calibration Methane Span Gas: 50% Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 13:25 Field Check – End Time: 14:35

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
EW-7	12/1/2017 14:23	38	27.7	0.2	34.1	-1.01	-1.01	-10.06	10 FO	NA	Manhole cover doesn't close, Valve Issue
EW-6	12/1/2017 14:20	20.1	24.6	2.5	52.8	-1.41	-1.38	-7.75	2 No change	NA	Low header pressure
EW-2	12/1/2017 14:14	66.1	33.7	0.2	0	+0.04	+0.05	-9.50	10 FO	NA	Well has positive pressure, High methane concentration, low header vacuum, No protective cover
HMP-8	12/1/2017 14:10	25.2	23.6	3.8	47.4	NA	NA	-9.55	NA	NA	Low header pressure
EW-1	12/1/2017 14:06	32.7	29.6	0.1	37.6	-1.34	-1.34	-10.13	10 FO	NA	No protective casing, Valve Issue
EW-22	12/1/2017 14:02	6.5	20.5	3.7	69.3	-2.81	-1.45	-8.68	2/1 Decreased	NA	Low methane concentration, low header vacuum, Mice in manhole, Vacuum in header surging
EW-21	12/1/2017 13:57	17.2	23.3	3.6	55.9	-3.07	-3.07	-8.8	5 No change	NA	Low methane concentration, low header vacuum, Mice in manhole, Vacuum in header surging, No decrease to assist with gas probe MP-02 methane
G-1	12/1/2017 13:47	34.2	20.3	8.1	37.4	-1.46	-1.47	-9.21	10 FO	NA	High oxygen concentration, Low header vacuum, valve issue, Manhole cover doesn't close
HMP-7	12/1/2017 13:50	3.7	4	19.8	72.5	NA	NA	-8.4	NA	NA	Low methane concentration, high oxygen concentration, Low header vacuum
EW-20	12/1/2017 13:43	67	33	0	0	+0.05	+0.05	+0.04	10 FO	NA	No header vacuum, Well has positive pressure, High methane concentration, Manhole cover doesn't close
EW-19	12/1/2017 13:39	61.7	37.3	0	1	+0.05	+0.05	+0.07	10 FO	NA	No header vacuum, Well has positive pressure, High methane concentration
G-2	12/1/2017 13:35	67.9	32.1	0	0	+0.06	+0.06	+0.06	10 FO	NA	No header vacuum, Well has positive pressure, High methane concentration, Manhole cover doesn't close
EW-18	12/1/2017 13:31	44	30.6	0.1	25.3	-3.07	-3.07	-15.04	10 FO	NA	Manhole cover doesn't close, valve issue
HMP-6	12/1/2017 13:27	11	7.3	16.6	65.1	NA	NA	-13.6	NA	NA	High oxygen concentration
CS-3	12/1/2017 13:53	0	0.1	22	77.9	NA	NA	+0.01	NA	NA	No methane concentration, high oxygen concentration,Positive pressure, Air leak in the regultor
Blower - Inlet (Initial)	12/1/2017 8:49	25.2	23.2	3.2	48.4	NA	NA	-16.82	NA	319	
Blower - Outlet (Initial)	12/1/2017 8:53	24.7	22.7	3.6	49	NA	NA	+6.04	NA	319	

COMMENTS:

	Gas wells with positive pressure
	Gas wells with low header pressure <10.0"
	Gas wells with high CH4 quality >50%
	Gas wells with low CH4 quality <20%

FO = Valve full open

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

YELLOW ZONE

Date & Time: 12/15/2017 12:30 PM

Temp (°F): 28° F

Current Conditions/Rel. Humidity: Cloudy / 56%

Barometric Pressure (in. Hg): 29.88

Trend: F S R (circle one)

Condition of Ground Surface/Recent Precipitation: Snow Cover/ Flurry

Monitored By: Scott Freimark (ESC)

Gas Detector Make and Model No.: GEM 5000

Serial No.: G501764

Date Meter Last Calibrated: 12/15/2017

Calibration Methane Span Gas: 50%

Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 12:30

Field Check – End Time: 15:30

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
EW-7											
EW-6											
EW-2											
HMP-8											
EW-1											
EW-22											
EW-21											
G-1											
HMP-7											
EW-20	12/15/2017 14:25	45.9	36.7	0.2	17.2	-5.62	-5.6	-12.91	10	NA	Manhole removed, new gas header installed, Orifice plate issue
EW-19	12/15/2017 13:40	38	33	0	29	-2.18	-2.2	-6.25	10	NA	Manhole removed, new gas header installed, Orifice plate issue
G-2											
EW-18	12/15/2017 13:50	42	30.4	0	27.6	-2.92	-2.92	-13.03	10	NA	Manhole removed, new gas header installed, Orifice plate issue
HMP-6											
CS-3											
Blower - Inlet (Initial)	12/15/2017 12:44	37.2	28.4	0.2	34.2	NA	NA	-16.48	NA	335	
Blower - Outlet (Initial)	12/15/2017 13:50	38.3	28.6	0.4	32.7	NA	NA	+5.86	NA	335	
Blower - Inlet (Final)	12/15/2017 15:31	29.3	26.3	2.1	42.3	NA	NA	-16.68	NA	325	
Blower - Outlet (Final)	12/15/2017 15:34	29.5	26.4	2	42.1	NA	NA	+5.95	NA	325	

COMMENTS:

	Gas wells with positive pressure
	Gas wells with low header pressure <10.0"
	Gas wells with high CH4 quality >50%
	Gas wells with low CH4 quality <20%

Gas Collection System was re-started at 12:30 upon my arrival

Gas Quality improved at the blower/flare since the repairs.

Not a valve issue at the three wells listed above, it is an orifice plate issue not allowing sufficient vacuum across. The hole is too small.

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

GREEN ZONE

Date & Time: 12/18/17 13:15

Temp (°F): 35°F Current Conditions/Rel. Humidity: Cloudy \87%

Barometric Pressure (in. Hg): 29.85 Trend: (F S R) (circle one)

Condition of Ground Surface/Recent Precipitation: Damp - Fog

Monitored By: SRF -ESC

Gas Detector Make and Model No.: GEM 5000 Serial No.: G501764

Date Meter Last Calibrated: 12/18/2017

Calibration Methane Span Gas: 50% Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 13:15 Field Check – End Time: 14:25

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
HMP-3	12/18/2017 13:13	23.6	23.5	3.2	49.7	NA	NA	-11.65	NA	NA	
EW-4	12/18/2017 13:17	22.5	24.6	0	52.9	-1.48	-1.5	-11.6	5 No change	NA	
EW-24	12/18/2017 13:21	3.8	17.6	5.1	73.5	-0.47	-0.46	-11.52	<1 No change	NA	Low methane concentration, high oxygen concentration, manhole cover doesn't close
EW-5	12/18/2017 13:23	0.1	0.2	22.1	77.6	-0.03	-0.04	0	0 No change	NA	Low methane concentration, high oxygen concentration, valve closed, manhole cover doesn't close
EW-25	12/18/2017 13:29	12.6	21.6	0.5	65.3	-0.7	-0.7	-11.41	<1 No change	NA	Low methane concentration, manhole cover doesn't close
EW-12	12/18/2017 13:34	16.4	21.7	0.1	61.8	-1.21	-1.21	-11.37	<1 No change	NA	Low methane concentration
EW-13	12/18/2017 13:38	2.8	19.4	0.2	77.6	-0.28	-0.27	-11.37	<1 No change	NA	Low methane concentration, manhole cover doesn't close
HMP-4	12/18/2017 13:41	27.3	24.9	3.5	44.3	NA	NA	-11.2	NA	NA	
EW-14	12/18/2017 13:46	14.7	18	3.4	63.9	-1.2	-1.2	-11.07	2.5 No change	NA	Low methane concentration, No decrease to assist with gas probe MP-09 methane
G-4	12/18/2017 13:51	6.2	3.7	19.1	71	-0.11	-0.12	-11.98	1 No change	NA	Low methane concentration, high oxygen concentration
EW-15	12/18/2017 13:55	10.6	19.4	1.5	68.5	-1.08	-1.08	-11.06	2.5 No change	NA	Low methane concentration, manhole cover doesn't close, No decrease to assist with gas probe MP-09 methane
G-3	12/18/2017 14:01	9.1	6.6	13.9	70.4	-2.7	-2.71	-10.72	<1 No change	NA	Low methane concentration, high oxygen concentration, valve issue, Manhole cover doesn't close
EW-16	12/18/2017 14:05	14.4	13.1	12.7	59.8	-0.31	-0.32	-10.89	1 No change	NA	Low methane concentration, high oxygen concentration
HMP-5	12/18/2017 14:09	32.5	28.3	1.9	37.3	NA	NA	-10.85	NA	NA	
EW-17	12/18/2017 14:18	6.5	4.2	19.6	69.7	-0.17	-0.16	-10.47	<1 No change	NA	Low methane concentration, high oxygen concentration
CS-2		No readings collected , no samplnig port installed									
Blower - Inlet (Final)	12/18/2017 14:36	25.5	24.1	3.3	47.1	NA	NA	-15.95	NA	330	
Blower - Outlet (Final)	12/18/2017 14:39	25.6	24.1	3.2	47.1	NA	NA	+6.36	NA	330	

COMMENTS:

	Gas wells with positive pressure
	Gas wells with low header pressure <10.0"
	Gas wells with high CH4 quality >50%
	Gas wells with low CH4 quality <20%

Gas Collection System was re-started at 10:30 upon my arrival. System had been relite on Sunday 12/17/17 and was only down for approximately 2 hours.

Gas Quality improved at the blower/flare since the repairs.

Vacuum issue at several wells not a valve issue but rather an issue with the orifice plate restricting vacuum. The hole in the orifice plate is too small

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

ORANGE ZONE

Date & Time: 12/18/17 12:25

Temp (°F): 35°F Current Conditions/Rel. Humidity: Cloudy, Foggy 98%

Barometric Pressure (in. Hg): 29.92 Trend: F S R (circle one)

Condition of Ground Surface/Recent Precipitation: Damp - Fog

Monitored By: SRF -ESC

Gas Detector Make and Model No.: GEM 5000 Serial No.: G501764

Date Meter Last Calibrated: 12/18/2017

Calibration Methane Span Gas: 50% Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 12:25 Field Check – End Time: 14:30

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
EW-9	12/18/2017 12:28	37.3	27.8	0	34.9	-5.47	-5.46	-12.62	10 FO	NA	Orifice plate issue
EW-8	12/18/2017 12:33	34.4	26.6	2.8	36.2	-1.89	-1.88	-13.55	<1 No change	NA	Valve issue
G-5	12/18/2017 12:39	24.1	22.8	3.2	49.9	-5.01	-5	-13.48	3 No change	NA	
G-6	12/18/2017 12:43	19.3	12.7	12.9	55.1	-0.34	-0.34	-12.59	<1 No change	NA	Low methane concentration, high oxygen concentration
G-7	12/18/2017 12:47	15.7	12.7	12.7	58.9	-0.04	-0.03	-12.33	<1 No change	NA	Low methane concentration, high oxygen concentration
G-8	12/18/2017 12:52	12.4	9.1	16.6	61.9	-0.5	-0.49	-12.07	<1 No change	NA	Low methane concentration, high oxygen concentration
HMP-2	12/18/2017 12:55	25.3	24.8	2.8	47.1	NA	NA	-12.06	NA	NA	Pro casing needs repair
EW-10	12/18/2017 13:01	37.4	32.7	0	29.9	-1.29	-1.29	-12.59	10 FO	NA	Manhole cover doesn't close, orifice plate issue
EW-11	12/18/2017 13:05	13.1	26.5	0	60.4	-0.04	-0.05	-11.62	1 No change	NA	Low methane concentration, Manhole cover doesn't close
EW-23	12/18/2017 13:09	4.4	12.4	12.3	70.9	-0.1	-0.1	-11.65	<1 No change	NA	Low methane concentration, high oxygen concentration
CS-1	12/18/2017 14:31	4	4.3	19.1	72.6	NA	NA	-12.69	NA	NA	Low methane concentration, high oxygen concentration
Blower - Inlet (Initail)	12/18/2017 11:00	24.4	24.5	2.3	48.8	NA	NA	-16.2	NA	315	
Blower - Outlet (Initail)	12/18/2017 11:03	25.7	24.8	2.2	47.3	NA	NA	+6.30	NA	315	

COMMENTS:

Gas wells with positive pressure

Gas wells with low header pressure <10.0"

Gas wells with high CH4 quality >50%

Gas wells with low CH4 quality <20%

FO = Valve full open

Gas Collection System was re-started at 10:30 upon my arrival. System had been relite on Sunday 12/17/17 and was only down for approximately 2 hours.

Gas Quality improved at the blower/flare since the repairs.

Vacuum issue at several wells not a valve issue but rather an issue with the orifice plate restricting vacuum. The hole in the orifice plate is too small

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

YELLOW ZONE

Date & Time: 12/18/17 10:30

Temp (°F): 35°F Current Conditions/Rel. Humidity: Cloudy, Foggy 98%

Barometric Pressure (in. Hg): 29.92 Trend: F (S) R (circle one)

Condition of Ground Surface/Recent Precipitation: Damp - Fog

Monitored By: SRF -ESC

Gas Detector Make and Model No.: GEM 5000 Serial No.: G501764

Date Meter Last Calibrated: 12/18/2017

Calibration Methane Span Gas: 50% Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 10:45 Field Check – End Time: 12:20

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
EW-7	12/18/2017 11:12	37.4	28	0	34.6	-0.8	-0.8	-9.35	10 FO	NA	Manhole cover doesn't close, Orifice plate Issue, low header vacuum
EW-6	12/18/2017 11:17	18.4	24	2.7	54.9	-1.14	-1.15	-7.5	2 No change	NA	Low methane concentration, low header pressure
EW-2	12/18/2017 11:20	65.4	34.4	0.2	0	+0.11	+0.11	-8.87	10 FO	NA	Well has positive pressure, High methane concentration, low header vacuum, No protective cover
HMP-8	12/18/2017 11:24	25.7	24.4	3.6	46.3	NA	NA	-8.78	NA	NA	Low header pressure
EW-1	12/18/2017 11:31	30.7	29.6	0.1	39.6	-1.12	-1.13	-9.44	10 FO	NA	No protective casing, low header vacuum, Orifice plate Issue
EW-22	12/18/2017 11:36	7.6	22.2	1.5	68.7	-1.32	-1.32	-8.37	1 No change	NA	Low methane concentration, low header vacuum, Mice in manhole, Vacuum in header surging
EW-21	12/18/2017 11:42	16.2	24.1	2.6	57.1	-2.94	-2.72	-8.66	5/4 Decreased	NA	Low methane concentration, low header vacuum, Mice in manhole, Vacuum in header surging
G-1	12/18/2017 11:47	34.7	21.4	7.9	36	-1.32	-1.32	-8.61	10 FO	NA	High oxygen concentration, Low header vacuum,oriface plate issue, Manhole cover doesn't close
HMP-7	12/18/2017 11:52	0.7	1.6	22.1	75.6	NA	NA	-8.38	NA	NA	Low methane concentration, high oxygen concentration, Low header vacuum
EW-20	12/18/2017 12:02	29.6	33.7	0	36.7	-5.53	-5.51	-12.54	10 FO	NA	Manhole removed, new gas header installed, Orifice plate issue
EW-19	12/18/2017 12:06	30.9	30.4	0	38.7	-2.2	-2.24	-13.27	10 FO	NA	Manhole removed, new gas header installed, Orifice plate issue
G-2	12/18/2017 12:11	65.9	31.5	0.4	2.2	-1.45	-1.48	-11.35	10 FO	NA	Manhole removed, new gas header installed, Orifice plate issue
EW-18	12/18/2017 12:15	38.8	29.5	0	31.7	-2.39	-2.4	-10.37	10 FO	NA	Manhole removed, Orifice plate issue
HMP-6	12/18/2017 12:21	16.7	13.1	13.4	56.8	NA	NA	-10.7	NA	NA	Low methane concentration, high oxygen concentration
CS-3	12/18/2017 11:54	0.1	0.1	22.9	76.9	NA	NA	-8.4	NA	NA	Low methane concentration, high oxygen concentration, low header pressure, Air leak in the regultor
Blower - Inlet (Initial)	12/18/2017 11:00	24.4	24.5	2.3	48.8	NA	NA	-16.2	NA	315	
Blower - Outlet (Initial)	12/18/2017 11:03	25.7	24.8	2.2	47.3	NA	NA	+6.30	NA	315	

COMMENTS:

Gas wells with positive pressure

Gas wells with low header pressure <10.0"

Gas wells with high CH4 quality >50%

Gas wells with low CH4 quality <20%

FO = Valve full open

Gas Collection System was re-started at 10:30 upon my arrival. System had been relite on Sunday 12/17/17 and was only down for approximately 2 hours.

Gas Quality improved at the blower/flare since the repairs.

Vacuum issue at several wells not a valve issue but rather an issue with the orifice plate restricting vacuum. The hole in the orifice plate is too small

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

GREEN ZONE

Date & Time: 1/12/2018 10:20 AM & 1/15/18 12:20 PM

Temp (°F): 18° F / 27°F

Current Conditions/Rel. Humidity: Mostly Cloudy / 68% & Cloudy / 75%

Barometric Pressure (in. Hg): 30.19 /30.17

Trend: F S (R) (circle one)

Condition of Ground Surface/Recent Precipitation: Dry - None / Snow - Flurries

Monitored By: Scott Freimark (ESC)

Gas Detector Make and Model No.: GEM 5000

Serial No.: G501764

Date Meter Last Calibrated: 1/12/2018 & 1/15/18

Calibration Methane Span Gas: 50%

Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 10:20 12:20

Field Check – End Time: 11:10 15:15

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
HMP-3	1/12/2018 13:42	17.9	21.4	4.1	56.6	NA	NA	-14.32	NA	NA	Low methane concentration
EW-4	1/12/2018 13:47	21.9	24.4	0.1	53.6	-1.96	-1.94	-15.25	5 No change	NA	
EW-24	1/15/2018 13:09	6.3	20.1	2.2	71.4	-0.56	-0.58	-14.47	<1 No change	NA	Low methane concentration, manhole cover doesn't close
EW-25	1/15/2018 13:16	19.7	20.5	0.4	59.4	-0.88	-0.87	-14.74	<1 No change	NA	Low methane concentration, manhole cover doesn't close
EW-12	1/15/2018 13:19	16.5	19.8	0.1	63.6	-1.41	-1.39	-13.62	<1 No change	NA	Low methane concentration
EW-13	1/15/2018 13:25	6.7	19.5	0.3	73.5	-0.39	-0.39	-13.34	<1 No change	NA	Low methane concentration, manhole cover doesn't close
HMP-4	1/15/2018 13:28	27.3	23.6	3.5	45.6	NA	NA	-14.17	NA	NA	
EW-14	1/15/2018 13:32	22.4	20.5	0.4	56.7	-1.11	-1.11	-14.16	2.5 No change	NA	
G-4	1/15/2018 13:37	10.1	7.8	16.1	66	-0.28	-0.28	-13.16	1 No change	NA	Low methane concentration, high oxygen concentration
EW-15	1/15/2018 13:41	14	20	0.4	65.6	-1.35	-1.35	-11.58	2.5 No change	NA	Low methane concentration, manhole cover doesn't close, No decrease to assist with gas probe MP-09 methane
G-3	1/15/2018 13:48	5.5	3.8	20.1	70.6	-2.79	-2.8	-14.88	<1 No change	NA	Low methane concentration, high oxygen concentration, valve issue, Manhole cover doesn't close
EW-16	1/15/2018 13:51	17.6	18.4	7.9	56.1	-0.52	-0.51	-14.4	1 No change	NA	Low methane concentration, high oxygen concentration
HMP-5	1/15/2018 13:56	30.2	25.9	3	40.9	NA	NA	-13.14	NA	NA	
EW-17	1/15/2018 14:00	6.9	4.8	20.4	67.9	-0.32	-0.32	-14.1	<1 No change	NA	Low methane concentration, high oxygen concentration
CS-2		No readings collected , no samplnig port installed									
Blower - Inlet (Final)	1/15/2018 14:05	26.1	23.6	3.2	47.1	NA	NA	-20.01	NA	+360	
Blower - Outlet (Final)	1/15/2018 14:08	23.2	20.9	5.4	50.5	NA	NA	+10.23	NA	+360	

COMMENTS:

	Gas wells with positive pressure
	Gas wells with low header pressure <10.0"
	Gas wells with high CH4 quality >50%
	Gas wells with low CH4 quality <20%

Gas Collection System was re-started at 09:00 upon my arrival on 1/12/18. Diffucult keeping the system running.

Gas Collection System was re-started at 12:00 upon my arrival on 1/15/18

Orifice plate issue restricting vacuum. The hole in the orifice plate is too small

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

ORANGE ZONE

Date & Time: 1/12/2018 10:20 AM & 1/15/18 12:20 PM

Temp (°F): 18° F / 27°F

Current Conditions/Rel. Humidity: Mostly Cloudy / 68% & Cloudy / 75%

Barometric Pressure (in. Hg): 30.19 /30.17

Trend: F S (R) (circle one)

Condition of Ground Surface/Recent Precipitation: Dry - None / Snow - Flurries

Monitored By: Scott Freimark (ESC)

Gas Detector Make and Model No.: GEM 5000

Serial No.: G501764

Date Meter Last Calibrated: 1/12/2018 & 1/15/18

Calibration Methane Span Gas: 50%

Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 10:20 12:20

Field Check – End Time: 11:10 15:15

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
EW-9	1/12/2018 13:53	36	27	0.1	36.9	-6.63	-6.61	-16.01	10 FO	NA	Orifice plate issue
EW-8	1/12/2018 11:30	22.8	25.4	2.9	48.9	-0.58	-0.58	-16.32	<1 No change	NA	Valve issue
G-5	1/12/2018 11:41	20.1	22.1	2.3	55.5	-3.33	-3.38	-16.77	3 No change	NA	
G-6	1/12/2018 11:46	15.7	12.2	12.3	59.8	-0.24	-0.25	-16.48	<1 No change	NA	Low methane concentration, high oxygen concentration
G-7	1/12/2018 12:03	1.9	3.6	19.7	74.8	-0.01	-0.02	-16.14	<1 No change	NA	Low methane concentration, high oxygen concentration
G-8	1/12/2018 13:13	7.7	7	18	67.3	-0.53	-0.53	-16.22	<1 No change	NA	Low methane concentration, high oxygen concentration
HMP-2	1/12/2018 13:18	20.6	23	3.6	52.8	NA	NA	-15.27	NA	NA	Pro casing needs repair
EW-10	1/12/2018 13:24	38.7	32.6	0.2	28.5	-1.47	-1.45	-18.29	10 FO	NA	Manhole cover doesn't close, orifice plate issue
EW-11	1/12/2018 13:29	7.5	25.1	0.1	67.3	-0.02	-0.02	-16.33	1 No change	NA	Low methane concentration, Manhole cover doesn't close
EW-23	1/12/2018 13:36	3.8	12.7	11.6	71.9	-0.13	-0.12	-16.29	<1 No change	NA	Low methane concentration, high oxygen concentration
CS-1	1/15/2018 14:11	1.8	2.6	21.8	73.8	NA	NA	-15.96	NA	NA	Low methane concentration, high oxygen concentration
Blower - Inlet (Initail)	1/12/2018 10:06	21.1	22.7	4	52.2	NA	NA	-22.8	NA	+360	
Blower - Outlet (Initail)	1/12/2018 10:09	19	20.3	6.1	54.6	NA	NA	+10.93	NA	+360	

COMMENTS:

Gas wells with positive pressure

Gas wells with low header pressure <10.0"

Gas wells with high CH4 quality >50%

Gas wells with low CH4 quality <20%

FO = Valve full open

Gas Collection System was re-started at 09:00 upon my arrival on 1/12/18. Diffucult keeping the system running.

Gas Collection System was re-started at 12:00 upon my arrival on 1/15/18

Orifice plate issue restricting vacuum. The hole in the orifice plate is too small

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

YELLOW ZONE

Date & Time: 1/12/2018 10:20 AM & 1/15/18 12:20 PM

Temp (°F): 18° F / 27°F

Current Conditions/Rel. Humidity: Mostly Cloudy / 68% & Cloudy / 75%

Barometric Pressure (in. Hg): 30.19 /30.17

Trend: F S S (circle one)

Condition of Ground Surface/Recent Precipitation: Dry - None / Snow - Flurries

Monitored By: Scott Freimark (ESC)

Gas Detector Make and Model No.: GEM 5000

Serial No.: G501764

Date Meter Last Calibrated: 1/12/2018 & 1/15/18

Calibration Methane Span Gas: 50%

Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 10:20 12:20

Field Check – End Time: 11:10 15:15

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
EW-7	1/12/2018 13:59	33.2	27.8	0.1	38.9	-1.6	-1.62	-16.78	10 FO	NA	Manhole cover doesn't close, Orifice plate Issue
EW-6	1/12/2018 14:04	14	22	4.5	59.5	-1.66	-1.64	-14.18	2 No change	NA	Low methane concentration
EW-2	1/12/2018 14:20	41.8	27.9	4.1	26.2	+0.02	+-0.01	-17.22	10 FO	NA	Well has positive pressure, No protective cover
HMP-8	1/12/2018 14:25	21.4	23.1	4.5	51	NA	NA	-16.57	NA	NA	
EW-1	1/12/2018 14:38	27.7	29.2	0.2	42.9	-2.00	-1.99	-18.38	10 FO	NA	No protective casing, Orifice plate Issue
EW-22	1/12/2018 14:44	5.7	21.4	2.7	70.2	-2.05	-1.71	-15.72	1 No change	NA	Low methane concentration, Mice in manhole, Vacuum in header surging
EW-21	1/12/2018 14:50	11.7	21.4	4.6	62.3	-4.20	-3.69	-16.53	5/4 Decreased	NA	Low methane concentration, Mice in manhole, Vacuum in header surging
G-1	1/15/2018 12:50	38.4	24.1	6.4	31.1	-1.99	-2.00	-14.97	10 FO	NA	High oxygen concentration,oriface plate issue, Manhole cover doesn't close
HMP-7	1/15/2018 12:53	10.6	4.6	19.8	65	NA	NA	-14.87	NA	NA	Low methane concentration, high oxygen concentration
EW-20	1/12/2018 15:01	17.7	28.8	0.3	53.2	-5.16	-3.85	-14.54	10/1 Decreased	NA	Manhole removed, new gas header installed, Orifice plate issue
EW-19	1/15/2018 12:27	32.5	28.9	0.2	38.4	-1.97	-1.95	-13.87	10 FO	NA	Manhole removed, new gas header installed, Orifice plate issue
G-2	1/15/2018 12:45	24	17.1	10.1	48.8	-1.5	-1.08	-13.56	10/2 Decreased	NA	Manhole removed, new gas header installed, high oxygen concentration, Orifice plate issue
EW-18	1/15/2018 12:34	40.4	29.6	0.2	29.8	-2.74	-2.73	-12.87	10 FO	NA	Manhole removed, Orifice plate issue
HMP-6	1/15/2018 13:00	21.2	17.7	6.7	54.4	NA	NA	-12.06	NA	NA	high oxygen concentration
CS-3	1/15/2018 12:56	0.1	0.2	23.5	76.2	NA	NA	-12.54	NA	NA	Low methane concentration, high oxygen concentration, Air leak in the regultor
Blower - Inlet (Initial)	1/15/2018 12:01	33.4	25.2	0.8	40.6	NA	NA	-20.62	NA	+360	
Blower - Outlet (Initial)	1/15/2018 12:04	28.4	22.1	3.3	46.2	NA	NA	10.94	NA	+360	

COMMENTS:

Gas wells with positive pressure

Gas wells with low header pressure <10.0"

Gas wells with high CH4 quality >50%

Gas wells with low CH4 quality <20%

FO = Valve full open

Gas Collection System was re-started at 09:00 upon my arrival on 1/12/18. Diffucult keeping the system running.

Gas Collection System was re-started at 12:00 upon my arrival on 1/15/18

Orifice plate issue restricting vacuum. The hole in the orifice plate is too small

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

GREEN ZONE

Date & Time: 1/25/2018 11:15 AM

Temp (°F): 40° F | Current Conditions/Rel. Humidity: Sunny / 78%

Barometric Pressure (in. Hg): 30.25 | Trend: F S (S) (circle one)

Condition of Ground Surface/Recent Precipitation: Snow covered - None

Monitored By: Scott Freimark (ESC)

Gas Detector Make and Model No.: GEM 5000 | Serial No.: G501764

Date Meter Last Calibrated: 1/25/2018

Calibration Methane Span Gas: 50% | Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 11:15 | Field Check – End Time: 12:15

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
HMP-3											
EW-4											
EW-24											
EW-25											
EW-12											
EW-13											
HMP-4											
EW-14	1/25/2018 11:56	16.2	17.7	2.7	63.4	-7.18	-3.05	-12.14	2.5/4 Increased	NA	Low methane concentration, Increased to assist with gas probe MP-09 methane
G-4											
EW-15	1/25/2018 11:48	11.7	19.4	1.5	67.4	-2.01	-2.01	-11.05	2.5/3 Increased	NA	Low methane concentration, manhole cover doesn't close, Increased to assist with gas probe MP-09 methane
G-3											
EW-16	1/25/2018 11:43	15.6	13.7	11.3	59.4	-1.76	-1.74	-11.23	1/2 Increased	NA	Low methane concentration, high oxygen concentration, Increased to assist with gas probe MP-09 methane
HMP-5											
EW-17											
CS-2		No readings collected , no samplnig port installed									
Blower - Inlet (Final)											
Blower - Outlet (Final)											

COMMENTS:

	Gas wells with positive pressure
	Gas wells with low header pressure <10.0"
	Gas wells with high CH4 quality >50%
	Gas wells with low CH4 quality <20%

Gas Collection System was re-started at 11:15 upon my arrival on 1/25/18.
Orifice plate issue restricting vacuum. The hole in the orifice plate is too small

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

YELLOW ZONE

Date & Time: 1/25/2018 11:15 AM

Temp (°F): 40° F

Current Conditions/Rel. Humidity: Sunny / 78%

Barometric Pressure (in. Hg): 30.25

Trend: F S (S) (circle one)

Condition of Ground Surface/Recent Precipitation: Snow covered - None

Monitored By: Scott Freimark (ESC)

Gas Detector Make and Model No.: GEM 5000

Serial No.: G501764

Date Meter Last Calibrated: 1/25/2018

Calibration Methane Span Gas: 50%

Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 11:15

Field Check – End Time: 12:15

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
EW-7											
EW-6											
EW-2											
HMP-8											
EW-1											
EW-22											
EW-21											
G-1											
HMP-7	1/25/2018 12:13	0.1	0.2	22.5	77.2	NA	NA	-12.40	NA	NA	Low methane concentration, high oxygen concentration
EW-20	1/25/2018 12:08	20.8	28.6	0.1	50.5	-4.23	-4.23	-10.14	1/10 Increased	NA	Manhole removed, new gas header installed, Orifice plate issue, Increased to assist with gas probe MP-01 methane
EW-19											
G-2											
EW-18											
HMP-6											
CS-3	1/25/2018 12:17	0	0.1	22.7	77.2	NA	NA	-4.08	NA	NA	Low methane concentration, high oxygen concentration, Air leak in the regultor, Water leak
Blower - Inlet (Initial)	1/25/2018 11:28	25.6	23	2.5	48.9	NA	NA	-16.92	NA	+360	
Blower - Outlet (Initial)	1/25/2018 11:31	23.2	20.6	4.7	51.5	NA	NA	+10.52	NA	+360	

COMMENTS:

Gas wells with positive pressure

Gas wells with low header pressure <10.0"

Gas wells with high CH4 quality >50%

Gas wells with low CH4 quality <20%

FO = Valve full open

Gas Collection System was re-started at 11:15 upon my arrival on 1/25/18.

Orifice plate issue restricting vacuum. The hole in the orifice plate is too small

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

GREEN ZONE

Date & Time: 2/2/2018 10:10 AM

Temp (°F): 10°F — Current Conditions/Rel. Humidity: Sunny / 51%

Barometric Pressure (in. Hg): 29.6 — Trend: F S R (circle one)

Condition of Ground Surface/Recent Precipitation: Dry - None

Monitored By: Scott Freimark (ESC)

Gas Detector Make and Model No.: GEM 5000 — Serial No.: G501764

Date Meter Last Calibrated: 2/2/2018

Calibration Methane Span Gas: 50% — Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 14:35 — Field Check – End Time: 16:20

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
HMP-3	2/2/2018 14:38	18.2	19.6	4.5	57.7	NA	NA	-11.5	NA	NA	Low methane concentration
EW-4	2/2/2018 14:42	22.9	22.9	0.2	54	-1.35	-1.34	-11.94	5 No change	NA	
EW-24	2/2/2018 14:46	3.6	17.7	4.2	74.5	-0.41	-0.41	-11.54	<1 No change	NA	Low methane concentration, manhole cover doesn't close
EW-25	2/2/2018 14:51	14	20.2	0.5	65.3	-0.57	-0.58	-11.48	<1 No change	NA	Low methane concentration, manhole cover doesn't close
EW-12	2/2/2018 14:55	16.7	19.5	0.3	63.5	-1	-1	-10.56	<1 No change	NA	Low methane concentration
EW-13	2/2/2018 15:04	9.4	18.4	0.3	71.9	-0.35	-0.36	-10.83	<1 No change	NA	Low methane concentration, manhole cover doesn't close
HMP-4	2/2/2018 15:08	19.5	20	4.9	55.6	NA	NA	-10.66	NA	NA	Low methane concentration
EW-14	2/2/2018 15:12	9.6	15.9	4.8	69.7	-2.96	-2.97	-10.9	2.5 No change	NA	Low methane concentration, No decrease to assist with gas probe MP-09 methane
G-4	2/2/2018 15:17	1.2	5.5	12.7	80.6	-0.01	-0.01	-10.5	1 No change	NA	Low methane concentration, high oxygen concentration
EW-15	2/2/2018 15:21	8.4	17.7	2.7	71.2	-2.08	-2.07	-11.92	2.5 No change	NA	Low methane concentration, manhole cover doesn't close, No decrease to assist with gas probe MP-09 methane
G-3	2/2/2018 15:55	1.6	2.1	20.2	76.1	-4.43	-4.44	-10.53	<1 No change	NA	Low methane concentration, high oxygen concentration, valve issue, Manhole cover doesn't close
EW-16	2/2/2018 16:00	11.1	10.9	14.3	63.7	-2.03	-1.96	-11.64	1 No change	NA	Low methane concentration, high oxygen concentration, No decrease to assist with gas probe MP-09 methane
HMP-5	2/2/2018 16:03	25.5	22.9	3.5	48.1	NA	NA	-10.3	NA	NA	
EW-17	2/2/2018 16:09	5.5	3.8	21	69.7	-0.11	-0.11	-10.16	<1 No change	NA	Low methane concentration, high oxygen concentration
CS-2		No readings collected , no samplnig port installed									
Blower - Inlet (Final)	2/2/2018 16:14	21.2	21.1	4.1	53.6	NA	NA	-15.84	NA	+360	
Blower - Outlet (Final)	2/2/2018 16:18	18.5	18.3	6.7	56.5	NA	NA	+10.16	NA	+360	

COMMENTS:

	Gas wells with positive pressure
	Gas wells with low header pressure <10.0"
	Gas wells with high CH4 quality >50%
	Gas wells with low CH4 quality <20%

Gas Collection System was running upon my arrival on 2/2/18

Orifice plate issue restricting vacuum. The hole in the orifice plate is too small

Vacuum in the gas header was surging through out the site (1" - 3"). Condensate was surging between V-1 and V-2

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

ORANGE ZONE

Date & Time: 2/2/2018 10:10 AM

Temp (°F): 10°F

Current Conditions/Rel. Humidity: Sunny / 51%

Barometric Pressure (in. Hg): 29.6

Trend: F S R (circle one)

Condition of Ground Surface/Recent Precipitation: Dry - None

Monitored By: Scott Freimark (ESC)

Gas Detector Make and Model No.: GEM 5000

Serial No.: G501764

Date Meter Last Calibrated: 2/2/2018

Calibration Methane Span Gas: 50%

Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 13:45

Field Check – End Time: 14:35

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
EW-9	2/2/2018 13:47	35.3	25.2	0.2	39.3	-5.04	-5.03	-11.83	10 FO	NA	Orifice plate issue
EW-8	2/2/2018 13:55	58.9	31.9	0.6	8.6	+0.02	-2.28	-14.33	<1/1 Increased	NA	Valve was frozen not allowing vacuum thru. Valve was exercised which solved the problem, Valve issue
G-5	2/2/2018 13:59	23.1	20.4	2.6	53.9	-2.79	-2.79	-13.12	3 No change	NA	
G-6	2/2/2018 14:04	20.2	14.4	10.8	54.6	-0.26	-0.26	-11.46	<1 No change	NA	High oxygen concentration
G-7	2/2/2018 14:09	1.8	2.8	20.3	75.1	-0.04	-0.04	-11.75	<1 No change	NA	Low methane concentration, high oxygen concentration
G-8	2/2/2018 14:13	8	7.3	17.8	66.9	-0.52	-0.51	-12.1	<1 No change	NA	Low methane concentration, high oxygen concentration
HMP-2	2/2/2018 14:17	20.9	21.4	3.6	54.1	NA	NA	-10.99	NA	NA	Pro casing needs repair
EW-10	2/2/2018 14:22	37.1	30.6	0.5	31.8	-1.01	-1.03	-11.9	10 FO	NA	Manhole cover doesn't close, orifice plate issue
EW-11	2/2/2018 14:28	9.5	23.3	0.2	67	-0.02	-0.01	-11.47	1 No change	NA	Low methane concentration, Manhole cover doesn't close
EW-23	2/2/2018 14:34	10.1	17.3	6.6	66	-0.27	-0.19	-10.3	<1 No change	NA	Low methane concentration, high oxygen concentration
CS-1	2/2/2018 16:21	0	0.3	22.7	77	NA	NA	-12.5	NA	NA	No methane concentration, high oxygen concentration
Blower - Inlet (Initail)	2/2/2018 10:01	23.9	21.4	3.8	50.9	NA	NA	-15.58	NA	+360	
Blower - Outlet (Initail)	2/2/2018 10:06	19.1	16.8	7.8	56.3	NA	NA	+8.85	NA	+360	

COMMENTS:

Gas wells with positive pressure

Gas wells with low header pressure <10.0"

Gas wells with high CH4 quality >50%

Gas wells with low CH4 quality <20%

FO = Valve full open

Gas Collection System was running upon my arrival on 2/2/18

Orifice plate issue restricting vacuum. The hole in the orifice plate is too small

Vacuum in the gas header was surging through out the site (1" - 3"). Condensate was surging between V-1 and V-2

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

YELLOW ZONE

Date & Time: 2/2/2018 10:10 AM

Temp (°F): 10°F Current Conditions/Rel. Humidity: Sunny / 51%

Barometric Pressure (in. Hg): 29.6 Trend: F S R (circle one)

Condition of Ground Surface/Recent Precipitation: Dry - None

Monitored By: Scott Freimark (ESC)

Gas Detector Make and Model No.: GEM 5000 Serial No.: G501764

Date Meter Last Calibrated: 2/2/2018

Calibration Methane Span Gas: 50% Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 12:30 Field Check – End Time: 13:45

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
EW-7	2/2/2018 12:35	31.9	26	0.1	42	-0.8	-0.84	-12.82	10 FO	NA	Manhole cover doesn't close, Orifice plate Issue
EW-6	2/2/2018 12:39	16.3	21.8	2.9	59	-0.92	-0.93	-10.59	2 No change	NA	Low methane concentration
EW-2	2/2/2018 12:46	49.2	29.9	1.2	19.7	+0.13	+0.12	-12.27	10 FO	NA	Well has positive pressure, No protective cover
HMP-8	2/2/2018 12:49	22.4	22.6	3.7	51.3	NA	NA	-12.02	NA	NA	
EW-1	2/2/2018 12:53	26.7	27.2	0.2	45.9	-1.44	-1.44	-13.95	10 FO	NA	No protective casing, Orifice plate Issue
EW-22	2/2/2018 12:58	6.7	20.4	1.9	71	-1.24	-1.24	-11.93	1 No change	NA	Low methane concentration, No decrease to assist with gas probe MP-03 methane issue, Mice in manhole
EW-21	2/2/2018 13:02	12.5	21.9	2.6	63	-3.7	-3.7	-12.77	4 No change	NA	Low methane concentration, Mice in manhole
G-1	2/2/2018 13:07	30.9	20.5	7.4	41.2	-1.73	-1.73	-11.5	10 FO	NA	High oxygen concentration,oriface plate issue, Manhole cover doesn't close
HMP-7	2/2/2018 13:13	1.2	2.1	22	74.7	NA	NA	-11.66	NA	NA	Low methane concentration, high oxygen concentration
EW-20	2/2/2018 13:20	15.1	25.4	0.2	59.3	-4.18	-4.12	-10.25	10 FO	NA	Low methane concentration, No decrease to assist with gas probe MP-03 methane issue, Manhole removed, new gas header installed, Orifice plate issue
EW-19	2/2/2018 13:23	29.8	26.9	0.1	43.2	-1.5	-1.53	-10.01	10 FO	NA	Manhole removed, new gas header installed, Orifice plate issue
G-2	2/2/2018 13:28	23.7	15.8	10.6	49.9	-0.96	-0.97	-11.3	10 FO	NA	Manhole removed, new gas header installed, high oxygen concentration, Orifice plate issue
EW-18	2/2/2018 13:33	35.5	27.7	0.1	36.7	-2.23	-2.18	-10.52	10 FO	NA	Manhole removed, Orifice plate issue
HMP-6	2/2/2018 13:41	6.2	6	18.5	69.3	NA	NA	-10.89	NA	NA	Low Methane concentration, high oxygen concentration
CS-3	2/2/2018 13:15	0	0.1	23	76.9	NA	NA	-7.55	NA	NA	No methane concentration, high oxygen concentration, Air leak in the regultor
Blower - Inlet (Initial)	2/2/2018 16:14	21.2	21.1	4.1	53.6	NA	NA	-15.84	NA	+360	
Blower - Outlet (Initial)	2/2/2018 16:18	18.5	18.3	6.7	56.5	NA	NA	+10.16	NA	+360	

COMMENTS:

	Gas wells with positive pressure
	Gas wells with low header pressure <10.0"
	Gas wells with high CH4 quality >50%
	Gas wells with low CH4 quality <20%

FO = Valve full open

Gas Collection System was running upon my arrival on 2/2/18

Orifice plate issue restricting vacuum. The hole in the orifice plate is too small

Vacuum in the gas header was surging through out the site (1" - 3"). Condensate was surging between V-1 and V-2

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

GREEN ZONE

Date & Time: 3/2/2018 8:45 AM

Temp (°F): 40°F — Current Conditions/Rel. Humidity: Sunny / 45%

Barometric Pressure (in. Hg): 30.46 — Trend: F S R (circle one)

Condition of Ground Surface/Recent Precipitation: Dry - None

Monitored By: Scott Freimark (ESC)

Gas Detector Make and Model No.: GEM 5000 — Serial No.: G501764

Date Meter Last Calibrated: 3/2/2018

Calibration Methane Span Gas: 50% — Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 10:40 — Field Check – End Time: 12:00

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
HMP-3	3/2/2018 13:10	16.9	18.1	3.8	61.2	NA	NA	-17.35	NA	NA	Low methane concentration
EW-4	3/2/2018 13:13	21.0	21.9	0.1	57	-1.98	-1.97	-17.65	5 No change	NA	
EW-24	3/2/2018 13:19	4.7	17.6	3.2	74.5	-0.58	-0.58	-17.21	<1 No change	NA	Low methane concentration, manhole cover doesn't close
EW-25	3/2/2018 13:24	11.5	19.1	1.1	68.3	-0.89	-0.89	-16.96	<1 No change	NA	Low methane concentration, manhole cover doesn't close
EW-12	3/2/2018 13:28	14.6	17.9	0.8	66.7	-1.34	-1.34	-17.83	<1 No change	NA	Low methane concentration
EW-13	3/2/2018 13:32	1.0	16.4	3.8	78.8	-0.68	-0.69	-17.73	<1 No change	NA	Low methane concentration, manhole cover doesn't close
HMP-4	3/2/2018 13:35	21.1	17.6	5.8	55.5	NA	NA	-17.13	NA	NA	High oxygen concentration
EW-14	3/2/2018 13:40	8.6	14	5.3	72.1	-5.17	-5.22	-17.19	2.5 No change	NA	Low methane concentration, High oxygen concentration, No decrease to assist with gas probe MP-09 methane
G-4	3/2/2018 13:46	8.0	4.5	17	70.5	-1.87	-1.26	-10.09	1 No change	NA	Low methane concentration, high oxygen concentration
EW-15	3/2/2018 13:50	14.9	19	1.1	65	-1.72	-1.72	-11.20	2.5 No change	NA	Low methane concentration, manhole cover doesn't close, No decrease to assist with gas probe MP-09 methane
G-3	3/2/2018 13:54	11.8	9.7	7.4	71.1	-3.48	-5.25	-10.60	<1 No change	NA	Low methane concentration, high oxygen concentration, valve issue, Manhole cover doesn't close
EW-16	3/2/2018 13:59	13.7	11.2	12.8	62.3	-2.41	-2.11	-10.25	1 No change	NA	Low methane concentration, high oxygen concentration, No decrease to assist with gas probe MP-09 methane
HMP-5	3/2/2018 14:02	39.0	25.8	2.0	33.2	NA	NA	-10.38	NA	NA	
EW-17	3/2/2018 14:09	1.8	2.4	19.7	76.1	-0.37	-0.36	-11.56	<1 No change	NA	Low methane concentration, high oxygen concentration
CS-2		No readings collected , no samplnig port installed									
Blower - Inlet (Final)	3/2/2018 14:56	22.5	20.5	4.0	53.0	NA	NA	-22.12	NA	+360	
Blower - Outlet (Final)	3/2/2018 14:59	22.0	20.0	4.4	53.6	NA	NA	+10.40	NA	+360	

COMMENTS:

	Gas wells with positive pressure
	Gas wells with low header pressure <10.0"
	Gas wells with high CH4 quality >50%
	Gas wells with low CH4 quality <20%

Gas Collection System was running upon my arrival on 3/2/18

Orifice plate issue restricting vacuum. The hole in the orifice plate is too small

Vacuum in the gas header was surging through out the site (1" - 4"). Condensate was surging between V-1 and V-2

Loss of several inches of vacuum in the gas header after EW-14 and before G-4. ESC discovered that the CS-02 Manhole was completely filled with water and frozen. ESC staff drained the CS-02 Manhole but the yellow discharge tube and/or the gas condensate discharge line were frozen. The pump in CS-02 was tested and functions properly but there is no way to discharge the liquid due to the frozen line and the built up condensate in the sump and header line is restricting the vacuum to the rest of the field.

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

ORANGE ZONE

Date & Time: 3/2/2018 8:45 AM

Temp (°F): 40°F Current Conditions/Rel. Humidity: Sunny / 45%

Barometric Pressure (in. Hg): 30.46 Trend: F S R (circle one)

Condition of Ground Surface/Recent Precipitation: Dry - None

Monitored By: Scott Freimark (ESC)

Gas Detector Make and Model No.: GEM 5000 Serial No.: G501764

Date Meter Last Calibrated: 3/2/2018

Calibration Methane Span Gas: 50% Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 10:40 Field Check – End Time: 12:00

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
EW-9	3/2/2018 12:29	32.6	24.4	0.2	42.8	-6.13	-6.14	-17.07	10 FO	NA	Orifice plate issue
EW-8	3/2/2018 12:23	27.8	23.9	2.0	46.3	-5.97	-5.96	-18.48	1 No change	NA	Valve issue
G-5	3/2/2018 12:33	22.9	19.2	2.2	55.7	-3.83	-3.79	-17.65	3 No change	NA	
G-6	3/2/2018 12:37	19.6	13.6	10.0	56.8	-0.48	-0.48	-17.99	<1 No change	NA	Low methane concentration, high oxygen concentration
G-7	3/2/2018 12:41	1.8	2.5	19.5	76.2	-0.14	-0.14	-17.22	<1 No change	NA	Low methane concentration, high oxygen concentration
G-8	3/2/2018 12:46	6.4	5.7	17.7	70.2	-0.76	-0.76	-16.82	<1 No change	NA	Low methane concentration, high oxygen concentration
HMP-2	3/2/2018 12:50	19.4	20.0	3.6	57.0	NA	NA	-16.48	NA	NA	Low methane concentration, Pro casing needs repair
EW-10	3/2/2018 12:54	35.4	30.8	0.1	33.7	-1.65	-1.66	-17.68	10 FO	NA	Manhole cover doesn't close, orifice plate issue. Air leak at Kanaflex hose, taped - need new Kanaflex hose.
EW-11	3/2/2018 13:02	8.3	22.1	0.1	69.5	-0.06	-0.06	-17.58	1 No change	NA	Low methane concentration, Manhole cover doesn't close
EW-23	3/2/2018 13:05	0.5	6.0	16.7	76.8	-0.4	-0.39	-17.81	<1 No change	NA	Low methane concentration, high oxygen concentration
CS-1	3/2/2018 14:52	0.0	0.2	22.0	77.8	NA	NA	-17.81	NA	NA	No methane concentration, high oxygen concentration
Blower - Inlet (Initail)	3/2/2018 10:36	20.9	20.5	3.8	54.8	NA	NA	-12.91	NA	310	
Blower - Outlet (Initail)	3/2/2018 10:39	19.6	19.2	4.7	56.5	NA	NA	+5.67	NA	310	

COMMENTS:

Gas wells with positive pressure

Gas wells with low header pressure <10.0"

Gas wells with high CH4 quality >50%

Gas wells with low CH4 quality <20%

FO = Valve full open

Gas Collection System was running upon my arrival on 3/2/18

Orifice plate issue restricting vacuum. The hole in the orifice plate is too small

Vacuum in the gas header was surging through out the site (1" - 4"). Condensate was surging between V-1 and V-2

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

YELLOW ZONE

Date & Time: 3/2/2018 8:45 AM

Temp (°F): 40°F Current Conditions/Rel. Humidity: Sunny / 45%

Barometric Pressure (in. Hg): 30.46 Trend: F S R (circle one)

Condition of Ground Surface/Recent Precipitation: Dry - None

Monitored By: Scott Freimark (ESC)

Gas Detector Make and Model No.: GEM 5000 Serial No.: G501764

Date Meter Last Calibrated: 3/2/2018

Calibration Methane Span Gas: 50% Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 10:40 Field Check – End Time: 12:00

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
EW-7	3/2/2018 10:45	30.3	25.7	0.3	43.7	-1.16	-1.16	-11.33	10 FO	NA	Manhole cover doesn't close, Orifice plate Issue
EW-6	3/2/2018 10:52	14.7	21.4	2.0	61.9	-0.71	-0.71	-10.81	2 No change	NA	Low methane concentration
EW-2	3/2/2018 10:58	42.6	26.4	4.3	26.7	+0.02	+0.01	-11.05	10 FO	NA	Well has positive pressure, No protective cover
HMP-8	3/2/2018 11:02	20.6	21.3	3.8	54.3	NA	NA	-10.35	NA	NA	
EW-1	3/2/2018 11:07	25.1	26.5	0.1	48.3	-1.49	-1.50	-11.35	10 FO	NA	No protective casing, Orifice plate Issue
EW-22	3/2/2018 11:11	5.5	18.3	2.3	73.9	-1.18	-1.18	-10.65	1 No change	NA	Low methane concentration, No decrease to assist with gas probe MP-03 methane issue, Mice in manhole
EW-21	3/2/2018 11:18	9.5	16.1	6.6	67.8	-3.02	-2.93	-10.35	4/3 Decreased	NA	Low methane concentration, high oxygen concentration,Mice in manhole
G-1	3/2/2018 11:23	28.0	18.6	7.9	45.5	-1.73	-1.74	-10.26	10 FO	NA	High oxygen concentration,oriface plate issue, Manhole cover doesn't close
HMP-7	3/2/2018 11:26	4.1	4.5	19.1	72.3	NA	NA	-10.03	NA	NA	Low methane concentration, high oxygen concentration, frozen water in in manhole
EW-20	3/2/2018 11:40	28.7	26.1	0.4	44.8	-0.88	-0.91	-9.68	10 FO	NA	Low methane concentration, No decrease to assist with gas probe MP-03 methane issue, Manhole removed, new gas header installed, Orifice plate issue
EW-19	3/2/2018 11:43	40.6	28.2	0.3	30.9	-0.48	-0.49	-10.21	10 FO	NA	Manhole removed, new gas header installed, Orifice plate issue
G-2	3/2/2018 11:50	24.7	15.1	9.5	50.7	-0.34	-0.29	-8.63	10 FO	NA	Manhole removed, new gas header installed, high oxygen concentration, Orifice plate issue
EW-18	3/2/2018 11:55	45.9	28.8	0.2	25.1	-0.56	-0.58	-8.25	10 FO	NA	Manhole removed, Orifice plate issue
HMP-6	3/2/2018 11:58	35.7	24.8	2.6	36.9	NA	NA	-8.15	NA	NA	High oxygen concentration
CS-3	3/2/2018 11:32	0.0	0.1	21.8	78.1	NA	NA	-10.09	NA	NA	No methane concentration, high oxygen concentration, Air leak in the regultor, water leak in discharge line
Blower - Inlet (Initial)	3/2/2018 10:36	20.9	20.5	3.8	54.8	NA	NA	-12.91	NA	310	
Blower - Outlet (Initial)	3/2/2018 10:39	19.6	19.2	4.7	56.5	NA	NA	+5.67	NA	310	

COMMENTS:

Gas wells with positive pressure

Gas wells with low header pressure <10.0"

Gas wells with high CH4 quality >50%

Gas wells with low CH4 quality <20%

FO = Valve full open

Gas Collection System was running upon my arrival on 3/2/18

Orifice plate issue restricting vacuum. The hole in the orifice plate is too small

Vacuum in the gas header was surging through out the site (1" - 4"). Condensate was surging between V-1 and V-2

Loss of several inches of vacuum in the gas header after EW-14 and before G-4. ESC discovered that the CS-02 Manhole was completely filled with water and frozen. ESC staff drained the CS-02 Manhole but the yellow discharge tube and/or the gas condensate discharge line were frozen. The pump in CS-02 was tested and functions properly but there is no way to discharge the liquid due to the frozen line and the built up condensate in the sump and header line is restricting the vacuum to the rest of the field.

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

GREEN ZONE

Date & Time: 4/7/2018 1:30 PM

Temp (°F): 28°F — Current Conditions/Rel. Humidity: Sunny / 47%

Barometric Pressure (in. Hg): 30.09 — Trend: (F) S R (circle one)

Condition of Ground Surface/Recent Precipitation: Dry - None

Monitored By: Scott Freimark (ESC)

Gas Detector Make and Model No.: GEM 5000 — Serial No.: G501764

Date Meter Last Calibrated: 4/7/2018

Calibration Methane Span Gas: 15% — Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 13:30 — Field Check – End Time: 14:40

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
HMP-3	4/7/2018 13:32	14.7	17.6	5	62.7	NA	NA	-9.25	NA	NA	Low methane concentration
EW-4	4/7/2018 13:36	19.6	21.4	0	59	-1.27	-1.27	-9.08	5 No change	NA	Low methane concentration
EW-24	4/7/2018 13:40	3.8	17.1	4.6	74.5	-0.38	-0.38	-9.41	<1 No change	NA	Low methane concentration, manhole cover doesn't close
EW-25	4/7/2018 13:46	10.9	18.7	1.2	69.2	-0.62	-0.62	-9.05	<1 No change	NA	Low methane concentration, manhole cover doesn't close
EW-12	4/7/2018 13:51	12.4	18.1	0	69.5	-0.84	-0.83	-8.15	<1 No change	NA	Low methane concentration
EW-13	4/7/2018 13:56	1.0	17	1.8	80.2	-0.53	-0.53	-8.51	<1 No change	NA	Low methane concentration, manhole cover doesn't close
HMP-4	4/7/2018 14:01	16.2	16.9	6.6	60.3	NA	NA	-9.09	NA	NA	Low Methane concentration, High oxygen concentration
EW-14	4/7/2018 14:07	7.2	12	8.3	72.5	-3.3	-3.3	-8.35	2.5 No change	NA	Low methane concentration, High oxygen concentration, No decrease to assist with gas probe MP-09 methane
G-4	4/7/2018 14:13	5.4	3.4	18.4	72.8	-1.06	-1.06	-8.75	1 No change	NA	Low methane concentration, high oxygen concentration
EW-15	4/7/2018 14:18	7.6	18.2	1.5	72.7	-1.82	-1.82	-10.05	2.5 No change	NA	Low methane concentration, manhole cover doesn't close, No decrease to assist with gas probe MP-09 methane
G-3	4/7/2018 14:24	13.3	16.1	1.7	68.9	-3.8	-3.8	-8.64	<1 No change	NA	Low methane concentration, valve issue, Manhole cover doesn't close
EW-16	4/7/2018 14:28	9.5	8.3	15.1	67.1	-1.76	-1.76	-8.88	1 No change	NA	Low methane concentration, high oxygen concentration, No decrease to assist with gas probe MP-09 methane
HMP-5	4/7/2018 14:33	24.1	22.2	3.2	50.5	NA	NA	-8.71	NA	NA	
EW-17	4/7/2018 14:38	36.0	25.9	1.8	36.3	-0.31	-0.3	-8.64	<1 No change	NA	
CS-2		No readings collected , no samplnig port installed									
Blower - Inlet (Final)	4/7/2018 14:49	18.7	19.8	3.7	57.8	NA	NA	-13.45	NA	355	
Blower - Outlet (Final)	4/7/2018 14:52	18.3	19.2	4.2	58.3	NA	NA	+7.56	NA	355	

COMMENTS:

	Gas wells with positive pressure
	Gas wells with low header pressure <10.0"
	Gas wells with high CH4 quality >50%
	Gas wells with low CH4 quality <20%

Gas Collection System was started upon my arrival on 4/7/18

Orifice plate issue restricting vacuum. The hole in the orifice plate is too small

Vacuum in the gas header was surging through out the site (1" - 4"). Condensate was surging between V-1 and V-2

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

ORANGE ZONE

Date & Time: 4/7/2018 12:35 PM

Temp (°F): 27°F

Current Conditions/Rel. Humidity: Mostly Sunny / 47%

Barometric Pressure (in. Hg): 30.11

Trend: F S R (circle one)

Condition of Ground Surface/Recent Precipitation: Dry - None

Monitored By: Scott Freimark (ESC)

Gas Detector Make and Model No.: GEM 5000

Serial No.: G501764

Date Meter Last Calibrated: 4/7/2018

Calibration Methane Span Gas: 15%

Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 12:30

Field Check – End Time: 14:45

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
EW-9	4/7/2018 12:31	26.3	23	0	50.7	-3.75	-3.75	-10.11	10 FO	NA	Orifice plate issue
EW-8	4/7/2018 12:36	27.0	22.4	2.6	48	-3.02	-3.04	-10.18	1 No change	NA	Valve issue
G-5	4/7/2018 12:51	16.5	18.1	2.3	63.1	-2.35	-2.35	-10.78	3 No change	NA	Low methane concentration
G-6	4/7/2018 12:57	17.4	14.1	9.6	58.9	-0.28	-0.28	-10.06	<1 No change	NA	Low methane concentration, high oxygen concentration
G-7	4/7/2018 13:02	5.0	4.7	17.8	72.5	-0.10	-0.10	-10.69	<1 No change	NA	Low methane concentration, high oxygen concentration
G-8	4/7/2018 13:07	8.3	6.8	16.9	68	-0.42	-0.42	-10.15	<1 No change	NA	Low methane concentration, high oxygen concentration
HMP-2	4/7/2018 13:12	16.8	19	4.2	60	NA	NA	-9.86	NA	NA	Low methane concentration, Pro casing needs repair
EW-10	4/7/2018 13:17	33.2	29.5	0	37.3	-1.15	-1.15	-10.05	10 FO	NA	Manhole cover doesn't close, orifice plate issue. new Kanaflex hose installed.
EW-11	4/7/2018 13:22	4.3	21.1	0	74.6	-0.05	-0.05	-9.55	1 No change	NA	Low methane concentration, Manhole cover doesn't close
EW-23	4/7/2018 13:27	1.4	8.1	11.2	79.3	-0.25	-0.25	-9.35	<1 No change	NA	Low methane concentration, high oxygen concentration
CS-1	4/7/2018 14:44	0.0	0.2	21.2	78.6	NA	NA	-9.1	NA	NA	No methane concentration, high oxygen concentration
Blower - Inlet (Initail)	4/7/2018 9:17	20.5	21.5	2.1	55.9	NA	NA	-20.52	NA	+360	
Blower - Outlet (Initail)	4/7/2018 9:21	19.8	20.7	3	56.5	NA	NA	+11.77	NA	+360	

COMMENTS:

Gas wells with positive pressure

Gas wells with low header pressure <10.0"

Gas wells with high CH4 quality >50%

Gas wells with low CH4 quality <20%

FO = Valve full open

Gas Collection System was started upon my arrival on 4/7/18

Orifice plate issue restricting vacuum. The hole in the orifice plate is too small

Vacuum in the gas header was surging through out the site (1" - 4"). Condensate was surging between V-1 and V-2

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

YELLOW ZONE

Date & Time: 4/7/2018 11:05 AM

Temp (°F): 23°F

Current Conditions/Rel. Humidity: Sunny / 54%

Barometric Pressure (in. Hg): 30.13

Trend: F S R (circle one)

Condition of Ground Surface/Recent Precipitation: Dry - None

Monitored By: Scott Freimark (ESC)

Gas Detector Make and Model No.: GEM 5000

Serial No.: G501764

Date Meter Last Calibrated: 4/7/2018

Calibration Methane Span Gas: 15%

Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 11:05

Field Check – End Time: 12:25

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
EW-7	4/7/2018 11:06	28.5	25.9	0	45.6	-1.00	-1.00	-10.55	10 FO	NA	Manhole cover doesn't close, Orifice plate Issue
EW-6	4/7/2018 11:11	12.2	20.3	3.5	64	-0.65	-0.65	-9.13	2 No change	NA	Low methane concentration
EW-2	4/7/2018 11:16	64.4	33	0.1	2.5	+0.06	+0.06	-10.42	10 FO	NA	Well has positive pressure, No protective cover
HMP-8	4/7/2018 11:23	20.5	22.3	2.5	54.7	NA	NA	-10.85	NA	NA	
EW-1	4/7/2018 11:32	23	26.3	0	50.7	-1.2	-1.22	-10.4	10 FO	NA	No protective casing, Orifice plate Issue
EW-22	4/7/2018 11:38	5.3	18.7	0.6	75.4	-0.87	-0.86	-8.36	1 No change	NA	Low methane concentration, No decrease to assist with gas probe MP-03 methane issue, Mice in manhole
EW-21	4/7/2018 11:43	13.3	20.9	2.8	63	-1.78	-1.78	-8.75	3 No change	NA	Low methane concentration, high oxygen concentration,Mice in manhole
G-1	4/7/2018 11:48	27.6	19.1	7.5	45.8	-1.03	-1.03	-7.38	10 FO	NA	High oxygen concentration,oriface plate issue, Manhole cover doesn't close
HMP-7	4/7/2018 11:53	0.1	0.1	21.7	78.1	NA	NA	-7.27	NA	NA	Low methane concentration, high oxygen concentration, frozen water in in manhole
EW-20	4/7/2018 12:04	12.4	23.3	0	64.3	-3.33	-3.28	-7.63	10 FO	NA	Low methane concentration, No decrease to assist with gas probe MP-03 methane issue, Manhole removed, new gas header installed, Orifice plate issue
EW-19	4/7/2018 12:08	20.4	23.2	0.4	56	-3.8	-3.82	-7.8	10 / 5 Decreased	NA	Manhole removed, new gas header installed, Orifice plate issue
G-2	4/7/2018 12:14	22.4	15.4	9.6	52.6	-0.66	-0.66	-7.85	10 FO	NA	Manhole removed, new gas header installed, high oxygen concentration, Orifice plate issue
EW-18	4/7/2018 12:19	36.1	28.2	0	35.7	-1.61	-1.61	-7.63	10 FO	NA	Manhole removed, Orifice plate issue
HMP-6	4/7/2018 12:26	11.9	10.2	12.9	65	NA	NA	-7.83	NA	NA	High oxygen concentration
CS-3	4/7/2018 11:57	0.0	0.1	21.8	78.1	NA	NA	-1.29	NA	NA	No methane concentration, high oxygen concentration, Air leak in the regultor, water leak in discharge line
Blower - Inlet (Initial)	4/7/2018 9:17	20.5	21.5	2.1	55.9	NA	NA	-20.52	NA	+360	
Blower - Outlet (Initial)	4/7/2018 9:21	19.8	20.7	3	56.5	NA	NA	+11.77	NA	+360	

COMMENTS:

	Gas wells with positive pressure
	Gas wells with low header pressure <10.0"
	Gas wells with high CH4 quality >50%
	Gas wells with low CH4 quality <20%

FO = Valve full open

Gas Collection System was started upon my arrival on 4/7/18

Orifice plate issue restricting vacuum. The hole in the orifice plate is too small

Vacuum in the gas header was surging through out the site (1" - 4"). Condensate was surging between V-1 and V-2

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

GREEN ZONE

Date & Time: 5/2/2018 12:25 PM

Temp (°F): 77°F

Current Conditions/Rel. Humidity: Partly Sunny / 54%

Barometric Pressure (in. Hg): 29.88

Trend: (F) S R (circle one)

Condition of Ground Surface/Recent Precipitation: Dry - Last Night

Monitored By: Scott Freimark (ESC)

Gas Detector Make and Model No.: GEM 5000

Serial No.: G501764

Date Meter Last Calibrated: 5/2/2018

Calibration Methane Span Gas: 15%

Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 12:25

Field Check – End Time: 13:35

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
HMP-3	5/2/2018 12:25	13.8	15.4	5.2	65.6	NA	NA	-12.38	NA	NA	Low methane concentration, high oxygen concentration
EW-4	5/2/2018 12:34	21.5	19.3	0.5	58.7	-1.81	-1.83	-12.11	5 No change	NA	
EW-24	5/2/2018 12:37	5.5	16.9	2.2	75.4	-0.46	-0.45	-12.50	<1 No change	NA	Low methane concentration, manhole cover doesn't close
EW-25	5/2/2018 12:44	10	17.6	1.1	71.3	-0.79	-0.80	-12.12	<1 No change	NA	Low methane concentration, manhole cover doesn't close
EW-12	5/2/2018 12:49	12.1	16.1	0.7	71.1	-1.30	-1.31	-12.88	<1 No change	NA	Low methane concentration
EW-13	5/2/2018 12:53	0.8	15.1	2.9	81.2	-0.69	-0.67	-12.28	<1 No change	NA	Low methane concentration, manhole cover doesn't close
HMP-4	5/2/2018 12:58	16.7	16	5.8	61.5	NA	NA	-11.63	NA	NA	Low Methane concentration, High oxygen concentration
EW-14	5/2/2018 13:03	12.4	13	6.2	68.4	-10.58	-10.58	-11.73	2.5 / 7 Increased	NA	Low methane concentration, High oxygen concentration, Increase to assist with gas probe MP-09 methane
G-4	5/2/2018 13:09	3.5	2	17	77.5	-5.31	-3.75	-12.83	2 / 1 Decreased	NA	Low methane concentration, high oxygen concentration
EW-15	5/2/2018 13:16	7.3	16.9	2.2	73.6	-2.70	-2.70	-13.26	2.5 / 10 Increased	NA	Low methane concentration, manhole cover doesn't close, increased to assist with gas probe MP-09 methane, oriface plate issue
G-3	5/2/2018 13:23	19.6	15.4	8	57	-6.24	-6.24	-12.02	<1 No change	NA	Low methane concentration, high oxygen concentration, valve issue, Manhole cover doesn't close
EW-16	5/2/2018 13:29	6.8	6	13.9	73.3	-4.75	-9.75	-12.35	2.5 / 7 Increased	NA	Low methane concentration, high oxygen concentration, increase to assist with gas probe MP-09 methane
HMP-5	5/2/2018 13:33	21.4	19.8	3.3	55.5	NA	NA	-12.05	NA	NA	
EW-17	5/2/2018 13:39	5.7	5	14.9	74.4	-10.28	-3.48	-11.14	5 / 2 Decreased	NA	Low methane concentration, high oxygen concentration, air leak
CS-2		No readings collected , no samplnig port installed									
Blower - Inlet (Final)	5/2/2018 16:21	18.7	18.3	4.5	58.5	NA	NA	-19.54	NA	+360	
Blower - Outlet (Final)	5/2/2018 16:24	18.4	17.9	4.9	58.8	NA	NA	+11.01	NA	+360	

COMMENTS:

	Gas wells with positive pressure
	Gas wells with low header pressure <10.0"
	Gas wells with high CH4 quality >50%
	Gas wells with low CH4 quality <20%

Gas Collection System was started upon my arrival on 5/2/18.
Orifice plate issue restricting vacuum. The hole in the orifice plate is too small.
Vacuum in the gas header was surging through out the site (1" - 4"). Condensate was surging between V-1 and V-2.
Applied additional PVC glue to the fittings on gas well EW-17 to fix air leak.
Ponded water located between EW-14 and EW-15.

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

ORANGE ZONE

Date & Time: 5/2/2018 11:30 AM

Temp (°F): 70°F

Current Conditions/Rel. Humidity: Partly Sunny / 50%

Barometric Pressure (in. Hg): 29.88

Trend: F (S) R (circle one)

Condition of Ground Surface/Recent Precipitation: Dry - Last Night

Monitored By: Scott Freimark (ESC)

Gas Detector Make and Model No.: GEM 5000

Serial No.: G501764

Date Meter Last Calibrated: 5/2/2018

Calibration Methane Span Gas: 15%

Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 11:30

Field Check – End Time: 15:10

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
EW-9	5/2/2018 11:33	29.3	22.2	0.3	48.2	-5.88	-5.90	-14.39	10 FO	NA	Orifice plate issue
EW-8	5/2/2018 11:40	38.4	24.8	0.1	36.7	-9.50	-13.85	-14.81	1/10 Increased	NA	Valve issue
G-5	5/2/2018 11:44	19.7	16.9	2.6	60.8	-3.76	-3.79	-15.20	3 No change	NA	Low methane concentration
G-6	5/2/2018 11:52	10.4	6.9	13.8	68.9	-0.72	-0.75	-13.95	<1 No change	NA	Low methane concentration, high oxygen concentration
G-7	5/2/2018 11:56	1.7	2.2	18.2	77.9	-0.05	-0.05	-14.15	<1 No change	NA	Low methane concentration, high oxygen concentration
G-8	5/2/2018 12:01	8.7	7.1	15.2	69	-0.70	-0.65	-13.16	<1 No change	NA	Low methane concentration, high oxygen concentration
HMP-2	5/2/2018 12:05	16	17	4.6	62.4	NA	NA	-13.42	NA	NA	Low methane concentration, Pro casing needs repair - water
EW-10	5/2/2018 12:10	33.4	29.1	0.2	37.3	-1.65	-1.60	-13.51	10 FO	NA	Manhole cover doesn't close, orifice plate issue.
EW-11	5/2/2018 12:15	6.7	20	0.1	73.2	-0.02	-0.02	-12.16	1 No change	NA	Low methane concentration, Manhole cover doesn't close
EW-23	5/2/2018 12:21	1.4	7.5	9.4	81.7	-0.39	-0.36	-12.40	<1 No change	NA	Low methane concentration, high oxygen concentration
CS-1	5/2/2018 15:08	0.1	0.1	19.1	80.7	NA	NA	-14.46	NA	NA	Low methane concentration, high oxygen concentration
Blower - Inlet (Initail)	5/2/2018 11:23	18.2	18.3	4.2	59.3	NA	NA	-18.63	NA	+360	
Blower - Outlet (Initail)	5/2/2018 11:26	17.9	17.9	4.5	59.7	NA	NA	+10.98	NA	+360	

COMMENTS:

Gas wells with positive pressure

Gas wells with low header pressure <10.0"

Gas wells with high CH4 quality >50%

Gas wells with low CH4 quality <20%

FO = Valve full open

Gas Collection System was started upon my arrival on 5/2/18

Orifice plate issue restricting vacuum. The hole in the orifice plate is too small

Vacuum in the gas header was surging through out the site (1" - 4"). Condensate was surging between V-1 and V-2

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

YELLOW ZONE

Date & Time: 5/2/2018 1:40 PM

Temp (°F): 77°F

Current Conditions/Rel. Humidity: Partly Sunny / 57%

Barometric Pressure (in. Hg): 29.88

Trend: F S R (circle one)

Condition of Ground Surface/Recent Precipitation: Dry - Last Night

Monitored By: Scott Freimark (ESC)

Gas Detector Make and Model No.: GEM 5000

Serial No.: G501764

Date Meter Last Calibrated: 5/2/2018

Calibration Methane Span Gas: 15%

Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 13:40

Field Check – End Time: 16:25

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
EW-7	5/2/2018 15:34	29.2	25.2	0.3	45.3	-1.44	-1.44	-15.63	10 FO	NA	Manhole cover doesn't close, Orifice plate Issue
EW-6	5/2/2018 16:08	22.2	22.8	1.0	54.0	-3.37	-2.49	-3.29	5 No change	NA	Low header vacuum
EW-2	5/2/2018 16:15	36.2	30.7	0.0	33.1	-1.31	-1.33	-1.35	10 FO	NA	Gas header jumper line installed, Low header vacuum, No protective cover
HMP-8	5/2/2018 14:43	22.4	20.4	2.7	54.5	NA	NA	-13.41	NA	NA	
EW-1	5/2/2018 14:40	22.2	25.1	0.1	52.6	-1.95	-1.96	-13.31	10 FO	NA	No protective casing, Orifice plate Issue
EW-22	5/2/2018 14:36	1.5	11.7	6.5	80.3	-2.5	-2.54	-11.35	1 No change	NA	Low methane concentration, High oxygen concentration, No decrease to assist with gas probe MP-03 methane issue, Mice in manhole
EW-21	5/2/2018 14:31	9.6	14	7.0	69.6	-3.54	-3.15	-11.08	3 No change	NA	Low methane concentration, high oxygen concentration,Mice in manhole
G-1	5/2/2018 14:26	25.8	15.9	7.9	50.4	-1.85	-1.82	-11.88	10 FO	NA	High oxygen concentration,oriface plate issue, Manhole cover doesn't close
HMP-7	5/2/2018 14:15	18.4	19.8	1.4	60.4	NA	NA	-11.81	NA	NA	Low methane concentration
EW-20	5/2/2018 14:07	10.8	19.6	0.8	68.8	-5.79	-5.65	-10.81	10 FO	NA	Low methane concentration, Manhole removed, Orifice plate issue
EW-19	5/2/2018 14:02	15	15.9	4.6	64.5	-4.71	-4.61	-10.35	5 No change	NA	Low methane concentration, Manhole removed, Orifice plate issue
G-2	5/2/2018 13:56	21.9	13	9.5	55.6	-1.45	-1.37	-10.21	10 FO	NA	Manhole removed, high oxygen concentration, Orifice plate issue
EW-18	5/2/2018 13:49	29.3	26.1	0.5	44.1	-2.37	-2.41	-11.28	10 FO	NA	Manhole removed, Orifice plate issue
HMP-6	5/2/2018 13:45	18.4	17.3	4.8	59.5	NA	NA	-10.32	NA	NA	Low methane concentration
CS-3	5/2/2018 14:19	0	0	18.9	81.1	NA	NA	-1.35	NA	NA	No methane concentration, high oxygen concentration, Air leak in the regultor, water under pressure in discharge line, surging positive to negative pressure
Blower - Inlet (Initial)	5/2/2018 11:23	18.2	18.3	4.2	59.3	NA	NA	-18.63	NA	+360	
Blower - Outlet (Initial)	5/2/2018 11:26	17.9	17.9	4.5	59.7	NA	NA	+10.98	NA	+360	

COMMENTS:

	Gas wells with positive pressure
	Gas wells with low header pressure <10.0"
	Gas wells with high CH4 quality >50%
	Gas wells with low CH4 quality <20%

FO = Valve full open

Gas Collection System was started upon my arrival on 5/2/18

Orifice plate issue restricting vacuum. The hole in the orifice plate is too small

Vacuum in the gas header was surging through out the site (1" - 4"). Condensate was surging between V-1 and V-2

Gas header jumper line installed from EW-6 to EW-2 on May 2, 2018.

Liquid in the discharge line in CS-3 is under pressure. Surging from positive to negative pressure also occuring in CS-3.

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

GREEN ZONE

Date & Time: 6/4/2018 1:40 PM

Temp (°F): 74°F — Current Conditions/Rel. Humidity: Partly Cloudy / 38%

Barometric Pressure (in. Hg): 29.94 — Trend: F S R (circle one)

Condition of Ground Surface/Recent Precipitation: Dry - None

Monitored By: Scott Freimark (ESC)

Gas Detector Make and Model No.: GEM 5000 — Serial No.: G501764

Date Meter Last Calibrated: 6/4/2018

Calibration Methane Span Gas: 15% — Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 13:40 — Field Check – End Time: 14:50

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
HMP-3	6/4/2018 13:40	15.7	15.9	4.7	63.7	NA	NA	-10.40	NA	NA	Low methane concentration
EW-4	6/4/2018 13:45	21.7	19.8	0.1	58.4	-1.54	-1.55	-10.20	5 No change	NA	
EW-24	6/4/2018 13:51	9.5	17.8	0.7	72	-0.35	-0.37	-10.06	<1 No change	NA	Low methane concentration, manhole cover doesn't close
EW-25	6/4/2018 13:57	10.5	17.6	0.5	71.4	-0.75	-0.75	-10.30	<1 No change	NA	Low methane concentration, manhole cover doesn't close
EW-12	6/4/2018 14:03	10.9	16.2	0.1	72.8	-1.31	-1.31	-10.06	<1 No change	NA	Low methane concentration
EW-13	6/4/2018 14:07	0.9	14.8	2.3	82	-0.59	-0.59	-10.02	<1 No change	NA	Low methane concentration, manhole cover doesn't close
HMP-4	6/4/2018 14:12	16.9	15.5	5.9	61.7	NA	NA	-10.46	NA	NA	Low Methane concentration, High oxygen concentration
EW-14	6/4/2018 14:17	9.2	11	7.1	72.7	-9.06	-9.6	-10.21	7 /8 Increased	NA	Low methane concentration, High oxygen concentration, Increase to assist with gas probe MP-09 methane
G-4	6/4/2018 14:23	1.9	2.1	16.3	79.7	-3.48	-3.48	-10.88	1 No Change	NA	Low methane concentration, high oxygen concentration
EW-15	6/4/2018 14:28	6.7	16.4	2.4	74.5	-2.53	-2.56	-11.25	10 FO	NA	Low methane concentration, manhole cover doesn't close, increased to assist with gas probe MP-09 methane, oriface plate issue
G-3	6/4/2018 14:33	11.5	6.3	13.2	69	-4.53	-4.51	-10.83	<1 No change	NA	Low methane concentration, high oxygen concentration, valve issue, Manhole cover doesn't close
EW-16	6/4/2018 14:38	8.4	7.4	13.6	70.6	-4.56	-5.32	-10.81	7 /8 Increased	NA	Low methane concentration, high oxygen concentration, increase to assist with gas probe MP-09 methane
HMP-5	6/4/2018 14:42	26.9	21.4	2.6	49.1	NA	NA	-10.06	NA	NA	
EW-17	6/4/2018 14:49	22.6	20.3	4.7	52.4	-5.08	-6.32	-10.60	2/3 Increased	NA	
CS-2		No readings collected , no samplnig port installed									
Blower - Inlet (Final)	6/4/2018 15:11	19.0	18.0	4.0	59.0	NA	NA	-16.56	NA	+360	
Blower - Outlet (Final)	6/4/2018 15:14	18.5	17.5	4.4	59.6	NA	NA	+9.66	NA	+360	

COMMENTS:

	Gas wells with positive pressure
	Gas wells with low header pressure <10.0"
	Gas wells with high CH4 quality >50%
	Gas wells with low CH4 quality <20%

Gas Collection System was running upon my arrival on6/4/18
Orifice plate issue restricting vacuum. The hole in the orifice plate is too small
Vacuum in the gas header was surging through out the site (1" - 4"). Condensate was surging between V-1 and V-2
Water ponding around the leachate tank and running across the road
Grass height around 2' , mowing should be scheduled soon

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

ORANGE ZONE

Date & Time: 6/4/2018 12:45 PM

Temp (°F): 72°F

Current Conditions/Rel. Humidity: Sunny / 41%

Barometric Pressure (in. Hg): 29.96

Trend: (F) S R (circle one)

Condition of Ground Surface/Recent Precipitation: Dry - None

Monitored By: Scott Freimark (ESC)

Gas Detector Make and Model No.: GEM 5000

Serial No.: G501764

Date Meter Last Calibrated: 6/4/2018

Calibration Methane Span Gas: 15%

Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 12:45

Field Check – End Time: 15:20

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
EW-9	6/4/2018 12:47	26.0	20.6	0.1	53.3	-6.8	-6.88	-11.93	10 FO	NA	Orifice plate issue
EW-8	6/4/2018 12:53	28.8	21.5	2.8	46.9	-13.50	-13.3	-14.65	10 FO	NA	Valve issue
G-5	6/4/2018 12:59	18.6	16.9	2.2	62.3	-3.34	-3.33	-13.30	3 No change	NA	Low methane concentration
G-6	6/4/2018 13:03	8.0	6.1	13.3	72.6	-0.61	-0.63	-12.45	<1 No change	NA	Low methane concentration, high oxygen concentration
G-7	6/4/2018 13:08	2.0	2.4	16.2	79.4	-0.08	-0.10	-11.13	<1 No change	NA	Low methane concentration, high oxygen concentration
G-8	6/4/2018 13:13	11.7	7.8	13.3	67.2	-0.55	-0.55	-11.78	<1 No change	NA	Low methane concentration, high oxygen concentration
HMP-2	6/4/2018 13:17	17.8	17.4	4	60.8	NA	NA	-11.50	NA	NA	Low methane concentration, Pro casing needs repair
EW-10	6/4/2018 13:23	34.7	27.8	0.2	37.3	-1.32	-1.33	-11.85	10 FO	NA	Manhole cover doesn't close, orifice plate issue.
EW-11	6/4/2018 13:29	7.7	19.5	0.1	72.7	-0.05	-0.05	-11.41	1 No change	NA	Low methane concentration, Manhole cover doesn't close
EW-23	6/4/2018 13:34	1.5	9	10	79.5	-0.27	-0.27	-10.84	<1 No change	NA	Low methane concentration, high oxygen concentration
CS-1	6/4/2018 15:06	0	0.1	18.9	81	NA	NA	-11.80	NA	NA	Low methane concentration, high oxygen concentration
Blower - Inlet (Final)	6/4/2018 15:11	19.0	18.0	4.0	59.0	NA	NA	-16.56	NA	+360	
Blower - Outlet (Final)	6/4/2018 15:14	18.5	17.5	4.4	59.6	NA	NA	+9.66	NA	+360	

COMMENTS:

Gas wells with positive pressure

Gas wells with low header pressure <10.0"

Gas wells with high CH4 quality >50%

Gas wells with low CH4 quality <20%

FO = Valve full open

Gas Collection System was running upon my arrival on6/4/18

Orifice plate issue restricting vacuum. The hole in the orifice plate is too small

Vacuum in the gas header was surging through out the site (1" - 4"). Condensate was surging between V-1 and V-2

Water ponding around the leachate tank and running across the road

Grass height around 2' , mowing should be scheduled soon

DELAFIELD SANITARY TRANSFER AND LANDFILL #00719
GAS EXTRACTION WELLS MONITORING LOG

YELLOW ZONE

Date & Time: 6/4/2018 11:25 AM

Temp (°F): 68°F

Current Conditions/Rel. Humidity: Sunny / 43%

Barometric Pressure (in. Hg): 29.98

Trend: S R (circle one)

Condition of Ground Surface/Recent Precipitation: Dry - None

Monitored By: Scott Freimark (ESC)

Gas Detector Make and Model No.: GEM 5000

Serial No.: G501764

Date Meter Last Calibrated: 6/4/2018

Calibration Methane Span Gas: 15%

Calibration Oxygen Span Gas: 4%

Field Check – Start Time: 11:25

Field Check – End Time: 12:40

Gas Extraction Well ID	Date/Time	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	Initial Vacuum/ Pressure Well (in. water)	Adjusted Vacuum/ Pressure Well (in. water)	Vacuum/ Pressure Header (in. water)	Valve Setting	Flow	Comments
EW-7	6/4/2018 11:26	30.5	25.3	0.2	44	-1.15	-1.15	-14.29	10 FO	NA	Manhole cover doesn't close, Orifice plate Issue
EW-6	6/4/2018 11:31	14.2	21.5	0.9	63.4	-2.41	-2.41	-4.45	5 No change	NA	Low header vacuum
EW-2	6/4/2018 11:34	12	22.6	0.1	65.3	-2.16	-2.17	-2.42	10 FO	NA	Gas header jumper line installed, Low header vacuum, No protective cover
HMP-8	6/4/2018 11:37	22.4	20.5	3.1	54	NA	NA	-14.35	NA	NA	
EW-1	6/4/2018 11:42	24.2	25.1	0.1	50.6	-1.58	-1.55	-11.95	10 FO	NA	No protective casing, Orifice plate Issue
EW-22	6/4/2018 11:48	1.9	12.8	5.3	80	-2.73	-3.85	-10.21	1/2 Increased	NA	Low methane concentration, High oxygen concentration, increased to assist with gas probe MP-02 methane issue, Mice in manhole
EW-21	6/4/2018 11:54	11	14.6	6.9	67.5	-2.64	-3.25	-10.01	3/4 Increased	NA	Low methane concentration, High oxygen concentration, increased to assist with gas probe MP-02 methane issue, Mice in manhole
G-1	6/4/2018 11:59	24.4	14.5	9.3	51.8	-1.58	-1.56	-10.22	10 FO	NA	High oxygen concentration,oriface plate issue, Manhole cover doesn't close
HMP-7	6/4/2018 12:06	24.7	21.9	0.8	52.6	NA	NA	-9.41	NA	NA	
EW-20	6/4/2018 12:17	16.3	20.5	0.7	62.5	-4.81	-5.01	-9.35	10 FO	NA	Low methane concentration, Manhole removed, Orifice plate issue
EW-19	6/4/2018 12:23	25.7	22.8	0.2	51.3	-3.78	-4.96	-9.56	5/6 Increased	NA	Manhole removed
G-2	6/4/2018 12:29	22.2	14.2	8.3	55.3	-1.3	-1.3	-8.76	10 FO	NA	Manhole removed, high oxygen concentration, Orifice plate issue
EW-18	6/4/2018 12:36	34.1	26.5	0.1	39.3	-2.04	-2.04	-8.45	10 FO	NA	Manhole removed, Orifice plate issue
HMP-6	6/4/2018 12:42	23.3	19	3.9	53.8	NA	NA	-7.30	NA	NA	
CS-3	6/4/2018 12:10	0	0	19	81	NA	NA	-9.40	NA	NA	No methane concentration, high oxygen concentration
Blower - Inlet (Final)	6/4/2018 15:11	19.0	18.0	4.0	59.0	NA	NA	-16.56	NA	+360	
Blower - Outlet (Final)	6/4/2018 15:14	18.5	17.5	4.4	59.6	NA	NA	+9.66	NA	+360	

COMMENTS:

Gas wells with positive pressure

Gas wells with low header pressure <10.0"

Gas wells with high CH4 quality >50%

Gas wells with low CH4 quality <20%

FO = Valve full open

Gas Collection System was running upon my arrival on6/4/18

Orifice plate issue restricting vacuum. The hole in the orifice plate is too small

Vacuum in the gas header was surging through out the site (1" - 4"). Condensate was surging between V-1 and V-2

Water ponding around the leachate tank and running across the road

Grass height around 2' , mowing should be scheduled soon

Attachment 5

Summary of Gas Blower Analytical Data

Environmental Sampling Corporation

Delafield Sanitary Transfer and Landfill
Gas Blower Analytical Data Summary

	VOCs (TO-15)
Volatile Organic Compounds (ppbV)	**04/27/18**
Propene	**2,500**
Dichlorodifluoromethane (CFC 12)	**820**
Chloromethane	ND
1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	**110**
Vinyl Chloride	**68**
1,3-Butadiene	ND
Bromomethane	ND
Chloroethane	**51**
Ethanol	ND
Acetonitrile	ND
Acrolein	ND
Acetone	ND
Trichlorofluoromethane	**30**
2-Propanol (Isopropyl Alcohol)	ND
Acrylonitrile	ND
1,1-Dichloroethene	ND
Methylene Chloride	ND
3-Chloro-1-propene (Allyl Chloride)	ND
Trichlorotrifluoroethane	ND
Carbon Disulfide	ND
trans-1,2-Dichloroethene	ND
1,1-Dichloroethane	ND
Methyl tert-Butyl Ether	ND
Vinyl Acetate	ND
2-Butanone (MEK)	**120**
cis-1,2-Dichloroethene	ND
Ethyl Acetate	ND
n-Hexane	**240**
Chloroform	ND
Tetrahydrofuran (THF)	**53**
1,2-Dichloroethane	ND
1,1,1-Trichloroethane	ND
Benzene	**150**
Carbon Tetrachloride	ND
Cyclohexane	**99**
1,2-Dichloropropane	ND
Bromodichloromethane	ND
Trichloroethene	**14**
1,4-Dioxane	ND
Methyl Methacrylate	ND
n-Heptane	**280**
cis-1,3-Dichloropropene	ND
4-Methyl-2-pentanone	ND
trans-1,3-Dichloropropene	ND
1,1,2-Trichloroethane	ND
Toluene	**820**
2-Hexanone	ND

Environmental Sampling Corporation

Delafield Sanitary Transfer and Landfill
Gas Blower Analytical Data Summary

	VOCs (TO-15)
Volatile Organic Compounds (ppbV)	**04/27/18**
Dibromochloromethane	ND
1,2-Dibromoethane	ND
n-Butyl Acetate	ND
n-Octane	**500**
Tetrachloroethene	ND
Chlorobenzene	**70**
Ethylbenzene	**1,000**
m,p-Xylenes	**2,000**
Bromoform	ND
Styrene	**20**
o-Xylene	**580**
n-Nonane	**920**
1,1,2,2-Tetrachloroethane	ND
Cumene	**180**
alpha-Pinene	**390**
n-Propylbenzene	**110**
4-Ethyltoluene	**62**
1,3,5-Trimethylbenzene	**130**
1,2,4-Trimethylbenzene	**320**
Benzyl Chloride	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	**110**
1,2-Dichlorobenzene	ND
d-Limonene	**330**
1,2-Dibromo-3-chloropropane	ND
1,2,4-Trichlorobenzene	ND
Naphthalene	**17**
Hexachlorobutadiene	ND
TOTAL VOCS (ppbV):	**12,094**

Field Readings	**4/27/2018**
Methane (%)	16.8
Carbon dioxide (%)	18.6
Oxygen (%)	5.2
Balance Gases (%)	59.3