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June 21, 2024

Ms. Cindy Koepke
Hydrogeologist
Wisconsin Department of Natural Resources
3911 Fish Hatchery Road
Fitchburg, WI 53711

Subject: Refuse Hideaway Landfill
May 2024 Operation Monitoring and Maintenance Activities

Dear Cindy:

TRC completed the following operation, monitoring, and maintenance activities at the Refuse Hideaway Landfill (the Site) in Middleton, WI in May 2024.

- May 2, 2024 – Biweekly Inspection and Gas Probe Monitoring
- May 6, 2024 – GES Restart and Air Compressor Shutdown
- May 14, 2024 – Monthly and Cap Inspections
- May 14, 2024 – Reseeding, Erosion Mat Installation, and Filling of Wildlife Burrows
- May 14, 2024 – Air Compressor Troubleshooting and Repairs
- May 21, 2024 – Air Compressor Troubleshooting and Repairs
- May 22, 2024 – GES Restart
- May 29, 2024 – Biweekly Inspection and GES Restart

Gas Extraction System

The gas extraction system (GES) was operational until May 4, 2024 when the compressor activated a CMP401 overload SD fault. The blower system was restarted on May 6, 2024. The GES shutdown on May 21, 2024 due to a utility outage (likely caused by a storm and high winds) and was restarted on May 22, 2024. Another utility outage happened on May 24, 2024 (likely due to a storm) and the system was restarted on May 29, 2024. Field data from the gas extraction well and gas probe monitoring conducted in May 2024, are included in Attachment 1.

Leachate Extraction System

The leachate extraction system was restarted for the season on April 25, 2024, and operated through May 4, 2024. The following includes operational notes and issues observed:

May 4-6, 2024

- The air compressor activated a CMP401 overload SD fault on May 4, 2024. Both the air compressor and blower systems were shutdown due to the alarm.

- The air compressor system was inspected on May 6, 2024. Upon arrival oil was observed along the side wall of the tank and around the pump head exhaust. The oil level was checked, and oil was cleaned off the equipment to allow for future observations. Following an inspection of the air compressor, the system was restarted and monitored. No oil leaks were observed, but an abnormal noise was observed from the compressor system after a period of operating the system, the CMP-401 overload fault was again activated. Based on the issue observed EMS Industrial, Inc. (EMS) out of Janesville, WI was contacted to schedule a Site visit to assess the issue. The compressor system was left off until further evaluation could be completed.

May 14, 2024

- TRC was onsite with personnel from EMS to assess the condition of the air compressor system. EMS did not see any mechanical issues with the compressor while the system was running.
- A slight variation in voltage for one leg from the motor starter contactor MOV-1 compared to the other two legs was observed, which could indicate that the contactor was failing.
- EMS recommended replacing the MOV-1 contactor and leaving the leachate collection system off.

May 21, 2024

- TRC was onsite with personnel from EMS to change out the MOV-1 contactor for the air compressor. A new WEG contactor (Part Number: ESW-B12D15E-R30) was installed and the system was restarted.
- Following restart, the abnormal noise was again observed, the EMS technician further assessed the compressor. Based on higher amperage observed and the abnormal noise, EMS recommended that the motor be replaced. The system was left off until a new motor could be procured and installed.

The leachate tank level was gauged during Site visits and the following measurements and observations were recorded:

- May 2, 2024 – 39.5 Inches
- May 14, 2024 – 17.75 inches
- May 29, 2024 – 57.5 inches

Cap Inspection

TRC conducted a monthly inspection of the landfill cap and stormwater conveyance features on May 14, 2024. The landfill cap and stormwater conveyance features are operational. Three major areas around the landfill were reseeded and erosion matting was used as cover. Other observed bare areas were seeded. The three identified wildlife burrows near the extraction wells were filled with gravel. TRC will continue to monitor the condition of the features. An inspection form with further details is provided in Attachment 1 and a photographic log is provided in Attachment 2.

If you have any questions, please contact Andrew Stehn at astehn@trccompanies.com or 608-807-8112.

Sincerely,

TRC

Molly Wagler, EIT
Project Engineer

Andrew Stehn, PE
Project Manager

Attachments:
1. May 2024 Monitoring Results
2. Photographic Log

Attachment 1

May 2024 Monitoring Results

REFUSE HIDEAWAY LANDFILL
GAS PROBE MONITORING FORM

TECHNICIAN(S): J. Roelke

DATE: 5/2/2024
START TIME: 8:08 AM
END TIME: 13:30 PM

GAS/INSTRUMENT TYPE: **GEM 2000**
SERIAL NO.: 11668
DATE LAST CALIBRATED: 5/2/2024
METHOD: Standard Calibration Gases
PRESS INSTRUMENT : Manometer

WEATHER CONDITIONS: light rain/storms
TEMPERATURE: 57 °F
BAROMETRIC PRESSURE & TREND: 29.94 in. Hg,
GROUND CONDITIONS: falling

GAS PROBE NAME	Time	PRESSURE (in. WC)	METHANE (% LEL)	METHANE (%, by vol.)	CARBON DIOXIDE (%, by vol.)	OXYGEN (%, by vol.)	COMMENTS
GP-1D	8:44	0.0	0	0.0	4	14.4	(2)
GP-1S	8:46	0.0	0	0.0	5.5	11.3	(2)
GP-2D	8:49	0.13	0	0.0	2.4	17.2	(1)
GP-2S	8:51	0.0	0	0.0	3.9	14.2	(1)
GP-3	8:53	0.0	2.0	0.1	12.4	3.4	(1) Stable readings at 2 minutes.
GP-4	8:58	0.53	NM	NM	NM	NM	(1) No Flow water in probe
GP-5	9:00	0.0	0.0	0.0	2.3	18.4	(2)
GP-6	9:07	0.11	0.0	0.0	0.1	20.8	(1)
GP-7	9:12	0.0	0.0	0.0	1.8	17.6	(2)
GP-8	9:19	0.0	0.0	0.0	4.1	16.3	(2)
GP-9	9:25	0.03	0.0	0.0	3.1	17.3	(1)
GP-10	9:30	0.0	0.0	0.0	4.3	11.4	(1)
GP-11D	9:35	0.0	45	2.2	14.6	0.6	(2) Stable readings at 2 minutes.
GP-11S	9:38	0.0	0.0	0.0	6.9	8.8	(2)
GP-12D	9:41	0.0	>100	15.5	19.5	2.2	(1) Stable readings at 2 minutes.
GP-12S	9:44	0.0	0.0	0.0	4.7	11.6	(1)
GP-13D	9:52	0.17	0.0	0.0	2.6	16.5	(2)
GP-13S	9:54	0.0	0.0	0.0	3.6	12.5	(2)

GAS PROBE NAME	Time	PRESSURE (in. WC)	METHANE (% LEL)	METHANE (%, by vol.)	CARBON DIOXIDE (%, by vol.)	OXYGEN (%, by vol.)	COMMENTS
GP-16D	10:10	0.0	0.0	0.0	1.1	19.4	(2)
GP-16S	10:12	0.0	0.0	0.0	2.1	18.9	(2)
GP-17D	10:04	0.0	0.0	0.0	3.2	16.0	(1)
GP-17M	10:06	0.0	0.0	0.0	3.1	15.9	(1)
GP-17S	10:08	0.0	0.0	0.0	7.1	8.8	(1)
GP-18D	10:15	0.0	0.0	0.0	1.8	15.9	(2)
GP-18M	10:17	0.0	0.0	0.0	1.6	17.4	(2)
GP-18S	10:19	0.0	0.0	0.0	2.3	16.8	(2)
GP-19$^{85-100}$	11:04	0.0	0.0	0.0	1.7	18.9	(1)
GP-19$^{50-70}$	11:06	0.0	0.0	0.0	1.2	19.3	(1)
GP-19$^{25-40}$	11:08	0.0	0.0	0.0	1.9	18.9	(1)
GP19$^{2-15}$	11:10	0.0	0.0	0.0	0.9	19.7	(1)
GP-20$^{85-100}$	10:56	0.0	0.0	0.0	0.3	20.5	(2)
GP-20$^{50-70}$	10:58	0.0	0.0	0.0	0.9	19.8	(2)
GP-20$^{25-40}$	11:00	0.0	0.0	0.0	1.7	19.1	(2)
GP-20$^{2-15}$	11:02	0.0	0.0	0.0	2.1	18.7	(2)
GP-21$^{85-100}$	10:45	0.00	0.0	0.0	0.5	20.5	(2)
GP-21$^{50-70}$	10:47	0.0	0.0	0.0	0.1	20.8	(2)
GP-21$^{25-40}$	10:49	0.0	0.0	0.0	0.1	20.7	(2)
GP-21$^{2-15}$	10:51	0.0	0.0	0.0	0.4	20.4	(2)
GP-22$^{85-100}$	11:15	0.0	0.0	0.0	1.8	19.2	(2)
GP-22$^{50-70}$	11:17	0.0	0.0	0.0	0.5	20.4	(2)
GP-22$^{25-40}$	11:19	0.0	0.0	0.0	0.4	20.4	(2)
GP-22$^{2-15}$	11:21	0.0	0.0	0.0	2.1	19.1	(2)

GAS PROBE NAME	Time	PRESSURE (in. WC)	METHANE (% LEL)	METHANE (%, by vol.)	CARBON DIOXIDE (%, by vol.)	OXYGEN (%, by vol.)	COMMENTS
GP-23$^{85-100}$	11:26	0.0	0.0	0.0	0.7	20.1	(2)
GP-23$^{50-70}$	11:28	0.0	0.0	0.0	0.3	20.5	(2)
GP-23$^{25-40}$	11:30	0.0	0.0	0.0	9.2	9.8	(2)
GP-23$^{2-15}$	11:32	0.0	0.0	0.0	1.7	18.4	(2)
GP-24$^{85-100}$	11:37	0.0	0.0	0.0	10.4	9.2	(2)
GP-24$^{50-70}$	11:39	0.0	0.0	0.0	1.7	18.6	(2)
GP-24$^{25-40}$	11:41	0.0	0.0	0.0	0.4	20.3	(2)
GP-24$^{2-15}$	11:43	0.0	0.0	0.0	2.7	18.1	(2)
GPW-1D	13:13	1.13	0.0	0.0	2.1	18.3	(1)
GPW-1M	13:15	1.15	0.0	0.0	1.5	18.7	(1)
GPW-1S	13:17	0.0	0.0	0.0	1.0	19.5	(1)
G-1D	8:38	0.07	0.0	0.0	10.9	3.6	(1)
G-1S	8:40	0.04	0.0	0.0	5.7	13.1	(1)
G-2D	9:59	0.0	0.0	0.0	4.2	15.9	(1)
G-2S	10:01	0.0	0.0	0.0	0.1	20.8	(1)
G-5	9:17	0.34	0.0	0.0	3.3	16.9	(1)
G-6	8:24	0.0	0.0	0.0	0.0	20.9	(1)
G-8	10:04	0.0	0.0	0.0	0.1	20.8	(1)
G-9	10:28	0.0	0.0	0.0	0.2	20.5	(1)
G-10	11:49	0.12	0.0	0.0	0.1	20.8	(1)
Speedway Office	8:42	0.0	0.0	0.0	0.1	20.8	Open to ATM

NOTES:

(1); Locked probe casing.
(2): Probe is above casing and cannot be locked.
(3): No cap for probe casing and cannot be locked.

Key:

Shallow or 2'-15'
Medium or 25'-40'
Deep or 50'-70'
85'-100'

Entered by: J. Roelke 5/2/2024
Checked by: M. Wagler 5/29/2024

Bi-weekly - System Inspection Log
Landfill Gas Extraction and Leachate Pump System
WDNR - Refuse Hideaway Landfill
Middleton, Wisconsin

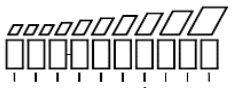
TRC Operator Name: J. Roelke
Date: 5/2/2024 Arrival Time: 12:00 PM Departure Time: 12:30 PM

Site Conditions		Equipment	
Weather Conditions:	rain stopping, cloudy	Gas/Instrument Type:	GEMS 2000
Ground Condition:	moist	Serial Number:	11668
Barometric Pressure:	29.85 in Hg	Date Last Calibrated:	5/2/2024
Barometric Pressure Trend:	falling	Method:	standard field calibration gas
Temperature:	55 °F	Pressure Instrument:	Dwyer Manometer

Landfill Gas Extraction System[1]

System	*Location*	*Tag #*	*Equipment Description*	*Set Point*	*Typical Range*	*Field Reading*
Blower Motor	Remote	GHS-BLR-301	Amperage	-	3 - 4 amps	3.23
			Speed	-	1800 - 1900 rpm	1080
			Frequency	-	30 - 35 Hz	18.08
	HMI		Amperage	-	3 -4 amps	3.2
	HMI		Speed	-		22
	HMI		Hours	-	-	13444
Blower Operating (yes/no). Note excessive noise or issues observed.						
Blower Inlet	HMI	PT-301	Blower Inlet Vacuum	7 in. w.c.	7 in. w.c.	-7.0
	HMI	TE-301	Blower Inlet Temperature	-	50 - 90 °F	55
	Local	GHS-PI-301	Blower Inlet Vacuum	7 in. w.c.	7 in. w.c.	-6.92
	Local	GHS-TI-301	Blower Inlet Temperature	-	50 - 90 °F	50
	Local	Sample Port	Gas Composition - % Methane	-		10.1
			Gas Composition - % CO2	-		10.7
			Gas Composition - % Oxygen	-		13.2
			Gas Composition - % Balance	-		66.0%
Demister	Local	GHS-PDI-301	Demister Differential Pressure	-	1-2 in w.c	0.07
	Local		Slight Glass: Liquid Present	-	-	No
	HMI	LS-701	Level Indication	-	-	-
Blower Outlet	HMI	PT-302	Blower Outlet Flow Pressure	-	-	0.0
	HMI	TE-302	Blower Outlet Temperature	-	50 - 90 °F	58
	HMI	PDT-301	Blower Outlet Flow Differential Pressure	-	1-2 in w.c	0.39
	HMI	-	Blower Outlet Flow Rate	-	180 - 190 scfm	92
	Local	GHS-PI-302	Blower Outlet Flow Pressure	-	-	0.03
	Local	GHS-TI-302	Blower Outlet Temperature	-	50 - 90 °F	52
	Local	Sample Port	Gas Composition - % Methane	-		10.1
			Gas Composition - % CO2	-		10.7
			Gas Composition - % Oxygen	-		13.2
			Gas Composition - % Balance	-		66.0%
Branch Headers	Local	North	North Branch Vacuum	-	6 - 7 in w.c.	-6.63
	Local	North	Valve Position	6 turns open /6	6 turns open	6
	Local	North Sample Port	Gas Composition - % Methane	-		23.6
			Gas Composition - % CO2	-		19.4
			Gas Composition - % Oxygen	-		4.2
			Gas Composition - % Balance	-		52.8%
	Local	Central	Central Branch Vacuum	-	6 - 7 in w.c.	-6.64
	Local	Central	Valve Position	-	6 turns open	6
	Local	Central Sample Port	Gas Composition - % Methane	-		3.1
			Gas Composition - % CO2	-		3.4
			Gas Composition - % Oxygen	-		18.2
			Gas Composition - % Balance	-		75.3%
	Local	South	South Branch Vacuum	-	6 - 7 in w.c.	-6.65
	Local	South	Valve Position	-	6 turns open	6
	Local	South Sample Port	Gas Composition - % Methane	-		15.7
			Gas Composition - % CO2	-		17.1
			Gas Composition - % Oxygen	-		9
			Gas Composition - % Balance	-		58.2%

Air Compressor System[1,3,4]								
Operational Settings	Pressure Set Points					Condensate Set Points		
	Tank Low (psi)	Tank High (psi)	Well Field (psi)	On (min.)	Off (min.)	Open (sec.)	Closed (min.)	Test Operation

Air Dryer System[2]		Electrical Status		HMI Heater/Air Conditioner	
System Operational:	**YES**	3-Phase Power Indicator:	3 of 3	Operational	Yes
Condensate Drain Operational:	**YES**	GFI 1 Status:	(Green)	Temperature	59 °F
Alarm Indictor:	**OFF**	GFI 2 Status:	(Green)	Filter Cleaned	no
Condenser Cleaned[2]:	**NO**	**Leachate Tank/Loadout**			
Dew Point Indicator:		Liquid Level (inches):	39.5	Visual Check:	
	Indicate which bars are green(G) or red (R) and note (F) if flashing.	***Contact WDNR if level is above***	**71**	· Evidence of Tank Overflow:	no
		Leak Detection Test Completed:	No	· Inspect concrete pad and storm sewer for damage or backup	
		Overfill Float Functional[5]:	Yes		
		Exhaust Stack			
		Drain Stack Sump (vol. removed)	0 Gallons	Stack Condition[4]: good	

1. Check all air lines and gas extraction lines for leaks during each site visit. Drain inline air filters and replace as needed.

2. Air Dryer - Clean the condenser monthly using an air jet (max. 2 bar / 30 psig) inside out. Make sure not to damage the aluminum lamellae of the cooling package.

3. On a quarterly basis change the oil and check/clean the air filters and intercoolers for the air compressor.

4. Inspect mounting brackets and bolts for the air compressor and effluent stack for tightness.

5. Test overfill float operation on a monthly basis.

Comments/Notes:

Data Entered By: J. Roelke 5/2/2024
Checked By: M. Wagler 5/29/2024

Bi-weekly - System Inspection Log
Landfill Gas Extraction and Leachate Pump System
WDNR - Refuse Hideaway Landfill
Middleton, Wisconsin

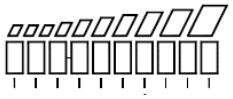
TRC Operator Name: J. Roelke
Date: 5/29/2024 Arrival Time: 7:35 AM Departure Time: 8:40 AM

Site Conditions		Equipment	
Weather Conditions:	sunny	Gas/Instrument Type:	GEMS 2000
Ground Condition:	moist	Serial Number:	11668
Barometric Pressure:	30.21 in Hg	Date Last Calibrated:	5/29/2024
Barometric Pressure Trend:	rising	Method:	standard field calibration gas
Temperature:	55 °F	Pressure Instrument:	Dwyer Manometer

Landfill Gas Extraction System[1]

System	*Location*	*Tag #*	*Equipment Description*	*Set Point*	*Typical Range*	*Field Reading*
Blower Motor	Remote	GHS-BLR-301	Amperage	-	3 - 4 amps	3.23
			Speed	-	1800 - 1900 rpm	942
			Frequency	-	30 - 35 Hz	15.76
	HMI		Amperage	-	3 -4 amps	3.2
	HMI		Speed	-		17
	HMI		Hours	-	-	13922
Blower Operating (yes/no). Note excessive noise or issues observed.						
Blower Inlet	HMI	PT-301	Blower Inlet Vacuum	7 in. w.c.	7 in. w.c.	-7.0
	HMI	TE-301	Blower Inlet Temperature	-	50 - 90 °F	61
	Local	GHS-PI-301	Blower Inlet Vacuum	7 in. w.c.	7 in. w.c.	-6.91
	Local	GHS-TI-301	Blower Inlet Temperature	-	50 - 90 °F	56
	Local	Sample Port	Gas Composition - % Methane	-		36.1
			Gas Composition - % CO2	-		23.1
			Gas Composition - % Oxygen	-		3.5
			Gas Composition - % Balance	-		37.3%
Demister	Local	GHS-PDI-301	Demister Differential Pressure	-	1-2 in w.c	0.2
	Local		Slight Glass: Liquid Present	-	-	0
	HMI	LS-701	Level Indication	-	-	-
Blower Outlet	HMI	PT-302	Blower Outlet Flow Pressure	-	-	0.0
	HMI	TE-302	Blower Outlet Temperature	-	50 - 90 °F	73
	HMI	PDT-301	Blower Outlet Flow Differential Pressure	-	1-2 in w.c	0.21
	HMI	-	Blower Outlet Flow Rate	-	180 - 190 scfm	67
	Local	GHS-PI-302	Blower Outlet Flow Pressure	-	-	0.01
	Local	GHS-TI-302	Blower Outlet Temperature	-	50 - 90 °F	70
	Local	Sample Port	Gas Composition - % Methane	-		36
			Gas Composition - % CO2	-		23.2
			Gas Composition - % Oxygen	-		3.4
			Gas Composition - % Balance	-		37.4%
Branch Headers	Local	North	North Branch Vacuum	-	6 - 7 in w.c.	-6.7
	Local	North	Valve Position	6 turns open /6	6 turns open	6
	Local	North Sample Port	Gas Composition - % Methane	-		63.7
			Gas Composition - % CO2	-		27.6
			Gas Composition - % Oxygen	-		0
			Gas Composition - % Balance	-		8.7%
	Local	Central	Central Branch Vacuum	-	6 - 7 in w.c.	-6.68
	Local	Central	Valve Position	-	6 turns open	6
	Local	Central Sample Port	Gas Composition - % Methane	-		27.3
			Gas Composition - % CO2	-		14.7
			Gas Composition - % Oxygen	-		7.5
			Gas Composition - % Balance	-		50.5%
	Local	South	South Branch Vacuum	-	6 - 7 in w.c.	-6.72
	Local	South	Valve Position	-	6 turns open	6
	Local	South Sample Port	Gas Composition - % Methane	-		35.1
			Gas Composition - % CO2	-		28.1
			Gas Composition - % Oxygen	-		2.3
			Gas Composition - % Balance	-		34.5%

Air Compressor System[1,3,4] (OFF LINE)								
Operational Settings	Pressure Set Points					Condensate Set Points		
	Tank Low (psi)	Tank High (psi)	Well Field (psi)	On (min.)	Off (min.)	Open (sec.)	Closed (min.)	Test Operation

Air Dryer System[2]		Electrical Status		HMI Heater/Air Conditioner	
System Operational:	**YES**	3-Phase Power Indicator:	3 of 3	Operational	Yes
Condensate Drain Operational:	**YES**	GFI 1 Status:	(Green)	Temperature	68 °F
Alarm Indictor:	**OFF**	GFI 2 Status:	(Green)	Filter Cleaned	no
Condenser Cleaned[2]:	**NO**	**Leachate Tank/Loadout**			
Dew Point Indicator:		Liquid Level (inches):	57.5	Visual Check:	
	Indicate which bars are green(G) or red (R) and note (F) if flashing.	***Contact WDNR if level is above***	**71**	· Evidence of Tank Overflow:	No
		Leak Detection Test Completed:	no	· Inspect concrete pad and storm sewer for damage or backup	
		Overfill Float Functional[5]:	yes		
		Exhaust Stack			
		Drain Stack Sump (vol. removed)	0.0 Gallons	Stack Condition[4]: good	

1. Check all air lines and gas extraction lines for leaks during each site visit. Drain inline air filters and replace as needed.

2. Air Dryer - Clean the condenser monthly using an air jet (max. 2 bar / 30 psig) inside out. Make sure not to damage the aluminum lamellae of the cooling package.

3. On a quarterly basis change the oil and check/clean the air filters and intercoolers for the air compressor.

4. Inspect mounting brackets and bolts for the air compressor and effluent stack for tightness.

5. Test overfill float operation on a monthly basis.

Comments/Notes: Blower shut down on 5/24/24 at 14:07 due to an Alarm- Utility Outage. Blower system restarted during Site visit.
Methane readings were high concentrations due to the blower being down for 5 days.

Data Entered By: J. Roelke 5/29 /2024
Checked By: M. Wagler 5/29/2024

LANDFILL GAS MONITORING FORM

REFUSE HIDEAWAY GAS MONITORING PROGRAM (EPA ID: WID980610604, Facility ID: 113112010)

			STARTING	ENDING
TECHNICIAN(S):	J. Roelke	DATE:	5/14/24	5/14/24
GAS/INSTRUMENT TYPE:	GEM 2000	TIME:	7:25 AM	12:00 PM
SERIAL NO.:	11668	BAROMETRIC PRESSURE [25]	29.87 in. Hg	29.87 in. Hg
DATE LAST CALIBRATED:	5/14/2024	BAROMETRIC TREND [46381]	rising	falling
METHOD:	Standard Calibration Gases	WEATHER CONDITIONS:	cloudy	cloudy
PRESSURE INSTRUMENT:	Dwyer Digital Manometer	TEMPERATURE [21]	51 °F	53 °F
Project # 459573.0006.000		GROUND CONDITIONS [No DNR ID]:	moist	moist

Well No.	Time	Well Temp. (°F)	Available Header Pressure (in. W.C.)	Applied Well Pressure (in. W.C.)	Differential Pressure (in. W.C.)	Final Well Pressure (in. W.C.)	Final Deferential Pressure (in. W.C.)	Estimated Gas Flow (scfm)	Methane (%, by vol.)	Carbon Dioxide (%, by vol.)	Oxygen (%, by vol.)	Initial Valve Setting (% open)	Final Valve Setting (% open)	Pump Counter
GW-1	9:01	48	-6.50	-5.20	0.05	-5.20	0.05	14.4	16.5	24.0	2.0	0.50 / 12	0.50 / 12	Counter #: 51504
GW-2	9:08	50	-6.40	-0.50	0.01	-0.50	0.01	6.4	0.0	0.1	20.8	0.00 / 12	0.00 / 12	Counter #: 90804
GW-3	9:17	52	-6.30	-6.00	0.05	-6.00	0.05	14.4	30.9	31.0	0.0	6.00 / 12	6.00 / 12	Counter #: NM
GW-4	9:24	52	-6.30	0.00	0.00	-0.30	0.02	9.0	67.0	28.7	0.0	0.25 / 12	0.50 / 12	Counter #: 190192
GW-5	9:36	52	-6.30	-1.50	0.01	-1.00	0.01	6.4	21.4	13.9	11.5	0.25 / 12	0.125 / 12	Counter #: 279472
GW-6	11:07	50	-6.50	-2.30	0.01	-2.30	0.01	6.4	24.9	30.1	0.0	1.00 / 12	1.00 / 12	Counter #: NM
GW-7	10:58	52	-6.40	-6.40	0.03	-6.30	0.03	11.1	26.4	12.9	11.2	7.00 / 12	5.00 / 12	Counter #: 107306
GW-8	10:49	54	-6.40	-6.40	0.03	-6.40	0.03	11.1	34.7	15.5	6.2	9.00 / 12	9.00 / 12	Counter #: 93952
GW-9	10:42	52	-6.40	-0.30	0.01	-0.30	0.01	6.4	15.2	3.1	15.7	0.125 / 12	0.125 / 12	Counter #: 69450
GW-10	10:35	54	-6.50	-0.80	0.01	-0.80	0.01	6.4	26.9	20.1	3.5	0.50 / 12	0.50 / 12	Counter #: 24423
GW-11	10:00	54	-6.60	-0.05	0.01	-1.10	0.02	9.0	80.4	18.7	0.0	0.125 / 12	0.25 / 12	Counter #: 35081
GW-12	10:14	52	-6.60	-0.04	0.01	-0.90	0.02	9.0	68.9	30.6	0.0	0.125 / 12	0.25 / 12	Counter #: 123395
GW-13	10:26	56	-6.10	-0.1	0.01	-0.10	0.01	6.4	16.3	14.5	9.4	0.125 / 12	0.125 / 12	Counter #: 42658

Notes:

(1): Sample port frozen and no measurement taken.

(2): Air compressor system was down and no counter numbers were reported.

"NA" = Data Not Available

"NM" = Not Monitored

Data Entered By: J. Roelke 5/14/2024

Checked By: M. Wagler 5/29/2024

Monthly System Inspection Log
Landfill Gas Extraction and Leachate Pump System
WDNR - Refuse Hideaway Landfill
Middleton, Wisconsin

TRC Operator Name: John Roelke			
Date: 5/14/2024	**Arrival Time:** 7:25 AM	**Departure Time:** 12:00 PM	

Site Conditions	Initial[1]	Final[2]	Equipment	
Weather Conditions:	cloudy	cloudy	Gas/Instrument Type:	GEMS 2000
Ground Condition:	moist	moist	Serial Number:	11668
Barometric Pressure:	29.87 in. Hg	29.87 in. Hg	Date Last Calibrated:	5/14/2024
Barometric Pressure Trend:	rising	falling	Method:	Standard field calibration
Temperature:	51 ^{0}F	53 ^{0}F	Pressure Instrument:	Dwyer Series 475 Manometer

Landfill Gas Extraction System[3]							
	Location	***Tag #***	***Equipment Description***	***Set Point***	***Typical Range***	***Initial Field Reading [1]***	***Final Field Reading [2]***
Blower Motor	Remote	GHS-BLR-301	Amperage	-	3 - 4 amps	3.22	--
			Speed	-	1800 - 1900 rpm	1013.93	--
			Frequency	-	30 - 35 Hz	16.97	--
	HMI		Amperage	-	3 -4 amps	3.1	--
	HMI		Speed	-		20	--
	HMI		Hours	-	-	13696	--
Blower Operating (YES). Note excessive noise or issues observed.							
Blower Inlet	HMI	PT-301	Blower Inlet Vacuum	7 in. w.c.	7 in. w.c.	-7.0	-7.0
	HMI	TE-301	Blower Inlet Temperature	-	50 - 90 °F	55.0	57.0
	Local	GHS-PI-301	Blower Inlet Vacuum	7 in. w.c.	7 in. w.c.	-6.87	-6.92
	Local	GHS-TI-301	Blower Inlet Temperature	-	50 - 90 °F	52.0	54.0
	Local	Sample Port	Gas Composition - % Methane	-		9.3	11.0
			Gas Composition - % CO2	-		9.4	9.9
			Gas Composition - % Oxygen	-		16.4	13.8
			Gas Composition - % Balance	-		66.7%	65.3%
Demister	Local	GHS-PDI-301	Demister Differential Pressure	-	1-2 in w.c	0.4	--
	Local		Slight Glass: Liquid Present	-	-	no	--
	HMI	LS-701	Level Indication	-	-	--	--
Blower Outlet	HMI	PT-302	Blower Outlet Flow Pressure	-	-	0.0	0.1
	HMI	TE-302	Blower Outlet Temperature	-	50 - 90 °F	60.0	62.0
	HMI	PDT-301	Blower Outlet Flow Differential Pressure	-	1-2 in w.c	0.31	0.34
	HMI	-	Blower Outlet Flow Rate	-	180 - 190 scfm	82.0	86.0
	Local	GHS-PI-302	Blower Outlet Flow Pressure	-	-	0.04	0.05
	Local	GHS-TI-302	Blower Outlet Temperature	-	50 - 90 °F	55.0	58.0
	Local	Sample Port	Gas Composition - % Methane	-		9.3	11.1
			Gas Composition - % CO2	-		9.5	10.0
			Gas Composition - % Oxygen	-		14.5	13.8
			Gas Composition - % Balance	-		66.7%	65.1%
Branch Headers	Local	North	North Branch Vacuum	-	6 - 7 in w.c.	-6.72	-6.70
	Local	North	Valve Position	6 turns open /6	6 turns open	6.0	6.0
	Local	North Sample Port	Gas Composition - % Methane	-		22.7	38.7
			Gas Composition - % CO2	-		17.2	18.2
			Gas Composition - % Oxygen	-		6.4	5.8
			Gas Composition - % Balance	-		53.7%	37.3%
	Local	Central	Central Branch Vacuum	-	6 - 7 in w.c.	-6.7	-6.68
	Local	Central	Valve Position	-	6 turns open	6.0	6.0
	Local	Central Sample Port	Gas Composition - % Methane	-		2.4	2.4
			Gas Composition - % CO2	-		3.0	2.9
			Gas Composition - % Oxygen	-		19.1	18.6
			Gas Composition - % Balance	-		75.5%	76.1%
	Local	South	South Branch Vacuum	-	6 - 7 in w.c.	-6.73	-6.68
	Local	South	Valve Position	-	6 turns open	6.0	6.0
	Local	South Sample Port	Gas Composition - % Methane	-		15.0	15.9
			Gas Composition - % CO2	-		15.4	15.9
			Gas Composition - % Oxygen	-		10.7	10.0
			Gas Composition - % Balance	-		58.9%	58.2%

Air Compressor System[3,5,6] (Off Line)								
Operational Settings	Pressure Set Points					Condensate Set Points		
	Tank Low (psi)	Tank High (psi)	Well Field (psi)	On (min.)	Off (min.)	Open (sec.)	Closed (min.)	Test Operation
								No

Air Dryer System[4]		Electrical Status		HMI Heater/Air Conditioner	
System Operational:	YES	3-Phase Power Indicator:	3 of 3	Operational	Yes
Condensate Drain Operational:	YES	GFI 1 Status:	GREEN	Temperature	53 °F
Alarm Indictor:	YES	GFI 2 Status:	GREEN	Filter Cleaned	NO
Condenser Cleaned[2]:	NO	**Leachate Tank/Loadout**			
Dew Point Indicator:		Liquid Level (inches):	17.75	Visual Check:	
	Indicate which bars are green(G) or red (R) and note (F) if flashing.	***Contact WDNR if level is above***	71 inches	· Evidence of Tank Overflow:	No
		Leak Detection Test Completed:	No	· Inspect concrete pad and storm sewer for damage or backup. Good	
		Overfill Float Functional[7]	Yes		
		Exhaust Stack			
		Drain Stack Sump (vol. removed)	0	Stack Condition[6]: good	

1. Initial site conditions represents readings collected upon arrival to the site and initial field readings are collected prior to the landfill balancing.

2. Final site conditions represents readings collected upon departure from the site and final field readings are collected following the landfill balancing.

3. Check all air lines and gas extraction lines for leaks during each site visit. Drain inline air filters and replace as needed.

4. Air Dryer - Clean the condenser monthly using an air jet (max. 2 bar / 30 psig) inside out. Make sure not to damage the aluminum lamellae of the cooling package.

5. On a quarterly basis change the oil and check/clean the air filters and intercoolers for the air compressor.

6. Inspect mounting brackets and bolts for the air compressor and effluent stack for tightness.

7. Test overfill float operation on a monthly basis.

Comments/Notes: The 4" threaded PVC cap for Lateral Well East (LWE) is cracked is pulling in oxygen into the Central Header. As a result low methane and high oxygen levels were observed. A new cap has been ordered and will be replaced during future Site visit. The landfill cap inspection was completed.

Data Entered By: J. Roelke 5/14/2024
Checked By: M. Wagler 5/29/2024

Cap Inspection
Note: Photograph all issues encountered during inspection
Note: Keep vehicle traffic to gravel roadways, avoid driving on the landfill surface
Is the landfill surface covered in snow (Y/N)? No
Inspect the landfill surface when not covered in snow. Describe the condition and any issues observed for each category below:
Cap integrity: - Cap integrity is acceptable -Fencing around GW-1 and GW-2 is damaged but still provides well protection from mowing operations (see photo #6). -GW-2 and GW-3 on the south side of the landfill have wildlife burrowing inside the protective fencing. GW-13 on the north side of the landfill has burrowing outside the protective fence. All burrows were filled in with gravel in May 2024 (see photo #5) - Snow fencing was installed to protect the airlines for the Gas Extraction Wells during mowing events at GW-2, GW-4, GW-7, GW-8, GW-9, GW-10, GW-11, GW-12, GW-13. Protective fencing remains in place.
Condition of drainage ways: West Drainage Ditch - During the May inspection, vegetation was observed at the drainage path to the north. This area was previously regraded during the 2020-2021 grading work at the site. Currently, the area showed improvement but will still be monitored moving forward. East Drainage Ditch - Drainage ways are acceptable with minimal to no changes from previous conditions aside from those described below.
Extent of vegetation cover: Vegetation cover is acceptable over the majority of the site (see photo #8). Various areas were reseeded and eroison matting was applied in May of 2024 (see photos #1, #3, #4, and #5).
Significant erosion: No evidence if significant erosion was observed at the site. However, evidence of rutting long the eastern drainage ditch above the sediment basin continues and conditions have not shown improvement since the previous inspections.
Repeated erosion: Evidence of erosion at the eastern drainage ditch above the sediment basin continues to get worse when heavy rain events occur.
Vegetation die-off: Areas at the west drainage ditch and east drainage ditch previously showed signs of vegetation die-off and were reseeded in May of 2024. TRC will continue to monitor these areas. (see photo #1).
Maintain surface water conveyances and the sedimentation basin by completing the following:
Inspect drainage ditches for erosion, blockages, and vegetation, describe and note any issues: Evidence of erosion at the eastern drainage ditch above the sediment basin was observed. Vegetation is in place, but ruts are starting to from (See photo #2). TRC will continue to monitor the area.
Inspect sedimentation basin banks and outfalls for erosion, describe and note any issues: No erosion or other issues at sedimentation basin banks or outfalls.
Measure the distance between the invert of the sedimentation basin outlet and the top of the sediments accumulated in the basin **(June Only!)**: NM

Attachment 2

Photographic Log

Photographic Log

Client Name:	Site Location:	Project No.:
Wisconsin Department of Natural Resources (WDNR)	Refuse Hideaway Landfill Middleton, WI	TRC # 457573

Photo No.	Date
1	5/14/2024

Description

Eastern Drainage Ditch:
Reseeding and erosion matting was completed in May 2024 for select areas of the landfill where bare soil was present.

Photo No.	Date
2	5/14/2024

Description

Eastern Drainage Ditch:
Erosion is present along the north portion of the eastern drainage ditch leading to the sediment basin. Vegetation is still intact, but ruts are starting to form.

Photographic Log

Client Name:	Site Location:	Project No.:
Wisconsin Department of Natural Resources (WDNR)	Refuse Hideaway Landfill Middleton, WI	TRC # 457573

Photo No.	Date
3	5/14/2024

Description

Eastern Landfill Extents

Reseeding and erosion matting for select areas with bare soil was completed in May of 2024.

Photo No.	Date
4	5/14/2024

Description

Eastern Landfill Extents

Reseeding of bare spots was conducted in May of 2024.

Photographic Log

Client Name:	Site Location:	Project No.:
Wisconsin Department of Natural Resources (WDNR)	Refuse Hideaway Landfill Middleton, WI	TRC # 457573

Photo No.	Date
5	5/14/2024

Description

Southern Landfill Extents

GW-2, GW-3 have burrowing from wildlife inside protective fencing and GW-13 has burrowing from wildlife outside fencing. All wildlife burrows were filled with gravel in May 2024.

Photo No.	Date
6	5/14/2024

Description

Southern Landfill Extents:

GW-1 and GW-2 protective fencing around the well and equipment is falling apart. Fencing still provides protection during mowing operations.

Photographic Log

Client Name:	Site Location:	Project No.:
Wisconsin Department of Natural Resources (WDNR)	Refuse Hideaway Landfill Middleton, WI	TRC # 457573

Photo No.	Date
7	5/14/2024

Description

Landfill Extents:

Reseeding and erosion matting was completed in May of 2024 for select areas of the landfill where bare soil was present.

Photo No.	Date
8	5/14/2024

Description

Northern Landfill Extents:

Cap remains in good condition with full vegetation cover. Grasses are approximately 2' tall. The cap is expected be mowed in June 2024.