

December 16, 2022

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

Subject: Refuse Hideaway Landfill
November 2022 Operation Monitoring and Maintenance Activities

Dear Cindy:

TRC completed the following operation, monitoring, and maintenance activities and system troubleshooting at the Refuse Hideaway Landfill in Middleton, WI in November 2022.

- November 15, 2022 – Monthly Site Inspection
- November 16, 2022 – Gas Probe Monitoring
- November 29, 2022 – Bi-Weekly Site Inspection

Electrical Upgrades

Based on the initial system start up and output voltage, the system electrical repairs are being evaluated by a TRC electrical engineer. A summary of the system upgrades and the electrical evaluation was further completed during the month of November 2022 and the evaluation was provided to the WDNR in a separate deliverable.

Gas Extraction System

The gas extraction system (GES) was restarted in October 2022 and was operated throughout November 2022. TRC conducted one balancing event on November 15, 2022 and made adjustments to the system as needed based on methane concentrations observed.

Perimeter gas probe monitoring was conducted at the site on November 16, 2022.

Field data from system and gas probe monitoring is included in the attachments.

Leachate Extraction System

The leachate extraction system remained off during the month of November. A new pump head was installed on the air compressor system in June 2022, and the air compressor system was restarted in October 2022. The electrical contactor for the motor starter failed during the start-up and will need be replaced. Based on the issues with the system to date and the electrical upgrades, the compressor system was further evaluated by TRC's electrical engineer, and a summary of the evaluation was provided to the WDNR in a separate deliverable.

The leachate tank level was gauged during the November 15, and November 29, 2022 inspections and the tank contained 32.75 inches and 35.25 inches of leachate, respectively.

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Cap Inspection

TRC conducted a monthly inspection of the landfill cap and stormwater conveyance features on November 15, 2022. TRC personnel observed areas of bare soil throughout the landfill cap that were previously seeded in 2021. TRC reseeded select areas on October 20, 2022, to re-establish vegetation. The areas will be monitored for regrowth in Spring of 2023. An inspection form and photo log are attached with further details.

Monitoring results collected during the site visits completed in November 2022 are attached.

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

Sincerely,

TRC



Andrew Stehn, PE
Project Manager

Attachments: November 2022 Monitoring Results

November 2022 Monitoring Results

REFUSE HIDEAWAY LANDFILL GAS PROBE MONITORING FORM

TECHNICIAN(S): J. Roelke

DATE: 11/16/2022

START TIME: 7:28 AM

END TIME: 1:30 PM

GAS/INSTRUMENT TYPE: GEM 2000

SERIAL NO.: 11668

WEATHER CONDITIONS: light snow, cloudy

DATE LAST CALIBRATED: 11/16/2022

TEMPERATURE: 30 deg F

METHOD: Standard Calibration Gases

BAROMETRIC PRESSURE & TREND: 30.16 in. Hg, rising

PRESS INSTRUMENT : GEM 2000

GROUND CONDITIONS: snow covered

GAS PROBE NAME	Time	PRESSURE (in. WC)	METHANE (% LEL)	METHANE (%, by vol.)	CARBON DIOXIDE (%, by vol.)	OXYGEN (%, by vol.)	COMMENTS
GP-1D	8:01	0.03	0.0	0.0	5.4	13.9	(2)
GP-1S	8:03	0.0	0.0	0.0	0.1	20.7	(2)
GP-2D	8:08	0.12	0.0	0.0	1.6	19.3	(1)
GP-2S	8:10	0.0	0.0	0.0	0.6	20.1	(1)
GP-3	8:15	0.0	20	1.0	4.7	16.1	(1)
GP-4	8:22	0.0	0.0	0.0	2.6	17.8	(1)
GP-5	8:26	0.0	0.0	0.0	2.2	18.6	(2)
GP-6	8:33	0.0	0.0	0.0	0.2	20.5	(1)
GP-7	8:41	0.0	0.0	0.0	3.2	16.6	(2)
GP-8	8:49	0.0	0.0	0.0	5.1	16.2	(2) Stable readings at 2 minutes.
GP-9	8:54	0.0	0.0	0.0	3.3	17.2	(1)
GP-10	8:59	0.0	0.0	0.0	5.1	15.6	(1)
GP-11D	9:04	0.0	0	0.0	0.3	20.4	(2)
GP-11S	9:06	0.0	0.0	0.0	0.0	20.7	(2)
GP-12D	9:11	0.0	36	1.8	3.4	17.2	(1) Stable readings at 2 minutes.
GP-12S	9:14	0.0	0.0	0.0	1.1	19.7	(1)
GP-13D	9:16	0.0	2	0.1	1.2	19.1	(2) Stable readings at 2 minutes.
GP-13S	9:19	0.0	0.0	0.0	0.5	20.2	(2)

GAS PROBE NAME	Time	PRESSURE (in. WC)	METHANE (% LEL)	METHANE (%, by vol.)	CARBON DIOXIDE (%, by vol.)	OXYGEN (%, by vol.)	COMMENTS
GP-16D	9:34	0.0	0.0	0.0	4.7	14.5	(2)
GP-16S	9:36	0.0	0.0	0.0	0.5	20.2	(2)
GP-17D	9:29	0.0	0.0	0.0	2.2	18.3	(1)
GP-17M	9:31	0.0	0.0	0.0	0.3	20.2	(1)
GP-17S	9:33	0.0	0.0	0.0	0.1	20.6	(1)
GP-18D	9:41	0.0	0.0	0.0	0.2	20.6	(2)
GP-18M	9:43	0.0	0.0	0.0	0.1	20.7	(2)
GP-18S	9:45	0.0	0.0	0.0	0.0	20.8	(2)
GP-19 ⁸⁵⁻¹⁰⁰	10:39	0.0	0.0	0.0	0.6	19.8	(1)
GP-19 ⁵⁰⁻⁷⁰	10:41	0.0	0.0	0.0	0.4	19.7	(1)
GP-19 ²⁵⁻⁴⁰	10:43	0.0	0.0	0.0	1.3	19.1	(1)
GP19 ²⁻¹⁵	10:45	0.0	0.0	0.0	1.7	18.7	(1)
GP-20 ⁸⁵⁻¹⁰⁰	10:28	0.0	0.0	0.0	0.0	20.8	(2)
GP-20 ⁵⁰⁻⁷⁰	10:31	0.0	0.0	0.0	0.4	20.4	(2)
GP-20 ²⁵⁻⁴⁰	10:33	0.0	0.0	0.0	0.9	20.0	(2)
GP-20 ²⁻¹⁵	10:35	0.0	0.0	0.0	2.3	18.5	(2)
GP-21 ⁸⁵⁻¹⁰⁰	10:19	0.0	0.0	0.0	0.2	20.5	(2)
GP-21 ⁵⁰⁻⁷⁰	10:21	0.0	0.0	0.0	0.3	20.5	(2)
GP-21 ²⁵⁻⁴⁰	10:23	0.0	0.0	0.0	0.4	20.4	(2)
GP-21 ²⁻¹⁵	10:25	0.0	0.0	0.0	0.8	20.1	(2)
GP-22 ⁸⁵⁻¹⁰⁰	10:55	0.0	0.0	0.0	3.1	17.8	(2)
GP-22 ⁵⁰⁻⁷⁰	10:57	0.0	0.0	0.0	0.4	20.2	(2)
GP-22 ²⁵⁻⁴⁰	10:59	0.0	0.0	0.0	1.7	18.8	(2)
GP-22 ²⁻¹⁵	11:01	0.0	0.0	0.0	4.2	17.0	(2) Stable readings at 2 minutes.

GAS PROBE NAME	Time	PRESSURE (in. WC)	METHANE (% LEL)	METHANE (%, by vol.)	CARBON DIOXIDE (%, by vol.)	OXYGEN (%, by vol.)	COMMENTS
GP-23 ⁸⁵⁻¹⁰⁰	11:15	0.0	0.0	0.0	0.4	20.3	(2)
GP-23 ⁵⁰⁻⁷⁰	11:17	0.0	0.0	0.0	0.6	20.1	(2)
GP-23 ²⁵⁻⁴⁰	11:19	0.0	0.0	0.0	0.2	20.6	(2)
GP-23 ²⁻¹⁵	11:21	0.0	0.0	0.0	0.4	20.4	(2)
GP-24 ⁸⁵⁻¹⁰⁰	11:27	0.0	0.0	0.0	3.7	16.5	(2) Stable readings at 2 minutes.
GP-24 ⁵⁰⁻⁷⁰	11:29	0.0	0.0	0.0	0.8	19.7	(2)
GP-24 ²⁵⁻⁴⁰	11:31	0.0	0.0	0.0	0.3	20.4	(2)
GP-24 ²⁻¹⁵	11:33	0.0	0.0	0.0	2.3	18.7	(2)
GPW-1D	13:09	0.23	0.0	0.0	2.1	18.1	(1)
GPW-1M	13:11	0.24	0.0	0.0	1.8	18.0	(1)
GPW-1S	13:13	0.0	0.0	0.0	1.3	19.5	(1)
G-1D	7:52	0.02	0.0	0.0	0.0	20.8	(1)
G-1S	7:54	0.03	0.0	0.0	0.3	20.6	(1)
G-2D	9:22	0.0	0.0	0.0	0.3	20.4	(1)
G-2S	9:24	0.0	0.0	0.0	0.0	20.8	(1)
G-5	8:46	0.0	0.0	0.0	5.1	16.4	(1)
G-6	7:44	0.0	0.0	0.0	0.0	20.8	(1)
G-8	10:11	0.0	0.0	0.0	0.0	20.8	(1)
G-9	9:58	0.0	0.0	0.0	1.1	17.0	(1)
G-10	11:40	0.0	0.0	0.0	0.5	20.2	(1)
Speedway Office	7:57	0.0	0.0	0.0	0.0	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 11/16/2022
Checked by: A. Ruetten 11/23/2022

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

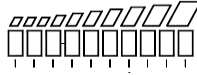
TRC Operator Name: John Roelke	Arrival Time: 11:09	Departure Time: 14:10
Date: 11/15/2022		

Site Conditions	Initial ¹	Final ²	Equipment	
Weather Conditions:	light snow	light snow	Gas/Instrument Type:	GEMS 2000
Ground Condition:	moist	moist	Serial Number:	11668
Barometric Pressure:	30.26	30.21	Date Last Calibrated:	11/15/2022
Barometric Pressure Trend:	falling	falling	Method:	Standard field calibration
Temperature:	32	32	Pressure Instrument:	GEMS 2000

Landfill Gas Extraction System ³							
System	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	3.29	--
			Speed	-	1800 - 1900 rpm	1265.78	--
			Frequency	-	30 - 35 Hz	21.23	--
	HMI		Amperage	-	3 - 4 amps	3.2	--
			Speed	-		27	--
			Hours	-		7312	--

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
	HMI	TE-301	Blower Inlet Temperature	-	50 - 90 °F	48	--
	Local	GHS-PI-301	Blower Inlet Vacuum	7 in. w.c.	7 in. w.c.	-6.74	-6.94
	Local	GHS-TI-301	Blower Inlet Temperature	-	50 - 90 °F	42	42
	Local	Sample Port	Gas Composition - % Methane	-		11.0%	11.4%
			Gas Composition - % CO2	-		11.3%	11.9%
Gas Composition - % Oxygen			-		12.9%	12.6%	
Gas Composition - % Balance			-		64.8%	64.1%	
Demister	Local	GHS-PDI-301	Demister Differential Pressure	-	1-2 in w.c	0.6	--
	Local		Slight Glass: Liquid Present	-	-	--	--
	HMI	LS-701	Level Indication	-	-	--	--
Blower Outlet	HMI	PT-302	Blower Outlet Flow Pressure	-	-	0.1	0.1
	HMI	TE-302	Blower Outlet Temperature	-	50 - 90 °F	49	49
	HMI	PDT-301	Blower Outlet Flow Differential Pressure	-	1-2 in w.c	0.62	0.62
	HMI	-	Blower Outlet Flow Rate	-	180 - 190 scfm	117	117
	Local	GHS-PI-302	Blower Outlet Flow Pressure	-	-	0.19	--
	Local	GHS-TI-302	Blower Outlet Temperature	-	50 - 90 °F	46	--
	Local	Sample Port	Gas Composition - % Methane	-		11.0%	--
			Gas Composition - % CO2	-		11.4%	--
Gas Composition - % Oxygen			-		12.9%	--	
Gas Composition - % Balance			-		64.7%	--	
Branch Headers	Local	North	North Branch Vacuum	-	6 - 7 in w.c.	-6.28	-5.60
	Local	North	Valve Position	6 turns open /6	6 turns open	6	6
	Local	North Sample Port	Gas Composition - % Methane	-		19.4%	22.2%
			Gas Composition - % CO2	-		17.9%	21.1%
			Gas Composition - % Oxygen	-		6.4%	4.2%
			Gas Composition - % Balance	-		56.3%	52.3%
	Local	Central	Central Branch Vacuum	-	6 - 7 in w.c.	-6.28	-5.4
	Local	Central	Valve Position	-	6 turns open	6	6
	Local	Central Sample Port	Gas Composition - % Methane	-		7.3%	7.3%
			Gas Composition - % CO2	-		7.5%	7.6%
			Gas Composition - % Oxygen	-		15.1%	15.0%
			Gas Composition - % Balance	-		70.1%	70.1%
	Local	South	South Branch Vacuum	-	6 - 7 in w.c.	-6.30	-5.80
	Local	South	Valve Position	-	6 turns open	6	6
Local	South Sample Port	Gas Composition - % Methane	-		13.7%	14.5%	
		Gas Composition - % CO2	-		14.5%	15.3%	
		Gas Composition - % Oxygen	-		11.3%	11.1%	
		Gas Composition - % Balance	-		60.5%	59.1%	

Air Compressor System ^{3,5,6} - AIR COMPRESSOR SYSTEM OFFLINE								
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
	NOT OPERATING							(yes/no)
Air Dryer System⁴ - AIR DRYER OFFLINE		Electrical Status			HMI Heater/Air Conditioner			
System Operational:		NO	3-Phase Power Indicator:		3 of 3	Operational		
Condensate Drain Operational:		NO	GFI 1 Status:		GREEN	Temperature		
Alarm Indicator:		NO	GFI 2 Status:		GREEN	Filter Cleaned		
Condenser Cleaned ² :		NO	Leachate Tank/Loadout					
Dew Point Indicator: N/A		Liquid Level (inches):		32.75 inches	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			
		Overfill Float Functional ⁷		YES				
		Exhaust Stack						
		Drain Stack Sump (vol. removed)		NONE	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:
 Air compressor and air dryer offline, leachate tank is @ 32.75"
 NA - Not Applicable
 NM - Not Measured

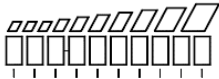
Data Entered By: J. Roelke 11/15/2022
 Checked By: A. Ruetten 11/23/2022

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

TRC Operator Name: John Roelke		
Date: 11/29/2022	Arrival Time: 9:05	Departure Time: 10:00

Site Conditions		Equipment	
Weather Conditions:	cloudy, light mist	Gas/Instrument Type:	GEM 2000
Ground Condition:	moist	Serial Number:	11668
Barometric Pressure:	29.61 in. Hg.	Date Last Calibrated:	11/29/2022
Barometric Pressure Trend:	falling	Method:	standard field calibration gas
Temperature:	42	Pressure Instrument:	GEM 2000

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	3.28
			Speed	-	1800 - 1900 rpm	1304.16
			Frequency	-	30 - 35 Hz	21.87
	HMI		Amperage	-	3 - 4 amps	3.2
			Speed	-		28
	HMI		Hours	-	-	7646
Blower Operating (yes/no). Note excessive noise or issues observed.						none
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	46
	Local	GHS-PI-301	Blower Inlet Vacuum	7 in. w.c.	7 in. w.c.	-6.8
	Local	GHS-TI-301	Blower Inlet Temperature	-	50 - 90 °F	40
	Local	Sample Port	Gas Composition - % Methane	-		11.2%
			Gas Composition - % CO2	-		11.4%
Gas Composition - % Oxygen			-		12.8%	
Gas Composition - % Balance			-		64.6%	
Demister	Local	GHS-PDI-301	Demister Differential Pressure	-	1-2 in w.c	0.6
	Local		Slight Glass: Liquid Present	-	-	no
	HMI	LS-701	Level Indication	-	-	none
Blower Outlet	HMI	PT-302	Blower Outlet Flow Pressure	-	-	0.1
	HMI	TE-302	Blower Outlet Temperature	-	50 - 90 °F	51
	HMI	PDT-301	Blower Outlet Flow Differential Pressure	-	1-2 in w.c	0.67
	HMI	-	Blower Outlet Flow Rate	-	180 - 190 scfm	122
	Local	GHS-PI-302	Blower Outlet Flow Pressure	-	-	0.09
	Local	GHS-TI-302	Blower Outlet Temperature	-	50 - 90 °F	48
	Local	Sample Port	Gas Composition - % Methane	-		11.2%
			Gas Composition - % CO2	-		11.4%
Gas Composition - % Oxygen			-		13.2%	
Gas Composition - % Balance			-		64.2%	
Branch Headers	Local	North	North Branch Vacuum	-	6 - 7 in w.c.	-6.2
	Local	North	Valve Position	6 turns open /6	6 turns open	6
	Local	North Sample Port	Gas Composition - % Methane	-		24.0%
			Gas Composition - % CO2	-		21.3%
			Gas Composition - % Oxygen	-		4.2%
			Gas Composition - % Balance	-		50.5%
	Local	Central	Central Branch Vacuum	-	6 - 7 in w.c.	-6.2
	Local	Central	Valve Position	-	6 turns open	6
	Local	Central Sample Port	Gas Composition - % Methane	-		7.0%
			Gas Composition - % CO2	-		7.0%
			Gas Composition - % Oxygen	-		15.7%
			Gas Composition - % Balance	-		70.3%
	Local	South	South Branch Vacuum	-	6 - 7 in w.c.	-6.2
	Local	South	Valve Position	-	6 turns open	6
	Local	South Sample Port	Gas Composition - % Methane	-		13.7%
Gas Composition - % CO2			-		14.6%	
Gas Composition - % Oxygen			-		11.4%	
Gas Composition - % Balance			-		60.3%	

Air Compressor System ^{1,3,4} - AIR COMPRESSOR SYSTEM OFFLINE								
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
	Off Line - NM				NM	NM	NM	
Air Dryer System ² Off Line		Electrical Status			HMI Heater/Air Conditioner			
System Operational:		YES	3-Phase Power Indicator:		_____ of 3	Operational	on	
Condensate Drain Operational:		YES	GFI 1 Status:		(Green / Red)	Temperature	44	
Alarm Indicator:		OFF	GFI 2 Status:		(Green / Red)	Filter Cleaned	n0	
Condenser Cleaned ² :		NO	Leachate Tank/Loadout					
Dew Point Indicator:		Liquid Level (inches):		35.25"	Visual Check:			
 <p>Indicate which bars are green(G) or red (R) and note (F) if flashing.</p>		Contact WDNR if level is above		71	· Evidence of Tank Overflow:		none	
		Leak Detection Test Completed:		No	· Inspect concrete pad and storm sewer for damage or backup			
		Overfill Float Functional ⁵ :		Yes	for damage or backup			
		Exhaust Stack						
		Drain Stack Sump (vol. removed)		.25 gallon	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: All heat trace wiring is on and warm to the touch. Drained 0.25 gallons from flare stack.
 NM - Not Measured



Data Entered By: J. Roelke 11/29/2022
 Checked By: A. Ruetten 12/6/2022

Cap Inspection			
Inspection Details		Site Conditions	
Inspector :	John Roelke	Weather Conditions:	light snow
Date:	11/15/2022	Ground Condition:	moist
Time:	14:15	Temperature:	32 F
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)? Yes, light snow cover - Inspection conducted			
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, with no changes from previous condition.			
Condition of drainage ways: West Drainage Ditch - the north portion shows signs of vegetation die-off, see Photo 1. During November's inspection standing/slow to drain water was observed at the surface. This area was previously identified as having less positive slope than its surroundings and was regraded several times during 2020-2021 grading work at the Site. The final post-construction survey showed positive slope. East Drainage Ditch - TRC continues to monitor the riprap along the west embankment of the northern culvert and some riprap appears to be eroding and beginning to fail, see Photo 2. At the north portion of the drainage ditch, exposed soil was re-seeded and ground cover was laid down at in October 2022, see Photo 3 and 4. Natural flow of the surface water is draining into the sediment pond. Beyond the above noted issues, drainage ways are acceptable, with minimal to no changes from previous conditions.			
Extent of vegetation cover: Vegetation cover is acceptable over the majority of the Site. Various areas were reseeded and ground cover was applied, as shown in photos 3-5. Burrowing areas were filled in with soil at gas extraction wells GW-2, GW-4, and GW-12, see photos 6-8. No additional burrowing was observed.			
Significant erosion: No evidence of significant erosion at the Site observed.			
Repeated erosion: No evidence repeated erosion at the Site observed.			
Vegetation die-off: <i>West Drainage Ditch</i> - The north portion shows signs of vegetation die off, see Photo 1. Ponding/slow-draining water was observed in this area during the inspection. <i>East Drainage Ditch</i> - Light erosion was previously observed along a north portion of the drainage ditch. TRC reseeded the area in October 2022.			
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: <i>East Drainage Ditch</i> - Some light erosion to the north end of the north-to-south portion observed and reseeded by TRC in October 2022.			
Inspect sedimentation basin banks and outfalls for erosion, describe and note any issues: No erosion or other issues at sedimentation basin banks and 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			

Data Entered By: J. Roelke 11/21/2022

Checked By: T. Perkins 12/14/2022

Photographic Log

Client Name: Wisconsin Department of Natural Resources (WDNR)		Site Location: Refuse Hideaway Landfill Middleton, WI	Project No.: TRC # 457573
Photo No. 1	Date 11/15/2022		
Description <u>Western Drainage Ditch:</u> North portion shows signs of vegetation die off as well as standing/slow to drain water at the surface at the time of the inspection. TRC reseeded the area in October 2022. The ground surface was partially obscured by light snow cover during inspection.			
Photo No. 2	Date 11/15/2022		
Description <u>Eastern Drainage Ditch:</u> Riprap has begun to deteriorate at the west side of the western culvert. Drainage is flowing and is not being obstructive.			

Photographic Log


Client Name: Wisconsin Department of Natural Resources (WDNR)		Site Location: Refuse Hideaway Landfill Middleton, WI	Project No.: TRC # 457573
Photo No. 3	Date 11/15/2022		
Description <u>Eastern Drainage Ditch:</u> Select areas that were seeded following the 2021 construction event contained bare soil. Reseeding and ground cover was applied by TRC in October 2022. Drainage shows natural flowage of surface water into the sediment pond. The ground surface was partially obscured by light snow cover during inspection.			

Photo No. 4	Date 11/15/2022		
Description <u>Eastern Landfill Extents:</u> Select areas that were seeded following the 2021 construction event contained bare soil. Reseeding and ground cover was applied by TRC in October 2022. The ground surface was partially obscured by light snow cover during inspection.			

Photographic Log



Client Name: Wisconsin Department of Natural Resources (WDNR)		Site Location: Refuse Hideaway Landfill Middleton, WI	Project No.: TRC # 457573
Photo No. 5	Date 11/15/2022		
Description <u>Central Landfill:</u> Select areas that were seeded following the 2021 construction event contained bare soil. TRC reseeded the areas in October 2022. The ground surface was partially obscured by light snow cover during inspection.			

Photo No. 6	Date 11/15/2022		
Description <u>Southern Landfill Extents:</u> Burrowing filled in with soil at GW-2. Ground partially obscured by light snow cover.			

Photographic Log



Client Name: Wisconsin Department of Natural Resources (WDNR)		Site Location: Refuse Hideaway Landfill Middleton, WI	Project No.: TRC # 457573
Photo No. 7	Date 11/15/2022		
Description <u>Southern Landfill Extents:</u> Burrowing filled with soil at GW-4. Ground partially obscured by light snow cover.			

Photo No. 8	Date 11/15/2022		
Description <u>Northern Landfill Extents:</u> Burrowing filled in with soil at GW-12. Ground partially obscured by light snow cover.			