999 Fourier Dr., Ste. 101
Madison, WI 53717

T 608.826.3600
TRCcompanies.com

April 27, 2023

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

Subject: Refuse Hideaway Landfill
March 2023 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 March 2023.

- March 7, 2023 – Bi-weekly Site Inspection and Gas Probe Monitoring
- March 20, 2023 – Monthly Site Inspection
- March 27, 2023 – Leachate Sample Collection

Electrical Upgrades

TRC is working with an electrical subcontractor to restore electrical service to the Site to allow for system operation.

Gas Extraction System

The gas extraction system (GES) was restarted in October 2022 and was operated until December 15, 2022 when an overvoltage fault was observed and the system was shut down until the electrical service to the Site is repaired.

Perimeter gas probe monitoring was conducted at the site on March 7, 2023.

Field data from system and gas probe monitoring is included in Attachment 1.

Leachate Extraction System

The leachate extraction system remained off during the month of March due to the lack of electrical service to the Site.

The leachate tank level was gauged on March 7, 2023, during the bi-weekly Site Inspection and contained 24.5 inches of leachate.

A leachate sample was collected on March 27, 2022, from the extraction system storage tank and analyzed by Eurofins for ICP Metals and Mercury per the Section 2.01 of the Wastewater Discharge Permit NTO-5.11. The laboratory analytical report is provided in Attachment 2.

Cap Inspection

TRC conducted a monthly inspection of the landfill cap and stormwater conveyance features on March 20, 2022. The landfill cap and stormwater conveyance features are operational. TRC will continue to observe the condition of the features as the growing season starts this spring. An inspection form with further details is provided in Attachment 1 and a photographic log is provided in Attachment 3.

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

Sincerely,

TRC

Andrew M. Stehn

Andrew Stehn, PE
Project Manager

Attachments:
1. March 2023 Monitoring Results
2. Laboratory Analytical Report – Leachate Sample
3. Photographic Log

Attachment 1

March 2023 Monitoring Results

REFUSE HIDEAWAY LANDFILL
GAS PROBE MONITORING FORM

TECHNICIAN(S): J. Roelke

DATE: 3/7/0223

START TIME: 7:58AM

END TIME: 1:30 PM

GAS/INSTRUMENT TYPE: **GEM 2000**

SERIAL NO.: 11668

DATE LAST CALIBRATED: 3/7/2023

METHOD: Standard Calibration Gases

PRESS INSTRUMENT : Manometer

WEATHER CONDITIONS: Sunny

TEMPERATURE: 32 °F

BAROMETRIC PRESSURE & TREND: 30.44 in.Hg., rising

GROUND CONDITIONS: Frozen

GAS PROBE NAME	Time	PRESSURE (in. WC)	METHANE (% LEL)	METHANE (%, by vol.)	CARBON DIOXIDE (%, by vol.)	OXYGEN (%, by vol.)	COMMENTS
GP-1D	8:28	-0.04	0.0	0.0	1.4	19.3	(2)
GP-1S	8:30	-0.02	0.0	0.0	0.0	20.8	(2)
GP-2D	8:34	0.00	0.0	0.0	0.3	20.4	(1)
GP-2S	8:36	0.00	0.0	0.0	0.2	20.5	(1)
GP-3	8:40	-0.02	0.0	0.0	0.3	20.3	(1)
GP-4	8:46	-0.04	0.0	0.0	0.0	20.8	(1)
GP-5	8:50	0.06	0.0	0.0	0.0	20.8	(2)
GP-6	8:56	0.12	0.0	0.0	0.0	20.8	(1)
GP-7	9:04	0.30	0.0	0.0	0.2	20.5	(2)
GP-8	9:17	-0.04	0.0	0.0	1.4	18.8	(2)
GP-9	9:21	0.00	0.0	0.0	1.2	18.5	(1)
GP-10	9:25	0.00	0.0	0.0	0.8	17.9	(1)
GP-11D	9:32	-0.05	0.0	0.0	0.0	20.8	(2)
GP-11S	9:34	0.00	0.0	0.0	0.1	20.7	(2)
GP-12D	9:37	0.00	>100	6.5	6.9	13.1	(1) Stable readings at 2 minutes.
GP-12S	9:40	0.00	0.0	0.0	0.2	20.7	(1)
GP-13D	9:43	0.04	0.0	0.0	0.0	20.8	(2)

GAS PROBE NAME	Time	PRESSURE (in. WC)	METHANE (% LEL)	METHANE (%, by vol.)	CARBON DIOXIDE (%, by vol.)	OXYGEN (%, by vol.)	COMMENTS
GP-13S	9:45	0.00	0.0	0.0	0.3	20.5	(2)
GP-16D	10:03	-0.05	0.0	0.0	0.0	20.8	(2)
GP-16S	10:05	0.00	0.0	0.0	0.0	20.8	(2)
GP-17D	9:56	-0.06	0.0	0.0	1.4	18.5	(1)
GP-17M	9:58	-0.05	0.0	0.0	0.0	20.8	(1)
GP-17S	10:00	-0.02	0.0	0.0	0.0	20.8	(1)
GP-18D	10:08	-0.19	0.0	0.0	0.0	20.8	(2)
GP-18M	10:10	-0.04	0.0	0.0	0.0	20.8	(2)
GP-18S	10:12	0.00	0.0	0.0	0.0	20.8	(2)
GP-19$^{85\text{-}100}$	10:59	-0.04	0.0	0.0	1.8	19.0	(1)
GP-19$^{50\text{-}70}$	11:01	-0.03	0.0	0.0	2.2	18.0	(1)
GP-19$^{25\text{-}40}$	11:03	-0.02	0.0	0.0	2.5	17.5	(1)
GP19$^{2\text{-}15}$	11:05	0.00	0.0	0.0	1.9	18.8	(1)
GP-20$^{85\text{-}100}$	10:49	0.00	0.0	0.0	0.0	20.8	(2)
GP-20$^{50\text{-}70}$	10:51	0.00	0.0	0.0	0.0	20.8	(2)
GP-20$^{25\text{-}40}$	10:53	0.00	0.0	0.0	1.0	19.4	(2)
GP-20$^{2\text{-}15}$	10:55	0.00	0.0	0.0	1.2	19.1	(2)
GP-21$^{85\text{-}100}$	10:40	-0.30	0.0	0.0	0.4	19.8	(2)
GP-21$^{50\text{-}70}$	10:42	-0.10	0.0	0.0	0.0	20.8	(2)
GP-21$^{25\text{-}40}$	10:44	-0.04	0.0	0.0	0.0	20.5	(2)
GP-21$^{2\text{-}15}$	10:46	0.00	0.0	0.0	0.5	20.1	(2)
GP-22$^{85\text{-}100}$	11:09	-0.15	0.0	0.0	0.9	20.0	(2)
GP-22$^{50\text{-}70}$	11:11	-0.14	0.0	0.0	0.8	20.2	(2)
GP-22$^{25\text{-}40}$	11:13	0.00	0.0	0.0	1.7	19.4	(2)
GP-22$^{2\text{-}15}$	11:15	0.00	0.0	0.0	1.2	19.8	(2)
GP-23$^{85\text{-}100}$	11:20	-0.04	0.0	0.0	0.0	20.8	(2)
GP-23$^{50\text{-}70}$	11:22	-0.03	0.0	0.0	0.0	20.8	(2)

GAS PROBE NAME	Time	PRESSURE (in. WC)	METHANE (% LEL)	METHANE (%, by vol.)	CARBON DIOXIDE (%, by vol.)	OXYGEN (%, by vol.)	COMMENTS
GP-23$^{25-40}$	11:24	-0.04	0.0	0.0	0.0	20.8	(2)
GP-23$^{2-15}$	11:26	-0.03	0.0	0.0	0.0	20.8	(2)
GP-24$^{85-100}$	11:31	-0.16	0.0	0.0	0.0	20.8	(2)
GP-24$^{50-70}$	11:33	-0.10	0.0	0.0	0.0	20.8	(2)
GP-24$^{25-40}$	11:35	-0.06	0.0	0.0	0.0	20.8	(2)
GP-24$^{2-15}$	11:37	-0.05	0.0	0.0	0.0	20.8	(2)
GPW-1D	1:20	-0.82	0.0	0.0	0.0	20.8	(1)
GPW-1M	13:22	-0.74	0.0	0.0	0.0	20.8	(1)
GPW-1S	13:24	0.00	0.0	0.0	1.7	18.6	(1)
G-1D	8:19	-0.05	0.0	0.0	0.0	20.8	(1)
G-1S	8:21	-0.03	0.0	0.0	0.0	20.8	(1)
G-2D	9:48	0.00	0.0	0.0	0.0	20.8	(1)
G-2S	9:50	0.04	0.0	0.0	0.0	20.8	(1)
G-5	9:11	0.18	NM	NM	NM	NM	(1) Not measured, water in probe.
G-6	8:13	0.00	0.0	0.0	0.0	20.8	(1)
G-8	10:34	0.00	0.0	0.0	0.0	20.8	(1)
G-9	10:02	0.00	0.0	0.0	0.5	18.5	(1)
G-10	11:45	-1.66	0.0	0.0	0.0	20.8	(1)
Speedway Office	8:25	0.00	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 3/7/2023
Checked by: T. Perkins 4/19/2023

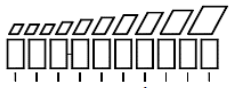
Bi-weekly - System Inspection Log
Landfill Gas Extraction and Leachate Pump System
WDNR - Refuse Highway Landfill
Middleton, Wisconsin

TRC Operator Name:	John Roelke				
Date:	3/7/2023	Arrival Time:	12:30	Departure Time	12:45

Site Conditions		Equipment	
Weather Conditions:	Cloudy	Gas/Instrument Type:	GEMS 2000
Ground Condition:	Frozen	Serial Number:	11668
Barometric Pressure:	30.44 inHg	Date Last Calibrated:	3/7/2023
Barometric Pressure Trend:	Rising	Method:	standard field calibration gas
Temperature:	40F	Pressure Instrument:	Dwyer Manometer

Landfill Gas Extraction System[1] Landfill Gas System Off-Line						
System	***Location***	***Tag #***	***Equipment Description***	***Set Point***	***Typical Range***	***Field Reading***
Blower Motor	Remote	GHS-BLR-301	Amperage	-	3 - 4 amps	NM
			Speed	-	1800 - 1900 rpm	NM
			Frequency	-	30 - 35 Hz	NM
	HMI		Amperage	-	3 -4 amps	NM
	HMI		Speed	-		NM
	HMI		Hours	-	-	NM
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.	NM
	HMI	TE-301	Blower Inlet Temperature	-	50 - 90 °F	NM
	Local	GHS-PI-301	Blower Inlet Vacuum	7 in. w.c.	7 in. w.c.	NM
	Local	GHS-TI-301	Blower Inlet Temperature	-	50 - 90 °F	NM
	Local	Sample Port	Gas Composition - % Methane	-		NM
			Gas Composition - % CO2	-		NM
			Gas Composition - % Oxygen	-		NM
			Gas Composition - % Balance	-		NM
Demister	Local	GHS-PDI-301	Demister Differential Pressure	-	1-2 in w.c	NM
	Local		Slight Glass: Liquid Present	-	-	NM
	HMI	LS-701	Level Indication	-	-	NM
Blower Outlet	HMI	PT-302	Blower Outlet Flow Pressure	-	-	NM
	HMI	TE-302	Blower Outlet Temperature	-	50 - 90 °F	NM
	HMI	PDT-301	Blower Outlet Flow Differential Pressure	-	1-2 in w.c	NM
	HMI	-	Blower Outlet Flow Rate	-	180 - 190 scfm	NM
	Local	GHS-PI-302	Blower Outlet Flow Pressure	-	-	NM
	Local	GHS-TI-302	Blower Outlet Temperature	-	50 - 90 °F	NM
	Local	Sample Port	Gas Composition - % Methane	-		NM
			Gas Composition - % CO2	-		NM
			Gas Composition - % Oxygen	-		NM
			Gas Composition - % Balance	-		NM
Branch Headers	Local	North	North Branch Vacuum	-	6 - 7 in w.c.	NM
	Local	North	Valve Position	6 turns open /6	6 turns open	NM
	Local	North Sample Port	Gas Composition - % Methane	-		NM
			Gas Composition - % CO2	-		NM
			Gas Composition - % Oxygen	-		NM
			Gas Composition - % Balance	-		NM
	Local	Central	Central Branch Vacuum	-	6 - 7 in w.c.	NM
	Local	Central	Valve Position	-	6 turns open	NM
	Local	Central Sample Port	Gas Composition - % Methane	-		NM
			Gas Composition - % CO2	-		NM
			Gas Composition - % Oxygen	-		NM
			Gas Composition - % Balance	-		NM
	Local	South	South Branch Vacuum	-	6 - 7 in w.c.	NM
	Local	South	Valve Position	-	6 turns open	NM
	Local	South Sample Port	Gas Composition - % Methane	-		NM
			Gas Composition - % CO2	-		NM
			Gas Composition - % Oxygen	-		NM
			Gas Composition - % Balance	-		NM

Air Compressor System[1,3,4] Air Compressor System 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:	_____ of 3	Operational	Yes
Condensate Drain Operational:	YES	GFI 1 Status:	(Green / Red)	Temperature	47F
Alarm Indictor:	OFF	GFI 2 Status:	(Green / Red)	Filter Cleaned	No
Condenser Cleaned[2]:	NO	**Leachate Tank/Loadout**			
Dew Point Indicator:		Liquid Level (inches):	24.5	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:	
		Leak Detection Test Completed:	(yes/no)	· Inspect concrete pad and storm sewer for damage or backup	
		Overfill Float Functional[5]:	(yes/no)		
		Exhaust Stack			
		Drain Stack Sump (vol. removed)	0 gal	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:
NM - Not Measured
3 loads of leachate/runoff water removed/hauled off site

Data Entered By: J. Roelke 3/7/2023
Checked By: T. Perkins 4/19/2023

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

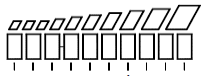
TRC Operator Name:	**John Roelke**				
Date:	**3/20/2023**	**Arrival Time:**	**15:15**	**Departure Time**	**16:15**

Site Conditions	Initial[1]	Final[2]	Equipment	
Weather Conditions:	Cloudy		Gas/Instrument Type:	GEMS 2000
Ground Condition:	Frozen		Serial Number:	11668
Barometric Pressure:	29.97 inHg	NM	Date Last Calibrated:	
Barometric Pressure Trend:	Falling		Method:	Standard field calibration
Temperature:	47F		Pressure Instrument:	Dwyer Series 475 Manometer

Landfill Gas Extraction System[3] Landfill Gas Extraction System Off-Line							
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	MN	--
			Speed	-	1800 - 1900 rpm	MN	--
			Frequency	-	30 - 35 Hz	MN	--
	HMI		Amperage	-	3 -4 amps	MN	--
	HMI		Speed	-		NM	--
	HMI		Hours	-	-	NM	--
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.	NM	NM
	HMI	TE-301	Blower Inlet Temperature	-	50 - 90 °F	NM	NM
	Local	GHS-PI-301	Blower Inlet Vacuum	7 in. w.c.	7 in. w.c.	NM	NM
	Local	GHS-TI-301	Blower Inlet Temperature	-	50 - 90 °F	NM	NM
	Local	Sample Port	Gas Composition - % Methane	-		NM	NM
			Gas Composition - % CO2	-		NM	NM
			Gas Composition - % Oxygen	-		NM	NM
			Gas Composition - % Balance	-		NM	NM
Demister	Local	GHS-PDI-301	Demister Differential Pressure	-	1-2 in w.c	NM	--
	Local		Slight Glass: Liquid Present	-	-		--
	HMI	LS-701	Level Indication	-	-		--
Blower Outlet	HMI	PT-302	Blower Outlet Flow Pressure	-	-	NM	NM
	HMI	TE-302	Blower Outlet Temperature	-	50 - 90 °F	NM	NM
	HMI	PDT-301	Blower Outlet Flow Differential Pressure	-	1-2 in w.c	NM	NM
	HMI	-	Blower Outlet Flow Rate	-	180 - 190 scfm	NM	NM
	Local	GHS-PI-302	Blower Outlet Flow Pressure	-	-	NM	NM
	Local	GHS-TI-302	Blower Outlet Temperature	-	50 - 90 °F	NM	NM
	Local	Sample Port	Gas Composition - % Methane	-		NM	NM
			Gas Composition - % CO2	-		NM	NM
			Gas Composition - % Oxygen	-		NM	NM
			Gas Composition - % Balance	-		NM	NM
Branch Headers	Local	North	North Branch Vacuum	-	6 - 7 in w.c.	NM	NM
	Local	North	Valve Position	6 turns open /6	6 turns open	NM	NM
	Local	North Sample Port	Gas Composition - % Methane	-		NM	NM
			Gas Composition - % CO2	-		NM	NM
			Gas Composition - % Oxygen	-		NM	NM
			Gas Composition - % Balance	-		NM	NM
	Local	Central	Central Branch Vacuum	-	6 - 7 in w.c.	NM	NM
	Local	Central	Valve Position	-	6 turns open	NM	NM
	Local	Central Sample Port	Gas Composition - % Methane	-		NM	NM
			Gas Composition - % CO2	-		NM	NM
			Gas Composition - % Oxygen	-		NM	NM
			Gas Composition - % Balance	-		NM	NM
	Local	South	South Branch Vacuum	-	6 - 7 in w.c.	NM	NM
	Local	South	Valve Position	-	6 turns open	NM	NM
	Local	South Sample Port	Gas Composition - % Methane	-		NM	NM
			Gas Composition - % CO2	-		NM	NM
			Gas Composition - % Oxygen	-		NM	NM
			Gas Composition - % Balance	-		NM	NM

Air Compressor System[3,5,6] Air Compressor System 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
	NOT OPERATING							

Air Dryer System[4]		Electrical Status		HMI Heater/Air Conditioner	
System Operational:		3-Phase Power Indicator:	_____ of 3	Operational	
Condensate Drain Operational:		GFI 1 Status:	GREEN	Temperature	
Alarm Indictor:		GFI 2 Status:	GREEN	Filter Cleaned	
Condenser Cleaned[2]:		**Leachate Tank/Loadout**			
Dew Point Indicator:		Liquid Level (inches):		Visual Check: OK	
	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:	
		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)		Stack Condition[6]:	

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:
NM - Not Measured
Inspected landfill cap

Data Entered By: J. Roelke 3/20/2023
Checked By: T. Perkins 4/19/2023

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 with no changes from condition prior to snow cover.
Condition of drainage ways: West Drainage Ditch - During the March inspection, standing/slow to drain water was observed at the surface to the north. This area was previously identified as having less positive slope than its surrounds and was regraded during 2020-2021 grading work at the Site. The final post construction survey showed positive slope. East Drainage Ditch - A small portion of the riprap at the west embankment of the northern culvert appears to have eroded/failed. Drainage ways are acceptable with minimal to no changes from previous conditions aside from those described above.
Extent of vegetation cover: Vegetation cover is acceptable over the majority of the Site. Various areas were reseeded and ground cover was applied in the fall of 2022 and remains in place. Burrowed areas were filled in with soil at gas extraction wells GW-2, GW-4, and GW-12 and remain in good condition.
Significant erosion: No evidence of significant erosion was observed at the Site.
Repeated erosion: No evidence of repeated erosion was observed at the Site.
Vegetation die-off: Areas at the west drainage ditch and east drainage ditch previously showed signs of vegetation die-off and were reseeded in the fall of 2022. Ground cover in these areas remains and TRC will continue to monitor vegetation regrowth in 2023.
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 light erosion at the eastern drainage ditch was previously observed and reseeded in the fall of 2022. Ground cover remains in place and TRC will continue to monitor the area for vegetation regrowth and any additional evidence of erosion.
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 3/20/2023
Checked By: T. Perkins 4/19/2023

Attachment 2

Laboratory Analytical Report – Leachate Sample

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Tea Jackson-Strong
TRC Environmental Corporation
999 Fourier Drive, Suite 101
Madison, Wisconsin 53717

Generated 4/10/2023 3:59:06 PM

JOB DESCRIPTION

Refuse Landfill - 457573.0002.0000

JOB NUMBER

500-231323-1

Eurofins Chicago
2417 Bond Street
University Park IL 60484

See page two for job notes and contact information.

Eurofins Chicago

Job Notes

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of Eurofins Environment Testing North Central, LLC and its client. All questions regarding this report should be directed to the Eurofins Environment Testing North Central, LLC Project Manager who has signed this report.

Results relate only to the items tested and the sample(s) as received by the laboratory. The results, detection limits (LOD) and Quantitation Limits (LOQ) have been adjusted for sample dilutions and/or solids content.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Chicago Project Manager.

Authorization

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Table of Contents

Case Narrative

Client: TRC Environmental Corporation
Project/Site: Refuse Landfill - 457573.0002.0000

Job ID: 500-231323-1

Job ID: 500-231323-1

Laboratory: Eurofins Chicago

Narrative

Job Narrative
500-231323-1

Comments
No additional comments.

Receipt
The sample was received on 3/28/2023 10:10 AM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.7º C.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: TRC Environmental Corporation
Project/Site: Refuse Landfill - 457573.0002.0000

Job ID: 500-231323-1

Client Sample ID: Leachate Tank

Lab Sample ID: 500-231323-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.89	J B	2.0	0.43	ug/L	1		6010D	Total Recoverable
Chromium	14		10	1.7	ug/L	1		6010D	Total Recoverable
Copper	32	B	10	1.8	ug/L	1		6010D	Total Recoverable
Lead	13		5.0	2.7	ug/L	1		6010D	Total Recoverable
Nickel	13		10	1.9	ug/L	1		6010D	Total Recoverable
Selenium	7.6	J	10	5.3	ug/L	1		6010D	Total Recoverable
Zinc	190		20	5.0	ug/L	1		6010D	Total Recoverable
Mercury	0.11	J	0.20	0.079	ug/L	1		7470A	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: TRC Environmental Corporation
Job ID: 500-231323-1
Project/Site: Refuse Landfill - 457573.0002.0000

Method	Method Description	Protocol	Laboratory
6010D	Metals (ICP)	SW846	EET CHI
7470A	Mercury (CVAA)	SW846	EET CHI
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	EET CHI
7470A	Preparation, Mercury	SW846	EET CHI

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: TRC Environmental Corporation
Project/Site: Refuse Landfill - 457573.0002.0000

Job ID: 500-231323-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-231323-1	Leachate Tank	Water	03/22/23 12:50	03/28/23 10:10

Client Sample Results

Client: TRC Environmental Corporation
Job ID: 500-231323-1
Project/Site: Refuse Landfill - 457573.0002.0000

Client Sample ID: Leachate Tank
Lab Sample ID: 500-231323-1
Date Collected: 03/22/23 12:50
Matrix: Water
Date Received: 03/28/23 10:10

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	**0.89**	**J B**	2.0	0.43	ug/L		04/04/23 09:29	04/04/23 18:46	1
Chromium	**14**		10	1.7	ug/L		04/04/23 09:29	04/07/23 21:37	1
Copper	**32**	**B**	10	1.8	ug/L		04/04/23 09:29	04/04/23 18:46	1
Lead	**13**		5.0	2.7	ug/L		04/04/23 09:29	04/04/23 18:46	1
Molybdenum	<3.8		10	3.8	ug/L		04/04/23 09:29	04/04/23 18:46	1
Nickel	**13**		10	1.9	ug/L		04/04/23 09:29	04/04/23 18:46	1
Selenium	**7.6**	**J**	10	5.3	ug/L		04/04/23 09:29	04/04/23 18:46	1
Silver	<1.5		5.0	1.5	ug/L		04/04/23 09:29	04/04/23 18:46	1
Zinc	**190**		20	5.0	ug/L		04/04/23 09:29	04/04/23 18:46	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.11**	**J**	0.20	0.079	ug/L		04/03/23 14:55	04/04/23 08:29	1

Definitions/Glossary

Client: TRC Environmental Corporation
Job ID: 500-231323-1
Project/Site: Refuse Landfill - 457573.0002.0000

Qualifiers

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Metals

Prep Batch: 705605

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-231323-1	Leachate Tank	Total/NA	Water	7470A	
MB 500-705605/13-A	Method Blank	Total/NA	Water	7470A	
LCS 500-705605/12-A	Lab Control Sample	Total/NA	Water	7470A	

Prep Batch: 705757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-231323-1	Leachate Tank	Total Recoverable	Water	3005A	
MB 500-705757/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-705757/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 705825

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-231323-1	Leachate Tank	Total/NA	Water	7470A	705605
MB 500-705605/13-A	Method Blank	Total/NA	Water	7470A	705605
LCS 500-705605/12-A	Lab Control Sample	Total/NA	Water	7470A	705605

Analysis Batch: 706033

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-231323-1	Leachate Tank	Total Recoverable	Water	6010D	705757
MB 500-705757/1-A	Method Blank	Total Recoverable	Water	6010D	705757
LCS 500-705757/2-A	Lab Control Sample	Total Recoverable	Water	6010D	705757

Analysis Batch: 706832

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-231323-1	Leachate Tank	Total Recoverable	Water	6010D	705757
MB 500-705757/1-A	Method Blank	Total Recoverable	Water	6010D	705757
LCS 500-705757/2-A	Lab Control Sample	Total Recoverable	Water	6010D	705757

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 500-705757/1-A
Matrix: Water
Analysis Batch: 706033

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 705757

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.557	J	2.0	0.43	ug/L		04/04/23 09:29	04/04/23 17:40	1
Copper	3.41	J	10	1.8	ug/L		04/04/23 09:29	04/04/23 17:40	1
Lead	<2.7		5.0	2.7	ug/L		04/04/23 09:29	04/04/23 17:40	1
Molybdenum	<3.8		10	3.8	ug/L		04/04/23 09:29	04/04/23 17:40	1
Nickel	<1.9		10	1.9	ug/L		04/04/23 09:29	04/04/23 17:40	1
Selenium	<5.3		10	5.3	ug/L		04/04/23 09:29	04/04/23 17:40	1
Silver	<1.5		5.0	1.5	ug/L		04/04/23 09:29	04/04/23 17:40	1
Zinc	<5.0		20	5.0	ug/L		04/04/23 09:29	04/04/23 17:40	1

Lab Sample ID: MB 500-705757/1-A
Matrix: Water
Analysis Batch: 706832

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 705757

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	<1.7		10	1.7	ug/L		04/04/23 09:29	04/07/23 20:28	1

Lab Sample ID: LCS 500-705757/2-A
Matrix: Water
Analysis Batch: 706033

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 705757

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	50.0	50.5		ug/L		101	80 - 120
Copper	250	255		ug/L		102	80 - 120
Lead	100	93.1		ug/L		93	80 - 120
Molybdenum	1000	975		ug/L		97	80 - 120
Nickel	500	472		ug/L		94	80 - 120
Selenium	100	94.2		ug/L		94	80 - 120
Silver	50.0	46.0		ug/L		92	80 - 120
Zinc	500	446		ug/L		89	80 - 120

Lab Sample ID: LCS 500-705757/2-A
Matrix: Water
Analysis Batch: 706832

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 705757

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chromium	200	190		ug/L		95	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-705605/13-A
Matrix: Water
Analysis Batch: 705825

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 705605

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.079		0.20	0.079	ug/L		04/03/23 14:55	04/04/23 07:32	1

Client: TRC Environmental Corporation
Project/Site: Refuse Landfill - 457573.0002.0000

Job ID: 500-231323-1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 500-705605/12-A
Matrix: Water
Analysis Batch: 705825

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 705605

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Mercury			1.98	1.91		ug/L		96	80 - 120		

Lab Chronicle

Client: TRC Environmental Corporation
Project/Site: Refuse Landfill - 457573.0002.0000

Job ID: 500-231323-1

Client Sample ID: Leachate Tank

Date Collected: 03/22/23 12:50
Date Received: 03/28/23 10:10

Lab Sample ID: 500-231323-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			705757	BDE	EET CHI	04/04/23 09:29 - 04/04/23 09:59 [1]
Total Recoverable	Analysis	6010D		1	706033	CMS	EET CHI	04/04/23 18:46
Total Recoverable	Prep	3005A			705757	BDE	EET CHI	04/04/23 09:29 - 04/04/23 09:59 [1]
Total Recoverable	Analysis	6010D		1	706832	CMS	EET CHI	04/07/23 21:37
Total/NA	Prep	7470A			705605	MJG	EET CHI	04/03/23 14:55 - 04/03/23 16:55 [1]
Total/NA	Analysis	7470A		1	705825	MJG	EET CHI	04/04/23 08:29

[1] Completion dates and times are reported or not reported per method requirements or individual lab discretion.

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: TRC Environmental Corporation
Job ID: 500-231323-1
Project/Site: Refuse Landfill - 457573.0002.0000

Laboratory: Eurofins Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999580010	08-31-23

Chain of Custody Record

638986

Environment Testing America

Address

Regulatory Program ☐ DW ☐ NPDES ☐ RCRA ☐ Other

500-231323 COC TAL-8210

Client Contact	Project Manager: Andy Stehn	Site Contact: Andy Stehn	Date: 3/27/23	2 1 0 4 3 1
Company Name: TRC	Tel/Email: (608) 807-8112	Lab Contact: Sandra Fredrick	Carrier: Fed Ex	1 of 1 COCs
Address: 999 Fourier Dr.	Analysis Turnaround Time			Sampler: John Keelke
City/State/Zip: Madison, WI 53717	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only
Phone: (608) 807-8112	TAT if different from Below			Walk in Client
Fax: astehn@trccompanies.com	☐ 2 weeks			Lab Sampling
Project Name: Refuse Landfill	☒ 1 week			
Site: Middleton WI	☐ 2 days			Job / SDG No.: 500-231323
P O #: 457573.0002.0000	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	T. Cadmium	T. Chromium	T. Copper	T. Lead	T. Nickel	T. Selenium	T. Silver	T. Zinc	T. Molybdenum	T. Mercury	Sample Specific Notes
1 Leachate Tank	3/27/23	12:50	G	W	1	N	N	X	X	X	X	X	X	X	X	X	X	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other

Possible Hazard Identification
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample

☐ Non Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments

Custody Seals Intact ☐ Yes ☐ No | Custody Seal No | Cooler Temp (°C) Obs'd 1.3 Corr'd 1.7 | Therm ID No

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
	TRC	3/27/23 1310			
Relinquished by	Company	Date/Time	Received by	Company	Date/Time
Relinquished by	Company	Date/Time	Received in Laboratory by	Company	Date/Time
					3/28/23 1010

500-231323 Waybi

ORIGIN ID RRLA (262) 202-5955
IAN EVANS
EUROFINS TESTAMERICA
4125 N 124TH ST
SUITE F (REAR)
BROOKFIELD, WI 53005
UNITED STATES US

SHIP DATE: 24MAR23
ACTWGT: 20.00 LB MAN
CAD: 0269688/CAFE3621

BILL SENDER

TO **SAMPLE RECEIPT**
EUROFINS
2417 BOND ST.

UNIVERSITY PARK IL 60484

(262) 202-5955 REF
INV:
PO: DEPT:

FedEx Express

FedEx
TRK# 0201 6374 2028 2447

TUE - 28 MAR A
PRIORITY OVERNIGH

Login Sample Receipt Checklist

Client: TRC Environmental Corporation

Job Number: 500-231323-1

Login Number: 231323
List Number: 1
Creator: James, Jeff A

List Source: Eurofins Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Attachment 3

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	3/20/2023

Description

Western Drainage Ditch:
Surface water was observed at the north portion of the drainage ditch. Surface water is flowing naturally towards the southernly riprap area.

Photo No.	Date
2	3/20/2023

Description

Eastern Drainage Ditch:
Some riprap has begun to deteriorate at the west side of the western culvert. Surface water is flowing and is not being obstructed.

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	3/20/2023

Description

Eastern Drainage Ditch:
Areas were reseeded and erosion mat was applied cover in the fall of 2022 and remains in place.

Photo No.	Date
4	3/20/2023

Description

Eastern Landfill Extents
Reseeding and ground cover was previously applied in the Fall of 2022 and remains in place.

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	3/20/2023

Description

Southern Landfill Extents:
Evidence of burrowing around GW-2 (and other Site wells) was observed in 2022. These areas were filled with soil in the Fall of 2022 and remain in good condition.

Photo No.	Date
6	3/20/2023

Description

Southern Landfill Extents:
Based on TRC's observations post-snow melt, the Site cap appears to be in good condition.