708 Heartland Trl.
Suite 3000
Madison, WI 53717

T 608.826.3600
TRCcompanies.com

May 20, 2022

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

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

Dear Cindy:

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

- April 8, 2022 – TRC restarted Gas Extraction System following cold weather shutdown.
- April 8, 2022 – Biweekly Site Visit and Leachate Compliance Sampling
- April 12, 2022 – Monthly/Quarterly Site Visit
- April 19, 2022 – GES System Operation Check and Gas Probe Monitoring
- April 26, 2022 – GES System Operation Check and Air Compressor Restart

Gas Extraction System

The gas extraction system (GES) was restarted and inspected on April 8, and TRC returned to the site on April 12, 2022 to monitor the system operation and balance the landfill as needed. The system remained on for through the end of April with no operational issues. TRC finalized vendor quotes for the installation of heat trace and insulation on the GES and provided to WDNR for scheduling and contracting purposes. Perennial Energy (PEI) has tentatively scheduled the installation work for July 2022.

Perimeter gas probe monitoring for was conducted at the site on April 19, 2022, and the monitoring data was provided to the WDNR in a separate letter submittal dated April 19, 2022.

Leachate Extraction System

The leachate extraction system remained off during the month of April. TRC changed the oil and repaired various airline leaks on the compressor system which were noted during the fall of 2021 before the system was temporarily shut down due to cold weather. Following maintenance and repairs, the air compressor system was restarted on April 26, 2022, however due to continued abnormal noise in the pump head, the compressor was shutdown and WDNR and PEI were notified. TRC discussed the issue and options for repairing the compressor system with PEI. Based on issues and system warranty, PEI has begun the procurement process for a new pump head for the compressor and plans to repair the system in conjunction with the heat trace and insulation work, tentatively scheduled for July 2022.

A leachate sample was collected on April 12, 2022, from the extraction system storage tank and analyzed by Pace Analytical for ICP Metals and Mercury per the Section 2.01 of the Wastewater Discharge Permit NTO-5.11. The laboratory analytical report is attached.

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

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: Laboratory Analytical Report – Leachate Sample
April 2022 Monitoring Results

Laboratory Analytical Report – Leachate Sample

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

April 20, 2022

Andrew Stehn
TRC Madison
708 Heartland Trail
Madison, WI 53717

RE: Project: RHL
Pace Project No.: 40243245

Dear Andrew Stehn:

Enclosed are the analytical results for sample(s) received by the laboratory on April 11, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Green Bay

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Tod Noltemeyer

Tod Noltemeyer
tod.noltemeyer@pacelabs.com
(920)469-2436
Project Manager

Enclosures

cc: Peggy Popp, TRC - Madison
JOHN ROELKE, TRC - Madison

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

CERTIFICATIONS

Project: RHL
Pace Project No.: 40243245

Pace Analytical Services Green Bay
1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
Virginia VELAP ID: 460263
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-16-00157
Federal Fish & Wildlife Permit #: LE51774A-0

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1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE SUMMARY

Project: RHL
Pace Project No.: 40243245

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40243245001	**LEACHATE TANK**	Water	04/08/22 09:30	04/11/22 10:25

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(920)469-2436

SAMPLE ANALYTE COUNT

Project: RHL
Pace Project No.: 40243245

Lab ID	Sample ID	Method	Analysts	Analytes Reported
40243245001	**LEACHATE TANK**	EPA 6010D	TXW	9
		EPA 7470	AJT	1

PASI-G = Pace Analytical Services - Green Bay

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1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SUMMARY OF DETECTION

Project: RHL
Pace Project No.: 40243245

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40243245001	**LEACHATE TANK**					
EPA 6010D	Chromium	4.6J	ug/L	10.0	04/13/22 12:55	
EPA 6010D	Copper	4.9J	ug/L	10.0	04/13/22 12:55	
EPA 6010D	Nickel	12.6	ug/L	10.0	04/13/22 12:55	
EPA 6010D	Zinc	12.3J	ug/L	40.0	04/13/22 12:55	

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PROJECT NARRATIVE

Project: RHL
Pace Project No.: 40243245

Method: **EPA 6010D**
Description: 6010D MET ICP
Client: TRC - MADISON
Date: April 20, 2022

General Information:
1 sample was analyzed for EPA 6010D by Pace Analytical Services Green Bay. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3010A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

PROJECT NARRATIVE

Project: RHL
Pace Project No.: 40243245

Method: **EPA 7470**
Description: 7470 Mercury
Client: TRC - MADISON
Date: April 20, 2022

General Information:
1 sample was analyzed for EPA 7470 by Pace Analytical Services Green Bay. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 7470 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: RHL
Pace Project No.: 40243245

Sample: LEACHATE TANK **Lab ID: 40243245001** Collected: 04/08/22 09:30 Received: 04/11/22 10:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Green Bay								
Cadmium	**<1.3**	ug/L	5.0	1.3	1	04/12/22 06:28	04/13/22 12:55	7440-43-9	
Chromium	**4.6J**	ug/L	10.0	2.5	1	04/12/22 06:28	04/13/22 12:55	7440-47-3	
Copper	**4.9J**	ug/L	10.0	3.4	1	04/12/22 06:28	04/13/22 12:55	7440-50-8	
Lead	**<5.9**	ug/L	20.0	5.9	1	04/12/22 06:28	04/13/22 12:55	7439-92-1	
Molybdenum	**<2.4**	ug/L	10.0	2.4	1	04/12/22 06:28	04/13/22 12:55	7439-98-7	
Nickel	**12.6**	ug/L	10.0	2.6	1	04/12/22 06:28	04/13/22 12:55	7440-02-0	
Selenium	**<12.2**	ug/L	40.0	12.2	1	04/12/22 06:28	04/13/22 12:55	7782-49-2	
Silver	**<3.2**	ug/L	10.0	3.2	1	04/12/22 06:28	04/13/22 12:55	7440-22-4	
Zinc	**12.3J**	ug/L	40.0	11.6	1	04/12/22 06:28	04/13/22 12:55	7440-66-6	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Green Bay								
Mercury	**<0.066**	ug/L	0.20	0.066	1	04/19/22 10:15	04/20/22 09:17	7439-97-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: RHL
Pace Project No.: 40243245

QC Batch: 413516
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40243245001

METHOD BLANK: 2380937 Matrix: Water
Associated Lab Samples: 40243245001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	<0.066	0.20	04/20/22 08:43	

LABORATORY CONTROL SAMPLE: 2380938

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.1	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2380939 2380940

Parameter	Units	40243315001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.066	5	5	5.3	5.0	106	101	85-115	5	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: RHL
Pace Project No.: 40243245

QC Batch: 412836
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D MET
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40243245001

METHOD BLANK: 2377302 Matrix: Water
Associated Lab Samples: 40243245001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cadmium	ug/L	<1.3	5.0	04/13/22 12:21	
Chromium	ug/L	<2.5	10.0	04/13/22 12:21	
Copper	ug/L	<3.4	10.0	04/13/22 12:21	
Lead	ug/L	<5.9	20.0	04/13/22 12:21	
Molybdenum	ug/L	<2.4	10.0	04/13/22 12:21	
Nickel	ug/L	<2.6	10.0	04/13/22 12:21	
Selenium	ug/L	<12.2	40.0	04/13/22 12:21	
Silver	ug/L	<3.2	10.0	04/13/22 12:21	
Zinc	ug/L	<11.6	40.0	04/13/22 12:21	

LABORATORY CONTROL SAMPLE: 2377303

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	250	263	105	80-120	
Chromium	ug/L	250	256	102	80-120	
Copper	ug/L	250	262	105	80-120	
Lead	ug/L	250	266	106	80-120	
Molybdenum	ug/L	250	262	105	80-120	
Nickel	ug/L	250	266	107	80-120	
Selenium	ug/L	250	270	108	80-120	
Silver	ug/L	125	132	105	80-120	
Zinc	ug/L	250	265	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2377304 2377305

Parameter	Units	40243209001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	<1.3	250	250	264	256	106	102	75-125	3	20	
Chromium	ug/L	9.3J	250	250	268	259	104	100	75-125	4	20	
Copper	ug/L	<3.4	250	250	259	248	104	99	75-125	4	20	
Lead	ug/L	<5.9	250	250	266	255	105	100	75-125	4	20	
Molybdenum	ug/L	10.8	250	250	271	260	104	100	75-125	4	20	
Nickel	ug/L	5.4J	250	250	269	258	105	101	75-125	4	20	
Selenium	ug/L	<12.2	250	250	266	259	106	104	75-125	3	20	
Silver	ug/L	<3.2	125	125	133	127	106	102	75-125	4	20	
Zinc	ug/L	<11.6	250	250	267	259	106	103	75-125	3	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALIFIERS

Project: RHL
Pace Project No.: 40243245

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor, percent moisture, initial weight and final volume.

LOQ - Limit of Quantitation adjusted for dilution factor, percent moisture, initial weight and final volume.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: RHL
Pace Project No.: 40243245

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40243245001	**LEACHATE TANK**	EPA 3010A	412836	EPA 6010D	412945
40243245001	**LEACHATE TANK**	EPA 7470	413516	EPA 7470	413556

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical®

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here: 10243245

ALL SHADED AREAS are for LAB USE ONLY

Company: TRC	Billing Information: 708 Heartland Trail Suite3000 madison WI 53717
Address: ~~10 Center~~ 708 Heartland Trail	
Report To: Andrew Stehn	Email To: astehn@trcompanies.com
Copy To: —	Site Collection Info/Address: middleton
Customer Project Name/Number: RHL	State: WI County/City: Dane/middleton Time Zone Collected: [ ]PT [ ]MT [X]CT [ ]ET
Phone: Email:	Site/Facility ID #: Refuse Hideaway LF Compliance Monitoring? [X] Yes [ ] No
Collected By (print): John Kaelko	Purchase Order #: Quote #: 457573 pH 2 DW PWS ID #: DW Location Code:
Collected By (signature):	Turnaround Date Required: Standard Immediately Packed on Ice: [X] Yes [ ] No
Sample Disposal: [X] Dispose as appropriate [ ] Return [ ] Archive: [ ] Hold:	Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply) Field Filtered (if applicable): [ ] Yes [X] No Analysis:

Container Preservative Type **: 1 | Lab Project Manager:

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Analyses: metals
Leachate Tank	WW	Grab	4/8/22	9:30	—	—		1	X

Lab Profile/Line: 04

Lab Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles Intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples Received on Ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	NA
Samples in Holding Time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips:			
Sample pH Acceptable	Y	N	NA
pH Strips:			
Sulfide Present	Y	N	NA
Lead Acetate Strips:			

LAB USE ONLY:
Lab Sample # / Comments:

Customer Remarks / Special Conditions / Possible Hazards: Sample is leachate.

Type of Ice Used: Wet Blue Dry None

Packing Material Used:

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours): Y N N/A

Lab Tracking #: 2764024

Samples received via: FEDEX UPS Client Courier Pace Courier

Lab Sample Temperature Info:
Temp Blank Received: Y N NA
Therm ID#:
Cooler 1 Temp Upon Receipt: NA oC
Cooler 1 Therm Corr. Factor: oC
Cooler 1 Corrected Temp: NA oC
Comments:

	Date/Time	Received by/Company: (Signature)	Date/Time
Relinquished by/Company: (Signature) TRC	4/8/22 13:00		
Relinquished by/Company: (Signature)	4/11/22 1025		4/11/22 1025
Relinquished by/Company: (Signature)			

MTJL LAB USE ONLY
Table #:
Acctnum:
Template:
Prelogin:
PM:
PB:

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

Sample Preservation Receipt Form

Client Name: TRC Project # UD243245

All containers needing preservation have been checked and noted below: ☐Yes ☐No ☐N/A Initial when completed: CAS Date/ Time:

Lab Lot# of pH paper: 100312 Lab Std #ID of preservation (if pH adjusted):

Pace Lab #	Glass: AG1U	BG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	Plastic: BP1U	BP3U	BP3B	BP3N	BP3S	Vials: VG9A	DG9T	VG9U	VG9H	VG9M	VG9D	Jars: JGFU	JG9U	WGFU	WPFU	General: SP5T	ZPLC	GN	VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
001																																2.5 / 5 / 10
002																																2.5 / 5 / 10
003																																2.5 / 5 / 10
004																																2.5 / 5 / 10
005																																2.5 / 5 / 10
006																																2.5 / 5 / 10
007																																2.5 / 5 / 10
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015																																2.5 / 5 / 10
016																																2.5 / 5 / 10
017																																2.5 / 5 / 10
018																																2.5 / 5 / 10
019																																2.5 / 5 / 10
020																																2.5 / 5 / 10

CAS 4/11/22

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other: _____ Headspace in VOA Vials (>6mm) : ☐Yes ☐No ☐N/A *If yes look in headspace column

AG1U	1 liter amber glass
BG1U	1 liter clear glass
AG1H	1 liter amber glass HCL
AG4S	125 mL amber glass H2SO4
AG4U	120 mL amber glass unpres
AG5U	100 mL amber glass unpres
AG2S	500 mL amber glass H2SO4
BG3U	250 mL clear glass unpres

BP1U	1 liter plastic unpres
BP3U	250 mL plastic unpres
BP3B	250 mL plastic NaOH
BP3N	250 mL plastic HNO3
BP3S	250 mL plastic H2SO4

VG9A	40 mL clear ascorbic
DG9T	40 mL amber Na Thio
VG9U	40 mL clear vial unpres
VG9H	40 mL clear vial HCL
VG9M	40 mL clear vial MeOH
VG9D	40 mL clear vial DI

JGFU	4 oz amber jar unpres
JG9U	9 oz amber jar unpres
WGFU	4 oz clear jar unpres
WPFU	4 oz plastic jar unpres
SP5T	120 mL plastic Na Thiosulfate
ZPLC	ziploc bag
GN	

Page 1 of 2

Sample Condition Upon Receipt Form (SCUR)

Project #:

WO# : 40243245

40243245

Client Name: TRC

Courier: ☐ CS Logistics ☐ Fed Ex ☐ Speedee ☐ UPS ☐ Waltco
☐ Client ☐ Pace Other:

Tracking #: 776533033940

Custody Seal on Cooler/Box Present: ☐ yes ☐ no Seals intact: ☐ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☐ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other

Thermometer Used SR - NA **Type of Ice:** (Wet) Blue Dry None ☐ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: NA /Corr:

Temp Blank Present: ☐ yes ☐ no **Biological Tissue is Frozen:** ☐ yes ☐ no

Person examining contents:
Date: 4/11/22 /Initials: CM

Labeled By Initials: NK

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C if shipped on Dry Ice.

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☐Yes ☑No ☐N/A	2. pg # CM 4/11/22
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☑No	6.
Rush Turn Around Time Requested:	☐Yes ☑No	7.
Sufficient Volume: For Analysis: ☑Yes ☐No MS/MSD: ☐Yes ☑No ☐N/A		8.
Correct Containers Used:	☑Yes ☐No	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
-Pace IR Containers Used:	☐Yes ☐No ☑N/A	
Containers Intact:	☑Yes ☐No	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W		
Trip Blank Present:	☐Yes ☐No ☑N/A	13.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: Date/Time:

Comments/ Resolution:

PM Review is documented electronically in LIMs. By releasing the project, the PM acknowledges they have reviewed the sample login

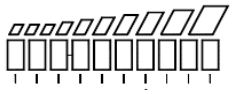
April 2022 Monitoring Results

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

TRC Operator Name:	J.Roelke				
Date:	4/8/2022	Arrival Time:	9:14	Departure Time	10:30
Weather Conditions:	Cloudy, light snow			Gas/Instrument Type:	-
Ground Condition:	Frozen			Serial Number:	-
Barometric Pressure:	29.73 in Hg			Date Last Calibrated:	-
Barometric Pressure Trend:	Rising			Method:	-
Temperature:	32 F			Pressure Instrument:	Magnehelic

Landfill Gas Extraction System						
System	***Location***	***Tag #***	***Equipment Description***	***Set Point***	***Typical Range***	***Field Reading***
Blower Motor	Remote	GHS-BLR-301	Amperage	-	3 - 4 amps	3.43
			Speed	-	1800 - 1900 rpm	1400
			Frequency	-	30 - 35 Hz	23.52
	HMI		Amperage	-	3 -4 amps	3.4
	HMI		Speed	-		32
	HMI		Hours	-	-	4655
Blower Operating (yes/no). Note excessive noise or issues observed.				YES Operating - NO 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	40
	Local	GHS-PI-301	Blower Inlet Vacuum	7 in. w.c.	7 in. w.c.	6.5
	Local	GHS-TI-301	Blower Inlet Temperature	-	50 - 90 °F	36
	Local	Sample Port	Gas Composition - % Methane	-		NM
			Gas Composition - % CO2	-		NM
			Gas Composition - % Oxygen	-		NM
			Gas Composition - % Balance	-		-
Demister	Local	GHS-PDI-301	Demister Differential Pressure	-	1-2 in w.c	0.8
	Local		Slight Glass: Liquid Present	-	-	No
	HMI	LS-701	Level Indication	-	-	-
Blower Outlet	HMI	PT-302	Blower Outlet Flow Pressure	-	-	0.1
	HMI	TE-302	Blower Outlet Temperature	-	50 - 90 °F	41
	HMI	PDT-301	Blower Outlet Flow Differential Pressure	-	1-2 in w.c	0.64
	HMI	-	Blower Outlet Flow Rate	-	180 - 190 scfm	120
	Local	GHS-PI-302	Blower Outlet Flow Pressure	-	-	0.08
	Local	GHS-TI-302	Blower Outlet Temperature	-	50 - 90 °F	40
	Local	Sample Port	Gas Composition - % Methane	-		NM
			Gas Composition - % CO2	-		NM
			Gas Composition - % Oxygen	-		NM
			Gas Composition - % Balance	-		-
Branch Headers	Local	North	North Branch Vacuum	-	6 - 7 in w.c.	6.5
	Local	North	Valve Position	6 turns open /6	6 turns open	6
	Local	North Sample Port	Gas Composition - % Methane	-		NM
			Gas Composition - % CO2	-		NM
			Gas Composition - % Oxygen	-		NM
			Gas Composition - % Balance	-		-
	Local	Central	Central Branch Vacuum	-	6 - 7 in w.c.	6.25
	Local	Central	Valve Position	-	6 turns open	6
	Local	Central Sample Port	Gas Composition - % Methane	-		NM
			Gas Composition - % CO2	-		NM
			Gas Composition - % Oxygen	-		NM
			Gas Composition - % Balance	-		-
	Local	South	South Branch Vacuum	-	6 - 7 in w.c.	6
	Local	South	Valve Position	-	6 turns open	6
	Local	South Sample Port	Gas Composition - % Methane	-		NM
			Gas Composition - % CO2	-		NM
			Gas Composition - % Oxygen	-		NM
			Gas Composition - % Balance	-		-

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

Air Dryer System - Offline		Electrical Status		HMI Heater/Air Conditioner	
System Operational:	NO	3-Phase Power Indicator:	3 of 3	Operational	Yes
Condensate Drain Operational:	NO	GFI 1 Status:	Green	Temperature	46 F
Alarm Indictor:	OFF	GFI 2 Status:	Green	Filter Cleaned	No
Condenser Cleaned[2]:	NO	**Leachate Tank/Loadout**			
Dew Point Indicator:		Liquid Level (inches):	49.15	Visual Check:	
	Indicate which bars are green(G) or red (R) and note (F) if flashing.	***Contact WDNR if level is above***	-	· Evidence of Tank Overflow:	No
		Leak Detection Test Completed:	No	· Inspect concrete pad and storm sewer for damage or backup	
		Overfill Float Functional:	Yes		
		Exhaust Stack			
		Drain Stack Sump (vol. removed)	~1 gal	Stack Condition:	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.

Comments/Notes:
NM - Not Measured
The week of 4/11/22, planning on balancing the gas extraction wells, changing the oil for the air compressor. Air compressor and air dryer are offline. Sampled leachate for metals.

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

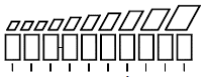
TRC Operator Name:	John Roelke, Andrew Ruetten				
Date:	4/12/2022	Arrival Time:	8:25	Departure Time	11:40

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:	29.97 in Hg	29.89	Date Last Calibrated:	4/12/2022
Barometric Pressure Trend:	Steady	Falling	Method:	standard field calibration
Temperature:	45 F	61	Pressure Instrument:	GEMS 2000

Landfill Gas Extraction System

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	3.33	--
			Speed	-	1800 - 1900 rpm	1387	--
			Frequency	-	30 - 35 Hz	23.28	--
	HMI		Amperage	-	3 -4 amps	3.3	--
	HMI		Speed	-		31	--
	HMI		Hours	-	-	4250	--
Blower Operating (YES). Note excessive noise or issues observed.				YES Operating - NO Issues Observed			
Blower Inlet	HMI	PT-301	Blower Inlet Vacuum	7 in. w.c.	7 in. w.c.	-7	-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.	-6.68	-6.78
	Local	GHS-TI-301	Blower Inlet Temperature	-	50 - 90 °F	42	42
	Local	Sample Port	Gas Composition - % Methane	-		17.2%	18.3%
			Gas Composition - % CO2	-		14.1%	14.9%
			Gas Composition - % Oxygen	-		12.3%	12.0%
			Gas Composition - % Balance	-		56.4%	54.8%
Demister	Local	GHS-PDI-301	Demister Differential Pressure	-	1-2 in w.c	0.5	--
	Local		Slight Glass: Liquid Present	-	-	NO	--
	HMI	LS-701	Level Indication	-	-	--	--
Blower Outlet	HMI	PT-302	Blower Outlet Flow Pressure	-	-	0.1	NM
	HMI	TE-302	Blower Outlet Temperature	-	50 - 90 °F	57	NM
	HMI	PDT-301	Blower Outlet Flow Differential Pressure	-	1-2 in w.c	0.78	NM
	HMI	-	Blower Outlet Flow Rate	-	180 - 190 scfm	131	137
	Local	GHS-PI-302	Blower Outlet Flow Pressure	-	-	0.12	--
	Local	GHS-TI-302	Blower Outlet Temperature	-	50 - 90 °F	54	--
	Local	Sample Port	Gas Composition - % Methane	-		17.0%	--
			Gas Composition - % CO2	-		14.0%	--
			Gas Composition - % Oxygen	-		12.4%	--
			Gas Composition - % Balance	-		56.6%	--
Branch Headers	Local	North	North Branch Vacuum	-	6 - 7 in w.c.	-6.12	-6.21
	Local	North	Valve Position	6 turns open /6	6 turns open	6	6
	Local	North Sample Port	Gas Composition - % Methane	-		21.3%	24.9%
			Gas Composition - % CO2	-		12.2%	14.8%
			Gas Composition - % Oxygen	-		11.1%	9.1%
			Gas Composition - % Balance	-		55.4%	51.2%
	Local	Central	Central Branch Vacuum	-	6 - 7 in w.c.	-6.07	-6.13
	Local	Central	Valve Position	-	6 turns open	6	6
	Local	Central Sample Port	Gas Composition - % Methane	-		12.6%	12.5%
			Gas Composition - % CO2	-		8.9%	8.8%
			Gas Composition - % Oxygen	-		15.6%	15.7%
			Gas Composition - % Balance	-		62.9%	63.0%
	Local	South	South Branch Vacuum	-	6 - 7 in w.c.	-6.16	-6.21
	Local	South	Valve Position	-	6 turns open	6	6
	Local	South Sample Port	Gas Composition - % Methane	-		20.8%	21.2%
			Gas Composition - % CO2	-		19.2%	19.8%
			Gas Composition - % Oxygen	-		9.4%	9.5%
			Gas Composition - % Balance	-		50.6%	49.5%

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 System - Offline		Electrical Status		HMI Heater/Air Conditioner	
System Operational:	NO	3-Phase Power Indicator:	_3_ of 3	Operational	YES
Condensate Drain Operational:	NO	GFI 1 Status:	GREEN	Temperature	46
Alarm Indictor:	OFF	GFI 2 Status:	GREEN	Filter Cleaned	NO
Condenser Cleaned[2]:	NO	**Leachate Tank/Loadout**			
Dew Point Indicator:		Liquid Level (inches):	NM	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]	NM		
		Exhaust Stack			
		Drain Stack Sump (vol. removed)	0	Stack Condition:	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:
NM - Not Measured or Tested
Oil changed for air compressor system during site visit

LANDFILL GAS MONITORING FORM

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

			STARTING	ENDING
TECHNICIAN(S):	J.Roelke/A. Ruetten	DATE:	4/12/22	4/12/22
GAS/INSTRUMENT TYPE:	GEM 2000	TIME:	8:25 AM	10:30 AM
SERIAL NO.:	11668	BAROMETRIC PRESSURE [25]	29.97 in Hg	29.89 in Hg
DATE LAST CALIBRATED:	4/12/2022	BAROMETRIC TREND [46381]	Steady	Falling
METHOD:	Standard Calibration Gases	WEATHER CONDITIONS:	Cloudy	Cloudy
PRESSURE INSTRUMENT:	Dwyer Digital Manometer	TEMPERATURE [21]	45 F	61 F
Project #		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 Differential 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	9:57	52	-6.1	-1.9	0.08	NM	NM	NA	15.7	31.6	0.3	1.50 / 12	1.50 / 12	Counter #: -
GW-2	9:02	48	-4.8	-3.9	0.02	0.02	-5.2	NA	37.3	32.1	4.6	1.25 / 12	1.50 / 12	Counter #: -
GW-3	9:20	56	-5.7	-5.2	0.08	0.09	-5.4	NA	54.4	38.5	0.1	3.50 / 12	4.50 / 12	Counter #: -
GW-4	9:24	54	-5.8	-2.5	0.01	0.01	-2.4	NA	19.4	14.2	10.5	0.50 / 12	0.25 / 12	Counter #: -
GW-5	9:28	60	-5.7	-1.5	0.01	0.01	-1.4	NA	13.4	10.7	12.3	0.25 / 12	0.125 / 12	Counter #: -
GW-6	10:09	48	-6.1	-5.4	0.02	NM	NM	NA	48.7	38.8	0.1	3.00 / 12	3.00 / 12	Counter #: -
GW-7	9:32	60	-5.9	-5.9	0.01	0.02	-5.9	NA	60.4	27.6	0.0	3.75 / 12	4.75 / 12	Counter #: -
GW-8	9:38	56	-5.8	-5.8	0.03	NM	NM	NA	44.0	14.4	8.5	2.75 / 12	2.75 / 12	Counter #: -
GW-9	9:43	54	-5.8	-1.1	0.01	0.01	-0.5	NA	2.1	1.3	19.2	1.25 / 12	0.50 / 12	Counter #: -
GW-10	10:02	52	-6.3	-2.1	0.03	NM	NM	NA	31.5	20.2	4.2	0.75 / 12	0.75 / 12	Counter #: -
GW-11	9:49	52	-6.2	-5.7	0.02	0.01	-4.9	NA	9.1	3.6	17.3	1.00 / 12	0.50 / 12	Counter #: -
GW-12	9:53	54	-6.2	-0.6	0.03	NM	NM	NA	19.0	10.2	13.8	0.35 / 12	0.35 / 12	Counter #: -
GW-13	9:57	54	-5.9	-1.3	0.02	0.02	-0.5	NA	16.7	9.4	14.5	0.75 / 12	0.50 / 12	Counter #: -

Notes:

(1): Air compressor offline, no leachate counters recorded.

(2): Changed compressor oil.

"NA" = Data Not Available
"NM" = Not Monitored
Data Entered By: A. Ruetten 5/19/22
Checked By: A.Stehn 5/20/2022