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May 22, 2024

Mr. Bruce J. LeRoy
Hydrogeologist -Northeast Region Remediation and Redevelopment
Wisconsin Department of Natural Resources
1027 W. St. Paul Ave.
Milwaukee, WI 53233

Subject: 2024 Semi-annual Inspection Report – First Report
Stoughton City Landfill, Stoughton, Dane County, Wisconsin
USEPA ID #WID980901219; WDNR BRRTS #02-13-000880

Dear Mr. LeRoy:

TRC completed the first semi-annual inspection of two for the 2024 calendar year for the Stoughton City Landfill (Site). Inspection tasks were completed in concurrence with the October, 2023 City of Stoughton Landfill Operation and Maintenance Bidding Documents, follow up correspondences between TRC and the Wisconsin Department of Natural Resources (WDNR), and the April 2024 Quality Assurance/Quality Control Plan (Revision 1) (TRC, 2024). This letter summarizes inspection and monitoring activities completed in April 2024. A separate report submittal will be completed discussing the groundwater monitoring completed at the Site in April of 2024.

Bimonthly Site Monitoring

Gas Probe Monitoring

Currently the Site contains three gas monitoring probes (GMP-1, GMP-2, and GMP-3) along the southern perimeter of the landfill to evaluate if off site landfill gas migration is occurring. TRC mobilized to the site on April 22, 2024 to monitor gas concentrations and collect pressure reading at each of these gas monitoring probes. Each probe was field monitored using a Landtec GEM 2000 meter for methane (percent lower explosive limit and percent by volume), carbon dioxide, and oxygen. Volatile organic compounds (VOCs) were field monitored using a Rae Systems MiniRae 3000 and a pressure reading was collected using a Dwyer 475 Series Manometer. Field measurements from these two events are included in Attachment 1.

No methane gas was detected in the gas probes during the April 2024 monitoring events which indicates that it's unlikely that any significant landfill gas migration is occurring along the southern perimeter. Additionally, VOC migration from the landfill in that area is unlikely since all detectable PID readings were below 1 parts per million. Oxygen levels varied by probe and inspection event but were generally just below ambient air levels of 20.9%. Low concentrations of carbon dioxide were generally detected at the probes with the highest reading of 0.7% by volume at GMP-2, the other detectable readings at the site were below 0.5 %.

Flow Prevention Monitoring

During each bimonthly site visit the flow prevention devices at monitoring wells MW-7I, MW-8I and MW-10I were inspected. The devices include mechanical packers installed at MW-7I, MW-8I and MW-10I due to artesian conditions present at these wells. During the site inspection the packers were in place and preventing flow out of the well.

April Semi-annual Site Inspection

The semi-annual site inspection included a visual evaluation of the landfill cover, storm sewer management system, gas venting system, monitoring well network, security fencing/entrance gate, signage, and the access road (Site features). TRC completed a site walk on April 22, 2024, completing an inspection of the Site features and a summary of the inspection is included in Attachment 2. A photographic log is also included in Attachment 2.

Landfill Cover

No issues were observed with the landfill cover that require immediate maintenance. There were several small animal burrowing's (less than 4-inches) at various spots on the landfill cover, nothing extensive that requires additional maintenance. Additionally, the three to four localized areas of larger burrowing (greater than 4-inches) along the eastern fence line remain similar in size and number to the ones identified in the Spring 2023 Inspection Report. Because this area of the landfill is directly adjacent to a wetland, trapping animals and filling these burrows would not be a permanent solution due to the high amount of animal activity in the area. These areas should continue to be monitored during future inspection events to ensure that they do not expand into the limits of the waste.

Storm Sewer Management System

The storm sewer management system appeared to be functioning as constructed and no significant erosion damage or lack of vegetation was observed. The area where ponding was noted near GV-15 and GV-16 during the EPA's 2023 site visit was dry during this inspection event. It is likely that the ponding occurred due to snow melt during the time of the site visit and not indicative of larger drainage issues at the site. The area will continue to be monitored in the future to ensure that the cap and vegetation is not damaged.

Landfill Gas Vents

The Site contains 21 gas vents throughout the limits of the landfill. Each vent was inspected by TRC and the only issue noted was the caution sign for GMP-3 had fallen over. An attempt to fix this sign had previously been completed in 2023 by using a mallet to drive the steel signpost back into the ground. This fix appears to have failed and the signpost will have to be replaced due to the base being rusted out. TRC plans to make these repairs prior to the fall inspection event.

Monitoring Well Network

There are currently 37 monitoring, extraction, or observation wells installed surrounding and in close proximity to the landfill. Each well was inspected, and the following observations were found:

- MW-7I is an artesian well and the packer at the time of this inspection was working and will continue to be monitored on a bi-monthly basis.
- MW-8I is an artesian well and the packer at the time of this inspection was working and will continue to be monitored on a bi-monthly basis.

- MW-10I is an artesian well and the packer at the time of this inspection was working and will continue to be monitored on a bi-monthly basis.
- The locks on several of the wells are rusted and will be replaced soon.

Security - Fencing/Gate

The chain link fence that surrounds a portion of the landfill was in good condition. The gate was in good condition, but the lock was rusted and needs to be replaced. There was a small section of broken fencing north of the western gated entrance. This damage was presumably due to activities associated with the adjacent frisbee golf course. No damage was noted to any of the wells, gas vents or landfill cap from the trespassing. The WDNR may consider adding chain link to the area of the fence north of the gate to deter further property damage from these activities.

Signage

Signs are located along the exterior of the fence surrounding the landfill. The signs were in good condition and labels were visible.

Access Road

No issues were observed with the Site access road during this inspection.

Recommendations

Per the request for proposal document, TRC can assist with the repair of the broken fence as needed. Future inspections should make special note of increased animal activity along the eastern fence line as well as any evidence of ponding between GV-15 and G-16. A new main gate lock should also be purchased for the site in the future.

If you have any questions, please contact me at Wbraga@trccompanies.com or at (608) 234-7374.

Sincerely,

TRC

Wesly Braga
Project Manager

Attachments: 1. Gas Probe Monitoring Form - April 2024
2. Semi-annual Site Inspection Form – April 2024
3. Photographic Log – April 2024

cc: Giang Van Nguyen – USEPA Region V

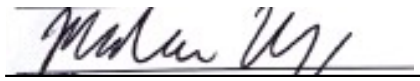
References

TRC Environmental Corporation. 2024. Quality Assurance/Quality Control Plan. Stoughton City Landfill. Stoughton, Dane County, Wisconsin. April 16, 2024.

Attachment 1

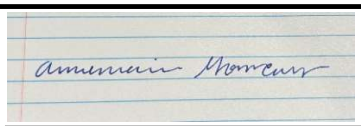
Bi-monthly Gas Probe Monitoring Forms
April 2024

PROJECT NAME:	Stoughton Landfill
PROJECT NUMBER:	576123
PROJECT MANAGER:	Wesley Braga
SITE LOCATION:	Stoughton, Wisconsin
DATES OF FIELDWORK:	TO
PURPOSE OF FIELDWORK:	Bi-monthly Gas Monitoring
WORK PERFORMED BY:	Wesley Braga Maddie Holicky



5/20/2024

SIGNED DATE



5/20/2024

CHECKED BY DATE

PID FIELD CALIBRATION LOG

PROJECT NAME:	Stoughton City Landfill	MODEL:	MiniRae 3000
PROJECT NUMBER.:	576123	LAMP VOLTAGE:	10.6
SAMPLER NAME:	Maddie Holicky/Wesley Braga	SERIAL NO.:	RENTAL

PID CALIBRATION CHECK

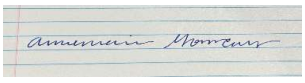
	DATE: 04/22/2024 TIME: 1000 INITIALS:	DATE: TIME: INITIALS:	DATE: TIME: INITIALS:	DATE: TIME: INITIALS:	DATE: TIME: INITIALS:
BATTERY CHECK	☑	☐	☐	☐	☐
ZERO GAS	0.0/ 0.0	/	/	/	/
SPAN GAS	102.0/ 100.0	/	/	/	/
AUDIBLE FAN MOTOR CHECK	☑	☐	☐	☐	☐
RESPONSE CHECK	☑	☐	☐	☐	☐

NOTES

PROBLEMS ENCOUNTERED	CORRECTIVE ACTION

4/22/2024

SIGNED DATE



5/20/2024

CHECKED DATE

GAS MONITORING REPORT

SITE NAME:	Stoughton City Landfill	DATE:	4 / 22 /2024
PROJECT NUMBER:	576123.0000.0000	TECHNICIAN:	Maddie Holicky/Wesley Braga
GAS SENSOR MODEL:	GEMS 2000	FIELD CALIBRATED:	YES: ☑ NO: ☐

WEATHER

WEATHER: Sunny
SKY CONDITIONS: Clear
GROUND CONDITIONS: SNOW: YES: ☐ NO: ☑
FROZEN GROUND/FROST: YES: ☐ NO: ☑
VISIBILITY: Clear TIME: 10:42

TEMPERATURE: 55 °F
WIND SPEED: 5 MPH DIR: SE
RELATIVE HUMIDITY (%): 50
DEW POINT °F 36
BAROMETRIC PRESS (in.Hg): 30.03 TREND: Down

GAS READINGS

Probe/Vent Number	Time	Pressure		CH_4		O_2 (% V/V)	CO_2 (% V/V)	PID (ppm)	Comment
		+ or -	in w.c.	%LEL	% V/V				
GMP-1	11:02	-	0.4	0.0	0.0	19.7	0.3	0.0	
GMP-2	11:08	-	0.2	0.0	0.0	19.3	0.7	0.0	
GMP-3	10:50	-	0.70	0.0	0.0	19.9	0.5	0.0	

Maddie Holicky 4/22/2024
SIGNED DATE

CHECKED BY 5/20/2024
DATE

Attachment 2

Semi-annual Site Inspection Form
April 2024

Operation and Maintenance Semi-Annual Inspection Report

Stoughton City Landfill
Stoughton, Wisconsin

INSPECTOR: Maddie Holicky	LOCATION: STOUGHTON CITY LANDFILL - STOUGHTON, WI
COMPANY: TRC	DATE/TIME: 4/22/2024, 9:00 am
PROJECT: STOUGHTON CITY LANDFILL O&M	PROJECT NUMBER : 576123.0000.0000

WEATHER

WEATHER	CLEAR	PARTLY CLOUDY	CLOUDY	FOG
TEMPERATURE	HIGH	55°F	---	---
WIND	CALM	MEDIUM	HIGH	---
PRECIPITATION	RAIN	LIGHT	MODERATE	HEAVY
	SNOW	LIGHT	MODERATE	HEAVY

INSPECTION ITEMS

TYPE OF INSPECTION	ROUTINE	SPECIAL
	☑	☐

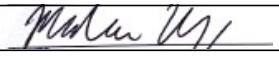
PERSONS/EQUIPMENT PRESENT: Wesley Braga (TRC), Maddie Holicky (TRC), PID (Rae Systems MiniRae 3000) and a pressure reading manometer (Dwyer 475 Series)

GENERAL DESCRIPTION OF SITE CONDITIONS: Site is in good condition. Cap is saturated due to current/recent rain event, no localized ponding observed. Vegetation is well established and is not stressed. Small animal burrowing noticed during this inspection in 3-4 small areas along eastern fence. Two slats broken off fence north of western gate.

SPECIAL INSPECIAL ITEMS	POTENTIAL PROBLEM AREA	STATUS	NOTES
PERIMETER SECURITY FENCING	BROKEN OR MISSING WOOD SLATS, TORN CHAIN LINK FABRIC	2	Small section of wooden fence broken north of the western gate.
ENTRANCE GATE AND LOCKING MECHANISM	LOCK BROKEN/MISSING, MECHANISM INOPERATIVE	2	Lock was hard to open due to rust, will be replaced as soon as possible
MONITORING WELLS AND WELLHEAD COVERS	SIGNS OF TAMPERING, CASING DAMAGED, LOCK MISSING.	2	Locks were hard to open due to rust, will be replaced as soon as possible
FINAL COVER VEGETATION	BARE SPOTS, STRESSED VEGETATION, DEEP ROOTED VEGETATION	1	
FINAL COVER SLOPE (EXPLAIN BELOW)	GULLIES, LACK OF VEGETATION, SUBSIDENCE, PONDING	1	
EVIDENCE OF BURROWING ANIMALS	DAMAGE TO FINAL COVER, EVIDENCE OF WASTE	1	Small burrowing seen at various spots around the cap. Larger burrows noted along eastern fence line. Do not seem to have gotten larger or more extensive since 2023.
STORMWATER DRAINAGE CHANNELS	GULLIES, EROSION, DEBRIS, CULVERT BLOCKED	1	
LANDFILL GAS VENTING SYSTEM	DAMAGED OR BLOCKED VENT RISERS, STRESSED VEGETATION	2	GV-3 Signpost needs to be replaced
ACCESS ROAD	PONDING, RUTTING, EROSION	1	
COVER MOWING AND TALL VEGETATION REMOVAL (OCTOBER INSPECTION ONLY)	MOWING AND TALL VEGETATION REMOVAL DONE TO SPECIFIED VEGETATION HEIGHT, ANY MISSED AREAS	1	

* (1)ACCEPTABLE - NO MAINTENANCE REQUIRED. (2) NOT ACCEPTABLE - IDENTIFY REQUIRED MAINTENANCE

SUMMARY OF DEFICIENCIES AND/OR CORRECTIVE ACTIONS: Locks on the fence and wells will be replaced soon, WDNR was notified about the issues with fence. Sign for GV-3 will be replaced prior to fall inspection.

SIGNATURE OF INSPECTOR:  DATE: 5/20/2024

Attachment 3

Photographic Log
April 2024

Photographic Log

Client Name:	Site Location:	Project No.:
Wisconsin Department of Natural Resources	Stoughton City Landfill	576123.0000

Photo No.	Date
1	4/22/2024

Time: 09:23

Weather: Sunny/ 55°F

Description:
Sign damage for GMP-3.

Photographer:
Wesley J Braga
Wes Braga

Photo No.	Date
2	4/22/2024

Time: 10:22

Weather: Sunny/ 55°F

Description:
Broken fence looking west.

Photographer:
Wesley J Braga
Wes Braga

Photographic Log

Client Name:	Site Location:	Project No.:
Wisconsin Department of Natural Resources	Stoughton City Landfill	576123.0000

Photo No.	Date
3	4/22/2024

Time: 9:26

Weather: Sunny/ 55°F

Description:
Smaller animal burrows on the east side of the landfill next to chain link fence.

Photographer:
Wesley J Braga
Wes Braga

Photo No.	Date
4	4/24/2024

Time: 9:25

Weather: Sunny/ 55°F

Description:
Smaller animal burrows on east side of landfill next to chain link fence.

Photographer:
Wesley J Braga
Wes Braga