

**DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: On-site Inspection**

N599172123

FACILITY: Citizens Disposal, Inc.		SRN / ID: N5991
LOCATION: 2361 W. Grand Blanc Rd., GRAND BLANC		DISTRICT: Lansing
CITY: GRAND BLANC		COUNTY: GENESEE
CONTACT: Robb Moore, Environmental Manager		ACTIVITY DATE: 05/13/2024
STAFF: Matthew Karl	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: MAJOR
SUBJECT: On-site inspection as part of a full compliance evaluation (FCE) to determine compliance with permit MI-ROP-N5991-2016. This on-site inspection was scheduled at the same time as a SEM survey audit of the landfill. The facility still has an outstanding compliance issue with their SO2 emissions, they currently have permit applications in with the permit section to address this issue.		
RESOLVED COMPLAINTS:		

Purpose:

This scheduled site inspection was conducted as part of a full compliance evaluation (FCE) of Citizens Disposal, Inc and Energy Developments Grand Blanc LLC (formerly Granger Electric of Grand Blanc). The source currently operates under renewable operating permit (ROP) No. MI-ROP-N5991-2016. The source currently has a renewal application in-house that is undergoing internal review. This scheduled site inspection was conducted at the same time as a surface emission monitoring (SEM) survey audit also conducted by the AQD.

Contacts:

Section 1 – Citizens Disposal, Inc.

Responsible Official: Richard Rolf, General Manager 810-768-2232

Facility Contact: Robb Moore, Environmental Manager 810-655-6906
rmoore@republicservices.com

Facility Consultant: Ben Kotrba 989-415-3741 bkotrba@eilllc.com

Section 2 – Energy Developments Grand Blanc LLC.

Responsible Official: Raymond Ivers, President, Operations 508-243-9362

Facility Contact: Meghan Stackhouse, Regulatory Compliance and Sustainability Director 517-243-3676 meghan.stackhouse@edlenergy.com

Rob Stewart, Central Region Operations Supervisor rob.stewart@edlenergy.com 517-896-9725

Facility Description:**Section 1:**

Citizens Disposal, Incorporated (operated by Republic Services) is a landfill located at 2361 West Grand Blanc Road, Grand Blanc in Genesee County. The landfill is adjacent to the US-23 freeway.

A landfill means an area of land or an excavation in which wastes are placed for permanent disposal. The Citizens Disposal landfill is classified as a Type II sanitary

landfill, which is a Municipal Solid Waste (MSW) landfill. A “Municipal Solid Waste landfill” or a “Type II landfill” according to Rule 299.4104(d) is defined as:

“A landfill which receives household waste, municipal solid waste incinerator ash or sewage sludge and which is not a land application unit, surface impoundment, injection well, or waste pile. A municipal solid waste landfill also may receive other types of solid waste such as: construction and demolition waste, sewage sludge, commercial waste, nonhazardous sludge, hazardous waste from conditionally exempt small quantity generators, and industrial waste. Such a landfill may be publicly or privately owned.”

Waste materials arrive in a variety of vehicles that have the potential to generate fugitive particulate matter (PM) emissions from the roads around the landfill. After waste is transported to the landfill, it is placed in one of the active working areas, known as cells, and is covered daily with soil or other cover materials. When a cell reaches its design capacity, a liner is installed to cover the waste. Over time, natural biological processes transform the waste materials and produce leachate and landfill gas (LFG). Initially, decomposition is aerobic until the oxygen supply is exhausted. Anaerobic decomposition of buried refuse creates most of the LFG. The LFG is comprised of methane (CH₄), carbon dioxide (CO₂), carbon monoxide (CO), hydrogen sulfide (H₂S), volatile organic compounds (VOC) and non-methane organic compounds (NMOC). NMOC is the primary regulated air pollutant associated with LFG generation.

There are two (2) sides to the landfill. An inactive (closed) landfill originally owned and operated by Waste Management (WM) which dates back to the 1940s. The active landfill (Citizens Disposal) is owned and operated by Republic Services since 1989. The landfill has been constructed in three (3) construction phases, as described below:

Phase 1 – Cell A (original cell constructed in the early 1990s)

Phase 2 – Cells A-F

Phase 3 – Cells A-D

- Cell A: Built in three phases between 2006 and 2007
- B-North: September 2018
- B-West: October 2019
- B-East: October 2020

The landfill has installed an active gas collection and control system (GCCS). For the WM side, gas collection wells were installed in 1994. Not much gas is collected from the inactive landfill, about 300 cubic feet (cf) per year. For the active landfill (Citizens Disposal), gas collection wells are installed as appropriate. The GCCS uses a series of interconnected vertical and horizontal gas extraction wells that are operating under negative pressure to collect LFG through the landfill and route the gas to a main header, which then routes the gas to either open flares or to the Section 2 treatment system. The landfill operates two (2) open flares as backup control devices. One flare identified as the Zink flare is rated to handle 3,000 cubic feet per minute (CFM) and is located near the base of the landfill. The other flare, identified

as the Grof flare is rated at 600 CFM and is located near Plant 1. For Grof flare operation, gas first goes to the gas-to-energy plant then is routed to the Grof flare when the engines do not have the capacity to handle all of the gas. Emissions from the backup flares includes carbon monoxide (CO), nitrogen oxides (NOx), particulate matter with an aerodynamic diameter of 10 micrometers (PM10), particulate matter with an aerodynamic diameter of 2.5 micrometers (PM2.5), sulfur dioxide (SO₂) and volatile organic compounds (VOC).

Section 2:

Energy Developments Grand Blanc, LLC (EDGB) operates a gas-to-electric plant that consists of a treatment system and seven (7) spark ignition (SI) reciprocating internal combustion engines (RICE). The treatment system has been in place since 1995. The treatment system is where the LFG is filtered, dewatered, compressed, and cooled. The treatment system consists of a strainer and knockout scrubber to remove water vapor from the gas. The gas then passes through a compressor and heat exchangers. Finally, particulate matter is removed from the gas when it passes through a 10-micron particulate matter filter. The engines then combust the treated LFG to produce electricity. Each engine turns a crankshaft that spins a rotor in an electromagnetic field creating an electric current used to generate electricity. The engines in the gas-to-electric plant are located in two (2) buildings, identified as Plant 1 and Plant 2. Plant 1 was built in 1993 and has space for five (5) engines, which are all currently occupied by CAT 3516 engines. All five (5) engines present in plant 1 operate under the permit to install (PTI) exemption rule 285(2)(g). Plant 2 has space for three (3) engines, of which two (2) are filled with CAT 3520C engines permitted under PTI No. 331-08. Emissions from the engines include CO, NOx, SO₂, VOC and formaldehyde. A small self-igniting, open flare rated at 140 CFM was installed to control an accidental bypass of the treatment system since the last renewal.

Regulatory Overview:

Citizens Disposal, Inc. and EDGB are considered to be a major source of criteria pollutants because the potential to emit of carbon monoxide (CO) and nitrogen oxides (NOx) exceeds 100 tons per year. The source is also considered a major source of hazardous air pollutants (HAPs) because the potential to emit of an individual HAP (formaldehyde) exceeds 10 tons per year and total HAPs exceeds 25 tons per year. The source is considered a major Prevention of Significant Deterioration (PSD) source because the potential to emit of CO was greater than 250 tons per year.

The following federal regulations apply to the source:

Landfill gas fired engines EUENGINE6 and EUENGINE7 at the stationary source are subject to the Standards of Performance (NSPS) for Stationary Spark Ignition Internal Combustion Engines promulgated in 40 CFR Part 60, Subparts A and JJJJ.

The landfill accepts asbestos containing waste, EUASBESTOS contains the conditions for the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Asbestos promulgated in 40 CFR Part 61, Subparts A and M.

The landfill gas fired engines EUENGINE1, EUENGINE2, EUENGINE3, EUENGINE4, EUENGINE5, EUENGINE6, and EUENGINE7 are subject to the NESHAP for Stationary Reciprocating Internal Combustion Engines promulgated in 40 CFR Part 63, Subparts A and ZZZZ.

The stationary source was subject to the Standards of Performance for Municipal Solid Waste Landfills promulgated in 40 CFR Part 60, Subparts A and WWW. On June 21, 2021, the facility became subject to the Federal Plan Requirements for Municipal Solid Waste Landfills that commenced construction on or before July 17, 2014, and have not been modified or reconstructed since July 17, 2014, as specified in 40 CFR Part 62, Subpart OOO. The stationary source is considered a legacy landfill under the Federal Plan. Michigan is not currently the delegated authority and is implementing and enforcing this regulation through the ROP.

The stationary source is subject to the National Emissions Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills as promulgated in 40 CFR Part 63, Subparts A and AAAA. The permittee has opted to comply with the provisions for the operational standards in 40 CFR 63.1958 (as well as the provisions in 40 CFR 63.1960 and 40 CFR 63.1961) for a Municipal Solid Waste landfill with a gas collection and control system.

Emission Unit ID	Emission Unit Description	Install/ Modify Date	Applicable Requirement
SECTION 1			
EULANDFILL	This emission unit represents the general Municipal Solid Waste (MSW) landfill.	12-13-1995	40 CFR 63, Subpart AAAA
EUACTIVECOLL	Active landfill gas collection system at the landfill that uses gas mover equipment to draw landfill gas from the wells and moves the gas to the control equipment.	12-13-1995	40 CFR 63, Subpart AAAA
EUGROFFLARE	A 600-cfm open flare combustor without enclosure or shroud.	4-1-2000	40 CFR 63, Subpart AAAA
EUZINKFLARE	A 3000-cfm open flare combustor without enclosure or shroud.	2-3-2009	40 CFR 63, Subpart AAAA
EUASBESTOS		1-1-1981	

	Any active or inactive asbestos disposal site.		40 CFR 61, Subpart M
EUCOLDCLEANER	Parts cleaner located in maintenance garage.	1-1-2000	Rule 281(2)(h)
SECTION 2			
EUTREATMENTSYS	Processing equipment that treats collected landfill gas for subsequent sale or use.	12-13-1995	40 CFR 63, Subpart AAAA
EUENGINE1	Caterpillar 3516 landfill gas fired reciprocating engine located in Plant 1.	7-27-1994	Rule 285(2)(g); 40 CFR 63, Subpart ZZZZ
EUENGINE2	Caterpillar 3516 landfill gas fired reciprocating engine located in Plant 1.	7-27-1994	Rule 285(2)(g); 40 CFR 63, Subpart ZZZZ
EUENGINE3	Caterpillar 3516 landfill gas fired reciprocating engine located in Plant 1.	7-27-1994	Rule 285(2)(g); 40 CFR 63, Subpart ZZZZ
EUENGINE4	Caterpillar 3516 landfill gas fired reciprocating engine located in Plant 1.	4-1-2000	Rule 285(2)(g); 40 CFR 63, Subpart ZZZZ
EUENGINE5	Caterpillar 3516 landfill gas fired reciprocating engine located in Plant 1.	1-31-2017	Rule 285(2)(g); 40 CFR 63, Subpart ZZZZ
EUENGINE6	Caterpillar 3520 landfill gas fired reciprocating engine located in Plant 2.	8-6-2012	40 CFR 60, Subpart JJJJ; 40 CFR 63, Subpart ZZZZ
EUENGINE7		8-6-2012	40 CFR 60, Subpart JJJJ;

	Caterpillar 3520 landfill gas fired reciprocating engine located in Plant 2.		40 CFR 63, Subpart ZZZZ
EUSOLARFLARE	An open/unshrouded, self-igniting, solar powered flare which combusts gas vented from the treatment system. Maximum design capacity of 140 scfm.	12-29-2023	Rule 285(2)(aa); 40 CFR 63, Subpart AAAA

Annual Emissions Report for 2023:

Pollutant	Actual Emissions (Tons/Year)
CO	269.17
NMOC	13.18
NOx	118.52
PM10-PRI	36.33
PM10-FIL	20.66
PM2.5-PRI	16.01
PM2.5-FIL	0.34
SO2	158.15
VOC	72.32

Inspection:

SEM Survey Audit:

I (Matt Karl) arrived on site at 9:00am. I met with the section 1 responsible official Robb Moore, as well as AQD Staff Mike Kovalchick, Jeff Benya and Brian Merle as

well as MMD staff Aaron Bickel. We had a brief meeting in the landfill weigh station to discuss the SEM survey audit before proceeding. We then got back in our vehicles and drove down to the section 2 gas-to-energy plant buildings. We noted that the 600 CFM open flare (EUGROFFLARE) was operating. There was no opacity coming off that flare. Mike and I did notice that there were two smaller stacks on plant building two with “cone” style rain covers that had visible opacity emissions. There was also one similar stack and rain cap on the plant 1 building that also had visible opacity emissions. We brought this to Robb Moore’s attention, and I informed him and Mike that I would follow up with the section 2 gas-to-energy plant operators when I conducted their inspection. We proceeded to walk a circuit of the landfill, including the closed section of the Grand Blanc Landfill. It took until approximately 11:00am to complete the survey audit.

The SEM survey audit team noted nine (9) areas that had methane concentrations of greater than 500 ppm above background on the active Citizens Disposal Landfill, four (4) occurrences of leachate outbreaks on the surface of the landfill. There were also four (4) areas that had methane concentrations >500 ppm above background on the closed Grand Blanc Landfill. I have included the table below from the “N5991 Citizens Landfill Results Letter 20240520.pdf”:

AQD ID	LAT	LON	PPM	Description
M-1	42.90592833	-83.72295267	1,117	Storm water ditch off haul road
M-2	42.90214683	-83.72727367	600	Dead grass near penetration
M-3	42.90329767	-83.721248	607	Dead grass
M-4	42.90342	-83.72125217	3748	Penetration hit (No well ID)
M-5	42.90463567	-83.72068417	945	Dead grass
M-6	42.9066845	-83.72067567	29,043	Base of a sewer vault (Grand Blanc Landfill)
M-7	42.90677083	-83.72215567	2,239	Penetration hit (Grand Blanc Landfill)
J-1	42.90600067	-83.7230445	633	Storm water ditch off haul road
J-2	42.90121233	-83.722598	513	Large bare area (re-seeded, east slope)
J-3	42.9046905	-83.7206465	513	

				Bare area along haul road fence line (east slope)
J-4	42.90479233	-83.72064217	1,639	Bare area along haul road fence line (east slope)
J-5	42.907191	-83.72011833	1,790	Near manhole (Grand Blanc Landfill)
J-6	42.90692017	-83.722369	2,528	Dead grass (Grand Blanc Landfill)
L-1	42.90624	-83.724878	N/A	Small leachate outbreak
L-2	42.905975	-83.725871	N/A	Small leachate outbreak
L-3	42.905833	-83.72583	N/A	Small leachate outbreak
L-4	42.905281	-83.720428	N/A	Small leachate outbreak

All methane concentrations above 500 ppm were marked with a red or white flag unless indicated in table. Attachments 1 and 2 provide more detailed information on the SEM survey that was performed. Monitoring was conducted between 8:30 AM and 11:00 AM on May 13, 2024. SEM hits that occurred at the adjacent closed Grand Blanc Landfill that is owned by WM Corporation are in bold.)

The recommendations from the letter are also listed below:

- Address/fix all **9** SEM hits per federal requirements. Work with WM to fix the **4** SEM hits at the closed Grand Blanc landfill.
- Work with MMD to ensure that the collection wells system vacuum design requirements meet the new Part 115 requirements.
- Investigate liquid levels in vertical wells and address as needed per MMD Part 115 Sec 11512d (3) requirements.
- Work with MMD to address/fix all leachate outbreaks. Enhance monthly cover integrity inspections to ensure that leachate outbreaks and other cover issues are identified/fixed in a timely manner. Improve documentation of the cover integrity inspections and consider mapping out problem areas.

- Install a GCCS at Cell Phase III Cell B that covers the entire Cell as soon as possible to capture the elevated amounts of landfill gas that is being generated in that portion of the landfill.
- Consider expanding backup flare capacity as any new expansion of the GCCS is Phase III Cell B may capture enough landfill gas to exceed the backup flare capacity.
- Work with MMD and WM to investigate SEM hits and cover integrity problems at the closed Grand Blanc Landfill to ensure compliance with Part 115 Sec 11517(1)(a)).

Pursuant to the federal National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills 40 CFR Part 63 Subpart AAAA, §63.1981(h) a semi-annual report is required to be filed with AQD that includes results of the required quarterly SEM pursuant to the operational standards in §63.1958(d)(1).

As a response to [the SEM Survey Audit] letter, the source is required to provide a copy of the Citizens Disposal Landfill Semi-Annual NESHAP report to the Lansing and Jackson District Offices. That report should include the methane exceedances detected by the AQD during this SEM inspection and at a minimum, the results of the required re-monitoring completed pursuant to 40 CFR 63.1960(c) and the actions taken to clear the identified exceedances.

Section 1 – Citizens Disposal, Inc.

After the SEMS Survey Audit, I met with Robb Moore and Ben Kotrba in the weigh station office to discuss the Citizens Disposal Inc.'s compliance with MI-ROP-N5991-2016. They informed me that they have not received any recent complaints for opacity or odor from the landfill operations. They informed me that the landfill has approximately 12 years of operational life at the current permitted capacity (down from 14 years as of the last inspection in 2022). Cell C is currently being built and is approaching completion. Cell C is a large pit on the east side of the active landfill. Robb informed me that they own the property for further potential expansions, but they would have to apply for additional permits at that point.

We discussed the leachate collection system. Ben looked up and confirmed that there are currently eighteen (18) well sump pumps located in wells across the active landfill. There are currently 140 wells in the gas collection system.

We discussed the gas header of the gas collection system. Robb described it as consisting of an 18-inch pipeline that runs along the west side to the south corner of the landfill. The gas header is reduced in diameter to 12-inch pipeline across the south side of the landfill and is also a 12-inch pipeline along the east side of the

landfill. Robb informed me that they eventually plan to upgrade all sections to 18-inch diameter piping and have a complete loop around the active landfill.

We discuss the following items for the working face of the landfill which concerns emission units EULANDFILL and EUACTIVECOLL in the permit. Robb informed me that at night, the landfill uses a combination of GM ABC soil, clay, and tarps as cover. These cover materials were approved by MMD staff Tiffany Johnson. The landfill has discontinued use of material dredged from the Flint River as cover.

The number of trucks per day delivering waste to the landfill is about the same as at the time of the previous inspection in 2022, at about 200-300 trucks per day. The types of waste being placed in the landfill has not changed and is a mix of municipal solid waste (MSW), construction and demolition (C&D) debris, and some inert hazardous waste.

The amount of landfill gas generated has gone up slightly since the last inspection, from between 2600-2700 cubic feet per minute (cfm) to between 2700-2800 cfm. The landfill gas methane content has been between 50-51%, which is up slightly from around 46.9% during the 2022 inspection. The quarterly SEM survey is still being performed by the consultant Monitoring Control & Compliance, Inc. (MCC). The first quarter (Q1) 2024 SEM survey identified 4 occurrences of >500 ppm methane, and these were all addressed and cleared on both the 10-day and 1-month re-surveys. They are scheduled to perform the second quarter (Q2) 2024 SEM survey later this month.

We also discussed the last Tier 2 non-productive area testing conducted on the closed Waste Management (WM) Grand Blanc landfill. This testing was last conducted on October 2, 2018 and was completed on November 1, 2018. The results showed that the closed landfill was still contributing 7% of the total landfill gas, which is above the <1% requirement to remove the gas collection system. Robb informed me they still expect the closed landfill to contribute approximately 300 cfm of landfill gas at approximately 40% methane content. Robb stated that they will still need the gas collection system for the foreseeable future and do not have plans to try to test to remove it anytime soon.

The grof flare identified as EUGROFFLARE in the permit, was operating during my site inspection. This flare is still operated by section 2- EDGB, but is maintained by section 1- Citizens Disposal, Inc. The consultant MCC performs monthly maintenance inspections on this flare. This flare takes excess gas from the landfill that the section 2 gas-to-energy plants cannot take. It combusts partially treated landfill gas. It uses nitrogen tanks to ignite the pilot light. It was initially tested on January 14, 2003 for gas exit velocity, net heating value and visible emissions (0% opacity was observed).

The zink flare identified as EUZINKFLARE in the permit, was not operating during my site inspection. This flare is operated by section 1- Citizens Disposal, Inc. It serves as a backup for the section 2 gas-to-energy plants. The main gas header has a "T" junction in it, and can route the landfill gas either to this flare or to the gas-to-energy plants. It has a thermocouple to continuously monitor the presence of a pilot flame. The consultant MCC also performs monthly maintenance inspections on this flare. This flare was initially tested on May 19, 2009 for gas exit velocity, net heating value

and visible emissions (39 seconds of visible emissions were observed during that test).

I informed Ben and Robb that they should expect to be required to perform repeat testing on those flares to show ongoing compliance once the ROP Renewal is issued.

We discussed the placement of asbestos waste in the landfill, whose requirements are contained under emission unit EUASBESTOS in the permit. The landfill staff locate friable asbestos waste with GPS in the landfill. The landfill updates a location map quarterly with the placement of asbestos waste. Robb informed me that the landfill received over 50 friable asbestos loads since the start of the year. Robb stated that they submit online notification for anticipated excavations/disturbances of asbestos waste.

I asked Robb about the cold cleaner identified as EUCOLDCLEANER in the permit. He confirmed that Safety Kleen still performs the maintenance for the cold cleaner. The cold cleaner uses petroleum distillate as the cleaning fluid. The cold cleaner recycles this material, so it is only replaced every other year (18 months).

Finally, we discussed the exempt equipment. Ben and Robb informed me that the information in the table below is still accurate. They noted that one of the two hydraulic oil tanks (EUHYDRAULICOIL) has been decommissioned. However, it is still present on-site and could be used again, so it is still appropriate to include it in the exempt equipment list.

Exempt equipment:

Exempt Emission Unit ID	Description of Exempt Emission Unit	Rule 212 Exemption	Rule 201 Exemption	Notes
EUDIESELFUEL	Two 1000-Gallon Diesel Fuel Tanks and One 500-Gallon Diesel Fuel Tank.	R 336.1212(4)(c)	R 336.1284(2)(i)	Storage, mixing, blending, or transfer operations of volatile organic compounds or noncarcinogenic liquids in a vessel that has a capacity of not more than 40,000 gallons where the contents have a true vapor pressure of not more than 1.5 psia at the actual storage conditions.
EUWASTEOIL	500-Gallon Waste Oil Tank.	R 336.1212(4)(c)	R 336.1284(2)(i)	""
EUMOTOROIL	335-Gallon Motor Oil Tank.	R 336.1212(4)(c)	R 336.1284(2)(i)	""
EUHYDRAULICOIL	Two 335-Gallon Hydraulic Oil Tanks.	R 336.1212(4)(c)	R 336.1284(2)(i)	""
EUFURNACE	70,000 BTU Propane Furnace.	R 336.1212(4)(b)	R 336.1282(2)(b)(i)	

				Fuel-burning equipment which is used for space heating, service water heating, electric power generation, oil and gas production or processing, or indirect heating and which burns only the following fuels: Sweet natural gas, synthetic natural gas, liquefied petroleum gas, or a combination thereof and the equipment has a rated heat input capacity of not more than 50,000,000 BTU per hour.
EUWATERHEATER	10,000 BTU Propane Water Heater.	R 336.1212(4)(b)	R 336.1282(2)(b)(i)	""
EUPROPANE	One 500-Gallon Propane Storage Tank and One 250-Gallon Propane Storage Tank.	R 336.1212(4)(c)	R 336.1284(2)(b)	Storage of butane, propane, or liquefied petroleum gas in a vessel that has a capacity of less than 40,000 gallons.

Section 2 – Energy Developments Grand Blanc LLC (EDGB) formerly Granger Electric of Grand Blanc, LLC.

I met with Rob Stewart, Central Region Operations Supervisor and Anthony “Tony”, operator in between the two gas-to-energy plants. I informed them of the observation of visible opacity emissions from the two (2) small stacks on plant 2 with the “cone” style rain caps. I also noted the one (1) similar stack visible on the plant 1 building. I informed that that the “cone” style rain caps were not allowed as they prevent unobstructed vertical dispersion of emissions. I also noted that it was an issue that there were visible opacity emissions emanating from those stacks. Rob Stewart informed me that there are filters prior to those stacks, and that the emissions were steam or mist. Rob Stewart stated that the stacks were “grandfathered”. I mentioned that it was a minor replacement to update the rain caps to a lossless style rain cap that complies with modern requirements. Rob said they would take it under advisement.

I inquired if there was any exempt equipment present in either plant building. Rob Stewart informed me that there was not any exempt equipment.

I asked if there had been any major maintenance or engine replacements performed since the last inspection in 2022, Rob and Tony told me there had not been. They informed me that there was still one open bay in Plant 2, but there were no plans to add another engine anytime soon.

Rob Stewart and Tony informed me to request additional information from the EDL Environmental Staff.

Records Request sent via email on Thursday, May 9th:

1. Latest GCCS map with current active area highlighted. Each cell boundary should be delineated or provided as a separate map.
2. Last 12 months of available cover integrity inspection reports.
3. Records of the last 3 months of the monthly wellhead reports. This should be in excel spreadsheet format and include COMPLETE suite of available well head information such as % Methane, % Oxygen, % Balance, calculated flow, well head static pressure, available header vacuum, GPS coordinates etc.
4. Latest well liquid level data that show % screen availability per MMD requirements if available.
5. Last 12 months of daily gas flow rates (SCFM) separately for each of the 2 flares and from the energy plant.
6. Complete description on how surface penetrations that are identified as SEM hits are typically remediated.
7. Current cover map of landfill that outlines areas of daily, interim and final cover.
8. Description of any alternative cover materials currently being used as alternative daily cover and description/quantity of any sludges that are currently being disposed of.
9. List of any odor complaints that the landfill has logged over the last 12 months.
10. Latest average H2S concentration of the landfill gas as measured at energy plant.
11. Last 4 quarterly NESHAP SEM reports.
12. Most recent GCCS design plan.
13. 2023 LANDGEM emission report submission document.
14. A current list of the engines' serial numbers.
15. Plant maintenance logs and downtime for May 2023-April 2024 (12 months)
16. Weekly plant logs from January 2023-Present (May 13, 2024)
17. The landfill gas usage and kilowatt output for May 2023-April 2024 (12 months)

Records Review:

"24-05-15 Letter Karl Records Request Response.pdf"

This record consists of the sources' response to the records request.

1. Latest GCCS map with current active area highlighted.

An updated GCCS map with current active area highlighted is attached.

This record was identified as "CDI-SP-WGAS.pdf" this document contained the site plan with gas system as-built drawing as of March 2024. The map legend contains information about the landfill and GCCS such as existing gas wells, pumps, leachate cleanout riser, existing leachate transmission line, monitoring wells, horizontal collection wells, existing gas headers and laterals, etc.

2. Last 12 months of available cover integrity inspection reports.

Cover integrity inspection reports covering the previous 12 months are attached. This record was "CDI Cover of Integrity 2024.pdf". This was a table filled out by Monitoring Control and Compliance, Inc. and titled "Soil Cover

Integrity Report". It contained 6 columns, and consisted of monthly records covering the time period from 1/17/23 to 4/23/24. Most monthly records noted "no new issues discovered." There were only three (3) occasions over this time period where issues were discovered. I have included these rows below:

Date	Tech.	Location	Description of Issue	Corrective Action Taken	Resolved (Y/N)
3/2/23	TM	159	Erosion rills.	Soil filled in by site.	Y
6/16/23	TM	41D	Erosion rills.	Soil filled in by site.	Y
4/23/24	TM	161	Burrow hole.	N	N

- Records of the last 3 months of the monthly wellhead reports. This should be in excel spreadsheet format and include COMPLETE suite of available well head information such as % Methane, % Oxygen, % Balance, calculated flow, well head static pressure, available header vacuum, GPS coordinates, etc.

Records of the last 3 months of the monthly wellhead reports are attached. This record was the spreadsheet "Wellhead Data January 2024-Present.xlsx". This spreadsheet contains twelve (12) columns: Point ID, Record Date, CH4 [%], CO2 [%], O2 [%], Bal Gas [%], Init Temp [°F], Init Stat Press ["H2O], Init Flow [scfm], Sys Pressure ["H2O], Latitude, Longitude. It covered the time period from 1/2/24 through 4/24/24. I reviewed the temperature column and noted that all of the temperatures recorded were below 145°F as required by 40 CFR 63.1958(c)(1). There was one (1) well identified as CITC157A which recorded a positive pressure 60 days beyond the initial occurrence. As reported in the "24-03-07 Letter Karl – 60 day notice 157A_.pdf" following 40 CFR 63.1981(j)(1), CDI notified AQD that gas well 157A has had positive wellhead pressure since December 29, 2023. The site investigated the cause and found that the lateral line that supplies vacuum to the well had been compromised. CDI planned to install a new lateral line to restore vacuum to the well. Construction drawings for the project had been completed at the time of the notification. Bids to complete the proposed construction had been solicited at the time of the notification. The work had been awarded and scheduled to begin the week of April 15th, 2024. As an update to this issue, Ben Kotrba emailed to inform me on April 29th, 2024, that the repairs to the lateral vacuum line at gas well 157A were completed and vacuum was restored to the well on April 23rd, 2024.

4. Latest well liquid level data that show % screen availability per MMD requirements if available.

Citizens submitted part 115 plans including the “Gas Collection and Control System Sampling and Monitoring Plan” on March 29, 2024, per MMD requirements. This plan is still awaiting approval. I have included section 3.0 Liquid Level Sampling and Corrective Action Triggers – Section 11512d(3) below:

Section 11512(d)(3) contains a variable schedule for monitoring liquid levels in wells based on how much of the screened length of the well is covered by liquids. For purposes of this section, the screened interval is defined as the interval between the installed depth to bottom and the top of the screen when installed.

- Liquid levels in each gas extraction well shall be monitored semiannually except as otherwise provided.
- If for two consecutive monitoring events the liquid level in a well exceeds 50% but does not exceed 75% of the screened interval length, the site shall submit to the department for review a liquids removal evaluation and corrective action report for the well, unless the well has a functional, operated liquid pump.
- If the liquid level in a well exceeds 75% of the screened interval length during a monitoring event, then the frequency of liquid level measurements for that well shall be increased to quarterly.
- If the liquid level in a well exceeds 75% of the screened interval length for two consecutive quarterly monitoring events, then a liquids pump will be installed, or an alternative action plan will be submitted for EGLE approval.
- If the liquid level in a well did not exceed 50% for the immediately preceding two consecutive monitoring events, the site may petition the department for a decreased monitoring frequency. However, decreased monitoring shall be conducted at least annually.
- For the purposes of the petition, the two consecutive monitoring events may include monitoring conducted before the effective date of the amendatory act.
- The site will maintain a list of approved liquid monitoring frequencies for each well.

Once a functional pump is installed and operating within a gas extraction well, liquid level monitoring frequency shall revert to semiannual until the well is eligible for a decreased monitoring frequency petition.

5. Last 12 months of daily gas flow rates (SCFM) separately for each of the 2 flares and from the energy plant.

12 months of daily gas flow rates (SCFM) for each device are attached.

“Grof Flare.xlsx”, this record contains a table with four (4) columns: Date, Total Daily Flow Volume (SCF), Daily Runtime (Hours), and Average runtime flow rate (SCFM). The spreadsheet covered the time period from 5/1/2023 to 4/30/2024. The total daily flow volume in standard cubic feet (SCF) over this time period was 67,974,718.7 SCF. The maximum daily flow volume was 741,559.7 SCF on 10/16/2023. The average was 185,723.3 SCF. The total runtime over this time period was 4030.7 hours. There were days where the flare operated the entire day, and days where the flare did not operate. The average runtime was 11 hours. The maximum flow rate was 515 standard cubic feet per minute (SCFM), and the average was 154.2 SCFM.

“Zink Flare.xlsx”, this record contains a table with four (4) columns: Date, Total Daily Flow Volume (SCF), Daily Runtime (Hours), and Average runtime flow rate (SCFM). The spreadsheet covered the time period from 5/1/2023 to 4/30/2024. The total daily flow volume over this time period was 39,378,419.0 SCF. The maximum daily flow volume was 1,373,898.0 SCF on 10/1/2023. The average was 107,591.3 SCF. The total runtime over this time period was 676.5 hours. There were days where the flare operated the entire day, and days where the flare did not operate. The average runtime was 1.8 hours. The maximum flow rate was 2,064.7 SCFM, and the average was 214.1 SCFM.

“Plant 1.xlsx”, this record contains a table with four (4) columns: Date, Total Daily Flow Volume (SCF), Daily Runtime (Hours) and Average runtime flow rate (SCFM). The spreadsheet covered the time period from 5/1/2023 to 4/30/2024. The total daily flow volume over this time period was 718,726,697.5 SCF. The maximum daily flow volume was 2,372,724.0 SCF and the minimum was 471,606.6 SCF. The average daily flow volume was 1,963,734.1 SCF. The total runtime for Plant 1 was 8,535.6 hours. Plant 1 on average operated for 23.3 hours per day. The maximum flow rate was 1,647.7 SCFM and the average was 1,400.6 SCFM.

“Plant 2.xlsx”, this record contains a table with four (4) columns: Date, Total Daily Flow Volume (SCF), Daily Runtime (Hours) and Average runtime flow rate (SCFM). The spreadsheet covered the time period from 5/1/2023 to 4/30/2024. The total daily flow volume over this time period was 552,448,620.6 SCF. The maximum daily flow volume was 1,728,764.7 SCF and the minimum was 508,886.5 SCF. The average daily flow volume was 1,509,422.5 SCF. The total runtime for Plant 1 was 8529.1 hours. Plant 1 on average operated for 23.3 hours per day. The maximum flow rate was 1,200.5 SCFM and the average was 1,077.2 SCFM.

6. Complete description on how surface penetrations that are identified as SEM hits are typically remediated.

This is on a case-by-case basis and is evaluated as such.

As noted in the document “CDI Cover of Integrity 2024.pdf” when erosion rills are discovered by Monitoring Control and Compliance, Inc. they are filled in with soil by the site (CDI). A burrow hole was documented on 4/23/24 at location 161, but there was no corrective action taken.

7. Current cover map of landfill that outlines areas of daily, interim and final cover.

A cover map of the landfill is attached.

This record was “1Q24 Cover Map.pdf”. It contained a map that noted that a portion of the Phase I Existing, Phase II- Cell A Existing, Phase II- Cell B Existing, Phase II- Cell C Existing, Phase II- Cell D Existing and a small portion of Phase II- Cell E Existing have final cover. The final cover area encompasses the northern and western portion of Phase I Existing, and a portion of the westernmost portions of the Phase II Cells A-D. The areas that had interim cover (IC) placed in Q1 2024 included a portion of Phase II Cell E Existing and a portion of Phase III- Cell D Existing. Alternate daily cover (ADC) placed in Q1 2024 was mostly in Phase III- Cell A Existing and a portion of Phase III Cell B-North Existing. The unhighlighted areas all have interim cover (IC).

8. Description of any alternative cover materials currently being used as alternative daily cover and description/quantity of any sludges that are currently being disposed of.

The landfill is currently using impacted soil excavated from the expansion of the Body Shop at the General Motors, LLC Flint Assembly Plant for alternate daily cover. This material was approved for use in a letter from EGLE dated January 11, 2024. The landfill takes wastewater sludge from a few different locations. The quantity depends on the day and time of year.

9. List of any odor complaints that the landfill has logged over the last 12 months.

The landfill has had no odor complaints in the last 12 months.

I reviewed MACES and the last documented odor complaints were from 2016.

10. Latest average H₂S concentration of the landfill gas as measured at the energy plant.

This information will be provided by EDL.

EDL submits weekly H₂S concentration gas samples. The landfill uses a draeger tube to sample the H₂S concentration. The most recent report "Gas sample 5-30-2024.pdf" indicated that the H₂S concentration was ~700 ppm. The H₂S concentration has trended down from ~800 ppm in the winter to around ~700 ppm currently. EDL also records the methane (CH₄) concentration, which was 46.8% and the oxygen concentration 0.82% in the LFG.

Month	Sulfur Concentration ²		Emission Factor				Sample Date
			Engine 6	Engine 7	Plant 1	Unit ¹	
Jan-23	776	ppmv	5.26	5.19	5.64	lbs/hr	1/4/23, 1/11/23, 1/18/23, 1/26/23
Feb-23	708	ppmv	4.59	4.6	4.63	lbs/hr	2/10/23, 2/17/23, 2/24/23
Mar-23	777	ppmv	5.51	5.61	5.66	lbs/hr	3/2/23, 3/9/23, 3/16/23, 3/22/23, 3/29/23
Apr-23	791	ppmv	5.52	5.57	5.59	lbs/hr	4/5/23, 4/13/23, 4/19/23, 4/26/23
May-23	750	ppmv	5.38	5.49	5.49	lbs/hr	5/3/23, 5/10/23, 5/18/23, 5/25/23
Jun-23	753	ppmv	4.61	4.69	5.01	lbs/hr	6/1/23, 6/8/23, 6/14/23, 6/22/23, 6/29/23
Jul-23	780	ppmv	5.15	5.5	5.57	lbs/hr	7/5/23, 7/13/23, 7/20/23, 7/28/23
Aug-23	816	ppmv	5.31	5.95	6.01	lbs/hr	8/4/23, 8/9/23, 8/16/23, 8/23/23, 8/30/23
Sep-23	796	ppmv	5.07	4.51	5.49	lbs/hr	9/8/23, 9/15/23, 9/20/23, 9/28/23
Oct-23	775	ppmv	5.56	5.15	5.66	lbs/hr	10/5/23, 10/11/23, 10/19/23, 10/27/23
Nov-23	758	ppmv	5.09	5.28	5.28	lbs/hr	11/1/23, 11/9/23, 11/15/23, 11/22/23
Dec-23	725	ppmv	4.97	5.07	5.12	lbs/hr	12/1/23, 12/7/23, 12/14/23, 12/19/23, 12/28/23

I	¹ SO ₂ Emissions (lbs/hr) = [(individual ppmv sulfur x 1E-06) x (1.1733 mols S/ft ³ H ₂ S) x (34.08 g H ₂ S/ mol S) x (1/453.59 lb/g) x (1.88 SO ₂ /H ₂ S MW) x (scfm LFG) x (60 min/hr)]
	² TRS concentration is average of weekly samples if more than one sample was analyzed

have included the following table from the annual emission report: Energy Developments Grand Blanc LLC SO₂ Monthly Emission Basis – Sample Concentrations and Hourly Rates:

As shown in the table above, the source continues to be in non-compliance with the MI-ROP-N5991-2016 FGEngines SC I.1 emission limit of 1.7 lb/hr SO_x for each engine in FGEngines (EUENGINE6 and EUENGINE7). The source has permit to install applications in house to address this issue.

11. Last 4 quarterly NESHAP SEM reports.

The last 4 quarterly NESHAP SEM reports are attached.

I reviewed the four (4) quarterly 2023 reports, as well as the first report from the first quarter of 2024. The SEM survey are performed by Monitoring Control and Compliance, Inc.

The first quarter 2023 monitoring event was conducted on March 1 and 2, 2023. One (1) location initially exceeded the 500-ppm methane regulatory standard. Re-monitoring results indicate that corrective action was effective at reducing surface emissions to below the regulatory standard for all measured exceedances, as shown in Appendix D. Appendix D Surface Emission Monitoring noted the initial monitored concentration was 5042.0 ppm, the 10-day re-monitoring was 168.0 ppm and the 30-day re-monitoring was 1.9 ppm, so the location's status was "cleared".

The second quarter 2023 monitoring event was conducted on June 12 and 14, 2023. Nine (9) locations exceeded the 500-ppm methane regulatory standard. Re-monitoring results indicate that corrective action was effective at reducing surface emissions to below the regulatory standard, except at location P1 (primary sump riser) as shown in Appendix D. Appendix D showed that the location had an initial monitored concentration of 5618 ppm, the 10-day re-monitoring was 2260 ppm and the 2nd 10-day re-monitoring was 4721 ppm. It was noted at that point that the location failed requirements. The facility submitted an alternative remedy and timeline request (ATR) on July 28, 2023. Citizens requested an alternative timeline, to August 31, 2023, to connect the

sump riser to the existing GCCS and place the location under vacuum to control landfill gas migration. EGLE approved the request on July 28, 2023. Therefore, there is no deviation per 40 CFR 63.1958(d).

The third quarter 2023 monitoring event was conducted on August 10 and 11, 2023. Eight (8) locations initially exceeded the 500-ppm methane regulatory standard. Re-monitoring results indicate that corrective action was effective at reducing surface emissions to below the regulatory standard for all measured exceedances.

The fourth quarter 2023 monitoring event was conducted on November 9 and 10, 2023. Five (5) locations exceeded the 500-ppm methane regulatory standard. Re-monitoring results indicate that corrective action was effective at reducing surface emissions to below the regulatory standard.

The first quarter 2024 monitoring event was performed on March 2 and 3, 2024. Results of the surface monitoring indicated four (4) locations where surface methane was found exceeding the compliance threshold of 500 ppm above background at the surface of the landfill. Cover repairs were completed by site personnel. The 10-day re-check events were performed on March 11, 2024, and all four (4) locations were below 500 ppm above background threshold. During the one-month re-check on April 2, 2024, all four (4) exceedances remained below 500 ppm above background threshold.

12. Most recent GCCS design plan.

The most recent GCCS design plan was included with the Part 115 plans submitted on March 29, 2024.

“Citizens Disposal Landfill Part 115 GCCS Engineering Plan 2024-03-27 FINAL.pdf” contains the updates to the GCCS plan. The initial NSPS GCCS Design plan was submitted to AQD in October 2007. Historically, AQD has not provided feedback on this plan. The most recent plan covers: vertical gas extraction wells, well spacing, well depths, well materials, well borehole, horizontal gas extraction wells, wellhead monitoring, gas header system, header materials, system vacuum, condensate management, liquid transfer piping, liquid monitoring, control device, backup equipment, system downtime, alternate designs and material specifications. It also covers the implementation schedule for expanding the GCCS into new cells. Also reporting and submittal requirements covering updated engineering plans, construction plans, and construction documentation.

13. 2023 LANDGEM emission report submission document.

The 2023 LANDGEM emission report submission document is attached.

“2023 CDI Emissions Calculations – Fugitive NMOC.pdf” includes the 2023 LANDGEM emission report. During 2023, the uncontrolled mass emissions of NMOC was 47.84 Mg per year (Mg/yr) which is 52.73 tons per year (ton/yr). The collection efficiency of the GCCS was 75%, so the total fugitive emissions of NMOC were 13.18 tons/yr. In 2023, the waste acceptance rate was 209,667 tons/yr (190,606 Mg/yr).

14. A current list of the engines' serial numbers.

This information will be provided by EDL.

The engine serial numbers are listed as follows:

Engine Number	Serial Number	Build Date
#1 (3516)	4EK00464	3/21/1995
#2 (3516)	4EK00134	12/16/1993
#3 (3516)	4EK00468	3/23/1995
#4 (3516)	4EK00437	2/14/1995
#5 (3516)	3RC00273	10/12/1990
#6 (3520)	GZJ00551	11/28/2011
#7 (3520)	GZJ00197	9/1/2005

15. Plant Maintenance logs and downtime for May 2023 – April 2024 (12 months)

This information will be provided by EDL.

EDL provided a folder “EDL Grand Blanc maint. And downtime logs May 2023 – April 2024” which contained monthly records titled “2023 05 Grand Blanc Downtime Log” through “2024 04 Grand Blanc Downtime Log”. These records contain tables with fourteen (14) columns: Date, Day, Engine #, Event Description/Reason for Downtime, Affected Equipment (Plant or Engine Number), Equipment Hours, Military Time (Time Down and Time Up), Length of Event, Energy Exported (kW), Capacity Available (kW), PM or DM (see below), Operator (initials), Paged (Y/N). PM stands for “Preventative Maintenance” and DM stands for “Downtime Maintenance”.

16. Weekly plant logs from January 2023 – Present (May 13, 2024)

This information will be provided by EDL.

EDL provided a folder “EDL Grand Blanc weekly plan logs January 2023 to May 13, 2024.” The logs are excel spreadsheets which each contain a weeks-worth of data, with each day being a different tab. The day, date, time and operator are each recorded. The last analyzer calibration is noted, and is re-calibrated once a week. The engine control panel table notes the kW output for each generator 1 through 7.

The HMI table contains information about the chiller and dryer temperature and pressure. Also the compressor 1 through 3 temperature, frequency and amps. The Aux Panel Columns contain information about the flow to the Zinc and Groff flares, the landfill pressure, the Plant 1 and 2 pressure and flow, the oxygen and methane content of the LFG and the Plant 1 and 2 kW output.

The Engine Room table contains information on the hours for each engine, the kW output of each engine, as well as process information such as oil pressure, temperatures, etc.

17. The landfill gas usage and kilowatt output for May 2023 – April 2024 (12 months)

This information will be provided by EDL.

Month-Year	Gross MW	Gross KW	Total Engine Flow MMSCF
May-2023	4795.00	4795000	112.95
June-2023	4086.50	4086500	99.27
July-2023	4638.60	4638600	108.14
August-2023	4614.00	4614000	103.99
September-2023	4425.30	4425300	100.97
October-2023	4257.35	4257354	101.39
November-2023	4629.50	4629500	106.04
December-2023	4645.60	4645600	105.69
January-2024	4634.80	4634800	105.77
February-2024	4564.10	4564100	103.98
March-2024	4778.40	4778400	109.31
April-2024	4899.00	4899000	113.37
Totals	54968.15	54,968,154.00	1270.87

I also looked up the additional information for “2023 ED Grand Blanc Emission Calcs and Summary.pdf” to see the gross kW breakdown for engine 6 and 7.

Month-Year	Engines 1-4 Power kW-hr	Engine 5 Power kW-hr	Engine 6 Power kW-hr	Engine 7 Power kW-hr
Jan-23	1,850,790.00	524,629.00	1,058,875.00	1,043,731.00

Feb-23	1,640,197.00	461,521.00	1,014,893.00	1,017,789.00
Mar-23	1,834,183.00	541,698.00	1,096,140.00	1,111,223.00
Apr-23	1,696,884.00	5,007,855.00	1,074,069.00	1,080,428.00
May-23	1,742,024.00	540,632.00	1,118,782.00	1,137,552.00
Jun-23	1,512,429.00	473,368.00	933,510.00	946,544.00
Jul-23	1,698,639.00	511,243.00	1,048,088.00	1,121,334.00
Aug-23	1,700,640.00	481,406.00	1,023,535.00	1,152,879.00
Sep-23	1,773,973.00	535,314.00	1,019,822.00	903,327.00
Oct-23	1,518,659.00	598,979.00	1,141,383.00	1,053,699.00
Nov-23	1,763,362.00	544,943.00	1,033,700.00	1,072,110.00
Dec-23	1,720,004.00	550,626.00	1,073,534.00	1,093,123.00
Totals	20,451,784.00	10,772,214.00	12,636,331.00	12,733,739.00
Group Totals	31,223,998.00		25,370,070.00	
Overall	56,594,068.00			

As shown in the table above, the kilowatt-hour (kW-hr) output for each engine included in FGENGINE6 and FGENGINE7) did not exceed 14 million kilowatt-hour per 12 month rolling time period permitted material limit.

I also reviewed the Malfunction Abatement and Preventative Maintenance Plan: "EDL Malfunction Abatement and Preventative Maintenance Plan – EUENGINE1-7 October 2018.pdf". The purpose of this review was to look at ways to address the visible emissions observed from the crankcase vent stacks during the inspection. Under Section 4.2 Equipment Inspection Table 1

List of Engine Plant Prevention/Detection Items listed the following regarding the crankcase vent:

Item or Conditions to Be Inspected	Frequency of Inspection/Monitoring	Procedures to be Followed to Aid in the Prevention of Malfunctions
Differential Pressure Crankcase Vent	Weekly	Check pressure, control vacuum (walk around)

This could be updated to look for the presence of visible emissions/opacity and to change the demister/particulate filter on a regular schedule or if the presence of visible emissions/opacity are observed.

I also compared this MAP with the “N1324 Malfunction AbatementPreventative Maint. Plan Sect2.pdf” for EDL Byron Center. This MAP also contains a Table 2 Monitored Equipment Parameters that lists the equipment, operating parameters and typical range of operation. For the differential pressure crankcase vent the typical range of operation was noted as <2.5 psi. I think it would be beneficial to include a similar table for the EDL Grand Blanc MAP.

Additionally, I followed up in the same request that the crank case vent stack rain caps be changed from the cone style rain caps to low loss style rain caps to comply with the standard stack requirement to exhaust emissions unobstructed vertically to the ambient air.

Asbestos NESHAP:

I also requested asbestos manifests and location drawing from Robb Moore. He informed me that they had received over 50 friable asbestos loads since the start of the year. I requested a random selection of five (5) manifests. The manifests were provided in document “Asbestos Manifest 1Q24.pdf”. The manifests are waste shipment records which contain information for the generator, transporter and disposal site. The generator section contains the work site name and address, the owners name and contact information, the operators name, address and contact information, the waste disposal site, a description of the materials, the number and type of containers and the total quantity in yards. The transporter section contains information for the transporter name, address and contact information, their

signature and the date. The disposal site section contains the name/title of the waste disposal site operator (ID#), their signature and the date.

I also reviewed the asbestos location map "CDI-Asbestos-Q1.pdf". The landfill appears to be documenting the locations asbestos is emplaced. The record shows three (3) maps for January, February, and March 2024 respectively. Most of the asbestos waste is being emplaced in the Phase II cells, with some loads also being emplaced in the Phase III Cell A2 and A3.

Stack Test Report Review:

Testing is required by MI-ROP-N5991-2016 FGEngines SC V.2. which requires engines 6 and 7 to be tested every 8760 hours of operation or every 3 years, whichever comes first, for NOx, CO and VOC to show compliance with 40 CFR Part 60, Subpart JJJJ emission limits. EDL contracts with Impact Compliance and Testing, Inc (ICT) to perform this testing. The last test event was October 31, 2023. I have summarized the results from this test in the table below:

Table 2.2 Average measured emission rates for each engine (three-test average)						
Emission Unit	CO		NOx		VOC	
	(lb/hr)	(g/bhp-hr)	(lb/hr)	(g/bhp-hr)	(lb/hr)	(g/bhp-hr)
EUENGINE6	12.3	2.46	2.02	0.40	0.69	0.14
EUENGINE7	13.7	2.72	1.58	0.32	0.87	0.17
Permit Limit	-	3.0	-	1.0	-	1.0

As shown in the table above, both engines tested below the permitted emission limits. Based on the current engine hours of operation, they will next need to be tested in Fall 2024.

Summary:

In conclusion, at the time of my inspection, the source was in ongoing non-compliance with the requirements of MI-ROP-N5991-2016. The facility has an existing

non-compliance issue with the FGEngines SC 1.2 SOx emission limit, and they have permit applications submitted with the permit section to address this issue. I did request amendments to the Section 2 MAP and the replacement of the crank case vent stack rain caps. These requests do not impact the compliance determination.

NAME Matthew R. KarlDATE 6/6/24SUPERVISOR RB