



United States Environmental Protection Agency
Region 7
Enforcement and Compliance Assurance Division

Air Branch

Air Branch Inspection Report
Unannounced Full Compliance Evaluation
Butler County Landfill Inc.
3588 R Road
David City, Nebraska 68632
FRS#110001516878

Mailing address :
Same as location

Inspection Date(s):
July 13, 2023

**AVERY
BOWERS**

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Date: 2023.11.27 09:38:46 -06'00'

Avery Bowers, Inspector, ECAD, Air Branch

Authorized for Release by:

Tracey Casburn, Air Branch Chief, ECAD

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- A Butler County's Title V Operating Permit (21 pages)
- B TVA data logged (101 of pages)
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- D Signed Receipt of Documents (1 page)

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and provides a clear indication of the end of this report.**

INSPECTION OVERVIEW

INSPECTION OBJECTIVE

The objective of the full compliance evaluation (FCE) inspection was to determine compliance of the facility with the Clean Air Act, specifically those requirements located in the code of federal regulations (CFR) at 40 CFR Part 60, Subpart OOO, *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*. This report documents EPA's activities on site.

Table 1 lists the inspection team members.

Table 1. PROJECT TEAM MEMBERS		
Team Member	Organization	Project Role
Avery Bowers	EPA, Region 7, ECAD, Air Branch	Lead Inspector
William Schriener	Air Compliance Inspector, Nebraska Department of Environment and Energy (NDEE)	Field team member

FACILITY CONTACT INFORMATION

Table 2 lists the primary facility contacts.

Table 2. FACILITY CONTACT INFORMATION		
Name, Title	Phone No.	Email Address
Ryan Boyer, Site manager	(402) 367-4669	ryan.boyer@wasteconnections.com
Clint Clemon, Lead Operator		
Kelly Danielson, Eastern Heartland Division Landfills District Manager	(402) 641-8239	kellyd@wasteconnections.com
Dough Tangeman, SCS Engineers environmental consultant	(402) 415-8707	dtangeman@scsengineers.com
Annette Snyder, Receptionist		

FACILITY OVERVIEW

Butler County Landfill Incorporated (Butler Landfill) has a Standard Industrial Classification (SIC) code 4953, categorized as Refuse Systems, and a North American Industry Classification System (NAICS) code 562212, categorized as Solid Waste Landfill. Prior to the inspection, EPA inspector Paul Schwaab was at the facility on September 25 and September 27, 2018. Mr. Schwaab issued the facility a Notice of Preliminary Findings (NOPF) for failure to calibrate the flow meter that monitors the landfill gas to the flare on an annual basis and 10 methane leaks above the 500 parts per million (ppm) threshold required by 40 CFR Part 60, Subpart WWW, *Standards of Performance for Municipal Solid Waste Landfills That Commenced Construction, Reconstruction,*

or Modification on or After May 30, 1991, but Before July 18, 2014. The three most recent NDEE's compliance monitoring activities include an on-site FCE conducted on January 27, 2022, and two Title V partial compliance evaluations (PCE) of records conducted on April 1, 2022, and April 6, 2023. Butler Landfill's most recent Title V permit was issued on May 31, 2022 (**Appendix A**). The facility is subject to the following requirements in **Table 3**.

Table 3. APPLICABLE REGULATIONS AND STANDARDS	
Code of Federal Regulation	Standard Name
40 CFR Part 61	Subpart M, National Emission Standards for Asbestos
40 CFR Part 62	Subpart OOO, 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
40 CFR Part 63	Subpart AAAA, National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills

FACILITY OPERATIONS SUMMARY

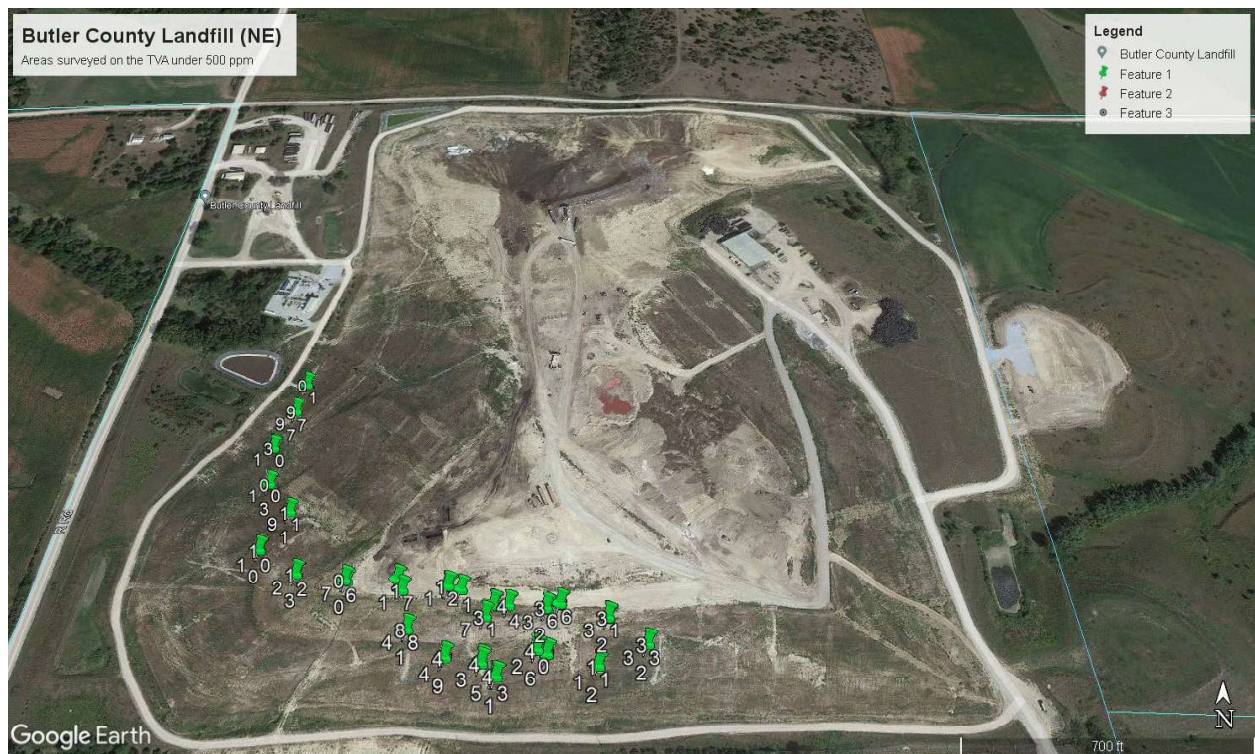
The landfill was owned by Tom Kobus. The landfill was permitted and began accepting waste the summer of 1986. It was expanded once in 1991. This area stopped accepting municipal solid waste in October of 1993 but continued to accept Construction and Demolition (C&D) material until April 9, 1994. In October 1993, another portion of the landfill became active, and began accepting municipal solid waste. Waste Connections took over ownership of the inactive and active portions of the landfill and renamed the entire entity as Butler County Landfill Incorporated in 1999. The landfill expanded three times; in 2001, 2003, and 2004. On July 26, 2013, a closure report for the C&D area was submitted by SCS Aquaterra contractors. According to the 2022 Title V permit issued, the facility's current design capacity is 12,030,455 million megagrams.

Timberline Energy LLC paid for a voluntary gas collection and control system (GCCS) to be installed at Butler landfill in 2008 for the beneficial use of landfill gas. The GCCS was only installed in the active portion of the landfill. The system is a combination of vertical and horizontal extraction wells, header system, blower system, and a non-enclosed flare with a 600 standard cubic feet per minute (scfm) flow rate. Once the gas is collected, it is routed to an off-site facility. On April 1, 2016, the flare's capacity was increased to 1,100 scfm to accommodate the increased amount of gas collected from the landfill. The off-site facility and Timberline Energy had a contract that expired in 2016 and the ownership of the flare changed to Butler County Landfill on February 2, 2016. In 2017, the 1,100 scfm flare was sold and removed from the site.

In 2013, Butler Landfill conducted its Tier 2 nonmethane organic compound (NMOC) emission report. The report stated the NMOC emission rates for 2013-2018 were as follows; 152.7, 164.2, 176.5, 189.6, 203.6, and 218.5 Mg/yr. The 50 Mg/yr NMOC emission rate threshold was exceeded, and the facility's GCCS became a mandatory requirement subject to the Subpart WWW. On August 14, 2014, Weaver Consultant Group submitted a GCCS plan that detailed how the GCCS would be operated, maintained, and expanded. 40 CFR Part 60, Subpart WWW was superseded by 40 CFR Part 62, Subpart OOO, *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* upon the rule effective date- July 21, 2021 and is the focus of this inspection.¹ Surface emission monitoring (SEM) must be conducted quarterly to ascertain if the methane emissions are below 500 parts per million (ppm) per 40 CFR 62.16720(c)(1). **Figures 1 and 2** depict the comparative SEM I conducted while on site.

The facility operates Monday-Friday from 7:00 a.m. until 5:00 p.m., Saturday from 7:00 a.m. until 12:00 p.m., and is closed on Sundays and major holidays. The facility accepts wastes from roughly 15 to 20 different counties in Nebraska. Emissions from the landfill include landfill gas, haul road emissions, and particulate matter that comes from soil borrow areas, active face and intermediate cover earth work, and the scraper haul road.

¹ EPA promulgated the Federal plan to implement the Emission Guidelines (EG) for existing MSW landfills located in states and Indian country where state plans or tribal plans are not in effect. Iowa does not have a State Plan for the EG.



FIELD ACTIVITIES SUMMARY

On July 13, 2023, I met Mr. Schriener at a designated location off site at 8:20 am. I calibrated the Toxic Vapor Analyzer (TVA) from 8:25 am until 9:12 am. We arrived at the facility at 9:35 am

and we made entry at the visitor's entrance at 9:40 am. Ms. Snyder greeted the two of us and I introduced myself and Mr. Schriener, presented my credentials, and provided the reason for our inspection. Ms. Snyder immediately gave Mr. Boyer a call and he arrived in the office at 10:00 am. I reiterated the reason for the inspection to Mr. Boyer and told him I would conduct comparative SEM, observe work practices, process units, emission units, control equipment, and review associated records demonstrating compliance with the regulations. I explained that the facility could make a claim of business confidentiality upon our conclusion.

Mr. Boyer and I discussed the history of the landfill, and he noted that Mr. Danielson would know more. I asked for asbestos records and the closure report for the C&D waste area. (All other documents requested are listed below). Mr. Danielson arrived at 11:12 am. When he arrived, we went over the history of the landfill and the equipment at the site to date. Mr. Tangeman arrived in the office at 11:33 am. Once we completed the history of the landfill, I told Messrs. Danielson, Boyer and Tangeman I would conduct comparative SEM and asked if we needed other safety equipment besides safety boots and high visibility jackets; to which they said no. Because it rained the previous day, I asked to do a drive through to assess the state of the landfill. At 12:02 pm, we all drove to the active face and there were some areas of large water puddles. Overall, the landfill was safe and dry enough to conduct SEM.

With the TVA and the flags, Mr. Schreiner and I began SEM at 12:24 pm at well GW-46 on the border of cell 13 and 14. While I used the TVA to monitor, Mr. Schriener placed the flags at the exceedances, took notes of the methane value at each exceedance location, and took photos of each flag. I began the TVA data logger at 12:24 pm which collected data every 2 seconds.

Appendix B provides all the ppm values recorded. **Figure 1** shows the methane exceedances and photos 10,11,12, and 15 in **Appendix C** correspond to the exceedances. The majority of exceedances were found on areas of distressed vegetation. **Table 4** contains the TVA values greater than 500 ppm and the GPS locations. Mr. Tangeman accompanied us for the entire duration of the SEM while Messrs. Boyer and Danielson were intermittently there. Mr. Clemon also joined the SEM and when I found exceedances, he had an associate bring dirt to cover and remediate the issues. I re-monitored each exceedance to ensure that the value was below the threshold. All exceedances were effectively remediated. We concluded the SEM at 3:01 pm.

We returned to the office, and I put the equipment away. I began the records review at 3:30 pm. Mr. Schriener left the site at 3:45 pm. Listed below are the records I requested. On July 17, 2023, Mr. Boyer provided the documents via a shared folder I sent to the representatives on July 14, 2023.

RECORDS REQUESTED ON SITE

- 1) 2018 to latest available in 2023 Flare flow meter calibration events.

- 2) 2018 to latest available in 2023 Quarterly SEM events.
- 3) 2018 to latest available in 2023 Total Flare flow on a monthly basis.
- 4) The Start-up, Shutdown, and Malfunction (SSM) plan.
- 5) The SSM log from January 2023 until June 2023.
- 6) 2018 to latest available in 2023 Monthly logs for each wellhead's pressure, oxygen, and temperature values.
- 7) The flare's maintenance log.
- 8) The monthly cover integrity check.

I concluded the records review, and conducted the closing conference with Messrs. Danielson, Tangeman, and Boyer. Although I did not provide a CBI form for signature, Mr. Danielson claimed nothing as confidential during the closing conference. Mr. Danielson signed the Receipt for Documents (**Appendix D**). I did not leave a notice of preliminary findings, but I did inform all three gentleman to treat the methane exceedances the EPA found and documented by my team as an official SEM activity per the requirements listed in the regulation. I also told all three gentleman that when a 10-day re-monitor event occurs and the methane threshold is exceeded, the facility must write the value of the exceedance and not just a pass/fail statement as they had been doing. Observations and potential findings from the facility tour, records review, and sampling/measurement activities are noted in the **Investigation Observation and Potential Findings** section below.

Measurement and/or Sampling Activities

I conducted field measurements via Method 21 as required by 40 CFR 62 Subpart OOO. **Table 4** summarizes field measurements that were above the 500 ppm threshold for methane logged by the TVA only. Additional information can be found in the facility site folder. All environmental measurement activities were performed in accordance with the EPA Region 7 quality system. I used the same TVA for all measurements, and I followed manufacturer and EPA processes for instrument calibration. Instrument calibration was documented on the calibration sheet located in the site file folder.

Table 4 summarizes field measurement activities.

Table 4. FIELD MEASUREMENTS GREATER THAN 500 PPM				
Location Identifier (GPS)	Date(s) and Time	Method and/or Procedure ¹ , and Equipment	PPM	Measurer Name
41.25702 -97.03830	7/13/23 1:00 pm	Method: EPA Method 21: Determination of Volatile Organic Compound Leaks; Region 7 Procedure: Toxic Vapor Analyzer (TVA) Equipment: Thermo Fisher Scientific TVA-2020 (TVA-2020) serial number: 202022106267	744	Avery Bowers

Table 4. FIELD MEASUREMENTS GREATER THAN 500 PPM				
Location Identifier (GPS)	Date(s) and Time	Method and/or Procedure ¹ , and Equipment	PPM	Measurer Name
41.25702 -97.03830	7/13/23 1:07 pm	Method: EPA Method 21: Determination of Volatile Organic Compound Leaks	856	Avery Bowers
41.25704 -97.03739	7/13/23 1:14 pm	Method: EPA Method 21: Determination of Volatile Organic Compound Leaks	637	Avery Bowers
31.25733 -97.03685	7/13/23 1:47 pm	Method: EPA Method 21: Determination of Volatile Organic Compound Leaks	714	Avery Bowers
¹ The current version of each procedure, at the time of the investigation, was followed.				

INVESTIGATION OBSERVATIONS AND POTENTIAL FINDINGS

Ambient weather, site conditions and activities were documented in field records. All photographs are attached as **Appendix C**. I made the following observations during the inspection. I discussed all observations with facility representatives during the closeout meeting unless otherwise noted in the observation description.

These observations are not final compliance determinations. The EPA Region 7 Air Branch case review team will make the final compliance determinations based on its review of this report and other technical, regulatory, and facility information.

§ 62.16711 Designated facilities.

The facility is a major source of air pollutants and must obtain an operating permit because its design capacity is larger than the 2.5 million megagram requirement in 62.16711(e). **Appendix A** is the operating permit issued May 31, 2022, by NDEE.

§ 62.16714 Standards for municipal solid waste landfill emissions.

The facility operates a gas collection and control system required by 62.16714(b). During the inspection Mr. Danielson stated the GCCS was an active collection system as defined by 62.16714(b)(2). Photo 8 and photo 20 in **Appendix C** depict the non-enclosed flare the facility uses to control the gas collected per 62.16714(c)(1).

§ 62.16716 Operational standards for collection and control systems.

The facility is required to operate the collection system with negative pressure at each well per 62.16716(b). I reviewed the semiannual reports for the facility from 2018 through 2022 and the facility noted the wells that did have positive pressures. The facility stated how long it took for

each well to be corrected. If there was a well that exceeded the 60 day and 120 day corrective action limit, the facility provided a root cause analysis, corrective action analysis, and an implementation timeline as required by 40 CFR 62.16720(a)(3)(iii) for 2018 and 2022.

The facility is required to operate each interior wellhead in the collection system with a landfill gas temperature less than 131 °F per 40 CFR 62.16716(c). I reviewed the facility's semi-annual reports from 2018 through 2022 and there were instances when the temperature exceeded the 131 °F threshold but corrective action was taken in the appropriate time frame per 40 CFR 62.16720(a)(4). While I was on-site, the facility told me that they have 11 wells approved to operate above the 131°F.

The facility is required to operate the wellheads with oxygen levels below 5% per 40 CFR 62.16722(a)(2). I reviewed the semiannual reports for the facility from 2018 through 2022 and there were many occasions that the oxygen exceeded 5% but a record of every exceedance was kept per 62.16726(e)(2). The facility corrected the exceedances.

The facility is required to operate the control system (i.e, the flare) at all times when the collected gas is routed to the system. Messrs. Danielson Tangeman stated that the flare operates at all times and is shut down in the event that it is not working correctly per 40 CFR 62.16716(e).

§ 62.16718 Test Methods and Procedures

40 CFR 62.16718(a)(3)(iv)(A) states that the facility must submit a design plan and install and operate the collection and control system according to the plan. If the landfill operates the GCCS without alternative methods approval, it is proceeding at its own risk per 40 CFR 62.16724(d)(6) and 40 CFR 62.16724(d)(5). I reviewed Butler County's GCCS plan and the facility had an alternative monitoring method for non-producing wells. The alternative method stated exemption of NSPS requirements for temperature and pressure.² While on site, I asked Messrs. Danielson and Tangeman if the facility had any wells they considered "non-producing" and the gentleman said no.

§ 62.16720 Compliance provisions.

The facility is required to conduct SEM on a quarterly basis. I received and reviewed the facility's SEM events from 2018 through the most recent quarter in 2023. The facility followed the correct procedures for Method 21 per 40 CFR 62.16720(c)(3). The facility also noted the location of exceedances with 5 decimal point accuracy per 40 CFR 62.16720(c)(4)(i).

² The GCCS plan was approved by the state but the state isn't the delegated authority for 40 CFR Part 62, Subpart OOO to be able to approve this type of alternative or exemption.

The facility must mark the location of each monitored exceedance and concentration recorded per 62.16720(c)(4)(i). While reviewing the quarterly SEM reports, the facility did mark the exceedances. The facility also recorded the concentration of the first initial exceedance. During the 10-day re-monitor checks for methane exceedances, the facility failed to follow the correct procedure for recording the value.

In the August 23, 2023, email the facility's contractor sent to me, the facility took corrective action for the exceedances EPA found and completed the proper re-monitoring required for the locations one month later per 40 CFR 62.16720(c)(1).

The facility is required to implement a program to monitor for cover integrity and cover repairs per 40 CFR 62.16720(c)(5). While on-site, I asked the facility about its cover integrity program, and Messrs. Tangeman and Boyer stated that the facility monitored it on weekly basis with the facility's storm water inspections. The facility did not have a separate form or checklist for the cover integrity program but implied that it would make one. On July 17, 2023, Mr. Boyer emailed me copies of completed storm water inspection forms for June 20, 2023, and February 7, 2023, and I saw the comments pertaining to the cover integrity of the landfill; such as when the facility remediated issues of erosion and distressed vegetation.

§ 62.16722 Monitoring of operations.

The facility is required to install a device that records the flow to the flare per 40 CFR 62.16722(c)(2). The facility was able to provide evidence that it installed a device to record the flow. I reviewed the monthly flow data of the flare.

§ 62.16726 Recordkeeping guidelines.

The facility must keep for at least 5 years up-to-date, readily accessible, on-site records of the design capacity report that triggered 62.16714(e), current amount of solid waste in-place, and the year-by-year waste acceptance rate 62.16726(a). I did not ask the facility for its waste acceptance records but prior to the inspection reviewed the design capacity report that triggered 62.16714(e).

The facility is required to keep a description of the procedures and methods that are used for quality assurance, maintenance, and repair of all continuous monitoring systems. On July 17, 2023 the facility sent me the flare maintenance log and I reviewed it. Everything appeared to comply.

§ 63.1955 What requirements must I meet?

40 CFR § 63.1955 requires the facility to comply with startup, shutdown, malfunction (SSM) requirements of 40 CFR Part 63, Subpart A, General Provisions as specified in Table 1 to Subpart AAAA of this part and must demonstrate compliance with the operating conditions by parameter monitoring results that are within the specified ranges. 40 CFR§ 63.6(e)(1)(i) requires the owner or operator to operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions at all times, including periods of startup, shutdown, and malfunction.

40 CFR § 63.6(e)(3) requires the owner or operator of an affected source to develop a written startup, shutdown, and malfunction plan that describes, in detail, procedures for operating and maintaining the source during periods of startup, shutdown, and malfunction; and a program of corrective action for malfunctioning process, air pollution control, and monitoring equipment used to comply with the relevant standard.

I asked for the SSM plan and received it via email in the shared folder on July 17, 2023. The facility also provided the SSM log and there were no incidences reported from January 1, 2023, to June 30, 2023.

Potential Finding 1: The facility has an alternative monitoring provision that was not approved by the Administrator
Observation Summary: The facility is required to operate the GCCS according to the GCCS plan submitted and approved
Citation: §62.16718(a)(3)(iv)(A) and §62.16724(d)(6) & §62.16724(d)(5)
Evidence: section 5-1 of the GCCS plan (page 25 of 56)
Description of Observation: The facility requested that wells deemed low-producing extraction wells (where oxygen concentrations do not decline to acceptable levels after more than one hour of reduced vacuum) to be shut off. The monthly monitoring required by 60.755 will be conducted for the wells that have been shut down, but positive pressure or elevated oxygen concentrations will not be considered exceedances of the operating limits. If monthly monitoring indicates that the gas quality has improved, the well will be brought back on line until gas quality declines again. This change can only be approved by the Administrator. The delegated authority for this alternative monitoring would be the Administrator. While I was on site, I asked the Messrs. Tangeman and Boyer if the facility had any wells it deemed non-productive and they said it did not.

Potential Finding 2: The facility did not record the exact methane value on the 10-day re-monitoring period of a methane exceedance.
Observation Summary: The location of each monitored exceedance must be marked, and the location and concentration recorded.
Citation: § 62.16720(c)(4)(i)
Evidence: 2021 Q3 SEM and 2023 Q1 SEM reports

Potential Finding 2: The facility did not record the exact methane value on the 10-day re-monitoring period of a methane exceedance.

Description of Observation: In the SEM reports, the facility failed to provide the exact concentration readings for the methane exceedance during the 10-day re-monitoring period. The facility simply noted a pass/fail for the reading.

End of report.