



REGION 8

DENVER, CO 80202

Devon Energy Corporation – Various Well Pads Partial Compliance Evaluation (PCE) On-Site Clean Air Act (CAA) Inspections

Inspection Date(s): October 22, 2024

Inspection Report Date: December 27, 2024

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Representatives: Youn Joo Kim, Clean Air Act Inspector
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Company Representatives: None

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Applicable Rules: North Dakota Administrative Code, Title 33.1, Article 15, as incorporated into North Dakota's EPA-approved State Implementation Plan at 40 C.F.R. Part 52, Subpart JJ – North Dakota (ND SIP), including the following chapters:

- Chapter 7, Control of Organic Compound Emissions (ND SIP Chapter 7);
- Chapter 12, Standards of Performance for New Stationary Sources (ND SIP Chapter 12); and
- Chapter 20, Control of Emissions from Oil and Gas Well Production Facilities (ND SIP Chapter 20)

40 C.F.R Part 60, Subpart OOOOa – Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015 (NSPS OOOOa)

Compliance Assistance

None

Enforcement History

The entry signage at the well pads inspected on October 22, 2024 indicated that the well pads were Grayson Mill Energy, LLC (Grayson Mill) assets. However, on September 27, 2024, Devon Energy Corporation (Devon) announced the completion of its acquisition of Grayson Mill, including assets in North Dakota. Therefore, the inspected facilities were Devon assets at the time of the inspection.

Grayson Mill does not have any recent Clean Air Act enforcement actions issued by the EPA. Devon is subject to the terms of one active Consent Agreement Final Order (CAFO): Docket No. CAA-08-2019-0009 which was entered on June 13, 2019, and has not been terminated. The acquired Grayson Mill facilities are unaffected by the 2019 CAFO.

Areas of Concern

1. The EPA detected hydrocarbon emissions from the storage tanks at the following well pad:
 - GARIETY-HOLM PAD

See Table 1 below for more details regarding inspected locations and Tables 2 and 3 for inspection observation details for all pads. A log of images and videos captured during the inspections is provided in Appendix A.

General Inspection Information

Unannounced well pad inspections were conducted jointly by U.S. EPA and North Dakota Department of Environmental Quality – Division of Air Quality inspectors (Inspectors) on October 22, 2024, at multiple Devon facilities located in North Dakota. The facilities listed in Table 1 were previously owned and operated by Grayson Mill Energy, LLC., and were acquired by Devon Energy Corporation on September 27, 2024.

The Inspectors evaluated each well site listed in Table 1 using audio, visual, and olfactory (AVO) inspection methods including the use of an optical gas imaging (OGI) camera and EPA Reference Method 22. At each facility, Inspectors scanned the crude and/or water storage tanks, closed vent system and flares onsite for any detectable emissions. Specifically, Inspectors scanned storage tank covers and closed vent systems for hydrocarbon emissions to determine compliance with the Clean Air Act, including the North Dakota SIP and NSPS regulations.

Each well pad inspection followed the approach below:

1. Record the entry sign of the well pad when available. Survey the entire well pad with OGI camera.
2. Record the number and type of site process equipment such as well heads, tanks, and emission control devices.

3. Record AVO indications of emissions from the storage tanks, closed vent system to the control devices and control devices.
4. Using the OGI camera, survey each process in infrared modes (auto, manual, and/or high-sensitivity modes). Record any uncontrolled emissions with the OGI camera and describe the frequency and magnitude of emissions in the field notebook.
5. Observe control devices (enclosed combustor or utility flare) for visible emissions. If there is visible emissions present, conduct Method 22 and record the observations.
6. Using another OGI camera, if available, confirm any observations of uncontrolled emissions with another Inspector.
7. If there are operators present onsite, share any Areas of Concern.

Table 1 lists general inspection and well pad details for each inspected well pad. The well pad information located in Table 1 is from the North Dakota Industrial Commission (NDIC) well index located online at <https://www.dmr.nd.gov/oilgas/>.

Table 1: Inspection and Facility Details of Facilities Inspected						
Date	Arrival Time	Departure Time	Well Pad Name	API Number(s)	Latitude	Longitude
10/22/24	8:07	8:28	LLOYD CENTRAL PAD	3305303261 3305309840 3305309841 3305309842 3305309843 3305309844	47.861422	-103.46702
10/22/24	8:32	8:46	LLOYD-BUGS WEST PAD	3305303647 3305303648 3305305043 3305305044	47.861782	-103.46992
10/22/24	9:56	10:16	GARIETY-HOLM PAD	3305305088 3305305089 3305305090 3305306635	47.847740	-103.26081

Observations and Regulatory Applicability

North Dakota SIP and NSPS regulations which are potentially relevant to the Areas of Concern observed during the inspections are summarized in this section.

ND SIP Applicability

Chapter 7 Applicability [33.1-15-07]

The provisions of ND SIP Chapter 7 apply to all facilities constructed on or after July 1, 1970, which are located in the state of North Dakota and produce volatile organic compound (VOC) emissions (ND SIP Chapter 7, 33.1-15-07-01.1). All well pads listed in Table 1 meet the applicability requirements and are thus subject to the ND SIP Chapter 7.

Chapter 20 Applicability [33.1-15-20]

The provisions of ND SIP Chapter 20 “apply to any oil or gas well facility which emits air contaminants to the atmosphere” which are located in the state of North Dakota (ND SIP Chapter 20, 33.1-15-20-01.1). All well pads listed in Table 1 are oil and gas well facilities located in North Dakota and are thus subject to the ND SIP Chapter 20.

ND SIP Requirements relevant to Areas of Concern

ND SIP Facility-wide Emission Requirements [33.1-15-07-02.1 & 33.1-15-20-04]

Per 33.1-15-07-02.1, “No person may cause or permit the emission of organic compounds gases and vapors, except from an emergency vapor blowdown system or emergency relief system, unless these gases and vapors are burned by flares, or an equally effective control device...” The EPA, using an OGI camera, detected organic compound vapor emissions from production and storage tanks at the GARIETY-HOLM PAD. See Area of Concern #1 above.

Per 33.1-15-20-04.4, “Routine inspections and maintenance of tanks, hatches, compressors, vent lines, pressure relief valves, packing elements, and couplings must be conducted to minimize emissions from equipment at a production facility. Tank hatches must hold a positive working pressure or must be repaired or replaced.” The EPA, using an OGI camera, detected emissions from production and storage tanks at the GARIETY-HOLM PAD. See Area of Concern #1 above.

NSPS OOOOa Applicability

Based on Grayson Mill’s NSPS OOOOa annual reporting, the EPA believes that storage vessels and associated emissions control equipment at the LLOYD CENTRAL PAD, the LLOYD-BUGS WEST PAD, and the GARIETY-HOLM PAD are potentially subject to requirements for storage vessel affected facilities in NSPS OOOOa, and as incorporated by reference in ND SIP Chapter 12.

Closed Vent System Equipment Requirements [§ 60.5411a(c)]

Per § 60.5411a(c)(1), owners and operators must “Design the closed vent system to route all gases, vapors, and fumes emitted from the material in the storage vessel affected facility to a control device that meets the requirements specified in § 60.5412a(c) and (d), or to a process.” The EPA, using an OGI camera, observed emissions from the closed vent system at the GARIETY-HOLM PAD. See Area of Concern #1 above.

Table 2: Inspection Details: Storage Tank Observations				
Well Pad Name	Number of Storage Tanks	AVO (Audio, visual, olfactory) Observations	Emissions Description	Media File Name
LLOYD CENTRAL PAD	12	—	—	—
LLOYD-BUGS WEST PAD	18	—	—	—
GARIETY-HOLM PAD	22	EPA inspectors observed oil stains on the surface of the tanks.	Continuous emissions from top of the tanks. An operator on-site during the inspection stated that a dump valve was stuck open causing direct dumping of product into the storage tanks. PRVs on the tank vapor control system were opened as a response to the open dump valve to prevent over-pressurization of the tanks.	MOV_3540.mp4

Table 3: Inspection Details: Control Devices and AVO/OGI Observations						
Well Name	Number of Control Device(s)	Control Device Type(s)	Visible Pilot Flame (Y/N)	Active Flaring (Y/N)	Method 22 Observations	Emission Description
LLOYD CENTRAL PAD	2	Air Assisted Steffes	Y	Y	None	—
		3-Prong High-Low	Y	Y	None	—
LLOYD-BUGS WEST PAD	3	Air Assisted Steffes	Y	Y	None	—
		Air Assisted Steffes	Y	Y	None	—
		HP	Y	Y	None	—
GARIETY-HOLM PAD	2	Air Assisted Steffes	Y	Y	None	—
		2-Prong High-Low	Y	Y	None	—

APPENDIX A: Photograph and Video Log

Media File	Description	Well Pad Name
MOV_3540.mp4*	Continuous emissions from top of the tanks	GARIETY-HOLM PAD
entrysign-20241022-131218.jpg	Entry Sign	LLOYD CENTRAL PAD
entrysign-20241022-133213.jpg	Entry Sign	LLOYD-BUGS WEST PAD
entrysign-20241022-185428.jpg	Entry Sign	GARIETY-HOLM PAD

*In addition to recording metadata through the OGI camera’s system, EPA collected metadata for the media files recorded during the inspections, including the date, time, and location of the recorded media, in the Survey123 ArcGIS application at the time of the inspections. Due to a technical issue experienced with the OGI camera’s metadata captured for the .mp4-type files, the Survey123 metadata was used as the primary reference for verifying inspection media file data.