REGION 8

DENVER, CO 80202

SOGC, Inc. – Various Well Pads
Partial Compliance Evaluation (PCE)
On-Site Clean Air Act (CAA) Inspections

Inspection Date(s):	October 21, 2024
Inspection Report Date:	December 27, 2024
US EPA Region 8 Representatives:	Katelyn Bergl, Clean Air Act Inspector Youn Joo Kim, Clean Air Act Inspector
North Dakota Division of Air Quality Representatives:	Russel Martin, Inspector Myles Erb, Inspector
Company Representatives:	None
Inspection Report Prepared By:	Katelyn Bergl Youn Joo Kim
Inspection Report Reviewed By:	Scott Patefield, Manager, Enforcement and Compliance Assurance Division, Air and Toxics Enforcement Branch SCOTT PATEFIELD Digitally signed by SCOTT PATEFIELD Date: 2024.12.27 15:24:52 -07'00'
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 OOOO – Standards of Performance for Crude Oil and Natural Gas Facilities for Which Construction, Modification, or Reconstruction Commenced After August 23, 2011, and on or Before September 18, 2015

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)

40 C.F.R Part 60, Subpart OOOOb – Standards of Performance for Crude Oil and Natural Gas Facilities for Which Construction, Modification or Reconstruction Commenced After December 6, 2022 (NSPS OOOOb)

Compliance Assistance
None

Enforcement History
None

Areas of Concern

1. The EPA detected hydrocarbon emissions from the storage tanks co-located with the following wells:
   - Hovden Federal 3-20H
   - Porcupine 5-1
   - Porcupine 2-19H
   - Harris Federal 3-32H
   - Crosby Creek 2-5H

2. The EPA detected visible emissions from an operating utility flare co-located with the following well:
   - Porcupine 2-19H

3. The EPA observed a damaged and disconnected pilot light ignitor wire from an operating pit flare co-located with the following well:
   - Crosby Creek 2-5H

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 21, 2024, at multiple SOGC, Inc. (SOGC) facilities located in North Dakota. SOGC was formerly known as Sinclair Oil & Gas Company prior to March 14, 2022.

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
10/21/24	9:59	10:10	Hovden Federal 3-20H	3302504457 3302504458 3302504521	47.44051	-103.061152
10/21/24	10:35	10:50	Porcupine 5-1	3302503982 3302503983 3302503984 3302504693	47.4467737	-103.083214
10/21/24	10:55	11:00	Porcupine 2-19H	3302501139 3302502956	47.4454199	-103.09183
10/21/24	15:18	15:36	Harris Federal 3-32H	3302503102 3302503275 3302503276 3302503883 3302503884 3302503885 3302503886	47.4999582	-103.064889

Date	Arrival Time	Departure Time	Well Pad Name	API Number(s)	Latitude	Longitude
10/21/24	15:39	15:54	Crosby Creek 2-5H	3302501144 3302501826 3302502109	47.5010878	-103.07049

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.

Tables 2 and 3 at the end of this report summarize inspection observations and findings. Table 2 summarizes storage tank observations. Table 3 includes details of control devices and related observations. See Appendix A for a log of images and videos taken during the inspections.

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 5 out of 5 inspected well pads. 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 5 out of 5 inspected well pads. See Area of Concern #1 above.

ND SIP Control Device Requirements [33.1-15-07-02.3 & 33.1-15-20-04.2]

Per 33.1-15-07-02.3 and 33.1-15-20-04.1, each flare required under those sections must be "equipped and operated with an automatic igniter or a continuous burning pilot," which must also be "maintained and operated in good working order" to comply with Chapter 20. The EPA noted that the ignitor wire on the southern-most operating pit flare co-located with the Crosby Creek 2-5H well was disconnected, although the pilot was lit, and the flare was actively burning. See Area of Concern #3 above.

NSPS OOOO Applicability

Based on well production information reported by SOGC to the NDIC and the date of construction, reconstruction, or modification of the storage vessels, the EPA believes that storage vessels and associated emissions control equipment co-located with the Crosby Creek 2-5H well are potentially subject to requirements for storage vessel affected facilities in NSPS OOOO, and as incorporated by reference in ND SIP Chapter 12.

Closed Vent System Equipment Requirements [§ 60.5411(c)(1)]

Per § 60.5411(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 to a control device that meets the requirements specified in § 60.5412(c) and (d), or to a process." The EPA, using an OGI camera, observed emissions from the closed vent system co-located with the Crosby Creek 2-5H well. See Area of Concern #1 above.

Control Device Requirements [§§ 60.5417(h)(3]

Per § 60.5417(h)(3), "Each control device must be operated following the manufacturer's written operating instructions, procedures and maintenance schedule to ensure good air pollution control practices for minimizing emissions." The EPA noted that the ignitor wire on the southern-most operating pit flare co-located with the Crosby Creek 2-5H well was disconnected, although the pilot was lit, and the flare was actively burning. See Area of Concern #3 above.

NSPS OOOOa Applicability

Based on well production information reported by SOGC to the NDIC and the date of construction, reconstruction, or modification of the storage vessels, the EPA believes that storage vessels and associated emissions control equipment co-located with the Hovden Federal 3-20H, Porcupine 2-19H, and Harris Federal 3-32H wells 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 systems co-located with the Hovden Federal 3-20H, Porcupine 2-19H, and Harris Federal 3-32H wells. See Area of Concern #1 above.

Control Device Requirements [§ 60.5412a(d]

Per § 60.5412a(d)(1)(iii), owners and operators must, "Operate the combustion control device with no visible emissions, except for periods not to exceed a total of 1 minute during any 15-minute period." The EPA observed white smoke continuously for more than one minute (per Method 22) from a pit flare co-located with the Porcupine 2-19H well. See Area of Concern #2 above.

NSPS OOOOb Applicability

Based on well production information reported by SOGC to the NDIC; and the date of construction, reconstruction, or modification of the storage vessels; the EPA believes that storage vessels and associated emissions control equipment co-located with Porcupine 5-1 well are potentially subject to requirements for storage vessel affected facilities in NSPS OOOOb.

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

Per § 60.5411b(a)(2), owners and operators must "design the closed vent system to capture and route all gases, vapors, and fumes to a process or a control device that meets the requirements specified in § 60.5412b(a) through (d)..." Furthermore, § 60.5411b(a)(3) requires that the closed vent system be designed and operated "with no identifiable emissions." The EPA, using an OGI camera, observed emissions from the closed vent system co-located with the Porcupine 5-1 well. 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**
Hovden Federal 3-20H	21		Continuous emissions from thief hatches and a pipe on the produced water tanks. An operator was notified of the observations during the inspection. The operator sealed the emission points, and inspectors used the OGI camera to confirm that the leaks were addressed through the operator's actions before closing out the inspection.	MOV_3522.mp4 MOV_3523.mp4 MOV_3524.mp4
Porcupine 5-1	28		Continuous emissions from open ended pipes on the top of the tank battery.	MOV_3525.mp4
Porcupine 2-19H	14		Large continuous emissions from top of the tanks.	MOV_3527.mp4
Harris Federal 3-32H	49		Continuous emissions from top of the tanks 203, 204, 205 and continuous emissions from vent lines and thief hatches.	MOV_3535.mp4 MOV_3536.mp4 MOV_3537.mp4
Crosby Creek 2-5H	18		Continuous emissions from the top of the tanks, and continuous emissions from the vent line.	MOV_3538.mp4 MOV_3539.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**
Hovden Federal 3-20H	1	HP	Y	N	None	
Porcupine 5-1	2	HP	Y	Y	None	
		HP	Y	N	None	
Porcupine 2-19H	3	ECD	Y	N	None	

		ECD	N	N	None	
		Pit Flare	Y	Y	Yes	Continuous smoking from the pit flare. Method 22 was performed.
Harris Federal 3-32H	4	HP	Y	Y	None	
		HP	Y	Y	None	
		High-Low	Y	Y	None	
		High-Low	Y	Y	None	
Crosby Creek 2-5H	3	ECD	Y	N	None	
		Pit Flare	Y	Y	None	The ignitor wire on the southern-most operating pit flare was disconnected, although the pilot was lit, and the flare was actively burning.
		Pit Flare	Y	Y	None	

APPENDIX A: Photograph and Video Log

Media File	Description	Well Pad Name
MOV_3522.mp4* MOV_3523.mp4* MOV_3524.mp4*	Continuous emissions from thief hatches and a pipe on the produced water tanks.	Hovden Federal 3-20H
MOV_3525.mp4*	Continuous emissions from open ended pipes on the top of the tank battery.	Porcupine 5-1
MOV_3527.mp4*	Large continuous emissions from top of the tanks.	Porcupine 2-19H
MOV_3535.mp4* MOV_3536.mp4* MOV_3537.mp4*	Continuous emissions from top of the tanks 203, 204, 205 and continuous emissions from vent lines and thief hatches.	Harris Federal 3-32H
MOV_3538.mp4* MOV_3539.mp4*	Continuous emissions from the top of the tanks, and continuous emissions from the vent line.	Crosby Creek 2-5H
20241021_170121000_iOS.MOV	Smoking Pit Flare	Porcupine 2-19H
entrysign-20241021-095954.jpg	Entry Sign	Hovden Federal 3-20H
entrysign-20241021-163942.jpg	Entry Sign	Porcupine 5-1
entrysign-20241021-165711.jpg	Entry Sign	Porcupine 2-19H
entrysign-20241021-212039.jpg	Entry Sign	Harris Federal 3-32H
entrysign-20241021-213948.jpg	Entry Sign	Crosby Creek 2-5H

*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.