



REGION 8

DENVER, CO 80202

Slawson – Various Wells Pads Partial Compliance Evaluation (PCE) On-Site Clean Air Act (CAA) Inspections

Inspection Date: November 5-8, 2023

Inspection Report Date: January 11, 2024

EPA Representatives: [REDACTED] US EPA Region 8, Clean Air Act Inspector
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Tribal Representatives: [REDACTED] MHA Energy
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Company Representatives: None

Inspection Report Prepared By: [REDACTED] US EPA Region 8, Clean Air Act Inspector
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Applicable Rules: 40 C.F.R Part 49, Subpart K: Federal Implementation Plan for Oil and Natural Gas Well Production Facilities; Fort Berthold Indian Reservation (Mandan, Hidatsa and Arikara Nation), North Dakota (Fort Berthold FIP)

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 Slawson Exploration Companies, Inc.'s (Slawson) Clean Air Act consent decree (Case 1:16-cv-00413-CSM) terminated 12/7/2020.

Areas of Concern

1. The EPA detected hydrocarbon emissions from the storage tanks at the following well pads:
 - Well Pad #60
 - Well Pad #74
 - Well Pad #77
 - Well Pad #114
 - Big Bend 1-5SWD
2. The EPA detected unburned hydrocarbon (UBHC) emissions from operating utility flares at the following well pads:
 - Well Pad #30
 - Well Pad #73
 - Well Pad #77
3. The EPA detected visible emissions from a flare at the following well pads:
 - Well Pad #74
 - Well Pad #118

See Table 1 below for more details regarding inspected locations and Tables 2 & 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 Fort Berthold Indian Reservation (FBIR) Tribal inspectors on November 5-8, 2023, at multiple Slawson facilities located on the FBIR.

The EPA evaluated each Slawson 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 Fort Berthold FIP and NSPS OOOOa.

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 two OGI cameras, 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/>.

Date	Arrival Time	Departure Time	Pad Name	Well Name	Latitude	Longitude
11/6/2023	11:18	11:26	Well Pad #114	Shad Rap Federal 1-2-3H	47.93139	-102.28012
11/6/2023	13:43	13:56	Well Pad #30	Hunter 2-8-17H	47.92051	-102.47721
11/6/2023	14:11	14:28	Well Pad #77	Serpent (Federal) 2-36-31H	47.84939	-102.40821
11/6/2023	14:30	14:45	Well Pad #74	Revolver 2-35H	47.84869	-102.41251
11/6/2023	14:45	14:58	Well Pad #73	Gobler 3-35-26H	47.84855	-102.41669
11/6/2023	15:07	15:11	Well Pad #70	Goblin #1-26H	47.86291	-102.42318
11/6/2023	15:14	15:19	Well Pad #72	Osprey Federal 1-26-25-30H	47.86561	-102.41692
11/6/2023	15:23	15:35	Well Pad #118	Submarine Federal 3-23-20H	47.88157	-102.42743
11/6/2023	15:37	15:41	Well Pad #65	Submarine Federal 4-26-35 MLH	47.87972	102.43006
11/6/2023	15:44	15:59	Well Pad #60	Waterbond 3-27-34H	47.87725	-102.43408
11/6/2023	16:02	16:14	Well Pad #78	Muskrat Fed 2-28-33	47.87567	-102.45514
11/6/2023	16:13	16:22	Well Pad #28	Coyote 1-32H	47.93366	-102.47845
11/6/2023	16:24	16:27	-	Jericho 4-5H	47.93368	-102.48264
11/6/2023	16:29	16:40	Well Pad #26	Jericho 3-5H	47.93365	-102.48788
11/6/2023	16:29	16:40	Big Bend 1-5SWD	Big Bend 1-5SWD	47.92758	-102.48354

Observations and Regulatory Applicability

Fort Berthold FIP and NSPS OOOOa regulations which are potentially relevant to the Areas of Concern observed during 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.

Fort Berthold FIP Applicability

Based on drilling information reported to the NDIC well index by Slawson, the facilities listed in Table 1 were completed after the August 12, 2007, applicability date (per 40 C.F.R. § 49.4161) and are producing from the Bakken Pool (per 40 C.F.R. § 49.4163(a)(1)) and are thus subject to the Fort Berthold FIP.

Closed Vent System Equipment Requirements [§ 49.4165(b)]

Per § 49.4165(b)(1), “Each closed-vent system must route all produced natural gas and natural gas emissions from production and storage operations to the natural gas sales pipeline or the control

devices...” The EPA, using an OGI camera, detected natural gas emissions from production and storage tanks at five out of fifteen facilities evaluated. See Area of Concern #1 above.

Utility Flare Requirements [§ 49.4165(c)]

Per § 49.4165(c)(1), “For each enclosed combustor or utility flare, the owner or operator must follow the manufacturer’s written operating instructions, procedures and maintenance schedule to ensure good air pollution control practices for minimizing emissions.” The EPA noted UBHC emissions indicating poor air pollution control practices from lit flares at three out of fifteen facilities evaluated. See Area of Concern #2 above.

Per § 49.4165(c)(6)(vii), “The owner or operator must ensure that each enclosed combustor and utility flare is operated with no visible smoke emissions.” Per 49.4166(g)(3) and EPA Reference Method 22, the EPA noted black smoke emissions at two out of fifteen well pads evaluated. See Area of Concern #3 above.

NSPS OOOOa Applicability

Based on well production information reported by Slawson 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 at seven of the 14 oil and natural gas production facilities identified in Table 1 are subject to requirements for storage vessel affected facilities in NSPS OOOOa:

- Well Pad #30
- Well Pad #77
- Well Pad #73
- Well Pad #72
- Well Pad #118
- Well Pad #65
- Well Pad #78

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 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 systems at Well Pad #77. See Area of Concern #1 above.

Control Device Requirements [§§ 60.5412a(d) and 60.5413a(e)]

Per § 60.5413(a)(e)(8), owners and operators must, “Operate each control device following the manufacturer’s written operating instructions, procedures and maintenance schedules to ensure good air pollution control practices for minimizing emissions.” The EPA noted UBHC emissions indicating poor air pollution control practices from lit flares at Well Pads #30, #73, and #77. See Area of Concern #2 above.

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 black smoke continuously for more than five minutes (per Method 22) at Well Pad #118. See Area of Concern #3 above.

Table 2: Inspection Details: Storage Tank Observations						
Site Information			TANKS			
Pad Name	Well Name		Number of Storage Tanks	AVO (Audio, visual, olfactory) Observations	Emissions Description	Media File Name
Well Pad #114	Shad Rap Federal 1-2-3H		9	None	Continuous leak from the line from the flare to knockout drum.	MOV_3375
Well Pad #30	Hunter 2-8-17H		24	None	None	
Well Pad #77	Serpent (Federal) 2-36-31H		24	Odor detected	Continuous emissions from open thief hatch.	MOV_3378
Well Pad #74	Revolver 2-35H		8	None	Intermittent emissions from top of produced water tank.	MOV_3380, MOV_3381
Well Pad #73	Gobler 3-35-26H		18	None	None	
Well Pad #70	Goblin #1-26H		14	None	None	
Well Pad #72	Osprey Federal 1-26-25-30H		24	None	None	
Well Pad #118	Submarine Federal 3-23-20H		16	None	None	
Well Pad #65	Submarine Federal 4-26-35 MLH		26	None	None	
Well Pad #60	Waterbond 3-27-34H		34	Rust and evidence of spilled liquids evident on tanks near where venting emissions were observed.	Continuous emissions venting from produced water tank	MOV_3384, DC_3385
Well Pad #78	Muskrat Fed 2-28-33		20	None	None	
Well Pad #28	Coyote 1-32H		15	None	None	
	Jericho 4-5H		14	None	None	
Well Pad #26	Jericho 3-5H		14	None	None	
Big Bend 1-5SWD	Big Bend 1-5SWD		12	Odor detected	Continuous venting from the end of uncapped pipe located on the top of one of the 2 taller tanks.	MOV_3384, DSCN0071.JPG

Table 3: Inspection Details: Control Devices and AVO/OGI Observations

CONTROL DEVICE									
Site Information	Number of Control Device(s)	Control Device Type	Pilot Flame Presence	Active Flaring (Y/N)	Method 22 Observations	Emission Description	Media File Name	Slope to K/O Drum	Notes
Well pad #114	1	Low Pressure (LP)	Yes	No	None	None	None	Downward	
Well pad #30	2	Air Assisted (AA) 2-prong, High Capacity (HC) 2-prong	Yes (flickering), Yes	Yes, Yes	None	Unburned hydrocarbon from the flare detected from Air assisted 2-prong flare.	MOV_3376, MOV_3377	Downward	Intermittent pilot light was visible from Air-assisted 2-prong flare.
Well pad #77	2	HC 2-prong, AA 2-prong	Yes, No	No, No	None	Continuous emissions from partially lit air assisted flare	MOV_3379	Downward	The flare was making hissing noise.
Well pad #74	1	HC	Yes	Yes	Yes	Continuous visible emissions for >5 minute per Method 22.	DSCN0055.JPG	Upward	
Well pad #73	2	AA, HC	Yes, Yes	Yes, Yes	None	Continuous unburned hydrocarbon Trail	MOV_3383, DSCN0057-0059.JPG	Upward	
Well pad #70	1	HC	Yes	No	None	None	DSCN0061.JPG	Upward	

Well pad #72	2	AA 2-prong, HP 2-prong	Yes, Yes	No, Yes	None	None		Downward	
Well pad #118	2	AA, HP	No, Yes	No, Yes	Yes	Continuous visible emissions for >5 minute per Method 22 on High Pressure flare.		Downward	
Well pad #65	2	AA 2-prong, HP 2-prong	Yes, Yes	No, Yes	None	None		Downward	
Well Pad #60	3	HC, HC, HC	Yes, No, No	Yes, No, No	None	None			
Well Pad #78	2	AA 2-prong, HP 2-prong	Yes, Yes	Yes, Yes	None	None			
Well Pad #28	1	HC	Yes	No	None	None		Downward	
Jericho 4-5H	1	HC	Yes	Yes	None	None		Downward	
Well Pad #26	1	HP-LP	Yes	Yes	None	None			
Big Bend 1-5SWD	0	NA	NA	NA	NA	NA		NA	

APPENDIX A: Photograph and Video Log

File Name	Description	Well Pad
DSCN0050.JPG	Entry Sign Photo	Well Pad #114
DSCN0052.JPG	Entry Sign Photo	Well Pad #30
DSCN0053.JPG	Entry Sign Photo	Well Pad #77
DSCN0054.JPG	Entry Sign Photo	Well Pad #74
DSCN0056.JPG	Entry Sign Photo	Well Pad #73
DSCN0060.JPG	Entry Sign Photo	Well Pad #70
DSCN0062.JPG	Entry Sign Photo	Well Pad #72
DSCN0063.JPG	Entry Sign Photo	Well Pad #118
DSCN0064.JPG	Entry Sign Photo	Well Pad #65
DSCN0065.JPG	Entry Sign Photo	Well Pad #60
DSCN0066.JPG	Entry Sign Photo	Well Pad #78
DSCN0067.JPG	Entry Sign Photo	Well Pad #28
DSCN0069.JPG	Entry Sign Photo	Well Pad #26
MOV_3375.MP4	Continuous leak from the line from the flare to knockout drum	Well Pad #114
MOV_3378.MP4	Continuous emissions from open thief hatch	Well Pad #77
MOV_3380.MP4, MOV_3381.MP4	Intermittent emissions from top of produced water tank	Well Pad #74
MOV_3384.MP4, DC_3385.JPG	Continuous emissions venting from produced water tank	Well Pad #60
MOV_3384.MP4, DSCN0071.JPG	Continuous venting emissions from end of uncapped pipe located on the top of one of the 2 taller tanks. DSCN0071.JPG shows pipe where emissions are venting.	Big Bend 1-5SWD
MOV_3376.MP4, MOV_3377.MP4	UBHC from the flare detected from Air assit 2-prong flare	Well Pad #30
MOV_3379.MP4	Continuous emissions from partially lit air assist flares	Well Pad #77
DSCN0055.JPG	Image shows upward piping slope to flare.	Well Pad #74
MOV_3383.MP4, DSCN0057-0059.JPG	Continuous UBHC Trail. Image shows upward piping slope to flare.	Well Pad #73
DSCN0061.JPG	Image shows upward piping slope to flare.	Well Pad #70