WPX- Various Well Sites
Partial Compliance Evaluation (PCE)
On-Site Clean Air Act (CAA) Inspections

Inspection Date:	June 12 – 15, 2023
Inspection Report Date:	June 27, 2023, DRAFT
EPA Representatives:	Alexis North, Katelyn Bergl, Youn Joo Kim
Tribal Representatives:	Dwight Bruce, Jr Talon Two Crow
Company Representatives:	None onsite during inspections.
Inspection Report Prepared By:	Alexis North
Inspection Report Reviewed By:	Katelyn Bergl, Youn Joo Kim, Scott Patefield SCOTT PATEFIELD Digitally signed by SCOTT PATEFIELD Date: 2023.07.20 10:26:32 -06'00'
Applicable Rules:	Fort Berthold Indian Reservation (Mandan, Hidatsa and Arikara Nation), North Dakota (Fort Berthold FIP) 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

Compliance Assistance
None

Enforcement History
No Clean Air Act enforcement cases settled in the last five years.

Areas of Concern
1. The EPA detected hydrocarbon emissions from the storage tanks at the following well pads:
   - WPX- Dancing Bull 16-2HC, 16-2HD, 16-21-2
   - WPX- Adam Good Bear 15-22H, 15-22W, 15-22X, State of ND 10-3HA, 10-3W
   - WPX- MC MHA 14-11TFH, 11H, 2TFH, 2H, 3TFH

2. The EPA detected hydrocarbon emissions from the closed vent system at the following well pad:
   - WPX- FBIR Guy Blackhawk 24X-27D, 24X-27H, 24X-27C, 24X-27G

3. The EPA detected hydrocarbon emissions from an unlit flare at the following well pads:
   - WPX- Two Shields Butte 13-22-16-1H3, 13-22-33-16H, 13-22-16-1H
   - WPX- Tri Unit Pad

4. The EPA detected visible smoke using Method 22 at the following well pads:
   - Night Hawk 6-34HUL, 34HD, 34HT, 34HC, 34HY
   - WPX- Tri Unit Pad (Method 22)
   - WPX- MC MHA 14-11TFH, 11H, 2TFH, 2H, 3TFH (Method 22)

- WPX- Moccasin Creek 16-10-3-3H, 3H3 (Method 22)

5. The EPA detected unburned hydrocarbon (UBHC) emissions from operating utility flares at the following well pads:
   - WPX- Tri Unit Pad
   - WPX- MC MHA 14-11TFH, 11H, 2TFH, 2H, 3TFH
   - WPX- MC MHA 24-10-2TFH, 2H

See Table 1 below for more details regarding inspected locations and Tables 2 & 3 for inspection details for all pads.

General Source Information

Unannounced well site inspections were conducted jointly by U.S. EPA and Fort Berthold Indian Reservation (FBIR) Tribal inspectors (inspectors) on June 12-15, 2023, at multiple WPX facilities located on the FBIR.

The EPA evaluated each WPX 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 regulations listed below.

EPA's geospatial mapping of air pollution (GMAP) van also collected data using OGI and air sampling equipment at WPX facilities from June 12-15, 2023. Data collected and observations made by GMAP EPA personnel are also included in this inspection report, where relevant and when available.

Table 1 lists well pad specifics for each inspection including latitude/longitude location as well as time of entry. The well information located in the tables below is from the North Dakota Industrial Commission (NDIC) well index located online at https://www.dmr.nd.gov/oilgas/.

Table 1: List of Facilities Inspected June 12-15, 2023

Pad Name	Latitude	Longitude	Inspection Date	Time In
Elk 16-2H, 15-21HW, 16-21HX, 17-20HE	47.81794	-102.466	6/12/2023	13:51
Dancing Bull 16-2HC, 16-2HD, 16-21-2	47.82027	-102.458	6/12/2023	14:00
Adam Good Bear 15-22H, 15-22W, 15-22X, State of ND 10-3HA, 10-3W	47.81716	-102.446	6/12/2023	14:16
State of ND 10-3H	47.82	-102.441	6/12/2023	14:28
George Evans 11-2HZ, 11-2HC, 11-2HD, 14-23HZ, 14-23HC, 14-23HD	47.82014	-102.414	6/12/2023	14:34
Two Shields Butte 14-21-16-2H3, 14-21-33-15H, 14-21-16-2HS, 14-	47.70341	-102.461	6/13/2023	9:29

21-33-15H3, 14-21-4H, 14-21-33-16H3				
Two Shields Butte 13-22-16-1H3, 13-22-33-16H, 13-22-16-1H	47.70373	-102.449	6/13/2023	9:48
Meadow Lark 3-34HA, HB, QL	47.68943	-102.446	6/13/2023	10:09
FBIR Guy Blackhawk 24X-27D, 24X-27H, 24X-27C, 24X-27G	47.69041	-102.439	6/13/2023	10:35
Night Hawk 6-34HUL, 34HD, 34HT, 34HC, 34HY	47.68595	-102.431	6/13/2023	10:58
Two Shields Butte 14-33-25H, 6H	47.67551	-102.462	6/13/2023	12:08
Skunk Creek 1-12-H	47.67551	-102.462	6/13/2023	12:37
TRI UNIT PAD (21 wells)	47.59166	-102.453	6/14/2023	9:00
MC MHA 14-11TFH, 11H, 2TFH, 2H, 3TFH	47.56046	-102.498	6/14/2023	10:15
Moccasin Creek 16-10-3-3H, 3H3	47.56043	-102.504	6/14/2023	10:45
MC MHA 24-10-2TFH, 2H	47.56036	-102.516	6/14/2023	11:50
Wounded Face 14-15HC, 15HX, 15HB, 15HW, 15HEL, 15HC	47.63307	-102.639	6/14/2023	15:25
Patricia Kelly 2-1HA, 1HS, 1HX, 1HB, 1HUL	47.84281	-102.696	6/15/2023	10:43
Crosby Chase 2-1HIL, 2-1HG, 2-1HY, 2-1HZ	47.83883	-102.696	6/15/2023	10:56

Tables 2 and 3 at the end of this report include the inspections details. Table 2 includes well head counts and storage tank details. Table 3 contains control device and AVO observations. Each well pad inspection followed the approach below:

1. Park on the well pad.
2. Make notations on the site operation including the number of each major type of site process equipment present (e.g., total number of storage tanks, number of oil tanks, number of water tanks, number of tank emission control devices).
3. Note any AVO indications of emissions from the storage tanks closed vent system and control devices.
4. Survey the site operations in infrared modes (auto, manual, and/or high-sensitivity modes), looking for emissions escaping the storage tank closed vent system, and control devices.
5. Observe control devices (enclosed combustor or utility flare) for visible emissions.

Fort Berthold FIP Applicability

Based on drilling information reported to the NDIC well index by WPX, 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 four out of 19 well pads evaluated. See Area of Concern #1 and #2 above.

Utility Flare Requirements [§49.4165(c)]
Per 49.4165(c)(6)(vi), "The owner or operators must ensure that each enclosed combustor and utility flare is maintained in a leak-free condition." The EPA, using an OGI camera, detected emissions at two out of the 19 well pads evaluated. See Area of Concern #3 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 four out of 19 well pads evaluated. See Area of Concern #4 above.

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 19 well pads evaluated. See Area of Concern #5 above.

NSPS OOOOa Applicability
Based on well production information reported by WPX 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 four of the 19 oil and natural gas production facilities identified in Table 1 are subject to requirements for storage vessel affected facilities in NSPS OOOOa:

- FBIR Guy Blackhawk 24X-27D, 24X-27H, 24X-27C, 24X-27G
- Night Hawk 6-34HUL, 34HD, 34HT, 34HC, 34HY
- Tri Unit Pad
- Crosby Chase 2-1HIL, 2-1HG, 2-1HY, 2-1HZ

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 observed emissions from the closed vent system at the FBIR Guy Blackhawk 24X-27D, 24X-27H, 24X-27C, 24X-27G and Tri Unit well pads. See Area of Concern #2 and #3 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 black smoke continuously for more than a minute (per Method 22) at the Tri Unit and Night Hawk 6-34HUL, 34HD, 34HT, 34HC, 34HY well pads. See Area of Concern #4 above.

Table 2: Inspection Details: Well Head Count and Storage Tanks				
Well Name	# Well Heads (WH)	# Total Storage Tanks	Tank Emissions Observations	File ID
Elk 16-2H, 15-21HW, 16-21HX, 17-20HE	4	13	None	
Dancing Bull 16-2HC, 16-2HD, 16-21-2	3	18	Emissions from bull plug/ equalizer line on HC-2 tank. This emission was reported out to Josh Jarmin (production foreman).	MOV_3269
Adam Good Bear 15-22H, 15-22W, 15-22X, State of ND 10-3HA, 10-3W	4	13	Tank 3, intermittent leak from vent line was observed. GMAP detected the leak and recorded it.	
State of ND 10-3H	1	3	None	
George Evans 11-2HZ, 11-2HC, 11-2HD, 14-23HZ, 14-23HC, 14-23HD	6	21	None	
Two Shields Butte 14-21-16-2H3, 14-21-33-15H, 14-21-16-2HS, 14-21-33-15H3, 14-21-4H, 14-21-33-16H3	6	20	None	
Two Shields Butte 13-22-16-1H3, 13-22-33-16H, 13-22-16-1H	3	14	None	
Meadow Lark 3-34HA, HB, QL	4	12	2 PRVs, small puffs of emission were observed. Unable to see via IR.	MOV_0171
FBIR Guy Blackhawk 24X-27D, 24X-27H, 24X-27C, 24X-27G	8	14	None	
Night Hawk 6-34HUL, 34HD, 34HT, 34HC, 34HY	5	15	None	
Two Shields Butte 14-33-25H, 6H	2	10	None	
Skunk Creek 1-12-H	1	4	None	
TRI UNIT PAD (21 wells)	21 - Not Co-located with CTB	91	Tanks were not in use and empty at time of inspection. Strong odor, described as "B.O. Smell", present facility-wide.	
MC MHA 14-11TFH, 11H, 2TFH, 2H, 3TFH	5	26	Northernmost Produced water tank, observed small, continuous venting of emissions.	MOV_3299, MOV_3300, MOV_0200
Moccasin Creek 16-10-3-3H, 3H3	2	10	None	

MC MHA 24-10-2TFH, 2H	7	12	None	
Wounded Face 14-15HC, 15HX, 15HB, 15HW, 15HEL, 15HC	5	10	None	
Patricia Kelly 2-1HA, 1HS, 1HX, 1HB, 1HUL	5	15	No emissions, slight "body odor" chemical smell.	
Crosby Chase 2-1HIL, 2-1HG, 2-1HY, 2-1HZ	6	14	None	

Table 3: Inspection Details: Control Devices and AVO					
Well Name	Combustion Device (CD) Type	Visible flame CD?	AVO	File ID	Smoke from CD?
Elk 16-2H, 15-21HW, 16-21HX, 17-20HE	1 air assisted Steffes	Yes	Continuous flaring and intermittent black smoke was observed		Yes
Dancing Bull 16-2HC, 16-2HD, 16-21-2	1 air assisted Steffes	Yes	Continuous flaring and intermittent black smoke was observed		Yes
Adam Good Bear 15-22H, 15-22W, 15-22X, State of ND 10-3HA, 10-3W	1 air assisted Steffes	Yes	Continuous flaring and intermittent black smoke was observed		Yes
State of ND 10-3H	1 air assisted Steffes	Yes			No
George Evans 11-2HZ, 11-2HC, 11-2HD, 14-23HZ, 14-23HC, 14-23HD	1 air assisted Steffes	Yes			No
Two Shields Butte 14-21-16-2H3, 14-21-33-15H, 14-21-16-2HS, 14-21-33-15H3, 14-21-4H, 14-21-33-16H3	1 air assisted Steffes, 1 HP Steffes	Yes/No	The air assisted Steffes was lit and continuously flaring. HP Steffes was unlit, not operating and without any emissions.		No
Two Shields Butte 13-22-16-1H3, 13-22-33-16H, 13-22-16-1H	1 air assisted Steffes, 1 hi/lo Steffes	Yes/No	Air assisted Steffes was continuously flaring. Hi/Lo Steffes was unlit and with unburned hydrocarbon emissions (UBHC). As the inspectors were leaving the site, the pilot light became lit. No IR of unlit flare.	MOV_0167, IR_0168	No
Meadow Lark 3-34HA, HB, QL	1 air assisted Steffes, 1 hi/lo Steffes	Yes	Continuous flaring and intermittent black smoke was observed from both flares.	MOV_0170	Yes
FBIR Guy Blackhawk 24X-27D, 24X-27H, 24X-27C, 24X-27G	1 air assisted Steffes, 1 hi/lo Steffes	Yes	Both flares were continuously flaring. Intermittent emissions were detected from the elbow union leading to the flare.	MOV_0174	No

Night Hawk 6-34HUL, 34HD, 34HT, 34HC, 34HY	1 air assisted Steffes, 1 HP Steffes	Yes	Continuous flaring and continuous black smoke was observed from both flares HP (3 prong) Steffes and Lo/Hi (2 prong) Steffes.		Yes
Two Shields Butte 14-33-25H, 6H	1 hi/lo air assisted Steffes	Yes	Downward slope of the line towards the flare was observed. Burnt cup was documented on top of the flare.	DC_0183, DC_0184 (blank)	No
Skunk Creek 1-12-H	1 hi/lo air assisted Steffes	Yes			No
TRI UNIT PAD (23 wells)	3 hP air assisted flares 4 hi/lo flares 1 hP Steffes	hi/lo 3rd from West Unlit. Others - Yes	1. hi/lo 3rd from west: Flare unlit and venting UBHC directly. 2. SW hP air assist: Flame present, large plume of UBHC trailing from flare. 3. NE hP air assist: Flame present, large plume of UBHC trailing from flare. VE (Black smoke) observed for >1 continuous minute per Method 22.	1. MOV_3289, MOV_3290 2. MOV_3291 3. MOV_3292	Yes
MC MHA 14-11TFH, 11H, 2TFH, 2H, 3TFH	2 hi/lo air assisted flares, 2 hP Steffes flares	Y	1. hi/lo western flare (#2) - black smoke observed > 1 continuous minute per Method 22 2. hi/lo western flare (#2) - UBHC Trailing plume. Enormous flame. 3. hi/lo eastern flare (#1) - temperature monitor read 79 degrees.	1. DC_3298 2. DC_3297, MOV_3303 3. DC_3296	Yes
Moccasin Creek 16-10-3-3H, 3H3	1 hi/lo air assisted Steffes	Y	Black smoke observed > 1 continuous minute per Method 22		Yes
MC MHA 24-10-2TFH, 2H	1-hP 2-pronged flare 1-hP air assisted flare	Yes	Observed a trailing plume of UBHC from the hP air assisted flare	MOV_0208	No
Wounded Face 14-15HC, 15HX, 15HB, 15HW, 15HEL, 15HC	1-hP Steffes 2-air assisted lP Flares	Yes			No

Patricia Kelly 2-1HA, 1HS, 1HX, 1HB, 1HUL	3 hi/lo Steffes	Yes	Read temps on 3 flare panels: 1525, 1618, 1489	IR_3324, DC_3325	No
Crosby Chase 2-1HIL, 2-1HG, 2-1HY, 2-1HZ	1 hi/lo Steffes 1- 3 pronged Steffes	Yes	Flames present	IR_3328, DC_3329	No