

**DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection**

N158647283

FACILITY: TUSCOLA ENERGY - NIXON FARMS		SRN / ID: N1586
LOCATION: 7611 BAY CITY FORESTVILLE RD, AKRON		DISTRICT: Saginaw Bay
CITY: AKRON		COUNTY: TUSCOLA
CONTACT: Jeff Adler , President		ACTIVITY DATE: 12/04/2018
STAFF: Matthew Karl	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Scheduled inspection to determine compliance with PTI No. 20-12B.		
RESOLVED COMPLAINTS:		

On Tuesday (12/4/18) I (Matt Karl) conducted a compliance inspection at Tuscola Energy, Inc. -Nixon Farms located at 7611 Bay City Forestville Road, Wisner Township, Michigan. The purpose of the inspection was to determine compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control of Natural Resources and Environmental Protection Act, 1994 Public Act 451; Michigan Department of Environmental Quality, Air Quality Division (MDEQ-AQD) Administrative Rules; Permit to Install (PTI) No. 20-12B. Mr. Jeff Adler, President, assisted by providing requested records. Mr. Andrew Kent and Mr. Derek Timmermann, MDEQ-OGMD, assisted me during the site inspection.

Facility Description:

Nixon Farms is an existing oil production facility that consists of both sweet and sour gas wells. A sour gas well is defined as a well in which hydrogen sulfide (H2S) is present. Each well has an associated pump to bring the oil and gas to the surface. The oil and gas are pumped from each well to a battery of separator tanks where the oil is separated from the gas. The oil is routed to several storage tanks on site while the gas is routed to a 50-foot-tall flare. The wells that are associated with this facility are included in the table below:

Well Identification	Well Type
Nixon 1-23	Sweet Well
Nixon 2-23	Sweet Well
Nixon 3-23	Sour Well
Nixon 4-23	Sour Well
Nixon 5-23	Sour Well
Nixon 6-23	Sour Well
Nixon 14-23	Sweet Well
Morgan 1-23	Previously sour, possibly future sweet*

*The Morgan 1-23 was under a "Plug or Produce" judgement at the time of my 12/4/18 inspection.

Site Inspection:

Andrew Kent, Derek Timmermann and I arrived on site at approximately 11:00. At the time of our inspection, the flare was not operating. First, I checked for the facility's progress on resolving violations cited in the November 5, 2018 Violation Notice and addressed in the Violation Notice Response dated November 26, 2018:

Process Description	Rule/Permit Condition Violated	Violation Comments 11/5/18	Violation Response 11/26/18	Progress as of 12/4/18 Inspection
Nixon Farms crude oil production facility	AQD PTI 20-12B FGOILPRODUCTION SC IV.2	The wind shroud at the top of the flare was tilted and in bad shape.	A new shroud has been made and will replace the old shroud. We should have the new shroud installed by December 10 th .	The shroud has not been replaced yet.
Nixon Farms crude oil production facility	AQD PTI 20-12B FGOILPRODUCTION SC IV.2	A spill was noted by the drip tank for the produced gas going to the flare. On Sept 20, 2018 OGMD discovered the tank was bypassed. The tank remained bypassed as of Oct 30, 2018.	The drip tank is currently bypassed. We are looking to purchase more. We should have the new drip tank(s) in early December.	The drip tank is currently bypassed. Has not been replaced yet.

I reviewed the on-site flow meter and recorded the following information:

- Flow today: 9.8 MSCF
- Flow yesterday: 14.5 MSCF
- Flow rate: 27.1 MSCF/D

This was interpreted as a point of concern, because the flare was currently damaged and not operating and there should not have been any flow of gas recorded for the "Flow today" and "Flow yesterday" categories. This issue was brought to Jeff Adler's attention on-site and via email later that afternoon.

Next, we noted that one of the lines running to the flare had a hole in it and was leaking, as evidenced by bubbling water in one of the puddles it ran through. Closer inspection and readings taken with Andrew Kent's 4-gas meter indicated that there was no H₂S present, leading us to believe that the line was associated with sweet gas, possibly from the Nixon 1-23 storage tank. This issue was brought to Jeff Adler's attention on-site and via email later that afternoon.

We then proceeded to check the flare pilot flame meter. The flare was not operating. The meter indicated that the pilot flame temperature (p1t1 temp) was 440°F. This seemed to indicate that the thermocouple was not operating properly and needed maintenance. This issue was brought to Jeff Adler's attention on-site and via email later that afternoon.

Finally, shortly after noon, a truck arrived on site to load out the storage tanks present on site. Jeff Adler was present at this time and we were able to discuss the maintenance issues we noticed. While we were discussing the inspection, it was noted that the truck operator had not connected the vapor return system to the truck. This issue was brought to Jeff Adler's attention; he stated he would discuss it with the truck operators and make sure the vapor return system is operated during load out of the tanks.

Records Review:

I sent Jeff Adler a records request on Wednesday (12/5/18) via email. Jeff Adler suggested we meet at his office early the following week so that he could finish entering the data for November. On Monday (12/10/18) I met with Jeff Adler and obtained the following records, which are available in the District office files:

- Flow, H₂S emissions Nixon Farm (N1586) from 8/1/17 to 12/2/18
- Maintenance Log Nixon Farm (N1586) from 12/6/18-12/7/18
- Operating Schedule Nixon Farm (N1586) from 7/13/18-12/8/18

FGOILTREATSYS:

SC VI.1. The permittee shall maintain a log of all maintenance activities conducted according to the PM / MAP (pursuant to SC III.2).

I reviewed the Maintenance Log Nixon Farm (N1586) from 12/6/18-12/7/18. There is a category on the log for the "Nixon Treatment Tanks" with blanks for the date of maintenance work and a description of the maintenance activities taken. There has been no maintenance recorded on the "Nixon Treatment Tanks" to date.

FGOILPRODUCTION:

SC VI.1. The permittee shall monitor and record all of the following at the frequency indicated:

- a) Volumetric flow rate of sour gas going to the flare- daily**
- b) Annual readings of the concentration of hydrogen sulfide in the produced sour gas from the wells while being pumped which is representative of the three wells sending the highest volume of gas to the flare- annually. Both of the following are acceptable means of determining the concentration of hydrogen sulfide in the sour gas:**
 - I) Colorimetric detector tube**
 - II) Laboratory gas analysis**

I reviewed the Flow, H₂S emissions Nixon Farm (N1586) from 8/1/17 to 12/2/18. The volumetric flow rate of sour gas going to the flare ranged from 0 to 50.7672 MSCF, with an average flow rate of 23.26753 MSCF over the time period of the records reviewed. The latest annual reading of the concentration of H₂S was performed on 10/1/18 and was 7.5% H₂S.

SC VI.2. Each calendar month the permittee shall calculate the mass flow rate of hydrogen sulfide (H2S) that went to the flare each day using all of the following:

- a) The most recently determined concentration of hydrogen sulfide in the sour gas
- b) The individual daily volume of sour gas that went to the flare

I reviewed the Flow, H2S emissions Nixon Farm (N1586) from 8/1/17 to 12/2/18. The most recently determined concentration of H2S was performed on 10/1/18 and was 7.5% H2S. The mass flow rate of hydrogen sulfide (H2S) that went to the flare each day ranged from 0 to 335.825 lbs/day and averaged 153.915 lbs/day over the time period of the records reviewed. The maximum mass flow rate of 335.825 lbs/day represents approximately 73% of the permit limit SC II.1. of 460 lbs/day.

SC VI.3. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period H2S emission calculation records for FGOILPRODUCTION, as required by SC II.2.

I reviewed the Flow, H2S emissions Nixon Farm (N1586) from 8/1/17 to 12/2/18. The 12-month rolling averages ranged from 24.478 to 30.315 tons/year and averaged 27.780 tons/year over the time period of the records reviewed. The maximum 12-month rolling mass emission rate of H2S of 30.315 tons/year represents approximately 61% of the permit limit SC II.2. of 50 tons/year.

SC VI.4. The permittee shall record on a daily basis which well is pumping and the timeframe.

I reviewed the Operating Schedule Nixon Farm (N1586) from 7/13/18-12/8/18. The schedule indicated the pumping schedule for sour wells Nixon 3-23 (N 3), Nixon 4-23 (N 4), Nixon 5-23 (N 5), Nixon 6-23 (N 6) and Morgan 1-23 (Morgan). Process/operation restrictions SC III.1. specifies that the sour wells shall not be pumped simultaneously except for the following exceptions: the Nixon 5 well may be pumped simultaneously with Morgan 1-23 well; the Nixon 3 well may be pumped simultaneously with Nixon 4 well. Over the time period of the records reviewed, the N 3 and N 4 were normally run together from 12-4 and N 5 was run by itself from 8-12 and the N 6 was run by itself from 4-7. The Morgan 1-23 did not run over the period of the records reviewed.

VI.6. The permittee shall maintain a log of all maintenance activities conducted according to the PM / MAP (pursuant to SC III.2).

I reviewed the Maintenance Log Nixon Farm (N1586) from 12/6/18-12/7/18. The maintenance log contained the following information:

Nixon Farms Flare	
Date	Maintenance
12/6/2018	Replaced batteries
12/7/2018	Replaced thermocouple
12/7/2018	Temp set at 200 degrees
12/7/2018	Propane pressure above 50 lbs

Maintenance Schedule:

Regarding the facility's progress on resolving violations cited in the November 5, 2018 Violation Notice, Jeff Adler stated in an email on 12/13/18 that the drip tank would likely be replaced by the end of December 2018 and that the flare shroud would be fixed by the end of February 2019. My intention is to leave the November 5, 2018 Violation Notice unresolved until replacements and repairs are made and leave the facility in non-compliance status until the violations are resolved.

Summary:

At the time of our 12/4/18 inspection it appeared that Tuscola Energy, Inc. – Nixon Farms was in non-compliance with PTI No. 20-12B. However, a schedule to perform maintenance and re-attain compliance status was discussed with the facility and will be followed up on in the following months.

NAME Matthew H. Ford DATE 12/17/18 SUPERVISOR C. Shore