

**DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
ACTIVITY REPORT: Self Initiated Inspection**

P020251162

FACILITY: TUSCOLA ENERGY INC		SRN / ID: P0202
LOCATION: CASS CITY RD SEC 27 & 22, WISNER TWP		DISTRICT: Saginaw Bay
CITY: WISNER TWP		COUNTY: TUSCOLA
CONTACT: Jeff Adler , President		ACTIVITY DATE: 10/08/2019
STAFF: Matthew Karl	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Self initiated inspection to determine compliance with PTI No. 9-11.		
RESOLVED COMPLAINTS:		

On Tuesday (10/8/19) Derek Timmermann (EGLE-OGMD) and I (Matt Karl) conducted a scheduled inspection at the Tuscola Energy Inc. – Walat facility located north of Cass City Road and between Bay City Forestville Road and North Bradleyville Road, Wisner Township, Michigan. The purpose of this 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 Environment, Great Lakes and Energy, Air Quality Division (EGLE-AQD) Administrative Rules and Permit to Install (PTI) No. 9-11. Mr. Jeff Adler, President, Tuscola Energy Inc. assisted me by providing requested records.

**Background:**

The wells that are associated with this facility are included in the table below:

Well Identification	Well Type
Walat Farms et al 6-27	Sour Well
Walat Farms et al 11-22	Sour Well

A sour well is one where sour gas is present which contains hydrogen sulfide (H2S).

The following equipment is permitted at the facility under PTI No. 9-11:

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)	Flexible Group ID
EUTANK1	Oil storage tank.	FGFACILITY
EUTANK2	Oil storage tank.	FGFACILITY
EUSEPARATOR1	Oil/gas separator.	FGFACILITY
EUSEPARATOR2	Oil/gas separator.	FGFACILITY

The flare control, SVFLARE, is required to be a minimum of 40 feet above the ground.

**Site Inspection:**

We arrived on site at approximately 12:15 pm. At the time of our inspection, the temperature was ~60°F, the wind was ~6 mph from the southeast, and it was sunny, and the skies were clear. The attached reference photo (Photo 1) shows the storage tanks as they appeared at the time of our inspection. The left-hand tank appeared to be connected and actively storing oil and appeared to have been recently painted. The right-hand tank appeared to not be in use and was disconnected at the time of our inspection. Photo 2 shows the two separators as they appeared at the time of our inspection. The flare control (SVFLARE) is 40 feet tall and was operating at the time of our inspection (Photo 3). We did not note any H2S gas odor on site, and our personal H2S meters did not detect any readings.

I reviewed the on-site meter and recorded the following information about the flow of sour gas to the flare:

Flow Rate	32.4 MSCF/D
Flow Monthly	254.4 MSCF

Flow Today	16.4 MSCF
Flow Yesterday	34.8 MSCF

We departed the facility at approximately 12:45 pm.

### **Records Review:**

I sent Jeff Adler a records request on Thursday (10/10/19) via email. Jeff Adler responded by providing the following records via email on Monday (10/14/19), which are available in the District Office files:

- Records Request – 10-10-19.xlsx

### **FGFACILITY:**

**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) Concentration of hydrogen sulfide in the sour gas going to the flare with the well pumping – quarterly

**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

**The permittee shall perform 4 consecutive quarterly readings of the concentration of hydrogen sulfide in the sour gas. After successful completion of the 4 consecutive quarterly readings, the permittee may request an alternative monitoring schedule. Any request for an alternative monitoring schedule shall be submitted to the AQD District Supervisor for approval. The requested monitoring frequency shall be not less than annual.**

I reviewed the spreadsheet "Records Request – 10-10-19.xlsx." I reviewed records of the volumetric flow rate of sour gas from 1/1/19 to 9/30/19. The volumetric flow rate of sour gas going to the flare ranged from 0 to 51.806 MSCF, with an average flow rate of 11.549 MSCF over the time period of the records reviewed. The latest reading of the concentration of H<sub>2</sub>S was performed on 10/10/18 and was 7.0% H<sub>2</sub>S. The requirement for determining the concentration of H<sub>2</sub>S in the produced sour gas is on an annual basis, so the facility is due for an updated reading for 2019 via colorimetric detector tube or laboratory gas analysis. Tuscola Energy Inc. performed H<sub>2</sub>S concentration testing on 10/29/19. Tuscola Energy Inc. will send in correspondence with the results to the EGLE-AQD District Office. A copy of the new concentration results will be on file in the District Office.

**SC VI.2. The permittee shall perform the following calculation each calendar month:**

- **Calculate the mass flow rate of H<sub>2</sub>S going to the flare each day using all of the following:**
  - I. The most recent concentration of hydrogen sulfide in the sour gas determined with the well pumping
  - II. The individual daily volume of sour gas going to the flare
  - III. The following equation:

$$(\text{ft}^3 \text{ sour gas/day})(\text{ft}^3 \text{ H}_2\text{S}/100\text{ft}^3 \text{ sour gas})(\# \text{mol H}_2\text{S}/385\text{ft}^3 \text{ H}_2\text{S})(34\# \text{ H}_2\text{S}/\# \text{mol H}_2\text{S}) = \#/\text{day H}_2\text{S}$$

I reviewed the spreadsheet "Records Request – 10-10-19.xlsx." I reviewed records of the mass flow rate of H<sub>2</sub>S from 1/1/19 to 9/30/19. The most recently determined concentration of H<sub>2</sub>S was performed on 10/10/18 and was 7.0% H<sub>2</sub>S. The facility is due for an updated annual reading for 2019. Tuscola Energy Inc. performed H<sub>2</sub>S concentration testing on 10/29/19. Tuscola Energy Inc. will send in correspondence with the results to the EGLE-AQD District Office. A copy of the new concentration results will be on file in the District Office. The mass flow rate of H<sub>2</sub>S that went to the flare each day ranged from 0 to 319.851 lbs./day and averaged 63.206 lbs./day over the time period of the records reviewed.

There were two days where there was an exceedance of the emission limit of 288 lbs./day H<sub>2</sub>S specified in SC II.1. The exceedances occurred on 1/9/19 and 1/10/19 and were 319.851 and 318.846 lbs./day H<sub>2</sub>S, respectively, and also corresponded to the maximum sour gas flow rates of 51.806 and 51.643 MSCF, respectively.

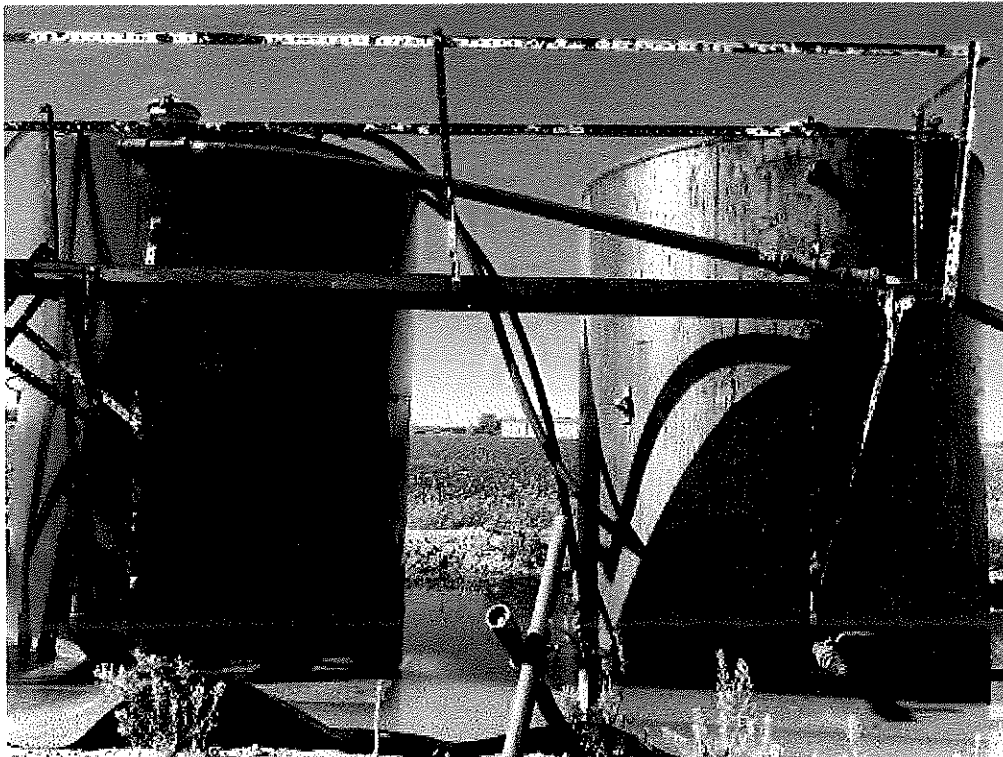
On Thursday (10/24/19) Jeff Adler sent me an explanation for the 1/9/19 and 1/10/19 exceedances via email. I've transcribed the explanation below:

*"In response to our H2S exceedance at the Walat 6/11 on 1/9/19 & 1/10/19, happened after we had done some rig work on the Walat 6. The 6 had been (shut in) again for a while. We adjusted pressure relief control valve to slow the flow of gas. We have not had any exceedances since."*

The response appeared sufficient to address the exceedance noted and a violation notice will not be sent at this time. Tuscola Energy Inc. should make sure that wells are operated in a manner that assures that the H2S emissions remain below the emissions limits. Future exceedances should be reported to the EGLE-AQD District Office as well as corrective actions taken to ensure that the period of exceedance is as short as possible.

**Summary:**

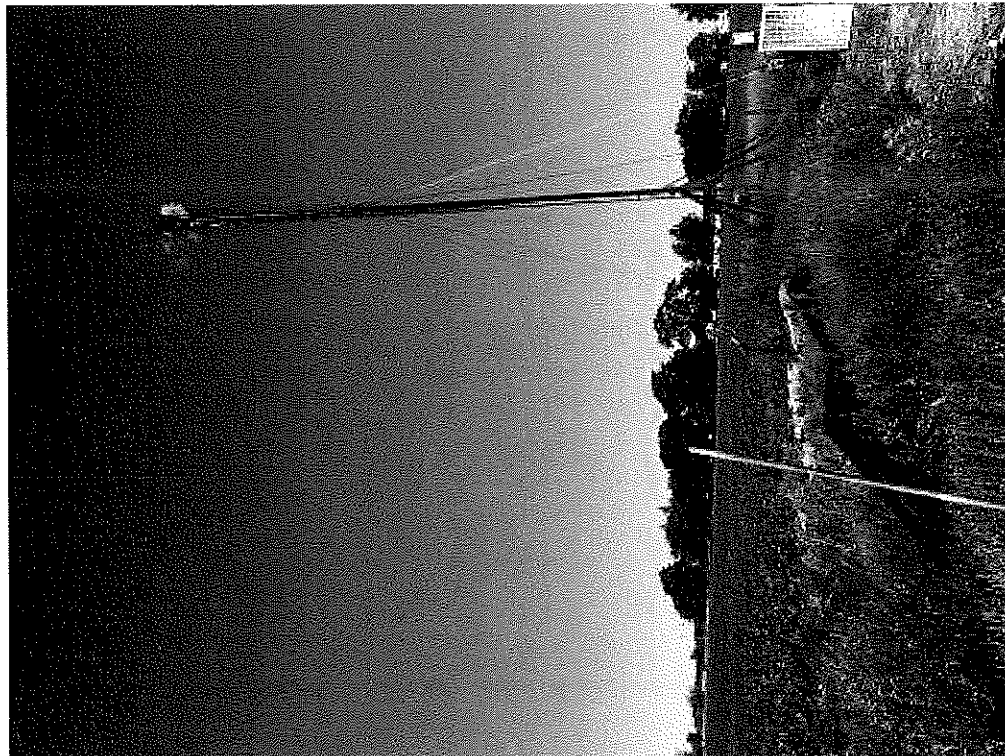
After the scheduled inspection on Tuesday (10/8/19) and subsequent records review it appeared that Tuscola Energy Inc – Walat facility was in compliance with PTI No. 9-11.



**Image 1(Photo 1.)** : Photo 1. Reference photo of storage tanks. Perspective facing west.



**Image 2(Photo 2.) :** Photo 2. Reference photo of separators. Perspective facing west.



**Image 3(Photo 3.) :** Photo 3. Reference photo of flare control. Perspective facing north.

NAME Matthew R. Kord

DATE 10/30/19

SUPERVISOR C. Hare