DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: On-site Inspection

P038857309

FACILITY: TUSCOLA ENERGY - WALAT 4-26 AND 5-26		**SRN / ID:** P0388
LOCATION: 7829 W. CASS CITY ROAD, WISNER TWP		**DISTRICT:** Bay City
CITY: WISNER TWP		**COUNTY:** TUSCOLA
CONTACT: Jeff Adler , President		**ACTIVITY DATE:** 01/15/2021
STAFF: Benjamin Witkopp	**COMPLIANCE STATUS:** Non Compliance	**SOURCE CLASS:** MINOR
SUBJECT: Inspection for 171-11B "testing" permit (limited term) and 171-11A		
RESOLVED COMPLAINTS:		

Ben Witkopp of the Air Quality Division (AQD) went to the Walat A-4 and 5 crude oil production site owned and operated by Tuscola Energy. The site is in Tuscola County at 7829 Cass City Rd Akron Michigan. The site had air permit 171-11A issued for the crude oil production site. The company produces sour oil and flares sour gas.

Permit 171-11A had a material limit of 100 pounds of H2S per day going to a flare. The company found they could operate the Walat 5 but if they also operated the 4 they would exceed the limit. Therefore, the 4 was not operated. It is not known if the company ever tried to bleed off the gas very slowly from the 4 over a long period of time rather than just trying to operate the well. Regardless the company applied for a "testing" permit.

Permit 171-11B was issued August 11, 2021. It contained much higher limits to facilitate testing. The limits in the B version of the permit superseded those of the A version while the B version was in effect. The B version became null and void on December 9, 2020.

On December 23, 2020 I stopped by the site to see if the 4 had even been operated. The rods were polished which indicated the pump was used. Neither the 4 nor 5 were being operated at the time.

On January 8, 2020 I met with Jeff Adler of Tuscola Energy at the company office in Bay City Michigan to discuss the testing and results. The company did not test the 4 separately. Instead, they felt they knew what the 5 would produce so during the testing they ran the 4 in conjunction with the 5.

The testing permit had an operational restriction of 8 hours per day in condition III (2). The daily hours of operation were to be recorded. No such records were maintained though the testing was stated as lasting about 5 hours per day. The lack of records is a violation of condition VI (5).

Condition VI (4) contains a limit on SO2 and condition VI (4) requires records of such though in reality it is just a calculation based on the H2S amounts and assumed 95% conversion to SO2 during flaring. Regardless, no records of SO2 were kept. This is a violation of the record keeping requirement. AQD calculations find the result would have been 19.26 tons of SO2 from August 12 through December 8 versus the limit of 39 tons.

Condition III (3) prohibits operating both wells when the H2S is greater than 500 pounds per day. However, on October 27 and 28 the 500-pound limit was exceeded with records showing 543 and 519 pounds respectively resulting in a violation.

Condition IX (2) states the permit becomes null and void on December 9, 2020. Starting December 9, the company is supposed to revert to operating under the conditions found in permit 171-11A. Records showed both wells continued to operate through December 11, 2020. H2S levels were 375, 382, and 147 pounds per day respectively. One must then check permit 171-11A to find the daily limit. The daily limit in that permit was 100 pounds in condition II (1). Therefore, the production from December 9 through 11 results in a violation.

On January 15, 2021 I met on site with Ed Blake, who is responsible for field operations. We discussed the testing, how it was conducted etc. Ed then wanted to learn about the air permit side of things. I reviewed the A version of the permit versus the B. He wondered what the conditions might be for a C version if they went that direction based on the test results. I explained an increased flare height might be required. He said that probably would not be a problem, but he would change the existing fixed flare to one with a cantilever mechanism to bring the flare down so the pilot light and shutdown system could be worked upon from the ground. I told Ed I suggested such to the company in the past, but they stuck with the fixed height flares and used a bucket truck when maintenance was needed for the equipment at the top of the flare.

We then discussed the settings for the shutdown system in case of pilot flame failure. In the event of pilot flame failure, the system is supposed to cut the electrical power supply to the well pump jacks thereby stopping fluid flow into the facility. However, the system settings are integral to that taking place. Ed opened the Pro-fire 3000 controls and showed the thermocouple setting for pilot flame failure to be 200 f. I told him that was very low and asked where he had come up with that value for the setting. He said that came right from Jeff Adler. Ed did not want a strong wind to come along, push the flame down and have the thermocouple trip the system. I commented the wind is not going to drop the temperature from likely near 1,000f + down to 200 when the flare itself is also going to be retaining heat. I also said the stoppage of fluid flow is supposed to occur "immediately" which will clearly not occur anytime soon if the set point is 200f. Ed did confirm that when / if the set point is reached the electrical supply is tripped thereby shutting off the wells.

We then went over to the tank battery. I pointed out the lack of a vapor return to be used during oil load out. I showed him <u>both</u> permits require it in condition IV (4) and lack thereof is considered a violation. Ed said it is hard to get the truck drivers to use them. I said that is the second step because it is even more difficult for them to use them if the vapor return lines are not present in the first place. Ed said he would install one and check other sites to be sure they were in place. This is a violation of condition IV (4) found in both permits.

Subsequently. I checked various sources for pilot light thermocouple process settings. The manual for the Profire units used by Tuscola have a factory default setting of 1112 f for the minimum pilot temperature setpoint. Other contacts in the industry were asked about minimum pilot temperatures. For low btu gas (<700 btu/scf) pilot light temps were 600f. High btu gas (1,200 btu/scf) containing H2S had 950 f as flare temperature setpoints. Having the setpoint at 200f to detect lack of pilot flame is ineffective for the shutdown system required in <u>both</u> permits under condition IV (1b) and results in a violation. Additionally, the setting for "flame fail timeout" was set for fifteen minutes. This is the amount of time the unit will try to initially ignite, or re-ignite after pilot flame failure is detected, before shutting down. The factory default is 2

minutes. The company's setting adds to the ineffectiveness of the shutdown system in the event of pilot flame failure.

A violation notice concerning both permits is in order.

NAME B. Murphy DATE 3-16-21 SUPERVISOR Chris Hare