

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

P066640436

FACILITY: Wolverine Gas and Oil Corp - Pease 20-24		SRN / ID: P0666
LOCATION: 12001-12499 E R Ave, S20 T3S R9W, SCOTTS		DISTRICT: Kalamazoo
CITY: SCOTTS		COUNTY: KALAMAZOO
CONTACT: Russ Clark, Field Operator		ACTIVITY DATE: 06/16/2017
STAFF: Monica Brothers	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Unannounced scheduled inspection		
RESOLVED COMPLAINTS:		

Staff (Monica Brothers) arrived on-site at about 1:20pm. PEASE 20-24 is an oil well with associated oil storage tanks and other associated equipment that was constructed about three years ago. I met with Russ Clark, who is the field operator for both this site and PEASE 20-134. I introduced myself and gave him my business card. I told him that since I had already received the required records for both sites from Ed Higuera, I would simply be looking for Russ to go through the process at the facility and to answer any questions I had on what I observed.

Russ first showed me the oil well itself. It was operating at the time, and I noticed a couple of small (55-gallon) drums of liquid that had lines running from them and down into the well. I asked Russ what they were and what they were used for, and he said that one, Tretolite, is a demulsifier that is used to help separate the oil from the water. The other, RSI-05311, is a scrubbing agent that helps to reduce scale build-up. Russ said that they go through about a gallon/day of the Tretolite and about a quart/day of the RSI-05311. The SDSs for both are attached to this report. These materials get pumped down into the well and then get brought back up with the oil. After the oil has been pumped up to the surface, it goes through underground piping to the separation equipment, which consists of a line heater and heater treater. Russ said that the line heater was not being used at the moment because there was just not enough oil production for it to be needed. If the production increases in the future, the line heater will then be used. There is also a 55-gallon drum of methanol in this area that is used in the winter to keep the gas from freezing, but it was not being used at the time of the inspection.

After the oil is treated and separated, the oil goes into two 400bbl (16,800 gallons each) storage tanks, and the water to a third 400bbl storage tank that is on-site. Russ said that the waste water from the process is hauled off-site and taken to a disposal well in Calhoun County. The storage tanks are considered exempt under Rule 284(f) for sour crude storage tanks, under 40,000 gallons per tank. The tanks are completely sealed and the entire system is enclosed so that any escaping gas gets sent to the flare. Displaced vapors during tanker truck loading are also sent to the flare. The flare is connected to a solar power sensor, which senses when the flare has been blown out by high winds. If this happens, there is an automatic striker that re-ignites the flare almost immediately. I asked Russ how they know how full the tanks were getting, and he said that they do have an automatic monitoring system for that, but that because of some scale build-up in the tanks, the monitoring system does not function properly. So, Russ has to take manual measurements of the tank fullness every so often. He said that that was one reason they have started using the scrubbing agent (RSI-05311). They hope this will help enough that they can start using the automatic monitoring system again. I thanked Russ for his time and left the facility at about 2:20pm.

Records:

This facility does not have a PTI and is using Rule 284(f) for their storage tanks and Rule 282(g) for the sour gas-burning equipment. Rule 282(g) requires that the actual emissions of sulfur dioxide not exceed 1lb/hour, so I asked Ed Higuera, Vice President, to send me a sulfur analysis. The hydrogen sulfide ppm value is then used in the following calculation to determine the emissions of sulfur dioxide/hour.

1 Grain H₂S= 15.967 ppm H₂S

Facility currently produces about 9 Mcf/day (Production has gone down since start-up)
H₂S concentration from wellhead= 600 ppm (Ed said that they round up to 600ppm just to be safe.)

600 ppm/ 15.967= 37.6 grains/100cf³

(MMcf/day)*(grains/100 cf³)*(2.7)=lbs SO₂/day

(0.009)*(37.6)*(2.7)= 0.91 lbs SO₂/day

$(0.91 \text{ lbs SO}_2/\text{day}) * (1 \text{ day}/24 \text{ hrs}) = 0.038 \text{ lbs SO}_2/\text{hr}$

This calculation shows that they are under the 1lb/hour sulfur dioxide limit.

This facility is also subject to NSPS Subpart OOOO for Group 2 storage vessels because the potential to emit VOCs from these vessels is above 6 tons/year. Because of this, they report annually to the DEQ Kalamazoo District and EPA. This also makes them MAERS subject. They first reported to MAERS for the 2016 calendar year.

The facility seemed to be in compliance at the time of inspection.

NAME  DATE 6/29/17 SUPERVISOR  7/3/2017