

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

N020045344

FACILITY: Lambda Energy Resources, LLC - Otsego Lake 34		SRN / ID: N0200
LOCATION: 0000 MARLETTE RD, WATERS		DISTRICT: Gaylord
CITY: WATERS		COUNTY: OTSEGO
CONTACT: Vicki Kniss , Environmental Affairs Manager		ACTIVITY DATE: 07/19/2018
STAFF: Bill Rogers	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Scheduled inspection and record review		
RESOLVED COMPLAINTS:		

On July 19, 2018, I inspected the Merit Otsego Lake 34 facility. Ms. Vicki Kniss had provided me with records to review for this facility. During my inspection and during the record review, I did not find any violations.

This facility is covered under Permit to Install No. 327-07A. It is described as a sour gas sweetening facility. However, it appears that the plant's operation has changed over the years. According to the records provided, an iron sponge was installed in 2011 and now removes hydrogen sulfide from the gas, rather than Merit removing the hydrogen sulfide by using an amine plant. Test results, attached, claim there was no hydrogen sulfide detected in the gas burned in the facility. In order for all of this to be true, the hydrogen sulfide content of the gas processed in the facility would have to be very low. It would have to be too low to justify or require a sweetening facility at all.

Permit 327-07A, Special Conditions 1.1 and 1.2, set sulfur dioxide limits of 485 pounds per 24 hour time period and 89 tons per 12 month rolling time period. According to analysis data, the natural gas burned in the facility has no hydrogen sulfide detected, so SO2 emissions are "zero" or at least too small to measure. This complies with the permit conditions.

Section 1 of the special conditions pertains to an amine plant for sweetening sour gas. If records provided are correct this is no longer in use, but it is still present.

Condition 1.3 refers to what happens in an emergency where high H2S levels are measured inside facility buildings. I could not determine compliance with this. The facility appears to be designed with all processes vented to a flare, so an orderly shutdown as required should be possible.

Condition 1.4 requires a continuously burning pilot at the flare. There was a pilot burning at the flare at the time of my inspection. This complies with the permit requirement.

Condition 1.5 requires fencing and warning signs. Signs must be at a minimum one each 100 feet of the fence line. I walked the fence line. The fence is up all the way around the facility and, based on pacing distances, has signs at the required spacing. This complies with the permit condition. The fence was generally in an acceptable condition. It was rusty but sound. The barbed wire at the top was broken near the NE corner of the facility. The fence was bowed in a few places, but still standing for its full length. Some of the warning signs were rusty but still legible.

Condition 1.6 requires emergency relief valves, storage tanks, and the dehydrator vent be routed to the flare (or to an equivalent control, if there were one). I saw gas lines running from this equipment toward the flare. I could not trace the gas lines everywhere but it appears the facility was built to comply with this permit condition.

Condition 1.7 requires the flare be installed, maintained, and operated in a satisfactory manner. The flare appeared to be installed and operating properly at the time of my inspection, in compliance with the permit condition. The flare had some intermittent opacity of about 5%.

Condition 1.8 requires H2S monitoring devices inside buildings. There were safety lights for such a system on all the buildings that I saw. Assuming these are part of a functioning monitoring system, that would comply with the permit condition. Green lights were lit, indicating safe levels of H2S, on all buildings at the time of my inspection. One building's green light was very dim but shading the fixture, I could see that it was on; this building had two light displays, and the other was brighter.

Condition 1.9 requires periodic checks of H2S concentration of gas processed. This is being done. A copy of a recent analysis is attached.

Condition 1.10 requires acceptable formats for records. The record formats are acceptable.

Condition 1.11 requires observing and recording opacity from the flare daily. A form showing these daily observations is attached. It appears two days were missed during the month covered, during a weekend, but I will use enforcement discretion and not write a violation notice based on this.

Condition 1.12 requires daily, monthly and 12 month SO₂ emission calculations. Copies of the results of these calculations are attached.

Condition 1.13 requires "satisfactory" records of H₂S flow to the plant or to the flare. Records of this are attached. As the company claims H₂S concentration going to the facility is "non-detect," mass flow is indicated as zero for each day.

Condition 1.14 requires quarterly H₂S reports to be sent to AQD. These are arriving each quarter as required.

Condition 1.15 sets dimensions for the flare as a maximum diameter of 8 inches at a minimum elevation of 75 feet above ground level. The flare appears to meet these requirements.

Section 2 of the special conditions refer to a compressor engine. It is present and operating.

Conditions 2.1a and 2.1b set NO_x and CO limits of 86 tons and 6 tons respectively, per 12 month rolling time period for the compressor. Calculation results, attached, claim NO_x emissions of 58.03 tons and CO emissions of 3.96 tons from the compressor per 12 months. This complies with the permit conditions.

Condition 2.2 limits gas use for the compressor to 23.5 million cubic feet per 12 month period. Compressor fuel use is reported as 14.8 million cubic feet per 12 months. This complies with the permit condition.

Condition 2.3 requires a preventative maintenance plan. They submitted it. AQD approved it July 14, 2008.

Conditions 2.4 and 2.5 pertain to an add on control device on the compressor engine. There is none, so these conditions are not applicable.

Condition 2.6 requires testing if AQD requests. AQD has not requested this during the past several years.

Condition 2.7 requires a device to monitor gas use in the engines. I did not identify this during my inspection. Records submitted by the company include fuel consumption figures for the engine, so the company is at least claiming such a device exists.

Condition 2.8 requires records to be in an acceptable format. The records are acceptable.

Condition 2.9 requires a maintenance log. An example page of the maintenance log for the facility, including the compressor, is attached.

Condition 2.10 requires keeping track of hours of operation without an add on control device, if any. There is no add-on control device, so this condition is not applicable.

Conditions 2.11, 2.12, and 2.13 require monthly and 12 month records of fuel use, NO_x emissions, and CO emissions. Examples of these records are attached. This complies with the permit conditions.

Condition 2.14 requires a stack with a maximum diameter of 8 inches at an elevation of 22 feet above ground level. The stack appears to meet these conditions.

The compressor engine on site is a Waukesha with no add-on control device. At the time of my inspection it was running at 567 RPM. Engine oil pressure was 30 PSI. Compressor oil pressure was 30 PSI. Jacket water pressure was 8 PSI. Engine coolant temperature was 160 degrees f. There was no opacity in the exhaust. There was no unusual vibration. I did not note any odors.

Section 3 of the special conditions applies to the facility's glycol dehydrator. AQD has not been delegated enforcement responsibility for glycol dehydrators. Nevertheless, I did look at the dehydrator while I was on site.

Condition 3.1 requires compliance with 40 CFR 63, Subpart HH. Conditions 3.5 and 3.6 are concerned with showing exemption from the more stringent control requirements of Subpart HH by demonstrating exemption from them. One of the ways to show exemption is to demonstrate benzene emissions of less

than approximately 1 ton per year. Based on total plant VOC emissions of less than 1 ton per year, and since benzene is a VOC, the facility would probably meet this exemption.

Condition 3.2 requires a flash tank. I saw what could have been a flash tank, but wasn't sure. The flash tank was reported as present in previous inspections.

Condition 3.3 requires a flare or equivalent be installed and operating properly. The flare was installed and operating properly. The dehy appears to have relief valves etc. vented to the facility flare, as is other equipment on site.

Condition 3.4 requires periodic gas analysis. Gas analysis sheets are attached.

Section 4 of the special conditions pertains to the full facility.

Condition 4.1 limits facility-wide NOx to 89 tons per 12 months. An emission estimate, attached, reports 58.17 tons. This complies with the permit condition.

Condition 4.2 prohibits burning sour gas. Based on "non-detect" levels of H2S in gas analysis provided, the facility complies with this permit condition.

Condition 4.6 requires keeping monthly and 12 month NOx emission records. These are on the emission estimate sheet, attached.

COMMENTS:

The facility also includes two 400 barrel storage tanks, one labeled as "oil-flammable" and one as water. These appear to be vented to the flare as required, although I couldn't trace the pipes the full distance.

There are small drum on stilt tanks present containing methanol and triethylene glycol.

I saw two process heaters, something like a heater treater for oil or a line heater for gas. There was a third mostly dismantled. The smaller remaining heater had a stack with a diameter of perhaps 12 inches diameter and 20 feet high. The larger had a stack of perhaps 18 inches diameter and 15 feet high. Both were capped with mesh.

The facility is old and does not seem to be as heavily used as it once was. Maintenance, however, appears to be adequate.

NAME William J Rogers Jr.

DATE 7/27/18

SUPERVISOR 

