

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

N628140366

FACILITY: Merit Energy Company - BLUE LAKE E 18 CPF		SRN / ID: N6281
LOCATION: TWIN LAKE RD, KALKASKA		DISTRICT: Cadillac
CITY: KALKASKA		COUNTY: KALKASKA
CONTACT: Vicki Kniss , Environmental Affairs Manager		ACTIVITY DATE: 06/07/2017
STAFF: Caryn Owens	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Scheduled Inspection and Records Review		
RESOLVED COMPLAINTS:		

On Thursday, June 7, 2017, Caryn Owens of the DEQ-AQD conducted a scheduled field inspection and records review of Merit Energy Company (Merit) – Blue Lake E-18 facility (N6281) located on Twin Lake Road in Kalkaska, Michigan. More specifically, the site is located on the east side of Twin Lake Road, approximately ¼ mile southeast of the Sunset Trail NE and Twin Lake Road NE intersection. The purpose of this inspection was to determine the facility's compliance with permit to install (PTI) 243-97. Merit has opted out of major source applicability by limiting operational and/or production limits potential to emit (PTE) to be below major source thresholds. DEQ was unaccompanied during the field inspection. The site is an area source for National Emission Standards for Hazardous Air Pollutants (NESHAP) from Oil and Natural Gas Production facilities (40 CFR, Part 63, Subpart HH. The State of Michigan does not have delegated authority of the area source NESHAP, and thus compliance with the federal requirements in accordance with the site was not reviewed by the DEQ at the time of this report.

#### **Evaluation Summary**

Based on the activities covered during this field inspection, the facility appears to be in compliance with PTI 243-97. Review of the records for the facility indicates the facility was in compliance with emission limits in accordance with the current PTI. No further actions are necessary at this time. Specific permit conditions that were reviewed are discussed below.

#### **On-site Inspection:**

During the field inspection, the weather conditions were sunny with calm winds of 0 to 5 miles per hour with winds from the west-southwest, and 75 degrees Fahrenheit. The facility consisted of: two inline heaters to keep the fuel and fuel lines heated throughout the processing activities; a potential separator building (which was locked, and I couldn't see inside the building) on the southern portion of the site; a tank battery with four approximate 400 barrel (bbl) and one 210 bbl above ground storage tanks controlled by a vapor recovery unit on the southeastern portion of the site; a blowdown tank; a compressor building with one electric engine on the southwestern portion of the site; a glycol dehydrator system on the northern portion of the site; a pump jack in the central portion of the site; and a sales building and a few utility buildings at the site.

The fuel flows via pipeline through the inline heaters, where the fuel temperature is increased and then flows to the to the separator building, which separates the crude oil, natural gas, and condensate. The separators direct the fuel to specific areas of the site. The Crude oil and condensate are routed to the tank battery area. Natural gas is compressed by the compressor engine located in the southeastern building on the property, and the natural gas is dried through the glycol dehydrator. The compressor engine is an electric engine, with no control or stack. Once the natural gas is compressed it is sent via pipeline for sale.

#### **PTI Compliance Evaluation:**

**Emission Limits:** Individual Carbon monoxide (CO), volatile organic compounds (VOCs) and nitrogen oxides (NOx) emissions shall not exceed 89 tons per year based on a 12-month rolling time period. Based on the records reviewed, the highest CO emissions from June 2016 through May 2017 were 0.37 tons per 12-month rolling time period, the highest NOx emissions were 0.43 tons per 12-month rolling time period, and the highest VOC emissions were 6.46 tons per year based on a 12-month rolling time period.

The individual hazardous air pollutant (HAP) emissions shall be below 10 tons per year and total HAPs shall be below 25 tons per year based on a 12-month rolling time period. Based on the records reviewed, the highest reported total HAPs were 5.1 tons per year based on a 12-month rolling time period.

The facility records monthly and 12-month rolling time period calculations for NO<sub>x</sub>, CO, VOCs, and HAPs using engine specific emission factors, AP-42 emission factors for the heaters, and MDEQ Fact Sheet #9845 (Rev. 11/05) for the tanks and glycol dehydrator. As of the date of this inspection report, the facility has not completed stack testing at the site.

**Materials/Fuels:** The facility shall only process sweet natural gas, which is defined as any gas that is not sour. Sour natural gas is defined as "any gas containing more than 1 grain of hydrogen sulfide or more than 10 grains of total sulfur per 100 standard cubic feet. Based on a former gas analysis in August 2012, the analytical data indicated the hydrogen sulfide concentration in the gas stream, was non-detect for the site.

**Process/Operational Parameters:** The facility provided maintenance records for the facility. The records did not show maintenance concerns with the electric engine, VRU system, or glycol dehydrator.

As previously stated, crude oil and condensate storage tank battery are connected to a vapor recovery system for control.

**Testing:** The facility used specific emission factors to calculate the emissions for NO<sub>x</sub>, CO, VOCs, and HAPs. Performance testing has not been completed at this facility.

**Monitoring/Recordkeeping:** The facility monitors and records monthly fuel consumption, monthly crude/condensate throughput to the ASTs, amount of hydrocarbons trucked, and the glycol circulated through the dehydrator. Additionally, the facility keeps monthly records of the amount of oil and gas processed at the facility.

**Reporting:** The facility completes all calculations in formats acceptable by the DEQ, and the records are properly maintained. Additionally, the facility reports to the Michigan Air Emissions Reporting System (MAERS) on an annual basis, and the facility is in compliance with their MAERS reporting.

**Stack/Vent Restrictions:** There are no stack/vent restrictions applicable for the engine at the facility.

**Other Requirements:** The facility is not subject to 40 CFR Part 60, Subpart KKK since the gas is not fractionated at the facility.

NAME Camp Owens      DATE 6/7/17      SUPERVISOR SN