

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

P073543726

FACILITY: CIMAREX ENERGY (Oehrli 1-30)		SRN / ID: P0735
LOCATION: 1251 TWIN LAKE ROAD, HERSEY		DISTRICT: Cadillac
CITY: HERSEY		COUNTY: OSCEOLA
CONTACT: Matthew Weis ,		ACTIVITY DATE: 02/20/2018
STAFF: Caryn Owens	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Scheduled Inspection and Records Review		
RESOLVED COMPLAINTS:		

On Tuesday, February 20, 2018, Caryn Owens and Chance Collins of the DEQ-AQD conducted a scheduled field inspection and records review of Cimarex Energy Co. (Cimarex) – Oehrli 1-30 CPF (P0735) located at 1251 Twin Lake Road in Hersey, Osceola County, Michigan. More specifically the site is located on the east side of 180<sup>th</sup> Avenue approximately 1/10 mile south of the Miller Road and 180<sup>th</sup> Avenue intersection. The purpose of this inspection was to determine the facility's compliance with permit to install (PTI) 143-16. Cimarex 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), and NESHAP for Stationary Reciprocating Internal Combustion Engines (40 CFR, Part 63, Subpart ZZZZ). The State of Michigan does not have delegated authority of the area source NESHAPs, and thus the specific condition related to these areas were not reviewed by the DEQ at this time.

#### Evaluation Summary

Based on the activities covered during this field inspection, the facility appears to be in compliance with PTI 143-16. 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 cloudy, with winds from the south-southwest about 10 miles per hour, and approximately 55 degrees Fahrenheit. The facility consisted of: one main building that contained separators, and an engine; A glycol dehydrator system and two inline heaters are located north of the building; and a tank battery area containing three 400 barrel (bbl) storage tanks and a flare were located on the northern portion of the Property. A vapor recovery system connected to the onsite flare were connected to the above ground storage tanks and glycol dehydrator system. The compressor engine was a Caterpillar G3412TA engine, with an oxidation catalyst for emission control. During the field inspection, the engine was operating at 1,142 revolutions per minute (RPM), 191 degrees Fahrenheit, and 61 pounds per square inch (psi) of pressure. The engine block had NGCS 104 stamped into it. It should be noted that the engine at the facility was manufactured on November 29, 2006, and therefore not subject to the New Source Performance Standards (NSPS) 40 CFR Part 60, Subpart JJJJ. The stack on the compressor engine was approximately 30 feet above ground surface and contained a muffler. The flare was approximately 30 feet above ground surface. According to the DEQ Geowebface website, the natural gas is from the Prairie Du Chien formation.

The gas enters the facility on the eastern portion of the site, and flows through the two inline heaters, then to the separators that separates out the crude oil, natural gas, and water. The separator directs the fuel to specific areas of the site. The crude oil and water are routed to the tank battery area. The natural gas is sent to the compressor, which brings the gas to high pressure, and then sends the gas to the glycol dehydrator to dry the field gas prior to sales. No visual emissions were present during the field inspection.

The facility is claiming the following exemptions at the facility:

- H1 Inline Heater Production Unit meets exemption Rule 336.1282(2)(b)(i)
- H2 Inline Heater Production Unit meets exemption Rule 336.1282(2)(b)(i)
- RICE Compressor Engine meets exemption 336.1284(2)(e)
- Three 300 bbl above ground storage tanks meet exemption 336.1282(2)(g)
- Flare that burns sweet natural gas meets exemption 336.1288(2)(c)

**PTI Compliance Evaluation:**

**EUDEHY:** Glycol dehydration system processing gas from the Prairie Du Chein zone. The Glycol dehydration system is controlled by a BTEX condenser and a flare.

- **Emission Limits:**  
There are no emission limits applicable for EUDEHY.
- **Material Limits:**  
According to the GRI-GLY-Calc (Version 4.0) Calculations report, no stripping gas is used in EUDEHY.
- **Process Operational Restrictions:**  
According to the Dehydration Daily operational data (attached), the condenser exhaust of EUDEHY did not exceed a 170 degrees or greater temperature from January 1, 2017 through December 31, 2017. The condenser temperature was within the permitted limits.
- **Design/Equipment Parameters:**  
During the field inspection, it appeared the onsite flare had a flame detector and a continuously burning pilot flame. As previously stated, EUDEHY is connected to a condenser and the onsite flare.
- **Testing/Sampling:**  
The most recent gas analysis completed was on October 26, 2017. Copies of each annual gas analysis are maintained on file at Cimarex.
- **Monitoring/Recordkeeping:**  
The facility monitors and records the natural gas processing rates and the condenser temperature of EUDEHY on a daily basis. The facility calculates monthly and 12-month rolling time period benzene emission rates, and the records indicate the most recent gas sample was used in GRI-CLYCalc (version 4.0) in the calculations. The facility maintains a log of all significant activities at the facility, and keeps the records in a satisfactory manner. The flare has no flare pilot outages from January 1, 2017 through December 31, 2017.
- **Reporting:**  
All of the Reporting Conditions for EUDEHY are based off 40 CFR Part 63 Subpart HH requirements. The site is an area source and the State of Michigan has not been given delegated authority of 40 CFR Part 63 Subpart HH for area sources. Therefore, the reporting requirements were not assessed at this time.
- **Stack/Vent Restrictions:**  
During the field inspection, the flare height and diameter appeared to be in compliance with the permitted limits of 27 feet above ground surface and 4 inch diameter.
- **Other Requirements:**  
Although the PTI does not address "Other Requirements" for EUDEHY, the facility is subject to the 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 EUDEHY were not reviewed by the DEQ at this time.

**FGFACILITY:** Conditions that include all source-wide activities at the facility including equipment covered by other permits, grand-fathered equipment and exempt equipment.

- **Emission Limits:**  
The Emission Limits for FGFACILITY are 89 tons per year (tpy) of volatile organic compounds (VOCs) based on a 12-month rolling average. Based on records from January 1, 2017 through December 31, 2017, the highest emissions reported were 20 tons of VOCs per 12-month rolling time period, and are reported within the permitted limits.

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 individual and total HAPs are below the emission limits.

- **Materials/Fuels:**

The facility shall burn only sweet gas. According to the records reviewed, no hydrogen sulfide is in the gas at the facility.

Additionally, the throughput on the oil storage tank is limited to 2 million gallons per 12-month rolling time period. Based on the records reviewed, the throughput on the oil storage tank was 40,110 gallons per 12-month rolling time period.

- **Process/Operational Parameters:**

As previously stated, the above ground storage tanks are connected to vapor recovery that vents the emissions to the flare.

- **Design/Equipment Parameters:**

During the field inspection, it appeared the onsite flare had a flame detector and a continuously burning pilot flame. Based on the records reviewed, there were no flare pilot outages from January 1, 2017 through December 31, 2017.

- **Testing Sampling Equipment:**

Cimarex submitted a laboratory analysis listing the components in the gas stream, and H2S was not listed on the laboratory sheets.

- **Monitoring/Recordkeeping:**

Cimarex completes all required calculations applicable for the facility. The facility records monthly and 12-month rolling time period calculations for VOCs and HAPs. The 12-month rolling time period emissions are discussed above under emission limits. The recordkeeping was acceptable to the DEQ.

- **Reporting, Stack/Vent Restrictions, Other Requirements:**

No Reporting, Stack/Vent Restrictions, or Other Requirements are applicable for FGFACILITY.

NAME Camp Owens

DATE 2/20/18

SUPERVISOR BN