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

N650032093

FACILITY: FEDERATED OIL & GAS PROPERTIES		**SRN / ID:** N6500
LOCATION: HILLARD 1 26A NE SEC 26 T26N R10W, BEAR LAKE TWP		**DISTRICT:** Cadillac
CITY: BEAR LAKE TWP		**COUNTY:** MANISTEE
CONTACT:		**ACTIVITY DATE:** 10/07/2015
STAFF: Caryn Owens	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MINOR
SUBJECT: Scheduled Inspection		
RESOLVED COMPLAINTS:		

On Wednesday, October 7, 2015, Caryn Owens and Shane Nixon of the Department of Environmental Quality (DEQ) – Air Quality Division (AQD) conducted a scheduled field inspection and records review of Federated Oil and Gas, Hilliard 1-26A facility (SRN: N6500), located in the northeast Section of Section 26 in Bear Lake Township, Manistee County, Michigan. More specifically, the facility was located on the north side of Tannerville Road, approximately 1/3 mile east of Elm Road. The field inspection and records review were to determine compliance with the Permit to Install (PTI) 239-98A. PTI 239-98 was voided in the year 2011 and replaced with the current PTI because the facility increased the benzene emissions allowed from the glycol dehydrator. The Hilliard 1-26A facility is currently a minor source for volatile organic compounds (VOCs) criteria pollutants, and is an area source of hazardous air pollutants (HAPs). The source is subject to: National Emission Standard 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 this area source NESHAP, and thus the areas in the PTI related the NESHAP were not reviewed by the DEQ at this time.

Evaluation Summary

The activities covered during this field inspection, the facility appears to be in compliance with PTI 239-98A. 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.

Source Description

The Hilliard 1-26A facility is a natural gas processing facility that draws oil and gas from the Niagaran formation. The site consists of: three vertical and one horizontal, approximately 400 barrel (bbl) above ground storage tank that stores crude oil and brine water; a separator with an associated burner; a process heater; a compressor engine building; a sales building; a pump jack; a glycol dehydrator system; and a 400 bbl above ground storage tank next to the glycol dehydrator system that stores water. The natural gas and oil are extracted from the ground and flow through a separator used to separate the natural gas, brine, and oil. The brine and oil separated from the gas stream are routed to the tank battery on the northwestern portion of the property.

On-site Inspection:

During the field inspection it was partly cloudy with wind speeds approximately 10-15 miles per hour out of the north-northeast, and approximately 55 degrees Fahrenheit. A slight petroleum odor was observed on the western portion of the Property, but it was not considered a nuisance odor. DEQ was unaccompanied during the field inspection. An inspection brochure was not given to anyone at the facility, but will be emailed to the company with this inspection report.

A small compressor engine was located northeast portion of the site. The engine block of the compressor read BATB 70, and the engine was operating at 1,347 revolutions per minute (RPMs), 45 psi, and 210 degrees Fahrenheit. A nameplate was on the northern side of the engine, it was difficult to read, but it stated it was a Caterpillar 3306 NC engine, and the serial number appeared to read 07701220. No control was on the engine, and DEQ observed a horizontal muffler, and an approximately 10 foot stack. No visible emissions were observed and no odors were noticed from the engine stack. Federated Oil and Gas is claiming the engine meets exemption Rule 336.1285(g), indicating the engine has a maximum heat input less than 10,000,000 BTU per hour.

Additionally, the facility claims exemptions for the following equipment at the facility:

- Rule 336.1282(b)(i) which exempts a glycol reboiler burner and the separator burner (heater treater

burner) that each have heat inputs less than 50,000,000 BTU per hour.
- Rule 336.1284(e) which exempts sweet crude oil storage vessels that have capacity less than 40,000 gallons.
- Rule 336.1284(i) which exempts VOC transfer operations from vessels that have storage capacity less than 40,000 gallons.

The glycol dehydrator was located on the southern portion of the property. DEQ observed a flare connected to the still of the glycol dehydrator system to control emissions. The flare appeared to be burning rich with visible emissions trailing from the flame of the flare; however, DEQ did not have the sun at their backs while initially seeing the flare. The flare was approximately 12 feet above ground surface. DEQ conducted a 6-minute visible emissions observation of the flare. Emissions were less than originally observed while observing the emissions facing the sun, and the 6-minute average opacity was 10 percent.

PTI Compliance Evaluation:

EUDEHY: This emission unit includes a tri-ethylene glycol dehydration system that is used to remove water from the natural gas stream prior to entering the sales line. During the field inspection, a flare was used to control the glycol dehydrator emissions from the still. This control device cannot be used to determine compliance with the emission limits since the glycol dehydrator was not permitted with a flare as a control device.

- **Emission Limits:**

Based on the GRI-Glycalc analysis, Volatile Organic Compounds (VOCs) emissions were reported at 3.14 tons per year, and the permitted limit for VOCs is 29.6 tons per year based on a 12-month rolling time period. Additionally the benzene emissions were reported at 0.032 tons per year, and the permitted limit for benzene is 0.63 tons per year. The GRI-Glycalc analysis indicated the facility operated for 8,322 hours per year, and the dry gas flow rate was 0.19 mmcf per day.

- **Material Limits:**

There are no applicable "Material Limits" for EUDEHY.

- **Process/Operational Parameters:**

The Process/Operational Parameters for EUDEHY underlying applicable requirements (UARs) 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, Process/Operational Parameters were not reviewed at this time.

- **Design/Equipment Parameters:**

There are no applicable "Design/Equipment Parameters" for EUDEHY.

- **Testing/Sampling:**

There are no applicable "Testing/Sampling" requirements for EUDEHY.

- **Monitoring/Recordkeeping:**

As previously stated, a GRI-Glycalc analysis was completed on October 20, 2015, based on the results of a wet gas sample analyzed on October 17, 2015. The results were submitted to the DEQ, and are discussed above under Emission Limits. The remainder Conditions under Monitoring/Recordkeeping are based off 40 CFR, Part 63, Subpart HH requirements, and were not reviewed at this time.

- **Reporting:**

The Reporting Conditions for EUDEHY are based off 40 CFR, Part 63, Subpart HH requirements. Therefore, these conditions were not reviewed at this time.

- **Stack/Vent Restrictions:**

The stack parameters for the glycol dehydrator still was 2 inches for the maximum diameter of the exhaust, and at least 12 feet above ground surface. During the field inspection the top portion of the still appeared to meet the stack height requirements; however, the still was re-routed to the flare. There are no permit requirements for the flare.

- **Other Requirements:**

There are no applicable "Other Requirements" for EUDEHY.

NAME Tanya Owens DATE 11/4/15 SUPERVISOR