

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

N719438263

<b>FACILITY:</b> Ward Lake-Canada Creek CPF	<b>SRN / ID:</b> N7194
<b>LOCATION:</b> NE NW NE Sec 6, BRILEY TWP	<b>DISTRICT:</b> Cadillac
<b>CITY:</b> BRILEY TWP	<b>COUNTY:</b> MONTMORENCY
<b>CONTACT:</b> Jeff Riling , Operations Manager	<b>ACTIVITY DATE:</b> 11/03/2016
<b>STAFF:</b> Caryn Owens	<b>COMPLIANCE STATUS:</b> Non Compliance
<b>SUBJECT:</b> Scheduled Inspection and Records Review	
<b>RESOLVED COMPLAINTS:</b>	

On Thursday, November 3, 2016, Caryn Owens of the DEQ-AQD conducted a scheduled on-site inspection of Ward Lake – Canada Creek Ranch Central Processing Facility (SRN: N7194) located in the northeast quarter of the northwest quarter of the northeast quarter of Section 6, Township 31 North, Range 2 East in Briley Township, Montmorency County, Michigan. More specifically, the site is located on the South side of County Road 622, approximately 3 miles west of County Road 622 and M-33 intersection, just north of Atlanta, Michigan. The purpose of this inspection was to determine the facility's compliance with permit to install (PTI) 85-05. The facility has opted out of major source applicability by limiting operational and/or production limits potential to emit (PTE) to below major source thresholds. I was unaccompanied during the 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 these areas were not reviewed by the MDEQ at this time.

#### Evaluation Summary

Based on the activities covered during this field inspection, the facility appears to be non-compliant with PTI 85-05, due to the outdated Malfunction Abatement Plan (MAP) and no correspondence information about the engine change-out that took place in the year 2013. Review of the records for the facility indicates the facility was in compliance with emission limits in accordance with the current PTI. A violation notice will be submitted to the company. Specific permit conditions that were reviewed are discussed below.

#### On-site Inspection:

During the field inspection, the weather conditions were mostly cloudy, with winds from the west-southwest, approximately 10 miles per hour, and 45 degrees Fahrenheit. The site shares operations with JDB Energy, who shares the above ground storage tanks at the site, but JDB Energy operates their own compressor engine, glycol dehydrator and iron sponge under a separate PTI. The process at this site consisted of a building that contained one compressor engine, separator equipment, two iron sponges north of the building, and a glycol dehydrator. A tank battery consisting of one approximately 400 barrel (bbl) tank and approximately 300 bbl tank, was on the northern portion of the Property.

The gas enters the facility on the east-northeast portion of the site, and flows through the separators, which separates natural gas and brine. The natural gas flows through one of the iron sponges to remove any potential H<sub>2</sub>S that may be present in the gas stream, and then flows through the glycol dehydrator system to remove the water from the natural gas. The natural gas is then compressed using a 145 horsepower compressor engine and routed to the sales line. The brine separated from the gas stream is routed to the tank battery on the northern portion of the property.

The building operated by Ward Lake contained one Caterpillar compressor engine with a catalytic converter for control, which was operating during the site inspection in the northern portion of the building. A nameplate on the engine identified the engine as a Caterpillar G3306, with a Serial Number C6X08087. The engine was operating at approximately 1,605 revolutions per minute (RPM), 60 pounds per square inch (psi) pressure, and 197 degrees Fahrenheit. The inlet temperature to the catalyst was 700 degrees Fahrenheit and the outlet temperature was 782 degrees Fahrenheit, and the outlet temperature greater than the inlet temperature. The stack on the compressor engine was at least 35 feet above ground surface, no visible emissions were observed from the compressor engine stack.

#### PTI Compliance Evaluation:

**EUENGINE:** A Caterpillar G3306 145 horsepower (hp) natural gas fired reciprocating internal combustion engine with a 3-way catalytic convertor for control.

- **Process/Operational Parameters:** The facility submitted a Malfunction Abatement Plan (MAP) on January 11, 2008, and it hasn't been updated since this date. The engine covered in the in the MAP is for a Caterpillar 3516LE 1400 horsepower engine with no control, but this engine was replaced with a Caterpillar G3306NA 145 horsepower engine in the year 2013. PTI 85-05 states that, "If the permittee changes-out EUENGINE with an equivalent emitting, or less emitting, controlled engine, the plan shall be revised to include maintenance procedures for the control equipment." This has not been completed, and is considered a violation of PTI 85-05. Based on review of the maintenance records, the field maintenance reports indicate the engine was inspected at least once a month or more. The engine was shut down while performing general maintenance such as: replacing filters, valves, spark plugs, oxygen sensors, and/or repair leaks. The records did not show maintenance concerns with the engine, and the engine has not operated without a catalyst since the engine has been installed at the facility.
- **Testing Sampling Equipment:** The facility used engine specific emission factors to calculate the emissions for NOx and CO. Performance testing has not been completed at this facility. However, one of the records from the field maintenance reports indicated an analyzer was used to test the catalytic converter, which showed a 99.85 percent efficiency for NOx and a 97.42 percent efficiency for CO.
- **Monitoring:** The facility monitors the natural gas usage for EUENGINE on a continuous basis and records the monthly fuel use for EUENGINE. The natural gas usage records are attached.
- **Recordkeeping / Reporting / Notification:** The facility maintains field maintenance reports for any work performed on the engines. EUENGINE was replaced in the year 2013, and DEQ was present at the site for an inspection of JDB Energy CPF facility, when the previous engine was removed from the site. DEQ was not informed of this engine replacement, and no emissions data was submitted to show that this new engine was equivalent or less emitting. DEQ considers this in violation of PTI 85-05.
- **Stack/Vent Restrictions:** Based on visible observations during the field inspection, the stack appeared to be in compliance with permitted limits of 10 inches in diameter and at least 35 feet above ground surface.

**FGFACILITY:** This flexible group includes all process equipment at the facility including equipment covered by other permits, grand-fathered equipment and exempt equipment.

- **Emission Limits:** FGFACILITY is limited to 89 tons of NOx and 89 tons of CO per 12-month rolling time period Based on the records reviewed from November 1, 2015 through October 31, 2016, the highest emissions for FGFACILITY were 36.5 tons of NOx per 12-month rolling time period and 2.1 tons of CO per 12-month rolling time period, which are within the permitted limits.
- **Materials/Fuels:** According to Ward Lake Energy, only sweet natural gas is burned at the facility.
- **Monitoring:** The facility monitors the natural gas usage for FGFACILITY on a continuous basis and records the monthly fuel use for FGFACILITY. The natural gas usage records are attached.
- **Recordkeeping / Reporting / Notification:** The facility monitors the natural gas usage for FGFACILITY on a continuous basis and records the monthly fuel use at the facility. The facility records monthly and 12-month rolling time period calculations for NOx and CO. The 12-month rolling time period emissions are discussed above under emission limits. The natural gas usage, monthly and 12-month rolling time period emissions records are attached.

NAME Caryn Owens

DATE 4/3/16

SUPERVISOR 