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

N740628455

FACILITY: Ward Lake Energy - Mud Lake 9 CPF		**SRN / ID:** N7406
LOCATION: SW SEC 9, T23N, R14W, MAPLE GRV TWP		**DISTRICT:** Cadillac
CITY: MAPLE GRV TWP		**COUNTY:** MANISTEE
CONTACT: Jeff Riling , Production Manager		**ACTIVITY DATE:** 12/10/2014
STAFF: Caryn Owens	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: Scheduled Site Inspection & Records Review		
RESOLVED COMPLAINTS:		

On Wednesday, December 10, 2014, Caryn Owens of the DEQ-AQD conducted a scheduled on-site inspection of the Ward Lake Energy – Mud Lake 9 facility (N7406) located in the southwest quarter of the southwest quarter of the southwest quarter of Section 9, Township 23 North, Range 14 West in Maple Grove Township, Manistee County, Michigan. More specifically, the site is located ½ mile west of Pihl and Healy Road intersection. The site is located on the south site of Pihl Road, and there is an approximately 1/3 mile drive on a two-track to the facility. The purpose of this inspection was to determine the facility's compliance with permit to install (PTI) 200-06. DEQ currently has the site listed as opting out of major source applicability by limiting the operational and/or production limits potential to emit (PTE) to be below major source thresholds. DEQ was unaccompanied during the field inspection; an inspection brochure was not given to anyone at this facility, but one will be emailed to the owner of the facility. The site is an area source for National Emission Standards for Hazardous Air Pollutants (NESHAP) Part 63 Subpart HH, and NESHAP 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. On May 13, 2013, DEQ received a letter indicating the compressor engine at the facility was subject to the Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (NSPS) 40 CFR Part 60 Subpart JJJJ. However, after further discussions with the company and consultant of the company, the facility claims they are not subject to the NSPS 40 CFR Part 60 Subpart JJJJ, due to no modifications or reconstructions to the engine that was installed at the facility in May 2013, and the engine was manufactured in 2004.

The weather conditions were sunny, with calm winds from the northeast, and approximately 25°F. The equipment at the site consisted of a glycol dehydrator, compressor engine, vertical separators; an iron sponge, a 400-barrel (bbl) above ground storage tank, and an approximately 100 bbl above ground storage tank that vented to the atmosphere. The glycol dehydrator was used to dry the field gas prior to transporting it to the sales line. DEQ observed a heat shimmer from the glycol dehydrator process heater, and a slight steam plume was observed from the glycol dehydrator stack. Slight petroleum like odors were present just south the of the glycol dehydrator building, but dissipated quickly. The glycol dehydrator stack and associated process heater stack were approximately 14 feet above ground surface. The compressor engine was operating at 1180 RPM, 189°F, and 60 psi, and was equipped with a catalytic converter and AFRC. DEQ was not able to read the catalyst inlet and outlet temperatures without pushing the buttons on the LCD screens, so the temperatures of the catalysts were not read at the time of the inspection. The engine block was labeled NGCS 113, and was a 1,014 horsepower CAT 3516 T/A Lean Burn engine. A serial number cannot be located on the engine, but according to the records, the engine serial number was 4EK04116, and the compressor model and serial numbers were JGT/4, F-20663. The stack on the compressor engine contained a muffler and was approximately 30 feet above ground surface, no other visible emissions were observed from the compressor engine stack.

Records Reviewed
EUENGINE1: a 1,014 horsepower CAT 3516 natural gas fired reciprocating compressor engine used to advance the natural gas further through the pipeline.

- **Emission Limits:** The facility is limited to no more than 18.6 tons per 12-month rolling time period of nitrogen oxides (NOx). Based on the records reviewed from November 2013 through November 2014, and the highest emissions reported was 16.1 tons per 12-month rolling time period. The emissions are compliant with permitted limits.
- **Process/Operational Parameters:** The DEQ received a MAP for the facility on January 28, 2008. This does not reference the CAT 3516 T/A with a catalyst that was installed in 2013. On December 16, 2014, DEQ requested an updated MAP for the facility.
  Based on information from Ward Lake, the engine does not operate without a catalyst because Ward Lake Energy thought they were subject to NSPS JJJJ, which does not allow the engine to operate without a catalyst. When a repair is to be made, the engine is shut down during service. Ward Lake supplied the engine maintenance records from November 2013 through November 2014.
- **Testing Sampling Equipment:** Ward Lake used engine specific emission factors to calculate the

emissions for NOx. Performance testing has not been completed at this facility.

- **Monitoring/Recordkeeping:** The facility continuously monitors the natural gas usage for EUENGINE1.
- **Reporting:** Ward Lake Energy supplied Field Maintenance Reports for the facility, which showed maintenance and possible service was conducted on the engine 1-3 times a month. Routine maintenance such as replacing filters and valves, checking operating parameters, and changing the oil appeared to be completed on a regular basis. It appears the catalyst was changed on August 11, 2014, and the engine was shut down while the catalyst was changed out. The facility conducted a reading of emissions from an analyzer unit.
  Ward Lake Energy supplied the DEQ with monthly fuel use records and monthly and 12-month rolling time period records for NOx emissions.
- **Stack/Vent Restrictions:** Based on visual observations made during the site inspection the stack height of EUENGINE1 appeared to be at least 30 feet above ground surface.

FGFACILITY: The PTI does not include special conditions under FGFACILITY, but DEQ requested records for the Gri-GlyCalculations for the glycol dehydrator at the facility. The glycol dehydration system processes gas from the Antrim zone. The applicable requirements of this emission unit are regulated by the NESHAP 40 CFR Part 63 Subpart HH, and the DEQ does not have delegation for the NESHAP. So these areas were not addressed during this facility inspection and records review. Ward Lake Energy is claiming the Mud Lake 9 facility glycol dehydrator meets exemption R336.1282(b)(i) and R336.1288(b)(ii). Based on discussions with the company, sour gas is not burned at the facility. The natural gas is stripped of H2S, by the iron sponge, prior to use for fuel gas, lift gas, or instrument gas.

Evaluation Summary:

During the activities of this inspection Ward Lake Energy submitted a letter justifying why the company is not subject to the NSPS JJJJ regulations. The field inspection and records review for the facility indicate the facility was in compliance with PTI 200-06. However, an updated MAP is required for the facility that includes the operation and maintenance of the catalyst.

NAME Carryn Owens DATE 1/30/15 SUPERVISOR