

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

N786228450

FACILITY: Ward Lake Energy - Springdale 28		SRN / ID: N7862
LOCATION: T24N R14W SECTION 28, SPRINGDALE TWP		DISTRICT: Cadillac
CITY: SPRINGDALE 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 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 – Springdale 28 facility (N7862) located in Section 28, Township 24 North, Range 14 West in Springdale Township, Manistee County, Michigan. More specifically, the site is located off Plagany Road, approximately 1/10 mile west of Healy Lake Road in Springdale Township, Michigan, the site is located on the north side of Plagany Road. The purpose of this inspection was to determine the facility's compliance with permit to install (PTI) 289-07. The PTI is currently listed as an opt-out source that has the potential of major source applicability, but limited 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 DEQ 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 July 26, 2001.

The weather conditions were sunny, with calm winds from the northeast, and approximately 25°F. The equipment at the site consisted of two buildings: the large building contained a compressor engine and vertical separators; and the smaller building contained a glycol dehydrator. There were two 400-barrel (bbl) storage tanks, and one approximately 100 bbl storage tank on the southwestern portion of the site. There was a concrete pad just east of the compressor building that appeared to have contained a former compressor engine. An iron sponge was located outside just north of the compressor building. 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 was approximately 12 feet above ground surface and the associated process heater stack was approximately 15 feet above ground surface. The compressor engine was operating at 1180 RPM, 190°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 were not read at the time of the inspection. The engine block was labeled NGCS 62, and was an 860 horsepower Caterpillar 3512T/ALE Lean Burn engine. A serial number could not be located on the engine. The stack on the compressor engine contained a muffler and was approximately 60 feet above ground surface, no other visible emissions were observed from the compressor engine stack.

#### **Records Reviewed**

**EUDEHY:** The glycol dehydration system processes gas from the Antrim zone formation. 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 Springdale 28 facility glycol dehydrator meets exemption R336.1282(b)(i) and R336.1288(b)(ii).

**EUENGINE1:** The engine at the facility is an 860 horsepower (hp) Caterpillar 3512T/ALE natural gas fired reciprocating internal combustion engine. The engine is equipped with a catalytic converter and Air to fuel Ratio Controller (AFRC). The original EUENGINE1 was permitted for a CAT3512LE without control and had stack and vent restrictions associated with it. There also used to be a 215 hp CAT 3406 rich burn engine that was removed from the facility prior to 2008. DEQ recommends updating the PTI to reflect the actual equipment at the facility. Below are the records received for the CAT 3512T/ALE with a catalyst.

**Emission Limits:** The facility does not have permitted emission limits associated with existing engine on the site. The former rich burn engine was limited to no more than 44.4 tons per 12-month rolling time period of nitrogen oxides (NOx). The records from November 2013 through November 2014, for the existing engine at the facility, indicate the highest emissions reported for NOx were 14.6 tons per 12-month rolling time period.

**Process/Operational Parameters:** The DEQ received a MAP for the facility on January 28, 2008. The MAP is not up to date with the activities and processes at the facility. The DEQ requires an updated MAP for the facility to include the catalyst.

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, and the records are attached to this inspection report.

**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 the engine at the facility.

**Reporting:** Ward Lake Energy supplied Field Maintenance Reports for the facility, which showed maintenance and possible service was conducted on the engine 1-4 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 cleaned on August 26, 2014. 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 the engine appeared to be approximately 60 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. 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, before it is used 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 emission limits in accordance with the PTI 289-07. However, an updated PTI with actual operations at the site is recommended for the facility, and an updated MAP is required that includes the operation and maintenance of the catalyst.

NAME Caryn Chens

DATE 1/30/15

SUPERVISOR 