

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

N644632020

<b>FACILITY:</b> Enervest Operating - SCV		<b>SRN / ID:</b> N6446
<b>LOCATION:</b> T29N-R2W, Section 15, WATERS		<b>DISTRICT:</b> Cadillac
<b>CITY:</b> WATERS		<b>COUNTY:</b> OTSEGO
<b>CONTACT:</b> Jeff Riling , Operations Manager		<b>ACTIVITY DATE:</b> 10/22/2015
<b>STAFF:</b> Caryn Owens	<b>COMPLIANCE STATUS:</b> Compliance	<b>SOURCE CLASS:</b> SM OPT OUT
<b>SUBJECT:</b> Field Inspection and Records Review		
<b>RESOLVED COMPLAINTS:</b>		

On Thursday, October 22, 2015, Caryn Owens of the Department of Environmental Quality (DEQ) – Air Quality Division (AQD) conducted a scheduled field inspection of Enervest Operating, LLC (Enervest) – State Chester Venture (SCV) CPF (N6446) located in the northeast quarter of the northeast quarter, of the northwest quarter of Section 15, Township 29 North, Range 2 West in Chester Township, Otsego County, Michigan. More specifically, the site is located on the south side of Old State Road (County Road F 38), ½ mile east of Turtle Lake Road. The purpose of this inspection was to determine the facility’s compliance with permit to install (PTI) 48-05A. This facility is considered an opt-out source due to the PTI Condition 1.6 under Recordkeeping/Reporting/Notification, which is in regards to changing out engines at the facility. DEQ was unaccompanied during the field inspection, an inspection brochure was not given to anyone at this facility, but a brochure will be emailed to the company with this inspection report. 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 – RICE MACT). 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.

#### Evaluation Summary

The activities covered during this full compliance evaluation (FCE) appear to be in compliance with PTI 48-05A. Review of the records for the facility indicates the facility was in compliance with emission limits in accordance to the PTI. No further actions are necessary at this time. Specific permit conditions that were reviewed are discussed below.

#### Source Description

High pressure natural gas from the Antrim formation enters the facility and flows through a glycol dehydrator system to remove water from the natural gas stream. The natural gas is routed to the compressor engine to increase the pressure to be sent to the sales line. The brine water removed from the gas stream is routed to the onsite tank battery for disposal by reinjection. Since the natural gas is from the Antrim formation Enervest is claiming that the glycol dehydrator meets DEQ-AQD Air Pollution Control Exemption Rule 336.1288(b) (ii). Additionally, Enervest is claiming exemption Rule 336.1284(e) for the above ground storage tanks in the tank battery.

#### On-site Inspection:

During the field inspection it was partly cloudy with wind speeds approximately 5-10 miles per hour out of the west, and approximately 50degrees Fahrenheit. The facility consisted of: an iron sponge; a glycol dehydrator system enclosed in a building; a storage building; a compressor engine building; and a tank battery area containing one 100-barrel (bbl) storage tank, a 300-bbl storage tank, and a 400-bbl storage tank. The facility was fenced in, and the gate was open during the field inspection. An Enervest employee was observing the processes at the facility when DEQ arrived. DEQ observed a steam plume from the glycol dehydrator stack, and slight petroleum-like odors were in the area of the glycol dehydrator, but the odors were not present off site. No other visible emissions were observed during the field inspection.

At the time of the field inspection, the compressor engine was a 1,340 horsepower (hp) Caterpillar 3516LE engine, without a control device. The engine was identified on the engine block as NGSC20 and was operating at 1,372 revolutions per minute (RPMs), 60 pounds per square inch (psi), and 190 degrees Fahrenheit. The maintenance sheet by the engine identified the engine as SCV-Central, Unit #C-20, CAT 3516.

**Records Review:**

**EU-SCV-ENGINE:** A 1,340 hp Caterpillar 3516LE natural gas fired reciprocating compressor engine with no control.

**Process/Operational Parameters and Equipment:**

**Special Conditions (SC) 1.1 – 1.3:** The facility submitted a MAP on June 5, 2008. Based on review of the MAP and maintenance records, 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 EU-SCV-ENGINE, and Enervest appears to be following the MAP for the facility. EU-SCV-ENGINE does not use a control device.

**Testing:**

**SC 1.4:** The facility used engine specific emission factors to calculate NOx emissions. Performance testing has not been completed at this facility.

**Monitoring:**

**SC 1.5:** The facility monitors the natural gas usage for EU-SCV-ENGINE and records the monthly fuel use.

**Recordkeeping/Reporting/Notification:**

**SC 1.6:** The facility has not swapped out an engine at the facility since the PTI was issued. As previously stated, maintenance records did not show concerns with EU-SCV-ENGINE.

**SC 1.7 and 1.8:** EU-SCV-ENGINE is uncontrolled, and as previously stated, the facility records monthly fuel use. The natural gas usage records are attached.

**Stack/Vent Restrictions:**

**SC 1.9:** Based on visible observations during the field inspection, the stack of EU-SCV-ENGINE appeared to be in compliance with permitted limits of 10 inches in diameter and 34 feet above ground surface.

**FGFACILITY:** All process equipment at the facility including equipment covered by other permits, grand-fathered equipment and exempt equipment.

**Emission Limits:**

**SC 2.1:** FGFACILITY is limited to 89 tons of NOx per 12-month rolling time period. Based on the records reviewed from September 2014 through September 2015, the highest emissions for EUENGINE1 were 16.40 tons of NOx per 12-month rolling time period, which is well below the permitted limits for FGFACILITY.

**Material Limits:**

**SC 2.2:** According to Enervest and ECT, the company's consultant, only sweet natural gas is burned at the facility.

**Testing:**

**SC 2.3:** According to an SPL Certificate of Analysis of the sales gas, no H<sub>2</sub>S is burned at the facility.

**Monitoring/Recordkeeping:**

**SC 2.4 and 2.5:** The facility records monthly and 12-month rolling time period NOx calculations for FGFACILITY. The 12-month rolling time period emissions are discussed above under emission limits. The monthly and 12-month rolling time period emissions records are attached.

NAME

Kenneth Owens

DATE

10/27/15

SUPERVISOR

[Signature]