

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

N748831980

FACILITY: EnerVest Operating LLC NMAG CPF		SRN / ID: N7488
LOCATION: T29N, R3W Sec 15, OTSEGO LAKE		DISTRICT: Cadillac
CITY: OTSEGO LAKE		COUNTY: OTSEGO
CONTACT: Jeff Riling , OPERATIONS MANAGER		ACTIVITY DATE: 10/22/2015
STAFF: Caryn Owens	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Scheduled Inspection and Records Review		
RESOLVED COMPLAINTS:		

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) – NMAG CPF (N7488) located in the northwest quarter of the northeast quarter of the northeast quarter of Section 15, Township 29 North, Range 3 West in Otsego Lake Township, Otsego County, Michigan. More specifically, the site is located on the south side of Old State Road (County Road F 38), 1/3 mile east of the Salem Road. The purpose of this inspection was to determine the facility's compliance with permit to install (PTI) 129-05A. This facility is considered an opt-out source due to the PTI Condition VII.1 under Reporting, 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 129-05A. 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 that is necessary to send the gas further down the pipeline. 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).

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 50°F. The facility consisted of: a tank battery area containing one 100-barrel (bbl) and one 200-bbl storage tank; a separator building; a glycol dehydrator system that was connected to the compressor engine building. The compressor engine building, glycol dehydrator system and separator building were within a fenced enclosure. The tank battery area was outside the fenced area. The gate was open during the field inspection.

At the time of the field inspection, the compressor engine was a Caterpillar 3408TA engine, and had a catalyst connected to the vent pipe. There was no LCD readout for the catalyst; it appeared a handheld device was necessary to read the catalyst temperatures and differential pressures. The engine was identified on the engine block as NGCS371, and was operating at 1,738 revolutions per minute (RPMs), 70 pounds per square inch (psi), and 182 degrees Fahrenheit.

Records Review:

EUENGINE1: A 400 horsepower Caterpillar 3408TA natural gas fired reciprocating compressor engine. Even though the engine is equipped with a catalyst, the emissions were calculated with no emission control, and the Malfunction Abatement Plan (MAP) does not claim control on the compressor engine.

- **Emission Limits:** EUENGINE1 is limited to 83 tons of NOx per 12-month rolling time period and 7 tons of CO per 12-month rolling time period. Based on the records reviewed from September 2014 through September 2015, the highest emissions for EUENGINE1 were 82.6 tons of NOx per 12-month rolling time period and 6.21 tons of CO per 12-month rolling time period. These were DEQ's calculated emission rates, since DEQ observed an error in the 12-month rolling fuel usage and calculated different emission factors for NOx and CO. DEQ will discuss the record keeping error with Wayne Cockrum, the consultant for Enervest.
- **Materials/Fuels:** No material limits were applicable for EUENGINE1.
- **Process/Operational Parameters:** The facility submitted a MAP on August 14, 2012. 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 EUENGINE1, and Enervest appears to be following the MAP for the facility. The MAP did not include control on the engine, and emissions from the EUENGINE1 were calculated without control.
- **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.
- **Monitoring/Recordkeeping:** The facility monitors the natural gas usage for EUENGINE1 on a continuous basis and records the monthly fuel use. 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, and monthly and 12-month rolling time period emissions records are attached.
- **Reporting:** The facility has not swapped out an engine at the facility since the PTI was issued.
- **Stack/Vent Restrictions:** Based on visible observations during the field inspection, the stack of EUENGINE1 appeared to be in compliance with permitted limits of 10 inches in diameter and 36 feet above ground surface.
- **Other Requirements**
The facility is subject to the federal provisions of the area source RICE MACT specified in 40 CFR, Part 63, Subparts A and ZZZZ.

NAME Caryn Owens

DATE 10/22/15

SUPERVISOR 