

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

P056635474

FACILITY: LINN OPERATING INC. SMF C4-5		SRN / ID: P0566
LOCATION: PART OF E 1/2 OF SE 1/4 SECT 5, T28N, R3W, MAPLE FOREST		DISTRICT: Cadillac
CITY: MAPLE FOREST		COUNTY: CRAWFORD
CONTACT: Diane Lundin , Senior EHS Representative		ACTIVITY DATE: 06/16/2016
STAFF: Caryn Owens	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Scheduled Field Inspection and Records Review		
RESOLVED COMPLAINTS:		

On Thursday, June 16, 2016, Caryn Owens of the DEQ-AQD conducted a scheduled on-site inspection of Linn Energy (Linn) – State Maple Forest C4-5 facility (P0566) located in the eastern half of the southeast quarter of Section 5, Township 28 North, Range 3 West in Maple Forest Township, Crawford County, Michigan. More specifically, the site is located west of the Waters Landfill off a two-track. I recommend a truck be used to access the facility, since there are gates on the two-tracks located just south of the Waters Landfill, so I accessed the site from the southern two-track off North Peterson Road, and the two-track was not in good condition. The purpose of this inspection was to determine the facility's compliance with permit to install (PTI) 181-14. This facility is considered an opt-out source due to the PTI Condition VII.1 under Reporting, which is in regard to changing out the engine at the facility. I was unaccompanied during the inspection, so an inspection brochure was not given to anyone during the inspection, 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) 40 CFR Part 63 Subpart ZZZZ. The State of Michigan does not have delegated authority of the area source NESHAP, and thus was not reviewed at this time.

Evaluation Summary

Based on the activities covered during this field inspection, the facility appears to be in compliance with PTI 181-14. Review of the records for the facility indicates the facility was in compliance with emission limits in accordance with the current PTI. No further actions are necessary at this time. Specific permit conditions that were reviewed are discussed below.

On-site Inspection:

During the field inspection, the weather conditions were partly cloudy, with winds from the northeast, approximately 5 miles per hour, and 65 degrees Fahrenheit. The site consisted of one main compressor building and a wellhead. A nameplate on the southern portion of the engine identified the engine as Serial Number FD02612, and a Caterpillar 3406 NA engine, and identified on the field logs at the facility as Unit 181. The engine was operating at 1510 revolutions per minute (RPM), 188 degrees Fahrenheit, and 50 pounds per square inch (psi) of pressure, and was uncontrolled. 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 3406 NA 215 horsepower (hp) natural gas fired reciprocating internal combustion engine with no emission control.

Emission Limits: EUENGINE is limited to 58 tons of NOx per 12-month rolling time period and 3 tons of CO per 12-month rolling time period. Based on the records reviewed from May 2015 through May 2016, the highest emissions for EUENGINE were 47 tons of NOx per 12-month rolling time period and 2 tons of CO per 12-month rolling time period, which are within the permitted limits.

Materials/Fuels: No material limits were applicable for EUENGINE.

Process/Operational Parameters: The facility submitted a Malfunction Abatement Plan (MAP) on January 15, 2015 and was approved by the DEQ on February 11, 2015. Based on review of the maintenance records, the engine was generally inspected daily. 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 Linn appears to be following the MAP for the facility.

- **Design/Equipment Parameters:** EUENGINE is uncontrolled. There appeared to be a possible air to fuel ratio control system on the north side of the engine, but it was not in operation during the field inspection. The facility is equipped with a device to monitor and record the natural gas usage.
- **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 EUENGINE on a continuous basis and records the monthly fuel use for each engine 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.
- **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 appeared to be in compliance with permitted limits of 6 inches in diameter and at least 35 feet above ground surface.
- **Other Requirements:**
The facility is subject to 40 CFR Part 63 Subpart ZZZZ. The State of Michigan does not have delegated authority of the area source NESHAP, and thus was not reviewed at this time.

NAME



DATE

6/16/15

SUPERVISOR

