

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

N634645607

FACILITY: Breitburn Operating - Garfield 1-9/8-9		SRN / ID: N6346
LOCATION: SECTION 9 GARFIELD TWP, S BOARDMAN		DISTRICT: Gaylord
CITY: S BOARDMAN		COUNTY: KALKASKA
CONTACT: Carolann Knapp , Environmental Specialist		ACTIVITY DATE: 08/10/2018
STAFF: Caryn Owens	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Scheduled Inspection and Records Review		
RESOLVED COMPLAINTS:		

On Friday, August 10, 2018, Ms. Caryn Owens of the DEQ-AQD inspected Breitburn Operating LP (Breitburn) – Garfield 1-9/8-9 site (N6346) located in the southwest quarter, of the northwest quarter, of the northeast quarter, of Section 9, Township 25 North, Range 5 West in Garfield Township, Kalkaska County, Michigan. More specifically the site is located in the central-northern portion of Section 9, off of Lease Road. The site is accessed heading north on Maple Road, and just before the curve where it turns into Ten-Point Road, a Breitburn access road (Lease Road) forks to the left. Follow Lease Road to the site which will travel through a few different sour gas sites. It is recommended to have a H2S monitor during the inspection. Even though the site is not a sour gas facility, you travel past a lot of sour gas wells to get to the site. The field inspection and records review were to determine compliance with permit to install (PTI) 397-97B. The site is currently an area source that has opted out of being a major source by limiting the operational and/or production limits potential to emit (PTE) to be below the major source thresholds. The site is an area source for National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR Part 63 Subpart HH, and NESHAP 40 CFR Part 63 Subpart ZZZZ. However, 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**

Based on the activities covered during this field inspection and records review, the facility appears to be in compliance with PTI 397-97B. 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 it was mostly sunny and approximately 80 degrees Fahrenheit, with calm winds from the east. The facility had a sign north of the dehydrator systems stating it was the Breitburn Garfield 1-9 site. The site contained potentially three jack pumps, with the jack pump in the central portion of the site dismantled. Additionally, I observed a process heater unit, two glycol dehydrator systems with reboilers, a compressor building, two small storage buildings, an approximate 400 bbl storage tank, and a flare. Only one of the glycol dehydrators was operating during the inspection. According to Breitburn, the other glycol dehydrator has been decommissioned and the flare does not get fired, it is used only as a blowdown stack for the compressor. The compressor building was labeled on the southern door, stating Breitburn 8-9, inside the building contained a CAT 398 rich burn, 4-stroke reciprocating internal combustion engine (RICE) with a catalytic converter. The stack to the RICE was in the horizontal direction extruding from the northern portion of the building, and was approximately 18 feet above ground surface. An approximate 10 foot stack was observed (shared) between the two glycol dehydrator systems. White separated steam plumes were observed from the glycol dehydrator stack, but dissipated quickly. A slight petroleum-like odor was observed between the compressor building and the glycol dehydrator. A green light was on outside the southern portion of the building, and the large doors were open to the compressor building. I observed two, approximately 100-gallon above ground storage tanks (ASTs) in secondary containment that contained engine oil, and an approximate 100-gallon AST containing coolant and an approximately 500-gallon AST in secondary containment containing waste oil. The engine was operating at a speed of 881 revolutions per minute (RPM), engine pressure at 40 pounds per square inch (psi), and the engine temperature at 210 degrees Fahrenheit. The pre-catalyst temperature was 890 degrees Fahrenheit and the post-catalyst temperature was at 874 degrees Fahrenheit. The engine block had GCS903 stamped into it, and the daily log sheet indicated the engine Model was 398.

#### **PTI 397-97B Compliance Evaluation:**

**EUENGINE:** Natural Gas Fired Reciprocating Compressor Engine. During the inspection EUENGINE was a 500 horsepower (hp) Caterpillar G398 NA rich burn engine, identified on the daily field sheets as Serial Number

73B01719 and Unit #903.

**Emission Limits:**

There are no emission limits associated with EUENGINE.

**Material Limits:**

There are no Material Limits associated with EUENGINE.

**Process Operational Restrictions:**

The facility submitted a Malfunction Abatement Plan (MAP) on August 2005. Based on review of the MAP and maintenance records, the engine was inspected daily when operating. The engine was shut down while performing general maintenance such as: replacing filters, valves, spark plugs, oxygen sensors, and/or repair leaks. The catalyst temperatures appear to be inverted (a lower post-catalyst temperature than the pre-catalyst temperature). Breitburn tested the exit of the stack to show that the catalyst temperature inversion still had the appropriate destruction efficiency. The records did not show maintenance concerns with the engine, and Breitburn appears to be following the MAP for the facility. The records are attached.

**Design/Equipment Parameters:**

The engine has not operated EUENGINE without the control device within the requested reporting period.

**Testing/Sampling:**

The facility uses engine specific emission factors to calculate the emissions for nitrogen oxides (NOx) and carbon monoxide (CO) emissions. Performance testing has not been completed at this facility.

**Monitoring/Recordkeeping:**

The facility monitors and records the natural gas usage on a monthly and 12-month rolling time period basis for EUENGINE. The facility maintains a log of all significant activities at the facility.

**Reporting:**

The facility has not swapped out an engine at the facility since the PTI was issued.

**Stack/Vent Restrictions:**

The stack to EUENGINE is located on the north side of the compressor building and the stack appeared to meet the permitted limits of 18 feet above ground surface and approximately 16 inches in diameter.

**Other Requirements:**

Although the PTI does not address "Other Requirements" for EUENGINE, the facility is subject to the NESHAP for Stationary Reciprocating Internal Combustion Engines (40 CFR, Part 63, Subpart ZZZZ). The State of Michigan does not have delegated authority of the area source NESHAP, and thus compliance with the federal requirements in accordance with the EUENGINE was not reviewed by the DEQ at this time.

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

**Emission Limits:**

The Emission Limits for FGFACILITY is 89 tons of NOx per year based on a 12-month rolling time period and 89 tons of CO per year based on a 12-month rolling period. Based on records from May 1, 2017 through June 30, 2018, the highest emissions reported were 4.7 tons of NOx per 12-month rolling time period and 9 tons of CO per 12-month rolling time period. The emissions were reported within the permitted limits.

**Material Limits:**

AQD contacted SPL regarding the results on the Certificate of Analysis for the facility, and they confirmed that N/L for hydrogen sulfide is non-detect. Additionally, according to SPL, the Hydrogen sulfide shows a result of 1, and the units should be parts per million (ppm), which are below the limits defining sour natural gas.

**Process/Operational Parameters:**

There are no Process/Operational Parameters for FGFACILITY.

**Design/Equipment Parameters:**

There are no Design/Equipment Parameters for FGFACILITY.

**Testing:**

Breitburn submitted Certificate of Analysis by SPL dated July 5, 2017. The applicable results are reported under Material Limits of FGFACILITY.

**Monitoring/Recordkeeping:**

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 monthly and 12-month rolling time period emissions records are attached.

**Reporting:**

There were no reporting requirements for FGFACILITY.

**Stack/Vent Restrictions:**

No Stack/Vent Restrictions were applicable for FGFACILITY.

**Other Requirements:**

Although the PTI does not address "Other Requirements" for FGFACILITY, the facility is subject to the NESHAP from Oil and Natural Gas Production Facilities (40 CFR Part 63 Subpart HH). The State of Michigan does not have delegated authority of the area source NESHAP, and thus compliance with the federal requirements in accordance with the FGFACILITY was not reviewed by the DEQ at this time.

NAME   *Carlyn Owens*  

DATE   *9/15/18*  

SUPERVISOR   *SN*