

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

N706540266

FACILITY: BreitBurn Operating LP - NADV 1-2-3		SRN / ID: N7065
LOCATION: SEC 8 T30N R4W SE NW SW, GAYLORD		DISTRICT: Cadillac
CITY: GAYLORD		COUNTY: OTSEGO
CONTACT: Carolann Knapp , Environmental Specialist		ACTIVITY DATE: 06/07/2017
STAFF: Caryn Owens	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Scheduled Inspection & Records Review		
RESOLVED COMPLAINTS:		

On Wednesday, June 7, 2017, Caryn Owens of the DEQ-AQD conducted a scheduled on-site inspection of BreitBurn Operating, LP (BreitBurn) – NADV 1-2-3 facility (N7065) located in the southeast quarter of the northwest quarter of the southwest quarter of Section 8, Township 30 North, Range 4 West in Hayes Township, Otsego County, Michigan. More specifically, the site is located on the east side of Thumm Road, ½ mile south of the Van Tyle Road and Thumm Road intersection. The driveway to the facility is an approximately ¼ mile two-track. The purpose of this inspection was to determine the facility's compliance with permit to install (PTI) 2-02B. BreitBurn has opted out of major source applicability by limiting operational and/or production limits potential to emit (PTE) to be below major source thresholds. DEQ was unaccompanied during the field inspection. The site is an area source for National Emission Standards for Hazardous Air Pollutants (NESHAP) for 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). 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 field inspection and records review, the facility is in compliance with PTI 2-02B, and no further actions are necessary at this time. Specific permit conditions that were reviewed are discussed below.

Source Description:

During the field inspection, the weather conditions were sunny, with calm winds approximately 0-5 miles per hour from the west-southwest, and 75 degrees Fahrenheit. The site is a natural gas processing facility where the natural gas is extracted from the Antrim formation with one compressor engine, a booster engine, a glycol dehydrator system, one approximately 400 barrel (bbl) and one 300 bbl above ground storage tanks. An aerial photograph of the site is attached for reference.

The compressor engine in the southeast portion of the building was labeled GCS 759 on the base of the engine platform, and the paper used for recordkeeping indicated the engine was a Caterpillar 399T/A, JGR-4 engine, Unit #759 and Serial #4NC01526. The engine was operating at 1,150 revolutions per minute (RPM), 60 pounds per square inch (psi) of pressure, and 185 degrees Fahrenheit. The engine contained a catalytic convertor, and the inlet temperature of the catalyst was 1016 degrees Fahrenheit and the post temperature was 1066 degrees Fahrenheit. The stack for this engine appeared to be at least 45 feet above ground surface, and no visible emissions were observed from the stack.

The small booster engine in the northwest corner of the building was labeled # 8023 on the base of the engine platform, operating at 1355 RPM, 40 psi and 220 degrees Fahrenheit. This engine was a 6-cylinder, and the stack extruded out of the building connected to flex tubing outside of the building. The facility claims that this engine is covered under exemption R 336.1285(2)(g), which covers Internal combustion engines that have less than 10,000,000 Btu/hour maximum heat input. Additionally, BreitBurn claims the above ground storage tank meets exemption - Rule 336.1284(2)(e) which exempts sweet crude oil storage vessels that have capacity less than 40,000 gallons.

The glycol dehydrator system was in the southwestern portion of the building. DEQ observed no visible emissions from the glycol dehydrator system. The stack of the glycol dehydrator system was approximately 12 feet above ground surface, and the glycol reboiler stack was approximately 22 feet above ground surface. BreitBurn claims the glycol dehydrator meets exemption R 336.1288(2)(b) which exempts a glycol dehydrator located at a facility that only processes natural gas from the Antrim formation.

Records Reviewed

EUENGINE2: A natural gas fired, rich burn Caterpillar 399T/A, JGR-4 reciprocating internal combustion engines

with a catalytic converter.

- **Emission Limits:** No Emission Limits are applicable for EUENGINE2.
- **Materials/Fuels:** No material limits were applicable for EUENGINE2.
- **Process/Operational Parameters:** The facility submitted a Malfunction Abatement Plan (MAP) on April 27, 2017 and was approved by the DEQ on May 30, 2017. Based on review of the MAP and maintenance records, the engines were inspected daily. The engines were shut down while performing general maintenance such as: replacing filters, valves, spark plugs, oxygen sensors, and/or repair leaks.

Based on the records reviewed, the catalyst was replaced and washed on October 12, 2016 and the catalyst temperatures appeared to have a higher outlet temperature than the inlet temperature which shows proper destruction efficiency. The most recent engine overhaul (where the engine is swapped out for a new engine) took place April 27, 2017. The engine overhaul was reported to the DEQ and was replaced with the same make and model engine. The records did not show maintenance concerns with the engines, and BreitBurn appears to be following the MAP for the facility.

- **Design/Equipment Parameters:** As previously stated, the facility appears to be operating the control device properly in accordance with the MAP.
- **Testing Sampling Equipment:** The facility uses engine specific emission factors to calculate the emissions for NOx. Performance testing has not been completed at this facility.
- **Monitoring/Recordkeeping:** The facility monitors the natural gas usage for EUENGINE2 on a continuous basis and records the monthly fuel use for each engine at the facility. The facility maintains a log of all significant activities at the facility, and as previously stated the facility notified AQD of an engine replacement that took place on April 27, 2017. The only time the engine operated without the control device was when the engine was replaced in April 2017, and the new engine operated for 30 minutes without a catalyst.
- **Reporting:** Reporting requirements are not applicable for EUENGINE2. However, the facility reported to AQD when they swapped out the engine.
- **Stack/Vent Restrictions:** Based on visible observations during the field inspection, the stacks of EUENGINE2 appeared to be in compliance with permitted limits of 16 inches for the maximum exhaust diameter and 45 feet above ground surface.

FGFACILITY: Conditions that include all source-wide activities at the facility including equipment covered by other permits, grand-fathered equipment and exempt equipment.

- **Emission Limits:** The Nitrogen oxide (NOx) emission limit for FGFACILITY is limited to 39 tons per 12-month rolling time period. Based on the records reviewed from May 2016 through April 2017, the highest emissions reported for NOx were 6 tons per 12-month rolling time period. The emissions were compliant with permitted limits.
- **Materials/Fuels:** The facility shall burn only sweet gas. According to the records reviewed, no hydrogen sulfide is in the gas at the facility.
- **Process/Operational Parameters:** No Process/Operational Parameters were applicable for FGFACILITY.
- **Testing Sampling Equipment:** Breitburn submitted a laboratory analysis indicating the H2S content in the natural gas was non-detect.
- **Monitoring/Recordkeeping:** BreitBurn completes all required calculations applicable for the facility. The facility records monthly and 12-month rolling time period calculations for NOx. The 12-month rolling time period emissions are discussed above under emission limits. The recordkeeping was acceptable to the DEQ.

Reporting, Stack/Vent Restrictions, Other Requirements: No Reporting, Stack/Vent Restrictions, Other Requirements were applicable for FGFACILITY.

NAME Caryn Owens DATE 6/7/17 SUPERVISOR SN