

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

N634528918

FACILITY: BREITBURN OPERATING LP - GARFIELD 1-8 CPF		SRN / ID: N6345
LOCATION: SW 1/4, NE 1/4, NE 1/4, SEC 8, T25N, R5W, S BOARDMAN		DISTRICT: Cadillac
CITY: S BOARDMAN		COUNTY: KALKASKA
CONTACT: Carolann Knapp, Environmental Specialist		ACTIVITY DATE: 02/25/2015
STAFF: Caryn Owens	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: MINOR
SUBJECT: Scheduled Inspection and Records Review		
RESOLVED COMPLAINTS:		

On Wednesday, February 25, 2015, Caryn Owens and Shane Nixon of the DEQ-AQD conducted a scheduled on-site inspection of the BreitBurn Operating, LP (BreitBurn) – Garfield 1-8 facility (SRN: N6345) located in the southwest quarter of the northeast quarter of Section 8, Township 25 North, Range 5 West in Garfield Township, Kalkaska, MI. More specifically the site is accessed heading north on Maple Road, then turn left (west) on 8 Point Road for one mile, then turn right (North) for approximately 1 mile on 8 Point Road SE, the road will bend to the west and the site is on the west side of 8 Point Road SE. These are two-tracks to get to the site, so all the road name may not be marked. It is recommended to have a H2S monitor during the inspection. The field inspection and records review were to determine compliance with permit to install (PTI) 75-12. The site is currently an area source for hazardous air pollutants (HAPs), and a minor source for criteria pollutants. An inspection brochure was not given to anyone at this facility, but 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 HH, and NESHAP 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.

The site was covered in snow, and the weather conditions were mostly cloudy, with calm winds from the west-northwest, and approximately 10°F. The site is a natural gas processing facility where the natural gas is extracted from the Prairie DuChemin formation, passes through a separator to remove liquid water from the gas, and then processed by compression and dehydration, and then sent to the pipeline. The site consisted of: an approximately 400 barrel (bbl) above ground storage tank; a process heater; an uncontrolled glycol dehydrator system with a flash tank and associated process heater (reboiler); an emergency flare; and three buildings each containing a compressor. There was also a small structure that contained a very small 6-cylinder engine on the north end of the site. The southern-most building contained a 500 horsepower Caterpillar engine operating with a catalytic converter. The nameplate on the northern side of the engine indicated it was a CAT 398 GT3604. The engine was operating at 1171 RPM and 75psi, and the pre-catalyst temperature was 995°F and the post catalytic temperature was 1021°F. The stack for this engine appeared to be at least 30 feet above ground surface, and DEQ observed a steam plume exiting the stack. The two adjacent buildings, just north of the southern-most building, each contained an AJAX compressor engine. Both of these engines were pickled and preserved in July 2012. They are dismantled, and would take some work to get the engines operating properly again. They are inspected annually to verify they are still preserved.

The glycol dehydrator building was located north of the compressor buildings. An approximately 500-gallon methanol tank was located next to the glycol dehydrator system. A slight sweet petroleum odor was present in the area of the glycol dehydrator, but quickly dissipated. DEQ observed a steam plume from the glycol dehydrator flash tank stack, which was approximately 10 feet above ground surface, and a heat shimmer from the glycol dehydrator reboiler stack, which was approximately 12 feet above ground surface.

An emergency flare was located west of the buildings and glycol dehydrator system which is used as a relief system to prevent the facility from over-pressuring. DEQ observed no visible emissions from the flare.

Records Reviewed

EUDEHY: Glycol dehydration system processes gas from the Prairie DuChemin formation. There are no applicable conditions in the PTI for the glycol dehydrator, except for a statement saying the facility shall comply with all provisions of the NESHAP 40 CFR Part 63 Subpart HH. The PTI also indicates the glycol dehydrator is exempt since it was installed prior to 2003. DEQ received the natural gas flow rate through the glycol dehydrator and wet gas analytical results that indicated benzene and hydrogen sulfide emissions were not detected above method detection limits. Additionally, the daily average flow rate of natural gas through the glycol dehydrator was approximately 44 standard cubic meters per day (scm/day).

EUENGINE1: A 500 horsepower Caterpillar 398 NA natural gas fired reciprocating internal combustion engine with a catalytic converter.

- **Emission Limits:** EUENGINE1 is limited to 7.4 tons per 12-month rolling time period of NOx and 14.4 tons per 12-month rolling time period of CO. Based on the records reviewed from January 2014 through January 2015, and the highest emissions reported were 6.1 tons per 12-month rolling time period for NOx and 13.2 tons per 12-month rolling time period for CO. The emissions are compliant with permitted limits.
- **Process/Operational Parameters:** The facility submitted a Malfunction Abatement Plan (MAP) on July 9, 2012. Based on the maintenance records, EUENGINE1 (Unit #839) was serviced 2 to 6 times per month from January 2014 through January 2015 for replacing filters, valves, spark plugs, gaskets, hoses, and/or repair leaks.
DEQ observed intermittent inverted catalytic converter temperatures reversed beginning in January 2014 through August 2014. There was an emissions test on May 7, 2014, however; the temperatures were not inverted during this emissions test, to show that the catalytic converter is meeting the destruction efficiency when the catalytic converter temperatures are inverted. The catalyst was removed and cleaned on October 1, 2014 and an emissions test was performed to show that the catalyst was meeting the destruction efficiency. The maintenance logs also did not give detail on why the temperatures were inverted, and what mitigation BreitBurn was attempting to correct the temperature inversions. DEQ determined the inverted temperatures with delayed response to mitigate the temperature inversions are in violation with the MAP for the facility.
- **Testing Sampling Equipment:** BreitBurn Operating, LP used engine specific emission factors to calculate the emissions for NOx and CO. Performance testing has not been completed at this facility.
As previously stated in EUDEHY, wet gas analytical results indicated hydrogen sulfide concentrations were not detected above method detection limits in the gas sample collected at the facility.
- **Monitoring/Recordkeeping:** The facility continuously monitors the natural gas usage for EUENGINE1.
As previously stated above, the engine did not operate without the catalytic converter during the time period reported to the DEQ.
- **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 the engine appeared to be at least 30 feet above ground surface, in compliance with the permitted limits.

Evaluation Summary: Based on the field inspection and records review, DEQ considers the facility to be in violation with the MAP for the facility. A violation notice was submitted to the company on March 24, 2015.

NAME Caryn Owens

DATE 3/24/15

SUPERVISOR 