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

N609930636

FACILITY: Ward Lake Energy, Livingston 34		**SRN / ID:** N6099
LOCATION: 685 E. M-32, LIVNGSTON TWP		**DISTRICT:** Gaylord
CITY: LIVNGSTON TWP		**COUNTY:** OTSEGO
CONTACT:		**ACTIVITY DATE:** 08/07/2015
STAFF: Bill Rogers	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: Scheduled Inspection and Record Review		
RESOLVED COMPLAINTS:		

On August 7, 2015, I inspected the Ward Lake Livingston 34 Central Production Facility. I also requested records as required by permit, and reviewed them.

Permit Conditions:

Permit 225-04B, Table EUDEHY, Condition VI.1, gives several means the operator may use to prove exemption from the more stringent pollution control requirements of the glycol dehydrator MACT, 40 CFR 63 Subpart HH. One of these means is to show that actual average benzene emissions are less than 0.90 megagrams a year. 0.90 megagrams is about one ton.

The operator chose to demonstrate they meet this exemption by submitting results from the GRI Gly-Calc emissions estimating program. These results are attached. Gly-Calc is an acceptable method to demonstrate compliance. Calculations indicate total VOC emissions of 0.0482 tons per year. Benzene is part of VOC. Since total VOC emissions are far less than one ton per year, benzene emissions are also far less than one ton per year. This demonstrates compliance with Condition VI.1.

Table EUENGINE1, Condition I.1, sets a NOx limit of 67.9 tons per 12 month rolling time period. Emissions calculations, attached, show a 12 month rolling NOx value of 51.224 tons. This complies with Condition I.1.

Condition I.2 sets a CO limit off 77 tons per 12 month rolling time period. Emissions calculations, attached, show a 12 month rolling CO value of 2.240 tons. This complies with Condition I.2.

Condition III.1 requires a malfunction abatement plan. AQD received this plan on January 28, 2008 and approved it. This complies with Condition III.1. The company provided maintenance logs (example pages attached) which appear to show compliance with the malfunction abatement plan.

Condition IV.1 requires any pollution control device be installed and operating properly. The compressor engine at this facility is equipped with a catalytic oxidizer. The outlet temperature is higher than inlet, indicating the oxidizer is probably operating properly.

Condition VI.2 requires monitoring engine fuel consumption. This value is included in the emissions calculation page, attached.

Condition VI.3 requires a maintenance log. Example pages of the maintenance log are attached.

Condition VI.6 and VI.7 require keeping 12 month rolling time period calculations of NOx and CO emissions. An emissions calculation page, including these values, is attached.

Condition VIII.1 requires a stack minimum height of 39 feet and maximum diameter of 10 inches. Diameter appeared to be 10 inches. By pacing the length of the stack shadow as multiples of the length of my own shadow, I estimated stack height as about 40 feet.

Table FGFACILITY, Condition II.1, prohibits burning sour gas at the facility. I didn't see any evidence the operator was burning sour gas. This facility processes Antrim Formation gas. Sour gas is very rare in the Antrim Formation.

On site inspection:

The facility includes one natural gas fired compressor engine equipped with a catalytic oxidizer. It is labeled as GCS 158, indicating it is Unit 158 of Gas Compression Services. GCS is a former engine

operator, since bought out by another company. Presumably that company was Exterran, since they provided the maintenance logs attached.

It was operating at the time of my inspection. It was running at 1166 RPM. There was no opacity. Engine oil pressure was 65 PSI, engine water temperature was 165 degrees f, compressor oil pressure was 55 PSI.

The operators were recording the catalyst temperatures on a clipboard hanging from the engine instrument panel. The day of my inspection catalyst inlet temperature was recorded as 846 degrees f and outlet as 876 degrees f. I took temperatures on the outside of the exhaust pipe using a remote thermometer. Inlet pipe was 620 degrees f, outlet was 644 degrees f. A higher temperature on the outlet side of a catalytic oxidizer indicates it is burning contaminants out of the air as the exhaust passes through. This indicates the catalytic oxidizer is probably operating properly.

The facility also includes a glycol dehydrator. It has a Wenco Flame Arrested Burner. Builder's plate says the rating is 125,000 BTU per hour. The burner stack is about 12 feet high and 6 inch diameter, with a flat cap. The still vent is about two inches diameter and 10 feet high, with a T shaped pipe fitting as its cap.

I didn't see any opacity from any equipment on site, with the exception of wisps of "steam" from the dehydrator still vent.

The facility also includes large tanks. One was 400 barrel size and a second was smaller. These were enclosed in a well maintained lined berm. I didn't note any labels on them. In a previous inspection I noted the 400 barrel tank was labeled as brine and the smaller tank as a slop oil tank.

Maintenance looked good. I didn't see any stained soils that might have indicated spills or leaks.

NAME William J Rogers Jr DATE 8/17/2015 SUPERVISOR