

**DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Stack Test Observation**

N294047016

FACILITY: DCP Antrim Gas LLC		SRN / ID: N2940
LOCATION: 6250 OLD STATE RD, JOHANNESBURG		DISTRICT: Gaylord
CITY: JOHANNESBURG		COUNTY: OTSEGO
CONTACT:		ACTIVITY DATE: 10/23/2018
STAFF: Becky Radulski	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: stack test observation at FGENGINES		
RESOLVED COMPLAINTS:		

Traveled to N2940 DCP Antrim, 6250 Old State Rd, Johannesburg for stack testing on October 23, 2018. FGENGINES were being tested due to issues discovered with their emissions. FGENGINES consists of 2 Caterpillar 399 TA engines (EUENGINE1 and EUENGINE2). The engines are being tested for nitrogen oxides (NOx), which is required in MI-ROP-N2940-2015.

Present onsite for the stack test:

DCP: Justin Kucharek

Derenzo and Associates: Andy and Brad

AQD: Tom Gasloli (TPU) and Becky Radulski (Gaylord Field Office)

Field conditions: Both engines were operating. Each engine is a rich burn engine with a catalytic convertor located outside the building. There is also a muffler and short stack outside the building. There are no stack height requirements in the ROP.

FGENGINES have a shared fuel use meter. The ROP does not require separate meters.

The MAP requires 90% reduction in NOx. The testing on 10/23/18 was for post control only. Mr. Kucharek indicated that DCP separately has a contractor come onsite to determine the NOx control pre-control so that the 90% reduction can be confirmed.

The MAP has a temperature range of 650-1350 degrees Fahrenheit for the catalyst.

The MAP requires the temperature of the outlet to the catalyst to be higher than the inlet temperature.

The approval letter requires the engines to be operating at greater than 90% load. Typically the engines operate at 55-60% of potential full load. The engines operated during the tests at their maximum normal load, which is determined by viewing the RPM. The RPM for each engine is set into the controller at 1200 RPM. The engines run 24 hours per day, and the load is constant. Viewing RPM load data collected by AQD from previous visits shows various dates with loads ranging from 1197-1203.

EUENGINE1 testing:

Parameter	Test 1, 8:45 am	Test 2, 9:55 am	Test 2, 10:25 am	Test 3, 11:32 am
Engine KW	260	260	260	260
Engine RPM	1204	1203	1202	1202
Fuel Use (combined both engines)	176.7	181.1	180.6	181.7
Catalyst Temp In	980	982	980	984
Catalyst Temp Out	982	1097	1036	1111
Catalyst Pressure drop	3.0	3.0	3.0	3.0
Catalyst inlet oxygen concentration	.831	.815	.802	.835

EUENGINE1 was identified with serial number 35B01202. At the beginning of the test, the unit was noted as having 72,962.6 engine hours.

Preliminary results of Run 1 and Run 2 showed the NOx at approximately 5.6 tons/year.

Engine 2 testing:

Parameter	Test 1, 1:16 pm	Test 1, 2:00 pm
Engine KW	220	220
Engine RPM	1202	1203
Fuel Use (combined both engines)	178.8	178.1
Catalyst Temp In	1028	1029
Catalyst Temp Out	1066	1066
Catalyst Pressure drop	1.8	2.0
Catalyst inlet oxygen concentration	.812	.807

Preliminary results of Run 1 show the NOx at 20 ppm, or 0.4 tons/year.

NAME Becky Radulovic

DATE 11/20/18

SUPERVISOR SN