

DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
ACTIVITY REPORT: On-site Inspection

N600555939

<b>FACILITY:</b> Lambda Energy Resources LLC - Blue Lake 17		<b>SRN / ID:</b> N6005
<b>LOCATION:</b> 11155 TWIN LAKE RD, KALKASKA		<b>DISTRICT:</b> Cadillac
<b>CITY:</b> KALKASKA		<b>COUNTY:</b> KALKASKA
<b>CONTACT:</b>		<b>ACTIVITY DATE:</b> 10/28/2020
<b>STAFF:</b> Kurt Childs	<b>COMPLIANCE STATUS:</b> Compliance	<b>SOURCE CLASS:</b> SM OPT OUT
<b>SUBJECT:</b> 2020 FCE		
<b>RESOLVED COMPLAINTS:</b>		

**2020 FCE: N6005 Lambda Blue Lake 17, Kalkaska County**

This Full Compliance Evaluation was conducted to determine compliance with PTI 636-96A and the Air Pollution Control Rules.

I observed the site Prior to entering the facility, no odors were present, and no visible emissions were observed. One containment area surrounding a heater was nearly full of water. Another steel containmenet area was 3/4 full of water. The weather was overcast, 45 degrees F with wind from the southwest at 10 mph. At the time of the inspection the following equipment was observed on site:

- Seven wells.
- Five 400 bbl AST's with vapor recovery, operating.
- Two V-12 compressor engines, one with control. Both operating.
- Six heaters, one operating.
- One Glycol Dehydrator, operating.

**EUDEHY**

There is one glycol dehydrator and it was operating at the time of the inspection. There were no odors or visible emissions.

**Emission Limits:**

There are no applicable Emission Limits for EUEHY.

**Material Limits:**

There are no material limits for EUDEHY.

**Process Operational Restrictions:**

1.1 EUDEHY 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.

1.2 The glycol re-circulation rate is limited to 0.7 gallons per minute. The attached records provided indicate that the re-circulation rate is 0.27 gpm.

**Design/Equipment Parameters:**

1.3 EUDEHY must be equipped with a flash tank that is vented to the compressor engine for control. EUDEHY appears to be vented to a drip tank and atmospheric vent (see attached photo). However, the dehy was running and there were no visible vapors or odors from this vent.

**Testing/Sampling:**

1.4 Conduct annual analysis of the wet gas stream for nitrogen, carbon dioxide, hydrogen sulfide, C1 - C6 series hydrocarbons, BTEX, and heptanes plus. The most recent analysis provided by Lambda is attached H2S was non-detect.

**Monitoring/Recordkeeping:**

1.5 Monitor annual average flow rate of natural gas to demonstrate < 85,000 m<sup>3</sup>/day or use GRI-GLYCalc to demonstrate actual average benzene emissions are less than 0.90 Mg/yr. Lambda provided the attached records indicating monthly daily average flow rate ranged from 27,968 m<sup>3</sup> to 46,624 m<sup>3</sup> in 2020.

**Reporting:**

1.6-8 Maintain records of wet gas analysis, natural gas flow rate or benzene emission calculations. These records are maintained and available (see attached records).

**FGENGINES**

October 2020

Pollutant	Limit	Equipment	12-Month Rolling Records from Lambda, in tons
2.1a, NO <sub>x</sub>	5.2 tpy	EUBL17- CM1ENG	3
2.12, 2.13		(with control)	
2.1b, CO	10.3 tpy	EUBL17- CM1ENG	6
2.12, 2.13		(with control)	
2.1c, NO <sub>x</sub>	67.1 tpy	EUBL17- CM2ENG	56
2.12, 2.13			
2.1D, CO	72.8 tpy	EUBL17- CM2ENG	60
2.12, 2.13			

2.2 The natural gas usage for each engine is limited to 28.3 million cubic feet per 12-month rolling time-period as determined at the end of each calendar month. The attached records submitted by Lambda indicate that engine EUBL17-CM2ENG consistently used the most fuel, averaging around 24 million cubic feet per 12-month rolling time-period as determined at the end of each calendar month.

2.3 A PMMAP is required and was approved on September 29, 2011.

**2.4 The facility is not allowed to bypass any control device for any engine so equipped, for more than 200 hours per year. EUBL17-CM1ENG is equipped with a catalytic converter, EUBL17-CM2ENG is not. Lambda stated that the engine did not operate without the Catalyst in 2020.**

**2.5 The permittee must maintain a control device for this EU if used. EUBL17-CM1ENG was equipped with a control device that appeared to be functioning properly. The catalyst inlet temperature was 724 degrees F and the outlet temperature was 755 degrees F.**

**2.6 Upon request by the AQD, the permittee must verify NOx and CO emission factors by conducting stack testing on this EU. As of the date of this inspection, stack testing has not been requested for this source.**

**2.7 The permittee is required to maintain a device to measure natural gas usage for this EU. Engine natural gas usage is monitored and recorded.**

**2.8 The permittee is required to perform emissions calculations monthly. Review of submitted records indicates emissions calculations for the facility have been performed and indicate compliance with the emission limits.**

**2.9 A maintenance log for this EU is required to be maintained. Maintenance records provided by Lambda are attached.**

**2.10 The permittee is required to keep records of any bypass of any control device. Lambda stated in there records request response that there was no bypass of the control device.**

**2.11 Natural gas usage records for this EU are required to be maintained and included with the monthly emission summary of which a copies are attached.**

**2.12 NOx emissions records for this EU are required to be kept. These calculations are being performed monthly and used to update 12-month rolling time-period averages.**

**2.13 CO emissions records for this EU are required to be kept. These calculations are being performed monthly and used to update 12-month rolling time-period averages.**

**2.14 Stack parameters for this unit do not appear to have changed and appear correct.**

### **Facility Wide**

**3.1 NOx and CO emissions from the source are limited to 89.9 tons per year each based on a 12-month rolling time-period as determined at the end of each calendar month. Records provided by Lambda (attached) indicate the most recent monthly 12- month rolling average NOX and CO emissions were 52 and 59 tons respectively.**

**3.2 The source is required to only burn sweet natural gas. This source burns Antrim gas.**

**3.3 The source is required to comply with 40 CFR 63 Subpart HH. The EPA has not delegated 40 CFR Part 63, Subpart HH to MI AQD and the Subpart was not reviewed.**

**3.4 The permittee may be required to verify H2S and sulfur content of the gas. The AQD has not requested verification of H<sub>2</sub>S and/or sulfur content of the natural gas burned in FG FACILITY but the annual wet gas analysis provided by Lambda indicates H<sub>2</sub>S was non-detect.**

**3.6, 3.7 The permittee is required to perform emissions calculations monthly. Records provided by Lambda (attached) indicate monthly emissions calculations for the facility have been performed.**

**At the time of the inspection, it appears this source was in compliance with PTI 636-96A and the air pollution control rules.**

NAME \_\_\_\_\_

DATE \_\_\_\_\_

SUPERVISOR \_\_\_\_\_