

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

N627973564

FACILITY: Lambda Energy Resources LLC - Ricci 19 (Blue Lk)		SRN / ID: N6279
LOCATION: SUNSET TRAIL, KALKASKA		DISTRICT: Cadillac
CITY: KALKASKA		COUNTY: KALKASKA
CONTACT: Nick Summerland , HSE Manager		ACTIVITY DATE: 07/24/2024
STAFF: Tammie Puite	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: 2024 Full Compliance Evaluation Inspection		
RESOLVED COMPLAINTS:		

On July 24, 2024, Lindsey Wells and I inspected this facility for compliance with Permit to Install 79-21. A records request was sent on August 26, 2024.

Upon arrival onsite maintenance men were there working on the Caterpillar G3412, Skid number CC1199. The site was found to be well kept, records were onsite to demonstrate that this site was being maintained per industry standards.

There were low odors coming from the Dehy unit and the vent from the 500 gallon propane / separator tank, but nothing that was leaving site or objectionable.

The G3412CLE is a Caterpillar V-12, 4-stroke engine that is rated at 637 HP and operates without a catalytic converter. It was manufactured in 2008 and is a leased unit provided by Correct Compression, and installed November 5, 2020. The Correct Compression compressor skid identification number is CC1199. Name Plate on Engine Model G3412, Serial # 6ZM02605, Performance Spec # OK2616. Caterpillar Engine Spec Sheets says that this is a 637 HP, 1800 RPM Engine with NOx Emissions of 2 g/bhp-hr (12.3 TPY), and a fuel consumption of 7635 Btu/bhp-hr. NSPS JJJJ Testing in 2021 showed that the engine does not operate near its maximum load. Horsepower output and engine fuel flow during the test were a steady 272 HP and 833 scfm respectively. Lambda reports that they do not need to do any further testing due to the engine being governed to less than 500 hp. This is consistent with Page 5 of the Permit to Install Evaluation document for PTI 79-21, which states that as long as the engine continues to be governed to 75% load, 478 hp, than they only need to do the initial test.

The engine has emissions limits of NOx 10 tpy, for a 12 monthly rolling time period and 2.0 g/hp-hr hourly; CO 10 tpy, for a 12 monthly rolling time period and 4.0 g/hp-hr hourly, and VOC of 1.0 g/hp-hr hourly. Company reported for 12 month time period of June 2023 to June 2024, NOx was 4.59 TPY, CO was 4.71 TPY and VOC was 0.81 TPY. Reported monthly and 12 monthly rolling emissions show that the facility is well below permitted limits.

Material limits of, Not to exceed 29.9 MM cubic feet per 12 month rolling time period of natural gas usage. Reporting showed this to be 14-18 MMCf for the 12 month rolling time period.

Requirements of a MAP to be on file. A MAP was submitted on November 29, 2021 and approved on November 29, 2021.

Stack is vented upwards through a muffler and appears to be at least 16 feet high or higher.

Maintenance Log was provided for the required time period, and showed 12 events of work being performed. A certificate of gas analysis was submitted and completed on August 27, 2024 by SPL Traverse City Laboratory of Traverse City, Michigan. The analysis showed that the Real Gas Bry BTU/cf is 1289.2 and hydrogen sulfide was non detect. Company is in compliance with SC III.2 of the PTI – The permittee shall burn only sweet natural gas.

Equipment onsite:

- 3 – 400 bbl AST's with Vapor Recovery – 1 H2O, and 2 for Oil.
- 1 – 400 bbl tank not in secondary containment.
- 1 - Electric Engine - operating
- 1 - Caterpillar V-12 - G3412CLE, CC 1199 – under maintenance
- 1 - Joy Engine SN 106091, 7 stroke 700 RPM Engine – dismantled.
- 1 – compressor
- 3 – Separators/heaters, 1 very large heater
- 1 – Dehy

As a result of this compliance evaluation, it appears that this source is in compliance with PTI 79-21 and air pollution control rules.



Image 1(Caterpillar Engine) : G3412CLE is a Caterpillar V-12, 4-stroke engine that is rated at 637 HP and operates without a catalytic converter. It was installed November 5, 2020. Skid # CC1199.



Image 2(Dehy & Separator) : There were low odors coming from the Dehy unit and the vent from the 500 gallon

propane / separator tank, but nothing that was leaving site or objectionable.



Image 3(Engine Buildings) : Caterpillar and Joy Engine Buildings



Image 4(Stack) : Caterpillar Engine Muffler and Stack

NAME 

DATE 12-4-24

SUPERVISOR 