

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

B558455929

FACILITY: Lambda Energy Resources LLC - BLUE LAKE 27		SRN / ID: B5584
LOCATION: 13806 Cameron Bridge Rd., KALKASKA		DISTRICT: Cadillac
CITY: KALKASKA		COUNTY: KALKASKA
CONTACT: Vicki Kniss , Environmental Affairs Manager		ACTIVITY DATE: 10/28/2020
STAFF: Kurt Childs	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: 2020 FCE		
RESOLVED COMPLAINTS:		

I conducted a scheduled field inspection and records review of Lambda Energy Company (Lambda) – Blue Lake 27 source (B5584) located on Cameron Bridge Road in Blue Lake Township, Kalkaska County, Michigan. The purpose of this inspection was to determine the source’s compliance with permit to install (PTI) 55-04 and the Air Pollution Control Rules. Lambda has opted out of major source applicability by limiting operational and/or production limits potential to emit (PTE) to be below major source thresholds. The source is an area source for National Emission Standards for Hazardous Air Pollutants (NESHAP) from Oil and Natural Gas Production facilities (40 CFR, Part 63, Subpart HH), and NESHAP for Stationary Reciprocating Internal Combustion Engines (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 AQD at this time.

Evaluation Summary

Based on the operating status (the entire source is shut-in) and activities covered during this field inspection, the source appears to be in compliance with PTI 55-04. No further actions are necessary at this time. Specific permit conditions that were reviewed are discussed below.

On-site Inspection:

During the field inspection, the weather conditions were overcast, with calm winds from southwest, and temperature of approximately 45 degrees Fahrenheit. The site has been shut-in since 2018 according to Lambda and none of the equipment was operating at the time of the inspection. There were no visible emissions or odors. Equipment on site consisted of: one process heater near the flare; a building with three process heaters on the northern portion of the site; a former tank battery area on the eastern portion of the site; a flare on the western portion of the site, a former gas sweetening amine plant building (which is no longer in operation); a glycol dehydrator system located outdoors (which is also no longer in operation), and a compressor building with one engine on the south-southeastern portion of the site.

As previously stated the equipment at the site has been shut-in or removed. The compressor engine was previously identified as a 275 horsepower (hp) Waukesha (F3711G) rich burn engine, with no control and this does not appear to have changed. The engine was on-site but not operating.

A flare, approximately 50 feet above ground surface, was located on the western portion of the site with a flare eye stack (approximately 30 feet above ground surface) located next to it. The flare was not lit.

PTI Compliance Evaluation:

EUBLU27SGSP: This emission unit was permitted as a sour gas sweetening plant, where natural gas, crude oil, condensate, and brine fluids are extracted from wells drilled into a production reservoir. These materials are transmitted through flow lines, generally located within a five mile radius of the central production source. The temperature of this stream of material is increased by inline heaters and the fluids are then separated and stored in fixed roof tanks. The gas is compressed by internal combustion driven compressors, fueled by sweet natural field gas. Historically, there was hydrogen sulfide present in some of the gas which was removed by an amine process and burned at the flare. Water vapor was removed from the gas by glycol dehydration and the remaining gas was sold.

As previously stated, the sweetening source and glycol dehydrator have been shut-in and no longer operating. The flare at the site was not operating.

Emission Limits:

EUBLU27SGSP is limited to 1500 pounds of sulfur per 24-hour period, which is equivalent to a mass flow rate of hydrogen sulfide (H₂S) to the flare of 797 pounds per 24 hour period. Since the amine plant is no longer operating the source has reported zero through-put and zero emissions of sulfur dioxide (SO₂) for at least the past decade.

Materials/Fuels:

No material limits were applicable for EUBLU27SGSP.

Process/Operational Parameters:

In the event that there is a malfunction at the source, all the equipment at the source routes to the onsite emergency/pressure relief flare. As previously stated, majority of the equipment is shut-in, all evidence indicates that when the equipment was operating the gas was routed to the onsite emergency/pressure relief flare when the compressor or wells were shut-down for maintenance.

The equipment at the source has not operated in many years, therefore, records of non-certified visible emissions are not applicable at this time.

If for any reason the sweetening plant were to become operational, Lambda has monitors in place inside the buildings to monitor the H₂S concentrations. If the H₂S concentrations inside the buildings enclosing the sweetening operations reach 50 ppm, Lambda would begin a safe and orderly shutdown of all processes and the source would not operate until corrective measures were taken.

Design/Equipment Parameters:

During the inspection the AQD observed fencing around the Property and signs warning of poison gas.

Testing:

Performance testing has not been required at this source.

Monitoring/Recordkeeping:

The sweetening plant at the site has not operated in many years. Lambda still submits quarterly reports to the AQD of the H₂S content in the natural gas, which have been zero for many years now. Natural gas is no longer sweetened at this source.

Reporting:

There are no above ground storage tanks to store condensate or crude oil. As previously stated, the sweetening portion of the source has not operated in many years, so the visible emissions from the flare are not applicable at this time. Total fuel usage is discussed below under EUBLU27COMP1. Lambda submits quarterly reports of the mass flow rate of H₂S entering the source. Since the sweetening plant is not operational, all the submitted reports show zero pounds of SO₂ in 24-hours.

Stack/Vent Restrictions:

Based on visible observations during the field inspection, the stack of SVOL34FLARE under EUBLU27SGSP appeared to be in compliance with permitted limits of 4 inches diameter and 50 feet above ground surface.

EUBLU27COMP1: Natural Gas Fired Reciprocating Compressor Engine. As previously mentioned, EUBLU27COMP1 is a 275 hp Waukesha reciprocating internal combustion engine that was on-site but not operating.

Emission Limits:

There are no applicable Emission Limits for EUBLU27COMP1.

Material Limits:

According to Lambda, sour gas is not burned at the source, due to the caustic nature of sour gas. When operating, only sweet natural gas was burned at the source.

Process Operational Restrictions:

Process Operational Restrictions are not applicable for EUBLU27COMP1.

Design/Equipment Parameters:

Design/Equipment Parameters are not applicable for EUBLU27COMP1.

Testing/Sampling:

Testing/Sampling requirements are not applicable for EUBLU27COMP1.

Monitoring/Recordkeeping:

The source monitors and records the natural gas usage on a monthly and 12-month rolling time period basis for EUBLU27COMP1. Since the site has been shut in since 2018, there has been no natural gas usage and therefore no records of gas usage.

Reporting:

Reporting requirements are not applicable for EUBLU27COMP1.

Stack/Vent Restrictions:

The stack to EUCIENGINE is located south of the building and is vertically upward. No stack/vent restrictions are applicable for EUBLU27COMP1.

Other Requirements:

Although the PTI does not address "Other Requirements" for EUBLU27COMP1, the source would be subject the NESHAP for Stationary Reciprocating Internal Combustion Engines (40 CFR, Part 63, Subpart ZZZZ) if operating. The State of Michigan does not have delegated authority of the area source NESHAP, and thus compliance with the federal requirements in accordance with the EUBLU27COMP1 was not reviewed by the AQD at this time

EUBLU27DEHY: A glycol dehydration system processing gas from the Niagaran formation. This system is currently shut down and not in use, but still remains onsite.

Emission Limits:

There are no applicable Emission Limits for EUBLU27DEHY.

Material Limits:

There are no material limits for EUBLU27DEHY.

Process Operational Restrictions:

The glycol dehydrator is connected to the onsite flare, however, no emissions are sent to the flare since the glycol dehydrator is currently shut down.

Design/Equipment Parameters:

Design/Equipment Parameters are not applicable for EUBLU27DEHY.

Testing/Sampling:

Testing/Sampling requirements are not applicable for EUBLU27DEHY.

Monitoring/Recordkeeping:

The source has monitored and recorded the glycol recirculation rate, however, it is not currently recorded since EUBLU27DEHY is shut down.

Reporting:

Reporting requirements are not applicable for EUBLU27DEHY.

Stack/Vent Restrictions:

The stack/vent restrictions indicate there are no applicable stack height requirements for the flare with regards to EUBLU27DEHY. However, the flare stack height is also included above in EUBLU27SGSP, and appeared to be in compliance with permitted limits of 4 inches diameter and 50 feet above ground surface.

Other Requirements:

Although the PTI does not address “Other Requirements” for EUBLU27DEHY, if the source operates EUBLU27DEHY again, then it would be 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.

FGSOURCE: All process equipment at the source including equipment covered by other permits, grandfathered equipment, and exempt equipment.

Emission Limits:

The Emission Limits are described in the following table for FGSOURCE. The source has not operated since 2018 so there are no current emissions from the source.

Pollutant	Limit
	Tons per year (tpy)
NOx	89 tpy
CO	89 tpy
VOC	40 tpy
SO ₂	40 tpy
PM	25 tpy
PM-10	15 tpy
Each HAP	Less than 9 tpy
Total HAPs	Less than 22 tpy

Materials/Fuels:

The source is limited to only burning 15,500,000 standard cubic feet (scf) of natural gas at the source based on a 12-month rolling time period. No fuel has been burned at the source since 2018.

Process/Operational Parameters:

There are no Process/Operational Parameters for FGSOURCE.

Design/Equipment Parameters:

There are no Design/Equipment Parameters for FGSOURCE.

Testing:

There are no Testing requirements for FGSOURCE.

Monitoring/Recordkeeping:

There are no Process/Operational Parameters for FGSOURCE.

Reporting:

There are no reporting requirements for the source.

Stack/Vent Restrictions:

No Stack/Vent Restrictions were applicable for FGSOURCE.

Other Requirements:

No Other Requirements were applicable for FGSOURCE.

NAME _____

DATE _____

SUPERVISOR _____