

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

P056862682

FACILITY: COBRA Summerfield Booster		SRN / ID: P0568
LOCATION: T20N R6W, SE 1/4 of SE 1/4 of section 12, HARRISON		DISTRICT: Bay City
CITY: HARRISON		COUNTY: CLARE
CONTACT: JIM CLARK , SAFETY & FACILITY COMPLIANCE COORDINATOR		ACTIVITY DATE: 04/20/2022
STAFF: Nathanael Gentle	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Self-Initiated On-site Inspection		
RESOLVED COMPLAINTS:		

On April 20, 2022, AQD staff conducted an onsite inspection at the Cobra Oil and Gas Summerfield Booster Facility, SRN P0568. Staff arrived onsite at 9:20 AM and departed at 9:50 AM. The purpose of the inspection was to determine compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control of Natural Resources and Environmental Protection Act, 1994 Public Act 451; Michigan Department of Environment Great Lakes and Energy, Air Quality Division (AQD) Administrative Rules; and to verify resolution of a Violation Notice issued to the facility on August 31, 2021. EGLE staff were assisted onsite by Cobra Oil and Gas personnel, Mr. Sam Matthews, and Mr. Jim Clark. At the time of inspection, the facility was found to be in compliance.

Facility Description and History

The Cobra Oil and Gas Summerfield Booster facility is located at T20N R6W, SE 1/4 of SE 1/4 of Section 12, Harrison, MI. Coordinates for the facility are 44.132469000, -84.973162000. The facility is located on state land. Natural gas is sent to the facility where liquids and other hydrocarbons are removed before the gas is sent to the sales line. The source is a minor source.

An application for a Permit to Install (PTI) for the facility was received by AQD on October 22, 2014. The application was for a TEG dehydration unit. At the time, the facility was owned by Whiting Oil and Gas. The application was voided in December 2014 because the facility would no longer be operating. The facility was purchased by Cobra Oil and Gas. Sometime in 2018 the facility began operating again, according to Cobra Oil and Gas personnel. AQD became aware in 2019 that the facility was operating. AQD staff inquired about the permitting status of equipment at the facility. On December 9, 2019, Cobra Oil and Gas personnel indicated the blow down tank and compressor onsite were exempt, but the onsite dehydrator had not been evaluated and may require a permit. An onsite inspection was conducted on August 24, 2021, in which equipment onsite was reviewed to determine if permitting was needed. Following the onsite inspection in August 2021, a Violation Notice (VN) was issued for violation of R.201. At the time of the August 2021 inspection, the facility was operating a TEG dehydration unit with a glycol reboiler without the necessary Permit to Install (PTI). In order to resolve the VN, the facility replaced the TEG dehydration system with a desiccant system. During the onsite inspection, the TEG dehydration system was verified to be disconnected from the onsite process.

Two wells are currently flowing into the facility, the Summerfield South and the Winterfield North. Both transport sweet gas obtained from the Prairie du Chien (PDC) zone. Gas entering the facility is first passed through a separator in which liquids and hydrocarbons are removed. The gas then travels to a desiccant system where water is removed from the gas. After the

dehydrator, the gas is passed through a second separator before it goes to the sales line. Any liquids and hydrocarbons removed by the separators and desiccant system are sent to an onsite storage tank where the materials are stored until they are trucked out and disposed of. Previously a compressor engine was onsite. The unit is no longer onsite. Personnel said there is enough pressure in the lines that the compressor engine was no longer needed.

Evaluation of Emission Units

Two separators onsite are used to separate natural gas from liquids and hydrocarbons. The natural gas is sweet gas from the PDC zone. Gas samples are taken annually to verify gas entering the facility remains sweet. Both separators appear to be exempt from permitting based on R.288 (2)(d).

Liquids and hydrocarbons removed from the sweet gas are sent to an onsite storage tank. The tank volume is approximately 80-100 barrels. The tank is enclosed and equipped with a spring-loaded thief hatch and spring-loaded Enardo back pressure valve. The valve will open if vapor pressure in the tank gets too high and close once the pressure is released. Materials stored in the onsite tank battery are trucked out as needed. The storage tank is gauged and monitored daily to determine when the tank needs to be pumped out. The storage tank appears to be exempt from permitting based on exemption R.284.

As previously mentioned, the facility was previously operating a TEG dehydration unit with a glycol reboiler without the necessary Permit to Install (PTI). In order to come into compliance, the facility replaced the TEG dehydration system with a desiccant system. The new desiccant system is a passive dehydration system (PDS) developed by Croft Systems. Cobra staff explained how the PDS works. The vessel is filled with salt tablets. Gas enters the vessel and travels upward through the tablets. Water within the gas stream is absorbed by the salt tablets and a brine solution is formed. The brine solution drops to the bottom of the PDS and is pumped to the onsite slop storage tank. Gas exits near the top of the PDS and travels to the next stage of the process. The PDS system is a closed system with no air emissions, except for a pressure release valve. The pressure release valve only opens if excess pressure were to occur within the vessel or when more salt tablets need to be added to the system. Should venting events occur, they appear to meet exemption R. 285(mm)(i). Gas samples are collected monthly and analyzed for water content. These samples are used to determine when additional salt tablets need to be added to the system. Facility staff report the unit was installed on February 9, 2022. Additional salt tablets have yet to be needed in the system. Additional salt tablets are readily available.

The TEG dehydration unit with a glycol reboiler was still onsite during the onsite inspection. However, AQD staff verified the equipped was disconnected from the onsite process and is no longer utilized. Cobra staff said useful parts would be removed from the TEG dehydration equipment and the rest would likely be scrapped.

Material storage tanks were observed at the facility. A storage tank with a volume of approximately 350 gallons was used to store glycol for the glycol dehydrator formerly used at the sight. The storage tank was still onsite; however, it is no longer connected to the process. A storage tank with a volume of approximately 300-400 gallons is used to store methanol. The methanol is injected into the gas stream prior to sending gas to the sales line. Methanol is used as

an inhibitor to reduce the freezing point of water within the gas stream. Both the glycol and methanol storage tanks appear to be exempt from permitting by either R. 284(c) or R.284(i).

Additional equipment was located onsite that is no longer in use. This equipment included a vertical separator. The equipment was not plumbed into the process. Facility personnel reported the equipment was likely used in conjunction with the compressor that was previously located onsite.

Equipment and processes currently operated at the facility appear to be exempt from needing a permit to install. Should changes need to be made in facility operations, Cobra staff are aware of AQD rules and permitting requirements. Federal regulations that may be applicable to the facility include NSPS OOOO and NSPS OOOOa. These federal regulations were brought to the attention of Cobra staff during the onsite inspection.

Summary

The Cobra Oil and Gas Summerfield Booster facility is a natural gas processing facility located in Harrison, MI. Natural gas is sent to the facility where liquids and other hydrocarbons are removed before the gas is sent to the sales line. A Violation Notice (VN) for violation of R.201 was previously issued to the facility following an onsite inspection conducted in August 2021. At the time of the August 2021 inspection, the facility was operating a TEG dehydration unit with a glycol reboiler without the necessary Permit to Install (PTI). In order to come into compliance, the facility replaced the TEG dehydration system with a passive dehydration system. Equipment and processes currently operated at the facility appear to be exempt from needing a permit to install. The facility appears to be operating in compliance.

Nathanael Dentel

DATE 4/25/2022

SUPERVISOR Chris Hare

NAME