

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

N043564427

FACILITY: Muskegon Development		SRN / ID: N0435
LOCATION: Gallagher and Peach Lake Roads, WEST BRANCH		DISTRICT: Bay City
CITY: WEST BRANCH		COUNTY: OGEMAW
CONTACT: Dave Bell ,		ACTIVITY DATE: 08/31/2022
STAFF: Nathanael Gentle	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: FY2022 Scheduled Onsite Inspection		
RESOLVED COMPLAINTS:		

On August 31, 2022, AQD staff conducted a scheduled onsite inspection at the Muskegon Development Company - W Gallagher Rd Central Processing Facility (CPF), SRN N0435. Staff arrived onsite at 9:30 AM and departed at 10:25 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 evaluate compliance with the facilities two Permits to Install (PTIs), PTI No. 354-85 and PTI No. 270-82. EGLE staff were assisted onsite by Mr. Dave Bell. At the time of inspection, the facility was found to be in compliance.

Facility Description and History

The Muskegon Development Company – W Gallagher Rd Facility is an oil production facility located in Ogemaw County Michigan. The facility is located on W Gallagher Rd near the corner of Peach Lake Rd. Coordinates for the facility are 44.262260, -84.170073. The facility processes sour gas. The AQD defines sour gas as that which contains greater than 1 grain of H₂S (16.5 ppm H₂S) per 100 cubic feet or greater than 10 grains of total sulfur per 100 cubic feet. Process equipment onsite includes, two 2-phase free water knockouts, two heater treater separators, two condensate storage tanks and a flare. Condensate enters the facility from 20-30 various pump wells drawing material from the Dundee Limestone formation. Material is sent first to one of the two free water knockouts where water is separated from the oil and gas emulsion. The oil and gas emulsion is sent to one of the two heater treaters where oil, gas, and remaining water are separated. Water separated in the free water knockouts and heater treaters is reinjected into the formation using an electric pump. Reinjection of the water helps with the removal of remaining oil within the formation. Condensate oil is stored in two onsite storage tanks until it is trucked out to sales. Gas is used to fuel the onsite heater treaters and routed to the flare for combustion.

The Muskegon Development Company – W Gallagher Rd Facility is a minor source for all regulated air pollutants. Two Permits to Install (PTIs) are associated with the facility, PTI No. 354-85 and PTI No. 270-82. PTI No. 270-82 was issued on July 22, 1983. PTI 354-85 was issued on September 15, 1988. Both PTIs were issued to Marathon Oil Company. Since issuance of the PTIs, the Muskegon Development Company has acquired control of the facility. The Muskegon Development Company – W Gallagher Rd Facility was last inspected by the AQD on 7/23/2014. At the time of the 2014 inspection the facility was found to be in compliance.

Compliance Evaluation

As previously discussed, two PTIs are associated with the facility. In review of both PTIs, it appears the conditions of PTI No. 354-85 supersede those of PTI No. 270-82. For this reason, AQD staff focused on the conditions specified in PTI No. 354-85 for the onsite inspection.

Flare

A flare is onsite and operational to control H₂S gas emissions. The flare is equipped with an electric sparker which serves the purpose of a continuously burning pilot flame, S.C. 11. The electric sparker is tied into the local grid for energy supply. Staff report the sparker sparks every few seconds. When gas is sent to the flare, it passes through the electric arc produced by the sparker which causes the gas to ignite and combust. The combustion reaction releases emissions of SO₂ and H₂O.

Visible emissions from the flare shall not exceed a 6-minute average of 20% opacity, except as specified in Rule 301(1)(a), S.C. 16. During the onsite inspection, gas burning in the flare was not observed. Facility staff report condensate processed at the facility has a low gas to oil ratio, resulting in limited gas flow to the flare. Staff report if visual emissions from the flare were ever to occur, prompt corrective action and maintenance would be conducted. Special Condition 10 states that sulfur dioxide emissions from the flare shall not exceed 1 pound per hour, based on a 24-hour average. Special conditions of the PTI do not require records of sulfur dioxide emissions be maintained. Based on the limited amount of gas combusted in the flare, it is not anticipated the sulfur dioxide limit is being exceeded.

Separators

The facility contains two heater treater separators, fueled by field gas. Staff report heater treaters are operated one at a time, with the other acting as a backup. The heater treaters separate oil, gas, and water. Excess gas is sent to the flare. Gas sent to the flare is regulated by a pressure control valve. As gas accumulates in the heater treater, pressure builds. Once the pressure builds to 15 pounds, the valve opens sending gas to the flare for combustion. Due to the low gas to oil ratio, staff estimate gas from the heater treaters is sent to the flare for combustion for approximately 1 minute each day during the warmer months. During the colder months, gas is rarely sent to the flare from the heater treaters. Staff report the pressure of the heater treaters remains around 5 pounds during the winter months, below the 15 pounds at which the release valve opens.

Storage Tanks

Two storage tanks are used to store condensate oil. Each tank has a volume of 400 bl. Both tanks were visually verified to be vented to the onsite flare, S.C. 12. Oil condensate is stored in the storage tanks until it is loaded out into trucks. The load out system was visually verified to be equipped with a vapor return system, S.C. 14. The vapor return system sends vapors to the storage tanks which is then routed to the flare for combustion.

Summary

The Muskegon Development Company – W Gallagher Rd Facility is an oil production facility located in Ogemaw County Michigan. The facility processes material from the Dundee Limestone formation. Pump

wells are utilized to draw condensate from the formation. The Muskegon Development Company – W
Gallagher Rd Facility is a minor source for all regulated air pollutants. At the time of inspection, the facility
appeared to be operating in compliance.

Mathewes Scott

NAME

DATE 9/21/2022

SUPERVISOR

Chris Lane