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

N760773011

FACILITY: RIVERSIDE - MADV CPF		**SRN / ID:** N7607
LOCATION: SW, SW, NW Section 26, T29N, R5W, MANCELONA TWP		**DISTRICT:** Cadillac
CITY: MANCELONA TWP		**COUNTY:** ANTRIM
CONTACT: Natalie Schrader , Sr. Compliance Coordinator		**ACTIVITY DATE:** 07/02/2024
STAFF: Lindsey Wells	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: FY2024 on-site inspection and records review, no further action recommended -LW, note facility is scheduled to close summer 2024;		
RESOLVED COMPLAINTS:		

Introduction
On July 2, 2024, AQD District staff Lindsey Wells and Tammie Puite mobilized to the MADV Central Production Facility (CPF) to conduct an unannounced compliance inspection. This facility is identified as State Registration Number (SRN: N7607) and is located in the southwest quarter of the southwest quarter of the northwest quarter of Section 26 in Mancelona (east) Township of Antrim County (Township 29 north, range 5 west, T29N-R5W). The facility is currently operated by Riverside Energy.

The purpose of the on-site inspection was to determine compliance with permit to install (PTI) 134-06. Records review has been incorporated into this report.

Summary
Based on the evaluation it appears the facility operates in general compliance with PTI 134-06. No compliance issues were noted during the site visit or records review.
Note that the company reports that this facility is scheduled for closure in the summer of 2024, after which all wells currently routed to the MADV facility will be routed to the Lakes of the North CPF (also called the LON CPF, SRN: N8182).

Facility Information
The facility is a CPF that compresses and dehydrates natural gas prior to transfer to a pipeline. Separators remove condensate and water from natural gas which is then compressed, dehydrated, and sent to a pipeline.
The referenced facility is classified as an opt-out source by virtue of the permit limiting emissions below major source thresholds.

Permits of Record
The facility was originally permitted under PTI 134-06, which was issued on June 7, 2006 to Quicksilver Resources. The application describes the installation of a new compressor with a catalytic converter at the existing Mancelona ADV CPF which previously operated under exemptions. The permit evaluation notes a 700 horsepower (hp) Caterpillar 398 TA and a glycol dehydrator system processing gas from the Antrim zone. District files indicate the following subsequent operators of record: Breitburn effective November 1, 2007 and Riverside effective January 11, 2021.

Equipment of Record
District files include a notification of equivalent emitting engine change-out to another CAT 398 TA for EUENGINE1 on May 18, 2012. Records indicate the replaced engine was serial number 66B3302. At the time of inspection the compressor skid number was 857, consistent with the last inspection of record on December 1, 2020. At the time of the July 2, 2024 inspection, affixed to the engine were Caterpillar and Michigan Caterpillar rebuild nameplates that each appeared to read serial number 66B07112. This number was also handwritten on the operator's clipboard along with the ariel compressor frame number. The rebuild tag has a 2012 date stamp.

Facility Access
The facility is bounded by Crooked Lake Road to the West, Crook Lake Road to the North and East, and an unmarked access road to the south which runs between Crooked Lake Road to the southwest and Blue Lake Road to the northeast.

Staff accessed the facility from Mancelona Road via Crooked Lake Road (south) and Crook Lake Rd (east). Crook Lake road is rough, the entrance to the CPF is the first drive on the south side when approaching from the west. A review of aerials is recommended as there are multiple ways to access the facility.

At the time of inspection the property layout appeared as follows:

The site is ungated and unmanned. The main compressor building is tan and the engine stack is located on the west side. The east green building contains the dehydrator. Staff did not enter the west green building. On the north side of the property is a secondary containment area that includes (2) tanks. There is also a brine disposal (SWD) well located at the south end of the property. It is labeled as Riverside Mancelona East Antrim St Mancelona 4-26 SWD Permit 41417. The site photo included below was taken from the south side of the property facing north.

On-Site Inspection Notes

At the time of the 7/2/2024 inspection, the ambient temperature was 62 degrees (Fahrenheit), conditions were intermittent light winds and rain. No visible emissions were observed. A Riverside operator followed the AQD vehicle onto the site at the time of inspection. AQD staff waited on the edge of the property to be acknowledged by the operator prior to entry, due to an atypical noise at the site. The operator communicated that a blow-down had taken place due to oxygen content and that AQD could proceed with inspection.

The skid was labeled 857. The operator's clipboard was present. The nameplates affixed to the engine are difficult to read but present. Staff obtained the following engine readings, 36873, presumed to be hours, and 1012, presumed to be RPM. The electronic MECR Rich Burn Air to Fuel Ratio control panel displayed catalyst temperature readings of 935F and 941F. Staff noted the presence of the dehydrator in the smaller building, thanked the operator and departed.

COMPLIANCE EVALUATION: PTI 134-06.

Requested records were received electronically on July 17, 2024. The records review has been incorporated into this report.

Note that no special conditions apply to EUDEHY and FGMETHANOL beyond their identification in the permit. EUDEHY is noted in the identification table as processing gas from the antrim zone. FGMETHANOL is noted as storage equipment less than 5,000 gallons total. Permit evaluations for the same types of facilities noted that the methanol storage limitation was included to indicate that the potential to emit had been evaluated by permit section, as an alternative to Rule 290 demonstration.

EUENGINE is the only piece of equipment with permit conditions.

Engine 1 has a nitrogen oxides (NOx) limit of 17.0 tons per year (tpy) and reported maximum emissions were 1.87 tpy NOx for the evaluation period. Although the permittee uses measured control efficiencies for the engine rather than AQD defaults, the difference does not impact compliance status. The permittee is eligible to claim default NOx control if the control device is required to meet the emission limit, the catalyst activity is verified annually, and the device is operated and maintained in accordance with a malfunction abatement plan (MAP). Although the permit notably does not limit emissions of carbon monoxide (CO), the facility keeps CO calculation records and includes them in records requests.

The engine is subject to Process and Operational limits that require the permittee to implement an AQD approved MAP. The most recent MAP on file was received on February 2, 2021. The MAP indicates the following maintenance activities:

- offline checks are performed every 60-90 days
- oil changes are performed approximately every 3000 hours of operation, which roughly corresponds to three times per year.
- The catalyst is inspected every 12-18 months and tested on a 5 year schedule.

The MAP identifies Unit 857 has a 398 TA, 625 hp, rich burn (the MAP refers to rich burn as standard), with a 3-way catalyst and no air to fuel ratio controller. Records provided indicate that the facility performs service consistent with the MAP. The operators record engine and compressor parameters for on a daily log and scheduled service and repair details on a maintenance log. A 2021 catalyst test record was provided that indicated acceptable catalyst performance.

The permit limits operating the engine without the add-on control device to 200 hours per year for those engines so equipped. Records indicate that the engine did not operate without control during the evaluation period. At all other times the control device must be installed, maintained, and operated in a satisfactory manner in accordance with both manufacturer's recommendations and the approved MAP.

The engine is subject to testing upon request of the AQD district supervisor in order to verify emission rates of nitrogen oxides. To date, no testing has been requested.
The permittee is required to monitor, in a satisfactory manner, the natural gas usage from the engine on a continuous basis. The submitted records included a 1/12/2024 fuel meter calibration report as well as monthly fuel usage in the emissions calculation document.
The permittee is required to complete, make available in an acceptable format, and maintain for at least 5 years in an approved location, all required records. The required records include:

- A log of all significant maintenance activities conducted and all repairs made to the engine and any associated control device.
- Monthly and 12-month rolling total hours that the engine is operated without the add-on control device
- Monthly and 12-month rolling NOx emission calculation records.
- Monthly fuel usage
- Notification of any equivalent and/or less emitting engine, including acceptable emissions data to demonstrate that emissions meet the above criteria.

The provided records conformed to the above requirements. Riverside reports no engine swaps or changeouts since they took over operations of the site in January 2021.

Stack/Vent Restrictions
The permittee is required to discharge all exhaust gases from the engine vertically without obstruction, and the maximum exhaust diameter is restricted to 16 inches. Minimum stack height above ground level is 17'. The stack appears to meet the minimum above ground height requirement at the time of the 7/2/24 inspection.

Compliance Evaluation: Other Requirements
This section addresses the applicability of requirements not listed in PTI 134-06 that may apply to the facility.
The facility is required to report annual emissions to the air emissions reporting system. Records indicate that emissions were reported for the 2023 calendar year in a timely and appropriate manner. The facility appears to utilize the same method of emission calculation for annual reporting as is used for demonstrating compliance with PTI 134-06. The 2023 calendar year emission report was noted as acceptable.
The facility may be subject to federal regulations. Subparts frequently associated with this source category are identified below. Note however that compliance with these subparts has not been determined as part of this evaluation.
With respect to Maximum Achievable Control Technology Standards (MACT 40 CFR 63) the following subparts may apply:

- MACT Subpart HH (Hazardous Air Pollutants (HAPs) from oil and natural gas production facilities
- MACT Subpart ZZZZ (HAPS from Stationary Engines)

The facility has one dehydrator on-site that may be subject to MACT Subpart HH. The facility reports that they meet the Subpart HH exemption due to gas throughput of less than 3 million standard cubic feet per day (MMSCF). The provided records indicated an average throughput of less than 2400 MSCF per day, which is 2.4 MMSCF.

District files include a 2/9/2011 subpart ZZZZ notification to EPA that the engines is greater than 500 horsepower and subject to ZZZZ. The facility's MAP does not identify subpart ZZZZ requirements. Provided records included an aerial map with a quarter mile radius overlay to indicate remote status.

With respect to New Source Performance Standards (40 CFR Part 60 NSPS) commonly associated with this source category are discussed below. Note that no compliance determinations have been made with respect to the following subparts.

- NSPS Subparts K, Ka or Kb (Storage vessels for Petroleum Liquids); At the time of the inspection the storage tanks present appear to be smaller than the lowest threshold of approximately 19,815 gallons or 471 barrels (bbl). The permit application package lists (2) 400 bbl brine storage tanks and (1) 150 gallon methanol storage tank, all below the minimum threshold of the rule.
- NSPS Subpart KKK (Equipment Leaks of VOC from onshore natural gas processing plants); The facility does not appear to currently process (extract or fractionate) natural gas liquids (hydrocarbons) from field gas.
- NSPS Subpart OOOO (Standards of Performance for Crude Oil an NG Production, Transmission and Distribution) and Subpart OOOOa would apply to onshore affected facilities that are constructed, modified or reconstructed after August 23, 2011, and September 18, 2015, respectively. Based on available information it appears that the referenced subpart is not applicable at this time but that future changes may be subject to the referenced subpart
- NSPS Subpart JJJJ for Spark Ignition (SI) Reciprocating Internal Combustion Engines (RICE) may apply in the future for subsequent/additional engines. Based on information in district files, the engines predate the applicability of JJJJ by virtue of pre 2006 manufacture dates.

Based on observations at the time of the 7/2/2024 site inspection and review of records provided by facility staff, the facility appears to be operating in general compliance with PTI 134-06.

NAME Lindsey Wells DATE 12-2-24 SUPERVISOR Shane Nixon