

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

FCE Summary Report

Facility : Linn Operating, LLC - Fred 10 CPF	SRN : N6136
Location : W2 NE4 T28N R4W SEC 10	District : Gaylord
	County : CRAWFORD
City : FREDERIC State: MI Zip Code : 48733	Compliance Status : Compliance
Source Class : SM OPT OUT	Staff : Sharon LeBlanc
FCE Begin Date : 10/29/2016	FCE Completion Date : 10/29/2018
Comments : synthetic minor scheduled FCE for fiscal year 2019. sgl	

List of Partial Compliance Evaluations :

Activity Date	Activity Type	Compliance Status	Comments
10/29/2018	Scheduled Inspection	Compliance	scheduled site inspection for fiscal year 2019.
04/12/2018	MAERS	Compliance	2017 MAERS, Note change in EF for PM10 and 2.5 resulted in significant change in emissions from previous years submittal. Change was acceptable. Uses engine manufacturer data when appropriate. sgl
02/02/2017	MAERS	Compliance	See MAERS for further info.

Name: Sharon LeBlanc **Date:** 10/31/2018 **Supervisor:** SN

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

N613646792

FACILITY: Linn Operating, LLC - Fred 10 CPF		SRN / ID: N6136
LOCATION: W2 NE4 T28N R4W SEC 10, FREDERIC		DISTRICT: Gaylord
CITY: FREDERIC		COUNTY: CRAWFORD
CONTACT: Diane Lundin , Senior EHS Representative		ACTIVITY DATE: 10/29/2018
STAFF: Sharon LeBlanc	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: scheduled site inspection for fiscal year 2019.		
RESOLVED COMPLAINTS:		

On October 29, 2018, AQD District Staff mobilized to the Linn Operating LLC – Fred 10 CPF (N6136), located in the W ½, NE ¼, T28N, R4W, Section 10, Frederic Township, Crawford County, Michigan to conduct an unannounced, scheduled compliance inspection of the facility. The referenced facility presently operates under Permit to Install No. 694-96. A records request was made electronically on September 24, 2018 and received on October 30, 2018.

The most recent compliance inspection was October 23, 2013. No compliance issues noted at that time.

FACILITY

The referenced facility is a fenced and unmanned CPF station operated by Linn Operating LLC (AKA Linn) and is located off Kolka Creek Road on Twin Peaks Road. The station is reported to service Antrim Formation wells in the area. Activities onsite include separation of gas and brine from the incoming gas stream and compression of the gas in the lines.

To reach the Facility staff traveled west on CR 612, from I-75 exit 264 (Frederic exit) until the intersection of Old 127 and CR 612. At the intersection you will make a left, followed by an immediate right on the first road on the right hand side. From there you will travel approximately ½-mile, Kolka Creek Road will be on the right-hand side of the road, CR 612 curves to the left (south) just past Kolka Creek Road and you will have gone too far. Once you make the right-hand turn on Kolka Creek Road (north) you will travel approximately 3.5 miles on the dirt road, then the road turns into Twin Peaks Road. Stay to the left and travel approximately another half mile. You will see a paved road going up a hill on the right. The facility is at the top of the hill. Note you will see other good-sized oil and gas stations farther up Twin Peaks Road, however these are not the Fred 10 Facility. The Facility can not be seen from the road.

The Facility has changed hands a number of times since permitting in 1996. Information in MAERS indicates that the Facility was in operation as early as 1993. Operators of record based on correspondence in District files include:

- Mercury Exploration Company, (Pre-1996 -1998)
- Quicksilver Resources, (approximately 1998 - 2007)
- Breitburn, (2007 - 2013) and
- Linn (AKA Linn Energy, Linn Operating, Inc and Linn Operating LLC) (2013 - Present)

REGULATORY

Permitting -The referenced facility operates under Permit to Install (PTI) No. 694-96, which was issued to Mercury Exploration Company for the existing Facility in 1996. The PTI was issued as an opt-out permit, but not a Rule 201 permit and was issued around the same time as other Michigan Oil and Gas Association (MOGA) permits that did not undergo 201 reviews. The PTI conditions were generic and refer to the stationary source as a whole rather than conditions that address individual pieces of equipment.

At the time of permitting the facility consisted of one NG-fired compressor, one glycol dehydration unit with amine reboiler, two in-line heaters, three heater treaters, a flare, an unknown number of tanks and was reported to have the potential to emit over 100 tons of NOx. The referenced permit limits the emissions to 89 tons per year for NOx, CO and VOCs.

Though not identified in the permit, the facility may be subject to Federal Regulation. Subparts frequently associated with oil and gas facilities are identified below. Note however, that compliance with these subparts has not been determined as part of this inspection.

As part of the October 23, 2013, compliance determination activities, Linn requested voidance of Permit No. 694-96. District Staff at that time indicated that though the current engine could be exempt from Rule 201 permitting requirements under R 285(g) because it had both a heat input rating of less than 10 MMBTU/hr and a potential to emit less than thresholds, the existing tanks and glycol dehydrator are also covered by the PTI. The glycol dehydrator it was further indicated does not meet the exemption requirements of R 288 because it processes Niagaran as well as Antrim formation gas. The tanks are less than 400 bbl in size and are not used for oil.

Federal Regulations - The referenced facility does not process or store petroleum liquids and is therefore appears to not be subject to 40 CFR Part 60 (New Source Performance Standards AKA NSPS) Subparts;

- K, Ka or Kb (Storage vessels for Petroleum Liquids);
- KKK (Equipment Leaks of VOC from onshore NG Processing Plants);
- VV (Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry);

In addition, the existing engine(s) have installation dates no later than 1995, which would make them not subject to NSPS Subparts IIII and JJJJ for Compression Ignition (CI) RICE and Spark Ignition (SI) RICE, respectively.

Subpart OOOO would apply to onshore affected facilities that are constructed, modified or reconstructed after August 23, 2011. 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.

With respect to 40 CFR Part 63 (Maximum Achievable Control Technology Standards) the following Subparts may apply:

- Subpart HH (HAPS from Oil and NG Production Facilities)
- Subpart ZZZZ (RICE)

With respect to Subpart HH, the affected unit is believed to be the dehy unit. However, the facility may comply with the standard by demonstrating an average throughput is less than 85K cubic meters/day or average benzene emissions are less than 0.9 Mg/yr (approximately 1 ton/yr). Twelve month rolling total VOC emissions reported for the dehy unit since September 2016 have ranged between 0.767 and 0.769 lbs/year, well below one ton/year.

With respect to Subpart ZZZZ, the facility in re-notification correspondence dated October 18, 2013 reports that the engine(s) associated with the site at that time were existing, stationary spark ignition (SI) RICE with a site rating of greater than 500 brake Hp located at a remote, area source of HAPs subject to the referenced subpart.

EQUIPMENT

Previous site visits have identified up to three compressors, one glycol dehydrator, one brine tank and one slop tank present onsite. The most recent inspection on October 23, 2013, identified only one compressor engine, with no add on control device.

At the time of the October 29, 2018, site inspection, no Visible Emissions (VEs) were or heat shimmers were noted from exhaust stacks onsite. Temps were approximately 35 degrees, with partly cloudy skies and very light winds.

Review of District Files and annual emissions reports submitted by the facility indicate that at the time of permitting, one CAT G399 TA compressor engine was permitted onsite. No records indicating engine swap outs/changes were of record for the site. No pollution control devices were identified with the referenced engines.

ENGINE ID	ENGINE TYPE	INSTALLATION DATE	REMOVAL DATE	COMPANY OPERATING EU

UNK	CAT G399 TA wth Catalyst	1996	UNK	Mercury Exploration
UNK	AJAX DCP360 346 Hp	apx. 1998	Post-2005	Quicksilver
UNK	CAT 3512	apx. 1998	Pre 2007	Quicksilver
UNK	CAT 3306 Booster 170.3 HP Wth Catalyst	Feb 2006 (R 285(g) exempt)	Pre- August 2008	Quicksilver
EUENGINE-LE2 (Unit 4226) JGK-44EK496 S/N 4EK00496	CAT 3516 TALE AFRC 1085 HP	1/8/2007	NA	Linn

Operational parameters for the referenced engine consists of the following:

EUENGINE-LE2, Caterpillar 3516 LB, Unit 4226

Date	Hours	RPMS	Source
10/29/2018	88941	1104	Inspector/Onsite Daily Log

The glycol dehydrator and associated reboiler referred to as EUGLYCOLDEHY a Kimray 4015, with a reported glycol flowrate of 0.007 to 0.10 gpm. Tri-Ethylene Glycol (TEG) is stored onsite. The installation date for the unit is reported to be January 1, 1993.

COMPLIANCE

At the time of the October 29, 2018, site visit, no visible emissions were noted to be coming from onsite stacks, nor were there any liquids collected in the secondary containment of the brine tank.

MAERS- Reporting of actual emissions for CO, NOx, VOCs and HAPs is required under special condition 18 of the permit. A review of the most recent MAERS submittal for the facility (received on February 28, 2018 for emissions associated with the calendar year 2017) included emissions for one engine and one glycol dehydrator onsite.

Total emissions reported for the calendar years 2015, 2016 and 2017 for MAERS as well as "to date" from data submitted as part of the information request to Linn are summarized below:

CALENDAR YEAR	NOX (tpy)	CO (tpy)	VOC (tpy)
2015	19.98	17.98	4.79
2016	20.76	18.68	4.98
2017	19.65	17.67	4.71
August 2018 **	17.90	16.11	4.3
EMISSION LIMITs	89	89	89

**12-month rolling total emissions reported as part of post inspection data submittal by Linn

Permit Conditions -Special conditions associated with Permit No. 694-96 are limited to record keeping, reporting and emission limits. Emission limits for the facility are defined in special conditions 13 and 14. These two conditions limit CO, VOC and NOx emissions to 89 tons/year for each referenced parameter as well as individual HAPs to below 9 tons/year and total HAPs to below 22.5 tons/year.

Calculation of actual emissions on a monthly and 12-month rolling total for CO, NOx, VOC and HAPS are required under special condition 15. The PTI specifies that emissions will be determined using emission factors from Appendix A. Except for NOx and CO emissions for the two engines, the emissions for the facility were calculated using EPA emission factors.

Special condition No. 16 and/or 17 require Monthly records of:

- Fuel consumption, in million cubic feet (MMcf)
- Crude/condensate throughput to the tank in barrels (bbls)
- Hydrocarbon liquid trucked offsite (bbls), and
- Oil and gas processed onsite

Special condition 19 requires the owner or operator of the source to conduct all necessary maintenance and make all necessary attempt to keep all components of the process equipment in proper working order and maintain a log of significant maintenance activities and all repairs made to the equipment. Records noted onsite and provided Linn indicate that maintenance activities are subcontracted to ArchRock. Reports provided indicated a scheduled quarterly maintenance schedule, and general compliance with the permit condition.

Special condition 20 applies to crude oil or condensate storage tanks greater than or equal to 952 barrels, and the liquid having a true vapor pressure of greater than 1.5 psia. This condition is not applicable as the facility does not store crude or condensate onsite.

Special condition 21 applies to malfunction of a pollution control device and limits bypass of the control device for a period not to exceed 48 hours per event nor a total of 144 hours per calendar year. The referenced permit condition is not applicable as no pollution control devices are associated with the engines onsite.

Special condition 22 requires the owner or operator of an oil-gas facility constructed on or after January 20, 1984 to determine if they are subject to Federal standards in 40 CFR, Part 60, Subpart KKK. No hydrocarbon liquids are reported to be produced at the facility, so the facility is reported not to be subject to the referenced Subpart.

Special condition 23 refers to requirements associated with verification stack testing for CO, VOC, NOx or HAP. No request for verification testing was found in District Files, so the condition is not applicable at the time of the report preparation.

Special condition 24 requires the facility to only process sweet gas as defined in Rule 119. Records provided by Linn indicated that hydrogen sulfide concentrations for gas samples collected at the Dehy inlet on October 8, 2018 were in compliance with the permit condition.

SUMMARY

On October 29, 2018, AQD District Staff mobilized to the Linn Operating LLC – Fred 10 CPF (N6136), located in the W ½, NE ¼, T28N, R4W, Section 10, Frederic Township, Crawford County, Michigan to conduct an unannounced, scheduled compliance inspection of the facility. The referenced facility presently operates under Permit to Install No. 694-96.

The most recent compliance inspection was October 23, 2013. No compliance issues noted at that time.

A records request was made electronically on September 24, 2018. Records requested were received on October 30, 2018. Based on observations made at the time of the site inspection, as well as supplemental data received from the company it appears that the facility is operating in general compliance with its permit conditions.

NAME Jessica L. Blane

DATE 10/31/18

SUPERVISOR SN