

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

N535467770

<b>FACILITY:</b> Lee8 Storage Facility		<b>SRN / ID:</b> N5354
<b>LOCATION:</b> 19110 V Drive N, PARTELLO		<b>DISTRICT:</b> Kalamazoo
<b>CITY:</b> PARTELLO		<b>COUNTY:</b> CALHOUN
<b>CONTACT:</b> Kristin Bollerman , Senior Environmental Specialist		<b>ACTIVITY DATE:</b> 05/15/2023
<b>STAFF:</b> Amanda Cross	<b>COMPLIANCE STATUS:</b> Compliance	<b>SOURCE CLASS:</b> SM OPT OUT
<b>SUBJECT:</b>		
<b>RESOLVED COMPLAINTS:</b>		

On May 15, 2023, EGLE Air Quality Division's (AQD) Amanda Cross arrived at Lee8 Storage Partnership (State Registration Number (SRN): N5354) located at 19110 V Drive North, Olivet, Michigan, at 9:30am to conduct a scheduled inspection. Since the station is not continuously manned, an inspection was scheduled instead of unannounced. The purpose of the inspection was to determine compliance with the Federal Clean Air Act, Article II, Part 55, Air Pollution Control Rules, of the Natural Resources and Environmental Protection Act, 1995 PA 451, as amended (Act 451); AQD administrative rules; and Permit to Install (PTI) No. 258-94D.

Staff emailed the facility to request operations and emission records that are required to be maintained under PTI No. 258-94D for the glycol dehydrator, compressor engines and overall operations. Records were received on May 8, 2023 from Ms. Kristin Bollerman, Senior Environmental Specialist. These records were reviewed off-site as part of the compliance evaluation.

The previous air quality inspection was done on December 11, 2018 and the facility was determined to be compliant. The facility is permitted under Permit to Install (PTI) No. 258-94D and is a synthetic minor source for nitrogen oxides, carbon monoxide and hazardous air pollutants (HAPs). Required PPE is a hard hat, steel-toed boots, safety glasses, hearing protection (in engine building) and FR clothing (optional for visitors). Staff asked several questions to Ms. Bollerman and Mr. Ian Campbell, EHS Coordinator prior to the site inspection related to facility operations.

According to the previous inspection report and re-confirmed on site, the facility was constructed in 1995 and is an existing natural gas compressor station and storage facility. Non-odorized, pipeline quality natural gas is received at the facility through a 12-inch pipeline with a maximum operating pressure of 773 psig. The storage reservoir consists of three on-site producing wells, # 1, #2 and # 4. The producing wells are depleted oil and natural gas wells that are drilled into the Niagaran formation and have a total storage capacity of approximately 3.5 billion cubic feet at a maximum pressure of 1783 psig.

The #3 observation well is on-site and four observation wells are located off-site that are used to monitor reservoir pressure. If the storage reservoir pressure is less than pipeline pressure, the natural gas can free flow into the reservoir through the producing wells. If the storage reservoir pressure is higher than the pipeline pressure, the facility compresses the gas further using one of two White Superior Model 2406G four-stroke lean-burn natural gas fired engines rated at 1200 Hp fitted with compression heads prior to injection through the producing wells.

The typical natural gas injection season was April through November and the typical withdrawal season was December through April. More commonly, the injection season begins in June or July with the facility not operating during the April and May months. During this time, extensive maintenance is done on the engines and facility. Natural gas withdrawn from the reservoir is processed through a triethylene glycol (TEG) dehydration unit on-site to remove moisture before the dried gas is injected back into the pipeline.

The facility was not running at the time of the inspection. Information provided below is based on observations and discussions during the inspection and records requested from 2021 through 2023 and provided during or following the inspection:

PTI No. 258-94D

EU-DEHY

This is a triethylene glycol dehydration system with a 500,000 BTU per hour regenerator burner, a flash tank.

Pollutant	Limit	Time Period/Operating Scenario	Records
VOC	482 lb/year	12-month rolling	200.18 lb/year in January 2021
Benzene	44 lb/year	12-month rolling	7.23 lbs/year in January 2021

Material	Limit	Time Period/Operating Scenario	Records
Natural Gas Flow Rate	50,000,000	Daily	21,900,000 scf daily in January 2021

The facility uses the glycol dehydrator during the withdrawal season. The gas is withdrawn from the storage wells. This gas is filtered through the glycol dehydrator, passes through a series of charcoal and mesh filters to remove any latent particles. Once this is done it is passed through the triethylene glycol tank which has a series of screen to remove any moisture in the gas. The glycol and water mixture is sent into the reboiler to burn off any of the water and the glycol is returned to the closed loop system. A BTEX unit is in place to control any BTEX emissions that might be generated during the water burnoff process.

The filters are replaced approximately yearly. Staff monitors the dew point in the system. When the dew point is elevated, it signals that the filters should be replaced. The permit doesn't contain any stack height requirements. Staff used a range finder to verify the stack on the

regeneration still/boiler stack. Height obtained by the range finder for this stack was about 21.9 feet.

Once the gas has been withdrawn, it is sent back into the pipeline. The facility has the capacity to send gas both north and south along the pipeline, depending on the needs at the time.

The facility does not use any stripping gas. All operational data for the facility is tracked using computer system, Engine Reliability. The gas flow rate is tracked daily and monthly records of flow rate were available on site, during the inspection and submitted for review.

As discussed above, the facility has a flash tank installed and operating as part of the EU-DEHY system. There are also two regenerator still condensers in series installed on the system which were observed during the inspection. The facility is also required to complete testing, once per year, on the wet gas steam for nitrogen, carbon dioxide, hydrogen sulfide, C1 through C6 series hydrocarbons, benzene, toluene, xylene, ethylbenzene, and heptanes+. According to the submitted records, the most recent testing was completed on January 16, 2023.

**FG-ENGINES**

FG-ENGINES consist of two 1200 HP White Superior Model 2406G 4-stroke lean-burn engines, EU-ENGINE1 or engine 1801 is on the north end of the engine compressor building and EU-ENGINE2 or engine 1802 is on the south end. Neither engine was operating during the inspection. Engine 2 is currently out of service for maintenance and is projected to be back online in July of 2023.

Material	Limit	Time Period/Operating Scenario	Records
Hours	9,600	12-month rolling	3108.8 hours in 2022

Routine engine maintenance is performed by facility staff and major overhauls are contracted to an outside vendor. The engines are equipped with electronic hour meters; however, maintenance records, actual operational hours and engine overhaul schedules are maintained at the MI corporate location in Howell, Michigan and accessible on site via the Engine Reliability computer program.

According to the previous inspection report, the instrument control panels were replaced in 2008 and the hour meter reading reset to zero at that time with total run hours printed on a sticker on the panel for continuity. Engine 1801’s digital hours meter was out of service and a work order has been put in for replacement. A sticker underneath the hours tracking screen had the total hours of operation for engine, 41,447 hours, printed underneath. The most recent top end overhaul was September 2018 at 38,463 hours. Engine 1802 most recently had a top end overhaul in September 2017 at 34,792 hours. The hours meter panel on the engine read 18,171 hours. Total run hours for the engine since installation on site are available through the facility’s online system.

**FG-FACILITY**

--	--	--	--

Pollutant	Limit	Time Period/Operating Scenario	Records
NOx	40 tpy	12-month rolling	0.089 tpy in January 2021
CO	55 tpy	12-month rolling	0.075 tpy in January 2021
HAPs	7 tpy of aggregate HAPS	12-month rolling	0.076 tpy in January 2021

**PTI Exempt Equipment**

The facility has small natural gas fired space heaters in the engine building and maintenance shop and a small natural gas fired furnace and water heater in the office building. This equipment is exempt from PTI requirements pursuant to Rule 282(2)(b)(i).

The facility has a 12,600-gallon brine/natural gas liquids storage tank that is exempt per Rule 284 (2)(e) and stored material is periodically hauled away for disposal in an exempt ENP injection disposal well. The facility also has a 1,260-gallon used oil storage tank and a 300-gallon lube or new oil tank that are exempt per Rule 284(2)(c). The brine/natural gas liquids tank and used oil tank have secondary containment structures.

The facility has a 134 HP natural gas fired emergency generator that was installed in 1995 and is exempt from permitting pursuant to Rule 285(2)(g). The emergency generator is equipped with a non-resettable hour meter. The hours meter reading during the inspection was 2571.7 hours. The engine runs for ½ hour each week for readiness testing. Mr. Campbell stated that the emergency generator is maintained by an outside vendor. The emergency generator is subject to 40 CFR Part 63, Subpart ZZZZ based on its installation date.

All exempt equipment on site listed above was observed during the facility walk-around.

NAME Annelle Cross

DATE 6/16/23

SUPERVISOR RIL 6/21/23