REGION 3

PHILADELPHIA, PA 19103

Report Title:	Clean Air Act Inspection of LOLA Energy PetroCo, LLC
Inspection Date(s):	05/01/2024
Regulatory Program(s):	SIP, NSPS
Company Name:	LOLA Energy PetroCo, LLC
Facility Name:	Canis Major, Sculptor, and Lacerta well pads
Facility Location:	Multiple Sites – See in the report
Latitude:	40.271939 **Longitude:** -80.139645
County/Parish:	Butler County
AFS/ICIS-Air Number:	Sculptor well pad: PA000830225
Permit Number:	N/A
NAICS Code:	211130 **SIC:** 1311
DSB ID #:	ECAD-68

Facility Representatives: **Point of Contact**

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EPA Lead Inspector Signature PARMATMA ADHIKARI Digitally signed by PARMATMA ADHIKARI Date: 2024.06.26 16:16:24 -04'00'

Parmatma Adhikari **Date**

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Philadelphia, PA 19103-2852

Supervisor Signature KRISTEN HALL Digitally signed by KRISTEN HALL Date: 2024.07.01 05:33:55 -04'00'

Kristen Hall **Date**

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I. Introduction

The United States Environmental Protection Agency (EPA) conducted a Clean Air Act (CAA) inspection at multiple sites owned and operated by LOLA Energy PetroCo, LLC (LOLA Energy or Facility) to verify compliance with applicable State and Federal regulations. The Pennsylvania Department of Environmental Protection (PADEP) was notified of the inspection on April 15, 2024, via email. On April 29, 2024, EPA notified the Facility of the planned inspection via phone and email. EPA emailed a list of records for review to Jayson Johnson (Vice President- EHS & Land Operations), prior to the inspection (see Attachment 1).

The inspection included an evaluation of the Facility's processes and its compliance with the CAA. All information included in this report is the result of statements by the Facility representatives, materials shown to the inspectors by the Facility representatives, and/or documents provided by the Facility representatives to the inspectors at the time of, or subsequent to, the inspection. In addition, information gathered prior to the inspection from a review of EPA and State records may be included in this report.

A. Summary of the Facility

The three facilities (Canis Major, Sculptor, and Lacerta) inspected are located in Butler County, PA. LOLA Energy is an oil and gas company that is involved in the drilling of natural gas wells in the Marcellus and Burkett Shale Basins. LOLA Energy extracts, separates, and treats the gas and liquid before transferring natural gas to the compressor station. LOLA Energy owns and operates natural gas wells in north and south Butler County, PA.

Equipment located at well pads includes wells, gas processing units, storage vessels and combustors. The three facilities inspected have not been issued a permit by the PADEP. All three facilities have been exempted from permitting under PADEP's Exemption 38. The facilities are subject to, or potentially subject to the following federal regulations:

- 40 CFR Part 60 Subpart OOOOa: Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Reconstruction or Modification Commenced after September 18, 2015 (NSPS OOOOa)
- 40 CFR Part 60 Subpart OOOOb: Standards of Performance for Crude Oil and Natural Gas Facilities for Which Construction, Modification or Reconstruction Commenced After December 6, 2022 (NSPS OOOOb)

B. Inspection Opening Conference

At 8:00 AM on May 1, 2024, EPA inspectors arrived at the Facility for a CAA Inspection and conducted a brief opening conference. LOLA Energy was represented by Kevin Eshbaugh, vice president of operations. Also, Scott Dyll, Air Quality Supervisor and Kyle Lewarchik, Air Quality Inspector from PADEP were present. EPA inspectors, Parmatma Adhikari and Dean DeLuca, presented their credentials and explained the purpose of the visit was to conduct a CAA inspection to determine compliance with any applicable regulations. Additionally, EPA informed the facility representative of the right to claim any confidential business information (CBI). At that time, Kevin Eshbaugh did not claim any photos, FLIR videos or documentation as CBI.

II. Site Activity/Process Description

LOLA Energy was established in 2014 and has undergone a series of transformative changes resulting in the formation of LOLA Energy III, LLC. In 2020, it was renamed LOLA Energy PetroCo, LLC.

The three inspected LOLA Energy facilities have similar operations, involving the extraction, separation, treatment, and transportation of oil and gas through pipelines. The gas and oil mixture, along with water and sand extracted from wells, is first sent to a sand separator. The sand is then directed to a storage vessel, while the gas, oil, and water mixture is sent to a dedicated gas processing unit for three phases of gas separation. This separation process results in three different streams – gas is transported to the pipeline, oil is sent to dedicated storage tank, and produced water is also sent to a storage tank. The two liquid streams are eventually sent offsite. LOLA Energy does not own any compressor stations or pipeline; these are owned by Energy Transfer, a third party responsible for transferring gas from each LOLA Energy well pad. All LOLA Energy-owned well pads in Butler County (Canis Major, Cratty, Dorado, Lacerta, Lynx, Monoceros, Morrow, Polaris, Sculptor, Ursa Major, and Ursa Minor) are unconventional wells. Currently, LOLA Energy employs 15 full-time workers who primarily work from 8:00 AM to 5:00 PM, Monday to Friday. Additionally, LOLA Energy utilizes contractors for its business needs. Muddy Creek Energy Services is responsible for providing the employees to LOLA Energy. The Facility stated they automatically shut off a well pad when certain conditions exist, some examples are, if a compressor shuts down, if a relief valve on a storage tank exceeds fourteen ounces per square inch, if a relief valve is less than negative 0.5 ounces per square inch, if a thief hatch exceeds sixteen ounces per square inch, or if communications fails to send three consecutive five-minute readings.

The Canis Major Pad is a well pad that has four wells, four gas processing units, six storage vessels and two combustion devices. The Canis Major Pad is located at 178 Squaw Valley Road, Emlenton, PA 16373. Lola Energy has approximately 800 acres of land for the Canis Major well pad. The wells were drilled in 2017 by EdgeMarc Energy. The gas production rate of Canis Major is approximately 10 MMscf/day. The extracted natural gas and liquid from wells are sent to a dedicated gas processing unit to separate natural gas from water and natural gas liquids. The gas is sent to the pipeline while the liquids are sent to storage vessels before being sent offsite.

The Sculptor Pad is a well pad that consists of ten wells, ten gas processing units, eight storage vessels (including a sand holding tank), a portable compressor (owned by Nacelle, a contractor), and five combustion devices. The Sculptor Pad is located at 875 Maple Furnace Rd., Parker, PA. About 1200 acres of land are owned by Lola Energy for the Sculptor well site.

The wells were drilled in 2017 by EdgeMarc Energy. The gas production rate of Sculptor is approximately 14 MMscf/day. The extracted natural gas and liquids from the wells are sent to a dedicated gas processing unit to separate natural gas from water and natural gas liquids. The gas is then sent to the pipeline, while the liquids are sent to storage vessels before being transported offsite.

The Lacerta pad is a well pad located at 832 Maple Furnace Rd., Parker, PA 16049. It consists of four wells, four gas processing units, seven storage vessels, a compressor, a heater treater, and four combustion devices. For the Lacerta pad, Lola Energy owns about 600 acres of land. Drilling on the pad began in November 2023 and was completed in late January 2024. The gas production rate of the Lacerta pad is approximately 38 MMscf/day. The extracted natural gas and liquid from the wells are sent to a dedicated gas processing unit to separate the natural gas from water and natural gas liquids. The gas is transported to the pipeline, while the liquids are sent to storage vessels before being sent

offsite. Unlike the Canis Major and Sculptor well pads, the Lacerta pad includes a heater treater to separate contaminants from the gas and oil.

The opening conference transitioned directly into the walkthrough at the Canis Major well Pad.

III. Observations

EPA inspectors were led on a walkthrough of the Facility at 9:29 AM by Kevin Eshbaugh of Lola Energy and Scott Dyll and Kyle Lewarchik from PADEP were also present for the walkthrough. EPA inspectors noted photos would be taken and FLIR camera would be used during the Facility walkthrough (Attachment 2).

Canis Major Pad:

Mr. Eshbaugh led the inspection team to the Canis Major well pad after the opening conference. The site has four wells and four gas production units (GPU), all of which were inspected. The inspection team first looked at the wellheads. The flow from the wellhead goes to the sand separator, which separates and stores sand in a 12 x 10 ft, 100-BBL sand holding tank. Next, the inspection team visited the GPUs, which are three-phase separators that effectively separate natural gas, oil, and water. The gas volume from the GPUs is measured and enters the pipeline owned by Energy Solution.

Next, the inspection team advanced to the oil and produced water storage tank area. The oil and water separated from the natural gas are stored in one of the three oil and three produced water tanks. Each tank has a 500 BBL storage capacity. The oil tanks are numbered #1910, #1920, and #1930, while the water tanks are numbered #1810, #1820, and #1830. Mr. Eshbaugh mentioned that Canis Major produces 20-30 barrels of produced water daily, which is trucked offsite by a water hauling company when the tanks are full. The EPA inspector used an FLIR camera to monitor hydrocarbon emissions from each tank. The EPA inspector observed hydrocarbon emissions from the makeup gas fitting of water tank #1810 and thief hatch of water tanks #1820 and #1830 using the FLIR camera. The EPA inspector also observed hydrocarbon emissions from thief hatch of oil storage tank #1920 with the FLIR camera. After inspecting the oil and water storage tanks, the inspection team observed two combustors that are used to combust vapors from the oil and produced water tanks. The combustors used by Canis Major are Combustor 1, Kimark Smart Flare 64", and Combustor 2, Comm Engineering Model 3 36". Mr. Eshbaugh explained that both combustors work with a knock-out valve. When the pressure in the vessel reaches 6.8 ounces, the valve opens and vapors are allowed to flow into the combustion chamber from the tank header. Mr. Eshbaugh mentioned that the set point for the combustor is 1500°F. During the inspection, the team noted that the combustor was cycling on approximately 15 seconds before cycling off for about 30 seconds. This repetitive pattern of cycling on and off persisted throughout the inspection. During the inspection, it was noted that Combustor #2, Comm Engineering, was not operating. Before leaving the Canis Major well pad for the Sculptor well pad, the inspection team observed a 12" pig launcher owned by Energy Transfer.

Sculptor Pad:

After inspecting the pig launcher station at the Canis Major Pad, Mr. Eshbaugh escorted the inspection team to the Sculptor well pad. The inspection team arrived at the Sculptor well pad at 12:35PM and

discussed the equipment on site and the process description with Mr. Eshbaugh. At 12:50 PM, Mr. Eshbaugh led the inspection team for the facility walkthrough. The EPA inspection team first observed the wellheads and then the compressor, a Caterpillar model rated at 108 KW / 145 with 10.5 displacement. Mr. Eshbaugh mentioned that the natural gas fired compressor is only on-site for four days for gas lifting. The compressor is owned by Nacelle Solution (a contractor) and was not operating at the time of inspection. The inspection team observed a 500-gallon above-ground diesel tank used for rental equipment. Then the inspection team advanced toward the GPU area. Mr. Eshbaugh mentioned that the gas is dehydrated using ethylene glycol ($C_2H_6O_2$) with glycol dehydration systems. The inspection team observed five Comm Engineering model 3 36" combustors used to combust vapors from the produced water and oil tanks. At the time of inspection, all combustors were operating. Mr. Eshbaugh mentioned that the set point for each combustor is 1500°F, but at the time of inspection, the combustors were running in the range of 101 – 540°F. The inspection team also observed visible emissions from the back left and back center combustors (combustors #3 and #2) while the inspection team was observing the combustors The inspection team then observed the water and oil tanks. The tank battery at the Sculptor Pad consisted of three produced water and two oil tanks, each of 500 BBL capacity. There are four additional oil tanks, each of 500 BBL capacity, located near the main gate of the Facility. Tank #1810, a produced water tank, was out of service at the time of the inspection due to a leak on the bottom. The inspection team examined each tank using a FLIR camera to check for any hydrocarbon leaks and found no leaks at the time of inspection.

The walkthrough of the Sculptor well pad completed at 2:15 PM.

Lacerta Pad:

After the Sculptor well pad walkthrough, Mr. Eshbaugh led the inspection team to the Lacerta well pad. At 2:25 PM, the inspection team arrived at the Lacerta well pad. The inspection team observed a 210-barrel sand holding tank and then moved to the GPU area. Mr. Eshbaugh explained that the GPU separates gas, water, and oil. Oil that is separated in the GPU is directed to a heater treater using a separate header. The oil goes into the heater treater and is heated to 160°F for stabilization. Gas removed in the heater treater is sent to the gas header and then to the compressor. The water flows into filtration to remove solid particles and is stored in one of the water storage tanks. The oil exits the heater treater through the oil header to the vapor recovery tower, where gas from the oil continues to flash off and is recovered and sent to gas sales pipeline. The oil exits the vapor recovery tower and is sent to the oil storage tanks. Vapors from both the produced water and oil tanks are directed to the Thruster Technology combustors for vapor destruction. There were three water tanks and three oil tanks in Lacerta well pad. The inspection team observed three Thruster Technologies V1-70 combustors, finding that combustor #1 was not operating at the time of inspection. Mr. Eshbaugh mentioned that the operation of combustors is based on header pressure. Next, the inspection team observed the water and oil tanks with the FLIR camera. The inspection team observed hydrocarbon emissions from the thief hatch flange below the thief hatch on tanks #1810 and #1820 with the FLIR camera. The inspection team also observed a 40,000-barrel capacity open produced water tank, with almost a half tank of water filled in the tank at the inspection time.

The inspection was completed at 3: 45 PM.

IV. Records Review

Because the inspected sites are completely outside and there is no area to convene, no records were reviewed during the inspection. EPA and LOLA Energy discussed the list of records that were requested in EPA's April 29, 2024, email. LOLA Energy agreed to provide the records requested after the inspection. LOLA energy emailed requested information on June 3, 2024.

V. Closing Conference

After the walkthrough of the Lacerta Pad, EPA inspectors, Mr. Eshbaugh of LOLA Energy and inspectors from PADEP had a brief closing conference to ask additional questions and discuss observations. The EPA inspectors noted that the investigation is on-going, and any areas of concern identified in the final report do not necessarily reflect a violation or deviation, rather, they are areas that will require further investigation. EPA also noted that they would issue an inspection report within 60 days, with a copy to the State. Simultaneously, EPA will perform a detailed review of records and may have additional questions. The inspection concluded at 3:55 PM.

The following have been identified as potential issues during the inspection. They are issues that require either further investigation by EPA or additional information or explanation by LOLA Energy.

- EPA inspectors observed hydrocarbon emissions from tank #1810 and #1820 at Lacerta well pad and tank # 1810, #1820, #1830 and #1920 at Canis Major well pad using the FLIR camera. Fugitive emissions should not be present from any pressure relief device or weighted thief hatch on a tank or at any other component of a closed vent system unless the component is malfunctioning or there is pressure in the system above its designed operation. Further investigation into the periodic inspection and maintenance process of the closed vent systems for LOLA Energy may be appropriate.
- EPA also observed potential hydrocarbons from two combustors of Sculptor well pad using the FLIR camera. If emissions are visible downstream of the combustor with the FLIR camera, this could be a sign of potential incomplete combustion from the combustors.

VI. List of Attachments

Attachment 1:	Email correspondence to Jayson Johnson of records requested to review during inspection
Attachment 2:	Photo Log
Attachment3:	FLIR Video Log