



Region 6 - Enforcement & Compliance Assurance Division
INSPECTION REPORT

Inspection Date(s):	03/25-27/2025	
Media Program:	Air (CAA)	
Regulatory Program(s)	NESHAP, NSPS, SIP, Title V	
Company Name:	Lion Copolymer Geismar, LLC	
Facility Name:	Lion Copolymer Geismar, LLC – Geismar Facility	
Facility Physical Location:	36191 Highway 30	
(city, state, zip code)	Geismar, LA 70734	
Mailing address:	P.O. Box 397	
(city, state, zip code)	Geismar, LA 70734	
County/Parish:	Ascension Parish	
Facility Phone Number	225-673-8871	
Facility Contact:	Valerie Matherne	Environmental Specialist
	valerie.matherne@lionelastomers.com	
FRS Number:	110000449765	
Identification/Permit Number:	Agency Interest # 1433 / Permit # 2041-V12	
Media Identifier Number:	AFS # 22-005-00012	
NAICS:	325212, 325199 (Synthetic Rubber Manufacturing, All Other Basic Organic Chemical Manufacturing)	
SIC:	2822 (Synthetic Rubber)	
Personnel participating in inspection:		
Kara Allen	EPA Region 6 ECDAT	Life Scientist
Ben Rosenthal	EPA Region 6 ECDAT	Physical Scientist
Sarah Frey	EPA Region 6 ECDAT	Physical Scientist
Cory Lormand	LDEQ Capital Regional Office	Environmental Scientist
Jake Williams	LDEQ Capital Regional Office	Environmental Scientist
Keith Gordon	Lion Copolymer Geismar, LLC	Plant Manager/Environmental Health & Safety Director
Valerie Matherne	Lion Copolymer Geismar, LLC	Environmental Specialist
Darrin Tisdale	TEAM, Inc.	LDAR Technician
Paul Thompson	Lion Copolymer Geismar, LLC	Operations Manager
Dwane Brumfield	Lion Copolymer Geismar, LLC	Maintenance Manager
John Golda	Lion Copolymer Geismar, LLC	Engineering Manager
Bobby Rickhoff	Lion Copolymer Geismar, LLC	VP Manufacturing
EPA Lead Inspector Signature/Date	KARA ALLEN  Digitally signed by KARA ALLEN Date: 2025.05.27 15:24:17 -05'00'	
	Kara Allen	Date
Supervisor Signature/Date	Leathers, James  Digitally signed by Leathers, James Date: 2025.05.27 15:34:20 -05'00'	
	James Leathers	Date

Section I – INTRODUCTION

PURPOSE OF THE INSPECTION

EPA Region 6 inspectors Kara Allen (“I”), Ben Rosenthal, and Sarah Frey, and Louisiana Department of Environmental Quality (“LDEQ”) inspector Cory Lormand (“we” or the “inspection team”) arrived at the Lion Copolymer Geismar, LLC (“Lion”) Geismar Facility (the “Facility” or “Geismar Facility”) at 08:15 on March 25, 2025, for an announced inspection. We met with Mr. Keith Gordon, Plant Manager and Environmental Health & Safety Director, and Ms. Valerie Matherne, Environmental Specialist with Lion Copolymer Geismar, LLC. I presented my credentials to Mr. Gordon and informed him that this was an EPA inspection to evaluate the Facility’s compliance with the Clean Air Act (“CAA”), applicable CAA regulations listed under Title 40 of the Code of Federal Regulations (“40 CFR”) Part 63 Subpart U (“NESHAP”), Subparts F, G, H, and I (“Hazardous Organic NESHAP” or “HON”), the Facility’s Title V Operating Permit, and the Louisiana State Implementation Plan (“SIP”). The scope of the inspection is a partial compliance evaluation (“PCE”). Photographs and videos taken during the inspection are found in Appendix 1 and 2, respectively.

FACILITY DESCRIPTION

Lion Copolymer Geismar, LLC owns and operates the Geismar Facility in Geismar, Louisiana. It operates 24 hours a day, 365 days a year. The Facility produces ethylene propylene diene monomer (“EPDM”) and ethylene propylene monomer (“EPM”) rubber in the Royalene and Trilene units. The Facility is also permitted for a Services and Laboratory Unit that provides support functions and testing. The Facility has approximately 180 employees on-site, with approximately 200 nested contractors, and occupies 185 acres of property. Originally established in 1962, Lion purchased the site in 2007. The Facility is permitted under Part 70 Permit No. 2041-V12.

Royalene/Trilene Units:

In the Royalene and Trilene units, various combinations of monomers are reacted to produce both solid and liquid polymer products (synthetic rubbers). Royalene and Trilene are trade names for EPDM rubber. Following separation of unreacted monomers and process solvent, the product is dried, packaged, and loaded for shipment. Unreacted monomers and process solvent are recovered for reuse. Raw material and products are shipped and received by truck, rail, or pipeline.

TSS Unit:

Wastewater from the Royalene and Trilene units is sent onsite to the TSS unit. The wastewater is first neutralized and then routed to the equalization and/or inventory tank. The wastewater then flows to the flocculation tank and then proceeds to the dissolved air flotation unit for solids removal. The water is filtered and discharged to the outfall. The backwash water is returned to the equalization tank and the process repeats. Air emissions from the wastewater treatment system are a result of evaporative emissions from open sumps, tanks, and other wastewater treatment equipment.

Services and Laboratory Unit:

Activities associated with the Services and Laboratory unit consist of upkeep and repair of process equipment and plant grounds. Sources of air emissions include sandblasting, painting, emergency generator and fire pump engines, fuel storage tanks, oil storage tanks, parts cleaning stations, and other

miscellaneous activities in support of the production units at the facility. The support laboratory is used for routine quality control and environmental analysis, as well as research and developmental testing that occurs in the lab and the pilot plant. Sources of air emissions from the laboratory include solvent and chemical evaporation associated with conducting routine testing and experiments that are released through the laboratory ventilation hoods. The pilot plant consists of various process equipment that is a source of emissions when the plant is utilized.

Section II - OBSERVATIONS

March 25, 2025

The inspection team met with Lion representatives Mr. Gordon and Ms. Matherne in the Facility's conference room for an opening conference (see Appendix 3 for opening conference sign-in sheet). After presenting my credentials to Mr. Gordon, I explained the scope of the inspection and planned inspection activities. We discussed our intent to tour the facilities, review previously requested records, and conduct interviews with facility personnel throughout the inspection. I stated we would evaluate compliance with the applicable regulations, including NESHAP, HON, and the Louisiana SIP. I explained that we would use a Thermo Toxic Vapor Analyzer 2020 Flame Ionization Detector ("FID") calibrated to measure total volatile organic compounds ("VOC") for field screening of emissions using procedures in Test Method 21 – Determination of Volatile Organic Compound Leaks ("Method 21" or "M21"), an mPower Electronics-brand NEO photo-ionization detector ("PID"), and optical gas imaging with a Teledyne FLIR Optical Gas Imaging Camera ("OGIC") to visually survey emissions from equipment. FID calibration and field measurement data is found in Appendices 4 and 5, respectively. We discussed the status of records requested on March 17, 2024; the date EPA notified Lion of the inspection (Appendix 6, Inspection Records Requested).

Mr. Gordon provided an overview of the Facility and the process flow through the units. The facility receives ethylene and propylene via pipeline, and hexane via trucks approximately once a week. Oils and diene are received via rail car. Ethylene and propylene are piped directly into reactors after the moisture is removed in guard dryers. A water wash system is used to wash out the catalyst, and hexane recovery units condense and dry the hexane for recycling. The Trilene Unit produces liquid EPDM and was constructed in the early 1990s. The Royalene Unit is divided into areas Poly I, constructed in 1964, Poly II, constructed in 1967, and Poly III, constructed in 1991. Poly I and II share a Recovery Area, while Poly III has its own Recovery Area. Steam is injected in the flocculation tank, where rubber crumb begins to form, to vaporize hexane. Product is sent from the flocculation tank to the strippers which also utilize steam. Vapors from the strippers route back to flocculation tanks. From the strippers, product is sent to a crumb slurry tank then to the dewatering screens in the Finishing Area. Poly I, II, and III all route product to the Finishing Area. The temperature and pressure at the strippers are monitored, however back-end compliance is demonstrated through sampling from the dewatering screens. From the dewatering screens, product continues to a dewatering press and belt dryer. Samples for the NESHAP Subpart U crumb rubber hexane compliance are taken daily at the dewatering screens. No air emissions are controlled in the Finishing Area.

The Facility treats its own wastewater in the TSS Unit. The wastewater generated is acidic, so it is neutralized and treated before being discharged to the river. All liquids that reach the drains within the process areas, including stormwater, are treated in the TSS. Drains from the process units are routed via hard-piped sewer lines to underground, gravity-fed sumps. Air emissions are not controlled along the wastewater system. Wastewater tanks are all open-top, and wastewater sampling occurs at the outfall immediately before the fenceline.

We discussed the facility flare with Mr. Gordon. Mr. Gordon explained the flare tip was recently replaced due to the steam nozzle not providing enough steam in high flow scenarios. The flare tip repair was completed on February 28, 2025, and the Facility has not yet had a high flow scenario since the repair. The flare efficiency is estimated based on the assumed net heating value in British thermal units ("Btu") of the vent gas. The vent gas net heating value is not directly monitored. The flare is equipped with thermocouples, a flow meter, a steam flow meter, and is visually monitored in the control room. Assist steam is controlled by automated valves connected to a Powertrol Flare Monitoring System which uses infrared detection to automatically adjust the amount of steam added. Steam is adjusted manually by an operator when smoke is detected or manual adjustment is otherwise needed. The flare is the primary control device for the Royalene and Trilene Units.

The Facility has three cooling towers that are sampled quarterly for VOCs in the effluent. The wastewater from the cooling towers is sent to the transfer sump to the outfall and is not treated.

I informed Mr. Gordon that the inspection team would conduct a site walkthrough and survey several process areas of the facility, beginning with the Trilene Unit. Mr. Gordon stated that Mr. Darrin Tisdale with TEAM, Inc. ("TEAM"), the Facility's Leak Detection and Repair ("LDAR") contractor, would be conducting monitoring concurrently with EPA.

The inspection team calibrated the FID at 12:20 and arrived at the Trilene Control Room at 13:09 where we spoke to Mr. Rodney Washington, the Trilene Day Supervisor. Mr. Washington explained current operations and that hexane storage tank 505 is fixed-roof, pressure rated, and routes to the flare. Flow to the flare from the Recovery and Trilene Units is monitored via the recovery flow meter. Poly I and III each have a flow meter, and the flow for Poly II is determined through subtraction as it does not have a dedicated flow meter.

The inspection team began monitoring in the Trilene Unit with the FID, PID, and OGIC at 13:20. All measurements with the FID and PID represent total VOC. At the second reactor chiller, Inspector Rosenthal measured 8,100 parts per million by volume ("ppm") VOC near the rupture disc and connector near tag 95-PSV-5077. TEAM measured 6,700 ppm [Area of Concern "AOC" 1]. At the compressor discharge, Inspector Rosenthal measured 1,300 ppm at the hexane header and TEAM measured 1,200 ppm [AOC 1]. At a valve on a propylene line leading back to the refrigeration unit, EPA measured 5,200 ppm then over 10,000 ppm and TEAM measured over 1,000 ppm [AOC 1]. At the reactor, the inspection team detected a strong odor, thought to be hexane. EPA measured over 10,000 ppm at the agitator of the reactor, 2,300 ppm on the deck-side of the reactor, 15,000 ppm on the open-air side of the reactor, and elevated background readings above 600 ppm in the area near the reactor. The inspection team observed oil on the agitator and top of the reactor [AOC 2, 3]. The inspection team

observed an open sump for wastewater, where solids from the wastewater sump are hand-skimmed, labeled as non-hazardous waste, and shipped off-site.

The inspection team concluded onsite activities and departed the Facility at 15:00.

March 26, 2025

The inspection team returned to the Facility at 08:04 on March 26, 2025. After calibrating the FID, we split into two teams. Inspectors Frey and Lormand accompanied Ms. Matherne to observe the crumb rubber sampling and testing, and Inspector Rosenthal and I accompanied Mr. Gordon and Mr. Tisdale to survey the Tank Farm and Trilene Unit with the OGIC and conduct Method 21 monitoring.

Inspectors Frey and Lormand arrived at the laboratory at 09:15 and spoke to Mr. Jason Olivier, Senior Quality Control Specialist, and Mr. Jimmy Turner, Laboratory Supervisor. Per the sampling Standard Operating Procedures (“SOP”), samples are collected by a Finishing Technician at the dewatering screens. The on-site lab analyzes the headspace of each sample. A measured sample of 2.5 grams of wet crumb is placed in a vial with 50 microliters of the internal standard (heptane in methyl isobutyl ketone). Approximately 10 grams of wet crumb is placed in an aluminum pan and heated overnight for eight hours, then the percent of dry rubber is calculated. The results are recorded in a monthly Excel spreadsheet. Mr. Olivier showed the Inspectors the sample container used, the gas chromatograph flame ionization detector headspace analyzer, and laboratory logs and spreadsheets. He explained that the percent n-hexane calculated is sent to Ms. Matherne for a final compliance calculation.

Inspectors Frey and Lormand arrived at the Poly I Finishing Area at 10:02 where they observed the Finishing Specialist collect a crumb rubber sample from the dewatering screen, and returned to the lab to observe Mr. Olivier prepare the sample. Inspectors observed the rapid approach of facility personnel from sample collection to sample preparation. At 10:45 the inspectors returned to the conference room to review the Facility’s hexane sampling calculation spreadsheet.

Inspector Rosenthal and I arrived at the Trilene Unit at 09:10 and began monitoring the reactor with the FID and OGIC. EPA measured 14,000 ppm VOCs in the area above the reactor’s agitator and emissions were seen with the OGIC [AOC 2]. After discussions with Mr. Gordon, we believed that there may be process liquid entrained in the oil on the agitator and reactor [AOC 3]. The reactor was scheduled for service the week after the EPA inspection. From the reactor deck I observed emissions from a fixed-roof hatch on the internal floating roof (“IFR”) dry hexane tank SV-105 (Videos 1, 2; Photo 1) [AOC 4]. I observed potential hydrocarbons from a flange on the reactor deck with the OGIC; however, no significant readings were measured with the FID (Video 3). We left the Trilene Unit at 09:53 to monitor at the Tank Farm.

On the way to the Tank Farm, we observed the truck loading area. Inspector Rosenthal detected over 50 ppm on the exterior surface of the hexane hose though no loading activities had recently occurred [AOC 5].

At the Tank Farm, I observed emissions from a gauge near LDAR tag 5224 with the OGIC (Videos 4, 5). Inspector Rosenthal measured over 10,000 ppm at the gauge, and TEAM measured 17,000 ppm [AOC 1]. Mr. Tisdale attempted repair by tightening the gauge. I identified an open-ended line (“OEL”) – piping

without a cap, blind flange, plug, or second closed valve – near Tag 5241 (Photo 2) [AOC 6]. Inspector Rosenthal conducted Method 21 monitoring on the paraplex tanks. On Tank 91-SV-102, EPA measured over 2,000 ppm at the conservation vent, a flame-out and then over 17,000 ppm at the hatch of the tank, over 1,100 ppm on a gauge line at the roof connection, and over 800 ppm at a bolt on the roof. I observed visualized hydrocarbon emissions with the OGIC from the roof-area of the tank where the components were monitored (Videos 6, 8, 9) [AOC 4]. Inspector Rosenthal measured over 2,000 ppm on the atmospheric side of the pressure vacuum relief valve (“PVRV”) on the roof of Tank SV-101, and I observed emissions from the PVRV with the OGIC (Videos 7, 10) [AOC 4]. Inspector Rosenthal conducted Method 21 monitoring on the dry solvent hexane IFR tank SV-100 and measured over 700 ppm at the hatch [AOC 4]. We returned to the conference room at 11:32.

At 12:31 we returned to the field. While walking to the Recovery Unit, inspectors noted the flare had little visible flame. I observed trailing hydrocarbons from the flare with the OGIC at 12:49 (Videos 11, 12) [AOC 7].

We arrived at the Recovery Unit for Poly I and Poly II where hexane is recovered. While monitoring in the Recovery Unit, TEAM measured 30 ppm at a flange and EPA measured low levels of VOCs with the PID near valve 6051. Inspector Rosenthal measured 1,200 ppm with the FID at gate valve 2326, and TEAM measured 822 ppm. Mr. Tisdale tightened the valve and re-measured 555 ppm [AOC 1]. EPA’s FID measured 1,582 ppm and 63,000 ppm on knockout PV-204, with TEAM also measuring 1,587 ppm and 70,000 ppm [AOC 1]. Mr. Tisdale performed a first attempt at repair but was unsuccessful. EPA detected leaks greater than 500 ppm at valve 2343, a plug by pump 91-RP-303, the underside of a plug in a line going into the top of a diene day tank, and LDAR tag 2537 [AOC 1]. Inspectors observed the flare header from the knockout pot vibrating and noted corrosion (Video 13). The inspection team noted a potential OEL at 91-RV-017, and I observed emissions from an OEL near tag 2500A (Video 14, Photo 3). EPA’s FID measured 83,000 ppm from the OEL near tag 2500A before flaming out [AOC 6, 1]. Facility personnel attempted to close the OEL. Inspector Rosenthal monitored at the top of a 50% PPG storage tank and noted more than 70 ppm in the open air from the steam plume drifting toward the tank. Inspector Frey and TEAM detected leaks above 500 ppm at the bottom of propylene dryers CG-400-B and CG-400-A [AOC 1].

At 15:08, we entered the Poly I/II control room. The control room board operators explained that the flare gas makeup was currently 49% steam, and they consider a small flame and no smoke as optimal flame conditions. If the flare is observed smoking, the operators manually adjust the steam. There is no auto-igniter on the flare, but alarms alert the operators to any upsets such as the pilot going out.

When leaving the control room, I observed trailing hydrocarbons from the flare with the OGIC at 15:21 (Videos 15, 16) [AOC 7]. I alerted Mr. Gordon to my observation, and he had the control room operators reduce the steam flow to the flare. While walking through Poly I, the inspection team noticed an open, overturned bucket labeled “HEXANE” in an open trash can (Photo 4). EPA’s FID measured 2,100 ppm and TEAM measured 1,100 ppm from the trash can [AOC 5]. I re-monitored the flare with the OGIC at 15:35 after the flare steam had been reduced, and the flare destruction efficiency appeared to have improved as I observed less trailing hydrocarbons (Video 17). Inspector Rosenthal measured 17,000 ppm at a valve near LDAR tag 1076 on an untagged line painted to indicate it is a nitrogen line [AOC 8]. TEAM measured

18,000 ppm at this same location. Inspector Frey noticed a potential bypass to a flare header from Poly I reactor 91-PA-200A (Photo 5, Video 18).

At 16:07 we returned to the conference room and discussed the day's findings with Mr. Gordon and Ms. Matherne. Mr. Gordon explained the OEL found near 5240 was plugged, and that the new control scheme Lion plans to implement at the Facility flare will help mitigate any over-steaming issues. The inspection team emphasized that we detected at least 9 leaks in the Recovery Unit for Poly I/II [AOC 1]. We departed the facility at 17:00.

March 27, 2025

The Inspection Team returned to the Facility at 08:15 on March 27, 2025. Inspector Lormand was joined by Jake Williams with LDEQ. EPA Inspectors calibrated the FID before entering the conference room to discuss monitoring plans with Lion at 08:33.

We entered the Poly I area and arrived at the strippers at 08:57. Per the Day Shift Operator, strippers PV-08 & PV-208 are only monitored for pressure and temperature and no sampling occurs. We confirmed that back-end sampling occurs at the dewatering screens, including stripper sampling. Inspectors observed an oil leak at the agitator on PV-208 [AOC 3]. No oil leak was observed on stripper PV-08. Inspectors encountered steam with strong odors at the agitator for slurry tank VV-034 (Videos 19, 20). Inspector Rosenthal measured over 11,000 ppm on the FID and Inspector Frey measured 11,000 ppm on the PID at the agitator (PA-034), and Inspector Rosenthal measured a background above 600 ppm in the area [AOC 9]. The inspection team noted the vent pipe off the hexane condenser releases to the atmosphere at PPE-225-C and -D. Inspector Rosenthal measured 1,200 ppm and over 500 ppm from the Pressure Relief Devices at this location (Photo 6) [AOC 1]. Inspectors also noted an OEL on PE-225-C and -D (Photo 7) [AOC 6]. I noted the weathered conditions of a tank near PV-225 (Photo 8). As we moved through the Poly I area, I noted potential OELs near hexane pot 91-PV-225 (Photo 9) and near tag 4083F (Photo 10) [AOC 6]. The inspection team noted debris and residue on and near the condenser (Photo 11). As the inspection team continued through the area, we identified a potential leak from compressor condenser 91-UG-202. We detected elevated ambient VOCs near the compressor condenser and intercooler of greater than 100 ppm (Videos 21, 22) but were unable to identify the source of emissions.

At 10:18 we entered the Poly II area. Inspector Rosenthal conducted Method 21 monitoring at the top of the recycled water tank, 91-PV-227. He measured approximately 700 ppm with the FID from a roof vent, Inspector Frey measured greater than 100 ppm on a small overflow pipe from the tank, and I identified trailing hydrocarbons from the tank with the OGIC (Videos 23, 24) [AOC 1]. I also saw potential trailing hydrocarbons from a vent with the OGIC (Video 25). Inspectors noted an open bucket labeled "Hexane Sample" next to 91-PG-209B/A (Photo 12). Inspectors Frey and Rosenthal detected emissions at the bucket with the PID and FID [AOC 5]. Before leaving the area, the Day Shift Operator put a lid on the bucket. Inspectors noted the monomer compressor steam safety vent open to the atmosphere. The Day Shift Operator confirmed this equipment vents to the atmosphere (Photo 13). I noted potential OELs on 91-PV-119B and 91-PV-119A (Photo 14, 15) [AOC 6]. I observed potential trailing hydrocarbons from the dryer vents on the finishing building (Videos 26, 27). Inspector Rosenthal measured 2,200 ppm from the

agitator of the west slurry tank 91-PA-202 [AOC 9]. We departed the Poly II area at 11:14 and headed to the Trilene Unit.

In the Trilene Unit, Inspector Rosenthal conducted Method 21 monitoring at the top of Tank 525. We returned to the conference room at 11:28 and discussed the findings of our field activities with Mr. Gordon and Ms. Matherne.

The Inspection Team discussed tank findings with Mr. Gordon and Ms. Matherne at 13:36. We requested records of tank landings, when the roof was re-floated, and service records for hexane tank SV-105. The inspection team noted that paraplex tanks SV-101 and SV-102 are listed as Group 1 in the HON Notification of Compliance Status ("NOCS") with the note "Exempt – Volume Reduction", though the capacity is listed as 20,000 gallons for these tanks. Mr. Gordon stated he believed the Facility had physically reduced the volume of the tanks by removing some amount of the top portion of the tanks, and the 20,000-gallon figure is a rounded-up number. Per the NOCS dated November 16, 2001, SV-101 had undergone permanent volume reduction and SV-102 had been removed from organic hazardous air pollutant ("HAP") service. If these tanks are 20,000 gallons, they may be classified as Group 1 storage vessels and may be required to be routed to a closed-vent system and control device [AOC 4]. Mr. Gordon confirmed that the paraplex tanks contain 28-29% paraplex (catalyst) and 71-72% hexane (solvent).

The inspection team met with Lion personnel and discussed observations from the inspection at 16:15. EPA inspectors informed Facility personnel of the Areas of Concern listed below.

Section III – AREAS OF CONCERN

Closing Conference

EPA Region 6 inspectors Kara Allen, Ben Rosenthal, and Sarah Frey conducted a closing conference at the Geismar Facility at 16:15 on March 27, 2025, for the inspection (see Appendix 3 for closing conference sign-in sheet). During the closing conference, we reviewed the nine Areas of Concern noted during the inspection, fielded questions from facility personnel, and provided information about the next steps in the inspection process.

- 1) The leak rate at the facility may be higher than what is being reported. EPA Inspectors detected at least 19 potential leaks at LDAR components, with many additional components measured with emissions below the leak threshold. The number of leaks found during the inspection may indicate that the Facility's leak rate is higher than what is being reported. The leak rates reported for July 1, 2024, through December 31, 2024, were 0.68% for valves, 2.82% for pumps, 0.00% for compressors, 6.5% for agitators, 0.27% for connectors, 0.00% for closed vent systems, and 0.00% for pressure relief devices.
- 2) EPA Inspectors observed emissions from the reactor in the Trilene Unit. EPA Inspectors measured 15,000 ppm at reactor PV-507 in the Trilene Unit area with elevated background readings above 600 ppm in the area of the reactor, and measured over 14,000 ppm at the flange of the reactor the next day. EPA Inspectors also observed oil on the reactor and discussed the possibility of process liquid entrained in this oil.

- 3) EPA Inspectors observed liquids dripping from several agitators. Per the HON, agitators in light liquid service must be visually inspected weekly for indications of liquids dripping from the agitator. Indications of liquids dripping from the agitator constitutes a leak (40 CFR 63.173(b)).
- 4) Hydrocarbon emissions were detected from tanks.
- 4A) At Tank 91-SV-102, EPA inspectors measured emissions of over 2,000 ppm from the conservation vent on the vacuum side of the PVRV, over 17,000 ppm and then a flame-out at the hatch, over 1,100 ppm on a gauge line at the roof connection, and over 800 ppm at a bolt on the roof. I observed hydrocarbon emissions from this tank with the OGIC. At Tank SV-101, EPA inspectors measured over 2,000 ppm on the atmospheric side of the conservation vent. I also observed emissions from the conservation vent with the OGIC. 91-SV-102 and SV-101 are fixed roof, submerged-fill paraplex tanks listed in the NOCS with a volume of 20,000 gallons. If these tanks are 20,000 gallons and have a vapor pressure greater than 13.1 kilopascals, they may be classified as Group 1 storage vessels per 40 CFR 63 Subpart U Table 3 and may be required to be routed to a closed-vent system and control device per 40 CFR 63.119(a)(2).
- 4B) At Tank SV-105, an IFR dry hexane tank, EPA inspectors observed hydrocarbon emissions with the OGIC from the hatch. At Tank SV-100, an IFR dry solvent hexane tank that routes to a vent condenser, EPA inspectors measured over 700 ppm from the hatch. Group 1 storage vessels must route emissions to a closed vent system and control device per 40 CFR 63.119(a)(1).
- 5) The Facility may not be following general housekeeping best practices. EPA Inspectors observed an open trash can with an overturned bucket labeled "HEXANE" in the Recovery Area for Poly I and Poly II, and an uncovered bucket labeled "Hexane Sample" in the Poly II Area, both of which measured emissions greater than 500 ppm. The hexane hose in the truck loading area measured over 50 ppm from the surface while the hose was not in use. Per LAC 33:III.2113.A.2, "[c]ontainers of volatile organic compounds shall not be left open and the contents allowed to evaporate".
- 6) EPA Inspectors observed several OELs. The inspection team observed eight potential OELs while walking through the Trilene Unit, and the Poly I, Poly II, and Recovery Areas of the Royalene Units. Most notably, in the Recovery Area, inspectors observed hydrocarbons with the OGIC and measured 83,000 ppm with the FID from an OEL near tag 2500A.
- 7) The Inspection Team observed trailing hydrocarbons from the flare. I observed trailing hydrocarbons from the flare with the OGIC. Facility control room board operators stated around the time of the observation that flare steam was set for 49%, and the optimal flame they look for is a small flame with no smoke. When I notified Mr. Gordon of the potential over-steaming, he spoke with the control room board operators and had them reduce the steam to the flare. After this adjustment, I observed better combustion at the flare with the OGIC. Over-steaming at the flare could have negative impacts on combustion efficiency. Per 40 CFR § 63.11(b)(6)(ii), the flare shall operate with a net heating value of 300 Btu/scf or greater. Additional flare data to be supplied by Lion by no later than April 11, 2025, would be reviewed off-site.

8) A process line may be mislabeled as a nitrogen line. In the Poly I area at a valve near LDAR tag 1076, EPA Inspectors measured 17,000 ppm from an untagged valve on a line painted orange, the color of the facility's nitrogen piping. The Facility should determine if VOCs have intruded a nitrogen line, or if the line is mislabeled.

9) Significant hydrocarbon emissions were observed from the slurry tanks for Poly I and Poly II. EPA Inspectors measured over 11,000 ppm with the FID at agitator PA-034 for slurry tank VV-034 with elevated background readings above 600 ppm in the area in Poly I. EPA Inspectors also measured 2,200 ppm at agitator 91-PA-202 of slurry tank PV-214 in Poly II.

Section IV – FOLLOW UP

Lion provided records, including flare information, flare monitoring data, and Method 21 monitoring data, on April 9 and 10, 2025, after exiting the Facility on March 27, 2025. The information provided was in response to the EPA records request made on March 17, 2024.

Section V – LIST OF APPENDICES

Appendix 1 – Photo Log – 15 photos

Appendix 2 – Video Log – 27 FLIR videos

Appendix 3 – Opening and closing conference sign-in sheets

Appendix 4 – FID Calibration Records

Appendix 5 – FID Field Measurement Data

Appendix 6 – Inspection Records Request

Appendix 1

Photograph Log



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 1

Location: Lion Copolymer Geismar, LLC – Geismar Facility		
City: Geismar	County/Parish: Ascension	State: Louisiana



Photo File Name: FLIR0235.jpg

Date of Photo: 03/26/2025

Time of Photo: 09:17

Photographer: Kara Allen

Description: Tank SV-105 IFR Dry Hexane Tank observed with emissions from hatch



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 2

Location: Lion Copolymer Geismar, LLC – Geismar Facility		
City: Geismar	County/Parish: Ascension	State: Louisiana



Photo File Name: FLIR0243.jpg

Date of Photo: 03/26/2025

Time of Photo: 10:30

Photographer: Kara Allen

Description: OEL identified near LDAR tag 5241 in Tank Farm



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 3

Location: Lion Copolymer Geismar, LLC – Geismar Facility		
City: Geismar	County/Parish: Ascension	State: Louisiana



Photo File Name: FLIR0254.jpg

Date of Photo: 03/26/2025

Time of Photo: 14:44

Photographer: Kara Allen

Description: OEL with OGIC- and FID-detected emissions near LDAR tag 2500A in Recovery Area



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 4

Location: Lion Copolymer Geismar, LLC – Geismar Facility		
City: Geismar	County/Parish: Ascension	State: Louisiana



Photo File Name: FLIR0257.jpg

Date of Photo: 03/26/2025

Time of Photo: 15:25

Photographer: Kara Allen

Description: Open "HEXANE" bucket overturned in open trash can with measured emissions in Poly I



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 5

Location: Lion Copolymer Geismar, LLC – Geismar Facility		
City: Geismar	County/Parish: Ascension	State: Louisiana



Photo File Name: FLIR02620.jpg

Date of Photo: 03/26/2025

Time of Photo: 13:38

Photographer: Kara Allen

Description: Potential bypass to flare header from Poly I reactor 91-PA-200A



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 6

Location: Lion Copolymer Geismar, LLC – Geismar Facility		
City: Geismar	County/Parish: Ascension	State: Louisiana



Photo File Name: FLIR0265.jpg

Date of Photo: 03/27/2025

Time of Photo: 09:22

Photographer: Kara Allen

Description: Pressure Relief Devices to atmosphere at PPE-225-C/D in Poly I



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 7

Location: Lion Copolymer Geismar, LLC – Geismar Facility		
City: Geismar	County/Parish: Ascension	State: Louisiana



Photo File Name: FLIR0266.jpg

Date of Photo: 03/27/2025

Time of Photo: 09:26

Photographer: Kara Allen

Description: OEL on PE-225-C/D in Poly I



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 8

Location: Lion Copolymer Geismar, LLC – Geismar Facility		
City: Geismar	County/Parish: Ascension	State: Louisiana

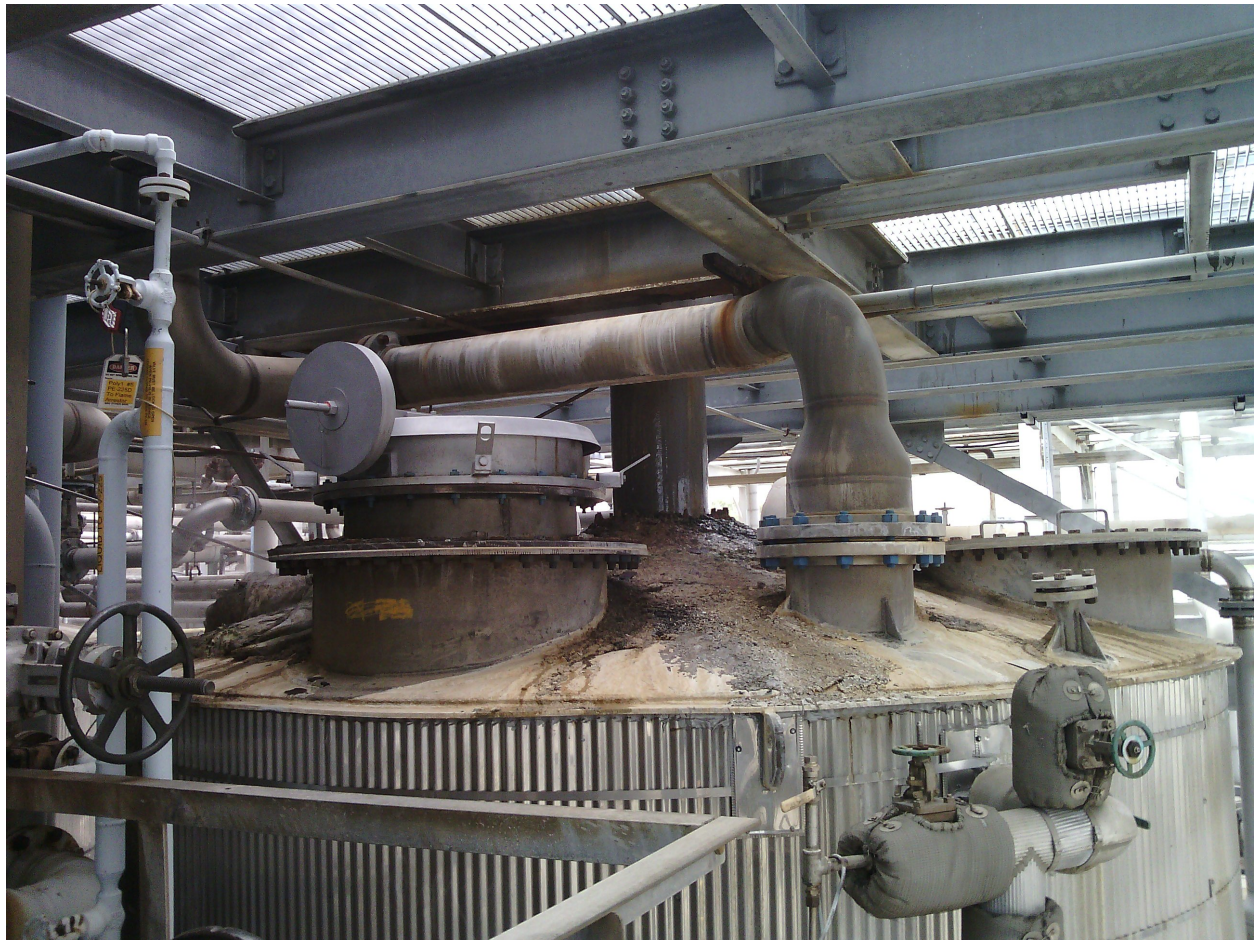


Photo File Name: FLIR0267.jpg

Date of Photo: 03/27/2025

Time of Photo: 09:35

Photographer: Kara Allen

Description: Weathered tank conditions near PV-225 in Poly I



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 9

Location: Lion Copolymer Geismar, LLC – Geismar Facility		
City: Geismar	County/Parish: Ascension	State: Louisiana



Photo File Name: FLIR0268.jpg

Date of Photo: 03/27/2025

Time of Photo: 09:42

Photographer: Kara Allen

Description: Potential OEL identified near hexane pot 91-PV-225 in Poly I



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 10

Location: Lion Copolymer Geismar, LLC – Geismar Facility		
City: Geismar	County/Parish: Ascension	State: Louisiana

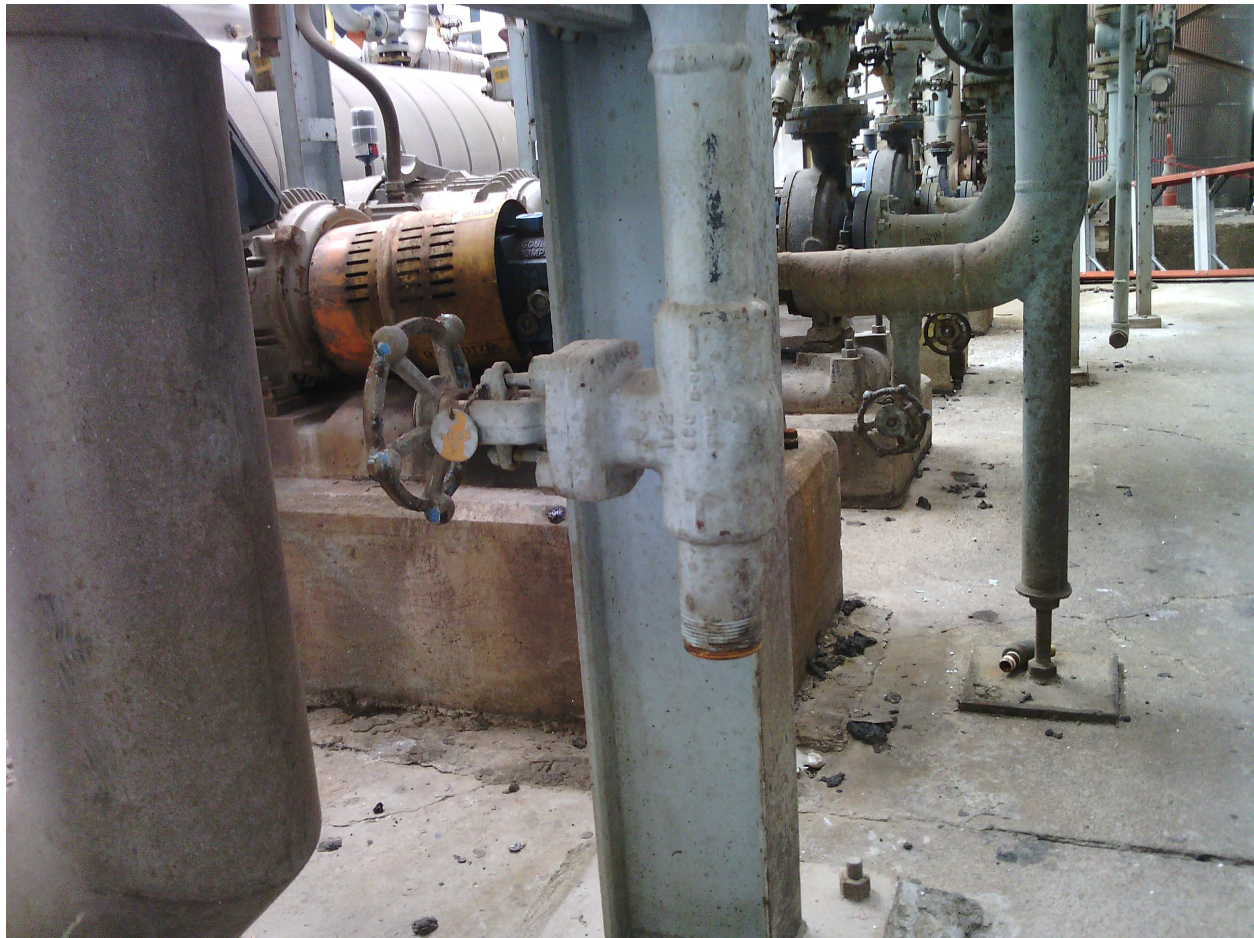


Photo File Name: FLIR0269.jpg

Date of Photo: 03/27/2025

Time of Photo: 09:53

Photographer: Kara Allen

Description: Potential OEL identified near tag 4083F in Poly I



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 11

Location: Lion Copolymer Geismar, LLC – Geismar Facility		
City: Geismar	County/Parish: Ascension	State: Louisiana



Photo File Name: FLIR0270.jpg

Date of Photo: 03/27/2025

Time of Photo: 09:56

Photographer: Kara Allen

Description: Debris and residue on and near condenser in Poly I



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 12

Location: Lion Copolymer Geismar, LLC – Geismar Facility		
City: Geismar	County/Parish: Ascension	State: Louisiana



Photo File Name: FLIR0277.jpg

Date of Photo: 03/27/2025

Time of Photo: 10:32

Photographer: Kara Allen

Description: Open "Hexane Sample" bucket with measured emissions in Poly II



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 13

Location: Lion Copolymer Geismar, LLC – Geismar Facility		
City: Geismar	County/Parish: Ascension	State: Louisiana



Photo File Name: FLIR0278.jpg

Date of Photo: 03/27/2025

Time of Photo: 10:35

Photographer: Kara Allen

Description: Monomer compressor steam safety vent to atmosphere in Poly II



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 14

Location: Lion Copolymer Geismar, LLC – Geismar Facility		
City: Geismar	County/Parish: Ascension	State: Louisiana



Photo File Name: FLIR0279.jpg

Date of Photo: 03/27/2025

Time of Photo: 10:47

Photographer: Kara Allen

Description: Potential OEL on 91-PV-119B



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 15

Location: Lion Copolymer Geismar, LLC – Geismar Facility		
City: Geismar	County/Parish: Ascension	State: Louisiana



Photo File Name: FLIR0279.jpg

Date of Photo: 03/27/2025

Time of Photo: 10:47

Photographer: Kara Allen

Description: Potential OEL on 91-PV-119A

Appendix 2

Video Log



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Appendix 2

Video Log

Location: Lion Copolymer Geismar, LLC / Geismar Facility		
City: Geismar	Ascension	State: Louisiana



Video 1

Video File Name: [FLIR0236.mp4](#)
 Date of Video: 03/26/2025
 Time of Video: 09:18
 Videographer: Kara Allen
 Description: Dry hexane IFR tank SV-105. Visible emissions observed from hatch at top of tank.



Video 2

Video File Name: [FLIR0238.mp4](#)
 Date of Video: 03/26/2025
 Time of Video: 09:25
 Videographer: Kara Allen
 Description: Dry hexane IFR tank SV-105. Visible emissions observed from hatch at top of tank.



Video 3

Video File Name: [FLIR0239.mp4](#)
 Date of Video: 03/26/2025
 Time of Video: 09:34
 Videographer: Kara Allen
 Description: Potential emissions observed from flange in Trilene area



Video 4

Video File Name: [FLIR0240.mp4](#)
 Date of Video: 03/26/2025
 Time of Video: 10:21
 Videographer: Kara Allen
 Description: Emissions observed from gauge near LDAR tag 5224 in Tank Farm.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Video Log

Location: Lion Copolymer Geismar, LLC / Geismar Facility		
City: Geismar	Ascension	State: Louisiana



Video 5

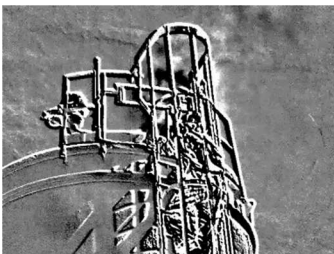
Video File Name: [FLIR0241.mp4](#)

Date of Video: 03/26/2025

Time of Video: 10:22

Videographer: Kara Allen

Description: Emissions observed from gauge near LDAR tag 5224 in Tank Farm.



Video 6

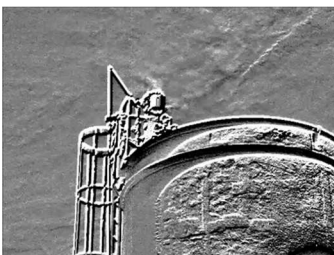
Video File Name: [FLIR0244.mp4](#)

Date of Video: 03/26/2025

Time of Video: 10:54

Videographer: Kara Allen

Description: Emissions observed from paraplex tank 91-SV-102.



Video 7

Video File Name: [FLIR0245.mp4](#)

Date of Video: 03/26/2025

Time of Video: 10:55

Videographer: Kara Allen

Description: Emissions observed from paraplex tank 91-SV-101.



Video 8

Video File Name: [FLIR0246.mp4](#)

Date of Video: 03/26/2025

Time of Video: 11:03

Videographer: Kara Allen

Description: Emissions observed from paraplex tank 91-SV-102.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

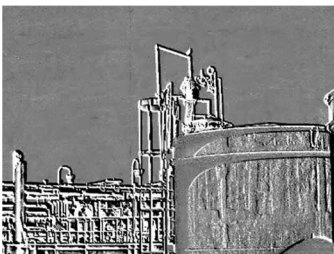
Video Log

Location: Lion Copolymer Geismar, LLC / Geismar Facility		
City: Geismar	Ascension	State: Louisiana



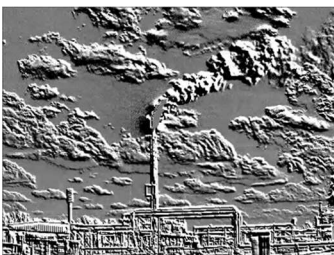
Video 9

Video File Name: [FLIR0248.mp4](#)
 Date of Video: 03/26/2025
 Time of Video: 11:04
 Videographer: Kara Allen
 Description: Emissions observed from paralex tank 91-SV-102.



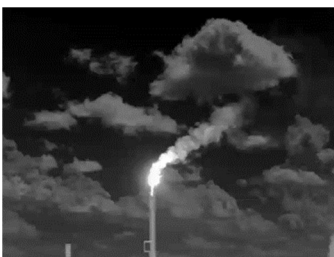
Video 10

Video File Name: [FLIR0249.mp4](#)
 Date of Video: 03/26/2025
 Time of Video: 11:04
 Videographer: Kara Allen
 Description: Emissions observed from paralex tank 91-SV-101.



Video 11

Video File Name: [FLIR0250.mp4](#)
 Date of Video: 03/26/2025
 Time of Video: 12:48
 Videographer: Kara Allen
 Description: Trailing hydrocarbons observed from flare.



Video 12

Video File Name: [FLIR0251.mp4](#)
 Date of Video: 03/26/2025
 Time of Video: 12:49
 Videographer: Kara Allen
 Description: Trailing hydrocarbons observed from flare.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Video Log

Location: Lion Copolymer Geismar, LLC / Geismar Facility		
City: Geismar	Ascension	State: Louisiana



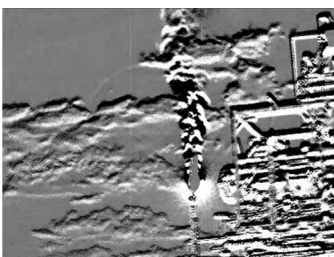
Video 13

Video File Name: [FLIR0252.mp4](#)
 Date of Video: 03/26/2025
 Time of Video: 13:32
 Videographer: Kara Allen
 Description: Vibrating flare header from knockout pot



Video 14

Video File Name: [FLIR0253.mp4](#)
 Date of Video: 03/26/2025
 Time of Video: 14:37
 Videographer: Kara Allen
 Description: Emissions observed from OEL near tag 2500A



Video 15

Video File Name: [FLIR0255.mp4](#)
 Date of Video: 03/26/2025
 Time of Video: 15:20
 Videographer: Kara Allen
 Description: Trailing hydrocarbons observed from flare.



Video 16

Video File Name: [FLIR0256.mp4](#)
 Date of Video: 03/26/2025
 Time of Video: 15:21
 Videographer: Kara Allen
 Description: Trailing hydrocarbons observed from flare.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Video Log

Location: Lion Copolymer Geismar, LLC / Geismar Facility		
City: Geismar	Ascension	State: Louisiana



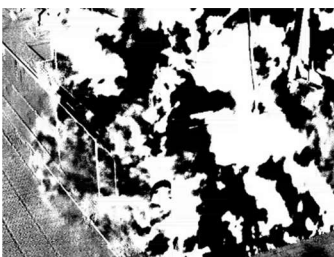
Video 17

Video File Name: [FLIR0259.mp4](#)
 Date of Video: 03/26/2025
 Time of Video: 15:36
 Videographer: Kara Allen
 Description: Flare observation post-steam adjustment



Video 18

Video File Name: [FLIR0261.mp4](#)
 Date of Video: 03/26/2025
 Time of Video: 15:39
 Videographer: Kara Allen
 Description: Potential bypass to flare header off of Poly I reactor 91-PA-200A.



Video 19

Video File Name: [FLIR0262.mp4](#)
 Date of Video: 03/27/2025
 Time of Video: 09:18
 Videographer: Kara Allen
 Description: Steam with strong odors at the agitator for slurry tank VV-034.



Video 20

Video File Name: [FLIR0263.mp4](#)
 Date of Video: 03/27/2025
 Time of Video: 09:18
 Videographer: Kara Allen
 Description: Steam with strong odors at the agitator for slurry tank VV-034.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Video Log

Location: Lion Copolymer Geismar, LLC / Geismar Facility		
City: Geismar	Ascension	State: Louisiana



Video 21

Video File Name: [FLIR0272.mp4](#)
 Date of Video: 03/27/2025
 Time of Video: 10:10
 Videographer: Kara Allen
 Description: Potential emissions leak identified from compressor condenser 91-UG-202 in Poly I.



Video 22

Video File Name: [FLIR0273.mp4](#)
 Date of Video: 03/27/2025
 Time of Video: 10:13
 Videographer: Kara Allen
 Description: Potential emissions leak identified from compressor condenser 91-UG-202 in Poly I.



Video 23

Video File Name: [FLIR0274.mp4](#)
 Date of Video: 03/27/2025
 Time of Video: 10:21
 Videographer: Kara Allen
 Description: Emissions observed from recycled water tank 91-PV-227 in Poly II.



Video 24

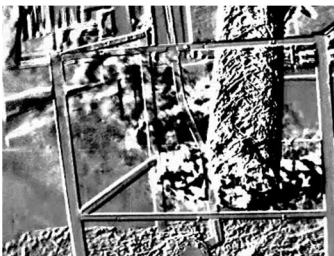
Video File Name: [FLIR0275.mp4](#)
 Date of Video: 03/27/2025
 Time of Video: 10:21
 Videographer: Kara Allen
 Description: Emissions observed from recycled water tank 91-PV-227 in Poly II.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Video Log

Location: Lion Copolymer Geismar, LLC / Geismar Facility		
City: Geismar	Ascension	State: Louisiana



Video 25

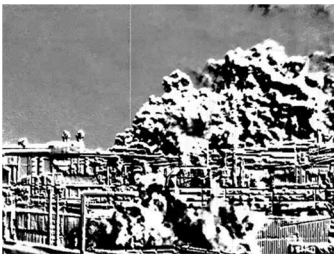
Video File Name: [FLIR0276.mp4](#)

Date of Video: 03/27/2025

Time of Video: 10:23

Videographer: Kara Allen

Description: Potential trailing hydrocarbons from vent in Poly II.



Video 26

Video File Name: [FLIR0280.mp4](#)

Date of Video: 03/27/2025

Time of Video: 11:01

Videographer: Kara Allen

Description: Potential trailing hydrocarbons from dryer vents on Finishing Building



Video 27

Video File Name: [FLIR0281.mp4](#)

Date of Video: 03/27/2025

Time of Video: 11:01

Videographer: Kara Allen

Description: Finishing Building

Appendix 3

Opening and Closing Conference Sign-In Sheets

Commence opening/pre-inspection meeting.....Time: 8:30am

[illegible]

Conclude opening/pre-inspection meeting Time: 8:40 am

Exit interview / Out-briefing Meeting

Commenced meeting..... Time: 4:15

Name	Title	Representing	Telephone No.
Kara Allen	Life Scientist	EPA RC	214-665-7255
Ben Rosenthal	Physical Scientist	EPA RC	214-665-6543
Sarah Frey	Physical Scientist	EPA RC	214-665-6499
Jake Williams	Environmental Scientist	LDEQ	
Cory Lormand	Environmental Scientist Staff	LDEQ	225-219-3040
Paul Thompson	Operations Manager	LION	
Dwane Brownfield	Plant Manager	LION	
KEITH GOZD	PLANT MANAGER	LION	
Valerie Matherne	Env. Specialist	Lion	
John Golda	Engineering Man.	by phone	
Bobby Rikhoff	VP Manufacturing	by phone	

Conclude meeting..... Time: 4:37 pm

3/27/2025

Appendix 4

FID Calibration Records



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
EPA Method 21 Calibration Data

Appendix 4

Location: Lion Copolymer Geismar, LLC / Geismar Facility		
City: Geismar	Parish: Ascension	State: Louisiana

Cylinder Information:

Gas Type	Lot Number	Expiration Date
Zero Air	269794	September 2025
500 ppm methane	304-402311271-1	12/23/2025
2,000 ppm methane	304-402802612-1	07/27/2027
10,000 ppm methane	304-402244727-1	10/04/2025

Daily Bump Checks:

March 25, 2025, 12:45	
Calibration Gas (ppm CH ₄ in air)	TVA H2
500 ppm	530 ppm
2,000 ppm	2,079 ppm
10,000 ppm	10,100 ppm
March 26, 2025, 08:07	
Calibration Gas (ppm CH ₄ in air)	TVA H1
500 ppm	501 ppm
2,000 ppm	2,030 ppm
10,000 ppm	10,000 ppm
March 26, 2025, 12:31	
Calibration Gas (ppm CH ₄ in air)	TVA H1
500 ppm	500 ppm
2,000 ppm	2,030 ppm
10,000 ppm	10,000 ppm
March 27, 2025, 08:21	
Calibration Gas (ppm CH ₄ in air)	TVA H1
500 ppm	505 ppm
2,000 ppm	2,006 ppm
10,000 ppm	10,000 ppm

Appendix 5

Field Measurement Data

Table 1. March 25, 2025 Field Measurements

Unit Area	Equipment/Location	EPA Measurement in ppm as total VOC ¹	Facility Measurement in ppm VOC ²	Inspector, Notes, and Observations
Trilene	95-PSV-5077. 2 nd reactor chiller.	8,100	6,700	Rosenthal. FID. Near rupture disc and connector
Trilene	95-PE-501. Compressor discharge.	1,300	1,200	Rosenthal. FID. At hexane header.
Trilene	Propylene Line.	5,200 - >10,000	>1,000	Rosenthal. FID. Valve on propylene line heading back to refrigeration unit near Tag 11962.
Trilene	In-service reactor 501A.	>10,000	-	Rosenthal. FID. Flange on agitator of reactor.
Trilene	In-service reactor 501A.	2,300	-	Rosenthal. FID. Front (deck side) of reactor.
Trilene	In-service reactor 501A.	15,000	-	Rosenthal. FID. Back (open-air side) of reactor.
Trilene	In-service reactor 501A.	>600	-	Rosenthal. FID. Background/ambient air readings near reactor

¹ Equipment: FID: Thermo Scientific Toxic Vapor Analyzer 2020. PID: mPower Electronics NEO PID. EPA Region 6 ID Number: FID H2; PID MP184. See Appendix 4 for EPA calibration data.

² A “-” indicates the Facility was not available for or did not provide a confirmation reading.

Table 2. March 26, 2025 Field Measurements

Unit Area	Equipment/Location	EPA Measurement in ppm as total VOC ¹	Facility Measurement in ppm VOC ²	Inspector, Notes, and Observations
Trilene	In-service reactor 501A.	>14,000	-	Rosenthal. FID. At flange on agitator of reactor.
Truck Loading	Hexane hose.	>50	-	Rosenthal. FID. Outside surface of hexane hose that had not been recently used.
Tank Farm	91-SV-002 hexane bullet tank.	47,000	>2,000 – 17,000	Rosenthal. FID. Pressure gauge near tag 5224. Videos 4 and 5.
Tank Farm	91-SV-102 paraplex tank.	>2,000	-	Rosenthal. FID. At conservation vent (vacuum side). Videos 6, 8, and 9.
Tank Farm	91-SV-102 paraplex tank.	17,000 – flameout	-	Rosenthal. FID. At tank hatch. Videos 6, 8, and 9.
Tank Farm	91-SV-102 paraplex tank.	>1,1000	-	Rosenthal. FID. On gauge line at roof connection. Videos 6, 8, and 9.
Tank Farm	91-SV-102 paraplex tank.	>800	-	Rosenthal. FID. Bolt on roof. Videos 6, 8, and 9.
Tank Farm	91-SV-101 paraplex tank.	>2,000	-	Rosenthal. FID. Atmospheric side of tank. Videos 7 and 10.
Tank Farm	SV-100 dry solvent hexane IFR tank.	>700	-	Rosenthal. FID. At hatch of tank.
Poly I/II Recovery	RV-101	8	30	Frey. PID. At flange near tag 482 and valve 6057 near RV-101.
Poly I/II Recovery	Gate valve 2326.	1,200	822	Rosenthal. FID. LDAR technician tightened valve and re-measured 555 ppm.
Poly I/II Recovery	Knockout pot PV-204.	1,582 – 63,000	1,587 – 70,000	Rosenthal. FID. Pressure gauge on PSV and rupture disc – each side.
Poly I/II Recovery	Valve 2343	3,890	9,700	Rosenthal. FID. Valve near tag 2343.
Poly I/II Recovery	Pump 91-RP-303	600	700	Rosenthal. FID. Plug by pump 91-RP-303.
Poly I/II Recovery	Diene tank.	947	-	Rosenthal. FID. Underside of plug in line going into top of tank.
Poly I/II Recovery	LDAR tag 2537	5,200	-	Rosenthal. FID. Plug at LDAR tag 2537. LDAR tech confirmed reading, measurement not recorded.
Poly I/II Recovery	OEL near tag 2500A	83,000 – flameout	-	Rosenthal. FID. OEL near LDAR tag 2500A, above 39140-100. Facility attempted repair while on-site. Video 14, Photo 3.

Poly I/II Recovery	50% PPG storage tank.	>70	-	Rosenthal. FID. Ambient readings from steam plume drifting toward tank.
Poly I/II Recovery	Propylene dryer CG-400-B.	1,000	-	Frey. PID. At flange at bottom thermocouple near tag 3004.
Poly I/II Recovery	Propylene dryer CG-400-A.	>500	-	Frey. PID. At bottom thermocouple.
Royalene – Poly I	“HEXANE” bucket in trash can.	2,100	1,100	Rosenthal. FID. Open, overturned bucket labeled “HEXANE” in an open trash can. Photo 4.
Royalene – Poly I	Nitrogen line to PE-210 from VV-220.	17,000	18,000	Rosenthal. FID. Valve on nitrogen-labeled line near LDAR tag 1076.

¹ Equipment: FID: Thermo Scientific Toxic Vapor Analyzer 2020. PID: mPower Electronics NEO PID. EPA Region 6 ID Number: FID H2; PID MP184. See Appendix 4 for EPA calibration data.

² A “-” indicates the Facility was not available for or did not provide a confirmation reading.

Table 3. March 27, 2025 Field Measurements

Unit Area	Equipment/Location	EPA Measurement in ppm as total VOC ¹	Facility Measurement in ppm VOC ²	Inspector, Notes, and Observations
Royalene – Poly I	Agitator PA-034 for slurry tank VV-034.	>11,000	-	Rosenthal. FID. Steam below agitator for slurry tank. Videos 19 and 20.
Royalene – Poly I	Agitator PA-034 for slurry tank VV-034.	>11,000	-	Frey. PID. Agitator for slurry tank. Videos 19 and 20.
Royalene – Poly I	Agitator PA-034	>600	-	Rosenthal. FID. Ambient background readings near PA-034. Videos 19 and 20.
Royalene – Poly I	PE-225-C/-D	500 – 1,200	-	Rosenthal. FID. Vent pipe off hexane condenser. Photo 6.
Royalene – Poly I	Compressor condenser 91-UG-202	>100	-	Rosenthal. FID. Ambient readings near compressor condenser and intercooler, exact source not identified.
Royalene – Poly II	Recycled water tank 91-PV-227.	700	-	Rosenthal. FID. Top of tank. Videos 23 and 24.
Royalene – Poly II	Recycled water tank 91-PV-227.	>100	-	Frey. PID. Small overflow pipe on tank.
Royalene – Poly II	“Hexane Sample” bucket.	>500	-	Frey. PID. Open bucket labeled “Hexane Sample” next to 91-PG-209A. Photo 12.
Royalene – Poly II	Agitator 91-PA-202.	2,200	-	Rosenthal. FID. Agitator on west slurry tank.

¹ Equipment: FID: Thermo Scientific Toxic Vapor Analyzer 2020. PID: mPower Electronics NEO PID. EPA Region 6 ID Number: FID H2; PID MP184. See Appendix 4 for EPA calibration data.

² A “-” indicates the Facility was not available for or did not provide a confirmation reading.

Appendix 6

Inspection Records Request

Lion Copolymer Geismar, LLC/Geismar Facility

GEISMAR, LA

EPA REGION 6 RECORDS/DOCUMENT REQUEST

GENERAL PROCEDURE

During the Clean Air Act (CAA) compliance investigation at Lion Copolymer Geismar (“LCG”) inspectors will be reviewing records kept for your facility. To expedite this portion of the investigation, EPA is providing you advanced notification of the records that will likely be reviewed on-site. For most documents, EPA will review the records on-site and request copies, as needed. In certain cases, document copies, either electronic or paper, will be requested for later review by EPA.

In preparation for this compliance investigation, EPA has divided this record and document request into three sections. The first section consists of documents that EPA would like available, and copies prepared (as noted) on March 25, 2025 when we arrive at the facility. The second section consists of documents that the EPA would like available electronically (through a shared OneDrive Folder) no later than 08:00 on March 27, 2025. The third section consists of documents that EPA would like available electronically no later than April 11, 2025. Additional documents may also be requested that are not listed below. During the investigation, EPA will work with LCG to develop a schedule to review these additional documents.

PART 1 – Please have these documents available on March 25, 2025

1. Effective Title V permit covering all authorized operations, including the most recent application for the Title V permit. (electronic)
2. Site Map with units labeled. (print 3 copies and electronic)
3. Facility process and wastewater treatment flow diagrams. Block flow diagrams and process flow diagrams are acceptable and preferred. (print 3 copies and electronic)
4. Records of start-up, shutdown, and malfunction at the Facility from March 1, 2022 to present. (electronic)
5. Group 1/Group 2 determination and demonstration calculations for process vent streams. (electronic)
6. Group 2 wastewater stream records, to include process unit identification and description of the process unit, stream identification code, concentration of individual HAPs in parts per million by weight (“ppmw”), and flow rate in liter per minute (“l/m”). (electronic)
7. Initial and most recent update to Notice of Compliance Status (NOCS) for 40 CFR Part 63 Subparts F, G, H (“HON”) and U. (electronic)
8. Inventory of all tanks located at LCG. Include tank contents, vapor pressure records, group determination, roof type, Group Status, whether the tanks are submerged fill pipe, year of construction, roof type – IFR, EFR, or fixed-roof, and whether the tanks are controlled or atmospheric. Include all pressure vessels. (electronic)

9. Tank inspection records required by applicable regulation from March 1, 2022 to present Include any APIs conducted in the past 10 years. Include any recorded Method 21 measurements, or other handheld air-monitoring equipment records associated to tank inspections. (electronic)
10. Standard Operating Procedures (“SOP”) for the determination of weighted average residual organic HAP content of crumb rubber. (electronic)

PART 2 – Please have these documents available by March 27, 2025 (electronic)

1. Provide records of daily and weekly visual inspections from March 1, 2022 to present
2. Provide LDAR repair records and delay of repair records from March 1, 2022 to present
3. Provide back-end process records from March 1, 2022 to present identifying:
 - a. The type of elastomer product processed
 - b. The type of process (solution process, emulsion process, etc.)
 - c. If the back-end process operation is subject to a residual organic HAP limitation, whether compliance is achieved by stripping technology, or by control or recovery devices
 - d. If the back-end process is at an affected source producing butyl rubber, epichlorohydrin elastomer, neoprene, or nitrile butadiene rubber, the organic HAP emission limitation calculation
4. Provide records of periodic sampling or stripper parameter monitoring, as appropriate, from March 1, 2022 to present to include sampling or monitoring procedures
5. Provide records of monthly weighted average residual organic HAP content of crumb rubber from March 1, 2022 to present
6. Provide semiannual Subpart U compliance exception reports from March 1, 2022 to present
7. Provide cooling tower monitoring, leak, and repair records from March 1, 2022 to present
8. The design specifications and performance demonstrations of the Royalene Flare, to include a description of the parameter(s) monitored.

PART 3 – Please have these documents available by April 11, 2025 (electronic)

1. Provide records of monthly, quarterly, annual, and post-release Method 21 monitoring from March 1, 2022 to present (spreadsheet/Access database preferred)
2. Provide the following information for the flare at the Facility:
 - a. Date of installation;
 - b. Manufacturer and model number;
 - c. Purpose
 - d. General design type (e.g., ground or elevated, multi-tip or single tip, assisted or nonassisted; if assisted, indicate whether flare is steam, air, or pressure assisted);
 - e. Minimum assist steam (in lb/hr) or assist air (in scf/hr) rate at all locations on the flare, and means of control of steam or air (e.g., valve, bypass orifice); and

- f. Description of how the amount of waste gas, purge gas, sweep gas, supplemental gas, assist steam, and assist air is measured or monitored
3. For each 15-minute block when regulated material was routed to the flare, please provide the following information in searchable and editable electronic format (e.g., spreadsheet):
 - a. The net heating value of the vent gas (“NHV_{vg}”) in British thermal units per standard cubic foot (“Btu/scf”) from March 1, 2022 to present;
 - b. The cumulative mass flow rate, in pounds per second, of the vent gas from March 1, 2022 to present;
 - c. The cumulative volumetric flow rate, in standard cubic feet per second, of the vent gas from March 1, 2022 to present;
 - d. The cumulative mass flow rate at which assist steam was added to the flare in pounds per second from March 1, 2022 to present; and
 - e. The cumulative volumetric flow rate at which assist steam and/or assist air was added to the flare, in scf per 15-minute block from March 1, 2022 to present

If the 15-minute block data for any or all of the subsections above are measured, but data is not available, provide an explanation for each time period missing data (e.g., flare not in service, instrumentation malfunction). If the 15-minute block data for any or all of the subsections above are not measured, please provide estimated values and how the estimation is derived.

4. Describe how assist steam or assist air for the flare is monitored or adjusted by operations staff and how assist media is adjusted in response to a smoking flare.
5. Describe how the pilot flame is monitored and how the monitoring data is recorded
 - a. Provide the monitoring data for the flare pilot flame from March 1, 2022, to present
 - b. Provide records of each 15-minute block during which there was at least one minute that no pilot flame is present when regulated material is routed to the flare from March 1, 2022 to present
6. For the Royalene flare, provide dates and durations of start-ups, shutdowns, and times during which the monitoring system/device was inoperative from March 1, 2022 to present