



Region 6 - Enforcement & Compliance Assurance Division
INSPECTION REPORT

Inspection Date(s):	04/14/2022	
Media Program:	Air	
Regulatory Program(s)	Title V	
Company Name:	CITGO Petroleum Corp	
Facility Name:	Lake Charles Manufacturing Complex	
Facility Physical Location:	4401 HWY. 108 S	
(city, state, zip code)	Sulphur, LA 70669	
Mailing address:	PO Box 1562	
(city, state, zip code)	Lake Charles, LA 70602	
County/Parish:	Calcasieu Parish	
Facility Phone Number	3377088431	
Facility Contact:	Phyllis Holifield	Environmental Manager
	pholifi@citgo.com	
FRS Number:	110000597248	
Identification/Permit Number:	LDEQ AI# 1250; Multiple Permit Numbers	
Media Identifier Number:	AFS# 2201900016, AFS#2201900057	
NAICS:	324110	
SIC:	2911	
Personnel participating in inspection:		
Nicholas Bobbs	EPA/OECA/OCE/AED	Inspector
Justin Chen	EPA/R6/ECAD	Inspector
Richard Helmich	EPA/OECA/OCEFT/NEIC	Chemist
Agustin Martinez	EPA/OECA/OCEFT/NEIC	Technician
Ali Gitipour	EPA/ORD/CEMM/AMCD	Physical Scientist
Marcie Sharpe	LDEQ/OEC/SD	Inspector
Phyllis Holifield	Citgo Petroleum Corp	Environmental Manager
Gus Fazio	Citgo Petroleum Corp	Operator
EPA Lead Inspector Signature/Date	NICHOLAS BOBBS <small>Digitally signed by NICHOLAS BOBBS Date: 2022.10.18 10:34:59 -04'00'</small>	
	Nicholas Bobbs	Date
Supervisor Signature/Date	JAMES LEATHERS <small>Digitally signed by JAMES LEATHERS Date: 2022.10.18 10:14:47 -05'00'</small>	
	James Leathers	Date

Section I – INTRODUCTION

PURPOSE OF THE INSPECTION

EPA inspectors Justin Chen, Richard Helmich, Agustin Martinez, Ali Gitipour, and I, Nicholas Bobbs, and LDEQ inspector Marcie Sharpe (“We”, “Us”) arrived at Citgo Petroleum Corp / Lake Charles Manufacturing Complex (the “Facility”, the “Site”, or “LCMC”) at 11:00 AM on April 14, 2022 for an unannounced Clean Air Act (“CAA”) inspection. We met with Phyllis Holifield, Environmental Manager and Gus Fazzio, Operator. I presented my credentials to Mrs. Holifield and informed her that this was an EPA inspection to determine compliance with the facility’s Title V Air Permit and the Clean Air Act. The scope of the inspection is a partial compliance evaluation (“PCE”) including a survey of the facility using the Geospatial Measurement of Air Pollutants (“GMAP”) Vehicle. This inspection occurred as part of the Administrator’s Multi-Scale Monitoring Project called the Pollution Accountability Team (“PAT”).

FACILITY DESCRIPTION

CITGO Petroleum Corporation operates a petroleum refinery in Lake Charles, Louisiana. The Lake Charles Manufacturing Complex (“LCMC”) process both domestic and foreign crude oils into benzene, propane, ethane, sulfur, gasoline, distillate, and residual oil, propylene, coke, and other miscellaneous products. LCMC operates under multiple permits, including but not limited to 2908-V11, 3010-V6, 3009-V6, 2920-V4, 2930-V7, 2935-V5, and 2796-V11.

Section II – OBSERVATIONS

The NEIC GMAP was driven by Mr. Martinez and the instruments were operated by Mr. Helmich and Mr. Gitipour. The GMAP surveyed the entire facility, where air pollution data was collected and recorded. A full report from the GMAP will be issued by NEIC at a later date.

Tank Farm

The GMAP detected elevated VOCs downwind of Tank 55. Facility personnel told me Tank 55 contains reformate. I recorded an infrared video of the tank using a GF320 FLIR camera. I recorded MOV_0168 with the FLIR camera of VOC emissions from an eyebrow vent on the west side of Tank 55. (AOC 1)

I observed visible plumes of yellowish smoke from Tank 805. Facility personnel told me Tank 805 is a heated tank containing molten sulfur. I recorded MOV_0163 with the FLIR camera of trailing VOC plumes from multiple mushroom vents on top of tank 805. (AOC 2)

The GMAP detected elevated total VOCs and toluene downwind of Tank 2. Facility personnel told me Tank 2 contains “long residual”. I recorded FLIR video MOV_0165 of Tank 2 from the ground. Flare B-14 was also a potential source and I recorded FLIR video MOV_0166. Mr. Fazzio told me that Flare B-14 controls vapors from the refinery docks, and that the refinery was loading gasoline, diesel, and jet fuel at

the docks at the time of the inspection. Mr. Chen and I went to the roof of Tank 2 and observed with the FLIR camera. Mr. Chen recorded FLIR video MOV_0191 of VOC emissions from a pressure relief vent on top of Tank 2. (AOC 3)

Wastewater Treatment Plant

The GMAP detected elevated total VOCs, toluene, and benzene downwind of the API oil-water separators. Inspector Chen and I went on top of the oil-water separators and observed a significant VOC plume using the FLIR camera from an elbow joint vent on top of API oil-water separator L-202. I recorded FLIR video MOV_0167 of a VOC plume coming from oil-water separator L-202. I also measured the concentration of VOCs downwind of the elbow joint on top of L-202 using a handheld PID “ppbRae 3000” and detected over 8 ppm of total VOCs. Mr. Fazzio told us that L-202 was out of service at the time of the inspection and was currently being purged with nitrogen prior to cleaning. The elbow joint is known as the “bird’s nest”, and the facility refers to the nitrogen purge as “purging through the bird’s nest”. Mr. Fazzio informed us that the facility’s standard operating procedure when purging the oil-water separators is to send the vapors to the flare for the wastewater treatment area, but when the flare is at capacity, they vent the nitrogen purge to the atmosphere instead. Mr. Fazzio said that the wastewater treatment flare was at capacity at the time of the inspection, which is why the emissions from the nitrogen purge of L-202 were being sent to atmosphere. (AOC 4)

Section III – AREAS OF CONCERN

EPA inspectors Nicholas Bobbs, Justin Chen, Richard Helmich, Agustin Martinez, and Ali Gitipour and LDEQ inspector Marcie Sharpe conducted a closing conference at CITGO Petroleum Corp – Lake Charles Manufacturing Complex at 15:00 on April 14, 2022, for the inspection. Facility representatives Phyllis Holifield and Gus Fazzio were present during the closing conference. During the closing conference, Inspector Bobbs reviewed the four Areas of Concern (AOC) noted during the inspection.

- 1) Elevated VOC concentrations downwind of Tank 55
- 2) VOC plume and visible emissions from Tank 805
- 3) Elevated VOC and toluene concentrations downwind of Tank 2
- 4) Elevated VOC, toluene, and benzene concentrations downwind of oil-water separator L-202 during nitrogen purging to atmosphere

Section IV – FOLLOW UP

No additional information was received by EPA after exiting the Facility on April 14, 2022.

Section V – LIST OF APPENDICES

Appendix 1 – Video Log –6 taken 4/14/22

Appendix 1

Video Log



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Appendix 1

Video Log

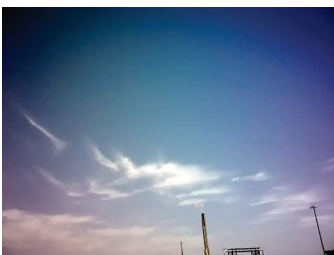
Location: CITGO Petroleum Corp – Lake Charles Manufacturing Complex		
City: Sulphur	Calcasieu Parish	State: Louisiana



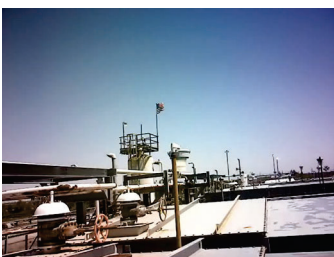
File Name: MOV_0163.mp4
 Date taken: 04/14/2022
 Time taken: 12:39 pm
 Videographer: Nicholas Bobbs
 Description: Optical Gas Image (OGI) video of emissions from mushroom vents on top of Tank 805



File Name: MOV_0165.mp4
 Date taken: 04/14/2022
 Time taken: 1:08 pm
 Videographer: Nicholas Bobbs
 Description: OGI video of emissions from Tank 2



File Name: MOV_0166.mp4
 Date taken: 04/14/2022
 Time taken: 1:11 pm
 Videographer: Nicholas Bobbs
 Description: OGI video of emissions from Flare B-14



File Name: MOV_0167.mp4
 Date taken: 04/14/2022
 Time taken: 2:01 pm
 Videographer: Nicholas Bobbs
 Description: OGI video of emissions from vent on API oil-water separator L-202



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Appendix 1

Video Log

Location: CITGO Petroleum Corp – Lake Charles Manufacturing Complex		
City: Sulphur	Calcasieu Parish	State: Louisiana



File Name: MOV_0168.mp4
Date taken: 04/14/2022
Time taken: 2:42 pm
Videographer: Nicholas Bobbs
Description: OGI video of emissions from eyebrow vent on west side of Tank 55



File Name: MOV_0191.mp4
Date taken: 04/14/2022
Time taken: 1:08 pm
Videographer: Justin Chen
Description: OGI video of emissions from pressure relief vent on roof of Tank 2