



# Shell Oil Products US

Martinez Refinery  
PO Box 711  
Martinez, CA 94553-0071  
Tel (925) 313-3000  
Fax (925) 313-3065

**CERTIFIED MAIL – RETURN RECEIPT REQUESTED**

January 27, 2020

Director of Compliance and Enforcement  
Bay Area Air Quality Management District  
375 Beale Street, Suite 600  
San Francisco, CA 94105  
Attn: Title V Reports

**Subject: Semi-Annual Title V Deviation Summary Report  
July 1, 2019 – December 31, 2019**

RECEIVED  
2020 JAN 27 PM 1:22  
BAY AREA AIR QUALITY  
MANAGEMENT DISTRICT

Dear Mr. Gove:

Please find Shell Oil Products US, Martinez Refinery's Semi-Annual Title V Deviation Summary report for the period of July 1, 2019 through December 31, 2019. This report also includes a summary of the inoperable monitors for the second half of 2019.

The refinery's Responsible Official, Jeff Harris, has signed the reports.

Please contact Rick Shih at (925) 313-0586 with any questions regarding this report.

Sincerely yours,

Gordon Johnson  
Manager, Environmental Affairs Department  
Shell Oil Products US, Martinez Refinery

Attachments



**BAAQMD Title V Permit  
6 Month Deviation Summary Report**

From 6/1/2019 to 12/31/2019

**A0011 Shell Oil Products US Martinez Refinery**

Facility Address: 3485 Pacheco Blvd  
Mailing Address: PO Box 711  
City: Martinez  
State: CA  
Zip Code: 94553-0071  
City: Martinez  
State: CA  
Zip Code: 94553-0071  
Contact: Rick Shih  
Title: Environmental Engineer  
Phone: (925) 313-0586

*Title V deviations for the reporting period are summarized below:*

Event Started:	7/16/2019	8:00 AM	
Stopped:	7/16/2019	3:30 PM	<input type="checkbox"/> Ongoing Event

Source Number:	
Abatement Device :	S602
Emission Point:	

May have resulted in a violation of :	
Permit:	
AQMD:	
Other:	40 CFR 63.670(f)

Event Description: Flare for Crude String Vapor Recovery System #3 (VRS3) showed an indicated excess of the net heating value of dilution (NHVdil)

Probable Cause: Limited vapor flow from vent gas blower.

Corrective actions or preventative steps taken: Adjusted air flow rate from air blower to account for lower vapor flow.



Event Started: 7/30/2019 9:00 AM  Ongoing Event  
Stopped: 7/30/2019 10:00 AM  Ongoing Event

Source Number: \_\_\_\_\_  
Abatement Device : \_\_\_\_\_  
Emission Point: \_\_\_\_\_

May have resulted in a violation of :  
Permit: \_\_\_\_\_  
AQMD: \_\_\_\_\_  
Other: 40 CFR 63.670(f)

Event Description: Flare for Interim Gasoline Vapor Recovery System #1 (VRS1) showed an indicated excess of the net heating value of dilution (NHVdil)

Probable Cause: Lower than anticipated vent gas flow.

Corrective actions or preventative steps taken: Adjusted air flow to account for lower vent gas flow.

Event Started: 6/6/2019 8:00 PM  Ongoing Event  
Stopped: 6/6/2019 9:00 PM  Ongoing Event

Source Number: 1512  
Abatement Device : A14  
Emission Point: \_\_\_\_\_

May have resulted in a violation of :  
Permit: \_\_\_\_\_  
AQMD: Regulation 6 Rule 1 Section 30  
Other: \_\_\_\_\_

Event Description: COB #3 Opacity analyzer 9AI2533 showed an indicated excess on greater than 1 Ringelmann for 3 minutes in a clock hour during the hour of 2000

Probable Cause: Activities during maintenance.

Corrective actions or preventative steps taken: Notified appropriate staff and investigated condition of unit including performance of ESP.

Event Started: 6/6/2019 2:00 PM  Ongoing Event  
Stopped: 6/6/2019 3:00 PM  Ongoing Event

Source Number: 1509  
Abatement Device : A13  
Emission Point: \_\_\_\_\_

May have resulted in a violation of :  
Permit: \_\_\_\_\_  
AQMD: Regulation 6 Rule 1 Section 30  
Other: \_\_\_\_\_

Event Description: COB #2 Opacity analyzer 9AI2531 showed an indicated excess on greater than 1 Ringelmann for 3 minutes in a clock hour during the hour of 1400

Probable Cause: Clearing of plugged hopper.

Corrective actions or preventative steps taken: Stationed observer to monitor and better manage activity level.



Event Started: 6/12/2019 6:00 PM  Ongoing Event  
Stopped: 6/12/2019 7:00 PM

Source Number: 4180  
Abatement Device : A4180  
Emission Point: \_\_\_\_\_

May have resulted in a violation of :  
Permit: \_\_\_\_\_  
AQMD: Regulation 9 Rule 1  
Other: \_\_\_\_\_

Event Description: SRU 4 stack SO2 analyzer 18A1601 showed an indicated excess of > 250 ppm hourly avg in the 1800 clock hour

Probable Cause: Insufficient oxygen due to abnormal composition of off-gas from SWS7, resulting in H2S rich tail gas stream

Corrective actions or preventative steps taken: Removed steam from SWS7 reboiler and then shut down SWS7.

Event Started: 9/15/2019 3:00 PM  Ongoing Event  
Stopped: 9/15/2019 4:00 PM

Source Number: 1512  
Abatement Device : A14  
Emission Point: \_\_\_\_\_

May have resulted in a violation of :  
Permit: \_\_\_\_\_  
AQMD: Regulation 6 Rule 1 Section 30  
Other: \_\_\_\_\_

Event Description: COB #3 Opacity analyzer 9A12533 showed an indicated excess on greater than 1 Ringelmann for 3 minutes in a clock hour during the hour of 1500

Probable Cause: While operating in 2 COB operation, COB#3 ESPs were unable to handle a fluctuation in demand.

Corrective actions or preventative steps taken: Reduced flue gas that was going into COB#3

Event Started: 8/15/2019 9:17 PM  Ongoing Event  
Stopped: 8/28/2019 3:30 PM

Source Number: 1500  
Abatement Device : \_\_\_\_\_  
Emission Point: P-24

May have resulted in a violation of :  
Permit: 18265  
AQMD: 9-10-502  
Other: \_\_\_\_\_

Event Description: Monitors 10A2680 & 10Z2681 were not online while furnaces (S1500, S1502, S1503, S1504, S1515) were exhausting into Chimney 2.

Probable Cause: Analyzers were not turned on at time of furnace startups.

Corrective actions or preventative steps taken: Turned on analyzers. Future corrective action to modify startup procedures and update control board display noting startup of CEMS analyzers prior to startup of furnaces.





Event Started: 10/9/2019 11:00 AM  
Stopped: 10/16/2019 1:00 PM  Ongoing Event

Source Number: 129  
Abatement Device : \_\_\_\_\_  
Emission Point: \_\_\_\_\_

May have resulted in a violation of :  
Permit: \_\_\_\_\_  
AQMD: Regulation 8, Rule 5, Section 3  
Other: \_\_\_\_\_

Event Description: During an inspection, the secondary seal on the internal floating roof of Tank 129 (S-6062) was found to have wiper sections that were cracked and torn.

Probable Cause: Potential wear and tear.

Corrective actions or preventative steps taken: Tank emptied and taken out of service and secondary seal replaced.

Event Started: 10/14/2019 4:47 PM  
Stopped: 10/14/2019 4:52 PM  Ongoing Event

Source Number: 1507  
Abatement Device : A12  
Emission Point: \_\_\_\_\_

May have resulted in a violation of :  
Permit: \_\_\_\_\_  
AQMD: Regulation 6, Rule 1, Section 3  
Other: \_\_\_\_\_

Event Description: COB #1 opacity analyzer 9A12529 showed an indicated excess of greater than 1 Ringelmann for more than 3 minutes in a clock hour during the hour of 16:00.

Probable Cause: Possibly due to insufficient ammonia slip during shut down of unit.

Corrective actions or preventative steps taken: Balance efforts between NOx and opacity control.

Event Started: 10/14/2019 10:59 PM  
Stopped: 10/15/2019 12:03 AM  Ongoing Event

Source Number: 4201  
Abatement Device : \_\_\_\_\_  
Emission Point: \_\_\_\_\_

May have resulted in a violation of :  
Permit: \_\_\_\_\_  
AQMD: Regulation 10  
Other: 40 CFR 63.670(d) and EPA-HQ

Event Description: During flaring activities, CF Flare (S4201) meters indicated an excess of the net heating value in the combustion zone (NHVcz) from 10/14/2019 10:59 pm to 10/15/2019 12:03 am.

Probable Cause: Control of supplemental gas did not sufficiently account for steam flow.

Corrective actions or preventative steps taken: Adjust supplemental gas controls to better account for steam flow.



Event Started: 10/15/2019 9:36 PM  Ongoing Event  
Stopped: 10/15/2019 9:57 PM  Ongoing Event

Source Number: 1507  
Abatement Device : A12  
Emission Point: \_\_\_\_\_

May have resulted in a violation of :  
Permit: Condition #22165 Part 6  
AQMD: Regulation 6, Rule 1 Section 30  
Other: \_\_\_\_\_

Event Description: COB#1 opacity analyzer 9A12529 showed an indicated excess of greater than 1 Ringelmann for more than 3 minutes in a clock hour during the 21:00 hour and greater than 1.5 Ringelmann over a 6 minute average in that same hour.

Probable Cause: During shut down of unit, condensate may have formed resulting in indicated excess.

Corrective actions or preventative steps taken: Unit was being shut down.

Event Started: 10/10/2019 6:15 PM  Ongoing Event  
Stopped: 10/11/2019 12:05 PM  Ongoing Event

Source Number: 4160  
Abatement Device : \_\_\_\_\_  
Emission Point: \_\_\_\_\_

May have resulted in a violation of :  
Permit: Condition #12271 Part 29  
AQMD: \_\_\_\_\_  
Other: \_\_\_\_\_

Event Description: An analyzer component failed which caused Rosemount 951C Nox Analyzer (AP A1129) to fail offline.

Probable Cause: Component associated with analyzer failed.

Corrective actions or preventative steps taken: Replaced fuse.

Event Started: 11/22/2019 2:38 PM  Ongoing Event  
Stopped: 11/22/2019 3:12 PM  Ongoing Event

Source Number: 1509  
Abatement Device : A13  
Emission Point: \_\_\_\_\_

May have resulted in a violation of :  
Permit: Condition #22165 Part 6  
AQMD: Regulation 6, Rule 1 Section 30  
Other: \_\_\_\_\_

Event Description: COB#2 opacity analyzer 9A12531 showed an indicated excess of greater than 1 Ringelmann for more than 3 minutes as well as greater than 1.5 Ringelmann over a 6 minute average during the 14:00 clock hour and again in the 15:00 clock hour.

Probable Cause: During instrument calibration, the controls were set such that the system became fuel rich, resulting in tripping off the ESP for safety reasons.

Corrective actions or preventative steps taken: Stopped calibration work and restarted ESP. Will be clarifying operating instructions for calibration activities.



Event Started: 11/26/2019 6:00 PM  Ongoing Event  
Stopped: 11/26/2019 7:00 PM  Ongoing Event

Source Number: 1432  
Abatement Device : A1431  
Emission Point: \_\_\_\_\_

May have resulted in a violation of :  
Permit: \_\_\_\_\_  
AQMD: Reg 9 Rule 1 Sec 307  
Other: \_\_\_\_\_

Event Description: SCOT #2 SO2 analyzer 8A1849 showed an indicated excess of greater than 250 ppm hourly average in the 1800 hour

Probable Cause: Foam levels increased in the SCOT2 stripper. In response, steam to the stripper was reduced to control levels. As a result, sufficient H2S was not removed in the stripper resulting in the exceedance.

Corrective actions or preventative steps taken: Increased anti-foam usage until stripper operation returned to normal.

Event Started: 11/2/2019 11:59 PM  Ongoing Event  
Stopped: 11/5/2019 12:00 PM  Ongoing Event

Source Number: 1129  
Abatement Device : \_\_\_\_\_  
Emission Point: \_\_\_\_\_

May have resulted in a violation of :  
Permit: \_\_\_\_\_  
AQMD: Regulation 8 Rule 5 Sec 401  
Other: \_\_\_\_\_

Event Description: Discovered on 12/10/2019 late quarterly tank seal inspection on external floating roof Tank-1129 Source#1129.

Probable Cause: Temporary problem with monitoring tool resulting in missed inspection.

Corrective actions or preventative steps taken: Corrected monitoring tool. Added additional level of review.

Event Started: 11/5/2019 11:59 PM  Ongoing Event  
Stopped: 11/14/2019 12:00 PM  Ongoing Event

Source Number: \_\_\_\_\_  
Abatement Device : \_\_\_\_\_  
Emission Point: \_\_\_\_\_

May have resulted in a violation of :  
Permit: \_\_\_\_\_  
AQMD: Regulation 8 Rule 5 Sec 401  
Other: \_\_\_\_\_

Event Description: Discovered on 12/10/2019 late quarterly tank seal inspection on external floating roof Tank-17596 Source#6069.

Probable Cause: Temporary problem with monitoring tool resulting in missed inspection.

Corrective actions or preventative steps taken: Corrected monitoring tool. Added additional level of review.



Event Started: 11/12/2019 11:59 PM  
 Stopped: 11/20/2019 12:00 PM  Ongoing Event

Source Number: \_\_\_\_\_  
 Abatement Device : \_\_\_\_\_  
 Emission Point: \_\_\_\_\_

May have resulted in a violation of :  
 Permit: \_\_\_\_\_  
 AQMD: Regulation 8 Rule 5 Sec 401  
 Other: \_\_\_\_\_


Event Description: Discovered on 12/10/2019 late quarterly tank seal inspection on external floating roof Tank-17597 Source#6070.

Probable Cause: Temporary problem with monitoring tool resulting in missed inspection.

Corrective actions or preventative steps taken: Corrected monitoring tool. Added additional level of review.

**Certification Statement**

I certify under penalty of law that based on the information and belief formed after reasonable inquiry, the statements and information in this document and in all attachments and other materials are true, accurate, and complete.

x  Jeff Harris General Manager 22-Jan-2020  
 Signature of Responsible Official Print Name Title Date





BAAQMD Title V Permit  
6 Month Monitoring Report

From 6/1/2019 to 12/31/2019

**A0011 Shell Oil Products US Martinez Refinery**

Facility Address: 3485 Pacheco Blvd PO Box 711  
 City: Martinez State: CA City: Martinez State: CA  
 Zip Code: 94553-0071 Zip Code: 94553-0071

Contact: Rick Shih Title: Environmental Engineer Phone: (925) 313-0586

Inoperable monitors as defined by BAAQMD Regulations 1-522 and 1-523 for the reporting period are summarized below:

Started	Stopped	Source (S#)	Abatement Device (A#)	Emission Point (P#)	CEM	GLM	Gas	Parametric	NOx	SO2	CO	H2S	TRS	NH3	O2	CO2	H2O	LTA	Lead	Steam Flow	Wind Dir.	Wind Speed	pH	Temp.	VOC	Press.	Gauge		
6/12/2019 10:40 PM	6/14/2019 5:15 PM																												
Event Description:		Flexigas flare flowmeter 14F4232 has been malfunctioning >24 hours.																											
7/4/2019 6:00 AM	7/5/2019 1:28 PM																												
Event Description:		F-63 O2 CEM 6A2277 was malfunctioning >24 hours. Lost communication.																											
7/4/2019 6:00 AM	7/5/2019 1:28 PM																												
Event Description:		F-63 NOx CEM 6A2276 was malfunctioning >24 hours. Lost communication.																											
7/12/2019 3:40 PM	7/17/2019 12:30 PM																												
Event Description:		VRS 3 Flare flowmeter 1F1271 has been malfunctioning >24hrs. Reading is suspect																											
7/12/2019 3:40 PM	7/15/2019 4:55 PM																												
Event Description:		VRS #3 Flare BTU analyzer 1A1255 has been malfunctioning >24hrs. Analyzer reading is suspect.																											
7/22/2019 7:30 AM	7/23/2019 1:30 PM																												
Event Description:		HRSG 1 Nox analyzer (66A1417) has been out of service >24hrs. Analyzer is being replaced.																											
7/22/2019 7:30 AM	7/23/2019 1:30 PM																												
Event Description:		HRSG 1 Stack O2 CEM (66A1416) has been out of service >24hrs. Analyzer is being replaced.																											
7/23/2019 7:45 AM	7/24/2019 1:00 PM																												
Event Description:		Cogen 2 O2 CEM (66A1616) has been out of service >24hrs. Analyzer is being replaced																											
7/23/2019 7:45 AM	7/24/2019 1:00 PM																												
Event Description:		Cogen 2 Nox analyzer (66A1617) has been out of service >24hrs. Analyzer is being replaced.																											



Started	Stopped	Source (S#)	Abatement Device (A#)	Emission Point (P#)	CEM	GLM	Gas	Parametric	NOx	SO2	CO	H2S	TRS	NH3	O2	CO2	H2O	LTA	Lead	Steam Flow	Wind Dir.	Wind Speed	pH	Temp	YOC	Press.	Gauge			
7/26/2019 10:30 PM	7/30/2019 1:15 PM																													
Event Description: CF Flare BTU analyzer (67-AI 250) has been malfunctioning >24hrs																														
8/17/2019 7:35 AM	8/19/2019 10:05 AM																													
Event Description: CF Flare BTU analyzer (67-AI 250) has been malfunctioning >24hrs																														
8/18/2019 9:50 AM	8/23/2019 2:25 PM																													
Event Description: HRSG 2 NOx analyzer (66-AI 617) has been malfunctioning >24hrs																														
8/18/2019 9:50 AM	8/23/2019 2:25 PM																													
Event Description: HRSG 2 O2 analyzer (66-AI 616) has been malfunctioning >24hrs																														
8/20/2019 8:40 AM	8/23/2019 7:32 PM																													
Event Description: Fuel Gas Blend Drum Specific Gravity analyzer (9A413) has been malfunctioning >24hrs																														
8/20/2019 8:40 AM	8/23/2019 7:32 PM																													
Event Description: FGBD BTU analyzer (9A2716) has been malfunctioning >24hrs																														
8/29/2019 8:35 AM	8/30/2019 10:55 AM																													
Event Description: Fuel Gas Blend Drum Specific Gravity analyzer (9A413) has been malfunctioning >24hrs																														
8/29/2019 8:35 AM	8/30/2019 10:55 AM																													
Event Description: FGBD BTU analyzer (9A2716) has been malfunctioning >24hrs																														
9/6/2019 8:05 AM	9/7/2019 12:30 PM																													
Event Description: Chimney 1 West Breathe NOx analyzer (2A2727) has been malfunctioning >24hrs																														
9/21/2019 4:26 AM	8/22/2019 11:59 AM																													
Event Description: COB2 NH3 analyzer (9A1022) has been malfunctioning >24hrs																														
10/20/2019 2:00 PM	10/21/2019 2:32 PM																													
Event Description: CWT HC analyzer (40-A 1708) has been inoperative > 24 hours.																														
10/25/2019 2:00 PM	10/27/2019 2:45 PM																													
Event Description: COB #1 / NOx / 9 A 2561 analyzer has been malfunctioning >24hrs																														
11/3/2019 7:46 AM	11/4/2019 5:50 PM																													
Event Description: RFG to Clean Fuels H2S analyzer (9 A 2831) and TRS analyzer (9 A 2825) has been inoperative > 24 hours.																														
11/26/2019 2:55 PM	11/28/2019 12:35 PM																													
Event Description: Clean Fuels CWT HC analyzer (40A1708) was inoperative >24 hours.																														
12/3/2019 9:00 AM	12/4/2019 3:30 PM																													
Event Description: Shell Ave GLM / H2S / 1 A 1469 analyzer has been inoperative >24																														



Started	Stopped	Source (S#)	Abatement Device (A#)	Emission Point (P#)	CEM	GLM	Gas	Parametric NOx	SO2	CO	H2S	TRS	NH3	O2	CO2	H2O	LTA	Lead	Steam Flow	Wind Dir.	Wind Speed	pH	Temp.	YOC	Press.	Gauge	
12/8/2019 10:18 PM	12/10/2019 9:10 AM				<input checked="" type="checkbox"/>						<input checked="" type="checkbox"/>																
Event Description: RFG / H2S / 9 A 2831 analyzer has been malfunctioning >24hrs																											
12/11/2019 11:55 AM	12/12/2019 6:00 PM				<input checked="" type="checkbox"/>																						
Event Description: SRU / SCOT 1 & 2 / SCOT #1&2 / 8 A 0850 O2 analyzer has been inoperative >24 hours.																											
12/12/2019 2:00 PM	12/20/2019 12:15 PM				<input checked="" type="checkbox"/>																						
Event Description: Inoperative Monitor report for Air Products (HP3) Site #1 A-0011 and Source S-4160/4161. They had to replace a major part on our CEMS O2 analyzer. The O2 monitor is used in the calculation for their 3-HR RA 's at 3% O2.																											
12/16/2019 9:35 AM	12/17/2019 6:00 PM				<input checked="" type="checkbox"/>																						
Event Description: COB #1 / NOx / 9 A 2561 & COB #1 / O2 / 9 A 2610 analyzers have been inoperative >24 hours.																											

**Certification Statement**

I certify under penalty of law that based on the information and belief formed after reasonable inquiry, the statements and information in this document and in all attachments and other materials are true, accurate, and complete.

x  \_\_\_\_\_  
 Signature of Responsible Official

\_\_\_\_\_   
 Print Name

\_\_\_\_\_   
 Title

\_\_\_\_\_   
 Date

\_\_\_\_\_   
 Date

