PHILLIPS 66
RODEO RENEWABLE ENERGY COMPLEX
1380 San Pablo Avenue
Rodeo, CA 94572

PROVIDING ENERGY. IMPROVING LIVES.

November 24, 2025

302-ESDR-25
02-E-01-B

Via E-Mail at Compliance@BAAQMD.gov

Mail Stop FM1
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109

Subject: Determination and Reporting of Cause:
MP-30 Flare (S-398) September 23 - 26, 2025
BAAD 12-12-406
Phillips 66, Rodeo Renewable Energy Complex (Plant 16)

As required by BAAD 12-12-406 a Causal Analysis was conducted on the following flaring incident. A Causal Analysis is required when the volume flared exceeds 0.5 MMSCF or sulfur dioxide emissions are greater than 500 pounds. The flaring of scrubbed and unscrubbed gas occurred intermittently from September 23, 2025, at approximately 12:12 a.m. until September 26, 2025 at approximately 3:39pm. The report contents are based on requirements of the BAAD June 25, 2007 Compliance Advisory (BCA) and are referenced as such.

- The BAAD 500 lb. SO2 report threshold **was not** exceeded.
- The BAAD 500,000 scf/calendar day flow threshold was exceeded on September 23, September 25, and September 26.

Total Volume and Emissions from Affected Flares [BCA 4, 5, 8, 9; CD 153(a) & (b)]:

Refinery Main Flare (S-296):

Date/Flare	Start Time	End Time	Duration (Hrs:Min)	Gas Flow Rate, SCF	Avg. H_2S Mole %*	SO_2, lb.	CH4, lb.	NMHC, lb.
9/26/2025	6:56 a.m.	3:39 p.m.	8:43 (int)	168,722	0.01%	2.8	2.5	3.4
Totals			**8:43 (int)**	**168,722**		**2.8**	**2.5**	**3.4**

MP-30 Flare (S398):

Date/Flare	Start Time	End Time	Duration (Hrs:Min)	Gas Flow Rate, SCF	Avg. H_2S Mole %*	SO_2, lb.	CH4, lb.	NMHC, lb.
9/23/2025	12:12 a.m.	12:15 p.m.	12:03 (int)	993,033	0.01%	16	284	44.0
9/25/2025	1:40 p.m.	11:59 p.m.	10:19 (int)	1,769,826	0.01%	29	643	88.2
9/26/2025	12:00 a.m.	7:00 a.m.	7:00 (int)	970,210	0.01%	16	471	64.4
Totals			**29:22 (int)**	**3,733,069**		**61**	**1,398**	**197**

SO_2 emissions are calculated using the following equation:
SO_2 (lb.) = (FR) * (H_2S conc.) * (0.1689)
FR = total flow rate during flaring, scf
0.1689 = [lb-mol H_2S/379 scf H_2S]*[64 lb SO_2/mol H_2S]
Int = intermittent flare activity

Flaring Event Description [BCA 6, 7, 10, 11]

Flaring began on September 23, 2025 at 12:12am when Phillips 66 began the shutdown of Unit 246 (U246) for maintenance work. As part of the unit shutdown, and to prepare for entry, the unit was depressured and purged. The purged material was initially vented directly to the MP-30 flare which resulted in the flaring of unscrubbed gases. The purging activities continued intermittently on September 25 and 26, 2025 and included Main Flare.

Primary Cause and Contributing Factors [BAAD 12-12-406.1, BCA 11, CD 153(d)]:

The primary cause of the flaring was the shutdown, depressuring, and purging of Unit 246. During purging and cooling, nitrogen is also sent directly to the flare.

Measures to Limit Duration/Quantity [BCA 10, 11, 12, CD 153(c)]

No new prevention measures or corrective actions were identified. These activities were planned maintenance activities that will re-occur in the future.

Prevention Measures [BAAD 12-12-406.2, BCA 16, CD 153(e) & 154]:

No new prevention measures or corrective actions were identified. The shutdown and depressurization of units is a planned activity.

Was the Flaring the Result of an Emergency [BAAD 12-12-406.4, BCA 13]:

No.

Was flaring due to a Regulatory Mandate to Vent to a Flare [BAAD 12-12-406.4, BCA 15]:

No.

Consistency with Flare Minimization Plan (FMP) [BAAD 12-12-406.3, BCA 14]:

The activities described that resulted in flaring are consistent with activities included in the Flare Minimization Plan. Specifically, these activities can be found described in the FMP in more detail in Section 4.2 as described below:

- Maintenance, Turnaround, Startup, and Shutdown – Equipment Preparation for Maintenance, Depressuring and Purging

Please contact Nina Thomas at 510-245-5197 if you have any questions.

Sincerely,

Brent Eastep
Sr. Manager, Environmental