Appendix J – Regulation 2-5-114 (Limited Exemption- Modified Source with No Increase in Toxicity-Weighted Emissions) Emissions Calculations

Appendix J, Table J-1
Historical 12-Month Rolling Maximum (Post-Project) vs. 3-Year Baseline TAC Emissions for Renewable Naphtha Storage Tanks - Regulation 2-5-114 Analysis
Phillips 66 Company - San Francisco Refinery, Rodeo, CA

					Emissions		Table 2-5-1	CP Tox Wt'd Emissions		2-5-114	Table 2-5-1	CREL Tox Wt'd Emissions		2-5-114
Source #	**Description**	**Pollutant**	**CAS No.**	**Unit**	**3-Year Baseline**	**12-Month Max (Post-Project) (from Table C-8)**	**CP**	**3-Year Baseline**	**12-Month Max (Post-Project)**	**Post-Proj - Pre-Proj (CP Wt'd)**	**CREL**	**3-Year Baseline**	**12-Month Max (Post-Project)**	**Post-Proj - Pre-Proj (CREL Wt'd)**
										Exempt	-1.01				Exempt	-3.35
		1,3-Butadiene	106990	lbs/yr	--	--	0.6				2			
		Benzene	71432	lbs/yr	9.78	0.01	0.1	0.98	0.00	-0.98	3	3.26	0.00	-3.26
		Cresol (mixed isomers)	1319773	lbs/yr	--	--					600	0.00	0.00	0.00
		Ethylbenzene	100414	lbs/yr	3.54	0.02	0.0087	0.03	0.00	-0.03	2000	0.00	0.00	0.00
		Hydrogen sulfide	7783064	lbs/yr	--	--					10	0.00	0.00	0.00
122	Tank 167	Naphthalene	91203	lbs/yr	--	0.00	0.12	0.00	0.00	0.00	9	0.00	0.00	0.00
		n-Hexane	110543	lbs/yr	28.17	82.62					7000	0.00	0.01	0.01
		PAH (as B(a)P equivalent)	1151	lbs/yr	--	--	86							
		Phenol	108952	lbs/yr	--	--					200	0.00	0.00	0.00
		Propylene	115071	lbs/yr	--	--					3000	0.00	0.00	0.00
		Styrene	100425	lbs/yr	--	--					900	0.00	0.00	0.00
		Toluene	108883	lbs/yr	23.17	0.10					300	0.08	0.00	-0.08
		Xylene (mixed isomers)	1330207	lbs/yr	19.08	0.02					700	0.03	0.00	-0.03
										Exempt	-0.64				Exempt	-2.17
		1,3-Butadiene	106990	lbs/yr	--	--	0.6				2			
		Benzene	71432	lbs/yr	5.93	0.01	0.1	0.59	0.00	-0.59	3	1.98	0.00	-1.97
		Cresol (mixed isomers)	1319773	lbs/yr	--	--					600	0.00	0.00	0.00
		Ethylbenzene	100414	lbs/yr	4.10	0.03	0.0087	0.04	0.00	-0.04	2000	0.00	0.00	0.00
		Hydrogen sulfide	7783064	lbs/yr	--	--					10	0.00	0.00	0.00
125	Tank 170	Naphthalene	91203	lbs/yr	0.13	0.00	0.12	0.02	0.00	-0.01	9	0.01	0.00	-0.01
		n-Hexane	110543	lbs/yr	32.50	84.61					7000	0.00	0.01	0.01
		PAH (as B(a)P equivalent)	1151	lbs/yr	--	--	86							
		Phenol	108952	lbs/yr	--	--					200	0.00	0.00	0.00
		Propylene	115071	lbs/yr	--	--					3000	0.00	0.00	0.00
		Styrene	100425	lbs/yr	0.10	--					900	0.00	0.00	0.00
		Toluene	108883	lbs/yr	47.37	0.11					300	0.16	0.00	-0.16
		Xylene (mixed isomers)	1330207	lbs/yr	18.62	0.02					700	0.03	0.00	-0.03
										Exempt	-0.16				Exempt	-0.53
		1,3-Butadiene	106990	lbs/yr	--	--	0.6				2			
		Benzene	71432	lbs/yr	1.48	0.00	0.1	0.15	0.00	-0.15	3	0.49	0.00	-0.49
		Cresol (mixed isomers)	1319773	lbs/yr	--	--					600	0.00	0.00	0.00
		Ethylbenzene	100414	lbs/yr	1.05	0.01	0.0087	0.01	0.00	-0.01	2000	0.00	0.00	0.00
		Hydrogen sulfide	7783064	lbs/yr	--	--					10	0.00	0.00	0.00
126	Tank 172	Naphthalene	91203	lbs/yr	0.05	0.00	0.12	0.01	0.00	-0.01	9	0.01	0.00	-0.01
		n-Hexane	110543	lbs/yr	9.01	17.57					7000	0.00	0.00	0.00
		PAH (as B(a)P equivalent)	1151	lbs/yr	--	--	86							
		Phenol	108952	lbs/yr	--	--					200	0.00	0.00	0.00
		Propylene	115071	lbs/yr	--	--					3000	0.00	0.00	0.00
		Styrene	100425	lbs/yr	0.02	--					900	0.00	0.00	0.00
		Toluene	108883	lbs/yr	8.43	0.02					300	0.03	0.00	-0.03
		Xylene (mixed isomers)	1330207	lbs/yr	4.75	0.00					700	0.01	0.00	-0.01

Source #	Description	Pollutant	CAS No.	Unit	3-Year Baseline	12-Month Max (Post-Project) (from Table C-8)	CP	3-Year Baseline	12-Month Max (Post-Project)	Post-Proj - Pre-Proj (CP Wt'd)	CREL	3-Year Baseline	12-Month Max (Post-Project)	Post-Proj - Pre-Proj (CREL Wt'd)
										Exempt	-0.03				Exempt	-0.13
		1,3-Butadiene	106990	lbs/yr	--	--	0.6				2				
		Benzene	71432	lbs/yr	0.36	0.03	0.1	0.04	0.00	-0.03	3	0.12	0.01	-0.11
		Cresol (mixed isomers)	1319773	lbs/yr	--	--					600	0.00	0.00	0.00
		Ethylbenzene	100414	lbs/yr	0.07	0.02	0.0087	0.00	0.00	0.00	2000	0.00	0.00	0.00
		Hydrogen sulfide	7783064	lbs/yr	0.51	--					10	0.05	0.00	-0.05
139	Tank 204	Naphthalene	91203	lbs/yr	0.00	0.00	0.12	0.00	0.00	0.00	9	0.00	0.00	0.00
		n-Hexane	110543	lbs/yr	0.02	206.23					7000	0.00	0.03	0.03
		PAH (as B(a)P equivalent)	1151	lbs/yr	--	--	86							
		Phenol	108952	lbs/yr	--	--					200	0.00	0.00	0.00
		Propylene	115071	lbs/yr	--	--					3000	0.00	0.00	0.00
		Styrene	100425	lbs/yr	--	--					900	0.00	0.00	0.00
		Toluene	108883	lbs/yr	0.14	0.17					300	0.00	0.00	0.00
		Xylene (mixed isomers)	1330207	lbs/yr	0.11	0.02					700	0.00	0.00	0.00
										Exempt	-0.54				Exempt	-1.84
		1,3-Butadiene	106990	lbs/yr	--	--	0.6				2				
		Benzene	71432	lbs/yr	5.33	0.02	0.1	0.53	0.00	-0.53	3	1.78	0.01	-1.77
		Cresol (mixed isomers)	1319773	lbs/yr	0.02	--					600	0.00	0.00	0.00
		Ethylbenzene	100414	lbs/yr	0.55	0.01	0.0087	0.00	0.00	0.00	2000	0.00	0.00	0.00
		Hydrogen sulfide	7783064	lbs/yr	--	--					10	0.00	0.00	0.00
140	Tank 205	Naphthalene	91203	lbs/yr	0.00	0.00	0.12	0.00	0.00	0.00	9	0.00	0.00	0.00
		n-Hexane	110543	lbs/yr	23.85	117.78					7000	0.00	0.02	0.01
		PAH (as B(a)P equivalent)	1151	lbs/yr	--	--	86							
		Phenol	108952	lbs/yr	0.00	--					200	0.00	0.00	0.00
		Propylene	115071	lbs/yr	167.80	--					3000	0.06	0.00	-0.06
		Styrene	100425	lbs/yr	0.40	--					900	0.00	0.00	0.00
		Toluene	108883	lbs/yr	7.58	0.10					300	0.03	0.00	-0.02
		Xylene (mixed isomers)	1330207	lbs/yr	2.10	0.01					700	0.00	0.00	0.00
										Exempt	-0.57				Exempt	-1.91
		1,3-Butadiene	106990	lbs/yr	--	--	0.6				2				
		Benzene	71432	lbs/yr	5.47	0.01	0.1	0.55	0.00	-0.55	3	1.82	0.00	-1.82
		Cresol (mixed isomers)	1319773	lbs/yr	--	--					600	0.00	0.00	0.00
		Ethylbenzene	100414	lbs/yr	2.33	0.01	0.0087	0.02	0.00	-0.02	2000	0.00	0.00	0.00
		Hydrogen sulfide	7783064	lbs/yr	--	--					10	0.00	0.00	0.00
150	Tank 241	Naphthalene	91203	lbs/yr	0.04	0.00	0.12	0.00	0.00	0.00	9	0.00	0.00	0.00
		n-Hexane	110543	lbs/yr	25.85	81.41					7000	0.00	0.01	0.01
		PAH (as B(a)P equivalent)	1151	lbs/yr	--	--	86							
		Phenol	108952	lbs/yr	--	--					200	0.00	0.00	0.00
		Propylene	115071	lbs/yr	--	--					3000	0.00	0.00	0.00
		Styrene	100425	lbs/yr	--	--					900	0.00	0.00	0.00
		Toluene	108883	lbs/yr	23.52	0.07					300	0.08	0.00	-0.08
		Xylene (mixed isomers)	1330207	lbs/yr	12.46	0.01					700	0.02	0.00	-0.02

Appendix J, Table J-2
3-Year Baseline POC Emissions for Storage Tanks
Phillips 66 Company - San Francisco Refinery, Rodeo, CA

Source #	Tank Number	POC Emissions[1]						
		Roof Type	Vapor Control Efficiency	Stock	Avg. TVP (psia)	Throughput (bbl/yr)	POC Emissions (lb/yr)	POC Emissions (ton/yr)
June 1, 2018 to May 31, 2019								
122	Tank 100[5]	EFRT	0%	Light Hydrocracked Naphtha	6.5774	1,668,478	3,511.03	1.756
125	Tank 170	EFRT	0%	Multiple	3.9621	699,155	1,788.15	0.894
126	Tank 172	IFRT	0%	Multiple	2.4375	293,457	258.43	0.129
139	Tank 204	FixedRoof	98%	Light Coker Gas Oil	2.9043	594,132	4,664.46	2.332
140	Tank 205	FixedRoof	98%	Light Slop Oil	2.3369	334,790	1,311.49	0.656
150	Tank 241	EFRT	0%	Gasoline	6.2313	519,471	3,625.36	1.813
June 1, 2019 to May 31, 2020								
122	Tank 167	EFRT	0%	Light Hydrocracked Naphtha	6.0427	1,464,813	3,249.18	1.625
125	Tank 170	EFRT	0%	Reformate	3.1379	636,059	1,457.01	0.729
126	Tank 172	IFRT	0%	Multiple	2.5348	591,549	312.59	0.156
139	Tank 204	FixedRoof	98%	Light Coker Gas Oil	1.7725	505,918	2,687.32	1.344
140	Tank 205	FixedRoof	98%	Light Slop Oil	2.4152	427,370	1,673.85	0.837
150	Tank 241	EFRT	0%	Gasoline	5.6813	1,051,624	3,249.21	1.625
June 1, 2020 to May 31, 2021								
122	Tank 167	EFRT	0%	Light Hydrocracked Naphtha	6.0592	1,532,446	3,194.51	1.597
125	Tank 170	EFRT	0%	Reformate	1.8018	360,994	773.05	0.387
126	Tank 172	IFRT	0%	Multiple	0.7127	370,053	128.23	0.064
139	Tank 204	FixedRoof	98%	Light Coker Gas Oil	1.8552	472,431	3,168.25	1.584
140	Tank 205	FixedRoof	98%	Light Slop Oil	3.3109	522,970	2,659.77	1.330
150	Tank 241	EFRT	0%	Multiple	3.7695	2,585,248	2,153.99	1.077
3-Year Baseline (June 1, 2018 to May 31, 2021)								
122	Tank 167	EFRT	0%	Light Hydrocracked Naphtha	6.2265	1,555,246	3,318.24	1.659
125	Tank 170	EFRT	0%	Multiple	2.9673	565,403	1,339.41	0.670
126	Tank 172	IFRT	0%	Multiple	1.8950	418,353	233.08	0.117
139	Tank 204	FixedRoof	98%	Light Coker Gas Oil	2.1773	524,160	3,506.68	1.753
140	Tank 205	FixedRoof	98%	Light Slop Oil	2.6877	428,376	1,881.70	0.941
150	Tank 241	EFRT	0%	Multiple	5.2273	1,385,448	3,009.52	1.505

Notes:

1. Tank parameters, stock properties, and meteorological data used to calculate these emissions are available in the TankESP database and TanksESP Output Report.
2. Tanks 204 (S-139) and 205 (S-140) are on on vapor recovery to the fuel gas system.
3. Throughputs and vapor pressures for tanks are based on historical measured Pi tag data.

Appendix J, Table J-3
3-Year Baseline TAC Emissions for Storage Tanks
Phillips 66 Company - San Francisco Refinery, Rodeo, CA

Source #	Tank Number	Stock	TAC Emissions (lb/yr)[1]										
			Benzene	Cresol	Ethyl benzene	Hexane (n-)	Hydrogen sulfide	Naph thalene	Phenol	Propyl ene	Styrene	Toluene	Xylene (total)
June 1, 2018 to May 31, 2019													
122	Tank 167	Light Hydrocracked Naphtha	9.95	--	3.70	28.6	--	--	--	--	--	23.82	19.97
125	Tank 170	Multiple	6.37	--	4.31	33.0	--	0.14	--	--	0.10	47.58	19.84
126	Tank 172	Multiple	1.15	--	1.16	6.4	--	0.06	--	--	0.03	10.80	5.40
139	Tank 204	Light Coker Gas Oil	0.37	--	0.07	0.1	0.56	0.00	--	--	--	0.22	0.12
140	Tank 205	Light Slop Oil	4.42	0.02	0.45	19.8	--	0.00	0.00	139.39	0.33	6.27	1.73
150	Tank 241	Gasoline	5.03	--	1.67	22.6	--	0.01	--	--	--	21.13	8.75
June 1, 2019 to May 31, 2020													
122	Tank 167	Light Hydrocracked Naphtha	9.72	--	3.43	28.0	--	--	--	--	--	22.78	18.44
125	Tank 170	Reformate	5.94	--	4.42	33.4	--	0.15	--	--	0.11	50.17	20.07
126	Tank 172	Multiple	1.44	--	1.40	8.3	--	0.08	--	--	0.04	11.02	6.48
139	Tank 204	Light Coker Gas Oil	0.36	--	0.07	--	0.50	0.00	--	--	--	0.10	0.10
140	Tank 205	Light Slop Oil	5.26	0.02	0.54	23.6	--	0.00	0.00	167.50	0.39	7.45	2.05
150	Tank 241	Gasoline	5.11	--	2.08	22.7	--	0.03	--	--	--	22.95	11.14
June 1, 2020 to May 31, 2021													
122	Tank 167	Light Hydrocracked Naphtha	9.68	--	3.50	27.9	--	--	--	--	--	22.90	18.84
125	Tank 170	Reformate	5.49	--	3.57	31.1	--	0.09	--	--	0.09	44.37	15.96
126	Tank 172	Multiple	1.85	--	0.59	12.3	--	0.02	--	--	--	3.49	2.38
139	Tank 204	Light Coker Gas Oil	0.37	--	0.07	--	0.49	0.00	--	--	--	0.10	0.11
140	Tank 205	Light Slop Oil	6.32	0.03	0.65	28.2	--	0.00	0.00	196.50	0.48	9.01	2.50
150	Tank 241	Multiple	6.27	--	3.26	32.2	--	0.07	--	--	--	26.49	17.49
3-Year Baseline (June 1, 2018 to May 31, 2021)													
122	Tank 167	Light Hydrocracked Naphtha	9.78	--	3.54	28.2	--	--	--	--	--	23.17	19.08
125	Tank 170	Multiple	5.93	--	4.10	32.5	--	0.13	--	--	0.10	47.37	18.62
126	Tank 172	Multiple	1.48	--	1.05	9.0	--	0.05	--	--	0.02	8.43	4.75
139	Tank 204	Light Coker Gas Oil	0.36	--	0.07	0.0	0.51	0.00	--	--	--	0.14	0.11
140	Tank 205	Light Slop Oil	5.33	0.02	0.55	23.8	--	0.00	0.00	167.80	0.40	7.6	2.10
150	Tank 241	Multiple	5.47	--	2.33	25.9	--	0.04	--	--	--	23.5	12.46

Notes:

1. TAC emissions are calculated using TanksESP and are presented in TankESP Output Report.

Appendix J, Table J-4: TankESP Output Report for Tables J-2 and J-3
Site: Rodeo Renewed, Phillips 66 San Francisco Refinery - Rodeo Renewed, Rodeo, CA
Equations for this site: After 2019 AP-42 revisions H/D ratio: calculated

Tank ID	Atmospheric Pressure (psia)	Avg. Ambient Temp. (degF)	Avg. height of vapor space (ft)	Avg. Liquid Height (ft)	Avg. Liquid Surface Temp. (degF)	Avg. TVP (psia)	Avg. wind speed	Bulk Liquid Temperature (degF)	Cleaning loss (w/out control) (lbs)	Clingage Factor	Comments	Deck Fitting (w/o GP) Loss (lbs)	Deck fitting Emission Factor	Deck Seam Loss (lbs)	Delta Tv	Effective Antoines B	Effective CDB Height (ft)	Effective Column Diameter (ft)	Effective height of liquid heel (ft)	Effective Roof Height (ft)	Effective sump height (ft)	Effective wind speed	Estimated cleaning losses (lbs)
167	14.7465	65.97	24	24	73.837992	6.9171235	6.7	69.138916	0	0.0015		58.402152	99.362101	0	0	0	0	1	-1	0	0	6.7	0
167	14.7465	67.94	24	24	75.927061	6.9033031	6.9	71.156873	0	0.0015		60.646706	100.21063	0	0	0	0	1	-1	0	0	6.9	0
167	14.7465	67.01	24	24	73.900368	6.8826242	6.2	69.785168	0	0.0015		58.757388	97.200559	0	0	0	0	1	-1	0	0	6.2	0
167	14.7465	65.925	24	24	71.361466	6.8277828	5.2	68.114594	0	0.0015		53.861308	92.678502	0	0	0	0	1	-1	0	0	5.2	0
167	14.7465	64.625	24	24	68.892704	6.9448474	4.2	66.343863	0	0.0015		54.222468	87.819943	0	0	0	0	1	-1	0	0	4.2	0
167	14.7465	58.555	24	24	60.820455	7.1491967	3.6	59.467436	0	0.0015		52.81583	84.690453	0	0	0	0	1	-1	0	0	3.6	0
167	14.7465	51.525	24	24	53.862524	6.834614	4.8	52.466462	0	0.0015		54.68898	90.781417	0	0	0	0	1	-1	0	0	4.8	0
167	14.7465	51.905	24	24	53.813246	5.9774855	4.2	52.673566	0	0.0015		44.391167	87.819943	0	0	0	0	1	-1	0	0	4.2	0
167	14.7465	53.655	24	24	56.230663	5.2803902	4.6	54.692375	0	0.0015		34.960623	89.810742	0	0	0	0	1	-1	0	0	4.6	0
167	14.7465	53.84	24	24	58.464913	6.0194747	4.6	55.702732	0	0.0015		45.730169	89.810742	0	0	0	0	1	-1	0	0	4.6	0
167	14.7465	57.695	24	24	62.987329	6.9517957	5.4	59.826541	0	0.0015		55.709732	93.606678	0	0	0	0	1	-1	0	0	5.4	0
167	14.7465	60.79	24	24	68.394785	6.2401237	7	63.852907	0	0.0015		53.154775	100.63165	0	0	0	0	1	-1	0	0	7	0
167	14.7465	65.97	24	24	73.837992	7.3890561	6.7	69.138916	0	0.0015		64.028172	99.362101	0	0	0	0	1	-1	0	0	6.7	0
167	14.7465	67.94	24	24	75.927061	7.1420511	6.9	71.156873	0	0.0015		63.563795	100.21063	0	0	0	0	1	-1	0	0	6.9	0
167	14.7465	67.01	24	24	73.900368	6.834614	6.2	69.785168	0	0.0015		58.197697	97.200559	0	0	0	0	1	-1	0	0	6.2	0
167	14.7465	65.925	24	24	71.361466	7.6599082	5.2	68.114594	0	0.0015		63.282867	92.678502	0	0	0	0	1	-1	0	0	5.2	0
167	14.7465	64.625	24	24	68.892704	6.3534629	4.2	66.343863	0	0.0015		48.086539	87.819943	0	0	0	0	1	-1	0	0	4.2	0

Appendix J, Table J-4: TankESP Output Report for Tables J-2 and J-3
Site: Rodeo Renewed, Phillips 66 San Francisco Refinery - Rodeo Renewed, Rodeo, CA
Equations for this site: After 2019 AP-42 revisions H/D ratio: calculated

Tank ID	Estimated heating cycle Losses (lbs)	Estimated standing losses (lbs)	Estimated working losses (lbs)	Extrapolated Annual Throughput (bbl)	Flash Gas Abbreviation	Flash Gas Emissions (lbs)	Flash Gas Molecular Wt	Floating roof Emission Factor	Floating Roof Kd	Floating Roof Kr	Floating Roof Sd	Floating roof standing storage loss factor	H/D Ratio	Heating cycle Ke
167	0	350.49127	12.644274	11193771		0	0	438.1621	0	3.08	0.2	438.1621	0.43636364	-1
167	0	369.13541	10.234677	8768316.4		0	0	447.81063	0	3.16	0.2	447.81063	0.43636364	-1
167	0	339.86536	10.028807	8591941.8		0	0	414.00056	0	2.88	0.2	414.00056	0.43636364	-1
167	0	287.19569	11.494648	10176025		0	0	365.4785	0	2.48	0.2	365.4785	0.43636364	-1
167	0	263.15239	11.481267	9836302.4		0	0	316.61994	0	2.08	0.2	316.61994	0.43636364	-1
167	0	240.36827	12.060161	10676665		0	0	287.09045	0	1.84	0.2	287.09045	0.43636364	-1
167	0	281.32095	11.090676	9501672.7		0	0	345.98142	0	2.32	0.2	345.98142	0.43636364	-1
167	0	215.43913	10.635879	9112036.5		0	0	316.61994	0	2.08	0.2	316.61994	0.43636364	-1
167	0	176.49049	8.024565	7611447		0	0	336.21074	0	2.24	0.2	336.21074	0.43636364	-1
167	0	230.85801	11.119651	9526496.5		0	0	336.21074	0	2.24	0.2	336.21074	0.43636364	-1
167	0	302.20134	10.054012	8900654.1		0	0	375.20668	0	2.56	0.2	375.20668	0.43636364	-1
167	0	325.78502	9.8620483	8449075.4		0	0	452.63165	0	3.2	0.2	452.63165	0.43636364	-1
167	0	384.25493	13.166194	11655817		0	0	438.1621	0	3.08	0.2	438.1621	0.43636364	-1
167	0	386.89071	13.865596	11879020		0	0	447.81063	0	3.16	0.2	447.81063	0.43636364	-1
167	0	336.62799	10.536008	9026474.3		0	0	414.00056	0	2.88	0.2	414.00056	0.43636364	-1
167	0	337.4327	9.7675468	8647050.7	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
167	0	233.37351	8.8982503	7623364.4	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
167	0	86.371087	3.504218	3102227.3	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
167	0	201.58146	7.9509743	6811808.2	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
167	0	215.71874	9.818039	8411371.5	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
167	0	207.47803	8.0782885	7398183.8	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
167	0	186.85592	8.7473433	7494078.4	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
167	0	207.63926	7.2408788	6410232.4	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
167	0	351.93642	11.443628	9804056.5	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
167	0	314.20426	9.9922484	8845975.3	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
167	0	340.33495	8.0836967	6925514.9	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
167	0	384.34711	12.178722	10433830	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
167	0	293.96149	12.673358	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
167	0	196.44891	8.6929218	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
167	0	154.02822	9.7830145	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
167	0	213.04202	12.670511	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
167	0	196.44891	6.1127618	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
167	0	205.82852	5.48294	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
167	0	191.06988	11.291851	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
167	0	265.86906	12.200215	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
167	0	320.68916	9.0729631	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
170	0	170.08663	2.2735536	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
170	0	182.57407	1.3214095	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
170	0	148.78634	0.35847208	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
170	0	85.683024	6.2238059	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
170	0	150.44149	8.970377	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
170	0	183.78701	9.1462947	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
170	0	90.578564	4.8620163	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
170	0	130.7529	2.9027521	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
170	0	179.33887	4.1534753	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
170	0	121.35052	6.3035558	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
170	0	218.61039	5.4132146	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
170	0	72.946689	1.2892646	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
170	0	105.23951	3.0527751	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
170	0	181.2947	1.2998682	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
170	0	111.6755	1.1504232	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
170	0	31.300983	3.8534981	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
170	0	120.77515	6.4756013	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
170	0	52.006537	4.3058016	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
170	0	46.207761	4.3665561	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
170	0	66.765598	5.6189143	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
170	0	267.07107	3.9402304	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
170	0	76.729174	4.4574215	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
170	0	125.57778	5.7395617	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
170	0	224.11156	3.9962738	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
170	0	63.787446	1.723683	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
170	0	54.039376	3.4978332	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
170	0	82.369687	2.5253996	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
170	0	17.978546	2.4974185	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
170	0	63.382756	4.9680319	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
170	0	13.000837	3.1425873	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
170	0	42.081943	2.4820677	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
170	0	53.146429	0.34603324	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
170	0	48.927551	1.018811	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
170	0	89.019593	3.2853251	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
170	0	157.00145	1.2023228	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
170	0	60.926322	0.69864176	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
172	0	12.699775	1.3822073	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
172	0	7.8661914	0.12331724	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
172	0	8.4067454	0.35207202	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
172	0	9.2181528	2.4768551	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
172	0	31.845973	2.2740106	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
172	0	25.031279	0.012314202	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
172	0	22.193146	2.4828752	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
172	0	27.062393	1.6823744	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
172	0	29.750259	2.1534752	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
172	0	5.4384066	5.2406224	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
172	0	27.722876	2.3877377	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
172	0	28.811121	1.8162048	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
172	0	38.474571	2.0505739	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
172	0	32.330173	2.2151275	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
172	0	31.552147	0.6102837	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
172	0	34.237436	1.1339164	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
172	0	17.382285	4.0820433	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
172	0	12.314687	2.176682	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
172	0	13.693768	5.3421383	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
172	0	15.328699	1.8674508	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
172	0	4.4272345	3.8377142	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
172	0	24.727896	5.5850426	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
172	0	27.126415	8.6102081	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
172	0	13.187229	10.300683	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
172	0	6.40747	0.9438487	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
172	0	12.046693	2.6139467	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
172	0	16.902727	3.3024031	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
172	0	5.6122296	2.8752906	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
172	0	3.9433985	2.1621361	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
172	0	3.0397832	1.3596345	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
172	0	8.3695335	5.6954157	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
172	0	13.009912	3.52682	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
172	0	11.413495	3.7255894	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
172	0	4.9236639	1.884817	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
172	0	4.6928253	3.1680578	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
172	0	4.558216	2.0518587	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
204	0	79.568419	386.08132	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
204	0	91.95156	325.91961	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
204	0	82.644278	191.07811	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
204	0	75.396936	391.701	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
204	0	64.256982	1637.835	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
204	0	40.658511	335.70379	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
204	0	30.630523	184.73265	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
204	0	24.90503	263.96521	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
204	0	37.351566	69.63917	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
204	0	40.459912	49.11649	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
204	0	43.060765	54.218879	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
204	0	62.769891	100.81186	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
204	0	79.801027	123.00895	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
204	0	84.64173	168.53007	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
204	0	78.821471	158.30874	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
204	0	67.335393	157.95654	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
204	0	56.009891	317.84101	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
204	0	35.680198	169.59457	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
204	0	26.876629	208.55336	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
204	0	24.325417	222.32657	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
204	0	40.933414	221.00443	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
204	0	48.741472	104.62516	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
204	0	55.372994	49.759545	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
204	0	70.083033	117.18479	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
204	0	82.478012	161.85525	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
204	0	85.99096	816.55476	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
204	0	79.149857	416.41271	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
204	0	71.461496	107.07249	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
204	0	62.967248	263.94253	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
204	0	41.593614	182.44274	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
204	0	26.341142	63.572569	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
204	0	24.703785	77.862189	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
204	0	39.86264	182.18852	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
204	0	47.011848	130.72637	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
204	0	48.063414	61.152647	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
204	0	55.032242	39.813326	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
205	0	35.039375	23.298664	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
205	0	37.244375	59.212337	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
205	0	34.891097	109.89053	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
205	0	29.968184	132.47287	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
205	0	26.288211	115.57733	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
205	0	18.417353	123.15703	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
205	0	13.006811	64.005058	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
205	0	11.333079	139.89307	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
205	0	18.484051	87.861566	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
205	0	21.56172	90.020475	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
205	0	22.783725	20.040618	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
205	0	28.067183	48.970716	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
205	0	34.031958	11.749171	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
205	0	35.900961	52.267035	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
205	0	32.798166	61.377088	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
205	0	30.940042	53.605097	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
205	0	26.996691	216.24938	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
205	0	18.801752	279.88366	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
205	0	13.39924	137.53411	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
205	0	11.264543	67.506784	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
205	0	19.149712	156.05569	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
205	0	22.577217	145.85049	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
205	0	24.020982	44.508236	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
205	0	29.831974	147.5463	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
205	0	34.778889	132.19816	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
205	0	36.895927	194.08448	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
205	0	34.388747	118.6933	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
205	0	31.018214	129.87881	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
205	0	27.503157	205.41724	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
205	0	19.207256	331.10136	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
205	0	13.533152	90.389049	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
205	0	11.661149	75.886649	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
205	0	19.764193	145.43171	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
205	0	25.915394	396.12679	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
205	0	27.356223	275.36914	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
205	0	33.396873	249.7697	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
241	0	226.9267	3.3532357	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
241	0	241.10056	2.6327334	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
241	0	233.25927	1.8090135	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
241	0	239.50029	3.0506632	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
241	0	287.04558	1.1562799	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
241	0	232.13515	0.58322821	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
241	0	460.80373	2.973565	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
241	0	509.01264	3.6930898	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
241	0	334.27591	1.662278	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
241	0	352.51391	6.9079402	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
241	0	230.21618	3.3668306	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
241	0	244.28475	3.1013981	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
241	0	233.81955	2.5852691	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
241	0	261.6704	1.0176809	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
241	0	268.4459	2.1992583	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
241	0	305.19681	3.867056	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
241	0	421.63384	0.98307593	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
241	0	289.9926	0.97155875	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
241	0	324.55484	1.5301228	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
241	0	336.69405	4.247393	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
241	0	276.10942	14.19295	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
241	0	214.44272	9.6004991	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
241	0	97.8049	11.273131	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
241	0	149.42755	16.949733	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
241	0	169.16847	19.856614	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
241	0	201.3704	21.972153	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
241	0	165.71564	19.719678	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
241	0	139.93499	22.121663	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
241	0	167.73464	15.205477	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
241	0	331.93175	19.654613	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
241	0	270.15486	19.313713	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
241	0	299.41445	19.600205	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
241	0	185.9852	4.8655342	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
241	0	24.224422	3.9733443	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
241	0	10.743394	3.3827296	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
241	0	14.877363	3.0721467	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Appendix J, Table J-4: TankESP Output Report for Tables J-2 and J-3
Site: Rodeo Renewed, Phillips 66 San Francisco Refinery - Rodeo Renewed, Rodeo, CA
Equations for this site: After 2019 AP-42 revisions H/D ratio: calculated

Tank ID	Kf per slotted pole	Kf per unslotted pole	Kn	Kp	Ks	Loss from incoming vapors (lbs)	Loss from resident vapors (lbs)	Low-volume liquid temperature (degF)	Max. Ambient Temp. (degF)	Max. Liquid Surface Temp. (degF)	Max. TVP (psia)	Met. Data City	Met. Data State	Min. Ambient Temp. (degF)	Min. Liquid Surface Temp. (degF)	Min. TVP (psia)	Net working height (ft)	Nominal operating pressure (psia)	Non Routine Emissions (lbs)	Number of Columns	Number of Days	Number of Days Cleaning	Number of turnovers	Stock Product	Report End Date	Report Start Date	Resident loss limit (lbs)	Rim seal Emission Factor
167	0	26.35141	1	1	1	0	0	65.97	76.49	73.837992	6.9171235	Rodeo	CA	55.45	73.837992	6.9171235	46	0	0	0	30	0	25.606093	Light Hydroc	7/1/2018	6/1/2018	-1	338.8
167	0	26.638062	1	1	1	0	0	67.94	78.6	75.927061	6.9033031	Rodeo	CA	57.28	75.927061	6.9033031	46	0	0	0	31	0	20.057792	Light Hydroc	8/1/2018	7/1/2018	-1	347.6
167	0	25.626359	1	1	1	0	0	67.01	77.34	73.900368	6.8826242	Rodeo	CA	56.68	73.900368	6.8826242	46	0	0	0	31	0	19.65433	Light Hydroc	9/1/2018	8/1/2018	-1	316.8
167	0	24.135865	1	1	1	0	0	65.925	76.52	71.361466	6.8277828	Rodeo	CA	55.33	71.361466	6.8277828	46	0	0	0	30	0	23.277969	Light Hydroc	10/1/2018	9/1/2018	-1	272.8
167	0	22.580501	1	1	1	0	0	64.625	74.17	68.892704	6.9448474	Rodeo	CA	55.08	68.892704	6.9448474	46	0	0	0	31	0	22.500843	Light Hydroc	11/1/2018	10/1/2018	-1	228.8
167	0	21.608414	1	1	1	0	0	58.555	66.57	60.820455	7.1491967	Rodeo	CA	50.54	60.820455	7.1491967	46	0	0	0	30	0	24.423198	Light Hydroc	12/1/2018	11/1/2018	-1	202.4
167	0	23.522399	1	1	1	0	0	51.525	56.85	53.862524	6.834614	Rodeo	CA	46.2	53.862524	6.834614	46	0	0	0	31	0	21.735367	Light Hydroc	1/1/2019	12/1/2018	-1	255.2
167	0	22.580501	1	1	1	0	0	51.905	57.01	53.813246	5.9774855	Rodeo	CA	46.8	53.813246	5.9774855	46	0	0	0	31	0	20.844063	Light Hydroc	2/1/2019	1/1/2019	-1	228.8
167	0	23.211478	1	1	1	0	0	53.655	62.47	56.230663	5.2803902	Rodeo	CA	44.84	56.230663	5.2803902	46	0	0	0	28	0	17.411418	Light Hydroc	3/1/2019	2/1/2019	-1	246.4
167	0	23.211478	1	1	1	0	0	53.84	61.35	58.464913	6.0194747	Rodeo	CA	46.33	58.464913	6.0194747	46	0	0	0	31	0	21.792153	Light Hydroc	4/1/2019	3/1/2019	-1	246.4
167	0	24.438674	1	1	1	0	0	57.695	65.61	62.987329	6.9517957	Rodeo	CA	49.78	62.987329	6.9517957	46	0	0	0	30	0	20.360519	Light Hydroc	5/1/2019	4/1/2019	-1	281.6
167	0	26.780701	1	1	1	0	0	60.79	68.52	68.394785	6.2401237	Rodeo	CA	53.06	68.394785	6.2401237	46	0	0	0	31	0	19.327519	Light Hydroc	6/1/2019	5/1/2019	-1	352
167	0	26.35141	1	1	1	0	0	65.97	76.49	73.837992	7.3890561	Rodeo	CA	55.45	73.837992	7.3890561	46	0	0	0	30	0	26.663039	Light Hydroc	7/1/2019	6/1/2019	-1	338.8
167	0	26.638062	1	1	1	0	0	67.94	78.6	75.927061	7.1420511	Rodeo	CA	57.28	75.927061	7.1420511	46	0	0	0	31	0	27.173621	Light Hydroc	8/1/2019	7/1/2019	-1	347.6
167	0	25.626359	1	1	1	0	0	67.01	77.34	73.900368	6.834614	Rodeo	CA	56.68	73.900368	6.834614	46	0	0	0	31	0	20.648336	Light Hydroc	9/1/2019	8/1/2019	-1	316.8
167	0	24.135865	1	1	1	0	0	65.925	76.52	71.361466	7.6599082	Rodeo	CA	55.33	71.361466	7.6599082	46	0	0	0	30	0	19.780393	Light Hydroc	10/1/2019	9/1/2019	-1	272.8
167	0	22.580501	1	1	1	0	0	64.625	74.17	68.892704	6.3534629	Rodeo	CA	55.08	68.892704	6.3534629	46	0	0	0	31	0	17.438679	Light Hydroc	11/1/2019	10/1/2019	-1	228.8
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Appendix J, Table J-4: TankESP Output Report for Tables J-2 and J-3
Site: Rodeo Renewed, Phillips 66 San Francisco Refinery - Rodeo Renewed, Rodeo, CA
Equations for this site: After 2019 AP-42 revisions H/D ratio: calculated

Tank ID	Rim Seal Loss (lbs)	Rim Seal Loss Factor Exponent	Rim Seal Loss Factor Kra	Rim Seal Loss Factor Krb	Roof landing loss (lbs)	Roof landing loss limit (lbs)	Roof Reflectivity (alpha)	Roof Type	Routine Emissions (lbs)	RVP	Saturation Factor (Sa)	Seam Emission Factor	Shell Reflectivity (alpha)	Slotted pole Emission Factor	Slotted Pole Loss (lbs)	Solar insolation	Standing loss (w/out control) (lbs)	Tank base area (ft2)	Tank Diameter (ft)	Tank Height (ft)	Tank Type	Throughput (bbl/yr) Throughput (bbl)	POC Emissions (lb/yr) Total estimated emissions (lbs)	Unslotted pole Emission Factor	Unslotted Pole Loss (lbs)
167	271.0103	1	0.4	0.4	0	0	0.25	EFRT	363.13554		0	0	0.25	0	0	2511	350.49127	9503.3178	110	48	EFRT	163882.43	363.13554	26.35141	21.078818
167	286.53064	1	0.4	0.4	0	0	0.25	EFRT	379.37008		0	0	0.25	0	0	2549	369.13541	9503.3178	110	48	EFRT	132651.64	379.37008	26.638062	21.958058
167	260.07054	1	0.4	0.4	0	0	0.25	EFRT	349.89417		0	0	0.25	0	0	2199	339.86536	9503.3178	110	48	EFRT	129983.36	349.89417	25.626359	21.037439
167	214.36824	1	0.4	0.4	0	0	0.25	EFRT	298.69034		0	0	0.25	0	0	1735	287.19569	9503.3178	110	48	EFRT	148982.12	298.69034	24.135865	18.96614
167	190.16258	1	0.4	0.4	0	0	0.25	EFRT	274.63365		0	0	0.25	0	0	1362	263.15239	9503.3178	110	48	EFRT	148808.69	274.63365	22.580501	18.767336
167	169.46066	1	0.4	0.4	0	0	0.25	EFRT	252.42843		0	0	0.25	0	0	723	240.36827	9503.3178	110	48	EFRT	156311.74	252.42843	21.608414	18.091779
167	207.50567	1	0.4	0.4	0	0	0.25	EFRT	292.41162		0	0	0.25	0	0	746	281.32095	9503.3178	110	48	EFRT	143746.24	292.41162	23.522399	19.126298
167	155.68342	1	0.4	0.4	0	0	0.25	EFRT	226.07501		0	0	0.25	0	0	609	215.43913	9503.3178	110	48	EFRT	137851.62	226.07501	22.580501	15.364552
167	129.34524	1	0.4	0.4	0	0	0.25	EFRT	184.51506		0	0	0.25	0	0	822	176.49049	9503.3178	110	48	EFRT	104006.38	184.51506	23.211478	12.184635
167	169.18976	1	0.4	0.4	0	0	0.25	EFRT	241.97767		0	0	0.25	0	0	1476	230.85801	9503.3178	110	48	EFRT	144121.79	241.97767	23.211478	15.938086
167	226.80806	1	0.4	0.4	0	0	0.25	EFRT	312.25535		0	0	0.25	0	0	1689	302.20134	9503.3178	110	48	EFRT	130310.05	312.25535	24.438674	19.683551
167	253.35463	1	0.4	0.4	0	0	0.25	EFRT	335.64706		0	0	0.25	0	0	2427	325.78502	9503.3178	110	48	EFRT	127822	335.64706	26.780201	19.27561
167	297.11737	1	0.4	0.4	0	0	0.25	EFRT	397.42113		0	0	0.25	0	0	2511	384.25493	9503.3178	110	48	EFRT	170647.02	397.42113	26.35141	23.109391
167	300.31268	1	0.4	0.4	0	0	0.25	EFRT	400.75631		0	0	0.25	0	0	2549	386.89071	9503.3178	110	48	EFRT	179711.98	400.75631	26.638062	23.014234
167	257.59325	1	0.4	0.4	0	0	0.25	EFRT	347.164		0	0	0.25	0	0	2199	336.62799	9503.3178	110	48	EFRT	136557.19	347.164	25.626359	20.837048
167	251.86609	1	0.4	0.4	0	0	0.25	EFRT	347.20025		0	0	0.25	0	0	1735	337.4327	9503.3178	110	48	EFRT	126597.17	347.20025	24.135865	22.283746
167	168.64338	1	0.4	0.4	0	0	0.25	EFRT	242.27176		0	0	0.25	0	0	1362	233.37351	9503.3178	110	48	EFRT	115330.21	242.27176	22.580501	16.643584

Appendix J, Table J-4: TankESP Output Report for Tables J-2 and J-3
Site: Rodeo Renewed, Phillips 66 San Francisco Refinery - Rodeo Renewed, Rodeo, CA
Equations for this site: After 2019 AP-42 revisions H/D ratio: calculated

Tank ID	Vapor control efficiency for Refill/Initial purge	Vapor Density	Vapor Pressure Function (P*)	Vapor Space Temperature (degF)	Vapor Control Efficiency VCtrl Efficiency	Vent Pressure Range (psig)	Volume of vapor space (ft3)	Working loss (w/out control) (lbs)	Acetaldehyde	Acetic acid	Acetic anhydride(acetic acid anhydride)	Acetonitrile	Acrylamide	Acrylic acid(2-propenoic acid)	Acrylonitrile(2-propenenitrile)	Allyl alcohol	Allyl chloride(3-chloro-1-propene)	Ammonia	Aniline	Anthracene	Benz[a]anthracene	Benzene Benzene	Benzo[g,h,i]perylene	Benzo[a]pyrene	Biphenyl	Butadiene (1,3)	Butane	Butanol (2)	Butene (1)	Butene (2-methyl-1)	Butene (2-methyl-2) (isopentene)	Butene (cis-2) ((Z)-2-butene)	Butene (trans-2(((E)-2-butene)	Butyl acetate (n-)	Butyl alcohol (n-) (butanol (1))	Butyl alcohol (t-)	Butyl chloride (-n)(1-chloro-butane)
167	0	0.074909361	0.15697204	0	0	0	0	12.644274	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	1.171650067	0	no data	0	0	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	0	0.074468096	0.15654197	0	0	0	0	10.234677	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	1.273009894	0	no data	0	0	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	0	0.074527036	0.15589976	0	0	0	0	10.028807	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	1.124359253	0	no data	0	0	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	0	0.074286678	0.15420413	0	0	0	0	11.494648	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0.925441009	0	no data	0	0	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	0	0.075913268	0.15783689	0	0	0	0	11.481267	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0.795830542	0	no data	0	0	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	0	0.079358961	0.16430028	0	0	0	0	12.060161	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0.599701945	0	no data	0	0	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	0	0.0768949	0.15441475	0	0	0	0	11.090676	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0.595068735	0	no data	0	0	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	0	0.067257969	0.12921883	0	0	0	0	10.635879	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0.528158728	0	no data	0	0	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	0	0.059135929	0.11037047	0	0	0	0	8.024565	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0.503388864	0	no data	0	0	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	0	0.067122362	0.13039858	0	0	0	0	11.119651	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0.625997581	0	no data	0	0	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	0	0.076847802	0.15805409	0	0	0	0	10.054012	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0.768723032	0	no data	0	0	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	0	0.068274336	0.13668651	0	0	0	0	9.8620483	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	1.034063703	0	no data	0	0	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	0	0.080020181	0.17209354	0	0	0	0	13.166194	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	1.204057039	0	no data	0	0	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	0	0.077043546	0.16407159	0	0	0	0	13.865596	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	1.318841403	0	no data	0	0	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	0	0.074007168	0.15441475	0	0	0	0	10.536008	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	1.125922279	0	no data	0	0	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data

Appendix J, Table J-4: TankESP Output Report for Tables J-2 and J-3
Site: Rodeo Renewed, Phillips 66 San Francisco Refinery - Rodeo Renewed, Rodeo, CA
Equations for this site: After 2019 AP-42 revisions H/D ratio: calculated

														Cresol																												
Tank ID	Butyl ether (di-tert)	Butylbenzene (n-)	Butylbenzene (sec-)	Carbon disulfide	Carbon tetrachloride	Carbonyl sulfide	Chlorobenzene	Chlorobutane (2)	Chloroform	Chloroprene(2-chloro-1,3-butadiene)	Chlorotoluene (o)(1-chloro-2methylbenzene)	Chrysene	Chrysene(benzo[a]phenanthrene)	Cresol	Cresol (m-)	Cresol (o-)	Cresol (p-)	Cumene (isopropylbenzene)	Cyclohexane	Cyclohexanol	Cyclohexanone	Cyclohexene	Cyclopentadiene	Cyclopentane	Cyclopentanone	Cyclopentene	Decane (n-)	DGM ether (diethylene glycol monomethyl ether)	Dibromoethane (1,2) (ethylene dibromide)	Dibromopropane (1,2)	Dibromopropane (1,3)	Dichloroethane (1,1)	Dichloroethane (1,2)	Dichloroethylene (1,2)(1,2 dichloroethene)	Dichloroethylene (trans-1,2)	Dichlorotoluene (3,4)	Diethanolamine (DEA)	Diethoxyethane (1,1)	Diethoxymethane	Diethylbenzene (1,2)	Diethylbenzene (1,4)	Diethyl (n,n) aniline (N,N-diethylbenzenamine)
167	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	no data	no data	0	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data

Rows for Tank 167 (36 rows in total): every row as above, with Cresol 0, Cumene 0 and Cyclohexane 0; all other columns "no data".

Rows for Tanks 170 and 172 (36 rows each), and for Tanks 204 (30 rows), 205 (36 rows) and 241 (36 rows): Cyclohexane 0 and all other columns "no data" except as listed below.

Tank 170, Cresol 0, Cumene, in row order: 0.017259644, 0.016723669, 0.012404158, 0.02304404, 0.028460794, 0.026524304, 0.015697336, 0.011018621, 0, 0, 0.019981267, 0.012643567, 0.018404909, 0.016659807, 0.013858753, 0.017080198, 0.022441817, 0.014497266, 0.014343218, 0.016984812, 0.014569994, 0.015409027, 0.020082288, 0.020155413, 0.014925797, 0.020370775, 0.016743323, 0.013830158, 0.018476214, 0.01157379, 0.009970815, 0.004740344, 0.00648954, 0.012771356, 0.009818441, 0.011182448

Tank 172, Cresol 0, Cumene, in row order: 0.005024537, 0.002271392, 0.002702672, 0, 0.007087799, 0.001360625, 0.006772013, 0.004952032, 0.006044964, 0.01320475, 0.006897958, 0.005869142, 0.006794597, 0.007330978, 0.0035033, 0.004549388, 0.011151535, 0.006284827, 0.013338417, 0.004633298, 0.00837721, 0.014099584, 0, 0.021325703, 0.003701479, 0.007136694, 0.008371879, 0.00730169, 0.005866716, 0.003888099, 0.011915757, 0.007795238, 0.008151618, 0.00477349, 0.007381561, 0.005527556

Tank 204: Cresol 0 and Cumene 0 in every row.

Tank 205, Cresol / Cumene, in row order: 0.001003168 / 0.00264647; 0.001666738 / 0.004277189; 0.002112481 / 0.005533408; 0.002664825 / 0.007159993; 0.002122954 / 0.005857778; 0.001474105 / 0.004501585; 0.000689457 / 0.002335371; 0.001474329 / 0.004982436; 0.001137826 / 0.003725587; 0.001387995 / 0.00445958; 0.000649237 / 0.001961354; 0.001366085 / 0.003880105; 0.000887613 / 0.002341623; 0.001791437 / 0.004597192; 0.001827217 / 0.00478619; 0.001193761 / 0.00320746; 0.003209138 / 0.00885484; 0.002805597 / 0.008567665; 0.001193664 / 0.004043253; 0.000785037 / 0.002653002; 0.001872705 / 0.006131805; 0.001788908 / 0.0057477; 0.0008626 / 0.002605927; 0.002504118 / 0.007112468; 0.002964667 / 0.007821128; 0.004170796 / 0.010703112; 0.002407552 / 0.006306314; 0.002242492 / 0.006025247; 0.002777707 / 0.007664409; 0.002903858 / 0.00886773; 0.000784924 / 0.002658744; 0.000763847 / 0.002581389; 0.001360098 / 0.004453375; 0.001998114 / 0.006419874; 0.001731107 / 0.005229701; 0.001913028 / 0.00543359

Tank 241, Cresol 0, Cumene, in row order: 0.00915874, 0.00922252, 0.00751951, 0.007676972, 0.005192342, 0.003159607, 0.005827476, 0.006504667, 0.0042273, 0.010007977, 0.006839865, 0.008217245, 0.008411577, 0.007682997, 0.008060673, 0.008758477, 0.005523699, 0.003709507, 0.004076637, 0.006684489, 0.016812493, 0.012387284, 0.014460673, 0.021886336, 0.025591233, 0.028580057, 0.025332324, 0.026562591, 0.018958284, 0.022696628, 0.021925573, 0.022112294, 0.007126784, 0.013117225, 0.013463468, 0.016527493

Appendix L, Table L-6: TankESP Output Report for Tables J-2 and J-3
Site: Rodeo Renewed, Phillips 66 San Francisco Refinery - Rodeo Renewed, Rodeo, CA
Equations for this site: After 2015 AP-42 revisions H/D ratio calculated

Ethylbenzene

| Tank ID | Shell w/ Vapor Shoe | Shell w/ Rim Seal | Shell w/ Weather Shield | Shell w/ Secondary Seal | Shell w/ Primary Seal | Shell w/ Mechanical Shoe Primary Seal | Shell w/ Liquid Mounted Primary Seal | Shell w/ Vapor Mounted Primary Seal | Shell w/ Mechanical Shoe Primary Seal | Shell w/ Liquid Mounted Primary Seal | Shell w/ Vapor Mounted Primary Seal | Shell w/

Appendix J, Table J-4: TankESP Output Report for Tables J-2 and J-3
Site: Rodeo Renewed, Phillips 66 San Francisco Refinery - Rodeo Renewed, Rodeo, CA
Equations for this site: After 2019 AP-42 revisions H/D ratio: calculated

						Hexane					Hydrogen Sulfide (H2S)														Mercury (all) pollutant														
Tank ID	Furfural {2-furancarboxaldehyde}	Heneicosane (n)	Heptane (n-)	Heptene (1)	Hexadiene (1,5)	Hexane (n-)	Hexanol (1)	Hexene (1)	Hydrogen cyanide {hydrocyanic acid}	Hydrogen fluoride	Hydrogen sulfide	Indene	Iso-butane	isobutene {methylpropene (2)}	Isobutyl alcohol {2-methyl 1-propanol}	Iso-octane {2,2,4 trimethylpentane}	Isopentane {2-methylbutane}	Isoprene {2-methyl 1,3-butadiene}	Isopropyl alcohol {isopropanol}	Isopropyl benzene {cumene}	isopropylbenzene (1-methyl-2)	Isopropyltoluene (n-)	Lead	MDI {methylene diphenyl diisocyanate}	Mercury	Methacrylonitrile {2-methyl 2-propenenitrile}	Methane	Methanol {methyl alcohol}	Methylhexane (2)	Methyl acrylate {methyl ester 2-propenoic acid}	Methyl ethyl ketone {2-butanone}	Methyl isobutyl ketone {hexone}	Methyl methacrylate	Methyl propyl ether	Methyl styrene (alpha)	Methyl-2-ethylbenzene (1)	Methylcyclohexane	Methylcyclopentane	Methyldichlorosilane
167	no data	no data	no data	no data	no data	3.358253149	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	no data	no data	no data	no data	no data	3.669735999	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	no data	no data	no data	no data	no data	3.241891047	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	no data	no data	no data	no data	no data	2.648256001	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	no data	no data	no data	no data	no data	2.27069586	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	no data	no data	no data	no data	no data	1.698909054	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	no data	no data	no data	no data	no data	1.712751682	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	no data	no data	no data	no data	no data	1.512288308	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	no data	no data	no data	no data	no data	1.457046414	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	no data	no data	no data	no data	no data	1.794277091	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	no data	no data	no data	no data	no data	2.223100078	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	no data	no data	no data	no data	no data	3.000522147	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	no data	no data	no data	no data	no data	3.449545913	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	no data	no data	no data	no data	no data	3.771916779	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	no data	no data	no data	no data	no data	3.241832614	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	no data	no data	no data	no data	no data	2.7382644	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	no data	no data	no data	no data	no data	2.166568384	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	no data	no data	no data	no data	no data	1.305194758	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	no data	no data	no data	no data	no data	1.549439136	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	no data	no data	no data	no data	no data	1.500003837	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	no data	no data	no data	no data	no data	1.542772493	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	no data	no data	no data	no data	no data	1.686948516	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	no data	no data	no data	no data	no data	2.006674646	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	no data	no data	no data	no data	no data	3.080291091	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	no data	no data	no data	no data	no data	3.228909046	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	no data	no data	no data	no data	no data	3.56261035	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	no data	no data	no data	no data	no data	3.385159818	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	no data	no data	no data	no data	no data	2.682110363	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	no data	no data	no data	no data	no data	2.085329023	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	no data	no data	no data	no data	no data	1.514207874	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	no data	no data	no data	no data	no data	1.638839738	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	no data	no data	no data	no data	no data	1.415091445	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	no data	no data	no data	no data	no data	1.462026819	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	no data	no data	no data	no data	no data	1.733100773	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	no data	no data	no data	no data	no data	2.189105516	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
167	no data	no data	no data	no data	no data	2.977581429	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
170	no data	no data	no data	no data	no data	3.941196292	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
170	no data	no data	no data	no data	no data	4.362808836	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
170	no data	no data	no data	no data	no data	3.757012726	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
170	no data	no data	no data	no data	no data	3.020183865	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
170	no data	no data	no data	no data	no data	2.841292808	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
170	no data	no data	no data	no data	no data	2.218524303	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
170	no data	no data	no data	no data	no data	1.918391477	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
170	no data	no data	no data	no data	no data	1.814639551	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
170	no data	no data	no data	no data	no data	1.410412132	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
170	no data	no data	no data	no data	no data	1.55774996	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
170	no data	no data	no data	no data	no data	2.847250192	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
170	no data	no data	no data	no data	no data	3.350069243	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
170	no data	no data	no data	no data	no data	3.746014423	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
170	no data	no data	no data	no data	no data	4.357868064	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
170	no data	no data	no data	no data	no data	3.652909132	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
170	no data	no data	no data	no data	no data	2.805894329	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
170	no data	no data	no data	no data	no data	2.699309019	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
170	no data	no data	no data	no data	no data	1.796542453	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
170	no data	no data	no data	no data	no data	1.822521541	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
170	no data	no data	no data	no data	no data	1.748820695	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
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170	no data	no data	no data	no data	no data	2.062542352	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
170	no data	no data	no data	no data	no data	2.616081465	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
170	no data	no data	no data	no data	no data	3.841754609	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
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170	no data	no data	no data	no data	no data	3.972703947	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
170	no data	no data	no data	no data	no data	3.588475357	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
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170	no data	no data	no data	no data	no data	2.501256635	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
170	no data	no data	no data	no data	no data	1.68268986	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
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170	no data	no data	no data	no data	no data	1.654205362	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
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170	no data	no data	no data	no data	no data	3.303913128	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
172	no data	no data	no data	no data	no data	0.649290049	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
172	no data	no data	no data	no data	no data	0.659602843	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
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172	no data	no data	no data	no data	no data	0.080444031	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
172	no data	no data	no data	no data	no data	0.691650701	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
172	no data	no data	no data	no data	no data	0.505149617	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
172	no data	no data	no data	no data	no data	0.480714697	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
172	no data	no data	no data	no data	no data	0.474381238	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
172	no data	no data	no data	no data	no data	0.475804217	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
172	no data	no data	no data	no data	no data	0.548340946	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
172	no data	no data	no data	no data	no data	0.572030966	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
172	no data	no data	no data	no data	no data	0.63951529	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
172	no data	no data	no data	no data	no data	0.740316624	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
172	no data	no data	no data	no data	no data	0.780498766	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
172	no data	no data	no data	no data	no data	0.71676661	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
172	no data	no data	no data	no data	no data	0.686201326	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
172	no data	no data	no data	no data	no data	0.69164438	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
172	no data	no data	no data	no data	no data	0.523788799	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
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172	no data	no data	no data	no data	no data	0.807179407	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
172	no data	no data	no data	no data	no data	0.836424511	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
172	no data	no data	no data	no data	no data	0.595040946	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
172	no data	no data	no data	no data	no data	0.08579776	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
172	no data	no data	no data	no data	no data	1.331097104	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
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172	no data	no data	no data	no data	no data	1.294106259	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
172	no data	no data	no data	no data	no data	1.289038252	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
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172	no data	no data	no data	no data	no data	0.954324672	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
172	no data	no data	no data	no data	no data	1.049981367	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
204	no data	no data	no data	no data	no data	0	no data	no data	no data	no data	0.015298408	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
204	no data	no data	no data	no data	no data	0	no data	no data	no data	no data	0.029851841	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
204	no data	no data	no data	no data	no data	0	no data	no data	no data	no data	0.025484475	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
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204	no data	no data	no data	no data	no data	0	no data	no data	no data	no data	0.030406985	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
204	no data	no data	no data	no data	no data	0	no data	no data	no data	no data	0.058308496	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
204	no data	no data	no data	no data	no data	0	no data	no data	no data	no data	0.027554088	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
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204	no data	no data	no data	no data	no data	0	no data	no data	no data	no data	0.032264707	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
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204	no data	no data	no data	no data	no data	0	no data	no data	no data	no data	0.035379822	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
204	no data	no data	no data	no data	no data	0	no data	no data	no data	no data	0.030709266	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
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204	no data	no data	no data	no data	no data	0	no data	no data	no data	no data	0.07567952	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
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204	no data	no data	no data	no data	no data	0	no data	no data	no data	no data	0.053610696	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
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204	no data	no data	no data	no data	no data	0	no data	no data	no data	no data	0.115502558	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
204	no data	no data	no data	no data	no data	0	no data	no data	no data	no data	0.062655323	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
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204	no data	no data	no data	no data	no data	0	no data	no data	no data	no data	0.038641806	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
204	no data	no data	no data	no data	no data	0	no data	no data	no data	no data	0.034156276	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
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204	no data	no data	no data	no data	no data	0	no data	no data	no data	no data	0.047480374	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
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205	no data	no data	no data	no data	no data	0.941296158	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
205	no data	no data	no data	no data	no data	1.488307412	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
205	no data	no data	no data	no data	no data	1.957028008	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
205	no data	no data	no data	no data	no data	2.583930673	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
205	no data	no data	no data	no data	no data	2.159056478	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
205	no data	no data	no data	no data	no data	1.798177243	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
205	no data	no data	no data	no data	no data	1.012761208	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
205	no data	no data	no data	no data	no data	2.156746796	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
205	no data	no data	no data	no data	no data	1.572789328	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
205	no data	no data	no data	no data	no data	1.854638201	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
205	no data	no data	no data	no data	no data	0.776798262	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
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205	no data	no data	no data	no data	no data	0.832868229	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
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205	no data	no data	no data	no data	no data	3.263711832	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
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205	no data	no data	no data	no data	no data	2.049239649	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
241	no data	no data	no data	no data	no data	2.466315367	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
241	no data	no data	no data	no data	no data	2.229686757	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
241	no data	no data	no data	no data	no data	2.412601475	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
241	no data	no data	no data	no data	no data	2.021166241	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
241	no data	no data	no data	no data	no data	1.798662678	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
241	no data	no data	no data	no data	no data	1.25502596	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
241	no data	no data	no data	no data	no data	1.523750262	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
241	no data	no data	no data	no data	no data	1.507575847	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
241	no data	no data	no data	no data	no data	1.325174517	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
241	no data	no data	no data	no data	no data	1.596637405	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
241	no data	no data	no data	no data	no data	1.66967325	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
241	no data	no data	no data	no data	no data	2.303765748	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
241	no data	no data	no data	no data	no data	2.468765909	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
241	no data	no data	no data	no data	no data	2.747349515	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
241	no data	no data	no data	no data	no data	2.479167304	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
241	no data	no data	no data	no data	no data	2.142170008	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
241	no data	no data	no data	no data	no data	2.020990908	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
241	no data	no data	no data	no data	no data	1.336381939	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
241	no data	no data	no data	no data	no data	1.351623581	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
241	no data	no data	no data	no data	no data	1.314228029	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
241	no data	no data	no data	no data	no data	1.444192982	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
241	no data	no data	no data	no data	no data	1.460406833	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
241	no data	no data	no data	no data	no data	1.59507663	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
241	no data	no data	no data	no data	no data	2.333796012	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
241	no data	no data	no data	no data	no data	2.571684181	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
241	no data	no data	no data	no data	no data	2.897276877	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
241	no data	no data	no data	no data	no data	2.51822286	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
241	no data	no data	no data	no data	no data	2.095149707	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
241	no data	no data	no data	no data	no data	1.784856035	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
241	no data	no data	no data	no data	no data	1.624774206	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
241	no data	no data	no data	no data	no data	1.512736806	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
241	no data	no data	no data	no data	no data	1.463073731	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
241	no data	no data	no data	no data	no data	1.192957368	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
241	no data	no data	no data	no data	no data	3.756125312	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
241	no data	no data	no data	no data	no data	4.474173296	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
241	no data	no data	no data	no data	no data	6.355785792	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data

Appendix J, Table J-4: TankESP Output Report for Tables J-2 and J-3
Site: Rodeo Renewed, Phillips 66 San Francisco Refinery - Rodeo Renewed, Rodeo, CA
Equations for this site: After 2019 AP-42 revisions H/D ratio: calculated

														Methyl tertiary-butyl ether	Naphthalene																						Phenol										Propylene	
Tank ID	Methylene chloride (dichloromethane)	Methylheptane (2)	Methylheptane (3)	Methylheptane (4)	Methylhexane (2) (isoheptane)	Methylhexane (3)	Methylnaphthalene (1-)	Methylnaphthalene (2-)	Methyloctane (4)	Methylpentane (2) (isohexane)	Methylpentane (3)	Monoethanolamine (MEA)	Morpholine	MTBE (Methyl tert-butyl ether)	Naphthalene	Neopentane (dimethylpropane (2,2))	Nickel	Nitrates (Propyl nitrate)	Nitrobenzene	Nitromethane	Nonadecane (n)	Nonane (n-)	Octadecane (n)	Octane (n-)	Octanol (1)	Octene (1)	PACs (Chrysene)	PAHs	Pentachloroethane	Pentadiene (1,2)	Pentadiene (1,4)	Pentadiene (2,3)	Pentane (n-)	Pentene (1)	Pentyne (1)	Phenanthrene	Phenol	Phosgene	Picoline (3) (3-methyl pyridine)	Propane	Propanethiol (1)	Propanethiol (2)	Propyl alcohol (n) (propanol (1))	Propylamine (n) (1-propanamine)	Propylbenzene (n-)	Propylcyclohexane	Propylene	Propylene glycol (1,2) (1,2 propanediol)
167	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	0	no data	no data	no data	no data	no data	no data	no data	0	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data
167	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	0	no data	no data	no data	no data	no data	no data	no data	0	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data
167	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	0	no data	no data	no data	no data	no data	no data	no data	0	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data
167	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	0	no data	no data	no data	no data	no data	no data	no data	0	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data
167	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	0	no data	no data	no data	no data	no data	no data	no data	0	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data
167	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	0	no data	no data	no data	no data	no data	no data	no data	0	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data
167	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	0	no data	no data	no data	no data	no data	no data	no data	0	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data
167	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	0	no data	no data	no data	no data	no data	no data	no data	0	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data
167	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	0	no data	no data	no data	no data	no data	no data	no data	0	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data
167	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	0	no data	no data	no data	no data	no data	no data	no data	0	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data
167	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	0	no data	no data	no data	no data	no data	no data	no data	0	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data
167	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	0	no data	no data	no data	no data	no data	no data	no data	0	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data
167	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	0	no data	no data	no data	no data	no data	no data	no data	0	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data
167	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	0	no data	no data	no data	no data	no data	no data	no data	0	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data
167	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	0	no data	no data	no data	no data	no data	no data	no data	0	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data
167	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	0	no data	no data	no data	no data	no data	no data	no data	0	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data
167	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	0	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	0	no data	no data	no data	no data	no data	no data	no data	0	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data

Appendix J, Table J-4: TankESP Output Report for Tables J-2 and J-3
Site: Rodeo Renewed, Phillips 66 San Francisco Refinery - Rodeo Renewed, Rodeo, CA
Equations for this site: After 2019 AP-42 revisions H/D ratio: calculated

Tank ID	Propylene oxide	Pyridine	Resorcinol	Styrene Styrene	Tetra ethyl lead	Tetrachloroethane (1,1,1,2)	Tetrachloroethane (1,1,2,2)	Tetrachloroethylene	Tetradecane (n-)	Tetrahydrofuran	Tetramethylbenzene (1,2,4,5)	Toluene Toluene	Toluene diisocyanate	Trichloroethane (1,1,1)	Trichloroethane (1,1,2)	Trichloroethylene	Trichloropropane (1,2,3)	Tridecane (n-)	Triethanolamine (TEA)	Trifluoroethane (1,1,2-trichloro-1,2,2)	Trimethylbenzene (1,2,3)	Trimethylbenzene (1,2,4)	Trimethylbenzene (1,3,5)	Trimethylchlorosilane (chlorotrimethylsilane)	Trimethylcyclohexane (1,1,3)	Trimethylcyclopentane (1,1,3)	Trimethylpentane (2,2,3)	Trimethylpentane (2,3,4)	Trimethylpentane (2,3,3)	Undecane (n-)	Vinyl acetate (acetic acid ethenyl ester)	Vinylidene chloride (1,1-dichloro ethene)	Xylene Xylene	Xylene (m-)	Xylene (o-)	Xylene (p-)	Zinc compounds
167	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	2.749836122	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	2.182344313	no data	no data	no data	0
167	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	2.868075873	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	2.090048834	no data	no data	no data	0
167	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	2.55832609	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	1.916011926	no data	no data	no data	0
167	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	2.217468887	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	1.838280428	no data	no data	no data	0
167	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	1.957959355	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	1.705311555	no data	no data	no data	0
167	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	1.58265369	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	1.54934939	no data	no data	no data	0
167	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	1.514612077	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	1.440264905	no data	no data	no data	0
167	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	1.375434083	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	1.34627452	no data	no data	no data	0
167	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	1.234086816	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	1.108210714	no data	no data	no data	0
167	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	1.586876734	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	1.483556294	no data	no data	no data	0
167	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	1.826475303	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	1.53293862	no data	no data	no data	0
167	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	2.345582853	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	1.782225687	no data	no data	no data	0
167	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	2.832512821	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	2.25732086	no data	no data	no data	0
167	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	3.096385726	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	2.44182385	no data	no data	no data	0
167	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	2.580840065	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	1.960539376	no data	no data	no data	0
167	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	2.198415822	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	1.714535849	no data	no data	no data	0
167	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	1.776242968	no data	no data	no data	no data	no data	no data	no data	no data	no data	0	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	1.446063455	no data	no data	no data	0
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Appendix J, Table J-5
Historical 12-Month Rolling Maximum (Post-Project) vs. 3-Year Baseline TAC Emissions for Existing Sources - Regulation 2-5-114 Analysis
Phillips 66 Company - San Francisco Refinery, Rodeo, CA

Source #	Description	Source Type	Pollutant	CAS No.	Unit	Jun 2018 - May 2019	Jun 2019 - May 2020	Jun 2020 - May 2021	3-Year Average	Emissions: 3-Year Baseline (Actual)	Emissions: Post-Proj (PTE)	Table 2-5-1 CP	CP Tox Wt'd Emissions: 3-Year Baseline (Actual)	CP Tox Wt'd Emissions: Post-Proj (PTE)	2-5-114 Post-Proj - Baseline (CP Wt'd)	Table 2-5-1 CREL	CREL Tox Wt'd Emissions: 3-Year Baseline (Actual)	CREL Tox Wt'd Emissions: Post-Proj (PTE)	2-5-114 Post-Proj - Baseline (CREL Wt'd)
322	Fugitive: U40 Raw Materials Receiving	Fugitives												Exempt	-0.14			Exempt	-0.14
			1,3-Butadiene	106990	lbs/yr	0.01	0.01	0.01	0.01	0.01	0.01	0.6	0.00	0.01	0.00	2	0.00	0.00	0.00
			Benzene	71432	lbs/yr	1.32	0.89	0.81	1.01	1.01	0.04	0.1	0.10	0.00	-0.10	3	0.34	0.01	-0.32
			Cresol (mixed isomers)	1319773	lbs/yr	0.04	0.03	0.02	0.03	0.03	--					600	0.00	0.00	0.00
			Ethylbenzene	100414	lbs/yr	0.92	0.64	0.63	0.73	0.73	0.23	0.0087	0.01	0.00	0.00	2000	0.00	0.00	0.00
			Hydrogen sulfide	7783064	lbs/yr	0.13	0.09	0.10	0.11	0.11	1.84					10	0.01	0.18	0.17
			Naphthalene	91203	lbs/yr	0.08	0.05	0.04	0.06	0.06	0.05	0.12	0.01	0.01	0.00	9	0.01	0.01	0.00
			n-Hexane	110543	lbs/yr	1.80	1.25	1.15	1.40	1.40	121.38					7000	0.00	0.02	0.02
			PAH (as B(a)P-equivalent)	1151	lbs/yr	0.00	0.00	0.00	0.00	0.00	--	86	0.04	0.00	-0.04				
			Phenol	108952	lbs/yr	0.02	0.01	0.00	0.01	0.01	--					200	0.00	0.00	0.00
			Propylene	115071	lbs/yr	0.12	0.08	0.07	0.09	0.09	2.16					3000	0.00	0.00	0.00
			Styrene	100425	lbs/yr	0.01	0.00	0.00	0.00	0.00	--					900	0.00	0.00	0.00
			Toluene	108883	lbs/yr	3.21	2.26	2.23	2.57	2.57	0.58					300	0.01	0.00	-0.01
			Xylene (mixed isomers)	1330207	lbs/yr	4.74	3.30	3.22	3.75	3.75	0.20					700	0.01	0.00	-0.01
318	Fugitive: U76 Gasoline/Mid Barrel Blending Unit	Fugitives												Exempt	-7.83			Exempt	-1.34
			1,3-Butadiene	106990	lbs/yr	0.02	0.01	0.01	0.01	0.01	0.00	0.6	0.01	0.00	-0.01	2	0.01	0.00	-0.01
			Benzene	71432	lbs/yr	1.45	0.96	0.78	1.06	1.06	0.07	0.1	0.11	0.01	-0.10	3	0.35	0.02	-0.33
			Cresol (mixed isomers)	1319773	lbs/yr	0.76	0.69	0.45	0.63	0.63	--					600	0.00	0.00	0.00
			Ethylbenzene	100414	lbs/yr	8.88	7.58	5.59	7.35	7.35	0.62	0.0087	0.06	0.01	-0.06	2000	0.00	0.00	0.00
			Hydrogen sulfide	7783064	lbs/yr	0.10	0.07	0.05	0.07	0.07	0.00					10	0.01	0.00	-0.01
			Naphthalene	91203	lbs/yr	8.61	8.65	6.00	7.75	7.75	0.14	0.12	0.93	0.02	-0.91	9	0.86	0.02	-0.85
			n-Hexane	110543	lbs/yr	4.33	2.99	2.41	3.24	3.24	321.69					7000	0.00	0.05	0.05
			PAH (as B(a)P-equivalent)	1151	lbs/yr	0.09	0.09	0.06	0.08	0.08	--	86	6.75	0.00	-6.75				
			Phenol	108952	lbs/yr	8.42	8.49	5.88	7.60	7.60	--					200	0.04	0.00	-0.04
			Propylene	115071	lbs/yr	0.12	0.08	0.05	0.08	0.08	0.06					3000	0.00	0.00	0.00
			Styrene	100425	lbs/yr	0.09	0.06	0.03	0.06	0.06	--					900	0.00	0.00	0.00
			Toluene	108883	lbs/yr	36.03	29.86	22.39	29.42	29.42	1.51					300	0.10	0.01	-0.09
			Xylene (mixed isomers)	1330207	lbs/yr	48.59	41.30	30.63	40.17	40.17	0.48					700	0.06	0.00	-0.06
437	Fugitive: U110 Hydrogen Manufacturing Unit	Fugitives												HRA	0.18			HRA	0.25
			1,3-Butadiene	106990	lbs/yr	0.01	0.01	0.01	0.01	0.01	0.26	0.6	0.01	0.15	0.15	2	0.00	0.13	0.12
			Benzene	71432	lbs/yr	0.07	0.04	0.03	0.05	0.05	0.33	0.1	0.00	0.03	0.03	3	0.02	0.11	0.09
			Ethylbenzene	100414	lbs/yr	0.19	0.12	0.10	0.14	0.14	0.01	0.0087	0.00	0.00	0.00	2000	0.00	0.00	0.00
			Hydrogen sulfide	7783064	lbs/yr	0.17	0.10	0.10	0.12	0.12	0.25					10	0.01	0.03	0.01
			Naphthalene	91203	lbs/yr	0.02	0.01	0.01	0.01	0.01	0.003	0.12	0.00	0.00	0.00	9	0.00	0.00	0.00
			n-Hexane	110543	lbs/yr	0.55	0.36	0.23	0.38	0.38	18.98					7000	0.00	0.00	0.00
			Propylene	115071	lbs/yr	1.84	1.20	0.75	1.26	1.26	47.88					3000	0.00	0.02	0.02
			Styrene	100425	lbs/yr	0.01	0.00	0.00	0.00	0.00	--					900	0.00	0.00	0.00
			Toluene	108883	lbs/yr	0.88	0.55	0.44	0.62	0.62	0.36					300	0.00	0.00	0.00
			Xylene (mixed isomers)	1330207	lbs/yr	0.89	0.56	0.44	0.63	0.63	0.58					700	0.00	0.00	0.00
307	Fugitive: U240 Unicracking Unit	Fugitives												Exempt	-12.38			Exempt	-3.38
			1,3-Butadiene	106990	lbs/yr	0.50	0.41	0.28	0.40	0.40	0.53	0.6	0.24	0.32	0.08	2	0.20	0.26	0.06
			Benzene	71432	lbs/yr	10.34	8.97	6.15	8.48	8.48	0.84	0.1	0.85	0.08	-0.76	3	2.83	0.28	-2.55
			Cresol (mixed isomers)	1319773	lbs/yr	14.19	13.43	10.00	12.54	12.54	--					600	0.02	0.00	-0.02
			Ethylbenzene	100414	lbs/yr	13.53	12.09	8.19	11.27	11.27	0.51	0.0087	0.10	0.00	-0.09	2000	0.01	0.00	-0.01
			Hydrogen sulfide	7783064	lbs/yr	11.19	7.03	3.72	7.31	7.31	2.18					10	0.73	0.22	-0.51
			Naphthalene	91203	lbs/yr	2.61	2.48	1.84	2.31	2.31	0.11	0.12	0.28	0.01	-0.26	9	0.26	0.01	-0.24
			n-Hexane	110543	lbs/yr	27.27	24.70	17.50	23.16	23.16	291.16					7000	0.00	0.04	0.04
			PAH (as B(a)P-equivalent)	1151	lbs/yr	0.15	0.14	0.11	0.13	0.13	--	86	11.34	0.00	-11.34				
			Phenol	108952	lbs/yr	0.90	0.85	0.63	0.79	0.79	--					200	0.00	0.00	0.00
			Propylene	115071	lbs/yr	14.92	9.98	5.43	10.11	10.11	139.86					3000	0.00	0.05	0.04
			Styrene	100425	lbs/yr	6.06	5.74	4.27	5.36	5.36	--					900	0.01	0.00	-0.01
			Toluene	108883	lbs/yr	47.29	43.34	29.05	39.89	39.89	2.02					300	0.13	0.01	-0.13
			Xylene (mixed isomers)	1330207	lbs/yr	54.22	50.04	33.62	45.96	45.96	1.76					700	0.07	0.00	-0.06
434	Fugitive: U246 High Pressure Reactor Train (Cracking)	Fugitives												Exempt	-2.54			Exempt	-0.26
			1,3-Butadiene	106990	lbs/yr	0.06	0.06	0.04	0.05	0.05	0.06	0.6	0.03	0.04	0.00	2	0.03	0.03	0.00
			Benzene	71432	lbs/yr	1.00	0.70	0.63	0.78	0.78	0.14	0.1	0.08	0.01	-0.06	3	0.26	0.05	-0.21
			Cresol (mixed isomers)	1319773	lbs/yr	0.07	0.07	0.05	0.06	0.06	--					600	0.00	0.00	0.00
			Ethylbenzene	100414	lbs/yr	2.50	1.90	1.56	1.99	1.99	0.42	0.0087	0.02	0.00	-0.01	2000	0.00	0.00	0.00
			Hydrogen sulfide	7783064	lbs/yr	0.44	0.34	0.35	0.38	0.38	0.76					10	0.04	0.08	0.04
			Naphthalene	91203	lbs/yr	0.93	0.95	0.64	0.84	0.84	0.09	0.12	0.10	0.01	-0.09	9	0.09	0.01	-0.08
			n-Hexane	110543	lbs/yr	1.88	1.36	1.32	1.52	1.52	223.63					7000	0.00	0.03	0.03
			PAH (as B(a)P-equivalent)	1151	lbs/yr	0.03	0.03	0.02	0.03	0.03	--	86	2.37	0.00	-2.37				
			Phenol	108952	lbs/yr	0.82	0.84	0.56	0.74	0.74	--					200	0.00	0.00	0.00
			Propylene	115071	lbs/yr	0.59	0.44	0.45	0.49	0.49	12.85					3000	0.00	0.00	0.00
			Styrene	100425	lbs/yr	0.01	0.01	0.01	0.01	0.01	--					900	0.00	0.00	0.00
			Toluene	108883	lbs/yr	8.94	6.85	5.55	7.11	7.11	1.12					300	0.02	0.00	-0.02
			Xylene (mixed isomers)	1330207	lbs/yr	12.70	9.43	7.73	9.95	9.95	0.48					700	0.01	0.00	-0.01
70	Fugitive: Rail Unloading	Fugitives												Exempt	-0.0119			Exempt	-0.0222
			1,3-Butadiene	106990	lbs/yr	0.02	0.02	0.02	0.02	0.0198	--	0.6	0.0119	0.0000	-0.0119	2	0.00989	0.00000	-0.00989
			Hydrogen sulfide	7783064	lbs/yr	0.13	0.11	0.13	0.12	0.1221	--					10	0.01221	0.00000	-0.01221
			n-Hexane	110543	lbs/yr	0.08	0.07	0.08	0.08	0.0800	--					7000	0.00001	0.00000	-0.00001
			Propylene	115071	lbs/yr	0.13	0.11	0.12	0.12	0.1198	--					3000	0.00004	0.00000	-0.00004

Appendix J, Table J-6
Monthly Fugitive Emissions for Existing Sources (Emissions for Period: January 1, 2018 - December 31, 2018)
Phillips 66 Company - San Francisco Refinery, Rodeo, CA

Days / Yr: 365

Unit	Pollutant	CAS No.	Unit	1	2	3	4	5	6	7	8	9	10	11	12
				31	28	31	30	31	30	31	31	30	31	30	31
				Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	POC	POC	tons/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	CH4	CH4	MTs/month												
	1,3-Butadiene	106990	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Benzene	71432	lbs/month	0.14	0.12	0.14	0.13	0.14	0.13	0.14	0.14	0.13	0.14	0.13	0.14
	Cresol (mixed isomers)	1319773	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Ethylbenzene	100414	lbs/month	0.09	0.08	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
	Hydrogen sulfide	7783064	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Naphthalene	91203	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	n-Hexane	110543	lbs/month	0.18	0.16	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
	PAH (as B(a)P equivalent)	1151	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Phenol	108952	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Propylene	115071	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Styrene	100425	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Toluene	108883	lbs/month	0.32	0.29	0.32	0.31	0.32	0.31	0.32	0.32	0.31	0.32	0.31	0.32
	Xylene (mixed isomers)	1330207	lbs/month	0.48	0.44	0.48	0.47	0.48	0.47	0.48	0.48	0.47	0.48	0.47	0.48
76	POC	POC	tons/month	0.16	0.15	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
	CH4	CH4	MTs/month												
	1,3-Butadiene	106990	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Benzene	71432	lbs/month	0.14	0.13	0.14	0.13	0.14	0.13	0.14	0.14	0.13	0.14	0.13	0.14
	Cresol (mixed isomers)	1319773	lbs/month	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
	Ethylbenzene	100414	lbs/month	0.79	0.72	0.79	0.77	0.79	0.77	0.79	0.79	0.77	0.79	0.77	0.79
	Hydrogen sulfide	7783064	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Naphthalene	91203	lbs/month	0.73	0.66	0.73	0.70	0.73	0.70	0.73	0.73	0.70	0.73	0.70	0.73
	n-Hexane	110543	lbs/month	0.41	0.37	0.41	0.39	0.41	0.39	0.41	0.41	0.39	0.41	0.39	0.41
	PAH (as B(a)P equivalent)	1151	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Phenol	108952	lbs/month	0.71	0.64	0.71	0.69	0.71	0.69	0.71	0.71	0.69	0.71	0.69	0.71
	Propylene	115071	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Styrene	100425	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Toluene	108883	lbs/month	3.24	2.93	3.24	3.14	3.24	3.14	3.24	3.24	3.14	3.24	3.14	3.24
	Xylene (mixed isomers)	1330207	lbs/month	4.34	3.92	4.34	4.20	4.34	4.20	4.34	4.34	4.20	4.34	4.20	4.34
110	POC	POC	tons/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	CH4	CH4	MTs/month												
	1,3-Butadiene	106990	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Benzene	71432	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Cresol (mixed isomers)	1319773	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	Ethylbenzene	100414	lbs/month	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
	Hydrogen sulfide	7783064	lbs/month	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
	Naphthalene	91203	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	n-Hexane	110543	lbs/month	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
	PAH (as B(a)P equivalent)	1151	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	Phenol	108952	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	Propylene	115071	lbs/month	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
	Styrene	100425	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Toluene	108883	lbs/month	0.09	0.08	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
	Xylene (mixed isomers)	1330207	lbs/month	0.09	0.08	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
240	POC	POC	tons/month	0.28	0.26	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
	CH4	CH4	MTs/month												
	1,3-Butadiene	106990	lbs/month	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
	Benzene	71432	lbs/month	0.89	0.80	0.89	0.86	0.89	0.86	0.89	0.89	0.86	0.89	0.86	0.89
	Cresol (mixed isomers)	1319773	lbs/month	1.20	1.08	1.20	1.16	1.20	1.16	1.20	1.20	1.16	1.20	1.16	1.20
	Ethylbenzene	100414	lbs/month	1.13	1.02	1.13	1.10	1.13	1.10	1.13	1.13	1.10	1.13	1.10	1.13
	Hydrogen sulfide	7783064	lbs/month	1.05	0.95	1.05	1.02	1.05	1.02	1.05	1.05	1.02	1.05	1.02	1.05
	Naphthalene	91203	lbs/month	0.22	0.20	0.22	0.21	0.22	0.21	0.22	0.22	0.21	0.22	0.21	0.22
	n-Hexane	110543	lbs/month	2.31	2.08	2.31	2.23	2.31	2.23	2.31	2.31	2.23	2.31	2.23	2.31
	PAH (as B(a)P equivalent)	1151	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Phenol	108952	lbs/month	0.08	0.07	0.08	0.07	0.08	0.07	0.08	0.08	0.07	0.08	0.07	0.08
	Propylene	115071	lbs/month	1.38	1.24	1.38	1.33	1.38	1.33	1.38	1.38	1.33	1.38	1.33	1.38
	Styrene	100425	lbs/month	0.51	0.46	0.51	0.49	0.51	0.49	0.51	0.51	0.49	0.51	0.49	0.51
	Toluene	108883	lbs/month	3.88	3.50	3.88	3.75	3.88	3.75	3.88	3.88	3.75	3.88	3.75	3.88
	Xylene (mixed isomers)	1330207	lbs/month	4.43	4.00	4.43	4.29	4.43	4.29	4.43	4.43	4.29	4.43	4.29	4.43
246	POC	POC	tons/month	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
	CH4	CH4	MTs/month												
	1,3-Butadiene	106990	lbs/month	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.01	0.00	0.01	0.00	0.01
	Benzene	71432	lbs/month	0.10	0.09	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
	Cresol (mixed isomers)	1319773	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Ethylbenzene	100414	lbs/month	0.25	0.23	0.25	0.24	0.25	0.24	0.25	0.25	0.24	0.25	0.24	0.25
	Hydrogen sulfide	7783064	lbs/month	0.05	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
	Naphthalene	91203	lbs/month	0.08	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
	n-Hexane	110543	lbs/month	0.20	0.18	0.20	0.19	0.20	0.19	0.20	0.20	0.19	0.20	0.19	0.20
	PAH (as B(a)P equivalent)	1151	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Phenol	108952	lbs/month	0.07	0.06	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
	Propylene	115071	lbs/month	0.06	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
	Styrene	100425	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Toluene	108883	lbs/month	0.89	0.80	0.89	0.86	0.89	0.86	0.89	0.89	0.86	0.89	0.86	0.89
	Xylene (mixed isomers)	1330207	lbs/month	1.27	1.15	1.27	1.23	1.27	1.23	1.27	1.27	1.23	1.27	1.23	1.27
Rail Unloading	POC	POC	tons/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	CH4	CH4	MTs/month												
	1,3-Butadiene	106990	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Benzene	71432	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	Cresol (mixed isomers)	1319773	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	Ethylbenzene	100414	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	Hydrogen sulfide	7783064	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Naphthalene	91203	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	n-Hexane	110543	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	PAH (as B(a)P equivalent)	1151	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	Phenol	108952	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	Propylene	115071	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Styrene	100425	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	Toluene	108883	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	Xylene (mixed isomers)	1330207	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--

This table presents the POC and TAC emissions by month by proportioning annual emissions in the Summary tab using number of days per month.

Appendix J, Table J-7
Monthly Fugitive Emissions for Existing Sources (Emissions for Period: January 1, 2019 - December 31, 2019)
Phillips 66 Company - San Francisco Refinery, Rodeo, CA

Days / Yr: 365

Unit	Pollutant	CAS No.	Unit	1	2	3	4	5	6	7	8	9	10	11	12
				31	28	31	30	31	30	31	31	30	31	30	31
				Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	POC	POC	tons/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	CH4	CH4	MTs/month												
	1,3-Butadiene	106990	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Benzene	71432	lbs/month	0.08	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
	Cresol (mixed isomers)	1319773	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Ethylbenzene	100414	lbs/month	0.06	0.05	0.06	0.05	0.06	0.05	0.06	0.06	0.05	0.06	0.05	0.06
	Hydrogen sulfide	7783064	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Naphthalene	91203	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	n-Hexane	110543	lbs/month	0.11	0.10	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
	PAH (as B(a)P equivalent)	1151	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Phenol	108952	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Propylene	115071	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Styrene	100425	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Toluene	108883	lbs/month	0.20	0.18	0.20	0.19	0.20	0.19	0.20	0.20	0.19	0.20	0.19	0.20
	Xylene (mixed isomers)	1330207	lbs/month	0.29	0.26	0.29	0.28	0.29	0.28	0.29	0.29	0.28	0.29	0.28	0.29
76	POC	POC	tons/month	0.16	0.14	0.16	0.15	0.16	0.15	0.16	0.16	0.15	0.16	0.15	0.16
	CH4	CH4	MTs/month												
	1,3-Butadiene	106990	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Benzene	71432	lbs/month	0.10	0.09	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
	Cresol (mixed isomers)	1319773	lbs/month	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
	Ethylbenzene	100414	lbs/month	0.70	0.63	0.70	0.68	0.70	0.68	0.70	0.70	0.68	0.70	0.68	0.70
	Hydrogen sulfide	7783064	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Naphthalene	91203	lbs/month	0.74	0.67	0.74	0.71	0.74	0.71	0.74	0.74	0.71	0.74	0.71	0.74
	n-Hexane	110543	lbs/month	0.31	0.28	0.31	0.30	0.31	0.30	0.31	0.31	0.30	0.31	0.30	0.31
	PAH (as B(a)P equivalent)	1151	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Phenol	108952	lbs/month	0.72	0.65	0.72	0.70	0.72	0.70	0.72	0.72	0.70	0.72	0.70	0.72
	Propylene	115071	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Styrene	100425	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Toluene	108883	lbs/month	2.80	2.53	2.80	2.71	2.80	2.71	2.80	2.80	2.71	2.80	2.71	2.80
	Xylene (mixed isomers)	1330207	lbs/month	3.82	3.45	3.82	3.70	3.82	3.70	3.82	3.82	3.70	3.82	3.70	3.82
110	POC	POC	tons/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	CH4	CH4	MTs/month												
	1,3-Butadiene	106990	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Benzene	71432	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Cresol (mixed isomers)	1319773	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	Ethylbenzene	100414	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Hydrogen sulfide	7783064	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Naphthalene	91203	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	n-Hexane	110543	lbs/month	0.04	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
	PAH (as B(a)P equivalent)	1151	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	Phenol	108952	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	Propylene	115071	lbs/month	0.13	0.12	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
	Styrene	100425	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Toluene	108883	lbs/month	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
	Xylene (mixed isomers)	1330207	lbs/month	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
240	POC	POC	tons/month	0.29	0.27	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
	CH4	CH4	MTs/month												
	1,3-Butadiene	106990	lbs/month	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
	Benzene	71432	lbs/month	0.87	0.78	0.87	0.84	0.87	0.84	0.87	0.87	0.84	0.87	0.84	0.87
	Cresol (mixed isomers)	1319773	lbs/month	1.22	1.10	1.22	1.18	1.22	1.18	1.22	1.22	1.18	1.22	1.18	1.22
	Ethylbenzene	100414	lbs/month	1.17	1.06	1.17	1.14	1.17	1.14	1.17	1.17	1.14	1.17	1.14	1.17
	Hydrogen sulfide	7783064	lbs/month	0.80	0.73	0.80	0.78	0.80	0.78	0.80	0.80	0.78	0.80	0.78	0.80
	Naphthalene	91203	lbs/month	0.23	0.20	0.23	0.22	0.23	0.22	0.23	0.23	0.22	0.23	0.22	0.23
	n-Hexane	110543	lbs/month	2.33	2.10	2.33	2.26	2.33	2.26	2.33	2.33	2.26	2.33	2.26	2.33
	PAH (as B(a)P equivalent)	1151	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Phenol	108952	lbs/month	0.08	0.07	0.08	0.07	0.08	0.07	0.08	0.08	0.07	0.08	0.07	0.08
	Propylene	115071	lbs/month	1.11	1.01	1.11	1.08	1.11	1.08	1.11	1.11	1.08	1.11	1.08	1.11
	Styrene	100425	lbs/month	0.52	0.47	0.52	0.50	0.52	0.50	0.52	0.52	0.50	0.52	0.50	0.52
	Toluene	108883	lbs/month	4.21	3.80	4.21	4.07	4.21	4.07	4.21	4.21	4.07	4.21	4.07	4.21
	Xylene (mixed isomers)	1330207	lbs/month	4.85	4.38	4.85	4.69	4.85	4.69	4.85	4.85	4.69	4.85	4.69	4.85
246	POC	POC	tons/month	0.06	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
	CH4	CH4	MTs/month												
	1,3-Butadiene	106990	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Benzene	71432	lbs/month	0.06	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
	Cresol (mixed isomers)	1319773	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Ethylbenzene	100414	lbs/month	0.16	0.14	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
	Hydrogen sulfide	7783064	lbs/month	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
	Naphthalene	91203	lbs/month	0.08	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
	n-Hexane	110543	lbs/month	0.11	0.10	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
	PAH (as B(a)P equivalent)	1151	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Phenol	108952	lbs/month	0.07	0.06	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
	Propylene	115071	lbs/month	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
	Styrene	100425	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Toluene	108883	lbs/month	0.58	0.52	0.58	0.56	0.58	0.56	0.58	0.58	0.56	0.58	0.56	0.58
	Xylene (mixed isomers)	1330207	lbs/month	0.80	0.72	0.80	0.78	0.80	0.78	0.80	0.80	0.78	0.80	0.78	0.80
Rail Unloading	POC	POC	tons/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	CH4	CH4	MTs/month												
	1,3-Butadiene	106990	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Benzene	71432	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	Cresol (mixed isomers)	1319773	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	Ethylbenzene	100414	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	Hydrogen sulfide	7783064	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Naphthalene	91203	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	n-Hexane	110543	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	PAH (as B(a)P equivalent)	1151	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	Phenol	108952	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	Propylene	115071	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Styrene	100425	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	Toluene	108883	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	Xylene (mixed isomers)	1330207	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--

This table presents the POC and TAC emissions by month by proportioning annual emissions in the Summary tab using number of days per month.

Appendix J, Table J-8
Monthly Fugitive Emissions for Existing Sources (Emissions for Period: January 1, 2020 - December 31, 2020)
Phillips 66 Company - San Francisco Refinery, Rodeo, CA

Days / Yr: 366

Unit	Pollutant	CAS No.	Unit	1	2	3	4	5	6	7	8	9	10	11	12
				31	29	31	30	31	30	31	31	30	31	30	31
				Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	POC	POC	tons/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	CH4	CH4	MTs/month												
	1,3-Butadiene	106990	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Benzene	71432	lbs/month	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
	Cresol (mixed isomers)	1319773	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Ethylbenzene	100414	lbs/month	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
	Hydrogen sulfide	7783064	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Naphthalene	91203	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	n-Hexane	110543	lbs/month	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
	PAH (as B(a)P equivalent)	1151	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Phenol	108952	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Propylene	115071	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Styrene	100425	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Toluene	108883	lbs/month	0.18	0.17	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
	Xylene (mixed isomers)	1330207	lbs/month	0.27	0.25	0.27	0.26	0.27	0.26	0.27	0.27	0.26	0.27	0.26	0.27
76	POC	POC	tons/month	0.15	0.14	0.15	0.14	0.15	0.14	0.15	0.15	0.14	0.15	0.14	0.15
	CH4	CH4	MTs/month												
	1,3-Butadiene	106990	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Benzene	71432	lbs/month	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
	Cresol (mixed isomers)	1319773	lbs/month	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
	Ethylbenzene	100414	lbs/month	0.56	0.53	0.56	0.54	0.56	0.54	0.56	0.56	0.54	0.56	0.54	0.56
	Hydrogen sulfide	7783064	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Naphthalene	91203	lbs/month	0.72	0.68	0.72	0.70	0.72	0.70	0.72	0.72	0.70	0.72	0.70	0.72
	n-Hexane	110543	lbs/month	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
	PAH (as B(a)P equivalent)	1151	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Phenol	108952	lbs/month	0.71	0.67	0.71	0.69	0.71	0.69	0.71	0.71	0.69	0.71	0.69	0.71
	Propylene	115071	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Styrene	100425	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Toluene	108883	lbs/month	2.15	2.01	2.15	2.08	2.15	2.08	2.15	2.15	2.08	2.15	2.08	2.15
	Xylene (mixed isomers)	1330207	lbs/month	3.04	2.85	3.04	2.95	3.04	2.95	3.04	3.04	2.95	3.04	2.95	3.04
110	POC	POC	tons/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	CH4	CH4	MTs/month												
	1,3-Butadiene	106990	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Benzene	71432	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Cresol (mixed isomers)	1319773	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	Ethylbenzene	100414	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Hydrogen sulfide	7783064	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Naphthalene	91203	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	n-Hexane	110543	lbs/month	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
	PAH (as B(a)P equivalent)	1151	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	Phenol	108952	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	Propylene	115071	lbs/month	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
	Styrene	100425	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Toluene	108883	lbs/month	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
	Xylene (mixed isomers)	1330207	lbs/month	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
240	POC	POC	tons/month	0.24	0.23	0.24	0.23	0.24	0.23	0.24	0.24	0.23	0.24	0.23	0.24
	CH4	CH4	MTs/month												
	1,3-Butadiene	106990	lbs/month	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
	Benzene	71432	lbs/month	0.61	0.57	0.61	0.59	0.61	0.59	0.61	0.61	0.59	0.61	0.59	0.61
	Cresol (mixed isomers)	1319773	lbs/month	1.03	0.96	1.03	0.99	1.03	0.99	1.03	1.03	0.99	1.03	0.99	1.03
	Ethylbenzene	100414	lbs/month	0.81	0.76	0.81	0.79	0.81	0.79	0.81	0.81	0.79	0.81	0.79	0.81
	Hydrogen sulfide	7783064	lbs/month	0.30	0.28	0.30	0.29	0.30	0.29	0.30	0.30	0.29	0.30	0.29	0.30
	Naphthalene	91203	lbs/month	0.19	0.18	0.19	0.18	0.19	0.18	0.19	0.19	0.18	0.19	0.18	0.19
	n-Hexane	110543	lbs/month	1.76	1.64	1.76	1.70	1.76	1.70	1.76	1.76	1.70	1.76	1.70	1.76
	PAH (as B(a)P equivalent)	1151	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Phenol	108952	lbs/month	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
	Propylene	115071	lbs/month	0.47	0.44	0.47	0.45	0.47	0.45	0.47	0.47	0.45	0.47	0.45	0.47
	Styrene	100425	lbs/month	0.44	0.41	0.44	0.42	0.44	0.42	0.44	0.44	0.42	0.44	0.42	0.44
	Toluene	108883	lbs/month	2.91	2.72	2.91	2.82	2.91	2.82	2.91	2.91	2.82	2.91	2.82	2.91
	Xylene (mixed isomers)	1330207	lbs/month	3.38	3.16	3.38	3.27	3.38	3.27	3.38	3.38	3.27	3.38	3.27	3.38
246	POC	POC	tons/month	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
	CH4	CH4	MTs/month												
	1,3-Butadiene	106990	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Benzene	71432	lbs/month	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
	Cresol (mixed isomers)	1319773	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Ethylbenzene	100414	lbs/month	0.16	0.15	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
	Hydrogen sulfide	7783064	lbs/month	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
	Naphthalene	91203	lbs/month	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
	n-Hexane	110543	lbs/month	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
	PAH (as B(a)P equivalent)	1151	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Phenol	108952	lbs/month	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
	Propylene	115071	lbs/month	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
	Styrene	100425	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Toluene	108883	lbs/month	0.58	0.54	0.58	0.56	0.58	0.56	0.58	0.58	0.56	0.58	0.56	0.58
	Xylene (mixed isomers)	1330207	lbs/month	0.79	0.74	0.79	0.77	0.79	0.77	0.79	0.79	0.77	0.79	0.77	0.79
Rail Unloading	POC	POC	tons/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	CH4	CH4	MTs/month												
	1,3-Butadiene	106990	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Benzene	71432	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	Cresol (mixed isomers)	1319773	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	Ethylbenzene	100414	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	Hydrogen sulfide	7783064	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Naphthalene	91203	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	n-Hexane	110543	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	PAH (as B(a)P equivalent)	1151	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	Phenol	108952	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	Propylene	115071	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Styrene	100425	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	Toluene	108883	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	Xylene (mixed isomers)	1330207	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--

This table presents the POC and TAC emissions by month by proportioning annual emissions in the Summary tab using number of days per month.

Appendix J, Table J-9
Monthly Fugitive Emissions for Existing Sources (Emissions for Period: January 1, 2021 - December 31, 2021)
Phillips 66 Company - San Francisco Refinery, Rodeo, CA

Days / Yr: 365

Unit	Pollutant	CAS No.	Unit	1	2	3	4	5	6	7	8	9	10	11	12
				31	28	31	30	31	30	31	31	30	31	30	31
				Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	POC	POC	tons/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	CH4	CH4	MTs/month												
	1,3-Butadiene	106990	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Benzene	71432	lbs/month	0.07	0.06	0.07	0.06	0.07	0.06	0.07	0.07	0.06	0.07	0.06	0.07
	Cresol (mixed isomers)	1319773	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Ethylbenzene	100414	lbs/month	0.06	0.05	0.06	0.05	0.06	0.05	0.06	0.06	0.05	0.06	0.05	0.06
	Hydrogen sulfide	7783064	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Naphthalene	91203	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	n-Hexane	110543	lbs/month	0.10	0.09	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
	PAH (as B(a)P equivalent)	1151	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Phenol	108952	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Propylene	115071	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Styrene	100425	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Toluene	108883	lbs/month	0.20	0.18	0.20	0.19	0.20	0.19	0.20	0.20	0.19	0.20	0.19	0.20
	Xylene (mixed isomers)	1330207	lbs/month	0.28	0.26	0.28	0.27	0.28	0.27	0.28	0.28	0.27	0.28	0.27	0.28
76	POC	POC	tons/month	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
	CH4	CH4	MTs/month												
	1,3-Butadiene	106990	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Benzene	71432	lbs/month	0.09	0.08	0.09	0.08	0.09	0.08	0.09	0.09	0.08	0.09	0.08	0.09
	Cresol (mixed isomers)	1319773	lbs/month	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
	Ethylbenzene	100414	lbs/month	0.35	0.32	0.35	0.34	0.35	0.34	0.35	0.35	0.34	0.35	0.34	0.35
	Hydrogen sulfide	7783064	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Naphthalene	91203	lbs/month	0.21	0.19	0.21	0.20	0.21	0.20	0.21	0.21	0.20	0.21	0.20	0.21
	n-Hexane	110543	lbs/month	0.25	0.23	0.25	0.24	0.25	0.24	0.25	0.25	0.24	0.25	0.24	0.25
	PAH (as B(a)P equivalent)	1151	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Phenol	108952	lbs/month	0.20	0.18	0.20	0.19	0.20	0.19	0.20	0.20	0.19	0.20	0.19	0.20
	Propylene	115071	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Styrene	100425	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Toluene	108883	lbs/month	1.55	1.40	1.55	1.50	1.55	1.50	1.55	1.55	1.50	1.55	1.50	1.55
	Xylene (mixed isomers)	1330207	lbs/month	1.97	1.78	1.97	1.91	1.97	1.91	1.97	1.97	1.91	1.97	1.91	1.97
110	POC	POC	tons/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	CH4	CH4	MTs/month												
	1,3-Butadiene	106990	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Benzene	71432	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Cresol (mixed isomers)	1319773	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	Ethylbenzene	100414	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Hydrogen sulfide	7783064	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Naphthalene	91203	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	n-Hexane	110543	lbs/month	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
	PAH (as B(a)P equivalent)	1151	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	Phenol	108952	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	Propylene	115071	lbs/month	0.07	0.06	0.07	0.06	0.07	0.06	0.07	0.07	0.06	0.07	0.06	0.07
	Styrene	100425	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Toluene	108883	lbs/month	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
	Xylene (mixed isomers)	1330207	lbs/month	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
240	POC	POC	tons/month	0.15	0.13	0.15	0.14	0.15	0.14	0.15	0.15	0.14	0.15	0.14	0.15
	CH4	CH4	MTs/month												
	1,3-Butadiene	106990	lbs/month	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
	Benzene	71432	lbs/month	0.40	0.36	0.40	0.39	0.40	0.39	0.40	0.40	0.39	0.40	0.39	0.40
	Cresol (mixed isomers)	1319773	lbs/month	0.60	0.54	0.60	0.58	0.60	0.58	0.60	0.60	0.58	0.60	0.58	0.60
	Ethylbenzene	100414	lbs/month	0.53	0.48	0.53	0.51	0.53	0.51	0.53	0.53	0.51	0.53	0.51	0.53
	Hydrogen sulfide	7783064	lbs/month	0.34	0.30	0.34	0.33	0.34	0.33	0.34	0.34	0.33	0.34	0.33	0.34
	Naphthalene	91203	lbs/month	0.11	0.10	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
	n-Hexane	110543	lbs/month	1.10	1.00	1.10	1.07	1.10	1.07	1.10	1.10	1.07	1.10	1.07	1.10
	PAH (as B(a)P equivalent)	1151	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Phenol	108952	lbs/month	0.04	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
	Propylene	115071	lbs/month	0.45	0.41	0.45	0.44	0.45	0.44	0.45	0.45	0.44	0.45	0.44	0.45
	Styrene	100425	lbs/month	0.26	0.23	0.26	0.25	0.26	0.25	0.26	0.26	0.25	0.26	0.25	0.26
	Toluene	108883	lbs/month	1.84	1.66	1.84	1.78	1.84	1.78	1.84	1.84	1.78	1.84	1.78	1.84
	Xylene (mixed isomers)	1330207	lbs/month	2.12	1.91	2.12	2.05	2.12	2.05	2.12	2.12	2.05	2.12	2.05	2.12
246	POC	POC	tons/month	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
	CH4	CH4	MTs/month												
	1,3-Butadiene	106990	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Benzene	71432	lbs/month	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
	Cresol (mixed isomers)	1319773	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Ethylbenzene	100414	lbs/month	0.09	0.08	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
	Hydrogen sulfide	7783064	lbs/month	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
	Naphthalene	91203	lbs/month	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
	n-Hexane	110543	lbs/month	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
	PAH (as B(a)P equivalent)	1151	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Phenol	108952	lbs/month	0.02	0.01	0.02	0.01	0.02	0.01	0.02	0.02	0.01	0.02	0.01	0.02
	Propylene	115071	lbs/month	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
	Styrene	100425	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Toluene	108883	lbs/month	0.32	0.29	0.32	0.31	0.32	0.31	0.32	0.32	0.31	0.32	0.31	0.32
	Xylene (mixed isomers)	1330207	lbs/month	0.46	0.42	0.46	0.45	0.46	0.45	0.46	0.46	0.45	0.46	0.45	0.46
Rail Unloading	POC	POC	tons/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	CH4	CH4	MTs/month												
	1,3-Butadiene	106990	lbs/month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Benzene	71432	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	Cresol (mixed isomers)	1319773	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	Ethylbenzene	100414	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	Hydrogen sulfide	7783064	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Naphthalene	91203	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	n-Hexane	110543	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	PAH (as B(a)P equivalent)	1151	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	Phenol	108952	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	Propylene	115071	lbs/month	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Styrene	100425	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	Toluene	108883	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--
	Xylene (mixed isomers)	1330207	lbs/month	--	--	--	--	--	--	--	--	--	--	--	--

This table presents the POC and TAC emissions by month by proportioning annual emissions in the Summary tab using number of days per month.

Appendix J, Table J-10: Fugitive TAC Speciations

Material Service[1]		Benzene	1,3-Butadiene	Cresol (mixed isomers)	Ethylbenzene	n-Hexane	Hydrogen sulfide	Mercury	Naphthalene	Phenol	Propylene	Styrene	Toluene	Xylene (mixed isomers)	PAHs (as B[a]P equiv)
		71-43-2	106-99-0	1319-77-3	100-41-4	110-54-3	7783-06-4	7439-97-6	91-20-3	108-95-2	115-07-1	100-42-5	108-88-3	1330-20-7	1150
		wt %													
Crude-Blended	LL/HL	0.159	--	0.037	0.117	0.853	0.01	6.63E-07	0.047	--	--	--	0.405	0.54	0.0004
Gas Oil	HL	0.107	0.002	0.005	0.220	0.0195	0.0001	--	0.124	0.005	--	0.09	0.38	1.17	0.006
Coker Gas Oil	HL	0.014	0.015	--	0.029	--	0.0001	--	0.0086	--	--	--	0.013	0.05	0.001
Light Atm Gas Oil	HL	0.011	--	--	0.023	0.025	0.0001	--	0.089	--	--	--	0.03	0.206	--
Heavy Gas Oil	HL	--	--	--	0.02	--	0.0001	--	0.02	--	--	--	0.25	0.07	--
Hydrocracker Bottoms	HL	--	--	--	--	--	0.0001	--	0.0008	--	--	--	--	--	0.006
U240 SC1	HL	0.014	0.015	--	0.029	0.013	0.0001	--	0.01	--	--	--	0.013	0.05	0.001
Diesel	HL	0.0008	--	0.017	0.156	0.012	0.0001	--	0.262	0.26	--	--	0.546	0.83	0.003
UGO	HL	--	--	--	--	--	0.0001	--	0.0008	--	--	--	--	--	0.006
Resid	HL	--	--	--	--	--	0.0001	--	0.41	--	--	--	--	--	0.001
Butane	LL	--	0.047	--	--	0.19	0.29	--	--	--	0.28	--	--	--	--
Light Hydrocracked Naphtha	LL	3.348	--	--	1.624	1.551	--	--	--	--	--	--	5.457	9.278	--
Heavy Naphtha	LL	0.716	--	--	1.095	3.089	--	--	0.065	--	--	--	3.575	4.662	--
Light Hydrocracked Naphtha LB	LL	0.835	--	--	1.624	1.551	--	--	--	--	--	--	5.457	9.278	--
Naphtha	LL	0.652	--	--	0.931	2.57	--	--	0.14	--	--	--	3.758	4.218	--
Desulfurized Naphtha	LL	1.237	--	--	0.985	3.799	--	--	0.032	--	--	--	4.226	3.295	--
Light Slop Oil	LL	0.449	--	1.45	0.509	1.236	--	--	0.137	0.09	0.13	0.59	2.235	2.237	--
Gasoline	LL	0.44	--	--	1.213	1.239	--	--	0.039	--	--	--	5.955	7.042	0.0004
Cracked Gas	GV	1.571	0.157	--	1.11	0.699	10.7	--	--	--	9.72	--	1.710	0.03	--
Coker Heavy Naphtha	LL	0.291	0.015	0.017	0.927	0.178	--	--	--	--	--	0.035	2.254	3.218	--
RFG	GV	0.015	0.01	--	--	0.538	0.0001	--	--	--	2.19	--	0.015	0.026	--
Sat Gas	GV	1.401	0.012	--	0.10	1.021	0.94	--	0.012	--	0.81	--	0.646	--	--
Propane	LL	--	--	--	--	--	0.38	--	--	--	4.41	--	--	--	--
Renewable Feedstocks	HL	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Renewable Diesel	HL	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Renewable Jet	HL	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Renewable Naphtha	LL	0.001	--	--	0.009	4.685	--	--	0.002	--	--	--	0.022	0.007	--
Reformate LB	LL	0.615	--	--	3.305	2.183	--	--	0.302	--	--	0.108	15.978	16.326	--
Sour Water	LL	--	--	--	--	--	0.75	--	--	--	--	--	--	--	--
Unknown/No HAPs	LL	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Jet Fuel	HL	--	--	0.016	0.101	0.030	0.0001	--	0.169	0.016	--	--	0.122	0.338	0.00001
Heavy Vacuum Gas Oil	HL	--	--	--	0.02	--	0.0001	--	0.02	--	--	--	0.25	0.07	--

Notes:

[1.] Speciation by stock obtained from facility's assays, Petroleum Environmental Research Forum (PERF) refinery process stream speciation study (API 2002) or Canadian Petroleum Product Institute (CPPI).

Appendix K – Cooling Tower Emissions Calculations

Appendix K, Table K-1
Potential to Emit (PTE) Criteria Pollutant Emissions for Permitted S-453 and S-455 Cooling Towers
Pre-Project PTE = Post-Project PTE

Throughput[1]

Source #	Throughput		
	GPM	Million gallons/day	Million gallons/year
453	13,500	19.44	7095.6
455	33,000	47.52	17344.8

PM Emission Factor Derivation

Source #	Percent Drift[2]	TDS[3]	PM EF[4]
	vol%	ppmw	lb/MMgal
453	0.0010%	1,964.26	0.1638
455	0.0010%	2,047.05	0.1707

PM Emissions

Source #	PM10 Emissions[4]		PM2.5 Emissions[4]	
	(lb/day)	(ton/yr)	(lb/day)	(ton/yr)
453	3.18	0.58	3.18	0.58
455	8.11	1.48	8.11	1.48

POC Emission Factor Derivation

Source #	Max Supply VOC	Max Return VOC[5]	POC EF[6]
	ppb	ppbw	lb/MMgal
453	0.00	84.00	0.70
455	0.00	84.00	0.70

POC Emissions

Source #	POC Emissions[6]	
	(lb/day)	(ton/yr)
453	13.62	2.49
455	33.29	6.08

Notes:

1. Throughput in gallons per minute based on maximum capacity listed in Table II-A of engineering design. Daily and annual throughput calculated assuming continuous operation.
2. Percent drift values based on manufacturer guarantees.
3. Total dissolved solids (TDS) concentration calculated using the 3-year historical maximum measured conductivity and 0.67, the default correlation factor to convert conductivity to TDS concentration from Equation 8-8 in "Emissions Estimation Protocol for Petroleum Refineries", Version 3, dated April 2015.
4. PM10 emissions are calculated using "Emissions Estimation Protocol for Petroleum Refineries", Version 3, date April 2015. PM10 emissions are conservatively set to equal PM2.5 emissions.
5. Maximum return POC factor is based on the limit listed in Table VII-CC.1 of the Facility Permit.
6. POC emissions are calculated using Equation 8-5 in "Emissions Estimation Protocol for Petroleum Refineries", Version 3, dated April 2015.

Appendix K, Table K-2
Potential to Emit (PTE) TAC Emissions for Permitted S-453 and S-455 Cooling Towers
Pre-Project PTE = Post-Project PTE

Source Description	U236
Source #	453
Process Unit	Hydrodesulfurization
POC Emissions (lbs/day)	13.62

Emissions Calculations

Pollutant	CAS Number	Wt Fraction[1]	Potential Emissions		Reference
Toxic Air Contaminants			**lb/day**	**lb/year**	
Benzene	71-43-2	3.70E-03	0.05	18.39	Table A-1 ICR protocol
Biphenyl	92-52-4	2.20E-03	0.03	10.94	Table A-1 ICR protocol
Cumene	98-82-8	7.00E-04	0.01	3.48	Table A-1 ICR protocol
Ethylbenzene	100-41-4	3.70E-03	0.05	18.39	Table A-1 ICR protocol
n-Hexane	110-54-3	1.89E-02	0.26	93.95	Table A-1 ICR protocol
Naphthalene	91-20-3	2.50E-03	0.03	12.43	Table A-1 ICR protocol
Toluene	108-88-3	1.72E-02	0.23	85.50	Table A-1 ICR protocol
1,2,4-Trimethylbenzene	95-63-6	4.00E-03	0.05	19.88	Table A-1 ICR protocol
Xylene (mixed isomers)	1330-20-7	1.94E-02	0.26	96.44	Table A-1 ICR protocol
2,2,4-Trimethyl Pentane	540-84-1	1.00E-06	0.00	0.00	Table A-1 ICR protocol

Source Description	U240
Source #	455
Process Unit	Cat Hydrocracker
POC Emissions (lbs/day)	33.29

Emissions Calculations

Pollutant	CAS Number	Wt Fraction[1]	Potential Emissions		Reference
Toxic Air Contaminants			**lb/day**	**lb/year**	
Benzene	71-43-2	1.27E-02	0.17	63.13	Table A-1 ICR protocol
Biphenyl	92-52-4	1.00E-05	0.00	0.05	Table A-1 ICR protocol
Cumene	98-82-8	9.00E-04	0.01	4.47	Table A-1 ICR protocol
Ethylbenzene	100-41-4	1.02E-02	0.14	50.70	Table A-1 ICR protocol
n-Hexane	110-54-3	1.86E-02	0.25	92.46	Table A-1 ICR protocol
Naphthalene	91-20-3	2.00E-03	0.03	9.94	Table A-1 ICR protocol
Toluene	108-88-3	2.72E-02	0.37	135.21	Table A-1 ICR protocol
1,2,4-Trimethylbenzene	95-63-6	1.33E-02	0.18	66.11	Table A-1 ICR protocol
Xylene (mixed isomers)	1330-20-7	2.67E-02	0.36	132.72	Table A-1 ICR protocol
2,2,4-Trimethyl Pentane	540-84-1	1.04E-02	0.14	51.70	Table A-1 ICR protocol

Notes:

1. Table 3.8-1 of the "Draft Refinery Emissions Inventory Guidelines (July 2019)" recommends for TAC emissions use of Table A-1 of Appendix A for process unit streams served by the cooling tower in "Emissions Estimation Protocol for Petroleum Refineries", Version 3, dated April 2015.

Appendix K, Table K-3
Potential to Emit (PTE) Criteria Pollutant Emissions for Permit-Exempt S-456 and S-500 Cooling Towers (exempt per Regulation 2-1-128.4, Cooling towers not used for evaporative cooling of process water)
Pre-Project PTE = Post-Project PTE

Throughput[1]

Source #	Throughput	
	GPM	Million gallons/day
456	750	1.08
500	5,600	8.06

PM Emission Factor Derivation

Source #	Percent Drift[2]	TDS[3]	PM EF[4]
	vol%	ppmw	lb/MMgal
456	0.0200%	1,882.70	3.1403
500	0.0005%	1,991.52	0.0830

PM Emissions

Source #	PM10 Emissions[4]		PM2.5 Emissions[4]	
	(lb/day)	(ton/yr)	(lb/day)	(ton/yr)
456	3.39	0.62	3.39	0.62
500	0.67	0.12	0.67	0.12

POC Emission Factor Derivation

Source #	Max Supply VOC	Max Return VOC[5]	POC EF[6]
	ppb	ppbw	lb/MMgal
456	0.00	84.00	0.70
500	0.00	84.00	0.70

POC Emissions

Source #	POC Emissions[6]	
	(lb/day)	(ton/yr)
456	0.76	0.14
500	5.65	1.03

Notes:

1. Throughput in gallons per minute based on engineering design capacity. Daily and annual throughput calculated assuming continuous operation.
2. Percent drift values based on manufacturer guarantees.
3. Total dissolved solids (TDS) concentration calculated using the 3-year historical maximum measured conductivity and 0.67, the default correlation factor to convert conductivity to TDS concentration from Equation 8-8 in "Emissions Estimation Protocol for Petroleum Refineries", Version 3, dated April 2015.
4. PM10 emissions are calculated using "Emissions Estimation Protocol for Petroleum Refineries", Version 3, date April 2015. PM10 emissions are conservatively set to equal PM2.5 emissions.
5. Maximum return POC factor is based on the limit listed in Table VII-CC.1 and Table VII-CC.2 of the Facility Permit.
6. POC emissions are calculated using Equation 8-5 in "Emissions Estimation Protocol for Petroleum Refineries", Version 3, dated April 2015.

Appendix K, Table K-4
Potential to Emit (PTE) TAC Emissions for Permit-Exempt S-456 and S-500 Cooling Towers
(exempt per Regulation 2-1-128.4, Cooling towers not used for evaporative cooling of process
Pre-Project PTE = Post-Project PTE

Source Description	U110
Source #	456
Process Unit	H2 Plant Reforming
POC Emissions (lbs/day)	0.76

Emissions Calculations

Pollutant	CAS Number	Wt Fraction[1]	Potential Emissions		Reference
Toxic Air Contaminants			**lb/day**	**lb/year**	
Benzene	71-43-2	0.00E+00	-	-	No toxics
Biphenyl	92-52-4	0.00E+00	-	-	No toxics
Cumene	98-82-8	0.00E+00	-	-	No toxics
Ethylbenzene	100-41-4	0.00E+00	-	-	No toxics
n-Hexane	110-54-3	0.00E+00	-	-	No toxics
Naphthalene	91-20-3	0.00E+00	-	-	No toxics
Toluene	108-88-3	0.00E+00	-	-	No toxics
1,2,4-Trimethylbenzene	95-63-6	0.00E+00	-	-	No toxics
Xylene (mixed isomers)	1330-20-7	0.00E+00	-	-	No toxics
2,2,4-Trimethyl Pentane	540-84-1	0.00E+00	-	-	No toxics

Source Description	U220/U250
Source #	500
Process Unit	Hydrodesulfurization
POC Emissions (lbs/day)	5.65

Emissions Calculations

Pollutant	CAS Number	Wt Fraction[1]	Potential Emissions		Reference
Toxic Air Contaminants			**lb/day**	**lb/year**	
Benzene	71-43-2	3.70E-03	0.02	7.63	Table A-1 ICR protocol
Biphenyl	92-52-4	2.20E-03	0.01	4.54	Table A-1 ICR protocol
Cumene	98-82-8	7.00E-04	0.00	1.44	Table A-1 ICR protocol
Ethylbenzene	100-41-4	3.70E-03	0.02	7.63	Table A-1 ICR protocol
n-Hexane	110-54-3	1.89E-02	0.11	38.97	Table A-1 ICR protocol
Naphthalene	91-20-3	2.50E-03	0.01	5.16	Table A-1 ICR protocol
Toluene	108-88-3	1.72E-02	0.10	35.47	Table A-1 ICR protocol
1,2,4-Trimethylbenzene	95-63-6	4.00E-03	0.02	8.25	Table A-1 ICR protocol
Xylene (mixed isomers)	1330-20-7	1.94E-02	0.11	40.00	Table A-1 ICR protocol
2,2,4-Trimethyl Pentane	540-84-1	1.00E-06	0.00	0.00	Table A-1 ICR protocol

Notes:

1. Table 3.8-1 of the "Draft Refinery Emissions Inventory Guidelines (July 2019)" recommends for TAC emissions use of Table A-1 of Appendix A for process unit streams served by the cooling tower in "Emissions Estimation Protocol for Petroleum Refineries", Version 3, dated April 2015.

Appendix L- Truck Fugitive Road Dust Emissions

Appendix L, Table L-1: Summary of Net Difference Between Project and Baseline Truck Fugitive Dust Emissions

							BASELINE FUGITIVE DUST EMISSIONS (Baseline)				PROJECT FUGITIVE DUST EMISSIONS (2024)				NET FUGITIVE DUST EMISSIONS (PROJECT-BASELINE)			
					Annual Trips		Annual Fugitive Dust (tons/yr)		Daily Fugitive Dust (lb/day)		Annual Fugitive Dust (tons/yr)		Daily Fugitive Dust (lb/day)		Annual Fugitive Dust (tons/yr)		Daily Fugitive Dust (lb/day)	
Location	**Type of Material**	**Transport Mode**	**Refinery Area/ Destination**	**BAAQMD Source Number**	**Baseline**	**Future Year (2024)**	**PM10**	**PM2.5**	**PM10**	**PM2.5**	**PM10**	**PM2.5**	**PM10**	**PM2.5**	**PM10**	**PM2.5**	**PM10**	**PM2.5**
Refinery	Transmix	Truck	TRK_UNLOADING	S617	546	no trips in future year	0.0070	0.0017	0.0381	0.0095	-	-	-	-	-0.0070	-0.0017	-0.0381	-0.0095
Refinery	Local Renewable Feedstock - Truck	Truck	TRK_UNLOADING	S617	-	7,300	-	-	-	-	0.0930	0.0233	0.5098	0.1274	0.0930	0.0233	0.5098	0.1274
Refinery	Chemical	Truck	PTU_TRK	S602	1,226	6,428	0.0157	0.0039	0.0862	0.0216	0.0825	0.0206	0.4618	0.1155	0.0667	0.0167	0.3756	0.0939
Refinery	Product Sulfur	Truck	Sulfur	S505	2,941	48	0.0579	0.0145	0.3173	0.0793	0.0009	0.0002	0.0394	0.0098	-0.0570	-0.0142	-0.2779	-0.0695
Refinery	Waste By-product	Truck	PTU_TRK	S603/S605	110	37	0.0014	0.0004	0.0077	0.0019	0.0005	0.0001	0.0257	0.0064	-0.0009	-0.0002	0.0180	0.0045
Refinery	Waste By-product	Truck	PTU_TRK	S603/S605	288	9,001	0.0037	0.0009	0.0203	0.0051	0.1155	0.0289	0.6414	0.1604	0.1118	0.0279	0.6212	0.1553
Carbon Plant	Green Petroleum Coke	Truck	Coker/CP	S300	14,639	no trips in future year	0.2099	0.0525	1.1500	0.2875	-	-	-	-	-0.2099	-0.0525	-1.1500	-0.2875
Carbon Plant	Petroleum Coke	Truck	Coker	S300	4,292	no trips in future year	0.0359	0.0090	0.1966	0.0492	-	-	-	-	-0.0359	-0.0090	-0.1966	-0.0492
Carbon Plant	Petroleum Coke	Truck	CP Calcined	NA	9,804	no trips in future year	0.0508	0.0127	0.2781	0.0695	-	-	-	-	-0.0508	-0.0127	-0.2781	-0.0695
Carbon Plant	Petroleum Coke	Truck	CP Green	NA	1,632	no trips in future year	0.0098	0.0024	0.0534	0.0134	-	-	-	-	-0.0098	-0.0024	-0.0534	-0.0134
			TOTAL		**35,479**	**22,814**	**0.392**	**0.098**	**2.148**	**0.537**	**0.292**	**0.073**	**1.678**	**0.420**	**-0.100**	**-0.025**	**-0.470**	**-0.117**
			TOTAL PTU		**1,624**	**15,466**	**0.021**	**0.005**	**0.114**	**0.029**	**0.198**	**0.050**	**1.129**	**0.282**	**0.178**	**0.044**	**1.015**	**0.254**
			TOTAL TRK_UNLOADING		**546**	**7,300**	**0.007**	**0.002**	**0.038**	**0.010**	**0.093**	**0.023**	**0.510**	**0.127**	**0.086**	**0.022**	**0.472**	**0.118**

Appendix L, Table L-2: Rodeo Site and Carbon Plant Baseline Daily and Annual Truck Activity and Emissions (tons/yr)

								BASELINE FUGITIVE DUST EMISSIONS			
								Annual Fugitive Dust (tons/yr)		Daily Fugitive Dust (lb/day)	
Location	Type of Material	Transport Mode	Area[1]	BAAQMD Source Number	Average daily trips[2]	Baseline Annual Round Trips	Driving Within Rodeo Facility (miles/visit)	PM10	PM2.5	PM10	PM2.5
Refinery	Transmix	Truck	TRK_UNLOADING	S617	1.50	546	1.3	0.0070	0.0017	0.0381	0.0095
Refinery	Local Renewable Feedstock - Truck	Truck	TRK_UNLOADING	S617	-	-	1.3	-	-	-	-
Refinery	Chemical	Truck	PTU_TRK	S602	3.36	1,226	1.3	0.0157	0.0039	0.0862	0.0216
Refinery	Product Sulfur	Truck	Sulfur	S505	8.06	2,941	2.0	0.0579	0.0145	0.3173	0.0793
Refinery	Waste By-product	Truck	PTU_TRK	S603/S605	0.30	110	1.3	0.0014	0.0004	0.0077	0.0019
Refinery	Waste By-product	Truck	PTU_TRK	S603/S605	0.79	288	1.3	0.0037	0.0009	0.0203	0.0051
Carbon Plant	Green Petroleum Coke	Truck	Coker/CP	S300	40.11	14,639	1.4	0.2099	0.0525	1.1500	0.2875
Carbon Plant	Petroleum Coke	Truck	Coker	S300	11.76	4,292	0.8	0.0359	0.0090	0.1966	0.0492
Carbon Plant	Petroleum Coke	Truck	CP Calcined	NA	26.86	9,804	0.5	0.0508	0.0127	0.2781	0.0695
Carbon Plant	Petroleum Coke	Truck	CP Green	NA	4.47	1,632	0.6	0.0098	0.0024	0.0534	0.0134
			TOTAL ALL		**97**	**35,479**		**0.3920**	**0.0980**	**2.1478**	**0.5370**
			TOTAL "PTU Area" [1]		**4.5**	**1,624**		**0.0208**	**0.0052**	**0.1142**	**0.0285**
			TOTAL TRK_UNLOADING		**1.5**	**546**		**0.0070**	**0.0017**	**0.0381**	**0.0095**

Source:

[1] Activity source: Number of trips and distance provided based on project design basis (P66, 2021)

NOTES:

[1] During Baseline PTU units are not present. Nevertheless, truck trips are assumed to visit similar area of the refinery

[2] Refinery truck trip and Carbon Plant truck trip information based on average trips from period June 1, 2018 through May 31, 2021.

Appendix L, Table L-3: Rodeo Site and Carbon Plant 2024 Daily and Annual Truck Activity and Emissions (tons/yr)

								PROJECT FUGITIVE DUST EMISSIONS			
								Annual Fugitive Dust (tons/yr)		Daily Fugitive Dust (lb/day)	
Location	Type of Material	Transport Mode	Area	BAAQMD Source Number	2024 Daily Round Trips	2024 Annual Round Trips	Driving Within Rodeo Facility (miles/visit)	PM10	PM2.5	PM10	PM2.5
Refinery	Transmix	Truck	TRK_UNLOADING	S617	0.00	-	1.3	0.0000	0.0000	0.0000	0.0000
Refinery	Local Renewable Feedstock - Truck	Truck	TRK_UNLOADING	S617	20.00	7,300	1.3	0.0930	0.0233	0.5098	0.1274
Refinery	Chemical	Truck	PTU_TRK	S602	18.00	6,428	1.3	0.0825	0.0206	0.4618	0.1155
Refinery	Product Sulfur	Truck	Sulfur	S505	1.00	48	2.0	0.0009	0.0002	0.0394	0.0098
Refinery	Waste By-product	Truck	PTU_TRK	S603/S605	1.00	37	1.3	0.0005	0.0001	0.0257	0.0064
Refinery	Waste By-product	Truck	PTU_TRK	S603/S605	25.00	9,001	1.3	0.1155	0.0289	0.6414	0.1604
Carbon Plant	Green Petroleum Coke	Truck	Coker/CP	S300	0.00	-	1.4	0.0000	0.0000	0.0000	0.0000
Carbon Plant	Petroleum Coke	Truck	Coker	S300	0.00	-	0.84	0.0000	0.0000	0.0000	0.0000
Carbon Plant	Petroleum Coke	Truck	CP Calcined	NA	0.00	-	0.52	0.0000	0.0000	0.0000	0.0000
Carbon Plant	Petroleum Coke	Truck	CP Green	NA	0.00	-	0.60	0.0000	0.0000	0.0000	0.0000
			TOTAL ALL		**65.0**	**22,814**		**0.292**	**0.073**	**1.678**	**0.420**
			TOTAL PTU		**44.0**	**15,466**		**0.198**	**0.050**	**1.129**	**0.282**
			TOTAL TRK_UNLOADING		**20.0**	**7,300**		**0.093**	**0.023**	**0.510**	**0.127**
Source:								0.116	0.029	0.667	0.167

[1] Activity source: Number of trips and distance provided based on project design basis (P66, 2021)

Appendix L, Table L-4: Rodeo Site and Carbon Plant Onroad Fugitive Dust Emissions Factors

Vehicle Type	CARB Roadway Category	Silt Loading (g/m2)	PM10 Particle Size Multiplier (g/mi)	PM2.5 Particle Size Multiplier (g/mi)	Average Vehicle Weight (tons)	Uncontrolled PM10 Emission Factor (g/VMT)	Uncontrolled PM2.5 Emission Factor (g/VMT)	Road Type Distribution within Facility	Composite Uncontrolled PM10 Emission Factor (g/VMT)	Composite Uncontrolled PM2.5 Emission Factor (g/VMT)
Trucks	Local	0.32	1.00	0.25	25.0	9.03	2.26	100%	9.03	2.26
	Collector	0.032	1.00	0.25	25.0	1.11	0.28	0%		
	Major	0.032	1.00	0.25	25.0	1.11	0.28	0%		
	Freeway	0.015	1.00	0.25	25.0	0.56	0.14	0%		

Note:
[1] The equation is: Emission Factor = (Particle Size Multiplier) x (sL)^0.91 x (Vehicle Weight)^1.02 x (1 - P/4N) from AP-42 Equation 1 (Section 13.2.1-5) with precipitation correction
[2] The average vehicle weight for onsite trucks is based on a modern tanker truck that holds 9,000 gal diesel fuel (approx. 31.7 tons fuel) and has a GVWR of 80,000 lbs (40 tons) (GVWR includes the weight of cargo). Therefore, a loaded fuel truck would weigh 40 tons and an empty fuel truck would weigh 8.3 tons. The average weight is therefore assumed to be approximately 25 tons. Trucks and autos would generally take different routes onsite.
[3] Rainfall days for Contra Costa County based on Table 5. CARB, 2021.
Source:
Methodology: CARB, 2021. MISCELLANEOUS PROCESS METHODOLOGY 7.9 Entrained Road Travel, Paved Road Dust, March 2021, Available at:
https://ww3.arb.ca.gov/ei/areasrc/fullpdf/2021_paved_roads_7_9.pdf

PM2.5 Particle Size Multiplier (g/mi)
0.15 g/vkt
0.25 g/mi
PM10 Particle Size Multiplier (g/mi)
1.00 g/mi

Source:
Table 13.2.1-1. PARTICLE SIZE MULTIPLIERS FOR PAVED ROAD EQUATION
AP-42

Rainfall days (P)	65

Contra Costa
Source: [3]

N=the number of days in the annual averaging period (default=365).

N	365

Source: CARB, 2021

Summary of Paved Road Dust Emission Factors

Vehicle type	Composite Uncontrolled PM10 Emission Factor (g/VMT)	Composite Uncontrolled PM2.5 Emission Factor (g/VMT)
T7 tractor	9.03	2.26

Appendix L, Table L-5
AERMOD Source Group Data

Source Group ID[1]	Source ID[1]	No. of Volume Sources[1]	Total Length (meters)[1]	Total Length (miles)
Coker	TRK07	69	828	0.51
	TRK11	45	404	0.25
	TRK17	30	272	0.17
	Total	144	1,504	0.93
Highway	TRK02	40	848	0.53
	TRK03	116	2,082	1.29
	TRK04	36	751	0.47
	TRK05	115	2,068	1.28
	TRK12	26	234	0.15
	TRK13	22	198	0.12
	TRK14	14	124	0.08
	TRK15	27	246	0.15
	TRK16	22	195	0.12
	Total	418	6,747	4.19
Offsite	TRK01	173	2,079	1.29
	Total	173	2,079	1.29
PTU	TRK06	94	845	0.53
	TRK07	69	828	0.51
	TRK09	21	191	0.12
	Total	184	1,865	1.16
Sulfur	TRK06	94	845	0.53
	TRK07	69	828	0.51
	TRK11	45	404	0.25
	TRK08	38	342	0.21
	Total	246	2,419	1.50
WWTP	TRK09	21	191	0.12
	TRK07	69	828	0.51
	TRK06	94	845	0.53
	TRK10	59	529	0.33
	Total	243	2394	1.49

Source ID[1]	No. of Volume Sources[1]	Total Length (m)[1]
TRK01	173	2079.2
TRK02	40	848.4
TRK03	116	2081.7
TRK04	36	750.5
TRK05	115	2067.8
TRK06	94	845.4
TRK07	69	828.2
TRK08	38	341.6
TRK09	21	191.4
TRK10	59	529.3
TRK11	45	404.1
TRK12	26	233.9
TRK13	22	198.4
TRK14	14	124.2
TRK15	27	246.2
TRK16	22	195.4
TRK17	30	271.6

	miles	no volume sources
Coker	0.93	144
PTU_TRK	1.16	184
Sulfur	1.50	246
WWTP	1.49	243

within FACILITY

	miles	miles per roundtrip
Coker	0.42	0.84
Coker/CP	0.72	1.44
CP Calcined	0.26	0.52
CP Green	0.30	0.60
PTU_TRK	0.64	1.29
Sulfur	0.99	1.98
WWTP	0.97	1.95
TRK_UNLOADING	0.64	1.29

RAMBOLL

DRAFTED BY: HP | DATE: 2021-06-21

Health Risk Assessment
Truck Sources
Phillips 66
Rodeo, California

FIGURE
3-7

Notes

1. Source group, source ID's, and volume source length and quantity were determined by the model set up. A portion of each truck trip is allocated to the highway source group, the offsite source group, and one of the four following source groups: WWTP, PTU, SULFUR, COKER.

Appendix M- Cumulative Increase

Appendix M, Table M-1: Cumulative Increase Summary

Source No.	Description	Source Category	PM_{10} (tons/year)	$PM_{2.5}$ (tons/year)	NO_x (tons/year)	SO_2 (tons/year)	POC (tons/year)	CO (tons/year)
New Sources								
S-599	Sour Water Strippers and Amine Gas Treatment	Sulfur Treatment Unit 237 (STU)	4.160	4.160	10.000	4.592	0.189	3.616
S-599	Sour Water Strippers and Amine Gas Treatment	Fugitive					see below	
S-600	Pretreatment Unit (PTU) (at outlet of both A-623 and A-625 Activated Carbon Vessels combined)	Pretreatment Unit (PTU)					0.478	
S-600	Pretreatment Unit (PTU) (at outlet of both A-623 and A-625 Activated Carbon Vessels combined)	Fugitive					see below	
S-602	Filter Aid Storage Silos (9) and Truck Loading/Traffic, each abated by	Material Handling	0.811	0.811				
	Truck Loading Fugitive Road Dust Emissions	Fugitive	0.082	0.021				
S-603	Polyethylene Removal Filter Aid Day Hoppers (4), abated by A-615 and A-618 Dust Filters (4)	Material Handling	0.200	0.200				
	Truck Loadout Fugitive Road Dust Emissions	Fugitive	0.116	0.029				
S-605	Filter Aid Adsorption Day Hoppers (3), abated by A-619 and A-621 Dust Filters (3)	Material Handling	0.150	0.150				
Existing Sources (Emissions Increases)								
S-307	U240 Unicracking Unit 240	Fugitive (from new and replaced fugitive components)					10.421	
S-318	Unit 76							
S-322	Unit 40 Raw Materials Receiving							
S-434	U246 High Pressure Reactor Train							
S-437	Unit 110 Hydrogen Manufacturing Unit							
S-599	Sour Water Strippers and Amine Gas Treatment							
S-600	Pretreatment Unit (PTU) (at outlet of both A-623 and A-625 Activated Carbon Vessels combined)							
TOTAL			**5.519**	**5.370**	**10.000**	**4.592**	**11.088**	**3.616**

Appendix N- Contemporaneous Emission Reduction Credits Calculations

Appendix N, Table N-1: Contemporaneous Emission Reduction Credits (CERCs) Summary

Source No.	Description	Source Category	PM_{10} (tons/year)	$PM_{2.5}$ (tons/year)	NO_x (tons/year)	SO_2 (tons/year)	POC (tons/year)
S-29	U200 B-5 Heater	Stationary Combustion	2.102	2.102	2.049	13.874	0.084
S-30	U200 B-101 Heater	Stationary Combustion	0.919	0.919	0.897	6.061	0.037
S-36	U200 B-102 Heater	Stationary Combustion	1.090	1.090	1.207	2.338	0.310
S-97	Tank 100[2]	Storage Tanks					1.043
S-350	U267 Crude Distillation Unit	Fugitives					0.074
S-351	U267 B-601/602 Tower Preheaters	Stationary Combustion	1.477	1.477	1.463	9.105	0.057
S-439	Tank No. 109	Storage Tanks					0.728
S-442	Tank No. 112	Storage Tanks					0.570
S-1002	U236 Sulfur Plant (including aux. burner, water stripper)	Sulfur Plants	1.948	1.948	3.355	0.000	0.030
S-1003	U238 Sulfur Plant (including aux. burner)	Sulfur Plants	1.819	1.819	2.689	0.000	0.031
S-1002	U236 Sulfur Plant (including aux. burner, water stripper)	Fugitives					0.019
S-1003	U238 Sulfur Plant (including aux. burner)	Fugitives					0.010
Contemporaneous Onsite Emission Reduction Credits			9.355	9.355	11.660	31.378	2.993
Cumulative Increase			5.519	5.370	10.000	4.592	11.088
Estimated Excess Contemporaneous Onsite Emission Reduction Credits Remaining[1]			3.836	3.985	1.660	26.787	-8.095

1. The emission reductions for all sources shown above are an estimation to demonstrate that Phillips 66 has sufficient credits to cover all emissions increases from the Rodeo Renewed Project. However, if Phillips 66 elects to bank any excess Contemporaneous Onsite Emission Reduction Credits (CERCs), Phillips 66 must submit a permit application to request banking credits in order for the Air District to conduct a detailed review to verify these CERC calculations.

2. The net CERCs for the permit-exempt S-97 is the difference between the 3-year baseline emissions and the post-project Potential to Emit for S-97 (from Appendix C, Table C-10).

Appendix N, Table N-2: CERC Summary by Source for Each Baseline Year

Source #	Description	Source Type	Pollutant	CAS No.	Unit	Jun 2018 - May 2019	Jun 2019 - May 2020	Jun 2020 - May 2021	3-Year Average
1002	U236 Sulfur Plant (including aux. burner, water stripper)	Sulfur Plants	NOx	NOx	tons/yr	3.848	3.204	3.013	3.355
			SO2	SO2	tons/yr	--	--	--	--
			POC	POC	tons/yr	0.034	0.034	0.023	0.030
			PM2.5/PM10	PM2.5/PM10	tons/yr	1.954	2.125	1.764	1.948
1003	U238 Sulfur Plant (including aux. burner)	Sulfur Plants	NOx	NOx	tons/yr	2.998	2.801	2.269	2.689
			SO2	SO2	tons/yr	--	--	--	--
			POC	POC	tons/yr	0.040	0.029	0.023	0.031
			PM2.5/PM10	PM2.5/PM10	tons/yr	1.430	2.085	1.942	1.819
439	Tank No. 109	Storage Tanks	POC	POC	tons/yr	1.156	0.696	0.332	0.728
442	Tank No. 112	Storage Tanks	POC	POC	tons/yr	0.773	0.524	0.413	0.570
350	U267 Crude Distillation Unit	Fugitives	POC	POC	tons/yr	0.091	0.080	0.050	0.074
1002	U236 Sulfur Plant	Fugitives	POC	POC	tons/yr	0.023	0.020	0.014	0.019
1003	U238 Sulfur Plant	Fugitives	POC	POC	tons/yr	0.015	0.007	0.008	0.010
29	U200 B-5 Heater	Stationary Combustion	NOx	NOx	tons/yr	1.974	2.058	2.115	2.049
			SO2	SO2	tons/yr	12.646	13.921	15.057	13.874
			POC	POC	tons/yr	0.077	0.085	0.091	0.084
			PM2.5/PM10	PM2.5/PM10	tons/yr	1.919	2.121	2.266	2.102
30	U200 B-101 Heater	Stationary Combustion	NOx	NOx	tons/yr	0.899	0.869	0.922	0.897
			SO2	SO2	tons/yr	5.755	5.868	6.559	6.061
			POC	POC	tons/yr	0.035	0.036	0.040	0.037
			PM2.5/PM10	PM2.5/PM10	tons/yr	0.874	0.895	0.987	0.919
36	U200 B-102 Heater	Stationary Combustion	NOx	NOx	tons/yr	1.067	1.153	1.402	1.207
			SO2	SO2	tons/yr	1.454	1.813	3.746	2.338
			POC	POC	tons/yr	0.266	0.305	0.359	0.310
			PM2.5/PM10	PM2.5/PM10	tons/yr	0.936	1.071	1.264	1.090
351	U267 B-601/602 Tower Preheaters	Stationary Combustion	NOx	NOx	tons/yr	2.047	1.658	0.684	1.463
			SO2	SO2	tons/yr	11.986	10.469	4.860	9.105
			POC	POC	tons/yr	0.080	0.065	0.027	0.057
			PM2.5/PM10	PM2.5/PM10	tons/yr	1.990	1.708	0.733	1.477
97	Tank No. 100	Storage Tanks	POC	POC	tons/yr	1.417	1.393	1.267	1.359

Appendix N, Table N-3
CERC Calculations for U200 B-5 Heater (S-29)
103 MMBtu/hr maximum
Phillips 66 Company - San Francisco Refinery, Rodeo, CA

June 1, 2018 - May 31, 2019

Parameter	Value	Units	Reference
Fuel Flow	504.89	MMscf/yr	Flow Meter
Fuel HHV	1281.73	BTU/SCF	Lab Data
Fuel Flow	647,133.53	MMBtu/yr	
Fuel Sulfur	413.40	PPMV	Lab Data

Pollutant	EF (lb/MMBtu)	EF (lb/MMscf)	ton/yr	EF Reference
PM10[1]		7.60E+00	1.919	AP-42 Chapter 1.4 (Natural Gas Combustion), Table 1.4-2
PM2.5[1]		7.60E+00	1.919	AP-42 Chapter 1.4 (Natural Gas Combustion), Table 1.4-2
NOX[2]	0.0061	7.82E+00	1.974	SJVAPCD Rule 4320 (in lieu of NOx CEMS)
SO2[3]		5.01E+01	12.65	Total Sulfur fuel mass balance (SO2 CEMS); RACT-adjusted using BAAQMD Regulation 9-1-302 to cap periods of noncompliance at 300 ppm limit
POC[4]	2.38E-04	3.05E-01	0.08	FAT 119-17 (3/22/17) using estimated stack flow rate

June 1, 2019 - May 31, 2020

Parameter	Value	Units	Reference
Fuel Flow	558.09	MMscf/yr	Flow Meter
Fuel HHV	1209.21	BTU/SCF	Lab Data
Fuel Flow	674,853.07	MMBtu/yr	
Fuel Sulfur	360.17	PPMV	Lab Data

Pollutant	EF (lb/MMBtu)	EF (lb/MMscf)	ton/yr	EF Reference
PM10[1]		7.60E+00	2.121	AP-42 Chapter 1.4 (Natural Gas Combustion), Table 1.4-2
PM2.5[1]		7.60E+00	2.121	AP-42 Chapter 1.4 (Natural Gas Combustion), Table 1.4-2
NOX[2]	0.0061	7.38E+00	2.058	SJVAPCD Rule 4320 (in lieu of NOx CEMS)
SO2[3]		4.99E+01	13.92	Total Sulfur fuel mass balance (SO2 CEMS); RACT-adjusted using BAAQMD Regulation 9-1-302 to cap periods of noncompliance at 300 ppm limit
POC[4]		3.05E-01	0.09	FAT 119-17 (3/22/17) using estimated stack flow rate

June 1, 2020 - May 31, 2021

Parameter	Value	Units	Reference
Fuel Flow	596.33	MMscf/yr	Flow Meter
Fuel HHV	1162.72	BTU/SCF	Lab Data
Fuel Flow	693,364.52	MMBtu/yr	
Fuel Sulfur	448.73	PPMV	Lab Data

Pollutant	EF (lb/MMBtu)	EF (lb/MMscf)	ton/yr	EF Reference
PM10[1]		7.60E+00	2.266	AP-42 Chapter 1.4 (Natural Gas Combustion), Table 1.4-2
PM2.5[1]		7.60E+00	2.266	AP-42 Chapter 1.4 (Natural Gas Combustion), Table 1.4-2
NOX[2]	0.0061	7.09E+00	2.115	SJVAPCD Rule 4320 (in lieu of NOx CEMS)
SO2[3]		5.05E+01	15.06	Total Sulfur fuel mass balance (SO2 CEMS); RACT-adjusted using BAAQMD Regulation 9-1-302 to cap periods of noncompliance at 300 ppm limit
POC[4]		3.05E-01	0.09	FAT 119-17 (3/22/17) using estimated stack flow rate

Pilot Gas = Emissions from pilot natural gas combustion
SU/SD = NOx emissions from Start Up / Shut Down events
[1]PM10/2.5 = Fuel Flow (MMscf/yr)*Emission Factor/(2000 lbs/ton) = tons/yr
[2]NOx Emissions Factor = (tons NOx/yr)*(2000 lbs/ton)/Fuel Flow (MMscf/yr) = lbs/MMscf
[3]SO2 Emissions Factor = (tons SO2/yr)(*2000 lbs/ton)/(Fuel Flow (MMscf/yr)) = lbs/MMscf
[4]POC Emissions Factor = (POC concentration from FAT 119-17)(1/1000000)*(Molecular Weight, Methane)*(1/385.3)*(F-Factor, Natural Gas)*(20.9/(20.9-O2 from FAT 119-17)) = lbs/MMBtu, POC concentration = 0.5 ppm @ 5% O2, Molecular Weight, Methane = 16 lb/lb-mol, F-Factor, Natural Gas = 8710 scf/MMBtu, and O2 from FAT 119-17 = 5%

Appendix N, Table N-4
CERC Calculations for U200 B-101 Heater (S-30)
50 MMBtu/hr maximum
Phillips 66 Company - San Francisco Refinery, Rodeo, CA

June 1, 2018 - May 31, 2019

Parameter	Value	Units	Reference
Fuel Flow	230.09	MMscf/yr	Flow Meter
Fuel HHV	1281.73	BTU/SCF	Lab Data
Fuel Flow	294,910.59	MMBtu/yr	
Fuel Sulfur	413.40	PPMV	Lab Data

Pollutant	EF (lb/MMBtu)	EF (lb/MMscf)	ton/yr	EF Reference
PM10[1]		7.60E+00	0.874	AP 42 Table 1.4-2
PM2.5[1]		7.60E+00	0.874	AP 42 Table 1.4-2
NOX[2]	0.0061	7.82E+00	0.899	SJVAPCD Rule 4320 (in lieu of NOx CEMS)
SO2[3]		5.00E+01	5.76	Total Sulfur fuel mass balance (SO2 CEMS); RACT-adjusted using BAAQMD Regulation 9-1-302 to cap periods of noncompliance at 300 ppm limit
POC[4]	2.38E-04	3.05E-01	0.04	FAT 119-17 (3/22/17) using estimated stack flow rate

June 1, 2019 - May 31, 2020

Parameter	Value	Units	Reference
Fuel Flow	235.58	MMscf/yr	Flow Meter
Fuel HHV	1209.21	BTU/SCF	Lab Data
Fuel Flow	284,869.33	MMBtu/yr	
Fuel Sulfur	360.17	PPMV	Lab Data

Pollutant	EF (lb/MMBtu)	EF (lb/MMscf)	ton/yr	EF Reference
PM10[1]		7.60E+00	0.895	AP 42 Table 1.4-2
PM2.5[1]		7.60E+00	0.895	AP 42 Table 1.4-2
NOX[2]	0.0061	7.38E+00	0.869	SJVAPCD Rule 4320 (in lieu of NOx CEMS)
SO2[3]		4.98E+01	5.87	Total Sulfur fuel mass balance (SO2 CEMS); RACT-adjusted using BAAQMD Regulation 9-1-302 to cap periods of noncompliance at 300 ppm limit
POC[4]		3.05E-01	0.04	FAT 119-17 (3/22/17) using estimated stack flow rate

June 1, 2020 - May 31, 2021

Parameter	Value	Units	Reference
Fuel Flow	259.86	MMscf/yr	Flow Meter
Fuel HHV	1162.72	BTU/SCF	Lab Data
Fuel Flow	302,145.14	MMBtu/yr	
Fuel Sulfur	448.73	PPMV	Lab Data

Pollutant	EF (lb/MMBtu)	EF (lb/MMscf)	ton/yr	EF Reference
PM10[1]		7.60E+00	0.987	AP 42 Table 1.4-2
PM2.5[1]		7.60E+00	0.987	AP 42 Table 1.4-2
NOX[2]	0.0061	7.09E+00	0.922	SJVAPCD Rule 4320 (in lieu of NOx CEMS)
SO2[3]		5.05E+01	6.56	Total Sulfur fuel mass balance (SO2 CEMS); RACT-adjusted using BAAQMD Regulation 9-1-302 to cap periods of noncompliance at 300 ppm limit
POC[4]		3.05E-01	0.04	FAT 119-17 (3/22/17) using estimated stack flow rate

Pilot = Emissions from pilot natural gas combustion
SU/SD = NOx emissions from Start Up / Shut Down events

[1]PM10/2.5 = Fuel Flow (MMscf/yr)*Emission Factor (7.6 lb/MMscf, from AP-42)/(2000 lbs/ton) = tons/yr

[2]NOx Emissions Factor = (tons NOx/yr)*(2000 lbs/ton)/Fuel Flow (MMscf/yr) = lbs/MMscf

[3]SO2 Emissions Factor = (tons SO2/yr)(*2000 lbs/ton)/(Fuel Flow (MMscf/yr)) = lbs/MMscf

[4]POC Emissions Factor = (POC concentration from FAT 119-17)(1/1000000)*(Molecular Weight, Methane)*(1/385.3)*(F-Factor, Natural Gas)*(20.9/(20.9-O2 from FAT 119-17)) = lbs/MMBtu, POC concentration = 0.5 ppm @ 5% O2, Molecular Weight, Methane = 16 lb/lb-mol, F-Factor, Natural Gas = 8710 scf/MMBtu, and O2 from FAT 119-17 = 5%

Appendix N, Table N-5
CERC Calculations U200 B-102 Heater (S-36)
82.1 MMBtu/hr maximum
Phillips 66 Company - San Francisco Refinery, Rodeo, CA

Parameter	Value	Units	Reference	June 1, 2018 - May 31, 2019
Fuel Flow	281.97	MMscf/yr	Flow Meter	
Fuel HHV	1240.34	BTU/SCF	Lab Data	
Fuel Flow	349,741.09	MMBtu/yr		
Fuel Sulfur	62.38	PPMV	Lab Data	

Pollutant	EF (lb/MMBtu)	EF (lb/MMscf)	ton/yr	EF Reference
PM10[1]		6.64E+00	0.936	OS-1217 (8/5/05)
PM2.5[1]		6.64E+00	0.936	OS-1217 (8/5/05)
NOX[2]	0.0061	7.57E+00	1.067	SJVAPCD Rule 4320 (in lieu of NOx CEMS)
SO2[3]		1.03E+01	1.45	Total Sulfur fuel mass balance (SO2 CEMS); RACT-adjusted using BAAQMD Regulation 9-1-302 to cap periods of noncompliance at 300 ppm limit
POC[4]	0.001	1.89E+00	0.27	OS-1087 (5/24/05)

Parameter	Value	Units	Reference	June 1, 2019 - May 31, 2020
Fuel Flow	322.57	MMscf/yr	Flow Meter	
Fuel HHV	1172.25	BTU/SCF	Lab Data	
Fuel Flow	378,135.52	MMBtu/yr		
Fuel Sulfur	65.45	PPMV	Lab Data	

Pollutant	EF (lb/MMBtu)	EF (lb/MMscf)	ton/yr	EF Reference
PM10[1]		6.64E+00	1.071	OS-1217 (8/5/05)
PM2.5[1]		6.64E+00	1.071	OS-1217 (8/5/05)
NOX[2]	0.0061	7.15E+00	1.153	SJVAPCD Rule 4320 (in lieu of NOx CEMS)
SO2[3]		1.12E+01	1.81	Total Sulfur fuel mass balance (SO2 CEMS); RACT-adjusted using BAAQMD Regulation 9-1-302 to cap periods of noncompliance at 300 ppm limit
POC[4]	0.001	1.89E+00	0.30	OS-1087 (5/24/05)

Parameter	Value	Units	Reference	June 1, 2020 - May 31, 2021
Fuel Flow	380.49	MMscf/yr	Flow Meter	
Fuel HHV	1208.43	BTU/SCF	Lab Data	
Fuel Flow	459,798.03	MMBtu/yr		
Fuel Sulfur	117.56	PPMV	Lab Data	

Pollutant	EF (lb/MMBtu)	EF (lb/MMscf)	ton/yr	EF Reference
PM10[1]		6.64E+00	1.264	OS-1217 (8/5/05)
PM2.5[1]		6.64E+00	1.264	OS-1217 (8/5/05)
NOX[2]	0.0061	7.37E+00	1.402	SJVAPCD Rule 4320 (in lieu of NOx CEMS)
SO2[3]		1.97E+01	3.75	Total Sulfur fuel mass balance (SO2 CEMS); RACT-adjusted using BAAQMD Regulation 9-1-302 to cap periods of noncompliance at 300 ppm limit
POC[4]	0.001	1.89E+00	0.36	OS-1087 (5/24/05)

Pilot = Emissions from pilot natural gas combustion
SU/SD = NOx emissions from Start Up / Shut Down events
[1]PM10/2.5 = Fuel Flow (MMscf/yr)*Emission Factor/(2000 lbs/ton) = tons/yr
[2]NOx Emissions Factor = (tons NOx/yr)*(2000 lbs/ton)/Fuel Flow (MMscf/yr) = lbs/MMscf
[3]SO2 Emissions Factor = (tons SO2/yr)(*2000 lbs/ton)/(Fuel Flow (MMscf/yr)) = lbs/MMscf
[4]POC = Fuel Flow (MMscf/yr)*Emission Factor/(2000 lbs/ton) = tons/yr

Appendix N, Table N-6
CERC Calculations for U267 B-601/602 Tower Preheaters (S-351)
95 MMBtu/hr maximum
Phillips 66 Company - San Francisco Refinery, Rodeo, CA

Parameter	Value	Units	Reference
Fuel Flow	523.60	MMscf/yr	Flow Meter
Fuel HHV	1281.73	BTU/SCF	Lab Data
Fuel Flow	671,112.23	MMBtu/yr	

June 1, 2018 - May 31, 2019

Fuel Sulfur 413.40 PPMV Lab Data

Pollutant	EF (lb/MMBtu)	EF (lb/MMscf)	ton/yr	EF Reference
PM10[1]		7.60E+00	1.990	AP 42 Table 1.4-2
PM2.5[1]		7.60E+00	1.990	AP 42 Table 1.4-2
NOX[2]	0.0061	7.82E+00	2.047	SJVAPCD Rule 4320 (in lieu of NOx CEMS)
SO2[3]		4.58E+01	11.99	Total Sulfur fuel mass balance (SO2 CEMS); RACT-adjusted using BAAQMD Regulation 9-1-302 to cap periods of noncompliance at 300 ppm limit
POC[4]	2.38E-04	3.05E-01	0.08	FAT 119-17 (3/22/17) using estimated stack flow rate

Parameter	Value	Units	Reference
Fuel Flow	449.58	MMscf/yr	Flow Meter
Fuel HHV	1209.21	BTU/SCF	Lab Data
Fuel Flow	543,639.81	MMBtu/yr	

June 1, 2019 - May 31, 2020

Fuel Sulfur 360.17 PPMV Lab Data

Pollutant	EF (lb/MMBtu)	EF (lb/MMscf)	ton/yr	EF Reference
PM10[1]		7.60E+00	1.708	AP 42 Table 1.4-2
PM2.5[1]		7.60E+00	1.708	AP 42 Table 1.4-2
NOX[2]	0.0061	7.38E+00	1.658	SJVAPCD Rule 4320 (in lieu of NOx CEMS)
SO2[3]		4.66E+01	10.47	Total Sulfur fuel mass balance (SO2 CEMS); RACT-adjusted using BAAQMD Regulation 9-1-302 to cap periods of noncompliance at 300 ppm limit
POC[4]	2.38E-04	2.87E-01	0.06	FAT 119-17 (3/22/17) using estimated stack flow rate

Parameter	Value	Units	Reference
Fuel Flow	192.96	MMscf/yr	Flow Meter
Fuel HHV	1162.72	BTU/SCF	Lab Data
Fuel Flow	224,357.83	MMBtu/yr	

June 1, 2020 - May 31, 2021

Fuel Sulfur 448.73 PPMV Lab Data

Pollutant	EF (lb/MMBtu)	EF (lb/MMscf)	ton/yr	EF Reference
PM10[1]		7.60E+00	0.733	AP 42 Table 1.4-2
PM2.5[1]		7.60E+00	0.733	AP 42 Table 1.4-2
NOX[2]	0.0061	7.09E+00	0.684	SJVAPCD Rule 4320 (in lieu of NOx CEMS)
SO2[3]		5.04E+01	4.86	Total Sulfur fuel mass balance (SO2 CEMS); RACT-adjusted using BAAQMD Regulation 9-1-302 to cap periods of noncompliance at 300 ppm limit
POC[4]	2.38E-04	2.76E-01	0.03	FAT 119-17 (3/22/17) using estimated stack flow rate

Pilot = Emissions from pilot natural gas combustion

SU/SD = NOx emissions from Start Up / Shut Down events

[1]PM10/2.5 = Fuel Flow (MMscf/yr)*Emission Factor/(2000 lbs/ton) = tons/yr

[2]NOx Emissions Factor = (tons NOx/yr)*(2000 lbs/ton)/Fuel Flow (MMscf/yr) = lbs/MMscf

[3]SO2 Emissions Factor = (tons SO2/yr)(*2000 lbs/ton)/(Fuel Flow (MMscf/yr)) = lbs/MMscf

[4]POC Emissions Factor = (POC concentration from FAT 119-17)(1/1000000)*(Molecular Weight, Methane)*(1/385.3)*(F-Factor, Natural Gas)*(20.9/(20.9-O2 from FAT 119-17)) = lbs/MMBtu, POC concentration = 0.5 ppm @ 5% O2, Molecular Weight, Methane = 16 lb/lb-mol, F-Factor, Natural Gas = 8710 scf/MMBtu, and O2 from FAT 119-17 = 5%

Appendix N, Table N-7
CERC Calculations for U236 Sulfur Plant (S-1002)
Phillips 66 Company - San Francisco Refinery, Rodeo, CA

June 1, 2018 - May 31, 2019

Parameter	Value	Units	Reference
Feed Gases	403.72	MMscf/yr	Flow Meter
Fuel Gas	41.14	MMscf/yr	Flow Meter
Fuel HHV	1281.73	BTU/SCF	Lab Data
Sulfur Produced	9995.73	LT/yr	Calculated

Pollutant	EF	Units	ton/yr	Reference
PM10[1]	3.91E-01	lb/LT S Produced	1.95	2018 and 2019 Source Tests (weighted average emission factor) for S-1002 U236 (NST-5117 and NST-5595)
PM2.5[1]	3.91E-01	lb/LT S Produced	1.95	2018 and 2019 Source Tests for S-1002 U236 (NST-5117 and NST-5595)
NOX[2]	7.70E-01	lb/LT S Produced	3.85	2021 Source Test for S-1002 U236 (NST-6686)
SO2[3]	0.00E+00	lb/LT S Produced	-	SOx CEMS deemed inoperable by Air District Compliance & Enforcement
POC[4]	6.85E-03	lb/LT S Produced	0.03	ICR Protocol, Table 5-7 (THC, contr.)

June 1, 2019 - May 31, 2020

Parameter	Value	Units	Reference
Feed Gases	351.30	MMscf/yr	Flow Meter
Fuel Gas	38.21	MMscf/yr	Flow Meter
Fuel HHV	1209.21	BTU/SCF	Lab Data
Sulfur Produced	8321.76	LT/yr	Calculated

Pollutant	EF	Units	ton/yr	Reference
PM10[1]	5.11E-01	lb/LT S Produced	2.13	2019 and 2020 Source Tests for S-1002 U236 (NST-5595 and NST-6051)
PM2.5[1]	5.11E-01	lb/LT S Produced	2.13	2019 and 2020 Source Tests for S-1002 U236 (NST-5595 and NST-6051)
NOX[2]	7.70E-01	lb/LT S Produced	3.20	2021 Source Test for S-1002 U236 (NST-6686)
SO2[3]	0.00E+00	lb/LT S Produced	-	SOx CEMS deemed inoperable by Air District Compliance & Enforcement
POC[4]	8.27E-03	lb/LT S Produced	0.03	ICR Protocol, Table 5-7 (THC, contr.)

June 1, 2020 - May 31, 2021

Parameter	Value	Units	Reference
Feed Gases	336.11	MMscf/yr	Flow Meter
Fuel Gas	28.33	MMscf/yr	Flow Meter
Fuel HHV	1162.72	BTU/SCF	Lab Data
Sulfur Produced	7825.90	LT/yr	Calculated

Pollutant	EF	Units	ton/yr	Reference
PM10[1]	4.51E-01	lb/LT S Produced	1.76	2020 and 2021 Source Tests for S-1002 U236 (NST-6051 and NST-6686)
PM2.5[1]	4.51E-01	lb/LT S Produced	1.76	2020 and 2021 Source Tests for S-1002 U236 (NST-6051 and NST-6686)
NOX[2]	7.70E-01	lb/LT S Produced	3.01	2021 Source Test for S-1002 U236 (NST-6686)
SO2[3]	0.00E+00	lb/LT S Produced	-	SOx CEMS deemed inoperable by Air District Compliance & Enforcement
POC[4]	5.82E-03	lb/LT S Produced	0.02	ICR Protocol, Table 5-7 (THC, contr.)

[1]PM10/2.5 Emissions Factor (lbs PM10/PM2.5/LT S Produced) = (tons PM10/PM2.5/yr)*(2000 lbs/ton)/(LT S Produced)
[2]NOx Emission Factor (lbs NOx/LT S Produced) = (tons NOx/yr)*(2000 lbs/ton)/(LT S Produced)
[3]SO2 Emission Factor (lbs SO2/LT S Produced) = (tons SO2/yr)*(2000 lbs/ton)/(LT S Produced)
[4]POC Emissions Factor (lbs POC/LT S Produced) = (tons POC/yr)*(2000 lbs/ton)/(LT S Produced)

Appendix N, Table N-8
CERC Calculations for U238 Sulfur Plant (S-1003)
Phillips 66 Company - San Francisco Refinery, Rodeo, CA

June 1, 2018 - May 31, 2019

Parameter	Value	Units	Reference
Feed Gases	652.57	MMscf/yr	Flow Meter
Fuel Gas	41.14	MMscf/yr	Flow Meter
Fuel HHV	1281.73	BTU/SCF	Lab Data

Sulfur Produced 15806.69 LT/yr Calculated

Pollutant	EF	Units	ton/yr	Reference
PM10[1]	1.81E-01	lb/LT S Produced	1.43	2018 and 2019 Source Tests (weighted average emission factor) for S-1003 U238 (NST-5117 and NST-5768)
PM2.5[1]	1.81E-01	lb/LT S Produced	1.43	2018 and 2019 Source Tests for S-1003 U238 (NST-5117 and NST-5768)
NOX[2]	3.79E-01	lb/LT S Produced	3.00	2021 Source Test for S-1003 U238 (NST-6686)
SO2[3]	0.00E+00	lb/LT S Produced	-	SOx CEMS deemed inoperable by Air District Compliance & Enforcement
POC[4]	5.03E-03	lb/LT S Produced	0.04	ICR Protocol, Table 5-7 (THC, contr.)

June 1, 2019 - May 31, 2020

Parameter	Value	Units	Reference
Feed Gases	639.92	MMscf/yr	Flow Meter
Fuel Gas	38.21	MMscf/yr	Flow Meter
Fuel HHV	1209.21	BTU/SCF	Lab Data

Sulfur Produced 14769.34 LT/yr Calculated

Pollutant	EF	Units	ton/yr	Reference
PM10[1]	2.82E-01	lb/LT S Produced	2.09	2019 and 2020 Source Tests for S-1003 U238 (NST-5768 and NST-6051)
PM2.5[1]	2.82E-01	lb/LT S Produced	2.09	2019 and 2020 Source Tests for S-1003 U238 (NST-5768 and NST-6051)
NOX[2]	3.79E-01	lb/LT S Produced	2.80	2021 Source Test for S-1003 U238 (NST-6686)
SO2[3]	0.00E+00	lb/LT S Produced	-	SOx CEMS deemed inoperable by Air District Compliance & Enforcement
POC[4]	3.98E-03	lb/LT S Produced	0.03	ICR Protocol, Table 5-7 (THC, contr.)

June 1, 2020 - May 31, 2021

Parameter	Value	Units	Reference
Feed Gases	505.09	MMscf/yr	Flow Meter
Fuel Gas	28.33	MMscf/yr	Flow Meter
Fuel HHV	1162.72	BTU/SCF	Lab Data

Sulfur Produced 11962.69 LT/yr Calculated

Pollutant	EF	Units	ton/yr	Reference
PM10[1]	3.25E-01	lb/LT S Produced	1.94	2020 and 2021 Source Tests for S-1003 U238 (NST-6051 and NST-6686)
PM2.5[1]	3.25E-01	lb/LT S Produced	1.94	2020 and 2021 Source Tests for S-1003 U238 (NST-6051 and NST-6686)
NOX[2]	3.79E-01	lb/LT S Produced	2.27	2021 Source Test for S-1003 U238 (NST-6686)
SO2[3]	0.00E+00	lb/LT S Produced	-	SOx CEMS deemed inoperable by Air District Compliance & Enforcement
POC[4]	3.84E-03	lb/LT S Produced	0.02	ICR Protocol, Table 5-7 (THC, contr.)

[1]PM10/2.5 Emissions Factor (lbs PM10/PM2.5/LT S Produced) = (tons PM10/PM2.5/yr)*(2000 lbs/ton)/(LT S Produced)
[2]NOx Emission Factor (lbs NOx/LT S Produced) = (tons NOx/yr)*(2000 lbs/ton)/(LT S Produced)
[3]SO2 Emission Factor (lbs SO2/LT S Produced) = (tons SO2/yr)*(2000 lbs/ton)/(LT S Produced)
[4]POC Emissions Factor (lbs POC/LT S Produced) = (tons POC/yr)*(2000 lbs/ton)/(LT S Produced)

Appendix N, Table N-9: Tank Throughputs and Vapor Pressures **Confidential Business Information**

TANK	YEAR	MONTH	MATERIAL (month)	TankESP Stock	Sum of THRUPUT (GALLONS)	Average of TVP	Average of Literature RVP
100	2018	6	[redacted]	[redacted]	30,069,501	4.56	
100	2018	7	[redacted]	[redacted]	24,166,772	5.46	
100	2018	8	[redacted]	[redacted]	28,435,176	4.56	
100	2018	9	[redacted]	[redacted]	20,285,758	4.56	
100	2018	10	[redacted]	[redacted]	6,013,011	6.31	
100	2018	11	[redacted]	[redacted]	21,354,865	6.30	
100	2018	12	[redacted]	[redacted]	25,564,856	5.19	
100	2019	1	[redacted]	[redacted]	23,151,024	5.22	
100	2019	2	[redacted]	[redacted]	18,316,304	4.99	
100	2019	3	[redacted]	[redacted]	24,403,379	4.71	
100	2019	4	[redacted]	[redacted]	34,377,035	4.75	
100	2019	5	[redacted]	[redacted]	16,000,829	5.70	
100	2019	6	[redacted]	[redacted]	19,360,010	6.90	
100	2019	7	[redacted]	[redacted]	20,105,930	5.70	
100	2019	8	[redacted]	[redacted]	18,695,118	6.77	
100	2019	9	[redacted]	[redacted]	28,590,855	6.50	
100	2019	10	[redacted]	[redacted]	11,034,556	6.80	
100	2019	11	[redacted]	[redacted]	9,161,957	5.17	
100	2019	12	[redacted]	[redacted]	26,080,542	5.14	
100	2020	1	[redacted]	[redacted]	15,101,294	4.56	
100	2020	2	[redacted]	[redacted]	22,431,274	4.87	
100	2020	3	[redacted]	[redacted]	10,286,605	4.44	
100	2020	4	[redacted]	[redacted]	10,913,904	4.37	
100	2020	5	[redacted]	[redacted]	24,327,328	5.29	
100	2020	6	[redacted]	[redacted]	21,466,248	5.87	
100	2020	7	[redacted]	[redacted]	29,194,422	5.61	
100	2020	8	[redacted]	[redacted]	33,467,815	5.96	
100	2020	9	[redacted]	[redacted]	32,763,889	5.49	
100	2020	10	[redacted]	[redacted]	20,079,158	5.57	
100	2020	11	[redacted]	[redacted]	3,619,724	4.73	
100	2020	12	[redacted]	[redacted]	14,902,153	4.23	
100	2021	1	[redacted]	[redacted]	17,547,136	4.31	
100	2021	2	[redacted]	[redacted]	7,498,213	4.55	
100	2021	3	[redacted]	[redacted]	8,105,585	4.87	
100	2021	4	[redacted]	[redacted]	15,200,549	4.53	
100	2021	5	[redacted]	[redacted]	5,542,001	4.76	
109	2018	6	[redacted]	[redacted]	17,725,431	6.88	
109	2018	7	[redacted]	[redacted]	10,380,329	7.44	
109	2018	8	[redacted]	[redacted]	4,842,747	6.85	
109	2018	9	[redacted]	[redacted]	4,702,244	7.52	
109	2018	10	[redacted]	[redacted]	7,383,820	7.03	
109	2018	11	[redacted]	[redacted]	10,388,479	6.53	
109	2018	12	[redacted]	[redacted]	17,046,929	6.28	
109	2019	1	[redacted]	[redacted]	4,145,103	5.93	
109	2019	2	[redacted]	[redacted]	5,495,747	6.14	
109	2019	3	[redacted]	[redacted]	8,539,470	5.59	
109	2019	4	[redacted]	[redacted]	17,239,913	5.68	
109	2019	5	[redacted]	[redacted]	10,274,004	6.64	
109	2019	6	[redacted]	[redacted]	4,149,831	6.43	
109	2019	7	[redacted]	[redacted]	8,095,728	4.52	
109	2019	8	[redacted]	[redacted]	16,973,165	4.66	
109	2019	9	[redacted]	[redacted]	7,727,062	4.92	
109	2019	10	[redacted]	[redacted]	14,629,832	4.83	
109	2019	11	[redacted]	[redacted]	7,235,013	4.39	
109	2019	12	[redacted]	[redacted]	5,739,862	3.68	
109	2020	1	[redacted]	[redacted]	4,356,831	1.85	
109	2020	2	[redacted]	[redacted]	5,166,732	3.41	
109	2020	3	[redacted]	[redacted]	6,348,617	1.07	
109	2020	4	[redacted]	[redacted]	10,088,067	1.07	
109	2020	5	[redacted]	[redacted]	6,233,806	2.53	
109	2020	6	[redacted]	[redacted]	17,038,696	2.82	
109	2020	7	[redacted]	[redacted]	11,404,198	2.53	
109	2020	8	[redacted]	[redacted]	6,739	2.53	
109	2020	9	[redacted]	[redacted]	6,739	2.53	
109	2020	10	[redacted]	[redacted]	8,985	2.53	
109	2020	11	[redacted]	[redacted]	1,304,390	2.53	
109	2020	12	[redacted]	[redacted]	2,674,281	2.53	
109	2021	1	[redacted]	[redacted]	1,679,511	1.54	
109	2021	2	[redacted]	[redacted]	3,611,010	1.01	
109	2021	3	[redacted]	[redacted]	1,788,172	0.87	
109	2021	4	[redacted]	[redacted]	2,851,006	0.93	
109	2021	5	[redacted]	[redacted]	2,689,297	0.95	
112	2018	6	[redacted]	[redacted]	5,893,777	4.56	
112	2018	7	[redacted]	[redacted]	12,628,953	5.46	
112	2018	8	[redacted]	[redacted]	10,009,856	4.29	
112	2018	9	[redacted]	[redacted]	4,539,113	4.56	
112	2018	10	[redacted]	[redacted]	8,880,504	5.19	
112	2018	11	[redacted]	[redacted]	2,933,340	5.10	
112	2018	12	[redacted]	[redacted]	9,427,916	5.10	
112	2019	1	[redacted]	[redacted]	10,475,675	4.72	
112	2019	2	[redacted]	[redacted]	6,377,316	4.55	
112	2019	3	[redacted]	[redacted]	10,019,400	4.34	
112	2019	4	[redacted]	[redacted]	11,408,412	4.55	
112	2019	5	[redacted]	[redacted]	4,289,022	5.12	
112	2019	6	[redacted]	[redacted]	8,529,925	6.17	
112	2019	7	[redacted]	[redacted]	9,456,894	5.09	
112	2019	8	[redacted]	[redacted]	6,576,841	4.71	
112	2019	9	[redacted]	[redacted]	6,270,848	5.77	
112	2019	10	[redacted]	[redacted]	8,232,770	5.13	
112	2019	11	[redacted]	[redacted]	2,853,720	3.66	
112	2019	12	[redacted]	[redacted]	5,983,752		0.10
112	2020	1	[redacted]	[redacted]	535,821		0.10
112	2020	2	[redacted]	[redacted]	4,740,807		0.10
112	2020	3	[redacted]	[redacted]	5,714,771	0.42	
112	2020	4	[redacted]	[redacted]	1,366,194	2.53	
112	2020	5	[redacted]	[redacted]	11,395,315	3.75	
112	2020	6	[redacted]	[redacted]	4,472,302	2.28	
112	2020	7	[redacted]	[redacted]	10,338,328	2.53	
112	2020	8	[redacted]	[redacted]	15,680,035	2.53	
112	2020	9	[redacted]	[redacted]	23,034,328	2.53	
112	2020	10	[redacted]	[redacted]	10,807,504	3.78	
112	2020	11	[redacted]	[redacted]	1,943,047	2.82	
112	2020	12	[redacted]	[redacted]	4,398,100	2.82	
112	2021	1	[redacted]	[redacted]	3,139,373	0.17	
112	2021	2	[redacted]	[redacted]	5,311,551	0.18	
112	2021	3	[redacted]	[redacted]	5,235,782	0.21	
112	2021	4	[redacted]	[redacted]	1,023,405	0.16	
112	2021	5	[redacted]	[redacted]	323,192		0.02
154	2018	6	[redacted]	[redacted]	13,821,776		0.01
154	2018	7	[redacted]	[redacted]	15,680,280		0.01
154	2018	8	[redacted]	[redacted]	15,704,552		0.01
154	2018	9	[redacted]	[redacted]	14,112,197		0.01
154	2018	10	[redacted]	[redacted]	14,694,362		0.01
154	2018	11	[redacted]	[redacted]	15,081,010		0.01
154	2018	12	[redacted]	[redacted]	15,973,363		0.01
154	2019	1	[redacted]	[redacted]	11,006,108		0.01
154	2019	2	[redacted]	[redacted]	8,028,739		0.01
154	2019	3	[redacted]	[redacted]	12,213,160		0.01
154	2019	4	[redacted]	[redacted]	13,966,107		0.01
154	2019	5	[redacted]	[redacted]	14,343,694		0.01
154	2019	6	[redacted]	[redacted]	14,598,784		0.01
154	2019	7	[redacted]	[redacted]	16,372,707		0.01
154	2019	8	[redacted]	[redacted]	14,551,485		0.01
154	2019	9	[redacted]	[redacted]	14,056,075		0.01
154	2019	10	[redacted]	[redacted]	4,880,456		0.01
154	2019	11	[redacted]	[redacted]	4,798,568		0.01
154	2019	12	[redacted]	[redacted]	14,209,493		0.01
154	2020	1	[redacted]	[redacted]	16,069,567		0.01
154	2020	2	[redacted]	[redacted]	14,203,400		0.01
154	2020	3	[redacted]	[redacted]	13,903,851		0.01
154	2020	4	[redacted]	[redacted]	15,239,415		0.01
154	2020	5	[redacted]	[redacted]	11,296,368		0.01
154	2020	6	[redacted]	[redacted]	10,460,244		0.01
154	2020	7	[redacted]	[redacted]	11,265,252		0.01
154	2020	8	[redacted]	[redacted]	11,104,450		0.01
154	2020	9	[redacted]	[redacted]	13,243,582		0.01
154	2020	10	[redacted]	[redacted]	7,559,478		0.01
154	2020	11	[redacted]	[redacted]	9,508,273		0.01
154	2020	12	[redacted]	[redacted]	11,527,548		0.01
154	2021	1	[redacted]	[redacted]	8,916,406		0.01
154	2021	2	[redacted]	[redacted]	7,377,087		0.01
154	2021	3	[redacted]	[redacted]	8,920,510		0.01
154	2021	4	[redacted]	[redacted]	9,062,825		0.01
154	2021	5	[redacted]	[redacted]	9,453,347		0.01
Grand Total					**1,649,038,970**	**4.30**	**0.02**

TANK	Jun18-May19	Jun19-May20	Jun20-May21
100	272,138,512	216,089,371	209,386,893
109	118,164,216	96,744,546	45,063,023
112	96,883,285	71,657,657	85,706,946
154	164,625,349	154,180,170	118,399,001
Gallons	**651,811,362**	**538,671,745**	**458,555,864**

Gallons	**1,649,038,970**