EMISSION SOURCES - EMISSIONS CAPS AND INDIVIDUAL EMISSION LIMITATIONS

Permit Numbers 9708 and PSDTX861M2

This table lists the maximum allowable emission rates and all sources of air contaminants on the applicant's property covered by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

(See Attachment I for Source Name and Emission Point Number Index)

AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emissio	n Dates
1 01111 140. (1)	Name (2)	ivanic (5)	lb/hr	TPY (4)
VOC CAPS: Combustion Units, Tanks, Process Vents, Loading, Flares, Vapor Combustors, Fugitives (5), Wastewater, Cooling Towers, Engines, Relief Valves, and Maintenance		VOC	2114.00	1510.00
VOC SUBCAP: (7) Tanks (S-001, S-009, S-021, and S-229), New Railcar Rack (L-15), Vapor Combustor (FL-7), Fugitives (F-MSAT and F-MSATLOAD) (5)		VOC	25.30	43.39
NO _x CAPS: (8) Combustion Units, Flares, Vapor Combustors, Process Vents, Loading, Engines, and Maintenance		NO _x	490.80	1701.00
NO _x SUBCAP: (7) Vapor Combustor (FL-7)	•		2.33	1.29
CO CAPS: Combustion Units, Flares, Vapor Combustors, Process Vents, Loading, Engines, and Maintenance		СО	1408.00	3275.00
CO SUBCAP: (7) Vapor Combustor (FL-7)		СО	7.17	4.22
SO₂ CAPS: Combustion Units, Flares, Vapor Combustors, Process Vents, Loading, Engines, and Maintenance		SO ₂	1120.00	2604.00

AIR CONTAMINANTS DATA

SO ₂ SUBCAP: (7)		SO ₂	0.09	0.03
Vapor Combustor (FL-7) PM CAPS:				
	Vapor Combuctors	DM	120.00	F60.00
Combustion Units, Flares		PM	138.00	569.80
Process Vents, Engines	, and ividintendince	Denzara		
BENZENE CAPS:	and Freiting (F)	Benzene	11.90	18.34
Tanks, Cooling Towers, L				
BENZENE SUBCAP:_ (7)				
Tanks (S-001, S-009, and		Benzene	9.51	11.94
Rack (L-15), Vapor Comb	, ,			
(F-MSAT and F-MSATLO	AD) (3)	11.0		
H ₂ S CAPS:	ugitives and Maintanana	H ₂ S	7.60	0.70
	igitives, and Maintenance	11.00		
SULFURIC ACID CAPS	(H ₂ SU ₄):	H ₂ SO ₄	12.40	54.10
Process Vents		Ola La vive -		
CHLORINE CAPS:		Chlorine	0.40	0.50
Process Vents				
HCI CAPS:		HCL	7.10	4.29
Process Vents and Maint	Process Vents and Maintenance		7.10	4.23
NH₃ CAPS:		NH ₃	800.40	164.80
Process Vents, Fugitives,	and Maintenance			
	IISSIONS CAPS: (6)	VOC	3671.97	46.52
	• •	NO _x	97.28	2.45
		CO	646.55	7.40
		SO ₂	1768.80	6.13
		H ₂ S	19.31	0.05
		HCI	4.00	0.002
		NH ₃	700.00	0.95
		PM	1.98	0.40
		NO _x	57.88	132.51
		CO	34.12	66.33
B-10	No. 18 Boiler	VOC	1.21	3.79
		SO_2	4.92	6.77
		PM	1.67	5.23
B-11 No. 19 Boiler		NO _x	8.73	38.23
		CO	18.93	82.93
		VOC	1.21	3.24
		SO ₂	4.72	6.13
		PM	1.67	4.47
B-12	600# Boiler	NO _x	492.85	172.69
D-15	υσοπ Dollel	CO	20.85	73.05

	\/00	1.00	4.66
			4.66
			11.91
			6.43
			20.30
			47.31
300# Steam Boiler #1	VOC	0.89	3.11
	SO_2	4.60	16.28
	PM	1.20	4.30
	NO_x	5.80	20.30
	CO	13.50	47.31
300# Steam Boiler #2	VOC	0.89	3.11
	SO_2	4.60	16.28
	PM	1.20	4.30
	NO _x	5.80	20.30
	CO	13.50	47.31
300# Steam Boiler #3	VOC	0.89	3.11
	SO_2	4.60	16.28
	PM	1.20	4.30
	NOx	23.65	82.85
			22.23
No. 10 Boiler			1.41
			3.53
			1.95
			59.59
			18.32
No. 11 Boiler			1.59
110. 22 266.			2.35
			2.18
			60.42
			17.59
No. 13 Boiler			1.55
110. 20 501101			2.30
			2.14
			65.89
			46.45
No. 15 Roiler			2.34
IVO. 13 BOIICI			4.05
			3.23
			35.14
			46.45
No. 16 Boiler			2.96
			5.57
	SO ₂		3.57
	300# Steam Boiler #2	SO2	SO2

		PM		
		NO _x	31.83	46.46
		CO	22.44	91.10
H-1	No. 1 Crude Charge	VOC	1.43	6.26
	Heater	SO_2	7.44	14.96
		PM	1.98	8.66
		NO _x	3.25	14.23
		CO	6.54	14.11
H-11	No. 2 Crude Charge	VOC	0.42	1.83
	Heater (Anderson)	SO_2	2.17	4.27
		PM	0.58	2.52
		NO _x	15.69	68.72
		CO	3.41	14.95
H-13	Gas Oil Frac. Heater	VOC	0.22	0.95
		SO_2	1.13	1.97
		PM	0.30	1.32
		NO _x	2.60	11.39
	Unifiner Charge Heater	CO	2.24	9.83
H-14		VOC	0.14	0.63
	3	SO_2	0.03	0.11
		PM	0.20	0.87
		NO _x	1.63	7.12
		CO	3.06	12.00
H-15	No. 1 Hydrotreater	VOC	0.19	0.70
	Charge Heater	SO_2	0.84	1.41
		PM	0.27	0.96
		NO _x	13.70	52.81
		CO	11.30	19.80
H-18	C.C.R. Charge Heater	VOC	1.48	6.47
		SO_2	7.68	13.27
		PM	2.04	8.94
		NO _x	3.53	15.47
	No. 1 Vagarras Objects	CO	6.36	12.75
H-2	No. 1 Vacuum Charge	VOC	0.41	1.77
	Heater	SO_2	2.11	3.91
		PM	0.56	2.45
		NO _x	3.60	15.76
H-26	No OVan es Obsess	CO	6.92	30.30
	No. 2 Vacuum Charge	VOC	0.44	1.93
	Heater	SO_2	2.29	4.22
		PM	0.61	2.67
H-27	"P/P" Mole Sieve	NO _x	0.99	0.76
,	. , 3.000		1 3.00	

	Regeneration Heater	СО	0.60	0.65
		VOC	0.04	0.04
		SO ₂	0.20	0.22
		PM	0.05	0.06
		NO _x	1.16	5.08
		CO	1.00	3.25
H-28	Active Butane Oxygenate	VOC	0.06	0.28
11-20	Heater	SO ₂	0.33	1.45
		PM	0.09	0.39
	1	NO _x	2.54	11.12
		CO	0.82	3.57
H-30	Asphalt Tank Heaters	VOC	0.05	0.23
П-30	(5501 and 5502)		0.03	1.18
		SO ₂		
		PM	0.07	0.31
		NO _x	0.44	1.92
11.645	T1-07 00	CO	0.14	0.62
H-31B	Tanks 27, 28 Heater	VOC	0.01	0.04
		SO_2	0.05	0.20
		PM	0.01	0.05
		NO_x	0.80	3.50
	Tank Heaters ("20MS"	CO	0.56	2.46
H-32	and "20M6")	VOC	0.04	0.16
	and Zolvio)	SO_2	0.19	0.82
		PM	0.05	0.22
		NO_x	0.33	1.43
	Asphalt Tank Heater	CO	0.28	1.23
H-32C	"20M7"	VOC	0.02	80.0
	201017	SO_2	0.09	0.41
		PM	0.02	0.11
		NO _x	1.99	8.74
	Topk Hootors 24 FF1	CO	1.40	6.16
H-33	Tank Heaters 34, 551,	VOC	0.09	0.39
	121, 141, and 552	SO ₂	0.46	2.04
		PM	0.12	0.54
		NO _x	3.08	20.45
		CO	2.17	8.68
H-34	C.C.D.R. Stabilizer	VOC	0.14	0.59
	Reboiler Heater	SO ₂	0.68	1.21
		PM	0.19	0.81
				6.99
11.05	Tank "300M2" Heaters	NO _x	1.59	4.93
H-35	(4 Stacks)	CO	1.12	0.31
	,	VOC	0.07	0.01

AIR CONTAMINANTS DATA

		SO ₂	0.37	1.63
		PM	0.10	0.43
		NO _x	1.78	7.80
	No. 2 Naphtha	CO	4.86	5.72
H-36	Hydrotreater Charge	VOC	0.31	0.97
	Heater	SO ₂	1.11	1.70
		PM	0.43	1.34
		NO _x	6.40	15.97
	No. 2 Naphtha	CO	2.41	9.59
H-37	Hydrotreater Des2	VOC	0.16	0.65
	Reboiler	SO_2	0.30	1.21
		PM	0.22	0.89
		NO _x	13.58	59.46
	#2 Reformer Charge	CO	29.45	81.85
H-38	Heater	VOC	1.88	5.02
	ricatei	SO ₂	6.73	10.28
		PM	2.59	6.93
	#2 Reformer Stabilizer Reboiler Heater	NO _x	2.92	12.78
		CO	2.06	6.59
H-39		VOC	0.13	0.44
		SO ₂	0.63	0.89
		PM	0.18	0.60
		NO _x	8.49	37.17
		CO	5.61	5.11
H-40	P.D.A. Asph. Htr.	VOC	0.36	1.00
		SO ₂	1.40	1.59
		PM	0.49	1.37
		NO _x	16.40	71.83
	No. 2 Crude Charge	CO	26.18	13.21
H-41	Heater	VOC	1.67	6.99
	ricator	SO ₂	8.36	14.12
		PM	2.31	9.66
		NO _x	3.49	15.28
	Hydrocracker Recycle	CO	7.20	12.64
H-42	Heater	VOC	0.46	1.98
	ricator	SO ₂	2.39	2.99
		PM	0.63	2.73

H-43 Hydrocracker "DEC4" Reboiler Heater Ro2 2.36 3.84 PM 0.65 2.55 NO₂ 2.66 11.67 CO 5.93 4.82 VOC 0.35 0.73 SO₂ 0.89 1.44 PM 0.48 1.01 NO₂ 7.48 32.77 CO 13.76 60.27 H-46 C.C.R. Interheater CO 13.76 60.27 VOC 0.88 3.84 SO₂ 4.56 8.79 PM 1.21 5.31 NO₂ 0.90 3.95 CO 1.02 2.89 H-47 Asphalt Blowstill Heater NO₂ 0.06 0.21 SO₂ 0.27 0.35 PM 0.09 0.28 NO₂ 1.55 SO₂ 2.94 4.26 PM 0.78 3.38 H-48 H-48 Asphalt Tank Heater 300M3 (4 Stacks) NO₂ 0.53 2.33 CO 1.12 4.93 NO₂ 0.53 2.33 NO₂ 0			NO _x	3.31	14.49
H-43 Reboiler Heater Reboiler	H-43				
H-45 H-45 H-46 H-46 H-47 Asphalt Blowstill Heater H-48 H-48 H-48 H-48 H-48 H-48 H-49 H-51 Asphalt Tank Heater SO2 H-50 H-60 Dago Heater NOx SO2 0.37 0.31 NOx 0.53 0.37 1.63 PM 0.10 0.43 NOx 3.39 14.87 CO 2.32 4.26 H-60 Dago Heater VOC 0.15 0.44 NOx 3.39 14.87 CO 2.81 12.33 H-64 NOx 1.26 5.54 NOx 1.26 5.54 CO 1.31 PM 0.21 0.59 NOx 1.26 1.34 1.36 1.34 PM 0.25 0.96 1.34		-			
H-45 H-45 #1 Hydrotreater Charge Heater #1 Hydrotreater Charge Heater #1 Hydrotreater Charge Heater #2 VOC	1145	Reboiler Heater			
H-45 H-45 #1 Hydrotreater Charge Heater Heater H-46 C.C. S.93 H-44 PM H-48 R-46 C.C.R. Interheater C.C.R. Interheater R-47 Asphalt Blowstill Heater H-48 H-48 H-48 H-48 Asphalt Tank Heater Asphalt Tank Heater 300M3 (4 Stacks) R-50 Asphalt Tank Heater Asphalt Tank Heater Asphalt Tank Heater R-51 Asphalt Tank Heater Dago Heater Dago Heater NOx C.C. L.R. Interheater NOx C.C. R. Interheater NOx R. R. PM R. R. PM R. R. R. R. PM R. R					
H-45 H Hydrotreater Charge Heater Heater H-46 H-46 H-46 C.C.R. Interheater C.C.R. Interheater H-47 H-48 H-49 H-51 Asphalt Tank Heater SO ₂ 2.94 H-51 H-51 Asphalt Tank Heater SO ₂ 0.37 H-51 Asphalt Tank Heater SO ₂ 0.37 H-51 H-51 H-61 Dago Heater H-62 NO ₃ H-63 NO ₄ NO ₅ H-64 NO ₄ H-66 NO ₄ H-67 H-68 H-69 H-78					
H-45 Heater Heater Heater Heater Heater Heater Heater NO2 NO3 NO4 Heater NO5 NO2 NO5 Heater NO5 CO 13.76 Heater CO 13.76 Heater NO6 NO7 CO 13.76 Heater NO7 CO 13.76 Heater NO8 SO2 Heater NO8 SO2 Heater NO9 Heater NO4 NO4 SO2 Heater NO4 Heater NO6 Heater NO7 Heater NO7 Heater NO8 Heater NO8 Heater NO8 Heater NO9 Heater NO8 NO9 Heater Heater NO9 Heater NO9 Heater NO9 Heater NO9 Heater NO9 Heater Heater Heater NO9 Heater Heater Heater Heater Heater NO9 Heater H					
Heater SO ₂ 0.89 1.44 1.01 PM 0.48 1.01 NO ₄ 7.48 32.77 CO 13.76 60.27 CO 13.76 60.27 H-46 C.C.R. Interheater VOC 0.88 3.84 SO ₂ 4.56 8.79 PM 1.21 5.31 NO ₅ 0.90 3.95 CO 1.02 2.89 H-47 Asphalt Blowstill Heater VOC 0.06 0.21 SO ₂ 0.27 0.35 PM 0.09 0.28 NO ₅ 3.78 16.55 CO 8.88 14.24 H-48 Turbine Fuel HDSU Heater SO ₂ 2.94 4.26 PM 0.78 3.38 H-51 Asphalt Tank Heater 300M3 (4 Stacks) SO ₂ 0.37 1.63 PM 0.10 0.43 NO ₅ 3.39 14.87 CO 2.32 6.22 H-64 Dago Heater VOC 0.15 0.44 SO ₂ 0.60 0.71 PM 0.21 0.59 NO ₄ 1.26 5.54 CO 2.81 12.33 NO ₅ 1.33 NO ₇ 1.26 5.54 CO 2.81 12.33 NO ₈ 1.34 PM 0.25 0.96 NO ₁ 1.34 PM 0.25 0.96 NO ₁ 1.34 PM 0.25 0.96 NO ₂ 0.96 0.96 NO ₂ 1.34 NO ₃ 1.34 PM 0.25 0.96 NO ₂ 0.96 0.96 NO ₃ 1.34 PM 0.25 0.96 NO ₄ 1.26 CO 9.96 NO ₂ 1.34 PM 0.25 0.96 NO ₂ 0.96 NO ₂ 1.34 PM 0.25 0.96 NO ₂ 0.96 NO ₃ 1.34 PM 0.25 0.96 NO ₄ 1.26 CO 9.96 NO ₄ 1.27 NO ₄ 1.26 CO 9.96 NO ₄ 1.27 NO ₄ 1.28	H-45	#1 Hydrotreater Charge			
PM	11 43	Heater			
H-46 C.C.R. Interheater C.C. 0.88 C.C. 1.02 C.C. 1.02 C.C. 2.89 C.C. 1.02 C.C. 2.7 C.C. 3.7 C.C. 3.7 C.C. 3.7 C.C. 3.7 C.C. 3.33					
H-46 C.C.R. Interheater VOC C.C.R. Interheater C.C.R. Interheater C.C.R. Interheater C.C.R. Interheater C.C.R. Interheater C.C.R. Interheater C.C.C.R. Interheater C.C.C.R. Interheater C.C.C.R. Interheater C.C.C.R. Interheater C.C.C.R. Interheater C.C.C.R. Interheater C.C.C.					
H-46					
H-47 Asphalt Blowstill Heater	H ₋ 46	C C P Interheater			
H-47 Asphalt Blowstill Heater	11-40	C.C.N. Interneater			
H-47 Asphalt Blowstill Heater					
H-47 Asphalt Blowstill Heater					
H-47		Asphalt Blowstill Heater			
H-48 H-48 Turbine Fuel HDSU Heater SO ₂ 2.94 4.26 PM 0.78 3.38 NO _x 0.53 2.33 CO 1.12 4.93 VOC 0.07 0.31 SO ₂ 0.37 1.63 PM 0.10 0.43 NO _x 3.39 14.87 CO 2.32 6.22 H-6 Dago Heater VOC 0.15 0.44 SO ₂ 0.60 0.71 PM 0.21 0.59 NO _x 1.26 S-54 CO 2.81 12.33 VOC 0.18 0.71 SO ₂ 0.86 1.34 PM 0.25 0.96 NO _x 1.63 PM 0.25 0.96	LI 47				
H-48 H-51 Asphalt Tank Heater 300M3 (4 Stacks) Asphalt Tank Heater 300M3 (4 Stacks) H-51 Asphalt Tank Heater 300M3 (4 Stacks) H-51 Asphalt Tank Heater 400 CO 0.07 CO 0.07 CO 0.31 CO 0.31 SO2 CO 0.37 CO 0.31 SO2 CO 0.37 CO 0.43 NOx SO2 D.40 H-50 NOx SO2 D.60 D.71 PM D.21 D.59 NOx H-64 NOx H-64 NOx H-64 NOx H-70 NOx CO 0.18 D.71 SO2 D.86 1.34 PM D.25 D.96 NOx H-70 H-70 NOx H-70 H-70 NOx H-70 H-70 NOx H-70 H	П-47				
H-48 H-48 Turbine Fuel HDSU Heater Turbine Fuel HDSU Heater Turbine Fuel HDSU Heater Turbine Fuel HDSU Heater SO ₂ SO ₃ Turbine Fuel HDSU Heater SO ₂ SO ₂ SO ₂ SO ₃ SO ₃ SO ₂ SO ₃ SO ₃ SO ₃ SO ₃ SO ₄ SO ₅ SO ₆ SO ₇ SO ₇ SO ₈ SO					
H-48 Turbine Fuel HDSU Heater Turbine Fuel HDSU Heater CO SO ₂ 2.94 4.26 PM 0.78 3.38 NO _x 0.53 2.33 CO 1.12 4.93 VOC 0.07 0.31 SO ₂ 0.37 1.63 PM 0.10 0.43 NO _x 3.39 14.87 CO 2.32 6.22 VOC 0.15 0.44 SO ₂ 0.60 0.71 PM 0.21 0.59 NO _x 1.26 SO ₂ 0.86 1.34 PM 0.25 NO _x 1.83 NO _x 1.84 NO _x 1.86 NO					
H-48 Heater Co					
Heater SO ₂ 2.94 4.26 PM 0.78 3.38 NO _x 0.53 2.33 CO 1.12 4.93 VOC 0.07 0.31 SO ₂ 0.37 1.63 PM 0.10 0.43 NO _x 3.39 14.87 CO 2.32 6.22 H-6 Dago Heater VOC 0.15 0.44 SO ₂ 0.60 0.71 PM 0.21 0.59 NO _x 1.26 CO 2.81 12.33 VOC 0.18 0.71 SO ₂ 0.86 1.34 PM 0.25 0.96 NO _x 4.25 18.63	11.40				
H-51 Asphalt Tank Heater 300M3 (4 Stacks) Asphalt Tank Heater 300M3 (4 Stacks) H-61 Dago Heater H-64 No. 4 Hydrotreater Charge Heater No. 2 Crude Charge PM No. 0.78 3.38 NOx 0.53 2.33 CO 1.12 4.93 VOC 0.07 0.31 SO ₂ 0.37 1.63 PM 0.10 0.43 NOx 3.39 14.87 CO 2.32 6.22 VOC 0.15 0.44 SO ₂ 0.60 0.71 PM 0.21 0.59 NOx 1.26 CO 2.81 12.33 VOC 0.18 0.71 SO ₂ 0.86 1.34 PM 0.25 0.96 NOx 1.60 1	H-46				
H-51 Asphalt Tank Heater 300M3 (4 Stacks) Asphalt Tank Heater 300M3 (4 Stacks) Asphalt Tank Heater 300M3 (4 Stacks) Book 1.12 4.93 VOC 0.07 0.31 SO2 0.37 1.63 PM 0.10 0.43 NOx 3.39 14.87 CO 2.32 6.22 VOC 0.15 0.44 SO2 0.60 0.71 PM 0.21 0.59 NOx 1.26 5.54 CO 2.81 12.33 VOC 0.18 0.71 SO2 0.86 1.34 PM 0.25 0.96 NOx 4.25 18.63					
H-51 Asphalt Tank Heater 300M3 (4 Stacks) Asphalt Tank Heater 300M3 (4 Stacks) Book 1.12					
H-51 Aspnalt Tank Heater 300M3 (4 Stacks) Aspnalt Tank Heater 300M3 (4 Stacks) BO2 0.37 1.63 1.63 1.63 1.63 1.63 1.63 1.63 1.63					
H-61 300M3 (4 Stacks) SO ₂	11.51	Asphalt Tank Heater			
H-64 PM 0.10 0.43 NO _x 3.39 14.87 CO 2.32 6.22 VOC 0.15 0.44 SO ₂ 0.60 0.71 PM 0.21 0.59 NO _x 1.26 5.54 CO 2.81 12.33 VOC 0.18 0.71 SO ₂ 0.86 1.34 PM 0.25 0.96 NO _x 4.25 18.63	H-21				
H-64 Dago Heater NO _x CO 2.32 6.22 VOC 0.15 0.44 SO ₂ 0.60 0.71 PM 0.21 0.59 NO _x 1.26 CO 2.81 12.33 VOC 0.18 0.71 SO ₂ 0.86 1.34 PM 0.25 0.96 NO _x 1.26 12.33 VOC 0.18 1.24 NO _x 1.26 NO _x 1.26 12.33 VOC 0.18 1.34 NO _x 1		, , ,			
H-6 Dago Heater CO 2.32 6.22 VOC 0.15 0.44 SO ₂ 0.60 0.71 PM 0.21 0.59 NO _x 1.26 5.54 CO 2.81 12.33 VOC 0.18 0.71 SO ₂ 0.86 1.34 PM 0.25 0.96 NO _x 4.25 18.63					
H-6 Dago Heater VOC 0.15 0.44 SO ₂ 0.60 0.71 PM 0.21 0.59 NO _x 1.26 5.54 CO 2.81 12.33 VOC 0.18 0.71 SO ₂ 0.86 1.34 PM 0.25 0.96 NO _x 2.5 0.86 1.34 PM 0.25 0.96 NO _x 4.25 18.63					
H-70 SO ₂ SO ₂ 0.60 0.71 PM 0.21 0.59 NO _x 1.26 CO 2.81 VOC 0.18 0.71 SO ₂ 0.86 1.34 PM 0.25 0.96 NO _x 4.25 18.63	11.6	Dega Hastar			
H-64 No. 4 Hydrotreater Charge Heater No. 2 Crude Charge PM 0.21 NO. 2 1.26 CO 2.81 VOC 0.18 0.71 SO ₂ 0.86 1.34 PM 0.25 No. 2 Crude Charge NO _x 4.25 18.63	Н-0	Dago Healer			
H-64 No. 4 Hydrotreater Charge Heater No. 2 Crude Charge No. 4 Hydrotreater SO ₂ PM No. 2 Crude Charge No. 2 1.26 CO 2.81 12.33 0.71 0.86 1.34 PM 0.25 0.96 18.63					
H-64 No. 4 Hydrotreater Charge Heater No. 2 Crude Charge No. 2 Crude Charge CO VOC 0.18 0.71 0.86 1.34 PM 0.25 0.96 No. 2 Crude Charge NO _x 4.25 18.63					
H-64 No. 4 Hydrotreater VOC 0.18 0.71					
Charge Heater SO ₂ 0.18 0.71 0.86 1.34 PM 0.25 0.96 No. 2 Crude Charge NO _x 4.25 18.63	H-64	No. 4 Hydrotreater			
No. 2 Crude Charge NO _x 4.25 18.63		_			
No. 2 Crude Charge NO _x 4.25 18.63					
H_70 100. 2 Grade Charge 100x 4.23			PM	0.25	
11-10 11 1 00 1000 1/2/10	H ₋ 70	No. 2 Crude Charge			
Heater CO 9.90 45.40	11-10	Heater	СО	9.90	43.40

		VOC	0.66	2.87
		SO ₂	3.40	14.90
		PM	0.90	3.97
		NO _x	2.13	6.06
		СО	5.00	14.10
H-71	No. 3 Vacuum Heater	VOC	0.30	0.90
		SO_2	1.70	4.80
		PM	0.45	1.29
		NO_x	1.55	6.78
		CO	3.60	15.80
H-72	PDA Asphalt Heater	VOC	0.20	1.00
		SO_2	1.20	5.40
		PM	0.30	1.40
		NO _x	3.80	16.52
	No. 3 Crude	CO	8.80	38.40
H-73	Heater-Petrochem	VOC	0.60	2.50
	(North)	SO_2	3.00	13.20
	(1313.4)	PM	0.80	3.50
	Hydrocracker Recycle Heater	NO _x	4.20	15.25
		CO	8.10	35.50
H-74		VOC	0.50	2.30
		SO_2	2.80	12.20
		PM	0.70	3.20
		NO _x	3.80	13.98
		CO	7.40	32.50
H-75	Hydrocracker "DEC4"	VOC	0.50	2.20
	Reboiler Heater	SO_2	2.60	11.20
		PM	0.70	3.00
		NO _x	2.01	8.81
		CO	4.86	21.29
H-76	Diesel Hydrotreater	VOC	0.31	1.36
	Charge Heater	SO ₂	1.61	7.06
		PM	0.43	1.88
		NO _x	12.29	53.82
		CO	28.60	125.26
H-77	No. 1 Reformer Charge	VOC	1.89	8.29
	Heater	SO ₂	9.83	43.04
		PM	2.62	11.46
			3.67	16.09
	No. 4 D. 6	NO _x	8.55	37.46
H-78	No. 1 Reformer	CO	0.57	2.48
	Interheaters	VOC	2.94	12.87
		SO ₂	2.94	2.07

		PM		
		NO _x	1.16	5.08
		CO	2.70	11.83
H-79	No. 1 Ref. Stabilizer	VOC	0.18	0.78
11.75	Reboiler	SO ₂	0.93	4.06
		PM	0.25	1.08
		NO _x	4.69	20.52
		CO	7.22	28.77
H-8	HCU Fractionation	VOC	0.48	1.42
11.0	Charge Heater	SO ₂	1.93	3.69
		PM	0.66	1.96
		NO _x	3.05	13.36
		CO	8.33	36.46
H-80	FCC Gas HDS Charge	VOC	0.53	2.32
	Heater	SO ₂	2.33	5.03
		PM	0.73	3.21
		NO _x	0.31	1.36
	C4 ISOM Heater	CO	0.70	3.20
H-81		VOC	0.05	0.20
		SO_2	0.20	1.09
		PM	0.07	0.29
		NO _x	5.80	25.40
		CO	13.50	59.10
H-82	Coker Heater	VOC	0.89	3.90
		SO_2	4.60	20.30
		PM	1.20	5.40
		NO _x	0.39	1.69
	Dolymar Madified Apphalt	CO	0.90	3.90
H-83	Polymer Modified Asphalt Heater	VOC	0.06	0.26
	nealer	SO_2	0.30	1.36
		PM	0.08	0.36
		NO _x	3.79	16.60
	No. 2 Reformer No. 1	CO	8.80	38.60
H-84		VOC	0.58	2.56
	Interheater	SO_2	3.00	13.30
		PM	0.80	3.50
		NO _x	1.52	6.67
		CO	3.50	15.50
H-85	No. 2 Ref. Stab. Reboiler	VOC	0.20	1.00
		SO_2	1.20	5.30
		PM	0.30	1.40
H-86	No. 2 Naphtha	NO _x	2.00	8.81

AIR CONTAMINANTS DATA

	Hydrotreater Charge	СО	4.70	20.50
	Heater (Final)	VOC	0.30	1.40
	` ′	SO_2	1.60	7.00
		PM	0.40	1.90
		NO _x	0.72	3.15
		CO	1.70	7.30
H-87	SRU No. 3 Hot Oil Heater	VOC	0.10	0.49
1101	Great No. 5 Flot 511 Floater	SO ₂	0.58	2.50
		PM	0.15	0.67
		NO _x	0.79	3.46
		CO	0.48	0.43
H-88	Acid Plant Feed Heater	VOC	0.03	0.03
1100	7 tota i idile i ced i icatei	SO ₂	0.16	0.50
		PM	0.04	0.04
		NO _x	13.08	57.31
		CO	7.48	6.99
H-9	No. 3 Crude Heater-	VOC	0.37	1.22
П-9	Petrochem (South)		1.36	2.16
		SO ₂		
	No. 1 Definers Cooling	PM	0.51	1.68
F-20	No. 1 Refinery Cooling Tower	VOC	2.62	11.46
F-21	Gasoline Plant Cooling Tower (4)	VOC	1.75	7.68
F-47	No. 2 Refinery Cooling Tower	VOC	1.29	5.63
F-93	No. 3 Refinery Cooling Tower	VOC	1.89	8.28
		NO _x	4.56	19.98
		CO	0.56	2.44
E-7	Unifiner Engine (Clark)	VOC	0.17	0.76
		SO ₂	0.01	0.01
		PM	0.07	0.29
		NO _x	8.21	0.99
		CO	16.38	1.98
FL-9	Brine Degas Drum Flare	VOC	30.15	5.52
		SO ₂	0.01	0.01
		NO _x	40.46	26.49
		CO	210.06	147.95
FL-8	No. 2 Main Refinery Flare	VOC	352.09	141.07
FL-0	(10)		19.05	4.12
		SO₂ ⊔.s		0.27
		H ₂ S	6.07	
FL-1	No.1 Main Refinery Flare	NO _x	40.46	26.49

	(10)	СО	210.06	147.95
	(=3)	VOC	352.09	141.07
		SO ₂	19.05	4.12
		H₂S	6.07	0.27
		NO _x	40.46	26.49
		CO	210.06	147.95
FL-3	FCCU Flare (10)	VOC	352.09	141.07
120	1 000 1 1010 (10)	SO ₂	19.05	4.12
		H ₂ S	6.07	0.27
		NO _x	40.46	26.49
		CO	210.06	147.95
FL-4	HCU Flare (10)	VOC	352.09	141.07
	1100 1 1010 (10)	SO ₂	19.05	4.12
		H ₂ S	6.07	0.27
		NO _x	1.90	4.17
		CO	9.70	21.26
FL-6	Wastewater Flare	VOC	4.54	9.95
		SO ₂	3.41	1.21
		NO _x		26.49
				147.95
Combined Compliance	Annual Caps for Flares FL-	CO VOC		141.07
1, FL-3, Fl	4, and FL-8	SO ₂		4.12
		H₂S		0.27
FGR-SUMP	FGR Oily Water Sump	VOC	0.03	0.07
F-Coke PM	Coker PM Fugitives	PM	0.41	1.35
F-Coke Fivi	Coker Fivi Fugitives	NO _x	6.12	9.98
	Loading Rack Vapor	CO	17.79	27.45
FL-7	Combustor	VOC	18.01	14.20
	Combustor	SO ₂	0.13	0.06
L-13	Dailear Loading Dack		0.13	0.10
L-13 L-14	Railcar Loading Rack North Railcar Rack	VOC VOC	18.35	0.10
L-14		VUC	10.33	0.01
L-2	Asphalt Truck Loading	VOC	4.49	2.28
	Rack			
L-5/L-11	Railcar/ Truck Loading	VOC	13.15	9.05
	Rack			
L-7	Asphalt Railcar Rack	VOC	0.42	1.37
V-29	Sulfuric Acid Plant Vent	SO ₂	21.67	70.17
		NO _x	2.15	3.78
		CO	42.37	74.33
V-22	Asphalt Blowstill Vent	VOC	2.15	3.78
		SO_2	2.16	4.35
		PM	7.18	12.60

${\tt EMISSION} \ {\tt SOURCES} \ {\tt -INDIVIDUAL} \ {\tt EMISSION} \ {\tt RATE} \ {\tt LIMITS} \ {\tt AND} \ {\tt SUBCAPS}$

AIR CONTAMINANTS DATA

V-20	F.C.C.U. (Fluidized Catalytic Cracking Unit)	NO_x CO VOC SO_2 PM NH_3 (9) H_2SO_4	220.11 37.80 10.55 459.69 80.00 40.74 12.40	163.36 93.07 38.19 138.69 294.02 146.00 41.98
V-18	No. 1 Reformer Cat Regenerator Vent	CO VOC	3.27 0.62	14.31 2.72
V-21	No. 2 Reformer Cat Regenerator Vent	CO VOC	70.00 0.03	3.36 0.08
V-13	Soda Ash Silo	PM	0.01	0.01
V-14	Lime Silo Vent	PM	0.01	0.01
V-17	FCC Catalyst Silo Vent	PM	0.01	0.01
V-5	SRU No. 1 Incinerator	NO _x CO VOC SO ₂ PM	0.40 1.37 0.12 6.87 0.03	1.75 5.98 0.53 21.54 0.13
V-16	SRU No. 2 Incinerator	NO _x CO VOC SO₂ PM	0.56 13.66 0.20 10.96 0.04	2.45 59.82 0.87 48.01 0.18
V-28	SRU No. 3 Incinerator	NO _x CO VOC SO₂ PM	1.60 5.02 0.54 28.69 0.12	7.01 21.99 2.38 125.64 0.52
S-044	Tank 144	Caustic	0.01	0.01
S-142	Tank 232	Caustic	0.01	0.01
CARBON CAN	Carbon Canister System Fugitives (CAS1 - CAS7)	VOC	5.04	11.04
F-1CRUDE, F-REF_HT, F-2ALKY, F-2CRUDE, F-2REF_HT, F-CRUDE, F-4HT, F-85, F-HCU, F-ALKY_PDA, F-ASPHALT, F-BRINE, F-C4ISOM, F-CASING, F-CAVERN, F-FGR, F-COKE_VOC,	VOC Sub cap for Fugitives (5)	VOC	161.48	707.27

AIR CONTAMINANTS DATA

F-DESALT, F-DHDSU, F-ETNKFRM, F-FCCU, F-GASBLD, F-GASPLT, F-GHDS, F-HDS_GOF, F-LPG, F-IOCTENE, F-NBULKLD, F-NTNKFRM, F-ORU, F-PENEX, F-PMA, F-PSA, F-PUMPSTA, F-RAILLOAD, F-RLE, F-SBULKLD, F-SRU1, F-SRU2, F-SRU3, F-SWS, F-UNIFINER, F-WTNKFRM, F-MSAT, F-WTNKFRM, F-MSAT, F-WWTP, F-AMINE2, F-ALKY, F-MSATLOAD, FGR-SUMP				
S-001, S-002, S-003, S-004, S-005, S-006, S-007, S-008, S-009, S-010, S-011, S-012, S-013, S-014, S-015, S-016, S-017, S-018, S-022, S-023, S-024, S-025, S-026, S-027, S-028, S-032, S-033, S-035, S-037, S-038, S-039, S-040, S-045, S-046, S-049, S-052, S-053, S-055, S-056, S-057, S-058, S-059, S-060, S-063, S-064, S-065, S-066, S-067, S-068, S-069, S-070, S-071, S-072, S-073, S-074, S-075, S-076, S-086, S-090, S-137, S-138, S-139, S-140, S-141, S-143, S-150, S-168, S-173, S-174, S-175, S-176, S-177, S-	Sub cap for Storage Tanks	VOC	131.44	377.93

AIR CONTAMINANTS DATA

179, S-180, S-183, S-				
184, S-186, S-187, S-				
192, S-194, S-195, S-				
196, S-197, S-198, S-				
199, S-200, S-202, S-				
203, S-204, S-209, S-				
210, S-211, S-212, S-				
213, S-214, S-215, S-				
216, S-217, S-218, S-				
219, S-220, S-221, S-				
222, S-223, S-224, S-				
225, S-229				
S-144, S-095, S-031, S-	Subsan for HIDL Tanks	VOC	10.36	5.13
042, S-043	Subcap for HIDL Tanks	VUC	10.30	5.13

EMISSION SOURCES - EMISSIONS CAPS AND INDIVIDUAL EMISSION RATE LIMITS

- (1) Emission point identification either specific equipment designation or emission point number (EPN) from a plot plan.
- (2) Specific point source names. For fugitive sources, use an area name or fugitive source name.
- (3) VOC volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1.

NO_x - total oxides of nitrogen

CO - carbon monoxide

SO₂ - sulfur dioxide

H₂S - hydrogen sulfide

H₂SO₄ - sulfuric acid

HCI - hydrogen chloride

NH₃ - ammonia

PM - particulate matter, suspended in the atmosphere, including PM₁₀ and PM_{2.5}

PM₁₀ - particulate matter equal to or less than 10 microns in diameter

PM_{2.5} - particulate matter equal to or less than 2.5 microns in diameter

- (4) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period
- (5) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate.
- (6) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
- (7) The emission rates listed for the VOC, NO_x, and CO subcaps are included in the total VOC, NO_x, and CO cap for the site. These subcaps were established to establish that the Benzene Concentrate Extraction System project was not subject to PSD review.
- (8) The emission caps have been carried forward from the flexible permit and do not include MSS emissions. The only emission caps that are limiting (lower than the sum of the subcaps and individual emission rate limits for that air contaminant) are those for NO_x.
- (9) FCCU contribution to the ammonia cap.
- (10) Short term emission rates are emissions caps and represent the combined emission rates from flare EPNs FL-1, FL-3. FL-4, and FL-8.

Dated: October 23, 2012