

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit No. 3150

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.

AIR CONTAMINANTS DATA

Emission *	Source	Air Contaminant	Emission Rates	
Point No. (1)	Name (2)	Name (3)	lb/hr	
TPY				
AMINE or AMINE-1	Amine Unit Heater 10 MMBtu/hr (5)	VOC	0.06	0.26
		NO _x	1.40	6.12
		SO ₂	0.14	0.62
		PM	0.14	0.60
		CO	0.35	1.53
BOILER 1	Process Steam Boiler 13.6 MMBtu/hr	VOC	0.08	0.34
		NO _x	1.89	8.30
		SO ₂	0.19	0.85
		PM	0.10	0.44
		CO	0.47	2.08
BOILER 2	Process Steam Boiler 13.6 MMBtu/hr	VOC	0.08	0.34
		NO _x	1.89	8.30
		SO ₂	0.19	0.85
		PM	0.10	0.44
		CO	0.47	2.08
BORN1	Gas Heater 24.48 MMBTU/hr	VOC	0.14	0.61
		NO _x	3.43	15.02
		SO ₂	0.35	1.52
		CO	0.86	3.77
		PM	0.18	0.80
C-FLARE	Condenser Flare	VOC	0.69	3.02
		NO _x	0.13	0.56
		SO ₂	0.68	2.98

Permit No. 3150
Page 2

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

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Emission *	Source	Air Contaminant	<u>Emission Rates</u>	
<u>Point No. (1)</u>	<u>Name (2)</u>	<u>Name (3)</u>	<u>lb/hr</u>	
TPY				
		H ₂ S	0.01	0.04
		CO	0.25	1.12

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Emission *	Source	Air Contaminant	Emission Rates	
Point No. (1)	Name (2)	Name (3)	lb/hr	
TPY				
D103301	Emergency Gas Flare	EMERGENCY/UPSET USE ONLY		
D103302	Acid Gas Flare	NO _x	0.68	2.98
		SO ₂	62.97	275.81
		H ₂ S	0.67	2.93
		CO	5.84	25.58
D11101A	Solar Saturn Turbine 1,250 hp	VOC	0.22	0.96
		NO _x	4.30	18.80
		SO ₂	0.19	0.84
		CO	2.51	10.97
D11101B	Solar Saturn Turbine 1,250 hp	VOC	0.22	0.96
		NO _x	4.30	18.80
		SO ₂	0.19	0.84
		CO	2.51	10.97
D40101	Solar Centaur Turbine 4,500 hp	VOC	0.79	3.47
		NO _x	17.64	77.28
		SO ₂	0.59	2.60
		CO	9.02	39.51
D40102	Solar Centaur Turbine 4,500 hp	VOC	0.79	3.47
		NO _x	17.64	77.28
		SO ₂	0.59	2.60
		CO	9.02	39.51
D40103	Solar Centaur Turbine 4,500 hp	VOC	0.79	3.47
		NO _x	17.64	77.28
		SO ₂	0.59	2.60
		CO	9.02	39.51
D40104	Solar Centaur Turbine 4,500 hp	VOC	0.79	3.47
		NO _x	17.64	77.28

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<u>Point No. (1)</u>	<u>Name (2)</u>	<u>Name (3)</u>	<u>lb/hr</u>	
TPY				
		SO ₂	0.59	2.60
		CO	9.02	39.51
D40105	Solar Centaur Turbine 4,500 hp	VOC	0.79	3.47
		NO _x	17.64	77.28
		SO ₂	0.59	2.60
		CO	9.02	39.51
D40106	Solar Centaur Turbine 4,500 hp	VOC	0.79	3.47
		NO _x	17.64	77.28
		SO ₂	0.59	2.60
		CO	9.02	39.51
GLYCOL	Glycol Reboiler 4.6 MMBtu/hr	VOC	0.03	0.12
		NO _x	0.64	2.81
		SO ₂	0.07	0.29
		PM	0.06	0.28
		CO	0.16	0.71
HR1502	Heater 12.24 MMBTU/hr	VOC	0.07	0.31
		NO _x	1.71	7.49
		SO ₂	0.17	0.76
		CO	0.43	1.87
		PM	0.09	0.40
K1A	Cooper Compressor Engine 835 hp	VOC	0.81	3.55
		NO _x	20.23	88.69
		SO ₂	0.10	0.44
		CO	2.60	11.29
K1B	Cooper Compressor Engine 835 hp	VOC	0.81	3.55
		NO _x	20.23	88.69
		SO ₂	0.10	0.44
		CO	2.60	11.29

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Emission *	Source	Air Contaminant	Emission Rates	
Point No. (1)	Name (2)	Name (3)	lb/hr	
TPY				
K1C	Cooper Compressor Engine 835 hp	VOC	0.81	3.55
		NO _x	20.23	88.69
		SO ₂	0.10	0.44
		CO	2.60	11.29
K2A	Cooper Compressor Engine 250 hp	VOC	0.24	1.05
		NO _x	6.06	26.53
		SO ₂	0.03	0.13
		CO	0.77	3.38
K2B	Cooper Compressor Engine 300 hp	VOC	0.29	1.27
		NO _x	7.27	31.84
		SO ₂	0.04	0.18
		CO	0.93	4.05
K3A	Cooper Compressor Engine 800 hp	VOC	0.80	3.50
		NO _x	19.80	86.70
		SO ₂	0.10	0.44
		CO	2.60	11.20
K3B	Cooper Compressor Engine 800 hp	VOC	0.80	3.50
		NO _x	19.80	86.70
		SO ₂	0.10	0.44
		CO	2.60	11.20
K4A	Cooper Compressor Engine 650 hp	VOC	0.63	2.76
		NO _x	15.80	69.04
		SO ₂	0.08	0.35
		CO	2.00	8.79
K4B	Cooper Compressor Engine 650 hp	VOC	0.60	2.76
		NO _x	15.80	69.04
		SO ₂	0.08	0.35

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Emission *	Source	Air Contaminant	<u>Emission Rates</u>	
<u>Point No. (1)</u>	<u>Name (2)</u>	<u>Name (3)</u>	<u>lb/hr</u>	
K5A	Cooper Compressor Engine 800 hp	CO	2.00	8.79
		VOC	0.80	3.50
		NO _x	19.80	86.70
		SO ₂	0.10	0.42
		CO	2.60	11.20

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<u>Emission *</u>	Source	Air Contaminant	<u>Emission Rates</u>	
<u>Point No. (1)</u>	Name (2)	Name (3)	<u>lb/hr</u>	
<u>TPY</u>				
STILL	Auxiliary Heater 12.24 MMBTU/hr	VOC	0.07	0.31
		NO _x	1.71	7.49
		SO ₂	0.17	0.76
		CO	0.43	1.87
		PM	0.09	0.40
WHECO	Gas Heater 35 MMBTU/hr	VOC	0.20	0.89
		NO _x	4.90	21.42
		SO ₂	0.50	2.18
		CO	1.20	5.36
		PM	0.26	1.14
FUG	Fugitives (4)	VOC	2.07	9.05

- (1) Emission point identification - either specific equipment designation or emission point number from plot plan.
- (2) Specific point source name. For fugitive sources use area name or fugitive source name.
- (3) VOC - volatile organic compounds as defined in General Rule 101.1
 NO_x - total oxides of nitrogen
 SO₂ - sulfur dioxide
 H₂S - hydrogen sulfide
 PM - particulate matter
 CO - carbon monoxide
- (4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate.
- (5) Only one amine reboiler unit shall be operated at a time.

* Emission rates are based on and the facilities are limited by the following maximum operating schedule:

_____Hrs/day_____Days/week_____Weeks/year or 8,760
 Hrs/year

Permit No. 3150
Page 8

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

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Emission * _____	Source	Air Contaminant	<u>Emission Rates</u>
Point No. (1)	Name (2)	Name (3)	lb/hr
TPY			

Dated _____