

# Emission Sources - Maximum Allowable Emission Rates

Permit Number 106921

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, sources, and related activities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

## Air Contaminants Data

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
ENG-05	Frac-2 Emergency Generator	VOC	0.89	0.05
		NO <sub>x</sub>	0.89	0.05
		CO	0.77	0.04
		SO <sub>2</sub>	<0.01	<0.01
		PM	0.04	<0.01
		PM <sub>10</sub>	0.04	<0.01
		PM <sub>2.5</sub>	0.04	<0.01
ENG-06	Frac-2 Firewater Pump	VOC	3.80	0.19
		NO <sub>x</sub>	3.80	0.19
		CO	3.30	0.17
		SO <sub>2</sub>	0.01	<0.01
		PM	0.19	0.01
		PM <sub>10</sub>	0.19	0.01
		PM <sub>2.5</sub>	0.19	0.01

## Emission Sources - Maximum Allowable Emission Rates

H-04	Hot Oil Heater 4 (6)	VOC	0.48	-
		NO <sub>x</sub>	1.54	-
		CO	5.76	-
		SO <sub>2</sub>	10.21	-
		H <sub>2</sub> S	0.02	-
		NH <sub>3</sub>	0.71	-
		PM	0.77	-
		PM <sub>10</sub>	0.77	-
		PM <sub>2.5</sub>	0.77	-
	Heater MSS Emissions (6)	NO <sub>x</sub>	7.68	-
		CO	46.10	-
H-05	Hot Oil Heater 5 (6)	VOC	0.48	-
		NO <sub>x</sub>	1.54	-
		CO	5.76	-
		SO <sub>2</sub>	10.21	-
		H <sub>2</sub> S	0.02	-
		NH <sub>3</sub>	0.71	-
		PM	0.77	-
		PM <sub>10</sub>	0.77	-
		PM <sub>2.5</sub>	0.77	-
	Heater MSS Emissions (6)	NO <sub>x</sub>	7.68	-
		CO	46.10	-
H-06	Hot Oil Heater 6 (6)	VOC	0.48	-
		NO <sub>x</sub>	1.54	-
		CO	5.76	-

## Emission Sources - Maximum Allowable Emission Rates

		SO <sub>2</sub>	10.21	-
		H <sub>2</sub> S	0.02	-
		NH <sub>3</sub>	0.71	-
		PM	0.77	-
		PM <sub>10</sub>	0.77	-
		PM <sub>2.5</sub>	0.77	-
	Heater MSS Emissions (6)	NO <sub>x</sub>	7.68	-
		CO	46.10	-
H-04/H-05/H-06	Hot Oil Heater Cap	VOC	-	4.45
		NO <sub>x</sub>	-	18.45
		CO	-	69.12
		SO <sub>2</sub>	-	35.02
		H <sub>2</sub> S	-	0.10
		NH <sub>3</sub>	-	8.49
		PM	-	9.21
		PM <sub>10</sub>	-	9.21
		PM <sub>2.5</sub>	-	9.21
	Heater MSS Emissions (6)	NO <sub>x</sub>	-	0.34
		CO	-	2.02
FI-01	Flare (Frac-2)	VOC	0.01	0.06
		NO <sub>x</sub>	0.35	1.50
		CO	1.40	6.10
		SO <sub>2</sub>	<0.01	0.01
CT-04	Frac-2 Cooling Tower	VOC	2.53	4.71
		PM	1.50	6.57

Emission Sources - Maximum Allowable Emission Rates

		PM <sub>10</sub>	0.60	2.63
		PM <sub>2.5</sub>	0.15	0.66
T-410-2	Spent Caustic Tank (Frac-2)	VOC	0.41	0.01
		H <sub>2</sub> S	<0.01	0.01
T-630-2	Wastewater Tank (Frac-2)	VOC	0.43	<0.01
CAS1	Controlled Emissions from Spent Caustic Tank (EPN T-410-2)	VOC	0.02	<0.01
CAS2	Controlled Emissions from Wastewater Tank (EPN T-630-2)	VOC	0.03	<0.01
LOAD-SC	Spent Caustic Loading (Frac-2)	VOC	0.09	<0.01
LOAD WW	Wastewater Loading (Frac-2)	VOC	0.09	<0.01
FUG-03	Frac-2 Equipment Leak Fugitives (5)	VOC	0.86	3.78
FL-01	MSS Flaring (Frac-2)	VOC	175.01	2.16
		NO <sub>x</sub>	39.41	1.97
		CO	336.40	10.13
		SO <sub>2</sub>	<0.01	<0.01
MSS-FUG-2	MSS Opening (Frac-2)	VOC	86.70	3.25
		NH <sub>3</sub>	0.24	<0.001

- (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 Title 30 Texas Administrative Code § 101.1
- H<sub>2</sub>S - Hydrogen Sulfide
- NO<sub>x</sub> - total oxides of nitrogen
- SO<sub>2</sub> - sulfur dioxide
- PM - total particulate matter, suspended in the atmosphere, including PM<sub>10</sub> and PM<sub>2.5</sub>, as represented
- PM<sub>10</sub> - total particulate matter equal to or less than 10 microns in diameter, including PM<sub>2.5</sub>, as represented

Emission Sources - Maximum Allowable Emission Rates

- PM<sub>2.5</sub> - particulate matter equal to or less than 2.5 microns in diameter
- CO - carbon monoxide
- NH<sub>3</sub> - ammonia

- (4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.
- (5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
- (6) Annual Emissions represent combined annual emissions from heaters H-04, H-05, and H-06.

Date: July 25, 2013