EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit No. 8647

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.

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates * lb/hr	TPY
	AIR CONTAMINANTS DATA			
SPECIAL METALS PLANT				
5	SMP Scrubber	SO_2	2.50	10.95
		H_2SO_4	0.39	1.71
		Se	0.08	0.35
29	Autoclave East (7)	H_2SO_4	<1.0	<1.0
	Combining Tank	SO_2	<1.0	<1.0
56	Roaster Repulp Tank (7)	H_2SO_4	<1.0	<1.0
		SO_2	<1.0	<1.0
57	Roaster Feed Tank (7)	H_2SO_4	<1.0	<1.0
		SO_2	<1.0	<1.0
SMPFUG	Sulfuric Acid Transfers (4 and 7) <2.0 (Indoors and Outdoors)	H_2SO_4		<0.46
ANODE CASTING				
7-1	West Anode Casting (5)	CO	69.4	120.2
	Baghouse	NO_X	3.8	6.6
		SO_2	15.7	15.3
		PM_{10}	3.8	9.9
		Pb	<0.01	<0.10
		Cu	<0.01	<0.10
		VOC	0.44	0.8

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates * lb/hr	TPY
7-2	Middle Anode Casting (5) 120.2		CO	69.4
	Baghouse	NO_X	3.8	6.6
		SO_2	15.7	15.3
		PM_{10}	3.8	9.9
		Pb	<0.01	<0.10
		Cu	<0.01	<0.10
		VOC	0.44	0.8
7-3	East Anode Casting (5)	CO	69.4	120.2
	Baghouse	NO_X	3.8	6.6
		SO_2	15.7	15.3
		PM_{10}	3.8	9.9
		Pb	<0.01	<0.10
		Cu	<0.01	<0.10
		VOC	0.44	0.8
7-1	West Anode Casting (6)	CO	71.3	120.32
	Baghouse	NO_X	11.5	7.06
		SO_2	15.73	15.31
		PM_{10}	4.55	9.95
		Pb	<0.01	<0.10
		Cu	<0.01	<0.10
		VOC	0.59	0.81
7-2	Middle Anode Casting (6) 120.32		CO	71.3
	Baghouse	NO_X	11.5	7.06
		SO_2	15.73	15.31
		PM_{10}	4.55	9.95
		Pb	<0.01	<0.10

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates * lb/hr	TPY
		Cu	<0.01	<0.10
		VOC	0.59	0.81
7-3	East Anode Casting (6) Baghouse	CO	71.3	120.32
		NO_X	11.5	7.06
		SO_2	15.73	15.31
		PM_{10}	4.55	9.95
		Pb	<0.01	<0.10
		Cu	<0.01	<0.10
		VOC	0.59	0.81
CASTINGFUG	Anode Casting Building (7)	CO	0.05	0.13
		NO_X	0.06	0.16
		PM_{10}	0.4	1.0
		SO_2	<0.01	<0.01
		VOC	<0.05	<0.21
54	Anode Casting Wheel (7) Cooling Vent	PM_{10}	1.0	2.6
55	Anode Mold Station (7) Blower Vent	PM_{10}	1.0	2.60
COPPER SULFATE PLANT				
9	CSP Large Rotary Dryer/ Fluid Bed Dryer Cartridge Filter	PM_{10}	1.31	3.20
		CO	0.11	0.47
		NO_X	0.13	0.57
		SO_2	<0.01	<0.01

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates * lb/hr	TPY
		VOC	<0.01	0.03
10	CSP Instant Mill Baghouse	PM_{10}		0.64
	1.32			
25	CSP Main Building. Baghouse	PM_{10}		1.91
	3.97			
26	CSP Struthers Wells Baghouse	PM_{10}		0.33
	0.68			
27	CSP Conveyor Belt Cartridge	PM_{10}		0.52
	1.08			
	Filter			
28	CSP Bagging Machine	PM_{10}	0.52	1.08
	Cartridge Filter			
CSPBLDGFUG	Copper Sulfate Building (4 and 7)	PM_{10}		4.5
	19.7			
		VOC	25.0	1.96
PRECIOUS METALS PLANT				
18	PM Silver Reactors (7)	NO_X	<6.0	<10.0
19	PM Gold Furnace Stack (7)	PM_{10}		0.5
	<0.1			
20	PM Silver Casting	CO	0.09	0.05
	Furnace Stack	NO_X	0.09	0.05
		SO_2	<0.01	<0.01
		VOC	<0.01	<0.01

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates * lb/hr	TPY
		PM_{10}	0.32	0.17
		Ag	0.32	0.17
21	Precious Metals Chlorine Scrubber	Cl_2	0.12	0.98
		NO_X	3.35	6.97
PMPBLDGFUG	PMP Building (4 and 7)	Cl_2	0.21	0.44
		CO	0.80	0.74
		NO_X	4.75	8.68
		PM_{10}	0.60	<0.16
		SO_2	0.10	<0.02
		VOC	0.82	1.54
TANKHOUSE				
TKHFUG	Tankhouse (4 and 7)	CO	0.02	0.07
		NO_X	0.02	0.09
		H_2SO_4	1.58	6.90
		SO_2	<0.01	<0.01
		VOC	0.34	1.57
		PM_{10}	<0.01	<0.01
30	Anode Prep Oven	CO	0.08	0.37
		NO_X	0.10	0.44
		PM_{10}	<0.01	0.03
		SO_2	<0.01	<0.01
		VOC	<0.01	0.02
NICKEL SULFATE PLANT				
NSPFUG1	Outdoor Fugitives (7)	PM_{10}	0.69	3.00

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates * lb/hr	TPY
		AsH_3	0.037	0.15
NSPFUG2	Building Fugitives (7)	PM_{10}	<0.23	<1.0
24	Standby Boiler No. 5 (8)	CO	5.12	22.4
		NO_X	8.54	3.74
		PM_{10}	0.46	0.20
		SO_2	0.04	0.02
		VOC	0.34	0.15
22	Standby Boiler No. 11 (7) 1.18	CO		2.69
		NO_X	3.2	1.4
		PM_{10}	0.24	0.11
		SO_2	0.02	<0.01
		VOC	0.18	0.08
49	Tankhouse Pumps (7) Emergency Generator	CO	1.79	0.78
		NO_X	8.31	3.64
		PM_{10}	0.59	0.26
		SO_2	0.55	0.24
		VOC	0.66	0.29
50	Water Treating (7) Emergency Generator	CO	1.12	0.49
		NO_X	5.19	2.27
		PM_{10}	0.37	0.16
		SO_2	0.34	0.15
		VOC	0.41	0.18
51	WHB No. 1 (7) Emergency Generator	CO	0.45	0.20
		NO_X	2.08	0.91
		PM_{10}	0.15	0.06
		SO_2	0.14	0.06
		VOC	0.17	0.07

52	Firewater Pump (7)	CO	0.87	0.38
		NO_X	4.03	1.77
		PM_{10}	0.29	0.13
		SO_2	0.27	0.12
		VOC	0.32	0.14
53	Precious Metals (7) Emergency Generator	CO	0.67	0.29
		NO_X	3.11	1.36
		PM_{10}	0.22	0.10
		SO_2	0.21	0.09
		VOC	0.25	0.11

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates * lb/hr	TPY
58	Refinery Emergency Generator 1.57	CO	3.58	
		NO_X	16.62	7.28
		PM_{10}	1.18	0.52

		SO_2	1.10	0.48
		VOC	1.32	0.58
MISCELLANEOUS FACILITIES/PROCESSES				
48	Maintenance Contractor (7) 13.0 Paint Booth		VOC	6.0
PAINTFUG	Outdoor Painting (4 and 7) 10.0		VOC	6.0
REVERTSFUG	Reverts Storage Building (4 and 7)	PM_{10}	0.02	0.09
LIMEFUG	Limestone Stockpile (7)	PM_{10}	0.46	2.01
DTKFUG	Diesel Storage Tanks (4 and 7) <6.0		VOC	<1.2
GT01FUG	Gasoline Tank 01 (4 and 7) <0.5		VOC	<0.1
UOTKFUG	Used Oil Tanks (4 and 7)	VOC	<0.04	<0.2
HOTKFUG	Hydraulic Oil Tanks (4 and 7) <0.8		VOC	0.16

(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.

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

(3) SO_2 - sulfur dioxide

H_2SO_4 - sulfuric acid
Se - selenium
CO - carbon monoxide
NO_X - total oxides of nitrogen
PM - particulate matter, suspended in the atmosphere, including PM_{10}.
PM_{10} - particulate matter equal to or less than 10 microns in diameter. Where PM is not listed, it shall be assumed that no particulate matter greater than 10 microns is emitted.
Pb - lead
Cu - copper
VOC - volatile organic compounds as defined in 30 Texas Administrative Code Section 101.1.
Ag - silver
Cl_2 - chlorine
AsH3 - arsine

(4) Fugitive emissions are an estimate only.
(5) When Waste Heat Boiler No. 1 is not operating.
(6) When Waste Heat Boiler No. 1 is operating. Waste Heat Boiler No. 1 is limited to 120 hours per year of operation, but exhausts through the anode casting baghouse stacks, Emission Point Nos. 7-1, 7-2, and 7-3.
(7) Emissions are from permitted sources that were previously exempted.
(8) Boiler No. 5 placed on standby to obtain an emission decrease of 37.41 tons per year NO_X for expansion of the cogeneration facility under Permit No. 20535.

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

Operating Hours:

24 Hrs/day 7 Days/week 52 Weeks/year or 8,760 Hrs/year

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

However the maximum allowable annual hours of operation for the Tankhouse Pump Emergency Generator, the Water Treatment Emergency Generator, the WHB No. 1 Emergency Generator, the Firewater Pump, the PM Emergency Generator, the Refinery Emergency Generator, and Standby Boiler No. 5 is 876 hours each and Waste Heat Boiler No. 1 is limited to 120 hours per year. The anode casting furnaces shall be limited to a total of 5,200 hours per year.

Throughput/Production:

Special Metals Plant:

Maximum weekly production per roaster: 35 ton of calcine
Maximum annual total facility production: 7,300 tons of calcine

Dated_____