Permit Number 8166

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	Source	Air Contaminant	<u>Emissi</u>	on Rates_
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY
Raw Material Ha	andling			
R10/GDCX01	R-10 Gantry Drop to Conveyor- Bauxite/Spar and Uncovered Conveyor Belt (R-10 Dock Area) (4)	PM PM ₁₀	1.48 0.70	3.28 1.55
R10/ATBS11	R-10 A Tower Bauxite/Spar (4)	PM PM ₁₀	0.10 0.05	0.05 0.02
R10/BOSX10	Bauxite Conveyor Nos. 1 and 9 (4)	PM PM ₁₀	29.57 4.44	16.10 2.41
R10/BHXX11	R-10 Bauxite Handling (4)	PM PM ₁₀	0.05 0.03	<0.01 <0.01
R10/BHNX11	R-10 Bauxite Hopper- North (4)	PM PM ₁₀	0.03 0.01	0.03 0.02
R10/BHSX11	R-10 Bauxite Hopper- South (4)	PM PM ₁₀	0.03 0.01	0.03 0.02
R10/DSTX01	R-10 Diesel Storage Tank Vent	VOC	0.50	0.12
R10/UOTX01	R-10 Used Oil Storage Tank Vent	VOC	1.00	1.00
R10/SADX00	R-10 Sulfuric Acid	H ₂ SO ₄	1.00	1.00

Emission	Source	Air Contaminant	<u>Emissio</u>	n Rates_
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY
R10/B33A10	Unloading Dock (4) R-10 Bauxite Transfer No. 3 Conveyor to No. 3A Belt (4)	PM PM ₁₀	0.23 0.11	0.24 0.11
R10/B33B10	R-10 Bauxite Transfer No. 3 Conveyor to No. 3B Belt (4)	PM PM ₁₀	0.23 0.11	0.24 0.11
R10/B39A10	R-10 Bauxite Transfer No. 3 Conveyor to No. 9A Belt (4)	PM PM ₁₀	0.23 0.11	0.24 0.11
R10/B31610	R-10 Bauxite Transfer No. 3 Conveyor to No. 16 Belt (4)	PM PM ₁₀	0.23 0.11	0.24 0.11
R10/B31510	R-10 Bauxite Transfer No. 3 Conveyor to No. 15 Belt (4)	PM PM ₁₀	0.23 0.11	0.24 0.11
R10/BDS111	R-10 Bauxite Drop To Outside Storage No. 1 (4)	PM PM ₁₀	0.23 0.11	0.22 0.11
R10/BDS211	R-10 Bauxite Drop To Outside Storage No. 2 (4)	PM PM ₁₀	0.23 0.11	0.22 0.11
R10/BDS311	R-10 Bauxite Drop To Outside Storage No. 3 (4)	PM PM ₁₀	0.23 0.11	0.22 0.11
R10/SDOS00	R-10 Spar Drop to Outside Storage (4)	PM/PM ₁₀	0.01	0.01

Emission	Source	Air Contaminant	<u>Emissio</u>	n Rates_
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY
R10/ST3D00	R-10 Spar Transfer No. 3 Conveyor to Drop (4)	PM/PM ₁₀	0.01	0.01
R15/BDXX11	R-15 Bauxite Drop- Inside Building(4)	PM PM ₁₀	0.23 0.11	0.22 0.11
R15/DSTX01	R-15 Diesel Storage Tank Vent	VOC	0.50	0.12
R16/BDXX11	R-16 Bauxite Drop- Inside Building(4)	PM PM ₁₀	0.23 0.11	0.22 0.11
R21/BTTX11	R-21 Transfer Tower- Bauxite (4)	PM PM ₁₀	0.40 0.19	0.38 0.18
R80/SPAR01-1	R80 Spar Stockpile Transfer - from R10 to outside (4)	PM PM ₁₀	4.00 1.60	
R80/SPAR01-2	R80 Spar Stockpile Transfer - from outside to inside storage (4)	PM PM ₁₀	1.70 0.68	
R80/SPAR01	R80 Spar Stockpile Transfer (4)	PM PM ₁₀		0.87 0.35
Digestion	Area			
R25/PCL101	R-25 Pre Coat Lime Slaker No. 1 Vent	PM/PM ₁₀	0.20	0.80
R25/PLS201	R-25 Process Lime Slaker No. 2 (spare) Vent	PM/PM ₁₀	0.20	0.80

Emission	Source	Air Contaminant	Emission Rates	
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY
R25/PLSX01	R-25 New Product Lime Slaker Vent	PM/PM ₁₀	0.20	0.80

Emission	Source	Air Contaminant	<u>Emissio</u>	on Rates
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY
R25/BFCX11	R-25 Building Bauxite Conveyor (R-25 Building) (4)	PM PM ₁₀	0.80 0.38	<0.01 <0.01
R25/RM0102	R-25 Rod Mill Feed No.	Hg	0.0001	0.0004
	1 Vent	VOC	0.14	0.44
R25/RM0202	R-25 Rod Mill Feed No.	Hg	0.0001	0.0004
	2 Vent	VOC	0.14	0.44
R25/RM0302	R-25 Rod Mill Feed No.	Hg	0.0001	0.0004
	3 Vent	VOC	0.14	0.44
R25/RM0402	R-25 Rod Mill Feed No.	Hg	0.0001	0.0004
	4 Vent	VOC	0.14	0.44
R25/RM0502	R-25 Rod Mill Feed No.	Hg	0.0001	0.0004
	5 Vent	VOC	0.14	0.44
R25/RM0602	R-25 Rod Mill Feed No.	Hg	0.0001	0.0004
	6 Vent	VOC	0.14	0.44
R25/RM0702	R-25 Rod Mill Feed No.	Hg	0.0001	0.0004
	7 Vent	VOC	0.14	0.44
R25/RM0802	R-25 Rod Mill Feed No.	Hg	0.0001	0.0004
	8 Vent	VOC	0.14	0.44
R25/RM0101	R-25 Rod Mill No. 1	VOC	0.14	0.44
	Vent	Hg	0.005	0.02
R25/RM0201	R-25 Rod Mill No. 2	VOC	0.14	0.44
	Vent	Hg	0.005	0.02
R25/RM0301	R-25 Rod Mill No. 3	VOC	0.14	0.44
	Vent	Hg	0.005	0.02

Emission	Source	Air Contaminant	<u>Emissi</u>	on Rates
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY
R25/RM0401	R-25 Rod Mill No. 4	VOC	0.14	0.44
	Vent	Hg	0.005	0.02
R25/RM0501	R-25 Rod Mill No. 5	VOC	0.14	0.44
	Vent	Hg	0.005	0.02
R25/RM0601	R-25 Rod Mill No. 6	VOC	0.14	0.44
	Vent	Hg	0.005	0.02
R25/RM0701	R-25 Rod Mill No. 7	VOC	0.14	0.44
	Vent	Hg	0.005	0.02
R25/RM0801	R-25 Rod Mill No. 8	VOC	0.14	0.44
	Vent	Hg	0.005	0.02
R25/BM0101	Ball Mill 1 Entry	VOC Hg	0.14 0.0001	0.61 4.9E-4
R25/BM0102	Ball Mill 1 Exit	VOC Hg	0.14 0.0001	0.61 4.9E-4
R25/BM0201	Ball Mill 2 Entry	VOC Hg	0.14 0.0001	0.61 4.9E-4
R25/BM0202	Ball Mill 2 Exit	VOC Hg	0.14 0.0001	0.61 4.9E-4
R25/BM0301	Ball Mill 3 Entry	VOC Hg	0.14 0.0001	0.61 4.9E-4
R25/BM0302	Ball Mill 3 Exit	VOC Hg	0.14 0.0001	0.61 4.9E-4

Emission	Source	Air Contaminant	<u>Emissio</u>	on Rates
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY
R25A/S0101	R-25A Wash-down	Hg	0.0013	
	Slurry Tanks No. 1 Vent	VOC	0.50	
R25A/S0201	R-25A Wash-down	Hg	0.0013	
	Slurry Tanks No. 2 Vent	VOC	0.50	
	Total R-25A No.1 and 2	Hg		4.9E-3
	Vents	VOC		1.90
R25A/S0301	R-25A Slurry Tanks No.	Hg	0.0013	
	3 Vent	VOC	0.50	
R25A/S0401	R-25A Slurry Tanks No.	Hg	0.0013	
	4 Vent	VOC	0.50	
R25A/S0501	R-25A Slurry Tanks No.	Hg	0.0013	
	5 Vent	VOC	0.50	
R25A/S0601	R-25A Slurry Tanks No.	Hg	0.0013	
	6 Vent	VOC	0.50	
R25A/S0701	R-25A Slurry Tanks No.	Hg	0.0013	
	7 Vent	VOC	0.50	
R25A/S0801	R-25A Slurry Tanks No.	Hg	0.0013	
	8 Vent	VOC	0.50	
	Total R-25A Nos. 3 thru	Hg		0.03
	8 Vents	VOC		9.49
R30/DVXX01	R-30 Digestion Vacuum	Hg	0.013	0.057
	Vent	VOC	5.95	22.62
R30/L11X01	R-30 Low Temperature	Hg	0.0006	2.0E-3
	1 Blow-Off No. 1 Stack	PM/PM₁₀/NaOH	0.05	0.17
	A	VOC	0.04	0.11

Emission	Source	Air Contaminant	<u>Emissio</u>	on Rates
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY
R30/L11X02	R-30 Low Temperature	Hg	0.0006	2.0E-3
	1 Blow Off No. 1 Stack	PM/PM ₁₀ /NaOH	0.05	0.17
	B	VOC	0.04	0.11
R30/L12X01	R-30 Low Temperature	Hg	0.0006	2.0E-3
	1 Blow Off No. 2 Stack	PM/PM₁₀/NaOH	0.05	0.17
	A	VOC	0.04	0.11
R30/L12X02	R-30 Low Temperature	Hg	0.0006	2.0E-3
	1 Blow Off No. 2 Stack	PM/PM₁₀/NaOH	0.05	0.17
	B	VOC	0.04	0.11
R30/L23X01	R-30 Low Temperature	Hg	0.0006	2.0E-3
	2 Blow Off No. 3 Stack	PM/PM ₁₀ /NaOH	0.05	0.17
	A	VOC	0.04	0.11
R30/L23X02	R-30 Low Temperature	Hg	0.0006	2.0E-3
	2 Blow Off No. 3 Stack	PM/PM₁₀/NaOH	0.05	0.17
	B	VOC	0.04	0.11
R30/L24X01	R-30 Low Temperature	Hg	0.0006	2.0E-3
	2 Blow Off No. 4 Stack	PM/PM₁₀/NaOH	0.05	0.17
	A	VOC	0.04	0.11
R30/L24X02	R-30 Low Temperature	Hg	0.0006	2.0E-3
	2 Blow Off No. 4 Stack	PM/PM₁₀/NaOH	0.05	0.17
	B	VOC	0.04	0.11
R30/L35X01	R-30 Low Temperature	Hg	0.0006	2.0E-3
	3 Blow Off No. 5 Stack	PM/PM₁₀/NaOH	0.05	0.17
	A	VOC	0.04	0.11

Emission	Source	Air Contaminant	<u>Emissio</u>	on Rates
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY
R30/L35X02	R-30 Low Temperature	Hg	0.0006	2.0E-3
	3 Blow Off No. 5 Stack	PM/PM10/NaOH	0.05	0.17
	B	VOC	0.04	0.11
R30/L36X01	R-30 Low Temperature	Hg	0.0006	2.0E-3
	3 Blow Off No. 6 Stack	PM/PM ₁₀ /NaOH	0.05	0.17
	A	VOC	0.04	0.11
R30/L36X02	R-30 Low Temperature	Hg	0.0006	2.0E-3
	3 Blow Off No. 6 Stack	PM/PM10/NaOH	0.05	0.17
	B	VOC	0.04	0.11
R30/L47X01	R-30 Low Temperature	Hg	0.0006	2.0E-3
	4 Blow Off No. 7 Stack	PM/PM ₁₀ /NaOH	0.05	0.17
	A	VOC	0.04	0.11
R30/L47X02	R-30 Low Temperature	Hg	0.0006	2.0E-3
	4 Blow Off No. 7 Stack	PM/PM ₁₀ /NaOH	0.05	0.17
	B	VOC	0.04	0.11
R30/L48X01	R-30 Low Temperature	Hg	0.0006	2.0E-3
	4 Blow Off No. 8 Stack	PM/PM ₁₀ /NaOH	0.05	0.17
	A	VOC	0.04	0.11
R30/L48X02	R-30 Low Temperature	Hg	0.0006	2.0E-3
	4 Blow Off No. 8 Stack	PM/PM₁₀/NaOH	0.05	0.17
	B	VOC	0.04	0.11
R31/RTXX01	R-31 Relief Tank (Unit 6) (4)	VOC	0.80	3.50
R33/RTXX01	R-33 Relief Tank (Unit 5) (4)	VOC	0.80	3.50
R40/HI0101	R-40 Heat Interchange	Hg	0.0005	1.0E-3
	Vacuum No. 1 Vent	VOC	0.05	0.15

Emission	Source	Air Contaminant	<u>Emissio</u>	on Rates
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY
R40/HI0201	R-40 Heat Interchange	Hg	0.0005	1.0E-3
	Vacuum No. 2 Vent	VOC	0.05	0.15
R40/HI0301	R-40 Heat Interchange	Hg	0.0005	1.0E-3
	Vacuum No. 3 Vent	VOC	0.05	0.15
R40/HI0401	R-40 Heat Interchange	Hg	0.0005	1.0E-3
	Vacuum No. 4 Vent	VOC	0.05	0.15
R40/HI0501	R-40 Heat Interchange	Hg	0.0005	1.0E-3
	Vacuum No. 5 Vent	VOC	0.05	0.15
R40/HI0601	R-40 Heat Interchange	Hg	0.0005	1.0E-3
	Vacuum No. 6 Vent	VOC	0.05	0.15
R42/HI7A01	R-42 Heat Interchange	Hg	0.0031	1.2E-2
	Vacuum No. 7 A Vent	VOC	0.32	1.2
R42/01EV01	R-42 No. 1 Evaporation	Hg	0.0006	2.0E-3
	Vacuum Vent	VOC	0.02	0.05
R42/02EV01	R-42 No. 2 Evaporation	Hg	0.0006	2.0E-3
	Vacuum Vent	VOC	0.02	0.05
R42/03EV01	R-42 No. 3 Evaporation	Hg	0.0006	2.0E-3
	Vacuum Vent	VOC	0.02	0.05
R42/04EV01	R-42 No. 4 Evaporation	Hg	0.0006	2.0E-3
	Vacuum Vent	VOC	0.02	0.05
R42/06EV01	R-42 No. 6 Evaporation	Hg	0.0006	2.0E-3
	Vacuum Vent	VOC	0.02	0.05
R111/UOT01	R-111 Used Oil Storage Tank Vent	VOC	1.00	1.00

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	<u>Emissio</u> lb/hr	on Rates TPY		
R60/LCDX11	R-60 Lime Conveyor Discharge Bag Collector Stack	PM/PM ₁₀	0.74	3.23		
R60/LTXX11	R-60 Lime Transfer/Storage Bag Collector Stack	PM/PM ₁₀	2.47	10.80		
Clarification Area						
R35J1/CN01	R-35J1 Causticizer Vent - North	PM/PM ₁₀ /NaOH	0.27	1.20		
R35J1/CS01	R-35J1 Causticizer Vent - South	PM/PM ₁₀ /NaOH	0.27	1.20		
R35/LTTX01	R-35 Low Temp Thickeners Vent	Hg VOC	0.0019 1.18	0.0082 4.48		
R35V/FCX01	R-35V Flocculent Tank - North No. 1 Vent	VOC	3.59	0.37		
R35V/FEA01	R-35V Flocculent Tank - North No. 2 Vent	VOC	3.59	0.37		
R35V/FWB01	R-35V Flocculent Tank - South No. 1 Vent	VOC	3.59	0.37		
R35/HTTX01	R-35 High Temp Thickeners Vent	Hg VOC	0.0004 0.16	1.0E-3 0.62		
R35/HCIX11	R-35 HCl Acid Storage Tank Wet Scrubber	HCI	0.12	0.54		
R35M/D0100	R-35M Dredge Lake No. 1 (4)	PM PM ₁₀	0.40 0.30	0.18 0.15		

Emission	Source	Air Contaminant	<u>Emissio</u>	on Rates
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY
R35M/D0200	R-35M Dredge Lake	PM	0.40	0.18
	No. 2 (4)	PM ₁₀	0.30	0.15
R35M/L0400	R-35M Lake No. 4 (4)	PM PM ₁₀	11.80 10.00	5.20 4.49
R35M/LF300	R-35M Landfill Site III	PM	0.40	0.18
	(4)	PM ₁₀	0.30	0.15
R35M/RLX00	R-35M Recycle Lake	PM	0.40	0.18
	(4)	PM ₁₀	0.30	0.15
R35V/DFV11	R-35V Flocculent Vessel No. 1 Bag Collector Stack	PM/PM ₁₀	0.14	0.61
R35V/DFV21	R-35V Flocculent Vessel No. 2 Bag Collector Stack	PM/PM ₁₀	0.14	0.61
R35/STXX00	R-35 Secondary	VOC	2.00	5.00
	Thickeners Vent	Hg	0.001	4.0E-3
R35/WTAX00	R-35 Washer Train A	VOC	2.00	5.00
	Vents	Hg	0.0001	0.0004
R35/WTBX00	R-35 Washer Train B	VOC	2.00	5.00
	Vents	Hg	0.0001	0.0004
R35M/CLX00	R-35M Clear Lake (4)	PM PM ₁₀	0.40 0.30	0.18 0.15
R35M/L1X00	R-35M Lake No. 1 (4)	PM PM ₁₀	0.40 0.30	0.18 0.15
R35M/L2X00	R-35M Lake No. 2 (4)	РМ	11.8 10.0	5.20

Emission	Source	Air Contaminant	Emission Rates	
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY
		PM_{10}		4.40
R35M/L3X00	R-35M Lake No. 3 (4)	PM	0.40	0.18
		PM_{10}	0.30	0.15
R35M/RWX00	R-35M Raw Water	PM	0.40	0.18
	Lake (4)	PM ₁₀	0.30	0.15
R35M/SLX00	R-35M Storm Lake (4)	PM	5.70	2.50
		PM ₁₀	5.00	1.10
R35/PSBX00	R-35 Painting and Sand	PM	3.44	2.27
	Blasting (4)	PM_{10}	1.66	1.10
		$PM_{2.5}$	0.012	0.06
		VOC	1.50	5.91
R35V/FS201	R-35V Flocculent Tank South No. 2 Vent	VOC	3.59	0.37
R38M/SBX11	R-38M Sand Blasting Bag Collector Stack	PM/PM ₁₀	1.00	1.00
R38M/UOT01	R-38M Used Oil Storage Tank Vent	VOC	1.00	1.00
R42/HECV01	R42-High Efficiency	PM/PM ₁₀	0.09	0.40
	Causticization Relief	VOC	0.07	0.31
	Vessel Vent	Hg	0.0011	5.0E-3
R42/HECP01	R42-High Efficiency	VOC	0.02	0.09
	Causticization Vacuum Pump Vent	Hg	0.0006	3.0E-3
R115/STP01	R-115 Sanitary Treatment Plant (4)	CI	1.00	0.10

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	<u>Emissic</u> lb/hr	on Rates TPY
Precipitation A	rea	· · ·		
R45A/C0101	R-45A Barometric Condenser Vent No. 1	Hg VOC	<0.0001 0.01	3.0E-4 0.013
R45A/C0201	R-45A Barometric Condenser Vent No. 2	Hg VOC	<0.0001 0.01	3.0E-4 0.013
R45A/C0301	R-45A Barometric Condenser Vent No. 3	Hg VOC	<0.0001 0.01	3.0E-4 0.013
R45A/C0401	R-45A Barometric Condenser Vent No. 4	Hg VOC	<0.0001 0.01	3.0E-4 0.013
R45/PAVX00	R-45 Precipitation Area Vessels (4)	PM/PM ₁₀ /PM _{2.5} /NaOH Hg VOC	11.61 0.0027 0.95	50.87 0.01 3.59
R45/DSTX01	R-45 Diesel Storage Tank Vent	VOC	0.50	0.12
R45/EXXX00	R-45 Ethanol Containers (4)	VOC	0.50	0.10
R45/OSVX11	R-45 Oxalate System Vessel Bag Collector Stack	PM/PM ₁₀	0.05	0.22
R45/GSTX01	R-45 Gasoline Storage Tank Vent	VOC	1.00	1.00
Power House A	Area			
R110/CVA01	R-110 Condensate Vessel A Vent	Hg VOC	<0.0001 <0.01	<0.001 <0.01

Emission	Source	Air Contaminant	Emission Rates		
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY	
R110/CVD01	R-110 Condensate Vessel D Vent	Hg VOC	<0.0001 <0.01	<0.001 <0.01	
R110/40X01	R-110 40 lbs Deaerator Vent A	Hg VOC	0.0032 2.00	0.01 7.59	
R110/40X02	R-110 40 lbs Deaerator Vent B	Hg VOC	0.0032 2.00	0.01 7.59	
R110/40X03	R-110 40 lbs Deaerator Vent C	Hg VOC	0.0032 2.00	0.01 7.59	
R110/HP101	R-110 High Pressure Boiler No. 1 Stack	VOC PM/PM_{10} NO_x CO SO_2	0.44 4.43 65.86 37.54 2.32	 	
R110/HP201	R-110 High Pressure Boiler No. 2 Stack	VOC PM/PM_{10} NO_x CO SO_2	0.35 3.54 38.77 27.57 1.86	 	
R110/HP301	R-110 High Pressure Boiler No. 3 Stack	VOC PM/PM $_{10}$ NO $_{x}$ CO SO $_{2}$	0.35 3.54 34.40 15.02 1.86	 	
R110/HP411	R-110 High Pressure Boiler No. 4 Stack	VOC PM/PM_{10} NO_x CO SO_2	0.35 3.54 38.77 27.57 1.86	 	

Emission	Source	Air Contaminant	Emission Rates	
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY
R110/HP501	R-110 High Pressure Boiler No. 5 Stack	VOC PM/PM_{10} NO_x CO SO_2	0.44 4.43 51.87 38.22 2.32	
R110/HP611	R-110 High Pressure Boiler No. 6 Stack	VOC PM/PM_{10} NO_x CO SO_2	0.50 4.95 22.87 14.10 2.59	
R110/LP101	R-110 Low Pressure Boiler No. 1 Stack	VOC PM/PM_{10} NO_x CO SO_2	0.25 2.84 20.29 22.22 1.31	
R110/LP201	R-110 Low Pressure Boiler No. 2 Stack	VOC PM/PM_{10} NO_x CO SO_2	0.25 2.84 26.47 76.70 1.31	
	Total of all boilers High Pressure Boilers Nos. 1 through 6 and Low Pressure Boilers Nos. 1 through 2	VOC PM/PM_{10} NO_x CO SO_2	 	10.27 99.83 942.19 737.88 50.21
R110/05D01	R-110 5-lb Deaerator Vent	VOC Hg	0.0002 0.0005	1.0E-3 2.0E-3

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	<u>Emissi</u> lb/hr	on Rates TPY
R110/95D01	R-110 95-lb Deaerator Vent	VOC Hg	0.07 0.0003	0.29 0.002
R110/CTX01	R-110 Cooling Tower (4)	PM/PM ₁₀	0.10	0.50
Calcination Are	ea			
R55-1/FC11	R-55-1 Flash Calciner Smelter Grade Alumina (SGA) Electrostatic Precipitator (ESP) Stack	VOC PM/PM_{10} NO_x CO SO_2 Hg	14.75 33.94 12.60 151.20 1.43 0.0091	
R55-1/FC11	R-55-1 Flash Calciner Hard Burn Alumina (HBA) ESP Stack	VOC PM/PM_{10} NO_x CO SO_2 Hg	3.69 33.94 55.38 36.00 1.57 0.0091	
R55-2/FC11	R-55-2 Flash Calciner SGA ESP Stack	VOC PM/PM_{10} NO_x CO SO_2 Hg	14.75 18.86 13.50 162.00 1.57 0.0091	

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	<u>Emissi</u> lb/hr	on Rates TPY
R55-2/FC11	R-55-2 Flash Calciner HBA ESP Stack	VOC PM/PM $_{10}$ NO $_{x}$ CO SO $_{2}$ Hg	3.69 33.94 55.38 36.00 1.57 0.0091	
R55-3/FC11	R-55-3 Flash Calciner (SGA) ESP Stack	VOC PM/PM_{10} NO_x CO SO_2 Hg	14.75 18.86 13.50 162.00 1.57 0.0091	
R55-3/FC11	R-55-3 Flash Calciner HBA ESP Stack	VOC PM/PM_{10} NO_x CO SO_2 Hg	3.69 33.94 55.38 36.00 1.57 0.0091	
R56-4/FC11	R-56-4 Flash Calciner SGA ESP Stack	$\begin{array}{c} \text{VOC} \\ \text{PM/PM}_{10} \\ \text{NO}_{x} \\ \text{CO} \\ \text{SO}_{2} \\ \text{Hg} \end{array}$	29.40 8.04 31.60 78.12 2.95 0.018	
	Total of calcination department EPNs: R55-1/FC11, R55-2/FC11, R55- 3/FC11, and R56- 4/FC11	VOC PM/PM_{10} NO_x CO SO_2 Hg	 	175.79 250.79 266.39 1469.07 31.17 0.19

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	<u>Emiss</u> lb/hr	ion Rates TPY
R55-2/DB11	R-55-2 Flash Calciner Disengaging Box Bag Collector Stack	PM PM ₁₀	0.08 0.04	0.30 0.15
R55-3/DB11	R-55-3 Flash Calciner Disengaging Box Bag Collector Stack	PM PM ₁₀	0.08 0.04	0.30 0.15
R55/01DB12	R-55-(1-2-3) Disengaging Box-Spare Bag Collector Stack	PM/PM ₁₀	3.00	13.14
R55/ESP211	R-55 ESP Dust Redigest Tank No. 2 Wet Scrubber	PM PM ₁₀	0.06 0.03	0.24 0.12
R56/ESP11	R-56 ESP Dust Redigest Tank No. 1 Wet Scrubber	PM PM ₁₀	0.04 0.02	0.17 0.08
R55/HF1401	R-55 Horizontal Filter Nos. 1, 2, 3, and 4 Vent	VOC Hg	6.48 0.004	6.40 1.6E-2
R55-1/DB11	R-55-1 Flash Calciner Disengaging Box Bag Collector Stack	PM PM ₁₀	0.08 0.04	0.30 0.15
R56/ESP211	R-56 ESP Dust Redigest Tank No. 2 Wet Scrubber	PM PM ₁₀	0.04 0.02	0.17 0.08
R56/HSRX01	R-56 Hydrate Storage Drop to Conveyor (4)	PM/PM ₁₀	2.20	1.19

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	<u>Emissi</u> Ib/hr	on Rates TPY
R56/HSRX02	R-56 Hydrate Storage Drop to Stockpile (4)	PM/PM ₁₀	2.20	1.19
R56/HSRX03	R-56 Hydrate Storage Stockpile (4)	PM/PM ₁₀	2.20	1.19
R56/HRCX21	R-56 Hydrate Railcar Loading Drop from Loader Bucket Into Conveyor Hopper (4)	PM PM ₁₀	1.10 0.55	1.19 0.59
R56/HRCX22	R-56 Hydrate Railcar Loading Drop from Hopper to Conveyor (4)	PM PM ₁₀	1.10 0.55	1.19 0.59
R56/HRCX23	R-56 Hydrate Railcar Loading Conveyor Drop into Railcar (4)	PM PM ₁₀	1.10 0.55	1.19 0.59
R56/HTLX31	R-56 Hydrate Truck Loading Drop from Loader Bucket into Truck (4)	PM PM ₁₀	1.10 0.55	1.19 0.59
R56-4/CT01	R-56-4 Cooling Tower (4)	PM/PM ₁₀ /NaOH	<0.01	<0.01
R55/ESPD11	R-55-ESP Dust Redigest (Tank No. 1) Wet Scrubber	PM PM ₁₀	0.06 0.03	0.24 0.12
Product Transport System				
R50/07AG11	R-50 No. 7 Air Gravity Conveyor Bag Collector Stack	PM PM ₁₀	0.12 0.06	0.38 0.19

Emission	Source	Air Contamina	nt	<u>E</u>	mission	<u>Rates</u>
Point No. (1)	Name (2)	Name (3)		lb/l	hr	TPY
R50/09AG11	R-50 No. 9 Air Gravity Conveyor Bag Collector Stack	PM/PM ₁₀		0.15	1	0.66
R50/02AG21	R-50 No. 2 Air Gravity Conveyor - Alumina Bag Collector Stack	PM PM ₁₀		0.12 0.06		0.38 0.19
R50/03AG21	R-50 No. 3 Air Gravity Conveyor - Alumina Bag Collector Stack	PM PM ₁₀		0.12 0.06		0.38 0.19
R50/04AG21	R-50 No. 4 Air Gravity Conveyor - Alumina Bag Collector Stack	PM/PM ₁₀		0.26		1.16
R50/08AG11	R-50 No. 8 Air Gravity Conveyor - Alumina Bag Collector Stack	PM PM ₁₀		0.12 0.06		0.38 0.19
R50/2EAG11	R-50 No. 2E Air Gravity Conveyor - Alumina Bag Collector Stack	PM/PM ₁₀		0.26		1.16
R50/3EAG11	R-50 No. 3E Air Gravity Conveyor - Alumina Bag Collector Stack	PM/PM ₁₀	0.26		1.16	
R50/4EAG11	R-50 No. 4E Air Gravity Conveyor - Alumina Bag Collector Stack	PM/PM ₁₀	0.26		1.16	

Emission	Source	Air Contamir		Emission Rates	
Point No. (1)	Name (2)	Name (3		lb/hr TP	Υ
R50/A1XX11	R-50 Alumina Handling (A) Bag Collector Stack	PM/PM ₁₀	0.43	1.88	
R50/A2XX11	R-50 Alumina Handling (B) Bag Collector Stack	PM/PM ₁₀	0.43	1.88	
R53/RCUX11	R-53 Railcar Unloading Bag Collector Stack	PM/PM ₁₀	1.37	6.01	
R51C/AVX11	R-51C Alumina Storage Vessel Bag Collector Stack	PM/PM ₁₀	6.00	26.00	
R51E/05L11	R-51E No. 5 Track Loading- Alumina Bag Collector Stack	PM/PM ₁₀	0.59	2.60	
R51E/SPV11	R-51E Alumina Special Products Vessel Bag Collector Stack	PM/PM ₁₀	0.74	3.20	
R51E/SVX11	R-51E Alumina Storage Vessel Bag Collector Stack	PM/PM ₁₀	1.10	4.80	
R56/AHC231	R-56 Alumina Handling Conveyor No. 2 Tail No. 2 Bag Collector Stack	PM/PM ₁₀	0.15	0.66	

Emission Point No. (1)	Source Name (2)	Air Contamina Name (3)	=	Emission Ra	ates_ TPY
R51/02TL11	R-51 Track No. 2 Loading-Alumina Bag Collector Stack	PM/PM ₁₀ /Al ₂ O 3	1.42	6.20	
R51/03TL11	R-51 Track No. 3 Loading-Alumina Bag Collector Stack	PM/PM ₁₀ /Al ₂ O 3	1.42	6.20	
R53C/40B11	R-53C Alumina Conveyor No. 40 Belt to R-53C Bag Collector Stack	PM PM ₁₀	0.39 0.19	0.84 0.42	
R53C/ATS11	R-53C Transfer and Storage Bag Collector Stack	PM PM ₁₀ /PM _{2.5}	0.13 0.13	0.57 0.57	
R56/AHC221	R-56 Alumina Handling Conveyor No. 2 Tail No. 1 Bag Collector Stack	PM/PM ₁₀	0.15	0.66	
R56/HF1201	R-56 Horizontal Filter No. 1 Vent	Hg VOC	0.0019 2.90	7.8E-3 12.08	
R56/AHC211	R-56 Alumina Handling Conveyor No. 2 Head Pulley Bag	PM/PM ₁₀ /Al ₂ O 3	0.15	0.66	

Emission Point No. (1)	Source Name (2)	Air Contamir Name (3		<u>Emission Rates</u> lb/hr	
	Collector Stack				
C30 Hydrate Pr	ocess Area				
R85/HD0111	R-85 No. 1 Hydrate Dryer Wet Scrubber	PM/PM ₁₀	3.00	13.14	
R85/HD0211	R-85 No. 2 Hydrate Dryer Wet Scrubber	PM/PM ₁₀	3.00	13.14	
R85/HH0211	R-85 Hydrate Handling No. 2 Bag Collector Stack	PM/PM ₁₀	0.03	1.18	
R85/HH0111	R-85 Hydrate Handling No. 1 Bag Collector Stack	PM/PM ₁₀	0.03	1.18	
R85/OSLX00	R 85 On Shore Lagoon (4)	PM/PM ₁₀	1.00	1.00	
R85B/HSV11	R-85B Hydrate Storage Bag Collector Stack	PM/PM ₁₀	0.06	0.60	
Aluminum Fluoride (AIF ₃) Processing Area					
R81/SDXX11	R-81 Spar Drying Bag Collector Stack 3	PM/PM ₁₀	0.87	3.83	

Emission Point No. (1)	Source Name (2)	Air Contamir Name (3		<u>Emission Ra</u> lb/hr	<u>ites</u> TPY
R81/SULX11	R-81 Spar Unloading Bag Collector Stack	PM/PM ₁₀	0.19	0.83	
R81/SV0101	R-81 Spar Vessel Vent No. 1	PM/PM ₁₀	0.32	1.37	
R81/SV0201	R-81 Spar Vessel Vent No. 2	PM/PM ₁₀	0.32	1.37	
R81/SV0301	R-81 Spar Vessel Vent No. 3	PM/PM ₁₀	0.32	1.37	
R82/SHXX11	R-82 Spar Handling Bag Collector Stack	PM/PM ₁₀	0.94	4.12	
R83A/SAT01	R-83A Sulfuric Acid Tank Vent	H ₂ SO ₄	1.00	1.00	
R83B/SAT01	R-83B Sulfuric Acid Tank Vent	H ₂ SO ₄	1.00	1.00	
R83C/SAL01	R-83C Sulfuric Acid Lift Tank Vent	H ₂ SO ₄	1.00	1.00	
R83D/SAL01	R-83D Sulfuric Acid Lift Tank Vent	H ₂ SO ₄	1.00	1.00	

Emission Point No. (1)	Source Name (2)	Air Contamir Name (3		<u>Emission F</u> lb/hr	Rates TPY
R84/AFC111	R-84 AIF ₃ - Converter No. 1 Wet Scrubber	PM/PM ₁₀ HF H ₂ SO ₄ VOC	0.20 0.001 0.05 0.33	 	
R84/AFC211	R-84 AIF ₃ - Converter No. 2 Wet Scrubber	PM/PM ₁₀ HF H ₂ SO ₄ VOC	0.20 0.001 0.05 0.33	 	
R84/AFC311	R-84 AIF ₃ - Converter No. 3 Wet Scrubber	PM/PM ₁₀ HF H ₂ SO ₄ VOC	0.20 0.001 0.05 0.33	 	
R84/AFC411	R-84 AIF ₃ - Converter No. 4 Wet Scrubber	PM/PM ₁₀ HF H ₂ SO ₄ VOC	0.20 0.001 0.05 0.33	 	
R84/AFC511	R-84 AIF₃ - Converter No. 5 Wet Scrubber	PM/PM ₁₀ HF H ₂ SO ₄ VOC	0.20 0.001 0.05 0.33	 	
R84/AFC611	R-84 AIF ₃ - Converter No. 6 Wet Scrubber	PM/PM ₁₀ HF H ₂ SO ₄ VOC	0.20 0.001 0.05 0.33	 	
	Total for all converters	PM/PM ₁₀ HF H ₂ SO ₄ VOC	 	5.398 0.10 1.31 8.67	
R84/AFEX11	R-84 Aluminum	PM/PM ₁₀	0.34	1.49	

Emission Point No. (1)	Source Name (2)	Air Contamii Name (3		<u>Emission</u> lb/hr	<u>Rates</u> TPY
	Fluoride Elevator Bag Collector Stack				
R84/HFF101	R-84 HF Furnace	PM/PM ₁₀	0.02		
	No. 1 Vent	SO_2	1.00		
		CO	0.02		
		NO_x	0.12		
		VOC	0.01		
		HF	0.01		
R84/HFF201	R-84 HF Furnace	PM/PM ₁₀	0.02		
1104/1111201	No. 2 Vent	SO ₂	1.00		
	NO. 2 VCIII	CO	0.02		
		NO _x	0.12		
		VOC	0.01		
		HF	0.01		
R84/HFF301	R-84 HF Furnace	PM/PM_{10}	0.02		
	No. 3 Vent	SO_2	1.00		
		CO	0.02		
		NO_x	0.12		
		VOC	0.01		
		HF	0.01		
R84/HFF401	R-84 HF Furnace	PM/PM ₁₀	0.02		
110 1711 1 102	No. 4 Vent	SO ₂	1.00		
		CO	0.02		
		NO _x	0.12		
		VOC	0.01		
		HF	0.01		

Emission	Source	Air Contaminant		Emission Rates		<u>Rates</u>
Point No. (1)	Name (2)	Name	e (3)	lk	o/hr	TPY
R84/HFF501	R-84 HF Furnace No. 5	Vent	PM/PM ₁₀	0.02		
			SO_2	1.00		
			CO	0.02		
			NO_x	0.12		
			VOC	0.01		
			HF	0.01		
R84/HFF601	R-84 HF Furnace	PM/PM ₁₀	0.02			
	No. 6 Vent	SO ₂	1.00			
		CO	0.02			
		NO_x	0.12			
		VOC	0.01			
		HF	0.01			
	Total of all	PM/PM ₁₀			0.53	
	furnaces	SO ₂			26.28	
		CO			0.53	
		NOx			3.15	
		VOC			0.27	
		HF			0.27	
R84/HFK111	R-84 HF Kiln	PM/PM ₁₀	0.04			
10 1/111 10222	No. 1-Gypsum	HF	0.86			
	Box Wet Scrubber	H ₂ SO ₄	1.33			
		VOC	0.01			
R84/HFK211	R-84 HF Kiln	PM/PM ₁₀	0.04			
1104/11111211	No. 2-Gypsum	HF	0.86			
	Box Wet Scrubber	H ₂ SO ₄	1.33			
	Box Wot Colabbol	VOC	0.01			
D04/UEV211	D 94 HE Vilo		0.04			
R84/HFK311	R-84 HF Kiln	PM/PM ₁₀ HF	0.04 0.86			
	No. 3-Gypsum Box Wet Scrubber	HF H ₂ SO ₄	1.33			
	DOX WEL Scrubber	п₂SO₄ VOC	0.01			
		VUC	0.01			

Emission	Source	Air Contaminant		Emission I	Rates_
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY
R84/HFK411	R-84 HF Kiln	PM/PM ₁₀	0.04		
	No. 4-Gypsum	HF	0.86		
	Box Wet Scrubber	H_2SO_4	1.33		
		VOC	0.01		
R84/HFK511	R-84 HF Kiln	PM/PM_{10}	0.04		
	No. 5-Gypsum	HF	0.86		
	Box Wet Scrubber	H_2SO_4	1.33		
		VOC	0.01		
R84/HFK611	R-84 HF Kiln	PM/PM_{10}	0.04		
	No. 6-Gypsum	HF	0.86		
	Box Wet Scrubber	H_2SO_4	1.33		
		VOC	0.01		

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	<u>Emiss</u> lb/hr	ion Rates TPY
	Total for Gypsum Boxes	PM/PM_{10} HF H_2SO_4 VOC	 	1.05 22.60 34.95 0.26
R84/SF1X11	R-84 WT Spar Feed No. 1 Bag Collector Stack	PM/PM ₁₀	0.36	1.11
R84/SF1611	R-84 WT Spar Feed Nos. 2, 3, 4, and 5 Bag Collector Stack	PM/PM ₁₀	1.44	4.42
R84/SF6X11	R-84 WT Spar Feed No. 6 Bag Collector Stack	PM/PM ₁₀	0.36	1.11
R84NA/HS01	R-84 Hydrate Vessel Vent No. 4	PM/PM ₁₀	0.03	0.03
R84NB/HS01	R-84 Hydrate Vessel Vent No. 5	PM/PM ₁₀	0.03	0.03
R84NC/HS01	R-84 Hydrate Vessel Vent No. 6	PM/PM ₁₀	0.03	0.03
R84NZ/HS11	R-84 Hydrate Vessels Common Stack-North Bag Collector	PM/PM ₁₀	0.03	0.03
R84SA/HS01	R-84 Hydrate Vessel Vent No. 1	PM/PM ₁₀	0.03	0.03
R84SB/HS01	R-84 Hydrate Vessel Vent No. 2	PM/PM ₁₀	0.03	0.03
R84SC/HS01	R-84 Hydrate Vessel Vent No. 3	PM/PM ₁₀	0.03	0.03

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	<u>Emissio</u> lb/hr	on Rates TPY
R84SZ/HS11	R-84 Hydrate Storage Common Stack-South Bag Collector	PM/PM ₁₀	0.03	0.03
R86Z/AFS11	R-86A and R-86B Aluminum Fluoride Storage Common Stack Bag Collector	PM/PM ₁₀	0.08	0.08
Bulk Loading D	Pock			
R52/DOCK00	No. 30 Alumina Conveying Belt (4)	PM/Al ₂ O ₃ PM ₁₀	30.40 16.72	16.77 9.22
R51/ASVX11	R-51 Alumina Storage Vessel Bag Collector	PM/PM ₁₀	0.22	0.94
R53C/AGCX11	R-53C Air Gravity Conveyor Bag Collector Stack-North	PM/PM ₁₀ /PM _{2.5}	0.08	0.37
R53C/AGCX21	R-53C Air Gravity Conveyor Bag Collector Stack-South	PM/PM ₁₀ /PM _{2.5}	0.08	0.37
R52/BLCX21	R-52 Bulk Loading Chute-North Bag Collector Stack	PM/PM ₁₀ /PM _{2.5} /Al ₂ O ₃	0.28	1.23
R52/BLCX31	R-52 Bulk Loading Chute-South Bag Collector Stack	PM/PM ₁₀ /PM _{2.5} /Al ₂ O ₃	0.54	2.36
R52/BLCD11	R-52 Bulk Conveyor Transfer Bag Collector Stack	PM/PM ₁₀ /PM _{2.5}	0.27	1.20

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	<u>Emission</u> lb/hr	<u>Rates</u> TPY
R53C/SVX11	R-53C Alumina Storage Vessel Bag Collector Stack	PM/PM ₁₀ /PM _{2.5}	0.29	1.27
B60/AT0X01	B-60 Alumina Transfer Facility (4)	PM PM ₁₀	6.0 3.0	2.40 1.20
B60/AFTX01	Aluminum Fluoride Transfer Facility (4)	PM PM ₁₀	0.3 0.15	2.0E-3 8.0E-4
R6C	Sodium Hydroxide Storage Tank	PM/PM ₁₀ /PM _{2.5} /NaOH	0.01	0.01
Miscellaneous				
B37/GXXX00	B-37 Garage (4)	VOC	1.00	1.00
B37/UOTX01	B-37 Used Oil Storage Tank Vent	VOC	1.00	1.00
B60/S00600	B-60 Smelting Lagoon (4)	VOC	1.00	1.00
R111/GXX00	R-111 Garage (4)	VOC	1.00	1.00
R148/SBN11	R-148 Sand Blasting Machine Shop-North Bag Collector Stack	PM/PM ₁₀	0.50	0.30
R148/SBS11	R-148 Sand Blasting Machine Shop-South Bag Collector Stack	PM/PM ₁₀	0.50	0.30
R148/MSX11	R-148 Machine Shop Sand Blasting Bag	PM/PM ₁₀	1.00	1.00

Emission	Source	Air Contaminant	Emission Rates	
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY
	Collector Stack			

- (1) Emission point identification either specific equipment designation or emission point number from a plot plan.
- (2) Specific point source names. For fugitive sources, use an area name or fugitive source name.

(3) PM - particulate matter, suspended in the atmosphere, including PM_{10} and $PM_{2.5}$

 PM_{10} - 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

VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1

H₂SO₄ - sulfuric acid Hg - mercury

NaOH - sodium hydroxide HCl - hydrogen chloride

Cl - chlorine

NO_x - total oxides of nitrogen CO - carbon monoxide SO₂ - sulfur dioxide HF - hydrogen fluoride

Al₂O₃ - alumina

AIF₃ - aluminum fluoride

(4) Fugitive emissions are an estimate only.

Dated April 18, 2011