

## EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

## AIR CONTAMINANTS DATA

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

## EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

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.

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

**Existing sources with name change**

R10/GDCX01	R-10 Gantry Drop to Conveyor-Bauxite/Spar (4)	PM	1.48	3.28
		PM <sub>10</sub>	0.70	1.55
R10/ATBS11	R-10-A Tower Bauxite/Spar (4)	PM	0.10	0.05
		PM <sub>10</sub>	0.05	0.02
R10/BOSX10	R-10-Bauxite from Outside Storage (4)	PM	29.57	16.10
		PM <sub>10</sub>	4.44	2.41
R10/BHXX11	R-10-Bauxite Handling (4)	PM	0.05	<0.01
		PM <sub>10</sub>	0.03	<0.01
R10/BHXX11	R-10-Bauxite Hopper-North (4)	PM	0.03	0.03
		PM <sub>10</sub>	0.01	0.02
R10/BHSX11	R-10-Bauxite Hopper-South (4)	PM	0.03	0.03
		PM <sub>10</sub>	0.01	0.02

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Point No. (1)	Name (2)	Name (3)	lb/hr	TPY
R21/BTTX11	R-21-Transfer Tower-Bauxite (4)	PM		0.40
		0.38		
		PM <sub>10</sub>	0.19	0.18
R25/BFCX11	R-25-Building Bauxite Conveyor (4)	PM	0.80	<0.01
		PM <sub>10</sub>	0.38	<0.01
R30/DVXX01	R-30-Digestion Vacuum Vent	Hg	0.0017	0.007
		VOC	5.95	22.62
R35/LTTX01	R-35-Low Temp Thickeners Vent	Hg		0.07
		0.27		
		VOC	1.18	4.48
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
R35V/FCX01	R-35V-Flocculent Tank - North No. 1 Vent	VOC	3.59	0.37
R35/HTTX01	R-35-High Temp Thickeners Vent	Hg		0.0004
		0.001		
		VOC	0.16	0.62
R35J1/CN01	R-35J1-Causticizer Vent - North	PM <sub>10</sub>		0.27
		1.20		
		NaOH	0.27	1.20
R35J1/CS01	R-35J1-Causticizer Vent - South	PM <sub>10</sub>		0.27
		1.20		
		NaOH	0.27	1.20

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<u>Point No. (1)</u>	<u>Name (2)</u>	<u>Name (3)</u>	<u>lb/hr</u>	<u>TPY</u>
R42/HI7A01	R-42-Heat Interchange Vacuum	Hg 0.012		0.0031
	No. 7 A Vent	VOC	0.32	1.20
R42/03EV01	R-42-No. 3 Evaporation Vacuum Vent	Hg VOC	0.0006 0.02	0.002 0.05
R42/01EV01	R-42-No. 1 Evaporation Vacuum Vent	Hg VOC	0.0006 0.02	0.002 0.05
R42/02EV01	R-42-No. 2 Evaporation Vacuum Vent	Hg VOC	0.0006 0.02	0.002 0.05
R42/04EV01	R-42-No. 4 Evaporation Vacuum Vent	Hg VOC	0.0006 0.02	0.002 0.05
R42/06EV01	R-42-No. 6 Evaporation Vacuum Vent	Hg VOC	0.0006 0.02	0.002 0.05
R110/CVA01	R-110-Condensate Vessel A Vent	Hg VOC	<0.0001 <0.01	<0.001 <0.01
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	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
R51/02TL11	R-51-Track No. 2 Loading-Al <sub>2</sub> O <sub>3</sub>	PM <sub>10</sub> 6.20		1.42

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Emission *	Source	Air Contaminant	Emission Rates	
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY
	Bag Collector	Al <sub>2</sub> O <sub>3</sub>	1.42	6.20
R51/03TL11	R-51-Track No. 3 Loading-Al <sub>2</sub> O <sub>3</sub>	PM <sub>10</sub>		1.42
	Bag Collector	Al <sub>2</sub> O <sub>3</sub>	1.42	6.20
R53C/40B11	R-53C-Al <sub>2</sub> O <sub>3</sub> Conveyor No. 40	PM	0.39	0.84
	Belt to R-53C Bag Collector	PM <sub>10</sub>	0.19	0.42
R53C/ATS11	R-53C-Transfer and Storage	PM	0.39	0.84
	Bag Collector	PM <sub>10</sub>	0.19	0.42
R52/BLCX31	R-52-Bulk Loading Chute-South	PM <sub>10</sub>		1.35
	Bag Collector	Al <sub>2</sub> O <sub>3</sub>	1.35	0.46
R52/BLCX41	R-52-Loading Chute-Top	PM <sub>10</sub>	0.34	0.46
	Bag Collector	Al <sub>2</sub> O <sub>3</sub>	0.34	0.46
R52/BLCX11	R-52-LoadingChute-Choke	PM <sub>10</sub>	0.20	0.27
	Feeder-North Bag Collector	Al <sub>2</sub> O <sub>3</sub>	0.20	0.27
R52/DOCK00	R-52 Dock Upset reporting (4)	PM	30.40	16.77
		PM <sub>10</sub>	16.72	9.22
		Al <sub>2</sub> O <sub>3</sub>	30.40	16.77
R56/AHC211	R-56 Alumina Handling	PM <sub>10</sub>	0.15	0.66
	Conveyor No. 2 Head Pulley	Al <sub>2</sub> O <sub>3</sub>	0.15	0.66
	Bag Collector			
R56-4/CT01	R-56-4-Cooling Tower (4)	PM <sub>10</sub>	0.0019	0.0083
		NaOH	0.0019	0.0083
R55/ESPD11	R-55-ESP Dust Redigest	PM	0.06	0.24
	(Tank No. 1) Wet Scrubber	PM <sub>10</sub>	0.03	0.12

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<u>Point No. (1)</u>	<u>Name (2)</u>	<u>Name (3)</u>	<u>lb/hr</u>	<u>TPY</u>

**1995 Permit Sources with more than one physical source**

R10/B33A10	R-10-Bauxite Transfer No. 3 Conveyor to No. 3A Belt (4)	PM	0.23	0.24
		PM <sub>10</sub>	0.11	0.11
R10/B33B10	R-10-Bauxite Transfer No. 3 Conveyor to No. 3B Belt (4)	PM	0.23	0.24
		PM <sub>10</sub>	0.11	0.11
R10/B39A10	R-10-Bauxite Transfer No. 3 Conveyor to No. 9A Belt (4)	PM	0.23	0.24
		PM <sub>10</sub>	0.11	0.11
R10/B31610	R-10-Bauxite Transfer No. 3 Conveyor to No. 16 Belt (4)	PM	0.23	0.24
		PM <sub>10</sub>	0.11	0.11
R10/B31510	R-10-Bauxite Transfer No. 3 Conveyor to No. 15 Belt (4)	PM	0.23	0.24
		PM <sub>10</sub>	0.11	0.11
R10/BDS111	R-10-Bauxite Drop To Outside Storage No. 1 (4)	PM	0.23	0.22
		PM <sub>10</sub>	0.11	0.11
R10/BDS211	R-10-Bauxite Drop To Outside Storage No. 2 (4)	PM	0.23	0.22
		PM <sub>10</sub>	0.11	0.11
R10/BDS311	R-10-Bauxite Drop To Outside Storage No. 3 (4)	PM	0.23	0.22
		PM <sub>10</sub>	0.11	0.11
R16/BDXX11	R-16-Bauxite Drop-Inside Building(4)	PM	0.23	0.22
		PM <sub>10</sub>	0.11	0.11
R15/BDXX11	R-15-Bauxite Drop-Inside Building(4)	PM	0.23	0.22
		PM <sub>10</sub>	0.11	0.11
R25/RM0102	R-25-Rod Mill Feed No. 1 Vent	Hg	0.005	0.02
		VOC	0.14	0.44

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R25/RM0202	R-25-Rod Mill Feed No. 2 Vent	Hg		0.005	0.02
	VOC	0.14		0.44	
R25/RM0302	R-25-Rod Mill Feed No. 3 Vent	Hg		0.005	0.02
	VOC	0.14		0.44	
R25/RM0402	R-25-Rod Mill Feed No. 4 Vent	Hg		0.005	0.02
	VOC	0.14		0.44	
R25/RM0502	R-25-Rod Mill Feed No. 5 Vent	Hg		0.005	0.02
	VOC	0.14		0.44	
R25/RM0602	R-25-Rod Mill Feed No. 6 Vent	Hg		0.005	0.02
	VOC	0.14		0.44	
R25/RM0702	R-25-Rod Mill Feed No. 7 Vent	Hg		0.005	0.02
	VOC	0.14		0.44	
R25/RM0802	R-25-Rod Mill Feed No. 8 Vent	Hg		0.005	0.02
	VOC	0.14		0.44	
R25A/S0101	R-25A-Vessel No. 1 Vent	Hg		0.001	0.003
	VOC	0.32		1.19	
R25A/S0201	R-25A-Vessel No. 2 Vent	Hg		0.001	0.003
	VOC	0.32		1.19	
R25A/S0301	R-25A-Vessel No. 3 Vent	Hg		0.001	0.003
	VOC	0.32		1.19	
R25A/S0401	R-25A-Vessel No. 4 Vent	Hg		0.001	0.003
	VOC	0.32		1.19	
R25A/S0501	R-25A-Vessel No. 5 Vent	Hg		0.001	0.003
	VOC	0.32		1.19	

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Point No. (1)	Name (2)	Name (3)		lb/hr	TPY
R25A/S0601	R-25A-Vessel No. 6 Vent	Hg		0.001	0.003
		VOC	0.32	1.19	
R25A/S0701	R-25A-Vessel No. 7 Vent	Hg		0.001	0.003
		VOC	0.32	1.19	
R25A/S0801	R-25A-Vessel No. 8 Vent	Hg		0.001	0.003
		VOC	0.32	1.19	
R30/L11X01	R-30-Low Temperature 1 Blow-Off No. 1 Stack A	Hg		0.0006	0.002
		PM <sub>10</sub>		0.05	0.17
		NaOH	0.05	0.17	
		VOC	0.04	0.11	
R30/L11X02	R-30-Low Temperature 1 Blow Off No. 1 Stack B	Hg		0.0006	0.002
		PM <sub>10</sub>		0.05	0.17
		NaOH	0.05	0.17	
		VOC	0.04	0.11	
R30/L12X01	R-30-Low temperature 1 Blow Off No. 2 Stack A	Hg			0.0006
		PM <sub>10</sub>		0.05	0.17
		NaOH	0.05	0.17	
		VOC	0.04	0.11	
R30/L12X02	R-30-Low Temperature 1 Blow Off No. 2 Stack B	Hg		0.0006	0.002
		PM <sub>10</sub>		0.05	0.17
		NaOH	0.05	0.17	
		VOC	0.04	0.11	
R30/L23X01	R-30-Low Temperature 2 Blow Off No. 3 Stack A	Hg		0.0006	0.002
		PM <sub>10</sub>		0.05	0.17
		NaOH	0.05	0.17	

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Point No. (1)	Name (2)	Name (3)	lb/hr	TPY
		VOC	0.04	0.11
R30/L23X02	R-30-Low Temperature 2 Blow Off No. 3 Stack B	Hg PM <sub>10</sub>	0.0006 0.05	0.002 0.17
		NaOH	0.05	0.17
		VOC	0.04	0.11
R30/L24X01	R-30-Low Temperature 2 Blow Off No. 4 Stack A	Hg PM <sub>10</sub>	0.0006 0.05	0.002 0.17
		NaOH	0.05	0.17
		VOC	0.04	0.11
R30/L24X02	R-30-Low Temperature 2 Blow Off No. 4 Stack B	Hg PM <sub>10</sub>	0.0006 0.05	0.002 0.17
		NaOH	0.05	0.17
		VOC	0.04	0.11
R30/L35X01	R-30-Low Temperature 3 Blow Off No. 5 Stack A	Hg PM <sub>10</sub>	0.0006 0.05	0.002 0.17
		NaOH	0.05	0.17
		VOC	0.04	0.11
R30/L35X02	R-30-Low temp 3 Blow Off No. 5 Stack B	Hg PM <sub>10</sub>	0.0006 0.05	0.002 0.17
		NaOH	0.05	0.17
		VOC	0.04	0.11
R30/L36X01	R-30-Low Temperature 3 Blow Off No. 6 Stack A	Hg PM <sub>10</sub>	0.0006 0.05	0.002 0.17
		NaOH	0.05	0.17
		VOC	0.04	0.11
R30/L36X02	R-30-Low Temperature 3 Blow Off No. 6 Stack B	Hg PM <sub>10</sub>	0.0006 0.05	0.002 0.17
		NaOH	0.05	0.17
		VOC	0.04	0.11



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Emission *	Source	Air Contaminant		Emission Rates	
Point No. (1)	Name (2)	Name (3)		lb/hr	TPY
R30/L47X01	R-30-Low Temperature 4 Blow Off No. 7 Stack A	Hg		0.0006	0.002
		PM <sub>10</sub>		0.05	0.17
		NaOH	0.05	0.17	
		VOC	0.04	0.11	
R30/L47X02	R-30-Low Temperature 4 Blow Off No. 7 Stack B	Hg		0.0006	0.002
		PM <sub>10</sub>		0.05	0.17
		NaOH	0.05	0.17	
		VOC	0.04	0.11	
R30/L48X01	R-30-Low Temperature 4 Blow Off No. 8 Stack A	Hg		0.0006	0.002
		PM <sub>10</sub>		0.05	0.17
		NaOH	0.05	0.17	
		VOC	0.04	0.11	
R30/L48X02	R-30-Low Temperature 4 Blow Off No. 8 Stack B	Hg		0.0006	0.002
		PM <sub>10</sub>		0.05	0.17
		NaOH	0.05	0.17	
		VOC	0.04	0.11	
R40/HI0101	R-40-Heat Interchange Vacuum No. 1 Vent	Hg		0.0005	0.001
		VOC		0.05	0.15
R40/HI0201	R-40-Heat Interchange Vacuum No. 2 Vent	Hg		0.0005	0.001
		VOC		0.05	0.15
R40/HI0301	R-40-Heat Interchange Vacuum No. 3 Vent	Hg		0.0005	0.001
		VOC		0.05	0.15
R40/HI0401	R-40-Heat Interchange Vacuum No. 4 Vent	Hg		0.0005	0.001
		VOC		0.05	0.15
R40/HI0501	R-40-Heat Interchange Vacuum No. 5 Vent	Hg		0.0005	0.001
		VOC		0.05	0.15

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Point No. (1)	Name (2)	Name (3)	lb/hr	TPY
R40/HI0601	R-40-Heat Interchange Vacuum No. 6 Vent	Hg VOC	0.0005 0.05	0.001 0.15
R45A/C0101	R-45A-Barometric Condenser Vent No. 1	Hg VOC	<0.0001 0.01	0.0003 0.013
R45A/C0201	R-45A-Barometric Condenser Vent No. 2	Hg VOC	<0.0001 0.01	0.0003 0.013
R45A/C0301	R-45A-Barometric Condenser Vent No. 3	Hg VOC	<0.0001 0.01	0.0003 0.013
R45A/C0401	R-45A-Barometric Condenser Vent No. 4	Hg VOC	<0.0001 0.01	0.0003 0.013
R42/04EV01	R-42-No. 4 Evaporation Vacuum Vent	Hg VOC	0.0006 0.02	0.002 0.05
R56/HF1201	R-56-Horizontal Filter No. 1 Vent	Hg VOC	0.0019 2.90	0.0078 12.08

**1995 Permit sources with changes**

R110/HP101	R-110-High Pressure Boiler No. 1	VOC PM	0.44 4.43	
		PM <sub>10</sub>	4.43	
		NO <sub>x</sub>	65.86	
		CO	37.54	
		SO <sub>2</sub>	2.32	
R110/HP201	R-110-High Pressure Boiler No. 2	VOC PM	0.35 3.54	
		PM <sub>10</sub>	3.54	
		NO <sub>x</sub>	38.77	
		CO	27.57	
		SO <sub>2</sub>	1.86	

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Point No. (1)	Name (2)	Name (3)		lb/hr	TPY
R110/HP301	R-110-High Pressure Boiler No. 3	VOC		0.35	
		PM		3.54	
		PM <sub>10</sub>	3.54		
		NO <sub>x</sub>	34.40		
		CO	15.02		
R110/HP411	R-110-High Pressure Boiler No. 4	VOC		0.35	
		PM		3.54	
		PM <sub>10</sub>	3.54		
		NO <sub>x</sub>	38.77		
		CO	27.57		
R110/HP501	R-110-High Pressure Boiler No. 5	VOC		0.44	
		PM		4.43	
		PM <sub>10</sub>	4.43		
		NO <sub>x</sub>	51.87		
		CO	38.22		
R110/HP611	R-110-High Pressure Boiler No. 6	VOC		0.50	
		PM		4.95	
		PM <sub>10</sub>	4.95		
		NO <sub>x</sub>	22.87		
		CO	14.10		
R110/LP101	R-110-Low Pressure Boiler No. 1	VOC		0.25	
		PM		2.84	
		PM <sub>10</sub>	2.84		
		NO <sub>x</sub>	20.29		
		CO	22.22		
		SO <sub>2</sub>	1.31		

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Point No. (1)	Name (2)	Name (3)		lb/hr	TPY
R110/LP201	R-110-Low Pressure Boiler No. 2	VOC		0.25	
		PM		2.84	
		PM <sub>10</sub>	2.84		
		NO <sub>x</sub>	26.47		
		CO	76.70		
		SO <sub>2</sub>	1.31		
	Total of all boilers	VOC			10.27
		PM		99.83	
		PM <sub>10</sub>		99.83	
		NO <sub>x</sub>		942.19	
		CO		737.88	
		SO <sub>2</sub>		50.21	
R45/PAVX00	R-45 Precipitation Area Vessels (4)	Hg			0.0027
		0.01			
		PM	10.69	47.45	
		PM <sub>10</sub>	10.69	47.45	
		NaOH	10.69	47.45	
R50/K04711	R-50 Kilns Electrostatic Precipitator East Stack	VOC		12.68	
		PM		60.00	
		PM <sub>10</sub>	60.00		
		NO <sub>x</sub>	421.08		
		CO	16.16		
		SO <sub>2</sub>	1.00		
		Hg	0.0181		
R50/K04712	R-50 Kilns Electrostatic Precipitator West Stack	VOC		12.68	
		PM		60.00	
		PM <sub>10</sub>	60.00		
		NO <sub>x</sub>	421.08		
		CO	16.16		
		SO <sub>2</sub>	1.00		
		Hg	0.0181		

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Point No. (1)	Name (2)	Name (3)		lb/hr	TPY
R55-1/FC11	R-55-1 Flash Calciner (SGA) Electrostatic Precipitator	VOC		14.75	
		PM		33.94	
		PM <sub>10</sub>	33.94		
		NO <sub>x</sub>	12.60		
		CO	151.20		
		SO <sub>2</sub>	1.43		
		Hg	0.0181		
R55-2/FC11	R-55-2 Flash Calciner (SGA) Electrostatic Precipitator	VOC		14.75	
		PM		18.86	
		PM <sub>10</sub>	18.86		
		NO <sub>x</sub>	13.50		
		CO	162.00		
		SO <sub>2</sub>	1.57		
		Hg	0.0181		
R55-3/FC11	R-55-3 Flash Calciner (SGA) Electrostatic Precipitator	VOC		14.75	
		PM		18.86	
		PM <sub>10</sub>	18.86		
		NO <sub>x</sub>	25.56		
		CO	162.00		
		SO <sub>2</sub>	1.57		
		Hg	0.0181		
R55-1/FC11	R-55 Units - Hard Burn Production(all three calciners) Electrostatic Precipitator	VOC		3.69	
R55-2/FC11		PM		33.94	
R55-3/FC11		PM <sub>10</sub>		33.94	
		NO <sub>x</sub>	55.38		
		CO	36.00		
		SO <sub>2</sub>	1.57		

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Point No. (1)	Name (2)	Name (3)		lb/hr	TPY
		Hg	0.0181		
R56-4FC11	R-56-4 Flash Calciner	VOC		29.40	
	Electrostatic Precipitator	PM		8.04	
		PM <sub>10</sub>	8.04		
		NO <sub>x</sub>	31.60		
		CO	78.12		
		SO <sub>2</sub>	2.95		
		Hg	0.036		
	Total of calcination department	VOC			175.79
		PM		246.87	
		PM <sub>10</sub>		246.87	
		NO <sub>x</sub>		266.39	
		CO		1469.07	
		SO <sub>2</sub>		31.17	
		Hg		0.44	
R50/07AG11	R-50 No. 7 Air Gravity Conveyor	PM			0.12
	Bag Collector	PM <sub>10</sub>	0.38	0.06	0.19
R50/09AG11	R-50 No. 9 Air Gravity Conveyor	PM			0.15
	Bag Collector	PM <sub>10</sub>	0.66	0.15	0.66
R51/ASVX11	R-51-Alumina Storage Vessel	PM		0.22	0.94
	Bag Collector	PM <sub>10</sub>		0.22	0.94
R53C/SVX11	R-53C Alumina Storage Vessel	PM		0.29	0.50
	Bag Collector	PM <sub>10</sub>		0.29	0.50
R52/BLCD11	R-52 Bulk Conveyor Transfer	PM		0.67	1.18

## EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

## AIR CONTAMINANTS DATA

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>	<u>TPY</u>
	Bag Collector	PM <sub>10</sub>	0.67	1.18
R52/BLCX21	R-52 Bulk Loading Chute -North	PM 1.89		1.08
	Bag Collector	PM <sub>10</sub>	1.08	1.89
R56/AHC221	R-56 Alumina Handling Conveyor No. 2	PM PM <sub>10</sub>	0.15 0.15	0.66 0.66
	Tail No. 1 Bag Collector			
R56/AHC231	R-56 Alumina Handling Conveyor No. 2	PM PM <sub>10</sub>	0.15 0.15	0.66 0.66
	Tail No. 2 Bag Collector			
<b><u>Sources Previously Under Permit Number 1475</u></b>				
R51C/AVX11	R-51C- Al <sub>2</sub> O <sub>3</sub> Storage Vessel	PM	6.00	26.00
	Bag Collector	PM <sub>10</sub>	6.00	26.00
R51E/05L11	R-51E-No. 5 Track Loading- Al <sub>2</sub> O <sub>3</sub>	PM 2.60		0.59
	Bag Collector	PM <sub>10</sub>	0.59	2.60
R51E/06L11	R-51E-No. 6 Track Loading- Al <sub>2</sub> O <sub>3</sub>	PM 2.80		0.64
	Bag Collector	PM <sub>10</sub>	0.64	2.80
R51E/SPV11	R-51E- Al <sub>2</sub> O <sub>3</sub> Special Products Vessel Bag Collector	PM PM <sub>10</sub>	0.74 0.74	3.20 3.20
R51E/SVX11	R-51E- Al <sub>2</sub> O <sub>3</sub> Storage Vessel	PM	1.10	4.80
	Bag Collector	PM <sub>10</sub>	1.10	4.80

**Previously Grandfathered Sources From the C30 Hydrate Production Process**

## EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

## AIR CONTAMINANTS DATA

Emission *	Source	Air Contaminant		Emission	Rates
Point No. (1)	Name (2)	Name (3)		lb/hr	TPY
R85/HD0111	R-85-No. 1 Hydrate Dryer	PM		3.00	13.14
	Wet Scrubber	PM <sub>10</sub>		3.00	13.14
R85/HD0211	R-85-No. 2 Hydrate Dryer	PM		3.00	13.14
	Wet Scrubber	PM <sub>10</sub>		3.00	13.14
R85/OSLX00	R 85 On Shore Lagoon (4)	PM		1.00	1.00
		PM <sub>10</sub>	1.00	1.00	
Previously Grandfathered Sources from the AIF <sub>3</sub> Process					
R10/SDOS00	R-10-Spar Drop to Outside Storage (4)	PM		0.01	0.01
		PM <sub>10</sub>		0.01	0.01
R10/ST3D00	R-10-Spar Transfer No. 3 Conveyor to Drop (4)	PM		0.01	0.01
		PM <sub>10</sub>		0.01	0.01
R73C/RCL11	R-73C-Railcar Loading Bag Collector	PM		0.19	0.83
		PM <sub>10</sub>		0.19	0.83
R8/SATXX01	R-8-Sulfuric Acid Tank Vent	H <sub>2</sub> SO <sub>4</sub>		1.00	1.00
R81/SULX11	R-81-Spar Unloading Bag Collector	PM		0.19	0.83
		PM <sub>10</sub>		0.19	0.83
R81/SV0101	R-81-Spar Vessel Vent No. 1	PM		0.32	1.37
		PM <sub>10</sub>	0.32	1.37	
R81/SV0201	R-81-Spar Vessel Vent No. 2	PM		0.32	1.37
		PM <sub>10</sub>	0.32	1.37	
R81/SV0301	R-81-Spar Vessel Vent No. 3	PM		0.32	1.37
		PM <sub>10</sub>	0.32	1.37	
R82/SHXX11	R-82-Spar Handling Bag Collector	PM			0.94
		4.12			
		PM <sub>10</sub>	0.94	4.12	



## EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

## AIR CONTAMINANTS DATA

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>	<u>TPY</u>
R83A/SAT01	R-83A-Sulfuric Acid Tank Vent	H <sub>2</sub> SO <sub>4</sub>	1.00	1.00
R83B/SAT01	R-83B-Sulfuric Acid Tank Vent	H <sub>2</sub> SO <sub>4</sub>	1.00	1.00
R83C/SAL01	R-83C-Sulfuric Acid Lift Tank Vent	H <sub>2</sub> SO <sub>4</sub>	1.00	1.00
R83D/SAL01	R-83D-Sulfuric Acid Lift Tank Vent	H <sub>2</sub> SO <sub>4</sub>	1.00	1.00
R84/AFC111	R-84-AIF3 -Converter No. 1 Wet Scrubber	PM	0.2	
		PM <sub>10</sub>	0.2	
		HF	0.001	
		H <sub>2</sub> SO <sub>4</sub>	0.05	
R84/AFC211	R-84-AIF3 -Converter No. 2 Wet Scrubber	VOC	0.33	
		PM	0.2	
		PM <sub>10</sub>	0.2	
		HF	0.001	
R84/AFC311	R-84-AIF3 -Converter No. 3 Wet Scrubber	H <sub>2</sub> SO <sub>4</sub>	0.05	
		VOC	0.33	
		PM	0.2	
		PM <sub>10</sub>	0.2	
R84/AFC411	R-84-AIF3 -Converter No. 4 Wet Scrubber	HF	0.001	
		H <sub>2</sub> SO <sub>4</sub>	0.05	
		VOC	0.33	
		PM	0.2	
R84/AFC511	R-84-AIF3 -Converter No. 5 Wet Scrubber	PM <sub>10</sub>	0.2	
		HF	0.001	
		H <sub>2</sub> SO <sub>4</sub>	0.05	
		VOC	0.33	

## EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

## AIR CONTAMINANTS DATA

Emission *	Source	Air Contaminant		Emission Rates	
Point No. (1)	Name (2)	Name (3)		lb/hr	TPY
		HF	0.001		
		H <sub>2</sub> SO <sub>4</sub>	0.05		
		VOC	0.33		
R84/AFC611	R-84-AIF3 -Converter No. 6	PM		0.2	
	Wet Scrubber	PM <sub>10</sub>		0.2	
		HF	0.001		
		H <sub>2</sub> SO <sub>4</sub>	0.05		
		VOC	0.33		
	Total for all converters	PM			5.26
		PM <sub>10</sub>		5.26	
		HF		0.10	
		H <sub>2</sub> SO <sub>4</sub>		1.31	
		VOC		8.67	
R84/AFEX11	R-84-AIF3 Elevator Bag Collector	PM			0.34
			1.49		
		PM <sub>10</sub>	0.34	1.49	
R84/HFF101	R-84-HF Furnace No. 1 Vent	PM		0.02	
		PM <sub>10</sub>	0.02		
		SO <sub>2</sub>	1.00		
		CO	0.02		
		NO <sub>x</sub>	0.12		
		VOC	0.01		
		HF	0.01		
R84/HFF201	R-84-HF Furnace No. 2 Vent	PM		0.02	
		PM <sub>10</sub>	0.02		
		SO <sub>2</sub>	1.00		
		CO	0.02		
		NO <sub>x</sub>	0.12		
		VOC	0.01		
		HF	0.01		
R84/HFF301	R-84-HF Furnace No. 3 Vent	PM		0.02	

## EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

## AIR CONTAMINANTS DATA

Emission *	Source	Air Contaminant		Emission Rates	
Point No. (1)	Name (2)	Name (3)		lb/hr	TPY
		PM <sub>10</sub>	0.02		
		SO <sub>2</sub>	1.00		
		CO	0.02		
		NO <sub>x</sub>	0.12		
		VOC	0.01		
		HF	0.01		
R84/HFF401	R-84-HF Furnace No. 4 Vent	PM		0.02	
		PM <sub>10</sub>	0.02		
		SO <sub>2</sub>	1.00		
		CO	0.02		
		NO <sub>x</sub>	0.12		
		VOC	0.01		
		HF	0.01		
R84/HFF501	R-84-HF Furnace No. 5 Vent	PM		0.02	
		PM <sub>10</sub>	0.02		
		SO <sub>2</sub>	1.00		
		CO	0.02		
		NO <sub>x</sub>	0.12		
		VOC	0.01		
		HF	0.01		
R84/HFF601	R-84-HF Furnace No. 6 Vent	PM		0.02	
		PM <sub>10</sub>	0.02		
		SO <sub>2</sub>	1.00		
		CO	0.02		
		NO <sub>x</sub>	0.12		
		VOC	0.01		
		HF	0.01		
	Total of all furnaces	PM			0.53
		PM <sub>10</sub>		0.53	
		SO <sub>2</sub>		26.28	
		CO		0.53	
		NO <sub>x</sub>		3.15	

## EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

## AIR CONTAMINANTS DATA

Emission *	Source	Air Contaminant		Emission Rates	
Point No. (1)	Name (2)	Name (3)		lb/hr	TPY
		VOC		0.27	
		HF		0.27	
R84/HFK111	R-84-HF Kiln No. 1-Gypsum Box Wet Scrubber	PM		0.04	
		PM <sub>10</sub>		0.04	
		HF	0.86		
		H <sub>2</sub> SO <sub>4</sub>	1.33		
		VOC	0.01		
R84/HFK211	R-84-HF Kiln No. 2-Gypsum Box Wet Scrubber	PM		0.04	
		PM <sub>10</sub>		0.04	
		HF	0.86		
		H <sub>2</sub> SO <sub>4</sub>	1.33		
		VOC	0.01		
R84/HFK311	R-84-HF Kiln No. 3-Gypsum Box Wet Scrubber	PM		0.04	
		PM <sub>10</sub>		0.04	
		HF	0.86		
		H <sub>2</sub> SO <sub>4</sub>	1.33		
		VOC	0.01		
R84/HFK411	R-84-HF Kiln No. 4-Gypsum Box Wet Scrubber	PM		0.04	
		PM <sub>10</sub>		0.04	
		HF	0.86		
		H <sub>2</sub> SO <sub>4</sub>	1.33		
		VOC	0.01		
R84/HFK511	R-84-HF Kiln No. 5-Gypsum Box Wet Scrubber	PM		0.04	
		PM <sub>10</sub>		0.04	
		HF	0.86		
		H <sub>2</sub> SO <sub>4</sub>	1.33		
		VOC	0.01		
R84/HFK611	R-84-HF Kiln No. 6-Gypsum Box Wet Scrubber	PM		0.04	
		PM <sub>10</sub>		0.04	
		HF	0.86		

## EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

## AIR CONTAMINANTS DATA

Emission *	Source	Air Contaminant	Emission Rates	
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY
		H <sub>2</sub> SO <sub>4</sub>	1.33	
		VOC	0.01	
	Total for gypsum boxes	PM		1.05
		PM <sub>10</sub>	1.05	
		HF	22.60	
		H <sub>2</sub> SO <sub>4</sub>	34.95	
		VOC	0.26	
R84NZ/HS11	R-84 Hydrate Vessels Common Stack(North) Bag Collector	PM	0.03	0.03
		PM <sub>10</sub>	0.03	0.03
R84NA/HS01	R-84-Hydrate Vessel Vent No. 4	PM		0.03
		0.03		
		PM <sub>10</sub>	0.03	
R84NB/HS01	R-84-Hydrate Vessel Vent No. 5	PM		0.03
		0.03		
		PM <sub>10</sub>	0.03	
R84NC/HS01	R-84-Hydrate Vessel Vent No. 6	PM		0.03
		0.03		
		PM <sub>10</sub>	0.03	
R84SZ/HS11	R-84-Hydrate Storage Common Stack(South) Bag Collector	PM	0.03	0.03
		PM <sub>10</sub>	0.03	0.03
R84SA/HS01	R-84-Hydrate Vessel Vent No. 1	PM		0.03
		0.03		
		PM <sub>10</sub>	0.03	
R84SB/HS01	R-84-Hydrate Vessel Vent No. 2	PM		0.03
		0.03		
		PM <sub>10</sub>	0.03	
R84SC/HS01	R-84-Hydrate Vessel Vent No. 3	PM		0.03

## EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

## AIR CONTAMINANTS DATA

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>	<u>TPY</u>
		0.03		
		PM <sub>10</sub> 0.03	0.03	
R86Z/AFS11	R-86A and R-86B AlF <sub>3</sub> Storage	PM	0.08	0.08
	Common Stack Bag Collector	PM <sub>10</sub>	0.08	0.08
<b><u>Sources Previously Under Standard Exemptions or Permits by Rule</u></b>				
B37/UOTX01	B-37-Used Oil Storage Tank Vent	VOC		1.00
		1.00		
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		
R110/SBX01	R-110-Substitute Boiler	NO <sub>x</sub>	11.18	11.26
		CO	11.35	11.49
		VOC	0.16	0.16
		SO <sub>2</sub>	0.00	0.00
		PM <sub>10</sub>	1.31	1.32
R111/UOT01	R-111-Used Oil Storage Tank Vent	VOC		1.00
		1.00		
R148/SBN11	R-148-Sand Blasting-Machine	PM	0.50	0.30
	Shop-North Bag Collector	PM <sub>10</sub>	0.50	0.30
R148/SBS11	R-148-Sand Blasting-Machine	PM	0.50	0.30
	Shop-South Bag Collector	PM <sub>10</sub>	0.50	0.30
R15/DSTX01	R-15-Diesel Storage Tank Vent	VOC	0.50	0.12
R25/PCL101	R-25 Pre Coat Lime Slaker	PM	0.20	0.80
	No. 1 Vent	PM <sub>10</sub>	0.20	0.80
R25/PLS201	R-25 Process Lime Slaker No. 2	PM		0.20
		0.80		
	(spare) Vent	PM <sub>10</sub>	0.20	0.80

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

AIR CONTAMINANTS DATA

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>	<u>TPY</u>
R25/PLSX01	R-25 New Product Lime Slaker Vent	PM PM <sub>10</sub>	0.20 0.20	0.80 0.80
R35/HCIX11	R-35-HCl Acid Storage Tank Wet Scrubber	HCl	0.12	0.54
R35M/D0100	R-35M-Dredge Lake No. 1 (4)	PM PM <sub>10</sub>	0.40 0.15	0.18
		0.30		
R35M/D0200	R-35M-Dredge Lake No. 2 (4)	PM PM <sub>10</sub>	0.40 0.15	0.18
		0.30		
R35M/L0400	R-35M-Lake No. 4 (4)	PM PM <sub>10</sub>	11.80 4.49	5.20
		10.00		
R35M/LF300	R-35M-Landfill Site III (4)	PM PM <sub>10</sub>	0.40 0.15	0.18
		0.30		
R35M/RLX00	R-35M-Recycle Lake (4)	PM PM <sub>10</sub>	0.40 0.15	0.18
		0.30		
R35V/DFV11	R-35-V Flocculent vessel No. 1 Bag Collector	PM PM <sub>10</sub>	0.14 0.14	0.61 0.61
R35V/DFV21	R-35-V Flocculent vessel No. 2 Bag Collector	PM PM <sub>10</sub>	0.14 0.14	0.61 0.61
R38M/SBX11	R-38M-Sand Blasting Bag Collector	PM PM <sub>10</sub>	1.00 1.00	1.00 1.00
R38M/UOT01	R-38M-Used Oil Storage Tank Vent	VOC	1.00	1.00
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	PM PM <sub>10</sub>	0.05 0.05	0.22 0.22

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

AIR CONTAMINANTS DATA

Emission *	Source	Air Contaminant	Emission	Rates
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY
R42/HECV01	R42-High Efficiency Causticization Relief Vessel Vent	PM PM <sub>10</sub> VOC Hg	0.09 0.09 0.07 0.005	0.40 0.40 0.31 0.0011
R42/HECP01	R42-High Efficiency Causticization Vacuum Pump Vent	VOC Hg	0.02 0.0006	0.09 0.003
R50/#05LP11	R-50-No. 5 Low Lift Pot- Al <sub>2</sub> O <sub>3</sub> Bag Collector	PM PM <sub>10</sub>	0.26 0.26	1.16 1.16
R50/#07LP11	R-50-No. 7 Low Lift Pot- Al <sub>2</sub> O <sub>3</sub> Bag Collector	PM PM <sub>10</sub>	0.26 0.26	1.16 1.16
R50/01AG11	R-50-No. 1 Air Gravity Conveyor- Al <sub>2</sub> O <sub>3</sub> Bag Collector	PM PM <sub>10</sub>	0.26 0.26	1.16 1.16
R50/02AG21	R-50-No. 2 Air Gravity Conveyor - Al <sub>2</sub> O <sub>3</sub> Bag Collector	PM PM <sub>10</sub>	0.12 0.19	0.38 0.06
R50/03AG21	R-50-No. 3 Air Gravity Conveyor - Al <sub>2</sub> O <sub>3</sub> Bag Collector	PM PM <sub>10</sub>	0.12 0.19	0.38 0.06
R50/04AG21	R-50-No. 4 Air Gravity Conveyor - Al <sub>2</sub> O <sub>3</sub> Bag Collector	PM PM <sub>10</sub>	0.26 1.16	1.16 0.26
R50/08AG11	R-50-No. 8 Air Gravity Conveyor - Al <sub>2</sub> O <sub>3</sub> Bag Collector	PM PM <sub>10</sub>	0.12 0.19	0.38 0.06
R50/10AG11	R-50-No. 10 Air Gravity Conveyor - Al <sub>2</sub> O <sub>3</sub> Bag Collector	PM PM <sub>10</sub>	0.30 1.30	1.30 0.30



## EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

## AIR CONTAMINANTS DATA

Emission *	Source	Air Contaminant		Emission Rates	
Point No. (1)	Name (2)	Name (3)		lb/hr	TPY
R50/1AAG11	R-50-No. 1A Air Gravity Conveyor - Al <sub>2</sub> O <sub>3</sub> Bag Collector	PM	PM <sub>10</sub> 1.50	0.34	1.50 0.34
R50/2EAG11	R-50-No. 2E Air Gravity Conveyor - Al <sub>2</sub> O <sub>3</sub> Bag Collector	PM	PM <sub>10</sub> 1.16	0.26	1.16 0.26
R50/3EAG11	R-50-No. 3E Air Gravity Conveyor - Al <sub>2</sub> O <sub>3</sub> Bag Collector	PM	PM <sub>10</sub> 1.16	0.26	1.16 0.26
R50/4EAG11	R-50-No. 4E Air Gravity Conveyor - Al <sub>2</sub> O <sub>3</sub> Bag Collector	PM	PM <sub>10</sub> 1.16	0.26	1.16 0.26
R50/56LP11	R-50-No. 5/6 Low Lift Pot - Al <sub>2</sub> O <sub>3</sub> Bag Collector	PM PM <sub>10</sub>	1.16	0.26 1.16	0.26 1.16
R50/67LP11	R-50-No. 6/7 Low Lift Pot - Al <sub>2</sub> O <sub>3</sub> Bag Collector	PM PM <sub>10</sub>	1.16	0.26 1.16	0.26 1.16
R50/ASPV11	R-50-Al <sub>2</sub> O <sub>3</sub> Special Products Vessel Bag Collector	PM PM <sub>10</sub>		6.00 6.00	25.00 25.00
R53/RCUX11	R-53-Railcar Unloading Bag Collector	PM PM <sub>10</sub>		1.37 1.37	6.01 6.01
R55-2/DB11	R-55-2-Flash Calciner Disengaging Box Bag Collector	PM PM <sub>10</sub>	0.30	0.04	0.08 0.15

## EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

## AIR CONTAMINANTS DATA

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>	<u>TPY</u>
R55-3/DB11	R-55-3-Flash Calciner Disengaging	PM 0.30		0.08
	Box Bag Collector	PM <sub>10</sub>	0.04	0.15
R55/01DB12	R-55-(1-2-3)Disengaging Box-Spare	PM 13.14		3.00
	Bag Collector	PM <sub>10</sub>	3.00	13.14
R55/ESP211	R-55 ESP Dust Redigest Tank No. 2	PM 0.24		0.06
	Wet Scrubber	PM <sub>10</sub>	0.03	0.12
R56/ESP11	R-56 ESP Dust Redigest Tank No. 1	PM 1.00		6.00
	Wet Scrubber	PM <sub>10</sub>	6.00	1.00
R56/ESP211	R-56 ESP Dust Redigest tank No. 2	PM	6.00	1.00
	Wet Scrubber	PM <sub>10</sub>	6.00	1.00
R56/HSRX01	R-56-Hydrate Storage drop	PM	2.20	1.19
	to conveyor (4)	PM <sub>10</sub>	2.20	1.19
R56/HSRX02	R-56-Hydrate Storage drop to	PM	2.20	1.19
	stockpile (4)	PM <sub>10</sub>	2.20	1.19
R56/HSRX03	R-56-Hydrate Storage	PM	2.20	1.19
	stockpile (4)	PM <sub>10</sub>	2.20	1.19
R56/HSRX14	R-56-Hydrate Storage drop	PM	0.60	0.32
	into hopper (4)	PM <sub>10</sub>	0.60	0.32
R56/HSRX15	R-56-Hydrate Storage- drop to	PM	0.60	0.32
	reclaim conveyor (4)	PM <sub>10</sub>	0.60	0.32
R56/HSRX16	R-56-Hydrate Storage- drop to	PM	0.60	0.32
	slurry tank (4)	PM <sub>10</sub>	0.60	0.32

## EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

## AIR CONTAMINANTS DATA

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>	<u>TPY</u>
R56/HRCX21	R-56 Hydrate Railcar Loading Drop from Loader Bucket Into Conveyor Hopper (4)	PM PM <sub>10</sub>	1.1 0.55	1.19 0.59
R56/HRCX22	R-56 Hydrate Railcar Loading Drop from Hopper to Conveyor (4)	PM PM <sub>10</sub>	1.1 0.55	1.19 0.59
R56/HRCX23	R-56 Hydrate Railcar Loading Conveyor Drop into Railcar (4)	PM PM <sub>10</sub>	1.1 0.55	1.19 0.59
Note: Hydrate Railcar Loading (EPNs R56/HRCX21, R56/HRCX22, and R56/HRCX23) will not operate at the same time as R56 Hydrate Reclaim (EPNs R56/HSRX14, R56/HSRX15, and R56/HSRX16), or R56 Hydrate Truck Loading (EPN) R56/HTLX31.				
R56/HTLX31	R-56 Hydrate Truck Loading Drop from Loader Bucket into Truck (4)	PM PM <sub>10</sub>	1.1 0.55	1.19 0.59
Note: R56 Hydrate Truck Loading (EPN R56/HTLX31) will not operate at the same time as R-56 Hydrate Reclaim (EPNs R56/HSRX14, R56/HSRX15, and R56/HSRX16) or R56 Hydrate Railcar Loading (EPNs R56/HRCX21, R56/HRCX22, and R56/HRCX23).				
R8/SHTXX01	R-8-Starch Vessel Vent	PM PM <sub>10</sub>	6.00 6.00	10.00 10.00
R80/SPAR01	R80 Spar Stockpile Transfer (4)	PM PM <sub>10</sub>	6.00 6.00	1.00 1.00
R81/SDXX11	R-81-Spar Drying Bag Collector	PM PM <sub>10</sub>	0.87 0.87	3.83 3.83
R81/SGXX11	R-81-Spar Grinding Bag Collector	PM 0.83 PM <sub>10</sub>	0.19 0.19 0.83	0.19

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

AIR CONTAMINANTS DATA

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>	<u>TPY</u>
R85/HH0211	R-85-Hydrate Handling No. 2 Bag Collector	PM PM <sub>10</sub>	0.03 0.03	1.18 1.18
R85/HH0111	R-85-Hydrate Handling No. 1 Bag Collector	PM PM <sub>10</sub>	0.03 0.03	1.18 1.18
R85B/HSV11	R-85B-Hydrate Storage Bag Collector	PM PM <sub>10</sub>	0.06 0.06	0.60 0.60

**Sources Previously Under A Standard Permit**

R84/SF1X11	R-84-WT Spar Feed No. 1 Bag Collector	PM PM <sub>10</sub>	0.36 0.36	1.11 1.11
R84/SF1611	R-84-WT Spar Feed Nos. 2, 3, 4, and 5 Bag Collector	PM PM <sub>10</sub>	1.44 1.44	4.42 4.42
R84/SF6X11	R-84-WT Spar Feed No. 6 Bag Collector	PM PM <sub>10</sub>	0.36 0.36	1.11 1.11

**Previously Grandfathered Sources from the Bayer Process**

B37/GXXX00	B-37-Garage (4)	VOC	1.00	1.00
B60/S00600	B-60-Smelting Lagoon (4)	VOC	1.00	1.00
R10/SADX00	R-10 Sulfuric Acid Unloading Dock (4)	H <sub>2</sub> SO <sub>4</sub>	1.00	1.00
R110/05D01	R-110 5 lb Deaerator Vent	VOC Hg	0.0002 0.0005	0.0006
R110/95D01	R-110 95 lb Deaerator Vent	VOC Hg	0.07 0.0003	0.29
R110/CTX01	R-110 Cooling Tower (4)	PM PM <sub>10</sub>	0.10 0.10	0.50
R111/GXX00	R-111-Garage (4)	VOC	1.00	1.00

## EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

## AIR CONTAMINANTS DATA

Emission *	Source	Air Contaminant	<u>Emission Rates</u>	
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY
R115/STP01	R-115 Sanitary Treatment Plant	Cl 0.10		1.00
R148/MSX11	R-148 Machine Shop Sand Blasting	PM 1.00		1.00
	Bag Collector	PM <sub>10</sub>	1.00	1.00
R25/RM0101	R-25-Rod Mill No. 1 Vent	VOC	0.14	0.44
	Hg	0.005	0.02	
R25/RM0201	R-25-Rod Mill No. 2 Vent	VOC	0.14	0.44
	Hg	0.005	0.02	
R25/RM0301	R-25-Rod Mill No. 3 Vent	VOC	0.14	0.44
	Hg	0.005	0.02	
R25/RM0401	R-25-Rod Mill No. 4 Vent	VOC	0.14	0.44
	Hg	0.005	0.02	
R25/RM0501	R-25-Rod Mill No. 5 Vent	VOC	0.14	0.44
	Hg	0.005	0.02	
R25/RM0601	R-25-Rod Mill No. 6 Vent	VOC	0.14	0.44
	Hg	0.005	0.02	
R25/RM0701	R-25-Rod Mill No. 7 Vent	VOC	0.14	0.44
	Hg	0.005	0.02	
R25/RM0801	R-25-Rod Mill No. 8 Vent	VOC	0.14	0.44
	Hg	0.005	0.02	
R31/RTXX01	R-31 Relief Tank (Unit 6)	(4)	VOC 3.50	0.80
R33/RTXX01	R-33 Relief Tank (Unit 5)	(4)	VOC	0.80

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

AIR CONTAMINANTS DATA

Emission *	Source	Air Contaminant	Emission	Rates
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY
			3.50	
R35/STXX00	R-35-Secondary Thickeners Vent	VOC	2.00	
		Hg	0.001	
R35/PSBX00	R-35 Painting and Sand Blasting (4)	PM	0.06	0.24
		PM <sub>10</sub>	0.03	.12
		VOC	1.50	5.91
R35/WTAX00	R-35-Washer Train A Vents	VOC	2.00	5.00
		Hg	0.20	0.90
R35/WTBX00	R-35-Washer Train B Vents	VOC	2.00	5.00
		Hg	0.20	0.90
R35M/CLX00	R-35M-Clear Lake (4)	PM	0.40	0.18
		PM <sub>10</sub>	0.30	0.15
R35M/L1X00	R-35M-Lake No. 1 (4)	PM	0.40	0.18
		PM <sub>10</sub>	0.30	0.15
R35M/L2X00	R-35M-Lake No. 2 (4)	PM	11.80	5.20
		PM <sub>10</sub>	10.00	4.40
R35M/L3X00	R-35M-Lake No. 3 (4)	PM	0.40	0.18
		PM <sub>10</sub>	0.30	0.15
R35M/RWX00	R-35M Raw Water Lake (4)	PM	0.40	0.18
		PM <sub>10</sub>	0.30	0.15
R35M/SLX00	R-35M Storm Lake (4)	PM	5.70	2.50
		PM <sub>10</sub>	5.00	1.10
R35V/FS201	R-35V Flocculent Tank - South No. 2 Vent	VOC	3.59	
			0.37	

## EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

## AIR CONTAMINANTS DATA

Emission *	Source	Air Contaminant	<u>Emission Rates</u>	
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY
R45/GSTX01	R-45 Gasoline Storage Tank	Vent	VOC	1.00
		1.00		
R50/A1XX11	R-50 Alumina Handling (A)	PM	0.43	1.88
	Collector	PM <sub>10</sub>	0.43	1.88
R50/A2XX11	R-50 Alumina Handling (B)	PM	0.43	1.88
	Collector	PM <sub>10</sub>	0.43	1.88
R50/KVAX01	R-50 Kiln Vacuum Pump A	VOC	3.00	11.83
	Vent			
R50/KVBX01	R-50 Kiln Vacuum Pump B	VOC	3.00	11.83
	Vent			
R50/K04X03	R-50-Kiln Vent No. 4	PM	92.90	4.65
		PM <sub>10</sub>	4.65	
R50/K05X03	R-50-Kiln Vent No. 5	PM	92.90	4.65
		PM <sub>10</sub>	4.65	
R50/K06X03	R-50-Kiln Vent No. 6	PM	92.90	4.65
		PM <sub>10</sub>	4.65	
R50/K07X03	R-50-Kiln Vent No. 7	PM	92.90	4.65
		PM <sub>10</sub>	4.65	
R55/HF1401	R-55-Horizontal Filter Nos.		VOC	6.48
	1, 2, 3, and 4 Vent	6.4 Hg	0.004	0.016
R55-1/DB11	R-55-1 Flash Calciner	Disengaging	PM	0.08
		0.30		
	Box Bag Collector	PM <sub>10</sub>	0.04	0.15

## EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

## AIR CONTAMINANTS DATA

Emission *	Source	Air Contaminant	<u>Emission Rates</u>	
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY
R60/LCDX11	R-60 Lime Conveyor Discharge		PM	8.26
	Bag Collector	36.18 PM <sub>10</sub>	8.26	36.18
R60/LTXX11	R-60-Lime Transfer/Storage/Transfer		PM	2.47
	Bag Collector	10.80 PM <sub>10</sub>	2.47	10.80

(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) PM - particulate matter, suspended in the atmosphere, including PM<sub>10</sub>.

PM<sub>10</sub> - 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.

Hg - mercury

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

NaOH - sodium hydroxide

Al<sub>2</sub>O<sub>3</sub> - alumina

NO<sub>x</sub> - nitrogen oxide

CO - carbon monoxide

SO<sub>2</sub> - sulfur dioxide

H<sub>2</sub>SO<sub>4</sub> - sulfuric acid

HF - hydrogen fluoride

HCl - hydrochloric acid

Cl - chlorine

(4) Fugitive emissions are an estimate only.

\* Emission rates are based on and the facilities are limited by the



EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

AIR CONTAMINANTS DATA

Emission *	Source	Air Contaminant	Emission Rates	
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Point No. (1)	Name (2)	Name (3)	lb/hr	TPY
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following maximum operating schedule and the throughput and production rates as listed in Special Condition No. 1:

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

Dated April 15, 2004