State of Illinois
ENVIRONMENTAL PROTECTION AGENCY

Mary A. Gade, Director

2200 Churchill Road, Springfield, IL 62794-9276

217/524-4343

February 3, 1997

David Pohlman
U.S. Environmental Protection Agency
Region V
77 West Jackson Boulevard
Chicago, Illinois 60604

Dear ~~Mr. Pohlman~~ David:

Enclosed you will please find revised emissions and modeling data to assist in your review of the Granite City PM-10 SIP and redesignation request. The attachments and enclosed floppy disks, which contain the modeling, should be self-explanatory, but feel free to call if you have any questions.

Sincerely,

Rob

Robert J. Kaleel
Manager, Modeling Unit
Air Quality Planning Section
Bureau of Air

Enclosures
File:F:(bj)RK-Pohlm.

Printed on Recycled Paper

ATTACHMENT A

Emission Calculations and Listings for Granite City Steel

AREA: Granite City

FACILITY: Granite City Steel

SOURCE: BOF: Charging, Tapping, and Blowing (Refining) Fugitive Emissions (Revised Hourly Emissions)

SOURCE IDs: 26000 - 26030 and 26070 - 26130

24-Hour Emissions

Process Weight Rate (Maximum) = 11,000 tons/day = 458.33 tons/hr.

PM-10 Fraction = 0.67

The facility's projected production rate is 458.33 tons steel/hour.
Hot metal charging rate is 404.94 tons/hr.

Charging

PM-10 Emission Rate = (A)(B)(C)(D)

A = Hot Metal Charging = 404.94 tons/hr.
B = PM-10 Emissions Factor = 0.6 lbs. PM-10/ton metal
AP-42 (Table 7.5-1, P. 7.5-9)
C = Control Factor = (1. - 0.95)
D = PM-10 Fraction = 0.67

PM-10 Emission Rate = (404.94)(0.6)(1 - 0.95)(0.67)
= 8.14 lbs. PM-10/hr.

Tapping

PM-10 Emission Rate = (E)(F)(C)(D)

E = Production Rate for Steel = 458.33 tons/hr.
F* = PM-10 Emission Factor = (0.92)(1 - .05) = 0.874
AP-42 (Table 7.5-1, P. 7.5-9)

PM-10 Emission Rate = (458.33)(0.874)(1. - 0.95)(0.67)
= 13.42

* This is an adjusted factor for tapping to give credit for reduction of tapping emissions due to use of fume suppression during each tap. It is estimated that 5% less emissions are generated. NSPS suggest that fume suppression control could be equivalent to hood capture with baghouse.

Refining

PM-10 Emission Rate = (E)(G)(C)(D)

G = PM-10 Emissions Factor = 28.5

AREA: Granite City

FACILITY: Granite City Steel

SOURCE: BOF: Charging, Tapping, and Blowing (Refining) Fugitive Emissions (Revised Annual Emission)

SOURCE IDs: 26000 - 26030 and 26070 - 26130

Annual Emissions

Process Weight Rate (Average) = 9,800 tons/day = 408.33 tons/hr.

PM-10 Fraction = 0.67

The facility's projected production rate is 408.33 tons steel/hour.
Hot metal charging rate is 361.07 tons/hr.

Charging

PM-10 Emission Rate = (A)(B)(C)(D)

A = Hot Metal Charging = 361.07 tons/hr.
B = PM-10 Emissions Factor = 0.6 lbs. PM-10/ton metal
AP-42 (Table 7.5-1, P. 7.5-9)
C = Control Factor = (1. - 0.95)
D = PM-10 Fraction = 0.67

PM-10 Emission Rate = (361.07)(0.6)(1 - 0.95)(0.67)
= 7.26 lbs. PM-10/hr.

Tapping

PM-10 Emission Rate = (E)(F)(C)(D)

E = Production Rate for Steel = 408.33 tons/hr.
F* = PM-10 Emission Factor = (0.92)(1 - .05) = 0.874
AP-42 (Table 7.5-1, P. 7.5-9)

PM-10 Emission Rate = (408.33)(0.874)(1. - 0.95)(0.67)
= 11.97

* This is an adjusted factor for tapping to give credit for reduction of tapping emissions due to use of fume suppression during each tap. It is estimated that 5% less emissions are generated. NSPS suggest that fume suppression control could be equivalent to hood capture with baghouse.

Refining

PM-10 Emission Rate = (E)(G)(C)(D)

G = PM-10 Emissions Factor = 28.5

BOF: (Revised Annual Emissions) (Con't)

PM-10 Emission Rate = (408.33)(28.5)(1 - 0.999)(0.67) = 7.80
AP-42 (Table 7.5-1, P. 7.5-8)

Emissions Summary

Charging = 7.26 lbs/hr
Tapping = 11.97 lbs/hr
Refining = 7.80 lbs/hr

TOTAL EMISSIONS = 27.03 lbs/hr or 3.82 g/s

Volume Sources 26000 - 26030

[(Total Emissions) x (0.75)] ÷ 4 = Emissions Per Volume Source
[(27.03) x (0.75)] ÷ 4 = 5.068 lbs/hr
(5.068)(0.126) = 0.639 g/s

Volume Sources 26070 - 26130

[(Total Emissions) x (0.25)] ÷ 7 = Emissions Per Volume Source
[(27.03) x (0.25)] ÷ 7 = 0.965 lbs/hr
(0.965)(0.126) = 0.122 g/s

BOF: (Revised Annual Emissions) (Con't)

VOLUME SOURCE UNITS

PM-10 Source #	X-UTM (m)	Y-UTM (m)	Volume Source Height (m)	σyo (m)	σzo (m)	Emission Rate (gms/sec)
26000	748485	4286385	51.51	6.55	23.96	0.639
26010	748496	4286394	51.51	6.55	23.96	0.639
26020	748507	4286403	51.51	6.55	23.96	0.639
26030	748517	4286412	51.51	6.55	23.96	0.639
26070	748490	4286360	51.51	6.58	23.96	0.122
26080	748501	4286369	51.51	6.58	23.96	0.122
26090	748512	4286378	51.51	6.58	23.96	0.122
26100	748523	4286387	51.51	6.58	23.96	0.122
26110	748534	4286396	51.51	6.58	23.96	0.122
26120	748545	4286405	51.51	6.58	23.96	0.122
26130	748555	4286415	51.51	6.58	23.96	0.122

MW:granite2:jar

Revised Point Source Emission Inventory for Granite City Steel, 119813AAI

PM-10 Source No.	Description	Permit No.	EIS Source No.	EIS Mode No.	EIS Stack No.	No. of Identical Sources	PM-10 Allowable Emissions	PM-10 Actual Emissons	PM-10 Annual Emissions	Operating Factor
							lbs./hr.	lbs./hr.	lbs./hr.	
21520	A Blast Furance Casthouse - RM	72080034	0005	0001	0008	1	3.375		1.970	0.2917
21530	A Blast Furnace - Charging	72080034	0006	0001	0009	1	0.610		0.824	1.0000
21570	B Blast Furnace Casthouse - RM	72080036	0010	0001	0013	1	3.375		1.970	0.2917
21580	B Blast Furance - Charging	72080036	0011	0001	0014	1	0.712		0.961	1.0000
21680	No.6 Galvanizing Line	72080040	0023	0002	0034	1	0.000		0.000	---
21690	No.6 Galvanizing Pot - RM	72080040	0024	0001	0035	1	0.220		0.022	0.7885
21700	No.6 Galvanizing Line and Cleaner	72080040	0025	0001	0036	1	0.000		0.000	---
21710	Furnace #7A Galvanizing Line	72080040	0027	0002	0038	1	0.000		0.000	---
21720	Galvanizing Pot Line #7A - RM	72080040	0028	0001	0039	1	0.210		0.210	0.8462
21740	No.6 Galvanizing Pot - Gas	72080040	0031	0001	0043	1	0.000		0.000	---
21760	BOF - Two Vessels	72080043	0033	0001	0045	1	60.000		59.100	0.8077
21770	Charging, Tapping, and Refining - R	72080043	0034	0001	0046	1	30.340		27.030	0.8909
21790	Flux Conveying and Transfer	72080043	0037	0001	0049	1	0.857		0.857	1.0000
21800	Ladle Preheaters Dryers - RM	72080043	0038	0002	0050	1	5.160		0.651	0.3274
21830	Blr. Hse. 1, Blrs. 1 to 7	73031119	0041	0002	0053	1	42.000		42.000	1.0000
21844	Blr. Hse. 1, Blrs. 8, 9, & 10	73031119	0042	0004	0054	1	18.000		16.200	0.9000
21864	Boiler #11 - Blast Furance	73031492	0044	0004	0059	1	22.500		29.250	1.0000
21884	Boiler #12 - Blast Furance	73100166	0048	0004	0064	1	22.500		29.250	1.0000
21900	Coal Crushing and Pulverizing	74010041	0050	0001	0066	1	0.446		0.446	1.0000
21940	Oven Charging - A Battery - RM	80050010	0054	0001	0068	1	0.051		0.051	1.0000
21950	Oven Pushing - A Battery - RM	80050010	0055	0001	0069	1	0.648		0.648	1.0000
21980	Oven Doors - A Battery - RM	80050010	0058	0001	0072	1	0.140		0.140	1.0000
21990	Lids and Standpipes - RM	80050010	0059	0001	0073	1	0.068		0.068	1.0000
22090	Caster Mold I, Ladle - RM	81080069	0070	0001	0082	1	2.100		2.020	1.0000
22100	Continuous Caster I	81080069	0071	0001	0083	1	0.600		0.600	1.0000
22110	Slab Cut-Off I - RM	81080069	0072	0001	0084	1	2.500		2.410	1.0000
22120	Continuous Claster - Slab - RM	81080069	0073	0001	0085	1	0.886		0.886	1.0000
22130	Oven Charging - B Battery - RM	82060043	0076	0001	0089	1	0.051		0.051	1.0000
22150	Oven Pushing - Uncaptured - RM	82060043	0078	0001	0091	1	0.611		0.575	0.9423
22170	Oven Doors - B Battery - RM	82060043	0080	0001	0093	1	0.140		0.140	1.0000
22180	Coking Lids and Standpipes - RM	82060043	0081	0001	0094	1	0.068		0.068	1.0000
22291	Caster Mold II, Ladle - RM	87110097	0120	0001	---	2	4.200		4.200	1.0000
22292	Continuous Caster II	87110097	0119	0001	---	2	0.600		0.000	---
22293	Slab Cutoff II - RM	87110097	0118	0001	---	1	2.500		2.500	1.0000

Revised Point Source Emission Inventory for Granite City Steel, 119813AAI

PM-10 Source No.	Description	Emissions Rule Type	Condensable Fraction	Condensable Threshold	Condensable Emissions	Total Emissions	Modeling Threshold Short-Term	Modeling Threshold Long-Term
					lbs./hr.	lbs./hr.		
21520	A Blast Furance Casthouse - RM	20% Opacity					Yes	Yes
21530	A Blast Furnace - Charging	20% Opacity	1.35	Yes	0.214	0.824	Yes	Yes
21570	B Blast Furnace Casthouse - RM	20% Opacity		No			Yes	Yes
21580	B Blast Furance - Charging	20% Opacity	1.35	Yes	0.249	0.961	Yes	Yes
21680	No.6 Galvanizing Line	SO2 FESOP		No			No	No
21690	No.6 Galvanizing Pot - RM	Zinc Oxide Bath		No			Yes	Yes
21700	No.6 Galvanizing Line and Cleaner	SO2 FESOP		No			No	No
21710	Furnace #7A Galvanizing Line	SO2 FESOP		No			No	No
21720	Galvanizing Pot Line #7A - RM	Zinc Oxide Bath		No			Yes	Yes
21740	No.6 Galvanizing Pot - Gas	SO2 FESOP		No			No	No
21760	BOF - Two Vessels	Ultimate Allowable	1.22	Yes	14.1	73.200	Yes	Yes
21770	Charging, Tapping, and Refining - RM	Proposed future limit		No			Yes	Yes
21790	Flux Conveying and Transfer	0.01 grains/scf		No			Yes	No
21800	Ladle Preheaters Dryers - RM	20% Opacity/SO2 FESOP - from R. Kaleel 2-24-95		No			Yes	Yes
21830	Blr. Hse. 1, Blrs. 1 to 7	0.075 lbs/mm BTU		No			Yes	Yes
21844	Blr. Hse. 1, Blrs. 8, 9, & 10	0.075 lbs/mm BTU		No			Yes	Yes
21864	Boiler #11 - Blast Furance	0.1 lbs/mm BTU	1.3	Yes	6.75	29.250	Yes	Yes
21884	Boiler #12 - Blast Furance	0.1 lbs/mm BTU	1.3	Yes	6.75	29.250	Yes	Yes
21900	Coal Crushing and Pulverizing	0.01 grains/scf		No			Yes	Yes
21940	Oven Charging - A Battery - RM	VE Time Limit - from B. Moore 9-6-95		No			Yes	Yes
21950	Oven Pushing - A Battery - RM	20% Opacity - from B. Moore 9-6-95		No			Yes	Yes
21980	Oven Doors - A Battery - RM	10% VE - from B. Moore 9-6-95		No			Yes	Yes
21990	Lids and Standpipes - RM	5% VE - from B. Moore 9-6-95		No			Yes	Yes
22090	Caster Mold I, Ladle - RM	5% Opacity		No			Yes	Yes
22100	Continuous Caster I	5% Opacity		No			Yes	Yes
22110	Slab Cut-Off I - RM	5% Opacity		No			Yes	Yes
22120	Continuous Claster - Slab - RM	5% Opacity		No			Yes	Yes
22130	Oven Charging - B Battery - RM	VE Time Limit - from B. Moore 9-6-95		No			Yes	Yes
22150	Oven Pushing - Uncaptured - RM	20% Opacity - from B. Moore 9-6-95		No			Yes	Yes
22170	Oven Doors - B Battery - RM	10% VE - from B. Moore 9-6-95		No			Yes	Yes
22180	Coking Lids and Standpipes - RM	5% VE - from B. Moore 9-6-95		No			Yes	Yes
22291	Caster Mold II, Ladle - RM	5% Opacity		No			Yes	Yes
22292	Continuous Caster II	5% Opacity		No			Yes	No
22293	Slab Cutoff II - RM	5% Opacity		No			Yes	Yes

SUMMARY OF FUGITIVE DUST SOURCES (REVISED)
AND PM-10 EMISSION RATES AT GRANITE CITY STEEL COMPANY
ID #119813AAI
12/20/95

	Source	Uncontrolled (TPY)	Uncontrolled (lb/day)
1.	Unpaved Roads	308.93	2440.61
2.	Paved Roads	227.64	1247.44
3.	Material Handling	24.72	135.48
4.	Unpaved Parking Lots	9.30	73.25
5.	Paved Parking Lots	6.53	35.80
6.	Stockpile Erosion	12.15	66.55
7.	Iron Pellet Screening	1.45	22.42
	Total	590.72	3912.50

GRANITE CITY STEEL COMPANY

1. UNPAVED ROADS

PM-10 Emissions from Unpaved Roads (Revised)

Road Segment	VMT Annual	PM-10 Emission Factor Max (lb/VMT)	PM-10 Emission Factor Avg (lb/VMT)	Uncontrolled (lb/day)	Uncontrolled (TPY)	Worst Case Control Efficiency (%)	Controlled (lb/day)	Controlled (TPY)
South Plant								
Road B	38,213	0.92	0.64	96.32	12.33	97	2.80	0.37
Road C	18,593	1.43	0.99	72.84	9.20	97	2.19	2.54
Steelworks								
Road E	9,188	3.40	2.36	85.59	10.84	97	2.57	0.33
Road J	8,359	3.46	2.39	79.24	9.99	97	2.38	0.30
Road L	132,312	4.34	3.01	1,573.24	199.13	98	31.47	3.98
BOF								
Road N	9,999	9.88	6.85	270.66	34.25	97	8.12	1.03
Furnace								
Road Y	10,540	3.74	2.59	108.00	13.65	97	3.24	0.41
Road F-F	5,405	1.01	0.70	14.96	1.89	97	0.45	0.06
Road CS(2)	26,872	1.12	0.78	82.46	10.48	97	2.47	0.31
Road G-G	59,752	0.35	0.24	57.30	7.17	95	2.87	0.36
Total:				2,440.61	308.93		58.56	9.69

GRANITE CITY STEEL COMPANY

2. PAVED ROADS

PM-10 Emissions from Paved Roads (Revised)

	VMT Daily	Vehicle Weight (tons)	PM-10 Emission Factor Max* (lb/VMT)	Uncontrolled (lb/day)	Uncontrolled (TPY)	Worst Case Control Efficiency (%)	Controlled (lb/day)	Controlled (TPY)
South Plant								
Road A	260.18	4.7	0.061	15.87	2.90	95	0.79	0.15
Steelworks								
Road D	462.56	14.3	0.323	149.41	27.27	98	2.99	0.55
Road K	54.12	28.7	0.917	49.63	9.06	98	0.99	0.18
Road M	55.78	5.5	0.077	4.29	0.78	98	0.09	0.02
Road F	553.45	14.3	0.323	178.76	32.62	98	3.58	0.65
Road G	47.78	5.5	0.077	3.68	0.67	98	0.07	0.01
Road H	61.00	8.3	0.143	8.72	1.59	98	0.17	0.03
Road R	7.06	32.0	1.080	7.62	1.39	98	0.15	0.03
BOF								
Road O	336.24	5.5	0.077	25.89	4.72	98	0.52	0.09
Road P	63.67	25.3	0.759	48.33	8.82	98	0.97	0.18
Blast Furnace								
Road V	103.95	24.3	0.715	74.33	13.56	98	1.49	0.27
Road W	73.10	4.7	0.061	4.46	0.81	98	0.09	0.02
Road X	555.26	25.4	0.764	424.22	77.42	98	8.48	1.55
Road Z	114.08	19.8	0.526	60.01	10.95	98	1.20	0.22
Road D-D	136.78	26.5	0.814	111.34	20.32	98	2.23	0.41
Road E-E	11.55	8.2	0.140	1.61	0.29	98	0.03	0.01
Road CS(1)	26.07	49.6	2.084	54.33	9.92	98	1.09	0.20
North Plant								
Road S	174.96	4.7	0.061	10.67	1.95	95	0.53	0.04
Road T	233.77	4.7	0.061	14.27	2.60	95	0.71	0.05
Total:				1,247.44	227.64		26.18	4.66

* Maximum Operating Time = Average Operating Time = 24 hr./day x 365 day/yr.

GRANITE CITY STEEL COMPANY

2. PAVED ROADS (Con't)

PM-10 Emissions Factor Calculations for Paved Roads

$E = K\ (sL/2)^{0.65}\ (W/3)^{1.5}$ from AP-42 (13.2.4-1)

Where:

$K = 0.016$ lb/VMT from AP-42 (13.2.4-3)

$sL = 0.16\ 02/yd^2$

conversion factor for oz. to g = 28.35

$sL = 4.536\ g/yd^2$

conversion factor for yd^2 to m^2 = 1/0.8361

$sL = 5.425$

$E = 0.016\ (5.425/2)^{0.65}\ (W/3)^{1.5}$

$E = (0.031)(W/3)^{1.5}$

GRANITE CITY STEEL COMPANY

3. MATERIAL HANDLING (REVISED)

	Moisture Content (%)	Emission Factor* (lb/ton)	Annual Volume (tons)	# of Handlings	Uncontrolled Emissions Rate (lb/day)	(TPY)	Control Efficiency (%)	Controlled Emissions Rate (lb/day)	(TPY)
Coal	5.2	0.00068	2,266,550	3	7.99	1.45	90	0.799	0.145
Coke	1.0	0.00681	1,481,975	2	55.30	10.09	90	5.530	1.009
Coke Breeze	8.6	0.00033	52,305	2	0.09	0.02	90	0.009	0.002
Pellets	2.7	0.00169	4,184,400	3	58.12	10.61	90	5.812	1.061
Limestone	1.3	0.00472	540,485	2	13.98	2.55	90	1.398	0.255
Total:					135.48	24.72		13.548	2.472

* From AP-42 (P. 11.2.3-3)

GRANITE CITY STEEL COMPANY

4. UNPAVED PARKING LOTS

PM-10 Emissions from Unpaved Parking Lots (Revised)

Road Segment	VMT Annual	PM-10 Emission Factor Max (lb/VMT)	PM-10 Emission Factor Avg (lb/VMT)	Uncontrolled (lb/day)	Uncontrolled (TPY)	Worst Case Control Efficiency (%)	Controlled (lb/day)	Controlled (TPY)
South Plant								
P-1	5,190	0.41	0.29	5.83	0.75	95	0.29	0.04
P-2	11,178	0.41	0.29	12.55	1.62	95	0.63	0.08
16th & Madison								
P-7	37,300	0.42	0.29	42.95	5.41	95	2.15	0.27
BOF								
P-22	2,994	0.41	0.29	3.36	0.43	95	0.17	0.02
Primary Lot								
P-29	5,788	0.40	0.28	6.34	0.81	95	0.32	0.04
Furnace								
P-30	1,976	0.41	0.29	2.22	0.28	95	0.11	0.01
Total:				73.25	9.30		3.67	0.46

GRANITE CITY STEEL COMPANY

5. PAVED PARKING LOTS (REVISED)

PM-10 Emissions from Paved Parking Lots

Road Segment	VMT Annual	PM-10 Emission Factor Max (lb/VMT)	PM-10 Emission Factor Avg (lb/VMT)	Uncontrolled (lb/day)	Uncontrolled (TPY)	Worst Case Control Efficiency (%)	Controlled (lb/day)	Controlled (TPY)
NASM								
P-23	97,018	0.04	0.04	10.63	1.94	95	0.53	0.10
P-24	114,187	0.04	0.04	12.51	2.28	95	0.63	0.11
Primary Lot								
P-28	92,428	0.05	0.05	12.66	2.31	95	0.63	0.12
Total:				35.80	6.53		1.79	0.33

GRANITE CITY STEEL COMPANY

6. STOCKPILE EROSION (REVISED)

E = 1.70 lbs/acre/day AP-42 (p. 8.19.1-1)

From an examination of aerial photos and a plot plan, the total area covered by stockpiles is acres.

Maximum Operating Time = Average Operating Time = 24 hours/day x 365 days/year

Total PM-10 emissions -

Q_{annual} = 1.70 lbs/acre/day (39.15 acres) (365 days)
= 24,292.58 lbs/year
= 12.15 tons/year

Q_{daily} = 2.69 lbs/acre/day (24.7 acres)
= 66.55 lbs/day

Controlled PM-10 emissions -
90% Control

Q_{annual} = (12.15)(1 - .9)
= 1.22 tons/year

Q_{daily} = (66.55)(1 - .9)
= 6.66 lbs/day

GRANITE CITY STEEL COMPANY

7. IRON PELLET SCREENING (REVISED)

Maximum Operating Time = 8^h x 7^d x 52^{wk}
Average Operating Time = 8^h x 5^d x 40^{wk}
Maximum Operating Rate = 1268 tons/hour
Average Operating Rate = 634 tons/hour
Emission Factor = 0.00221 lb/ton

Total PM-10 emissions -

Q_{daily} = (0.00221 lb/ton)(1268 tons/hour)(8 hours/day) = 22.42 lbs/day

Q_{annual} = (0.00221 lb/ton)(634 tons/hour)(2080 hours/year) x (1 ton/2000 lbs)
= 1.45 ton/year

Controlled PM-10 emissions -
90% Control

Q_{daily} = (22.42)(1 - .9)
= 2.24 lbs/day

Q_{annual} = (1.45)(1 - .9)
= 0.15 tons/year

MW:granite1:jar

ATTACHMENT B

Emission Calculations and Listings for St. Louis Slag and International Mill Service

SUMMARY OF FUGITIVE DUST SOURCES
AND PM-10 EMISSION RATES AT ST LOUIS SLAG (REVISED)
ID #119813AAD
12/20/95

	Source	Uncontrolled (TPY)	Uncontrolled (lb/day)
1.	Unpaved Roads	17.58	304.87
2.	Material Handling	3.76	48.88
3.	Crushers	0.84	8.37
4.	Screens	1.17	11.16
5.	Stockpile Erosion	2.84	15.55
	Total	26.19	388.83

ST. LOUIS SLAG

1. UNPAVED ROADS (REVISED)

Road Segment	VMT Daily	VMT Annual	PM-10 Emission Factor Max (lb/VMT)	PM-10 Emission Factor Avg (lb/VMT)	Uncontrolled (lb/day)	Uncontrolled (TPY)	Worst Case Control Efficiency (%)	Controlled (lb/day)	Controlled (TPY)
F-F	17.89	2,983	1.30	0.90	23.26	1.34	95	1.16	0.07
T-T	2.84	474	4.00	2.77	11.36	0.66	95	0.57	0.03
Areas	185.10	30,850	1.46	1.01	270.25	15.58	95	13.51	0.78
Total:					304.87	17.58		15.24	0.88

ST. LOUIS SLAG

2. MATERIAL HANDLING (REVISED)

A. Storage Piles

$$E = 0.35\ (0.0032)\ \frac{(U/5)^{1.3}}{(M/2)^{1.4}}\ \text{lbs PM-10/ton}$$ AP-42 (p. 11.2.3-3)

where,

E = PM-10 emission factor
U = mean wind speed (9.5 mph)
M = material moisture content (8.9%) (MRI 1988)

Annual volume = 602,300 tons/year maximum; 321,741 tons/year average
Daily volume = 1,929.74 tons/day maximum
(Based on 12 hours/day, 6 days/week, 52 weeks/year maximum; 8 hours/day, 5 days/week, 50 weeks/year average)
4 handling operations (MRI 1988)

E = 0.0003 lb PM-10/ton

Total PM-10 emissions -

Q_{annual} = (0.0003 lb/ton)(321,741 tons/year)(4 handling operations) x (ton/2000 lbs)
= 0.19 ton/year

Q_{daily} = (0.0003 lb/ton)(1929.74 tons/day)(4 handling operations)
= 2.32 lbs/day

Controlled PM-10 emissions -
90% Control

Q_{annual} = (0.19)(1 - .9)
= 0.02 tons/year

Q_{daily} = (2.32)(1 - .9)
= 0.23 lbs/day

B. Conveying

Annual volume = 1,780,272 tons/year maximum; 951,000 ton/year average
Daily volume = 5,706 tons/day maximum

Uncontrolled PM-10 emissions -

Q_{annual} = (0.0003 lb/ton)(951,000 tons/year)(25 transfers)
= 3.57 tons/year

Q_{daily} = (0.0003 lb/ton)(5,706 tons/day)(25 transfers)
= 42.80 lbs/day

2. MATERIAL HANDLING (Con't)

Controlled PM-10 emissions -
90% Control

Q_{annual} = (3.75)(1 - .9)
= 0.375 tons/year

Q_{daily} = (42.80)(1 - .9)
= 4.28 lbs/day

ST. LOUIS SLAG

3. CRUSHERS (REVISED)

A. Primary Slag Crusher (Wet)
Operating Time = 8^h x 6^d x 52^w maximum; 8^h x 5^d x 50^w average
Maximum Operating Rate = 475.5 TPH. Average Operating Rate = 380.4 TPH
Emission Factor = 0.0011 lb/ton EPA Document 450/4-90-003 (P. 127)

Total PM-10 emissions -

Q_{daily} = (0.0011 lb/ton)(475.5 TPH)(8 hours/day) = 4.18 lbs/day

Q_{annual} = (0.0011 lb/ton)(380.4 TPH)(2000 hours/year)(1 ton/2000 lbs)
= 0.42 TPY

Controlled PM-10 emissions -
90% Control

Q_{daily} = (4.18)(1 - .9)
= 0.42 lbs/day

Q_{annual} = (0.42)(1 - .9)
= 0.04 tons/year

B. Secondary Slag Crusher (Wet)
Operating Time = 8^h x 5^d x 52^w maximum; 8^h x 5^d x 50^w average
Maximum Operating Rate = 428 TPH. Average Operating Rate = 342 TPH
Emission Factor = 0.0011 lb/ton EPA Document 450/4-90-003 (P. 127)

Total PM-10 emissions -

Q_{daily} = (0.0011 lb/ton)(428 TPH)(8 hours/day) = 3.77 lb/day

Q_{annual} = (0.0011 lb/ton)(342 TPH)(2000 hours/year)(1 ton/2000 lbs)
= 0.38 TPY

Controlled PM-10 emissions -
90% Control

Q_{daily} = (3.77)(1 - .9)
= 0.38 lbs/day

Q_{annual} = (0.38)(1 - .9)
= 0.04 tons/year

C. Tertiary Slag Crusher (Wet)
Operating Time = 8^h x 6^d x 52^w maximum; 8^h x 5^d x 50^w average
Maximum Operating Rate = 47.55 TPH. Average Operating Rate = 38 TPH
Emission Factor = 0.0011 lb/ton EPA Document 450/4-90-003 (P. 127)

3. CRUSHERS (Con't)

Total PM-10 emissions -

Q_{daily} = (0.0011 lb/ton)(47.55 TPH)(8 hours/day) = 0.42 lb/day

Q_{annual} = (0.0011 lb/ton)(38 TPH)(2000 hours/year) x (1 ton/2000 lbs)
= 0.04 TPY

Controlled PM-10 emissions -
90% Control

Q_{daily} = (0.42)(1 - .9)
= 0.04 lbs/day

Q_{annual} = (0.04)(1 - .9)
= 0.004 tons/year

ST. LOUIS SLAG

4. SCREENS (REVISED)

A. Primary Slag Screen (Wet)
Operating Time = 8^h x 6^d x 52^w maximum; 8^h x 5^d x 50^w average
Maximum Operating Rate = 475.5 TPH. Average Operating Rate = 380.4 TPH
Emission Factor = 0.0011 lb/ton EPA Document 450/4-90-003 (P. 127)

Total PM-10 emissions -

Q_{daily} = (0.0011 lb/ton)(475.5 TPH)(8 hours/day) = 4.18 lbs/day

Q_{annual} = (0.0011 lb/ton)(380.4 TPH)(2000 hours/year)(1 ton/2000 lbs)
= 0.42 TPY

Controlled PM-10 emissions
90% Control

Q_{daily} = (4.18)(1 - .9)
= 0.42 lbs/day

Q_{annual} = (0.42)(1 - .9)
= 0.04 tons/year

B. Secondary Slag Screen (Wet)
Operating Time = 8^h x 5^d x 52^w maximum; 8^h x 5^d x 50^w average
Maximum Operating Rate = 428 TPH. Average Operating Rate = 342 TPH
Emission Factor = 0.0011 lb/ton EPA Document 450/4-90-003 (P. 127)

Total PM-10 emissions -

Q_{daily} = (0.0011 lb/ton)(428 TPH)(8 hours/day) = 3.77 lb/day

Q_{annual} = (0.0011 lb/ton)(342 TPH)(2000 hours/year)(1 ton/2000 lbs)
= 0.38 TPY

Controlled PM-10 emissions -
90% Control

Q_{daily} = (3.77)(1 - .9)
= 0.38 lbs/day

Q_{annual} = (0.38)(1 - .9)
= 0.04 tons/year

C. Tertiary Slag Screen (Wet)
Operating Time = 8^h x 6^d x 52^w maximum; 8^h x 5^d x 50^w average
Maximum Operating Rate = 47.8 TPH. Average Operating Rate = 38 TPH
Emission Factor = 0.0011 lb/ton EPA Document 450/4-90-003 (P. 127)

4. SCREENS (Con't)

Total PM-10 emissions -

Q_{daily} = (0.0011 lb/ton)(47.8 TPH)(8 hours/day) = 0.42 lb/day

Q_{annual} = (0.0011 lb/ton)(38 TPH)(2000 hours/year) x (1 ton/2000 lbs)
= 0.04 TPY

Controlled PM-10 emissions -
90% Control

Q_{daily} = (0.42)(1 - .9)
= 0.04 lbs/day

Q_{annual} = (0.04)(1 - .9)
= 0.004 tons/year

D. Portable Slag Screen
Operating Time = 8^h x 5^d x 52^w maximum; 8^h x 5^d x 50^w average
Maximum Operating Rate = 317 TPH. Average Operating Rate = 304.3 TPH
Emission Factor = 0.0011 lb/ton EPA Document 450/4-90-003 (P. 127)

Total PM-10 emissions -

Q_{daily} = (0.0011 lb/ton)(317 TPH)(8 hours/day) = 2.79 lb/day

Q_{annual} = (0.0011 lb/ton)(304.3 TPH)(2000 hours/year) x (1 ton/2000 lbs)
= 0.33 TPY

Controlled PM-10 emissions -
90% Control

Q_{daily} = (2.79)(1 - .9)
= 0.28 lbs/day

Q_{annual} = (0.83)(1 - .9)
= 0.03 tons/year

ST. LOUIS SLAG

5. STOCKPILE EROSION (REVISED)

E = 1.70 lbs/acre/day AP-42 (p. 8.19.1-1)

From an examination of aerial photos and a plot plan, the total area covered by stockpiles is 5.78 acres.

Total PM-10 emissions -

Q_{annual} = (1.70 lbs/acre/day)(9.16 acres)(365 days/year)
= 5,675.09 lbs/year
= 2.84 tons/year

Q_{daily} = (2.69 lbs/acre/day)(5.78 acres)
= 15.55 lbs/day

Controlled PM-10 emissions -
90% Control

Q_{annual} = 2.84 (1 - .9)
= 0.28 tons/year

Q_{daily} = 15.55 (1 - .9)
= 1.56 lbs/day

MW:stlouis:jar

SUMMARY OF FUGITIVE DUST SOURCES
AND PM-10 EMISSION RATES AT INTERNATIONAL MILL SERVICE INC. (REVISED)
ID #119040ACG
12/20/95

	Source	Uncontrolled (TPY)	Uncontrolled (lb/day)
1.	Unpaved Roads	14.67	138.66
2.	Material Handling	7.55	67.61
3.	Crushers	0.40	4.53
4.	Screens	0.94	12.56
5.	Stockpile Erosion	4.85	26.58
6.	Slag Dumping	29.42	161.19
	Total	57.83	411.13

INTERNATIONAL MILL SERVICE, INC.

1. UNPAVED ROADS (REVISED)

Unpaved Roads Estimates

Road Segment	VMT Daily	VMT Annual	PM-10 Emission Factor Max (lb/VMT)	PM-10 Emission Factor Avg (lb/VMT)	Uncontrolled PM-10 Emissions Max (lb/day)	Uncontrolled PM-10 Emissions Avg (TPY)	Control Efficiency (%)	Controlled PM-10 Emissions Max (lb/day)	Controlled PM-10 Emissions Avg. (TPY)
Z-Z									
IMS Pot Carrier	28.13	10,190.37	0.780	0.541	21.94	2.76	95	1.10	0.14
IMS Pickup	11.25	8,215.48	0.044	0.031	0.50	0.18	95	0.03	0.01
GCS Haul Truck	5.63	2,053.87	0.546	0.379	3.07	0.56	95	0.15	0.03
U									
IMS Haul Truck	2.81	878.56	3.5	2.424	9.84	1.06	95	0.49	0.05
IMS Service Trucks	40.28	14,701.38	0.462	0.320	18.61	2.35	95	0.93	0.12
GCS Truck	1.68	436.34	0.462	0.320	0.78	0.07	95	0.96	0.01
GCS Haul Truck	9.08	2,360.89	4.910	3.403	44.58	4.02	95	2.23	0.20
Y-Y									
IMS Customer Trucks	8.19	2,131.12	2.270	1.573	18.59	1.68	95	0.93	0.08
GCS Haul Truck	5.60	1,458.18	3.069	2.127	17.19	1.55	95	0.86	0.08
IMS Employee Traffic	18.14	6,621.03	0.178	0.123	3.23	0.41	95	0.16	0.02
Delivery/Visitor Traffic	1.85	485.11	0.178	0.123	0.33	0.03	95	0.02	0.01
Total:					138.66	14.67		7.86	0.75

INTERNATIONAL MILL SERVICE, INC.

2. MATERIAL HANDLING (REVISED)

A. Stockpile

$$E = 0.35\ (0.0032)\ \frac{(U/5)^{1.3}}{(M/2)^{1.4}}\ \text{lbs PM-10/ton}$$ AP-42 (p. 11.2.3-3)

where,

E = PM-10 emission factor
U = mean wind speed (9.5 mph)
M = material moisture content (3.5%) (MRI 1988)

Annual volume = 1,065,913 tons/year
Daily volume = 4,100 tons/day
(based on 8 hours/day, 5 days/week, 52 weeks/year)
4 handling operations (MRI 1988)

E = 0.0012 lb PM-10/ton

Total PM-10 emissions -

Q_{annual} = (0.0012 lb PM-10/ton)(1,065,913 tons/year)(4 handling operations) x (1 ton/2000 lbs)
= 2.56 tons/year

Q_{daily} = (0.0012 lb PM-10/ton)(4,100 tons/day)(4 handling operations)
= 19.68 lbs PM-10/day

Controlled PM-10 emissions -
90% Control

Q_{annual} = (2.56)(1 - .9)
= 0.26 tons/year

Q_{daily} = (19.68)(1 - .9)
= 1.97 lbs/day

B. Conveying

Annual volume = 1,483,560 tons/year
Daily volume = 5,706 tons/day
(based on 12 hours/day, 5 days/week, 52 weeks/year)
7 handling operations (FOS)
Average operating time is 10^h x 5^d x 50^w

Total PM-10 emissions -

Q_{annual} = (0.0012 lb PM-10/ton)(1,483,560 tons/year)(7 handling operations) x (2500/3120)(1 ton/2000 lbs)
= 4.99 tons/year

Q_{daily} = (0.0012 lb PM-10/ton)(5,706 tons/day)(7 handling operations)
= 47.93 lbs PM-10/day

2. MATERIAL HANDLING (Con't)

Controlled PM-10 emissions -
90% Control

Q_{annual} = (4.99)(1 - .9)
= 0.50 tons/year

Q_{daily} = (47.93)(1 - .9)
= 4.79 lbs/day

INTERNATIONAL MILL SERVICE, INC.

3. CRUSHERS (REVISED)

A. Primary Slag Crusher (Wet)
Operating Time = 12^h x 6^d x 50^w maximum; 10^h x 5^d x 50^w average
Maximum Operating Rate = 237.75 TPH. Average Operating Rate = 165.11 TPH
Emission Factor = 0.0011 lb/ton EPA Document 450/4-90-003 (P. 127)

Total PM-10 emissions -

Q_{daily} = (0.0011 lb/ton)(237.75 TPH)(12 hours/day) = 3.14 lbs/day

Q_{annual} = (0.0011 lb/ton)(165.11 TPH)(2500 hours/year)(1 ton/2000 lbs)
= 0.22 TPY

Controlled PM-10 emissions -
90% Control

Q_{daily} = (3.14)(1 - .9)
= 0.31 lbs/day

Q_{annual} = (0.22)(1 - .9)
= 0.02 tons/year

B. Iron Slag Crusher (Wet)
Operating Time = 8^h x 5^d x 52^w
Maximum Operating Rate = Average Operating Rate = 158.5 TPH
Emission Factor = 0.0011 lb/ton EPA Document 450/4-90-003 (P. 127)

Total PM-10 emissions -

Q_{daily} = (0.0011 lb/ton)(158.5 TPH)(8 hours/day) = 1.39 lb/day

Q_{annual} = (0.0011 lb/ton)(158.5 TPH)(2080 hours/year)(1 ton/2000 lbs)
= 0.18 TPY

Controlled PM-10 emissions -
90% Control

Q_{daily} = (1.39)(1 - .9)
= 0.14

Q_{annual} = (0.18)(1 - .9)
= 0.02

INTERNATIONAL MILL SERVICE, INC.

4. SCREENS (REVISED)

A. Primary Slag Screen (Wet)
Operating Time = 12^h x 6^d x 50^w maximum; 10^h x 5^d x 50^w average
Maximum Operating Rate = 475.50 TPH. Average Operating Rate - 330.20 TPH
Emission Factor = 0.0011 lb/ton EPA Document 450/4-90-003 (P. 127)

Total PM-10 emissions -

Q_{daily} = (0.0011 lb/ton)(475.5 TPH)(12 hours/day) = 6.28 lbs/day

Q_{annual} = (0.0011 lb/ton)(330.2 TPH)(2500 hours/year) x (1 ton/2000 lbs)
= 0.45 TPY

Controlled PM-10 emissions -
90% Control

Q_{daily} = 6.28 (1 - .9)

Q_{daily} = 0.63 lbs/day

Q_{annual} = 0.45 (1 - .9)
= 0.05 tons/year

B. Secondary Slag Screen (Wet)
Operating Time = 12^h x 6^d x 50^w maximum; 10^h x 5^d x 50^w average
Maximum Operating Rate = 380.4 TPH. Average Operating Rate = 264.17 TPH
Emission Factor - 0.0011 lb/ton EPA Document 450/4-90-003 (P. 127)

Total PM-10 emissions -

Q_{daily} = (0.0011 lb/ton)(380.4 TPH)(12 hours/day) = 5.02 lbs/day

Q_{annual} = (0.0011 lb/ton)(264.17 TPH)(2500 hours/year) x (1 ton/2000 lbs)
= 0.40 TPY

Controlled PM-10 emissions -
90% Control

Q_{daily} = (5.02) (1 - .9)
= 0.50 lbs/day

Q_{annual} = (0.40) (1 - .9)
= 0.04 tons/year

C. Chip Screen (Wet)
Operating Time = 12^h x 6^d x 50^w maximum; 10^h x 5^d x 50^w average
Maximum Operating Rate = 95.1 TPH. Average Operating Rate = 66.05 TPH
Emission Factor = 0.0011 lb/ton EPA Document 450/4-90-003 (P. 127)

4. SCREENS (Con't)

Total PM-10 emissions -

Q_{daily} = (0.0011 lb/ton)(95.1 TPH)(12 hours/day) = 1.26 lb/day

Q_{annual} = (0.0011 lb/ton)(66.05 TPH)(2500 hours/year) x (1 ton/2000 lbs)
= 0.09 TPY

Controlled PM-10 emissions -
90% Control

Q_{daily} = (1.26) (1 - .9)
= 0.13 lbs/day

Q_{annual} = (0.09) (1 - .9)
= 0.01 tons/year

INTERNATIONAL MILL SERVICE, INC.

5. STOCKPILE EROSION (REVISED)

E = 1.70 lbs/acre/day AP-42 (p. 8.19.1-1)

From an examination of aerial photos and a plot plan, the total area covered by stockpiles is 9.88 acres.

Total PM-10 emissions -

Q_{annual} = (1.70 lbs/acre/day)(15.65 acres)(365 days/year)
= 9,700.68 lbs/year
= 4.85 tons/year

Q_{daily} = (1.70 lbs/acre/day)(15.65 acres) = 26.58 lbs/day

Controlled PM-10 emissions -
90% Control

Q_{annual} = (4.85) (1 - .9)
= 0.49 tons/year

Q_{daily} = (26.58) (1 - .9)
= 2.66 lbs/day

INTERNATIONAL MILL SERVICE, INC.

6. SLAG DUMPING (REVISED)

Operating Time = 24^h x 7^d x 52^w
Maximum Operating Rate = Average Operating Rate = 58.3 tons/hour

A = Emissions Factor for Tapping = 0.29 lbs. of TSP/ton of steel tapped
AP-42 (Table 7.5-1, P. 7.5-9)
B = PM-10 Fraction = 0.24
C = Production Rate of Steel = 458.33 tons/hour
D = Slag tapped from BOF vessel = 58.3 tons/hour
E = Fraction of Slag to Steel = 0.127
F = PM-10 Emissions Factor for Slag Dumping

F = (A)(B)(E)
F = (0.29)(0.24)(0.127)
F = 0.00884 lbs. of PM-10/tons of steel

Emission Factor = 0.00884 lb/tons of steel

Total PM-10 emissions -

Q_{daily} = (0.00884 lb/ton)(58.3 TPH)(24 hours/day) = 12.37 lbs/day

Q_{annual} = (0.00884 lb/ton)(58.3 TPH)(8760 hours/day)(1 ton/2000 lbs)
= 2.26 tons/year

Controlled PM-10 emissions -
90% Control

Q_{daily} = (12.37) (1 - .9)
= 12.37 lbs/day

Q_{annual} = (2.26) (1 - .9)
= 0.23 tons/year

MW:Mill:jar

ATTACHMENT C

Emission Calculations and Listings
for
Spectrulite Consortium, Inc.

Revised Point Source Emissions Inventory for Spectrulite Consortium, Inc., 119105AAH

PM-10 Source No.	Description	Permit No.	EIS Source No.	EIS Mode No.	EIS Stack No.	No. of Identical Sources	PM-10 Allowable Emissions lbs./hr.	PM-10 Actual Emissons lbs./hr.	PM-10 Annual Emissions lbs./hr.	Operating Factor
21320	Pacific Stm Boiler No 21403	72090139	0001	0001	0001	1	0.015	0.009	0.005	0.330
21321	Pacific Stm Boiler No 21402 (Stand By)	72090139	0002	0001	0001	1	0.015	0.009	0.000	0.000
21130	Alum. Reverb Furnace I - Nat Gas Fired	72090139	0003	0001	0002	1	3.480	2.580	0.000	0.000
24299	Alum. Reverb Furnace I - Dross Cooling	72090139	0004	0001	Fugitive	1	0.168	0.168	0.000	0.000
21150	Alum. Hold Furnace I - Nat. Gas Fired	72090139	0005	0001	0003	1	5.050	4.480	0.000	0.000
21390	Alum Reverb Furnace II - Nat. Gas Fired	74080150	0006	0001	0004	1	3.480	2.680	2.151	0.619
24299	Alum. Reverb Furnace II - Dross Cooling	72090139	0007	0001	Fugitive	1	0.168	0.168	0.017	0.103
21380	Alum. Hold Furnace II - Nat. Gas Fired	74080150	0008	0001	0005	1	5.050	3.600	3.126	0.619
21160	Homogenizing Furnace I	72090139	0009	0001	0006	1	0.085	0.051	0.042	0.488
21170	Forging Ovens - Air Force, South	72090139	0010	0001	0007	1	0.008	0.004	0.001	0.090
21171	Forging Ovens - Air Force, North	72090139	0011	0001	0007	1	0.008	0.004	0.001	0.090
21410	Face Scalper Metal Chip Handling Sys.	78030078	0012	0001	0008	1	1.714	1.005	0.317	0.183
21411	Mag. Intermit. Caster Pot Furnace - Nat. Gas	72090139	0013	0001	0009	1	0.095	0.057	0.000	0.000
21412	Magnesium Intermit. Caster Pot Furnace	72090139	0014	0001	0010	1	0.000	4.626	0.000	0.000
21413	Mag. Billet Caster Pot Furnace - Nat. Gas	72090139	0015	0001	0011	1	0.115	0.069	0.054	0.470
21414	Magnesium Billet Caster Pot Furnace	72090139	0016	0001	0012	1	0.000	6.475	0.000	0.470
21340	Mag. Slab Caster Pot Furnace - Nat. Gas	72090139	0017	0001	0013	1	0.135	0.081	0.063	0.177
21341	Magnesium Slab Caster Pot Furnace	72090139	0018	0001	0014	1	0.000	6.475	0.196	0.177
21342	Mag. Flux cleaning Pot Furnace - Nat. Gas	72090139	0019	0001	0015	1	0.025	0.015	0.016	0.647
21343	Magnesium Flux Cleaning Por Furnace	72090139	0020	0001	0016	1	0.000	1.295	0.000	0.647
21307	Die Oven No. 7 - Extrusion Press	72090139	0021	0001	0017	1	0.008	0.004	0.003	0.420
21304	No. 7 Press Container Heater	72090139	0022	0001	Fugitive	1	0.005	0.004	0.002	0.420
21309	Container Preheating Oven	72090139	0023	0001	0018	1	0.022	0.014	0.017	0.761
21306	Die Oven No. 9 - Extrusion Press	72090139	0024	0001	0019	1	0.008	0.002	0.003	0.340
21290	Age Oven No. 3 - Dispatch Oven Co.	72090139	0025	0001	0020	1	0.045	0.027	0.003	0.070
21300	Solution Heat Treat Furnace - Lindberg	72090139	0026	0001	0021	1	0.065	0.038	0.022	0.340
21308	Die Oven No. 11 - Extrusion Press	72090139	0027	0001	0022	1	0.008	0.004	0.003	0.389
21310	Steam Boiler - Babcock & Wilcox	72090139	0028	0001	0023	1	0.050	0.030	0.050	1.000
21270	Age Oven No. 1 - Drying System Inc.	72090139	0029	0001	0024	1	0.008	0.004	0.003	0.325
21280	Age Oven No. 2 - Dispatch Oven Co.	72090139	0030	0001	0025	1	0.015	0.009	0.005	0.325
21245	No. 2 Coil Anneal Furnace - Sunbeam	72090139	0031	0001	0026	1	0.060	0.036	0.000	0.000
21240	No. 1 Coil Anneal Furnace - Sunbeam	72090139	0032	0001	0026	1	0.060	0.036	0.016	0.104
21250	Thermal Flatten Oven No. 22 - Rockwell	72090139	0033	0001	0027	1	0.015	0.009	0.007	0.486
21260	Thermal Flatten Oven No. 23 - Rockwell	72090139	0034	0001	0028	1	0.015	0.009	0.003	0.223
21371	No. 3 Sheet Wire Brush	72090139	0035	0001	0029	1	0.429	0.005	0.095	0.220
21370	Nos. 1 & 2 Coil Wire Brush	72090139	0036	0001	0030	1	0.429	0.005	0.095	0.220
21210	Coil Reheat Oven No. 5A	72090139	0037	0001	0031	1	0.035	0.021	0.117	0.334
21211	Coil Reheat Oven No. 5B	72090139	0038	0001	0031	1	0.040	0.024	0.003	0.081
21200	Coil Anneal Oven No. 1B - Dispatch	72090139	0039	0001	0032	1	0.125	0.075	0.032	0.252
21230	Process Anneal Oven No. 11	72090139	0040	0001	0033	1	0.055	0.034	0.014	0.252
21180	Slab Preheat Oven - Swindell No. 1	72090139	0041	0001	0034	1	0.100	0.060	0.024	0.253
21190	Slab Preheat Oven - Swindell No. 2	72090139	0042	0001	0035	1	0.100	0.060	0.024	0.253
21330	Dravo Fuel Oil Fired Space Heaters	72090139	0043	0001	Multiple	30	0.075	0.041	0.018	0.234
21331	Dravo Fuel Oil Fired Peaking Heaters	72090139	0043	0002	Multiple	8	0.075	0.041	0.004	0.059
21332	Dravo Gas Fired Space Heaters	72090139	0044	0001	Multiple	20	0.045	0.004	0.011	0.234
24260-24300	Unpaved Roads		0045	0001	Fugitive	1				

Revised Point Source Emissions Inventory for Spectrulite Consortium, Inc., 119105AAH

PM-10 Source No.	Description	MM BTU Capacity	MM BTU Nominal	Stack Height ft.	Stack Diameter ft.	Stack Temperature F	Flow Rate ACFM	Stack X UTM	Stack Y UTM
21320	Pacific Stm Boiler No 21403	3.0	2.0	60	3.4	400	1081	4285.42	746.34
21321	Pacific Stm Boiler No 21402 (Stand By)	3.0	2.0	60	3.4	400	1081	4285.42	746.34
21130	Alum. Reverb Furnace I - Nat Gas Fired	33.0	22.0	72	5.5	368	63348	4285.48	746.48
24299	Alum. Reverb Furnace I - Dross Cooling	33.0	22.0	1	NA	NA	NA	4285.46	746.44
21150	Alum. Hold Furnace I - Nat. Gas Fired	22.0	7.5	72	5.5	230	25577	4285.48	746.48
21390	Alum Reverb Furnace II - Nat. Gas Fired	26.0	22.0	72	5.5	368	63348	4285.50	746.49
24299	Alum. Reverb Furnace II - Dross Cooling	26.0	22.0	1	NA	NA	NA	4285.46	746.44
21380	Alum. Hold Furnace II - Nat. Gas Fired	26.0	7.5	72	4.5	230	25577	4285.50	746.49
21160	Homogenizing Furnace I	17.0	8.0	62	3.5	400	6125	4285.48	746.51
21170	Forging Ovens - Air Force, South	1.5	1.0	53	1.2	450	572	4285.53	746.50
21171	Forging Ovens - Air Force, North	1.5	1.0	53	1.2	450	572	4285.53	746.50
21410	Face Scalper Metal Chip Handling Sys.	0.0	0.0	58	3.3	70	10000	4285.60	746.52
21411	Mag. Intermit. Caster Pot Furnace - Nat. Gas	19.0	15.0	54	3.0	600	11800	4285.66	746.53
21412	Magnesium Intermit. Caster Pot Furnace	0.0	0.0	65	10.4	70	120000	4285.66	746.55
21413	Mag. Billet Caster Pot Furnace - Nat. Gas	23.0	22.0	54	3.0	600	15000	4285.70	746.53
21414	Magnesium Billet Caster Pot Furnace	0.0	0.0	65	10.4	70	12000	4285.70	746.56
21340	Mag. Slab Caster Pot Furnace - Nat. Gas	27.0	22.0	54	3.0	600	17000	4285.72	746.52
21341	Magnesium Slab Caster Pot Furnace	0.0	0.0	65	10.4	70	120000	4285.73	746.56
21342	Mag. Flux cleaning Pot Furnace - Nat. Gas	5.0	2.0	54	3.0	600	2220	4285.64	746.50
21343	Magnesium Flux Cleaning Por Furnace	0.0	0.0	52	6.0	70	40000	4285.65	746.51
21307	Die Oven No. 7 - Extrusion Press	1.5	1.0	61	1.3	600	666	4285.66	746.46
21304	No. 7 Press Container Heater	1.0	1.0	62	NA	NA	NA	4285.66	746.46
21309	Container Preheating Oven	4.5	3.0	49	1.2	600	1998	4285.72	746.47
21306	Die Oven No. 9 - Extrusion Press	1.5	1.0	50	0.7	600	666	4285.78	746.48
21290	Age Oven No. 3 - Dispatch Oven Co.	9.0	5.0	51	1.0	500	3618	4285.85	746.56
21300	Solution Heat Treat Furnace - Lindberg	13.0	7.5	65	2.0	800	6860	4285.88	746.54
21308	Die Oven No. 11 - Extrusion Press	1.5	1.0	38	1.2	600	666	4285.82	746.52
21310	Steam Boiler - Babcock & Wilcox	10.0	8.0	60	2.0	450	3812	4285.70	746.40
21270	Age Oven No. 1 - Drying System Inc.	1.5	1.0	51	1.2	500	603	4285.67	746.42
21280	Age Oven No. 2 - Dispatch Oven Co.	3.0	2.0	51	1.0	500	1206	4285.67	746.41
21245	No. 2 Coil Anneal Furnace - Sunbeam	12.0	7.0	72	3.3	600	5328	4285.77	746.38
21240	No. 1 Coil Anneal Furnace - Sunbeam	12.0	7.0	72	3.3	600	5328	4285.77	746.38
21250	Thermal Flatten Oven No. 22 - Rockwell	3.0	2.0	32	1.0	400	1081	4285.76	746.31
21260	Thermal Flatten Oven No. 23 - Rockwell	3.0	2.0	32	1.0	400	1081	4285.72	746.30
21371	No. 3 Sheet Wire Brush	0.0	0.0	65	1.2	70	2500	4285.64	746.34
21370	Nos. 1 & 2 Coil Wire Brush	0.0	0.0	65	1.2	70	2500	4285.64	746.34
21210	Coil Reheat Oven No. 5A	7.0	4.0	72	3.3	400	2522	4285.60	746.30
21211	Coil Reheat Oven No. 5B	8.0	5.0	72	3.3	400	2882	4285.60	746.30
21200	Coil Anneal Oven No. 1B - Dispatch	25.0	15.0	72	3.3	500	10051	4285.55	746.27
21230	Process Anneal Oven No. 11	11.0	6.5	66	1.5	400	3963	4285.56	746.28
21180	Slab Preheat Oven - Swindell No. 1	20.0	12.0	47	2.5	600	8880	4285.43	746.19
21190	Slab Preheat Oven - Swindell No. 2	20.0	12.0	47	2.5	600	8880	4285.44	746.19
21330	Dravo Fuel Oil Fired Space Heaters	2.5	1.5	70	1.0	500	1005	4285.60	746.40
21331	Dravo Fuel Oil Fired Peaking Heaters	2.5	2.5	70	1.0	500	1005	4285.60	746.40
21332	Dravo Gas Fired Space Heaters	1.5	1.0	70	1.0	500	603	4285.60	746.40
24260-24300	Unpaved Roads								

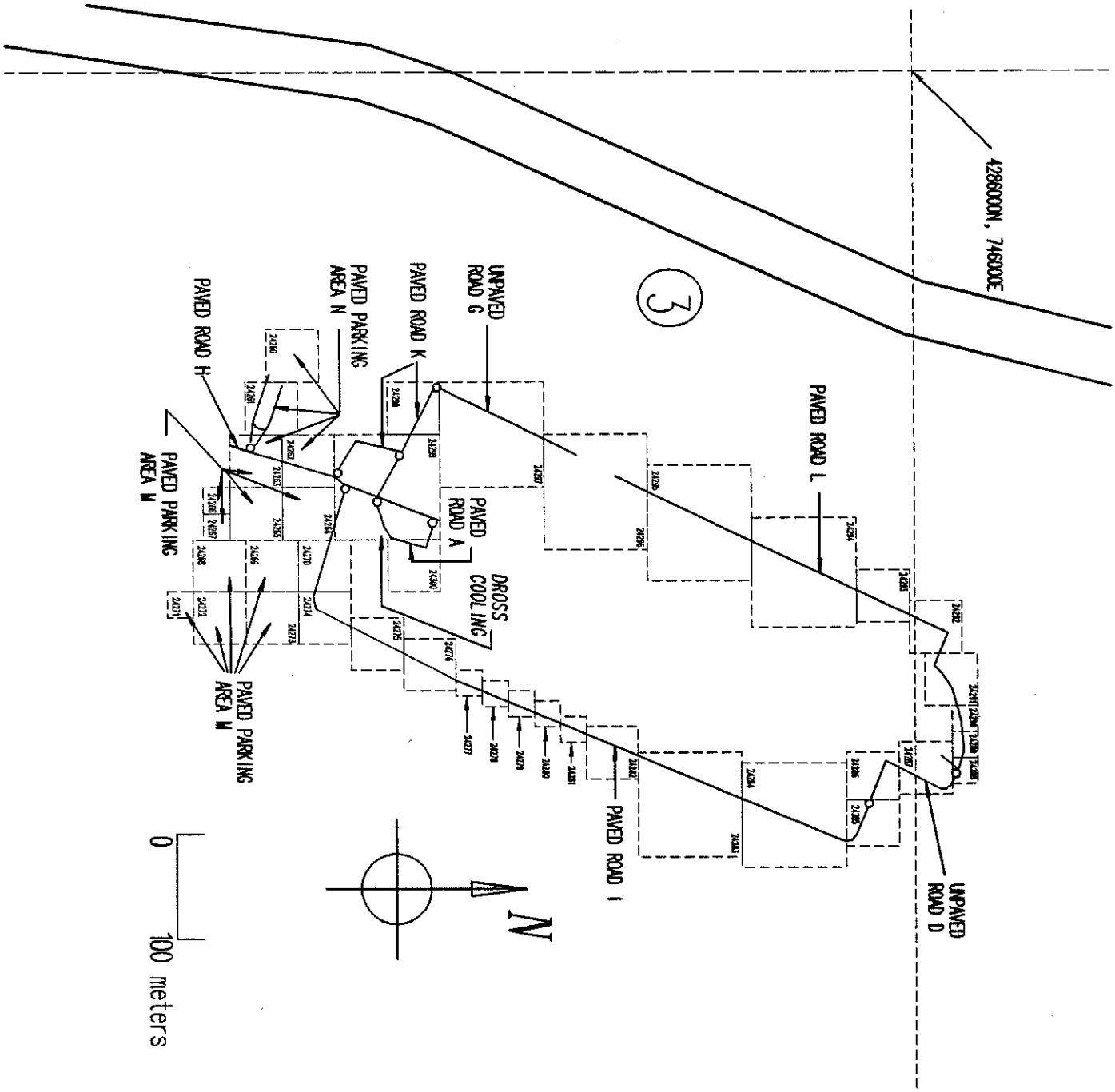
Revised Point SourceEmissions Inventory for Spectrulite Consortium, Inc., 119105AAH

PM-10 Source No.	Description	Modeling Remarks	Condensable Fraction	Condensable Threshold	Condensable Emissions lbs./hr.	Total Emissions lbs./hr.	Modeling Threshold Short-Term	Modeling Threshold Long-Term
21320	Pacific Stm Boiler No 21403	Combined with EIS Source 0002, both vent to same stack.	0.30	No			No	No
21321	Pacific Stm Boiler No 21402 (Stand By)		0.30	No			No	No
21130	Alum. Reverb Furnace I - Nat Gas Fired	Since one Reverb Furnace operates at a time, Reverb II was selected for modeling.	0.12	No			No	No
24299	Alum. Reverb Furnace I - Dross Cooling	Considered an area source. Since one Reverb Furnace operates at a time, Reverb II was selected for model	0.12	No			No	No
21150	Alum. Hold Furnace I - Nat. Gas Fired	Since one Hold Furnace operates at a time, Hold II was selected for modeling.	0.12	No			No	No
21390	Alum Reverb Furnace II - Nat. Gas Fired		0.12	No			Yes	Yes
24299	Alum. Reverb Furnace II - Dross Cooling	Considered an area source.	0.12	No			Yes	Yes
21380	Alum. Hold Furnace II - Nat. Gas Fired		0.12	No			Yes	Yes
21160	Homogenizing Furnace I		0.12	No			No	No
21170	Forging Ovens - Air Force, South	Model either EIS Source 10 or 11 but not both.	0.00	No			No	No
21171	Forging Ovens - Air Force, North		0.00	No			No	No
21410	Face Scalper Metal Chip Handling Sys.		0.00	No			Yes	Yes
21411	Mag. Intermit. Caster Pot Furnace - Nat. Gas	Will operate only when the Billet or Slab Caster Furnaces are not operating. Modeled for short-term only.	0.57	No			Yes	No
21412	Magnesium Intermit. Caster Pot Furnace	Will operate only when the Billet or Slab Caster Furnaces are not operating. Modeled for short-term only.	0.00	No			Yes	No
21413	Mag. Billet Caster Pot Furnace - Nat. Gas		0.57	No			Yes	Yes
21414	Magnesium Billet Caster Pot Furnace		0.57	Yes	3.69	10.166	Yes	Yes
21340	Mag. Slab Caster Pot Furnace - Nat. Gas		0.57	No			Yes	Yes
21341	Magnesium Slab Caster Pot Furnace		0.57	No			Yes	Yes
21342	Mag. Flux cleaning Pot Furnace - Nat. Gas		0.57	No			Yes	Yes
21343	Magnesium Flux Cleaning Por Furnace		0.57	No			Yes	Yes
21307	Die Oven No. 7 - Extrusion Press		0.57	No			No	No
21304	No. 7 Press Container Heater		0.57	No			No	No
21309	Container Preheating Oven		0.57	No			No	No
21306	Die Oven No. 9 - Extrusion Press		0.57	No			No	No
21290	Age Oven No. 3 - Dispatch Oven Co.		0.57	No			No	No
21300	Solution Heat Treat Furnace - Lindberg		0.57	No			No	No
21308	Die Oven No. 11 - Extrusion Press		0.57	No			No	No
21310	Steam Boiler - Babcock & Wilcox		0.30	No			No	No
21270	Age Oven No. 1 - Drying System Inc.		0.57	No			No	No
21280	Age Oven No. 2 - Dispatch Oven Co.		0.57	No			No	No
21245	No. 2 Coil Anneal Furnace - Sunbeam		0.57	No			Yes	Yes
21240	No. 1 Coil Anneal Furnace - Sunbeam	Combined with 21245, vents to the same stack. New ACFM 10,656; new Q 0.12lbs./hr.	0.57	No			Yes	Yes
21250	Thermal Flatten Oven No. 22 - Rockwell		0.57	No			No	No
21260	Thermal Flatten Oven No. 23 - Rockwell		0.57	No			No	No
21371	No. 3 Sheet Wire Brush	Vents to a stack separate from 21370	0.00	No			Yes	Yes
21370	Nos. 1 & 2 Coil Wire Brush	Vents to a stack separate from 21371	0.00	No			Yes	Yes
21210	Coil Reheat Oven No. 5A	Combined with source 21211, vents to same stack.	0.57	No			No	No
21211	Coil Reheat Oven No. 5B		0.57	No			No	No
21200	Coil Anneal Oven No. 1B - Dispatch		0.57	No			Yes	Yes
21230	Process Anneal Oven No. 11		0.57	No			No	No
21180	Slab Preheat Oven - Swindell No. 1		0.57	No			Yes	Yes
21190	Slab Preheat Oven - Swindell No. 2		0.57	No			Yes	Yes
21330	Dravo Fuel Oil Fired Space Heaters		0.30	No			Yes	Yes
21331	Dravo Fuel Oil Fired Peaking Heaters		0.30	No			Yes	Yes
21332	Dravo Gas Fired Space Heaters		0.30	No			Yes	Yes
24260-24300	Unpaved Roads		0.00	No			Yes	Yes

Granite City Study Area

AREA SOURCE ALLOCATION

FACILITY: Spectrulite Consortium Inc.
STATE ID #: 119105AAH



SUMMARY OF FUGITIVE DUST SOURCES
AND PM-10 EMISSION RATES AT SPECTRULITE CONSORTIUM, INC.
ID #119105AAH

6/21/95

	Source	Uncontrolled (TPY)	Uncontrolled (lb/day)
1.	Unpaved Roads	4.08	32.26
2.	Paved Roads	1.97	10.81
3.	Dross Cooling	0.07	0.42
4.	Paved Parking Lots	0.16	0.87
Total		6.28	44.36

SPECTRULITE CONSORTIUM, INC.

1. UNPAVED ROADS

Where

$$E = 2.1\ (s/12)(S/30)(W/3)^{0.7}(w/4)^{0.5}(365 - p/365)$$
(AP-42, p. 11.2.1-1, 4th edition)

s = silt content of road surface material in percent
S = mean vehicle speed (mph)
W = mean vehicle weight (tons)
w = mean number of vehicle wheels
p = number of days per year with at least 0.01 inch of precipitation (equals 112 days)

			Average Vehicle Parameters				PM-10 Emissions Factor		
Road Segment	Daily Vehicle Passes	Road Length (Miles)	Daily VMT	Speed (mph)	# of Wheels	Weight (Tons)	Silt Content (%)	Max (Lb/VMT)	Annual Avg (Lb/VMT)
Road A	6	0.047	0.28	15	18	15	28.5	16.4	11.4
Road D	7 (unloaded)	0.085	0.60	15	18	15	28.5	16.4	11.4
Road D	5 (loaded)	0.085	0.42	15	18	35	28.5	29.6	20.5
Road G	2	0.090	0.18	15	18	35	28.5	29.6	20.5

Assumptions:

1) Title 35 IAC 212.361(c) requires that any roadways or parking lots in the non-attainment area meet an opacity of 10%. This relates to a required efficiency of 90%, for the facility's fugitive dust program.

2) Information provided by Spectrulite Consortium, Inc., and reviewed by IEPA.

SPECTRULITE CONSORTIUM, INC.

1. UNPAVED ROADS

PM-10 Emissions from Unpaved Roads

Road Segment	VMT Annual	PM-10 Emission Factor Max (lb/VMT)	PM-10 Emission Factor Annual Avg (lb/VMT)	Uncontrolled (lb/day)	Uncontrolled (TPY)	Worse Case Control Efficiency (%)	Controlled (lb/day)	Controlled (TPY)
Road A	103	16.4	11.4	4.59	0.59	90	0.46	0.06
Road D	217	16.4	11.4	9.76	1.23	90	0.98	0.12
Road D	155	29.6	20.5	12.58	1.59	90	1.26	0.16
Road G	66	16.4	11.4	5.33	0.67	90	0.53	0.02
Total:				32.26	4.08		3.23	0.36

SPECTRULITE CONSORTIUM, INC.

2. PAVED ROADS

$$E = (0.77)(sL/0.35)^{0.3}$$

(AP-42, p. 11.2.6-3, 4th edition)

Where:

E = PM-10 emissions factor = 0.77
sL = road surface silt loading = 12 g/m^2 or 0.3539 oz./yd.^{2}

(AP-42, Table 11.2.6-1, 4th edition)

Road Segment	Daily Vehicle Passes	Road Length (miles)	Daily VMT	Uncontrolled PM-10 Emissions lb/day	(TPY)	Control Efficiency (%)	Controlled PM-10 Emissions lb/day	(TPY)
Road I	16	0.46	7.42	5.71	1.04	90	0.57	0.10
Road L	2	0.31	0.63	0.49	0.09	90	0.05	0.01
Road K	2	0.10	0.21	0.16	0.03	90	0.02	0.00
Road H-1	29	0.14	3.98	3.06	0.56	90	0.31	0.06
Road H-2	7	0.08	0.53	0.41	0.07	90	0.04	0.01
Road H-3	2	0.07	0.14	0.11	0.02	90	0.01	0.00
Total:				10.81	1.97		1.08	0.20

Assumptions:

1) Maximum Operating Time = Average Operating Time = hr/day x 365 day/yr.

2) Title 35 IAC 212.361(c) requires that any roadways or parking lots in the non-attainment area meet an opacity of 10%. This relates to a required efficiency of 90%, for the facility's fugitive dust program.

3) Information provided by Spectrulite Consortium, Inc., and reviewed by IEPA.

SPECTRULITE CONSORTIUM, INC.

3. DROSS COOLING (REVISED)

Q daily = 0.168 lb/hr uncontrolled
Q annual = 0.017 lb/hr uncontrolled 903 hr/yr

AP-42 Calculation Estimate:

(1,750,000 lbs. dross/yr.)/(2000 lbs/ton)/(260 days/year * 4 hours/day)
= 0.84 tons dross/hr. * 0.2 lbs./ton = 0.168 lbs/hr. PM-10

PM-10 emissions factor, 0.2 lbs/ton, from p. 103 of the AIRS Facility Subsystem Source Classification Codes and Emission Factor Listing for Criteria Air Pollutants.

SPECTRULITE CONSORTIUM, INC.

4. PAVED PARKING LOTS

$$E = 0.0081\ (sL/0.7)^{0.8}$$

(AP-42, 11.2.5-1, 4th edition)

Where

E = PM-10 emissions factor
sL = road surface silt loading (grains/ft.^{2})
sL = 1.41 g/m^2 or 2.02 gr/ft.^{2}
(AP-42, Table 11.2.5-3, 4th edition)

Road Segment	Daily Vehicle Passes	Road Length (miles)	Daily VMT	Uncontrolled PM-10 Emissions lb/day	(TPY)	Control Efficiency (%)	Controlled PM-10 Emissions lb/day	(TPY)
Lot M	750	0.06	42.61	0.81	0.15	90	0.08	0.02
Lot N	50	0.07	3.31	0.06	0.01	90	0.01	0.00
Total:				0.87	0.16		0.09	0.02

Assumptions:

1) Maximum Operating Time = Average Operating Time = hr/day x 365 day/yr.

2) Title 35 IAC 212.361(c) requires that any roadways or parking lots in the non-attainment area meet an opacity of 10%. This relates to a required efficiency of 90%, for the facility's fugitive dust program.

3) Information provided by Spectrulite Consortium, Inc., and reviewed by IEPA.

MW:speccons:jar

ATTACHMENT D

Emission Listings
for
American Steel Foundries

Revised Point Source Emissions Inventory for American Steel Foundries, 119040AAC

PM-10 Source No.	Description	Permit No.	EIS Source No.	EIS Mode No.	EIS Stack No.	No. of Identical Sources	PM-10 Allowable Emissions	PM-10 Annual Emissions	Operating Factor
							lb./hr.	lbs./hr.	
20020	Heat Treating Furnace HT-13 & HT-14	72090169	0001	0002	0001	2	0.4	0.4	0.5495
20040	Heat Treating Furnace HT-33 & HT-17	72090169	0002	0002	0002	2	0.13	0.13	0.5495
20060	Heat Treating Furnace HT-35	72090169	0003	0002	0003	1	0.15	0.15	0.5495
20120	Casting Knock Out KO1	72090169	0008	0001	0009	1	4.29	3.67	0.5495
20130	Plate Cleaner	72090169	0009	0001	0010	1	0	0	---
20140	Core Sand System CS-1	72090169	0010	0001	---	1	1.29	1.1	0.6868
20150	Electric Arc Furnace EF-1	72090169	0012	0001	0012	1	1.25	1.07	0.6868
20160	Electric Arc Furnace EF-2	72090169	0013	0001	0013	1	1.25	1.07	0.6868
20170	Shot Blast 5	72090169	0014	0001	0014	1	1.71	1.46	0.5495
20180	Kiln Type Sand Dryer	72090169	0015	0001	0015	1	1.44	1.24	0.6868
20190	Reclaimed Sand Cooler KC-1	72090169	0016	0001	0016	1	1.34	1.15	0.6868
20200	Chromite Reclaimation CR-1	72090169	0017	0001	0017	1	5.14	4.41	0.6868
20210	Core Baking Ovens BO-1 to BO-6	72090169	0018	0001	0018	6	0.03	0	---
20220	Skid Shake Out SK-SO-1	72090169	0019	0001	0019	1	4.29	3.67	0.8242
20230	Rail Car RC-1 Sandhandling System	72090169	0020	0001	---	1	0	0	---
20250	EF1 + EF2 Charging + Tapping - Venti	72090169	0022	0001	0021	1	2.67	2.29	0.6868
20251	" " " " "	72090169	"	"	"		2.67	2.29	0.6868
20252	" " " " "	72090169	"	"	"		2.67	2.29	0.6868
20253	" " " " "	72090169	"	"	"		2.67	2.29	0.6868
20260	Molding Sand System SS/SO-6	72090169	0023	0001	0022	1	8.58	7.35	0.8242
20280	Shot Blast SB6	75100012	0025	0001	0025	1	0.65	0.56	0.2747
20291	No.3 Mold Floor	75100014	0026	0001	---	1	0.17	0.14	---
20300	Chill Tumbler	77090060	0027	0001	0027	1	0.11	0	---
20310	Bentonite Unloading System	78080081	0028	0001	0028	1	0.08	0	---
20320	Paint Booth CP-1	81070026	0029	0001	0029 Mult. Sks.	3	1.2	1.02	0.8242
20340	Shot Blaster #7	82100001	0032	0001	---	1	1.85	1.59	0.5495
20341	Shakeout - Located 6th Floor	72090169	0036	0001	0022	1	0	0	---
20342	No. 1 Small Parts Mold Line	93120035	0037	0001	---	1	1.94	1.67	0.8608

Revised Point Source Emissions Inventory for American Steel Foundries, 119040AAC

PM-10 Source No.	Description	Stack Height	Stack Diameter	Stack Temperature	Flow Rate	Stack X UTM	Stack Y UTM	Modeling Remarks	Modeling Threshold Short-Term	Modeling Threshold Long-Term
		ft.	ft.	F	ACFM					
20020	Heat Treating Furnace HT-13 & HT-14	35	0.3	70	5	746870	4287430	Calclulation for natural gas by Berkley Moore	Yes	Yes
20040	Heat Treating Furnace HT-33 & HT-17	35	0.3	70	5	747160	4287490	Calclulation for natural gas by Berkley Moore	Yes	Yes
20060	Heat Treating Furnace HT-35	35	0.3	70	5	747160	4287490	Calclulation for natural gas by Berkley Moore	Yes	Yes
20120	Casting Knock Out KO1	30	2.9	70	50000	747240	4287450	Modeling emissions and flow rate readjusted to 50% due to reduced load analysis	Yes	Yes
20130	Plate Cleaner	14	2	70	15000	747000	4287400		No	No
20140	Core Sand System CS-1	44	2	70	15000	747000	4287400	Stack ht. changed to 44' by Jeff Benbenek 4-5-94	Yes	Yes
20150	Electric Arc Furnace EF-1	20	4.4	250	22450	747120	4287380		Yes	Yes
20160	Electric Arc Furnace EF-2	20	4.4	250	22450	747140	4287380		Yes	Yes
20170	Shot Blast 5	27	3	70	19937	747240	4287450		Yes	Yes
20180	Kiln Type Sand Dryer	30	1.5	200	7000	747800	4287600		Yes	Yes
20190	Reclaimed Sand Cooler KC-1	30	1.5	150	6000	747820	4287620	Description changed by Jeff Benbenek 4-5-94	Yes	Yes
20200	Chromite Reclaimation CR-1	36	1.3	70	20000	747820	4287620	Modeling emissions and flow rate readjusted to 50% due to reduced load analysis	Yes	Yes
20210	Core Baking Ovens BO-1 to BO-6	48	1.2	360	189	747100	4287400	Calclulation for natural gas by Berkley Moore	No	No
20220	Skid Shake Out SK-SO-1	30	2.9	70	50000	747240	4287450	Modeling emissions and flow rate readjusted to 50% due to reduced load analysis	Yes	Yes
20230	Rail Car RC-1 Sandhandling System	30	2.9	70	25000	747240	4287450		No	No
20250	EF1 + EF2 Charging + Tapping - Venting	82.5	5.6	70	54400	747050	4287370		Yes	Yes
20251	" " " " "	82.5	6.3	70	54400	747061	4287370		Yes	Yes
20252	" " " " "	82.5	6.3	70	54000	747068	4287370		Yes	Yes
20253	" " " " "	82.5	6.3	70	54000	747075	4287370		Yes	Yes
20260	Molding Sand System SS/SO-6	60	6	70	100000	746980	4287300		Yes	Yes
20280	Shot Blast SB6	40	2	70	7600	746980	4287450	Modeling emissions and flow rate readjusted to 50% due to reduced load analysis	Yes	Yes
20291	No.3 Mold Floor	44.92	2	70	50000	747050	4287320		Yes	Yes
20300	Chill Tumbler	13	0.4	70	435	746970	4287450	Allowable readjusted by Jeff Benbenek 4-5-94	No	No
20310	Bentonite Unloading System	43	0.8	100	1000	747000	4287330		No	No
20320	Paint Booth CP-1	55	3	70	14290	747000	4287700		Yes	Yes
20340	Shot Blaster #7	8	2.3	90	22400	747240	4287450		Yes	Yes
20341	Shakeout - Located 6th Floor	60	6	70	100000	746980	4287300		No	No
20342	No. 1 Small Parts Mold Line	60	6.2	150	100000	747134	4287354	Allowable readjusted by Jeff Benbenek 4-5-94	Yes	Yes

Granite City PM10 Short Term Peaks-Fenceline Grid
(Total > 135 ug/m3)

XUTM	YUTM	24-Hour Impact	Date	Background	Total Impact
746890	4287390	107.99	12-21-86	27.71	135.70
747080	4287270	108.30	9-24-88	26.90	135.20

Granite City PM10 Short Term Peaks - Regular Grid

XUTM	YUTM	24-Hour Impact	Date	Background	Total Impact
749000	4286000	94.32	11-02-85	27.79	122.11
747500	4287500	87.79	1-08-88	25.10	114.89

file:F:MW-Gran2

Granite City PM10 Long Term Peaks-Fenceline Grid

XUTM	YUTM	Average Annual Impact	Background	Total Impact
747080	4287270	20.66	28.39	49.05
747200	4287430	17.18	28.39	45.57
746890	4287390	16.66	28.39	45.05

Granite City PM10 Long Term Peaks - Regular Grid

XUTM	YUTM	Average Annual Impact	Background	Total Impact
747500	4287500	13.94	28.39	42.33
748500	4287100	12.97	28.39	41.36
749000	4286500	12.49	28.39	40.88

file:F:MW-Gran

Files for the Granite City PM10 Modeling (con't)

Disk No. 7

gccst87.out, gccst88.out, gccst89.out,
.....*output files, short-term, fenceline grid.*

Disk No. 8

gcalt85.inp, gcalt86.inp, gcalt87.inp, gcalt88.inp, gcalt89.inp,
.....*input files, long-term, 1 km grid.*

gcblt85.inp, gcblt86.inp, gcblt87.inp, gcblt88.inp, gcblt89.inp,
.....*input files, long-term, 500 meter grid.*

gcclt85.inp, gcclt86.inp, gcclt87.inp, gcclt88.inp, gcclt89.inp,
.....*input files, long-term, fenceline grid.*

Disk No. 9

gcalt85.out, gcalt86.out, gcalt87.out, gcalt88.out, gcalt89.out,
.....*output files, long-term, 1 km grid.*

Disk No. 10

gcblt85.out, gcblt86.out, gcblt87.out, gcblt88.out,
.....*output files, long-term, 500 meter grid.*

Disk No. 11

gcblt89.out,
.....*output file, long-term, 500 meter grid.*

gcclt85.out, gcclt86.out, gcclt87.out, gcclt88.out,
.....output file, long-term, fenceline grid.

Disk No. 12

gcclt89.out,
.....*output file, long-term, fenceline grid.*