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Table 1
Input Process Rates and Parameters
Eagle Foundry Company

Source	Production or Throughput Rate							
	2021				PTE			
	Daily		Annual		Daily		Annual	
Facility								
Facility Hours of Operation	20.0	(hrs/day) ⁽¹⁾	6,240	(hrs/yr) ^(a)	24.0	(hrs/day) ⁽²⁾	8,760	(hrs/yr) ⁽²⁾
Foundry								
Total Metal Melted	23.6	(tons/day) ^(b)	5,675	(tons/yr) ⁽¹⁾	31.0	(tons/day) ⁽⁴⁾	8,060	(tons/yr) ⁽¹⁾
Total White Iron Melted	18.9	(tons/day) ^(c)	4,540	(tons/yr) ^(c)	0	(tons/day) ⁽⁵⁾	6,448	(tons/yr) ^(c)
Total Steel Melted	4.72	(tons/day) ^(c)	1,135	(tons/yr) ^(c)	31.0	(tons/day) ⁽⁵⁾	1,612	(tons/yr) ^(c)
Total Metal Processed	14.5	(tons/day) ^(d)	3,482	(tons/yr) ^(d)	19.0	(tons/day) ^(d)	4,945	(tons/yr) ^(d)
Total Hot Top	92.3	(lb/day) ^(b)	24,005	(lb/yr) ⁽¹⁾	142	(lb/day) ^(b)	34,093	(lb/yr) ^(e)
Heat Treat								
Total Propane Usage	633	(gal/day) ^(b)	151,830	(gal/yr) ⁽¹⁾	898	(gal/day) ^(b)	215,639	(gal/yr) ^(e)
AirArc								
AirArc Process Hours of Operation	10.0	(hrs/day) ⁽¹⁾	3,120	(hrs/yr) ^(a)	24.0	(hrs/day) ^(b)	4,431	(hrs/yr) ^(e)
Cutting Torch Hours of Operation	2.80	(hrs/day) ^(f)	859	(hrs/yr) ^(f)	6.60	(hrs/day) ^(f)	1,220	(hrs/yr) ^(f)
Welding								
Percentage of Welding Wire to Waste	--		5	(%) ⁽¹⁾	--		5	(%) ⁽¹⁾
Total Wire - Excluding Waste	29.8	(lb/day) ^(h)	7,150	(lb/yr) ^(h)	42.3	(lb/day) ^(b)	10,155	(lb/yr) ^(h)
Lincore M WIRE HF LCM 1/16 25# SP	3.33	(lb/day) ^(b)	800	(lb/yr) ⁽¹⁾	--		1,136	(lb/yr) ^(e)
Sandvik WIRE 309LSI .035 X 33 LB	0.14	(lb/day) ^(b)	33.0	(lb/yr) ⁽¹⁾	--		46.9	(lb/yr) ^(e)
Avesta 2205 ELECTR SS E2209 1/8 10#	1.25	(lb/day) ^(b)	300	(lb/yr) ⁽¹⁾	--		426	(lb/yr) ^(e)
Prostar S-6 WIRE MS 70S6 035 33# SP PRS	3.35	(lb/day) ^(b)	803	(lb/yr) ⁽¹⁾	--		1,140	(lb/yr) ^(e)
Stoody WIRE HF 965-G 045 33# SP	3.71	(lb/day) ^(b)	891	(lb/yr) ⁽¹⁾	--		1,265	(lb/yr) ^(e)
Hobart WIRE EXCELARC 71 .045 X 33 LB	0.41	(lb/day) ^(b)	99.0	(lb/yr) ⁽¹⁾	--		141	(lb/yr) ^(e)
CARBONS 1/2X17 CTD DC JTD 100	19.2	(lb/day) ^(b)	4,600	(lb/yr) ⁽¹⁾	--		6,533	(lb/yr) ^(e)
Pattern Production								
Urethane	0.25	(gal/day) ^(b)	60.0	(gal/yr) ⁽¹⁾	0.36	(gal/day) ^(b)	85.2	(gal/yr) ^(e)
Mar-Proof H/S Lacquer Sanding Sealer	0.021	(gal/day) ^(b)	5.00	(gal/yr) ⁽¹⁾	0.030	(gal/day) ^(b)	7.1	(gal/yr) ^(e)
Finishing								
Total Grinding (Metal Processed)	14.5	(tons/day) ⁽⁷⁾	3,482	(tons/yr) ⁽⁷⁾	19.0	(tons/day) ⁽⁷⁾	4,945	(tons/yr) ⁽⁷⁾
Grinding - Stainless Steel	--		--		2.50	(tons/day) ⁽¹⁾	651	(tons/yr) ⁽¹⁾
Grinding - Non-stainless Steel	--		--		16.5	(tons/day) ⁽¹⁾	4,294	(tons/yr) ⁽¹⁾

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Table 1
Input Process Rates and Parameters
Eagle Foundry Company

Source	Production or Throughput Rate							
	2021			PTE				
	Daily		Annual	Daily		Annual		
Abrasive Blasting								
Total Metal Finished by Abrasive Blasting	1.74	(tons/day) ⁽ⁱ⁾	418	(tons/yr) ⁽ⁱ⁾	12.0	(tons/day) ⁽¹⁾	593	(tons/yr) ⁽ⁱ⁾
Mesh Blast (metal finished)	--	⁽⁸⁾	--	⁽⁸⁾	3.00	(tons/day) ⁽¹⁾	59.3	(tons/yr) ⁽¹⁾
Shot Blast (metal finished)	1.74	(tons/day) ⁽¹⁾	418	(tons/yr) ⁽¹⁾	9.00	(tons/day) ⁽¹⁾	534	(tons/yr) ⁽¹⁾
Mold Production								
Total Sand Handled	--		6,583	(tons/yr) ⁽¹⁰⁾	--		9,350	(tons/yr) ⁽ⁱ⁾
Small Palmer Molding System								
Velvacoat St 803 - Mold Wash Z	49.2	(lb/day) ^(b)	11,800	(lb/yr) ⁽¹⁰⁾	41.7	(lb/day) ^(b)	10,000	(lb/yr) ⁽¹⁾
Coated Cerabead	365	(lb/day) ^(b)	87,485	(lb/yr) ⁽ⁱ⁾	518	(lb/day) ^(b)	124,257	(lb/yr) ^(k)
G-29 Sand	863	(lb/day) ^(b)	207,165	(lb/yr) ⁽ⁱ⁾	1,226	(lb/day) ^(b)	294,241	(lb/yr) ^(k)
Naigai Cerabead	33,251	(lb/day) ^(b)	7,980,234	(lb/yr) ⁽ⁱ⁾	47,227	(lb/day) ^(b)	11,334,527	(lb/yr) ^(k)
Unibond 1350 Core Paste	32.0	(lb/day) ^(b)	6,925	(lb/yr) ⁽¹⁾	41.0	(lb/day) ^(b)	9,835	(lb/yr) ^(e)
Small Palmer Molding Line (dust collected)	66.5	(lb/day) ⁽¹⁾	10.4	(tons/yr) ^(c)	115	(lb/day) ^(m)	14.948	(tons/yr) ^(e)
Big Palmer Molding System								
Velvacoat St 803 - Mold Wash Z	49.2	(lb/day) ^(b)	11,800	(lb/yr) ⁽¹⁾	125	(lb/day) ^(b)	30,000	(lb/yr) ⁽¹⁾
Isomol - Mold Wash M	15.0	(lb/day) ^(b)	3,600	(lb/yr) ⁽¹⁾	21.3	(lb/day) ^(b)	5,113	(lb/yr) ^(e)
Naigai Cerabead	20,380	(lb/day) ^(b)	4,891,116	(lb/yr) ⁽ⁱ⁾	28,946	(lb/day) ^(b)	6,946,975	(lb/yr) ^(k)
Unibond 1350 Core Paste	17.7	(lb/day) ^(b)	4,244	(lb/yr) ⁽¹⁾	25.1	(lb/day) ^(b)	6,028	(lb/yr) ^(e)
Silo Operation								
Silos Hours of Operation	20.0	(hrs/day) ⁽¹¹⁾	4,800	(hrs/yr) ⁽¹¹⁾	24.0	(hrs/day) ⁽¹¹⁾	8,760	(hrs/yr) ⁽¹¹⁾
Slag Handling								
Slag Handling	0.50	(tons/day) ⁽¹⁾	156	(tons/yr) ⁽¹⁾	0.90	(tons/day) ^(b)	222	(tons/yr) ^(e)
Emergency Generator								
Hours of Operation	2.00	(hrs/day) ⁽¹⁾	65.0	(hrs/yr) ⁽¹⁾	2.00	(hrs/day) ⁽¹⁾	100	(hrs/yr) ⁽¹²⁾
Diesel Usage	14.6	(gal/day) ⁽ⁿ⁾	475	(gal/yr) ⁽ⁿ⁾	14.6	(gal/day) ⁽ⁿ⁾	730	(gal/yr) ⁽ⁿ⁾
Filter	Control Efficiency (%)							
Foundry Baghouse Control Efficiency for PM	90.0 ⁽¹⁴⁾							
Reclamation Baghouse Control Efficiency for PM	99.0 ⁽¹⁾							
Baghouse Control Efficiency for PM _{>10}	100 ⁽¹⁵⁾							
Baghouse Control Efficiency for PM _{2.5-10}	99.5 ⁽¹⁵⁾							
Baghouse Control Efficiency for PM _{2.5}	99.0 ⁽¹⁵⁾							

Table 1
Input Process Rates and Parameters
Eagle Foundry Company

Notes

- gal = gallon; PM = particulate matter.
- ^(a) 2021 Annual hours of operation (hrs/yr) = (daily hours of operation [hrs/day]) x (operational days per week [days/week]) x (operational weeks per year [weeks/yr])
- Operational days per week (days/week) = 6.00 (1)
- Operational weeks per year [weeks/yr] = 52.0 (1)
- ^(b) Daily usage (unit/day) = (annual usage [unit/yr]) / (operational days per week [days/week]) / (operational weeks per year [weeks/yr])
- x (1 + [short-term variability factor {%}]/100)
- Short-term variability factor (%) = 30.0 (3)
- ^(c) Metal poured (tons/unit) = (annual usage [tons/yr]) / (percentage of total metal poured [%]/100)
- White Iron percentage of total metal poured (%) = 80.0 (1)
- Steel percentage of total metal poured (%) = 20.0 (1)
- ^(d) Total metal processed (tons metal processed) = (total metal poured [tons metal poured]) x (1 - [reject percentage {%}]/100)
- x (1 - [percentage of metal poured for riser {%}]/100)
- Reject percentage (%) = 1.05 (1)
- Percentage of metal poured for riser (%) = 38.0 (1)
- ^(e) Annual parameter, PTE (units/yr) = (annual parameter, 2021 [units/yr]) x (total metal melt, PTE [tons melt/yr]) / (total metal melt, 2021 [tons melt/yr])
- ^(f) Cutting torch hours of operation = (AirArc process hours of operation [hours/unit]) x (AirArc cutting time to total work time ratio)
- AirArc cutting torch time to total work time ratio = 0.28 (g)
- ^(g) AirArc cutting time to total work time ratio = (average minutes of cutting torch operation [minutes/unit]) / (average total minutes of operation [minutes/unit])
- Average minutes of cutting torch operation (minutes) = 8.26 (6)
- Average total minutes of operation (minutes) = 30.0 (6)
- ^(h) Total welding wire - excluding waste (lb/unit) = (sum of welding wire usage [lb/unit]) x (1 - (percentage of welding wire waste [%] /100)
- ⁽ⁱ⁾ Total metal finished by abrasive blasting (tons/unit) = (total metal processed [tons/unit]) x (percentage of metal processed finished by abrasive blasting [%]/100)
- Percentage of metal processed finished by abrasive blasting (%) = 12.0 (1)
- ^(j) Total sand handling (tons/yr) = (metal poured [tons/yr]) x (sand-to-metal ratio)
- Sand-to-metal ratio (tons/ton) = 1.16 (9)
- ^(k) Product usage (lb/yr) = (total sand handling [tons/yr]) x (2,000 lb/ton) x (2021 product purchase [lb/yr]) / (2021 total sand purchase [lb/yr])
- 2021 purchases Coated Cerabead (lb/year) = 9,000
- 2021 purchases G29 Sand (lb/year) = 21,312
- 2021 purchases Naigai Cerabead—Small Palmer (lb/year) = 820,964
- 2021 purchases Naigai Cerabead—Big Palmer (lb/year) = 503,172
- ^(l) Product usage (lb/yr) = (2021 product purchase [lb/yr]) x (PTE total sand handling [tons/yr]) / (2021 total sand handling [tons/yr])
- ^(m) Maximum daily parameter (lb/day) = (annual parameter [tons/yr]) x (2,000 lb/ton) / (operational days per week [days/week]) / (operational weeks per year [weeks/yr])
- x (1 + [short-term variability factor {%}]/100)
- Short-term variability factor (%) = 20.0 (3)
- ⁽ⁿ⁾ Diesel usage (gal/unit) = (diesel usage [gal/hour]) x (hours of operation [hrs/unit])
- Diesel usage (gal/hr) = 7.30 (13)
- ^(o) Annual dust collected (tons/yr) = (daily dust collected [lb/day]) / (2,000 lb/ton) x (operational days per week [days/week]) x (operational weeks per year [weeks/yr])

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Table 1
Input Process Rates and Parameters
Eagle Foundry Company

References

- ⁽¹⁾ Information provided by Eagle Foundry.
- ⁽²⁾ Assumes continuous operation.
- ⁽³⁾ Based on a 20 percent increase for short-term variability.
- ⁽⁴⁾ Information provided by facility. Maximum daily production for PTE is based on the daily capacity of foundry operations.
- ⁽⁵⁾ 100 percent of daily metal melted is allocated to HK steel alloy. Emissions from alloy HK results in the maximum predicted acute risk value.
- ⁽⁶⁾ Based on an Eagle Foundry study of the time that cutting torches are in operation during AirArc process operations.
- ⁽⁷⁾ Value represents the total metal processed. Total metal processed is equivalent to total metal melt minus reject percentage and metal poured for risers.
- ⁽⁸⁾ The mesh blast unit was not used in 2021.
- ⁽⁹⁾ Ratio of sand to total metal poured is based on facility operations. Value includes G-29 Sand, Naigai Cerabead, and Coated Cerabead.
- ⁽¹⁰⁾ Information provided by Eagle Foundry. Values based on purchase records.
- ⁽¹¹⁾ Based on continuous operation for PTE estimates.
- ⁽¹²⁾ See CFR 40 Ch. 1(C)(63). Emergency engines may only be operated for a maximum of 100 hours per calendar year.
- ⁽¹³⁾ Based on a 100 kW emergency generator at 100 percent load.
- ⁽¹⁴⁾ Assumed control efficiency provided by the Oregon DEQ by letter dated August 11, 2023.
- ⁽¹⁵⁾ RTI International, 2012, Table F-1, Typical Collection Efficiencies of Various Particulate Control Devices. Assumes fabric filter—low temperature. RTI states that control efficiencies for PM larger than 10 micrometers in diameter are 100 percent.

Table 2
Foundry Emission Factors
Eagle Foundry Company

Toxic Air Contaminant	CAS/DEQ ID	Emission Factor											
		Steel					White Iron						
		Main Foundry Baghouse		Cooling Bunker Baghouse		Total	Main Foundry Baghouse		Cooling Bunker Baghouse		Total		
Aluminum and Compounds	7429-90-5	1.89E-03	(lb/ton melt) ⁽¹⁾	1.45E-03	(lb/ton melt) ⁽¹⁾	3.34E-03	(lb/ton melt)	1.94E-03	(lb/ton melt) ⁽¹⁾	1.72E-03	(lb/ton melt) ⁽¹⁾	3.66E-03	(lb/ton melt)
Antimony and Compounds	7440-36-0	< 1.60E-05	(lb/ton melt) ⁽¹⁾	< 1.48E-05	(lb/ton melt) ⁽¹⁾	< 3.08E-05	(lb/ton melt)	1.49E-05	(lb/ton melt) ⁽¹⁾	< 1.05E-05	(lb/ton melt) ⁽¹⁾	2.54E-05	(lb/ton melt)
Arsenic and Compounds	7440-38-2	< 6.01E-05	(lb/ton melt) ⁽¹⁾	< 5.43E-05	(lb/ton melt) ⁽¹⁾	< 1.14E-04	(lb/ton melt)	ND		< 4.42E-05	(lb/ton melt) ⁽¹⁾	< 4.42E-05	(lb/ton melt)
Barium and Compounds	7440-39-3	1.29E-04	(lb/ton melt) ⁽¹⁾	4.76E-05	(lb/ton melt) ⁽¹⁾	1.77E-04	(lb/ton melt)	7.42E-05	(lb/ton melt) ⁽¹⁾	3.70E-05	(lb/ton melt) ⁽¹⁾	1.11E-04	(lb/ton melt)
Beryllium and compounds	7440-41-7	ND		ND		ND		ND		ND		ND	
Cadmium and Compounds	7440-43-9	< 7.78E-06	(lb/ton melt) ⁽¹⁾	< 3.14E-06	(lb/ton melt) ⁽¹⁾	< 1.09E-05	(lb/ton melt)	< 3.71E-06	(lb/ton melt) ⁽¹⁾	ND		< 3.71E-06	(lb/ton melt)
Chromium	7440-47-3	3.43E-03	(lb/tons TAC in melt) ⁽¹⁾	9.38E-04	(lb/tons TAC in melt) ⁽¹⁾	4.37E-03	(lb/tons TAC in melt)	2.31E-04	(lb/tons TAC in melt) ⁽¹⁾	9.26E-05	(lb/tons TAC in melt) ⁽¹⁾	3.24E-04	(lb/tons TAC in melt)
Chromium VI	18540-29-9	1.32E-05	(lb/tons TAC in melt) ⁽¹⁾	1.87E-05	(lb/tons TAC in melt) ⁽¹⁾	3.19E-05	(lb/tons TAC in melt)	7.20E-07	(lb/tons TAC in melt) ⁽¹⁾	< 1.16E-06	(lb/tons TAC in melt) ⁽¹⁾	1.88E-06	(lb/tons TAC in melt)
Cobalt and Compounds	7440-48-4	< 2.43E-06	(lb/ton melt) ⁽¹⁾	< 1.98E-06	(lb/ton melt) ⁽¹⁾	< 4.41E-06	(lb/ton melt)	< 2.45E-06	(lb/ton melt) ⁽¹⁾	< 2.03E-06	(lb/ton melt) ⁽¹⁾	< 4.48E-06	(lb/ton melt)
Copper and Compounds	7440-50-8	< 7.96E-05	(lb/ton melt) ⁽¹⁾	< 7.42E-05	(lb/ton melt) ⁽¹⁾	< 1.54E-04	(lb/ton melt)	< 9.54E-05	(lb/ton melt) ⁽¹⁾	7.87E-05	(lb/ton melt) ⁽¹⁾	1.74E-04	(lb/ton melt)
Lead and Compounds	7439-92-1	ND		< 3.66E-05	(lb/ton melt) ⁽¹⁾	< 3.66E-05	(lb/ton melt)	< 5.49E-05	(lb/ton melt) ⁽¹⁾	< 4.43E-05	(lb/ton melt) ⁽¹⁾	< 9.92E-05	(lb/ton melt)
Manganese and Compounds	7439-96-5	4.11E-03	(lb/tons TAC in melt) ⁽¹⁾	2.20E-03	(lb/tons TAC in melt) ⁽¹⁾	6.31E-03	(lb/tons TAC in melt)	0.0345	(lb/tons TAC in melt) ⁽¹⁾	0.0122	(lb/tons TAC in melt) ⁽¹⁾	4.67E-02	(lb/tons TAC in melt)
Mercury	7439-97-6	< 4.16E-06	(lb/ton melt) ⁽¹⁾	< 2.92E-06	(lb/ton melt) ⁽¹⁾	< 7.08E-06	(lb/ton melt)	< 1.99E-06	(lb/ton melt) ⁽¹⁾	< 1.52E-06	(lb/ton melt) ⁽¹⁾	< 3.51E-06	(lb/ton melt)
Molybdenum Trioxide	1313-27-5	2.24E-06	(lb/ton melt) ^(a)	1.05E-05	(lb/ton melt) ^(a)	1.27E-05	(lb/ton melt)	2.24E-06	(lb/ton melt) ^(a)	1.05E-05	(lb/ton melt) ^(a)	1.27E-05	(lb/ton melt)
Nickel and Compounds	7440-02-0	< 0.0197	(lb/tons TAC in melt) ⁽¹⁾	5.98E-03	(lb/tons TAC in melt) ⁽¹⁾	0.0257	(lb/tons TAC in melt)	< 9.78E-05	(lb/ton melt) ⁽¹⁾	6.44E-05	(lb/ton melt) ⁽¹⁾	1.62E-04	(lb/ton melt)
Phosphorus and Compounds	504	< 2.14E-04	(lb/ton melt) ⁽¹⁾	< 1.74E-04	(lb/ton melt) ⁽¹⁾	< 3.88E-04	(lb/ton melt)	< 1.66E-04	(lb/ton melt) ⁽¹⁾	< 4.19E-05	(lb/ton melt) ⁽¹⁾	< 2.08E-04	(lb/ton melt)
Selenium and Compounds	7782-49-2	ND		ND		ND		ND		ND		ND	
Silver and Compounds	7440-22-4	< 1.49E-05	(lb/ton melt) ⁽¹⁾	ND		ND	1.49E-05	< 1.75E-05	(lb/ton melt) ⁽¹⁾	ND		< 1.75E-05	(lb/ton melt)
Thallium	7440-28-0	ND		ND		ND		ND		ND		ND	
Vanadium (fume or dust)	7440-62-2	ND		ND		ND		ND		ND		ND	
Zinc and Compounds	7440-66-6	2.17E-04	(lb/ton melt) ⁽¹⁾	2.17E-04	(lb/ton melt) ⁽¹⁾	4.34E-04	(lb/ton melt)	2.29E-04	(lb/ton melt) ⁽¹⁾	2.03E-04	(lb/ton melt) ⁽¹⁾	4.32E-04	(lb/ton melt)

Notes

< = Value calculated using the minimum detection limit for front half and/or back half results that were non-detect.
ND = Non-detect. Results were below the analytical detection limit for all sample train components in all source test runs; TAC = toxic air contaminant.

^(a) Emission factor (lb/ton melt) = (PM emission factor [lb/ton]) x (1 - [control efficiency of the foundry baghouses {%}]/100) x (percent TAC in PM [%]) / 100

PM emission factor, melt (lb/ton) = 0.90 (2)
PM emission factor, pour/cool (lb/ton) = 4.20 (3)
Control efficiency of foundry baghouses (%) = 90.0 (4)
Molybdenum trioxide percentage of PM (%) = 2.49E-03 (b)

891.4285714

^(b) Molybdenum trioxide emission factor (% of PM emitted) = (molybdenum emission factor [% of PM emitted]) x (molybdenum trioxide molecular weight [lb/lb-mole]) / (molybdenum molecular weight [lb/lb-mole]) (5)
Molybdenum and Compounds percentage of PM (%) = 1.66E-03 (6)
Molybdenum trioxide molecular weight (lb/lb-mole) = 143.94
Molybdenum molecular weight (lb/lb-mole) = 95.95

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Table 2

Foundry Emission Factors

Eagle Foundry Company

References

- ⁽¹⁾ Values provided by the DEQ on November 20, 2023 in their source test review memorandum following review of the Main Foundry and Cooling Bunker Baghouses Emission Factor Determination and Main Foundry PTE Verification Source Test Report prepared by Bison Engineering, dated October 13, 2023.
- ⁽²⁾ AP-42, Chapter 12.10, Table 12.10-3 "Particulate Emission Factors for Iron Furnaces". Uncontrolled particulate emission factor for melting in an electric induction furnace.
- ⁽³⁾ AP-42, Chapter 12.10, Table 12.10-7 "Particulate Emission Factors for Ancillary Operations and Fugitive Sources at Gray Iron Foundries". Value for uncontrolled particulate emission factor for pouring and cooling in an electric induction furnace.
- ⁽⁴⁾ See Table 1, Input Process Rates and Parameters. The foundry building has been approved as a permanent total enclosure. Fugitive emissions from the reclamation system are controlled by the main foundry baghouse.
- ⁽⁵⁾ Conservatively assumes 100 percent of molybdenum is in the trioxide form.
- ⁽⁶⁾ Based on baghouse dust analysis conducted by Apex Laboratories, March 2021.

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Table 3
PTE Foundry White Iron TAC Emissions Estimate
Eagle Foundry Company

Toxic Air Contaminant	CAS/DEQ ID	White Iron Emission Factor ⁽¹⁾		Emissions Estimate				Total Emissions Estimate	
		Main Foundry	Cooling Bunker	Main Foundry		Cooling Bunker		Daily ⁽²⁾ (lb/day)	Annual ⁽³⁾ (lb/yr)
				Daily ⁽²⁾ (lb/day)	Annual (lb/yr)	Daily ⁽²⁾ (lb/day)	Annual (lb/yr)		
Aluminum and Compounds	7429-90-5	1.94E-03 (lb/ton melt)	1.72E-03 (lb/ton melt)	--	12.5 ^(a)	--	11.1 ^(a)	--	23.6
Antimony and Compounds	7440-36-0	1.49E-05 (lb/ton melt)	< 1.05E-05 (lb/ton melt)	--	0.096 ^(a)	--	0.068 ^(a)	--	0.16
Arsenic and Compounds	7440-38-2	ND	< 4.42E-05 (lb/ton melt)	--	--	--	0.29 ^(a)	--	0.29
Barium and Compounds	7440-39-3	7.42E-05 (lb/ton melt)	3.70E-05 (lb/ton melt)	--	0.48 ^(a)	--	0.24 ^(a)	--	0.72
Cadmium and Compounds	7440-43-9	< 3.71E-06 (lb/ton melt)	ND	--	0.024 ^(a)	--	--	--	0.024
Chromium	7440-47-3	2.31E-04 (lb/tons TAC in melt)	9.26E-05 (lb/tons TAC in melt)	--	0.39 ^(b)	--	0.16 ^(b)	--	0.54
Chromium VI	18540-29-9	7.20E-07 (lb/tons TAC in melt)	< 1.16E-06 (lb/tons TAC in melt)	--	1.2E-03 ^(b)	--	1.9E-03 ^(b)	--	3.2E-03
Cobalt and Compounds	7440-48-4	< 2.45E-06 (lb/ton melt)	< 2.03E-06 (lb/ton melt)	--	0.016 ^(a)	--	0.013 ^(a)	--	0.029
Copper and Compounds	7440-50-8	< 9.54E-05 (lb/ton melt)	7.87E-05 (lb/ton melt)	--	0.62 ^(a)	--	0.51 ^(a)	--	1.12
Lead and Compounds	7439-92-1	< 5.49E-05 (lb/ton melt)	< 4.43E-05 (lb/ton melt)	--	0.35 ^(a)	--	0.29 ^(a)	--	0.64
Mercury	7439-97-6	< 1.99E-06 (lb/ton melt)	< 1.52E-06 (lb/ton melt)	--	0.013 ^(a)	--	9.8E-03 ^(a)	--	0.023
Manganese and Compounds	7439-96-5	0.0345 (lb/tons TAC in melt)	0.0122 (lb/tons TAC in melt)	--	2.67 ^(b)	--	0.94 ^(b)	--	3.61
Molybdenum Trioxide	1313-27-5	2.24E-06 (lb/ton melt)	1.05E-05 (lb/ton melt)	--	0.014 ^(a)	--	0.067 ^(a)	--	0.082
Nickel and Compounds	7440-02-0	< 9.78E-05 (lb/ton melt)	6.44E-05 (lb/ton melt)	--	0.63 ^(a)	--	0.42 ^(a)	--	1.05
Phosphorus and Compounds	504	< 1.66E-04 (lb/ton melt)	< 4.19E-05 (lb/ton melt)	--	1.07 ^(a)	--	0.27 ^(a)	--	1.34
Silver and Compounds	7440-22-4	< 1.75E-05 (lb/ton melt)	ND	--	0.11 ^(a)	--	--	--	0.11
Zinc and Compounds	7440-66-6	2.29E-04 (lb/ton melt)	2.03E-04 (lb/ton melt)	--	1.48 ^(a)	--	1.31 ^(a)	--	2.79

Notes

ND = Non-detect. Results were below the analytical detection limit for all sample train components in all source test runs; TAC = toxic air contaminant.

^(a) Annual emissions estimate (lb/yr) = (emission factor [lb/ton melt]) x (annual metal melted [tons/yr])

White Iron - total metal melted (tons/yr) = 6,448 (4)

^(b) Annual emissions estimate (lb/yr) = (emission factor [lb/tons TAC in melt]) x (annual metal melt [tons/yr]) x (tons TAC/ton melt)

White Iron - Chromium in melt (ton TAC/ton melt) = 0.26 (5)

White Iron - Manganese in melt (ton TAC /ton melt) = 0.012 (5)

References

⁽¹⁾ See Table 2, Foundry Emission Factors.

⁽²⁾ See Table 1, Input Process Rates and Parameters and Table D2, Alloy Toxicity Weighted Emission Rates . All daily production is attributed to HK steel alloy which will result in the maximum predicted acute hazard index. The daily emissions estimates for the main foundry and cooling bunker are shown in Table 4, PTE Foundry Steel TAC Emissions Estimate.

⁽³⁾ Sum of main foundry and cooling bunker emission estimates.

⁽⁴⁾ See Table 1, Input Process Rates and Parameters.

⁽⁵⁾ See Table D1, Alloy Composition Data. Annual emissions estimate for the main foundry and cooling bunker are based on the maximum TAC content of all iron alloys.

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Table 4
PTE Foundry Steel TAC Emissions Estimate
Eagle Foundry Company

Toxic Air Contaminant	CAS/DEQ ID	Steel Emission Factor ⁽¹⁾		Emissions Estimate				Total Emissions Estimate ⁽²⁾	
		Main Foundry	Cooling Bunker	Main Foundry		Cooling Bunker		Daily (lb/day)	Annual (lb/yr)
				Daily (lb/day)	Annual (lb/yr)	Daily (lb/day)	Annual (lb/yr)		
Aluminum and Compounds	7429-90-5	1.89E-03 (lb/ton melt)	1.45E-03 (lb/ton melt)	0.059 ^(a)	3.05 ^(b)	0.045 ^(a)	2.34 ^(b)	0.10	5.38
Antimony and Compounds	7440-36-0	< 1.60E-05 (lb/ton melt)	< 1.48E-05 (lb/ton melt)	5.0E-04 ^(a)	0.026 ^(b)	4.6E-04 ^(a)	0.024 ^(b)	9.5E-04	0.050
Arsenic and Compounds	7440-38-2	< 6.01E-05 (lb/ton melt)	< 5.43E-05 (lb/ton melt)	1.9E-03 ^(a)	0.097 ^(b)	1.7E-03 ^(a)	0.088 ^(b)	3.5E-03	0.18
Barium and Compounds	7440-39-3	1.29E-04 (lb/ton melt)	4.76E-05 (lb/ton melt)	4.0E-03 ^(a)	0.21 ^(b)	1.5E-03 ^(a)	0.077 ^(b)	5.5E-03	0.28
Cadmium and Compounds	7440-43-9	< 7.78E-06 (lb/ton melt)	< 3.14E-06 (lb/ton melt)	2.4E-04 ^(a)	0.013 ^(b)	9.7E-05 ^(a)	5.1E-03 ^(b)	3.4E-04	0.018
Chromium	7440-47-3	3.43E-03 (lb/tons TAC in melt)	9.38E-04 (lb/tons TAC in melt)	0.028 ^(c)	0.097 ^(d)	7.6E-03 ^(c)	0.027 ^(d)	0.035	0.12
Chromium VI	18540-29-9	1.32E-05 (lb/tons TAC in melt)	1.87E-05 (lb/tons TAC in melt)	1.1E-04 ^(c)	3.7E-04 ^(d)	1.5E-04 ^(c)	5.3E-04 ^(d)	2.6E-04	9.1E-04
Cobalt and Compounds	7440-48-4	< 2.43E-06 (lb/ton melt)	< 1.98E-06 (lb/ton melt)	7.5E-05 ^(a)	3.9E-03 ^(b)	6.1E-05 ^(a)	3.2E-03 ^(b)	1.4E-04	7.1E-03
Copper and Compounds	7440-50-8	< 7.96E-05 (lb/ton melt)	< 7.42E-05 (lb/ton melt)	2.5E-03 ^(a)	0.13 ^(b)	2.3E-03 ^(a)	0.12 ^(b)	4.8E-03	0.25
Lead and Compounds	7439-92-1	ND	< 3.66E-05 (lb/ton melt)	--	--	1.1E-03 ^(a)	0.059 ^(b)	1.1E-03	0.059
Mercury	7439-97-6	< 4.16E-06 (lb/ton melt)	< 2.92E-06 (lb/ton melt)	1.3E-04 ^(a)	6.7E-03 ^(b)	9.1E-05 ^(a)	4.7E-03 ^(b)	2.2E-04	0.011
Manganese and Compounds	7439-96-5	4.11E-03 (lb/tons TAC in melt)	2.20E-03 (lb/tons TAC in melt)	1.3E-03 ^(c)	0.35 ^(d)	6.8E-04 ^(c)	0.19 ^(d)	2.0E-03	0.54
Molybdenum Trioxide	1313-27-5	2.24E-06 (lb/ton melt)	1.05E-05 (lb/ton melt)	6.9E-05 ^(a)	3.6E-03 ^(b)	3.2E-04 ^(a)	0.017 ^(b)	3.9E-04	0.020
Nickel and Compounds	7440-02-0	< 0.020 (lb/tons TAC in melt)	5.98E-03 (lb/tons TAC in melt)	0.12 ^(c)	0.35 ^(d)	0.037 ^(c)	0.11 ^(d)	0.16	0.46
Phosphorus and Compounds	504	< 2.14E-04 (lb/ton melt)	< 1.74E-04 (lb/ton melt)	6.6E-03 ^(a)	0.34 ^(b)	5.4E-03 ^(a)	0.28 ^(b)	0.012	0.63
Silver and Compounds	7440-22-4	< 1.49E-05 (lb/ton melt)	ND	4.6E-04 ^(a)	0.024 ^(b)	--	--	4.6E-04	0.024
Zinc and Compounds	7440-66-6	2.17E-04 (lb/ton melt)	2.17E-04 (lb/ton melt)	6.7E-03 ^(a)	0.35 ^(b)	6.7E-03 ^(a)	0.35 ^(b)	0.013	0.70

Notes

ND = Non-detect. Results were below the analytical detection limit for all sample train components in all source test runs; TAC = toxic air contaminant.

^(a) Daily emissions estimate (lb/day) = (emission factor [lb/ton melt]) x (daily metal melt [tons/day])

Steel - total metal melt (tons/day) = 31.0 (3)

^(b) Annual emissions estimate (lb/yr) = (emission factor [lb/ton melt]) x (annual metal melt [tons/yr])

Steel - total metal melt (tons/yr) = 1,612 (3)

^(c) Daily emissions estimate (lb/day) = (emission factor [lb/tons TAC in melt]) x (daily metal melt [tons/day]) x (tons TAC/ton melt)

Steel - Chromium in melt (tons TAC/ton melt) = 0.26 (4)

Steel - Manganese in melt (tons TAC/ton melt) = 0.010 (4)

Steel - Nickel in melt (tons TAC/ton melt) = 0.20 (4)

^(d) Annual emissions estimate (lb/yr) = (emission factor [lb/tons TAC in melt]) x (annual metal melt [tons/yr]) x (tons TAC/ton melt)

Steel - Chromium in melt (tons TAC/ton melt) = 0.018 (5)

Steel - Manganese in melt (tons TAC/ton melt) = 0.053 (5)

Steel - Nickel in melt (tons TAC/ton melt) = 0.011 (5)

Table 4
PTE Foundry Steel TAC Emissions Estimate
Eagle Foundry Company

References

- ⁽¹⁾ See Table 2, Foundry Emission Factors.
- ⁽²⁾ Sum of main foundry and cooling bunker emission estimates.
- ⁽³⁾ See Table 1, Input Process Rates and Parameters.
- ⁽⁴⁾ See Table D1, Alloy Composition Data and Table D2, Alloy Toxicity Weighted Emission Rates. Daily emissions estimate for the main foundry and cooling bunker are based on alloy HK, which has the highest toxicity weighted emission rate of any melt and results in the maximum predicted acute hazard index.
- ⁽⁵⁾ See Table D1, Alloy Composition Data. Annual emissions estimate for the main foundry and cooling bunker are based on the weighted average TAC content of all Steel alloys produced in 2022.

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Table 5
PTE Hot Top TAC Emission Estimates
Eagle Foundry Company

Toxic Air Contaminant ⁽¹⁾	CAS	Emission Factor ^(a) (lb/lb hot top)	Emissions Estimate	
			Daily ^(b) (lb/day)	Annual ^(c) (lb/yr)
Silica, crystalline	7631-86-9 ⁽⁴⁾	3.0E-04	4.3E-03	1.02

Notes

^(a) Emission factor (lb/lb hot top used) = (percentage of TAC [%]/100) x (percentage airborne [%]/100)

Percentage of quartz (%) = 3.00 (1)

Percentage of product airborne (%) = 1.00 (2)

^(b) Maximum daily emissions estimate (lb/day) = (emission factor [lb/lb hot top used])

x (maximum daily hot top usage [lb hot top used/day]) x (1 - control efficiency of baghouse [%]/100)

Maximum daily hot top usage (lb hot top used/day) = 142 (3)

Control efficiency of baghouse (%) = 90.0 (3)

^(c) Annual emissions estimate (lb/yr) = (emission factor [lb/lb hot top used])

x (annual hot top usage [lb hot top used/yr]) x (1 - control efficiency of baghouse [%]/100)

Annual hot top usage (lb hot top used/yr) = 34,093 (3)

Control efficiency of baghouse (%) = 90.0 (3)

References

⁽¹⁾ Information from product SDS. Aluminum content of Hot Top is accounted for in foundry emissions.

⁽²⁾ Hot top is the molten metal insulation applied after casting. Based on similar operations at other facilities, it is conservatively estimated that up to 1 percent of the total mass of the hot top used becomes airborne.

⁽³⁾ See Table 1, Input Process Rates and Parameters.

⁽⁴⁾ CAS 7631-86-9 (Silica, crystalline,-respirable) was substituted for CAS 14808-60-7 (crystalline silica—Quartz). Conservatively assumes all crystalline silica emitted is of respirable size.

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Table 6
PTE Reclamation TAC Emission Estimates
Eagle Foundry Company

Toxic Air Contaminant	CAS/DEQ ID	Emission Factor	Emissions Estimate					
			To Main Foundry BH ⁽¹⁾		To Reclamation BH		Total	
			Daily (lb/day)	Annual (lb/yr)	Daily (lb/day)	Annual (lb/yr)	Daily (lb/day)	Annual (lb/yr)
PM	--	3.20 (lb/ton metal poured) ⁽²⁾	0.99 ^(a)	258 ^(b)	0.89 ^(c)	232 ^(d)	1.88	490
Aluminum and Compounds	7429-90-5	1.52 (% of PM emitted) ⁽⁶⁾	0.015 ^(e)	3.92 ^(f)	0.014 ^(e)	3.53 ^(f)	0.029	7.45
Antimony and Compounds	7440-36-0	3.7E-04 (% of PM emitted) ⁽⁶⁾	3.7E-06 ^(e)	9.6E-04 ^(f)	3.3E-06 ^(e)	8.6E-04 ^(f)	7.0E-06	1.8E-03
Arsenic and Compounds	7440-38-2	2.4E-04 (% of PM emitted) ⁽⁶⁾	2.4E-06 ^(e)	6.2E-04 ^(f)	2.2E-06 ^(e)	5.6E-04 ^(f)	4.6E-06	1.2E-03
Barium and Compounds	7440-39-3	9.5E-03 (% of PM emitted) ⁽⁶⁾	9.4E-05 ^(e)	0.024 ^(f)	8.4E-05 ^(e)	0.022 ^(f)	1.8E-04	0.046
Beryllium and compounds	7440-41-7	2.6E-05 (% of PM emitted) ⁽⁶⁾	2.6E-07 ^(e)	6.8E-05 ^(f)	2.3E-07 ^(e)	6.1E-05 ^(f)	4.9E-07	1.3E-04
Cadmium and Compounds	7440-43-9	1.4E-04 (% of PM emitted) ⁽⁶⁾	1.4E-06 ^(e)	3.7E-04 ^(f)	1.3E-06 ^(e)	3.3E-04 ^(f)	2.7E-06	7.0E-04
Chromium	7440-47-3	0.0454 (% of PM emitted) ⁽⁶⁾	4.5E-04 ^(e)	0.12 ^(f)	4.1E-04 ^(e)	0.11 ^(f)	8.6E-04	0.22
Chromium VI	18540-29-9	1.4E-03 (% of PM emitted) ⁽⁷⁾	1.4E-05 ^(e)	3.5E-03 ^(f)	1.2E-05 ^(e)	3.2E-03 ^(f)	2.6E-05	6.7E-03
Cobalt and Compounds	7440-48-4	3.6E-04 (% of PM emitted) ⁽⁶⁾	3.6E-06 ^(e)	9.4E-04 ^(f)	3.2E-06 ^(e)	8.4E-04 ^(f)	6.8E-06	1.8E-03
Copper and Compounds	7440-50-8	0.031 (% of PM emitted) ⁽⁶⁾	3.0E-04 ^(e)	0.079 ^(f)	2.7E-04 ^(e)	0.071 ^(f)	5.8E-04	0.15
Lead and Compounds	7439-92-1	0.011 (% of PM emitted) ⁽⁶⁾	1.1E-04 ^(e)	0.029 ^(f)	1.0E-04 ^(e)	0.026 ^(f)	2.1E-04	0.056
Manganese and Compounds	7439-96-5	0.27 (% of PM emitted) ⁽⁶⁾	2.6E-03 ^(e)	0.69 ^(f)	2.4E-03 ^(e)	0.62 ^(f)	5.0E-03	1.31
Molybdenum trioxide	1313-27-5	1.7E-03 (% of PM emitted) ^(g)	1.6E-05 ^(e)	4.3E-03 ^(f)	1.5E-05 ^(e)	3.8E-03 ^(f)	3.1E-05	8.1E-03
Nickel and Compounds	7440-02-0	5.8E-03 (% of PM emitted) ⁽⁶⁾	5.7E-05 ^(e)	0.015 ^(f)	5.1E-05 ^(e)	0.013 ^(f)	1.1E-04	0.028
Selenium and Compounds	7782-49-2	2.3E-04 (% of PM emitted) ⁽⁶⁾	2.3E-06 ^(e)	6.0E-04 ^(f)	2.1E-06 ^(e)	5.4E-04 ^(f)	4.4E-06	1.1E-03
Silica, crystalline	7631-86-9	36.1 (% of PM emitted) ⁽⁹⁾	0.36 ^(e)	93.1 ^(f)	0.32 ^(e)	83.8 ^(f)	0.68	177
Silver and Compounds	7440-22-4	2.5E-04 (% of PM emitted) ⁽⁶⁾	2.5E-06 ^(e)	6.5E-04 ^(f)	2.3E-06 ^(e)	5.9E-04 ^(f)	4.8E-06	1.2E-03
Thallium	7440-28-0	1.5E-05 (% of PM emitted) ⁽⁶⁾	1.5E-07 ^(e)	3.9E-05 ^(f)	1.4E-07 ^(e)	3.5E-05 ^(f)	2.9E-07	7.4E-05
Vanadium (fume or dust)	7440-62-2	1.5E-03 (% of PM emitted) ⁽⁶⁾	1.4E-05 ^(e)	3.7E-03 ^(f)	1.3E-05 ^(e)	3.4E-03 ^(f)	2.7E-05	7.1E-03
Zinc and Compounds	7440-66-6	5.9E-03 (% of PM emitted) ⁽⁶⁾	5.9E-05 ^(e)	0.015 ^(f)	5.3E-05 ^(e)	0.014 ^(f)	1.1E-04	0.029

Notes

BH = baghouse; PM = particulate matter.

^(a) Daily emissions estimate to Main Foundry Baghouse (lb/day) = (emission factor [lb/ton metal poured]) x (daily metal poured [tons/day])
x (1 - [capture efficiency of reclamation system {%}]/100) x (1 - [control efficiency of the main foundry baghouse {%}]/100)

Daily metal poured (tons/day) = 31.0 (3)

Capture efficiency of reclamation system (%) = 90.0 (4)

Control efficiency of main foundry baghouse (%) = 90.0 (5)

^(b) Annual emissions estimate to Main Foundry Baghouse (lb/yr) = (emission factor [lb/ton metal poured]) x (annual metal poured [tons/yr])
x (1 - [capture efficiency of reclamation system {%}]/100) x (1 - [control efficiency of the main foundry baghouse {%}]/100)

Annual metal poured (tons/yr) = 8,060 (3)

Table 6
PTE Reclamation TAC Emission Estimates
Eagle Foundry Company

^(c) Daily emissions estimate to Reclamation Baghouse (lb/day) = (emission factor [lb/ton metal poured]) x (daily metal poured [tons/day]) x (capture efficiency of reclamation system [%]/100) x (1 - [control efficiency of the reclamation baghouse {%}]/100)		
Daily metal poured (tons/day) =	31.0	(3)
Control efficiency of the reclamation baghouse (%) =	99.0	(3)
^(d) Annual emissions estimate to Reclamation Baghouse (lb/yr) = (emission factor [lb/ton metal poured]) x (annual metal poured [tons/yr]) x (capture efficiency of reclamation system [%]/100) x (1 - [control efficiency of the reclamation baghouse {%}]/100)		
Annual metal poured (ton/yr) =	8,060	(3)
^(e) Daily emissions estimate (lb/day) = (daily PM emissions [lb/day]) x (emission factor [% of PM emitted])/100		
^(f) Annual emissions estimate (lb/yr) = (annual PM emissions [lb/yr]) x (emission factor [% of PM emitted])/100		
^(g) Molybdenum trioxide emission factor (% of PM emitted) = (molybdenum emission factor [% of PM emitted]) x (molybdenum trioxide molecular weight [lb/lb-mole]) / (molybdenum molecular weight [lb/lb-mole])		
Molybdenum and Compounds percentage of PM (%) =	1.1E-03	(6)
Molybdenum trioxide molecular weight (lb/lb-mole) =	143.94	
Molybdenum molecular weight (lb/lb-mole) =	95.95	

References

- ⁽¹⁾ Fugitive emissions from the reclamation system are captured by the foundry permanent total enclosure and are controlled by the main foundry baghouse.
- ⁽²⁾ AP-42, Chapter 12.10, Table 12.10-7 "Particulate Emission Factors for Ancillary Operations and Fugitive Sources at Gray Iron Foundries". Uncontrolled particulate emission factor for shakeout.
- ⁽³⁾ See Table 1, Input Process Rates and Parameters.
- ⁽⁴⁾ Capture efficiency provided by the DEQ based on equipment configuration of enclosed, rotary shakeout.
- ⁽⁵⁾ See Table 1, Input Process Rates and Parameters. The foundry building has been approved as a permanent total enclosure. Fugitive emissions from the reclamation system are controlled by the main foundry baghouse.
- ⁽⁶⁾ Based on baghouse dust analysis conducted by Apex Laboratories, March 2021.
- ⁽⁷⁾ As a conservative estimate, Chromium VI is assumed to be 3 percent of total chromium. Eagle Foundry reserves the right to revise this assumption if site specific data becomes available.
- ⁽⁸⁾ Conservatively assumes 100 percent of molybdenum is in the trioxide form.
- ⁽⁹⁾ Value is the weighted average silica content of mold making materials.

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Table 7
PTE Air Arc Cutting TAC Emission Estimates
Eagle Foundry Company

Toxic Air Contaminant	CAS/DEQ ID	Emission Factor		Emissions Estimate	
		Daily	Annual	Daily (lb/day)	Annual (lb/yr)
PM	--	0.060 (lb/hr) ⁽¹⁾	0.060 (lb/hr) ⁽¹⁾	4.0E-03 ^(a)	0.73 ^(b)
Chromium	7440-47-3	0.50 (% TAC in alloy) ⁽³⁾	1.26 (% TAC in alloy) ⁽⁴⁾	2.0E-05 ^(c)	9.3E-03 ^(d)
Chromium VI	18540-29-9	0.015 (% TAC in alloy) ⁽⁵⁾	0.038 (% TAC in alloy) ⁽⁵⁾	5.9E-07 ^(c)	2.8E-04 ^(d)
Copper and Compounds	7440-50-8	0 ⁽³⁾	0.11 (% TAC in alloy) ⁽⁴⁾	0	7.9E-04 ^(d)
Manganese and Compounds	7439-96-5	12.75 (% TAC in alloy) ⁽³⁾	5.36 (% TAC in alloy) ⁽⁴⁾	5.0E-04 ^(c)	0.039 ^(d)
Molybdenum trioxide	1313-27-5	0.75 (% TAC in alloy) ^(e)	0.70 (% TAC in alloy) ^(e)	3.0E-05 ^(c)	5.1E-03 ^(d)
Nickel and Compounds	7440-02-0	0.80 (% TAC in alloy) ⁽³⁾	0.81 (% TAC in alloy) ⁽⁴⁾	3.2E-05 ^(c)	5.9E-03 ^(d)
Phosphorus and Compounds	504	0.070 (% TAC in alloy) ⁽³⁾	0.059 (% TAC in alloy) ⁽⁴⁾	2.8E-06 ^(c)	4.3E-04 ^(d)

Notes

- PM = particulate matter; TAC = toxic air contaminant.
- ^(a) Daily emissions estimate (lb/day) = (emission factor [lb/hr]) x (torch hours of operation [hrs/day]) x (1 - [baghouse control efficiency {%}]/100)
- Daily cutting torch hours of operation (hrs/day) = 6.60 (2)
- Baghouse control efficiency (%) = 99.0 (2)
- ^(b) Annual emissions estimate (lb/yr) = (emission factor [lb/hr]) x (annual hours of operation [hrs/yr]) x (1-[baghouse control efficiency {%}]/100)
- Annual cutting torch hours of operation (hrs/yr) = 1,220 (2)
- Baghouse control efficiency (%) = 99.0 (2)
- ^(c) Daily emissions estimate (lb/day) = (daily PM emissions [lb/day]) x (emission factor [% TAC in alloy]/100)
- ^(d) Annual emissions estimate (lb/yr) = (annual PM emissions [lb/yr]) x (emission factor [% TAC in alloy]/100)
- ^(e) Molybdenum trioxide emission factor (% of PM emitted) = (molybdenum emission factor [% of PM emitted]) x (molybdenum trioxide molecular weight [lb/lb-mole]) / (molybdenum molecular weight [lb/lb-mole])
- Daily Molybdenum and Compounds percentage of PM (%) = 0.50 (3)
- Annual Molybdenum and Compounds percentage of PM (%) = 0.46 (4)
- Molybdenum trioxide molecular weight (lb/lb-mole) = 143.94
- Molybdenum molecular weight (lb/lb-mole) = 95.95

References

- ⁽¹⁾ Versar, Inc. Title V Applicability Workbook, prepared for the Institute of Scrap Recycling Industries, 1996, Table D-5, Torch Cutting Emission Factors.
- ⁽²⁾ See Table 1, Input Process Rates and Parameters.
- ⁽³⁾ See Table D1, Alloy Composition Data and Table D2, Alloy Toxicity Weighted Emission Rates. Daily emissions estimates for AirArc are based on alloy MNB2, which has the highest toxicity weighted emission rate for AirArc cut alloys and results in the maximum predicted acute risk value. MNB2 does not contain copper.
- ⁽⁴⁾ See Table D1, Alloy Composition Data. Based on alloy composition data for manganese and low alloy steel. Value represents the weighted average TAC content for AirArc cut metals based on 2022 production.
- ⁽⁵⁾ As a conservative estimate, Chromium VI is assumed to be 3 percent of total chromium. Eagle Foundry reserves the right to revise this assumption if site specific data becomes available.

Table 8
PTE Welding TAC Emission Estimates
Eagle Foundry Company

Product	Toxic Air Contaminant	CAS/DEQ ID	Weight Percentage (%)	Usage		Total Emissions Estimate	
				Daily (lb/day)	Annual (lb/yr)	Daily (lb/day)	Annual (lb/yr)
Total By Toxic Air Contaminant							
Total	Aluminum	7429-90-5	--	--	--	-- ⁽²⁾	7.8E-03 ⁽³⁾
	Arsenic	7440-38-2				-- ⁽²⁾	1.9E-04 ⁽³⁾
	Chromium and Compounds	7440-47-3				0.040 ⁽²⁾	1.34 ⁽³⁾
	Chromium VI	18540-29-9				2.0E-03 ⁽²⁾	0.33 ⁽³⁾
	Cobalt	7440-48-4				-- ⁽²⁾	7.3E-03 ⁽³⁾
	Copper	7440-50-8				4.6E-03 ⁽²⁾	7.51 ⁽³⁾
	Manganese	7439-96-5				0.013 ⁽²⁾	1.10 ⁽³⁾
	Molybdenum trioxide	1313-27-5				0.019 ⁽²⁾	0.096 ⁽³⁾
	Nickel	7440-02-0				0.042 ⁽²⁾	0.32 ⁽³⁾
	Phosphorus	504				-- ⁽²⁾	5.6E-04 ⁽³⁾
	Vanadium	7440-62-2				-- ⁽²⁾	1.9E-04 ⁽³⁾
Individual Products							
Sandvik WIRE 309LSI .035 X 33 LB	Chromium and Compounds	7440-47-3	17.5 ⁽⁴⁾	42.3 ⁽⁵⁾	46.9 ⁽⁶⁾	0.040 ^(a)	0.045 ^(a)
	Chromium VI	18540-29-9	-- ⁽⁴⁾			2.0E-03 ^(b)	2.2E-03 ^(b)
	Copper	7440-50-8	2.00 ⁽⁴⁾			4.6E-03 ^(a)	5.1E-03 ^(a)
	Manganese	7439-96-5	5.50 ⁽⁴⁾			0.013 ^(a)	0.014 ^(a)
	Molybdenum and Compounds	7439-98-7	5.50 ⁽⁴⁾			0.013 ^(a)	0.014 ^(a)
	Molybdenum trioxide	1313-27-5	--			0.019 ^(d)	0.021 ^(d)
	Nickel	7440-02-0	18.0 ⁽⁴⁾			0.042 ^(a)	0.046 ^(a)
Lincore M WIRE HF LCM 1/16 25# SP	Manganese	7439-96-5	13.0 ⁽⁴⁾	⁽²⁾	1,136 ⁽⁶⁾	⁽²⁾	0.85 ^(a)
	Chromium and Compounds	7440-47-3	4.90 ⁽⁴⁾			⁽²⁾	0.32 ^(a)
	Chromium VI	18540-29-9	-- ⁽⁴⁾			⁽²⁾	0.032 ^(e)
	Nickel	7440-02-0	0.50 ⁽⁴⁾			⁽²⁾	0.033 ^(a)
Avesta 2205 ELECTR SS E2209 1/8 10#	Manganese	7439-96-5	1.70 ⁽⁴⁾	⁽²⁾	426 ⁽⁶⁾	⁽²⁾	0.042 ^(c)
	Molybdenum and Compounds	7439-98-7	0.30 ⁽⁴⁾			⁽²⁾	7.3E-03 ^(c)
	Molybdenum trioxide	1313-27-5	--			⁽²⁾	0.011 ^(d)
	Chromium and Compounds	7440-47-3	20.0 ⁽⁴⁾			⁽²⁾	0.49 ^(c)
	Chromium VI	18540-29-9	-- ⁽⁴⁾			⁽²⁾	0.27 ^(e)
	Copper	7440-50-8	0.30 ⁽⁴⁾			⁽²⁾	7.3E-03 ^(c)
	Nickel	7440-02-0	10.0 ⁽⁴⁾			⁽²⁾	0.24 ^(c)
	Cobalt	7440-48-4	0.30 ⁽⁴⁾			⁽²⁾	7.3E-03 ^(c)
CARBONS 1/2X17 CTD DC JTD 100	Copper	7440-50-8	20.0 ⁽⁴⁾	⁽²⁾	6,533 ⁽⁶⁾	⁽²⁾	7.49 ^(c)
Stoody WIRE HF 965-G 045 33# SP	Manganese	7439-96-5	1.10 ⁽⁴⁾	⁽²⁾	1,265 ⁽⁶⁾	⁽²⁾	0.076 ^(a)
	Molybdenum and Compounds	7439-98-7	0.55 ⁽⁴⁾			⁽²⁾	0.038 ^(a)
	Molybdenum trioxide	1313-27-5	--			⁽²⁾	0.057 ^(d)
	Chromium and Compounds	7440-47-3	7.00 ⁽⁴⁾			⁽²⁾	0.48 ^(a)
	Chromium VI	18540-29-9	-- ⁽⁴⁾			⁽²⁾	0.024 ^(b)
Hobart WIRE EXCELARC 71 .045 X 33 LB	Aluminum	7429-90-5	1.00 ⁽⁴⁾	⁽²⁾	141 ⁽⁶⁾	⁽²⁾	7.7E-03 ^(a)
	Manganese	7439-96-5	2.50 ⁽⁴⁾			⁽²⁾	0.019 ^(a)
	Molybdenum and Compounds	7439-98-7	0.50 ⁽⁴⁾			⁽²⁾	3.8E-03 ^(a)
	Molybdenum trioxide	1313-27-5	--			⁽²⁾	5.8E-03 ^(d)
Prostar S-6 WIRE MS 70S6 035 33# SP PRS	Phosphorus	504	9.0E-03 ⁽⁴⁾	⁽²⁾	1,140 ⁽⁶⁾	⁽²⁾	5.6E-04 ^(a)
	Aluminum	7429-90-5	2.0E-03 ⁽⁴⁾			⁽²⁾	1.2E-04 ^(a)
	Chromium and Compounds	7440-47-3	0.027 ⁽⁴⁾			⁽²⁾	1.7E-03 ^(a)
	Chromium VI	18540-29-9	-- ⁽⁴⁾			⁽²⁾	8.4E-05 ^(b)
	Copper	7440-50-8	0.14 ⁽⁴⁾			⁽²⁾	8.9E-03 ^(a)
	Manganese	7439-96-5	1.63 ⁽⁴⁾			⁽²⁾	0.10 ^(a)
	Molybdenum and Compounds	7439-98-7	8.0E-03 ⁽⁴⁾			⁽²⁾	5.0E-04 ^(a)
	Molybdenum trioxide	1313-27-5	--			⁽²⁾	7.5E-04 ^(d)
	Nickel	7440-02-0	0.031 ⁽⁴⁾			⁽²⁾	1.9E-03 ^(a)
	Vanadium	7440-62-2	3.0E-03 ⁽⁴⁾			⁽²⁾	1.9E-04 ^(a)
	Arsenic	7440-38-2	3.0E-03 ⁽⁴⁾			⁽²⁾	1.9E-04 ^(a)

Table 8
PTE Welding TAC Emission Estimates
Eagle Foundry Company

Notes

- ^(a) Emissions estimate (lb/unit) = (fume generation rate—GMAW [lb fume/lb wire]) x (fume correction factor—GMAW)
x (weight percentage [%]/100) x (usage [lb/unit])

Fume generation rate—GMAW (lb fume/lb wire) =	0.010	(7)
Fume correction factor—GMAW =	0.5464	(7)
Fume generation rate—SMAW/FCAW (lb fume/lb wire) =	0.020	(8)
Fume correction factor—SMAW/FCAW =	0.2865	(8)
- ^(b) Emissions estimate (lb/unit) = (fume generation rate [lb fume/lb wire]) x (fume correction factor)
x (chromium and compounds weight percentage [%]/100) x (usage [lb/unit]) x (chromium VI conversion rate [%]/100)

Fume generation rate—GMAW (lb fume/lb wire) =	0.010	(7)
Fume correction factor—GMAW =	0.5464	(7)
Chromium VI conversion rate—GMAW (%) =	5.00	(7)
- ^(c) Emissions estimate (lb/unit) = (fume generation rate—SMAW [lb fume/lb wire]) x (fume correction factor—SMAW) x (weight percentage [%]/100)
x (usage [lb/unit])

Fume generation rate—SMAW (lb fume/lb wire) =	0.020	(8)
Fume correction factor—SMAW =	0.2865	(8)
- ^(d) Molybdenum trioxide emission estimate (lb/unit) = molybdenum emission estimate [lb/unit] x (molybdenum trioxide molecular weight [lb/lb-mole])
/ (molybdenum molecular weight [lb/lb-mole])

Molybdenum trioxide molecular weight (lb/lb-mole) =	143.94
Molybdenum molecular weight (lb/lb-mole) =	95.95
- ^(e) Emissions estimate (lb/unit) = (fume generation rate [lb fume/lb wire]) x (fume correction factor)
x (chromium and compounds weight percentage [%]/100) x (usage [lb/unit]) x (chromium VI conversion rate [%]/100)

Fume generation rate—SMAW/FCAW (lb fume/lb wire) =	0.020	(8)
Fume correction factor—SMAW/FCAW =	0.2865	(8)
Chromium VI conversion rate—SMAW (%) =	55.0	(8)
Chromium VI conversion rate—FCAW (%) =	10.0	(8)

References

- ⁽¹⁾ Information from product safety data sheets. Value represents maximum percentage in all wires/rods used at Eagle Foundry.

⁽²⁾ Daily emissions calculated based on total daily product usage attributed to the welding wire that results in the highest predicted acute risk.

⁽³⁾ Total annual emission estimates are the sum of individual product annual emission estimates (see below).

⁽⁴⁾ Information from product safety data sheets.

⁽⁵⁾ See Table 1, Input Process Rates and Parameters. Value represents total product usage excluding waste.

⁽⁶⁾ See Table 1, Input Process Rates and Parameters.

⁽⁷⁾ San Diego County Air Pollution Control District, Welding Operations, dated October 16, 1998. Based on American Welding Society information and the National Steel Shipbuilding Company (NASSCO) research. Assumes GMAW fume generation rate and correction factor. Hexavalent chromium accounts for 5 percent of total chromium emissions for GMAW welding.

⁽⁸⁾ San Diego County Air Pollution Control District, Welding Operations, dated October 16, 1998 (revised July 11, 2022). Based on American Welding Society information and the NASSCO research. Assumes SMAW fume generation rate and correction factor. Hexavalent chromium accounts for 55 percent of total chromium emissions for SMAW welding.

⁽⁹⁾ Conservatively assume 100 percent of molybdenum is in the trioxide form.

Table 9
PTE Grinding - Stainless Steel Controlled TAC Emission Estimates
Eagle Foundry Company

Toxic Air Contaminant	CAS/DEQ ID	Emission Factor		Controlled Emissions Estimate	
		Daily	Annual	Daily (lb/day)	Annual (lb/yr)
PM _{>10}	--	8.00 (lb/ton metal processed) ^(a)	8.00 (lb/ton metal processed) ^(a)	0 ^(b)	0 ^(c)
PM _{2.5-10}	--	4.80 (lb/ton metal processed) ^(a)	4.80 (lb/ton metal processed) ^(a)	0.057 ^(b)	14.8 ^(c)
PM _{2.5}	--	3.20 (lb/ton metal processed) ^(a)	3.20 (lb/ton metal processed) ^(a)	0.076 ^(b)	19.8 ^(c)
Total PM	--	16.0 (lb/ton metal processed) ⁽¹⁾	16.0 (lb/ton metal processed) ⁽¹⁾	0.13	34.6
Aluminum and Compounds	7429-90-5	0.48 (% of PM emitted) ⁽⁵⁾	0.48 (% of PM emitted) ⁽⁵⁾	6.4E-04 ^(d)	0.17 ^(e)
Antimony and Compounds	7440-36-0	2.6E-04 (% of PM emitted) ⁽⁵⁾	2.6E-04 (% of PM emitted) ⁽⁵⁾	3.5E-07 ^(d)	9.0E-05 ^(e)
Arsenic and Compounds	7440-38-2	1.6E-03 (% of PM emitted) ⁽⁵⁾	1.6E-03 (% of PM emitted) ⁽⁵⁾	2.1E-06 ^(d)	5.4E-04 ^(e)
Barium and Compounds	7440-39-3	0.014 (% of PM emitted) ⁽⁵⁾	0.014 (% of PM emitted) ⁽⁵⁾	1.9E-05 ^(d)	4.8E-03 ^(e)
Beryllium and Compounds	7440-41-7	5.2E-05 (% of PM emitted) ⁽⁵⁾	5.2E-05 (% of PM emitted) ⁽⁵⁾	6.9E-08 ^(d)	1.8E-05 ^(e)
Cadmium and Compounds	7440-43-9	4.1E-04 (% of PM emitted) ⁽⁵⁾	4.1E-04 (% of PM emitted) ⁽⁵⁾	5.4E-07 ^(d)	1.4E-04 ^(e)
Chromium and Compounds	7440-47-3	26.0 (% TAC in alloy) ⁽⁶⁾	26.0 (% TAC in alloy) ⁽⁷⁾	0.035 ^(d)	9.00 ^(e)
Chromium VI	18540-29-9	0.78 (% TAC in alloy) ⁽⁸⁾	0.78 (% TAC in alloy) ⁽⁸⁾	1.0E-03 ^(d)	0.27 ^(e)
Cobalt and Compounds	7440-48-4	7.6E-03 (% of PM emitted) ⁽⁵⁾	7.6E-03 (% of PM emitted) ⁽⁵⁾	1.0E-05 ^(d)	2.6E-03 ^(e)
Copper and Compounds	7440-50-8	0.075 (% of PM emitted) ⁽⁵⁾	0.075 (% of PM emitted) ⁽⁵⁾	1.0E-04 ^(d)	0.026 ^(e)
Lead and Compounds	7439-92-1	4.5E-04 (% of PM emitted) ⁽⁵⁾	4.5E-04 (% of PM emitted) ⁽⁵⁾	6.0E-07 ^(d)	1.6E-04 ^(e)
Manganese and Compounds	7439-96-5	1.00 (% TAC in alloy) ⁽⁶⁾	1.00 (% TAC in alloy) ⁽⁷⁾	1.3E-03 ^(d)	0.35 ^(e)
Molybdenum trioxide	1313-27-5	0.75 (% TAC in alloy) ^(f)	0.75 (% TAC in alloy) ^(f)	1.0E-03 ^(d)	0.26 ^(e)
Nickel and Compounds	7440-02-0	20.0 (% TAC in alloy) ⁽⁶⁾	15.5 (% TAC in alloy) ⁽⁷⁾	0.027 ^(d)	5.37 ^(e)
Phosphorus and Compounds	504	0.040 (% TAC in alloy) ⁽⁶⁾	0.040 (% TAC in alloy) ⁽⁷⁾	5.3E-05 ^(d)	0.014 ^(e)
Selenium and Compounds	7782-49-2	2.6E-04 (% of PM emitted) ⁽⁵⁾	2.6E-04 (% of PM emitted) ⁽⁵⁾	3.5E-07 ^(d)	9.0E-05 ^(e)
Silver and Compounds	7440-22-4	5.2E-05 (% of PM emitted) ⁽⁵⁾	5.2E-05 (% of PM emitted) ⁽⁵⁾	6.9E-08 ^(d)	1.8E-05 ^(e)
Thallium	7440-28-0	5.2E-05 (% of PM emitted) ⁽⁵⁾	5.2E-05 (% of PM emitted) ⁽⁵⁾	6.9E-08 ^(d)	1.8E-05 ^(e)
Vanadium (fume or dust)	7440-62-2	6.0E-03 (% of PM emitted) ⁽⁵⁾	6.0E-03 (% of PM emitted) ⁽⁵⁾	8.0E-06 ^(d)	2.1E-03 ^(e)
Zinc and Compounds	7440-66-6	3.4E-03 (% of PM emitted) ⁽⁵⁾	3.4E-03 (% of PM emitted) ⁽⁵⁾	4.5E-06 ^(d)	1.2E-03 ^(e)

Notes

PM = particulate matter; TAC = toxic air contaminant.

^(a) PM emission factor (lb/ton metal processed) = (total PM emission factor [lb/ton metal processed]) x (percentage of total PM [%])/100

PM_{>10} percentage of total PM (%) = 50.0 (1)

PM_{2.5-10} percentage of total PM (%) = 30.0 (1)

PM_{2.5} percentage of total PM (%) = 20.0 (1)

Table 9
PTE Grinding - Stainless Steel Controlled TAC Emission Estimates
Eagle Foundry Company

^(b) Daily controlled emissions estimate (lb/day) = (emission factor [lb/ton metal processed]) x (daily stainless steel processed for grinding [tons/day]) x (capture efficiency of building enclosure [%]/100) x (1 - [control efficiency of baghouse {%}]/100)		
Daily stainless steel processed for grinding (tons/day) =	2.50	(2)
Capture efficiency of building enclosure (%) =	95.0	(3)
Control efficiency of baghouse for PM _{>10} (%) =	100	(4)
Control efficiency of baghouse for PM _{2.5-10} (%) =	99.5	(4)
Control efficiency of baghouse for PM _{2.5} (%) =	99.0	(4)
^(c) Annual controlled emissions estimate (lb/yr) = (emission factor [lb/ton metal processed]) x (annual stainless steel processed for grinding [tons/yr]) x (capture efficiency of building enclosure [%]/100) x (1 - [control efficiency of baghouse {%}]/100)		
Annual stainless steel processed for grinding (tons/yr) =	651	(2)
^(d) Daily emissions estimate (lb/day) = (daily PM emissions [lb/day]) x (emission factor [% TAC in alloy]/100)		
^(e) Annual emissions estimate (lb/yr) = (annual PM emissions [lb/yr]) x (emission factor [% TAC in alloy]/100)		
^(f) Molybdenum trioxide emission factor (% of PM emitted) = (molybdenum emission factor [% of PM emitted]) x (molybdenum trioxide molecular weight [lb/lb-mole]) / (molybdenum molecular weight [lb/lb-mole])		
Daily Molybdenum and Compounds percentage of PM (%) =	0.50	(6)
Annual Molybdenum and Compounds percentage of PM (%) =	0.50	(7)
Molybdenum trioxide molecular weight (lb/lb-mole) =	143.94	
Molybdenum molecular weight (lb/lb-mole) =	95.95	

References

- ⁽¹⁾ RTI International, Emission Estimation Protocol for Iron and Steel Foundries (December, 2012), Table 6-2, PM Emission Factors for Finishing Operations. Value represents grinding, captured and uncontrolled.
- ⁽²⁾ See Table 1, Input Process Rates and Parameters.
- ⁽³⁾ Based on EPA methodology enclosure testing conducted on April 18, 2023.
- ⁽⁴⁾ RTI International, Emission Estimation Protocol for Iron and Steel Foundries (December, 2012), Table 3-4, Typical Collection Efficiencies of Various Particulate Control Devices. Section 3.1.4.1 notes that it can be assumed that PM collection efficiencies for PM greater than 10 µm are 100 percent.
- ⁽⁵⁾ Based on baghouse dust analysis for the finishing baghouse conducted by Apex Laboratories, March 2021.
- ⁽⁶⁾ See Table D1, Alloy Composition Data and Table D2, Alloy Toxicity Weighted Emission Rates. Daily emissions estimates for stainless steel grinding are based on alloy HK, which has the highest toxicity weighted emission rate for stainless steel alloys and results in the maximum predicted acute risk value.
- ⁽⁷⁾ Information provided by facility. Value represents the weighted average TAC content for stainless steel alloys produced in 2022.
- ⁽⁸⁾ As a conservative estimate, Chromium VI is assumed to be 3 percent of total chromium. Eagle Foundry reserves the right to revise this assumption if site specific data becomes available.

Table 10
PTE Grinding - Stainless Steel Fugitive TAC Emission Estimates
Eagle Foundry Company

Toxic Air Contaminant	CAS/DEQ ID	Emission Factor		Fugitive Emissions Estimate	
		Daily	Annual	Daily (lb/day)	Annual (lb/yr)
PM _{>10}	--	0.016 (lb/ton metal processed) ^(a)	0.016 (lb/ton metal processed) ^(a)	2.0E-03 ^(b)	0.52 ^(c)
PM _{2.5-10}	--	0.016 (lb/ton metal processed) ^(a)	0.016 (lb/ton metal processed) ^(a)	2.0E-03 ^(b)	0.52 ^(c)
PM _{2.5}	--	0.13 (lb/ton metal processed) ^(a)	0.13 (lb/ton metal processed) ^(a)	0.016 ^(b)	4.17 ^(c)
Total PM	--	0.16 (lb/ton metal processed) ⁽¹⁾	0.16 (lb/ton metal processed) ⁽¹⁾	0.020	5.21
Aluminum and Compounds	7429-90-5	0.48 (% of PM emitted) ⁽⁴⁾	0.48 (% of PM emitted) ⁽⁴⁾	9.6E-05 ^(d)	0.025 ^(e)
Antimony and Compounds	7440-36-0	2.6E-04 (% of PM emitted) ⁽⁴⁾	2.6E-04 (% of PM emitted) ⁽⁴⁾	5.2E-08 ^(d)	1.4E-05 ^(e)
Arsenic and Compounds	7440-38-2	1.6E-03 (% of PM emitted) ⁽⁴⁾	1.6E-03 (% of PM emitted) ⁽⁴⁾	3.1E-07 ^(d)	8.2E-05 ^(e)
Barium and Compounds	7440-39-3	0.014 (% of PM emitted) ⁽⁴⁾	0.014 (% of PM emitted) ⁽⁴⁾	2.8E-06 ^(d)	7.3E-04 ^(e)
Beryllium and Compounds	7440-41-7	5.2E-05 (% of PM emitted) ⁽⁴⁾	5.2E-05 (% of PM emitted) ⁽⁴⁾	1.0E-08 ^(d)	2.7E-06 ^(e)
Cadmium and Compounds	7440-43-9	4.1E-04 (% of PM emitted) ⁽⁴⁾	4.1E-04 (% of PM emitted) ⁽⁴⁾	8.1E-08 ^(d)	2.1E-05 ^(e)
Chromium and Compounds	7440-47-3	26.0 (% TAC in alloy) ⁽⁵⁾	26.0 (% TAC in alloy) ⁽⁶⁾	5.2E-03 ^(d)	1.35 ^(e)
Chromium VI	18540-29-9	0.78 (% TAC in alloy) ⁽⁷⁾	0.78 (% TAC in alloy) ⁽⁷⁾	1.6E-04 ^(d)	0.041 ^(e)
Cobalt and Compounds	7440-48-4	7.6E-03 (% of PM emitted) ⁽⁴⁾	7.6E-03 (% of PM emitted) ⁽⁴⁾	1.5E-06 ^(d)	4.0E-04 ^(e)
Copper and Compounds	7440-50-8	0.075 (% of PM emitted) ⁽⁴⁾	0.075 (% of PM emitted) ⁽⁴⁾	1.5E-05 ^(d)	3.9E-03 ^(e)
Lead and Compounds	7439-92-1	4.5E-04 (% of PM emitted) ⁽⁴⁾	4.5E-04 (% of PM emitted) ⁽⁴⁾	9.0E-08 ^(d)	2.3E-05 ^(e)
Manganese and Compounds	7439-96-5	1.00 (% TAC in alloy) ⁽⁵⁾	1.00 (% TAC in alloy) ⁽⁶⁾	2.0E-04 ^(d)	0.052 ^(e)
Molybdenum trioxide	1313-27-5	0.75 (% TAC in alloy) ^(f)	0.75 (% TAC in alloy) ^(f)	1.5E-04 ^(d)	0.039 ^(e)
Nickel and Compounds	7440-02-0	20.0 (% TAC in alloy) ⁽⁵⁾	15.5 (% TAC in alloy) ⁽⁶⁾	4.0E-03 ^(d)	0.81 ^(e)
Phosphorus and Compounds	504	0.040 (% TAC in alloy) ⁽⁵⁾	0.040 (% TAC in alloy) ⁽⁶⁾	8.0E-06 ^(d)	2.1E-03 ^(e)
Selenium and Compounds	7782-49-2	2.6E-04 (% of PM emitted) ⁽⁴⁾	2.6E-04 (% of PM emitted) ⁽⁴⁾	5.2E-08 ^(d)	1.4E-05 ^(e)
Silver and Compounds	7440-22-4	5.2E-05 (% of PM emitted) ⁽⁴⁾	5.2E-05 (% of PM emitted) ⁽⁴⁾	1.0E-08 ^(d)	2.7E-06 ^(e)
Thallium	7440-28-0	5.2E-05 (% of PM emitted) ⁽⁴⁾	5.2E-05 (% of PM emitted) ⁽⁴⁾	1.0E-08 ^(d)	2.7E-06 ^(e)
Vanadium (fume or dust)	7440-62-2	6.0E-03 (% of PM emitted) ⁽⁴⁾	6.0E-03 (% of PM emitted) ⁽⁴⁾	1.2E-06 ^(d)	3.1E-04 ^(e)
Zinc and Compounds	7440-66-6	3.4E-03 (% of PM emitted) ⁽⁴⁾	3.4E-03 (% of PM emitted) ⁽⁴⁾	6.7E-07 ^(d)	1.7E-04 ^(e)

Notes

PM = particulate matter; TAC = toxic air contaminant.

^(a) PM emission factor (lb/ton metal processed) = (total PM emission factor [lb/ton metal processed]) x (percentage of total PM [%])/100)

PM_{>10} percentage of total PM (%) = 10.0 (1)

PM_{2.5-10} percentage of total PM (%) = 10.0 (1)

PM_{2.5} percentage of total PM (%) = 80.0 (1)

^(b) Daily fugitive emissions estimate (lb/day) = (emission factor [lb/ton metal processed]) x (daily stainless steel processed for grinding [tons/day])

x (1 - [capture efficiency of building enclosure {%}]/100)

Daily stainless steel processed for grinding (tons/day) = 2.50 (2)

Capture efficiency of building enclosure (%) = 95.0 (3)

Table 10
PTE Grinding - Stainless Steel Fugitive TAC Emission Estimates
Eagle Foundry Company

^(c) Annual fugitive emissions estimate (lb/yr) = (emission factor [lb/ton metal processed]) x (annual stainless steel processed for grinding [tons/yr]) x (1 - [capture efficiency of building enclosure {%}]/100)		
Annual stainless steel processed for grinding (tons/yr) =	651	(2)
^(d) Daily emissions estimate (lb/day) = (daily PM emissions [lb/day]) x (emission factor [% TAC in alloy]/100)		
^(e) Annual emissions estimate (lb/yr) = (annual PM emissions [lb/yr]) x (emission factor [% TAC in alloy]/100)		
^(f) Molybdenum trioxide emission factor (% of PM emitted) = (molybdenum emission factor [% of PM emitted]) x (molybdenum trioxide molecular weight [lb/lb-mole]) / (molybdenum molecular weight [lb/lb-mole])		
Daily Molybdenum and Compounds percentage of PM (%) =	0.50	(5)
Annual Molybdenum and Compounds percentage of PM (%) =	0.50	(6)
Molybdenum trioxide molecular weight (lb/lb-mole) =	143.94	
Molybdenum molecular weight (lb/lb-mole) =	95.95	

References

- ⁽¹⁾ RTI International, Emission Estimation Protocol for Iron and Steel Foundries (December, 2012), Table 6-2, PM Emission Factors for Finishing Operations. Value represents grinding, uncaptured and uncontrolled.
- ⁽²⁾ See Table 1, Input Process Rates and Parameters.
- ⁽³⁾ Based on EPA methodology enclosure testing conducted on April 18, 2023.
- ⁽⁴⁾ Based on baghouse dust analysis for the finishing baghouse conducted by Apex Laboratories, March 2021.
- ⁽⁵⁾ See Table D1, Alloy Composition Data and Table D2, Alloy Toxicity Weighted Emission Rates. Daily emissions estimates for stainless steel grinding are based on alloy HK, which has the highest toxicity weighted emission rate for stainless steel alloys and results in the maximum predicted acute risk value.
- ⁽⁶⁾ Information provided by facility. Value represents the weighted average TAC content for stainless steel alloys produced in 2022.
- ⁽⁷⁾ As a conservative estimate, Chromium VI is assumed to be 3 percent of total chromium. Eagle Foundry reserves the right to revise this assumption if site specific data becomes available.

Table 11
PTE Grinding - Non-stainless Steel Controlled TAC Emission Estimates
Eagle Foundry Company

Toxic Air Contaminant	CAS/DEQ ID	Emission Factor		Controlled Emissions Estimate	
		Daily	Annual	Daily (lb/day)	Annual (lb/yr)
PM _{>10}	--	8.00 (lb/ton metal processed) ^(a)	8.00 (lb/ton metal processed) ^(a)	0 ^(b)	0 ^(c)
PM _{2.5-10}	--	4.80 (lb/ton metal processed) ^(a)	4.80 (lb/ton metal processed) ^(a)	0.38 ^(b)	97.9 ^(c)
PM _{2.5}	--	3.20 (lb/ton metal processed) ^(a)	3.20 (lb/ton metal processed) ^(a)	0.50 ^(b)	131 ^(c)
Total PM	--	16.0 (lb/ton metal processed) ⁽¹⁾	16.0 (lb/ton metal processed) ⁽¹⁾	0.88	228
Aluminum and Compounds	7429-90-5	0.48 (% of PM emitted) ⁽⁵⁾	0.48 (% of PM emitted) ⁽⁵⁾	4.2E-03 ^(d)	1.09 ^(e)
Antimony and Compounds	7440-36-0	2.6E-04 (% of PM emitted) ⁽⁵⁾	2.6E-04 (% of PM emitted) ⁽⁵⁾	2.3E-06 ^(d)	6.0E-04 ^(e)
Arsenic and Compounds	7440-38-2	1.6E-03 (% of PM emitted) ⁽⁵⁾	1.6E-03 (% of PM emitted) ⁽⁵⁾	1.4E-05 ^(d)	3.6E-03 ^(e)
Barium and Compounds	7440-39-3	0.014 (% of PM emitted) ⁽⁵⁾	0.014 (% of PM emitted) ⁽⁵⁾	1.2E-04 ^(d)	0.032 ^(e)
Beryllium and Compounds	7440-41-7	5.2E-05 (% of PM emitted) ⁽⁵⁾	5.2E-05 (% of PM emitted) ⁽⁵⁾	4.6E-07 ^(d)	1.2E-04 ^(e)
Cadmium and Compounds	7440-43-9	4.1E-04 (% of PM emitted) ⁽⁵⁾	4.1E-04 (% of PM emitted) ⁽⁵⁾	3.6E-06 ^(d)	9.3E-04 ^(e)
Chromium and Compounds	7440-47-3	0.50 (% TAC in alloy) ⁽⁶⁾	19.7 (% TAC in alloy) ⁽⁷⁾	4.4E-03 ^(d)	45.0 ^(e)
Chromium VI	18540-29-9	0.015 (% TAC in alloy) ⁽⁸⁾	0.59 (% TAC in alloy) ⁽⁸⁾	1.3E-04 ^(d)	1.35 ^(e)
Cobalt and Compounds	7440-48-4	7.6E-03 (% of PM emitted) ⁽⁵⁾	7.6E-03 (% of PM emitted) ⁽⁵⁾	6.7E-05 ^(d)	0.017 ^(e)
Copper and Compounds	7440-50-8	-- ⁽⁶⁾	0.045 (% TAC in alloy) ⁽⁷⁾	--	0.10 ^(e)
Lead and Compounds	7439-92-1	4.5E-04 (% of PM emitted) ⁽⁵⁾	4.5E-04 (% of PM emitted) ⁽⁵⁾	4.0E-06 ^(d)	1.0E-03 ^(e)
Manganese and Compounds	7439-96-5	12.8 (% TAC in alloy) ⁽⁶⁾	1.90 (% TAC in alloy) ⁽⁷⁾	0.11 ^(d)	4.35 ^(e)
Molybdenum trioxide	1313-27-5	0.75 (% TAC in alloy) ^(f)	0.74 (% TAC in alloy) ^(f)	6.6E-03 ^(d)	1.68 ^(e)
Nickel and Compounds	7440-02-0	0.80 (% TAC in alloy) ⁽⁶⁾	0.80 (% TAC in alloy) ⁽⁷⁾	7.0E-03 ^(d)	1.83 ^(e)
Phosphorus and Compounds	504	0.070 (% TAC in alloy) ⁽⁶⁾	0.090 (% TAC in alloy) ⁽⁷⁾	6.1E-04 ^(d)	0.21 ^(e)
Selenium and Compounds	7782-49-2	2.6E-04 (% of PM emitted) ⁽⁵⁾	2.6E-04 (% of PM emitted) ⁽⁵⁾	2.3E-06 ^(d)	6.0E-04 ^(e)
Silver and Compounds	7440-22-4	5.2E-05 (% of PM emitted) ⁽⁵⁾	5.2E-05 (% of PM emitted) ⁽⁵⁾	4.6E-07 ^(d)	1.2E-04 ^(e)
Thallium	7440-28-0	5.2E-05 (% of PM emitted) ⁽⁵⁾	5.2E-05 (% of PM emitted) ⁽⁵⁾	4.6E-07 ^(d)	1.2E-04 ^(e)
Vanadium (fume or dust)	7440-62-2	6.0E-03 (% of PM emitted) ⁽⁵⁾	6.0E-03 (% of PM emitted) ⁽⁵⁾	5.3E-05 ^(d)	0.014 ^(e)
Zinc and Compounds	7440-66-6	3.4E-03 (% of PM emitted) ⁽⁵⁾	3.4E-03 (% of PM emitted) ⁽⁵⁾	2.9E-05 ^(d)	7.7E-03 ^(e)

Notes

PM = particulate matter; TAC = toxic air contaminant.

^(a) PM emission factor (lb/ton metal processed) = (total PM emission factor [lb/ton metal processed]) x (percentage of total PM [%])/100

PM_{>10} percentage of total PM (%) = 50.0 (1)

PM_{2.5-10} percentage of total PM (%) = 30.0 (1)

PM_{2.5} percentage of total PM (%) = 20.0 (1)

Table 11
PTE Grinding - Non-stainless Steel Controlled TAC Emission Estimates
Eagle Foundry Company

^(b) Daily controlled emissions estimate (lb/day) = (emission factor [lb/ton metal processed]) x (daily non-stainless steel processed for grinding [tons/day]) x (capture efficiency of building enclosure [%]/100) x (1 - [control efficiency of baghouse {%}]/100)		
Daily non-stainless steel processed for grinding (tons/day) =	16.5	(2)
Capture efficiency of building enclosure (%) =	95.0	(3)
Control efficiency of baghouse for PM _{>10} (%) =	100	(4)
Control efficiency of baghouse for PM _{2.5-10} (%) =	99.5	(4)
Control efficiency of baghouse for PM _{2.5} (%) =	99.0	(4)
^(c) Annual controlled emissions estimate (lb/yr) = (emission factor [lb/ton metal processed]) x (annual non-stainless steel processed for grinding [tons/yr]) x (capture efficiency of building enclosure [%]/100) x (1 - [control efficiency of baghouse {%}]/100)		
Annual non-stainless steel processed for grinding (tons/yr) =	4,294	(2)
^(d) Daily emissions estimate (lb/day) = (daily PM emissions [lb/day]) x (emission factor [% TAC in alloy]/100)		
^(e) Annual emissions estimate (lb/yr) = (annual PM emissions [lb/yr]) x (emission factor [% TAC in alloy]/100)		
^(f) Molybdenum trioxide emission factor (% of PM emitted) = (molybdenum emission factor [% of PM emitted]) x (molybdenum trioxide molecular weight [lb/lb-mole]) / (molybdenum molecular weight [lb/lb-mole])		
Daily Molybdenum and Compounds percentage of PM (%) =	0.50	(6)
Annual Molybdenum and Compounds percentage of PM (%) =	0.49	(7)
Molybdenum trioxide molecular weight (lb/lb-mole) =	143.94	
Molybdenum molecular weight (lb/lb-mole) =	95.95	

References

- ⁽¹⁾ RTI International, Emission Estimation Protocol for Iron and Steel Foundries (December, 2012), Table 6-2, PM Emission Factors for Finishing Operations. Value represents grinding, captured and uncontrolled.
- ⁽²⁾ See Table 1, Input Process Rates and Parameters.
- ⁽³⁾ Based on EPA methodology enclosure testing conducted on April 18, 2023.
- ⁽⁴⁾ RTI International, Emission Estimation Protocol for Iron and Steel Foundries (December, 2012), Table 3-4, Typical Collection Efficiencies of Various Particulate Control Devices. Section 3.1.4.1 notes that it can be assumed that PM collection efficiencies for PM greater than 10 µm are 100 percent.
- ⁽⁵⁾ Based on baghouse dust analysis for the finishing baghouse conducted by Apex Laboratories, March 2021.
- ⁽⁶⁾ See Table D1, Alloy Composition Data and Table D2, Alloy Toxicity Weighted Emission Rates. Daily emissions estimates for non-stainless steel grinding are based on alloy MNB2, which has the highest toxicity weighted emission rate for non-stainless steel alloys and results in the maximum predicted acute risk value.
- ⁽⁷⁾ Information provided by facility. Value represents the weighted average TAC content for non-stainless steel alloys produced in 2022.
- ⁽⁸⁾ As a conservative estimate, Chromium VI is assumed to be 3 percent of total chromium. Eagle Foundry reserves the right to revise this assumption if site specific data becomes available.

Table 12
PTE Grinding - Non-stainless Steel Fugitive TAC Emission Estimates
Eagle Foundry Company

Toxic Air Contaminant	CAS/DEQ ID	Emission Factor		Fugitive Emissions Estimate	
		Daily	Annual	Daily (lb/day)	Annual (lb/yr)
PM _{>10}	--	0.016 (lb/ton metal processed) ^(a)	0.016 (lb/ton metal processed) ^(a)	0.013 ^(b)	3.44 ^(c)
PM _{2.5-10}	--	0.016 (lb/ton metal processed) ^(a)	0.016 (lb/ton metal processed) ^(a)	0.013 ^(b)	3.44 ^(c)
PM _{2.5}	--	0.13 (lb/ton metal processed) ^(a)	0.13 (lb/ton metal processed) ^(a)	0.11 ^(b)	27.5 ^(c)
Total PM	--	0.16 (lb/ton metal processed) ⁽¹⁾	0.16 (lb/ton metal processed) ⁽¹⁾	0.13	34.4
Aluminum and Compounds	7429-90-5	0.48 (% of PM emitted) ⁽⁵⁾	0.48 (% of PM emitted) ⁽⁵⁾	6.3E-04 ^(d)	0.16 ^(e)
Antimony and Compounds	7440-36-0	2.6E-04 (% of PM emitted) ⁽⁵⁾	2.6E-04 (% of PM emitted) ⁽⁵⁾	3.4E-07 ^(d)	8.9E-05 ^(e)
Arsenic and Compounds	7440-38-2	1.6E-03 (% of PM emitted) ⁽⁵⁾	1.6E-03 (% of PM emitted) ⁽⁵⁾	2.1E-06 ^(d)	5.4E-04 ^(e)
Barium and Compounds	7440-39-3	0.014 (% of PM emitted) ⁽⁵⁾	0.014 (% of PM emitted) ⁽⁵⁾	1.8E-05 ^(d)	4.8E-03 ^(e)
Beryllium and Compounds	7440-41-7	5.2E-05 (% of PM emitted) ⁽⁵⁾	5.2E-05 (% of PM emitted) ⁽⁵⁾	6.9E-08 ^(d)	1.8E-05 ^(e)
Cadmium and Compounds	7440-43-9	4.1E-04 (% of PM emitted) ⁽⁵⁾	4.1E-04 (% of PM emitted) ⁽⁵⁾	5.3E-07 ^(d)	1.4E-04 ^(e)
Chromium and Compounds	7440-47-3	0.50 (% TAC in alloy) ⁽⁶⁾	19.7 (% TAC in alloy) ⁽⁷⁾	6.6E-04 ^(d)	6.77 ^(e)
Chromium VI	18540-29-9	0.015 (% TAC in alloy) ⁽⁸⁾	0.59 (% TAC in alloy) ⁽⁸⁾	2.0E-05 ^(d)	0.20 ^(e)
Cobalt and Compounds	7440-48-4	7.6E-03 (% of PM emitted) ⁽⁵⁾	7.6E-03 (% of PM emitted) ⁽⁵⁾	1.0E-05 ^(d)	2.6E-03 ^(e)
Copper and Compounds	7440-50-8	-- ⁽⁶⁾	0.045 (% TAC in alloy) ⁽⁷⁾	--	0.016 ^(e)
Lead and Compounds	7439-92-1	4.5E-04 (% of PM emitted) ⁽⁵⁾	4.5E-04 (% of PM emitted) ⁽⁵⁾	6.0E-07 ^(d)	1.5E-04 ^(e)
Manganese and Compounds	7439-96-5	12.8 (% TAC in alloy) ⁽⁶⁾	1.90 (% TAC in alloy) ⁽⁷⁾	0.017 ^(d)	0.65 ^(e)
Molybdenum trioxide	1313-27-5	0.75 (% TAC in alloy) ^(f)	0.74 (% TAC in alloy) ^(f)	9.9E-04 ^(d)	0.25 ^(e)
Nickel and Compounds	7440-02-0	0.80 (% TAC in alloy) ⁽⁶⁾	0.80 (% TAC in alloy) ⁽⁷⁾	1.1E-03 ^(d)	0.28 ^(e)
Phosphorus and Compounds	504	0.070 (% TAC in alloy) ⁽⁶⁾	0.090 (% TAC in alloy) ⁽⁷⁾	9.2E-05 ^(d)	0.031 ^(e)
Selenium and Compounds	7782-49-2	2.6E-04 (% of PM emitted) ⁽⁵⁾	2.6E-04 (% of PM emitted) ⁽⁵⁾	3.4E-07 ^(d)	8.9E-05 ^(e)
Silver and Compounds	7440-22-4	5.2E-05 (% of PM emitted) ⁽⁵⁾	5.2E-05 (% of PM emitted) ⁽⁵⁾	6.9E-08 ^(d)	1.8E-05 ^(e)
Thallium	7440-28-0	5.2E-05 (% of PM emitted) ⁽⁵⁾	5.2E-05 (% of PM emitted) ⁽⁵⁾	6.9E-08 ^(d)	1.8E-05 ^(e)
Vanadium (fume or dust)	7440-62-2	6.0E-03 (% of PM emitted) ⁽⁵⁾	6.0E-03 (% of PM emitted) ⁽⁵⁾	7.9E-06 ^(d)	2.1E-03 ^(e)
Zinc and Compounds	7440-66-6	3.4E-03 (% of PM emitted) ⁽⁵⁾	3.4E-03 (% of PM emitted) ⁽⁵⁾	4.4E-06 ^(d)	1.2E-03 ^(e)

Notes

PM = particulate matter; TAC = toxic air contaminant.

^(a) PM emission factor (lb/ton metal processed) = (total PM emission factor [lb/ton metal processed]) x (percentage of total PM [%])/100

PM_{>10} percentage of total PM (%) = 10.0 (1)

PM_{2.5-10} percentage of total PM (%) = 10.0 (1)

PM_{2.5} percentage of total PM (%) = 80.0 (1)

^(b) Daily fugitive emissions estimate (lb/day) = (emission factor [lb/ton metal processed]) x (daily non-stainless steel processed for grinding [tons/day])

x (1 - [capture efficiency of building enclosure (%)]/100)

Daily non-stainless steel processed for grinding (tons/day) = 16.5 (2)

Capture efficiency of building enclosure (%) = 95.0 (3)

Table 12
PTE Grinding - Non-stainless Steel Fugitive TAC Emission Estimates
Eagle Foundry Company

^(c) Annual fugitive emissions estimate (lb/yr) = (emission factor [lb/ton metal processed]) x (annual non-stainless steel processed for grinding [tons/yr]) x (1 - [capture efficiency of building enclosure {%}]/100)		
Annual non-stainless steel processed for grinding (tons/yr) =	4,294	(2)
^(d) Daily emissions estimate (lb/day) = (daily PM emissions [lb/day]) x (emission factor [% TAC in alloy]/100)		
^(e) Annual emissions estimate (lb/yr) = (annual PM emissions [lb/yr]) x (emission factor [% TAC in alloy]/100)		
^(f) Molybdenum trioxide emission factor (% of PM emitted) = (molybdenum emission factor [% of PM emitted]) x (molybdenum trioxide molecular weight [lb/lb-mole]) / (molybdenum molecular weight [lb/lb-mole])		
Daily Molybdenum and Compounds percentage of PM (%) =	0.50	(6)
Annual Molybdenum and Compounds percentage of PM (%) =	0.49	(7)
Molybdenum trioxide molecular weight (lb/lb-mole) =	143.94	
Molybdenum molecular weight (lb/lb-mole) =	95.95	

References

- ⁽¹⁾ RTI International, Emission Estimation Protocol for Iron and Steel Foundries (December, 2012), Table 6-2, PM Emission Factors for Finishing Operations. Value represents grinding, uncaptured and uncontrolled.
- ⁽²⁾ See Table 1, Input Process Rates and Parameters.
- ⁽³⁾ Based on EPA methodology enclosure testing conducted on April 18, 2023.
- ⁽⁴⁾ RTI International, Emission Estimation Protocol for Iron and Steel Foundries (December, 2012), Table 3-4, Typical Collection Efficiencies of Various Particulate Control Devices. Section 3.1.4.1 notes that it can be assumed that PM collection efficiencies for PM greater than 10 µm are 100 percent.
- ⁽⁵⁾ Based on baghouse dust analysis for the finishing baghouse conducted by Apex Laboratories, March 2021.
- ⁽⁶⁾ See Table D1, Alloy Composition Data and Table D2, Alloy Toxicity Weighted Emission Rates. Daily emissions estimates for non-stainless steel grinding are based on alloy MNB2, which has the highest toxicity weighted emission rate for non-stainless steel alloys and results in the maximum predicted acute risk value.
- ⁽⁷⁾ Information provided by facility. Value represents the weighted average TAC content for non-stainless steel alloys produced in 2022.
- ⁽⁸⁾ As a conservative estimate, Chromium VI is assumed to be 3 percent of total chromium. Eagle Foundry reserves the right to revise this assumption if site specific data becomes available.

Table 13
 PTE Mesh Blast TAC Emission Estimates
 Eagle Foundry Company

Toxic Air Contaminant	CAS/DEQ ID	Emission Factor	Total Emissions Estimate	
			Daily (lb/day)	Annual (lb/yr)
PM _{>10}	--	8.00 (lb/ton metal processed) ^(a)	0 ^(b)	0 ^(c)
PM _{2.5-10}	--	4.80 (lb/ton metal processed) ^(a)	0.29 ^(b)	5.69 ^(c)
PM _{2.5}	--	3.20 (lb/ton metal processed) ^(a)	0.19 ^(b)	3.80 ^(c)
Total PM	--	16.0 (lb/ton metal processed) ⁽¹⁾	0.48	9.49
Aluminum and Compounds	7429-90-5	0.064 (% of PM emitted) ⁽⁵⁾	3.1E-04 ^(d)	6.1E-03 ^(e)
Antimony and Compounds	7440-36-0	1.6E-03 (% of PM emitted) ⁽⁵⁾	7.7E-06 ^(d)	1.5E-04 ^(e)
Arsenic and Compounds	7440-38-2	4.9E-03 (% of PM emitted) ⁽⁵⁾	2.3E-05 ^(d)	4.6E-04 ^(e)
Barium and Compounds	7440-39-3	5.1E-04 (% of PM emitted) ⁽⁵⁾	2.4E-06 ^(d)	4.8E-05 ^(e)
Beryllium and compounds	7440-41-7	1.0E-04 (% of PM emitted) ⁽⁵⁾	4.9E-07 ^(d)	9.7E-06 ^(e)
Cadmium and Compounds	7440-43-9	1.0E-04 (% of PM emitted) ⁽⁵⁾	4.9E-07 ^(d)	9.7E-06 ^(e)
Chromium	7440-47-3	0.24 (% of PM emitted) ⁽⁵⁾	1.2E-03 ^(d)	0.023 ^(e)
Chromium VI	18540-29-9	7.3E-03 (% of PM emitted) ⁽⁶⁾	3.5E-05 ^(d)	6.9E-04 ^(e)
Cobalt and Compounds	7440-48-4	7.0E-03 (% of PM emitted) ⁽⁵⁾	3.4E-05 ^(d)	6.7E-04 ^(e)
Copper and Compounds	7440-50-8	0.27 (% of PM emitted) ⁽⁵⁾	1.3E-03 ^(d)	0.025 ^(e)
Lead and Compounds	7439-92-1	7.9E-04 (% of PM emitted) ⁽⁵⁾	3.8E-06 ^(d)	7.5E-05 ^(e)
Manganese and Compounds	7439-96-5	0.65 (% of PM emitted) ⁽⁵⁾	3.1E-03 ^(d)	0.062 ^(e)
Molybdenum trioxide	1313-27-5	0.056 (% of PM emitted) ^(f)	2.7E-04 ^(d)	5.3E-03 ^(e)
Nickel and Compounds	7440-02-0	0.10 (% of PM emitted) ⁽⁵⁾	4.9E-04 ^(d)	9.7E-03 ^(e)
Selenium and Compounds	7782-49-2	5.1E-05 (% of PM emitted) ⁽⁵⁾	2.4E-07 ^(d)	4.8E-06 ^(e)
Silver and Compounds	7440-22-4	1.0E-04 (% of PM emitted) ⁽⁵⁾	4.9E-07 ^(d)	9.7E-06 ^(e)
Thallium	7440-28-0	1.0E-04 (% of PM emitted) ⁽⁵⁾	4.9E-07 ^(d)	9.7E-06 ^(e)
Vanadium (fume or dust)	7440-62-2	9.1E-03 (% of PM emitted) ⁽⁵⁾	4.4E-05 ^(d)	8.6E-04 ^(e)
Zinc and Compounds	7440-66-6	8.9E-03 (% of PM emitted) ⁽⁵⁾	4.3E-05 ^(d)	8.5E-04 ^(e)

Notes

PM = particulate matter.

^(a) Emission factor (lb/ton metal produced) = (total PM emission factor [lb/ton metal processed])
 x (percentage of total PM [%]/100)

PM_{>10} percentage of total PM (%) = 50.0 (1)

PM_{2.5-10} percentage of total PM (%) = 30.0 (1)

PM_{2.5} percentage of total PM (%) = 20.0 (1)

^(b) Daily emissions estimate (lb/day) = (emission factor [lb/ton metal processed])
 x (daily metal finished by mesh blasting [tons/day]) x (1 - [control efficiency of filters {%}]/100)

Daily metal finished by mesh blasting (tons/day) = 3.00 (2)

Control efficiency of filters for PM_{>10} (%) = 100 (3)

Control efficiency of filters for PM_{2.5-10} (%) = 98.0 (4)

Control efficiency of filters for PM_{2.5} (%) = 98.0 (4)

^(c) Annual emissions estimate (lb/yr) = (emission factor [lb/ton metal processed])
 x (annual metal finished by mesh blasting [tons/yr]) x (1 - [control efficiency of filters {%}]/100)

Annual metal finished by mesh blasting (tons/yr) = 59.3 (2)

^(d) Daily emissions estimate (lb/day) = (daily PM emissions [lb/day]) x (emission factor [% of PM emitted]/100)

^(e) Annual emissions estimate (lb/yr) = (annual PM emissions [lb/yr]) x (emission factor [% of PM emitted]/100)

^(f) Molybdenum trioxide percentage of PM (% of PM emitted) = (molybdenum percentage of PM [%])
 x (molybdenum trioxide molecular weight [lb/lb-mole]) / (molybdenum molecular weight [lb/lb-mole]) (7)

Molybdenum percentage of PM (%) = 0.037 (5)

Molybdenum trioxide molecular weight (lb/lb-mole) = 143.94

Molybdenum molecular weight (lb/lb-mole) = 95.95

References

⁽¹⁾ RTI International, Emission Estimation Protocol for Iron and Steel Foundries (December, 2012), Table 6-2. Value for shot blasting, captured and uncontrolled.

⁽²⁾ See Table 1, Input Process Rates and Parameters.

⁽³⁾ RTI International, Emission Estimation Protocol for Iron and Steel Foundries (December, 2012), Table 3-4, Typical Collection Efficiencies of Various Particulate Control Devices. Section 3.1.4.1 notes that it can be assumed that PM collection efficiencies for PM greater than 10 µm are 100 percent.

⁽⁴⁾ Based on filter specifications.

⁽⁵⁾ Based on dust analysis conducted by Apex Laboratories, March 2021.

⁽⁶⁾ As a conservative estimate, Chromium VI is assumed to be 3 percent of total chromium. Eagle Foundry reserves the right to revise this assumption if site specific data becomes available.

⁽⁷⁾ Conservatively assume 100 percent of molybdenum is in the trioxide form.

Table 14
 PTE Shot Blast TAC Emission Estimates
 Eagle Foundry Company

Toxic Air Contaminant	CAS/DEQ ID	Emission Factor	Total Emissions Estimate	
			Daily (lb/day)	Annual (lb/yr)
PM _{>10}	--	8.00 (lb/ton metal processed) ^(a)	0 ^(b)	0 ^(c)
PM _{2.5-10}	--	4.80 (lb/ton metal processed) ^(a)	0.22 ^(b)	12.8 ^(c)
PM _{2.5}	--	3.20 (lb/ton metal processed) ^(a)	0.29 ^(b)	17.1 ^(c)
Total PM	--	16.0 (lb/ton metal processed) ⁽¹⁾	0.50	29.9
Aluminum and Compounds	7429-90-5	0.064 (% of PM emitted) ⁽⁴⁾	3.2E-04 ^(d)	0.019 ^(e)
Antimony and Compounds	7440-36-0	1.6E-03 (% of PM emitted) ⁽⁴⁾	8.1E-06 ^(d)	4.8E-04 ^(e)
Arsenic and Compounds	7440-38-2	4.9E-03 (% of PM emitted) ⁽⁴⁾	2.5E-05 ^(d)	1.5E-03 ^(e)
Barium and Compounds	7440-39-3	5.1E-04 (% of PM emitted) ⁽⁴⁾	2.6E-06 ^(d)	1.5E-04 ^(e)
Beryllium and compounds	7440-41-7	1.0E-04 (% of PM emitted) ⁽⁴⁾	5.2E-07 ^(d)	3.1E-05 ^(e)
Cadmium and Compounds	7440-43-9	1.0E-04 (% of PM emitted) ⁽⁴⁾	5.2E-07 ^(d)	3.1E-05 ^(e)
Chromium	7440-47-3	0.24 (% of PM emitted) ⁽⁴⁾	1.2E-03 ^(d)	0.073 ^(e)
Chromium VI	18540-29-9	7.3E-03 (% of PM emitted) ⁽⁵⁾	3.7E-05 ^(d)	2.2E-03 ^(e)
Cobalt and Compounds	7440-48-4	7.0E-03 (% of PM emitted) ⁽⁴⁾	3.5E-05 ^(d)	2.1E-03 ^(e)
Copper and Compounds	7440-50-8	0.27 (% of PM emitted) ⁽⁴⁾	1.3E-03 ^(d)	0.079 ^(e)
Lead and Compounds	7439-92-1	7.9E-04 (% of PM emitted) ⁽⁴⁾	4.0E-06 ^(d)	2.3E-04 ^(e)
Manganese and Compounds	7439-96-5	0.65 (% of PM emitted) ⁽⁴⁾	3.3E-03 ^(d)	0.19 ^(e)
Molybdenum trioxide	1313-27-5	0.056 (% of PM emitted) ^(f)	2.8E-04 ^(d)	0.017 ^(e)
Nickel and Compounds	7440-02-0	0.10 (% of PM emitted) ⁽⁴⁾	5.1E-04 ^(d)	0.030 ^(e)
Selenium and Compounds	7782-49-2	5.1E-05 (% of PM emitted) ⁽⁴⁾	2.6E-07 ^(d)	1.5E-05 ^(e)
Silver and Compounds	7440-22-4	1.0E-04 (% of PM emitted) ⁽⁴⁾	5.2E-07 ^(d)	3.1E-05 ^(e)
Thallium	7440-28-0	1.0E-04 (% of PM emitted) ⁽⁴⁾	5.2E-07 ^(d)	3.1E-05 ^(e)
Vanadium (fume or dust)	7440-62-2	9.1E-03 (% of PM emitted) ⁽⁴⁾	4.6E-05 ^(d)	2.7E-03 ^(e)
Zinc and Compounds	7440-66-6	8.9E-03 (% of PM emitted) ⁽⁴⁾	4.5E-05 ^(d)	2.7E-03 ^(e)

Notes

PM = particulate matter.

^(a) Emission factor (lb/ton metal produced) = (total PM emission factor [lb/ton metal processed])
 x (percentage of total PM [%]/100)

PM_{>10} percentage of total PM (%) = 50.0 (1)
 PM_{2.5-10} percentage of total PM (%) = 30.0 (1)
 PM_{2.5} percentage of total PM (%) = 20.0 (1)

^(b) Daily emissions estimate (lb/day) = (emission factor [lb/ton metal produced]) x (daily metal finished by abrasive blasting [tons/day])
 x (percentage of total PM [%]/100) x (1 - [control efficiency of baghouse {%}]/100)
 Daily metal finished by abrasive blasting (tons/day) = 9.00 (2)
 Control efficiency of filters for PM_{>10} (%) = 100 (3)
 Control efficiency of filters for PM_{2.5-10} (%) = 99.5 (3)
 Control efficiency of filters for PM_{2.5} (%) = 99.0 (3)

^(c) Annual emissions estimate (lb/yr) = (emission factor [lb/ton metal produced]) x (annual metal finished by abrasive blasting [tons/yr])
 x (percentage of total PM [%]/100) x (1 - [control efficiency of baghouse {%}]/100)
 Annual metal finished by abrasive blasting (tons/yr) = 534 (2)

^(d) Daily emissions estimate (lb/day) = (daily PM emissions [lb/day]) x (emission factor [% of PM emitted]/100)

^(e) Annual emissions estimate (lb/yr) = (annual PM emissions [lb/yr]) x (emission factor [% of PM emitted]/100)

^(f) Molybdenum trioxide percentage of PM (% of PM emitted) = (molybdenum percentage of PM [%])
 x (molybdenum trioxide molecular weight [lb/lb-mole]) / (molybdenum molecular weight [lb/lb-mole]) (6)
 Molybdenum percentage of PM (%) = 0.037 (4)
 Molybdenum trioxide molecular weight (lb/lb-mole) = 143.94
 Molybdenum molecular weight (lb/lb-mole) = 95.95

References

- ⁽¹⁾ RTI International, Emission Estimation Protocol for Iron and Steel Foundries (December, 2012), Table 6-2. Value for shot blasting, captured and uncontrolled.
- ⁽²⁾ See Table 1, Input Process Rates and Parameters.
- ⁽³⁾ RTI International, Emission Estimation Protocol for Iron and Steel Foundries (December, 2012), Table 3-4, Typical Collection Efficiencies of Various Particulate Control Devices. Section 3.1.4.1 notes that it can be assumed that PM collection efficiencies for PM greater than 10 µm are 100 percent.
- ⁽⁴⁾ Based on a dust analysis conducted by Apex Laboratories, March 2021. Dust speciation for the mesh blast hopper is assumed to be representative of shotblast speciation.
- ⁽⁵⁾ As a conservative estimate, Chromium VI is assumed to be 3 percent of total chromium. Eagle Foundry reserves the right to revise this assumption if site specific data becomes available.
- ⁽⁶⁾ Conservatively assume 100 percent of molybdenum is in the trioxide form.

Table 15
PTE Small Palmer TAC Emission Estimates
Eagle Foundry Company

Toxic Air Contaminant	CAS/DEQ ID	Emission Factor (lb/ton PM generated)	Total Emissions Estimate	
			Daily ^(a) (lb/day)	Annual ^(b) (lb/yr)
Aluminum and Compounds	7429-90-5	10.3 ⁽¹⁾	5.9E-03	1.55
Antimony and Compounds	7440-36-0	1.5E-03 ⁽¹⁾	8.4E-07	2.2E-04
Arsenic and Compounds	7440-38-2	1.2E-03 ⁽¹⁾	6.9E-07	1.8E-04
Barium and Compounds	7440-39-3	0.060 ⁽¹⁾	3.5E-05	9.0E-03
Beryllium and compounds	7440-41-7	9.9E-05 ⁽¹⁾	5.7E-08	1.5E-05
Cadmium and Compounds	7440-43-9	2.3E-04 ⁽¹⁾	1.3E-07	3.4E-05
Chromium	7440-47-3	0.098 ⁽¹⁾	5.6E-05	0.015
Chromium VI	18540-29-9	2.9E-03 ⁽³⁾	1.7E-06	4.4E-04
Cobalt and Compounds	7440-48-4	1.7E-03 ⁽¹⁾	9.5E-07	2.5E-04
Copper and Compounds	7440-50-8	0.26 ⁽¹⁾	1.5E-04	0.039
Lead and Compounds	7439-92-1	0.031 ⁽¹⁾	1.8E-05	4.7E-03
Manganese and Compounds	7439-96-5	0.78 ⁽¹⁾	4.5E-04	0.12
Molybdenum trioxide	1313-27-5	0.024 ^(c)	1.4E-05	3.5E-03
Nickel and Compounds	7440-02-0	0.037 ⁽¹⁾	2.1E-05	5.6E-03
Selenium and Compounds	7782-49-2	4.9E-04 ⁽¹⁾	2.8E-07	7.4E-05
Silver and Compounds	7440-22-4	6.2E-04 ⁽¹⁾	3.6E-07	9.2E-05
Thallium	7440-28-0	9.9E-05 ⁽¹⁾	5.7E-08	1.5E-05
Vanadium (fume or dust)	7440-62-2	6.7E-03 ⁽¹⁾	3.9E-06	1.0E-03
Zinc and Compounds	7440-66-6	0.17 ⁽¹⁾	9.6E-05	0.025

Notes

PM = particulate matter.

^(a) Daily emissions estimate (lb/day) = (daily PM generated [lb/day])
x (emission factor [lb/ton PM generated]) x (ton/2,000 lb) x (1 - [baghouse control efficiency {%}]/100)

Daily PM generated (lb PM generated/day) = 115 (1)
Baghouse control efficiency (%) = 99.0 (2)

^(b) Annual emissions estimate (lb/yr) = (annual PM generated [ton/yr]) x (emission factor [lb/ton PM generated])
x (1 - [baghouse control efficiency {%}]/100)

Annual PM generated (tons PM generated/yr) = 14.948 (1)
Baghouse control efficiency (%) = 99.0 (2)

^(c) Molybdenum trioxide emission factor (lb/ton PM generated) = (molybdenum emission factor [lb/ton PM generated])
x (molybdenum trioxide molecular weight [lb/lb-mole]) / (molybdenum molecular weight [lb/lb-mole])

Molybdenum emission factor (lb/ton PM generated) = 0.016 (4)
Molybdenum trioxide molecular weight (lb/lb-mole) = 143.94
Molybdenum molecular weight (lb/lb-mole) = 95.95

References

- ⁽¹⁾ Information provided by Eagle Foundry
- ⁽²⁾ See Table 1, Input Process Rates and Parameters.
- ⁽³⁾ As a conservative estimate, Chromium VI is assumed to be 3 percent of total chromium. Eagle Foundry reserves the right to revise this assumption if site specific data becomes available.
- ⁽⁴⁾ Based on a dust analysis conducted by Apex Laboratories, March 2021.

Table 16
PTE Small Palmer Material Handling TAC Emission Estimates
Eagle Foundry Company

Product	Toxic Air Contaminant	CAS	Weight Percentage (%)	Product Usage ⁽¹⁾		Total Emissions Estimate	
				Daily (lb/day)	Annual (lb/yr)	Daily (lb/day)	Annual (lb/yr)
Velvacoat ST 803 (Mold Wash Z)	Isopropanol	67-63-0	25.0 ⁽²⁾	41.7	10,000	10.4 ^(a)	2,500 ^(b)
	Silica, crystalline	7631-86-9 ⁽³⁾	0.55 ⁽²⁾			2.3E-05 ^(c)	5.5E-03 ^(d)
	Silica, crystalline	7631-86-9 ⁽³⁾	0.55 ⁽²⁾			2.3E-05 ^(c)	5.5E-03 ^(d)
Coated Cerabead	Phenol	108-95-2	0.010 ⁽²⁾	517.7	124,257	0.052 ^(a)	12.4 ^(b)
	Silica, crystalline	7631-86-9	25.4 ⁽⁵⁾			0.013 ^(c)	3.15 ^(d)
	Aluminum and Compounds	7429-90-5	34.2 ⁽⁵⁾			0.018 ^(c)	4.25 ^(d)
G-29 Sand	Silica, crystalline	7631-86-9 ⁽³⁾	95.0 ⁽²⁾	1,226.0	294,241	0.12 ^(c)	28.0 ^(d)
Unibond 1350 Core Paste	Silica, crystalline	7631-86-9 ⁽³⁾	27.1 ⁽⁵⁾	41.0	9,835	1.1E-03 ^(c)	0.27 ^(d)
Naigai Cerabead	Silica, crystalline	7631-86-9	25.4 ⁽⁵⁾	47,227	11,334,527	1.20 ^(c)	288 ^(d)
	Aluminum and Compounds	7429-90-5	34.2 ⁽⁵⁾			1.62 ^(c)	388 ^(d)

Notes

PM = particulate matter.

^(a) Daily emissions estimate (lb/day) = (weight percentage [%]/100) x (daily product usage [lb/day])

^(b) Annual emissions estimate (lb/yr) =(weight percentage [%]/100) x (annual product usage [lb/yr])

^(c) Daily emissions estimate (lb/day) = (PM emission factor [lb/ton]) x (daily product usage [lb/day]) x (ton/2,000 lb) x (weight percent [%])/100
PM emission factor (lb/ton sand handled) = 0.20 (4)

^(d) Annual emissions estimate (lb/yr) = (PM emission factor [lb/ton]) x (annual product usage [lb/yr]) x (ton/2,000 lb) x (weight percent [%])/100
PM emission factor (lb/ton sand handled) = 0.20 (4)

References

⁽¹⁾ See Table 1, Input Process Rates and Parameters.

⁽²⁾ Information from product SDS. Value is midpoint of the range.

⁽³⁾ CAS numbers have been updated to the CAS for silica, crystalline- respirable. Not all crystalline silica in the product is of a respirable size.

⁽⁴⁾ AP-42 Chapter 12.10, Table 12.10-7, Particulate Emission factors for Ancillary Operations and Fugitive Sources at Gray Iron Foundries. Value for sand handling, baghouse controlled.

⁽⁵⁾ See Table D3, Silica Data.

Table 17
PTE Big Palmer Material Handling TAC Emission Estimates
Eagle Foundry Company

Product	Toxic Air Contaminant	CAS	Weight Percentage ⁽¹⁾ (%)	Product Usage ⁽²⁾		Total Emissions Estimate	
				Daily (lb/day)	Annual (lb/yr)	Daily (lb/day)	Annual (lb/yr)
Velvacoat ST 803 (Mold Wash Z)	Isopropanol	67-63-0	25.0	125	30,000	31.3 ^(a)	7,500 ^(b)
	Silica, crystalline	7631-86-9 ⁽³⁾	0.55			1.2E-04 ^(c)	0.030 ^(d)
	Silica, crystalline	7631-86-9 ⁽³⁾	0.55			1.2E-04 ^(c)	0.030 ^(d)
Isomol 780 (Mold Wash M)	Isopropanol	67-63-0	27.5	21.3	5,113	5.86 ^(a)	1,406 ^(b)
	Silica, crystalline	7631-86-9 ⁽³⁾	0.55			2.1E-05 ^(c)	5.1E-03 ^(d)
Unibond 1350 Core Paste	Silica, crystalline	7631-86-9 ⁽³⁾	27.1 ⁽⁵⁾	25.1	6,028	1.2E-03 ^(c)	0.29 ^(d)
Naigai Cerabead	Silica, crystalline	7631-86-9 ⁽³⁾	25.4 ⁽⁵⁾	28,946	6,946,975	1.32 ^(c)	317 ^(d)
	Aluminum and Compounds	7429-90-5	34.2			1.78 ^(c)	428 ^(d)

Notes

PM = particulate matter.

^(a) Daily emissions estimate (lb/day) = (weight percentage [%]/100) x (daily product usage [lb/day])

^(b) Annual emissions estimate (lb/yr) =(weight percentage [%]/100) x (annual product usage [lb/yr])

^(c) Daily emissions estimate (lb/day) = (PM emission factor [lb/ton]) x (daily product usage [lb/day]) x (ton/2,000 lb) x (weight percent [%])/100
x (1 - [baghouse control efficiency {%}]/100)

PM emission factor (lb/ton sand handled) =

3.60

(4)

Main Foundry baghouse control efficiency (%) =

90.0

(2)

^(d) Annual emissions estimate (lb/yr) = (PM emission factor [lb/ton]) x (annual product usage [lb/yr]) x (ton/2,000 lb) x (weight percent [%])/100
x (1 - [baghouse control efficiency {%}]/100)

PM emission factor (lb/ton sand handled) =

3.60

(4)

Main Foundry baghouse control efficiency (%) =

90.0

(2)

References

- ⁽¹⁾ Information from product SDS. Value is midpoint of the range.
- ⁽²⁾ See Table 1, Input Process Rates and Parameters.
- ⁽³⁾ CAS numbers have been updated to the CAS for silica, crystalline- respirable. Not all crystalline silica in the product is of a respirable size.
- ⁽⁴⁾ AP-42 Chapter 12.10, Table 12.10-7, Particulate Emission factors for Ancillary Operations and Fugitive Sources at Gray Iron Foundries. Value for sand handling, uncontrolled.
- ⁽⁵⁾ See Table D3, Silica Data.

Table 18
PTE Screening Station TAC Emission Estimates
Eagle Foundry Company

Toxic Air Contaminant	CAS/DEQ ID	Emission Factor	Total Emissions Estimate	
			Daily (lb/day)	Annual (lb/yr)
PM	--	0.20 (lb PM/ton sand handled) ⁽¹⁾	7.19 ^(a)	1,870 ^(c)
Aluminum and Compounds	7429-90-5	0.50 (% of PM emitted) ⁽⁴⁾	0.036 ^(d)	9.31 ^(e)
Antimony and Compounds	7440-36-0	7.0E-05 (% of PM emitted) ⁽⁴⁾	5.0E-06 ^(d)	1.3E-03 ^(e)
Arsenic and Compounds	7440-38-2	2.7E-05 (% of PM emitted) ⁽⁴⁾	1.9E-06 ^(d)	5.0E-04 ^(e)
Barium and Compounds	7440-39-3	2.4E-03 (% of PM emitted) ⁽⁴⁾	1.8E-04 ^(d)	0.046 ^(e)
Beryllium and compounds	7440-41-7	5.3E-06 (% of PM emitted) ⁽⁴⁾	3.8E-07 ^(d)	9.9E-05 ^(e)
Cadmium and Compounds	7440-43-9	5.3E-06 (% of PM emitted) ⁽⁴⁾	3.8E-07 ^(d)	9.9E-05 ^(e)
Chromium	7440-47-3	5.8E-03 (% of PM emitted) ⁽⁴⁾	4.2E-04 ^(d)	0.11 ^(e)
Chromium VI	18540-29-9	1.7E-04 (% of PM emitted) ⁽⁵⁾	1.3E-05 ^(d)	3.3E-03 ^(e)
Cobalt and Compounds	7440-48-4	9.2E-05 (% of PM emitted) ⁽⁴⁾	6.6E-06 ^(d)	1.7E-03 ^(e)
Copper and Compounds	7440-50-8	0.017 (% of PM emitted) ⁽⁴⁾	1.3E-03 ^(d)	0.33 ^(e)
Lead and Compounds	7439-92-1	1.2E-03 (% of PM emitted) ⁽⁴⁾	8.6E-05 ^(d)	0.022 ^(e)
Manganese and Compounds	7439-96-5	0.046 (% of PM emitted) ⁽⁴⁾	3.3E-03 ^(d)	0.87 ^(e)
Molybdenum trioxide	1313-27-5	1.7E-03 (% of PM emitted) ^(f)	1.2E-04 ^(d)	0.031 ^(e)
Nickel and Compounds	7440-02-0	3.0E-03 (% of PM emitted) ⁽⁴⁾	2.1E-04 ^(d)	0.056 ^(e)
Selenium and Compounds	7782-49-2	2.7E-05 (% of PM emitted) ⁽⁴⁾	1.9E-06 ^(d)	5.0E-04 ^(e)
Silica, crystalline	7631-86-9	36.1 (% of PM emitted) ⁽⁷⁾	2.60 ^(d)	675 ^(e)
Silver and Compounds	7440-22-4	3.1E-05 (% of PM emitted) ⁽⁴⁾	2.2E-06 ^(d)	5.7E-04 ^(e)
Thallium	7440-28-0	5.3E-06 (% of PM emitted) ⁽⁴⁾	3.8E-07 ^(d)	9.9E-05 ^(e)
Vanadium (fume or dust)	7440-62-2	2.8E-04 (% of PM emitted) ⁽⁴⁾	2.0E-05 ^(d)	5.2E-03 ^(e)
Zinc and Compounds	7440-66-6	5.7E-03 (% of PM emitted) ⁽⁴⁾	4.1E-04 ^(d)	0.11 ^(e)

Notes

- PM = particulate matter.
- ^(a) Daily emissions estimate (lb/day) = (emission factor [lb/ton sand handled]) x (daily sand handled [tons/day])
- Daily sand handled (tons/day) = 36.0 (b)
- ^(b) Total sand handling (lb/unit) = (metal poured [tons/unit]) x (sand-to-metal ratio)
- Daily total metal poured (tons/day) = 31.0 (2)
- Annual total metal poured (tons/yr) = 8,060 (2)
- Sand-to-metal ratio (tons/ton) = 1.16 (3)
- ^(c) Annual emissions estimate (lb/yr) = (emission factor [lb/ton sand handled]) x (annual sand used [tons/yr])
- Annual sand handled (tons/yr) = 9,350 (b)
- ^(d) Daily emissions estimate (lb/day) = (daily PM emissions [lb/day]) x (emission factor [% of PM emitted])/100
- ^(e) Annual emissions estimate (lb/yr) = (annual PM emissions [lb/yr]) x (emission factor [% of PM emitted])/100
- ^(f) Molybdenum trioxide emission factor (% of PM emitted) = (molybdenum emission factor [% of PM emitted])
- x (molybdenum trioxide molecular weight [lb/lb-mole]) / (molybdenum molecular weight [lb/lb-mole]) (6)
- Molybdenum percentage of PM (%) = 1.1E-03 (4)
- Molybdenum trioxide molecular weight (lb/lb-mole) = 143.94
- Molybdenum molecular weight (lb/lb-mole) = 95.95

References

- ⁽¹⁾ AP-42 Chapter 12.10, Table 12.10-7. Assumes value for baghouse-controlled sand handling.
- ⁽²⁾ See Table 1, Input Process Rates and Parameters.
- ⁽³⁾ Ratio of sand to total metal poured is based on facility operations. Value includes G-29 Sand, Naigai Cerabead, and Coated Cerabead.
- ⁽⁴⁾ Based on a dust analysis conducted by Apex Laboratories, March 2021.
- ⁽⁵⁾ As a conservative estimate, Chromium VI is assumed to be 3 percent of total chromium. Eagle Foundry reserves the right to revise this assumption if site specific data becomes available.
- ⁽⁶⁾ Conservatively assume 100 percent of molybdenum is in the trioxide form.
- ⁽⁷⁾ Value is the weighted average silica content of mold making materials.

Table 19
 PTE Slag Handling TAC Emission Estimates
 Eagle Foundry Company

Pollutant	CAS/DEQ ID	Emission Factor	Total Emissions Estimate	
			Daily (lb/day)	Annual (lb/yr)
PM ₁₀	--	0.018 (lb PM/ton slag) ^(a)	0.016 ^(b)	4.06 ^(c)
Aluminum and Compounds	7429-90-5	0.46 (% of PM emitted) ⁽⁵⁾	7.6E-05 ^(d)	0.019 ^(e)
Antimony and Compounds	7440-36-0	5.35E-05 (% of PM emitted) ⁽⁵⁾	8.8E-09 ^(d)	2.2E-06 ^(e)
Arsenic and Compounds	7440-38-2	5.35E-05 (% of PM emitted) ⁽⁵⁾	8.8E-09 ^(d)	2.2E-06 ^(e)
Barium and Compounds	7440-39-3	1.03E-03 (% of PM emitted) ⁽⁵⁾	1.7E-07 ^(d)	4.2E-05 ^(e)
Beryllium and compounds	7440-41-7	1.07E-05 (% of PM emitted) ⁽⁵⁾	1.8E-09 ^(d)	4.3E-07 ^(e)
Cadmium and Compounds	7440-43-9	1.07E-05 (% of PM emitted) ⁽⁵⁾	1.8E-09 ^(d)	4.3E-07 ^(e)
Chromium	7440-47-3	0.26 (% of PM emitted) ⁽⁵⁾	4.3E-05 ^(d)	0.010 ^(e)
Chromium VI	18540-29-9	1.55E-03 (% of PM emitted) ⁽⁵⁾	2.6E-07 ^(d)	6.3E-05 ^(e)
Cobalt and Compounds	7440-48-4	3.56E-04 (% of PM emitted) ⁽⁵⁾	5.9E-08 ^(d)	1.4E-05 ^(e)
Copper and Compounds	7440-50-8	2.42E-03 (% of PM emitted) ⁽⁵⁾	4.0E-07 ^(d)	9.8E-05 ^(e)
Lead and Compounds	7439-92-1	4.06E-05 (% of PM emitted) ⁽⁵⁾	6.7E-09 ^(d)	1.6E-06 ^(e)
Manganese and Compounds	7439-96-5	0.77 (% of PM emitted) ⁽⁵⁾	1.3E-04 ^(d)	0.031 ^(e)
Mercury	7439-97-6	4.29E-06 (% of PM emitted) ⁽⁵⁾	7.1E-10 ^(d)	1.7E-07 ^(e)
Molybdenum trioxide	1313-27-5	0.012 (% of PM emitted) ⁽⁵⁾	2.0E-06 ^(d)	4.9E-04 ^(e)
Nickel and Compounds	7440-02-0	3.86E-03 (% of PM emitted) ⁽⁵⁾	6.4E-07 ^(d)	1.6E-04 ^(e)
Phosphorus and Compounds	504	5.35E-03 (% of PM emitted) ⁽⁵⁾	8.8E-07 ^(d)	2.2E-04 ^(e)
Selenium and Compounds	7782-49-2	5.35E-05 (% of PM emitted) ⁽⁵⁾	8.8E-09 ^(d)	2.2E-06 ^(e)
Silver and Compounds	7440-22-4	1.07E-05 (% of PM emitted) ⁽⁵⁾	1.8E-09 ^(d)	4.3E-07 ^(e)
Thallium	7440-28-0	1.07E-05 (% of PM emitted) ⁽⁵⁾	1.8E-09 ^(d)	4.3E-07 ^(e)
Vanadium (fume or dust)	7440-62-2	5.68E-04 (% of PM emitted) ⁽⁵⁾	9.4E-08 ^(d)	2.3E-05 ^(e)
Zinc and Compounds	7440-66-6	2.14E-04 (% of PM emitted) ⁽⁵⁾	3.5E-08 ^(d)	8.7E-06 ^(e)

Notes

PM = particulate matter.

^(a) Emission factor (lb/ton) = (0.0032) x (particulate size multiplier) x ([wind speed {mph}] / 5)^{1.3}
 / ([material moisture content {%}] / 2)^{1.4}

Particulate size multiplier for PM₁₀ = 0.35 (1)

Wind speed (mph) = 18.6 (2)

Moisture content of slag (%) = 0.92 (3)

^(b) Daily emissions estimate (lb/day) = (emission factor [lb/ton slag]) x (daily slag handled [tons/day])
 Daily slag handled (tons/day) = 0.90 (4)

^(c) Annual emissions estimate (lb/yr) = (emission factor [lb/ton slag]) x (annual slag handled [tons/yr])
 Annual slag handled (tons/yr) = 222 (4)

^(d) Daily emissions estimate (lb/day) = (daily PM emissions [lb/day]) x (emission factor [% of PM emitted]/100)

^(e) Annual emissions estimate (lb/yr) = (annual PM emissions [lb/yr]) x (emission factor [% of PM emitted]/100)

^(e) Molybdenum trioxide emission factor (lb/ton PM generated) = (molybdenum emission factor [lb/ton PM generated])
 x (molybdenum trioxide molecular weight [lb/lb-mole]) / (molybdenum molecular weight [lb/lb-mole]) (6)

Molybdenum emission factor (lb/ton PM generated) = 8.0E-03 (5)

Molybdenum trioxide molecular weight (lb/lb-mole) = 143.94

Molybdenum molecular weight (lb/lb-mole) = 95.95

References

- ⁽¹⁾ AP-42, Chapter 13.2.4 "Aggregate Handling and Storage Piles" (November 2006). Equation for quantity of particulate emissions generated by drop operations.
- ⁽²⁾ Value represents the highest average daily wind speed, 2018 - 2022, from the Carus-Spangler monitoring station (DEQ).
- ⁽³⁾ Based on operations at similar facility.
- ⁽⁴⁾ See Table 1, Input Process Rates and Parameters.
- ⁽⁵⁾ Based on facility dust collection records and the dust analysis conducted by Apex Laboratories, September 2023.
- ⁽⁶⁾ Conservatively assume 100 percent of molybdenum is in the trioxide form.

Table 20
PTE Pattern Making TAC Emission Estimates
Eagle Foundry Company

Product	Toxic Air Contaminant	CAS	Weight Percentage (%)	Specific Gravity	Product Density (lb/gal)	Product Usage ⁽¹⁾		Total Emissions Estimate	
						Maximum Daily (gal/day)	Annual (gal/yr)	Daily ^(a) (lb/day)	Annual ^(b) (lb/yr)
Urethane	Toluene	108-88-3	5.50 ⁽²⁾	0.907 ⁽³⁾	7.56 ^(c)	0.36	85.2	0.15	35.4
	1,2,4-Trimethylbenzene	95-63-6	5.50 ⁽⁵⁾					0.15	35.4
Mar-Proof H/S Lacquer Sanding Sealer	Methyl Ethyl Ketone	78-93-3	17.5 ⁽²⁾	--	7.56 ⁽³⁾	0.030	7.10	0.039	9.40
	Toluene	108-88-3	17.5 ⁽²⁾					0.039	9.40
	Isopropanol	67-63-0	5.00 ⁽²⁾					0.011	2.68
	n-Butyl Alcohol	71-36-3	5.00 ⁽²⁾					0.011	2.68

Notes

gal = gallon; lb = pound.

^(a) Daily emissions estimate (lb/day) = (weight percentage [%]/100) x (product density [lb/gal]) x (daily product usage [gal/day])

^(b) Annual emissions estimate (lb/yr) =(weight percentage [%]/100) x (product density [lb/gal]) x (maximum annual product usage [gal/yr])

^(c) Product density (lb/gal) = (specific gravity) x (density of water [lb/gal])

Density of water (lb/gal) = 8.331 ⁽⁴⁾

References

⁽¹⁾ See Table 1, Input Process Rates and Parameters.

⁽²⁾ Information from product SDS. Value is midpoint of the range.

⁽³⁾ Information from product SDS.

⁽⁴⁾ Density of water at 20 degrees Celsius.

⁽⁵⁾ Information from product SDS. CAS 95-63-6 (1,2,4-trimethylbenzene) was substituted for CAS 25551-13-7 (trimethylbenzene).

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Table 21
PTE Heat Treat—Propane Combustion TAC Emission Estimates
Eagle Foundry Company

Toxic Air Contaminant	CAS	Emission Factor ⁽¹⁾ (lb/Mgal)	Total Emissions Estimate	
			Daily ^(a) (lb/day)	Annual ^(b) (lb/yr)
Benzene	71-43-2	7.1E-04	6.4E-04	0.15
Formaldehyde	50-00-0	1.5E-03	1.4E-03	0.33
PAHs (excluding Naphthalene)	401	1.0E-05	9.0E-06	2.2E-03
Naphthalene	91-20-3	3.0E-05	2.7E-05	6.5E-03
Acetaldehyde	75-07-0	3.8E-04	3.4E-04	0.082
Acrolein	107-02-8	2.4E-04	2.2E-04	0.052
Ammonia	7664-41-7	0.30	0.27	64.7
Ethylbenzene	100-41-4	8.4E-04	7.5E-04	0.18
Hexane	110-54-3	5.6E-04	5.0E-04	0.12
Toluene	108-88-3	3.3E-03	2.9E-03	0.70
Xylene (mixed isomers)	1330-20-7	2.4E-03	2.2E-03	0.52

Notes

Mgal = thousand gallons.

^(a) Daily emissions estimate (lb/day) = (emission factor [lb/Mgal]) x (daily propane usage [gal/day])
x (Mgal/1,000 gal)

Daily propane usage (gal/day) = 898 (2)

^(b) Annual emissions estimate (lb/yr) = (emission factor [lb/Mgal]) x (annual propane usage [gal/yr])
x (Mgal/1,000 gal)

Annual propane usage (gal/yr) = 215,639 (2)

References

⁽¹⁾ Emission factors provided by Oregon Department of Environmental Quality for Propane External Combustion Sources. Emission factors for sources <10 MMBtu/hr were used.

⁽²⁾ See Table 1, Input Process Rates and Parameters.

Table 22
 PTE Diesel Emergency Generator TAC Emission Estimates
 Eagle Foundry Company

Toxic Air Contaminant	CAS	Emission Factor (lb/Mgal)	Emissions Estimates	
			Daily ^(a) (lb/day)	Annual ^(b) (lb/yr)
Arsenic	7440-38-2	1.6E-03 ⁽²⁾	2.3E-05	1.2E-03
Cadmium	7440-43-9	1.5E-03 ⁽²⁾	2.2E-05	1.1E-03
Chromium VI	18540-29-9	1.0E-04 ⁽²⁾	1.5E-06	7.3E-05
Copper	7440-50-8	4.1E-03 ⁽²⁾	6.0E-05	3.0E-03
Lead	7439-92-1	8.3E-03 ⁽²⁾	1.2E-04	6.1E-03
Manganese	7439-96-5	3.1E-03 ⁽²⁾	4.5E-05	2.3E-03
Mercury	7439-97-6	2.0E-03 ⁽²⁾	2.9E-05	1.5E-03
Nickel	7440-02-0	3.9E-03 ⁽²⁾	5.7E-05	2.8E-03
Selenium	7782-49-2	2.2E-03 ⁽²⁾	3.2E-05	1.6E-03
Acetaldehyde	75-07-0	0.78 ⁽²⁾	0.011	0.57
Acrolein	107-02-8	0.034 ⁽²⁾	4.9E-04	0.025
Benzene	71-43-2	0.19 ⁽²⁾	2.7E-03	0.14
1,3-Butadiene	106-99-0	0.217 ⁽²⁾	3.2E-03	0.16
Ethylbenzene	100-41-4	0.011 ⁽²⁾	1.6E-04	8.0E-03
Formaldehyde	50-00-0	1.73 ⁽²⁾	0.025	1.26
Hexane	110-54-3	0.027 ⁽²⁾	3.9E-04	0.020
Toluene	108-88-3	0.11 ⁽²⁾	1.5E-03	0.077
Xylenes (mixed isomers)	1330-20-7	0.042 ⁽²⁾	6.2E-04	0.031
Ammonia	7664-41-7	0.80 ⁽⁴⁾	0.012	0.58
Hydrochloric Acid	7647-01-0	0.19 ⁽²⁾	2.7E-03	0.14
PAHs	401	0.036 ⁽²⁾	5.3E-04	0.026
Benzo(a)pyrene	50-32-8	3.52E-05 ⁽³⁾	5.1E-07	2.6E-05
Naphthalene	91-20-3	0.020 ⁽²⁾	2.9E-04	0.014
DPM	200	33.5 ⁽²⁾	0.49	24.5

Notes

DPM = Diesel particulate matter; Mgal = thousand gallons.

^(a) Daily emissions estimate (lb/day) = (emission factor [lb/Mgal]) x (Mgal/1,000 gal)
x (daily fuel consumption [gal/day])

Daily fuel consumption (gal/day) = 14.6 (1)

^(b) Annual emissions estimate (lb/yr) = (emission factor [lb/Mgal]) x (Mgal/1,000 gal)
x (annual fuel consumption [gal/yr])

Annual fuel consumption (gal/yr) = 730 (1)

References

- ⁽¹⁾ See Table 1, Input Process Rates and Parameters.
- ⁽²⁾ DEQ approved diesel combustion emission factors for stationary and portable internal combustion engines.
- ⁽³⁾ AP-42 Section 3.4, Table 3.4-4, converted to lb/Mgal using a heating value of 137,000 Btu/gal (Appendix A)
- ⁽⁴⁾ Reporting Procedures for AB2588 Facilities for Reporting their Quadrennial Air Toxics Emissions Inventory published by the South Coast Air Quality Management District (SCAQMD) in December 2016. See Appendix B, Table B-2 "Default EF for Diesel/Distillate Oil Fuel Combustion (lb/1,000 gal)" for stationary and portable internal combustion engines (ICE). Assumes no control.

Table 23
PTE Reclaimed Bead Silo TAC Emission Estimates
Eagle Foundry Company

Toxic Air Contaminant	CAS/DEQ ID	Emission Factor	Total Emissions Estimate	
			Daily (lb/day)	Annual (lb/yr)
PM	--	2.1E-04 (lb/hr) ^(a)	5.0E-03 ^(b)	1.84 ^(c)
Aluminum and Compounds	7429-90-5	0.50 (% of PM emitted) ⁽³⁾	2.5E-05 ^(d)	9.2E-03 ^(e)
Antimony and Compounds	7440-36-0	7.0E-05 (% of PM emitted) ⁽³⁾	3.5E-09 ^(d)	1.3E-06 ^(e)
Arsenic and Compounds	7440-38-2	2.7E-05 (% of PM emitted) ⁽³⁾	1.3E-09 ^(d)	4.9E-07 ^(e)
Barium and Compounds	7440-39-3	2.4E-03 (% of PM emitted) ⁽³⁾	1.2E-07 ^(d)	4.5E-05 ^(e)
Beryllium and compounds	7440-41-7	5.3E-06 (% of PM emitted) ⁽³⁾	2.7E-10 ^(d)	9.7E-08 ^(e)
Cadmium and Compounds	7440-43-9	5.3E-06 (% of PM emitted) ⁽³⁾	2.7E-10 ^(d)	9.7E-08 ^(e)
Chromium	7440-47-3	5.8E-03 (% of PM emitted) ⁽³⁾	2.9E-07 ^(d)	1.1E-04 ^(e)
Chromium VI	18540-29-9	1.7E-04 (% of PM emitted) ⁽⁴⁾	8.8E-09 ^(d)	3.2E-06 ^(e)
Cobalt and Compounds	7440-48-4	9.2E-05 (% of PM emitted) ⁽³⁾	4.6E-09 ^(d)	1.7E-06 ^(e)
Copper and Compounds	7440-50-8	0.017 (% of PM emitted) ⁽³⁾	8.8E-07 ^(d)	3.2E-04 ^(e)
Lead and Compounds	7439-92-1	1.2E-03 (% of PM emitted) ⁽³⁾	6.0E-08 ^(d)	2.2E-05 ^(e)
Manganese and Compounds	7439-96-5	0.046 (% of PM emitted) ⁽³⁾	2.3E-06 ^(d)	8.5E-04 ^(e)
Nickel and Compounds	7440-02-0	3.0E-03 (% of PM emitted) ⁽³⁾	1.5E-07 ^(d)	5.5E-05 ^(e)
Silica, crystalline	7631-86-9	36.1 (% of PM emitted) ⁽⁵⁾	1.8E-03 ^(d)	0.66 ^(e)
Selenium and Compounds	7782-49-2	2.7E-05 (% of PM emitted) ⁽³⁾	1.3E-09 ^(d)	4.9E-07 ^(e)
Silver and Compounds	7440-22-4	3.1E-05 (% of PM emitted) ⁽³⁾	1.5E-09 ^(d)	5.6E-07 ^(e)
Thallium	7440-28-0	5.3E-06 (% of PM emitted) ⁽³⁾	2.7E-10 ^(d)	9.7E-08 ^(e)
Vanadium (fume or dust)	7440-62-2	2.8E-04 (% of PM emitted) ⁽³⁾	1.4E-08 ^(d)	5.1E-06 ^(e)
Zinc and Compounds	7440-66-6	5.7E-03 (% of PM emitted) ⁽³⁾	2.9E-07 ^(d)	1.0E-04 ^(e)

Notes

- PM = particulate matter.
- ^(a) Emission factor (lb/hr) = (PM discharge rate [lb/10⁶ ft³]) x (bin vent airflow rate [ft³/hr]) x (10⁶) x (1 - [baghouse control efficiency {%}]/100)
- Bin vent airflow rate (ft³/hr) = 30,000 (1)
- PM discharge rate (lb/10⁶ ft³) = 0.70 (1)
- Baghouse control efficiency (%) = 99.0 (2)
- ^(b) Daily emissions estimate (lb/day) = (emission factor [lb/hr]) x (daily hours of operation [hrs/day])
- Daily hours of operation (hrs/day) = 24.0 (2)
- ^(c) Annual emissions estimate (lb/yr) = (emission factor [lb/hr]) x (annual hours of operation [hrs/yr])
- Annual hours of operation (hrs/yr) = 8,760 (2)
- ^(d) Daily emissions estimate (lb/day) = (daily PM emissions [lb/day]) x (emission factor [% of PM emitted]/100)
- ^(e) Annual emissions estimate (lb/yr) = (annual PM emissions [lb/yr]) x (emission factor [% of PM emitted]/100)

References

- ⁽¹⁾ Draft Review Report 03-2631, Application no. 016656, October 29, 1998.
- ⁽²⁾ See Table 1, Input Process Rates and Parameters.
- ⁽³⁾ Based on a dust analysis conducted by Apex Laboratories, March 2021.
- ⁽⁴⁾ As a conservative estimate, Chromium VI is assumed to be 3 percent of total chromium. Eagle Foundry reserves the right to revise this assumption if site-specific data becomes available.
- ⁽⁵⁾ Value is the weighted average silica content of mold making materials.

Table 24
PTE Reclaimed Bead Overflow Silo TAC Emission Estimates
Eagle Foundry Company

Toxic Air Contaminant	CAS/DEQ ID	Emission Factor	Total Emissions Estimate	
			Daily (lb/day)	Annual (lb/yr)
PM	--	2.1E-04 (lb/hr) ^(a)	5.0E-03 ^(b)	1.84 ^(c)
Aluminum and Compounds	7429-90-5	0.50 (% of PM emitted) ⁽³⁾	2.5E-05 ^(d)	9.2E-03 ^(e)
Antimony and Compounds	7440-36-0	7.0E-05 (% of PM emitted) ⁽³⁾	3.5E-09 ^(d)	1.3E-06 ^(e)
Arsenic and Compounds	7440-38-2	2.7E-05 (% of PM emitted) ⁽³⁾	1.3E-09 ^(d)	4.9E-07 ^(e)
Barium and Compounds	7440-39-3	2.4E-03 (% of PM emitted) ⁽³⁾	1.2E-07 ^(d)	4.5E-05 ^(e)
Beryllium and compounds	7440-41-7	5.3E-06 (% of PM emitted) ⁽³⁾	2.7E-10 ^(d)	9.7E-08 ^(e)
Cadmium and Compounds	7440-43-9	5.3E-06 (% of PM emitted) ⁽³⁾	2.7E-10 ^(d)	9.7E-08 ^(e)
Chromium	7440-47-3	5.8E-03 (% of PM emitted) ⁽³⁾	2.9E-07 ^(d)	1.1E-04 ^(e)
Chromium VI	18540-29-9	1.7E-04 (% of PM emitted) ⁽⁴⁾	8.8E-09 ^(d)	3.2E-06 ^(e)
Cobalt and Compounds	7440-48-4	9.2E-05 (% of PM emitted) ⁽³⁾	4.6E-09 ^(d)	1.7E-06 ^(e)
Copper and Compounds	7440-50-8	0.017 (% of PM emitted) ⁽³⁾	8.8E-07 ^(d)	3.2E-04 ^(e)
Lead and Compounds	7439-92-1	1.2E-03 (% of PM emitted) ⁽³⁾	6.0E-08 ^(d)	2.2E-05 ^(e)
Manganese and Compounds	7439-96-5	0.046 (% of PM emitted) ⁽³⁾	2.3E-06 ^(d)	8.5E-04 ^(e)
Nickel and Compounds	7440-02-0	3.0E-03 (% of PM emitted) ⁽³⁾	1.5E-07 ^(d)	5.5E-05 ^(e)
Silica, crystalline	7631-86-9	36.1 (% of PM emitted) ⁽⁵⁾	1.8E-03 ^(d)	0.66 ^(e)
Selenium and Compounds	7782-49-2	2.7E-05 (% of PM emitted) ⁽³⁾	1.3E-09 ^(d)	4.9E-07 ^(e)
Silver and Compounds	7440-22-4	3.1E-05 (% of PM emitted) ⁽³⁾	1.5E-09 ^(d)	5.6E-07 ^(e)
Thallium	7440-28-0	5.3E-06 (% of PM emitted) ⁽³⁾	2.7E-10 ^(d)	9.7E-08 ^(e)
Vanadium (fume or dust)	7440-62-2	2.8E-04 (% of PM emitted) ⁽³⁾	1.4E-08 ^(d)	5.1E-06 ^(e)
Zinc and Compounds	7440-66-6	5.7E-03 (% of PM emitted) ⁽³⁾	2.9E-07 ^(d)	1.0E-04 ^(e)

Notes

- PM = particulate matter.
- ^(a) Emission factor (lb/hr) = (PM discharge rate [lb/10⁶ ft³]) x (bin vent airflow rate [ft³/hr]) x (10⁶)
x (1 - [baghouse control efficiency %])/100)
- Bin vent airflow rate (ft³/hr) = 30,000 (1)
- PM discharge rate (lb/10⁶ ft³) = 0.70 (1)
- Baghouse control efficiency (%) = 99.0 (2)
- ^(b) Daily emissions estimate (lb/day) = (emission factor [lb/hr]) x (daily hours of operation [hrs/day])
- Daily hours of operation (hrs/day) = 24.0 (2)
- ^(c) Annual emissions estimate (lb/yr) = (emission factor [lb/hr]) x (annual hours of operation [hrs/yr])
- Annual hours of operation (hrs/yr) = 8,760 (2)
- ^(d) Daily emissions estimate (lb/day) = (daily PM emissions [lb/day]) x (emission factor [% of PM emitted])/100)
- ^(e) Annual emissions estimate (lb/yr) = (annual PM emissions [lb/yr]) x (emission factor [% of PM emitted])/100)

References

- ⁽¹⁾ Draft Review Report 03-2631, Application no. 016656, October 29, 1998.
- ⁽²⁾ See Table 1, Input Process Rates and Parameters.
- ⁽³⁾ Based on a dust analysis conducted by Apex Laboratories, March 2021.
- ⁽⁴⁾ As a conservative estimate, Chromium VI is assumed to be 3 percent of total chromium. Eagle Foundry reserves the right to revise this assumption if site-specific data becomes available.
- ⁽⁵⁾ Value is the weighted average silica content of mold making materials.

Table 25
 PTE Small Palmer Silo TAC Emission Estimates
 Eagle Foundry Company

Toxic Air Contaminant	CAS/DEQ ID	Emission Factor	Total Emissions Estimate	
			Daily (lb/day)	Annual (lb/yr)
PM	--	2.1E-04 (lb/hr) ^(a)	5.0E-03 ^(b)	1.84 ^(c)
Aluminum and Compounds	7429-90-5	0.50 (% of PM emitted) ⁽³⁾	2.5E-05 ^(d)	9.2E-03 ^(e)
Antimony and Compounds	7440-36-0	7.0E-05 (% of PM emitted) ⁽³⁾	3.5E-09 ^(d)	1.3E-06 ^(e)
Arsenic and Compounds	7440-38-2	2.7E-05 (% of PM emitted) ⁽³⁾	1.3E-09 ^(d)	4.9E-07 ^(e)
Barium and Compounds	7440-39-3	2.4E-03 (% of PM emitted) ⁽³⁾	1.2E-07 ^(d)	4.5E-05 ^(e)
Beryllium and compounds	7440-41-7	5.3E-06 (% of PM emitted) ⁽³⁾	2.7E-10 ^(d)	9.7E-08 ^(e)
Cadmium and Compounds	7440-43-9	5.3E-06 (% of PM emitted) ⁽³⁾	2.7E-10 ^(d)	9.7E-08 ^(e)
Chromium	7440-47-3	5.8E-03 (% of PM emitted) ⁽³⁾	2.9E-07 ^(d)	1.1E-04 ^(e)
Chromium VI	18540-29-9	1.7E-04 (% of PM emitted) ⁽⁴⁾	8.8E-09 ^(d)	3.2E-06 ^(e)
Cobalt and Compounds	7440-48-4	9.2E-05 (% of PM emitted) ⁽³⁾	4.6E-09 ^(d)	1.7E-06 ^(e)
Copper and Compounds	7440-50-8	0.017 (% of PM emitted) ⁽³⁾	8.8E-07 ^(d)	3.2E-04 ^(e)
Lead and Compounds	7439-92-1	1.2E-03 (% of PM emitted) ⁽³⁾	6.0E-08 ^(d)	2.2E-05 ^(e)
Manganese and Compounds	7439-96-5	0.046 (% of PM emitted) ⁽³⁾	2.3E-06 ^(d)	8.5E-04 ^(e)
Nickel and Compounds	7440-02-0	3.0E-03 (% of PM emitted) ⁽³⁾	1.5E-07 ^(d)	5.5E-05 ^(e)
Silica, crystalline	7631-86-9	36.1 (% of PM emitted) ⁽⁵⁾	1.8E-03 ^(d)	0.66 ^(e)
Selenium and Compounds	7782-49-2	2.7E-05 (% of PM emitted) ⁽³⁾	1.3E-09 ^(d)	4.9E-07 ^(e)
Silver and Compounds	7440-22-4	3.1E-05 (% of PM emitted) ⁽³⁾	1.5E-09 ^(d)	5.6E-07 ^(e)
Thallium	7440-28-0	5.3E-06 (% of PM emitted) ⁽³⁾	2.7E-10 ^(d)	9.7E-08 ^(e)
Vanadium (fume or dust)	7440-62-2	2.8E-04 (% of PM emitted) ⁽³⁾	1.4E-08 ^(d)	5.1E-06 ^(e)
Zinc and Compounds	7440-66-6	5.7E-03 (% of PM emitted) ⁽³⁾	2.9E-07 ^(d)	1.0E-04 ^(e)

Notes

PM = particulate matter.

^(a) Emission factor (lb/hr) = (PM discharge rate [lb/10⁶ ft³]) x (bin vent airflow rate [ft³/hr]) x (10⁶)
 x (1 - [baghouse control efficiency {%}]/100)

Bin vent airflow rate (ft³/hr) = 30,000 (1)
 PM discharge rate (lb/10⁶ ft³) = 0.70 (1)
 Baghouse control efficiency (%) = 99.0 (2)

^(b) Daily emissions estimate (lb/day) = (emission factor [lb/hr]) x (daily hours of operation [hrs/day])
 Daily hours of operation (hrs/day) = 24.0 (2)

^(c) Annual emissions estimate (lb/yr) = (emission factor [lb/hr]) x (annual hours of operation [hrs/yr])
 Annual hours of operation (hrs/yr) = 8,760 (2)

^(d) Daily emissions estimate (lb/day) = (daily PM emissions [lb/day]) x (emission factor [% of PM emitted]/100)

^(e) Annual emissions estimate (lb/yr) = (annual PM emissions [lb/yr]) x (emission factor [% of PM emitted]/100)

References

- ⁽¹⁾ Draft Review Report 03-2631, Application no. 016656, October 29, 1998.
- ⁽²⁾ See Table 1, Input Process Rates and Parameters.
- ⁽³⁾ Based on a dust analysis conducted by Apex Laboratories, March 2021.
- ⁽⁴⁾ As a conservative estimate, Chromium VI is assumed to be 3 percent of total chromium. Eagle Foundry reserves the right to revise this assumption if site-specific data becomes available.
- ⁽⁵⁾ Value is the weighted average silica content of mold making materials.

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Table 26
PTE New Bead Silo TAC Emission Estimates
Eagle Foundry Company

Toxic Air Contaminant	CAS/DEQ ID	Emission Factor	Total Emissions Estimate	
			Daily (lb/day)	Annual (lb/yr)
PM	--	2.1E-04 (lb/hr) ^(a)	5.0E-03 ^(b)	1.84 ^(c)
Aluminum and Compounds	7429-90-5	34.21 (% of PM emitted) ⁽²⁾	1.7E-03 ^(d)	0.63 ^(e)
Silica, crystalline	7631-86-9	25.38 (% of PM emitted) ⁽²⁾	1.3E-03 ^(d)	0.47 ^(e)

Notes

PM = particulate matter.

^(a) Emission factor (lb/hr) = (PM discharge rate [lb/10⁶ ft³]) x (bin vent airflow rate [ft³/hr]) x (10⁶)
x (1 - [baghouse control efficiency {%}]/100)

Bin vent airflow rate (ft³/hr) = 30,000 (1)

PM discharge rate (lb/10⁶ ft³) = 0.70 (1)

Baghouse control efficiency (%) = 99.0 (3)

^(b) Daily emissions estimate (lb/day) = (emission factor [lb/hr]) x (daily hours of operation [hrs/day])

Daily hours of operation (hrs/day) = 24.0 (3)

^(c) Annual emissions estimate (lb/yr) = (emission factor [lb/hr]) x (annual hours of operation [hrs/yr])

Annual hours of operation (hrs/yr) = 8,760 (3)

^(d) Daily emissions estimate (lb/day) = (daily PM emissions [lb/day]) x (emission factor [% of PM emitted]/100)

^(e) Annual emissions estimate (lb/yr) = (annual PM emissions [lb/yr]) x (emission factor [% of PM emitted]/100)

References

⁽¹⁾ Draft Review Report 03-2631, Application no. 016656, October 29, 1998.

⁽²⁾ See Table D3, Silica Data.

⁽³⁾ See Table 1, Input Process Rates and Parameters.

Table 27
PTE TAC Emissions Summary
Eagle Foundry Company

Toxic Air Contaminant	CAS/DEQ ID	HAP? (Yes/No)	RBC? (Yes/No)	Emissions Estimate			
				Foundry White Iron		Foundry Steel	
				(lb/day)	(lb/yr)	(lb/day)	(lb/yr)
ORGANIC COMPOUNDS							
Acetaldehyde	75-07-0	Yes	Yes	--	--	--	--
Acrolein	107-02-8	Yes	Yes	--	--	--	--
Benzene	71-43-2	Yes	Yes	--	--	--	--
1,3-Butadiene	106-99-0	Yes	Yes	--	--	--	--
Ethylbenzene	100-41-4	Yes	Yes	--	--	--	--
Formaldehyde	50-00-0	Yes	Yes	--	--	--	--
Hexane	110-54-3	Yes	Yes	--	--	--	--
Isopropanol	67-63-0	No	Yes	--	--	--	--
Methyl Ethyl Ketone	78-93-3	No	Yes	--	--	--	--
n-Butyl Alcohol	71-36-3	No	No	--	--	--	--
Phenol	108-95-2	Yes	Yes	--	--	--	--
Toluene	108-88-3	Yes	Yes	--	--	--	--
1,2,4-Trimethylbenzene	95-63-6	No	Yes	--	--	--	--
Xylene (mixed)	1330-20-7	Yes	Yes	--	--	--	--
INORGANIC COMPOUNDS							
Ammonia	7664-41-7	No	Yes	--	--	--	--
Hydrochloric Acid	7647-01-0	Yes	Yes	--	--	--	--
Molybdenum trioxide	1313-27-5	No	No	--	0.082	3.9E-04	0.020
Silicon dioxide (respirable)	7631-86-9	No	Yes	--	--	--	--
POLYCYCLIC AROMATIC HYDROCARBONS (PAH)							
Benzo(a)pyrene	50-32-8	Yes	Yes	--	--	--	--
Naphthalene	91-20-3	Yes	Yes	--	--	--	--
PAHs (excluding Naphthalene)*	401	Yes	Yes	--	--	--	--
METALS							
Aluminum and Compounds	7429-90-5	No	Yes	--	23.6	0.10	5.38
Antimony and Compounds	7440-36-0	Yes	Yes	--	0.16	9.5E-04	0.050
Arsenic and Compounds	7440-38-2	Yes	Yes	--	0.29	3.5E-03	0.18
Barium and Compounds	7440-39-3	No	No	--	0.72	5.5E-03	0.28
Beryllium and compounds	7440-41-7	Yes	Yes	--	--	--	--
Cadmium and Compounds	7440-43-9	Yes	Yes	--	0.024	3.4E-04	0.018
Chromium	7440-47-3	Yes	No	--	0.54	0.035	0.12
Chromium VI	18540-29-9	Yes	Yes	--	3.2E-03	2.6E-04	9.1E-04
Cobalt and Compounds	7440-48-4	Yes	Yes	--	0.029	1.4E-04	7.1E-03
Copper and Compounds	7440-50-8	No	Yes	--	1.12	4.8E-03	0.25
Lead and Compounds	7439-92-1	Yes	Yes	--	0.64	1.1E-03	0.059
Manganese and Compounds	7439-96-5	Yes	Yes	--	3.61	2.0E-03	0.54
Mercury	7439-97-6	Yes	Yes	--	0.023	2.2E-04	0.011
Nickel and Compounds	7440-02-0	Yes	Yes	--	1.05	0.16	0.46
Phosphorus and Compounds	504	Yes	No	--	1.34	0.012	0.63
Selenium and Compounds	7782-49-2	Yes	Yes	--	--	--	--
Silver and Compounds	7440-22-4	No	No	--	0.11	4.6E-04	0.024
Thallium	7440-28-0	No	No	--	--	--	--
Vanadium (fume or dust)	7440-62-2	No	Yes	--	--	--	--
Zinc and Compounds	7440-66-6	No	No	--	2.79	0.013	0.70
DIESEL PARTICULATE MATTER (DPM)							
DPM	200	No	Yes	--	--	--	--
Total TAC Emissions Estimate				0	36.1	0.34	8.73
Total HAP Emissions Estimate				0	7.71	0.21	2.07

Table 27
PTE TAC Emissions Summary
Eagle Foundry Company

Toxic Air Contaminant	CAS/DEQ ID	Emissions Estimate					
		Hot Top		Reclamation		Air Arc	
		(lb/day)	(lb/yr)	(lb/day)	(lb/yr)	(lb/day)	(lb/yr)
ORGANIC COMPOUNDS							
Acetaldehyde	75-07-0	--	--	--	--	--	--
Acrolein	107-02-8	--	--	--	--	--	--
Benzene	71-43-2	--	--	--	--	--	--
1,3-Butadiene	106-99-0	--	--	--	--	--	--
Ethylbenzene	100-41-4	--	--	--	--	--	--
Formaldehyde	50-00-0	--	--	--	--	--	--
Hexane	110-54-3	--	--	--	--	--	--
Isopropanol	67-63-0	--	--	--	--	--	--
Methyl Ethyl Ketone	78-93-3	--	--	--	--	--	--
n-Butyl Alcohol	71-36-3	--	--	--	--	--	--
Phenol	108-95-2	--	--	--	--	--	--
Toluene	108-88-3	--	--	--	--	--	--
1,2,4-Trimethylbenzene	95-63-6	--	--	--	--	--	--
Xylene (mixed)	1330-20-7	--	--	--	--	--	--
INORGANIC COMPOUNDS							
Ammonia	7664-41-7	--	--	--	--	--	--
Hydrochloric Acid	7647-01-0	--	--	--	--	--	--
Molybdenum trioxide	1313-27-5	--	--	3.1E-05	8.1E-03	3.0E-05	5.1E-03
Silicon dioxide (respirable)	7631-86-9	4.3E-03	1.02	0.68	177	--	--
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)							
Benzo(a)pyrene	50-32-8	--	--	--	--	--	--
Naphthalene	91-20-3	--	--	--	--	--	--
PAHs (excluding Naphthalene)*	401	--	--	--	--	--	--
METALS							
Aluminum and Compounds	7429-90-5	--	--	0.029	7.45	--	--
Antimony and Compounds	7440-36-0	--	--	7.0E-06	1.8E-03	--	--
Arsenic and Compounds	7440-38-2	--	--	4.6E-06	1.2E-03	--	--
Barium and Compounds	7440-39-3	--	--	1.8E-04	0.046	--	--
Beryllium and compounds	7440-41-7	--	--	4.9E-07	1.3E-04	--	--
Cadmium and Compounds	7440-43-9	--	--	2.7E-06	7.0E-04	--	--
Chromium	7440-47-3	--	--	8.6E-04	0.22	2.0E-05	9.3E-03
Chromium VI	18540-29-9	--	--	2.6E-05	6.7E-03	5.9E-07	2.8E-04
Cobalt and Compounds	7440-48-4	--	--	6.8E-06	1.8E-03	--	--
Copper and Compounds	7440-50-8	--	--	5.8E-04	0.15	0	7.9E-04
Lead and Compounds	7439-92-1	--	--	2.1E-04	0.056	--	--
Manganese and Compounds	7439-96-5	--	--	5.0E-03	1.31	5.0E-04	0.039
Mercury	7439-97-6	--	--	--	--	--	--
Nickel and Compounds	7440-02-0	--	--	1.1E-04	0.028	3.2E-05	5.9E-03
Phosphorus and Compounds	504	--	--	--	--	2.8E-06	4.3E-04
Selenium and Compounds	7782-49-2	--	--	4.4E-06	1.1E-03	--	--
Silver and Compounds	7440-22-4	--	--	4.8E-06	1.2E-03	--	--
Thallium	7440-28-0	--	--	2.9E-07	7.4E-05	--	--
Vanadium (fume or dust)	7440-62-2	--	--	2.7E-05	7.1E-03	--	--
Zinc and Compounds	7440-66-6	--	--	1.1E-04	0.029	--	--
DIESEL PARTICULATE MATTER (DPM)							
DPM	200	--	--	--	--	--	--
Total TAC Emissions Estimate		4.3E-03	1.02	0.72	186	5.9E-04	0.061
Total HAP Emissions Estimate		0	0	6.3E-03	1.63	5.6E-04	0.055

Table 27
PTE TAC Emissions Summary
Eagle Foundry Company

Toxic Air Contaminant	CAS/DEQ ID	Emissions Estimate					
		Welding		Grinding SS (Controlled)		Grinding SS (Fugitive)	
		(lb/day)	(lb/yr)	(lb/day)	(lb/yr)	(lb/day)	(lb/yr)
ORGANIC COMPOUNDS							
Acetaldehyde	75-07-0	--	--	--	--	--	--
Acrolein	107-02-8	--	--	--	--	--	--
Benzene	71-43-2	--	--	--	--	--	--
1,3-Butadiene	106-99-0	--	--	--	--	--	--
Ethylbenzene	100-41-4	--	--	--	--	--	--
Formaldehyde	50-00-0	--	--	--	--	--	--
Hexane	110-54-3	--	--	--	--	--	--
Isopropanol	67-63-0	--	--	--	--	--	--
Methyl Ethyl Ketone	78-93-3	--	--	--	--	--	--
n-Butyl Alcohol	71-36-3	--	--	--	--	--	--
Phenol	108-95-2	--	--	--	--	--	--
Toluene	108-88-3	--	--	--	--	--	--
1,2,4-Trimethylbenzene	95-63-6	--	--	--	--	--	--
Xylene (mixed)	1330-20-7	--	--	--	--	--	--
INORGANIC COMPOUNDS							
Ammonia	7664-41-7	--	--	--	--	--	--
Hydrochloric Acid	7647-01-0	--	--	--	--	--	--
Molybdenum trioxide	1313-27-5	0.019	0.096	1.0E-03	0.26	1.5E-04	0.039
Silicon dioxide (respirable)	7631-86-9	--	--	--	--	--	--
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)							
Benzo(a)pyrene	50-32-8	--	--	--	--	--	--
Naphthalene	91-20-3	--	--	--	--	--	--
PAHs (excluding Naphthalene)*	401	--	--	--	--	--	--
METALS							
Aluminum and Compounds	7429-90-5	--	7.8E-03	6.4E-04	0.17	9.6E-05	0.025
Antimony and Compounds	7440-36-0	--	--	3.5E-07	9.0E-05	5.2E-08	1.4E-05
Arsenic and Compounds	7440-38-2	--	1.9E-04	2.1E-06	5.4E-04	3.1E-07	8.2E-05
Barium and Compounds	7440-39-3	--	--	1.9E-05	4.8E-03	2.8E-06	7.3E-04
Beryllium and compounds	7440-41-7	--	--	6.9E-08	1.8E-05	1.0E-08	2.7E-06
Cadmium and Compounds	7440-43-9	--	--	5.4E-07	1.4E-04	8.1E-08	2.1E-05
Chromium	7440-47-3	0.040	1.34	0.035	9.00	5.2E-03	1.35
Chromium VI	18540-29-9	2.0E-03	0.33	1.0E-03	0.27	1.6E-04	0.041
Cobalt and Compounds	7440-48-4	--	7.3E-03	1.0E-05	2.6E-03	1.5E-06	4.0E-04
Copper and Compounds	7440-50-8	4.6E-03	7.51	1.0E-04	0.026	1.5E-05	3.9E-03
Lead and Compounds	7439-92-1	--	--	6.0E-07	1.6E-04	9.0E-08	2.3E-05
Manganese and Compounds	7439-96-5	0.013	1.10	1.3E-03	0.35	2.0E-04	0.052
Mercury	7439-97-6	--	--	--	--	--	--
Nickel and Compounds	7440-02-0	0.042	0.32	0.027	5.37	4.0E-03	0.81
Phosphorus and Compounds	504	--	5.6E-04	5.3E-05	0.014	8.0E-06	2.1E-03
Selenium and Compounds	7782-49-2	--	--	3.5E-07	9.0E-05	5.2E-08	1.4E-05
Silver and Compounds	7440-22-4	--	--	6.9E-08	1.8E-05	1.0E-08	2.7E-06
Thallium	7440-28-0	--	--	6.9E-08	1.8E-05	1.0E-08	2.7E-06
Vanadium (fume or dust)	7440-62-2	--	1.9E-04	8.0E-06	2.1E-03	1.2E-06	3.1E-04
Zinc and Compounds	7440-66-6	--	--	4.5E-06	1.2E-03	6.7E-07	1.7E-04
DIESEL PARTICULATE MATTER (DPM)							
DPM	200	--	--	--	--	--	--
Total TAC Emissions Estimate		0.12	10.7	0.065	15.5	9.8E-03	2.33
Total HAP Emissions Estimate		0.097	3.10	0.064	15.0	9.6E-03	2.26

Table 27
PTE TAC Emissions Summary
Eagle Foundry Company

Toxic Air Contaminant	CAS/DEQ ID	Emissions Estimate					
		Grinding NSS (Controlled)		Grinding NSS (Fugitive)		Mesh Blast	
		(lb/day)	(lb/yr)	(lb/day)	(lb/yr)	(lb/day)	(lb/yr)
ORGANIC COMPOUNDS							
Acetaldehyde	75-07-0	--	--	--	--	--	--
Acrolein	107-02-8	--	--	--	--	--	--
Benzene	71-43-2	--	--	--	--	--	--
1,3-Butadiene	106-99-0	--	--	--	--	--	--
Ethylbenzene	100-41-4	--	--	--	--	--	--
Formaldehyde	50-00-0	--	--	--	--	--	--
Hexane	110-54-3	--	--	--	--	--	--
Isopropanol	67-63-0	--	--	--	--	--	--
Methyl Ethyl Ketone	78-93-3	--	--	--	--	--	--
n-Butyl Alcohol	71-36-3	--	--	--	--	--	--
Phenol	108-95-2	--	--	--	--	--	--
Toluene	108-88-3	--	--	--	--	--	--
1,2,4-Trimethylbenzene	95-63-6	--	--	--	--	--	--
Xylene (mixed)	1330-20-7	--	--	--	--	--	--
INORGANIC COMPOUNDS							
Ammonia	7664-41-7	--	--	--	--	--	--
Hydrochloric Acid	7647-01-0	--	--	--	--	--	--
Molybdenum trioxide	1313-27-5	6.6E-03	1.68	9.9E-04	0.25	2.7E-04	5.3E-03
Silicon dioxide (respirable)	7631-86-9	--	--	--	--	--	--
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)							
Benzo(a)pyrene	50-32-8	--	--	--	--	--	--
Naphthalene	91-20-3	--	--	--	--	--	--
PAHs (excluding Naphthalene)*	401	--	--	--	--	--	--
METALS							
Aluminum and Compounds	7429-90-5	4.2E-03	1.09	6.3E-04	0.16	3.1E-04	6.1E-03
Antimony and Compounds	7440-36-0	2.3E-06	6.0E-04	3.4E-07	8.9E-05	7.7E-06	1.5E-04
Arsenic and Compounds	7440-38-2	1.4E-05	3.6E-03	2.1E-06	5.4E-04	2.3E-05	4.6E-04
Barium and Compounds	7440-39-3	1.2E-04	0.032	1.8E-05	4.8E-03	2.4E-06	4.8E-05
Beryllium and compounds	7440-41-7	4.6E-07	1.2E-04	6.9E-08	1.8E-05	4.9E-07	9.7E-06
Cadmium and Compounds	7440-43-9	3.6E-06	9.3E-04	5.3E-07	1.4E-04	4.9E-07	9.7E-06
Chromium	7440-47-3	4.4E-03	45.0	6.6E-04	6.77	1.2E-03	0.023
Chromium VI	18540-29-9	1.3E-04	1.35	2.0E-05	0.20	3.5E-05	6.9E-04
Cobalt and Compounds	7440-48-4	6.7E-05	0.017	1.0E-05	2.6E-03	3.4E-05	6.7E-04
Copper and Compounds	7440-50-8	--	0.10	--	0.016	1.3E-03	0.025
Lead and Compounds	7439-92-1	4.0E-06	1.0E-03	6.0E-07	1.5E-04	3.8E-06	7.5E-05
Manganese and Compounds	7439-96-5	0.11	4.35	0.017	0.65	3.1E-03	0.062
Mercury	7439-97-6	--	--	--	--	--	--
Nickel and Compounds	7440-02-0	7.0E-03	1.83	1.1E-03	0.28	4.9E-04	9.7E-03
Phosphorus and Compounds	504	6.1E-04	0.21	9.2E-05	0.031	--	--
Selenium and Compounds	7782-49-2	2.3E-06	6.0E-04	3.4E-07	8.9E-05	2.4E-07	4.8E-06
Silver and Compounds	7440-22-4	4.6E-07	1.2E-04	6.9E-08	1.8E-05	4.9E-07	9.7E-06
Thallium	7440-28-0	4.6E-07	1.2E-04	6.9E-08	1.8E-05	4.9E-07	9.7E-06
Vanadium (fume or dust)	7440-62-2	5.3E-05	0.014	7.9E-06	2.1E-03	4.4E-05	8.6E-04
Zinc and Compounds	7440-66-6	2.9E-05	7.7E-03	4.4E-06	1.2E-03	4.3E-05	8.5E-04
DIESEL PARTICULATE MATTER (DPM)							
DPM	200	--	--	--	--	--	--
Total TAC Emissions Estimate		0.14	55.7	0.020	8.38	6.8E-03	0.14
Total HAP Emissions Estimate		0.12	52.8	0.019	7.93	4.9E-03	0.097

Table 27
PTE TAC Emissions Summary
Eagle Foundry Company

Toxic Air Contaminant	CAS/DEQ ID	Emissions Estimate					
		Shotblast		Small Palmer		Small Palmer Material Handling	
		(lb/day)	(lb/yr)	(lb/day)	(lb/yr)	(lb/day)	(lb/yr)
ORGANIC COMPOUNDS							
Acetaldehyde	75-07-0	--	--	--	--	--	--
Acrolein	107-02-8	--	--	--	--	--	--
Benzene	71-43-2	--	--	--	--	--	--
1,3-Butadiene	106-99-0	--	--	--	--	--	--
Ethylbenzene	100-41-4	--	--	--	--	--	--
Formaldehyde	50-00-0	--	--	--	--	--	--
Hexane	110-54-3	--	--	--	--	--	--
Isopropanol	67-63-0	--	--	--	--	10.4	2,500
Methyl Ethyl Ketone	78-93-3	--	--	--	--	--	--
n-Butyl Alcohol	71-36-3	--	--	--	--	--	--
Phenol	108-95-2	--	--	--	--	0.052	12.4
Toluene	108-88-3	--	--	--	--	--	--
1,2,4-Trimethylbenzene	95-63-6	--	--	--	--	--	--
Xylene (mixed)	1330-20-7	--	--	--	--	--	--
INORGANIC COMPOUNDS							
Ammonia	7664-41-7	--	--	--	--	--	--
Hydrochloric Acid	7647-01-0	--	--	--	--	--	--
Molybdenum trioxide	1313-27-5	2.8E-04	0.017	1.4E-05	3.5E-03	--	--
Silicon dioxide (respirable)	7631-86-9	--	--	--	--	1.33	319
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)							
Benzo(a)pyrene	50-32-8	--	--	--	--	--	--
Naphthalene	91-20-3	--	--	--	--	--	--
PAHs (excluding Naphthalene)*	401	--	--	--	--	--	--
METALS							
Aluminum and Compounds	7429-90-5	3.2E-04	0.019	5.9E-03	1.55	1.63	392
Antimony and Compounds	7440-36-0	8.1E-06	4.8E-04	8.4E-07	2.2E-04	--	--
Arsenic and Compounds	7440-38-2	2.5E-05	1.5E-03	6.9E-07	1.8E-04	--	--
Barium and Compounds	7440-39-3	2.6E-06	1.5E-04	3.5E-05	9.0E-03	--	--
Beryllium and compounds	7440-41-7	5.2E-07	3.1E-05	5.7E-08	1.5E-05	--	--
Cadmium and Compounds	7440-43-9	5.2E-07	3.1E-05	1.3E-07	3.4E-05	--	--
Chromium	7440-47-3	1.2E-03	0.073	5.6E-05	0.015	--	--
Chromium VI	18540-29-9	3.7E-05	2.2E-03	1.7E-06	4.4E-04	--	--
Cobalt and Compounds	7440-48-4	3.5E-05	2.1E-03	9.5E-07	2.5E-04	--	--
Copper and Compounds	7440-50-8	1.3E-03	0.079	1.5E-04	0.039	--	--
Lead and Compounds	7439-92-1	4.0E-06	2.3E-04	1.8E-05	4.7E-03	--	--
Manganese and Compounds	7439-96-5	3.3E-03	0.19	4.5E-04	0.12	--	--
Mercury	7439-97-6	--	--	--	--	--	--
Nickel and Compounds	7440-02-0	5.1E-04	0.030	2.1E-05	5.6E-03	--	--
Phosphorus and Compounds	504	--	--	--	--	--	--
Selenium and Compounds	7782-49-2	2.6E-07	1.5E-05	2.8E-07	7.4E-05	--	--
Silver and Compounds	7440-22-4	5.2E-07	3.1E-05	3.6E-07	9.2E-05	--	--
Thallium	7440-28-0	5.2E-07	3.1E-05	5.7E-08	1.5E-05	--	--
Vanadium (fume or dust)	7440-62-2	4.6E-05	2.7E-03	3.9E-06	1.0E-03	--	--
Zinc and Compounds	7440-66-6	4.5E-05	2.7E-03	9.6E-05	0.025	--	--
DIESEL PARTICULATE MATTER (DPM)							
DPM	200	--	--	--	--	--	--
Total TAC Emissions Estimate		7.2E-03	0.43	6.8E-03	1.77	13.4	3,224
Total HAP Emissions Estimate		5.1E-03	0.30	5.5E-04	0.14	0.052	12.4

Table 27
PTE TAC Emissions Summary
Eagle Foundry Company

Toxic Air Contaminant	CAS/DEQ ID	Emissions Estimate					
		Big Palmer Material Handling		Screening Station		Slag Handling	
		(lb/day)	(lb/yr)	(lb/day)	(lb/yr)	(lb/day)	(lb/yr)
ORGANIC COMPOUNDS							
Acetaldehyde	75-07-0	--	--	--	--	--	--
Acrolein	107-02-8	--	--	--	--	--	--
Benzene	71-43-2	--	--	--	--	--	--
1,3-Butadiene	106-99-0	--	--	--	--	--	--
Ethylbenzene	100-41-4	--	--	--	--	--	--
Formaldehyde	50-00-0	--	--	--	--	--	--
Hexane	110-54-3	--	--	--	--	--	--
Isopropanol	67-63-0	37.1	8,906	--	--	--	--
Methyl Ethyl Ketone	78-93-3	--	--	--	--	--	--
n-Butyl Alcohol	71-36-3	--	--	--	--	--	--
Phenol	108-95-2	--	--	--	--	--	--
Toluene	108-88-3	--	--	--	--	--	--
1,2,4-Trimethylbenzene	95-63-6	--	--	--	--	--	--
Xylene (mixed)	1330-20-7	--	--	--	--	--	--
INORGANIC COMPOUNDS							
Ammonia	7664-41-7	--	--	--	--	--	--
Hydrochloric Acid	7647-01-0	--	--	--	--	--	--
Molybdenum trioxide	1313-27-5	--	--	1.2E-04	0.031	2.0E-06	4.9E-04
Silicon dioxide (respirable)	7631-86-9	1.32	318	2.60	675	--	--
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)							
Benzo(a)pyrene	50-32-8	--	--	--	--	--	--
Naphthalene	91-20-3	--	--	--	--	--	--
PAHs (excluding Naphthalene)*	401	--	--	--	--	--	--
METALS							
Aluminum and Compounds	7429-90-5	1.78	428	0.036	9.31	7.6E-05	0.019
Antimony and Compounds	7440-36-0	--	--	5.0E-06	1.3E-03	8.8E-09	2.2E-06
Arsenic and Compounds	7440-38-2	--	--	1.9E-06	5.0E-04	8.8E-09	2.2E-06
Barium and Compounds	7440-39-3	--	--	1.8E-04	0.046	1.7E-07	4.2E-05
Beryllium and compounds	7440-41-7	--	--	3.8E-07	9.9E-05	1.8E-09	4.3E-07
Cadmium and Compounds	7440-43-9	--	--	3.8E-07	9.9E-05	1.8E-09	4.3E-07
Chromium	7440-47-3	--	--	4.2E-04	0.11	4.3E-05	0.010
Chromium VI	18540-29-9	--	--	1.3E-05	3.3E-03	2.6E-07	6.3E-05
Cobalt and Compounds	7440-48-4	--	--	6.6E-06	1.7E-03	5.9E-08	1.4E-05
Copper and Compounds	7440-50-8	--	--	1.3E-03	0.33	4.0E-07	9.8E-05
Lead and Compounds	7439-92-1	--	--	8.6E-05	0.022	6.7E-09	1.6E-06
Manganese and Compounds	7439-96-5	--	--	3.3E-03	0.87	1.3E-04	0.031
Mercury	7439-97-6	--	--	--	--	7.1E-10	1.7E-07
Nickel and Compounds	7440-02-0	--	--	2.1E-04	0.056	6.4E-07	1.6E-04
Phosphorus and Compounds	504	--	--	--	--	8.8E-07	2.2E-04
Selenium and Compounds	7782-49-2	--	--	1.9E-06	5.0E-04	8.8E-09	2.2E-06
Silver and Compounds	7440-22-4	--	--	2.2E-06	5.7E-04	1.8E-09	4.3E-07
Thallium	7440-28-0	--	--	3.8E-07	9.9E-05	1.8E-09	4.3E-07
Vanadium (fume or dust)	7440-62-2	--	--	2.0E-05	5.2E-03	9.4E-08	2.3E-05
Zinc and Compounds	7440-66-6	--	--	4.1E-04	0.11	3.5E-08	8.7E-06
DIESEL PARTICULATE MATTER (DPM)							
DPM	200	--	--	--	--	--	--
Total TAC Emissions Estimate		40.2	9,652	2.64	686	2.5E-04	0.062
Total HAP Emissions Estimate		0	0	4.1E-03	1.06	1.7E-04	0.042

Table 27
PTE TAC Emissions Summary
Eagle Foundry Company

Toxic Air Contaminant	CAS/DEQ ID	Emissions Estimate					
		Pattern Making		Reclaimed Bead Silo		Reclaimed Bead Overflow Silo	
		(lb/day)	(lb/yr)	(lb/day)	(lb/yr)	(lb/day)	(lb/yr)
ORGANIC COMPOUNDS							
Acetaldehyde	75-07-0	--	--	--	--	--	--
Acrolein	107-02-8	--	--	--	--	--	--
Benzene	71-43-2	--	--	--	--	--	--
1,3-Butadiene	106-99-0	--	--	--	--	--	--
Ethylbenzene	100-41-4	--	--	--	--	--	--
Formaldehyde	50-00-0	--	--	--	--	--	--
Hexane	110-54-3	--	--	--	--	--	--
Isopropanol	67-63-0	0.011	2.68	--	--	--	--
Methyl Ethyl Ketone	78-93-3	0.039	9.40	--	--	--	--
n-Butyl Alcohol	71-36-3	0.011	2.68	--	--	--	--
Phenol	108-95-2	--	--	--	--	--	--
Toluene	108-88-3	0.19	44.8	--	--	--	--
1,2,4-Trimethylbenzene	95-63-6	0.15	35.4	--	--	--	--
Xylene (mixed)	1330-20-7	--	--	--	--	--	--
INORGANIC COMPOUNDS							
Ammonia	7664-41-7	--	--	--	--	--	--
Hydrochloric Acid	7647-01-0	--	--	--	--	--	--
Molybdenum trioxide	1313-27-5	--	--	--	--	--	--
Silicon dioxide (respirable)	7631-86-9	--	--	1.8E-03	0.66	1.8E-03	0.66
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)							
Benzo(a)pyrene	50-32-8	--	--	--	--	--	--
Naphthalene	91-20-3	--	--	--	--	--	--
PAHs (excluding Naphthalene)*	401	--	--	--	--	--	--
METALS							
Aluminum and Compounds	7429-90-5	--	--	2.5E-05	9.2E-03	2.5E-05	9.2E-03
Antimony and Compounds	7440-36-0	--	--	3.5E-09	1.3E-06	3.5E-09	1.3E-06
Arsenic and Compounds	7440-38-2	--	--	1.3E-09	4.9E-07	1.3E-09	4.9E-07
Barium and Compounds	7440-39-3	--	--	1.2E-07	4.5E-05	1.2E-07	4.5E-05
Beryllium and compounds	7440-41-7	--	--	2.7E-10	9.7E-08	2.7E-10	9.7E-08
Cadmium and Compounds	7440-43-9	--	--	2.7E-10	9.7E-08	2.7E-10	9.7E-08
Chromium	7440-47-3	--	--	2.9E-07	1.1E-04	2.9E-07	1.1E-04
Chromium VI	18540-29-9	--	--	8.8E-09	3.2E-06	8.8E-09	3.2E-06
Cobalt and Compounds	7440-48-4	--	--	4.6E-09	1.7E-06	4.6E-09	1.7E-06
Copper and Compounds	7440-50-8	--	--	8.8E-07	3.2E-04	8.8E-07	3.2E-04
Lead and Compounds	7439-92-1	--	--	6.0E-08	2.2E-05	6.0E-08	2.2E-05
Manganese and Compounds	7439-96-5	--	--	2.3E-06	8.5E-04	2.3E-06	8.5E-04
Mercury	7439-97-6	--	--	--	--	--	--
Nickel and Compounds	7440-02-0	--	--	1.5E-07	5.5E-05	1.5E-07	5.5E-05
Phosphorus and Compounds	504	--	--	--	--	--	--
Selenium and Compounds	7782-49-2	--	--	1.3E-09	4.9E-07	1.3E-09	4.9E-07
Silver and Compounds	7440-22-4	--	--	1.5E-09	5.6E-07	1.5E-09	5.6E-07
Thallium	7440-28-0	--	--	2.7E-10	9.7E-08	2.7E-10	9.7E-08
Vanadium (fume or dust)	7440-62-2	--	--	1.4E-08	5.1E-06	1.4E-08	5.1E-06
Zinc and Compounds	7440-66-6	--	--	2.9E-07	1.0E-04	2.9E-07	1.0E-04
DIESEL PARTICULATE MATTER (DPM)							
DPM	200	--	--	--	--	--	--
Total TAC Emissions Estimate		0.40	95.0	1.8E-03	0.67	1.8E-03	0.67
Total HAP Emissions Estimate		0.19	44.8	2.9E-06	1.0E-03	2.9E-06	1.0E-03

Table 27
PTE TAC Emissions Summary
Eagle Foundry Company

Toxic Air Contaminant	CAS/DEQ ID	Emissions Estimate					
		Small Palmer Silo		New Bead Silo		Emergency Generator	
		(lb/day)	(lb/yr)	(lb/day)	(lb/yr)	(lb/day)	(lb/yr)
ORGANIC COMPOUNDS							
Acetaldehyde	75-07-0	--	--	--	--	0.011	0.57
Acrolein	107-02-8	--	--	--	--	4.9E-04	0.025
Benzene	71-43-2	--	--	--	--	2.7E-03	0.14
1,3-Butadiene	106-99-0	--	--	--	--	3.2E-03	0.16
Ethylbenzene	100-41-4	--	--	--	--	1.6E-04	8.0E-03
Formaldehyde	50-00-0	--	--	--	--	0.025	1.26
Hexane	110-54-3	--	--	--	--	3.9E-04	0.020
Isopropanol	67-63-0	--	--	--	--	--	--
Methyl Ethyl Ketone	78-93-3	--	--	--	--	--	--
n-Butyl Alcohol	71-36-3	--	--	--	--	--	--
Phenol	108-95-2	--	--	--	--	--	--
Toluene	108-88-3	--	--	--	--	1.5E-03	0.077
1,2,4-Trimethylbenzene	95-63-6	--	--	--	--	--	--
Xylene (mixed)	1330-20-7	--	--	--	--	6.2E-04	0.031
INORGANIC COMPOUNDS							
Ammonia	7664-41-7	--	--	--	--	0.012	0.58
Hydrochloric Acid	7647-01-0	--	--	--	--	2.7E-03	0.14
Molybdenum trioxide	1313-27-5	--	--	--	--	--	--
Silicon dioxide (respirable)	7631-86-9	1.8E-03	0.66	1.3E-03	0.47	--	--
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)							
Benzo(a)pyrene	50-32-8	--	--	--	--	5.1E-07	2.6E-05
Naphthalene	91-20-3	--	--	--	--	2.9E-04	0.014
PAHs (excluding Naphthalene)*	401	--	--	--	--	5.3E-04	0.026
METALS							
Aluminum and Compounds	7429-90-5	2.5E-05	9.2E-03	1.7E-03	0.63	--	--
Antimony and Compounds	7440-36-0	3.5E-09	1.3E-06	--	--	--	--
Arsenic and Compounds	7440-38-2	1.3E-09	4.9E-07	--	--	2.3E-05	1.2E-03
Barium and Compounds	7440-39-3	1.2E-07	4.5E-05	--	--	--	--
Beryllium and compounds	7440-41-7	2.7E-10	9.7E-08	--	--	--	--
Cadmium and Compounds	7440-43-9	2.7E-10	9.7E-08	--	--	2.2E-05	1.1E-03
Chromium	7440-47-3	2.9E-07	1.1E-04	--	--	--	--
Chromium VI	18540-29-9	8.8E-09	3.2E-06	--	--	1.5E-06	7.3E-05
Cobalt and Compounds	7440-48-4	4.6E-09	1.7E-06	--	--	--	--
Copper and Compounds	7440-50-8	8.8E-07	3.2E-04	--	--	6.0E-05	3.0E-03
Lead and Compounds	7439-92-1	6.0E-08	2.2E-05	--	--	1.2E-04	6.1E-03
Manganese and Compounds	7439-96-5	2.3E-06	8.5E-04	--	--	4.5E-05	2.3E-03
Mercury	7439-97-6	--	--	--	--	2.9E-05	1.5E-03
Nickel and Compounds	7440-02-0	1.5E-07	5.5E-05	--	--	5.7E-05	2.8E-03
Phosphorus and Compounds	504	--	--	--	--	--	--
Selenium and Compounds	7782-49-2	1.3E-09	4.9E-07	--	--	3.2E-05	1.6E-03
Silver and Compounds	7440-22-4	1.5E-09	5.6E-07	--	--	--	--
Thallium	7440-28-0	2.7E-10	9.7E-08	--	--	--	--
Vanadium (fume or dust)	7440-62-2	1.4E-08	5.1E-06	--	--	--	--
Zinc and Compounds	7440-66-6	2.9E-07	1.0E-04	--	--	--	--
DIESEL PARTICULATE MATTER (DPM)							
DPM	200	--	--	--	--	0.49	24.5
Total TAC Emissions Estimate		1.8E-03	0.67	3.0E-03	1.10	0.55	27.5
Total HAP Emissions Estimate		2.9E-06	1.0E-03	0	0	0.050	2.48

Table 27
PTE TAC Emissions Summary
Eagle Foundry Company

Toxic Air Contaminant	CAS/DEQ ID	Emissions Estimate			
		Heat Treat Propane Combustion		Facility Total	
		(lb/day)	(lb/yr)	(lb/day)	(lb/yr)
ORGANIC COMPOUNDS					
Acetaldehyde	75-07-0	3.4E-04	0.082	0.012	0.65
Acrolein	107-02-8	2.2E-04	0.052	7.1E-04	0.077
Benzene	71-43-2	6.4E-04	0.15	3.4E-03	0.29
1,3-Butadiene	106-99-0	--	--	3.2E-03	0.16
Ethylbenzene	100-41-4	7.5E-04	0.18	9.1E-04	0.19
Formaldehyde	50-00-0	1.4E-03	0.33	0.027	1.59
Hexane	110-54-3	5.0E-04	0.12	9.0E-04	0.14
Isopropanol	67-63-0	--	--	47.5	11,409
Methyl Ethyl Ketone	78-93-3	--	--	0.039	9.40
n-Butyl Alcohol	71-36-3	--	--	0.011	2.68
Phenol	108-95-2	--	--	0.052	12.4
Toluene	108-88-3	2.9E-03	0.70	0.19	45.6
1,2,4-Trimethylbenzene	95-63-6	--	--	0.15	35.4
Xylene (mixed)	1330-20-7	2.2E-03	0.52	2.8E-03	0.55
INORGANIC COMPOUNDS					
Ammonia	7664-41-7	0.27	64.7	0.28	65.3
Hydrochloric Acid	7647-01-0	--	--	2.7E-03	0.14
Molybdenum trioxide	1313-27-5	--	--	0.029	2.50
Silicon dioxide (respirable)	7631-86-9	--	--	5.94	1,492
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)					
Benzo(a)pyrene	50-32-8	--	--	5.1E-07	2.6E-05
Naphthalene	91-20-3	2.7E-05	6.5E-03	3.1E-04	0.021
PAHs (excluding Naphthalene)*	401	9.0E-06	2.2E-03	5.4E-04	0.029
METALS					
Aluminum and Compounds	7429-90-5	--	--	3.60	869
Antimony and Compounds	7440-36-0	--	--	9.9E-04	0.22
Arsenic and Compounds	7440-38-2	--	--	3.6E-03	0.48
Barium and Compounds	7440-39-3	--	--	6.0E-03	1.15
Beryllium and compounds	7440-41-7	--	--	2.5E-06	4.4E-04
Cadmium and Compounds	7440-43-9	--	--	3.7E-04	0.045
Chromium	7440-47-3	--	--	0.12	64.6
Chromium VI	18540-29-9	--	--	3.7E-03	2.21
Cobalt and Compounds	7440-48-4	--	--	3.1E-04	0.073
Copper and Compounds	7440-50-8	--	--	0.014	9.65
Lead and Compounds	7439-92-1	--	--	1.6E-03	0.79
Manganese and Compounds	7439-96-5	--	--	0.16	13.3
Mercury	7439-97-6	--	--	2.5E-04	0.036
Nickel and Compounds	7440-02-0	--	--	0.24	10.2
Phosphorus and Compounds	504	--	--	0.013	2.22
Selenium and Compounds	7782-49-2	--	--	4.2E-05	4.1E-03
Silver and Compounds	7440-22-4	--	--	4.7E-04	0.14
Thallium	7440-28-0	--	--	2.3E-06	3.9E-04
Vanadium (fume or dust)	7440-62-2	--	--	2.1E-04	0.035
Zinc and Compounds	7440-66-6	--	--	0.014	3.66
DIESEL PARTICULATE MATTER (DPM)					
DPM	200	--	--	0.49	24.5
Total TAC Emissions Estimate		0.28	66.8	59.0	14,081
Total HAP Emissions Estimate		8.9E-03	2.14	0.85	156