BWI MTN II Inc. – dba Blue Water Industries-BWI Murfreesboro Quarry
Permit No. 081811 - Facility ID: 75-0022-01

Calculations

Emission factors are from AP-42, Table 11.19.2-2

By an agreement letters dated 9/27/2023, the company has agreed to a limit of 1,200 t/hr and 2,00,000 ton/yr

Process Weight Rate (ton/hr) = 1200

Potential and Actual Emissions

	number of pieces of equipment	Operating rate (ton/hr)	Uncontrolled Emission factor (lb/ton)	Uncontrolled PM Emissions (lb/hr)	UncontrolledPM Emissions (ton/yr)	Controlled Emission factor (lb/ton)	Controlled PM Emissions (lb/hr)	ControlledPM Emissions (ton/yr)
Primary Vibrating Grizzly Feeder	1	1200	0.0054	6.48	5.401	0.0012	1.440	1.200
Primary Crusher	1	1100	0.0054	5.94	4.951	0.0012	1.320	1.100
Secondary Crusher	2	500	0.0054	5.4	4.501	0.0012	1.200	1.000
Screen(sizing)	2	800	0.025	40	33.340	0.0022	3.520	2.934
Screen(sizing)	1	200	0.025	5	4.168	0.0022	0.440	0.367
Conveyors(s)	6	1200	0.03	216	180.036	0.00014	1.008	0.840
Surge Bin	1	1200	0.03	36	30.006	0.00014	0.168	0.140
Conveyors(s)	4	450	0.03	54	45.009	0.00014	0.252	0.210
Conveyors(s)	5	200	0.03	30	25.005	0.00014	0.140	0.117
Hopper(s)	2	450	0.03	27	22.505	0.00014	0.126	0.105
Wash Screen, Dewatering Bin and assocated conveyors	Wet Material Process - negigible emissions							
Actual Emissions							9.61	8.01
Potential Emissions (uncontrolled)				413.4	344.6			

Equations used in calculation:

[Actual TSP Emissions (lb/hr)] = [pieces of equip.] x [Operating rate (ton/hr)] x [Controlled Emission factor (lb/ton)]

[Uncontrolled Potential TSP Emissions (lb/hr)] = [pieces of equip.] x [Operating rate (ton/hr)] x [Uncontrolled Emission factor (lb/ton)]

$$[\text{TSP Emissions (ton/yr)}] = \frac{[\text{TSP Emissions (lb/hr)}] \times [\text{Operating hours (hr/yr)}]}{[2000 \text{ lb/ton}]}$$

Note: Potential Emissions will be set equal to Allowable Emissions since Potential (uncontrolled) > Allowable

Allowable Emissions

$E = 17.31 (P)^{0.16}$

$E = 17.31\ (1200)^{0.16}$

E = 53.82 lb/hr

E = [52.28 lb/hr] x [1800 hr/yr] / [2000 lb/ton]

E = 44.86 ton/yr

Net Change = [New Allowable (ton/yr)] - [Old Allowable (ton/yr)]

No change in emmissions from previous permit.