

Q04 - QUARRY OPERATIONS, SAND MINING, DISTRICT ENGINEERING ESTIMATE, INCLUDES 'NATURAL MOISTURE CONTENT OF SOILS'

CALCULATION METHODS

$$E_a = U_a \times 0.05 \text{ (lbs TSP/ton material quarried)} \times EF \text{ (PPMW)} / 1000000$$

$$E_a = U_a \times 0.021 \text{ (lbs PM10/ton material quarried)} \times EF \text{ (PPMW)} / 1000000$$

$$E_h = E_a / H$$

Notes:

- Quarry fugitive emission control methods and efficiencies must be identified in the database if applicable. Emission factors assume "uncontrolled" releases.
- TSP and PM10 factors are based on District engineering estimates as agreed upon in discussions with the Mineral Products Industry (1995 through 1996).
- Trace metal default concentrations are based on local source test results ~1991. Use site specific data if available.
- PM10 fraction of TSP released (42%) is based on default AP-42 assumptions as agreed upon with the Mineral Products Industry.
- AP-42 bulldozing estimates below assume 2% moisture and 7.5 % silt content in overburden (average of reported MPI values)
- AP-42 TSP and PM10 factors based on Section 11.9-6 (Coal overburden bulldozing) are not used by District. TSP factor 0.05 is an engineering estimate (A. Segal) and 42% PM10 fraction is a default particle size distribution agreed to with the Mineral Products Industry in 1996

POLLUTANT	DISTRICT EMISSION FACTORS (ppmw)	REFERENCE DOCUMENT	ARB	(UNITS)	COMMENTS
NOX					
CO					
SOX					
TOG					
ROG					
TSP	1,000,000.00	AP-42, Section 11.9 factor not used.	26	lb/ton	District emission factor = 0.05 lbs TSP / ton quarried
PM10	1,000,000.00	AP-42, Section 11.9 factor not used.	5.8	lb/ton	on District emission factor = 0.021 lbs PM10 / ton quarried
ALUMINUM	20,000.00				
ARSENIC	6.00				
BARIUM	160.00				
BERYLLIUM	1.00				Based on local test results.
CADMIUM	1.00				Based on local test results.

POLLUTANT	DISTRICT EMISSION FACTORS (ppmw)	REFERENCE DOCUMENT	ARB	(UNITS)	COMMENTS
CHROMIUM HEXAVALENT	-				
CHROMIUM NONHEXA VALENT	34.00				Based on local test results.
COBALT					
COPPER	72.00				Based on local test results.
LEAD	19.00				Based on local test results.
MANGANESE	315.00				Based on local test results.
MERCURY	-				
NICKEL	20.00				Based on local test results.
SELENIUM	1.00				Based on local test results.
SILICA, CRYSTALLINE	100,000.00				Based on local test results.
RESPIRABLE SILICA, CRYSTALLINE CRISTOBALITE QUARTZ	7,950.00				PM4 fraction of PM10 silica, assumed to be 7.95%
ZINC	85.00				Based on local test results.

Last Updated on November 2023, J. Lofgren