

**O04 - OPEN MATERIAL STORAGE AREAS, SAND MINING OPERATIONS, DISTRICT ENGINEERING  
ESTIMATE, INCLUDES 'NATURAL MOISTURE CONTENT OF SOILS'.**

**CALCULATION METHODS**

**Annual Emissions:**  $E_a = A \times [(EF_a \times D_a) + (EF_i \times D_i)] \times C_i \times (1 - e)$

**Hourly Emissions:**  $E_h = A \times [(EF_a \times D_a) / H] \times C_i \times (1 - e)$

**Notes:**

- Open material storage 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 Section 8.19 (9/85) of AP-42. The newer estimation procedures in the fifth edition of AP-42 are not currently used due to excessive data requirements.
- Trace metal default concentrations are based on local test results 1991 - 1996. Use site specific data if available.
- TSP emission factors are 13.2 lbs/active day and 3.5 lbs/inactive day.
- PM10 emission factors are 6.3 lbs/active day and 1.7 lbs/inactive day.

POLLUTANT	DISTRICT EMISSION FACTORS (ppmw)	REFERENCE DOCUMENT	AP 42-FACTOR	(UNITS)	COMMENTS
NOX					
CO					
SOX					
TOG					
ROG					
TSP	NA	AP-42, Section 8.19 (9/85) factors used.			TSP factors = 13.2 lbs/acre/active day & 3.5 lbs/acre/inactive day
PM10	1000000	AP-42, Section 8.19 (9/85) factors used.			PM10 factors = 6.3 lbs/acre/active day & 1.7 lbs/acre/inactive day
ALUMINUM	20000				Based on local test results (Profile 3 - 7/96).
ARSENIC	6				Based on local test results (Profile 3 - 7/96).
BARIUM	160.0000				Based on local test results (Profile 3 - 7/96).
BERYLLIUM	1.0				Based on local test results (Profile 3 - 7/96).
CADMIUM	1.0				Based on local test results (Profile 3 - 7/96).
CHROMIUM HEXAVALENT	0.0				Based on local test results. No Cr+6 detected in any samples analyzed.
CHROMIUM NONHEXA VALENT	34				Based on local test results (Profile 3 - 7/96).
COBALT	13				Based on local test results (Profile 3 - 7/96).

POLLUTANT	DISTRICT EMISSION FACTORS (ppmw)	REFERENCE DOCUMENT	AP42-FACTOR	(UNITS)	COMMENTS
COPPER	72.0				Based on local test results (Profile 3 - 7/96).
LEAD	19				Based on local test results (Profile 3 - 7/96).
MANGANESE	315				Based on local test results (Profile 3 - 7/96).
MERCURY	0.0				Based on local test results. No mercury detected in any samples analyzed.
NICKEL	20				Based on local test results (Profile 3 - 7/96).
SELENIUM	1.0				Based on local test results (Profile 3 - 7/96).
SILICA, CRYSTALLINE	100000				Based on local test results (Profile 3 - 7/96).
RESPIRABLE SILICA, CRYSTALLINE CRISTOBALITE QUARTZ	7,950.00				PM4 fraction of PM10 silica, assumed to be 7.95%
ZINC	85				Based on local test results (Profile 3 - 7/96).

Last Updated on November 2023, J. Lofgren