

## Fugitive PM10 Emission Factors Level 3 Communications

### Disturbed Area - Heavy Construction Emissions

EF =  $k \cdot 1.2$  ton PM10/acre-mo (USEPA, AP-42, Section 13.2.3, Subsection 13.2.3.3, page 13.2.3-1, January 1995)

where:

k = PM10 fraction: 0.5 (SCAQMD estimate, see next section)

B) EF = 39.43 lb/acre-day

### SLOCAPCD specific

EF = 0.75 ton PM10/acre-month (SLOCAPCD, 1995)

EF = 50.00 lb/acre-day

### Wind Erosion - Open Storage Piles

Emission Factor (SCAQMD, CEQA Air Quality Handbook, Table A9-9-E, November 1993, and

$$EF = k(1.7)(s/1.5)[(365-p)/235](f/15) \text{ lb/day/acre}$$

Backhoe I	where: s = Silt Content (percent):	7.5 (Overburden soil)
Vac Truck	p = Number of days $\geq$ 0.01 inches precip	0 (Worst case of no rain during construction)
Surveying Lt-Heavy	f = Percent time WS > 12 mph (5.4 m/sec)	15 (site specific)
Lt-Heavy Duty Truck	k = PM10 fraction:	0.5 (SCAQMD estimate)
Worker Light Truck		
	EF =	6.60 lb/acre/day (worst case)

### Dirt/Debris Pushing Operations

Emission Factor (SCAQMD Table A9-9-F):

$$EF = [(0.45)(G^{1.5})/(H^{1.4})](I) \text{ lb/pushing-hour}$$

where: G = Silt Content (percent):	7.5 (Overburden soil)
H = Moisture content of soil (percent):	14
I = Conversion factor kg/hr to lb/hr:	2.2046

EF = 0.51 lb/pushing-hour (soil)

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### Vehicles on Unpaved Roadways

Emission Factor (SCAQMD Table A9-9-D):

$$EF = 2.1 (G/12) (H/30) [(J/3)^{0.7}] [(I/4)^{0.5}] [(365-K)/365] \text{ lb/vmt}$$

where G = Silt Loading (%): 4 (gravel road)  
 H = Mean Vehicle Speed (mph): 15 (average speed)  
 J = Mean Vehicle Weight (tons): varies, see table below  
 I = Number of Wheels: varies, see table below  
 K = Number of Days > 0.01 in. Precipitat 0 (worst case)

Parameter	-		Cement		-	
	Loaded	Unloaded	Loaded	Unloaded	Loaded	Unloaded
J	34	12	20.9	13.5	98	76
I	18	18	10	10	4	4
EF lb/VMT	4.06	1.96	2.15	1.59	4.02	3.36

Parameter	Gravel Haul		Lt. Truck/Auto		Med/Heavy Duty Truck	
	Loaded	Unloaded	Loaded	Unloaded	Loaded	Unloaded
J	40	13	2.5	2	5	4
I	18	18	4	4	6	6
EF lb/VMT	4.58	2.07	0.31	0.26	0.61	0.52

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