

AQCC 1. Ambient Air Standards

Table 1. Ambient Air Quality Standards					
Pollutant	Averaging Time	California Standards		Federal Standards	
		ppmv	ug/m ³	ppmv	ug/m ³
Ozone (O ₃)	1-hour	0.09	177	--	--
	8-hour	0.07	137	0.075	147
Nitrogen Dioxide (NO ₂)	1-hour	0.18	338	--	--
	Annual	0.03	56	0.053	100
Sulfur Dioxide (SO ₂)	1-hour	0.25	655	--	--
	3-hour (secondary)	--	--	0.50	1,309
	24-hour	0.04	105	0.14	367
	Annual	--	--	0.03	79
Carbon Monoxide (CO)	1-hour	20	22,898	35	40,071
	8-hour	9	10,304	9	10,304
	Lake Tahoe (8-hr)	6	6,869	--	--
Particulates (as PM ₁₀)	24-hour	--	50	--	150
	Annual	--	20	--	--
Particulates (as PM _{2.5})	24-hour	--	--	--	35
	Annual	--	12	--	15
Lead (Pb)	30-day	--	1.5	--	--
	Rolling 90-day	--	--	--	0.15
	Quarterly	--	--	--	1.5
Sulfates (as SO ₄)	24-hour	--	25	none	none
Hydrogen Sulfide (H ₂ S)	1-hour	0.03	42	none	none
Vinyl Chloride (C ₂ H ₃ Cl)	24-hour	0.01	26	none	none
Visibility Reducing Particles	8-hour	Extinction coefficient of 0.23 per km; visibility of 10 miles or more (0.07 to 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70%.		none	none

Source: CARB 2009, EPA 2009

Notes:

ppmv = parts per million by volume

ug/m³ = micrograms per cubic meter

For gases, ug/m³ calculated from ppmv based on molecular weight and standard conditions

Standard Temperature

25 deg C

Standard Molar Volume

24.465 liter/g-mole

AQCC 2. Attainment Status

Criteria Pollutant	Federal Designation	State Designation
Ozone (O ₃) (1-hour)	Attainment*	Nonattainment
Ozone (O ₃) (8-hour)	Nonattainment**	Nonattainment
Nitrogen Dioxide (NO ₂)	Attainment	Attainment
Sulfur Dioxide (SO ₂)	Attainment	Attainment
Carbon Monoxide (CO)	Attainment	Attainment
Particulates (as PM ₁₀)	Unclassifiable***	Nonattainment
Particulates (as PM _{2.5})	Attainment	Nonattainment
Lead (Pb)	Attainment	Attainment
Sulfates (as SO ₄)	(no federal standard)	Attainment
Hydrogen Sulfide (H ₂ S)	(no federal standard)	Unclassified
Vinyl Chloride (C ₂ H ₃ Cl)	(no federal standard)	Unclassified
Visibility	(no federal standard)	Unclassified

Source: SDAPCD 2008

Notes:

* The federal 1-hour standard of 0.12 ppmv was in effect from 1979 through June 15, 2005. The revoked standard is referenced here because it was employed for such a long period and because this benchmark is addressed in SIPs.

** The 0.08 ppmv federal 8-hour ozone standard applied until 2008; 0.075 ppmv thereafter

*** At the time of designation, if the available data does not support a designation of attainment or nonattainment, the area is designated as unclassifiable.

AQCC 3. Air Quality Summary

Pollutant	Period	Units	2007	2006	2005	2004	2003
Ozone (O ₃)	1-hour max	ppmv	0.130	0.120	0.110	0.110	0.130
	8-hour max	ppmv	0.090	0.100	0.090	0.090	0.100
Nitrogen Dioxide (NO ₂)	1-hour max	ppmv	0.057	0.057	0.061	0.063	0.071
	Annual avg	ppmv	0.010	0.010	0.011	0.011	0.014
Sulfur Dioxide (SO ₂)	24-hour max	ppmv	0.004	0.006	0.005	0.015	0.009
	Annual avg	ppmv	0.003	0.003	0.003	0.003	0.004
Carbon Monoxide (CO)	1-hour max	ppmv	5.2	5.7	5.9	5.3	12.7
	8-hour max	ppmv	3.2	3.6	3.1	3.6	10.6
Particulates (as PM ₁₀)	24-hour max	ug/m ³	48	47	48	55	66
	Annual avg	ug/m ³	26	27	28	30	34
Particulates (as PM _{2.5})	24-hour max	ug/m ³	43	38	41	44	33
	Annual avg	ug/m ³	12	11	11	13	12

Source: SDAPCD 2009

Notes:

The 0.08 ppmv federal 8-hour ozone standard applied until 2008; 0.075 ppmv thereafter

O₃ & NO₂ - Alpine

SO₂ - Chula Vista

CO - Escondido

PM₁₀ & PM_{2.5} - El Cajon

Pollutant	Period	Criteria	2007	2006	2005	2004	2003
Ozone (O ₃)	1-hour	State	Exceed	Exceed	Exceed	Exceed	Exceed
		days	17	21	13	5	17
	8-hour	Federal	Exceed	Exceed	Exceed	Exceed	Exceed
		days	6	14	5	2	6
Nitrogen Dioxide (NO ₂)	1-hour	State	Meet	Meet	Meet	Meet	Meet
	Annual	State	Meet	Meet	Meet	Meet	Meet
Sulfur Dioxide (SO ₂)	24-hour	State	Meet	Meet	Meet	Meet	Meet
	Annual	Federal	Meet	Meet	Meet	Meet	Meet
Carbon Monoxide (CO)	1-hour	State	Meet	Meet	Meet	Meet	Meet
	8-hour	State	Meet	Meet	Meet	Meet	Exceed
Particulates (as PM ₁₀)	24-hour	State	Meet	Meet	Meet	Exceed	Exceed
	Annual	State	Exceed	Exceed	Exceed	Exceed	Exceed
Particulates (as PM _{2.5})	24-hour	Federal	Exceed	Exceed	Exceed	Exceed	Meet
	Annual	State	Meet	Meet	Meet	Exceed	Meet

Source: SDAPCD 2009

Notes:

The 0.08 ppmv federal 8-hour ozone standard applied until 2008; 0.075 ppmv thereafter

O₃ & NO₂ - Alpine

SO₂ - Chula Vista

CO - Escondido

PM₁₀ & PM_{2.5} - El Cajon

AQCC 4. Equipment Summary

Table 6. Estimated Equipment and Vehicle Requirements and Maximum Utilization							
Activity	Equipment and Vehicles				Working days	Daily hours	Daily VMT
	Type	Category	BHP	qty.			
Survey Sites	pickup truck	onroad LD		1	6		50
Worker Commuting	pickup truck	onroad LD		20	54		1,000
Marshalling Yards	pickup truck	onroad LD		3	54		150
	water truck	onroad HHD		1	54		50
	tractor truck w/trailer	onroad HHD		1	48		50
	hydraulic crane, 25 ton	offroad	300	1	36	3.33	
	loader, model 980	offroad	300	1	48	3.75	
	forklift, 5 ton	offroad	155	1	48	3.75	
	portable generator	offroad	5	1	48	3.75	
Grading & Road Work	pickup truck	onroad LD		2	12		100
	water truck	onroad HHD		1	12		50
	dozer	offroad	285	1	12	8	
	roller	offroad	80	1	12	8	
Foundations	pickup truck	onroad LD		2	12		100
	water truck	onroad HHD		1	12		50
	concrete truck	onroad HHD		2	12		200
	drill rig	offroad	600	1	12	10	
Steel Assembly & Erection	pickup truck	onroad LD		3	12		150
	water truck	onroad HHD		1	12		50
	tractor truck w/trailer	onroad HHD		1	12		50
	crane, 40 ton	offroad	350	1	12	10	
	air compressor	offroad	75	1	12	10	
	portable generator	offroad	5	1	12	10	
Conductor Installation	pickup truck	onroad LD		2	12		100
	water truck	onroad HHD		1	12		50
	flatbed truck w/reels	onroad MD		1	12		50
	rigging truck	onroad MD		5	12		250
	dump truck	onroad HHD		1	6		50
	puller tensioner	offroad	165	1	12	10	
	splice rig	offroad	300	1	6	10	
	portable generator	offroad	5	1	12	10	
Cleanup	pickup truck	onroad LD		2	12		100

Source: ESJ 2009

Notes:

LD = light duty; MD = medium duty, HHD = heavy heavy duty

BHP = brake horsepower; VMT = vehicle miles traveled

Construction activities occur 6 days per week maximum

Daily operating hours and daily VMT are maximum estimates

AQCC 5. Emissions Summary

Criteria & GHG Emissions	Construction		Operation	
	lb/day	tons/yr	lb/day	tons/yr
Reactive Organic Gases (ROG as CH ₄)	75	14	55	n/a
Carbon Monoxide (CO)	550	100	550	n/a
Oxides of Nitrogen (NO _x as NO ₂)	250	40	55	n/a
Sulfur Dioxide (SO _x as SO ₂)	250	40	150	n/a
Particulates (PM ₁₀)	100	15	150	n/a
Particulates (PM _{2.5})	55	10	55	n/a
Carbon Dioxide Equivalents (CO ₂ eqv)	n/a	7,716	n/a	7,716

Sources: SDAPCD 1998, ICAPCD 2007, CSD 2007, CARB 2008

Note:

The 7,000 metric tonne (7,716 short ton) GHG threshold was proposed in October 2008

Criteria Emissions	Peak	Threshold	Significant	Total	Threshold	Significant
	lb/day	lb/day	Yes/No	tons	tons	Yes/No
Reactive Organic Gases (ROG as CH ₄)	5	75	No	0.13	14	No
Carbon Monoxide (CO)	25	550	No	0.66	100	No
Oxides of Nitrogen (NO _x as NO ₂)	37	250	No	1.00	40	No
Sulfur Dioxide (SO _x as SO ₂)	0	250	No	0.00	40	No
Combustion Particulates (C-PM ₁₀)	2	100	No	0.05	15	No
Combustion Particulates (C-PM _{2.5})	2	55	No	0.04	10	No
Fugitive Dust (F-PM ₁₀)	47	100	No	1.47	15	No
Fugitive Dust (F-PM _{2.5})	5	55	No	0.19	10	No

Sources: SCAQMD 2008, EPA 2006, SDAPCD 1998, ICAPCD 2007, CSD 2007

Notes:

Fugitive dust and combustion particulates are determined exclusively

Greenhouse Gas Emissions	Peak	Total	Threshold	Significant
	lb/day	tons	tons/yr	Yes/No
Carbon Dioxide (GHG - CO ₂)	6,615	151	n/a	n/a
Methane (GHG - CH ₄)	0.4	0.01	n/a	n/a
Nitrous Oxide (GHG - N ₂ O)	0.2	0.01	n/a	n/a
Carbon Dioxide Equivalents (CO ₂ eqv)	6,667	153	7,716	No

Sources: SCAQMD 2008, EPA 2008, CARB 2008

Notes:

The 7,000 metric tonne (7,716 short ton) GHG threshold was proposed in October 2008

SCAQMD emission factors for 2011 (Ref: SCAQMD 2008)

Onroad N₂O per Annex 3, Table A-99

Offroad N₂O per Annex 3, Table A-101

GWP CH₄ = 21 (EPA 2008)

GWP N₂O = 310 (EPA 2008)

GWP SF₆ = 23,900 (EPA 2008)

AQCC 6. Project Activity

Activity	Equipment and Vehicles			Working days	Daily hours	Project hours	Daily VMT	Project VMT
	Type	Category	BHP					
Survey Sites	pickup truck	onroad LD		1	6	50	300	
Worker Commuting	pickup truck	onroad LD		20	54	1,000	54,000	
Marshalling Yards	pickup truck	onroad LD		3	54	150	8,100	
	water truck	onroad HHD		1	54	50	2,700	
	tractor truck w/trailer	onroad HHD		1	48	50	2,400	
	hydraulic crane, 25 ton	offroad	300	1	36	3.33	120	
	loader, model 980	offroad	300	1	48	3.75	180	
	forklift, 5 ton	offroad	155	1	48	3.75	180	
	portable generator	offroad	5	1	48	3.75	180	
Grading & Road Work	pickup truck	onroad LD		2	12	100	1,200	
	water truck	onroad HHD		1	12	50	600	
	dozer	offroad	285	1	12	8	96	
	roller	offroad	80	1	12	8	96	
Foundations	pickup truck	onroad LD		2	12	100	1,200	
	water truck	onroad HHD		1	12	50	600	
	concrete truck	onroad HHD		2	12	200	2,400	
	drill rig	offroad	600	1	12	10	120	
Steel Assembly & Erection	pickup truck	onroad LD		3	12	150	1,800	
	water truck	onroad HHD		1	12	50	600	
	tractor truck w/trailer	onroad HHD		1	12	50	600	
	crane, 40 ton	offroad	350	1	12	10	120	
	air compressor	offroad	75	1	12	10	120	
	portable generator	offroad	5	1	12	10	120	

AQCC 6. Project Activity

Activity	Equipment and Vehicles				Working days	Daily hours	Project hours	Daily VMT	Project VMT
	Type	Category	BHP	qty.					
Conductor Installation	pickup truck	onroad LD		2	12		100	1,200	
	water truck	onroad HHD		1	12		50	600	
	flatbed truck w/reels	onroad MD		1	12		50	600	
	rigging truck	onroad MD		5	12		250	3,000	
	dump truck	onroad HHD		1	6		50	300	
	puller tensioner	offroad	165	1	12	10		120	
	splice rig	offroad	300	1	6	10		60	
	portable generator	offroad	5	1	12	10		120	
Cleanup	pickup truck	onroad LD		2	12		100	1,200	
CHECKSUM								83,400	
Survey Sites							50		
Worker Commuting							1,000		
Marshalling Yards							250		
Grading & Road Work							150		
Foundations							350		
Steel Assembly & Erection							250		
Conductor Installation							500		
Cleanup							100		
Maximum Single Activity Mileage							500		
Peak Daily Construction Mileage							1,500		
Composite Mileage							Pk. Daily	Total	
Light Duty		onroad LD					1,100	69,000	
Medium Duty		onroad MD					300	3,600	
Heavy Heavy Duty		onroad HHD					100	10,800	
CHECKSUM							1,500	83,400	

Notes:

Worst-case assumes all emissions for 2011

Peak daily = worker commuting + maximum single activity

AQCC 7. SCAQMD Factors

Equipment and Vehicles		ROG	CO	NO _x	SO _x	PM ₁₀	PM _{2.5}	CO ₂	CH ₄	N ₂ O	
Type	Category	BHP	lb/unit	lb/unit	lb/unit	lb/unit	lb/unit	lb/unit	lb/unit	lb/unit	
pickup truck	onroad LD		0.00085	0.00826	0.00084	0.00001	0.00009	0.00006	1.10	0.00008	0.00003
pickup truck	onroad LD		0.00085	0.00826	0.00084	0.00001	0.00009	0.00006	1.10	0.00008	0.00003
pickup truck	onroad LD		0.00085	0.00826	0.00084	0.00001	0.00009	0.00006	1.10	0.00008	0.00003
water truck	onroad HHD		0.00280	0.01112	0.03456	0.00004	0.00166	0.00144	4.22	0.00013	0.00012
tractor truck w/trailer	onroad HHD		0.00280	0.01112	0.03456	0.00004	0.00166	0.00144	4.22	0.00013	0.00012
hydraulic crane, 25 ton	offroad	300	0.12818	0.38484	1.25163	0.00136	0.04679	0.04305	125.75	0.01157	0.00514
loader, model 980	offroad	300	0.15390	0.46433	1.53790	0.00181	0.05581	0.05135	166.58	0.01389	0.00617
forklift, 5 ton	offroad	155	0.06313	0.29091	0.44339	0.00053	0.03125	0.02875	47.03	0.00570	0.00253
portable generator	offroad	5	0.00548	0.02375	0.03700	0.00005	0.00217	0.00199	3.40	0.00049	0.00022
pickup truck	onroad LD		0.00085	0.00826	0.00084	0.00001	0.00009	0.00006	1.10	0.00008	0.00003
water truck	onroad HHD		0.00280	0.01112	0.03456	0.00004	0.00166	0.00144	4.22	0.00013	0.00012
dozer	offroad	285	0.20665	0.62495	1.92350	0.00196	0.07658	0.07046	179.17	0.01865	0.00829
roller	offroad	80	0.12371	0.38394	0.47914	0.00055	0.03628	0.03337	45.70	0.01116	0.00496
pickup truck	onroad LD		0.00085	0.00826	0.00084	0.00001	0.00009	0.00006	1.10	0.00008	0.00003
water truck	onroad HHD		0.00280	0.01112	0.03456	0.00004	0.00166	0.00144	4.22	0.00013	0.00012
concrete truck	onroad HHD		0.00280	0.01112	0.03456	0.00004	0.00166	0.00144	4.22	0.00013	0.00012
drill rig	offroad	600	0.21104	0.78140	2.67080	0.00431	0.07919	0.07286	434.70	0.01904	0.00846
pickup truck	onroad LD		0.00085	0.00826	0.00084	0.00001	0.00009	0.00006	1.10	0.00008	0.00003
water truck	onroad HHD		0.00280	0.01112	0.03456	0.00004	0.00166	0.00144	4.22	0.00013	0.00012
tractor truck w/trailer	onroad HHD		0.00280	0.01112	0.03456	0.00004	0.00166	0.00144	4.22	0.00013	0.00012
crane, 40 ton	offroad	350	0.14638	0.45651	1.42892	0.00155	0.05345	0.04918	145.45	0.01321	0.00587
air compressor	offroad	75	0.10444	0.29475	0.35383	0.00038	0.03496	0.03217	31.09	0.00942	0.00419
portable generator	offroad	5	0.00548	0.02375	0.03700	0.00005	0.00217	0.00199	3.40	0.00049	0.00022

AQCC 7. SCAQMD Factors

Equipment and Vehicles		ROG	CO	NO _x	SO _x	PM ₁₀	PM _{2.5}	CO ₂	CH ₄	N ₂ O
Type	Category	BHP	lb/unit	lb/unit	lb/unit	lb/unit	lb/unit	lb/unit	lb/unit	lb/unit
pickup truck	onroad LD		0.0085	0.0084	0.0001	0.0009	0.0006	1.10	0.0008	0.0003
water truck	onroad HHD		0.00280	0.03456	0.0004	0.00166	0.00144	4.22	0.00013	0.00012
flatbed truck w/reels	onroad MD		0.00242	0.01693	0.00003	0.00070	0.00060	2.75	0.00012	0.00018
rigging truck	onroad MD		0.00242	0.01693	0.00003	0.00070	0.00060	2.75	0.00012	0.00018
dump truck	onroad HHD		0.00280	0.03456	0.0004	0.00166	0.00144	4.22	0.00013	0.00012
puller tensioner	offroad	165	0.14251	1.01760	0.00102	0.06659	0.06127	89.77	0.01286	0.00572
splice rig	offroad	300	0.15156	1.60242	0.00174	0.05329	0.04903	161.55	0.01367	0.00608
portable generator	offroad	5	0.00548	0.03700	0.00005	0.00217	0.00199	3.40	0.00049	0.00022
pickup truck	onroad LD		0.0085	0.0084	0.00001	0.00009	0.00006	1.10	0.00008	0.00003

Notes:

SCAQMD emission factors for 2011 (Ref. SCAQMD 2008)

Offroad diesel exhaust PM2.5 = 92% of PM10 per EMFAC 2007 version 2.3

HHD includes tire & brake wear

Onroad N2O per Annex 3, Table A-99

Offroad N2O per Annex 3, Table A-101

Units are "hours" for offroad engines, "VMT" for onroad vehicles in lb/unit callout.

AQCC 8. Daily Emissions

Equipment and Vehicles		Type	Category	hrs	VMT	ROG lbs	CO lbs	NO _x lbs	SO _x lbs	PM ₁₀ lbs	PM _{2.5} lbs	CO ₂ lbs	CH ₄ lbs	N ₂ O lbs	CO ₂ eqv lbs
	onroad LD	pickup truck		50	0.0	0.4	0.0	0.0	0.0	0.0	0.0	55.1	0.0	0.0	56
	onroad LD	pickup truck		1,000	0.9	8.3	0.8	0.0	0.1	0.1	0.1	1,102.4	0.1	0.0	1,114
	onroad LD	pickup truck		150	0.1	1.2	0.1	0.0	0.0	0.0	0.0	165.4	0.0	0.0	167
	onroad HHD	water truck		50	0.1	0.6	1.7	0.0	0.1	0.1	0.1	211.0	0.0	0.0	213
	onroad HHD	tractor truck w/trailer		50	0.1	0.6	1.7	0.0	0.1	0.1	0.1	211.0	0.0	0.0	213
	offroad	hydraulic crane, 25 ton	3.33		0.4	1.3	4.2	0.0	0.2	0.1	0.1	419.2	0.0	0.0	425
	offroad	loader, model 980	3.75		0.6	1.7	5.8	0.0	0.2	0.2	0.2	624.7	0.1	0.0	633
	offroad	forklift, 5 ton	3.75		0.2	1.1	1.7	0.0	0.1	0.1	0.1	176.3	0.0	0.0	180
	offroad	portable generator	3.75		0.0	0.1	0.1	0.0	0.0	0.0	0.0	12.8	0.0	0.0	13
	onroad LD	pickup truck		100	0.1	0.8	0.1	0.0	0.0	0.0	0.0	110.2	0.0	0.0	111
	onroad HHD	water truck		50	0.1	0.6	1.7	0.0	0.1	0.1	0.1	211.0	0.0	0.0	213
	offroad	dozer	8		1.7	5.0	15.4	0.0	0.6	0.6	0.6	1,433.3	0.1	0.1	1,457
	offroad	roller	8		1.0	3.1	3.8	0.0	0.3	0.3	0.3	365.6	0.1	0.0	380
	onroad LD	pickup truck		100	0.1	0.8	0.1	0.0	0.0	0.0	0.0	110.2	0.0	0.0	111
	onroad HHD	water truck		50	0.1	0.6	1.7	0.0	0.1	0.1	0.1	211.0	0.0	0.0	213
	onroad HHD	concrete truck		200	0.6	2.2	6.9	0.0	0.3	0.3	0.3	844.1	0.0	0.0	852
	offroad	drill rig	10		2.1	7.8	26.7	0.0	0.8	0.7	0.7	4,347.0	0.2	0.1	4,377
	onroad LD	pickup truck		150	0.1	1.2	0.1	0.0	0.0	0.0	0.0	165.4	0.0	0.0	167
	onroad HHD	water truck		50	0.1	0.6	1.7	0.0	0.1	0.1	0.1	211.0	0.0	0.0	213
	onroad HHD	tractor truck w/trailer		50	0.1	0.6	1.7	0.0	0.1	0.1	0.1	211.0	0.0	0.0	213
	offroad	crane, 40 ton	10		1.5	4.6	14.3	0.0	0.5	0.5	0.5	1,454.5	0.1	0.1	1,475
	offroad	air compressor	10		1.0	2.9	3.5	0.0	0.3	0.3	0.3	310.9	0.1	0.0	326
	offroad	portable generator	10		0.1	0.2	0.4	0.0	0.0	0.0	0.0	34.0	0.0	0.0	35

AQCC 8. Daily Emissions

Equipment and Vehicles		Category	hrs	VMT	ROG	CO	NO _x	SO _x	PM _{1.0}	PM _{2.5}	CO ₂	CH ₄	N ₂ O	CO ₂ eqv
Type					lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs
pickup truck		onroad LD		100	0.1	0.8	0.1	0.0	0.0	0.0	110.2	0.0	0.0	111
water truck		onroad HHD		50	0.1	0.6	1.7	0.0	0.1	0.1	211.0	0.0	0.0	213
flatbed truck w/reels		onroad MD		50	0.1	0.8	0.9	0.0	0.0	0.0	137.6	0.0	0.0	141
rigging truck		onroad MD		250	0.6	4.2	4.7	0.0	0.2	0.1	688.0	0.0	0.0	703
dump truck		onroad HHD		50	0.1	0.6	1.7	0.0	0.1	0.1	211.0	0.0	0.0	213
puller tensioner		offroad	10		1.4	5.6	10.2	0.0	0.7	0.6	897.7	0.1	0.1	918
splice rig		offroad	10		1.5	4.2	16.0	0.0	0.5	0.5	1,615.5	0.1	0.1	1,637
portable generator		offroad	10		0.1	0.2	0.4	0.0	0.0	0.0	34.0	0.0	0.0	35
pickup truck		onroad LD		100	0.1	0.8	0.1	0.0	0.0	0.0	110.2	0.0	0.0	111
Survey Sites					0.04	0.41	0.04	0.00	0.00	0.00	55	0.00	0.00	56
Worker Commuting					0.85	8.26	0.84	0.01	0.09	0.06	1,102	0.08	0.03	1,114
Marshalling Yards					1.67	6.56	15.32	0.02	0.67	0.60	1,820	0.14	0.07	1,844
Grading & Road Work					2.87	9.45	21.03	0.02	0.99	0.91	2,120	0.25	0.12	2,161
Foundations					2.89	11.42	35.43	0.05	1.22	1.10	5,512	0.23	0.12	5,554
Steel Assembly & Erection					2.97	10.10	21.78	0.03	1.09	0.99	2,387	0.26	0.12	2,429
Conductor Installation					4.09	17.03	35.79	0.04	1.61	1.45	3,905	0.33	0.19	3,971
Cleanup					0.09	0.83	0.08	0.00	0.01	0.01	110	0.01	0.00	111
Maximum Single Activity Emissions, lb/day					4.09	17.03	35.79	0.05	1.61	1.45	5,512	0.33	0.19	5,554
Peak Daily Construction Emissions, lb/day					4.94	25.30	36.64	0.06	1.69	1.51	6,615	0.40	0.22	6,667

Notes

- SCAQMD emission factors for 2011 (Ref: SCAQMD 2008)
- Offroad diesel exhaust PM2.5 = 92% of PM10 per EMFAC 2007 version 2.3
- HHD includes tire & brake wear
- Onroad N2O per Annex 3, Table A-99
- Offroad N2O per Annex 3, Table A-101
- Peak daily = worker commuting + maximum single activity

AQCC 9. Total Emissions

Equipment and Vehicles		VMT	hrs	Category	ROG lbs	CO lbs	NO _x lbs	SO _x lbs	PM ₁₀ lbs	PM _{2.5} lbs	CO ₂ lbs	CH ₄ lbs	N ₂ O lbs	CO ₂ eqv	
Type	lbs														
pickup truck	onroad LD	300	0.3	2.5	0.3	0.0	0.0	0.0	0.0	0.0	330.7	0.0	0.0	0.0	334
pickup truck	onroad LD	54,000	46.0	446.2	45.6	0.6	4.8	3.1	59,527.0	4.1	1.7	60,134			
pickup truck	onroad LD	8,100	6.9	66.9	6.8	0.1	0.7	0.5	8,929.0	0.6	0.3	9,020			
water truck	onroad HHD	2,700	7.5	30.0	93.3	0.1	4.5	3.9	11,395.2	0.3	0.3	11,504			
tractor truck w/trailer	onroad HHD	2,400	6.7	26.7	82.9	0.1	4.0	3.5	10,129.1	0.3	0.3	10,226			
hydraulic crane, 25 ton	offroad	120	15.4	46.2	150.2	0.2	5.6	5.2	15,089.7	1.4	0.6	15,310			
loader, model 980	offroad	180	27.7	83.6	276.8	0.3	10.0	9.2	29,984.9	2.5	1.1	30,382			
forklift, 5 ton	offroad	180	11.4	52.4	79.8	0.1	5.6	5.2	8,464.6	1.0	0.5	8,627			
portable generator	offroad	180	1.0	4.3	6.7	0.0	0.4	0.4	612.5	0.1	0.0	627			
pickup truck	onroad LD	1,200	1.0	9.9	1.0	0.0	0.1	0.1	1,322.8	0.1	0.0	1,336			
water truck	onroad HHD	600	1.7	6.7	20.7	0.0	1.0	0.9	2,532.3	0.1	0.1	2,557			
dozer	offroad	96	19.8	60.0	184.7	0.2	7.4	6.8	17,199.9	1.8	0.8	17,484			
roller	offroad	96	11.9	36.9	46.0	0.1	3.5	3.2	4,387.4	1.1	0.5	4,558			
pickup truck	onroad LD	1,200	1.0	9.9	1.0	0.0	0.1	0.1	1,322.8	0.1	0.0	1,336			
water truck	onroad HHD	600	1.7	6.7	20.7	0.0	1.0	0.9	2,532.3	0.1	0.1	2,557			
concrete truck	onroad HHD	2,400	6.7	26.7	82.9	0.1	4.0	3.5	10,129.1	0.3	0.3	10,226			
drill rig	offroad	120	25.3	93.8	320.5	0.5	9.5	8.7	52,164.4	2.3	1.0	52,527			
pickup truck	onroad LD	1,800	1.5	14.9	1.5	0.0	0.2	0.1	1,984.2	0.1	0.1	2,004			
water truck	onroad HHD	600	1.7	6.7	20.7	0.0	1.0	0.9	2,532.3	0.1	0.1	2,557			
tractor truck w/trailer	onroad HHD	600	1.7	6.7	20.7	0.0	1.0	0.9	2,532.3	0.1	0.1	2,557			
crane, 40 ton	offroad	120	17.6	54.8	171.5	0.2	6.4	5.9	17,453.6	1.6	0.7	17,705			
air compressor	offroad	120	12.5	35.4	42.5	0.0	4.2	3.9	3,730.2	1.1	0.5	3,910			
portable generator	offroad	120	0.7	2.8	4.4	0.0	0.3	0.2	408.3	0.1	0.0	418			

AQCC 9. Total Emissions

Equipment and Vehicles		Category	hrs	VMT	ROG	CO	NO _x	SO _x	PM ₁₀	PM _{2.5}	CO ₂	CH ₄	N ₂ O	CO ₂ eqv
Type					lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs
pickup truck		onroad LD		1,200	1.0	9.9	1.0	0.0	0.1	0.1	1,322.8	0.1	0.0	1,336
water truck		onroad HHD		600	1.7	6.7	20.7	0.0	1.0	0.9	2,532.3	0.1	0.1	2,557
flatbed truck w/reels		onroad MD		600	1.5	10.2	11.4	0.0	0.4	0.4	1,651.1	0.1	0.1	1,686
rigging truck		onroad MD		3,000	7.3	50.8	56.8	0.1	2.1	1.8	8,255.4	0.3	0.5	8,431
dump truck		onroad HHD		300	0.8	3.3	10.4	0.0	0.5	0.4	1,266.1	0.0	0.0	1,278
puller tensioner		offroad	120		17.1	66.9	122.1	0.1	8.0	7.4	10,772.3	1.5	0.7	11,017
splice rig		offroad	60		9.1	25.2	96.1	0.1	3.2	2.9	9,693.0	0.8	0.4	9,823
portable generator		offroad	120		0.7	2.8	4.4	0.0	0.3	0.2	408.3	0.1	0.0	418
pickup truck		onroad LD		1,200	1.0	9.9	1.0	0.0	0.1	0.1	1,322.8	0.1	0.0	1,336
Total Construction Emissions, lbs					268	1,316	2,005	3	91	81	301,919	22	11	305,779
Total Construction Emissions, tons					0.13	0.66	1.00	0.002	0.05	0.04	151	0.01	0.01	153

Notes

SCAQMD emission factors for 2011 (Ref: SCAQMD 2008)

Offroad diesel exhaust PM2.5 = 92% of PM10 per EMFAC 2007 version 2.3

HHD includes tire & brake wear

Onroad N2O per Annex 3, Table A-99

Offroad N2O per Annex 3, Table A-101

AQCC 10. Fugitive Dust

Construction Earthmoving		Pk. Daily	Project	PM ₁₀	PM _{2.5}	PM ₁₀	PM _{2.5}	PM ₁₀	PM _{2.5}
		hours	hours	lb/hr	lb/hr	lb/day	lb/day	lb/day	lb/day
Grading & Road Work									
dozer	8	96	1.01126	0.52282	8.09	4.18	97.08	50.19	
roller	8	96	0.10328	0.00513	0.83	0.04	9.91	0.49	
Subtotals				8.92	4.22	107.00	50.68		
Foundations									
drill rig	10	120	0.00487	0.00074	0.05	0.01	0.58	0.09	
Subtotals				0.05	0.01	0.58	0.09		
Peak Daily Earthmoving Emissions, lbs/day				8.9	4.2				
Total Earthmoving Emissions, tons						0.05	0.03		

Earthmoving Notes:

AP-42 Section 11.9 for dozing (Table 11.9-1):

$$E = 0.75 * (s)^{1.5} / (M)^{1.4} \text{ for } PM_{10}$$

$$E = 0.105 * 5.7 * (s)^{1.2} / (M)^{1.3} \text{ for } PM_{2.5}$$

$$E = \text{lb/hr fugitive}$$

s = Silt Content assumed to be 8.5% for construction sites

M = moisture content = 8% (assumes unwatered subsoil)

AP-42 Section 11.9 for grading, rolling, and excavating (Table 11.9-1):

$$E = S * 0.60 * 0.051 * (S)^{2.0} \text{ for } PM_{10}$$

$$E = S * 0.031 * 0.040 * (S)^{2.5} \text{ for } PM_{2.5}$$

Simplifies to $E = 0.60 * 0.051 * (S)^{3.0}$ for PM_{10}

Simplifies to $E = 0.031 * 0.040 * (S)^{3.5}$ for $PM_{2.5}$

$$E = \text{lb/VMT} * \text{VMT/hr} = \text{lb/hr fugitive}$$

S = Mean Vehicle Speed assumed to be 3 mph for graders, 1.5 mph for excavators & rollers

Assumes VMT = S * hours of use

AP-42 Section 13.2.4 Loading/Handling (digger, driller, backhoe, loader):

$$E = W * 0.35 * 0.0032 * (U/5)^{1.3} / (M/2)^{1.4} \text{ for } PM_{10}$$

$$E = W * 0.053 * 0.0032 * (U/5)^{1.3} / (M/2)^{1.4} \text{ for } PM_{2.5}$$

$$E = \text{lb/ton} * \text{tons/hr} = \text{lb/hr fugitive}$$

U = average wind speed is 7.8 mph for Yuma, AZ (NOAA, 2008: <http://waf.ncdc.noaa.gov/oa/climate/online/ccd/avgwind.html>)

M = moisture content = 8% (assumes unwatered subsoil)

AQCC 10. Fugitive Dust

Amount of material moved is assumed to be 120 cy/tower and materials will be dropped twice (2 x 120 = 240 cy/site)

Daily earth movement = 100 cy/day total (12 days/5 towers = 2.4 days/site)

Material is assumed to be 1.7 tons/cy (sp gr = 2) for 170 tons/day total for tower foundations

W = (tons/day) / daily hours = tons/hr

W for tower foundations:

120 cy/tower
2 drop twice
240 cy/site
2.4 days/site
100 cy/day
1.7 tons/cy
<u>170 tons/day</u>

AQCC 10. Fugitive Dust

Construction Road Dust	Pk. Daily		Project	PM ₁₀	PM _{2.5}	PM ₁₀	PM _{2.5}	PM ₁₀	PM _{2.5}	PM ₁₀	PM _{2.5}
	VMT	VMT									
All Roads (totals)											
Light Duty (pickup trucks)	1,100	69,000									
Medium Duty (work trucks)	300	3,600									
Heavy Heavy Duty (tractor/trailers)	100	10,800									
Subtotals	1,500	83,400									
Unpaved Roads											
Light Duty (pickup trucks)	110	6,900	0.11578	0.01158	13	1	760	76			
Medium Duty (work trucks)	60	720	0.18002	0.01800	11	1	123	12			
Heavy Heavy Duty (tractor/trailers)	20	2,160	0.32632	0.03263	7	1	670	67			
Subtotals	190	9,780	30.1	3.0	30.1	3.0	1,553	155			
Paved Roads											
Light Duty (pickup trucks)	990	62,100	0.00334	0.00021	3	0	205	13			
Medium Duty (work trucks)	240	2,880	0.01613	0.00213	4	1	46	6			
Heavy Heavy Duty (tractor/trailers)	80	8,640	0.12004	0.01772	10	1	1,024	151			
Subtotals	1,310	73,620	16.8	2.1	16.8	2.1	1,275	170			
Peak Daily Road Dust Emissions, lbs/day					46.84		5.14				
Total Road Dust Emissions, tons							1.41	0.16			
Composite Peak Daily Fugitive Dust Emissions, lbs/day											
Composite Total Fugitive Dust Emissions, tons											
					46.8		5.1	1.47	0.19		

Road Dust Notes:

Unpaved Road Dust (AP-42 Section 13.2.2):

$$E = 1.5 * (s/12)^{0.9} * (W/3)^{0.45} * P_c * (1-CE) \text{ for } PM_{10}$$

$$E = 0.15 * (s/12)^{0.9} * (W/3)^{0.45} * P_c * (1-CE) \text{ for } PM_{2.5}$$

E = lb/VMT fugitive

s = surface silt content = 9% (average for unpaved roads and construction sites, AP-42 Table 13.2.2-1)

W = average vehicle weight (see below)

$$P_c = (365-P)/365$$

P = Number of wet days over 0.01 in precipitation for averaging period (18 days/year average for Desert - SCAQMD CEQA Handbook)

Note: precipitation correction not used (P_c = 1) for worst case day calculations

AQCC 10. Fugitive Dust

CE = Control Efficiency for watering = 90% for M between 4 and 5 (AP-42 Figure 13.2.2-2)

Light Duty = 3 tons average

Medium Duty = 8 tons average

Heavy Heavy Duty = 30 tons average (loaded 40 tons, unloaded 20 tons)

Assumes 90% paved mileage, 10% unpaved mileage for LD

Assumes 80% paved mileage, 20% unpaved mileage for MD & HHD

HHD includes water trucks

Paved Road Dust (AP-42 Section 13.2.1):

$$E = [0.016 * (sL/2)^{0.65} * (W/3)^{1.5} - 0.00047] * P_C \text{ for } PM_{10}$$

$$E = [0.0024 * (sL/2)^{0.65} * (W/3)^{1.5} - 0.00036] * P_C \text{ for } PM_{2.5}$$

E = lb/VMT fugitive

sL = Silt Loading assumed to be 0.22 g/m² for average ADT categories from Table 13.2.1-3

W = Average weight of vehicles in tons (below)

C = Correction for exhaust, break wear, tire wear: 0.00047 lb/VMT for PM₁₀, 0.00036 lb/VMT for PM_{2.5}

$$P_C = (1 - P/4N)$$

P = Number of wet days over 0.01 in precipitation for averaging period (18 days/year average for Desert - SCAQMD CEQA Handbook)

N = days of period = 365 days (4N = 1460)

Note: precipitation correction not used (P_C = 1) for worst case day calculations

Light Duty = 3 tons average

Medium Duty = 8 tons average

Heavy Heavy Duty = 30 tons average (loaded 40 tons, unloaded 20 tons)

Assumes 90% paved mileage, 10% unpaved mileage for LD

Assumes 80% paved mileage, 20% unpaved mileage for MD & HHD

HHD includes water trucks

AQCC 11. Offroad 2011

SCAB Fleet Average Emission Factors (Diesel)

AQCC 11. Offroad 2011

Air Basin SC

Equipment	MaxHP	ROG	CO	NOX	SOX	PM10	PM2.5	CO2	CH4	N2O
Aerial Lifts	15	0.0103	0.0528	0.0650	0.0001	0.0033	0.0030	8.7	0.0009	0.00041
	25	0.0192	0.0546	0.0984	0.0001	0.0060	0.0055	11.0	0.0017	0.00077
	50	0.0706	0.1884	0.1952	0.0003	0.0179	0.0165	19.6	0.0064	0.00283
	120	0.0657	0.2477	0.4270	0.0004	0.0346	0.0318	38.1	0.0059	0.00263
	500	0.1378	0.5300	1.7852	0.0021	0.0540	0.0497	212.9	0.0124	0.00553
	750	0.2567	0.9581	3.3182	0.0039	0.0981	0.0911	384.8	0.0232	0.01030
Aerial Lifts Composite		0.0624	0.2033	0.3429	0.0004	0.0235	0.0216	34.7	0.0056	0.00250
Air Compressors	15	0.0137	0.0504	0.0805	0.0001	0.0057	0.0052	7.2	0.0012	0.00055
	25	0.0306	0.0814	0.1368	0.0002	0.0093	0.0085	14.4	0.0028	0.00123
	50	0.1093	0.2740	0.2350	0.0003	0.0253	0.0233	22.3	0.0099	0.00436
	75	0.1044	0.2947	0.3538	0.0004	0.0350	0.0322	31.1	0.0094	0.00419
	120	0.0956	0.3321	0.5677	0.0006	0.0524	0.0482	47.0	0.0085	0.00383
	175	0.1209	0.5096	0.9549	0.0010	0.0548	0.0504	88.5	0.0109	0.00485
	250	0.1136	0.3192	1.3087	0.0015	0.0416	0.0383	131.2	0.0103	0.00456
	500	0.1811	0.6166	2.0558	0.0023	0.0682	0.0628	231.7	0.0163	0.00726
	750	0.2844	0.9529	3.2673	0.0036	0.1071	0.0985	358.1	0.0257	0.01140
	1000	0.4881	1.7108	5.7297	0.0049	0.1705	0.1569	486.4	0.0440	0.01957
Air Compressors Composite		0.1054	0.3524	0.6923	0.0007	0.0501	0.0461	63.6	0.0095	0.00423
Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	0.0027	10.3	0.0011	0.00048
	25	0.0195	0.0658	0.1242	0.0002	0.0059	0.0054	16.0	0.0018	0.00078
	50	0.0436	0.2409	0.2790	0.0004	0.0169	0.0156	31.0	0.0039	0.00175
	120	0.0606	0.4762	0.5580	0.0009	0.0400	0.0368	77.1	0.0055	0.00243
	175	0.0829	0.7539	0.8250	0.0016	0.0446	0.0410	141.1	0.0075	0.00333
	190	0.0856	0.7447	0.8557	0.0017	0.0450	0.0414	148.9	0.0077	0.00343
	250	0.0892	0.3445	1.0129	0.0021	0.0323	0.0297	188.1	0.0081	0.00358
	500	0.1418	0.5542	1.4912	0.0031	0.0521	0.0479	311.3	0.0128	0.00568
	600	0.2110	0.7814	2.6708	0.0043	0.0782	0.0729	434.7	0.0190	0.00846
	750	0.2822	1.0947	3.0008	0.0062	0.1034	0.0951	615.1	0.0255	0.01132
	1000	0.4882	1.6903	7.3893	0.0093	0.1875	0.1725	928.3	0.0440	0.01958
Bore/Drill Rigs Composite		0.0943	0.5102	1.0083	0.0017	0.0436	0.0401	165.0	0.0085	0.00378
Cement and Mortar Mixers	15	0.0076	0.0387	0.0484	0.0001	0.0026	0.0024	6.3	0.0007	0.00031
	25	0.0319	0.0895	0.1589	0.0002	0.0099	0.0091	17.6	0.0029	0.00128
	50	0.0996	0.0429	0.0575	0.0001	0.0032	0.0029	7.2	0.0009	0.00039
Cement and Mortar Mixers Composite		0.0200	0.0678	0.1268	0.0002	0.0056	0.0052	16.5	0.0018	0.00080
Concrete/Industrial Saws	50	0.1139	0.3112	0.3019	0.0004	0.0284	0.0261	30.2	0.0103	0.00457
	120	0.1247	0.4926	0.8118	0.0009	0.0684	0.0630	74.1	0.0113	0.00500
	175	0.1805	0.8751	1.5479	0.0018	0.0826	0.0760	160.2	0.0163	0.00724
Concrete/Industrial Saws Composite		0.1179	0.4209	0.6240	0.0007	0.0525	0.0483	58.5	0.0106	0.00473
Cranes	50	0.1192	0.3071	0.2511	0.0003	0.0273	0.0251	23.2	0.0108	0.00478

AQCC 11. Offroad 2011

Equipment	MaxHP	ROG	CO	NOX	SOX	PM10	PM2.5	CO2	CH4	N2O
	120	0.1048	0.3686	0.6196	0.0006	0.0571	0.0526	50.1	0.0095	0.00420
	125	0.1057	0.3792	0.6431	0.0005	0.0566	0.0521	52.9	0.0095	0.00424
	150	0.1103	0.4328	0.7604	0.0008	0.0540	0.0495	66.6	0.0100	0.00442
	175	0.1149	0.4857	0.8777	0.0009	0.0514	0.0473	80.3	0.0104	0.00461
	250	0.1171	0.3276	1.1522	0.0013	0.0428	0.0394	112.2	0.0106	0.00470
	300	0.1282	0.3848	1.2516	0.0014	0.0458	0.0430	125.7	0.0116	0.00514
	350	0.1464	0.4565	1.4289	0.0015	0.0535	0.0492	145.4	0.0132	0.00587
	500	0.1726	0.6137	1.6493	0.0018	0.0627	0.0577	180.1	0.0156	0.00692
	750	0.2920	1.0299	2.8472	0.0030	0.1088	0.0982	303.0	0.0263	0.01171
	1000	1.0371	3.8402	11.5554	0.0098	0.3585	0.3298	970.6	0.0936	0.04159
Cranes Composite										
Crawler Tractors	50	0.1507	0.5179	1.3617	0.0014	0.0599	0.0551	128.7	0.0136	0.00604
	120	0.1352	0.3424	0.2745	0.0003	0.0305	0.0280	24.9	0.0122	0.00542
	150	0.1461	0.4959	0.8560	0.0008	0.0778	0.0716	65.8	0.0132	0.00586
	165	0.1776	0.7071	1.3020	0.0013	0.0811	0.0746	111.7	0.0160	0.00713
	175	0.1848	0.7540	1.4007	0.0014	0.0818	0.0753	121.2	0.0167	0.00741
	250	0.1950	0.5472	1.8209	0.0019	0.0725	0.0667	166.1	0.0176	0.00782
	285	0.2066	0.6250	1.9235	0.0020	0.0766	0.0705	179.2	0.0185	0.00829
	500	0.2783	1.1025	2.5536	0.0025	0.1020	0.0938	259.2	0.0251	0.01116
	750	0.5006	1.9682	4.6762	0.0047	0.1844	0.1696	464.7	0.0452	0.02007
	1000	0.7588	3.1215	8.1716	0.0066	0.2653	0.2441	658.1	0.0685	0.03043
Crawler Tractors Composite										
Crushing/Proc. Equipment	50	0.1764	0.6220	1.3089	0.0013	0.0806	0.0742	114.0	0.0159	0.00707
	120	0.2109	0.5418	0.4626	0.0006	0.0493	0.0453	44.0	0.0190	0.00846
	175	0.2234	0.9697	0.9809	0.0010	0.0915	0.0842	83.1	0.0149	0.00961
	250	0.2081	0.5837	1.7520	0.0019	0.1023	0.0941	167.3	0.0202	0.00896
	500	0.2887	0.9617	2.3660	0.0028	0.0754	0.0693	244.5	0.0188	0.00834
	750	0.4624	1.4856	3.1941	0.0037	0.1071	0.0985	373.6	0.0261	0.01158
	9999	1.2993	4.4184	15.2096	0.0059	0.1718	0.1580	588.8	0.0417	0.01854
Crushing/Proc. Equipment Composite										
Dumpers/Tenders	25	0.2014	0.7073	1.3534	0.0015	0.0684	0.0613	1307.8	0.1172	0.05210
	25	0.1013	0.0330	0.0629	0.0001	0.0034	0.0031	7.6	0.0009	0.00041
	25	0.1013	0.0330	0.0629	0.0001	0.0034	0.0031	7.6	0.0009	0.00041
Dumpers/Tenders Composite										
Excavators	25	0.1018	0.0677	0.1255	0.0002	0.0050	0.0046	16.4	0.0018	0.00080
	50	0.1018	0.3035	0.2601	0.0003	0.0256	0.0235	25.0	0.0092	0.00408
	120	0.1287	0.6267	0.7851	0.0009	0.0725	0.0667	73.6	0.0116	0.00516
	168	0.1364	0.6508	1.0043	0.0012	0.0639	0.0588	107.3	0.0123	0.00547
	175	0.1375	0.6689	1.0363	0.0013	0.0627	0.0576	112.2	0.0124	0.00551
	190	0.1374	0.6103	1.1016	0.0014	0.0594	0.0547	121.5	0.0124	0.00551
	250	0.1371	0.3762	1.3632	0.0018	0.0465	0.0427	158.7	0.0124	0.00550
	500	0.1889	0.5792	1.7621	0.0023	0.0639	0.0588	233.7	0.0170	0.00757
	750	0.3154	0.9588	3.0187	0.0039	0.1078	0.0992	387.4	0.0285	0.01265
Excavators Composite										
Forklifts	50	0.1388	0.5482	1.0634	0.0013	0.0592	0.0544	119.6	0.0125	0.00557
	120	0.0545	0.2218	0.3262	0.0004	0.0149	0.0137	14.7	0.0053	0.00236
	155	0.0631	0.2909	0.4434	0.0005	0.0312	0.0287	31.2	0.0049	0.00218
	175	0.0681	0.3304	0.5104	0.0006	0.0313	0.0288	47.0	0.0057	0.00253
	250	0.0622	0.1667	0.6508	0.0009	0.0207	0.0190	77.1	0.0056	0.00249

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Equipment	MaxHP	ROG	CO	NOX	SOX	PM10	PM2.5	CO2	CH4	N2O
Forklifts Composite	500	0.0836	0.2280	0.8064	0.0011	0.0279	0.0256	111.0	0.0075	0.00335
Generator Sets	5	0.0635	0.2284	0.4742	0.0006	0.0257	0.0237	54.4	0.0057	0.00254
	15	0.0055	0.0237	0.0370	0.0001	0.0022	0.0020	3.4	0.0005	0.00022
	25	0.0165	0.0712	0.1110	0.0002	0.0065	0.0060	10.2	0.0015	0.00066
	50	0.0287	0.0994	0.1670	0.0002	0.0102	0.0094	17.6	0.0026	0.00115
	120	0.1043	0.2826	0.3020	0.0004	0.0270	0.0249	30.6	0.0094	0.00418
	175	0.1305	0.5007	0.8616	0.0009	0.0684	0.0629	77.9	0.0116	0.00523
	250	0.1572	0.7442	1.3995	0.0016	0.0694	0.0638	142.0	0.0142	0.00630
	500	0.1483	0.4702	1.9373	0.0024	0.0558	0.0513	212.5	0.0134	0.00395
	750	0.2109	0.8134	2.7911	0.0033	0.0830	0.0764	336.9	0.0190	0.00846
	9999	0.3517	1.3131	4.6299	0.0055	0.1360	0.1252	543.8	0.0317	0.01410
Generator Sets Composite		0.9398	3.3349	11.5379	0.0105	0.3364	0.3095	1048.6	0.0848	0.03769
Graders	50	0.0898	0.3204	0.6121	0.0007	0.0376	0.0346	61.0	0.0061	0.00360
	110	0.1290	0.3473	0.2920	0.0004	0.0304	0.0280	27.5	0.0116	0.00517
	120	0.1426	0.5129	0.7917	0.0008	0.0780	0.0671	68.2	0.0129	0.00572
	175	0.1449	0.5405	0.8750	0.0009	0.0801	0.0737	75.0	0.0131	0.00581
	250	0.1647	0.7384	1.2722	0.0014	0.0745	0.0686	123.9	0.0149	0.00660
	500	0.1664	0.4709	1.6586	0.0019	0.0603	0.0555	172.1	0.0150	0.00667
	750	0.2045	0.7048	1.9645	0.0023	0.0737	0.0678	229.5	0.0185	0.00820
	1000	0.4357	1.4881	4.2746	0.0049	0.1581	0.1454	485.7	0.0393	0.01747
Graders Composite		0.1628	0.6216	1.3404	0.0015	0.0707	0.0650	132.7	0.0147	0.00652
Off-Highway Tractors	120	0.2339	0.7351	1.3587	0.0011	0.1204	0.1108	93.7	0.0211	0.00938
	175	0.2229	0.8479	1.6869	0.0015	0.0975	0.0897	130.4	0.0201	0.00894
	250	0.1797	0.5115	1.6148	0.0015	0.0689	0.0634	130.4	0.0162	0.00721
	750	0.7101	3.3111	6.4854	0.0057	0.2682	0.2487	568.1	0.0641	0.02848
	1000	1.0705	5.1530	10.9774	0.0082	0.3811	0.3506	814.3	0.0966	0.04293
Off-Highway Tractors Composite		0.2267	0.8123	1.8919	0.0017	0.0926	0.0851	151.4	0.0205	0.00909
Off-Highway Trucks	175	0.1630	0.7608	1.1915	0.0014	0.0730	0.0672	125.1	0.0147	0.00654
	250	0.1550	0.4101	1.4773	0.0019	0.0515	0.0474	166.5	0.0140	0.00621
	500	0.2372	0.7058	2.1240	0.0027	0.0785	0.0723	272.3	0.0214	0.00951
	750	0.3873	1.1432	3.5575	0.0044	0.1295	0.1191	441.7	0.0349	0.01553
	1000	0.6108	1.9159	6.8506	0.0063	0.2074	0.1908	624.7	0.0551	0.02449
Off-Highway Trucks Composite		0.2355	0.6994	2.1941	0.0027	0.0792	0.0729	260.1	0.0212	0.00944
Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	0.0027	10.1	0.0011	0.00047
	25	0.0161	0.0544	0.1027	0.0002	0.0049	0.0045	13.2	0.0015	0.00065
	50	0.0935	0.2833	0.2745	0.0004	0.0245	0.0226	28.0	0.0084	0.00375
	120	0.1209	0.5367	0.8097	0.0009	0.0694	0.0638	80.9	0.0109	0.00485
	135	0.1176	0.5510	0.8413	0.0010	0.0645	0.0584	87.9	0.0106	0.00472
	175	0.1086	0.5889	0.9253	0.0012	0.0515	0.0474	106.5	0.0098	0.00436
	190	0.1110	0.5880	0.9681	0.0013	0.0519	0.0478	113.3	0.0100	0.00445
	500	0.1596	0.5683	1.8098	0.0025	0.0605	0.0557	254.2	0.0144	0.00640
Other Construction Equipment Composite		0.0984	0.3954	0.9321	0.0013	0.0404	0.0371	122.7	0.0089	0.00395
Other General Industrial Equipment	15	0.0066	0.0391	0.0466	0.0001	0.0018	0.0016	6.4	0.0006	0.00027
	25	0.0185	0.0632	0.1172	0.0002	0.0047	0.0043	15.3	0.0017	0.00074
	50	0.1188	0.2972	0.2375	0.0003	0.0270	0.0249	21.7	0.0107	0.00477
	120	0.1371	0.4597	0.7774	0.0007	0.0755	0.0695	62.0	0.0124	0.00550

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Equipment	MaxHP	ROG	CO	NOX	SOX	PM10	PM2.5	CO2	CH4	N2O
	165	0.1425	0.5571	1.0176	0.0010	0.0666	0.0613	89.8	0.0129	0.00572
	175	0.1437	0.5788	1.0710	0.0011	0.0646	0.0594	95.9	0.0130	0.00576
	250	0.1307	0.3434	1.3989	0.0015	0.0458	0.0422	135.6	0.0118	0.00524
	300	0.1515	0.4207	1.6024	0.0017	0.0533	0.0490	161.5	0.0137	0.00608
	500	0.2349	0.7297	2.4165	0.0026	0.0832	0.0765	265.4	0.0212	0.00942
	750	0.3901	1.2027	4.1009	0.0044	0.1394	0.1283	437.4	0.0352	0.01564
	1000	0.6008	2.0244	6.7928	0.0056	0.2087	0.1920	559.6	0.0542	0.02409
Other General Industrial Equipment Composite	50	0.1737	0.5618	1.5591	0.0016	0.0686	0.0631	152.2	0.0157	0.00696
Other Material Handling Equipment	120	0.1648	0.4110	0.3302	0.0004	0.0375	0.0345	30.3	0.0149	0.00661
	175	0.1332	0.4476	0.7585	0.0007	0.0735	0.0676	60.7	0.0120	0.00534
	250	0.1614	0.7331	1.3603	0.0014	0.0818	0.0752	122.1	0.0164	0.00728
	500	0.1382	0.3659	1.4933	0.0016	0.0488	0.0449	145.0	0.0125	0.00554
	1000	0.1674	0.5255	1.7416	0.0019	0.0597	0.0549	191.6	0.0151	0.00671
Other Material Handling Equipment Composite	25	0.1666	0.5304	1.5148	0.0015	0.0665	0.0612	141.2	0.0150	0.00668
Pavers	25	0.0265	0.0827	0.1565	0.0002	0.0086	0.0079	18.7	0.0024	0.00108
	50	0.1538	0.3769	0.3073	0.0004	0.0342	0.0314	28.0	0.0139	0.00617
	120	0.1551	0.5163	0.9242	0.0008	0.0819	0.0753	69.2	0.0140	0.00622
	175	0.1955	0.7892	1.5256	0.0014	0.0889	0.0799	128.3	0.0176	0.00784
	250	0.2300	0.6676	2.1988	0.0022	0.0894	0.0813	194.4	0.0208	0.00922
	500	0.2498	1.0760	2.3632	0.0023	0.0952	0.0875	233.2	0.0225	0.01002
Pavers Composite	25	0.1684	0.5541	0.9421	0.0009	0.0679	0.0625	77.9	0.0152	0.00675
Paving Equipment	25	0.0154	0.0520	0.0981	0.0002	0.0046	0.0043	12.6	0.0014	0.00062
	50	0.1311	0.3200	0.2622	0.0003	0.0291	0.0268	23.9	0.0118	0.00526
	120	0.1215	0.4038	0.7249	0.0006	0.0642	0.0591	54.5	0.0110	0.00487
	175	0.1526	0.6157	1.1978	0.0011	0.0678	0.0623	101.0	0.0138	0.00612
	250	0.1425	0.4146	1.3779	0.0014	0.0548	0.0505	122.3	0.0129	0.00571
Paving Equipment Composite	15	0.1269	0.4418	0.8536	0.0008	0.0603	0.0555	68.9	0.0114	0.00509
Plate Compactors	15	0.0050	0.0263	0.0315	0.0001	0.0013	0.0012	4.3	0.0005	0.00020
Plate Compactors Composite	15	0.0050	0.0263	0.0315	0.0001	0.0013	0.0012	4.3	0.0005	0.00020
Pressure Washers	15	0.0079	0.0341	0.0532	0.0001	0.0031	0.0029	4.9	0.0007	0.00032
	25	0.0116	0.0403	0.0677	0.0001	0.0041	0.0038	7.1	0.0011	0.00047
	50	0.0383	0.1110	0.1364	0.0002	0.0109	0.0100	14.3	0.0035	0.00154
	120	0.0361	0.1472	0.2538	0.0003	0.0184	0.0169	24.1	0.0033	0.00145
Pressure Washers Composite	15	0.0186	0.0652	0.0956	0.0001	0.0067	0.0062	9.4	0.0017	0.00075
Pumps	15	0.0141	0.0518	0.0827	0.0001	0.0056	0.0054	7.4	0.0013	0.00056
	25	0.0413	0.1098	0.1845	0.0002	0.0125	0.0115	19.5	0.0037	0.00166
	50	0.1253	0.3338	0.3424	0.0004	0.0317	0.0291	34.3	0.0113	0.00503
	120	0.1350	0.5088	0.8751	0.0009	0.0714	0.0657	77.9	0.0122	0.00541
	175	0.1609	0.7461	1.4030	0.0016	0.0714	0.0657	140.1	0.0145	0.00645
	250	0.1463	0.4639	1.8649	0.0023	0.0550	0.0506	201.4	0.0132	0.00567
	500	0.2249	0.8612	2.8947	0.0034	0.0881	0.0810	345.2	0.0203	0.00902
	750	0.3829	1.4237	4.9177	0.0057	0.1479	0.1360	570.7	0.0346	0.01538
	1000	1.2391	4.4349	15.0765	0.0136	0.4418	0.4054	1354.8	0.1116	0.04969
Pumps Composite	15	0.0877	0.3040	0.5285	0.0006	0.0375	0.0345	49.6	0.0079	0.00352
Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	0.0017	6.3	0.0007	0.00030

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Equipment	MaxHP	ROG	CO	NOX	SOX	PM10	PM2.5	CO2	GH4	N2O
	25	0.0162	0.0549	0.1037	0.0002	0.0049	0.0045	13.3	0.0015	0.00065
	50	0.1186	0.3080	0.2714	0.0003	0.0278	0.0255	26.0	0.0107	0.00476
	80	0.1237	0.3839	0.4791	0.0005	0.0363	0.0334	45.7	0.0142	0.00496
	120	0.1126	0.4136	0.7005	0.0007	0.0612	0.0563	59.0	0.0102	0.00452
	175	0.1398	0.6243	1.1389	0.0012	0.0633	0.0582	108.1	0.0126	0.00561
	250	0.1441	0.4301	1.5140	0.0017	0.0549	0.0505	153.1	0.0130	0.00578
	500	0.1866	0.7240	1.9447	0.0022	0.0716	0.0659	219.1	0.0168	0.00748
Rollers Composite										
Rough Terrain Forklifts										
	50	0.1106	0.4157	0.7342	0.0008	0.0521	0.0480	67.1	0.0100	0.00443
	75	0.1452	0.4046	0.3504	0.0004	0.0354	0.0325	33.9	0.0131	0.00582
	85	0.1335	0.4174	0.4710	0.0005	0.0454	0.0418	44.1	0.0120	0.00535
	120	0.1288	0.4225	0.5192	0.0006	0.0495	0.0455	48.2	0.0116	0.00516
	175	0.1124	0.4404	0.6880	0.0007	0.0636	0.0585	62.4	0.0101	0.00451
	250	0.1541	0.7283	1.2033	0.0014	0.0711	0.0654	124.9	0.0139	0.00618
	500	0.1425	0.4036	1.5294	0.0019	0.0506	0.0466	170.8	0.0129	0.00571
Rough Terrain Forklifts Composite										
Rubber Tired Dozers										
	500	0.1978	0.6345	2.0183	0.0025	0.0708	0.0651	256.6	0.0178	0.00793
	175	0.1161	0.4721	0.7484	0.0008	0.0638	0.0587	70.3	0.0107	0.00474
	250	0.2302	0.8604	1.7086	0.0015	0.0998	0.0918	129.5	0.0208	0.00923
	500	0.2559	0.7432	2.3209	0.0021	0.1006	0.0926	183.5	0.0240	0.01066
	750	0.3481	1.6282	3.0411	0.0026	0.1289	0.1186	264.9	0.0314	0.01396
	1000	0.5247	2.4391	4.6508	0.0040	0.1951	0.1794	398.8	0.0473	0.02104
Rubber Tired Dozers Composite										
Rubber Tired Loaders										
	25	0.0205	0.0697	0.1302	0.0002	0.0058	0.0053	16.9	0.0019	0.00082
	50	0.1436	0.3878	0.3286	0.0004	0.0340	0.0313	31.1	0.0130	0.00578
	120	0.1124	0.4226	0.6818	0.0007	0.0623	0.0573	58.9	0.0101	0.00451
	145	0.1246	0.5171	0.8635	0.0009	0.0627	0.0577	80.5	0.0112	0.00500
	175	0.1392	0.6305	1.0816	0.0012	0.0633	0.0582	106.3	0.0126	0.00558
	250	0.1408	0.4012	1.4208	0.0017	0.0511	0.0470	149.0	0.0127	0.00565
	300	0.1539	0.4643	1.5379	0.0018	0.0558	0.0513	166.6	0.0139	0.00617
	500	0.2063	0.7168	2.0063	0.0023	0.0746	0.0686	237.0	0.0186	0.00827
	750	0.4255	1.4649	4.2274	0.0049	0.1550	0.1426	485.5	0.0384	0.01706
	1000	0.5801	2.0836	6.7240	0.0060	0.2029	0.1867	593.9	0.0523	0.02326
Rubber Tired Loaders Composite										
Scrapers										
	120	0.1354	0.4959	1.0771	0.0012	0.0606	0.0559	108.6	0.0122	0.00543
	175	0.2111	0.7087	1.2393	0.0011	0.1122	0.1032	93.9	0.0190	0.00846
	250	0.2280	0.9219	1.7346	0.0017	0.1009	0.0928	148.1	0.0206	0.00914
	500	0.2489	0.7019	2.3295	0.0024	0.0931	0.0856	209.5	0.0225	0.00998
	750	0.3488	1.4023	3.2148	0.0032	0.1286	0.1183	321.4	0.0315	0.01399
	1000	0.6046	2.4131	5.6704	0.0056	0.2240	0.2061	555.3	0.0546	0.02425
Scrapers Composite										
Signal Boards										
	15	0.0072	0.0377	0.0450	0.0001	0.0017	0.0016	6.2	0.0006	0.00029
	50	0.1367	0.3716	0.3629	0.0005	0.0345	0.0317	36.2	0.0125	0.00556
	120	0.1393	0.5327	0.8930	0.0009	0.0755	0.0695	80.2	0.0126	0.00559
	175	0.1789	0.8404	1.5271	0.0017	0.0811	0.0746	154.5	0.0161	0.00718
	250	0.1881	0.5757	2.3319	0.0029	0.0707	0.0650	255.3	0.0170	0.00754
Signal Boards Composite										
Skid Steer Loaders										
	25	0.0214	0.0946	0.1545	0.0002	0.0087	0.0080	16.7	0.0019	0.00086
	50	0.0229	0.0666	0.1219	0.0002	0.0073	0.0067	13.8	0.0021	0.00092

AQCC 11. Offroad 2011

Equipment	MaxHP	ROG	CO	NOX	SOX	PM10	PM2.5	CO2	GH4	N2O
Skid Steer Loaders Composite Surfacing Equipment	50	0.0684	0.2411	0.2428	0.0003	0.0198	0.0182	25.5	0.0062	0.00274
	120	0.0542	0.2794	0.3835	0.0005	0.0325	0.0299	42.8	0.0049	0.00217
	50	0.0609	0.2418	0.2800	0.0004	0.0230	0.0212	30.3	0.0055	0.00244
	120	0.0551	0.1480	0.1430	0.0002	0.0135	0.0124	14.1	0.0050	0.00221
	175	0.1114	0.4291	0.7292	0.0007	0.0595	0.0547	63.8	0.0101	0.00447
	175	0.1009	0.4764	0.8677	0.0010	0.0453	0.0417	85.8	0.0091	0.00405
	250	0.1172	0.3696	1.2661	0.0015	0.0453	0.0416	134.9	0.0106	0.00470
	500	0.1738	0.7265	1.9125	0.0022	0.0680	0.0625	221.2	0.0157	0.00697
	750	0.2774	1.1362	3.0719	0.0035	0.1077	0.0991	347.0	0.0250	0.01112
	15	0.1453	0.5792	1.4651	0.0017	0.0558	0.0514	166.0	0.0131	0.00583
Surfacing Equipment Composite Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0033	0.0030	11.9	0.0011	0.00050
	25	0.0238	0.0808	0.1510	0.0002	0.0062	0.0062	19.6	0.0021	0.00095
	50	0.1345	0.3714	0.3228	0.0004	0.0328	0.0302	31.6	0.0121	0.00539
	120	0.1362	0.5266	0.8095	0.0009	0.0782	0.0720	75.0	0.0123	0.00546
	175	0.1715	0.8026	1.3252	0.0016	0.0798	0.0734	139.0	0.0155	0.00688
	250	0.1271	0.3535	1.4297	0.0018	0.0445	0.0409	162.0	0.0115	0.00510
	25	0.0205	0.5292	0.7939	0.0009	0.0637	0.0586	78.5	0.0127	0.00566
	50	0.1127	0.0670	0.1281	0.0002	0.0066	0.0061	15.9	0.0019	0.00082
	85	0.0880	0.3422	0.3070	0.0004	0.0289	0.0286	30.3	0.0102	0.00452
	100	0.1006	0.3505	0.4179	0.0005	0.0383	0.0353	41.0	0.0088	0.00393
Sweepers/Scrubbers Composite Tractors/Loaders/Backhoes	100	0.1006	0.3900	0.4975	0.0006	0.0408	0.0375	51.1	0.0091	0.00403
	120	0.0833	0.3589	0.5288	0.0006	0.0478	0.0440	51.7	0.0075	0.00334
	175	0.1135	0.5873	0.8955	0.0011	0.0530	0.0488	101.4	0.0102	0.00455
	250	0.1338	0.3879	1.4091	0.0019	0.0467	0.0429	171.7	0.0121	0.00536
	500	0.2500	0.8065	2.4813	0.0039	0.0877	0.0807	344.9	0.0226	0.01003
	750	0.3785	1.2085	3.8514	0.0058	0.1341	0.1233	517.3	0.0342	0.01518
	15	0.0938	0.3874	0.6276	0.0008	0.0482	0.0444	66.8	0.0085	0.00376
	25	0.0099	0.0517	0.0617	0.0001	0.0023	0.0021	8.5	0.0009	0.00040
	50	0.0399	0.1355	0.2532	0.0004	0.0112	0.0103	32.9	0.0036	0.00160
	120	0.1746	0.4270	0.3577	0.0004	0.0389	0.0358	32.9	0.0158	0.00700
Tractors/Loaders/Backhoes Composite Trenchers	120	0.1430	0.4784	0.8672	0.0008	0.0746	0.0686	64.9	0.0129	0.00573
	175	0.2150	0.8764	1.7133	0.0016	0.0954	0.0878	143.9	0.0194	0.00862
	250	0.2622	0.7775	2.5293	0.0025	0.1025	0.0943	222.9	0.0237	0.01051
	500	0.3295	1.5125	3.2067	0.0031	0.1280	0.1177	311.3	0.0297	0.01322
	750	0.6256	2.8386	6.1534	0.0059	0.2427	0.2233	586.9	0.0565	0.02509
	15	0.1590	0.4826	0.7297	0.0007	0.0612	0.0563	58.7	0.0143	0.00638
	25	0.0118	0.0433	0.0692	0.0001	0.0049	0.0045	6.2	0.0011	0.00047
	50	0.0239	0.0636	0.1069	0.0001	0.0073	0.0067	11.3	0.0022	0.00096
	120	0.1157	0.2949	0.2683	0.0003	0.0275	0.0253	26.0	0.0104	0.00484
	175	0.0760	0.2714	-0.4654	0.0005	0.0412	0.0379	39.5	0.0069	0.00305
Trenchers Composite Welders	175	0.1263	0.5496	1.0324	0.0011	0.0569	0.0523	98.2	0.0114	0.00506
	250	0.0973	0.2828	1.1575	0.0013	0.0361	0.0332	119.1	0.0088	0.00390
	500	0.1230	0.4387	1.4583	0.0016	0.0472	0.0434	167.6	0.0111	0.00493
	15	0.0758	0.2203	0.2818	0.0003	0.0258	0.0237	25.6	0.0068	0.00304
	25	0.0239	0.0636	0.1069	0.0001	0.0073	0.0067	11.3	0.0022	0.00096

Notes:

AQCC 11. Offroad 2011

Equipment	MaxHP	ROG	CO	NOX	SOX	PM10	PM2.5	CO2	CH4	N2O
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SCAQMD 2008

Offroad diesel exhaust PM_{2.5} = 92% of PM₁₀ per EMFAC 2007 version 2.3

Non-matching application-specific values interpolated

Offroad N₂O per Annex 3, Table A-101

AQCC 12. Onroad 2011

SCAB Fleet Average Emission Factors

AQCC 12. Onroad 2011

Air Basin SC

Vehicle Type	ROG (lb/mi)	CO (lb/mi)	NOX (lb/mi)	SOX (lb/mi)	PM10 (lb/mi)	PM2.5 (lb/mi)	CO2 (lb/mi)	CH4 (lb/mi)	N2O (lb/mi)
Light Duty (pickup trucks)	0.00085	0.00826	0.00084	0.00001	0.00009	0.00006	1.10	0.00008	0.00003
Medium Duty (work trucks)	0.00242	0.01693	0.01893	0.00003	0.00070	0.00060	2.75	0.00012	0.00018
Heavy Heavy Duty (tractor/trailers)	0.00280	0.01112	0.03456	0.00004	0.00166	0.00144	4.22	0.00013	0.00012

Notes:

SCAQMD 2008

HHI includes tire & brake wear

Onroad N₂O per Annex 3, Table A-99



Highest (Most Conservative) EMFAC2007 (version 2.3)
Emission Factors for On-Road Passenger Vehicles & Delivery Trucks
 Projects in the SCAQMD (Scenario Years 2007 - 2026)
 Derived from Peak Emissions Inventory (Winter, Annual, Summer)

Vehicle Class:
Passenger Vehicles (<8500 pounds) & Delivery Trucks (>8500 pounds)

Scenario Year: 2011

All model years in the range 1967 to 2011

Passenger Vehicles (pounds/mile)		Delivery Trucks (pounds/mile)	
ROG	0.00085233	ROG	0.00241868
CO	0.00826276	CO	0.01693242
NOx	0.00084460	NOx	0.01893366
SOx	0.00001077	SOx	0.00002728
PM10	0.00008879	PM10	0.00070097
PM2.5	0.00005653	PM2.5	0.00059682
CO2	1.10235154	CO2	2.75180822
CH4	0.00007678	CH4	0.00011655

Scenario Year: 2012

All model years in the range 1968 to 2012

Passenger Vehicles (pounds/mile)		Delivery Trucks (pounds/mile)	
ROG	0.00079628	ROG	0.00223776
CO	0.00765475	CO	0.01545741
NOx	0.00077583	NOx	0.01732423
SOx	0.00001073	SOx	0.00002667
PM10	0.00008979	PM10	0.00064975
PM2.5	0.00005750	PM2.5	0.00054954
CO2	1.10152540	CO2	2.76628414
CH4	0.00007169	CH4	0.00010668

Highest (Most Conservative) EMFAC2007 (version 2.3)
Emission Factors for On-Road Heavy-Heavy-Duty Diesel Trucks
 Projects in the SCAQMD (Scenario Years 2007 - 2026)
 Derived from Peak Emissions Inventory (Winter, Annual, Summer)

Vehicle Class:
Heavy-Heavy-Duty Diesel Trucks (33,001 to 60,000 pounds)

Scenario Year: 2011

All model years in the range 1967 to 2011

HHDT-DSL (pounds/mile)		HHDT-DSL, Exh (pounds/mile)	
ROG	0.00279543		
CO	0.01112463		
NOx	0.03455809		
SOx	0.00003972		
PM10	0.00166087	PM10	0.00151936
PM2.5	0.00144489	PM2.5	0.00139772
CO2	4.22045680		
CH4	0.00012910		

Scenario Year: 2012

All model years in the range 1968 to 2012

HHDT-DSL (pounds/mile)		HHDT-DSL, Exh (pounds/mile)	
ROG	0.00252764		
CO	0.01021519		
NOx	0.03092379		
SOx	0.00004042		
PM10	0.00149566	PM10	0.00135537
PM2.5	0.00129354	PM2.5	0.00124837
CO2	4.21590774		
CH4	0.00011651		

Notes:

SCAQMD, 2008