

Appendix B1, **Air Quality Data**

Parentheticalal URBEMIS2007 (Version 9.2.4) Assumptions
For: Butterfield Specific Plan
Date: May 2011

LAND USES

Amount	Land Use Type	Unit Type	Trip Rate
Phase 1			
830	Single Family	Dwelling units	8.61
549	Commercial	1,000 square feet	30.20
248	Golf Course	Acres	2.41
Phase 2			
788	Single Family	Dwelling units	8.61
925	Condo/Townhouse	Dwelling units	5.00
100	Elementary School	1,000 square feet	13.92
Phase 3			
1,761	Single Family	Dwelling units	8.61
281	Condo/Townhouse	Dwelling units	5.00
Phase 4			
390	Single Family	Dwelling units	8.61
100	Elementary School	1,000 square feet	13.92
Phase 5			
412	Single Family	Dwelling units	8.61
Note: Trip rates are consistent with net trip generation identified in the <i>Butterfield Specific Plan Traffic Impact Analysis</i> , September 15, 2010.			

CONSTRUCTION SOURCES

Year	Duration (months)	Development
PHASE 1		
2012	12 months	Grading (occurs Phase 1 and Phase 2 development areas)
2013	12 months	Grading, Trenching, Paving
2014	12 months	Paving, Building
2015	12 months	Building, Architectural Coating
PHASE 2		
2016	12 months	Trenching, Building
2017	12 months	Building
2018	7 months	Building, Architectural Coating
PHASE 3		
2019	12 months	Grading
2020	12 months	Trenching, Paving, Building
2021-2031	113 months	Building, Architectural Coating
PHASE 4		
2032	12 months	Grading, Trenching, Paving, Building
2033	12 months	Building
2034	2 months	Architectural Coating
PHASE 5		
2035	12 months	Grading, Trenching, Building
2036	12 months	Building
2037	5 months	Building, Architectural Coating

PHASE 1 -

Grading:

Year	Total Acreage Disturbed	Acreage Disturbed Daily	Duration- (days)	Fugitive Dust	Soil Hauling (cubic yards)	Total Estimated Cut/Fill (cubic yards)
2012	825	30	396	Default	0	balanced

Grading Equipment (URBEMIS2007 Default):

Quantity	Type	Hours of Daily Operation
15	Scrapers	8
6	Graders	8
6	Rubber Tired Dozers	8
3	Plate Compactors	8
3	Tractor/Loaders/Backhoe	8
6	Water Trucks	8

Trenching:

Year	Duration
2012	20 days

Trenching Equipment (URBEMIS2007 Default):

Quantity	Type	Hours of Daily Operation
4	Excavators	8
2	Other General Industrial Equipment	8

Paving:

Year	Duration (days)	Acres
2013-2014	132	144.14

Equipment (URBEMIS2007 Default):

Quantity	Type	Hours of Daily Operation
1	Paver	8
2	Paving Equipment	8
2	Roller	6

Building Construction

Duration:

18 months

Equipment (URBEMIS2007 Default):

Quantity	Type	Hours of Daily Operation
1	Crane	7
3	Forklifts	8
3	Tractor/Loader/Backhoe	7
1	Welders	8
1	Generator Set	8

Architectural Coatings:

Duration – 3 Months

Low VOC coatings (Pursuant to SCAQMD Rule 1113)
(URBEMIS2007 default all phases)

Worker Commute

(URBEMIS2007 default all phases)

Construction Mitigation:

Refer to URBEMIS2007 file output.

PHASE 2 -

Grading: Grading for Phase 2 conducted in Phase I.

Trenching:

Year	Duration
2016	44 days

Trenching Equipment (URBEMIS2007 Default):

Quantity	Type	Hours of Daily Operation
2	Excavators	8
1	Other General Industrial Equipment	8

Building Construction**Duration:**

36 months

Equipment (URBEMIS2007 Default):

Quantity	Type	Hours of Daily Operation
1	Crane	7
3	Forklifts	6
3	Tractor/Loader/Backhoe	7

1	Welder	8
1	Generator Set	8

Architectural Coatings:

Duration – 3 Months
 Low VOC coatings (Pursuant to SCAQMD Rule 1113)
 (URBEMIS2007 default all phases)

Worker Commute

(URBEMIS2007 default all phases)

Construction Mitigation:

Refer to URBEMIS2007 file output.

PHASE 3 -

Grading:

Year	Total Acreage Disturbed	Acreage Disturbed Daily	Duration- (days)	Fugitive Dust	Soil Hauling (cubic yards)	Total Estimated Cut/Fill (cubic yards)
2019	429	30	264	Default	0	balanced

Grading Equipment (URBEMIS2007 Default):

Quantity	Type	Hours of Daily Operation
18	Scrapers	8
6	Graders	8
6	Rubber Tired Dozers	8
3	Plate Compactor	8
6	Water Trucks	8

Trenching:

Year	Duration
2020	44 days

Trenching Equipment (URBEMIS2007 Default):

Quantity	Type	Hours of Daily Operation
4	Excavators	8
2	Other General Industrial Equipment	8

Paving:

Year	Duration (days)	Acres
2020	22	154.09

Equipment (URBEMIS2007 Default):

Quantity	Type	Hours of Daily Operation
1	Paver	8
2	Paving Equipment	8
2	Rollers	6

Building Construction

Duration:

115 months

Equipment (URBEMIS2007 Default):

Quantity	Type	Hours of Daily Operation
1	Crane	7
3	Forklifts	8
3	Tractor/Loader/Backhoe	7
1	Welders	8
1	Generator Set	8

Architectural Coatings:

Duration – throughout 2021 - 2031
Low VOC coatings (Pursuant to SCAQMD Rule 1113)
(URBEMIS2007 default all phases)

Worker Commute

(URBEMIS2007 default all phases)

Construction Mitigation:

Refer to URBEMIS2007 file output.

PHASE 4 -

Grading:

Year	Total Acreage Disturbed	Acreage Disturbed Daily	Duration- (days)	Fugitive Dust	Soil Hauling (cubic yards)	Total Estimated Cut/Fill (cubic yards)
2032	120	30	44	Default	0	balanced

Grading Equipment (URBEMIS2007 Default):

Quantity	Type	Hours of Daily Operation
9	Scrapers	8
9	Tractors/Loaders/Backhoes	8
3	Excavator	8
3	Grader	8
3	Rubber Tired Dozer	8
3	Water Trucks	8

Trenching:

Year	Duration
2032	22 days

Trenching Equipment (URBEMIS2007 Default):

Quantity	Type	Hours of Daily Operation
4	Excavators	8
2	Other General Industrial Equipment	8

Paving:

Year	Duration (days)	Acres
2032	22	34.07

Equipment (URBEMIS2007 Default):

Quantity	Type	Hours of Daily Operation
1	Paver	8
2	Paving Equipment	8
2	Rollers	6

Building Construction**Duration:**

19 months

Equipment (URBEMIS2007 Default):

Quantity	Type	Hours of Daily Operation
1	Crane	7
3	Forklifts	8
3	Tractor/Loader/Backhoe	7
1	Welders	8
1	Generator Set	8

Architectural Coatings:

Duration – 6 Months

Low VOC coatings (Pursuant to SCAQMD Rule 1113)
(URBEMIS2007 default all phases)

Worker Commute

(URBEMIS2007 default all phases)

Construction Mitigation:

Refer to URBEMIS2007 file output.

PHASE 5 -**Grading:**

Year	Total Acreage Disturbed	Acreage Disturbed Daily	Duration- (days)	Fugitive Dust	Soil Hauling (cubic yards)	Total Estimated Cut/Fill (cubic yards)
2035	175	30	66	Default	0	balanced

Grading Equipment (URBEMIS2007 Default):

Quantity	Type	Hours of Daily Operation
9	Scrapers	8
9	Tractors/Loaders/Backhoes	8
3	Excavator	8
3	Grader	8
3	Rubber Tired Dozer	8
3	Water Trucks	8

Trenching:

Year	Duration
2035	22 days

Trenching Equipment (URBEMIS2007 Default):

Quantity	Type	Hours of Daily Operation
2	Excavators	8
1	Other General Industrial Equipment	8
1	Tractors/Loaders/Backhoes	8

Building Construction:**Duration:**

20 months

Equipment (URBEMIS2007 Default):

Quantity	Type	Hours of Daily Operation
1	Crane	7
3	Forklifts	8
3	Tractor/Loader/Backhoe	7
1	Welders	8
1	Generator Set	8

Architectural Coatings:

Duration – 6 Months

Low VOC coatings (Pursuant to SCAQMD Rule 1113)
(URBEMIS2007 default all phases)

Worker Commute

(URBEMIS2007 default all phases)

Construction Mitigation:

Refer to URBEMIS2007 file output.

YEAR 2042 AREA SOURCES

Natural Gas Fuel Combustion:

(URBEMIS2007 default all phases)

Hearth Fuel Combustion:

Off

Landscape Fuel Combustion:

Year of Completion	Summer Days
2042	180

Consumer Products:

(URBEMIS2007 default all phases)

Architectural Coating:

(URBEMIS2007 default all phases)

Area Source Mitigation:

Low VOC coatings (Pursuant to SCAQMD Rule 1113)
Refer to URBEMIS2007 file output.

YEAR 2042 OPERATIONAL SOURCES

Vehicle Fleet %:

(URBEMIS2007 default all phases)

Year:

Year of Completion – 2042

Trip Characteristics:

(URBEMIS2007 Default all phases)

Vehicle Fleet Mix:

URBEMIS uses the fleet mix information included in the EMFAC2007 files to generate the fleet mix estimates. For example, depending on the base year and area selected, URBEMIS uses a specific EMFAC file to obtain the average fleet mix for that location and year. For each vehicle type, there are three fuel/technology classes: non-catalyst (gasoline), catalyst (gasoline), and diesel.

Project Fleet Mix

Fleet Percentage	Vehicle Type	Non-Catalyst	Catalyst	Diesel	Total
49.0	Light Auto	2.0	97.6	0.4	100.0
10.9	Light Truck < 3,570 lbs	3.7	90.8	5.5	100.0
21.7	Light Truck 3,570-5,750 lbs	0.9	98.6	0.5	100.0
9.5	Med Truck 5,751-8,500 lbs	1.1	98.9	0.0	100.0
1.6	Lite-Heavy Truck 8,501-10,000 lbs	0.0	75.0	25.0	100.0
0.6	Lite-Heavy Truck 10,000-14,000 lbs	0.0	50.0	50.0	100.0
1.0	Med-Heavy Truck 14,001-33,000 lbs	0.0	20.0	80.0	100.0
0.9	Heavy-Heavy Truck 33,001-60,000 lbs	0.0	0.0	100.0	100.0
0.1	Other Bus	0.0	0.0	100.0	100.0
0.1	Urban Bus	0.0	0.0	100.0	100.0
3.5	Motorcycle	77.1	22.9	0.0	100.0
0.1	School Bus	0.0	0.0	100.0	100.0
1.0	Motor Home	10.0	80.0	10.0	100.0

Vehicle Miles Traveled (VMT) Calculations:

The URBEMIS2007 Model uses data from the Caltrans Statewide Travel Survey. The data is organized by region and stratified by trip purpose. The trip categories are home to work (H-W), home to shop (H-S), home to other (H-O), other to work (O-W), and other to other (O-O). The survey provides trip lengths for only H-W and total trips.

Vehicle Trip Distribution and Trip Length in Southern California

Travel Survey Trip Types:	H-W	H-S	H-O	O-W	O-O	Total
Percent trip type:	20%	9%	43%	11%	17%	100%
Trip length in minutes:	19.63	7.91	9.58	15.06	8.96	
Trip length in miles:	11.5	4.87	6.02	9.07	5.66	

Temperature Data:

40 to 90 degrees Fahrenheit

Variable Starts:

(URBEMIS2007 default all phases)

Road Dust:

Paved – 100%

Unpaved – 0%

Pass By Trips (On/Off):

Off

Double-Counting(On/Off):

Off

Operational Mitigation Measures:

Refer to URBEMIS2007 file output.

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\AMALISOS\Desktop\Butterfield\Butterfield Construction Phase 1_30AC.urb924

Project Name: Butterfield Construction Phase 1

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2012 TOTALS (lbs/day unmitigated)	43.97	383.93	188.54	0.01	600.06	16.17	616.23	125.32	14.87	140.20	41,240.65
2012 TOTALS (lbs/day mitigated)	43.97	383.93	188.54	0.01	94.63	16.17	110.80	19.77	14.87	34.64	41,240.65
2013 TOTALS (lbs/day unmitigated)	42.46	360.15	177.61	0.02	600.06	15.04	615.10	125.32	13.84	139.16	41,240.51
2013 TOTALS (lbs/day mitigated)	42.46	360.15	177.61	0.02	94.63	15.04	109.67	19.77	13.84	33.61	41,240.51
2014 TOTALS (lbs/day unmitigated)	25.36	98.43	570.98	0.90	4.04	6.43	10.47	1.45	5.73	7.18	93,511.04
2014 TOTALS (lbs/day mitigated)	25.36	98.43	570.98	0.90	4.04	6.43	10.47	1.45	5.73	7.18	93,511.04
2015 TOTALS (lbs/day unmitigated)	344.70	89.51	533.39	0.90	4.04	6.10	10.14	1.45	5.42	6.87	93,504.28
2015 TOTALS (lbs/day mitigated)	310.25	89.51	533.39	0.90	4.04	6.10	10.14	1.45	5.42	6.87	93,504.28

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Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 1/2/2012-12/31/2012	<u>43.97</u>	<u>383.93</u>	<u>188.54</u>	<u>0.01</u>	<u>600.06</u>	<u>16.17</u>	<u>616.23</u>	<u>125.32</u>	<u>14.87</u>	<u>140.20</u>	<u>41,240.65</u>
Active Days: 261											
Mass Grading 01/01/2012-07/30/2013	43.97	383.93	188.54	0.01	600.06	16.17	616.23	125.32	14.87	140.20	41,240.65
Mass Grading Dust	0.00	0.00	0.00	0.00	600.00	0.00	600.00	125.30	0.00	125.30	0.00
Mass Grading Off Road Diesel	43.70	383.43	179.69	0.00	0.00	16.14	16.14	0.00	14.85	14.85	40,028.28
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.27	0.51	8.85	0.01	0.06	0.03	0.09	0.02	0.03	0.05	1,212.37
Time Slice 1/1/2013-7/30/2013	<u>42.46</u>	<u>360.15</u>	<u>177.61</u>	<u>0.01</u>	<u>600.06</u>	<u>15.04</u>	<u>615.10</u>	<u>125.32</u>	<u>13.84</u>	<u>139.16</u>	<u>41,240.51</u>
Active Days: 151											
Mass Grading 01/01/2012-07/30/2013	42.46	360.15	177.61	0.01	600.06	15.04	615.10	125.32	13.84	139.16	41,240.51
Mass Grading Dust	0.00	0.00	0.00	0.00	600.00	0.00	600.00	125.30	0.00	125.30	0.00
Mass Grading Off Road Diesel	42.22	359.68	169.39	0.00	0.00	15.01	15.01	0.00	13.81	13.81	40,028.28
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.24	0.46	8.22	0.01	0.06	0.03	0.09	0.02	0.03	0.05	1,212.23
Time Slice 8/1/2013-9/30/2013	10.42	84.95	52.02	0.01	0.03	4.08	4.11	0.01	3.75	3.76	10,909.49
Active Days: 43											
Trenching 08/01/2013-09/30/2013	10.42	84.95	52.02	0.01	0.03	4.08	4.11	0.01	3.75	3.76	10,909.49
Trenching Off Road Diesel	10.30	84.71	47.81	0.00	0.00	4.06	4.06	0.00	3.74	3.74	10,287.83
Trenching Worker Trips	0.12	0.24	4.22	0.01	0.03	0.02	0.05	0.01	0.01	0.02	621.66

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Time Slice 10/1/2013-12/31/2013 Active Days: 66	11.81	58.38	37.04	<u>0.02</u>	0.08	4.65	4.73	0.03	4.28	4.31	6,422.69
Asphalt 10/01/2013-03/30/2014	11.81	58.38	37.04	0.02	0.08	4.65	4.73	0.03	4.28	4.31	6,422.69
Paving Off-Gas	2.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	8.06	49.38	30.46	0.00	0.00	4.30	4.30	0.00	3.96	3.96	4,256.44
Paving On Road Diesel	0.73	8.83	3.42	0.02	0.06	0.34	0.40	0.02	0.31	0.33	1,700.01
Paving Worker Trips	0.09	0.18	3.16	0.00	0.02	0.01	0.03	0.01	0.01	0.02	466.24
Time Slice 1/1/2014-3/28/2014 Active Days: 63	11.30	54.73	36.16	0.02	0.08	4.34	4.42	0.03	3.99	4.02	6,422.64
Asphalt 10/01/2013-03/30/2014	11.30	54.73	36.16	0.02	0.08	4.34	4.42	0.03	3.99	4.02	6,422.64
Paving Off-Gas	2.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	7.63	46.84	30.20	0.00	0.00	4.03	4.03	0.00	3.71	3.71	4,256.44
Paving On Road Diesel	0.66	7.73	3.01	0.02	0.06	0.29	0.35	0.02	0.27	0.29	1,700.01
Paving Worker Trips	0.09	0.16	2.95	0.00	0.02	0.01	0.04	0.01	0.01	0.02	466.20
Time Slice 4/1/2014-12/31/2014 Active Days: 197	<u>25.36</u>	<u>98.43</u>	<u>570.98</u>	<u>0.90</u>	<u>4.04</u>	<u>6.43</u>	<u>10.47</u>	<u>1.45</u>	<u>5.73</u>	<u>7.18</u>	<u>93,511.04</u>
Building 04/01/2014-09/30/2015	25.36	98.43	570.98	0.90	4.04	6.43	10.47	1.45	5.73	7.18	93,511.04
Building Off Road Diesel	8.78	52.95	39.18	0.00	0.00	3.32	3.32	0.00	3.05	3.05	6,777.84
Building Vendor Trips	1.63	16.89	15.38	0.05	0.18	0.68	0.86	0.06	0.63	0.69	5,027.62
Building Worker Trips	14.95	28.59	516.41	0.86	3.86	2.43	6.29	1.39	2.05	3.44	81,705.58
Time Slice 1/1/2015-9/30/2015 Active Days: 195	23.20	<u>89.51</u>	<u>533.39</u>	<u>0.90</u>	<u>4.04</u>	<u>6.10</u>	<u>10.14</u>	<u>1.45</u>	<u>5.42</u>	<u>6.87</u>	<u>93,504.28</u>
Building 04/01/2014-09/30/2015	23.20	89.51	533.39	0.90	4.04	6.10	10.14	1.45	5.42	6.87	93,504.28
Building Off Road Diesel	8.07	48.52	38.40	0.00	0.00	3.08	3.08	0.00	2.83	2.83	6,777.84
Building Vendor Trips	1.47	14.78	14.16	0.05	0.18	0.60	0.77	0.06	0.54	0.60	5,027.82
Building Worker Trips	13.65	26.21	480.83	0.86	3.86	2.43	6.29	1.39	2.05	3.44	81,698.61

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Time Slice 10/1/2015-12/31/2015	<u>344.70</u>	0.39	7.11	0.01	0.06	0.04	0.09	0.02	0.03	0.05	1,208.19
Active Days: 66											
Coating 10/01/2015-12/31/2015	344.70	0.39	7.11	0.01	0.06	0.04	0.09	0.02	0.03	0.05	1,208.19
Architectural Coating	344.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.20	0.39	7.11	0.01	0.06	0.04	0.09	0.02	0.03	0.05	1,208.19

Phase Assumptions

Phase: Mass Grading 1/1/2012 - 7/30/2013 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 825

Maximum Daily Acreage Disturbed: 30

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

6 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

3 Plate Compactors (8 hp) operating at a 0.43 load factor for 8 hours per day

6 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

15 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

6 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 8/1/2013 - 9/30/2013 - Default Trenching Description

Off-Road Equipment:

12 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

6 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 10/1/2013 - 3/30/2014 - Default Paving Description

Acres to be Paved: 144.14

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Off-Road Equipment:

- 3 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day
- 6 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day
- 6 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 4/1/2014 - 9/30/2015 - Default Building Construction Description

Off-Road Equipment:

- 3 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day
- 9 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day
- 3 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
- 9 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
- 3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 10/1/2015 - 12/31/2015 - Default Architectural Coating Description

- Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100
- Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50
- Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250
- Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100
- Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250
- Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
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Time Slice 1/2/2012-12/31/2012	<u>43.97</u>	<u>383.93</u>	<u>188.54</u>	<u>0.01</u>	<u>94.63</u>	<u>16.17</u>	<u>110.80</u>	<u>19.77</u>	<u>14.87</u>	<u>34.64</u>	<u>41,240.65</u>
Active Days: 261											
Mass Grading 01/01/2012-07/30/2013	43.97	383.93	188.54	0.01	94.63	16.17	110.80	19.77	14.87	34.64	41,240.65
Mass Grading Dust	0.00	0.00	0.00	0.00	94.57	0.00	94.57	19.75	0.00	19.75	0.00
Mass Grading Off Road Diesel	43.70	383.43	179.69	0.00	0.00	16.14	16.14	0.00	14.85	14.85	40,028.28
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.27	0.51	8.85	0.01	0.06	0.03	0.09	0.02	0.03	0.05	1,212.37
Time Slice 1/1/2013-7/30/2013	<u>42.46</u>	<u>360.15</u>	<u>177.61</u>	<u>0.01</u>	<u>94.63</u>	<u>15.04</u>	<u>109.67</u>	<u>19.77</u>	<u>13.84</u>	<u>33.61</u>	<u>41,240.51</u>
Active Days: 151											
Mass Grading 01/01/2012-07/30/2013	42.46	360.15	177.61	0.01	94.63	15.04	109.67	19.77	13.84	33.61	41,240.51
Mass Grading Dust	0.00	0.00	0.00	0.00	94.57	0.00	94.57	19.75	0.00	19.75	0.00
Mass Grading Off Road Diesel	42.22	359.68	169.39	0.00	0.00	15.01	15.01	0.00	13.81	13.81	40,028.28
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.24	0.46	8.22	0.01	0.06	0.03	0.09	0.02	0.03	0.05	1,212.23
Time Slice 8/1/2013-9/30/2013	10.42	84.95	52.02	0.01	0.03	4.08	4.11	0.01	3.75	3.76	10,909.49
Active Days: 43											
Trenching 08/01/2013-09/30/2013	10.42	84.95	52.02	0.01	0.03	4.08	4.11	0.01	3.75	3.76	10,909.49
Trenching Off Road Diesel	10.30	84.71	47.81	0.00	0.00	4.06	4.06	0.00	3.74	3.74	10,287.83
Trenching Worker Trips	0.12	0.24	4.22	0.01	0.03	0.02	0.05	0.01	0.01	0.02	621.66
Time Slice 10/1/2013-12/31/2013	11.81	58.38	37.04	<u>0.02</u>	0.08	4.65	4.73	0.03	4.28	4.31	6,422.69
Active Days: 66											
Asphalt 10/01/2013-03/30/2014	11.81	58.38	37.04	0.02	0.08	4.65	4.73	0.03	4.28	4.31	6,422.69
Paving Off-Gas	2.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	8.06	49.38	30.46	0.00	0.00	4.30	4.30	0.00	3.96	3.96	4,256.44
Paving On Road Diesel	0.73	8.83	3.42	0.02	0.06	0.34	0.40	0.02	0.31	0.33	1,700.01
Paving Worker Trips	0.09	0.18	3.16	0.00	0.02	0.01	0.03	0.01	0.01	0.02	466.24

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Time Slice 1/1/2014-3/28/2014 Active Days: 63	11.30	54.73	36.16	0.02	0.08	4.34	4.42	0.03	3.99	4.02	6,422.64
Asphalt 10/01/2013-03/30/2014	11.30	54.73	36.16	0.02	0.08	4.34	4.42	0.03	3.99	4.02	6,422.64
Paving Off-Gas	2.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	7.63	46.84	30.20	0.00	0.00	4.03	4.03	0.00	3.71	3.71	4,256.44
Paving On Road Diesel	0.66	7.73	3.01	0.02	0.06	0.29	0.35	0.02	0.27	0.29	1,700.01
Paving Worker Trips	0.09	0.16	2.95	0.00	0.02	0.01	0.04	0.01	0.01	0.02	466.20
Time Slice 4/1/2014-12/31/2014 Active Days: 197	<u>25.36</u>	<u>98.43</u>	<u>570.98</u>	<u>0.90</u>	<u>4.04</u>	<u>6.43</u>	<u>10.47</u>	<u>1.45</u>	<u>5.73</u>	<u>7.18</u>	<u>93,511.04</u>
Building 04/01/2014-09/30/2015	25.36	98.43	570.98	0.90	4.04	6.43	10.47	1.45	5.73	7.18	93,511.04
Building Off Road Diesel	8.78	52.95	39.18	0.00	0.00	3.32	3.32	0.00	3.05	3.05	6,777.84
Building Vendor Trips	1.63	16.89	15.38	0.05	0.18	0.68	0.86	0.06	0.63	0.69	5,027.62
Building Worker Trips	14.95	28.59	516.41	0.86	3.86	2.43	6.29	1.39	2.05	3.44	81,705.58
Time Slice 1/1/2015-9/30/2015 Active Days: 195	23.20	<u>89.51</u>	<u>533.39</u>	<u>0.90</u>	<u>4.04</u>	<u>6.10</u>	<u>10.14</u>	<u>1.45</u>	<u>5.42</u>	<u>6.87</u>	<u>93,504.28</u>
Building 04/01/2014-09/30/2015	23.20	89.51	533.39	0.90	4.04	6.10	10.14	1.45	5.42	6.87	93,504.28
Building Off Road Diesel	8.07	48.52	38.40	0.00	0.00	3.08	3.08	0.00	2.83	2.83	6,777.84
Building Vendor Trips	1.47	14.78	14.16	0.05	0.18	0.60	0.77	0.06	0.54	0.60	5,027.82
Building Worker Trips	13.65	26.21	480.83	0.86	3.86	2.43	6.29	1.39	2.05	3.44	81,698.61
Time Slice 10/1/2015-12/31/2015 Active Days: 66	<u>310.25</u>	0.39	7.11	0.01	0.06	0.04	0.09	0.02	0.03	0.05	1,208.19
Coating 10/01/2015-12/31/2015	310.25	0.39	7.11	0.01	0.06	0.04	0.09	0.02	0.03	0.05	1,208.19
Architectural Coating	310.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.20	0.39	7.11	0.01	0.06	0.04	0.09	0.02	0.03	0.05	1,208.19

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 1/1/2012 - 7/30/2013 - Default Mass Site Grading/Excavation Description

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For Soil Stabilizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stabilizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stabilizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

The following mitigation measures apply to Phase: Architectural Coating 10/1/2015 - 12/31/2015 - Default Architectural Coating Description

For Residential Architectural Coating Measures, the Residential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Residential Architectural Coating Measures, the Residential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\AMALISOS\Desktop\Butterfield\Butterfield Construction Phase 1_30AC.urb924

Project Name: Butterfield Construction Phase 1

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2012 TOTALS (lbs/day unmitigated)	43.97	383.93	188.54	0.01	600.06	16.17	616.23	125.32	14.87	140.20	41,240.65
2012 TOTALS (lbs/day mitigated)	43.97	383.93	188.54	0.01	94.63	16.17	110.80	19.77	14.87	34.64	41,240.65
2013 TOTALS (lbs/day unmitigated)	42.46	360.15	177.61	0.02	600.06	15.04	615.10	125.32	13.84	139.16	41,240.51
2013 TOTALS (lbs/day mitigated)	42.46	360.15	177.61	0.02	94.63	15.04	109.67	19.77	13.84	33.61	41,240.51
2014 TOTALS (lbs/day unmitigated)	25.36	98.43	570.98	0.90	4.04	6.43	10.47	1.45	5.73	7.18	93,511.04
2014 TOTALS (lbs/day mitigated)	25.36	98.43	570.98	0.90	4.04	6.43	10.47	1.45	5.73	7.18	93,511.04
2015 TOTALS (lbs/day unmitigated)	344.70	89.51	533.39	0.90	4.04	6.10	10.14	1.45	5.42	6.87	93,504.28
2015 TOTALS (lbs/day mitigated)	310.25	89.51	533.39	0.90	4.04	6.10	10.14	1.45	5.42	6.87	93,504.28

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Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 1/2/2012-12/31/2012	<u>43.97</u>	<u>383.93</u>	<u>188.54</u>	<u>0.01</u>	<u>600.06</u>	<u>16.17</u>	<u>616.23</u>	<u>125.32</u>	<u>14.87</u>	<u>140.20</u>	<u>41,240.65</u>
Active Days: 261											
Mass Grading 01/01/2012-07/30/2013	43.97	383.93	188.54	0.01	600.06	16.17	616.23	125.32	14.87	140.20	41,240.65
Mass Grading Dust	0.00	0.00	0.00	0.00	600.00	0.00	600.00	125.30	0.00	125.30	0.00
Mass Grading Off Road Diesel	43.70	383.43	179.69	0.00	0.00	16.14	16.14	0.00	14.85	14.85	40,028.28
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.27	0.51	8.85	0.01	0.06	0.03	0.09	0.02	0.03	0.05	1,212.37
Time Slice 1/1/2013-7/30/2013	<u>42.46</u>	<u>360.15</u>	<u>177.61</u>	<u>0.01</u>	<u>600.06</u>	<u>15.04</u>	<u>615.10</u>	<u>125.32</u>	<u>13.84</u>	<u>139.16</u>	<u>41,240.51</u>
Active Days: 151											
Mass Grading 01/01/2012-07/30/2013	42.46	360.15	177.61	0.01	600.06	15.04	615.10	125.32	13.84	139.16	41,240.51
Mass Grading Dust	0.00	0.00	0.00	0.00	600.00	0.00	600.00	125.30	0.00	125.30	0.00
Mass Grading Off Road Diesel	42.22	359.68	169.39	0.00	0.00	15.01	15.01	0.00	13.81	13.81	40,028.28
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.24	0.46	8.22	0.01	0.06	0.03	0.09	0.02	0.03	0.05	1,212.23
Time Slice 8/1/2013-9/30/2013	10.42	84.95	52.02	0.01	0.03	4.08	4.11	0.01	3.75	3.76	10,909.49
Active Days: 43											
Trenching 08/01/2013-09/30/2013	10.42	84.95	52.02	0.01	0.03	4.08	4.11	0.01	3.75	3.76	10,909.49
Trenching Off Road Diesel	10.30	84.71	47.81	0.00	0.00	4.06	4.06	0.00	3.74	3.74	10,287.83
Trenching Worker Trips	0.12	0.24	4.22	0.01	0.03	0.02	0.05	0.01	0.01	0.02	621.66

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Time Slice 10/1/2013-12/31/2013 Active Days: 66	11.81	58.38	37.04	<u>0.02</u>	0.08	4.65	4.73	0.03	4.28	4.31	6,422.69
Asphalt 10/01/2013-03/30/2014	11.81	58.38	37.04	0.02	0.08	4.65	4.73	0.03	4.28	4.31	6,422.69
Paving Off-Gas	2.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	8.06	49.38	30.46	0.00	0.00	4.30	4.30	0.00	3.96	3.96	4,256.44
Paving On Road Diesel	0.73	8.83	3.42	0.02	0.06	0.34	0.40	0.02	0.31	0.33	1,700.01
Paving Worker Trips	0.09	0.18	3.16	0.00	0.02	0.01	0.03	0.01	0.01	0.02	466.24
Time Slice 1/1/2014-3/28/2014 Active Days: 63	11.30	54.73	36.16	0.02	0.08	4.34	4.42	0.03	3.99	4.02	6,422.64
Asphalt 10/01/2013-03/30/2014	11.30	54.73	36.16	0.02	0.08	4.34	4.42	0.03	3.99	4.02	6,422.64
Paving Off-Gas	2.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	7.63	46.84	30.20	0.00	0.00	4.03	4.03	0.00	3.71	3.71	4,256.44
Paving On Road Diesel	0.66	7.73	3.01	0.02	0.06	0.29	0.35	0.02	0.27	0.29	1,700.01
Paving Worker Trips	0.09	0.16	2.95	0.00	0.02	0.01	0.04	0.01	0.01	0.02	466.20
Time Slice 4/1/2014-12/31/2014 Active Days: 197	<u>25.36</u>	<u>98.43</u>	<u>570.98</u>	<u>0.90</u>	<u>4.04</u>	<u>6.43</u>	<u>10.47</u>	<u>1.45</u>	<u>5.73</u>	<u>7.18</u>	<u>93,511.04</u>
Building 04/01/2014-09/30/2015	25.36	98.43	570.98	0.90	4.04	6.43	10.47	1.45	5.73	7.18	93,511.04
Building Off Road Diesel	8.78	52.95	39.18	0.00	0.00	3.32	3.32	0.00	3.05	3.05	6,777.84
Building Vendor Trips	1.63	16.89	15.38	0.05	0.18	0.68	0.86	0.06	0.63	0.69	5,027.62
Building Worker Trips	14.95	28.59	516.41	0.86	3.86	2.43	6.29	1.39	2.05	3.44	81,705.58
Time Slice 1/1/2015-9/30/2015 Active Days: 195	23.20	<u>89.51</u>	<u>533.39</u>	<u>0.90</u>	<u>4.04</u>	<u>6.10</u>	<u>10.14</u>	<u>1.45</u>	<u>5.42</u>	<u>6.87</u>	<u>93,504.28</u>
Building 04/01/2014-09/30/2015	23.20	89.51	533.39	0.90	4.04	6.10	10.14	1.45	5.42	6.87	93,504.28
Building Off Road Diesel	8.07	48.52	38.40	0.00	0.00	3.08	3.08	0.00	2.83	2.83	6,777.84
Building Vendor Trips	1.47	14.78	14.16	0.05	0.18	0.60	0.77	0.06	0.54	0.60	5,027.82
Building Worker Trips	13.65	26.21	480.83	0.86	3.86	2.43	6.29	1.39	2.05	3.44	81,698.61

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Time Slice 10/1/2015-12/31/2015	<u>344.70</u>	0.39	7.11	0.01	0.06	0.04	0.09	0.02	0.03	0.05	1,208.19
Active Days: 66											
Coating 10/01/2015-12/31/2015	344.70	0.39	7.11	0.01	0.06	0.04	0.09	0.02	0.03	0.05	1,208.19
Architectural Coating	344.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.20	0.39	7.11	0.01	0.06	0.04	0.09	0.02	0.03	0.05	1,208.19

Phase Assumptions

Phase: Mass Grading 1/1/2012 - 7/30/2013 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 825

Maximum Daily Acreage Disturbed: 30

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

6 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

3 Plate Compactors (8 hp) operating at a 0.43 load factor for 8 hours per day

6 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

15 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

6 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 8/1/2013 - 9/30/2013 - Default Trenching Description

Off-Road Equipment:

12 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

6 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 10/1/2013 - 3/30/2014 - Default Paving Description

Acres to be Paved: 144.14

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Off-Road Equipment:

- 3 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day
- 6 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day
- 6 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 4/1/2014 - 9/30/2015 - Default Building Construction Description

Off-Road Equipment:

- 3 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day
- 9 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day
- 3 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
- 9 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
- 3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 10/1/2015 - 12/31/2015 - Default Architectural Coating Description

- Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100
- Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50
- Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250
- Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100
- Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250
- Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
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Time Slice 1/2/2012-12/31/2012	<u>43.97</u>	<u>383.93</u>	<u>188.54</u>	<u>0.01</u>	<u>94.63</u>	<u>16.17</u>	<u>110.80</u>	<u>19.77</u>	<u>14.87</u>	<u>34.64</u>	<u>41,240.65</u>
Active Days: 261											
Mass Grading 01/01/2012-07/30/2013	43.97	383.93	188.54	0.01	94.63	16.17	110.80	19.77	14.87	34.64	41,240.65
Mass Grading Dust	0.00	0.00	0.00	0.00	94.57	0.00	94.57	19.75	0.00	19.75	0.00
Mass Grading Off Road Diesel	43.70	383.43	179.69	0.00	0.00	16.14	16.14	0.00	14.85	14.85	40,028.28
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.27	0.51	8.85	0.01	0.06	0.03	0.09	0.02	0.03	0.05	1,212.37
Time Slice 1/1/2013-7/30/2013	<u>42.46</u>	<u>360.15</u>	<u>177.61</u>	<u>0.01</u>	<u>94.63</u>	<u>15.04</u>	<u>109.67</u>	<u>19.77</u>	<u>13.84</u>	<u>33.61</u>	<u>41,240.51</u>
Active Days: 151											
Mass Grading 01/01/2012-07/30/2013	42.46	360.15	177.61	0.01	94.63	15.04	109.67	19.77	13.84	33.61	41,240.51
Mass Grading Dust	0.00	0.00	0.00	0.00	94.57	0.00	94.57	19.75	0.00	19.75	0.00
Mass Grading Off Road Diesel	42.22	359.68	169.39	0.00	0.00	15.01	15.01	0.00	13.81	13.81	40,028.28
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.24	0.46	8.22	0.01	0.06	0.03	0.09	0.02	0.03	0.05	1,212.23
Time Slice 8/1/2013-9/30/2013	10.42	84.95	52.02	0.01	0.03	4.08	4.11	0.01	3.75	3.76	10,909.49
Active Days: 43											
Trenching 08/01/2013-09/30/2013	10.42	84.95	52.02	0.01	0.03	4.08	4.11	0.01	3.75	3.76	10,909.49
Trenching Off Road Diesel	10.30	84.71	47.81	0.00	0.00	4.06	4.06	0.00	3.74	3.74	10,287.83
Trenching Worker Trips	0.12	0.24	4.22	0.01	0.03	0.02	0.05	0.01	0.01	0.02	621.66
Time Slice 10/1/2013-12/31/2013	11.81	58.38	37.04	<u>0.02</u>	0.08	4.65	4.73	0.03	4.28	4.31	6,422.69
Active Days: 66											
Asphalt 10/01/2013-03/30/2014	11.81	58.38	37.04	0.02	0.08	4.65	4.73	0.03	4.28	4.31	6,422.69
Paving Off-Gas	2.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	8.06	49.38	30.46	0.00	0.00	4.30	4.30	0.00	3.96	3.96	4,256.44
Paving On Road Diesel	0.73	8.83	3.42	0.02	0.06	0.34	0.40	0.02	0.31	0.33	1,700.01
Paving Worker Trips	0.09	0.18	3.16	0.00	0.02	0.01	0.03	0.01	0.01	0.02	466.24

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Time Slice 1/1/2014-3/28/2014 Active Days: 63	11.30	54.73	36.16	0.02	0.08	4.34	4.42	0.03	3.99	4.02	6,422.64
Asphalt 10/01/2013-03/30/2014	11.30	54.73	36.16	0.02	0.08	4.34	4.42	0.03	3.99	4.02	6,422.64
Paving Off-Gas	2.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	7.63	46.84	30.20	0.00	0.00	4.03	4.03	0.00	3.71	3.71	4,256.44
Paving On Road Diesel	0.66	7.73	3.01	0.02	0.06	0.29	0.35	0.02	0.27	0.29	1,700.01
Paving Worker Trips	0.09	0.16	2.95	0.00	0.02	0.01	0.04	0.01	0.01	0.02	466.20
Time Slice 4/1/2014-12/31/2014 Active Days: 197	<u>25.36</u>	<u>98.43</u>	<u>570.98</u>	<u>0.90</u>	<u>4.04</u>	<u>6.43</u>	<u>10.47</u>	<u>1.45</u>	<u>5.73</u>	<u>7.18</u>	<u>93,511.04</u>
Building 04/01/2014-09/30/2015	25.36	98.43	570.98	0.90	4.04	6.43	10.47	1.45	5.73	7.18	93,511.04
Building Off Road Diesel	8.78	52.95	39.18	0.00	0.00	3.32	3.32	0.00	3.05	3.05	6,777.84
Building Vendor Trips	1.63	16.89	15.38	0.05	0.18	0.68	0.86	0.06	0.63	0.69	5,027.62
Building Worker Trips	14.95	28.59	516.41	0.86	3.86	2.43	6.29	1.39	2.05	3.44	81,705.58
Time Slice 1/1/2015-9/30/2015 Active Days: 195	23.20	<u>89.51</u>	<u>533.39</u>	<u>0.90</u>	<u>4.04</u>	<u>6.10</u>	<u>10.14</u>	<u>1.45</u>	<u>5.42</u>	<u>6.87</u>	<u>93,504.28</u>
Building 04/01/2014-09/30/2015	23.20	89.51	533.39	0.90	4.04	6.10	10.14	1.45	5.42	6.87	93,504.28
Building Off Road Diesel	8.07	48.52	38.40	0.00	0.00	3.08	3.08	0.00	2.83	2.83	6,777.84
Building Vendor Trips	1.47	14.78	14.16	0.05	0.18	0.60	0.77	0.06	0.54	0.60	5,027.82
Building Worker Trips	13.65	26.21	480.83	0.86	3.86	2.43	6.29	1.39	2.05	3.44	81,698.61
Time Slice 10/1/2015-12/31/2015 Active Days: 66	<u>310.25</u>	0.39	7.11	0.01	0.06	0.04	0.09	0.02	0.03	0.05	1,208.19
Coating 10/01/2015-12/31/2015	310.25	0.39	7.11	0.01	0.06	0.04	0.09	0.02	0.03	0.05	1,208.19
Architectural Coating	310.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.20	0.39	7.11	0.01	0.06	0.04	0.09	0.02	0.03	0.05	1,208.19

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 1/1/2012 - 7/30/2013 - Default Mass Site Grading/Excavation Description

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For Soil Stabilizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stabilizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stabilizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

The following mitigation measures apply to Phase: Architectural Coating 10/1/2015 - 12/31/2015 - Default Architectural Coating Description

For Residential Architectural Coating Measures, the Residential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Residential Architectural Coating Measures, the Residential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Documents and Settings\AMALISOS\Desktop\Butterfield\Butterfield Construction Phase 1_30AC.urb924

Project Name: Butterfield Construction Phase 1

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2012 TOTALS (tons/year unmitigated)	5.74	50.10	24.60	0.00	78.31	2.11	80.42	16.35	1.94	18.30	5,381.91
2012 TOTALS (tons/year mitigated)	5.74	50.10	24.60	0.00	12.35	2.11	14.46	2.58	1.94	4.52	5,381.91
Percent Reduction	0.00	0.00	0.00	0.00	84.23	0.00	82.02	84.22	0.00	75.29	0.00
2013 TOTALS (tons/year unmitigated)	3.82	30.94	15.75	0.00	45.31	1.38	46.68	9.46	1.27	10.73	3,560.16
2013 TOTALS (tons/year mitigated)	3.82	30.94	15.75	0.00	7.15	1.38	8.52	1.49	1.27	2.76	3,560.16
Percent Reduction	0.00	0.00	0.00	0.00	84.22	0.00	81.74	84.21	0.00	74.27	0.00
2014 TOTALS (tons/year unmitigated)	2.85	11.42	57.38	0.09	0.40	0.77	1.17	0.14	0.69	0.83	9,413.15
2014 TOTALS (tons/year mitigated)	2.85	11.42	57.38	0.09	0.40	0.77	1.17	0.14	0.69	0.83	9,413.15
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2015 TOTALS (tons/year unmitigated)	13.64	8.74	52.24	0.09	0.40	0.60	0.99	0.14	0.53	0.67	9,156.54
2015 TOTALS (tons/year mitigated)	12.50	8.74	52.24	0.09	0.40	0.60	0.99	0.14	0.53	0.67	9,156.54
Percent Reduction	8.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
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2014	2.85	11.42	57.38	0.09	0.40	0.77	1.17	0.14	0.69	0.83	9,413.15
Asphalt 10/01/2013-03/30/2014	0.36	1.72	1.14	0.00	0.00	0.14	0.14	0.00	0.13	0.13	202.31
Paving Off-Gas	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.24	1.48	0.95	0.00	0.00	0.13	0.13	0.00	0.12	0.12	134.08
Paving On Road Diesel	0.02	0.24	0.09	0.00	0.00	0.01	0.01	0.00	0.01	0.01	53.55
Paving Worker Trips	0.00	0.01	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.69
Building 04/01/2014-09/30/2015	2.50	9.70	56.24	0.09	0.40	0.63	1.03	0.14	0.56	0.71	9,210.84
Building Off Road Diesel	0.86	5.22	3.86	0.00	0.00	0.33	0.33	0.00	0.30	0.30	667.62
Building Vendor Trips	0.16	1.66	1.52	0.00	0.02	0.07	0.08	0.01	0.06	0.07	495.22
Building Worker Trips	1.47	2.82	50.87	0.08	0.38	0.24	0.62	0.14	0.20	0.34	8,048.00
2015	13.64	8.74	52.24	0.09	0.40	0.60	0.99	0.14	0.53	0.67	9,156.54
Building 04/01/2014-09/30/2015	2.26	8.73	52.01	0.09	0.39	0.59	0.99	0.14	0.53	0.67	9,116.67
Building Off Road Diesel	0.79	4.73	3.74	0.00	0.00	0.30	0.30	0.00	0.28	0.28	660.84
Building Vendor Trips	0.14	1.44	1.38	0.00	0.02	0.06	0.08	0.01	0.05	0.06	490.21
Building Worker Trips	1.33	2.56	46.88	0.08	0.38	0.24	0.61	0.14	0.20	0.34	7,965.61
Coating 10/01/2015-12/31/2015	11.38	0.01	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	39.87
Architectural Coating	11.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.01	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	39.87

Phase Assumptions

Phase: Mass Grading 1/1/2012 - 7/30/2013 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 825

Maximum Daily Acreage Disturbed: 30

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

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On Road Truck Travel (VMT): 0

Off-Road Equipment:

- 6 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day
- 3 Plate Compactors (8 hp) operating at a 0.43 load factor for 8 hours per day
- 6 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day
- 15 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day
- 3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
- 6 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 8/1/2013 - 9/30/2013 - Default Trenching Description

Off-Road Equipment:

- 12 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
- 6 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day
- 2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 10/1/2013 - 3/30/2014 - Default Paving Description

Acres to be Paved: 144.14

Off-Road Equipment:

- 3 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day
- 6 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day
- 6 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 4/1/2014 - 9/30/2015 - Default Building Construction Description

Off-Road Equipment:

- 3 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day
- 9 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day
- 3 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
- 9 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
- 3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

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Phase: Architectural Coating 10/1/2015 - 12/31/2015 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2012	5.74	50.10	24.60	0.00	12.35	2.11	14.46	2.58	1.94	4.52	5,381.91
Mass Grading 01/01/2012-07/30/2013	5.74	50.10	24.60	0.00	12.35	2.11	14.46	2.58	1.94	4.52	5,381.91
Mass Grading Dust	0.00	0.00	0.00	0.00	12.34	0.00	12.34	2.58	0.00	2.58	0.00
Mass Grading Off Road Diesel	5.70	50.04	23.45	0.00	0.00	2.11	2.11	0.00	1.94	1.94	5,223.69
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.03	0.07	1.15	0.00	0.01	0.00	0.01	0.00	0.00	0.01	158.21

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2014	2.85	11.42	57.38	0.09	0.40	0.77	1.17	0.14	0.69	0.83	9,413.15
Asphalt 10/01/2013-03/30/2014	0.36	1.72	1.14	0.00	0.00	0.14	0.14	0.00	0.13	0.13	202.31
Paving Off-Gas	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.24	1.48	0.95	0.00	0.00	0.13	0.13	0.00	0.12	0.12	134.08
Paving On Road Diesel	0.02	0.24	0.09	0.00	0.00	0.01	0.01	0.00	0.01	0.01	53.55
Paving Worker Trips	0.00	0.01	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.69
Building 04/01/2014-09/30/2015	2.50	9.70	56.24	0.09	0.40	0.63	1.03	0.14	0.56	0.71	9,210.84
Building Off Road Diesel	0.86	5.22	3.86	0.00	0.00	0.33	0.33	0.00	0.30	0.30	667.62
Building Vendor Trips	0.16	1.66	1.52	0.00	0.02	0.07	0.08	0.01	0.06	0.07	495.22
Building Worker Trips	1.47	2.82	50.87	0.08	0.38	0.24	0.62	0.14	0.20	0.34	8,048.00
2015	12.50	8.74	52.24	0.09	0.40	0.60	0.99	0.14	0.53	0.67	9,156.54
Building 04/01/2014-09/30/2015	2.26	8.73	52.01	0.09	0.39	0.59	0.99	0.14	0.53	0.67	9,116.67
Building Off Road Diesel	0.79	4.73	3.74	0.00	0.00	0.30	0.30	0.00	0.28	0.28	660.84
Building Vendor Trips	0.14	1.44	1.38	0.00	0.02	0.06	0.08	0.01	0.05	0.06	490.21
Building Worker Trips	1.33	2.56	46.88	0.08	0.38	0.24	0.61	0.14	0.20	0.34	7,965.61
Coating 10/01/2015-12/31/2015	10.24	0.01	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	39.87
Architectural Coating	10.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.01	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	39.87

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 1/1/2012 - 7/30/2013 - Default Mass Site Grading/Excavation Description

For Soil Stabilizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stabilizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

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For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

The following mitigation measures apply to Phase: Architectural Coating 10/1/2015 - 12/31/2015 - Default Architectural Coating Description

For Residential Architectural Coating Measures, the Residential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Residential Architectural Coating Measures, the Residential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: I:\pdata\00000100\10P\WPWIN\EddieT\Programs\Air\URBEMIS\URBEMIS2007\Butterfield Construction Phase 2.urb924

Project Name: Butterfield Construction Phase 2

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2016 TOTALS (lbs/day unmitigated)	9.36	45.45	201.71	0.40	1.73	2.65	4.38	0.62	2.37	2.98	41,018.83
2016 TOTALS (lbs/day mitigated)	9.36	45.45	201.71	0.40	1.73	2.65	4.38	0.62	2.37	2.98	41,018.83
2017 TOTALS (lbs/day unmitigated)	8.57	41.16	188.72	0.40	1.73	2.45	4.18	0.62	2.18	2.80	41,016.58
2017 TOTALS (lbs/day mitigated)	8.57	41.16	188.72	0.40	1.73	2.45	4.18	0.62	2.18	2.80	41,016.58
2018 TOTALS (lbs/day unmitigated)	210.94	37.35	176.63	0.40	1.73	2.28	4.01	0.62	2.02	2.63	41,015.10
2018 TOTALS (lbs/day mitigated)	189.86	37.35	176.63	0.40	1.73	2.28	4.01	0.62	2.02	2.63	41,015.10

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

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	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
Time Slice 1/1/2016-2/29/2016 Active Days: 42	1.41	10.38	8.51	0.00	0.01	0.47	0.48	0.00	0.43	0.43	1,838.93
Trenching 01/01/2016-02/29/2016	1.41	10.38	8.51	0.00	0.01	0.47	0.48	0.00	0.43	0.43	1,838.93
Trenching Off Road Diesel	1.39	10.35	7.83	0.00	0.00	0.47	0.47	0.00	0.43	0.43	1,714.64
Trenching Worker Trips	0.02	0.04	0.68	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.29
Time Slice 3/1/2016-12/30/2016 Active Days: 219	<u>9.36</u>	<u>45.45</u>	<u>201.71</u>	<u>0.40</u>	<u>1.73</u>	<u>2.65</u>	<u>4.38</u>	<u>0.62</u>	<u>2.37</u>	<u>2.98</u>	<u>41,018.83</u>
Building 03/01/2016-03/30/2018	9.36	45.45	201.71	0.40	1.73	2.65	4.38	0.62	2.37	2.98	41,018.83
Building Off Road Diesel	2.47	14.84	12.61	0.00	0.00	0.88	0.88	0.00	0.81	0.81	2,259.28
Building Vendor Trips	2.22	21.56	21.40	0.08	0.29	0.87	1.16	0.10	0.79	0.89	8,260.06
Building Worker Trips	4.67	9.04	167.70	0.32	1.44	0.91	2.35	0.52	0.76	1.28	30,499.50
Time Slice 1/2/2017-12/29/2017 Active Days: 260	<u>8.57</u>	<u>41.16</u>	<u>188.72</u>	<u>0.40</u>	<u>1.73</u>	<u>2.45</u>	<u>4.18</u>	<u>0.62</u>	<u>2.18</u>	<u>2.80</u>	<u>41,016.58</u>
Building 03/01/2016-03/30/2018	8.57	41.16	188.72	0.40	1.73	2.45	4.18	0.62	2.18	2.80	41,016.58
Building Off Road Diesel	2.25	13.62	12.45	0.00	0.00	0.77	0.77	0.00	0.71	0.71	2,259.28
Building Vendor Trips	2.03	19.19	19.92	0.08	0.29	0.77	1.06	0.10	0.70	0.80	8,260.32
Building Worker Trips	4.30	8.35	156.35	0.32	1.44	0.91	2.35	0.52	0.76	1.28	30,496.98
Time Slice 1/1/2018-3/30/2018 Active Days: 65	<u>7.84</u>	<u>37.35</u>	<u>176.63</u>	<u>0.40</u>	<u>1.73</u>	<u>2.28</u>	<u>4.01</u>	<u>0.62</u>	<u>2.02</u>	<u>2.63</u>	<u>41,015.10</u>
Building 03/01/2016-03/30/2018	7.84	37.35	176.63	0.40	1.73	2.28	4.01	0.62	2.02	2.63	41,015.10
Building Off Road Diesel	2.03	12.45	12.26	0.00	0.00	0.67	0.67	0.00	0.62	0.62	2,259.28
Building Vendor Trips	1.87	17.20	18.60	0.08	0.29	0.70	0.98	0.10	0.63	0.73	8,260.62
Building Worker Trips	3.94	7.69	145.77	0.32	1.44	0.91	2.35	0.52	0.76	1.28	30,495.19

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Time Slice 4/2/2018-7/30/2018	<u>210.94</u>	0.28	5.25	0.01	0.05	0.03	0.08	0.02	0.03	0.05	1,098.59
Active Days: 86											
Coating 04/01/2018-07/30/2018	210.94	0.28	5.25	0.01	0.05	0.03	0.08	0.02	0.03	0.05	1,098.59
Architectural Coating	210.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.14	0.28	5.25	0.01	0.05	0.03	0.08	0.02	0.03	0.05	1,098.59

Phase Assumptions

Phase: Trenching 1/1/2016 - 2/29/2016 - Default Trenching Description

Off-Road Equipment:

- 2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
- 1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Building Construction 3/1/2016 - 3/30/2018 - Default Building Construction Description

Off-Road Equipment:

- 1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day
- 3 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day
- 1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
- 3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
- 1 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 4/1/2018 - 7/30/2018 - Default Architectural Coating Description

- Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100
- Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50
- Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250
- Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100
- Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250
- Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

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Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 1/1/2016-2/29/2016 Active Days: 42	1.41	10.38	8.51	0.00	0.01	0.47	0.48	0.00	0.43	0.43	1,838.93
Trenching 01/01/2016-02/29/2016	1.41	10.38	8.51	0.00	0.01	0.47	0.48	0.00	0.43	0.43	1,838.93
Trenching Off Road Diesel	1.39	10.35	7.83	0.00	0.00	0.47	0.47	0.00	0.43	0.43	1,714.64
Trenching Worker Trips	0.02	0.04	0.68	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.29
Time Slice 3/1/2016-12/30/2016 Active Days: 219	<u>9.36</u>	<u>45.45</u>	<u>201.71</u>	<u>0.40</u>	<u>1.73</u>	<u>2.65</u>	<u>4.38</u>	<u>0.62</u>	<u>2.37</u>	<u>2.98</u>	<u>41,018.83</u>
Building 03/01/2016-03/30/2018	9.36	45.45	201.71	0.40	1.73	2.65	4.38	0.62	2.37	2.98	41,018.83
Building Off Road Diesel	2.47	14.84	12.61	0.00	0.00	0.88	0.88	0.00	0.81	0.81	2,259.28
Building Vendor Trips	2.22	21.56	21.40	0.08	0.29	0.87	1.16	0.10	0.79	0.89	8,260.06
Building Worker Trips	4.67	9.04	167.70	0.32	1.44	0.91	2.35	0.52	0.76	1.28	30,499.50
Time Slice 1/2/2017-12/29/2017 Active Days: 260	<u>8.57</u>	<u>41.16</u>	<u>188.72</u>	<u>0.40</u>	<u>1.73</u>	<u>2.45</u>	<u>4.18</u>	<u>0.62</u>	<u>2.18</u>	<u>2.80</u>	<u>41,016.58</u>
Building 03/01/2016-03/30/2018	8.57	41.16	188.72	0.40	1.73	2.45	4.18	0.62	2.18	2.80	41,016.58
Building Off Road Diesel	2.25	13.62	12.45	0.00	0.00	0.77	0.77	0.00	0.71	0.71	2,259.28
Building Vendor Trips	2.03	19.19	19.92	0.08	0.29	0.77	1.06	0.10	0.70	0.80	8,260.32
Building Worker Trips	4.30	8.35	156.35	0.32	1.44	0.91	2.35	0.52	0.76	1.28	30,496.98
Time Slice 1/1/2018-3/30/2018 Active Days: 65	<u>7.84</u>	<u>37.35</u>	<u>176.63</u>	<u>0.40</u>	<u>1.73</u>	<u>2.28</u>	<u>4.01</u>	<u>0.62</u>	<u>2.02</u>	<u>2.63</u>	<u>41,015.10</u>
Building 03/01/2016-03/30/2018	7.84	37.35	176.63	0.40	1.73	2.28	4.01	0.62	2.02	2.63	41,015.10
Building Off Road Diesel	2.03	12.45	12.26	0.00	0.00	0.67	0.67	0.00	0.62	0.62	2,259.28
Building Vendor Trips	1.87	17.20	18.60	0.08	0.29	0.70	0.98	0.10	0.63	0.73	8,260.62
Building Worker Trips	3.94	7.69	145.77	0.32	1.44	0.91	2.35	0.52	0.76	1.28	30,495.19

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Time Slice 4/2/2018-7/30/2018	<u>189.86</u>	0.28	5.25	0.01	0.05	0.03	0.08	0.02	0.03	0.05	1,098.59
Active Days: 86											
Coating 04/01/2018-07/30/2018	189.86	0.28	5.25	0.01	0.05	0.03	0.08	0.02	0.03	0.05	1,098.59
Architectural Coating	189.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.14	0.28	5.25	0.01	0.05	0.03	0.08	0.02	0.03	0.05	1,098.59

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Architectural Coating 4/1/2018 - 7/30/2018 - Default Architectural Coating Description

For Residential Architectural Coating Measures, the Residential Exterior: Use Low VOC Coatings mitigation reduces emissions by:
ROG: 10%

For Residential Architectural Coating Measures, the Residential Interior: Use Low VOC Coatings mitigation reduces emissions by:
ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:
ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:
ROG: 10%

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: I:\pdata\00000100\10P\WPWIN\EddieT\Programs\Air\URBEMIS\URBEMIS2007\Butterfield Construction Phase 2.urb924

Project Name: Butterfield Construction Phase 2

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2016 TOTALS (lbs/day unmitigated)	9.36	45.45	201.71	0.40	1.73	2.65	4.38	0.62	2.37	2.98	41,018.83
2016 TOTALS (lbs/day mitigated)	9.36	45.45	201.71	0.40	1.73	2.65	4.38	0.62	2.37	2.98	41,018.83
2017 TOTALS (lbs/day unmitigated)	8.57	41.16	188.72	0.40	1.73	2.45	4.18	0.62	2.18	2.80	41,016.58
2017 TOTALS (lbs/day mitigated)	8.57	41.16	188.72	0.40	1.73	2.45	4.18	0.62	2.18	2.80	41,016.58
2018 TOTALS (lbs/day unmitigated)	210.94	37.35	176.63	0.40	1.73	2.28	4.01	0.62	2.02	2.63	41,015.10
2018 TOTALS (lbs/day mitigated)	189.86	37.35	176.63	0.40	1.73	2.28	4.01	0.62	2.02	2.63	41,015.10

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

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	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
Time Slice 1/1/2016-2/29/2016 Active Days: 42	1.41	10.38	8.51	0.00	0.01	0.47	0.48	0.00	0.43	0.43	1,838.93
Trenching 01/01/2016-02/29/2016	1.41	10.38	8.51	0.00	0.01	0.47	0.48	0.00	0.43	0.43	1,838.93
Trenching Off Road Diesel	1.39	10.35	7.83	0.00	0.00	0.47	0.47	0.00	0.43	0.43	1,714.64
Trenching Worker Trips	0.02	0.04	0.68	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.29
Time Slice 3/1/2016-12/30/2016 Active Days: 219	<u>9.36</u>	<u>45.45</u>	<u>201.71</u>	<u>0.40</u>	<u>1.73</u>	<u>2.65</u>	<u>4.38</u>	<u>0.62</u>	<u>2.37</u>	<u>2.98</u>	<u>41,018.83</u>
Building 03/01/2016-03/30/2018	9.36	45.45	201.71	0.40	1.73	2.65	4.38	0.62	2.37	2.98	41,018.83
Building Off Road Diesel	2.47	14.84	12.61	0.00	0.00	0.88	0.88	0.00	0.81	0.81	2,259.28
Building Vendor Trips	2.22	21.56	21.40	0.08	0.29	0.87	1.16	0.10	0.79	0.89	8,260.06
Building Worker Trips	4.67	9.04	167.70	0.32	1.44	0.91	2.35	0.52	0.76	1.28	30,499.50
Time Slice 1/2/2017-12/29/2017 Active Days: 260	<u>8.57</u>	<u>41.16</u>	<u>188.72</u>	<u>0.40</u>	<u>1.73</u>	<u>2.45</u>	<u>4.18</u>	<u>0.62</u>	<u>2.18</u>	<u>2.80</u>	<u>41,016.58</u>
Building 03/01/2016-03/30/2018	8.57	41.16	188.72	0.40	1.73	2.45	4.18	0.62	2.18	2.80	41,016.58
Building Off Road Diesel	2.25	13.62	12.45	0.00	0.00	0.77	0.77	0.00	0.71	0.71	2,259.28
Building Vendor Trips	2.03	19.19	19.92	0.08	0.29	0.77	1.06	0.10	0.70	0.80	8,260.32
Building Worker Trips	4.30	8.35	156.35	0.32	1.44	0.91	2.35	0.52	0.76	1.28	30,496.98
Time Slice 1/1/2018-3/30/2018 Active Days: 65	<u>7.84</u>	<u>37.35</u>	<u>176.63</u>	<u>0.40</u>	<u>1.73</u>	<u>2.28</u>	<u>4.01</u>	<u>0.62</u>	<u>2.02</u>	<u>2.63</u>	<u>41,015.10</u>
Building 03/01/2016-03/30/2018	7.84	37.35	176.63	0.40	1.73	2.28	4.01	0.62	2.02	2.63	41,015.10
Building Off Road Diesel	2.03	12.45	12.26	0.00	0.00	0.67	0.67	0.00	0.62	0.62	2,259.28
Building Vendor Trips	1.87	17.20	18.60	0.08	0.29	0.70	0.98	0.10	0.63	0.73	8,260.62
Building Worker Trips	3.94	7.69	145.77	0.32	1.44	0.91	2.35	0.52	0.76	1.28	30,495.19

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Time Slice 4/2/2018-7/30/2018	<u>210.94</u>	0.28	5.25	0.01	0.05	0.03	0.08	0.02	0.03	0.05	1,098.59
Active Days: 86											
Coating 04/01/2018-07/30/2018	210.94	0.28	5.25	0.01	0.05	0.03	0.08	0.02	0.03	0.05	1,098.59
Architectural Coating	210.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.14	0.28	5.25	0.01	0.05	0.03	0.08	0.02	0.03	0.05	1,098.59

Phase Assumptions

Phase: Trenching 1/1/2016 - 2/29/2016 - Default Trenching Description

Off-Road Equipment:

- 2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
- 1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Building Construction 3/1/2016 - 3/30/2018 - Default Building Construction Description

Off-Road Equipment:

- 1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day
- 3 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day
- 1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
- 3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
- 1 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 4/1/2018 - 7/30/2018 - Default Architectural Coating Description

- Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100
- Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50
- Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250
- Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100
- Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250
- Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

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Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 1/1/2016-2/29/2016 Active Days: 42	1.41	10.38	8.51	0.00	0.01	0.47	0.48	0.00	0.43	0.43	1,838.93
Trenching 01/01/2016-02/29/2016	1.41	10.38	8.51	0.00	0.01	0.47	0.48	0.00	0.43	0.43	1,838.93
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Trenching Worker Trips	0.02	0.04	0.68	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.29
Time Slice 3/1/2016-12/30/2016 Active Days: 219	<u>9.36</u>	<u>45.45</u>	<u>201.71</u>	<u>0.40</u>	<u>1.73</u>	<u>2.65</u>	<u>4.38</u>	<u>0.62</u>	<u>2.37</u>	<u>2.98</u>	<u>41,018.83</u>
Building 03/01/2016-03/30/2018	9.36	45.45	201.71	0.40	1.73	2.65	4.38	0.62	2.37	2.98	41,018.83
Building Off Road Diesel	2.47	14.84	12.61	0.00	0.00	0.88	0.88	0.00	0.81	0.81	2,259.28
Building Vendor Trips	2.22	21.56	21.40	0.08	0.29	0.87	1.16	0.10	0.79	0.89	8,260.06
Building Worker Trips	4.67	9.04	167.70	0.32	1.44	0.91	2.35	0.52	0.76	1.28	30,499.50
Time Slice 1/2/2017-12/29/2017 Active Days: 260	<u>8.57</u>	<u>41.16</u>	<u>188.72</u>	<u>0.40</u>	<u>1.73</u>	<u>2.45</u>	<u>4.18</u>	<u>0.62</u>	<u>2.18</u>	<u>2.80</u>	<u>41,016.58</u>
Building 03/01/2016-03/30/2018	8.57	41.16	188.72	0.40	1.73	2.45	4.18	0.62	2.18	2.80	41,016.58
Building Off Road Diesel	2.25	13.62	12.45	0.00	0.00	0.77	0.77	0.00	0.71	0.71	2,259.28
Building Vendor Trips	2.03	19.19	19.92	0.08	0.29	0.77	1.06	0.10	0.70	0.80	8,260.32
Building Worker Trips	4.30	8.35	156.35	0.32	1.44	0.91	2.35	0.52	0.76	1.28	30,496.98
Time Slice 1/1/2018-3/30/2018 Active Days: 65	7.84	<u>37.35</u>	<u>176.63</u>	<u>0.40</u>	<u>1.73</u>	<u>2.28</u>	<u>4.01</u>	<u>0.62</u>	<u>2.02</u>	<u>2.63</u>	<u>41,015.10</u>
Building 03/01/2016-03/30/2018	7.84	37.35	176.63	0.40	1.73	2.28	4.01	0.62	2.02	2.63	41,015.10
Building Off Road Diesel	2.03	12.45	12.26	0.00	0.00	0.67	0.67	0.00	0.62	0.62	2,259.28
Building Vendor Trips	1.87	17.20	18.60	0.08	0.29	0.70	0.98	0.10	0.63	0.73	8,260.62
Building Worker Trips	3.94	7.69	145.77	0.32	1.44	0.91	2.35	0.52	0.76	1.28	30,495.19

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Time Slice 4/2/2018-7/30/2018	<u>189.86</u>	0.28	5.25	0.01	0.05	0.03	0.08	0.02	0.03	0.05	1,098.59
Active Days: 86											
Coating 04/01/2018-07/30/2018	189.86	0.28	5.25	0.01	0.05	0.03	0.08	0.02	0.03	0.05	1,098.59
Architectural Coating	189.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.14	0.28	5.25	0.01	0.05	0.03	0.08	0.02	0.03	0.05	1,098.59

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Architectural Coating 4/1/2018 - 7/30/2018 - Default Architectural Coating Description

For Residential Architectural Coating Measures, the Residential Exterior: Use Low VOC Coatings mitigation reduces emissions by:
ROG: 10%

For Residential Architectural Coating Measures, the Residential Interior: Use Low VOC Coatings mitigation reduces emissions by:
ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:
ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:
ROG: 10%

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: I:\pdata\00000100\10P\WPWIN\Eddie\Programs\Air\URBEMIS\URBEMIS2007\Butterfield Construction Phase 2.urb924

Project Name: Butterfield Construction Phase 2

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

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Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2016	1.05	5.19	22.27	0.04	0.19	0.30	0.49	0.07	0.27	0.34	4,530.18
Trenching 01/01/2016-02/29/2016	0.03	0.22	0.18	0.00	0.00	0.01	0.01	0.00	0.01	0.01	38.62
Trenching Off Road Diesel	0.03	0.22	0.16	0.00	0.00	0.01	0.01	0.00	0.01	0.01	36.01
Trenching Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.61
Building 03/01/2016-03/30/2018	1.02	4.98	22.09	0.04	0.19	0.29	0.48	0.07	0.26	0.33	4,491.56
Building Off Road Diesel	0.27	1.62	1.38	0.00	0.00	0.10	0.10	0.00	0.09	0.09	247.39
Building Vendor Trips	0.24	2.36	2.34	0.01	0.03	0.10	0.13	0.01	0.09	0.10	904.48
Building Worker Trips	0.51	0.99	18.36	0.04	0.16	0.10	0.26	0.06	0.08	0.14	3,339.69
2017	1.11	5.35	24.53	0.05	0.23	0.32	0.54	0.08	0.28	0.36	5,332.16
Building 03/01/2016-03/30/2018	1.11	5.35	24.53	0.05	0.23	0.32	0.54	0.08	0.28	0.36	5,332.16
Building Off Road Diesel	0.29	1.77	1.62	0.00	0.00	0.10	0.10	0.00	0.09	0.09	293.71
Building Vendor Trips	0.26	2.49	2.59	0.01	0.04	0.10	0.14	0.01	0.09	0.10	1,073.84
Building Worker Trips	0.56	1.09	20.33	0.04	0.19	0.12	0.31	0.07	0.10	0.17	3,964.61

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2018	9.33	1.23	5.97	0.01	0.06	0.08	0.13	0.02	0.07	0.09	1,380.23
Building 03/01/2016-03/30/2018	0.25	1.21	5.74	0.01	0.06	0.07	0.13	0.02	0.07	0.09	1,332.99
Building Off Road Diesel	0.07	0.40	0.40	0.00	0.00	0.02	0.02	0.00	0.02	0.02	73.43
Building Vendor Trips	0.06	0.56	0.60	0.00	0.01	0.02	0.03	0.00	0.02	0.02	268.47
Building Worker Trips	0.13	0.25	4.74	0.01	0.05	0.03	0.08	0.02	0.02	0.04	991.09
Coating 04/01/2018-07/30/2018	9.07	0.01	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	47.24
Architectural Coating	9.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.01	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	47.24

Phase Assumptions

Phase: Trenching 1/1/2016 - 2/29/2016 - Default Trenching Description

Off-Road Equipment:

- 2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
- 1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Building Construction 3/1/2016 - 3/30/2018 - Default Building Construction Description

Off-Road Equipment:

- 1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day
- 3 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day
- 1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
- 3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
- 1 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 4/1/2018 - 7/30/2018 - Default Architectural Coating Description

- Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100
- Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50
- Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

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Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2016	1.05	5.19	22.27	0.04	0.19	0.30	0.49	0.07	0.27	0.34	4,530.18
Trenching 01/01/2016-02/29/2016	0.03	0.22	0.18	0.00	0.00	0.01	0.01	0.00	0.01	0.01	38.62
Trenching Off Road Diesel	0.03	0.22	0.16	0.00	0.00	0.01	0.01	0.00	0.01	0.01	36.01
Trenching Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.61
Building 03/01/2016-03/30/2018	1.02	4.98	22.09	0.04	0.19	0.29	0.48	0.07	0.26	0.33	4,491.56
Building Off Road Diesel	0.27	1.62	1.38	0.00	0.00	0.10	0.10	0.00	0.09	0.09	247.39
Building Vendor Trips	0.24	2.36	2.34	0.01	0.03	0.10	0.13	0.01	0.09	0.10	904.48
Building Worker Trips	0.51	0.99	18.36	0.04	0.16	0.10	0.26	0.06	0.08	0.14	3,339.69
2017	1.11	5.35	24.53	0.05	0.23	0.32	0.54	0.08	0.28	0.36	5,332.16
Building 03/01/2016-03/30/2018	1.11	5.35	24.53	0.05	0.23	0.32	0.54	0.08	0.28	0.36	5,332.16
Building Off Road Diesel	0.29	1.77	1.62	0.00	0.00	0.10	0.10	0.00	0.09	0.09	293.71
Building Vendor Trips	0.26	2.49	2.59	0.01	0.04	0.10	0.14	0.01	0.09	0.10	1,073.84
Building Worker Trips	0.56	1.09	20.33	0.04	0.19	0.12	0.31	0.07	0.10	0.17	3,964.61

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2018	8.42	1.23	5.97	0.01	0.06	0.08	0.13	0.02	0.07	0.09	1,380.23
Building 03/01/2016-03/30/2018	0.25	1.21	5.74	0.01	0.06	0.07	0.13	0.02	0.07	0.09	1,332.99
Building Off Road Diesel	0.07	0.40	0.40	0.00	0.00	0.02	0.02	0.00	0.02	0.02	73.43
Building Vendor Trips	0.06	0.56	0.60	0.00	0.01	0.02	0.03	0.00	0.02	0.02	268.47
Building Worker Trips	0.13	0.25	4.74	0.01	0.05	0.03	0.08	0.02	0.02	0.04	991.09
Coating 04/01/2018-07/30/2018	8.16	0.01	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	47.24
Architectural Coating	8.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.01	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	47.24

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Architectural Coating 4/1/2018 - 7/30/2018 - Default Architectural Coating Description

For Residential Architectural Coating Measures, the Residential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Residential Architectural Coating Measures, the Residential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: H:\PDATA\65100290\Air_Noise\Air\Models\URBEMIS\Construction\Butterfield Construction Phase 3.urb924

Project Name: Butterfield Construction Phase 3

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2019 TOTALS (lbs/day unmitigated)	33.36	238.69	143.13	0.01	600.06	9.29	609.35	125.32	8.55	133.87	45,136.52
2019 TOTALS (lbs/day mitigated)	33.36	238.69	143.13	0.01	94.63	9.29	103.92	19.77	8.55	28.32	45,136.52
2020 TOTALS (lbs/day unmitigated)	22.48	34.80	183.41	0.48	2.07	2.26	4.33	0.74	1.98	2.72	48,571.93
2020 TOTALS (lbs/day mitigated)	22.48	34.80	183.41	0.48	2.07	2.26	4.33	0.74	1.98	2.72	48,571.93
2021 TOTALS (lbs/day unmitigated)	15.84	27.38	136.47	0.48	2.07	2.08	4.16	0.74	1.82	2.56	48,628.30
2021 TOTALS (lbs/day mitigated)	5.97	27.38	136.47	0.48	2.07	2.08	4.16	0.74	1.82	2.56	48,628.30
2022 TOTALS (lbs/day unmitigated)	15.84	27.38	136.47	0.48	2.07	2.08	4.16	0.74	1.82	2.56	48,628.30
2022 TOTALS (lbs/day mitigated)	6.68	27.38	136.47	0.48	2.07	2.08	4.16	0.74	1.82	2.56	48,628.30
2023 TOTALS (lbs/day unmitigated)	15.84	27.38	136.47	0.48	2.07	2.08	4.16	0.74	1.82	2.56	48,628.30

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2031 TOTALS (lbs/day mitigated)	0.23	0.01	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.74
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Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
Time Slice 1/1/2019-12/31/2019	<u>33.36</u>	<u>238.69</u>	<u>143.13</u>	<u>0.01</u>	<u>600.06</u>	<u>9.29</u>	<u>609.35</u>	<u>125.32</u>	<u>8.55</u>	<u>133.87</u>	<u>45,136.52</u>
Active Days: 261											
Mass Grading 01/01/2019-12/31/2019	33.36	238.69	143.13	0.01	600.06	9.29	609.35	125.32	8.55	133.87	45,136.52
Mass Grading Dust	0.00	0.00	0.00	0.00	600.00	0.00	600.00	125.30	0.00	125.30	0.00
Mass Grading Off Road Diesel	33.22	238.41	137.73	0.00	0.00	9.26	9.26	0.00	8.52	8.52	43,924.88
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.14	0.28	5.40	0.01	0.06	0.04	0.09	0.02	0.03	0.05	1,211.64
Time Slice 1/1/2020-2/28/2020	2.10	12.40	16.56	0.00	0.01	0.58	0.60	0.00	0.54	0.54	3,677.81
Active Days: 43											
Trenching 01/01/2020-02/29/2020	2.10	12.40	16.56	0.00	0.01	0.58	0.60	0.00	0.54	0.54	3,677.81
Trenching Off Road Diesel	2.08	12.35	15.53	0.00	0.00	0.58	0.58	0.00	0.53	0.53	3,429.28
Trenching Worker Trips	0.03	0.05	1.03	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.53
Time Slice 3/2/2020-3/30/2020	<u>22.48</u>	34.73	20.15	0.10	0.36	1.63	1.99	0.12	1.50	1.62	12,230.48
Active Days: 21											
Asphalt 03/01/2020-03/30/2020	22.48	34.73	20.15	0.10	0.36	1.63	1.99	0.12	1.50	1.62	12,230.48
Paving Off-Gas	18.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.70	10.53	9.66	0.00	0.00	0.82	0.82	0.00	0.75	0.75	1,418.81
Paving On Road Diesel	2.42	24.16	9.85	0.10	0.35	0.80	1.16	0.12	0.74	0.86	10,656.34
Paving Worker Trips	0.02	0.03	0.64	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.33

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Time Slice 1/1/2030-12/31/2030	<u>10.12</u>	<u>0.01</u>	<u>0.14</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>57.73</u>
Active Days: 261											
Coating 10/01/2021-03/30/2031	10.12	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.73
Architectural Coating	10.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.73
Time Slice 1/1/2031-3/28/2031	<u>10.12</u>	<u>0.01</u>	<u>0.11</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>57.74</u>
Active Days: 63											
Coating 10/01/2021-03/30/2031	10.12	0.01	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.74
Architectural Coating	10.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.74

Phase Assumptions

Phase: Mass Grading 1/1/2019 - 12/31/2019 - Type Your Description Here

Total Acres Disturbed: 429

Maximum Daily Acreage Disturbed: 30

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

6 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

3 Plate Compactors (8 hp) operating at a 0.43 load factor for 8 hours per day

6 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

18 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day

6 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 1/1/2020 - 2/29/2020 - Default Trenching Description

Off-Road Equipment:

4 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

2 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

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2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 3/1/2020 - 3/30/2020 - Type Your Description Here

Acres to be Paved: 154.09

Off-Road Equipment:

1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day

2 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

2 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 4/1/2020 - 9/30/2029 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day

3 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 10/1/2021 - 3/30/2031 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
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Time Slice 1/1/2019-12/31/2019	<u>33.36</u>	<u>238.69</u>	<u>143.13</u>	<u>0.01</u>	<u>94.63</u>	<u>9.29</u>	<u>103.92</u>	<u>19.77</u>	<u>8.55</u>	<u>28.32</u>	<u>45,136.52</u>
Active Days: 261											
Mass Grading 01/01/2019-12/31/2019	33.36	238.69	143.13	0.01	94.63	9.29	103.92	19.77	8.55	28.32	45,136.52
Mass Grading Dust	0.00	0.00	0.00	0.00	94.57	0.00	94.57	19.75	0.00	19.75	0.00
Mass Grading Off Road Diesel	33.22	238.41	137.73	0.00	0.00	9.26	9.26	0.00	8.52	8.52	43,924.88
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.14	0.28	5.40	0.01	0.06	0.04	0.09	0.02	0.03	0.05	1,211.64
Time Slice 1/1/2020-2/28/2020	2.10	12.40	16.56	0.00	0.01	0.58	0.60	0.00	0.54	0.54	3,677.81
Active Days: 43											
Trenching 01/01/2020-02/29/2020	2.10	12.40	16.56	0.00	0.01	0.58	0.60	0.00	0.54	0.54	3,677.81
Trenching Off Road Diesel	2.08	12.35	15.53	0.00	0.00	0.58	0.58	0.00	0.53	0.53	3,429.28
Trenching Worker Trips	0.03	0.05	1.03	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.53
Time Slice 3/2/2020-3/30/2020	<u>22.48</u>	34.73	20.15	0.10	0.36	1.63	1.99	0.12	1.50	1.62	12,230.48
Active Days: 21											
Asphalt 03/01/2020-03/30/2020	22.48	34.73	20.15	0.10	0.36	1.63	1.99	0.12	1.50	1.62	12,230.48
Paving Off-Gas	18.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.70	10.53	9.66	0.00	0.00	0.82	0.82	0.00	0.75	0.75	1,418.81
Paving On Road Diesel	2.42	24.16	9.85	0.10	0.35	0.80	1.16	0.12	0.74	0.86	10,656.34
Paving Worker Trips	0.02	0.03	0.64	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.33
Time Slice 4/1/2020-12/31/2020	7.55	<u>34.80</u>	<u>183.41</u>	<u>0.48</u>	<u>2.07</u>	<u>2.26</u>	<u>4.33</u>	<u>0.74</u>	<u>1.98</u>	<u>2.72</u>	<u>48,571.93</u>
Active Days: 197											
Building 04/01/2020-09/30/2029	7.55	34.80	183.41	0.48	2.07	2.26	4.33	0.74	1.98	2.72	48,571.93
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	1.87	16.42	18.99	0.09	0.34	0.67	1.00	0.11	0.61	0.72	9,603.62
Building Worker Trips	3.97	7.88	152.39	0.38	1.74	1.10	2.83	0.63	0.92	1.55	36,709.02

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Time Slice 1/1/2029-9/28/2029	<u>5.66</u>	<u>24.17</u>	<u>110.89</u>	<u>0.48</u>	<u>2.07</u>	<u>2.02</u>	<u>4.09</u>	<u>0.74</u>	<u>1.76</u>	<u>2.50</u>	<u>48,630.27</u>
Active Days: 195											
Building 04/01/2020-09/30/2029	4.70	24.17	110.75	0.48	2.07	2.01	4.09	0.74	1.76	2.50	48,572.54
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	1.21	9.66	12.51	0.09	0.34	0.42	0.76	0.11	0.38	0.50	9,606.58
Building Worker Trips	1.78	4.01	86.21	0.38	1.74	1.10	2.83	0.63	0.92	1.55	36,706.67
Coating 10/01/2021-03/30/2031	0.96	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.73
Architectural Coating	0.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.73
Time Slice 10/1/2029-12/31/2029	0.96	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.73
Active Days: 66											
Coating 10/01/2021-03/30/2031	0.96	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.73
Architectural Coating	0.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.73
Time Slice 1/1/2030-12/31/2030	<u>0.96</u>	<u>0.01</u>	<u>0.14</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>57.73</u>
Active Days: 261											
Coating 10/01/2021-03/30/2031	0.96	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.73
Architectural Coating	0.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.73
Time Slice 1/1/2031-3/28/2031	<u>0.23</u>	<u>0.01</u>	<u>0.11</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>57.74</u>
Active Days: 63											
Coating 10/01/2021-03/30/2031	0.23	0.01	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.74
Architectural Coating	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.74

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 1/1/2019 - 12/31/2019 - Type Your Description Here

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For Soil Stabilizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stabilizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stabilizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

The following mitigation measures apply to Phase: Architectural Coating 10/1/2021 - 3/30/2031 - Default Architectural Coating Description

For Residential Architectural Coating Measures, the Residential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Residential Architectural Coating Measures, the Residential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: H:\PDATA\65100290\Air_Noise\Air\Models\URBEMIS\Construction\Butterfield Construction Phase 3.urb924

Project Name: Butterfield Construction Phase 3

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2019 TOTALS (lbs/day unmitigated)	33.36	238.69	143.13	0.01	600.06	9.29	609.35	125.32	8.55	133.87	45,136.52
2019 TOTALS (lbs/day mitigated)	33.36	238.69	143.13	0.01	94.63	9.29	103.92	19.77	8.55	28.32	45,136.52
2020 TOTALS (lbs/day unmitigated)	22.48	34.80	183.41	0.48	2.07	2.26	4.33	0.74	1.98	2.72	48,571.93
2020 TOTALS (lbs/day mitigated)	22.48	34.80	183.41	0.48	2.07	2.26	4.33	0.74	1.98	2.72	48,571.93
2021 TOTALS (lbs/day unmitigated)	15.84	27.38	136.47	0.48	2.07	2.08	4.16	0.74	1.82	2.56	48,628.30
2021 TOTALS (lbs/day mitigated)	5.97	27.38	136.47	0.48	2.07	2.08	4.16	0.74	1.82	2.56	48,628.30
2022 TOTALS (lbs/day unmitigated)	15.84	27.38	136.47	0.48	2.07	2.08	4.16	0.74	1.82	2.56	48,628.30
2022 TOTALS (lbs/day mitigated)	6.68	27.38	136.47	0.48	2.07	2.08	4.16	0.74	1.82	2.56	48,628.30
2023 TOTALS (lbs/day unmitigated)	15.84	27.38	136.47	0.48	2.07	2.08	4.16	0.74	1.82	2.56	48,628.30

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2031 TOTALS (lbs/day mitigated)	0.23	0.01	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.74
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Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
Time Slice 1/1/2019-12/31/2019	<u>33.36</u>	<u>238.69</u>	<u>143.13</u>	<u>0.01</u>	<u>600.06</u>	<u>9.29</u>	<u>609.35</u>	<u>125.32</u>	<u>8.55</u>	<u>133.87</u>	<u>45,136.52</u>
Active Days: 261											
Mass Grading 01/01/2019-12/31/2019	33.36	238.69	143.13	0.01	600.06	9.29	609.35	125.32	8.55	133.87	45,136.52
Mass Grading Dust	0.00	0.00	0.00	0.00	600.00	0.00	600.00	125.30	0.00	125.30	0.00
Mass Grading Off Road Diesel	33.22	238.41	137.73	0.00	0.00	9.26	9.26	0.00	8.52	8.52	43,924.88
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.14	0.28	5.40	0.01	0.06	0.04	0.09	0.02	0.03	0.05	1,211.64
Time Slice 1/1/2020-2/28/2020	2.10	12.40	16.56	0.00	0.01	0.58	0.60	0.00	0.54	0.54	3,677.81
Active Days: 43											
Trenching 01/01/2020-02/29/2020	2.10	12.40	16.56	0.00	0.01	0.58	0.60	0.00	0.54	0.54	3,677.81
Trenching Off Road Diesel	2.08	12.35	15.53	0.00	0.00	0.58	0.58	0.00	0.53	0.53	3,429.28
Trenching Worker Trips	0.03	0.05	1.03	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.53
Time Slice 3/2/2020-3/30/2020	<u>22.48</u>	<u>34.73</u>	<u>20.15</u>	<u>0.10</u>	<u>0.36</u>	<u>1.63</u>	<u>1.99</u>	<u>0.12</u>	<u>1.50</u>	<u>1.62</u>	<u>12,230.48</u>
Active Days: 21											
Asphalt 03/01/2020-03/30/2020	22.48	34.73	20.15	0.10	0.36	1.63	1.99	0.12	1.50	1.62	12,230.48
Paving Off-Gas	18.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.70	10.53	9.66	0.00	0.00	0.82	0.82	0.00	0.75	0.75	1,418.81
Paving On Road Diesel	2.42	24.16	9.85	0.10	0.35	0.80	1.16	0.12	0.74	0.86	10,656.34
Paving Worker Trips	0.02	0.03	0.64	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.33

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Time Slice 1/1/2030-12/31/2030	<u>10.12</u>	<u>0.01</u>	<u>0.14</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>57.73</u>
Active Days: 261											
Coating 10/01/2021-03/30/2031	10.12	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.73
Architectural Coating	10.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.73
Time Slice 1/1/2031-3/28/2031	<u>10.12</u>	<u>0.01</u>	<u>0.11</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>57.74</u>
Active Days: 63											
Coating 10/01/2021-03/30/2031	10.12	0.01	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.74
Architectural Coating	10.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.74

Phase Assumptions

Phase: Mass Grading 1/1/2019 - 12/31/2019 - Type Your Description Here

Total Acres Disturbed: 429

Maximum Daily Acreage Disturbed: 30

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

6 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

3 Plate Compactors (8 hp) operating at a 0.43 load factor for 8 hours per day

6 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

18 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day

6 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 1/1/2020 - 2/29/2020 - Default Trenching Description

Off-Road Equipment:

4 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

2 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

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2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 3/1/2020 - 3/30/2020 - Type Your Description Here

Acres to be Paved: 154.09

Off-Road Equipment:

1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day

2 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

2 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 4/1/2020 - 9/30/2029 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day

3 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 10/1/2021 - 3/30/2031 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

ROGNOXCO SO2PM10 DustPM10 ExhaustPM10PM2.5 DustPM2.5 ExhaustPM2.5CO2

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Time Slice 1/1/2019-12/31/2019	<u>33.36</u>	<u>238.69</u>	<u>143.13</u>	<u>0.01</u>	<u>94.63</u>	<u>9.29</u>	<u>103.92</u>	<u>19.77</u>	<u>8.55</u>	<u>28.32</u>	<u>45,136.52</u>
Active Days: 261											
Mass Grading 01/01/2019-12/31/2019	33.36	238.69	143.13	0.01	94.63	9.29	103.92	19.77	8.55	28.32	45,136.52
Mass Grading Dust	0.00	0.00	0.00	0.00	94.57	0.00	94.57	19.75	0.00	19.75	0.00
Mass Grading Off Road Diesel	33.22	238.41	137.73	0.00	0.00	9.26	9.26	0.00	8.52	8.52	43,924.88
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.14	0.28	5.40	0.01	0.06	0.04	0.09	0.02	0.03	0.05	1,211.64
Time Slice 1/1/2020-2/28/2020	2.10	12.40	16.56	0.00	0.01	0.58	0.60	0.00	0.54	0.54	3,677.81
Active Days: 43											
Trenching 01/01/2020-02/29/2020	2.10	12.40	16.56	0.00	0.01	0.58	0.60	0.00	0.54	0.54	3,677.81
Trenching Off Road Diesel	2.08	12.35	15.53	0.00	0.00	0.58	0.58	0.00	0.53	0.53	3,429.28
Trenching Worker Trips	0.03	0.05	1.03	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.53
Time Slice 3/2/2020-3/30/2020	<u>22.48</u>	34.73	20.15	0.10	0.36	1.63	1.99	0.12	1.50	1.62	12,230.48
Active Days: 21											
Asphalt 03/01/2020-03/30/2020	22.48	34.73	20.15	0.10	0.36	1.63	1.99	0.12	1.50	1.62	12,230.48
Paving Off-Gas	18.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.70	10.53	9.66	0.00	0.00	0.82	0.82	0.00	0.75	0.75	1,418.81
Paving On Road Diesel	2.42	24.16	9.85	0.10	0.35	0.80	1.16	0.12	0.74	0.86	10,656.34
Paving Worker Trips	0.02	0.03	0.64	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.33
Time Slice 4/1/2020-12/31/2020	7.55	<u>34.80</u>	<u>183.41</u>	<u>0.48</u>	<u>2.07</u>	<u>2.26</u>	<u>4.33</u>	<u>0.74</u>	<u>1.98</u>	<u>2.72</u>	<u>48,571.93</u>
Active Days: 197											
Building 04/01/2020-09/30/2029	7.55	34.80	183.41	0.48	2.07	2.26	4.33	0.74	1.98	2.72	48,571.93
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	1.87	16.42	18.99	0.09	0.34	0.67	1.00	0.11	0.61	0.72	9,603.62
Building Worker Trips	3.97	7.88	152.39	0.38	1.74	1.10	2.83	0.63	0.92	1.55	36,709.02

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Time Slice 1/1/2029-9/28/2029	<u>5.66</u>	<u>24.17</u>	<u>110.89</u>	<u>0.48</u>	<u>2.07</u>	<u>2.02</u>	<u>4.09</u>	<u>0.74</u>	<u>1.76</u>	<u>2.50</u>	<u>48,630.27</u>
Active Days: 195											
Building 04/01/2020-09/30/2029	4.70	24.17	110.75	0.48	2.07	2.01	4.09	0.74	1.76	2.50	48,572.54
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	1.21	9.66	12.51	0.09	0.34	0.42	0.76	0.11	0.38	0.50	9,606.58
Building Worker Trips	1.78	4.01	86.21	0.38	1.74	1.10	2.83	0.63	0.92	1.55	36,706.67
Coating 10/01/2021-03/30/2031	0.96	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.73
Architectural Coating	0.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.73
Time Slice 10/1/2029-12/31/2029	0.96	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.73
Active Days: 66											
Coating 10/01/2021-03/30/2031	0.96	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.73
Architectural Coating	0.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.73
Time Slice 1/1/2030-12/31/2030	<u>0.96</u>	<u>0.01</u>	<u>0.14</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>57.73</u>
Active Days: 261											
Coating 10/01/2021-03/30/2031	0.96	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.73
Architectural Coating	0.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.73
Time Slice 1/1/2031-3/28/2031	<u>0.23</u>	<u>0.01</u>	<u>0.11</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>57.74</u>
Active Days: 63											
Coating 10/01/2021-03/30/2031	0.23	0.01	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.74
Architectural Coating	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.74

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 1/1/2019 - 12/31/2019 - Type Your Description Here

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For Soil Stabilizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stabilizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stabilizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

The following mitigation measures apply to Phase: Architectural Coating 10/1/2021 - 3/30/2031 - Default Architectural Coating Description

For Residential Architectural Coating Measures, the Residential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Residential Architectural Coating Measures, the Residential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: H:\PDATA\65100290\Air_Noise\Air\Models\URBEMIS\Construction\Butterfield Construction Phase 3.urb924

Project Name: Butterfield Construction Phase 3

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2019 TOTALS (tons/year unmitigated)	4.35	31.15	18.68	0.00	78.31	1.21	79.52	16.35	1.12	17.47	5,890.32
2019 TOTALS (tons/year mitigated)	4.35	31.15	18.68	0.00	12.35	1.21	13.56	2.58	1.12	3.70	5,890.32
Percent Reduction	0.00	0.00	0.00	0.00	84.23	0.00	82.95	84.22	0.00	78.85	0.00
2020 TOTALS (tons/year unmitigated)	1.02	4.06	18.63	0.05	0.21	0.25	0.46	0.07	0.22	0.30	4,991.83
2020 TOTALS (tons/year mitigated)	1.02	4.06	18.63	0.05	0.21	0.25	0.46	0.07	0.22	0.30	4,991.83
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2021 TOTALS (tons/year unmitigated)	1.08	3.57	17.79	0.06	0.27	0.27	0.54	0.10	0.24	0.33	6,340.36
2021 TOTALS (tons/year mitigated)	0.75	3.57	17.79	0.06	0.27	0.27	0.54	0.10	0.24	0.33	6,340.36
Percent Reduction	30.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2022 TOTALS (tons/year unmitigated)	2.06	3.56	17.74	0.06	0.27	0.27	0.54	0.10	0.24	0.33	6,321.68

2022 TOTALS (tons/year mitigated)	0.87	3.56	17.74	0.06	0.27	0.27	0.54	0.10	0.24	0.33	6,321.68
Percent Reduction	57.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2023 TOTALS (tons/year unmitigated)	2.06	3.56	17.74	0.06	0.27	0.27	0.54	0.10	0.24	0.33	6,321.68
2023 TOTALS (tons/year mitigated)	0.87	3.56	17.74	0.06	0.27	0.27	0.54	0.10	0.24	0.33	6,321.68
Percent Reduction	57.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2024 TOTALS (tons/year unmitigated)	2.07	3.59	17.88	0.06	0.27	0.27	0.54	0.10	0.24	0.34	6,370.31
2024 TOTALS (tons/year mitigated)	0.88	3.59	17.88	0.06	0.27	0.27	0.54	0.10	0.24	0.34	6,370.31
Percent Reduction	57.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2025 TOTALS (tons/year unmitigated)	2.07	3.57	17.81	0.06	0.27	0.27	0.54	0.10	0.24	0.33	6,345.99
2025 TOTALS (tons/year mitigated)	0.87	3.57	17.81	0.06	0.27	0.27	0.54	0.10	0.24	0.33	6,345.99
Percent Reduction	57.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2026 TOTALS (tons/year unmitigated)	1.93	3.15	14.47	0.06	0.27	0.26	0.53	0.10	0.23	0.33	6,346.25
2026 TOTALS (tons/year mitigated)	0.74	3.15	14.47	0.06	0.27	0.26	0.53	0.10	0.23	0.33	6,346.25
Percent Reduction	61.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2027 TOTALS (tons/year unmitigated)	1.93	3.15	14.47	0.06	0.27	0.26	0.53	0.10	0.23	0.33	6,346.25
2027 TOTALS (tons/year mitigated)	0.74	3.15	14.47	0.06	0.27	0.26	0.53	0.10	0.23	0.33	6,346.25
Percent Reduction	61.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2028 TOTALS (tons/year unmitigated)	1.93	3.14	14.42	0.06	0.27	0.26	0.53	0.10	0.23	0.33	6,321.94

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2028 TOTALS (tons/year mitigated)	0.74	3.14	14.42	0.06	0.27	0.26	0.53	0.10	0.23	0.33	6,321.94
Percent Reduction	61.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2029 TOTALS (tons/year unmitigated)	1.78	2.36	10.82	0.05	0.20	0.20	0.40	0.07	0.17	0.24	4,743.36
2029 TOTALS (tons/year mitigated)	0.58	2.36	10.82	0.05	0.20	0.20	0.40	0.07	0.17	0.24	4,743.36
Percent Reduction	67.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2030 TOTALS (tons/year unmitigated)	1.32	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.53
2030 TOTALS (tons/year mitigated)	0.13	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.53
Percent Reduction	90.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2031 TOTALS (tons/year unmitigated)	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.82
2031 TOTALS (tons/year mitigated)	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.82
Percent Reduction	97.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
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2019	4.35	31.15	18.68	0.00	78.31	1.21	79.52	16.35	1.12	17.47	5,890.32
Mass Grading 01/01/2019-12/31/2019	4.35	31.15	18.68	0.00	78.31	1.21	79.52	16.35	1.12	17.47	5,890.32
Mass Grading Dust	0.00	0.00	0.00	0.00	78.30	0.00	78.30	16.35	0.00	16.35	0.00
Mass Grading Off Road Diesel	4.33	31.11	17.97	0.00	0.00	1.21	1.21	0.00	1.11	1.11	5,732.20
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.02	0.04	0.70	0.00	0.01	0.00	0.01	0.00	0.00	0.01	158.12
2020	1.02	4.06	18.63	0.05	0.21	0.25	0.46	0.07	0.22	0.30	4,991.83
Trenching 01/01/2020-02/29/2020	0.05	0.27	0.36	0.00	0.00	0.01	0.01	0.00	0.01	0.01	79.07
Trenching Off Road Diesel	0.04	0.27	0.33	0.00	0.00	0.01	0.01	0.00	0.01	0.01	73.73
Trenching Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.34
Asphalt 03/01/2020-03/30/2020	0.24	0.36	0.21	0.00	0.00	0.02	0.02	0.00	0.02	0.02	128.42
Paving Off-Gas	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.02	0.11	0.10	0.00	0.00	0.01	0.01	0.00	0.01	0.01	14.90
Paving On Road Diesel	0.03	0.25	0.10	0.00	0.00	0.01	0.01	0.00	0.01	0.01	111.89
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.63
Building 04/01/2020-09/30/2029	0.74	3.43	18.07	0.05	0.20	0.22	0.43	0.07	0.20	0.27	4,784.33
Building Off Road Diesel	0.17	1.03	1.18	0.00	0.00	0.05	0.05	0.00	0.05	0.05	222.54
Building Vendor Trips	0.18	1.62	1.87	0.01	0.03	0.07	0.10	0.01	0.06	0.07	945.96
Building Worker Trips	0.39	0.78	15.01	0.04	0.17	0.11	0.28	0.06	0.09	0.15	3,615.84

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2030	1.32	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.53
Coating 10/01/2021-03/30/2031	1.32	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.53
Architectural Coating	1.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.53
2031	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.82
Coating 10/01/2021-03/30/2031	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.82
Architectural Coating	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.82

Phase Assumptions

Phase: Mass Grading 1/1/2019 - 12/31/2019 - Type Your Description Here

Total Acres Disturbed: 429

Maximum Daily Acreage Disturbed: 30

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

6 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

3 Plate Compactors (8 hp) operating at a 0.43 load factor for 8 hours per day

6 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

18 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day

6 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 1/1/2020 - 2/29/2020 - Default Trenching Description

Off-Road Equipment:

4 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

2 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 3/1/2020 - 3/30/2020 - Type Your Description Here

Acres to be Paved: 154.09

Off-Road Equipment:

- 1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day
- 2 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day
- 2 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 4/1/2020 - 9/30/2029 - Default Building Construction Description

Off-Road Equipment:

- 1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day
- 3 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day
- 1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
- 3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
- 1 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 10/1/2021 - 3/30/2031 - Default Architectural Coating Description

- Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100
- Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50
- Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250
- Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100
- Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250
- Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
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2019	4.35	31.15	18.68	0.00	12.35	1.21	13.56	2.58	1.12	3.70	5,890.32
Mass Grading 01/01/2019-12/31/2019	4.35	31.15	18.68	0.00	12.35	1.21	13.56	2.58	1.12	3.70	5,890.32
Mass Grading Dust	0.00	0.00	0.00	0.00	12.34	0.00	12.34	2.58	0.00	2.58	0.00
Mass Grading Off Road Diesel	4.33	31.11	17.97	0.00	0.00	1.21	1.21	0.00	1.11	1.11	5,732.20
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.02	0.04	0.70	0.00	0.01	0.00	0.01	0.00	0.00	0.01	158.12
2020	1.02	4.06	18.63	0.05	0.21	0.25	0.46	0.07	0.22	0.30	4,991.83
Trenching 01/01/2020-02/29/2020	0.05	0.27	0.36	0.00	0.00	0.01	0.01	0.00	0.01	0.01	79.07
Trenching Off Road Diesel	0.04	0.27	0.33	0.00	0.00	0.01	0.01	0.00	0.01	0.01	73.73
Trenching Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.34
Asphalt 03/01/2020-03/30/2020	0.24	0.36	0.21	0.00	0.00	0.02	0.02	0.00	0.02	0.02	128.42
Paving Off-Gas	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.02	0.11	0.10	0.00	0.00	0.01	0.01	0.00	0.01	0.01	14.90
Paving On Road Diesel	0.03	0.25	0.10	0.00	0.00	0.01	0.01	0.00	0.01	0.01	111.89
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.63
Building 04/01/2020-09/30/2029	0.74	3.43	18.07	0.05	0.20	0.22	0.43	0.07	0.20	0.27	4,784.33
Building Off Road Diesel	0.17	1.03	1.18	0.00	0.00	0.05	0.05	0.00	0.05	0.05	222.54
Building Vendor Trips	0.18	1.62	1.87	0.01	0.03	0.07	0.10	0.01	0.06	0.07	945.96
Building Worker Trips	0.39	0.78	15.01	0.04	0.17	0.11	0.28	0.06	0.09	0.15	3,615.84

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[illegible]

[illegible]

10/14/2010 2:12:44 PM

[illegible]

10/14/2010 2:12:44 PM

2030	0.13	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.53
Coating 10/01/2021-03/30/2031	0.13	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.53
Architectural Coating	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.53
2031	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.82
Coating 10/01/2021-03/30/2031	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.82
Architectural Coating	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.82

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 1/1/2019 - 12/31/2019 - Type Your Description Here

For Soil Stabilizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stabilizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stabilizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

The following mitigation measures apply to Phase: Architectural Coating 10/1/2021 - 3/30/2031 - Default Architectural Coating Description

For Residential Architectural Coating Measures, the Residential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Residential Architectural Coating Measures, the Residential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

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For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:
ROG: 10%

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: H:\PDATA\65100290\Air_Noise\Air\Models\URBEMIS\Construction\Butterfield Construction Phase 4.urb924

Project Name: Butterfield Construction Phase 4

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2032 TOTALS (lbs/day unmitigated)	18.71	128.44	97.54	0.11	600.04	5.19	605.23	125.32	4.77	130.09	27,460.59
2032 TOTALS (lbs/day mitigated)	18.71	128.44	97.54	0.11	94.61	5.19	99.80	19.77	4.77	24.54	27,460.59
2033 TOTALS (lbs/day unmitigated)	114.08	13.11	30.47	0.11	0.46	0.83	1.28	0.16	0.74	0.90	12,459.78
2033 TOTALS (lbs/day mitigated)	35.31	13.11	30.47	0.11	0.46	0.83	1.28	0.16	0.74	0.90	12,459.78
2034 TOTALS (lbs/day unmitigated)	114.08	0.04	1.00	0.01	0.02	0.02	0.04	0.01	0.01	0.02	508.57
2034 TOTALS (lbs/day mitigated)	68.99	0.04	1.00	0.01	0.02	0.02	0.04	0.01	0.01	0.02	508.57

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

10/14/2010 2:32:30 PM

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
Time Slice 1/1/2032-2/27/2032	<u>18.71</u>	<u>128.44</u>	<u>97.54</u>	0.01	<u>600.04</u>	<u>5.19</u>	<u>605.23</u>	<u>125.32</u>	<u>4.77</u>	<u>130.09</u>	<u>27,460.59</u>
Active Days: 42											
Mass Grading 01/01/2032-02/29/2032	18.71	128.44	97.54	0.01	600.04	5.19	605.23	125.32	4.77	130.09	27,460.59
Mass Grading Dust	0.00	0.00	0.00	0.00	600.00	0.00	600.00	125.30	0.00	125.30	0.00
Mass Grading Off Road Diesel	18.68	128.36	95.71	0.00	0.00	5.16	5.16	0.00	4.75	4.75	26,528.60
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.03	0.08	1.83	0.01	0.04	0.03	0.07	0.02	0.02	0.04	931.99
Time Slice 3/1/2032-3/30/2032	1.04	6.19	8.01	0.00	0.01	0.29	0.30	0.00	0.27	0.27	1,838.90
Active Days: 22											
Trenching 03/01/2032-03/30/2032	1.04	6.19	8.01	0.00	0.01	0.29	0.30	0.00	0.27	0.27	1,838.90
Trenching Off Road Diesel	1.04	6.18	7.76	0.00	0.00	0.29	0.29	0.00	0.26	0.26	1,714.64
Trenching Worker Trips	0.00	0.01	0.24	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.27
Time Slice 4/1/2032-4/30/2032	6.10	13.52	11.24	0.02	0.09	0.91	1.00	0.03	0.84	0.86	3,930.31
Active Days: 22											
Asphalt 04/01/2032-04/30/2032	6.10	13.52	11.24	0.02	0.09	0.91	1.00	0.03	0.84	0.86	3,930.31
Paving Off-Gas	4.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.70	10.53	9.66	0.00	0.00	0.82	0.82	0.00	0.75	0.75	1,418.81
Paving On Road Diesel	0.34	2.97	1.27	0.02	0.08	0.08	0.16	0.03	0.08	0.10	2,356.16
Paving Worker Trips	0.01	0.01	0.31	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.33
Time Slice 5/3/2032-12/31/2032	2.24	13.11	30.47	<u>0.11</u>	0.46	0.83	1.28	0.16	0.74	0.90	12,459.78
Active Days: 175											
Building 05/01/2032-11/30/2033	2.24	13.11	30.47	0.11	0.46	0.83	1.28	0.16	0.74	0.90	12,459.78
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	0.24	1.90	2.41	0.02	0.07	0.09	0.16	0.02	0.08	0.10	2,039.93
Building Worker Trips	0.29	0.72	16.03	0.09	0.39	0.24	0.63	0.14	0.20	0.34	8,160.57

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Time Slice 1/3/2033-11/30/2033	2.24	<u>13.11</u>	<u>30.47</u>	<u>0.11</u>	<u>0.46</u>	<u>0.83</u>	<u>1.28</u>	<u>0.16</u>	<u>0.74</u>	<u>0.90</u>	<u>12,459.78</u>
Active Days: 238											
Building 05/01/2032-11/30/2033	2.24	13.11	30.47	0.11	0.46	0.83	1.28	0.16	0.74	0.90	12,459.78
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	0.24	1.90	2.41	0.02	0.07	0.09	0.16	0.02	0.08	0.10	2,039.93
Building Worker Trips	0.29	0.72	16.03	0.09	0.39	0.24	0.63	0.14	0.20	0.34	8,160.57
Time Slice 12/1/2033-12/30/2033	<u>114.08</u>	0.04	1.00	0.01	0.02	0.02	0.04	0.01	0.01	0.02	508.57
Active Days: 22											
Coating 12/01/2033-02/28/2034	114.08	0.04	1.00	0.01	0.02	0.02	0.04	0.01	0.01	0.02	508.57
Architectural Coating	114.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.04	1.00	0.01	0.02	0.02	0.04	0.01	0.01	0.02	508.57
Time Slice 1/2/2034-2/28/2034	<u>114.08</u>	<u>0.04</u>	<u>1.00</u>	<u>0.01</u>	<u>0.02</u>	<u>0.02</u>	<u>0.04</u>	<u>0.01</u>	<u>0.01</u>	<u>0.02</u>	<u>508.57</u>
Active Days: 42											
Coating 12/01/2033-02/28/2034	114.08	0.04	1.00	0.01	0.02	0.02	0.04	0.01	0.01	0.02	508.57
Architectural Coating	114.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.04	1.00	0.01	0.02	0.02	0.04	0.01	0.01	0.02	508.57

Phase Assumptions

Phase: Mass Grading 1/1/2032 - 2/29/2032 - Default Mass Site Grading Description

Total Acres Disturbed: 120

Maximum Daily Acreage Disturbed: 30

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

3 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

3 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

3 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

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- 9 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day
- 9 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
- 3 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 3/1/2032 - 3/30/2032 - Default Trenching Description

Off-Road Equipment:

- 2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
- 1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 4/1/2032 - 4/30/2032 - Type Your Description Here

Acres to be Paved: 34.07

Off-Road Equipment:

- 1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day
- 2 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day
- 2 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 5/1/2032 - 11/30/2033 - Default Building Construction Description

Off-Road Equipment:

- 1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day
- 3 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day
- 1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
- 3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
- 1 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 12/1/2033 - 2/28/2034 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

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Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
Time Slice 1/1/2032-2/27/2032	<u>18.71</u>	<u>128.44</u>	<u>97.54</u>	0.01	<u>94.61</u>	<u>5.19</u>	<u>99.80</u>	<u>19.77</u>	<u>4.77</u>	<u>24.54</u>	<u>27,460.59</u>
Active Days: 42											
Mass Grading 01/01/2032-02/29/2032	18.71	128.44	97.54	0.01	94.61	5.19	99.80	19.77	4.77	24.54	27,460.59
Mass Grading Dust	0.00	0.00	0.00	0.00	94.57	0.00	94.57	19.75	0.00	19.75	0.00
Mass Grading Off Road Diesel	18.68	128.36	95.71	0.00	0.00	5.16	5.16	0.00	4.75	4.75	26,528.60
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.03	0.08	1.83	0.01	0.04	0.03	0.07	0.02	0.02	0.04	931.99
Time Slice 3/1/2032-3/30/2032	1.04	6.19	8.01	0.00	0.01	0.29	0.30	0.00	0.27	0.27	1,838.90
Active Days: 22											
Trenching 03/01/2032-03/30/2032	1.04	6.19	8.01	0.00	0.01	0.29	0.30	0.00	0.27	0.27	1,838.90
Trenching Off Road Diesel	1.04	6.18	7.76	0.00	0.00	0.29	0.29	0.00	0.26	0.26	1,714.64
Trenching Worker Trips	0.00	0.01	0.24	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.27
Time Slice 4/1/2032-4/30/2032	6.10	13.52	11.24	0.02	0.09	0.91	1.00	0.03	0.84	0.86	3,930.31
Active Days: 22											
Asphalt 04/01/2032-04/30/2032	6.10	13.52	11.24	0.02	0.09	0.91	1.00	0.03	0.84	0.86	3,930.31
Paving Off-Gas	4.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.70	10.53	9.66	0.00	0.00	0.82	0.82	0.00	0.75	0.75	1,418.81
Paving On Road Diesel	0.34	2.97	1.27	0.02	0.08	0.08	0.16	0.03	0.08	0.10	2,356.16
Paving Worker Trips	0.01	0.01	0.31	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.33

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Time Slice 5/3/2032-12/31/2032 Active Days: 175	2.24	13.11	30.47	<u>0.11</u>	0.46	0.83	1.28	0.16	0.74	0.90	12,459.78
Building 05/01/2032-11/30/2033	2.24	13.11	30.47	0.11	0.46	0.83	1.28	0.16	0.74	0.90	12,459.78
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	0.24	1.90	2.41	0.02	0.07	0.09	0.16	0.02	0.08	0.10	2,039.93
Building Worker Trips	0.29	0.72	16.03	0.09	0.39	0.24	0.63	0.14	0.20	0.34	8,160.57
Time Slice 1/3/2033-11/30/2033 Active Days: 238	2.24	<u>13.11</u>	<u>30.47</u>	<u>0.11</u>	<u>0.46</u>	<u>0.83</u>	<u>1.28</u>	<u>0.16</u>	<u>0.74</u>	<u>0.90</u>	<u>12,459.78</u>
Building 05/01/2032-11/30/2033	2.24	13.11	30.47	0.11	0.46	0.83	1.28	0.16	0.74	0.90	12,459.78
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	0.24	1.90	2.41	0.02	0.07	0.09	0.16	0.02	0.08	0.10	2,039.93
Building Worker Trips	0.29	0.72	16.03	0.09	0.39	0.24	0.63	0.14	0.20	0.34	8,160.57
Time Slice 12/1/2033-12/30/2033 Active Days: 22	<u>35.31</u>	0.04	1.00	0.01	0.02	0.02	0.04	0.01	0.01	0.02	508.57
Coating 12/01/2033-02/28/2034	35.31	0.04	1.00	0.01	0.02	0.02	0.04	0.01	0.01	0.02	508.57
Architectural Coating	35.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.04	1.00	0.01	0.02	0.02	0.04	0.01	0.01	0.02	508.57
Time Slice 1/2/2034-2/28/2034 Active Days: 42	<u>68.99</u>	<u>0.04</u>	<u>1.00</u>	<u>0.01</u>	<u>0.02</u>	<u>0.02</u>	<u>0.04</u>	<u>0.01</u>	<u>0.01</u>	<u>0.02</u>	<u>508.57</u>
Coating 12/01/2033-02/28/2034	68.99	0.04	1.00	0.01	0.02	0.02	0.04	0.01	0.01	0.02	508.57
Architectural Coating	68.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.04	1.00	0.01	0.02	0.02	0.04	0.01	0.01	0.02	508.57

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 1/1/2032 - 2/29/2032 - Default Mass Site Grading Description

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

10/14/2010 2:32:30 PM

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

The following mitigation measures apply to Phase: Architectural Coating 12/1/2033 - 2/28/2034 - Default Architectural Coating Description

For Residential Architectural Coating Measures, the Residential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Residential Architectural Coating Measures, the Residential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: H:\PDATA\65100290\Air_Noise\Air\Models\URBEMIS\Construction\Butterfield Construction Phase 4.urb924

Project Name: Butterfield Construction Phase 4

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2032 TOTALS (lbs/day unmitigated)	18.71	128.44	97.54	0.11	600.04	5.19	605.23	125.32	4.77	130.09	27,460.59
2032 TOTALS (lbs/day mitigated)	18.71	128.44	97.54	0.11	94.61	5.19	99.80	19.77	4.77	24.54	27,460.59
2033 TOTALS (lbs/day unmitigated)	114.08	13.11	30.47	0.11	0.46	0.83	1.28	0.16	0.74	0.90	12,459.78
2033 TOTALS (lbs/day mitigated)	35.31	13.11	30.47	0.11	0.46	0.83	1.28	0.16	0.74	0.90	12,459.78
2034 TOTALS (lbs/day unmitigated)	114.08	0.04	1.00	0.01	0.02	0.02	0.04	0.01	0.01	0.02	508.57
2034 TOTALS (lbs/day mitigated)	68.99	0.04	1.00	0.01	0.02	0.02	0.04	0.01	0.01	0.02	508.57

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

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	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
Time Slice 1/1/2032-2/27/2032	<u>18.71</u>	<u>128.44</u>	<u>97.54</u>	0.01	<u>600.04</u>	<u>5.19</u>	<u>605.23</u>	<u>125.32</u>	<u>4.77</u>	<u>130.09</u>	<u>27,460.59</u>
Active Days: 42											
Mass Grading 01/01/2032-02/29/2032	18.71	128.44	97.54	0.01	600.04	5.19	605.23	125.32	4.77	130.09	27,460.59
Mass Grading Dust	0.00	0.00	0.00	0.00	600.00	0.00	600.00	125.30	0.00	125.30	0.00
Mass Grading Off Road Diesel	18.68	128.36	95.71	0.00	0.00	5.16	5.16	0.00	4.75	4.75	26,528.60
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.03	0.08	1.83	0.01	0.04	0.03	0.07	0.02	0.02	0.04	931.99
Time Slice 3/1/2032-3/30/2032	1.04	6.19	8.01	0.00	0.01	0.29	0.30	0.00	0.27	0.27	1,838.90
Active Days: 22											
Trenching 03/01/2032-03/30/2032	1.04	6.19	8.01	0.00	0.01	0.29	0.30	0.00	0.27	0.27	1,838.90
Trenching Off Road Diesel	1.04	6.18	7.76	0.00	0.00	0.29	0.29	0.00	0.26	0.26	1,714.64
Trenching Worker Trips	0.00	0.01	0.24	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.27
Time Slice 4/1/2032-4/30/2032	6.10	13.52	11.24	0.02	0.09	0.91	1.00	0.03	0.84	0.86	3,930.31
Active Days: 22											
Asphalt 04/01/2032-04/30/2032	6.10	13.52	11.24	0.02	0.09	0.91	1.00	0.03	0.84	0.86	3,930.31
Paving Off-Gas	4.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.70	10.53	9.66	0.00	0.00	0.82	0.82	0.00	0.75	0.75	1,418.81
Paving On Road Diesel	0.34	2.97	1.27	0.02	0.08	0.08	0.16	0.03	0.08	0.10	2,356.16
Paving Worker Trips	0.01	0.01	0.31	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.33
Time Slice 5/3/2032-12/31/2032	2.24	13.11	30.47	<u>0.11</u>	0.46	0.83	1.28	0.16	0.74	0.90	12,459.78
Active Days: 175											
Building 05/01/2032-11/30/2033	2.24	13.11	30.47	0.11	0.46	0.83	1.28	0.16	0.74	0.90	12,459.78
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	0.24	1.90	2.41	0.02	0.07	0.09	0.16	0.02	0.08	0.10	2,039.93
Building Worker Trips	0.29	0.72	16.03	0.09	0.39	0.24	0.63	0.14	0.20	0.34	8,160.57

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Time Slice 1/3/2033-11/30/2033	2.24	<u>13.11</u>	<u>30.47</u>	<u>0.11</u>	<u>0.46</u>	<u>0.83</u>	<u>1.28</u>	<u>0.16</u>	<u>0.74</u>	<u>0.90</u>	<u>12,459.78</u>
Active Days: 238											
Building 05/01/2032-11/30/2033	2.24	13.11	30.47	0.11	0.46	0.83	1.28	0.16	0.74	0.90	12,459.78
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	0.24	1.90	2.41	0.02	0.07	0.09	0.16	0.02	0.08	0.10	2,039.93
Building Worker Trips	0.29	0.72	16.03	0.09	0.39	0.24	0.63	0.14	0.20	0.34	8,160.57
Time Slice 12/1/2033-12/30/2033	<u>114.08</u>	0.04	1.00	0.01	0.02	0.02	0.04	0.01	0.01	0.02	508.57
Active Days: 22											
Coating 12/01/2033-02/28/2034	114.08	0.04	1.00	0.01	0.02	0.02	0.04	0.01	0.01	0.02	508.57
Architectural Coating	114.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.04	1.00	0.01	0.02	0.02	0.04	0.01	0.01	0.02	508.57
Time Slice 1/2/2034-2/28/2034	<u>114.08</u>	<u>0.04</u>	<u>1.00</u>	<u>0.01</u>	<u>0.02</u>	<u>0.02</u>	<u>0.04</u>	<u>0.01</u>	<u>0.01</u>	<u>0.02</u>	<u>508.57</u>
Active Days: 42											
Coating 12/01/2033-02/28/2034	114.08	0.04	1.00	0.01	0.02	0.02	0.04	0.01	0.01	0.02	508.57
Architectural Coating	114.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.04	1.00	0.01	0.02	0.02	0.04	0.01	0.01	0.02	508.57

Phase Assumptions

Phase: Mass Grading 1/1/2032 - 2/29/2032 - Default Mass Site Grading Description

Total Acres Disturbed: 120

Maximum Daily Acreage Disturbed: 30

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

3 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

3 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

3 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

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- 9 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day
- 9 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
- 3 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 3/1/2032 - 3/30/2032 - Default Trenching Description

Off-Road Equipment:

- 2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
- 1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 4/1/2032 - 4/30/2032 - Type Your Description Here

Acres to be Paved: 34.07

Off-Road Equipment:

- 1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day
- 2 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day
- 2 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 5/1/2032 - 11/30/2033 - Default Building Construction Description

Off-Road Equipment:

- 1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day
- 3 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day
- 1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
- 3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
- 1 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 12/1/2033 - 2/28/2034 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

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Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
Time Slice 1/1/2032-2/27/2032	<u>18.71</u>	<u>128.44</u>	<u>97.54</u>	0.01	<u>94.61</u>	<u>5.19</u>	<u>99.80</u>	<u>19.77</u>	<u>4.77</u>	<u>24.54</u>	<u>27,460.59</u>
Active Days: 42											
Mass Grading 01/01/2032-02/29/2032	18.71	128.44	97.54	0.01	94.61	5.19	99.80	19.77	4.77	24.54	27,460.59
Mass Grading Dust	0.00	0.00	0.00	0.00	94.57	0.00	94.57	19.75	0.00	19.75	0.00
Mass Grading Off Road Diesel	18.68	128.36	95.71	0.00	0.00	5.16	5.16	0.00	4.75	4.75	26,528.60
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.03	0.08	1.83	0.01	0.04	0.03	0.07	0.02	0.02	0.04	931.99
Time Slice 3/1/2032-3/30/2032	1.04	6.19	8.01	0.00	0.01	0.29	0.30	0.00	0.27	0.27	1,838.90
Active Days: 22											
Trenching 03/01/2032-03/30/2032	1.04	6.19	8.01	0.00	0.01	0.29	0.30	0.00	0.27	0.27	1,838.90
Trenching Off Road Diesel	1.04	6.18	7.76	0.00	0.00	0.29	0.29	0.00	0.26	0.26	1,714.64
Trenching Worker Trips	0.00	0.01	0.24	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.27
Time Slice 4/1/2032-4/30/2032	6.10	13.52	11.24	0.02	0.09	0.91	1.00	0.03	0.84	0.86	3,930.31
Active Days: 22											
Asphalt 04/01/2032-04/30/2032	6.10	13.52	11.24	0.02	0.09	0.91	1.00	0.03	0.84	0.86	3,930.31
Paving Off-Gas	4.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.70	10.53	9.66	0.00	0.00	0.82	0.82	0.00	0.75	0.75	1,418.81
Paving On Road Diesel	0.34	2.97	1.27	0.02	0.08	0.08	0.16	0.03	0.08	0.10	2,356.16
Paving Worker Trips	0.01	0.01	0.31	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.33

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Time Slice 5/3/2032-12/31/2032 Active Days: 175	2.24	13.11	30.47	<u>0.11</u>	0.46	0.83	1.28	0.16	0.74	0.90	12,459.78
Building 05/01/2032-11/30/2033	2.24	13.11	30.47	0.11	0.46	0.83	1.28	0.16	0.74	0.90	12,459.78
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	0.24	1.90	2.41	0.02	0.07	0.09	0.16	0.02	0.08	0.10	2,039.93
Building Worker Trips	0.29	0.72	16.03	0.09	0.39	0.24	0.63	0.14	0.20	0.34	8,160.57
Time Slice 1/3/2033-11/30/2033 Active Days: 238	2.24	<u>13.11</u>	<u>30.47</u>	<u>0.11</u>	<u>0.46</u>	<u>0.83</u>	<u>1.28</u>	<u>0.16</u>	<u>0.74</u>	<u>0.90</u>	<u>12,459.78</u>
Building 05/01/2032-11/30/2033	2.24	13.11	30.47	0.11	0.46	0.83	1.28	0.16	0.74	0.90	12,459.78
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	0.24	1.90	2.41	0.02	0.07	0.09	0.16	0.02	0.08	0.10	2,039.93
Building Worker Trips	0.29	0.72	16.03	0.09	0.39	0.24	0.63	0.14	0.20	0.34	8,160.57
Time Slice 12/1/2033-12/30/2033 Active Days: 22	<u>35.31</u>	0.04	1.00	0.01	0.02	0.02	0.04	0.01	0.01	0.02	508.57
Coating 12/01/2033-02/28/2034	35.31	0.04	1.00	0.01	0.02	0.02	0.04	0.01	0.01	0.02	508.57
Architectural Coating	35.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.04	1.00	0.01	0.02	0.02	0.04	0.01	0.01	0.02	508.57
Time Slice 1/2/2034-2/28/2034 Active Days: 42	<u>68.99</u>	<u>0.04</u>	<u>1.00</u>	<u>0.01</u>	<u>0.02</u>	<u>0.02</u>	<u>0.04</u>	<u>0.01</u>	<u>0.01</u>	<u>0.02</u>	<u>508.57</u>
Coating 12/01/2033-02/28/2034	68.99	0.04	1.00	0.01	0.02	0.02	0.04	0.01	0.01	0.02	508.57
Architectural Coating	68.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.04	1.00	0.01	0.02	0.02	0.04	0.01	0.01	0.02	508.57

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 1/1/2032 - 2/29/2032 - Default Mass Site Grading Description

For Soil Stabilizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stabilizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

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PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

The following mitigation measures apply to Phase: Architectural Coating 12/1/2033 - 2/28/2034 - Default Architectural Coating Description

For Residential Architectural Coating Measures, the Residential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Residential Architectural Coating Measures, the Residential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: H:\PDATA\65100290\Air_Noise\Air\Models\URBEMIS\Construction\Butterfield Construction Phase 4.urb924

Project Name: Butterfield Construction Phase 4

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

[illegible]

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2032	0.67	4.06	4.93	0.01	12.64	0.19	12.84	2.65	0.18	2.82	1,730.36
Mass Grading 01/01/2032-02/29/2032	0.39	2.70	2.05	0.00	12.60	0.11	12.71	2.63	0.10	2.73	576.67
Mass Grading Dust	0.00	0.00	0.00	0.00	12.60	0.00	12.60	2.63	0.00	2.63	0.00
Mass Grading Off Road Diesel	0.39	2.70	2.01	0.00	0.00	0.11	0.11	0.00	0.10	0.10	557.10
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	19.57
Trenching 03/01/2032-03/30/2032	0.01	0.07	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.23
Trenching Off Road Diesel	0.01	0.07	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.86
Trenching Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.37
Asphalt 04/01/2032-04/30/2032	0.07	0.15	0.12	0.00	0.00	0.01	0.01	0.00	0.01	0.01	43.23
Paving Off-Gas	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.02	0.12	0.11	0.00	0.00	0.01	0.01	0.00	0.01	0.01	15.61
Paving On Road Diesel	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.92
Paving Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.71
Building 05/01/2032-11/30/2033	0.20	1.15	2.67	0.01	0.04	0.07	0.11	0.01	0.06	0.08	1,090.23
Building Off Road Diesel	0.15	0.92	1.05	0.00	0.00	0.04	0.04	0.00	0.04	0.04	197.69
Building Vendor Trips	0.02	0.17	0.21	0.00	0.01	0.01	0.01	0.00	0.01	0.01	178.49
Building Worker Trips	0.03	0.06	1.40	0.01	0.03	0.02	0.06	0.01	0.02	0.03	714.05

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2033	1.52	1.56	3.64	0.01	0.05	0.10	0.15	0.02	0.09	0.11	1,488.31
Building 05/01/2032-11/30/2033	0.27	1.56	3.63	0.01	0.05	0.10	0.15	0.02	0.09	0.11	1,482.71
Building Off Road Diesel	0.20	1.25	1.43	0.00	0.00	0.06	0.06	0.00	0.05	0.05	268.85
Building Vendor Trips	0.03	0.23	0.29	0.00	0.01	0.01	0.02	0.00	0.01	0.01	242.75
Building Worker Trips	0.03	0.09	1.91	0.01	0.05	0.03	0.07	0.02	0.02	0.04	971.11
Coating 12/01/2033-02/28/2034	1.25	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.59
Architectural Coating	1.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.59
2034	2.40	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.68
Coating 12/01/2033-02/28/2034	2.40	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.68
Architectural Coating	2.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.68

Phase Assumptions

- Phase: Mass Grading 1/1/2032 - 2/29/2032 - Default Mass Site Grading Description
- Total Acres Disturbed: 120
- Maximum Daily Acreage Disturbed: 30
- Fugitive Dust Level of Detail: Default
- 20 lbs per acre-day
- On Road Truck Travel (VMT): 0
- Off-Road Equipment:
- 3 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
 - 3 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day
 - 3 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day
 - 9 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day
 - 9 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
 - 3 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

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Phase: Trenching 3/1/2032 - 3/30/2032 - Default Trenching Description

Off-Road Equipment:

- 2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
- 1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 4/1/2032 - 4/30/2032 - Type Your Description Here

Acres to be Paved: 34.07

Off-Road Equipment:

- 1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day
- 2 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day
- 2 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 5/1/2032 - 11/30/2033 - Default Building Construction Description

Off-Road Equipment:

- 1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day
- 3 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day
- 1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
- 3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
- 1 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 12/1/2033 - 2/28/2034 - Default Architectural Coating Description

- Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100
- Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50
- Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250
- Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100
- Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250
- Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2032	0.67	4.06	4.93	0.01	2.03	0.19	2.22	0.43	0.18	0.61	1,730.36
Mass Grading 01/01/2032-02/29/2032	0.39	2.70	2.05	0.00	1.99	0.11	2.10	0.42	0.10	0.52	576.67
Mass Grading Dust	0.00	0.00	0.00	0.00	1.99	0.00	1.99	0.41	0.00	0.41	0.00
Mass Grading Off Road Diesel	0.39	2.70	2.01	0.00	0.00	0.11	0.11	0.00	0.10	0.10	557.10
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	19.57
Trenching 03/01/2032-03/30/2032	0.01	0.07	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.23
Trenching Off Road Diesel	0.01	0.07	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.86
Trenching Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.37
Asphalt 04/01/2032-04/30/2032	0.07	0.15	0.12	0.00	0.00	0.01	0.01	0.00	0.01	0.01	43.23
Paving Off-Gas	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.02	0.12	0.11	0.00	0.00	0.01	0.01	0.00	0.01	0.01	15.61
Paving On Road Diesel	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.92
Paving Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.71
Building 05/01/2032-11/30/2033	0.20	1.15	2.67	0.01	0.04	0.07	0.11	0.01	0.06	0.08	1,090.23
Building Off Road Diesel	0.15	0.92	1.05	0.00	0.00	0.04	0.04	0.00	0.04	0.04	197.69
Building Vendor Trips	0.02	0.17	0.21	0.00	0.01	0.01	0.01	0.00	0.01	0.01	178.49
Building Worker Trips	0.03	0.06	1.40	0.01	0.03	0.02	0.06	0.01	0.02	0.03	714.05

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2033	0.65	1.56	3.64	0.01	0.05	0.10	0.15	0.02	0.09	0.11	1,488.31
Building 05/01/2032-11/30/2033	0.27	1.56	3.63	0.01	0.05	0.10	0.15	0.02	0.09	0.11	1,482.71
Building Off Road Diesel	0.20	1.25	1.43	0.00	0.00	0.06	0.06	0.00	0.05	0.05	268.85
Building Vendor Trips	0.03	0.23	0.29	0.00	0.01	0.01	0.02	0.00	0.01	0.01	242.75
Building Worker Trips	0.03	0.09	1.91	0.01	0.05	0.03	0.07	0.02	0.02	0.04	971.11
Coating 12/01/2033-02/28/2034	0.39	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.59
Architectural Coating	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.59
2034	1.45	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.68
Coating 12/01/2033-02/28/2034	1.45	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.68
Architectural Coating	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.68

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 1/1/2032 - 2/29/2032 - Default Mass Site Grading Description

For Soil Stabilizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stabilizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stabilizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

The following mitigation measures apply to Phase: Architectural Coating 12/1/2033 - 2/28/2034 - Default Architectural Coating Description

For Residential Architectural Coating Measures, the Residential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

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ROG: 10%

For Residential Architectural Coating Measures, the Residential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: H:\PDATA\65100290\Air_Noise\Air\Models\URBEMIS\Construction\Butterfield Construction Phase 5.urb924

Project Name: Butterfield Construction Phase 5

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2035 TOTALS (lbs/day unmitigated)	18.71	128.44	97.54	0.10	600.04	5.19	605.23	125.32	4.77	130.09	27,460.59
2035 TOTALS (lbs/day mitigated)	18.71	128.44	97.54	0.10	94.61	5.19	99.80	19.77	4.77	24.54	27,460.59
2036 TOTALS (lbs/day unmitigated)	2.14	12.83	26.92	0.10	0.42	0.80	1.21	0.15	0.71	0.86	11,570.36
2036 TOTALS (lbs/day mitigated)	2.14	12.83	26.92	0.10	0.42	0.80	1.21	0.15	0.71	0.86	11,570.36
2037 TOTALS (lbs/day unmitigated)	82.57	12.83	26.92	0.10	0.42	0.80	1.21	0.15	0.71	0.86	11,570.36
2037 TOTALS (lbs/day mitigated)	74.31	12.83	26.92	0.10	0.42	0.80	1.21	0.15	0.71	0.86	11,570.36

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

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	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
Time Slice 3/1/2035-5/30/2035 Active Days: 65	<u>18.71</u>	<u>128.44</u>	<u>97.54</u>	0.01	<u>600.04</u>	<u>5.19</u>	<u>605.23</u>	<u>125.32</u>	<u>4.77</u>	<u>130.09</u>	<u>27,460.59</u>
Mass Grading 03/01/2035-05/30/2035	18.71	128.44	97.54	0.01	600.04	5.19	605.23	125.32	4.77	130.09	27,460.59
Mass Grading Dust	0.00	0.00	0.00	0.00	600.00	0.00	600.00	125.30	0.00	125.30	0.00
Mass Grading Off Road Diesel	18.68	128.36	95.71	0.00	0.00	5.16	5.16	0.00	4.75	4.75	26,528.60
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.03	0.08	1.83	0.01	0.04	0.03	0.07	0.02	0.02	0.04	931.99
Time Slice 6/1/2035-6/29/2035 Active Days: 21	1.04	6.19	8.01	0.00	0.01	0.29	0.30	0.00	0.27	0.27	1,838.90
Trenching 06/01/2035-06/30/2035	1.04	6.19	8.01	0.00	0.01	0.29	0.30	0.00	0.27	0.27	1,838.90
Trenching Off Road Diesel	1.04	6.18	7.76	0.00	0.00	0.29	0.29	0.00	0.26	0.26	1,714.64
Trenching Worker Trips	0.00	0.01	0.24	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.27
Time Slice 7/2/2035-12/31/2035 Active Days: 131	2.20	12.95	28.79	<u>0.10</u>	0.42	0.80	1.21	0.15	0.72	0.86	11,570.13
Building 07/01/2035-02/28/2037	2.20	12.95	28.79	0.10	0.42	0.80	1.21	0.15	0.72	0.86	11,570.13
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	0.23	1.81	2.28	0.02	0.07	0.08	0.15	0.02	0.07	0.10	1,938.39
Building Worker Trips	0.27	0.65	14.48	0.08	0.35	0.22	0.57	0.13	0.18	0.31	7,372.45
Time Slice 1/1/2036-12/31/2036 Active Days: 262	<u>2.14</u>	<u>12.83</u>	<u>26.92</u>	<u>0.10</u>	<u>0.42</u>	<u>0.80</u>	<u>1.21</u>	<u>0.15</u>	<u>0.71</u>	<u>0.86</u>	<u>11,570.36</u>
Building 07/01/2035-02/28/2037	2.14	12.83	26.92	0.10	0.42	0.80	1.21	0.15	0.71	0.86	11,570.36
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	0.22	1.77	2.14	0.02	0.07	0.08	0.15	0.02	0.07	0.10	1,938.48
Building Worker Trips	0.21	0.56	12.75	0.08	0.35	0.22	0.57	0.13	0.18	0.31	7,372.60

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Time Slice 1/1/2037-2/27/2037	2.14	<u>12.83</u>	<u>26.92</u>	<u>0.10</u>	<u>0.42</u>	<u>0.80</u>	<u>1.21</u>	<u>0.15</u>	<u>0.71</u>	<u>0.86</u>	<u>11,570.36</u>
Active Days: 42											
Building 07/01/2035-02/28/2037	2.14	12.83	26.92	0.10	0.42	0.80	1.21	0.15	0.71	0.86	11,570.36
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	0.22	1.77	2.14	0.02	0.07	0.08	0.15	0.02	0.07	0.10	1,938.48
Building Worker Trips	0.21	0.56	12.75	0.08	0.35	0.22	0.57	0.13	0.18	0.31	7,372.60
Time Slice 3/2/2037-5/29/2037	<u>82.57</u>	0.04	0.82	0.00	0.02	0.01	0.04	0.01	0.01	0.02	471.26
Active Days: 65											
Coating 03/01/2037-05/30/2037	82.57	0.04	0.82	0.00	0.02	0.01	0.04	0.01	0.01	0.02	471.26
Architectural Coating	82.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.04	0.82	0.00	0.02	0.01	0.04	0.01	0.01	0.02	471.26

Phase Assumptions

Phase: Mass Grading 3/1/2035 - 5/30/2035 - Default Mass Site Grading Description

Total Acres Disturbed: 175

Maximum Daily Acreage Disturbed: 30

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

3 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

3 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

3 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

9 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day

9 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 6/1/2035 - 6/30/2035 - Default Trenching Description

Off-Road Equipment:

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- 2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
- 1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Building Construction 7/1/2035 - 2/28/2037 - Default Building Construction Description
Off-Road Equipment:

- 1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day
- 3 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day
- 1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
- 3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
- 1 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 3/1/2037 - 5/30/2037 - Default Architectural Coating Description
Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100
Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50
Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250
Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100
Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250
Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
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Time Slice 3/1/2035-5/30/2035 Active Days: 65	<u>18.71</u>	<u>128.44</u>	<u>97.54</u>	0.01	<u>94.61</u>	<u>5.19</u>	<u>99.80</u>	<u>19.77</u>	<u>4.77</u>	<u>24.54</u>	<u>27,460.59</u>
Mass Grading 03/01/2035-05/30/2035	18.71	128.44	97.54	0.01	94.61	5.19	99.80	19.77	4.77	24.54	27,460.59
Mass Grading Dust	0.00	0.00	0.00	0.00	94.57	0.00	94.57	19.75	0.00	19.75	0.00
Mass Grading Off Road Diesel	18.68	128.36	95.71	0.00	0.00	5.16	5.16	0.00	4.75	4.75	26,528.60
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.03	0.08	1.83	0.01	0.04	0.03	0.07	0.02	0.02	0.04	931.99
Time Slice 6/1/2035-6/29/2035 Active Days: 21	1.04	6.19	8.01	0.00	0.01	0.29	0.30	0.00	0.27	0.27	1,838.90
Trenching 06/01/2035-06/30/2035	1.04	6.19	8.01	0.00	0.01	0.29	0.30	0.00	0.27	0.27	1,838.90
Trenching Off Road Diesel	1.04	6.18	7.76	0.00	0.00	0.29	0.29	0.00	0.26	0.26	1,714.64
Trenching Worker Trips	0.00	0.01	0.24	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.27
Time Slice 7/2/2035-12/31/2035 Active Days: 131	2.20	12.95	28.79	<u>0.10</u>	0.42	0.80	1.21	0.15	0.72	0.86	11,570.13
Building 07/01/2035-02/28/2037	2.20	12.95	28.79	0.10	0.42	0.80	1.21	0.15	0.72	0.86	11,570.13
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	0.23	1.81	2.28	0.02	0.07	0.08	0.15	0.02	0.07	0.10	1,938.39
Building Worker Trips	0.27	0.65	14.48	0.08	0.35	0.22	0.57	0.13	0.18	0.31	7,372.45
Time Slice 1/1/2036-12/31/2036 Active Days: 262	<u>2.14</u>	<u>12.83</u>	<u>26.92</u>	<u>0.10</u>	<u>0.42</u>	<u>0.80</u>	<u>1.21</u>	<u>0.15</u>	<u>0.71</u>	<u>0.86</u>	<u>11,570.36</u>
Building 07/01/2035-02/28/2037	2.14	12.83	26.92	0.10	0.42	0.80	1.21	0.15	0.71	0.86	11,570.36
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	0.22	1.77	2.14	0.02	0.07	0.08	0.15	0.02	0.07	0.10	1,938.48
Building Worker Trips	0.21	0.56	12.75	0.08	0.35	0.22	0.57	0.13	0.18	0.31	7,372.60

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Time Slice 1/1/2037-2/27/2037	2.14	<u>12.83</u>	<u>26.92</u>	<u>0.10</u>	<u>0.42</u>	<u>0.80</u>	<u>1.21</u>	<u>0.15</u>	<u>0.71</u>	<u>0.86</u>	<u>11,570.36</u>
Active Days: 42											
Building 07/01/2035-02/28/2037	2.14	12.83	26.92	0.10	0.42	0.80	1.21	0.15	0.71	0.86	11,570.36
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	0.22	1.77	2.14	0.02	0.07	0.08	0.15	0.02	0.07	0.10	1,938.48
Building Worker Trips	0.21	0.56	12.75	0.08	0.35	0.22	0.57	0.13	0.18	0.31	7,372.60
Time Slice 3/2/2037-5/29/2037	<u>74.31</u>	0.04	0.82	0.00	0.02	0.01	0.04	0.01	0.01	0.02	471.26
Active Days: 65											
Coating 03/01/2037-05/30/2037	74.31	0.04	0.82	0.00	0.02	0.01	0.04	0.01	0.01	0.02	471.26
Architectural Coating	74.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.04	0.82	0.00	0.02	0.01	0.04	0.01	0.01	0.02	471.26

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 3/1/2035 - 5/30/2035 - Default Mass Site Grading Description

For Soil Stabilizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stabilizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stabilizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

The following mitigation measures apply to Phase: Architectural Coating 3/1/2037 - 5/30/2037 - Default Architectural Coating Description

For Residential Architectural Coating Measures, the Residential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Residential Architectural Coating Measures, the Residential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

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For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:
ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:
ROG: 10%

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: H:\PDATA\65100290\Air_Noise\Air\Models\URBEMIS\Construction\Butterfield Construction Phase 5.urb924

Project Name: Butterfield Construction Phase 5

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2035 TOTALS (lbs/day unmitigated)	18.71	128.44	97.54	0.10	600.04	5.19	605.23	125.32	4.77	130.09	27,460.59
2035 TOTALS (lbs/day mitigated)	18.71	128.44	97.54	0.10	94.61	5.19	99.80	19.77	4.77	24.54	27,460.59
2036 TOTALS (lbs/day unmitigated)	2.14	12.83	26.92	0.10	0.42	0.80	1.21	0.15	0.71	0.86	11,570.36
2036 TOTALS (lbs/day mitigated)	2.14	12.83	26.92	0.10	0.42	0.80	1.21	0.15	0.71	0.86	11,570.36
2037 TOTALS (lbs/day unmitigated)	82.57	12.83	26.92	0.10	0.42	0.80	1.21	0.15	0.71	0.86	11,570.36
2037 TOTALS (lbs/day mitigated)	74.31	12.83	26.92	0.10	0.42	0.80	1.21	0.15	0.71	0.86	11,570.36

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

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	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
Time Slice 3/1/2035-5/30/2035	<u>18.71</u>	<u>128.44</u>	<u>97.54</u>	0.01	<u>600.04</u>	<u>5.19</u>	<u>605.23</u>	<u>125.32</u>	<u>4.77</u>	<u>130.09</u>	<u>27,460.59</u>
Active Days: 65											
Mass Grading 03/01/2035-05/30/2035	18.71	128.44	97.54	0.01	600.04	5.19	605.23	125.32	4.77	130.09	27,460.59
Mass Grading Dust	0.00	0.00	0.00	0.00	600.00	0.00	600.00	125.30	0.00	125.30	0.00
Mass Grading Off Road Diesel	18.68	128.36	95.71	0.00	0.00	5.16	5.16	0.00	4.75	4.75	26,528.60
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.03	0.08	1.83	0.01	0.04	0.03	0.07	0.02	0.02	0.04	931.99
Time Slice 6/1/2035-6/29/2035	1.04	6.19	8.01	0.00	0.01	0.29	0.30	0.00	0.27	0.27	1,838.90
Active Days: 21											
Trenching 06/01/2035-06/30/2035	1.04	6.19	8.01	0.00	0.01	0.29	0.30	0.00	0.27	0.27	1,838.90
Trenching Off Road Diesel	1.04	6.18	7.76	0.00	0.00	0.29	0.29	0.00	0.26	0.26	1,714.64
Trenching Worker Trips	0.00	0.01	0.24	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.27
Time Slice 7/2/2035-12/31/2035	2.20	12.95	28.79	<u>0.10</u>	0.42	0.80	1.21	0.15	0.72	0.86	11,570.13
Active Days: 131											
Building 07/01/2035-02/28/2037	2.20	12.95	28.79	0.10	0.42	0.80	1.21	0.15	0.72	0.86	11,570.13
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	0.23	1.81	2.28	0.02	0.07	0.08	0.15	0.02	0.07	0.10	1,938.39
Building Worker Trips	0.27	0.65	14.48	0.08	0.35	0.22	0.57	0.13	0.18	0.31	7,372.45
Time Slice 1/1/2036-12/31/2036	<u>2.14</u>	<u>12.83</u>	<u>26.92</u>	<u>0.10</u>	<u>0.42</u>	<u>0.80</u>	<u>1.21</u>	<u>0.15</u>	<u>0.71</u>	<u>0.86</u>	<u>11,570.36</u>
Active Days: 262											
Building 07/01/2035-02/28/2037	2.14	12.83	26.92	0.10	0.42	0.80	1.21	0.15	0.71	0.86	11,570.36
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	0.22	1.77	2.14	0.02	0.07	0.08	0.15	0.02	0.07	0.10	1,938.48
Building Worker Trips	0.21	0.56	12.75	0.08	0.35	0.22	0.57	0.13	0.18	0.31	7,372.60

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Time Slice 1/1/2037-2/27/2037	2.14	<u>12.83</u>	<u>26.92</u>	<u>0.10</u>	<u>0.42</u>	<u>0.80</u>	<u>1.21</u>	<u>0.15</u>	<u>0.71</u>	<u>0.86</u>	<u>11,570.36</u>
Active Days: 42											
Building 07/01/2035-02/28/2037	2.14	12.83	26.92	0.10	0.42	0.80	1.21	0.15	0.71	0.86	11,570.36
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	0.22	1.77	2.14	0.02	0.07	0.08	0.15	0.02	0.07	0.10	1,938.48
Building Worker Trips	0.21	0.56	12.75	0.08	0.35	0.22	0.57	0.13	0.18	0.31	7,372.60
Time Slice 3/2/2037-5/29/2037	<u>82.57</u>	0.04	0.82	0.00	0.02	0.01	0.04	0.01	0.01	0.02	471.26
Active Days: 65											
Coating 03/01/2037-05/30/2037	82.57	0.04	0.82	0.00	0.02	0.01	0.04	0.01	0.01	0.02	471.26
Architectural Coating	82.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.04	0.82	0.00	0.02	0.01	0.04	0.01	0.01	0.02	471.26

Phase Assumptions

Phase: Mass Grading 3/1/2035 - 5/30/2035 - Default Mass Site Grading Description

Total Acres Disturbed: 175

Maximum Daily Acreage Disturbed: 30

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

3 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

3 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

3 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

9 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day

9 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 6/1/2035 - 6/30/2035 - Default Trenching Description

Off-Road Equipment:

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- 2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
- 1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Building Construction 7/1/2035 - 2/28/2037 - Default Building Construction Description
Off-Road Equipment:

- 1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day
- 3 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day
- 1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
- 3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
- 1 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 3/1/2037 - 5/30/2037 - Default Architectural Coating Description
Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100
Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50
Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250
Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100
Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250
Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
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Time Slice 3/1/2035-5/30/2035 Active Days: 65	<u>18.71</u>	<u>128.44</u>	<u>97.54</u>	0.01	<u>94.61</u>	<u>5.19</u>	<u>99.80</u>	<u>19.77</u>	<u>4.77</u>	<u>24.54</u>	<u>27,460.59</u>
Mass Grading 03/01/2035-05/30/2035	18.71	128.44	97.54	0.01	94.61	5.19	99.80	19.77	4.77	24.54	27,460.59
Mass Grading Dust	0.00	0.00	0.00	0.00	94.57	0.00	94.57	19.75	0.00	19.75	0.00
Mass Grading Off Road Diesel	18.68	128.36	95.71	0.00	0.00	5.16	5.16	0.00	4.75	4.75	26,528.60
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.03	0.08	1.83	0.01	0.04	0.03	0.07	0.02	0.02	0.04	931.99
Time Slice 6/1/2035-6/29/2035 Active Days: 21	1.04	6.19	8.01	0.00	0.01	0.29	0.30	0.00	0.27	0.27	1,838.90
Trenching 06/01/2035-06/30/2035	1.04	6.19	8.01	0.00	0.01	0.29	0.30	0.00	0.27	0.27	1,838.90
Trenching Off Road Diesel	1.04	6.18	7.76	0.00	0.00	0.29	0.29	0.00	0.26	0.26	1,714.64
Trenching Worker Trips	0.00	0.01	0.24	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.27
Time Slice 7/2/2035-12/31/2035 Active Days: 131	2.20	12.95	28.79	<u>0.10</u>	0.42	0.80	1.21	0.15	0.72	0.86	11,570.13
Building 07/01/2035-02/28/2037	2.20	12.95	28.79	0.10	0.42	0.80	1.21	0.15	0.72	0.86	11,570.13
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	0.23	1.81	2.28	0.02	0.07	0.08	0.15	0.02	0.07	0.10	1,938.39
Building Worker Trips	0.27	0.65	14.48	0.08	0.35	0.22	0.57	0.13	0.18	0.31	7,372.45
Time Slice 1/1/2036-12/31/2036 Active Days: 262	<u>2.14</u>	<u>12.83</u>	<u>26.92</u>	<u>0.10</u>	<u>0.42</u>	<u>0.80</u>	<u>1.21</u>	<u>0.15</u>	<u>0.71</u>	<u>0.86</u>	<u>11,570.36</u>
Building 07/01/2035-02/28/2037	2.14	12.83	26.92	0.10	0.42	0.80	1.21	0.15	0.71	0.86	11,570.36
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	0.22	1.77	2.14	0.02	0.07	0.08	0.15	0.02	0.07	0.10	1,938.48
Building Worker Trips	0.21	0.56	12.75	0.08	0.35	0.22	0.57	0.13	0.18	0.31	7,372.60

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Time Slice 1/1/2037-2/27/2037	2.14	<u>12.83</u>	<u>26.92</u>	<u>0.10</u>	<u>0.42</u>	<u>0.80</u>	<u>1.21</u>	<u>0.15</u>	<u>0.71</u>	<u>0.86</u>	<u>11,570.36</u>
Active Days: 42											
Building 07/01/2035-02/28/2037	2.14	12.83	26.92	0.10	0.42	0.80	1.21	0.15	0.71	0.86	11,570.36
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	0.22	1.77	2.14	0.02	0.07	0.08	0.15	0.02	0.07	0.10	1,938.48
Building Worker Trips	0.21	0.56	12.75	0.08	0.35	0.22	0.57	0.13	0.18	0.31	7,372.60
Time Slice 3/2/2037-5/29/2037	<u>74.31</u>	0.04	0.82	0.00	0.02	0.01	0.04	0.01	0.01	0.02	471.26
Active Days: 65											
Coating 03/01/2037-05/30/2037	74.31	0.04	0.82	0.00	0.02	0.01	0.04	0.01	0.01	0.02	471.26
Architectural Coating	74.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.04	0.82	0.00	0.02	0.01	0.04	0.01	0.01	0.02	471.26

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 3/1/2035 - 5/30/2035 - Default Mass Site Grading Description

For Soil Stabilizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stabilizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stabilizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

The following mitigation measures apply to Phase: Architectural Coating 3/1/2037 - 5/30/2037 - Default Architectural Coating Description

For Residential Architectural Coating Measures, the Residential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Residential Architectural Coating Measures, the Residential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

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For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:
ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:
ROG: 10%

Combined Annual Emissions Reports (Tons/Year)

Project Name: Butterfield Construction Phase 5

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

[illegible]

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2035	0.76	5.09	5.14	0.01	19.53	0.22	19.75	4.08	0.20	4.29	1,669.62
Mass Grading 03/01/2035-05/30/2035	0.61	4.17	3.17	0.00	19.50	0.17	19.67	4.07	0.16	4.23	892.47
Mass Grading Dust	0.00	0.00	0.00	0.00	19.50	0.00	19.50	4.07	0.00	4.07	0.00
Mass Grading Off Road Diesel	0.61	4.17	3.11	0.00	0.00	0.17	0.17	0.00	0.15	0.15	862.18
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.29
Trenching 06/01/2035-06/30/2035	0.01	0.06	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	19.31
Trenching Off Road Diesel	0.01	0.06	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.00
Trenching Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.30
Building 07/01/2035-02/28/2037	0.14	0.85	1.89	0.01	0.03	0.05	0.08	0.01	0.05	0.06	757.84
Building Off Road Diesel	0.11	0.69	0.79	0.00	0.00	0.03	0.03	0.00	0.03	0.03	147.98
Building Vendor Trips	0.01	0.12	0.15	0.00	0.00	0.01	0.01	0.00	0.00	0.01	126.96
Building Worker Trips	0.02	0.04	0.95	0.01	0.02	0.01	0.04	0.01	0.01	0.02	482.90
2036	0.28	1.68	3.53	0.01	0.05	0.10	0.16	0.02	0.09	0.11	1,515.72
Building 07/01/2035-02/28/2037	0.28	1.68	3.53	0.01	0.05	0.10	0.16	0.02	0.09	0.11	1,515.72
Building Off Road Diesel	0.22	1.38	1.58	0.00	0.00	0.07	0.07	0.00	0.06	0.06	295.97
Building Vendor Trips	0.03	0.23	0.28	0.00	0.01	0.01	0.02	0.00	0.01	0.01	253.94
Building Worker Trips	0.03	0.07	1.67	0.01	0.05	0.03	0.07	0.02	0.02	0.04	965.81

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2037	2.73	0.27	0.59	0.00	0.01	0.02	0.03	0.00	0.02	0.02	258.29
Building 07/01/2035-02/28/2037	0.04	0.27	0.57	0.00	0.01	0.02	0.03	0.00	0.02	0.02	242.98
Building Off Road Diesel	0.04	0.22	0.25	0.00	0.00	0.01	0.01	0.00	0.01	0.01	47.44
Building Vendor Trips	0.00	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.71
Building Worker Trips	0.00	0.01	0.27	0.00	0.01	0.00	0.01	0.00	0.00	0.01	154.82
Coating 03/01/2037-05/30/2037	2.68	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.32
Architectural Coating	2.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.32

Phase Assumptions

Phase: Mass Grading 3/1/2035 - 5/30/2035 - Default Mass Site Grading Description

Total Acres Disturbed: 175

Maximum Daily Acreage Disturbed: 30

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

3 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

3 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

3 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

9 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day

9 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 6/1/2035 - 6/30/2035 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

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1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Building Construction 7/1/2035 - 2/28/2037 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day

3 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 3/1/2037 - 5/30/2037 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
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2035	0.76	5.09	5.14	0.01	3.10	0.22	3.33	0.65	0.20	0.86	1,669.62
Mass Grading 03/01/2035-05/30/2035	0.61	4.17	3.17	0.00	3.07	0.17	3.24	0.64	0.16	0.80	892.47
Mass Grading Dust	0.00	0.00	0.00	0.00	3.07	0.00	3.07	0.64	0.00	0.64	0.00
Mass Grading Off Road Diesel	0.61	4.17	3.11	0.00	0.00	0.17	0.17	0.00	0.15	0.15	862.18
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.29
Trenching 06/01/2035-06/30/2035	0.01	0.06	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	19.31
Trenching Off Road Diesel	0.01	0.06	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.00
Trenching Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.30
Building 07/01/2035-02/28/2037	0.14	0.85	1.89	0.01	0.03	0.05	0.08	0.01	0.05	0.06	757.84
Building Off Road Diesel	0.11	0.69	0.79	0.00	0.00	0.03	0.03	0.00	0.03	0.03	147.98
Building Vendor Trips	0.01	0.12	0.15	0.00	0.00	0.01	0.01	0.00	0.00	0.01	126.96
Building Worker Trips	0.02	0.04	0.95	0.01	0.02	0.01	0.04	0.01	0.01	0.02	482.90
2036	0.28	1.68	3.53	0.01	0.05	0.10	0.16	0.02	0.09	0.11	1,515.72
Building 07/01/2035-02/28/2037	0.28	1.68	3.53	0.01	0.05	0.10	0.16	0.02	0.09	0.11	1,515.72
Building Off Road Diesel	0.22	1.38	1.58	0.00	0.00	0.07	0.07	0.00	0.06	0.06	295.97
Building Vendor Trips	0.03	0.23	0.28	0.00	0.01	0.01	0.02	0.00	0.01	0.01	253.94
Building Worker Trips	0.03	0.07	1.67	0.01	0.05	0.03	0.07	0.02	0.02	0.04	965.81

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2037	2.46	0.27	0.59	0.00	0.01	0.02	0.03	0.00	0.02	0.02	258.29
Building 07/01/2035-02/28/2037	0.04	0.27	0.57	0.00	0.01	0.02	0.03	0.00	0.02	0.02	242.98
Building Off Road Diesel	0.04	0.22	0.25	0.00	0.00	0.01	0.01	0.00	0.01	0.01	47.44
Building Vendor Trips	0.00	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.71
Building Worker Trips	0.00	0.01	0.27	0.00	0.01	0.00	0.01	0.00	0.00	0.01	154.82
Coating 03/01/2037-05/30/2037	2.42	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.32
Architectural Coating	2.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.32

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 3/1/2035 - 5/30/2035 - Default Mass Site Grading Description

For Soil Stabilizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stabilizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stabilizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

The following mitigation measures apply to Phase: Architectural Coating 3/1/2037 - 5/30/2037 - Default Architectural Coating Description

For Residential Architectural Coating Measures, the Residential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Residential Architectural Coating Measures, the Residential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

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For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: H:\PDATA\65100290\Air_Noise\Air\Models\URBEMIS\Operational\Butterfield.urb924

Project Name: Butterfield

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	370.50	89.38	232.97	0.01	0.69	0.67	111,057.39

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	434.33	587.02	5,385.97	6.41	1,046.26	203.61	625,872.49

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	804.83	676.40	5,618.94	6.42	1,046.95	204.28	736,929.88

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	6.70	87.19	40.10	0.00	0.17	0.16	110,746.40
Hearth							
Landscape	34.23	2.19	192.87	0.01	0.52	0.51	310.99
Consumer Products	276.40						
Architectural Coatings	53.17						
TOTALS (lbs/day, unmitigated)	370.50	89.38	232.97	0.01	0.69	0.67	111,057.39

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Single family housing	265.16	352.31	3,274.79	3.86	628.51	122.38	376,886.47
Condo/townhouse general	47.71	59.00	548.42	0.65	105.26	20.49	63,116.18
Elementary school	18.38	25.94	233.74	0.28	46.31	9.00	27,596.53
Regnl shop. center	98.05	144.56	1,282.78	1.56	256.92	49.94	152,766.29
Golf Course	5.03	5.21	46.24	0.06	9.26	1.80	5,507.02
TOTALS (lbs/day, unmitigated)	434.33	587.02	5,385.97	6.41	1,046.26	203.61	625,872.49

Operational Settings:

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Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2012 Temperature (F): 80 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses						
Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	1,394.00	8.61	dwelling units	4,182.00	36,007.02	363,771.71
Condo/townhouse general	75.38	5.00	dwelling units	1,206.00	6,030.00	60,919.88
Elementary school		13.92	1000 sq ft	200.00	2,784.00	26,809.92
Regnl shop. center		30.20	1000 sq ft	549.00	16,579.80	148,770.54
Golf Course		2.41	acres	248.00	597.68	5,362.98
					61,998.50	605,635.03

Vehicle Fleet Mix				
Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.5	0.6	99.2	0.2
Light Truck < 3750 lbs	7.3	1.4	95.9	2.7
Light Truck 3751-5750 lbs	23.0	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.7	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	81.2	18.8
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0

<u>Vehicle Fleet Mix</u>				
Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.8	60.7	39.3	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

<u>Travel Conditions</u>						
	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Elementary school	20.0	10.0	70.0
Regnl shop. center	2.0	1.0	97.0
Golf Course	2.0	1.0	97.0

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: H:\PDATA\65100290\Air_Noise\Air\Models\URBEMIS\Operational\Butterfield.urb924

Project Name: Butterfield

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	336.27	87.19	40.10	0.00	0.17	0.16	110,746.40

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	468.85	707.03	5,144.34	5.34	1,046.26	203.61	566,702.31

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	805.12	794.22	5,184.44	5.34	1,046.43	203.77	677,448.71

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	6.70	87.19	40.10	0.00	0.17	0.16	110,746.40
Hearth							
Landscaping - No Winter Emissions							
Consumer Products	276.40						
Architectural Coatings	53.17						
TOTALS (lbs/day, unmitigated)	336.27	87.19	40.10	0.00	0.17	0.16	110,746.40

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Single family housing	284.53	424.46	3,121.35	3.22	628.51	122.38	341,346.20
Condo/townhouse general	49.16	71.08	522.72	0.54	105.26	20.49	57,164.34
Elementary school	20.21	31.23	223.34	0.23	46.31	9.00	24,977.21
Regnl shop. center	110.29	173.99	1,232.50	1.30	256.92	49.94	138,231.50
Golf Course	4.66	6.27	44.43	0.05	9.26	1.80	4,983.06
TOTALS (lbs/day, unmitigated)	468.85	707.03	5,144.34	5.34	1,046.26	203.61	566,702.31

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2012 Temperature (F): 60 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses						
Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	1,394.00	8.61	dwelling units	4,182.00	36,007.02	363,771.71
Condo/townhouse general	75.38	5.00	dwelling units	1,206.00	6,030.00	60,919.88
Elementary school		13.92	1000 sq ft	200.00	2,784.00	26,809.92
Regnl shop. center		30.20	1000 sq ft	549.00	16,579.80	148,770.54
Golf Course		2.41	acres	248.00	597.68	5,362.98
					61,998.50	605,635.03

Vehicle Fleet Mix				
Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.5	0.6	99.2	0.2
Light Truck < 3750 lbs	7.3	1.4	95.9	2.7
Light Truck 3751-5750 lbs	23.0	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.7	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	81.2	18.8
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0

<u>Vehicle Fleet Mix</u>				
Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.8	60.7	39.3	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

<u>Travel Conditions</u>						
	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Elementary school	20.0	10.0	70.0
Regnl shop. center	2.0	1.0	97.0
Golf Course	2.0	1.0	97.0

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: H:\PDATA\65100290\Air_Noise\Air\Models\URBEMIS\Operational\Butterfield.urb924

Project Name: Butterfield

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	67.61	16.31	42.52	0.00	0.12	0.12	20,267.98

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	81.38	114.44	968.25	1.11	190.94	37.15	110,622.21

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	148.99	130.75	1,010.77	1.11	191.06	37.27	130,890.19

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	1.22	15.91	7.32	0.00	0.03	0.03	20,211.22
Hearth							
Landscape	6.25	0.40	35.20	0.00	0.09	0.09	56.76
Consumer Products	50.44						
Architectural Coatings	9.70						
TOTALS (tons/year, unmitigated)	67.61	16.31	42.52	0.00	0.12	0.12	20,267.98

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Single family housing	49.57	68.69	588.32	0.67	114.70	22.33	66,619.75
Condo/townhouse general	8.80	11.50	98.52	0.11	19.21	3.74	11,156.63
Elementary school	3.47	5.06	42.03	0.05	8.45	1.64	4,877.02
Regnl shop. center	18.64	28.17	231.05	0.27	46.89	9.11	26,995.65
Golf Course	0.90	1.02	8.33	0.01	1.69	0.33	973.16
TOTALS (tons/year, unmitigated)	81.38	114.44	968.25	1.11	190.94	37.15	110,622.21

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2012 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses						
Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	1,394.00	8.61	dwelling units	4,182.00	36,007.02	363,771.71
Condo/townhouse general	75.38	5.00	dwelling units	1,206.00	6,030.00	60,919.88
Elementary school		13.92	1000 sq ft	200.00	2,784.00	26,809.92
Regnl shop. center		30.20	1000 sq ft	549.00	16,579.80	148,770.54
Golf Course		2.41	acres	248.00	597.68	5,362.98
					61,998.50	605,635.03

Vehicle Fleet Mix				
Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.5	0.6	99.2	0.2
Light Truck < 3750 lbs	7.3	1.4	95.9	2.7
Light Truck 3751-5750 lbs	23.0	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.7	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	81.2	18.8
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0

<u>Vehicle Fleet Mix</u>				
Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.8	60.7	39.3	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

<u>Travel Conditions</u>						
	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Elementary school	20.0	10.0	70.0
Regnl shop. center	2.0	1.0	97.0
Golf Course	2.0	1.0	97.0

Mitigated NOx Emissions

								Emissions Factor	Grams Per	Pounds Per
Phase 1								(g/bhp-hr)	Day	Day
	Year	Quantity	Type	Hours/day	Days	Horsepower	Load Factor	NO _x	NO _x	NO _x
Grading	2012	15	Scrapers	8	261	313	0.72	3.0	81129.6	178.86
		6	Graders	8	261	174	0.61	3.0	15284.16	33.70
		6	Rubber Tired Dozers	8	261	357	0.59	3.0	30330.72	66.87
		3	Plate Compactors	8	261	8	0.43	5.6	462.336	1.02
		3	Tractor/Loaders/Backh	8	261	108	0.55	3.0	4276.8	9.43
		6	Water Trucks	8	261	189	0.5	3.0	13608	30.00
	2013	15	Scrapers	8	151	313	0.72	3.0	81129.6	178.86
		6	Graders	8	151	174	0.61	3.0	15284.16	33.70
		6	Rubber Tired Dozers	8	151	357	0.59	3.0	30330.72	66.87
		3	Plate Compactors	8	151	8	0.43	5.6	462.336	1.02
		3	Tractor/Loaders/Backh	8	151	108	0.55	3.0	4276.8	9.43
		6	Water Trucks	8	151	189	0.5	3.0	13608	30.00
Trenching	2013	4	Excavators	8	43	168	0.57	3.0	9192.96	20.27
		2	Other Gen Ind Equipm	8	43	238	0.51	3.0	5826.24	12.84
Paving	2013	1	Paver	8	66	100	0.62	3.0	1488	3.28
		2	Paving Equipment	8	66	104	0.53	3.0	2645.76	5.83
		2	Roller	6	66	95	0.56	3.5	2234.4	4.93
	2014	1	Paver	8	63	100	0.62	3.0	1488	3.28
		2	Paving Equipment	8	63	104	0.53	3.0	2645.76	5.83
		2	Roller	6	63	95	0.56	3.5	2234.4	4.93
Building	2014	1	Crane	7	197	399	0.43	5.6	6725.544	14.83
		3	Forklifts	8	197	145	0.62	5.6	12082.56	26.64
		3	Tractor/Loader/Backho	7	197	108	0.53	5.6	6731.424	14.84
		1	Welders	8	197	45	0.56	5.6	1128.96	2.49
		1	Generator Set	8	197	49	0.74	5.6	1624.448	3.58
	2015	1	Crane	7	195	399	0.43	0.3	360.297	0.79
		3	Forklifts	8	195	145	0.3	0.3	313.2	0.69
		3	Tractor/Loader/Backho	7	195	108	0.55	0.3	374.22	0.83
		1	Welders	8	195	45	0.45	3.5	567	1.25
		1	Generator Set	8	195	49	0.74	3.5	1015.28	2.24
Phase 2 Trenching	2016	2	Excavators	8	42	168	0.57	0.3	459.648	1.01
		1	Other General Industri	8	42	238	0.51	0.3	291.312	0.64
Building	2016	1	Crane	7	219	399	0.43	0.3	360.297	0.79
		3	Forklifts	6	219	145	0.62	0.3	485.46	1.07
		3	Tractor/Loader/Backho	7	219	108	0.53	0.3	360.612	0.80
		1	Welder	8	219	45	0.56	3.5	705.6	1.56
		1	Generator Set	8	219	49	0.74	3.5	1015.28	2.24
	2017	1	Crane	7	260	399	0.43	0.3	360.297	0.79
		3	Forklifts	6	260	145	0.62	0.3	485.46	1.07
		3	Tractor/Loader/Backho	7	260	108	0.53	0.3	360.612	0.80
		1	Welder	8	260	45	0.56	3.5	705.6	1.56
		1	Generator Set	8	260	49	0.74	3.5	1015.28	2.24

	2018	1	Crane	7	65	399	0.43	0.3	360.297	0.79
		3	Forklifts	6	65	145	0.62	0.3	485.46	1.07
		3	Tractor/Loader/Backho	7	65	108	0.53	0.3	360.612	0.80
		1	Welder	8	65	45	0.56	3.5	705.6	1.56
		1	Generator Set	8	65	49	0.74	3.5	1015.28	2.24
Phase 3										
Grading	2019	18	Scrapers	8	261	313	0.72	0.3	9735.552	21.46
		6	Graders	8	261	174	0.61	0.3	1528.416	3.37
		6	Rubber Tired Dozers	8	261	357	0.59	0.3	3033.072	6.69
		3	Plate Compactor	8	261	8	0.43	5.6	462.336	1.02
		6	Water Trucks	8	261	189	0.5	0.3	1360.8	3.00
Trenching	2020	4	Excavators	8	43	168	0.57	0.3	919.296	2.03
		2	Other Gen Ind Equipm	8	43	238	0.51	0.3	582.624	1.28
Paving	2020	1	Paver	8	21	100	0.62	0.3	148.8	0.33
		2	Paving Equipment	8	21	104	0.53	0.3	264.576	0.58
		2	Rollers	6	21	95	0.56	0.3	191.52	0.42
Building	2020-2029	1	Crane	7	2478	399	0.43	0.3	360.297	0.79
		3	Forklifts	8	2478	145	0.62	0.3	647.28	1.43
		3	Tractor/Loader/Backho	7	2478	108	0.53	0.3	360.612	0.80
		1	Welders	8	2478	45	0.56	3.5	705.6	1.56
		1	Generator Set	8	2478	49	0.74	3.5	1015.28	2.24
Phase 4										
Grading	2032	9	Scrapers	8	42	313	0.72	0.3	4867.776	10.73
		9	Tractors/Loaders/Back	8	42	108	0.53	0.3	1236.384	2.73
		3	Excavator	8	42	168	0.57	0.3	689.472	1.52
		3	Grader	8	42	174	0.61	0.3	764.208	1.68
		3	Rubber Tired Dozer	8	42	357	0.59	0.3	1516.536	3.34
		3	Water Trucks	8	42	189	0.5	0.3	680.4	1.50
Trenching	2032	4	Excavators	8	22	168	0.57	0.3	919.296	2.03
		2	Other Gen Ind Equipm	8	22	238	0.51	0.3	582.624	1.28
Paving	2032	1	Paver	8	22	100	0.62	0.3	148.8	0.33
		2	Paving Equipment	8	22	104	0.53	0.3	264.576	0.58
		2	Rollers	6	22	95	0.56	0.3	191.52	0.42
Building	2032	1	Crane	7	175	399	0.43	0.3	360.297	0.79
		3	Forklifts	8	175	145	0.62	0.3	647.28	1.43
		3	Tractor/Loader/Backho	7	175	104	0.53	0.3	347.256	0.77
		1	Welders	8	175	45	0.56	3.5	705.6	1.56
		1	Generator Set	8	175	49	0.74	3.5	1015.28	2.24
	2033	1	Crane	7	238	399	0.43	0.3	360.297	0.79
		3	Forklifts	8	238	145	0.62	0.3	647.28	1.43
		3	Tractor/Loader/Backho	7	238	104	0.53	0.3	347.256	0.77
		1	Welders	8	238	45	0.56	3.5	705.6	1.56
		1	Generator Set	8	238	49	0.74	3.5	1015.28	2.24
Phase 5										
Grading	2035	9	Scrapers	8	65	313	0.72	0.3	4867.776	10.73
		9	Tractors/Loaders/Back	8	65	108	0.53	0.3	1236.384	2.73
		3	Excavator	8	65	168	0.57	0.3	689.472	1.52
		3	Grader	8	65	174	0.61	0.3	764.208	1.68
		3	Rubber Tired Dozer	8	65	357	0.59	0.3	1516.536	3.34
		3	Water Trucks	8	65	189	0.5	0.3	680.4	1.50

Trenching	2035	2	Excavators	8	21	168	0.57	0.3	459.648	1.01
		1	Other Gen Ind Equipm	8	21	238	0.51	0.3	291.312	0.64
		1	Tractors/Loaders/Back	8	21	108	0.53	0.3	137.376	0.30
Building	2035	1	Crane	7	131	399	0.43	0.3	360.297	0.79
		3	Forklifts	8	131	145	0.62	0.3	647.28	1.43
		3	Tractor/Loader/Backho	7	131	104	0.53	0.3	347.256	0.77
		1	Welders	8	131	45	0.56	3.5	705.6	1.56
		1	Generator Set	8	131	49	0.74	3.5	1015.28	2.24
	2036	1	Crane	7	262	399	0.43	0.3	360.297	0.79
		3	Forklifts	8	262	145	0.62	0.3	647.28	1.43
		3	Tractor/Loader/Backho	7	262	104	0.53	0.3	347.256	0.77
		1	Welders	8	262	45	0.56	3.5	705.6	1.56
		1	Generator Set	8	262	49	0.74	3.5	1015.28	2.24
	2037	1	Crane	7	42	399	0.43	0.3	360.297	0.79
		3	Forklifts	8	42	145	0.62	0.3	647.28	1.43
		3	Tractor/Loader/Backho	7	42	104	0.53	0.3	347.256	0.77
		1	Welders	8	42	45	0.56	3.5	705.6	1.56
		1	Generator Set	8	42	49	0.74	3.5	1015.28	2.24

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Title : South Coast Air Basin Subarea Winter CYr 2040 Default Title

Version : Emfac2007 V2.3 Nov 1 2006

Run Date : 2010/07/26 15:29:44

Scen Year: 2040 -- All model years in the range 1996 to 2040 selected

Season : Winter

Area : Los Angeles (SC)

Year: 2040 -- Model Years 1996 to 2040 Inclusive -- Winter

Emfac2007 Emission Factors: V2.3 Nov 1 2006

(SC) Los Angeles (SC) Los Angeles (SC) Los Angeles

Table 1: Running Exhaust Emissions (grams/mile)

Pollutant Name: Reactive Org Gases Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.033	0.066	0.088	1.438	0.424	4.673	0.158
35	0.005	0.010	0.015	0.169	0.086	1.800	0.027

Pollutant Name: Carbon Monoxide Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.735	1.294	1.678	5.033	4.657	21.979	1.415
35	0.440	0.774	0.901	1.067	0.822	14.230	0.720

Pollutant Name: Oxides of Nitrogen Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.061	0.111	0.199	5.004	4.571	1.383	0.402
35	0.035	0.063	0.124	1.907	2.288	1.259	0.178

Pollutant Name: Carbon Dioxide Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	921.520	1184.535	1716.620	2861.515	2371.154	266.418	1229.548
35	299.766	385.349	521.143	1512.653	1318.667	140.011	430.331

Pollutant Name: Sulfur Dioxide Temperature: 70F Relative Humidity: 0%

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Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.009	0.011	0.017	0.027	0.023	0.003	0.012
35	0.003	0.004	0.005	0.014	0.013	0.002	0.004

0% Pollutant Name: PM2.5 Temperature: 70F Relative Humidity:

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.053	0.120	0.116	0.157	0.163	0.023	0.089
35	0.009	0.020	0.019	0.072	0.036	0.011	0.017

0% Pollutant Name: PM2.5 - Tire Wear Temperature: 70F Relative Humidity:

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.002	0.002	0.002	0.006	0.003	0.001	0.002
35	0.002	0.002	0.002	0.006	0.003	0.001	0.002

0% Pollutant Name: PM2.5 - Brake Wear Temperature: 70F Relative Humidity:

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.005	0.005	0.005	0.009	0.005	0.003	0.006
35	0.005	0.005	0.005	0.009	0.005	0.003	0.006

0% Pollutant Name: Gasoline - mi/gal Temperature: 70F Relative Humidity:

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	9.602	7.466	5.094	3.514	3.514	28.046	8.287
35	29.490	22.922	16.960	17.759	17.757	52.657	25.524

0% Pollutant Name: Diesel - mi/gal Temperature: 70F Relative Humidity:

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	29.156	29.156	19.430	4.222	4.549	0.000	6.317
35	29.156	29.156	19.430	5.979	4.549	0.000	7.796

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Title : South Coast Air Basin Subarea Winter CYr 2040 Default Title
 Version : Emfac2007 V2.3 Nov 1 2006
 Run Date : 2010/07/26 15:29:44
 Scen Year: 2040 -- All model years in the range 1996 to 2040 selected
 Season : Winter
 Area : Los Angeles (SC)

Year: 2040 -- Model Years 1996 to 2040 Inclusive -- Winter
 Emfac2007 Emission Factors: V2.3 Nov 1 2006

(SC) Los Angeles (SC) Los Angeles (SC) Los Angeles

Table 2: Starting Emissions (grams/trip)

Pollutant Name: Reactive Org Gases Temperature: 70F Relative Humidity:
 ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.002	0.005	0.024	0.041	0.153	0.642	0.014
10	0.004	0.010	0.048	0.080	0.298	0.795	0.025
20	0.009	0.020	0.095	0.151	0.565	1.089	0.045
30	0.013	0.030	0.141	0.215	0.801	1.366	0.065
40	0.017	0.039	0.185	0.269	1.006	1.627	0.083
50	0.021	0.048	0.228	0.316	1.180	1.870	0.100
60	0.025	0.057	0.269	0.354	1.323	2.048	0.116
120	0.044	0.103	0.477	0.398	1.488	2.319	0.183
180	0.043	0.100	0.471	0.423	1.578	2.345	0.182
240	0.046	0.107	0.501	0.446	1.666	2.493	0.193
300	0.049	0.113	0.532	0.469	1.751	2.637	0.205
360	0.052	0.120	0.562	0.491	1.834	2.779	0.216
420	0.054	0.126	0.592	0.512	1.913	2.917	0.227
480	0.057	0.133	0.622	0.533	1.989	3.053	0.239
540	0.060	0.139	0.653	0.552	2.063	3.185	0.250
600	0.063	0.145	0.683	0.571	2.134	3.314	0.261
660	0.065	0.152	0.713	0.589	2.201	3.440	0.272
720	0.068	0.158	0.743	0.607	2.266	3.563	0.282

Pollutant Name: Carbon Monoxide Temperature: 70F Relative Humidity:
 ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.051	0.098	0.347	0.628	1.147	2.937	0.178
10	0.101	0.195	0.688	1.231	2.247	3.557	0.337
20	0.198	0.382	1.348	2.360	4.307	4.744	0.640
30	0.291	0.561	1.981	3.387	6.182	5.860	0.928
40	0.380	0.733	2.586	4.311	7.869	6.904	1.199
50	0.466	0.897	3.165	5.134	9.371	7.878	1.454
60	0.547	1.053	3.716	5.854	10.686	8.781	1.693
120	0.903	1.736	6.122	6.837	12.479	12.420	2.596

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180	0.858	1.651	5.846	7.037	12.844	12.008	2.509
240	0.939	1.808	6.400	7.243	13.221	13.011	2.717
300	1.011	1.944	6.885	7.456	13.610	13.938	2.900
360	1.071	2.061	7.300	7.676	14.011	14.789	3.060
420	1.122	2.159	7.646	7.902	14.423	15.566	3.197
480	1.163	2.237	7.922	8.135	14.848	16.266	3.310
540	1.193	2.295	8.129	8.374	15.285	16.892	3.400
600	1.213	2.334	8.266	8.620	15.734	17.442	3.466
660	1.223	2.354	8.335	8.873	16.195	17.916	3.509
720	1.223	2.354	8.333	9.132	16.668	18.315	3.528

Pollutant Name: Oxides of Nitrogen Temperature: 70F Relative Humidity:
ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.024	0.056	0.563	0.151	0.653	0.152	0.145
10	0.024	0.058	0.579	0.228	0.983	0.192	0.154
20	0.025	0.060	0.609	0.363	1.564	0.261	0.171
30	0.026	0.062	0.636	0.472	2.037	0.319	0.184
40	0.027	0.064	0.660	0.557	2.403	0.364	0.196
50	0.028	0.066	0.681	0.617	2.661	0.397	0.205
60	0.029	0.068	0.700	0.652	2.812	0.418	0.212
120	0.032	0.075	0.773	0.657	2.832	0.421	0.230
180	0.032	0.076	0.774	0.654	2.822	0.417	0.230
240	0.032	0.075	0.768	0.650	2.806	0.411	0.228
300	0.031	0.074	0.757	0.645	2.784	0.403	0.225
360	0.031	0.073	0.743	0.639	2.757	0.393	0.221
420	0.030	0.071	0.724	0.632	2.725	0.381	0.216
480	0.029	0.069	0.701	0.623	2.687	0.368	0.210
540	0.028	0.066	0.674	0.613	2.644	0.354	0.203
600	0.027	0.063	0.643	0.602	2.595	0.337	0.195
660	0.025	0.059	0.607	0.589	2.541	0.319	0.185
720	0.023	0.055	0.568	0.575	2.481	0.299	0.175

Pollutant Name: Carbon Dioxide Temperature: 70F Relative Humidity:
ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	12.067	15.498	22.272	2.798	4.983	13.010	14.387
10	13.475	17.311	24.932	5.580	9.939	15.198	16.241
20	16.790	21.577	31.168	11.098	19.768	19.494	20.528
30	20.770	26.698	38.628	16.553	29.486	23.684	25.588
40	25.416	32.672	47.310	21.947	39.094	27.768	31.420
50	30.728	39.501	57.215	27.280	48.592	31.747	38.024
60	36.704	47.184	68.343	32.550	57.980	35.621	45.401
120	86.131	110.687	159.854	55.361	98.614	53.004	104.865
180	97.692	125.547	181.374	65.405	116.505	57.290	119.100
240	109.250	140.405	202.876	74.856	133.340	61.325	133.291
300	120.807	155.259	224.361	83.715	149.119	65.107	147.438
360	132.363	170.111	245.829	91.980	163.842	68.639	161.540
420	143.917	184.960	267.279	99.653	177.509	71.918	175.597
480	155.470	199.806	288.711	106.733	190.120	74.946	189.609
540	167.022	214.648	310.127	113.220	201.675	77.723	203.577
600	178.572	229.488	331.525	119.114	212.174	80.248	217.500
660	190.120	244.325	352.905	124.415	221.618	82.521	231.379

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720 201.667 259.160 374.268 129.124 230.005 84.543 245.213

Pollutant Name: Sulfur Dioxide Temperature: 70F Relative Humidity:

ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	0.000	0.000	0.000	0.000	0.000	0.000	0.000
40	0.000	0.000	0.000	0.000	0.001	0.000	0.000
50	0.000	0.000	0.001	0.000	0.001	0.000	0.000
60	0.000	0.000	0.001	0.000	0.001	0.001	0.000
120	0.001	0.001	0.002	0.001	0.001	0.001	0.001
180	0.001	0.001	0.002	0.001	0.001	0.001	0.001
240	0.001	0.001	0.002	0.001	0.002	0.001	0.001
300	0.001	0.002	0.002	0.001	0.002	0.001	0.001
360	0.001	0.002	0.002	0.001	0.002	0.001	0.002
420	0.001	0.002	0.003	0.001	0.002	0.001	0.002
480	0.002	0.002	0.003	0.001	0.002	0.001	0.002
540	0.002	0.002	0.003	0.001	0.002	0.001	0.002
600	0.002	0.002	0.003	0.001	0.002	0.001	0.002
660	0.002	0.002	0.004	0.001	0.002	0.001	0.002
720	0.002	0.003	0.004	0.001	0.003	0.001	0.002

Pollutant Name: PM2.5 Temperature: 70F Relative Humidity:

ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.000	0.001	0.001	0.000	0.001	0.005	0.001
10	0.001	0.002	0.002	0.001	0.001	0.005	0.001
20	0.002	0.004	0.004	0.001	0.003	0.004	0.003
30	0.003	0.006	0.005	0.002	0.004	0.003	0.004
40	0.004	0.008	0.007	0.002	0.005	0.003	0.005
50	0.004	0.009	0.008	0.003	0.006	0.002	0.006
60	0.005	0.011	0.010	0.003	0.007	0.002	0.008
120	0.009	0.018	0.016	0.005	0.010	0.005	0.013
180	0.010	0.021	0.018	0.005	0.010	0.006	0.014
240	0.011	0.022	0.020	0.005	0.010	0.008	0.015
300	0.011	0.024	0.022	0.005	0.010	0.010	0.017
360	0.012	0.026	0.023	0.005	0.011	0.011	0.017
420	0.013	0.027	0.024	0.005	0.011	0.012	0.018
480	0.013	0.028	0.025	0.005	0.011	0.013	0.019
540	0.014	0.029	0.026	0.006	0.012	0.014	0.019
600	0.014	0.029	0.026	0.006	0.012	0.014	0.020
660	0.014	0.029	0.026	0.006	0.012	0.014	0.020
720	0.014	0.029	0.026	0.006	0.013	0.015	0.020

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Version : Emfac2007 V2.3 Nov 1 2006

Run Date : 2010/07/26 15:29:44

Scen Year: 2040 -- All model years in the range 1996 to 2040 selected

Season : Winter

Area : Los Angeles (SC)

Year: 2040 -- Model Years 1996 to 2040 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

(SC) Los Angeles (SC) Los Angeles (SC) Los Angeles

Table 4: Hot Soak Emissions (grams/trip)

Pollutant Name: Reactive Org Gases Temperature: 70F Relative Humidity:
ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.018	0.032	0.025	0.003	0.029	0.138	0.023
10	0.034	0.060	0.047	0.005	0.053	0.257	0.043
20	0.059	0.103	0.081	0.008	0.091	0.449	0.075
30	0.076	0.133	0.105	0.011	0.117	0.590	0.097
40	0.082	0.145	0.114	0.012	0.126	0.646	0.105

Hot soak results are scaled to reflect zero emissions for trip lengths of less than 5 minutes (about 25% of in-use trips).

Title : South Coast Air Basin Subarea Winter CYr 2040 Default Title

Version : Emfac2007 V2.3 Nov 1 2006

Run Date : 2010/07/26 15:29:44

Scen Year: 2040 -- All model years in the range 1996 to 2040 selected

Season : Winter

Area : Los Angeles (SC)

Year: 2040 -- Model Years 1996 to 2040 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

(SC) Los Angeles (SC) Los Angeles (SC) Los Angeles

Table 5a: Partial Day Diurnal Loss Emissions
(grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity:
ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
70	0.012	0.046	0.051	0.001	0.002	0.393	0.036

Title : South Coast Air Basin Subarea Winter CYr 2040 Default Title
 Version : Emfac2007 V2.3 Nov 1 2006
 Run Date : 2010/07/26 15:29:44
 Scen Year: 2040 -- All model years in the range 1996 to 2040 selected
 Season : Winter
 Area : Los Angeles (SC)

Year: 2040 -- Model Years 1996 to 2040 Inclusive -- Winter
 Emfac2007 Emission Factors: V2.3 Nov 1 2006

Los Angeles (SC) Los Angeles (SC) Los Angeles
 (SC)

Table 5b: Multi-Day Diurnal Loss Emissions

(grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity:
 ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
70	0.001	0.003	0.003	0.000	0.000	0.037	0.003

Title : South Coast Air Basin Subarea Winter CYr 2040 Default Title
 Version : Emfac2007 V2.3 Nov 1 2006
 Run Date : 2010/07/26 15:29:44
 Scen Year: 2040 -- All model years in the range 1996 to 2040 selected
 Season : Winter
 Area : Los Angeles (SC)

Year: 2040 -- Model Years 1996 to 2040 Inclusive -- Winter
 Emfac2007 Emission Factors: V2.3 Nov 1 2006

Los Angeles (SC) Los Angeles (SC) Los Angeles
 (SC)

Table 6a: Partial Day Resting Loss Emissions

(grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity:
 ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
70	0.009	0.036	0.040	0.001	0.001	0.127	0.024

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Title : South Coast Air Basin Subarea Winter CYr 2040 Default Title
 Version : Emfac2007 V2.3 Nov 1 2006
 Run Date : 2010/07/26 15:29:44
 Scen Year: 2040 -- All model years in the range 1996 to 2040 selected
 Season : Winter
 Area : Los Angeles (SC)

Year: 2040 -- Model Years 1996 to 2040 Inclusive -- Winter
 Emfac2007 Emission Factors: V2.3 Nov 1 2006

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Table 6b: Multi-Day Resting Loss Emissions

(grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity:
 ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
70	0.001	0.002	0.003	0.000	0.000	0.013	0.002

Title : South Coast Air Basin Subarea Winter CYr 2040 Default Title
 Version : Emfac2007 V2.3 Nov 1 2006
 Run Date : 2010/07/26 15:29:44
 Scen Year: 2040 -- All model years in the range 1996 to 2040 selected
 Season : Winter
 Area : Los Angeles (SC)

Year: 2040 -- Model Years 1996 to 2040 Inclusive -- Winter
 Emfac2007 Emission Factors: V2.3 Nov 1 2006

Los Angeles (SC) Los Angeles (SC) Los Angeles
 (SC)

Table 7: Estimated Travel Fractions

Pollutant Name: Temperature: ALL Relative Humidity:
 ALL

	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
%VMT	0.478	0.315	0.140	0.058	0.003	0.005	1.000
%TRIP	0.462	0.276	0.192	0.063	0.000	0.007	1.000
%VEH	0.507	0.307	0.129	0.033	0.001	0.024	1.000

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Title : South Coast Air Basin Subarea Winter CYr 2040 Default Title
 Version : Emfac2007 V2.3 Nov 1 2006
 Run Date : 2010/07/26 15:29:44
 Scen Year: 2040 -- All model years in the range 1996 to 2040 selected
 Season : Winter
 Area : Los Angeles (SC)

Year: 2040 -- Model Years 1996 to 2040 Inclusive -- Winter
 Emfac2007 Emission Factors: V2.3 Nov 1 2006

Los Angeles (SC) Los Angeles (SC) Los Angeles (SC)

Table 8: Evaporative Running Loss Emissions

(grams/minute)

Pollutant Name: Reactive Org Gases Temperature: 70F Relative Humidity:
 ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
1	0.010	0.155	0.175	0.032	0.503	0.003	0.082
2	0.008	0.081	0.091	0.017	0.257	0.037	0.044
3	0.009	0.059	0.066	0.012	0.176	0.055	0.034
4	0.010	0.049	0.055	0.010	0.137	0.066	0.029
5	0.012	0.044	0.048	0.009	0.114	0.074	0.027
10	0.015	0.034	0.036	0.006	0.070	0.092	0.024
15	0.016	0.031	0.033	0.006	0.058	0.102	0.023
20	0.017	0.031	0.033	0.006	0.055	0.109	0.024
25	0.018	0.032	0.033	0.006	0.055	0.115	0.024
30	0.018	0.033	0.034	0.006	0.057	0.119	0.025
35	0.019	0.034	0.035	0.007	0.059	0.123	0.026
40	0.019	0.034	0.036	0.007	0.060	0.127	0.026
45	0.020	0.035	0.037	0.007	0.062	0.131	0.027
50	0.020	0.036	0.037	0.007	0.064	0.135	0.028
55	0.021	0.037	0.038	0.007	0.065	0.138	0.028
60	0.021	0.037	0.039	0.007	0.067	0.141	0.029

Title : South Coast Air Basin Subarea Winter CYr 2040 Default Title
 Version : Emfac2007 V2.3 Nov 1 2006
 Run Date : 2010/07/26 15:29:44
 Scen Year: 2040 -- All model years in the range 1996 to 2040 selected
 Season : Winter
 Area : Orange (SC)

Year: 2040 -- Model Years 1996 to 2040 Inclusive -- Winter
 Emfac2007 Emission Factors: V2.3 Nov 1 2006

Orange (SC) Orange (SC) Orange (SC)

Table 1: Running Exhaust Emissions (grams/mile)

Pollutant Name: Reactive Org Gases Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.033	0.065	0.090	1.185	0.896	4.682	0.120
35	0.005	0.010	0.014	0.146	0.195	1.803	0.021

Pollutant Name: Carbon Monoxide Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.725	1.267	1.731	4.558	6.605	22.043	1.314
35	0.434	0.758	0.957	0.964	1.152	14.271	0.697

Pollutant Name: Oxides of Nitrogen Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.061	0.109	0.190	4.217	11.528	1.391	0.301
35	0.035	0.063	0.117	1.695	5.211	1.264	0.142

Pollutant Name: Carbon Dioxide Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	921.403	1184.459	1699.502	2777.111	2379.175	266.411	1211.307
35	299.728	385.327	522.187	1440.451	1635.195	140.006	414.106

Pollutant Name: Sulfur Dioxide Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.009	0.011	0.016	0.027	0.023	0.003	0.012
35	0.003	0.004	0.005	0.014	0.016	0.002	0.004

Pollutant Name: PM2.5 Temperature: 70F Relative Humidity: 0%

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Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.052	0.116	0.123	0.151	0.302	0.023	0.089
35	0.008	0.019	0.020	0.065	0.072	0.011	0.016

Pollutant Name: PM2.5 - Tire Wear Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.002	0.002	0.002	0.006	0.002	0.001	0.002
35	0.002	0.002	0.002	0.006	0.002	0.001	0.002

Pollutant Name: PM2.5 - Brake Wear Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.005	0.005	0.005	0.008	0.005	0.003	0.005
35	0.005	0.005	0.005	0.008	0.005	0.003	0.005

Pollutant Name: Gasoline - mi/gal Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	9.604	7.467	5.165	3.516	3.504	28.035	8.165
35	29.495	22.925	16.921	17.769	17.708	52.636	25.187

Pollutant Name: Diesel - mi/gal Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	29.156	29.156	19.436	4.360	4.381	0.000	6.908
35	29.156	29.156	19.436	6.019	4.381	0.000	8.242

Title : South Coast Air Basin Subarea Winter CYr 2040 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/07/26 15:29:44
Scen Year: 2040 -- All model years in the range 1996 to 2040 selected
Season : Winter
Area : Orange (SC)

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Year: 2040 -- Model Years 1996 to 2040 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Orange (SC)

Orange (SC)

Orange (SC)

Table 2: Starting Emissions (grams/trip)

Pollutant Name: Reactive Org Gases Temperature: 70F Relative Humidity:
ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.002	0.005	0.023	0.040	0.107	0.644	0.013
10	0.005	0.011	0.046	0.079	0.208	0.797	0.023
20	0.009	0.021	0.090	0.149	0.394	1.093	0.042
30	0.013	0.031	0.134	0.212	0.559	1.371	0.061
40	0.017	0.040	0.175	0.266	0.702	1.632	0.078
50	0.022	0.050	0.216	0.312	0.823	1.877	0.095
60	0.025	0.059	0.255	0.350	0.923	2.055	0.110
120	0.046	0.107	0.454	0.393	1.037	2.327	0.178
180	0.044	0.104	0.448	0.417	1.101	2.353	0.177
240	0.047	0.110	0.477	0.440	1.162	2.502	0.188
300	0.050	0.117	0.506	0.463	1.222	2.647	0.199
360	0.053	0.124	0.535	0.485	1.279	2.789	0.210
420	0.056	0.131	0.564	0.506	1.334	2.927	0.221
480	0.059	0.137	0.593	0.526	1.387	3.063	0.232
540	0.062	0.144	0.621	0.545	1.439	3.196	0.243
600	0.064	0.151	0.650	0.564	1.488	3.326	0.254
660	0.067	0.157	0.679	0.582	1.535	3.452	0.264
720	0.070	0.164	0.707	0.599	1.581	3.576	0.275

Pollutant Name: Carbon Monoxide Temperature: 70F Relative Humidity:
ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.052	0.102	0.344	0.614	1.000	2.947	0.171
10	0.103	0.202	0.681	1.203	1.959	3.573	0.328
20	0.202	0.396	1.334	2.306	3.756	4.771	0.629
30	0.297	0.582	1.961	3.309	5.391	5.897	0.914
40	0.388	0.760	2.561	4.213	6.862	6.952	1.184
50	0.475	0.930	3.133	5.017	8.172	7.934	1.439
60	0.557	1.092	3.679	5.721	9.318	8.844	1.678
120	0.920	1.801	6.062	6.681	10.882	12.507	2.608
180	0.874	1.713	5.789	6.876	11.200	12.086	2.514
240	0.957	1.875	6.337	7.078	11.529	13.092	2.727
300	1.030	2.016	6.817	7.286	11.868	14.023	2.916
360	1.092	2.138	7.228	7.501	12.218	14.877	3.079
420	1.143	2.239	7.570	7.722	12.578	15.657	3.218
480	1.185	2.320	7.844	7.949	12.948	16.361	3.332
540	1.215	2.380	8.049	8.183	13.329	16.989	3.422
600	1.236	2.421	8.185	8.424	13.721	17.542	3.486
660	1.246	2.441	8.253	8.670	14.123	18.019	3.526
720	1.246	2.441	8.251	8.924	14.535	18.421	3.542

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Pollutant Name: Oxides of Nitrogen Temperature: 70F Relative Humidity:
ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.025	0.060	0.544	0.149	0.468	0.153	0.149
10	0.025	0.061	0.558	0.225	0.705	0.193	0.157
20	0.026	0.064	0.586	0.358	1.122	0.263	0.172
30	0.027	0.066	0.611	0.466	1.461	0.320	0.184
40	0.028	0.069	0.633	0.550	1.723	0.366	0.195
50	0.029	0.071	0.653	0.609	1.908	0.399	0.204
60	0.030	0.072	0.671	0.644	2.016	0.421	0.210
120	0.033	0.080	0.742	0.648	2.031	0.423	0.229
180	0.034	0.081	0.743	0.646	2.023	0.419	0.229
240	0.033	0.080	0.737	0.642	2.012	0.413	0.227
300	0.033	0.079	0.727	0.637	1.997	0.405	0.224
360	0.032	0.077	0.713	0.631	1.977	0.395	0.220
420	0.031	0.075	0.695	0.624	1.954	0.384	0.215
480	0.030	0.073	0.673	0.615	1.927	0.371	0.209
540	0.029	0.070	0.646	0.605	1.896	0.356	0.201
600	0.028	0.067	0.616	0.594	1.861	0.339	0.193
660	0.026	0.063	0.582	0.581	1.822	0.321	0.183
720	0.025	0.059	0.544	0.568	1.779	0.301	0.173

Pollutant Name: Carbon Dioxide Temperature: 70F Relative Humidity:
ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	12.065	15.497	22.257	2.809	3.523	13.027	14.689
10	13.474	17.310	24.914	5.603	7.026	15.215	16.554
20	16.790	21.577	31.144	11.144	13.973	19.512	20.877
30	20.772	26.698	38.597	16.622	20.843	23.704	25.993
40	25.419	32.673	47.271	22.039	27.635	27.789	31.903
50	30.731	39.502	57.168	27.393	34.349	31.769	38.605
60	36.708	47.185	68.286	32.685	40.985	35.643	46.101
120	86.133	110.685	159.732	55.592	69.708	53.031	106.775
180	97.694	125.545	181.234	65.677	82.355	57.314	121.249
240	109.254	140.403	202.719	75.168	94.255	61.345	135.684
300	120.812	155.257	224.187	84.063	105.409	65.125	150.080
360	132.368	170.109	245.637	92.363	115.816	68.654	164.438
420	143.923	184.958	267.071	100.067	125.477	71.931	178.758
480	155.476	199.803	288.487	107.177	134.392	74.957	193.039
540	167.027	214.645	309.887	113.691	142.560	77.731	207.282
600	178.577	229.485	331.269	119.610	149.981	80.254	221.486
660	190.124	244.321	352.634	124.933	156.657	82.526	235.652
720	201.671	259.154	373.982	129.661	162.585	84.546	249.779

Pollutant Name: Sulfur Dioxide Temperature: 70F Relative Humidity:
ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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20	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	0.000	0.000	0.000	0.000	0.000	0.000	0.000
40	0.000	0.000	0.000	0.000	0.000	0.000	0.000
50	0.000	0.000	0.001	0.000	0.000	0.000	0.000
60	0.000	0.000	0.001	0.000	0.001	0.001	0.000
120	0.001	0.001	0.002	0.001	0.001	0.001	0.001
180	0.001	0.001	0.002	0.001	0.001	0.001	0.001
240	0.001	0.001	0.002	0.001	0.001	0.001	0.001
300	0.001	0.002	0.002	0.001	0.001	0.001	0.001
360	0.001	0.002	0.002	0.001	0.001	0.001	0.002
420	0.001	0.002	0.003	0.001	0.001	0.001	0.002
480	0.002	0.002	0.003	0.001	0.002	0.001	0.002
540	0.002	0.002	0.003	0.001	0.002	0.001	0.002
600	0.002	0.002	0.003	0.001	0.002	0.001	0.002
660	0.002	0.002	0.004	0.001	0.002	0.001	0.002
720	0.002	0.003	0.004	0.001	0.002	0.001	0.002

Pollutant Name: PM2.5 Temperature: 70F Relative Humidity:
ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.000	0.001	0.001	0.000	0.001	0.005	0.001
10	0.001	0.002	0.002	0.001	0.001	0.005	0.002
20	0.002	0.004	0.004	0.001	0.002	0.004	0.003
30	0.003	0.006	0.005	0.002	0.003	0.003	0.004
40	0.004	0.008	0.007	0.002	0.004	0.003	0.006
50	0.005	0.010	0.009	0.003	0.004	0.002	0.007
60	0.005	0.012	0.010	0.003	0.005	0.002	0.008
120	0.009	0.019	0.017	0.004	0.007	0.005	0.013
180	0.010	0.021	0.019	0.005	0.007	0.006	0.015
240	0.011	0.024	0.020	0.005	0.007	0.008	0.016
300	0.012	0.025	0.022	0.005	0.007	0.010	0.017
360	0.012	0.027	0.023	0.005	0.007	0.011	0.018
420	0.013	0.028	0.024	0.005	0.008	0.012	0.019
480	0.013	0.029	0.025	0.005	0.008	0.013	0.020
540	0.014	0.030	0.026	0.005	0.008	0.014	0.021
600	0.014	0.030	0.026	0.006	0.008	0.014	0.021
660	0.014	0.031	0.026	0.006	0.009	0.014	0.021
720	0.014	0.031	0.026	0.006	0.009	0.015	0.021

Title : South Coast Air Basin Subarea Winter CYr 2040 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/07/26 15:29:44
Scen Year: 2040 -- All model years in the range 1996 to 2040 selected
Season : Winter
Area : Orange (SC)

Year: 2040 -- Model Years 1996 to 2040 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Orange (SC)

Orange (SC)

Orange (SC)

Table 4: Hot Soak Emissions (grams/trip)

Pollutant Name: Reactive Org Gases Temperature: 70F Relative Humidity:
ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.019	0.033	0.027	0.003	0.019	0.171	0.025
10	0.035	0.062	0.049	0.005	0.035	0.318	0.046
20	0.060	0.106	0.085	0.009	0.060	0.550	0.078
30	0.078	0.137	0.110	0.012	0.077	0.719	0.101
40	0.084	0.148	0.119	0.013	0.084	0.785	0.110

Hot soak results are scaled to reflect zero emissions for trip lengths of less than 5 minutes (about 25% of in-use trips).

Title : South Coast Air Basin Subarea Winter CYr 2040 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/07/26 15:29:44
Scen Year: 2040 -- All model years in the range 1996 to 2040 selected
Season : Winter
Area : Orange (SC)

Year: 2040 -- Model Years 1996 to 2040 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Orange (SC)

Orange (SC)

Orange (SC)

Table 5a: Partial Day Diurnal Loss Emissions

(grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity:
ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
70	0.012	0.047	0.052	0.002	0.001	0.427	0.036

Title : South Coast Air Basin Subarea Winter CYr 2040 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/07/26 15:29:44
Scen Year: 2040 -- All model years in the range 1996 to 2040 selected
Season : Winter
Area : Orange (SC)

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Year: 2040 -- Model Years 1996 to 2040 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Orange (SC)

Orange (SC)

Orange (SC)

Table 5b: Multi-Day Diurnal Loss Emissions

(grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity:
ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
70	0.001	0.003	0.003	0.000	0.000	0.040	0.002

Title : South Coast Air Basin Subarea Winter CYr 2040 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/07/26 15:29:44
Scen Year: 2040 -- All model years in the range 1996 to 2040 selected
Season : Winter
Area : Orange (SC)

Year: 2040 -- Model Years 1996 to 2040 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Orange (SC)

Orange (SC)

Orange (SC)

Table 6a: Partial Day Resting Loss Emissions

(grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity:
ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
70	0.009	0.037	0.041	0.001	0.001	0.138	0.025

Title : South Coast Air Basin Subarea Winter CYr 2040 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/07/26 15:29:44
Scen Year: 2040 -- All model years in the range 1996 to 2040 selected
Season : Winter
Area : Orange (SC)

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Orange (SC)

Orange (SC)

Table 6b: Multi-Day Resting Loss Emissions

(grams/hour)

ALL	Pollutant Name: Reactive Org Gases	Temperature: ALL	Relative Humidity:
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Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
70	0.001	0.002	0.003	0.000	0.000	0.014	0.002

```
Title      : South Coast Air Basin Subarea Winter CYr 2040 Default Title
Version    : Emfac2007 V2.3 Nov 1 2006
Run Date   : 2010/07/26 15:29:44
Scen Year  : 2040 -- All model years in the range 1996 to 2040 selected
Season     : Winter
Area       : Orange (SC)
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Year: 2040 -- Model Years 1996 to 2040 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Orange (SC)

Orange (SC)

Table 7: Estimated Travel Fractions

Pollutant Name: ALL Temperature: ALL Relative Humidity: ALL

	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
%VMT	0.457	0.340	0.155	0.043	0.002	0.003	1.000
%TRIP	0.439	0.296	0.206	0.053	0.000	0.005	1.000
%VEH	0.481	0.329	0.141	0.032	0.001	0.016	1.000

```
Title      : South Coast Air Basin Subarea Winter CYr 2040 Default Title
Version    : Emfac2007 V2.3 Nov 1 2006
Run Date   : 2010/07/26 15:29:44
Scen Year  : 2040 -- All model years in the range 1996 to 2040 selected
Season     : Winter
Area       : Orange (SC)
```

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Year: 2040 -- Model Years 1996 to 2040 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Orange (SC)

Orange (SC)

Orange (SC)

Table 8: Evaporative Running Loss Emissions

(grams/minute)

Pollutant Name: Reactive Org Gases Temperature: 70F Relative Humidity:
ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
1	0.010	0.158	0.183	0.046	0.303	0.006	0.090
2	0.008	0.083	0.096	0.024	0.155	0.038	0.048
3	0.009	0.060	0.069	0.017	0.107	0.057	0.036
4	0.010	0.050	0.057	0.014	0.083	0.068	0.032
5	0.012	0.045	0.050	0.012	0.069	0.076	0.029
10	0.015	0.034	0.037	0.009	0.043	0.095	0.025
15	0.016	0.032	0.034	0.009	0.036	0.104	0.024
20	0.017	0.032	0.034	0.009	0.035	0.111	0.025
25	0.018	0.032	0.035	0.009	0.035	0.117	0.026
30	0.019	0.033	0.035	0.009	0.036	0.122	0.026
35	0.019	0.034	0.036	0.009	0.038	0.126	0.027
40	0.020	0.035	0.037	0.010	0.039	0.129	0.028
45	0.020	0.036	0.038	0.010	0.040	0.133	0.028
50	0.020	0.036	0.039	0.010	0.041	0.137	0.029
55	0.021	0.037	0.039	0.010	0.042	0.140	0.029
60	0.021	0.038	0.040	0.011	0.043	0.143	0.030

Title : South Coast Air Basin Subarea Winter CYr 2040 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/07/26 15:29:44
Scen Year: 2040 -- All model years in the range 1996 to 2040 selected
Season : Winter
Area : Riverside (SC)

Year: 2040 -- Model Years 1996 to 2040 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Riverside (SC)
(SC)

Riverside (SC)

Riverside

Table 1: Running Exhaust Emissions (grams/mile)

Pollutant Name: Reactive Org Gases Temperature: 70F Relative Humidity:
0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.036	0.068	0.092	1.698	0.817	4.699	0.202

35	0.005	0.010	0.014	emfac.rts 0.182	0.123	1.809	0.032
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0% Pollutant Name: Carbon Monoxide Temperature: 70F Relative Humidity:

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.786	1.323	1.812	4.913	11.042	22.152	1.567
35	0.470	0.791	1.028	1.039	2.109	14.338	0.799

0% Pollutant Name: Oxides of Nitrogen Temperature: 70F Relative Humidity:

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.065	0.113	0.177	5.401	1.798	1.403	0.484
35	0.038	0.065	0.107	1.974	1.656	1.274	0.203

0% Pollutant Name: Carbon Dioxide Temperature: 70F Relative Humidity:

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	921.252	1182.502	1676.162	3373.570	2372.809	266.414	1300.968
35	299.679	384.727	523.511	1601.275	1188.510	140.008	455.857

0% Pollutant Name: Sulfur Dioxide Temperature: 70F Relative Humidity:

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.009	0.011	0.016	0.032	0.023	0.003	0.012
35	0.003	0.004	0.005	0.015	0.011	0.002	0.004

0% Pollutant Name: PM2.5 Temperature: 70F Relative Humidity:

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.062	0.130	0.137	0.099	0.093	0.023	0.100
35	0.010	0.021	0.022	0.058	0.018	0.011	0.019

0% Pollutant Name: PM2.5 - Tire Wear Temperature: 70F Relative Humidity:

Speed

MPH	LDA	LDT	MDT	emfac.rts HDT	UBUS	MCY	ALL
5	0.002	0.002	0.002	0.007	0.003	0.001	0.002
35	0.002	0.002	0.002	0.007	0.003	0.001	0.002

Pollutant Name: PM2.5 - Brake Wear Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.005	0.005	0.005	0.010	0.005	0.003	0.006
35	0.005	0.005	0.005	0.010	0.005	0.003	0.006

Pollutant Name: Gasoline - mi/gal Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	9.604	7.478	5.253	3.509	3.485	28.015	8.147
35	29.494	22.958	16.872	17.732	17.617	52.598	24.991

Pollutant Name: Diesel - mi/gal Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	29.156	29.156	19.449	3.198	4.640	0.000	4.499
35	29.156	29.156	19.449	5.682	4.640	0.000	6.776

Title : South Coast Air Basin Subarea Winter CYr 2040 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/07/26 15:29:44
Scen Year: 2040 -- All model years in the range 1996 to 2040 selected
Season : Winter
Area : Riverside (SC)

Year: 2040 -- Model Years 1996 to 2040 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

(SC) Riverside (SC) Riverside (SC) Riverside

Table 2: Starting Emissions (grams/trip)

Pollutant Name: Reactive Org Gases Temperature: 70F Relative Humidity: ALL

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Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.002	0.005	0.020	0.040	0.253	0.645	0.014
10	0.005	0.010	0.041	0.079	0.492	0.800	0.025
20	0.009	0.020	0.080	0.149	0.934	1.097	0.044
30	0.013	0.030	0.119	0.212	1.323	1.378	0.063
40	0.018	0.039	0.156	0.266	1.662	1.641	0.081
50	0.022	0.048	0.193	0.312	1.949	1.887	0.098
60	0.026	0.057	0.229	0.350	2.185	2.067	0.114
120	0.046	0.104	0.414	0.393	2.457	2.342	0.183
180	0.045	0.101	0.407	0.417	2.607	2.367	0.182
240	0.048	0.107	0.434	0.440	2.752	2.516	0.193
300	0.051	0.114	0.460	0.463	2.893	2.662	0.205
360	0.054	0.120	0.487	0.484	3.028	2.805	0.216
420	0.057	0.127	0.513	0.505	3.159	2.944	0.227
480	0.059	0.133	0.539	0.526	3.286	3.081	0.239
540	0.062	0.140	0.566	0.545	3.407	3.214	0.250
600	0.065	0.146	0.592	0.564	3.524	3.344	0.261
660	0.068	0.153	0.618	0.582	3.636	3.472	0.272
720	0.071	0.159	0.644	0.599	3.743	3.596	0.283

ALL Pollutant Name: Carbon Monoxide Temperature: 70F Relative Humidity:

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.056	0.105	0.325	0.799	2.077	2.957	0.190
10	0.112	0.208	0.645	1.566	4.070	3.595	0.356
20	0.219	0.408	1.264	3.001	7.802	4.816	0.677
30	0.321	0.600	1.858	4.307	11.196	5.962	0.981
40	0.420	0.784	2.427	5.483	14.253	7.034	1.269
50	0.514	0.959	2.970	6.529	16.973	8.033	1.540
60	0.603	1.126	3.488	7.445	19.354	8.957	1.795
120	0.997	1.861	5.763	8.695	22.603	12.662	2.792
180	0.948	1.771	5.501	8.949	23.263	12.221	2.691
240	1.038	1.939	6.025	9.212	23.946	13.230	2.921
300	1.117	2.086	6.483	9.483	24.650	14.164	3.123
360	1.185	2.212	6.876	9.762	25.376	15.023	3.300
420	1.241	2.317	7.202	10.050	26.124	15.806	3.449
480	1.286	2.401	7.463	10.346	26.894	16.515	3.572
540	1.319	2.463	7.658	10.650	27.685	17.147	3.669
600	1.342	2.505	7.787	10.963	28.498	17.705	3.739
660	1.353	2.525	7.850	11.284	29.333	18.187	3.782
720	1.352	2.525	7.847	11.614	30.190	18.594	3.799

ALL Pollutant Name: Oxides of Nitrogen Temperature: 70F Relative Humidity:

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.026	0.060	0.491	0.166	1.142	0.154	0.150
10	0.027	0.061	0.502	0.251	1.720	0.194	0.158
20	0.028	0.064	0.523	0.399	2.737	0.265	0.171
30	0.029	0.066	0.542	0.520	3.565	0.323	0.182
40	0.030	0.068	0.560	0.613	4.205	0.369	0.192

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50	0.031	0.070	0.576	0.679	4.656	0.403	0.199
60	0.032	0.072	0.591	0.717	4.920	0.424	0.206
120	0.035	0.080	0.655	0.722	4.956	0.427	0.224
180	0.035	0.080	0.656	0.720	4.937	0.423	0.225
240	0.035	0.080	0.651	0.716	4.910	0.417	0.223
300	0.035	0.078	0.642	0.710	4.872	0.409	0.220
360	0.034	0.077	0.629	0.703	4.825	0.399	0.216
420	0.033	0.075	0.613	0.695	4.768	0.387	0.211
480	0.032	0.072	0.593	0.685	4.702	0.374	0.205
540	0.031	0.070	0.570	0.674	4.626	0.359	0.197
600	0.029	0.066	0.543	0.662	4.541	0.343	0.189
660	0.028	0.063	0.512	0.648	4.446	0.324	0.179
720	0.026	0.058	0.478	0.633	4.341	0.304	0.168

Pollutant Name: Carbon Dioxide Temperature: 70F Relative Humidity:

ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	12.066	15.476	22.196	2.542	5.607	13.020	15.069
10	13.473	17.284	24.814	5.071	11.184	15.208	16.936
20	16.786	21.539	30.965	10.085	22.244	19.504	21.279
30	20.764	26.647	38.338	15.043	33.179	23.695	26.438
40	25.408	32.608	46.933	19.944	43.991	27.780	32.411
50	30.717	39.422	56.748	24.790	54.678	31.760	39.200
60	36.691	47.090	67.786	29.579	65.241	35.633	46.803
120	86.110	110.491	158.833	50.309	110.964	53.019	108.694
180	97.666	125.323	180.180	59.436	131.095	57.304	123.367
240	109.221	140.151	201.518	68.025	150.039	61.336	138.011
300	120.775	154.978	222.846	76.074	167.794	65.118	152.627
360	132.327	169.803	244.165	83.586	184.361	68.648	167.214
420	143.879	184.625	265.475	90.558	199.740	71.926	181.772
480	155.429	199.445	286.775	96.992	213.930	74.953	196.302
540	166.978	214.263	308.066	102.887	226.933	77.728	210.803
600	178.525	229.078	329.348	108.243	238.747	80.252	225.276
660	190.072	243.892	350.620	113.061	249.373	82.524	239.720
720	201.617	258.703	371.883	117.339	258.810	84.545	254.136

Pollutant Name: Sulfur Dioxide Temperature: 70F Relative Humidity:

ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	0.000	0.000	0.000	0.000	0.001	0.000	0.000
40	0.000	0.000	0.000	0.000	0.001	0.000	0.000
50	0.000	0.000	0.001	0.000	0.001	0.000	0.000
60	0.000	0.000	0.001	0.000	0.001	0.001	0.000
120	0.001	0.001	0.002	0.001	0.001	0.001	0.001
180	0.001	0.001	0.002	0.001	0.002	0.001	0.001
240	0.001	0.001	0.002	0.001	0.002	0.001	0.001
300	0.001	0.002	0.002	0.001	0.002	0.001	0.002
360	0.001	0.002	0.002	0.001	0.002	0.001	0.002
420	0.001	0.002	0.003	0.001	0.002	0.001	0.002
480	0.002	0.002	0.003	0.001	0.003	0.001	0.002

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540	0.002	0.002	0.003	0.001	0.003	0.001	0.002
600	0.002	0.002	0.003	0.001	0.003	0.001	0.002
660	0.002	0.002	0.004	0.001	0.003	0.001	0.002
720	0.002	0.003	0.004	0.001	0.003	0.001	0.003

Pollutant Name: PM2.5 Temperature: 70F Relative Humidity:
ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.001	0.001	0.001	0.000	0.001	0.005	0.001
10	0.001	0.002	0.002	0.001	0.002	0.005	0.002
20	0.002	0.005	0.004	0.001	0.003	0.004	0.003
30	0.003	0.007	0.006	0.002	0.005	0.003	0.005
40	0.004	0.009	0.008	0.002	0.006	0.003	0.006
50	0.005	0.011	0.009	0.003	0.007	0.002	0.008
60	0.006	0.012	0.011	0.003	0.008	0.002	0.009
120	0.010	0.021	0.018	0.004	0.011	0.005	0.015
180	0.012	0.023	0.020	0.005	0.011	0.006	0.017
240	0.013	0.025	0.022	0.005	0.012	0.008	0.019
300	0.014	0.027	0.024	0.005	0.012	0.010	0.020
360	0.015	0.029	0.025	0.005	0.012	0.011	0.021
420	0.015	0.030	0.027	0.005	0.013	0.012	0.022
480	0.016	0.032	0.028	0.005	0.013	0.013	0.023
540	0.016	0.032	0.028	0.005	0.014	0.014	0.024
600	0.017	0.033	0.029	0.006	0.014	0.014	0.024
660	0.017	0.033	0.029	0.006	0.014	0.014	0.024
720	0.017	0.033	0.029	0.006	0.015	0.015	0.024

Title : South Coast Air Basin Subarea Winter CYr 2040 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/07/26 15:29:44
Scen Year: 2040 -- All model years in the range 1996 to 2040 selected
Season : Winter
Area : Riverside (SC)

Year: 2040 -- Model Years 1996 to 2040 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

(SC) Riverside (SC) Riverside (SC) Riverside

Table 4: Hot Soak Emissions (grams/trip)

Pollutant Name: Reactive Org Gases Temperature: 70F Relative Humidity:
ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.017	0.029	0.026	0.003	0.041	0.165	0.024
10	0.031	0.054	0.048	0.005	0.076	0.307	0.044

Hot soak results are scaled to reflect zero emissions for trip lengths of less than 5 minutes (about 25% of in-use trips).

(SC) Riverside (SC) Riverside

(grams/hour)

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
70	0.010	0.040	0.049	0.002	0.002	0.421	0.038

(SC) Riverside (SC) Riverside (SC) Riverside

(grams/hour)

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Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
70	0.001	0.002	0.003	0.000	0.001	0.040	0.003

Title : South Coast Air Basin Subarea Winter CYr 2040 Default Title
 Version : Emfac2007 V2.3 Nov 1 2006
 Run Date : 2010/07/26 15:29:44
 Scen Year: 2040 -- All model years in the range 1996 to 2040 selected
 Season : Winter
 Area : Riverside (SC)

Year: 2040 -- Model Years 1996 to 2040 Inclusive -- Winter
 Emfac2007 Emission Factors: V2.3 Nov 1 2006

Riverside (SC) Riverside (SC) Riverside

Table 6a: Partial Day Resting Loss Emissions

(grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity:
 ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
70	0.008	0.032	0.039	0.001	0.001	0.136	0.024

Title : South Coast Air Basin Subarea Winter CYr 2040 Default Title
 Version : Emfac2007 V2.3 Nov 1 2006
 Run Date : 2010/07/26 15:29:44
 Scen Year: 2040 -- All model years in the range 1996 to 2040 selected
 Season : Winter
 Area : Riverside (SC)

Year: 2040 -- Model Years 1996 to 2040 Inclusive -- Winter
 Emfac2007 Emission Factors: V2.3 Nov 1 2006

Riverside (SC) Riverside (SC) Riverside

Table 6b: Multi-Day Resting Loss Emissions

(grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity:
 ALL

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(SC) Riverside (SC) Riverside (SC) Riverside

Pollutant Name: ALL Temperature: ALL Relative Humidity: ALL

Riverside (SC) Riverside (SC) Riverside

Pollutant Name: Reactive Org Gases Temperature: 70F Relative Humidity:

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Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
1	0.009	0.134	0.168	0.030	0.766	0.005	0.080
2	0.007	0.071	0.088	0.015	0.391	0.038	0.043
3	0.008	0.052	0.063	0.011	0.267	0.056	0.033
4	0.010	0.043	0.053	0.009	0.207	0.068	0.029
5	0.011	0.039	0.046	0.008	0.171	0.075	0.027
10	0.014	0.030	0.035	0.006	0.102	0.094	0.023
15	0.016	0.029	0.032	0.005	0.083	0.104	0.023
20	0.017	0.029	0.032	0.006	0.077	0.111	0.023
25	0.017	0.030	0.033	0.006	0.076	0.117	0.024
30	0.018	0.030	0.034	0.006	0.079	0.121	0.025
35	0.018	0.031	0.035	0.006	0.082	0.125	0.025
40	0.019	0.032	0.036	0.006	0.084	0.129	0.026
45	0.019	0.033	0.036	0.007	0.086	0.133	0.027
50	0.020	0.033	0.037	0.007	0.089	0.136	0.027
55	0.020	0.034	0.038	0.007	0.091	0.140	0.028
60	0.020	0.035	0.038	0.007	0.093	0.143	0.028

Title : South Coast Air Basin Subarea Winter CYr 2040 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/07/26 15:29:44
Scen Year: 2040 -- All model years in the range 1996 to 2040 selected
Season : Winter
Area : San Bernardino (SC)

Year: 2040 -- Model Years 1996 to 2040 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

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Table 1: Running Exhaust Emissions (grams/mile)

Pollutant Name: Reactive Org Gases Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.033	0.062	0.083	1.698	0.140	4.672	0.220
35	0.005	0.009	0.014	0.186	0.024	1.800	0.033

Pollutant Name: Carbon Monoxide Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.730	1.211	1.609	4.955	3.102	21.977	1.511
35	0.437	0.724	0.869	1.051	0.539	14.229	0.727

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Pollutant Name: Oxides of Nitrogen Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.061	0.104	0.189	5.613	1.344	1.383	0.587
35	0.035	0.059	0.118	2.067	0.973	1.259	0.241

Pollutant Name: Carbon Dioxide Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	921.312	1183.031	1712.400	3244.726	2374.270	266.416	1334.401
35	299.698	384.877	521.438	1600.509	1173.219	140.009	476.563

Pollutant Name: Sulfur Dioxide Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.009	0.011	0.016	0.031	0.023	0.003	0.013
35	0.003	0.004	0.005	0.015	0.011	0.002	0.005

Pollutant Name: PM2.5 Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.053	0.110	0.108	0.117	0.094	0.023	0.086
35	0.009	0.018	0.018	0.064	0.018	0.011	0.018

Pollutant Name: PM2.5 - Tire Wear Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.002	0.002	0.002	0.007	0.003	0.001	0.002
35	0.002	0.002	0.002	0.007	0.003	0.001	0.002

Pollutant Name: PM2.5 - Brake Wear Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
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5	0.005	0.005	0.005	0.010	0.005	0.003	0.006
35	0.005	0.005	0.005	0.010	0.005	0.003	0.006

Pollutant Name: Gasoline - mi/gal Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	9.604	7.476	5.115	3.510	3.519	28.046	8.126
35	29.497	22.955	16.951	17.740	17.785	52.658	25.058

Pollutant Name: Diesel - mi/gal Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	29.156	29.156	19.431	3.484	4.647	0.000	5.101
35	29.156	29.156	19.431	5.765	4.647	0.000	7.140

Title : South Coast Air Basin Subarea Winter CYr 2040 Default Title
 Version : Emfac2007 V2.3 Nov 1 2006
 Run Date : 2010/07/26 15:29:44
 Scen Year: 2040 -- All model years in the range 1996 to 2040 selected
 Season : Winter
 Area : San Bernardino (SC)

Year: 2040 -- Model Years 1996 to 2040 Inclusive -- Winter
 Emfac2007 Emission Factors: V2.3 Nov 1 2006

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Table 2: Starting Emissions (grams/trip)

Pollutant Name: Reactive Org Gases Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.002	0.005	0.023	0.037	0.218	0.642	0.015
10	0.004	0.010	0.045	0.073	0.426	0.795	0.027
20	0.009	0.019	0.089	0.138	0.807	1.089	0.048
30	0.013	0.028	0.132	0.195	1.144	1.366	0.069
40	0.017	0.037	0.173	0.245	1.437	1.626	0.088
50	0.021	0.046	0.214	0.288	1.685	1.870	0.107
60	0.024	0.054	0.253	0.323	1.889	2.048	0.124
120	0.044	0.099	0.454	0.363	2.124	2.319	0.198

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180	0.043	0.096	0.448	0.385	2.254	2.345	0.197
240	0.045	0.102	0.477	0.406	2.380	2.492	0.209
300	0.048	0.108	0.506	0.427	2.501	2.637	0.222
360	0.051	0.115	0.535	0.447	2.618	2.779	0.234
420	0.054	0.121	0.564	0.467	2.732	2.917	0.246
480	0.056	0.127	0.593	0.485	2.841	3.052	0.258
540	0.059	0.133	0.622	0.503	2.946	3.185	0.270
600	0.062	0.139	0.650	0.520	3.047	3.314	0.282
660	0.065	0.146	0.679	0.537	3.144	3.440	0.294
720	0.067	0.152	0.708	0.553	3.236	3.563	0.306

ALL Pollutant Name: Carbon Monoxide Temperature: 70F Relative Humidity:

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.051	0.095	0.339	0.654	1.097	2.937	0.195
10	0.101	0.187	0.672	1.281	2.149	3.557	0.367
20	0.198	0.368	1.318	2.455	4.119	4.743	0.698
30	0.291	0.540	1.937	3.523	5.911	5.859	1.011
40	0.380	0.705	2.530	4.485	7.525	6.903	1.307
50	0.465	0.863	3.097	5.340	8.960	7.876	1.585
60	0.546	1.013	3.637	6.090	10.218	8.779	1.846
120	0.902	1.673	6.003	7.112	11.933	12.418	2.844
180	0.858	1.592	5.731	7.320	12.282	12.006	2.747
240	0.939	1.743	6.276	7.535	12.642	13.009	2.976
300	1.011	1.875	6.753	7.756	13.014	13.936	3.179
360	1.072	1.988	7.161	7.985	13.397	14.788	3.356
420	1.122	2.082	7.501	8.220	13.792	15.564	3.507
480	1.163	2.157	7.772	8.462	14.198	16.265	3.631
540	1.193	2.213	7.975	8.711	14.616	16.890	3.730
600	1.213	2.251	8.110	8.967	15.045	17.440	3.802
660	1.223	2.269	8.176	9.230	15.486	17.914	3.848
720	1.223	2.269	8.173	9.499	15.938	18.313	3.867

ALL Pollutant Name: Oxides of Nitrogen Temperature: 70F Relative Humidity:

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.024	0.053	0.547	0.143	0.921	0.152	0.167
10	0.024	0.054	0.560	0.215	1.387	0.192	0.176
20	0.025	0.057	0.585	0.342	2.206	0.261	0.192
30	0.026	0.059	0.608	0.446	2.874	0.319	0.205
40	0.027	0.061	0.630	0.526	3.390	0.364	0.217
50	0.028	0.063	0.649	0.583	3.754	0.397	0.226
60	0.029	0.064	0.666	0.616	3.966	0.418	0.233
120	0.032	0.071	0.737	0.620	3.995	0.420	0.254
180	0.032	0.072	0.738	0.618	3.980	0.417	0.254
240	0.032	0.071	0.732	0.614	3.958	0.411	0.252
300	0.031	0.070	0.722	0.610	3.928	0.403	0.249
360	0.031	0.069	0.708	0.604	3.890	0.393	0.245
420	0.030	0.067	0.690	0.597	3.844	0.381	0.239
480	0.029	0.065	0.668	0.588	3.791	0.368	0.232
540	0.028	0.062	0.642	0.579	3.730	0.354	0.224
600	0.026	0.059	0.612	0.568	3.661	0.337	0.214
660	0.025	0.056	0.577	0.556	3.584	0.319	0.203

720 0.023 0.052 0.539 0.543 3.500 0.299 0.192

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Pollutant Name: Carbon Dioxide Temperature: 70F Relative Humidity:

ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	12.065	15.483	22.316	2.668	5.687	13.014	14.943
10	13.473	17.292	24.960	5.321	11.342	15.201	16.851
20	16.786	21.549	31.169	10.583	22.558	19.498	21.270
30	20.765	26.661	38.605	15.786	33.648	23.688	26.492
40	25.409	32.625	47.267	20.930	44.613	27.773	32.517
50	30.718	39.444	57.157	26.014	55.451	31.752	39.346
60	36.693	47.115	68.273	31.040	66.164	35.625	46.977
120	86.112	110.546	159.870	52.794	112.534	53.010	108.624
180	97.669	125.385	181.370	62.372	132.950	57.295	123.349
240	109.224	140.222	202.857	71.385	152.161	61.329	138.032
300	120.778	155.056	224.332	79.832	170.168	65.111	152.672
360	132.331	169.888	245.795	87.714	186.969	68.642	167.270
420	143.883	184.718	267.245	95.031	202.565	71.921	181.826
480	155.433	199.545	288.683	101.783	216.956	74.949	196.340
540	166.982	214.370	310.108	107.969	230.143	77.725	210.811
600	178.530	229.193	331.521	113.590	242.124	80.249	225.240
660	190.077	244.013	352.922	118.645	252.900	82.522	239.627
720	201.622	258.831	374.310	123.135	262.471	84.544	253.972

Pollutant Name: Sulfur Dioxide Temperature: 70F Relative Humidity:

ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	0.000	0.000	0.000	0.000	0.000	0.000	0.000
40	0.000	0.000	0.000	0.000	0.001	0.000	0.000
50	0.000	0.000	0.001	0.000	0.001	0.000	0.000
60	0.000	0.000	0.001	0.000	0.001	0.001	0.000
120	0.001	0.001	0.002	0.001	0.001	0.001	0.001
180	0.001	0.001	0.002	0.001	0.002	0.001	0.001
240	0.001	0.001	0.002	0.001	0.002	0.001	0.001
300	0.001	0.002	0.002	0.001	0.002	0.001	0.002
360	0.001	0.002	0.002	0.001	0.002	0.001	0.002
420	0.001	0.002	0.003	0.001	0.002	0.001	0.002
480	0.002	0.002	0.003	0.001	0.002	0.001	0.002
540	0.002	0.002	0.003	0.001	0.003	0.001	0.002
600	0.002	0.002	0.003	0.001	0.003	0.001	0.002
660	0.002	0.002	0.004	0.001	0.003	0.001	0.002
720	0.002	0.003	0.004	0.001	0.003	0.001	0.003

Pollutant Name: PM2.5 Temperature: 70F Relative Humidity:

ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
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5	0.000	0.001	0.001	0.000	0.001	0.005	0.001
10	0.001	0.002	0.002	0.001	0.002	0.005	0.001
20	0.002	0.004	0.003	0.001	0.003	0.004	0.003
30	0.003	0.006	0.005	0.002	0.005	0.003	0.004
40	0.004	0.007	0.007	0.002	0.006	0.003	0.005
50	0.005	0.009	0.008	0.003	0.007	0.002	0.007
60	0.005	0.011	0.009	0.003	0.008	0.002	0.008
120	0.009	0.018	0.016	0.004	0.011	0.005	0.013
180	0.010	0.020	0.017	0.005	0.011	0.006	0.014
240	0.011	0.022	0.019	0.005	0.012	0.008	0.016
300	0.012	0.024	0.021	0.005	0.012	0.010	0.017
360	0.012	0.025	0.022	0.005	0.012	0.011	0.018
420	0.013	0.026	0.023	0.005	0.013	0.012	0.019
480	0.014	0.027	0.024	0.005	0.013	0.013	0.019
540	0.014	0.028	0.024	0.005	0.013	0.014	0.020
600	0.014	0.028	0.025	0.006	0.014	0.014	0.020
660	0.014	0.029	0.025	0.006	0.014	0.014	0.020
720	0.014	0.029	0.025	0.006	0.015	0.015	0.020

Title : South Coast Air Basin Subarea Winter CYr 2040 Default Title

Version : Emfac2007 V2.3 Nov 1 2006

Run Date : 2010/07/26 15:29:44

Scen Year: 2040 -- All model years in the range 1996 to 2040 selected

Season : Winter

Area : San Bernardino (SC)

Year: 2040 -- Model Years 1996 to 2040 Inclusive -- Winter

Emfac2007 Emission Factors: V2.3 Nov 1 2006

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Table 4: Hot Soak Emissions (grams/trip)

Pollutant Name: Reactive Org Gases Temperature: 70F Relative Humidity:
ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.017	0.029	0.024	0.002	0.042	0.151	0.023
10	0.032	0.054	0.045	0.005	0.078	0.281	0.042
20	0.054	0.093	0.077	0.008	0.133	0.489	0.072
30	0.070	0.121	0.100	0.010	0.171	0.641	0.093
40	0.076	0.132	0.109	0.011	0.185	0.701	0.101

Hot soak results are scaled to reflect zero emissions for trip lengths of less than 5 minutes (about 25% of in-use trips).

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Title : South Coast Air Basin Subarea Winter CYr 2040 Default Title
 Version : Emfac2007 V2.3 Nov 1 2006
 Run Date : 2010/07/26 15:29:44
 Scen Year: 2040 -- All model years in the range 1996 to 2040 selected
 Season : Winter
 Area : San Bernardino (SC)

Year: 2040 -- Model Years 1996 to 2040 Inclusive -- Winter
 Emfac2007 Emission Factors: V2.3 Nov 1 2006

San Bernardino (SC) San Bernardino (SC) San Bernardino (SC)

Table 5a: Partial Day Diurnal Loss Emissions

(grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity:
 ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
70	0.011	0.041	0.048	0.001	0.002	0.407	0.037

Title : South Coast Air Basin Subarea Winter CYr 2040 Default Title
 Version : Emfac2007 V2.3 Nov 1 2006
 Run Date : 2010/07/26 15:29:44
 Scen Year: 2040 -- All model years in the range 1996 to 2040 selected
 Season : Winter
 Area : San Bernardino (SC)

Year: 2040 -- Model Years 1996 to 2040 Inclusive -- Winter
 Emfac2007 Emission Factors: V2.3 Nov 1 2006

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Table 5b: Multi-Day Diurnal Loss Emissions

(grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity:
 ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
70	0.001	0.002	0.003	0.000	0.001	0.038	0.003

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Title : South Coast Air Basin Subarea Winter CYr 2040 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/07/26 15:29:44
Scen Year: 2040 -- All model years in the range 1996 to 2040 selected
Season : Winter
Area : San Bernardino (SC)

Year: 2040 -- Model Years 1996 to 2040 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

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Bernardino (SC)

Table 6a: Partial Day Resting Loss Emissions

(grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity:
ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
70	0.008	0.032	0.038	0.001	0.001	0.132	0.024

Title : South Coast Air Basin Subarea Winter CYr 2040 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/07/26 15:29:44
Scen Year: 2040 -- All model years in the range 1996 to 2040 selected
Season : Winter
Area : San Bernardino (SC)

Year: 2040 -- Model Years 1996 to 2040 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

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Bernardino (SC)

Table 6b: Multi-Day Resting Loss Emissions

(grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity:
ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
70	0.001	0.002	0.002	0.000	0.000	0.013	0.002

Title : South Coast Air Basin Subarea Winter CYr 2040 Default Title

emfac.rts

Version : Emfac2007 V2.3 Nov 1 2006

Run Date : 2010/07/26 15:29:44

Scen Year: 2040 -- All model years in the range 1996 to 2040 selected

Season : Winter

Area : San Bernardino (SC)

Year: 2040 -- Model Years 1996 to 2040 Inclusive -- Winter

Emfac2007 Emission Factors: V2.3 Nov 1 2006

San Bernardino (SC)
Bernardino (SC)

San Bernardino (SC)

San

Table 7: Estimated Travel Fractions

Pollutant Name: ALL Temperature: ALL Relative Humidity:

	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
%VMT	0.419	0.327	0.161	0.087	0.001	0.005	1.000
%TRIP	0.395	0.293	0.240	0.063	0.000	0.008	1.000
%VEH	0.436	0.327	0.164	0.045	0.000	0.028	1.000

Title : South Coast Air Basin Subarea Winter CYr 2040 Default Title

Version : Emfac2007 V2.3 Nov 1 2006

Run Date : 2010/07/26 15:29:44

Scen Year: 2040 -- All model years in the range 1996 to 2040 selected

Season : Winter

Area : San Bernardino (SC)

Year: 2040 -- Model Years 1996 to 2040 Inclusive -- Winter

Emfac2007 Emission Factors: V2.3 Nov 1 2006

San Bernardino (SC)
Bernardino (SC)

San Bernardino (SC)

San

Table 8: Evaporative Running Loss Emissions

(grams/minute)

Pollutant Name: Reactive Org Gases ALL Temperature: 70F Relative Humidity:

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
1	0.009	0.136	0.164	0.025	0.817	0.004	0.078
2	0.007	0.072	0.086	0.013	0.416	0.037	0.042
3	0.008	0.052	0.062	0.009	0.285	0.056	0.032
4	0.010	0.044	0.052	0.008	0.220	0.067	0.028
5	0.011	0.039	0.045	0.007	0.182	0.074	0.026
10	0.014	0.031	0.034	0.005	0.109	0.093	0.022
15	0.016	0.029	0.032	0.005	0.088	0.103	0.022
20	0.017	0.029	0.032	0.005	0.081	0.110	0.023

				emfac.rts			
25	0.017	0.030	0.032	0.005	0.080	0.116	0.023
30	0.018	0.031	0.033	0.005	0.083	0.120	0.024
35	0.018	0.031	0.034	0.005	0.086	0.124	0.025
40	0.019	0.032	0.035	0.005	0.089	0.128	0.025
45	0.019	0.033	0.035	0.006	0.091	0.132	0.026
50	0.020	0.033	0.036	0.006	0.094	0.135	0.026
55	0.020	0.034	0.037	0.006	0.096	0.139	0.027
60	0.020	0.035	0.038	0.006	0.098	0.142	0.027

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Run Began on 8/03/2010 at 15:50:17

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: I-10 EB Ramps and San Timoteo Cnyn Rd
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= 0.5 M/S Z0= 100. CM ALT= 0. (M)
BRG= WORST CASE VD= 0.0 CM/S
CLAS= 6 (F) VS= 0.0 CM/S
MIXH= 1000. M AMB= 2.5 PPM
SIGTH= 20. DEGREES TEMP= 15.0 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	* *	LINK COORDINATES (M) X1 Y1 X2 Y2	* *	TYPE	VPH	EF (G/MI)	H (M)	W (M)
1. Y SB1	*	684 1256 711 1201	*	AG	2076	0.7	0.0	13.7
2. Y SB2	*	711 1201 745 1133	*	AG	691	1.4	0.0	13.7
3. Y SB3	*	745 1133 800 1025	*	AG	710	0.7	0.0	13.7
4. Y SB4	*	800 1025 858 906	*	AG	710	0.7	0.0	13.7
5. Y NB1	*	868 911 813 1024	*	AG	59	0.7	0.0	13.7
6. Y NB2	*	814 1024 761 1138	*	AG	59	1.4	0.0	13.7
7. Y NB3	*	761 1138 728 1205	*	AG	59	0.7	0.0	13.7
8. Y NB4	*	728 1205 700 1263	*	AG	59	0.7	0.0	13.7
9. Y LT1	*	720 1198 753 1134	*	AG	1385	1.4	0.0	13.7
10. Y LT2	*	753 1134 802 1038	*	AG	0	1.4	0.0	13.7
11. X EB1	*	596 1103 682 1125	*	AG	2625	0.7	0.0	24.4
12. X EB2	*	682 1125 750 1141	*	AG	2625	1.4	0.0	24.4
13. X EB3	*	750 1141 826 1158	*	AG	4010	0.7	0.0	24.4
14. X EB4	*	826 1158 923 1182	*	AG	4010	0.7	0.0	24.4
15. X WB1	*	924 1170 832 1147	*	AG	2300	0.7	0.0	24.4
16. X WB2	*	832 1147 757 1128	*	AG	2281	1.4	0.0	24.4
17. X WB3	*	757 1128 687 1111	*	AG	2281	0.7	0.0	24.4
18. X WB4	*	687 1111 599 1090	*	AG	2281	0.7	0.0	24.4
19. X LT1	*	674 1115 753 1134	*	AG	0	1.4	0.0	24.4
20. X LT2	*	753 1134 841 1157	*	AG	19	1.4	0.0	24.4

III. RECEPTOR LOCATIONS

RECEPTOR	* *	COORDINATES (M) X Y Z
1. Recpt 1	*	805 1099 1.8
2. Recpt 2	*	691 1157 1.8
3. Recpt 3	*	729 1093 1.8
4. Recpt 4	*	778 1179 1.8

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

I-10EB-SanTimoteo.lst

RECEPTOR	*	BRG	* PRED	*	CONC/LINK							
	*	(DEG)	* CONC	*	(PPM)							
	*		* (PPM)	*	1	2	3	4	5	6	7	8
1. Recpt 1	*	310.	* 2.7	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2. Recpt 2	*	103.	* 2.8	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3. Recpt 3	*	7.	* 2.7	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4. Recpt 4	*	228.	* 2.7	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RECEPTOR	*	CONC/LINK							
	*	(PPM)							
	*	9	10	11	12	13	14	15	16
1. Recpt 1	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
2. Recpt 2	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
3. Recpt 3	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
4. Recpt 4	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0

RECEPTOR	*	*CONC/LINK			
	*	*(PPM)			
	*	17	18	19	20
1. Recpt 1	*	0.0	0.0	0.0	0.0
2. Recpt 2	*	0.0	0.0	0.0	0.0
3. Recpt 3	*	0.1	0.0	0.0	0.0
4. Recpt 4	*	0.0	0.0	0.0	0.0

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Run Ended on 8/03/2010 at 15:50:17

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Run Began on 8/03/2010 at 15:50:53

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Sunset Ave and Ramsey St
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= 0.5 M/S Z0= 100. CM ALT= 0. (M)
BRG= WORST CASE VD= 0.0 CM/S
CLAS= 6 (F) VS= 0.0 CM/S
MIXH= 1000. M AMB= 2.5 PPM
SIGTH= 20. DEGREES TEMP= 15.0 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	* *	LINK COORDINATES (M) X1 Y1 X2 Y2	* *	TYPE	VPH	EF (G/MI)	H (M)	W (M)
1. Y SB1	*	684 1256 711 1201	*	AG	1336	0.7	0.0	24.4
2. Y SB2	*	711 1201 745 1133	*	AG	1185	1.4	0.0	24.4
3. Y SB3	*	745 1133 800 1025	*	AG	1728	0.7	0.0	24.4
4. Y SB4	*	800 1025 858 906	*	AG	1728	0.7	0.0	24.4
5. Y NB1	*	868 911 813 1024	*	AG	1969	0.7	0.0	24.4
6. Y NB2	*	814 1024 761 1138	*	AG	1497	1.4	0.0	24.4
7. Y NB3	*	761 1138 728 1205	*	AG	1688	0.7	0.0	24.4
8. Y NB4	*	728 1205 700 1263	*	AG	1688	0.7	0.0	24.4
9. Y LT1	*	720 1198 753 1134	*	AG	151	1.4	0.0	24.4
10. Y LT2	*	753 1134 802 1038	*	AG	472	1.4	0.0	24.4
11. X EB1	*	596 1103 682 1125	*	AG	1492	0.7	0.0	32.0
12. X EB2	*	682 1125 750 1141	*	AG	1301	1.4	0.0	32.0
13. X EB3	*	750 1141 826 1158	*	AG	1452	0.7	0.0	32.0
14. X EB4	*	826 1158 923 1182	*	AG	1452	0.7	0.0	32.0
15. X WB1	*	924 1170 832 1147	*	AG	1436	0.7	0.0	32.0
16. X WB2	*	832 1147 757 1128	*	AG	893	1.4	0.0	32.0
17. X WB3	*	757 1128 687 1111	*	AG	1365	0.7	0.0	32.0
18. X WB4	*	687 1111 599 1090	*	AG	1365	0.7	0.0	32.0
19. X LT1	*	674 1115 753 1134	*	AG	191	1.4	0.0	32.0
20. X LT2	*	753 1134 841 1157	*	AG	543	1.4	0.0	32.0

III. RECEPTOR LOCATIONS

RECEPTOR	* *	COORDINATES (M) X Y Z
1. Recpt 1	*	805 1099 1.8
2. Recpt 2	*	691 1157 1.8
3. Recpt 3	*	729 1093 1.8
4. Recpt 4	*	778 1179 1.8

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

sunset-ramsey.lst

RECEPTOR	*	BRG	* PRED	*	CONC/LINK							
	*	(DEG)	* CONC	*	(PPM)							
	*		* (PPM)	*	1	2	3	4	5	6	7	8
1. Recpt 1	*	301.	* 2.7	*	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
2. Recpt 2	*	119.	* 2.7	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3. Recpt 3	*	52.	* 2.7	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4. Recpt 4	*	179.	* 2.7	*	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0

RECEPTOR	*	CONC/LINK									
	*	(PPM)									
	*	9	10	11	12	13	14	15	16		
1. Recpt 1	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
2. Recpt 2	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0		
3. Recpt 3	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
4. Recpt 4	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		

RECEPTOR	*	CONC/LINK			
	*	(PPM)			
	*	17	18	19	20
1. Recpt 1	*	0.0	0.0	0.0	0.0
2. Recpt 2	*	0.0	0.0	0.0	0.0
3. Recpt 3	*	0.0	0.0	0.0	0.0
4. Recpt 4	*	0.0	0.0	0.0	0.0

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Run Ended on 8/03/2010 at 15:50:53

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Run Began on 8/03/2010 at 15:51:22

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Sunset Ave and Wilson St
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= 0.5 M/S Z0= 100. CM ALT= 0. (M)
BRG= WORST CASE VD= 0.0 CM/S
CLAS= 6 (F) VS= 0.0 CM/S
MIXH= 1000. M AMB= 2.5 PPM
SIGTH= 20. DEGREES TEMP= 15.0 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	* *	LINK COORDINATES (M) X1 Y1 X2 Y2	* *	TYPE	VPH	EF (G/MI)	H (M)	W (M)
1. Y SB1	*	684 1256 711 1201	*	AG	862	0.7	0.0	24.4
2. Y SB2	*	711 1201 745 1133	*	AG	721	1.4	0.0	24.4
3. Y SB3	*	745 1133 800 1025	*	AG	914	0.7	0.0	24.4
4. Y SB4	*	800 1025 858 906	*	AG	914	0.7	0.0	24.4
5. Y NB1	*	868 911 813 1024	*	AG	1183	0.7	0.0	24.4
6. Y NB2	*	814 1024 761 1138	*	AG	860	1.4	0.0	24.4
7. Y NB3	*	761 1138 728 1205	*	AG	1189	0.7	0.0	24.4
8. Y NB4	*	728 1205 700 1263	*	AG	1189	0.7	0.0	24.4
9. Y LT1	*	720 1198 753 1134	*	AG	0	1.4	0.0	24.4
10. Y LT2	*	753 1134 802 1038	*	AG	323	1.4	0.0	24.4
11. X EB1	*	596 1103 682 1125	*	AG	1414	0.7	0.0	17.1
12. X EB2	*	682 1125 750 1141	*	AG	1085	1.4	0.0	17.1
13. X EB3	*	750 1141 826 1158	*	AG	1226	0.7	0.0	17.1
14. X EB4	*	826 1158 923 1182	*	AG	1226	0.7	0.0	17.1
15. X WB1	*	924 1170 832 1147	*	AG	1565	0.7	0.0	17.1
16. X WB2	*	832 1147 757 1128	*	AG	1372	1.4	0.0	17.1
17. X WB3	*	757 1128 687 1111	*	AG	1695	0.7	0.0	17.1
18. X WB4	*	687 1111 599 1090	*	AG	1695	0.7	0.0	17.1
19. X LT1	*	674 1115 753 1134	*	AG	329	1.4	0.0	17.1
20. X LT2	*	753 1134 841 1157	*	AG	193	1.4	0.0	17.1

III. RECEPTOR LOCATIONS

RECEPTOR	* *	COORDINATES (M) X Y Z
1. Recpt 1	*	805 1099 1.8
2. Recpt 2	*	691 1157 1.8
3. Recpt 3	*	729 1093 1.8
4. Recpt 4	*	778 1179 1.8

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

sunset-wilson.lst

RECEPTOR	*	BRG	* PRED	*	CONC/LINK							
	*	(DEG)	* CONC	*	(PPM)							
	*		* (PPM)	*	1	2	3	4	5	6	7	8
1. Recpt 1	*	301.	* 2.7	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2. Recpt 2	*	117.	* 2.7	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3. Recpt 3	*	51.	* 2.7	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4. Recpt 4	*	179.	* 2.7	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RECEPTOR	*	CONC/LINK							
	*	(PPM)							
	*	9	10	11	12	13	14	15	16
1. Recpt 1	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2. Recpt 2	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3. Recpt 3	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
4. Recpt 4	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RECEPTOR	*	CONC/LINK			
	*	(PPM)			
	*	17	18	19	20
1. Recpt 1	*	0.0	0.0	0.0	0.0
2. Recpt 2	*	0.0	0.0	0.0	0.0
3. Recpt 3	*	0.0	0.0	0.0	0.0
4. Recpt 4	*	0.0	0.0	0.0	0.0

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Run Ended on 8/03/2010 at 15:51:22