In Response to CEC & BLM Data Requests 53-110
Application for Certification (08-AFC-5)
SES Solar Two, LLC

Submitted to:
Bureau of Land Management
1661 S. 4th Street, El Centro, CA 92243

Submitted to:
California Energy Commission
1516 9th Street , MS 15, Sacramento, CA 95814-5504

Submitted by:
SES Solar Two, LLC
2920 E. Camelback Road, Suite 150, Phoenix, AZ 85016

URS With Support From:
URS Corporation

March 2009

March 26, 2009

Mr. Christopher Meyer
Project Manager
Attn: Docket No. 08-AFC-5
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814-5512

Subject: SES Solar Two (08-AFC-5)
Responses to CEC and BLM Data
URS Project No. 27657106.00400

Dear Mr. Meyer:

On behalf of SES Solar Two, LLC, URS Corporation Americas (URS) hereby submits the Responses to CEC and BLM Data Requests 53-110 (SES Solar Two 08-AFC-5).

I certify under penalty of perjury that the foregoing is true, correct, and complete to the best of my knowledge. I also certify that I am authorized to submit the Data Responses on behalf of SES Solar Two, LLC.

Sincerely,

Angela Leiba
Project Manager

URS Corporation
1615 Murray Canyon Road, Suite 1000
San Diego, CA 92108
Tel: 619.294.9400
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TECHNICAL AREA: AIR QUALITY

General Comment:

After reviewing the air quality comments received from CEC, SES reviewed the entire project to find opportunities to reduce air emissions from the project during construction and operation. These included considering changes to:

- Road construction
- Vehicles
- Fuels
- Construction practices, sequencing, and schedules
- Equipment types
- Operation and maintenance practices, sequencing, and schedules
- Vehicle travel patterns
- Placement of support facilities

In the following pages a revised air quality analysis is presented based on these revisions. It describes the assumptions and general approach used to estimate emissions from the operational and construction phases of the project, presents new emission estimates, and provides a summary comparison of the new results with those in the AFC. The revised analyses are presented using the same section and table numbering as the AFC.

The modifications made to the project during construction and operation lead to significant emission reductions for both the construction and operational phases. The emissions from all onsite and offsite sources associated with the operation of the project dropped between 70% to 90% from those presented in the Air Quality section of the AFC (see Table 5.2-25 of the AFC and Table 5.2-25b New of this analysis). The particulate matter emissions from all onsite and offsite sources associated with the construction of the project dropped by approximately 10% from those presented in the AFC due to the application of an unpaved road sealant, all other pollutant emissions increased due to increased vehicles and mileage (see Table 5.2-21 of the AFC and Table 5.2-21 Revised of this analysis).

These emissions resulting from the updated project were used as the basis for air quality modeling to determine if ambient air quality standards would be exceeded due to project emissions during construction and operations.

Air quality modeling predicted that the maximum operational emissions from the Project, in combination with conservative background concentrations, would not cause a violation of any state or federal air quality standard and would not significantly contribute to the existing violations of the federal and state PM_{10} and $PM_{2.5}$ standards. Air quality modeling of the construction emissions, in combination with conservative background concentrations, would not cause a violation of the state or federal air quality standards for CO, SO_2, NO_2 and $PM_{2.5}$ annual. The predicted concentrations of PM_{10} and $PM_{2.5}$ are minor compared to the existing background, which are currently above state and federal standards, if construction occurs during a period of high background concentrations, however, the project's construction emissions might have the potential to temporarily contribute to existing violations of the state and federal PM_{10} and $PM_{2.5}$ standards.

In the discussion that follows, the basis for any changes from the air quality modeling analyses in the AFC is described. Attachments AQ-1 and AQ-2 present the detailed emission calculations for construction and operations, respectively, and the basis for the assumptions used to estimate

these emissions. Attachment AQ-3 presents the maximum overlapping construction and operations emissions. Attachment AQ-4 presents a letter from ICAPCD outlining the requirements for emission reduction credits. Attachment AQ-5 presents the detailed heat balance calculations. Attachment AQ-6 presents the air permit forms submitted to the ICAPCD. All modeling files associated with the new data are provided on a DVD with these data requests. Following the new analyses discussions, responses to each data request are provided.

5.2.2 Environmental Consequences

5.2.2.1 Project Construction Emissions

In response to the extensive data requests from the CEC, project engineers and scientists thoroughly reevaluated the project construction activities in an effort to reduce the project's emissions. Changes made in construction included:

1. **Sealing or paving of all roads immediately after grading** – SES will pave on-site parking area near the administration building and apply the chemical dust suppressant Soiltac™ or a product with same or better performance to all on-site unpaved road and unpaved parking areas and use vacuum-sweeping and/or water-flushing on paved road surfaces to remove buildup of loose material to control dust emissions from travel on the paved access road (including adjacent public streets affected by construction activities) and paved parking areas.

2. **Actions to reduce fugitive dust** - Fugitive dust emissions from wind erosion of areas disturbed from construction activities (including storage piles) will be mitigated by application of either water, chemical dust suppressant, or other suppression technique. In addition SES will institute measures to: cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least 2 feet of freeboard; limit traffic speeds on all unpaved and/or unsealed site areas to 5 miles per hour; install sandbags or other erosion control measures to prevent silt runoff to roadways; replant vegetation in disturbed areas as quickly as possible; use wheel washers or wash off tires of all trucks exiting construction site; and minimize grading during construction of maintenance roads by just scraping the top soil.

3. **Changing the schedule and sequence of construction activities to reduce trips and vehicle miles traveled** – SES reviewed the construction plan to streamline procedures and minimize the amount of onsite travel. In minimizing grading activities as part of optimization of site activities, the use off road trucks for hauling materials was eliminated in favor of highway use vehicles. Maintenance sequences were reviewed for the fleet of mirror washing and PCU maintenance vehicles (LRU trucks). This review and planning allowed for a reduction of vehicle miles to be driven, change of fuel in vehicle from diesel to gasoline and reduction in the size of the vehicles.

4. **Confining most construction activities to sealed or paved roads** – SES will require all vehicles, such as material delivery trucks, to travel on sealed roads only.

5. **Changing the type and fuel of construction vehicles when possible** - All vehicles will use low sulfur and low aromatic fuel meeting California standards for motor vehicle diesel fuel and use low-emitting gas and diesel engines meeting state and federal emissions standards (Tiers I, II, and III) for construction equipment, including, but not limited to catalytic converter systems and particulate filter systems. Vehicles will be required to shut down equipment when idling for more than 5 minutes. Regular preventive maintenance will be implemented to prevent equipment engine emission increases due to inefficient fuel combustion. SES continues to investigate the option of using alternatively fueled pickup trucks and busses during construction and at a minimum will use gasoline to fuel these vehicles.

6. **Worker transport** - All construction workers will be required to park in the sealed laydown area and are then transported to worksites in buses.

The primary emission sources during construction of the Project still include exhaust from heavy construction equipment and vehicles and fugitive dust generated in areas disturbed by grading, excavating, road travel, and erection of Project structures. The projected construction schedule has a total duration of 40 months for full build-out of 750 megawatts produced by 30,000 SunCatchers. Different areas within the Project Site and the construction laydown areas would be disturbed at different times over this period. Construction of the SunCatchers and access roads will begin in the southwest portion of the site and continue eastward until all 30,000 SunCatchers are installed. At most 3,000 acres of the approximate 6,500-acre project site will be disturbed during construction the remainder will be undisturbed land. The land disturbance will primarily be for construction of the main service complex (MSC), assembly area, and sealed roads to access the SunCatchers.

Fugitive dust emissions from the construction of the Solar Two Project will result from:

- site grading/excavation activities;
- construction of roads, main service complex and substation;
- installation of SunCatchers;
- on-site travel paved roads, roads sealed with polymeric sealant, and the minimized but unavoidable travel on unpaved surfaces,
- off-site travel of worker vehicles and delivery trucks on paved roads.

Fuel combustion emissions during construction will result from:

- Exhaust from the off-road construction equipments, including diesel construction equipment used for site grading, excavation, and construction of on-site structures, and water/polymeric sealant trucks used to control construction dust emissions; and,
- Exhaust from on-road vehicles, including worker vehicles, busses, pickup trucks and diesel trucks used to transport workers and materials around the construction site, and from diesel trucks used to deliver concrete, equipment, and construction supplies to the construction site. Emissions from both on-site and off-site portions of trips made by these vehicles were estimated.
- Construction equipment and vehicle exhaust emissions were estimated using revised equipment lists and construction scheduling information (see Table 5.2-19 Revised).

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Table 5.2-19 Revised
Estimated Construction Equipment Usage Schedule

Construction Equipment Description	HP	D	G	P	Month After Construction Start																																								
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Off-road Equipment																																													
Air Compressor	50	X			1	1	1	1	3	3	3	3	2	2	2	2	2	2	2	2	1	1																						
Asphalt Paver	120	X				1																																						
Backhoe	120	X			3	9	5	5	5	6	6	5	4	4	4	4	4	4	4	4	1	1	1																					
Compactor	120	X			1	3	3	3	3	3	3	3	3	3	3	3	3	2	2	2																								
Crane small	175	X			1	3	4	5	5	8	8	8	7	6	6	6	8	8	6	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Crane large	500	X						3	3	3	1													3	3	3	3	3																
Dozer	250	X			1	1	1	1	1	1	1	1	1				1	1	1	1																								
Generator	50	X			1	1	1	2	2	4	4	4	6	6	6	6	3	3	3	3	3	2	2	2	2	2	1	1	1															
Grader	175	X			1	3	3	3	3	3	2	2	1				2	2	1	1																								
Light Tower	50	X						1	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1																		
Loader	250	X			1	3	3	4	4	4	3	3	2	1	1	1	3	3	3	2	1																								
Maxi Sneeker (Trencher)	50	X				2	2	2	2	5	5	4	4	4	4	4	5	5	5	5	5	2	2	1																				
Skid Steer (Bobcat)	50	X				1	1	2	2	4	3	3	2	2	2	2	4	4	4	4	4																								
Welding Machine	50	X				1	2	3	4	4	4	4	4	4	4	3	3	3	3	2	1	1	1																						
Aerial Lift	120			X	2	5	5	5	6	6	5	3	3	2	2	2	4	5	5	5	5	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	5	5	5	5	5	5	5
Fork Lift	50			X	2	5	7	7	7	8	8	8	8	8	8	8	8	9	6	6	6	6	6	5	5	5	5	5	5	5	5	5	5	5									
Telehandler	120			X			1	1	2	5	4	3	3	3	3	3	4	7	5	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Vehicles with On-road Engines for Emissions Estimates																																												
Busses	175		X		4	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	4	4	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Concrete Pump	250	X			2	5	5																																					
Dump Truck	250	X			3	8	7	6	4	4	4	3					3	2	2																									
Flatbed Truck	250	X			2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	7	7	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	2	2	2	2	2	2
Staff & Security Hybrid Truck	187	/			5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Pickup Truck	175		X		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Water/Soiltac™ Truck	250	X			4	14	8	8	6	6	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3	1	1	1	1	1	1	1	1	1	1	1	1	0
General Materials Delivery Trucks	250	X				3	3	3	3	3	3	3																																
Suncatcher Pedestals Delivery Trucks	250	X						3	3	3	1													3	3	3	3	3																
Totals					**44**	**99**	**92**	**98**	**100**	**115**	**104**	**96**	**86**	**81**	**81**	**80**	**93**	**96**	**88**	**82**	**69**	**53**	**52**	**51**	**50**	**48**	**47**	**47**	**41**	**40**	**40**	**38**	**38**	**38**	**33**	**33**	**33**	**36**	**36**	**32**	**32**	**32**	**32**	**31**

Notes:
D = diesel
HP = horsepower
G = gasoline
P = propane
Note: Although the air quality model assumed the use of gasoline busses and gasoline pick-up trucks, SES is still investigating using alternatively fueled vehicles where possible.

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Below is a brief description of the planned construction activities and SunCatcher installation plan for the Solar Two site, followed by how the emissions from these activities were characterized in the AERMOD modeling.

Construction staff will arrive and park at the laydown area, from this point the construction staff will be transported via a bus to their work location. As needed port-a-lets and water stations will be distributed across the project area near construction activity to provide restrooms and water for construction staff, so that they do not need to return to the MSC for these activities. Port-a-lets and water stations will be moved as required once construction is completed in one area and relocated to another area on the project site. The port-a-lets will remain in the field after construction is completed for use during operation.

The contractor will utilize graders to construct at grade roadways, the Main Services Complex (and temporary assembly area) pad, transformer substation pads, water treatment facility pad, etc. The basic earthwork creating the roadways, pads in the energy production area will occur in the first portion of the construction phase. Trenching for the installation of the underground electrical system, water system, sanitary sewer system, and hydrogen distribution system will be done by direct burial or by utilizing three to four trenching crews.

The pipeline delivering water to the site will be constructed during months 1 and 2 of the construction schedule. Construction of the transmission line from the Imperial Valley substation will start at the substation and progress toward the Project substation lasting from months 1 through 6.

Trucks will deliver the SunCatcher components to the main assembly area at the Main Services Complex where the components will be off loaded and assembled. The trucks will be off loaded using propane fueled forklifts. The packing materials will be recycled for shipment of other SunCatcher components. As an example, the containers used to ship the mirror facets will be recycled and returned to supplier for reuse. Additional material for recycling such as wood, paper, etc. will be stored in a trash compactor which will be removed from the site to a recycling facility as required.

Installation of the SunCatchers will begin from the far southwest portion of the site and move to the east and north. The road preparations will occur before SunCatcher installations. The roads will be graded then a polymeric sealant will be applied to minimize dust emissions.

The SunCatcher pedestals will be delivered to the installation location in the project area by delivery trucks. Approximately eight pedestals will be delivered on each truck. The track mounted pedestal installation equipment (large crane) will remain in the energy production area until all the pedestals have been installed.

SunCatcher dish assemblies will be assembled onsite using cranes, aerial lifts and telehandlers. Approximately fifty SunCatcher dishes can be assembled each day. As the dishes are assembled flatbed trucks will load the dish and take it from the Main Assembly Building to a location in the project area where it will be off-loaded and attached to the pedestal. Cranes will install the SunCatchers on the previously installed pedestals. The installation cranes and aerial lifts will remain in the field.

Mass emissions of all criteria pollutants from off-road construction diesel and propane equipment were estimated using equipment and fuel specific information with the CARB OFFROAD2007 model. Operating load factors associated with each type of equipment (from SCAQMD CEQA Handbook 1993) were incorporated in the estimation of hours of operation per equipment. Emissions from the on-road vehicles were estimated using the EMFAC2007 model and estimated mileage traveled.

Exhaust equipment emissions were calculated by means of an Excel Workbook (presented in Attachment AQ-1), and were represented for modeling purposes as point sources. The exhaust emission sources were input as point sources to represent realistic plume parameterization from the equipment exhaust stacks. Generic stack parameters (exhaust temperatures and flow rates)

for 200 horsepower (hp) diesel internal combustion engines were obtained from the *Risk Management Guidance for the Permitting of New Stationary Source Diesel-Fueled Engine* (CARB 2000). These stack parameters were selected because most of the on-site construction equipment are larger hp vehicles (175-500). The 200 hp parameters were selected over the 300 hp parameters because the exhaust flow is lower for the smaller engine thus the model results are more conservative. Approximately half of the onsite equipment are large horsepower vehicles with high exhaust stack heights (equal to or greater than 10 feet), e.g., cranes, loaders, tractor trailers, dump trucks, graders, busses, water trucks, and bulldozers. Most of the remaining 50 percent of onsite equipment have exhaust stacks that are typically between 8 and 10 feet. The average stack height of all 129 (104 + 25 delivery trucks) onsite pieces of equipment (in month 6) is approximately 9.8 feet (3 meters), thus this value was used for all point source stack heights.

Emissions of fugitive dust (PM_{10} and $PM_{2.5}$) were represented as area sources in the construction modeling. The use of area sources for fugitive dust emissions is an acceptable and approved option to assess off-site impacts associated with widespread dust-generating activities like grading and bulldozing.

Fugitive dust emissions resulting from on-site soil disturbances were estimated using the *USEPA Compilation of Emission Factors AP-42* (EPA 1993) emission factors for bulldozing and grading (Section 11.9), travel on sealed or paved roads (Section 13.2.1), travel on unpaved roads (Section 13.2.2) and material handling (Section 13.2.4). Fugitive dust from the erosion of aggregate storage piles was estimated from the emission factor in SCAQMD CEQA Handbook Table A9-9-E. As the EPA AP-42 emission factors are created to be applicable for many different activities, the most appropriate or similar dust-generating activities presented in the AP-42 document were selected for use in this emission estimation. Most earthmoving activities will occur in the MSC area. Limited grading will be needed for road creation.

After the SunCatcher access roads are graded, a polymeric sealant will be applied in sufficient quantity to minimize fugitive dust emissions from vehicle travel. The sealant will be reapplied as necessary to minimize dust emissions. The sealant will create a durable bond that will act like a concrete surface, thus paved road emission factors were used to estimate the fugitive dust emissions from travel on these roads. Further description of the sealant and it's usage on the Solar Two site can be found in Data Requests 76-78.

SunCatchers will not be installed until sealed roads are in place for vehicle access the installation location. It takes approximately 24 hours for the sealant to sufficiently cure and be ready to handle vehicle traffic. The SunCatcher installation vehicles will then travel down these sealed roads with very little dust-generating activity occurring off these roads. Limited travel on unpaved surfaces will occur in the immediate vicinity around the SunCatcher installation location. Travel on unpaved surfaces will also occur during the construction of the MSC. Dust suppression by watering will occur in all areas where travel on unpaved surfaces will occur, earthmoving activities occur and on the storage piles. For these surfaces a dust control efficiency of 68 percent was assumed, per SCAQMD CEQA Handbook Table 11-4, the maximum value for watering active sites 2 times daily occur during construction. In the model, fugitive dust impacts from the access roads to the SunCatchers and the activity associated with them, were input as an area source that covers most of the Phase 1 area.

Off-site access to the MSC will be along the eastern main access road that enters the eastern side of the site, near the laydown area, travels west to the MSC, this stretch of road will be sealed with a substantial application of Soiltac™, or a product with same or better performance, as this road will primarily be used during construction. The heavy-duty application will ensure the road surface is the same as pavement for dust suppression purposes. This road and the northern main access road will be cleaned as required to ensure minimal dust emissions. After leaving the MSC, delivery vehicles will depart the site via the northern access road, this road will be paved, as this will be the main site access during operations. The emissions from travel on this entire loop were assessed using the EPA AP-42 paved road emission factor (Section 13.2.1) with rural road surface silt loading (from CARB).

The proportion of travel for each vehicle on paved, sealed and unpaved surfaces is outlined in Attachment AQ-1. Worker vehicles will travel to the laydown area where they will be shuttled to the site via busses.

Construction workers are assumed to commute to the Project Site from locations within a 20-mile radius, primarily El Centro. Additional offsite road travel associated with delivery vehicles within Imperial County was measured and included in the emission spreadsheet (and in Data Request 56). Concrete will be delivered from the greater El Centro area (20 miles one-way). Busses will be used to shuttle workers from the eastern parking area to the MSC (eliminating most worker vehicle travel onsite) and will make several round trips per day (six miles on-site, five miles off-site per round trip). It was assumed that the security vehicles that will patrol during the construction phase. In the model five security vehicles were spread around the perimeter of the site.

Assumptions used in calculating and modeling Project construction emissions included a 40-month construction period; 7 construction days per week; and 30 construction days per month. Heavy construction activities will occur during 7 am to 7 pm, and delivery of materials and assembly of SunCatchers may occur at any time during the day. In the model, off-road construction equipment exhaust and dust emissions occur from 7 am to 7 pm, all other sources occur for the entire 24 hours.

Based on a review of planned construction activities and equipment lists, highest monthly construction equipment numbers and earthmoving activities occur in month 6. During month 6 construction activity is focused on the Main Services Complex (MSC) and portions of the Phase 1 SunCatcher construction area. Therefore, in the model, the construction equipment was placed in these two areas to represent actual conditions during that time frame. As deliveries of construction and SunCatcher materials will also occur during this time period, delivery vehicles were placed along the main access roads and in the MSC and laydown area. Note that construction of the water pipeline will be completed before month 6, and the last month of transmission line construction will consist of the onsite portion of the transmission line.

The maximum short-term combustion and fugitive dust emissions were calculated using the equipment listed in Table 5.2-19 Revised, for Month 6 of the construction schedule; which is anticipated to have the heaviest equipment usage and earthmoving activities of any month. Based on the equipment usage and earthmoving schedules, emissions during Months 4 through 15 are expected to be the highest of any consecutive 12-month period during the overall 40-month construction effort. As with the short-term modeling, the water pipeline construction will be completed before month 4, and approximately half of the transmission line construction will remain. The annual emissions for the transmission line construction were scaled by 3/12 to account for construction of the transmission line only occurring in months 4-6 and none in months 7-15.

Tables 5.2-20 Revised and 5.2-21 Revised present the estimated maximum daily and annual emissions of air pollutants due to Project construction, respectively, and outline the contributions from specific activities. Detailed emission spreadsheets are provided in Attachment AQ-1, which shows the calculation of emissions from all Project construction equipment and activities, both onsite and offsite, along with the data and assumptions used in these calculations.

The particulate matter emissions from all onsite and offsite sources associated with the construction of the project dropped by approximately 10% from those presented in the AFC due to the application of the unpaved road sealant, all other pollutant emissions increased due to increased vehicles and mileage.

Table 5.2-20 Revised
Estimated Daily Maximum Construction Emissions of Criteria Pollutants (lbs/day)

Activity	PM_{10}	$PM_{2.5}$	CO	ROC	NO_x	SO_x
On-Site Construction Emissions						
On-Site Combustion Emissions						
Construction Equipment	16.81	15.48	246.02	48.11	277.35	0.26
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	1.34	1.20	18.96	5.30	22.12	0.03
Worker Vehicles	0.02	0.01	3.28	0.31	0.31	0.003
Security Vehicles	0.004	0.004	0.763	0.020	0.011	0.004
SunCatcher Delivery Trucks	0.77	0.69	5.63	2.64	12.56	0.01
Subtotal of On-site Combustion Emissions	**18.95**	**17.40**	**274.67**	**56.38**	**312.35**	**0.31**
On-Site Fugitive Emissions						
Construction Equipment	29.37	6.80				
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	150.06	19.64				
Worker Vehicles	2.84	0.38				
Security Vehicles	3.90	0.54				
SunCatcher Delivery Trucks	57.46	8.56				
Subtotal of On-Site Fugitive Emissions	**243.63**	**35.92**				
Subtotal of On-Site Emissions	**262.58**	**53.31**	**274.67**	**56.38**	**312.35**	**0.31**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.01	0.01	5.54	0.47	0.42	0.002
Worker Vehicles	2.45	1.76	437.86	41.09	41.01	0.34
SunCatcher Delivery Trucks	17.01	15.27	123.80	57.93	276.09	0.30
Subtotal of Off-Site Combustion Emissions	**19.47**	**17.04**	**567.20**	**99.49**	**317.51**	**0.64**
Off-Site Paved Road Fugitive Dust Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	2.29	0.01				
Worker Vehicles	41.39	0.24				
SunCatcher Delivery Trucks	130.86	0.75				
Subtotal of Off-Site Fugitive Emissions	**174.54**	**1.00**				
Subtotal of Off-Site Emissions	**194.00**	**18.04**	**567.20**	**99.49**	**317.51**	**0.64**
Total Maximum Daily Emissions	**456.58**	**71.35**	**841.87**	**155.87**	**629.86**	**0.95**

Source: See Attachment AQ-1, Construction Emission Calculations.
Notes:
Differences in totals attributed to rounding.
CO = carbon monoxide
lb/day = pounds per day
NO_x = nitrogen oxides
PM_{10} = particulate matter less than 10 microns in diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
ROC = reactive organic compounds
SO_x = sulfur oxides

Table 5.2-21 Revised
Estimated Maximum Annual Construction Emissions of Criteria Pollutants
(tons/year)

Activity	PM_{10}	$PM_{2.5}$	CO	ROC	NO_x	SO_x
On-Site Construction Emissions						
On-Site Combustion Emissions						
Construction Equipment	2.24	2.07	32.25	6.56	34.58	0.03
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.223	0.199	3.278	0.891	3.679	0.005
Worker Vehicles	0.002	0.002	0.420	0.039	0.039	0.000
Security Vehicles	0.001	0.001	0.137	0.004	0.002	0.001
SunCatcher Delivery Trucks	0.113	0.102	0.824	0.386	1.839	0.002
Subtotal of On-site Combustion Emissions	**2.58**	**2.37**	**36.91**	**7.88**	**40.14**	**0.04**
On-Site Fugitive Dust Emissions						
Construction Equipment	4.52	0.96				
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	23.19	3.08				
Worker Vehicles	0.36	0.05				
Security Vehicles	0.70	0.10				
SunCatcher Delivery Trucks	7.58	1.13				
Subtotal of On-Site Fugitive Emissions	**36.36**	**5.31**				
Subtotal of On-Site Emissions	**38.94**	**7.68**	**36.91**	**7.88**	**40.14**	**0.04**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.00	0.00	1.00	0.08	0.08	0.00
Worker Vehicles	0.31	0.23	55.94	5.25	5.24	0.04
SunCatcher Delivery Trucks	2.59	2.33	18.88	8.83	42.10	0.05
Subtotal of Off-Site Combustion Emissions	**2.91**	**2.55**	**75.82**	**14.17**	**47.42**	**0.09**
Off-Site Paved Road Fugitive Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.41	0.06				
Worker Vehicles	5.29	0.09				
SunCatcher Delivery Trucks	13.23	1.79				
Subtotal of Off-Site Fugitive Emissions	**18.93**	**1.93**				
Subtotal of Off-Site Emissions	**21.84**	**4.49**	**75.82**	**14.17**	**47.42**	**0.09**
Total Maximum Annual Emissions	**60.78**	**12.17**	**112.72**	**22.05**	**87.56**	**0.13**

Source: See Attachment AQ-1, Construction Emission Calculations.
Notes:
Differences in totals attributed to rounding.
CO = carbon monoxide
NO_x = nitrogen oxides
PM_{10} = particulate matter less than 10 microns in diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
ROC = reactive organic compounds
SO_x = sulfur oxides
tpy = tons per year

5.2.2.2 Operational Emissions

As with the construction phase, SES reevaluated activities associated with the operation and maintenance of the Solar Two project in an effort to reduce air emissions. The primary changes included:

1. **Switching from diesel and gasoline to electric or hybrid vehicles when possible during operation –** All diesel-fueled wash vehicles and other maintenance trucks will be replaced with new gasoline-fuel vehicles that meet California vehicle emissions standards. This will eliminate the emissions of toxic diesel particulate and reduce emissions of ozone precursors. Use propane-fuel fork lift and man lifts for maintenance activities requiring such equipment. All security vehicles used for site inspection and security will be replaced with hybrid vehicles, most likely the Toyota Highlander Hybrid sport utility vehicles (SUV) or similar vehicle. The Toyota Highlander SUV is a super ultra low emission vehicle (SULEV) that meets both Tier 2/Bin 3 Federal standards and California ULEV II standards.
2. **Changing operational activities to reduce trips and miles traveled** – SES is committed to a better travel demand management so as to reduce VMTs whenever and wherever possible. For example, each wash vehicle will wash two (2) SunCatchers at the same time. This will reduce the number of wash vehicles needed, number of maintenance trips, idling time and vehicle miles traveled. Consequently, the air pollutant emissions will reduce**.**
3. **Restricting operation and maintenance activities to sealed or paved roads -** A requirement that all vehicle travel associated with maintenance activities occur only on chemically-sealed road to reduce particulate emissions and protect habitat.
4. **Replacing the diesel fire water pump with an electric fire water pump** - The fire water pump will use power generated from the Project, grid power or power generated from the diesel emergency generator, thus no emissions will be associated with the fire water pump.
5. **Application of the chemical dust suppressant Soiltac™ or a product with same or better performance to all maintenance roads** - This will reduce particulate emissions. (see DR-78 for further product discussion).
6. **Road cleaning** - Use scheduled/well planned vacuum-sweeping and/or water-flushing on paved road surfaces to remove buildup of loose material to control dust emissions from travel on the paved access road and paved parking areas.
7. **Change of refueling systems** – The project will now use only one 5,000 gallon regular gasoline storage tank that incorporates CARB-certified Phase I & II vapor recovery systems. Furthermore, the tank will be filled only when necessary to reduce turnover. Truck refueling will also be kept to a minimum.
8. **Van pooling** - Van pooling of employees from El Centro during operations will be provided.
9. **Modified hydrogen storage and distribution system** - Hydrogen will be produced and stored onsite and distributed to each SunCatcher. The hydrogen cylinders associated with each SunCatcher will be eliminated and replaced with a central distribution system. Thus, all hydrogen cylinder delivery truck trips would be eliminated. Moreover, less maintenance of the SunCatcher hydrogen system will be needed and will be conducted from the maintenance trucks instead of cylinder delivering trucks, thus reducing trips and VMTs.

Below is a brief description of the planned operations and maintenance activities for the Solar Two site, followed by how the emissions from these activities were estimated and characterized in the AERMOD modeling.

As the SunCatcher systems are installed and connected to the grid, they will be activated to generate power, generally in 1.5 MW or larger modules. The SES Solar Two power plant facility, then, will "grow" from a few megawatts to its full scheduled build-out of 750 MW over the course of about 30 months.

Once up and operating, there will be the following continuous operations at the facility:

- The power generation from the up-and-operating facility will be scheduled for dispatch to the CAISO grid on an hour-by-hour basis, in concert with the CAISO PIRP (Participating Intermittent Resource Program) facility at CAISO.
- Scheduled maintenance of the operating SunCatchers will take place as prescribed – including, most significantly, washing of the mirrors, periodic augmentation of the hydrogen gas system, and servicing/replacement of wear items in the engine, such as seals. In addition, on a longer-term basis, replacement of other wear or use items, such as heater heads, crankshafts, transformer maintenance and repairs, etc. will be required.

As a general rule, however, the major routine to operate and maintain this facility consists of the following:

- Washing of the mirrors is anticipated (and so modeled) to be required, on average, about once every month. (It is expected that the SunCatchers near the perimeter of the site will incur more pollution from the surrounding environment (open desert, OHV recreation areas, highways, etc.), but the interior-sited SunCatchers should experience less soiling.) The typical washing procedure, based on McDonnell-Douglas/SCE/SES test-site work of the past 20 years at various locations and corroborated by experience at the SEGS trough plants over the past 15-plus years, requires a high-pressure spraying of water over the surface of the mirrors. This process will typically take place after sundown in order to maximize solar energy production during the day. It utilizes de-mineralized water, requiring about 14 gallons of water per dish, in a process that takes about 10 minutes per dish. Including travel time between dishes (and assuming that at any one stop), two dishes can be washed in about 25 minutes, and travel time to the next pair of dishes is less than 5 minutes. As a result, a washing crew (of 1 or 2 people) can wash 4 dishes per hour or 32 dishes per 8-hour shift.
- It is anticipated that, once a year, just prior to the "peak billing season" of June through September, a special "mechanical"-scrubbing wash will occur, requiring about three times the number of people and about 45 minutes per dish.
- Other major scheduled maintenance is focused around the power conversion unit (PCU). At around 6,000 hours of running time (about 20 months of solar operation), the main piston seals ("CGC seals") are scheduled for replacement. At that time, a service vehicle (a LRU truck, which we also sometimes describe as a "Six-Pack Truck") will replace the PCU needing maintenance with a replacement engine (a "rotable spare"). During this maintenance, other repairs, such as o-ring seal replacements, oil filtering, etc. will be performed as needed.
- General administration activities, including personnel administration, training, facility maintenance and support, scheduling, billing, accounting, and site management will also be performed at the site.

There will be 35 washing teams per shift for one shift per day, resulting in a complete washing of all 30,000 SunCatchers a month (about 28 days per month).

The only stationary source of emissions for the Project will be one emergency diesel generator. Less polluting fuels such as gasoline are still being considered for this engine, although for modeling purposes the emergency generator was assumed to remain diesel, as a diesel engine would produce the highest emissions of the different engine options. The emergency diesel generator engine will be rated at approximately 335 horsepower and will be tested 15 minutes per

week (13 hours per year) to ensure operability in the event of an emergency. Estimated hourly and annual emissions and stack parameters for the emergency diesel generator are provided in the Table 5.2-23 Revised.

Emission rates shown in Table 5.2-23 Revised are based on vendor-supplied emission factors for an EPA Tier 3 engine. The exclusive fuel for the generator will be ultra-low sulfur diesel containing a maximum of 15 ppm sulfur. Detailed emissions calculations for the emergency diesel generator are presented in Attachment AQ-2. The revisions in Table 5.2-23 Revised include lower Tier 3 NO_x emission factor and updated stack parameters.

Table 5.2-23 Revised
Backup Diesel Generator Emission Rates and Stack Parameters

Pollutant	Hourly Emissions (lb/hr)	Annual Emissions (lb/yr)
NO_x	0.85	44.30
CO	0.07	3.75
VOC	0.03	1.44
SO_X	0.02	1.15
PM_{10}	0.01	0.58
CO_2e	112.55	5,852.62

Source: Attachment AQ-2.

Source Parameters:
Rated capacity 335 horsepower
Testing duration 15 minutes per week
Expected annual non-emergency use 13 hours per year
Stack height: 6.5 feet above ground level
Stack diameter: 8 inches
Stack exhaust flow rate at full firing: 1,218 ACFM
Stack exhaust temperature at full firing: 869ºF

Notes:

Hourly emissions are based on 15 minutes of engines operation and 45 minutes without operation.

ACFM	=	actual cubic feet per minute
lb/hr	=	pounds per hour
lb/yr	=	pounds per year
NO_x	=	nitrogen oxide
CO	=	carbon monoxide
VOC	=	volatile organic compounds
SO_x	=	sulfur oxide
PM_{10}	=	particulate matter less than 10 microns in diameter
CO_2e	=	carbon dioxide equivalent
ºF	=	degrees Fahrenheit

The Proposed Project will also have a gasoline dispensing facility. The gasoline dispensing facility will have fugitive emissions of total organic compounds from working and breathing loss from one 5,000-gallon above ground gasoline storage tank and from vapor displacement and spillage from a new fueling nozzle. "*Emission Inventory Estimation Guidelines Section 4.10 Gasoline Dispensing Facilities (Revised May 1999)"* from CARB and the EPA-Tank 4.0.9d model were applied as the methodologies to estimate the emissions from this source. The estimated emissions are show in the Tables 5.2-25a New and 5.2-25b New. Detailed emissions calculations from the gasoline dispensing facility are provided in Attachment AQ-2.

Another category of emission sources on the Project Site during operations will be mobile sources that will be used for a variety of purposes as described in Table 5.2-24 Revised. The largest fleet of vehicles used during normal operations will be the 35 wash vehicles used to clean the SunCatchers to ensure maximum solar radiation capture and the 20 LRU maintenance trucks used to maintain the SunCatchers. Up to 4 van pooling vehicles will be purchased to transport workers efficiently to and from El Centro. These wash and LRU trucks and commuter vans will all have new engines that meet on-road emission standards for year 2009 or better, and will now be fueled with gasoline. The use of other alternative fuel technologies for these vehicles is still being considered. For the calculation of the exhaust emissions from these vehicles, gasoline was assumed to be the fuel, and emission factors from the Emfac2007 model for MHDT, MHDT and MDV were applied to the wash vehicles, LRU trucks, and van pooling vehicles, respectively. In the model, it was assumed that all vehicles listed in Table 5.2-24 Revised, including the wash and LRU trucks, would operate 12 months per year. As eight normal washes and one mechanical wash are anticipated per year, this ensures that enough vehicles will be used to account for the longer mechanical washes.

Table 5.2-24 Revised
On-Site Vehicle and Equipment Usage During Solar Two Project Operations

Description	Activity	Make/Model, Fuel	Quantity	Frequency
Washing vehicle	Mirror washing	12-ton truck, gasoline	35	Daily
Line replaceable unit (LRU) maintenance truck with boom	Field servicing and maintenance	10-ton truck, gasoline	20	Daily
Staff and security truck	Site inspections and security	Toyota Highlander or similar, gasoline hybrid	5	Daily
Rubber-wheeled forklift with telescoping boom	SunCatcher power conversion unit and mirror maintenance	Telehandler, propane	2	Daily
Forklift	Warehousing of supplies	Propane	2	Daily
Telescoping man lift	Facility maintenance and SunCatcher power conversion unit and mirror maintenance	Propane	7	Daily
Staff cars	Commuting to work	Passenger vehicles, gasoline & diesel	100	Daily
Van pool	Commuting to work	Passenger van, gasoline	4	Daily
Visitor cars	Sales, deliveries, and services	Passenger vehicles, gasoline & diesel	8	Daily
Delivery trucks	Operations and maintenance supplies	5-ton cargo, diesel	1	Weekly
	Waste management	20-ton, diesel	1	Weekly
	Hazardous waste	20-ton, diesel	1	Weekly
Transport tractor trailers	Spare parts, building supplies, and temporary rental equipment	40-foot, diesel	1	Weekly

Source: SES Solar Two, LLC, 2009.

To minimize combustion emissions from the security vehicles, SES will now use Toyota Highlanders or similar gasoline hybrid SUVs for these vehicles. The emissions for these gasoline hybrid SUVs comply with EPA Tire 2 – Bin 3 standards. The SO_2, CH_4, and N_2O emission factors for these vehicles were conservatively assumed to be the same as the emission factors for gasoline fueled cars (LDT2 in Emfac2007), since no emission factors are available for these

pollutants for this type of hybrid vehicles. The CO_2, emissions were calculated from the city miles per gallon proclaimed by Toyota and the CCAR emission factor for gasoline light duty trucks. Also onsite forklifts and aerial lifts that will be fueled with propane. Emissions for these lifts were estimated from the OFFROAD2007 model.

The wash vehicles, LRU trucks, security vehicles, and the forklifts will now only travel on roads sealed with a polymeric sealant such as Soiltac™, or a product with the same or better characteristics, to reduce fugitive dust emissions. The minimization of dust emissions is essential to the efficient operation of the SunCatchers as the solar radiation capture is reduced when the SunCatchers are dirty, thus, SES is dedicated to ensuring good sealed road maintenance and will not allow any off-road travel within the site. To estimate the fugitive dust emissions from travel on the sealed roads, the EPA AP-42 Section 13.2.1 Paved Roads equation 2 was used with a silt loading value of 7.4 g/m^2 (same as for a municipal solid waste landfill from Table 13.2.1-4).

The estimated daily and annual combustion and fugitive dust emissions associated with the on-site mobile sources used during normal operations of the Project are presented in Tables 5.2-25a New and 5.2-25b New. The operational onsite mobile source emissions estimated in the AFC included numerous conservative assumptions, per new operations and maintenance practices provided by the project engineers, the total operational combustion and fugitive emissions are much less than the emissions presented in the AFC. For example, the total on-site daily operational combustion and fugitive PM_{10} emissions are now estimated to be 122 pounds, which is approximately 41% of the value (296 pounds) presented in the AFC.

All offsite travel will be on paved roads varying from local roads to freeways, although the silt loading of a local road (from CARB - Emission Inventory Database - Section 7.9 Entrained Paved Road Dust - Local Streets) was conservatively used to estimate the fugitive dust emissions with the EPA AP-42 Section 13.2.1 Paved Roads equation 2. It is anticipated that the majority of the daily workforce will come from El Centro. As shown in Table 5.2-24 Revised, there will also be a few delivery trucks that service the Project weekly and few visitor cars daily. These vehicles will travel to the site from various locations, but only the emissions associated with the portion of travel within Imperial County was estimated and presented in Tables 5.2-25a New and 5.2-25b New describing the offsite project related emissions. When going to the Project Site, the worker vehicles, visitor cars, and delivery trucks will then drive on pavement from the site entrance to the parking lot. The emissions associated with the onsite travel of these vehicles were also included in Tables 5.2-25a New and 5.2-25b New. Detailed emissions calculations from the stationary, area and mobile sources are provided in Attachment AQ-2, along with the data and assumptions used in these calculations.

Due to refinements in the project operations and maintenance practices, the emissions from operational activities onsite and offsite decreased by 70-90% from those presented in the AFC. The largest reductions come from limiting VMT and sealing all of the unpaved roads.

Table 5.2-25a
New Estimated Daily Maximum Operational Emissions of Criteria Pollutants
(lbs/day)

Activity	PM_{10}	$PM_{2.5}$	CO	ROC	NO_x	SO_x
On-Site Operational Emissions						
On-Site Combustion Emissions						
Diesel Generator	0.01	0.01	0.07	0.03	0.85	0.02
Maintenance & Security Vehicles and Equipment	0.17	0.16	102.24	13.49	13.02	0.04
Worker Vehicles	0.04	0.03	6.88	0.64	0.64	0.01
Visitor Cars and Delivery Trucks	0.06	0.06	1.00	0.26	1.06	0.00
Subtotal of On-site Combustion Emissions	**0.29**	**0.25**	**110.19**	**14.42**	**15.58**	**0.07**
On-Site Fugitive Emissions						
Diesel Generator						
Gasoline Tank				3.55		
Maintenance & Security Vehicles and Equipment - Dust	112.60	16.70				
Worker Vehicles - Dust	2.35	0.26				
Visitor Cars and Delivery Trucks - Dust	6.85	1.02				
Subtotal of On-Site Fugitive Emissions	**121.80**	**17.98**	**0**	**3.55**	**0**	**0**
Subtotal of On-Site Emissions	**122.09**	**18.23**	**110.19**	**17.97**	**15.58**	**0.07**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Worker Vehicles	0.27	0.14	47.55	1.90	5.58	0.03
Visitor Cars and Delivery Trucks	0.20	0.16	5.71	0.40	5.62	0.01
Subtotal of Off-Site Combustion Emissions	**0.47**	**0.30**	**53.26**	**2.30**	**11.21**	**0.04**
Off-Site Paved Road Fugitive Emissions						
Worker Vehicles - Dust	9.75	0.27				
Visitor Cars and Delivery Trucks - Dust	12.91	1.77				
Subtotal of Off-Site Fugitive Emissions	**22.66**	**2.04**				
Subtotal of Off-Site Emissions	**23.13**	**2.34**	**53.26**	**2.30**	**11.21**	**0.04**
Total Maximum Emissions	**145.22**	**20.57**	**163.45**	**20.27**	**26.79**	**0.11**

Source: See Attachment AQ-2, Operational Emissions Calculations.

Notes:

CO	=	carbon monoxide
NO_x	=	nitrogen oxides
PM_{10}	=	particulate matter less than 10 microns in diameter
$PM_{2.5}$	=	particulate matter less than 2.5 microns in diameter
SO_x	=	sulfur oxides
VOC	=	volatile organic compounds

Table 5.2-25b
New Estimated Annual Maximum Operational Emissions of Criteria Pollutants (tons/year)

Activity	PM_{10}	$PM_{2.5}$	CO	ROC	NO_x	SO
On-Site Operational Emissions						
On-Site Combustion Emissions						
Diesel Generator	0.0003	0.0003	0.0019	0.0007	0.0221	0.0006
Maintenance & Security Vehicles and Equipment	0.03	0.03	18.40	2.43	2.34	0.01
Worker Vehicles	0.01	0.01	1.24	0.12	0.12	0.00
Visitor Cars and Delivery Trucks	0.00	0.00	0.09	0.01	0.04	0.00
Subtotal of On-site Combustion Emissions	**0.04**	**0.04**	**19.73**	**2.56**	**2.52**	**0.01**
On-Site Fugitive Emissions						
Diesel Generator						
Gasoline Tank				0.65		
Maintenance & Security Vehicles and Equipment - Dust	20.27	3.01				
Worker Vehicles - Dust	0.42	0.05				
Visitor Cars and Delivery Trucks - Dust	0.22	0.03				
Subtotal of On-Site Fugitive Emissions	**20.91**	**3.09**	**0**	**0.65**	**0**	**0**
Subtotal of On-Site Emissions	**20.95**	**3.12**	**19.73**	**3.21**	**2.52**	**0.01**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Worker Vehicles	0.05	0.02	8.56	0.34	1.01	0.01
Visitor Cars and Delivery Trucks	0.01	0.01	0.65	0.03	0.23	0.00
Subtotal of Off-Site Combustion Emissions	**0.06**	**0.03**	**9.21**	**0.37**	**1.23**	**0.01**
Off-Site Paved Road Fugitive Emissions						
Worker Vehicles - Dust	1.75	0.05				
Visitor Cars and Delivery Trucks - Dust	0.48	0.05				
Subtotal of Off-Site Fugitive Emissions	**2.23**	**0.10**				
Subtotal of Off-Site Emissions	**2.29**	**0.13**	**9.21**	**0.37**	**1.23**	**0.01**
Total Maximum Emissions	**23.24**	**3.26**	**28.94**	**3.58**	**3.75**	**0.02**

Source: See Attachment AQ-2, Operational Emissions Calculations.

Notes:

CO = carbon monoxide
NO_x = nitrogen oxides
PM_{10} = particulate matter less than 10 microns in diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
SO_x = sulfur oxides
VOC = volatile organic compounds

Greenhouse Gas Emissions (GHG)

The Solar Two project would emit appreciably less GHG emissions than fossil-fueled power plants, and thus would contribute to improving the total GHG emissions from the California electricity system. As noted by CEC, Assembly Bill (AB) 32, "emphasizes that GHG emissions reductions must be "big picture" reductions that do not lead to "leakage" of such reductions to other states or countries. If a solar power plant is not built in California, electricity to serve the California load will come from another generating source. That could be renewable generation like wind or solar, but it could also be from higher carbon emitting sources such as out-of-state coal imports or old inefficient units that are a still a significant part of the resource mix that serves California." AB32 specifically exempts solar energy facilities from all reporting requirements, but requires all non-renewable electric generating facilities to report GHG if they have greater than 2,500 tonnes of CO2/year. State bill (SB) 1368 applies to electric generating facilities that operate more than 60% load capacity and requires CO_2 emissions to be less than 0.5 metric tons/MW-hour or 1100 lb/MW-hour. Neither AB32 nor SB1368 apply to the Solar Two Project. Although it should be noted that the operational onsite GHG emissions from stationary and mobiles sources per megawatt are approximately 1 lb/MW-hour, more than one thousand times smaller than the threshold outlined in SB1368.

Greenhouse gas emissions from on the project site during operation come from the diesel emergency generator, leakage of sulfur hexafluoride from the transmission breakers, and the maintenance and delivery vehicles. Offsite greenhouse gas emissions are due to mobile sources, commuter vehicles, visitor cars and delivery trucks.

To estimate the GHG emissions from the diesel emergency generator the emission factors from TableC.6 and C.7 in the California Climate Action Registry General Reporting Protocol (April 2008) were applied along with the fuel usage. The fuel usage was estimated based on engine size from CARB Table 1 of "Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines" (Oct 2000). The summary of the annual GHG emissions during operations from the diesel generator are provided in Table 5.2-26a New.

The GHG emission estimate from leakage of sulfur hexafluoride (SF_6) from the transmission system breakers and switches was provided in Table 5.2-27 in the AFC and has not changed. These emissions are also summarized in Table 5.2-26a New.

GHG emissions from mobile sources used for maintenance and delivery vehicles during operations were estimated and presented in Table 5.2-26a New. Table 5.2-26a New presents a summary of the maximum annual on-site and off-site Project related GHG emissions from all stationary and mobile sources during operations.

Per the request of CEC, the GHG emissions associated with the on-site and off-site mobile sources during construction were estimated and provided in the GHG summary table, Table 5.2-26b New. Similar to the methodologies used to estimate the mobile source criteria pollutant emissions, the GHG emissions factors were obtained from EMFAC2007, OFFROAD2007 and the CCAR General Reporting Protocol. The detailed emission calculations, emission factors and associated assumptions used in estimating the GHG emissions are provided in Attachments AQ-1 and AQ-2, for construction and operations, respectively.

Table 5.2-26a
New Greenhouse Gas Emission Summary - Estimated Annual Maximum Operational GHG Emissions (metric tonne/year)

Activity	CO_2	CH_4	N_2O	SF_6	CO_2e
On-Site Operational Emissions					
On-Site Combustion Emissions					
Diesel Generator	2.64	0.00	0.00		2.65
Maintenance & Security Vehicles and Equipment	891.81	0.43	0.10		930.65
Worker Vehicles	98.79	0.01	0.01		100.69
Visitor Cars and Delivery Trucks	8.55	0.00	0.00		8.68
Subtotal of On-site Combustion Emissions	**1,001.80**	**0.44**	**0.10**		**1,042.67**
On-Site Fugitive Emissions					
Potential sulfur hexafluoride (SF_6) emissions leakage emissions from proposed circuit breakers and other transmissions system equipment				0.01	271.83
Subtotal of On-Site Fugitive Emissions				**0.01**	**271.83**
Subtotal of On-Site Emissions	**1,001.80**	**0.44**	**0.10**	**0.01**	**1,314.51**
Off-Site On-Road Emissions					
Off-Site Combustion Emissions					
Worker Vehicles	593.01	0.08	0.08		618.33
Visitor Cars and Delivery Trucks	52.89	0.01	0.01		54.84
Subtotal of Off-Site Combustion Emissions	**645.90**	**0.08**	**0.08**		**673.18**
Subtotal of Off-Site Emissions	**645.90**	**0.08**	**0.08**		**673.18**
Total Maximum Emissions	**1,647.70**	**0.52**	**0.18**	**0.01**	**1,987.68**

Source: Attachment AQ-1, Operations Emissions Calculations.

Notes:

CO_2e = carbon dioxide equivalent
CO_2 = carbon dioxide
CH_4 = methane
N_2O = nitrous oxide
SF_6 = sulfur hexafluoride
tonne = metric ton

Table 5.2-26b
New Greenhouse Gas Emission Summary - Estimated Annual Maximum Construction GHG Emissions (metric tonne/year)

Activity	CO_2	CH_4	N_2O	CO_2e
On-Site Construction Emissions				
Construction Equipment	2,863.47	1.01	-	2,884.64
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	449.56	0.01	0.01	454.04
Worker Vehicles	31.46	0.00	0.00	32.18
Security Vehicles	19.36	0.00	0.00	20.53
SunCatcher Delivery Trucks	191.65	0.00	0.00	192.67
Subtotal of On-Site Emissions	**3,555.51**	**1.03**	**0.02**	**3,584.06**
Off-Site On-Road Emissions				
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	36.09	0.00	0.00	37.48
Worker Vehicles	4,194.88	0.24	0.29	4,291.06
SunCatcher Delivery Trucks	4,389.06	0.08	0.07	4,412.30
Subtotal of Off-Site Emissions	**8,620.03**	**0.33**	**0.37**	**8,740.84**
Total Maximum Annual Emissions	**12,175.54**	**1.36**	**0.39**	**12,324.90**

Source: Attachment AQ-2, Construction Emissions Calculations.

Notes:

CO_2e = carbon dioxide equivalent
CO_2 = carbon dioxide
CH_4 = methane
N_2O = nitrous oxide
tonne = metric ton

5.2.2.2b Overlapping Construction and Operations Emissions

In response to data requests 91 and 92 from the CEC, emissions from the overlap of construction activities and operational activities are examined below. It is anticipated that at month 8 in the construction schedule, the first SunCatchers will be ready to come online and produce electricity. It is anticipated that in this first month 18 MW of generation capacity would be available, then 18 MW would be added every month through month 18, and 27 MW of capacity would be added every month thereafter until full build-out of 750 MW by month 40. As the SunCatchers come online, they will need to be maintained. The quantity of maintenance vehicles required will be proportional to the megawatts of electricity generated compared to full Project build-out. Likewise, as construction continues, less construction equipment will be required, especially large earthmoving equipment as most of these activities will occur early in the construction process.

Construction emissions were estimated using the same techniques are described in Section 5.2.2.1, for the time frame determined to have peak overlap emissions. Operational emissions were determined by scaling the full build-out emissions by the percentage of capacity online in a given month. The diesel generator and gasoline tank emissions were not scaled. Detailed overlapping construction and operations emission calculations are provided in Attachment AQ-3. Construction plus operations emissions from months 13-24 were determined to have the potential for the highest annual overlapping emissions particulate emission, although months 8-19 were determined to have the highest annual overlapping emissions for NOx, SOx, CO and VOC. Construction plus operations emissions from month 8 were determined to have the potential for the highest short-term overlapping emissions. Emissions from the peak overlap periods of construction and operations are presented in Tables 5.2-27a, 2.2-27b and5.2-27c, for peak hourly, daily and annual, respectively, and calculation details are presented in Attachment AQ-3. It should be noted that these overlap emissions are lower than the peak emissions for construction alone.

Table 5.2-27a
New Estimated Maximum Hourly Construction and Operations Overlapping Emissions for Month 8 (lbs/hour)

Activity	PM_{10}	$PM_{2.5}$	CO	ROC	NO_x	SO_x
CONSTRUCTION						
On-Site Construction Emissions						
On-Site Combustion Emissions						
Construction Equipment	0.56	0.51	7.21	1.61	8.41	0.01
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.05	0.05	0.75	0.20	0.84	0.00
Worker Vehicles	0.00	0.00	0.11	0.01	0.01	0.00
Security Vehicles	0.00	0.00	0.03	0.00	0.00	0.00
SunCatcher Delivery Trucks	0.03	0.02	0.19	0.09	0.42	0.00
Subtotal of On-site Combustion Emissions	**0.63**	**0.58**	**8.30**	**1.91**	**9.69**	**0.01**
On-Site Fugitive Dust Emissions						
Construction Equipment	0.93	0.22				
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	5.28	0.71				
Worker Vehicles	0.10	0.01				
Security Vehicles	0.16	0.02				
SunCatcher Delivery Trucks	1.65	0.25				

Table 5.2-27a
New Estimated Maximum Hourly Construction and Operations Overlapping Emissions for Month 8 (lbs/hour)
(Continued)

Activity	PM_{10}	$PM_{2.5}$	CO	ROC	NO_x	SO_x
Subtotal of On-Site Fugitive Dust Emissions	**8.12**	**1.21**				
Subtotal of On-Site Emissions	**8.75**	**1.79**	**8.30**	**1.91**	**9.69**	**0.01**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.00	0.00	0.23	0.02	0.02	0.00
Worker Vehicles	0.08	0.07	18.24	1.71	1.71	0.01
SunCatcher Delivery Trucks	0.60	0.64	5.16	2.41	11.50	0.01
Subtotal of Off-Site Combustion Emissions	**0.68**	**0.71**	**23.63**	**4.15**	**13.23**	**0.03**
Off-Site Paved Road Fugitive Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.10	0.00	0.00	0.00	0.00	0.00
Worker Vehicles	1.39	0.01	0.00	0.00	0.00	0.00
SunCatcher Delivery Trucks	2.98	0.03	0.00	0.00	0.00	0.00
Subtotal of Off-Site Fugitive Emissions	**4.46**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**
Subtotal of Off-Site Emissions	**5.14**	**0.75**	**23.63**	**4.15**	**13.23**	**0.03**
Total Maximum Annual Emissions	**13.89**	**2.55**	**31.93**	**6.06**	**22.92**	**0.04**
OPERATIONS						
On-Site Operational Emissions						
On-Site Combustion Emissions						
Diesel Generator	0.00	0.00	0.00	0.00	0.04	0.00
Maintenance & Security Vehicles and Equipment	0.00	0.00	0.10	0.01	0.01	0.00
Worker Vehicles	0.00	0.00	0.01	0.00	0.00	0.00
Visitor Cars and Delivery Trucks	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal of On-site Combustion Emissions	**0.00**	**0.00**	**0.11**	**0.02**	**0.05**	**0.00**
On-Site Fugitive Emissions						
Diesel Generator						
Gasoline Tank				0.15		
Maintenance & Security Vehicles and Equipment	0.11	0.02				
Worker Vehicles	0.00	0.00	0.00	0.00	0.00	0.00
Visitor Cars and Delivery Trucks	0.01	0.00	0.00	0.00	0.00	0.00
Subtotal of On-Site Fugitive Dust Emissions	**0.12**	**0.02**		**0.15**		
Subtotal of On-Site Emissions	**0.12**	**0.02**	**0.11**	**0.16**	**0.05**	**0.00**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Worker Vehicles	0.00	0.00	0.05	0.00	0.01	0.00

Table 5.2-27a
New Estimated Maximum Hourly Construction and Operations Overlapping Emissions for Month 8 (lbs/hour)
(Continued)

Activity	PM_{10}	$PM_{2.5}$	CO	ROC	NO_x	SO_x
Visitor Cars and Delivery Trucks	0.00	0.00	0.01	0.00	0.01	0.00
Subtotal of Off-Site Combustion Emissions	**0.00**	**0.00**	**0.05**	**0.00**	**0.01**	**0.00**
Off-Site Paved Road Fugitive Emissions						
Worker Vehicles	0.01	0.00	0.00	0.00	0.00	0.00
Visitor Cars and Delivery Trucks	0.01	0.00	0.00	0.00	0.00	0.00
Subtotal of Off-Site Fugitive Emissions	0.02	0.00	0.00	0.00	0.00	0.00
Subtotal of Off-Site Emissions	0.02	0.00	0.05	0.00	0.01	0.00
Total Maximum Emissions	0.15	0.02	0.17	0.17	0.06	0.00
Construction and Operations Overlapping Emissions						
Total of On-Site Emissions Construction & Operations	**8.87**	**1.81**	**8.41**	**2.08**	**9.74**	**0.01**
Total of Off-Site Emissions Construction & Operations	**5.16**	**0.75**	**23.69**	**4.15**	**13.24**	**0.03**
Construction & Operations Overlap Total	**14.03**	**2.57**	**32.10**	**6.23**	**22.98**	**0.04**

Table 5.2-27b
New Estimated Maximum Daily Construction and Operations Overlapping Emissions for Month 8 (lbs/day)

Activity	PM_{10}	$PM_{2.5}$	CO	ROC	NO_x	SO_x
CONSTRUCTION						
On-Site Construction Emissions						
On-Site Combustion Emissions						
Construction Equipment	13.33	12.28	173.12	38.63	201.84	0.19
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	1.23	1.10	18.12	4.91	20.24	0.03
Worker Vehicles	0.01	0.01	2.64	0.25	0.25	0.00
Security Vehicles	0.00	0.00	0.76	0.02	0.01	0.00
SunCatcher Delivery Trucks	0.63	0.56	4.57	2.14	10.19	0.01
Subtotal of On-site Combustion Emissions	**15.20**	**13.95**	**199.21**	**45.95**	**232.53**	**0.24**
On-Site Fugitive Dust Emissions						
Construction Equipment	22.23	5.34				
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	126.80	17.01				
Worker Vehicles	2.28	0.31				
Security Vehicles	3.90	0.54				
SunCatcher Delivery Trucks	39.61	5.89				
Subtotal of On-Site Fugitive Dust Emissions	**194.84**	**29.09**				
Subtotal of On-Site Emissions	**210.04**	**43.05**	**199.21**	**45.95**	**232.53**	**0.24**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.01	0.01	5.54	0.47	0.42	0.00
Worker Vehicles	1.97	1.76	437.86	41.09	41.01	0.34
SunCatcher Delivery Trucks	14.32	15.27	123.80	57.93	276.09	0.30
Subtotal of Off-Site Combustion Emissions	**16.29**	**17.04**	**567.20**	**99.49**	**317.51**	**0.64**
Off-Site Paved Road Fugitive Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	2.29	0.02	0.00	0.00	0.00	0.00
Worker Vehicles	33.27	0.31	0.00	0.00	0.00	0.00
SunCatcher Delivery Trucks	71.44	0.67	0.00	0.00	0.00	0.00
Subtotal of Off-Site Fugitive Emissions	**107.00**	**1.00**	**0.00**	**0.00**	**0.00**	**0.00**
Subtotal of Off-Site Emissions	**123.29**	**18.04**	**567.20**	**99.49**	**317.51**	**0.64**
Total Maximum Annual Emissions	**333.33**	**61.08**	**766.41**	**145.44**	**550.05**	**0.88**

Table 5.2-27b
New Estimated Maximum Daily Construction and Operations Overlapping Emissions for Month 8 (lbs/day)
(Continued)

Activity	PM_{10}	$PM_{2.5}$	CO	ROC	NO_x	SO_x
OPERATIONS						
On-Site Operational Emissions						
On-Site Combustion Emissions						
Diesel Generator	0.01	0.01	0.07	0.03	0.85	0.02
Maintenance & Security Vehicles and Equipment	0.00	0.00	2.45	0.32	0.31	0.00
Worker Vehicles	0.00	0.00	0.17	0.02	0.02	0.00
Visitor Cars and Delivery Trucks	0.00	0.00	0.02	0.01	0.03	0.00
Subtotal of On-site Combustion Emissions	**0.02**	**0.02**	**2.71**	**0.37**	**1.21**	**0.02**
On-Site Fugitive Emissions						
Diesel Generator						
Gasoline Tank				3.55		
Maintenance & Security Vehicles and Equipment	2.70	0.40				
Worker Vehicles	0.06	0.01				
Visitor Cars and Delivery Trucks	0.16	0.02				
Subtotal of On-Site Fugitive Dust Emissions	**2.92**	**0.43**		**3.55**		
Subtotal of On-Site Emissions	**2.94**	**0.45**	**2.71**	**3.93**	**1.21**	**0.02**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Worker Vehicles	0.01	0.00	1.14	0.05	0.13	0.00
Visitor Cars and Delivery Trucks	0.00	0.00	0.14	0.01	0.13	0.00
Subtotal of Off-Site Combustion Emissions	**0.01**	**0.01**	**1.28**	**0.06**	**0.27**	**0.00**
Off-Site Paved Road Fugitive Emissions						
Worker Vehicles	0.23	0.01	0.00	0.00	0.00	0.00
Visitor Cars and Delivery Trucks	0.31	0.04	0.00	0.00	0.00	0.00
Subtotal of Off-Site Fugitive Emissions	**0.54**	**0.05**	**0.00**	**0.00**	**0.00**	**0.00**
Subtotal of Off-Site Emissions	**0.56**	**0.06**	**1.28**	**0.06**	**0.27**	**0.00**
Total Maximum Emissions	**3.50**	**0.50**	**3.99**	**3.98**	**1.47**	**0.02**
CONSTRUCTION AND OPERATIONS OVERLAPPING EMISSIONS						
Total of On-Site Emissions Construction & Operations	**212.98**	**43.49**	**201.92**	**49.88**	**233.74**	**0.26**
Total of Off-Site Emissions Construction & Operations	**123.85**	**18.09**	**568.48**	**99.55**	**317.78**	**0.64**
Construction & Operations Overlap Total	**336.83**	**61.59**	**770.40**	**149.42**	**551.52**	**0.90**

Table 5.2-27c
New Estimated Maximum Annual Construction and Operations Overlapping Emissions (tons/year)

Activity	PM_{10}	$PM_{2.5}$	CO	ROC	NO_x	SO_x
CONSTRUCTION						
On-Site Construction Emissions						
On-Site Combustion Emissions						
Construction Equipment	1.16	1.07	27.16	5.29	25.37	0.02
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.18	0.16	3.06	0.82	3.37	0.00
Worker Vehicles	0.002	0.001	0.40	0.04	0.04	0.00
Security Vehicles	0.001	0.001	0.14	0.00	0.00	0.00
SunCatcher Delivery Trucks	0.112	0.100	0.74	0.35	1.65	0.00
Subtotal of On-site Combustion Emissions	**1.45**	**1.33**	**31.49**	**6.50**	**30.43**	**0.03**
On-Site Fugitive Dust Emissions						
Construction Equipment	3.57	0.65				
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	17.81	2.38				
Worker Vehicles	0.29	0.04				
Security Vehicles	0.70	0.10				
SunCatcher Delivery Trucks	7.70	1.15				
Subtotal of On-Site Fugitive Dust Emissions	**30.09**	**4.31**				
Subtotal of On-Site Emissions	**31.54**	**5.64**	**31.49**	**6.50**	**30.43**	**0.03**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.00	0.00	0.93	0.08	0.07	0.00
Worker Vehicles	0.25	0.18	52.92	4.97	4.96	0.04
SunCatcher Delivery Trucks	2.58	2.31	17.41	8.15	38.83	0.04
Subtotal of Off-Site Combustion Emissions	**2.83**	**2.50**	**71.26**	**13.19**	**43.85**	**0.08**
Off-Site Paved Road Fugitive Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.27	0.04	0.00	0.00	0.00	0.00
Worker Vehicles	4.26	0.07	0.00	0.00	0.00	0.00
SunCatcher Delivery Trucks	12.86	1.73	0.00	0.00	0.00	0.00
Subtotal of Off-Site Fugitive Emissions	**17.39**	**1.84**	**0.00**	**0.00**	**0.00**	**0.00**
Subtotal of Off-Site Emissions	**20.22**	**4.34**	**71.26**	**13.19**	**43.85**	**0.08**
Total Maximum Annual Emissions	**51.75**	**9.98**	**102.75**	**19.69**	**74.29**	**0.11**

Table 5.2-27c
New Estimated Maximum Annual Construction and Operations Overlapping Emissions (tons/year)
(Continued)

Activity	PM_{10}	$PM_{2.5}$	CO	ROC	NO_x	SO_x
OPERATIONS						
On-Site Operational Emissions						
On-Site Combustion Emissions						
Diesel Generator	0.00	0.00	0.00	0.00	0.02	0.00
Maintenance & Security Vehicles and Equipment	0.01	0.01	2.89	0.38	0.37	0.00
Worker Vehicles	0.00	0.00	0.19	0.02	0.02	0.00
Visitor Cars and Delivery Trucks	0.00	0.00	0.01	0.00	0.01	0.00
Subtotal of On-site Combustion Emissions	**0.01**	**0.01**	**3.10**	**0.40**	**0.41**	**0.00**
On-Site Fugitive Emissions						
Diesel Generator						
Gasoline Tank				0.65		
Maintenance & Security Vehicles and Equipment	6.02	0.89				
Worker Vehicles	0.13	0.01				
iitor Cars and Delivery Trucks	0.07	0.01				
Subtotal of On-Site Fugitive Dust Emissions	**6.21**	**0.92**		**0.65**		
Subtotal of On-Site Emissions	**6.22**	**0.93**	**3.10**	**1.05**	**0.41**	**0.00**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Worker Vehicles	0.01	0.01	1.34	0.05	0.16	0.00
Visitor Cars and Delivery Trucks	0.00	0.00	0.10	0.00	0.04	0.00
Subtotal of Off-Site Combustion Emissions	**0.02**	**0.01**	**1.45**	**0.06**	**0.19**	**0.00**
Off-Site Paved Road Fugitive Emissions						
Worker Vehicles	0.52	0.01	0.00	0.00	0.00	0.00
Visitor Cars and Delivery Trucks	0.14	0.02	0.00	0.00	0.00	0.00
Subtotal of Off-Site Fugitive Emissions	**0.66**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**
Subtotal of Off-Site Emissions	**0.68**	**0.04**	**1.45**	**0.06**	**0.19**	**0.00**
Total Maximum Emissions	**6.90**	**0.97**	**4.55**	**1.11**	**0.61**	**0.00**
Construction and Operations Overlapping Emissions						
Total of On-Site Emissions Construction & Operations	**37.76**	**6.57**	**34.59**	**7.55**	**30.85**	**0.03**
Total of Off-Site Emissions Construction & Operations	**20.90**	**4.38**	**72.70**	**13.25**	**44.05**	**0.08**
Construction & Operations Overlap Total	**58.66**	**10.95**	**107.29**	**20.80**	**74.90**	**0.12**

Note:
- The estimated maximum annual emissions for construction and operations overlap were taken from month 13-24 for PM (PM_{10} and $PM_{2.5}$) and from month 8-19 for VOC, CO, NO_x and SO_x.

5.2.2.3 Air Quality Effects Analysis

The AERMOD model was used to predict the potential impacts from criteria pollutant emissions resulting from the Project construction and operations. Below is a discussion of the techniques used in modeling the construction and operational emission sources. Both analyses were revised from the analyses presented in the AFC, due to revisions in the data assumptions for the Project.

Construction Model and Model Option Selections

The effects of Project construction emissions impacts to off-site criteria pollutant concentrations were evaluated using the American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) (Version 07026). AERMOD was applied using the same techniques outlined in the AFC, i.e. regulatory default options were used including building and stack tip downwash, default wind speed profiles, exclusion of deposition and gravitational settling, consideration of buoyant plume rise, complex terrain, rural, and the ozone-limiting method (OLM) was used when estimate NO_2 concentrations.

Worst case modeling was conducted for short-term averaging times assuming operation of all construction equipment and fugitive dust generation from Month 6 occurred at the same time (see Section 5.2.2.1, Project Construction Emissions). Annual emissions were modeled for Months 4-15 of the construction schedule after a determination that this consecutive 12-month period will have a higher level of construction activity than any other over the full 40 months of construction accounting for the highest annual construction emissions. The modeling was performed with no downwash.

Supporting modeling files will be found on the DVD provided with this submittal.

Operations Model and Model Option Selections

For air quality permitting, only the stationary sources needs to be analyzed with air quality modeling, thus only the stationary sources were analyzed and presented in the AFC. Per the request of CEC, emissions from the on-site mobile sources during operations were included in a new air quality modeling analysis to determine if the Project would cause or contribute significantly to a violation of a CAAQS or NAAQS.

To analyze the impacts from both the stationary source and mobile sources during operations the air quality model AERMOD was utilized. The AERMOD analyses were conducted using the same techniques described in the Construction Model and Model Option Selections Section above and in the AFC. These included all regulatory default options, rural land use, and the use OLM for estimating NO_2 concentrations. The additional options used including building downwash.

The emission rate and stack parameters shown in the Table 5.2-23 Revised were used for the only stationary source, the emergency diesel generator, as a point source in the model. Mobile vehicle exhaust emissions were represented for modeling purposes as point sources and spread randomly throughout the sections of the site were maintenance activities are anticipated to occur. All point sources were given generic stack parameters representative of 50, 100, and 200 horsepower engines (CARB 2000) for forklifts, staff & visitor cars, and the rest of maintenance & delivery trucks, respectively. The assumed stack height was 0.5, 2 and 3 meters for the point sources for staff cars, off-road equipment, and maintenance trucks, respectively. Emissions of fugitive dust (PM_{10} and $PM_{2.5}$) were represented as area sources in the operations modeling.

The Solar Two facility will operate 24 hours per day, therefore emissions from all sources associated with normal project operations were assumed to occur anytime, 24 hours per day for modeling purposes. Supporting modeling files can be found on the DVD provided with these responses to the data requests.

Meteorological Data

The AERMOD modeling analyses to evaluate the potential effects of Project construction and operations used the same 5 years of hourly meteorological data described in the AFC. The data were collected at the nearest long-term meteorological station to the Project Site, the Imperial County Airport, for 1991-95.

Receptor Locations

Based on extensive experience modeling power plant construction phase effects, maximum concentrations for all pollutants due to mobile source and fugitive dust activities are expected to occur within the first 100 meters from the Project boundary. Accordingly, the receptor grids used in the AERMOD modeling analyses to evaluate construction and operational effects were as follows:

- 50-meter spacing along the fence line and extending from the fence line out to 200 meters beyond the property line, and
- 500-meter spacing from fence line to approximately 1 km beyond the property line.

Revised Figure 5.2-3 shows the placement of receptor points for the construction and operation modeling. The receptors were modified slightly from those used in the AFC so that they only extended 1 kilometer beyond the fence line and no further. Terrain heights at receptor grid points were determined from USGS digital elevation model files.

5.2.2.4 Modeling Results – Compliance with Ambient Air Quality Standards

Air dispersion modeling was performed according to the methodology described in Section 5.2.2.3, Air Quality Effects Analysis, to evaluate the maximum increase in ground-level pollutant concentrations resulting from Project stationary and mobile source emissions, and to compare the maximum predicted effects, including conservative background pollutant levels, with applicable short-term and long-term CAAQS and NAAQS. The effects from construction activities and Project operations were analyzed separately. The peak impacts for the worst construction period and total build-out normal operations were added together to show that even though this scenario would never occur, this combination would not exceed any AAQS. The entire 5-year record of hourly meteorological data was used in the AERMOD analyses of operational and construction effects.

The maximum modeled incremental increases predicted for both operations and construction for each pollutant and averaging time were added to the maximum background concentrations recorded at the most representative monitoring stations during the most recent 4 years (i.e., 2004 through 2007). These background concentrations are presented and discussed in Section 5.2.1.1, Climate and Meteorology. The resulting total pollutant concentrations were then compared with the most stringent CAAQS or NAAQS.

Construction Effects

Section 5.2.2.1, Project Construction Emissions, describes how the construction equipment schedule was used to estimate worst case emission (Month 6) conditions for the purpose of analyzing peak short-term effects to local air quality. Annual effects were modeled with all emissions that would occur during Months 4 through 15. Some notes regarding the modeling results for specific pollutants are provided below.

As reflected in the construction modeling results presented in Table 5.2-29 Revised, background concentrations of PM_{10} and $PM_{2.5}$ are above the California 24-hour standards for these pollutants and concentrations above the standards have been recorded on multiple occasions at Imperial County Monitoring Stations during recent years. Because of the land use characteristics of this area, it is highly probable that these conditions result primarily from high wind episodes,

agricultural burning or tilling activities, or other soil disturbances. The predicted contribution of the proposed construction activities would be minor by comparison with these sources, but would have the potential to temporarily contribute to existing violations of the state and federal PM_{10} and $PM_{2.5}$ standards if construction occurs during a period of high background concentrations.

Using the AERMOD air quality model with OLM predicted maximum 1-hour and annual NO_2 concentrations due to Project construction emissions which, when added to conservative background values from the nearest ICAPCD Monitoring Stations, are below the California standards for both averaging times. Likewise, the maximum predicted impacts from CO and SO_2 plus background are less than the most stringent ambient standards.

Table 5.2-29 Revised
Maximum Modeled Criteria Pollutant Effects Due to
Solar Two Project Construction Emissions

Pollutant	Averaging Period	Maximum Modeled Impact (μg/m³)	Background[1] (μg/m³)	Maximum Total Predicted Concentration (μg/m³)	Most Stringent AAQS (μg/m³)	UTM Coordinates	
						East (m)	North (m)
NO_2	1 hour[2]	88.94	133.7	222.64	339	605,924	3,626,081
	Annual[2]	1.25	24.7	25.95	57	605,593	3,626,077
SO_2	1 hour	0.09	36.7	36.79	655	605,924	3,626,081
	3 hour	0.04	26	26.04	1300	605,786	3,625,946
	24 hour	0.01	10.5	10.51	105	605,593	3,626,077
	Annual	0.001	2.7	2.70	80	605,593	3,626,077
CO	1 hour	78.32	4830	4908.32	23,000	605,924	3,626,081
	8 hour	20.60	2444	2465.00	10,000	605,593	3,626,077
PM_{10}	24 hour[3]	31.37	200	231.37	50	608,850	3,626,066
	Annual[3]	6.11	43.3	49.41	20	608,982	3,626,066
$PM_{2.5}$	24 hour[3]	4.76	74.2	78.96	35	605,782	3,626,080
	Annual[3]	0.91	9.7	10.61	12	608,982	3,626,066

Source: URS, 2009.

Notes:

[1]Background represents the maximum values measured during 2004-2007 at the most representative air quality monitoring stations, as described in Section 5.2.1.2, Existing Air Quality,

[2] Results for NO_2 during construction used an ozone limiting method with ambient ozone data collected at the El Centro 9th Street Monitoring Station for the years 1991 through 1995.

[3] $PM_{2.5}$ 24-hour and all PM_{10} background levels exceed state standards.

μg/m³ = micrograms per cubic meter
AAQS = most stringent ambient air quality standard for the averaging period
CO = carbon monoxide
NO_2 = nitrogen dioxide
PM_{10} = particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$ = particulate matter less than or equal to 2.5 microns diameter
SO_2 = sulfur dioxide
UTM = Universal Transverse Mercator

Operational Effects

As described previously, the estimated emissions used in the AERMOD model for Project operations were based on the assumption of weekly testing of the emergency diesel generator and on-site operation and maintenance vehicles and equipment shown in the Table 5.2-24 Revised and Attachment AQ-2. The maximum predicted operational effects of the Project are presented in Table 5.2-30a New, Maximum Modeled Criteria Pollutant Effects Due to Solar Two Project Operational On-site Stationary and Mobile Source Emissions. The table shows that the modeled effects due to these Project operational emissions, in combination with conservative background concentrations, would not cause a violation of any CAAQS or NAAQS and would not significantly contribute to the existing violations of the federal and state PM_{10} and $PM_{2.5}$ standards. Supporting modeling files can be found on the DVD provided with these responses to the data requests.

Table 5.2-30a
New Maximum Modeled Criteria Pollutant Effects Due to
Solar Two Project Operational On-site Stationary and Mobile Source Emissions

Pollutant	Averaging Period	Maximum Modeled Impact (μg/m³)	Background[1] (μg/m³)	Maximum Total Predicted Concentration (μg/m³)	Most Stringent AAQS (μg/m³)	UTM Coordinates	
						East (m)	North (m)
NO_2	1 hour[2]	69.18	133.7	202.88	339	605,962	3,626,887
	Annual[2]	0.23	24.7	24.93	57	606,056	3,626,888
SO_2	1 hour	1.42	36.7	38.12	655	605,962	3,626,887
	3 hour	0.85	26	26.85	1300	605,772	3,626,885
	24 hour	0.18	10.5	10.68	105	605,820	3,626,886
	Annual	0.0004	2.7	2.70	80	605,214	3,627,939
CO	1 hour	217.77	4,830	5047.77	23,000	605,593	3,626,077
	8 hour	64.48	2,444	2508.88	10,000	605,594	3,625,983
PM_{10}	24 hour[3]	5.45	200	205.45	50	605,214	3,627,939
	Annual[3]	0.96	43.3	44.26	20	605,583	3,626,883
$PM_{2.5}$	24 hour[3]	0.77	74.2	74.97	35	605,214	3,627,939
	Annual[3]	0.14	9.7	9.84	12	605,583	3,626,883

Source: URS, 2009.

Notes:

[1]Background represents the maximum values measured during 2004-2007 at the most representative air quality monitoring stations, as described in Section 5.2.1.2, Existing Air Quality,

[2] Results for NO_2 during construction used an ozone limiting method with ambient ozone data collected at the El Centro 9th Street Monitoring Station for the years 1991 through 1995.

[3] $PM_{2.5}$ 24-hour and all PM_{10} background levels exceed state standards.

μg/m³	=	micrograms per cubic meter
AAQS	=	most stringent ambient air quality standard for the averaging period
CO	=	carbon monoxide
NO_2	=	nitrogen dioxide
PM_{10}	=	particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$	=	particulate matter less than or equal to 2.5 microns diameter
SO_2	=	sulfur dioxide
UTM	=	Universal Transverse Mercator

Overlapping Construction and Operations Effects

Emissions from the overlap of construction and operations were estimated to be lower than the emissions from worst case construction alone, thus it is anticipated that the impacts from this overlapping period would also be lower than the worst-case construction impacts. Although it should be noted that if the peak impacts from the worst construction period and total build-out normal operations are added together, the impacts of this combination would not exceed any AAQS. Thus modeling of the overlapping construction and operations emissions was not conducted.

5.2.3 Cumulative Effects

CEC requirements specify that an analysis must be conducted to determine the cumulative effects of the Project and other projects within a 6-mile radius that have received construction permits but are not yet operational, or that are currently in the permitting process or expected to be in the near future. New projects with emissions less than 5 tons per year may also be excluded. There are no other such new or planned sources of criteria pollutant emissions within 6 miles of the Solar Two Project Site that have emissions greater than 5 tons per year; thus, no additional cumulative analysis will be conducted. For more information regarding the determination of potential projects for inclusion in a cumulative analysis can be found in Data Requests 107 and 108.

5.2.4 Mitigation Measures

5.2.4.1 Construction Emissions Mitigation

AIR-1

The following mitigation measures are proposed to control exhaust emissions from the diesel heavy equipment used during construction of the Solar Two Project:

- Follow a CARB requirement to shut down equipment when idling for more than minimum periods (typically five minutes);
- provide regular preventive maintenance to prevent equipment engine emission increases due to inefficient fuel combustion;
- use low sulfur and low aromatic fuel meeting California standards for motor vehicle diesel fuel; and,
- use low-emitting gas and diesel engines meeting state and federal emissions standards (Tiers I, II, and III) for construction equipment, including, but not limited to catalytic converter systems and particulate filter systems.

AIR-2

The following mitigation measures are proposed to control fugitive dust emissions during construction of the Project:

- application of the chemical dust suppressant Soiltac™ or a product with same or better performance to all on-site unpaved road and unpaved parking areas; (see DR-78 for further product discussion)
- mitigate fugitive dust emissions from wind erosion of areas disturbed from construction activities (including storage piles) by application of either water or other suppression technique;

- use vacuum-sweeping and/or water-flush paved road surfaces to remove buildup of loose material to control dust emissions from travel on the paved access road (including adjacent public streets affected by construction activities) and paved parking areas. Cleaning or resealing of the sealed roads will occur as needed to minimize potential dust emissions.;
- cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least 2 feet of freeboard;
- limit traffic speeds on all unpaved site areas to 5 miles per hour;
- install sandbags or other erosion control measures to prevent silt runoff to roadways;
- replant vegetation in disturbed areas as quickly as possible;
- use wheel washers or wash off tires of all trucks that traveled off-road before exiting construction site;
- minimize grading during construction of maintenance roads by just scraping the top soil;
- require SunCatcher material delivery trucks to travel on sealed roads only;
- Construction workers will park in sealed laydown area and are then transported to worksites in buses; and,
- Concrete bases are not expected to be constructed for the SunCatchers. The vibratory steel fin tube pedestals have been tested for all expected soil conditions on the site and are to be utilized on the SunCatcher foundations.

5.2.4.2 Operational Emissions Mitigation

AIR-3

The mitigation measures that will be implemented to mitigate the potentially adverse operations maintenance emissions are presented below.

- Application of the chemical dust suppressant Soiltac™ or a product with same or better performance to all maintenance roads. This will reduce particulate emissions. (see DR-78 for further product discussion).
- A requirement that all vehicle travel associated with maintenance activities occur only on chemically-sealed roads.
- It is anticipated that each wash vehicle will wash two (2) SunCatchers at the same time. This will reduce the number of wash vehicles needed, number of maintenance trips, idling time and vehicle miles traveled. Consequently, the air pollutant emissions of will be reduced compared to each SunCatcher being washed individually.
- Use of only one 5,000 gallon regular gasoline storage tank that incorporates CARB-certified Phase I & II vapor recovery systems. Furthermore, the tank will be filled only when necessary to reduce turnover. Truck refueling will also be kept to a minimum.
- All previously proposed diesel-fueled wash vehicles and other maintenance trucks will be replaced with new gasoline-fuel vehicles that meet California vehicle emissions standards. This will eliminate the emissions of toxic diesel particulate and reduce emissions of ozone precursors.
- All security vehicles used for site inspection and security are now planned to utilize hybrid vehicles, most likely the Toyota Highlander Hybrid sport utility vehicles (SUV) or similar vehicle. The Toyota Highlander SUV is a super ultra low emission vehicle (SULEV) that meets both Tier 2/Bin 3 Federal standards and California ULEV II standards.

- Van pooling of employees from El Centro during operations will be provided.
- Hydrogen will be produced and stored onsite and distributed to each SunCatcher. The hydrogen cylinders associated with each SunCatcher will be eliminated and replaced with a central distribution system. Thus, all hydrogen cylinder delivery truck trips would be eliminated. Moreover, less maintenance of the SunCatcher hydrogen system will be needed and will be conducted from the maintenance trucks instead of cylinder delivering trucks, thus reducing trips and VMTs.
- Use scheduled/well planned vacuum-sweeping and/or water-flushing on paved road surfaces to remove buildup of loose material to control dust emissions from travel on the paved access road and paved parking areas. Cleaning or resealing of the sealed roads will occur as needed to minimize potential dust emissions.
- Use propane-fuel fork lift and man lifts for maintenance activities requiring such equipment.
- SES is committed to a better travel demand management so as to reduce VMTs whenever and wherever possible.

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TECHNICAL AREA: AIR QUALITY

Data Request 53: Please describe the types of activities that emit combustion and fugitive dust emissions on the site currently and the quantities of those emissions that occur from those activities.

Response: Currently, the proposed Solar Two site consists of disturbed desert alluvial sands and desert flora. Current activities that emit combustion exhaust are off-road recreational vehicles and limited maintenance vehicles along the transmission line road. Off-road vehicle travel and high winds create fugitive dust emissions. Currently, the proposed project area is within a BLM limited use area. Off-road recreational vehicles are required to stay on BLM designated roads. However, it is common for vehicles to travel off-road as well. Other vehicles utilize the transmission road as well as the NAP areas. (Note: Two private parcels of land, one owned by a recreational vehicle club and one by a private landowner, are surrounded by the Project and are not a part of the Project.) One NAP area, an 80 acre parcel, is owned by a recreational vehicle club that utilizes the parcel several times during the year for intensive off-road vehicle recreational use.

The amount of off-road activity is hard to quantify, thus the fugitive dust and combustion emissions associated with these activities were not estimated.

During high wind episodes some dust may become airborne due to the natural erosion of the desert surface. The amount of dust due to erosion is primarily dependent upon the amount of disturbed surface, since this is as hard to quantify as the amount of off-road activity, fugitive dust emissions due to high wind episodes were not estimated.

TECHNICAL AREA: AIR QUALITY

Data Request 54: Please describe whether those activities will be permanently discontinued when the project is completed and estimate the reductions from the current onsite baseline emissions.

Response: Off-road vehicle use will be excluded from the entire portion of the site controlled by SES. SES however, has no control over the off-road vehicle activity in the NAP areas or along the transmission right of way located off SES property. It must be assumed that off-road activities in these areas will remain the same. In reality, it is expected that a slight reduction in off-road vehicle activity will occur in the NAP areas due to the desire of the off-road drivers to operate in open spaces away from structures that may hinder the operation of their vehicles.

A reduction in wind blown erosion of the desert will occur due to the reduction in off-road recreational vehicle travel and sealing of the road surfaces throughout the project site.

Thus at most, there will be a small net air quality benefit to the nearby area due to the reduction of the natural wind blown dust and reductions in off-road vehicle traffic.

TECHNICAL AREA: AIR QUALITY

Data Request 55: Please describe for a routine daily construction schedule the location of where the following construction materials will originate:

a. Water for fugitive dust abatement or other construction purposes,
b. Concrete for SunCatcher footings (if concrete footings used),
c. Stirling Engines for the SunCatchers,
d. SunCatcher metal support structures,
e. SunCatcher mirrors.
f. Any other raw or finished material, or waste stream, that would require more than ten truck trips per month.

Response: The daily construction routine can be considered in two overlapping stages:

- Construction of the site infrastructure including earthwork, roadways, Main Services Complex, water treatment facility and similar structures.
- Construction of the SunCatchers and their support systems.

The following identifies where the construction materials originate:

a) The primary source of water for the project will now be reclaimed water from the Seeley Waste Water Treatment Facility. This water will travel to the site through a pipeline, thus no vehicle emissions are associated with the transport of this water. (Please see the updated discussion in response to Data Requests 37 and 38.)
b) Concrete will not be used for the SunCatcher footings, although it will be used in the construction of the main services complex and miscellaneous equipment foundations. All concrete trucks will come from El Centro.
c) The Stirling engines will be manufactured in the Detroit area. These will be transported by rail to Los Angeles, then by transport truck to the SES Solar Two site.
d) The metal support structures will either come from near Phoenix or Los Angeles area.
e) The SunCatcher mirrors will originate in the Detroit area. These will be transported by rail to Los Angeles, then by transport truck to the SES Solar Two site.
f) The SunCatcher pedestals will come from Phoenix area. The azimuth and elevation drives will originate from somewhere in the Midwest. These will be transported by rail to Los Angeles, then by transport truck to the SES Solar Two site. The electrical and control systems will come from Phoenix area. General construction materials will primarily be delivered to the site during months 2-8, these will come from various locations. Occasional deliveries may occur at others times, but are expected to be less than ten truck trips per month. Note no fill removal or delivery will be needed in the construction of the Solar Two facility.

TECHNICAL AREA: AIR QUALITY

Data Request 56: For each of the materials delivery/waste removal truck trip types requested in Data Request 55a through 55f please provide the following information:

a. The types of delivery trucks that will be used to deliver these materials,
b. The number of delivery trucks on a daily basis for each of these materials, and
c. The number of miles traveled roundtrip daily for each vehicle within Imperial County for each of these materials.

Response: Table DR-56 presents the daily construction material delivery vehicle schedule and the round trip number of miles each vehicle will travel within Imperial County. It is anticipated that the same amount of delivery vehicles will arrive at the site every day for the duration of the project construction.

a) Standard container diesel powered transport trucks will deliver all of the SunCatcher materials. Diesel concrete trucks will deliver the concrete.

b) See table DR-56 below.

See table DR-56 below.

Table DR-56 Estimated Daily Construction Material Delivery Vehicles and Associated Mileage Within Imperial County

Material and Delivery Vehicle Type used within Imperial County	Number of Trucks per Day	Number of miles traveled round-trip daily per vehicle within Imperial County	Origination Location
Concrete – Concrete Truck	5 [1]	40	El Centro
Stirling Engines – Transport Truck	5	50	Detroit
SunCatcher Metal Supports– Transport Truck	10	240	Phoenix Area
SunCatcher Mirrors– Transport Truck	6	50	Detroit
Electrical and Control Systems– Transport Truck	2	240	Phoenix Area
Azimuth and Elevation Drive – Transport Truck	2	50	Midwest
SunCatcher Pedestals	3 [2]	240	Phoenix Area
General Construction Materials	3 [3]	100	Various Locations

1. Peak number of trucks per day. Concrete delivery expected to occur for 3 months.
2. Peak number of trucks per day. SunCatcher pedestal delivery expected to occur for 9 months.
3. Peak number of trucks per day. General construction materials delivery expected to occur for 7 months.

TECHNICAL AREA: AIR QUALITY

Data Request 57: Based on the calculations of truck types, number of vehicles and vehicle miles traveled within Imperial County of Data Request 56, please provide the daily criteria pollutant emissions associated with these truck emissions.

Response: A summary of the daily criteria pollutant emissions associated with the construction delivery vehicles is presented in Table 5.2-20 Revised and below in Table DR-57. Details regarding how these emissions were calculated are presented in Attachment AQ-1.

Table DR-57 Estimated Maximum Daily Emissions from Construction Material Delivery Vehicles

Activity	Daily Emission Rate (lb/day)					
	PM_{10}	$PM_{2.5}$	CO	ROC	NO_x	SO_x
On-Site Emissions						
SunCatcher Delivery Trucks Combustion Exhaust	0.77	0.69	5.63	2.64	12.56	0.01
SunCatcher Delivery Trucks Fugitive Dust	57.46	8.56				
Subtotal of On-Site Emissions	**58.23**	**9.25**	**5.63**	**2.64**	**12.56**	**0.01**
Off-Site On-Highway Emissions						
SunCatcher Delivery Trucks Combustion Exhaust	17.01	15.27	123.80	57.93	276.09	0.30
SunCatcher Delivery Trucks Fugitive Dust	130.86	0.75				
Subtotal of Off-Site Emissions	**147.87**	**16.02**	**123.80**	**57.93**	**276.09**	**0.30**
Total Maximum Daily Emissions	**206.10**	**25.27**	**129.43**	**60.56**	**288.65**	**0.31**

TECHNICAL AREA: AIR QUALITY

Data Request 58: Please describe the feasibility of significant materials deliveries, especially for the SunCatcher materials, by the rail line located on the north side of the project site. Also include in this discussion that if the current rail line is not in a usable condition for rail deliveries, what measures would need to be taken to upgrade the rail line to a usable condition.

Response: For delivery of the project components discussed in Data Request 55 that are manufactures in the Midwest, SES has discussed two rail transportation options with Union Pacific Distribution Services (UPDS) and Daniel McLaughlin, Senior Business Development Manager of Union Pacific (January 20, 2009). These are direct rail to the site and rail to the distribution center in Los Angeles with trucking to the project site.

In its current design, the existing branch line located on the north side of the Solar Two project site does not have a rail spur to accommodate the intermodal containers and rail cars that would be used for delivery of SunCatcher components. To be feasible, rail-only delivery of components to the project site would require the construction of a new rail switch and an approximate 3-mile rail spur. For SES, the construction of the new switch and rail spur for use during construction would mean the additional impacts and use of materials associated with the construction this temporary facility. This also translates into higher costs of assembling and installing the project.

An alternative proposed by Union Pacific Distribution Services is to deliver the components by rail to the existing rail container transfer facilities in Los Angeles, California. From this location, components could be offloaded, stored in a marshalling yard, and transported to the Solar Two project site by delivery truck when requested by SES. This would avoid the construction of a temporary rail spur.

One challenge to either rail option involves the question of logistics and the potential for delays in construction to bring this renewable resource on-line. Union Pacific expects the rail shipping time from the Midwest to Southern California to be about 7 days. SES is concerned that deliveries are likely to be less certain and could be delayed up to two weeks depending on the shipments on board the same train and other rail priorities over which SES would have no control or input. If there are significant delivery delays, it would make it more difficult for SES to control inventory, schedule production and insure there are no production stoppages due to material shortages. Alternatively, SES may have to maintain substantial on-site and/or drop off site inventory stockpiles that could result in inventory spoilage and pilferage which is difficult to control at a location remote from the project site.

Truck transport of the components is expected to have a shorter delivery time: 3-4 days maximum for a straight truck haul. This translates into a smaller finished goods inventory, less potential for component damage, and theft of inventory. While truck-only delivery means more control and greater likelihood of on-time delivery schedules, SES also recognizes that it is likely to result in greater emissions.

At this time, because of the need to construct a rail spur that is only required temporarily for construction, SES is opposed to using the rail-only option for shipping components to the project site.

SES would prefer not to commit to either the rail-truck or truck-only deliveries of the components discussed in Data Request 55 but to evaluate both options at the time of construction to determine which is the most effective in ensuring the project is able to come on-line in the timeframe needed by SDG&E to meet their renewable goals while having the minimal environmental impact.

TECHNICAL AREA: AIR QUALITY

Data Request 59: Please estimate the on-site unpaved road travel and corresponding unpaved road particulate emissions for all on-road construction vehicles, including employee vehicles, heavy haul delivery vehicles, crew trucks, etc. necessary to complete the construction activities throughout the project site. If the unpaved road travel increases the overall on-road vehicle travel lengths then also please estimate the additional on-site tailpipe emissions from these vehicles.

Response: The on-site fugitive dust and vehicle exhaust emissions during construction were recalculated to incorporate new construction assumptions provided by the project engineers. A summary of all construction related emissions is presented above in Tables 5.2-20 Revised and 5.2-21 Revised, and detailed construction emissions calculations are outlined in Attachment AQ-1.

TECHNICAL AREA: AIR QUALITY

Data Request 60: Please revise AFC tables 5.2-20 and 5.2-21 to reflect the additional emissions associated with construction as requested in data requests 58 and 60.

Response: AFC Tables 5.2-20 and 5.2-21 have been revised and are presented above in Section 5.2.2.1.

TECHNICAL AREA: AIR QUALITY

Data Request 61: Please identify the mitigation measures that are proposed to limit on-site operating maintenance vehicle tailpipe emissions, such as only buying new vehicles that meet California vehicle emission standards.

Response: The applicant intends to purchase only new vehicles that meet California vehicle emission standards for the on-site operational maintenance vehicles. The wash and LRU trucks and vans for car pooling will be fueled with gasoline, propane will be used for forklifts, and hybrid vehicles will be used for security. Other alternatively fueled vehicle options are still being assessed and will be considered as these vehicle types become available in the future. The applicant has also reorganized and rescheduled operational activities to reduce the number of vehicle miles traveled.

TECHNICAL AREA: AIR QUALITY

Data Request 62: Please identify why electric vehicles cannot be used in the place of diesel or gasoline on-site maintenance vehicles.

Response: Presently electric trucks, in the size required for the wash vehicles and LRU trucks are not available commercially. If electric vehicles of appropriate capacity become available, they will be considered for the wash vehicles and LRU trucks.

TECHNICAL AREA: AIR QUALITY

Data Request 63: Please identify why alternatively fueled vehicles with reduced emission profiles, cannot be used in place of diesel or gasoline on-site maintenance vehicles. In particular considering the hydrogen needs of the solar dish equipment, it would appear that hydrogen fueled equipment might be a reasonable emission reduction alternative.

Response: Presently no hydrogen fueled vehicles adequate for the wash vehicles and LRU trucks are available. As new alternative fuel vehicle technologies become available, SES will investigate the possibility of using of these for the wash vehicles and LRU trucks. Hybrid vehicles will be used by supervisory and management personnel. Electric power for larger vehicles was considered, but there are no commercially available electric large trucks.

TECHNICAL AREA: AIR QUALITY

Data Request 64: Please explain the purpose and function for the LRU maintenance trucks.

Response: The line replacement unit maintenance trucks will be used to service the power conversion units. The LRU trucks will have a boom arm that can lift a worker to the PCU for inspection or replacement as needed. If the worker determines that the engine requires replacement, the engine is hooked to the truck boom and replaced with an engine from the truck bed.

TECHNICAL AREA: AIR QUALITY

Data Request 65: Please describe why an on-road (and thus less emitting) vehicle could not be employed to provide the services necessary rather than the assumed off-road LRU vehicle that is being proposed in the AFC.

Response: The LRU trucks will now use gasoline engines that meet new on-road emission standards.

TECHNICAL AREA: AIR QUALITY

Data Request 66: Please describe the assumptions used to determine the number of operating maintenance vehicles and their daily paved and unpaved vehicle miles traveled.

Response: The assumptions for determining the number of wash and LRU trucks can be found in Data Request 68. Daily miles traveled on-site were estimated from the plot plan or data provided by the project engineers. All roads accessing the Suncatchers will be sealed with a polymeric sealant. The northern main access road and the parking lot will be paved. It was assumed that the wash and LRU trucks would spread evenly across the site to conduct maintenance activities and that each vehicle would return to the main services complex daily. The average round trip mileage for each wash and LRU truck was determined to be 7 miles as ascertained from the plot plan. The distance traveled by each forklift was estimated by the project engineers. The fence-line perimeter is approximately 20.5 miles. Each security vehicle is assumed to travel from the MSC around the perimeter, plus one trip to the center of the site and back (plus 10% for miscellaneous trips) for a total of approximately 33 miles. Staff cars, vans, visitor vehicles and delivery trucks will travel round trip along the northern main access road to the MSC and back for a total of 3 miles. The transport trailers that will bring supplies are anticipated to travel along the northern main access road to the MSC out to the center of the site and back, for a total of 10 miles.

TECHNICAL AREA: AIR QUALITY

Data Request 67: Please describe in greater detail the specific design of the diesel-fueled water tanker trucks that will be used to clean the SunCatcher dishes. Describe whether water will be towed behind the vehicle or whether the water tanks and the cleaning apparatus equipment will somehow be attached to the vehicles.

Response: The wash vehicles that will be used to clean the SunCatchers will be designed specifically for this project and will be fueled with gasoline and use new engines that meet California on-road vehicle emission specifications. They will have an integral water tank that can hold up to 2,000 gallons of demineralized water. The wash wand will be connected to the vehicle and the vehicle's engine will be used to pump the water at high pressure out of the wand.

TECHNICAL AREA: AIR QUALITY

Data Request 68: Please describe the SunCatcher dish washing requirements including:

a) How the dishes are washed, both for normal and mechanical washes;
b) Time of day for washing;
c) How long it takes each dish to be washed;
d) How many dishes can be washed per hour or shift for each mirror washing tanker truck crew;
e) The size of each wash crew; and
f) The basis for the need to wash each dish monthly.

Response: SunCatchers will be placed in the "night stow position" facing east/west during cleaning. Two SunCatchers will be cleaned at a time. For a normal wash, demineralized water will be sprayed at high pressure from the wash wand on the wash vehicle into the SunCatcher. For a mechanical wash, demineralized water will be sprayed at high pressure from the wash wand onto the SunCatcher and a maintenance person will use a brush to scrub the SunCatcher. These washing techniques are based on actual experience of washing at a facility currently operating in Albuquerque, NM.

SunCatchers may be washed at any time of day, but it is preferable to wash them during non-peak sunlight hours so that the maximum amount of solar radiation can be turned into electricity. Preferred cleaning time will be twilight or night-time.

It takes 15 minutes per SunCatcher to be cleaned for a normal wash. A mechanical wash takes 45 minutes per SunCatcher.

Daily each wash crew can clean 32 SunCatchers for a normal cleaning. Mechanical wash crews can clean 10 SunCatchers per day.

Each wash crew will consist of 2 people.

The SunCatchers need to be cleaned to preserve optimum solar radiation capture, dust impedes the ability to transfer solar radiation into electricity. Each SunCatcher will be cleaned at most once per month, up to 9 times per year with 1 of these cleaning being a mechanical scrub.

TECHNICAL AREA: AIR QUALITY

Data Request 69: The fugitive dust control method is specified as watering of paved and unpaved roads; and the only water trucks are noted to be those for dish washing and that water would be demineralized water while the dust suppression water would be raw water. Please identify why no fugitive dust water tanker trucks are identified in AFC Table 5.2-24.

Response: No water trucks will be necessary for dust control during normal operations as all roads will be paved or sealed with a polymeric sealant and there will be no off-road travel. Occasional cleaning of the paved or sealed roads will be conducted as necessary to minimize dust emissions. All maintenance and cleaning operations will occur with the vehicles staying on paved or sealed roads.

TECHNICAL AREA: AIR QUALITY

Data Request 70: Please identify why the more recent U.S. EPA AP-42 Section 13.2.2 methodology was not used to determine unpaved road dust emission factors.

Response: The SCAQMD unpaved road emission factor was used to estimate the fugitive dust emissions from travel on unpaved in the AFC. This emission factor is based on the data used to derive the EPA AP-42 Section 13.2.2 emission factor calculation method. The 2006 modification to the EPA AP-42 Section 13.2.2 emission factor calculation method only accounts for recent findings on fine particulate matter ($PM_{2.5}$) percentages of PM_{10}. Both equations are based on the same research. Since new modeling needed to be conducted due to other new data refinements from the project engineers, the EPA AP-42 Section 13.2.2 emission factor calculation method was incorporated into the new emission estimates for construction. No travel on untreated or unpaved roads is anticipated during operations.

TECHNICAL AREA: AIR QUALITY

Data Request 71: Please identify if the applicant is willing to stipulate to graveling the onsite unpaved roads to reduce the silt loading, or provide surface soils sieve data that shows that the 4 percent silt content assumption is representative of the site.

Response: The applicant will stipulate to applying a polymeric sealant on all unpaved roads located onsite such as Soiltac™ or a product with the same or better performance. These polymeric sealants are superior to gravel for dust control. There will be no unpaved or untreated roads on the site and there will be no off-road travel during operations. More specific information regarding the characteristics of the Soiltac™ is provided in the responses to Data Requests 76-78.

TECHNICAL AREA: AIR QUALITY

Data Request 72: Regardless of the emission factor calculation method used, please correct the vehicle weight assumptions as representative for the vehicle types assumed.

Response: All vehicle weights utilized in the AFC have been reevaluated and modified as needed per the revised data provided from the project engineers. New vehicle weight assumptions can be found in Attachments AQ-1 and AQ-2. for the construction and operations vehicles, respectively.

TECHNICAL AREA: AIR QUALITY

Data Request 73: Please identify why the more recent U.S. EPA AP-42 Section 13.2.1 methodology was not used to determine paved road dust emission factors.

Response: Since new modeling needed to be conducted due to other new data refinements from the project engineers, the EPA AP-42 Section 13.2.1 emission factor calculation methodology was incorporated into the new emission estimates for construction and operations that are presented above and in Attachments AQ-1 and AQ-2.

TECHNICAL AREA: AIR QUALITY

Data Request 74: Please identify why the paved road dust emission factors for similar vehicle classes are not the same between the construction and operations emission estimates.

Response: The same emission factors for similar vehicle classes have been incorporated in the new emission calculations for construction and operations presented in the beginning of these data requests and in Attachments AQ-1 and AQ-2.

TECHNICAL AREA: AIR QUALITY

Data Request 75: Please show the calculation, with all input values, used to obtain the 0.149 lb/mile paved road emission factor for heavy truck travel that is shown in Appendix V-2.

Response: As noted in Data Request 73, new modeling has been conducted due to new data refinements from the project engineers, thus the paved road emission factor for heavy truck travel that was shown in Appendix V-2 has been replaced with the EPA AP-42 Section 13.2.1 paved road emission factor. The details of the emissions calculations for construction, including the input parameters for estimating the emission factor, are presented in Attachment AQ-1.

TECHNICAL AREA: AIR QUALITY

Data Request 76: Please identify the specific polymeric dust suppressants by product name and manufacturer that would be proposed to be used to control paved and unpaved road dust emissions.

Response: The polymeric sealant that is anticipated to be used to seal all onsite unpaved roads is Soiltac™, manufactured by Soil Works, or a product with the same or better performance. Please refer to DR 78 for further information about this sealant.

TECHNICAL AREA: AIR QUALITY

Data Request 77: Please specify the extent polymeric dust suppressants will be used, or the extent the applicant is willing to stipulate use, for unpaved road dust control during project construction and operation.

Response: The polymeric sealant Soiltac™, or a product with the same or better performance, will be applied to all unpaved roads throughout the Solar Two project site to control fugitive dust during operations and construction. The application of this sealant on the roads will create a surface that will resemble pavement for the purposes of dust reduction. At the beginning of the construction phase, a substantial coating will be applied to the eastern access road, as all delivery trucks will travel along this road during construction. The coating will be reapplied as needed to minimize dust emissions. The sealant will be sprayed onto the road surface from a truck not unlike a water truck that would be used for similar dust control purposes.

TECHNICAL AREA: AIR QUALITY

Data Request 78: Please provide literature on the long-term effectiveness of the specified polymeric dust suppressant use as a paved road binding material.

Response: Soiltac™ is an acrylic-based liquid copolymer used to stabilize and solidify any soil as well as control erosion and suppress dust, manufactured by SoilWorks, LLC. Once applied to the soil, the copolymer molecules coalesce to form bonds between the soil particles. As water dissipates from the soil, a durable matrix of flexible solid mass is created. Once cured, Soiltac™ becomes:

- completely transparent, leaving the natural landscape to appear untouched,
- completely odorless,
- biodegradable,
- non-flammable and non-volatile,
- non-hazardous,
- non-corrosive and safe for all equipment,
- non-slippery and safe to walk and drive on,
- ecologically and environmentally safe,
- human, animal, marine life and vegetation safe,
- water resistant (will not break down with water),
- non-tracking & non-transferable (will not be picked up onto vehicles),
- non-leaching (will not continue to seep into the soil),
- ultraviolet ray resistant (will not break down in sunlight),
- non-dissipating (will not wash away with water once cured), and
- alkaline soil resistant (will not break down in alkaline soils).

For dust suppression, a modest application creates a 3-dimensional cap or surface crust that reacts like a paved road and can remain effective for several months or years, depending on the application rate. Soiltac™ has been successfully applied to unpaved dirt roads, construction sites, aircraft runways, helipads, and parking lots for fugitive dust control, erosion control, silt loading control and road/soil stabilization. Tests conducted by ERDC in Douglas, AZ during the period from March to August 2004, showed that depending on the application rate and length between applications, dust control efficiency ranging from 79% to 93% beyond just the application of water to unpaved roads, can be achieved in a desert environment. (Reference: Evaluation of Application Methods and Products for Mitigating Dust for Lines-of-Communication and Base Camp Operations. U.S. Army Engineer Research and Development Center (ERDC), March 2005. (http://www.soiltac.com/docs/soiltact-evaluation-of-application-methods-and-products-for-mirigating-dust.pdf)) Applicant realizes that re-application may be required to maintain dust control efficiency.

TECHNICAL AREA: AIR QUALITY

Data Request 79: Please defend the selected 85 percent watering dust control efficiency during construction for unpaved roads given the very large site unpaved road network and the seasonally high evaporation and potentially high percolation rates for the applied water.

Response A polymeric sealant, such as Soiltac™, will be applied to all unpaved roads during construction, to create a concrete-like surface that reacts like a paved road, therefore these roads can effectively be treated as paved roads to estimate fugitive dust emissions. The sealant will be reapplied as necessary to ensure a complete bond, with no gaps on the sealed road surfaces, and to ensure minimal dust emissions. Periodic washing with water of the sealed roads will occur as needed to control dust emissions, although no additional watering dust control efficiency was applied when calculating the dust emissions from these roads.

All other unpaved surfaces that construction equipment may travel over, where earthmoving activities occur or on storage piles will be watered to control fugitive dust emissions. For these surfaces a dust control efficiency of 68 percent was assumed, per SCAQMD CEQA Handbook (1993) Table 11-4, the maximum value for watering active sites 2 times daily occur during construction.

TECHNICAL AREA: AIR QUALITY

Data Request 80: Please defend the selected 90 percent watering dust control efficiency during operations for unpaved roads given the very large site unpaved road network and the seasonally high evaporation and potentially high percolation rates for the applied water.

Response: A polymeric sealant, such as Soiltac™, will be applied to all unpaved roads during operations, to create a concrete-like surface that reacts like a paved road, therefore these roads can effectively be treated as paved roads to estimate fugitive dust emissions. The sealant will be reapplied as necessary to ensure a complete bond, with no gaps on the sealed road surfaces, and to ensure minimal dust emissions. Periodic washing with water of the sealed roads will occur as needed to control dust emissions, although no additional watering dust control efficiency was applied when calculating the dust emissions from these roads.

TECHNICAL AREA: AIR QUALITY

Data Request 81: Please identify the dust control measures that will be used during operation to limit the site's paved road fugitive dust emissions, such as vacuum sweeping, water flushing, track-out controls from adjacent unpaved roads, etc.

Response: There will be approximately 2.5 miles of paved roads onsite to access the main service complex and parking area from the north site entrance. The parking lot is included in these 2.5 miles. All other roads onsite will be sealed with Soiltac™ or a product with the same or better performance, essentially paving these roads, thus track-out from these sealed roads will not occur. No regular cleaning of the paved surfaces is scheduled, but if dust from these paved or sealed roads becomes noticeable, the roads will be cleaned as needed.

TECHNICAL AREA: AIR QUALITY

Data Request 82: Please explain and defend the source of the 5 percent control efficiency applied to the on-site paved road dust emission calculations.

Response: As new detailed information was provided by the project engineers, it has become apparent that no regularly scheduled dust control activities will occur on the on-site paved roads. Periodic sweeping, washing or watering may occur on an as needed basis to reduce dirt buildup and dust emission on the on-site paved roads. Thus a control efficiency of zero percent is used in the on-site paved road dust emission calculations.

TECHNICAL AREA: AIR QUALITY

Data Request 83: Please describe how the trip distance assumptions for construction were determined for each vehicle type/use.

Response: Based on subsequent discussions with project engineers all trip distances utilized in estimating construction emissions have been revised as necessary. Distances associated with specific pieces of equipment were re-evaluated based on conversations with SES or re-measured as necessary. The onsite distances were determined from the plot plan, the offsite distances were determined using Google Earth. Detailed travel and usage assumptions for each piece of construction equipment are outlined in Attachment AQ-1 which presents the detailed construction emissions estimates.

TECHNICAL AREA: AIR QUALITY

Data Request 84: Please describe how the trip distance assumptions for operation were determined for each vehicle type/use.

Response: Based on subsequent discussions with project engineers all trip distances utilized in estimating operations emissions have been revised as necessary. Distances associated with specific vehicles and pieces of equipment were re-evaluated based on conversations with SES or re-measured as necessary. The onsite distances were determined from the plot plan, the offsite distances were determined using Google Earth. Detailed travel and usage assumptions for each vehicle and piece of equipment used during operations are outlined in Data Request 66 and in Attachment AQ-2 which presents the detailed operational emissions estimates.

TECHNICAL AREA: AIR QUALITY

Data Request 85: Please identify the increase in disturbed land within the project site and within any off-site construction laydown areas during project construction and estimate the corresponding increase in wind erosion fugitive dust emissions at the site.

Response: During the construction phase the earthmoving activities associated with constructing the main service complex will cause some land disturbance. The fugitive dust from disturbance of this land is accounted for in the construction dust emissions. Each unpaved road will be completely sealed with a polymeric sealant shortly after it is graded, as will the 25 acre off-site laydown area. The remainder of the site will remain in a natural state with limited off-road construction activities expected. Fugitive dust from these limited off-road construction activities and from the earthwork will be reduced by the application of water. The detailed emission calculations for all earthmoving, and unpaved, off-road construction travel are presented in Attachment AQ-1.

The wind erosion emissions associated with the land disturbance before construction is difficult to quantify as this disturbance comes from unauthorized recreational vehicle travel (see DR-53). All onsite recreational off-road travel will cease before construction begins, thus reducing dust emissions from land disturbance. In all, approximately 3,000 acres will be temporarily disturbed during the construction phase. The emissions from the disturbed land during construction are quantified and presented in Attachment AQ-1. Emissions from erosion of undisturbed land during the construction of project were not estimated, and will be minor compared to all other dust sources.

TECHNICAL AREA: AIR QUALITY

Data Request 86: Please identify the increase or decrease in disturbed land within the project site during operation and estimate the corresponding increase in wind erosion fugitive dust emissions at the site.

Response: In all, approximately 2,747 acres will be permanently disturbed, although most of this area will consist of roads to access the SunCatchers and will be sealed with a polymeric sealant. Therefore a decrease in land that is disturbed during operations and wind erosion fugitive dust emissions is anticipated during operations. During normal operations, no off-road activities are expected on SES properties. All onsite travel will be on unpaved roads sealed with a polymeric sealant that will act like pavement. The remainder of the site will remain in a natural, undisturbed state with no off-road activity expected during normal operations.

All onsite recreational off-road travel will cease before construction begins, thus reducing dust emissions from land disturbance from these vehicles. Fugitive dust from wind erosion will also decrease since a portion of the site will be covered by roads that are sealed where no wind erosion will occur, leaving less area in a natural state, where wind erosion may occur. The wind erosion emissions associated with the land disturbance during the project were not estimated as no land disturbance is anticipated. Emissions from erosion of undisturbed land during the operation of project were not estimated and will be minor compared to all other dust sources.

TECHNICAL AREA: AIR QUALITY

Data Request 87: Please identify methods that will be used to complete a conformity determination for the proposed project's operating PM10 emissions.

Response: The only pollutant the General Conformity regulations apply to in Imperial County is PM10 and the applicability threshold for PM10 is 70 tons per year. The revised annual project operational emissions from both onsite and offsite sources are presented in Table 5.2-25b New. The annual combined onsite and offsite operational PM10 emissions were estimated to be 23.2 tons per year, well below the Federal Conformity thresholds. The revised maximum annual construction emissions from both onsite and offsite sources are presented in Table 5.2-21 Revised, and were estimated to be 60.8 tons per year for PM10, also below the Federal Conformity thresholds. It is anticipated that there will be some overlap of construction and operational activities as discussed in Section 5.2.2.2b above. The peak annual PM10 emissions from a combination of construction emissions with some operations emissions are presented in Table 5.2-27c New, and are 58.7 tons per year, which also falls below the Federal Conformity thresholds. Therefore a Federal Conformity analysis will not be required for the Solar Two Project.

TECHNICAL AREA: AIR QUALITY

Data Request 88: Please identify the measures and mitigation that will be used to ensure that the proposed project's construction PM10 emissions do not exceed 70 tons per year, or if a revised construction emissions estimate, based on addressing staff's other data requests, indicates that the project's PM10 emissions would exceed 70 tons per year, please identify methods that will be used to complete a conformity determination for the proposed project's construction PM10 emissions.

Response: Revised maximum annual construction emissions are presented in Table 5.2.-21 Revised, and show that the onsite and offsite PM10 emissions are estimated to be 60.8 tons per year. Detailed emission calculations can be found in Attachment AQ-1.

To reduce exhaust emissions, propane will be used to fuel the forklifts and man lifts and gasoline will be used for the busses to transport worker and for the onsite pickup trucks, and SES is still investigating the use of alternatively fueled vehicles where possible for these and other construction related equipment.

The following mitigation measures are proposed to control exhaust emissions from the diesel construction equipment used during construction of the Project:

- A requirement to shut down equipment when idling for more than 5 minutes,
- Regular preventive maintenance to prevent equipment engine emission increases due to inefficient fuel combustion,
- Use of low sulfur and low aromatic fuel meeting California standards for motor vehicle diesel fuel, and
- Use of low-emitting gas and diesel engines meeting state and federal emissions standards (Tiers I, II, and III) for construction equipment, including, but not limited to catalytic converter systems and particulate filter systems.

The following mitigation measures are proposed to control fugitive dust emissions during construction of the Project.

- Application of the chemical dust suppressant Soiltac™ or a product with same or better performance to all on-site unpaved road and unpaved parking areas.
- Mitigate fugitive dust emissions from wind erosion of areas disturbed from construction activities (including storage piles) by application water or other suppression technique.

- Use vacuum-sweeping and/or water-flushing on paved road surfaces to remove buildup of loose material to control dust emissions from travel on the paved access road (including adjacent public streets affected by construction activities) and paved parking areas. Cleaning or resealing of the sealed roads will occur as needed to minimize potential dust emissions.
- Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least 2 feet of freeboard.
- Limit traffic speeds on all unpaved and/or unsealed site areas to 5 miles per hour.
- Install sandbags or other erosion control measures to prevent silt runoff to roadways
- Replant vegetation in disturbed areas as quickly as possible.
- Use wheel washers or wash off tires of all trucks that traveled off-road before exiting construction site.
- Minimize grading during construction of maintenance roads by just scraping the top soil.
- Construction workers will park in sealed laydown area and are then transported to worksites in buses.
- Pave on-site parking area near the administration building.
- Require SunCatchers material delivery trucks to travel on sealed roads only.
- Concrete bases are not expected to be constructed for the SunCatchers, vibratory steel fin tube pedestals have been tested for all expected soil conditions on the site and are to be utilized on the SunCatcher foundation.

TECHNICAL AREA: AIR QUALITY

Data Request 89: Please provide a mitigation proposal for the proposed project's direct operating criteria pollutant emissions (annual emissions of 42.4 tons of NOx, 12.6 tons of VOC, and 120.2 tons or PM10, from Table 5.2-25).

Response: The annual Project criteria pollutant operating emissions have been greatly reduced by modifications to operation procedures, vehicles, and equipment. The new emissions are presented in Table 5.2-25b New. Emissions from the only sources that need air permits, the emergency generator and the gasoline storage tank, are 0.0003 tons per year (tpy) PM10, 0.0003 tpy PM2.5, 0.022 tpy NOx, 0.001 tpy of SOx and 0.65 tpy VOC. ICAPCD does not require emission reduction credits for these sources, as they are exempt. Daily fugitive emissions from the operation of the onsite maintenance vehicles are estimated to be 121.8 pounds per day, less than the offset threshold of 137 pounds per day, therefore emission reduction credits are not required for these sources.

The revised site operations design improved the travel demand assumptions for the maintenance and delivery vehicles by drastically reducing of the trips and miles traveled by these vehicles and using more fuel-efficient and low emitting trucks. Consequently, NOx, VOC, PM10, and PM2.5 emissions from the operations maintenance will drastically decrease as compared to the first estimates. These annual operations emissions are emissions are presented in Table 5.2-25b New. Detailed emission calculations are presented in Attachment AQ-2.

The mitigation measures that will be proposed to mitigate the potentially adverse operations maintenance emissions of NOx, VOC, SOx, PM10 and PM2.5 are presented below.

- Application of the chemical dust suppressant Soiltac™ or a product with same or better performance to all maintenance roads. This will reduce particulate emissions. (see DR-78 for further product discussion).
- A requirement that all vehicle travel associated with maintenance activities occur only on chemically-sealed road.
- It is anticipated that each wash vehicle will wash two (2) SunCatchers at the same time. This will reduce the number of maintenance trips, idling time and vehicle miles traveled. Consequently, the emissions of PM10, PM2.5, NOx, SOx and VOCs will be reduced.
- Use of only one 5,000 gallon regular gasoline storage tank that incorporates CARB-certified Phase I & II vapor recovery systems. Furthermore, the tank will be filled only when necessary to reduce turnover. Truck refueling will also be kept to a minimum.
- All previously proposed diesel-fueled wash vehicles and other maintenance trucks will be replaced with new gasoline-fuel vehicles that meet California vehicle emissions standards. This will eliminate the emissions of toxic diesel particulate and reduce ozone precursor emissions.

- All security vehicles used for site inspection and security -will now be hybrid vehicles, most likely the Toyota Highlander Hybrid sport utility vehicles (SUV) or similar vehicle. The Toyota Highlander SUV is a super ultra low emission vehicle (SULEV) that meets both Tier 2/Bin 3 Federal standards and California ULEV II standards.
- Bussing of employees from the laydown areas during construction and from El Centro during operations will be provided.
- Hydrogen will be produced and stored onsite and distributed to each SunCatcher. The hydrogen will be generated from water and project or grid generated electricity. The previously proposed hydrogen cylinders associated with each SunCatcher will be eliminated and replaced with a central distribution system. Thus, all hydrogen cylinder delivery truck trips would be eliminated. Moreover, less maintenance of the SunCatcher hydrogen system will be needed and will be conducted from the maintenance trucks instead of cylinder delivering trucks, thus reducing trips and VMTs and total emissions.
- Use scheduled/well planned vacuum-sweeping and/or water-flushing on paved road surfaces to remove buildup of loose material to control dust emissions from travel on the paved access road and paved parking areas. Cleaning or resealing of the sealed roads will occur as needed to minimize potential dust emissions.
- Use propane-fuel fork lift and man lifts for maintenance activities requiring such equipment.
- Finally, SES is committed to a better travel demand management so as to reduce VMTs whenever and wherever possible and to using alternatively fueled vehicles as they become available for maintenance activities.

TECHNICAL AREA: AIR QUALITY

Data Request 90: Please provide written confirmation from the District regarding what criteria pollutant operating emissions that they will require to be mitigated with emission reduction credits

Response: On March 6, 2009, the ICAPCD provided written confirmation to the CEC regarding what criteria pollutant operating emissions they require to be mitigated with emission reduction credits. The letter is provided in Attachment AQ-4. It states that ICAPCD requires emission reduction credits from a new stationary source that has the Potential to Emit 137 pounds per day or more of nitrogen oxides, reactive organic compounds, carbon monoxide, sulfur oxides or PM10. Only the emissions in excess of 137 pounds per day require offsets. Project related stationary source emissions, including fugitive emissions, are included in the offset assessment. If the emergency generator meets the exemption requirements in Rule 207, these emissions will be exempt from the offset assessment.

TECHNICAL AREA: AIR QUALITY

Data Request 91: Please provide an integrated schedule of project construction and operation and describe what construction and operation activities would overlap.

Response: As described in Section 5.2.2.2b above, starting at approximately month 8 in the construction schedule, the first 18 MW group of SunCatchers will come online. Each month after that through month 18, an additional18 MW will come online, then until completion of construction in month 40, 27 MW groups of SunCatchers per month will come online. Operational maintenance vehicles will be needed to maintain these SunCatchers, but at a reduced quantity from full operations. The maximum annual emissions from overlapping construction and operational activities would occur during the first year of operations. These annual emissions are presented in Table 5.2-27c New and show that they are below the Federal Conformity threshold for PM10.

TECHNICAL AREA: AIR QUALITY

Data Request 92: Please provide a maximum construction and operation overlap emission estimate for maximum hourly, daily and annual emissions.

Response: As described in Section 5.2.2.2b, and presented in Tables 5.2-27a New, 5.2-27b New and 5.2-27c New, the maximum emissions from overlapping construction and operational activities were predicted to occur during the first year of operations, during months 8-19 for NOx, SOx, CO and VOC and during months 13-24 for particulate matter. In month 8 of construction, operations will begin while there is still earth moving equipment onsite, and the peak short-term overlap emissions is predicted to occur in that month.

TECHNICAL AREA: AIR QUALITY

Data Request 93: Please estimate the gasoline tank filling and vehicle refueling VOC emissions (daily and annual).

Response: The VOC emissions from the gasoline tank filling and vehicle refueling were estimated using CARB emission factors and a maximum gasoline usage of 18,000 gallons per year to be 0.65 tons per year. Table DR-93 presents the estimated VOC emissions associated with the tank venting and vehicle refueling.

Table DR-93 Estimated VOC Emissions from the Gasoline Tank and Vehicle Refueling

Description	VOC Emission Factor[1]	VOC Emissions	
	(lbs/1000 gal)	(tons/year)[2]	(lbs/day)
Working Loss[3]		0.063	0.345
Breathing Loss[3]		0.575	3.152
Vehicle Refueling - Vapor Displacement	0.74	0.007	0.036
Vehicle Refueling - Spillage	0.42	0.004	0.021
Total Vehicle Refueling		0.010	0.057
Total TOG Emissions		**0.649**	**3.555**

Note:

[1] Emission factors from CARB Emission Inventory Estimation Guidelines Section 4.10 GASOLINE DISPENSING FACILITIES (Revised May 1999).

[2] Emission estimate based on 18,000 gallon per year tank throughput.

[3] Emission estimate from EPA Tank4.0.9d model results.

TECHNICAL AREA: AIR QUALITY

Data Request 94: Please provide a description of the permitting requirements and applicable ICAPCD rules for the fuel tanks.

Response: The ICAPCD requires the filing of a Supplemental Application form for Gasoline Dispensing Facilities. This form has been filed with the ICAPCD. The application is used to comply with ICAPCD Rule 415.

From the new design information provided by the project engineers to comply with many of these Data Requests to reduce project emissions, there will be no need for diesel except for the emergency generator, which has its own tank, thus no diesel tank will be required.

TECHNICAL AREA: AIR QUALITY

Data Request 95: Please identify what emission controls will be used for tank filling (Phase I vapor recovery) and vehicle refueling (Phase II vapor recovery).

Response: The gasoline tank will have Phase I (G-70-200-C and G-97-A) vapor recovery to control emissions from tank filling and Phase II (G-70-200-C) vapor recovery to control emissions from vehicle refueling.

TECHNICAL AREA: AIR QUALITY

Data Request 96: Please identify the source and period of the ozone data (filename ElCentroOzone91to95) used in the construction emissions modeling analysis.

Response: Ozone data from 1991 through 1995 recorded at the El Centro monitoring station were used in this analysis. The text is incorrect and will be corrected.

TECHNICAL AREA: AIR QUALITY

Data Request 97: Please defend the selection of the point source locations used in the modeling analysis for the determination of maximum short-term emissions impacts.

Response: Based on information from SES and an evaluation of what activities will be occurring during the peak month (month 6), two main areas were identified as containing significant construction activity. These two areas are the Main Services Complex (MSC) where building construction will occur, and the portion of the Phase 1 area where erection of SunCatchers will occur. The SunCatcher area will incorporate site improvement (some grading and trenching) and travel of vehicles to and from the MSC. There will also be travel on the paved roads from delivery vehicles, busses, and related construction vehicles. Several structures will be erected at the MSC in months 4-7 allowing for the assembly and erection of SunCatchers onsite, thus approximately half of the equipment will be located at the MSC and the remaining equipment will be in the Phase 1 area. The transmission line will be in it's last month of construction, thus point and area sources were spread out over the final approximately 2 miles of the transmission line. There will be little to no activity on other portions of the site during Month 6 other than the eastern laydown/parking area, thus the point source locations where estimated based on the areas where these source were assumed to be operating.

TECHNICAL AREA: AIR QUALITY

Data Request 98: Please defend the stack heights used for the point sources used in the modeling analysis.

Response: Approximately half of the onsite equipment are large horsepower vehicles with high exhaust stack heights (equal to or greater than 10 feet), e.g., cranes, loaders, tractor trailers, dump trucks, graders, busses, water trucks, and bulldozers. Most of the remaining 50 percent of onsite equipment have exhaust stacks that are typically between 8 and 10 feet. The average stack height of all 129 (104 + 25 delivery trucks) onsite pieces of equipment (in month 6) is approximately 9.8 feet (3 meters), thus this value was used for all point source stack heights.

TECHNICAL AREA: AIR QUALITY

Data Request 99: Please describe if the daily emission estimates match the AFC noted daily heavy equipment construction period of 7 am to 7 pm and defend the selection of the 7 am to 4 pm period used for the construction emissions modeling.

Response: Due to changes in the project description that were added after the construction modeling analysis was completed the construction period described in the project description was different than in the modeling analysis. Since new construction modeling will be conducted to incorporate new project data and comments from other Data Requests, the appropriate daily heavy equipment construction period of 7 am to 7 pm will be used in the modeling. It should also be noted that delivery of materials, assembly and installation of the SunCatchers may occur at any time, thus emissions from these activities will be analyzed over the full 24 hour period in the model.

TECHNICAL AREA: AIR QUALITY

Data Request 100: Please provide a revised annual modeling analysis with appropriately distributed site-wide distributed construction emissions.

Response: Per the discussion in Section 5.2.2 above, the annual construction modeling analysis was revised. The results from the new analysis are presented in Table 5.2-29 Revised. The construction modeling files are included on the modeling DVD attached to these data request responses.

TECHNICAL AREA: AIR QUALITY

Data Request 101: Please provide a revised operations modeling analysis, using the AERMOD model, which includes all on-site operations emission sources.

Response: As described in Section 5.2.2 above, new operational modeling was conducted to include both the stationary source and the mobile sources expected during normal operations using AERMOD. The results of this analysis are presented in Table 5.2-30 Revised. The operational modeling files are included on the modeling DVD attached to these data request responses.

TECHNICAL AREA: AIR QUALITY

Data Request 102: Please provide calculations for the project construction greenhouse gas emissions in CO2-equivalent tons for the entire construction period, and include estimates of total fuel use by type of fuel.

Response: The greenhouse gas emissions for the maximum annual construction period are presented in Table 5.2-26b New. The maximum annual fuel use for each fuel burning type of equipment is presented in Table DR-102. The fuel usage was estimated from the total CO2e emissions per type of fuel burning equipment and the CCAR General Reporting Protocol Table C.6 (April 2008) emission factors for CO2 per gallon of fuel. Detailed emission calculations are presented in Attachment AQ-1.

Table DR-102 Maximum Annual Construction Fuel Usage Estimation Based on CO2e Emissions

Fuel Type	Annual Maximum CO_2 Emissions (tons/year)	Emission Factor (lb CO_2 /gallon fuel)	Annual Maximum Fuel Usage (gallons/year)
On-site			
Gasoline	103	19.4	10,613
Diesel (Distillate Fuel #1,2&4))	3,470	22.4	310,110
Propane	347	12.7	54,773
Off-site			
Gasoline	4,571	19.4	470,723
Diesel (Distillate Fuel #1,2&4))	4,931	22.4	440,686
Propane	0	12.7	0
Total			
Gasoline	4,674	19.4	481,336
Diesel (Distillate Fuel #1,2&4))	8,400	22.4	750,795
Propane	347	12.7	54,773

Notes:

1. Assumed 2% of worker passenger vehicles CO_2 emissions are from burning diesel; the rest of them from burning gasoline.
2. Greenhouse gas emission factor from CCAR General Reporting Protocol April 2008 Table C.6.

TECHNICAL AREA: AIR QUALITY

Data Request 103: Please provide the calculations used to derive the operating GHG emission estimate shown in Table 5.2-25, and include estimates of total fuel use by type of fuel.

Response: The annual greenhouse gas emissions from operations are presented in Table 5.2-26a New. The annual operational fuel use for each fuel burning type of equipment is presented in Table DR-103. The fuel usage was estimated from the total CO2e emissions per type of fuel burning equipment and the CCAR General Reporting Protocol Table C.6 (April 2008) emission factors for CO2 per gallon of fuel. Detailed emission calculations are presented in Attachment AQ-2.

Table DR-103 Maximum Annual Operational Fuel Usage Estimation Based on CO2e Emissions

Fuel Type	Annual Maximum CO_2 Emissions (tons/year)	Emission Factor (lb CO_2 /gallon fuel)	Annual Maximum Fuel Usage (gallons/year)
On-site			
Gasoline	806	19.4	82,995
Diesel (Distillate Fuel #1,2&4))	9	22.4	761
Propane	290	12.7	45,800
Off-site			
Gasoline	683	19.4	70,307
Diesel (Distillate Fuel #1,2&4))	29	22.4	2,611
Propane	-	12.7	-
Total			
Gasoline	1,489	19.4	153,301
Diesel (Distillate Fuel #1,2&4))	38	22.4	3,372
Propane	290	12.7	45,800

Notes:

1. Assumed 2% of worker passenger vehicles CO_2 emissions are from burning diesel; the rest of them from burning gasoline.
2. Greenhouse gas emission factor from CCAR General Reporting Protocol April 2008 Table C.6.

TECHNICAL AREA: AIR QUALITY

Data Request 104: Please provide an estimate of the annual net generation in megawatt-hours for the facility that shows the calculations and assumptions for the dish generating capacity factor and all on-site power consumption sources including dish unstowing, the water treatment plant, the administration building, the maintenance building, etc. In this estimate please also show the annual generation and annual consumption separately.

Response: Power production from the SunCatchers at the Solar Two project is based on solar insolation data published by NREL from the nearest relevant observation station, in Daggett, California. Satellite data for the Daggett area were compared to satellite observations for the Imperial Valley. NREL reported that, on average, the solar insolation in the Imperial Valley is about 4% lower than in Daggett. So the Daggett hourly solar insolation values were reduced by 4% for the Solar Two project. Then the incoming solar insolation was converted into output electricity based on data collected from the test facility at Sandia. At the Solar Two plant, each dish is estimated to produce 54 MWh per year. The Solar Two project is a 750 MW plant, thus the total annual output would be 30,000 x 54 MWh or 1,620,000 MWh.

Onsite annual power consumption for the support buildings, water treatment system and hydrogen conversion system are provided in Table DR-104. The energy needed to stow and unstow the SunCatchers will be provided from batteries located throughout the site. A trickle charge from the SunCatcher electricity production will charge these batteries.

Table DR-104 Power Consumption per Support Building or System

Power Consumption Source	MWh / year
Administration Building	1286.7
Maintenance Building	504.6
PCU Repair	2270.6
Assembly Building 1	336.4
Assembly Building 2	336.4
Assembly Building 3	336.4
Fuel Storage	52.6
Guard Shack	473
Water Treatment	252.3
Hydrogen Generation	87.6
Total	**5936.6**

TECHNICAL AREA: AIR QUALITY

Data Request 105: Please identify whether the applicant would be willing to stipulate to using a Tier 3 compliant fire pump engine if such engines are available in time for purchase.

Response: Per new project engineering data, the diesel fire water pump has been electrified. It will use power generated from the Project, grid power or power generated from the diesel emergency generator. Thus no emissions will be associated with the fire water pump. Also note that a Tier 3 engine was proposed for the diesel emergency generator in the AFC. SES is still investigating the possibility of using gasoline, or other alternative fuels for the emergency generator to further reduce emissions. For modeling purposes the emergency generator was assumed to remain diesel, as a diesel engine would produce the highest emissions of the different engine options.

TECHNICAL AREA: AIR QUALITY

Data Request 106: Please provide a localized solar heat balance for existing conditions versus the proposed project that indicates whether the project would create a new heat sink or new heat source in comparison to existing conditions.

Response: Solar radiation data collected by SES at the Solar Two site was used to estimate the annual insolation falling on the entire 6,500 acre production field, this is the total area where SunCatchers will be located. Then the fraction of this solar power that will be delivered as electricity to the grid is calculated based on the number and size of SunCatchers arrayed across the site, the insolation intercepted and reflected by these units and the various factors that govern the efficiency of the conversion to electrical energy

Solar radiation measurements at the Solar Two site were recorded at 10-minute intervals from June 27, 2008 to January 4, 2009. The accumulated insolation over this 186-day period was found to be equivalent to 2,401,283 watt/m^2/year. The portion of this solar power that occurred above the 250 watt/m^2 threshold and would thus be usable for electric power production is slightly lower, 2,353,422 watt/m^2/year. Over a site production area of 6,500 acres (26,135,641 m^2), the total incoming radiation per year is estimated as 62,759,076,131 kW-hour/year.

Each individual SunCatcher would have a diameter of 38 feet and would provide shading at ground level over an area of 105.4 square meters, including the supporting structure. Based on the measured annual incident solar power per square meter per year presented above, the usable solar energy falling on each SunCatcher is 205,689 kW-hr/dish/year and the total over all 30,000 SunCatchers would be 6,170,672,431 kW-hour/year. This is about 9.8% of the solar radiation over the entire production field. Additional efficiency factors that need to be applied to estimate the portion of this energy that would actually be converted to electrical energy include the following:

Field efficiency:	96%
Average dish efficiency:	27.5%
Dish O&M availability:	98%
High wind availability	96%
Field transmission losses	98%.

Taking these factors into account, the fraction of the usable incoming solar energy over the entire Solar Two production field that will actually be delivered as electrical energy to the grid is about 2.4%. The remaining 97.6% will be rejected as waste heat. Obviously, the fraction of conversion to electrical energy diminishes rapidly as the area considered in the calculation is expanded to include lands adjacent to the site. This simple calculation is sufficient to demonstrate that the amount of conversion from solar to electrical energy that will occur on the Solar Two site will have only a small effect on the heat balance of the site itself and a quite insignificant effect over larger areas of Imperial County.

An Excel spreadsheet showing the details of the calculations described above is provided as Attachment AQ-5.

TECHNICAL AREA: AIR QUALITY

Data Request 107: Please provide a copy of the cumulative modeling analysis, as proposed in the cumulative modeling protocol provided in the July 22nd letter regarding the air quality data adequacy items, with the addition that this modeling analysis shall include all on-site emission sources, such as the operations and maintenance tailpipe and fugitive dust emission sources. Please provide electronic copies of the cumulative impact modeling files.

Response: Through cooperation with by the Imperial County Air Pollution Control District (ICAPCD) and Imperial County Department of Planning & Building (ICDPB), the applicant identified a list of potential projects for inclusion in the cumulative analysis. The list of projects near the Solar Two Project that have recently applied for or received a new air permit or a change to an existing air permit was submitted to CEC on Feb 11, 2009, and is presented in Table DR-108. Of these projects, most (24) are farther than six miles from any portion of the Solar Two Project, as confirmed by conversations with ICAPCD and ICDPB staff. Figure DR-107 shows the locations of the projects that are closest to the Solar Two site, this includes all projects located in Seeley and Ocotillo. ICAPCD was specifically asked about the sources in Seeley and Ocotillo and sources were eliminated based on ICAPCD recommendations.

Further investigation of the Granite-Carroll project showed that Granite Construction has submitted a Conditional Use Permit and Reclamation Plan application proposing to operate a sand and gravel operation south of their existing Jimenez operation located in Ocotillo. Discussions with staff determined that the project expansion will produce less than 5 tons per year of particulate matter. Note that ICAPCD requires fugitive emissions to be estimated when determining the requirement for emission reductions credits, thus the dust emissions from this project were accounted for in this estimation. (see Data Request 90 discussion).

The remainder of the projects were for permits for temporary or emergency ICE engines or have emissions less than 5 tons per year of any criteria pollutant. Lastly, due to the proximity of the Plaster City facility, ICAPCD was asked if this facility had filed any permits to increase any emission sources, only a minor VOC source was identified as a potential new source. As VOC is not modeled, this source will not be included in a cumulative analysis. Existing facilities are not examined in the cumulative analysis since the emissions from these facilities are already accounted for in the ambient air quality data collected from nearby ARB monitoring stations, which is added to the operational modeling predictions.

The projects identified by ICAPCD and ICDPB, and listed in Table DR-108, were too far from Solar Two or had emissions less than 5 tons per year of any pollutant, thus a cumulative analysis will not be conducted for the Solar Two Project.

TECHNICAL AREA: AIR QUALITY

Data Request 108: Please provide a copy of cumulative project list to be provided by ICAPCD as noted in the July 22nd letter on the air quality data adequacy items.

Response: Table DR-108 below presents the list of projects near the Solar Two Project that have recently applied for or received a new air permit or a change to an existing air permit as provided by ICAPCD. None of these projects fell within the CEC criteria for inclusion in a cumulative analysis, thus a cumulative analysis was not conducted.

Table DR-108 Projects Considered for the Cumulative Modeling Analysis

Project Number	Project Name	Location	Note (December 2008 status)	Reason to be Eliminated from Cumulative Analysis
1	Pyramid (CUP08-0001, RP08-0001)	Imperial County	Being reviewed, resource existing water well or install a new water well utilizing approximately 1/2 acre around the existing or new well.	Outside 6 miles as determined by ICAPCD
2	Becker Properties (EXT07-0017/CUP000367)	Imperial County	Sand mining operation extension for CUP03-0036, Ext. Letter granted	Outside 6 miles as determined by ICAPCD
3	Felicity RV Storage (CUP07-0018)	Imperial County	Covered R.V. storage facility and water well installation	Outside 6 miles as determined by ICAPCD
4	BLM (CUP08-0011)	Imperial County	LTVA water well	Outside 6 miles as determined by ICAPCD
5	BLM-WATER WELL (CUP07-0016)	Imperial County	Waiting for CUP to be recorded	Outside 6 miles as determined by ICAPCD
6	DS-GP. Inc. (Sanchez Ranch) IM3-06	Imperial	Under review, Park / retention basin Elementary School Middle School Public Facilities	Outside 6 miles
7	Barioni Lake Estates, LLC IM1-05	Imperial		Outside 6 miles
8	HNR Farming IM3-05	Imperial		Outside 6 miles
9	Encanto Estates IM2-06	Imperial		Outside 6 miles
10	City of Imperial IM8-06	Imperial		Outside 6 miles
11	Castle Arch, LLC IM1-07	Imperial		Outside 6 miles
12	IID Administration District IM1-05	Imperial		Outside 6 miles
13	City of Imperial SAP Update IM1-08	Imperial		Outside 6 miles

Table DR-108 Projects Considered for the Cumulative Modeling Analysis (Continued)

Project Number	Project Name	Location	Note (December 2008 status)	Reason to be Eliminated from Cumulative Analysis
14	Allied Imperial Landfill EIR - [J&S] (GP07-0009, ZC07-0011, CUP07-0027,	Imperial	DEIR in progress	Outside 6 miles
15	Desert Spring Oasis (SP07-005, GP07-0007, TR0980, ZC07-0009)	Imperial	Recreational vehicle lot sales, water sports lot sales, estate lot sales, estate lot sales, commercial lots sales, operation of resort amenities	Outside 6 miles
16	Imperial Valley Bio Refining (TR00977)	Imperial	Major subdivision for an ethanol production facility.	Outside 6 miles
17	SO. CAL. GAS (CUP08-0015)	Imperial	Temporary construction storage yard for equipment and materials used for the construction of a 22 mile long underground natural gas pipeline	Outside 6 miles
18	Nextel (CUP06-0012)	Imperial	Approved, not recorded; consultant notified	Outside 6 miles
19	Seym-addl dwelling (CUP 06-0025)	Imperial	Approved, not recorded; consultant notified	Outside 6 miles
20	Mendez (CUP07-0020)	Imperial	Approved, awaiting CUP recordation	Outside 6 miles
21	DH Springs, LLC/Sunbeam Lake Estates SCWD1-05	Seeley, The project is located north of Ross Road and east of Drew Road, El Centro.		Residential Project and outside 6 miles
22	Mt. Signal Solar Hybrid Plant EIR- [BRG] (CUP08-0007)	2161 West Diehl Road, Seeley	EIR in progress	Project on hold indefinitely
23	DH SPRINGS LLC (EXT07-0008)	1700 West Ross Road, Seeley	One year time extension for TR00958	Residential Project and outside 6 miles
24	Wind Zero (GP08-003, SP08-0001, ZC08-0003)	334 West Highway 98, Ocotillo	Training facility for law enforcement, college, government and public with related support facilities	Training facility development, de minimis emissions
25	Granite-Carroll (RP08-004)	1352 West Imperial Highway, Ocotillo	Submitted a Conditional Use Permit for Sand & gravel operation	Annual emission increases are less than 5 tpy
26	Ocotillo RV Storage-Reynolds (GP06-009, ZC06-0010, CUP06-0041))	1085 N. Imperial Highway, Ocotillo	Storage facility for RVs and other recreational vehicles	RV storage facility, de minimis emissions

Table DR-108 Projects Considered for the Cumulative Modeling Analysis (Continued)

Project Number	Project Name	Location	Note (December 2008 status)	Reason to be Eliminated from Cumulative Analysis
27	Jr-Simplot (CUP08-0003)	Ocotillo, The project is located in a parcel located in the Mesquite Lake Specific Plan area on Harris Road boarding the Union Pacific Railroad tracks on the west side.	public noticing period	Existing fertilizer facility relocation, outside 6 miles
28	ORNI 18, LLC-ORMAT Nevada, Inc.	North of Brawley	ATC permit number: 3731A	outside 6 miles
29	Granite Construction Company	Various locations in the Imperial County	ATC permit number: 3791A Temporary PTO permit number: 3804 Temporary	Annual emission increases are less than 5 tpy for a few temporary ICE engines permitted to operate between 4 and 102 days total
30	Ocotillo Mutual Water Company	1281 4th Ave., Ocotillo, CA 92259	PTO permit number: 3819	In use ICE, emission decrease
31	Coyote Valley Mutual Water Company	1161 N. Imperial Highway, Ocotillo, CA 92259	ATC permit number: 3870	Annual emission increases are less than 5 tpy for 1 emergency generator

TECHNICAL AREA: AIR QUALITY

Data Request 109: Please provide copies of any permit application materials, other than AFC materials, submitted to the District.

Response: Copies of all material related to the permit application that have been submitted to the ICAPCD are provided in Attachment AQ-6. This material includes the general Authority to Construction application form, internal combustion engine form for the diesel emergency generator and the gasoline dispensing facility form for the gasoline tank.

TECHNICAL AREA: AIR QUALITY

Data Request 110: Please provide copies of any subsequent official submittals and correspondence to or from the District within 5 days of their submittal to or their receipt from the District.

Response: The applicant will provide CEC staff with copies of any subsequent official submittals and correspondence to or from the District within 5 days of their submittal to or their receipt from the District.

Attachment AQ-1
Construction Emissions
(March 20, 2009)

Table 5.2-20 Revised

Estimated Daily Maximum Construction Emissions of Criteria Pollutants (lbs/day)

Activity	PM_{10}	$PM_{2.5}$	CO	ROC	NO_x	SO_x
On-Site Construction Emissions						
On-Site Combustion Emissions						
Construction Equipment	16.81	15.48	246.02	48.11	277.35	0.26
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	1.34	1.20	18.96	5.30	22.12	0.03
Worker Vehicles	0.02	0.01	3.28	0.31	0.31	0.003
Security Vehicles	0.004	0.004	0.763	0.020	0.011	0.004
Suncatcher Delivery Trucks	0.77	0.69	5.63	2.64	12.56	0.01
Subtotal of On-site Combustion Emissions	**18.95**	**17.40**	**274.67**	**56.38**	**312.35**	**0.31**
On-Site Fugitive Emissions						
Construction Equipment	29.37	6.80				
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	150.06	19.64				
(March 20, 2009)	2.84	0.38				
Security Vehicles	3.90	0.54				
Suncatcher Delivery Trucks	57.46	8.56				
Subtotal of On-Site Fugitive Emissions	**243.63**	**35.92**				
Subtotal of On-Site Emissions	**262.58**	**53.31**	**274.67**	**56.38**	**312.35**	**0.31**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.01	0.01	5.54	0.47	0.42	0.002
Worker Vehicles	2.45	1.76	437.86	41.09	41.01	0.34
Suncatcher Delivery Trucks	17.01	15.27	123.80	57.93	276.09	0.30
Subtotal of Off-Site Combustion Emissions	**19.47**	**17.04**	**567.20**	**99.49**	**317.51**	**0.64**
Off-Site Paved Road Fugitive Dust Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	2.29	0.01				
Worker Vehicles	41.39	0.24				
Suncatcher Delivery Trucks	130.86	0.75				
Subtotal of Off-Site Fugitive Emissions	**174.54**	**1.00**				
Subtotal of Off-Site Emissions	**194.00**	**18.04**	**567.20**	**99.49**	**317.51**	**0.64**
Total Maximum Daily Emissions	**456.58**	**71.35**	**841.87**	**155.87**	**629.86**	**0.95**

Table 5.2-21 Revised

Estimated Maximum Annual Construction Emissions of Criteria Pollutants (tons/year)

Activity	PM_{10}	$PM_{2.5}$	CO	ROC	NO_x	SO_x
On-Site Construction Emissions						
On-Site Combustion Emissions						
Construction Equipment	2.24	2.07	32.25	6.56	34.58	0.03
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.223	0.199	3.278	0.891	3.679	0.005
Worker Vehicles	0.002	0.002	0.420	0.039	0.039	0.000
Security Vehicles	0.001	0.001	0.137	0.004	0.002	0.001
Suncatcher Delivery Trucks	0.113	0.102	0.824	0.386	1.839	0.002
Subtotal of On-site Combustion Emissions	**2.58**	**2.37**	**36.91**	**7.88**	**40.14**	**0.04**
On-Site Fugitive Dust Emissions						
Construction Equipment	4.52	0.96				
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	23.19	3.08				
(March 20, 2009)	0.36	0.05				
Security Vehicles	0.70	0.10				
Suncatcher Delivery Trucks	7.58	1.13				
Subtotal of On-Site Fugitive Emissions	**36.36**	**5.31**				
Subtotal of On-Site Emissions	**38.94**	**7.68**	**36.91**	**7.88**	**40.14**	**0.04**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.00	0.00	1.00	0.08	0.08	0.00
Worker Vehicles	0.31	0.23	55.94	5.25	5.24	0.04
Suncatcher Delivery Trucks	2.59	2.33	18.88	8.83	42.10	0.05
Subtotal of Off-Site Combustion Emissions	**2.91**	**2.55**	**75.82**	**14.17**	**47.42**	**0.09**
Off-Site Paved Road Fugitive Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.41	0.06				
Worker Vehicles	5.29	0.09				
Suncatcher Delivery Trucks	13.23	1.79				
Subtotal of Off-Site Fugitive Emissions	**18.93**	**1.93**				
Subtotal of Off-Site Emissions	**21.84**	**4.49**	**75.82**	**14.17**	**47.42**	**0.09**
Total Maximum Annual Emissions	**60.78**	**12.17**	**112.72**	**22.05**	**87.56**	**0.13**

Table 5.2-26b New

Estimated Annual Maximum Construction Greenhouse Gases Emissions (metric tonnes/year)

Activity	CO_2	CH_4	N_2O	CO_2e
On-Site Construction Emissions				
On-Site Combustion Emissions				
Construction Equipment	2,863.47	1.01	-	2,884.64
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	449.56	0.01	0.01	454.04
Worker Vehicles	31.46	0.00	0.00	32.18
Security Vehicles	19.36	0.00	0.00	20.53
Suncatcher Delivery Trucks	191.65	0.00	0.00	192.67
Subtotal of On-site Combustion Emissions	**3,555.51**	**1.03**	**0.02**	**3,584.06**
On-Site Fugitive Dust Emissions				
Construction Equipment				
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)				
Worker Vehicles				
Security Vehicles				
Suncatcher Delivery Trucks				
Subtotal of On-Site Fugitive Emissions				
Subtotal of On-Site Emissions	**3,555.51**	**1.03**	**0.02**	**3,584.06**
Off-Site On-Road Emissions				
Off-Site Combustion Emissions				
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	36.09	0.00	0.00	37.48
Worker Vehicles	4,194.88	0.24	0.29	4,291.06
Suncatcher Delivery Trucks	4,389.06	0.08	0.07	4,412.30
Subtotal of Off-Site Combustion Emissions	**8,620.03**	**0.33**	**0.37**	**8,740.84**
Off-Site Paved Road Fugitive Emissions				
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)				
Worker Vehicles				
Suncatcher Delivery Trucks				
Subtotal of Off-Site Fugitive Emissions				
Subtotal of Off-Site Emissions	**8,620.03**	**0.33**	**0.37**	**8,740.84**
Total Maximum Annual Emissions	**12,175.54**	**1.36**	**0.39**	**12,324.90**

Table DR-102
Estimated Annual Maximum Construction Emissions of Greenhouse Gases by Fuel Type

Fuel Type	Annual Maximum CO_2 Emissions (tons/year)	Emission Factor (lb CO_2/gallon fuel)	**Annual Maximum Fuel Usage (gallons/year)**
On-site			
Gasoline	103	19.42	10,613
Diesel (Distillate Fuel #1,2&4))	3,470	22.38	310,110
Propane	347	12.65	54,773
Off-site			
Gasoline	4,571	19.42	470,723
Diesel (Distillate Fuel #1,2&4))	4,931	22.38	440,686
Propane	-	12.65	-
Total			
Gasoline	4,674	19.42	481,336
Diesel (Distillate Fuel #1,2&4))	8,400	22.38	750,795
(March 20, 2009)	347	12.65	54,773

Notes:

[1.] Assumed 2% of worker passenger vehicles CO_2 emissions are from burning diesel; the rest of them from burning gasoline.

[2.] Greenhouse gas emission factor from CCAR General Reporting Protocol April 2008 Table C.6.

Construction Trade Projection (750 MW)

Discipline	Hours	Month After Construction Start																																				Highest Per Day Requirement by Solar Two During Project	El Centro Total Available for the Project
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40		
Carpenters	83,472	10	14	31	31	31	43	47	40	36	28	28	28	21	11	11	10	10	10	10	10	10	10	10	10	10	10	10	0	0	0	0	0	0	0	0	0	0	0	0	47	80
Concrete Crews	81,008	9	15	29	29	29	46	46	42	36	24	24	24	21	11	11	10	10	10	10	10	10	10	10	10	10	10	10	0	0	0	0	0	0	0	0	0	0	0	0	46	140
Electricians	212,010	17	28	57	57	57	84	84	60	54	54	54	54	69	69	113	105	105	88	48	48	44	44	44	44	44	44	44	44	44	44	44	44	44	44	0	0	0	0	0	113	210
Ironworkers	100,330	19	23	41	41	41	44	48	36	32	24	24	24	36	26	26	25	25	10	10	10	10	10	10	10	10	10	10	0	0	0	0	0	0	0	0	0	0	0	0	48	130
Laborers	153,557	17	43	65	62	62	142	142	68	30	30	30	30	56	41	51	46	46	32	22	17	17	17	17	17	17	17	17	10	10	10	10	10	10	10	10	0	0	0	0	142	540
Miscellaneous Crews	10,000	0	0	0	0	0	10	10	10	10	10	10	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	630
Operators	205,183	25	82	93	75	75	86	86	72	59	51	51	51	84	88	67	61	52	34	34	27	26	25	25	25	25	25	25	2	2	2	2	2	2	2	2	1	1	1	1	88	190
Plumbers	25,040	0	5	9	9	9	22	26	26	22	14	14	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	100
Solar Two Technicians	145,920	0	0	0	0	0	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	N/A
SunCatcher Assemblers	371,200	0	0	0	0	0	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	N/A
(March 20, 2009)	92,800	0	0	0	0	0	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	N/A
SunCatcher Ironworkers	185,600	0	0	0	0	0	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	N/A
SunCatcher Laborers	58,880	0	0	0	0	0	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	0	0	0	0	0	0	0	0	0	0	0	16	16	16	16	16	16	16	16	16	N/A
SunCatcher Material Handlers	92,800	0	0	0	0	0	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	N/A
SunCatcher Operators	29,440	0	0	0	0	0	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	0	8	8	8	8	8	8	8	8	8	N/A
SunCatcher Teamsters	44,160	0	0	0	0	0	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	0	0	0	0	0	0	0	0	0	0	0	12	12	12	12	12	12	12	12	12	N/A
SunCatcher Technicians	185,600	0	0	0	0	0	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	N/A
Teamsters	65,160	4	60	49	24	24	25	25	7	5	5	5	5	31	53	29	28	26	24	24	4	4	3	3	3	3	3	3	1	1	1	1	1	1	1	1	1	1	1	0	60	680
Technicians	3,504	0	0	0	0	0	5	5	5	5	5	5	5	5	1	1	1	1	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	5	60
Totals	**2,145,663**	**101**	**270**	**374**	**328**	**328**	**719**	**731**	**578**	**501**	**457**	**457**	**457**	**535**	**512**	**521**	**498**	**487**	**420**	**370**	**339**	**314**	**312**	**312**	**312**	**312**	**312**	**312**	**249**	**249**	**249**	**249**	**249**	**285**	**285**	**285**	**230**	**230**	**230**	**230**	**228**	**813**	**2,760**

Source: Bureau of Labor Statistics, 2008.

Note:

N/A = not applicable

14417 total personnel for 40 months
360 avg monthly personnel
731 max monthly personnel

Construction Equipment Projection (750 MW)
Revised Table 5.2-19

					Month After Construction Start																																							
Construction Equipment Description	HP	D	G	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Air Compressor	50	X			1	1	1	1	3	3	3	3	2	2	2	2	2	2	2	2	1	1																						
Asphalt Paver	120	X				1																																						
Backhoe	120	X			3	9	5	5	5	6	6	5	4	4	4	4	4	4	4	4	1	1	1																					
Compactor	120	X			1	3	3	3	3	3	3	3	3	3	3	3	3	2	2	2																								
Crane small	175	X			1	3	4	5	5	8	8	8	7	6	6	6	8	8	6	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Crane large	500	X						3	3	3	1													3	3	3	3	3																
Dozer	250	X			1	1	1	1	1	1	1	1	1				1	1	1	1																								
Generator	50	X			1	1	1	2	2	4	4	4	6	6	6	6	3	3	3	3	3	2	2	2	2	2	1	1	1															
Grader	175	X			1	3	3	3	3	3	2	2	1				2	2	1	1																								
Light Tower	50	X						1	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1																			
(March 20, 2009)	250	X			1	3	3	4	4	4	3	3	2	1	1	1	3	3	3	2	1																							
Maxi Sneeker (Trencher)	50	X				2	2	2	2	5	5	4	4	4	4	4	5	5	5	5	5	2	2	1																				
Skid Steer (Bobcat)	50	X				1	1	2	2	4	3	3	2	2	2	2	4	4	4	4	4																							
Welding Machine	50	X				1	2	3	4	4	4	4	4	4	4	3	3	3	3	2	1	1	1																					
Equipment fueled with Propane																																												
Aerial Lift	120			X	2	5	5	5	6	6	5	3	3	2	2	2	4	5	5	5	5	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	5	5	5	5	5	5	5
Fork Lift	50			X	2	5	7	7	7	8	8	8	8	8	8	8	8	9	6	6	6	6	6	5	5	5	5	5	5	5	5	5	5	5										
Telehandler	120			X			1	1	2	5	4	3	3	3	3	3	4	7	5	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Vehicles with Onroad Engines for Emissions Estimates																																												
Busses	175		X		4	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	4	4	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Concrete Pump	250	X			2	5	5																																					
Dump Truck	250	X			3	8	7	6	4	4	4	3					3	2	2																									
Flatbed Truck	250	X			2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	7	7	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	2	2	2	2	2
Staff & Security Truck	187	/			5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Pickup Truck	175		X		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Water/Soiltac Truck	250	X			4	14	8	8	6	6	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3	1	1	1	1	1	1	1	1	1	1	1	1	0
General Materials Delivery Trucks	250	X				3	3	3	3	3	3	3																																
Suncatcher Pedestals Delivery Trucks	250	X						3	3	3	1													3	3	3	3	3																
Total					44	99	92	98	100	115	104	96	86	81	81	80	93	96	88	82	69	53	52	51	50	48	47	47	41	40	40	38	38	38	33	33	33	36	36	32	32	32	32	31

Construction Equipment Description	1-12	2-13	3-14	4-15	5-16	6-17	7-18	8-19	9-20	10-21	11-22	12-23	13-24	14-25	15-26	16-27	17-28	18-29	19-30	20-31	21-32	22-33	23-34	24-35	25-36	26-37	27-38	28-39	29-40
Air Compressor	24	25	26	27	28	26	24	21	18	16	14	12	10	8	6	4	2	1	0	0	0	0	0	0	0	0	0	0	0
Asphalt Paver	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Backhoe	60	61	56	55	54	50	45	40	35	31	27	23	19	15	11	7	3	2	1	0	0	0	0	0	0	0	0	0	0
Compactor	34	36	35	34	33	30	27	24	21	18	15	12	9	6	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0
Crane small	67	74	79	81	81	81	77	73	69	66	64	62	60	56	52	50	49	48	48	48	48	48	48	48	48	48	48	48	48
Crane large	10	10	10	10	7	4	1	0	3	6	9	12	15	15	15	15	15	15	15	15	12	9	6	3	0	0	0	0	0
Dozer	9	9	9	9	9	8	7	6	5	4	4	4	4	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Generator	43	45	47	49	50	51	49	47	45	41	37	32	27	25	22	19	16	13	11	9	7	5	3	2	1	0	0	0	0
Grader	21	22	21	19	17	14	11	9	7	6	6	6	6	4	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Light Tower	17	19	21	23	24	23	22	21	20	19	17	15	13	11	9	7	5	4	3	2	1	0	0	0	0	0	0	0	0
(March 20, 2009)	30	32	32	32	30	27	23	20	17	15	14	13	12	9	6	3	1	0	0	0	0	0	0	0	0	0	0	0	0
Maxi Sneeker (Trencher)	38	43	46	49	52	55	52	49	46	42	38	34	30	25	20	15	10	5	3	1	0	0	0	0	0	0	0	0	0
Skid Steer (Bobcat)	24	28	31	34	36	38	34	31	28	26	24	22	20	16	12	8	4	0	0	0	0	0	0	0	0	0	0	0	0
Welding Machine	37	40	42	43	42	39	36	33	29	25	21	17	14	11	8	5	3	2	1	0	0	0	0	0	0	0	0	0	0
Equipment fueled with Propane																													
Aerial Lift	46	48	48	48	48	47	43	40	39	38	38	38	38	36	33	30	27	24	24	24	24	24	27	30	33	36	39	42	45
Fork Lift	84	90	94	93	92	91	89	87	84	81	78	75	72	69	65	64	63	62	61	55	50	45	40	35	30	25	20	15	10
Telehandler	28	32	39	43	46	47	45	44	44	44	44	44	44	43	39	37	36	36	36	36	36	36	36	36	36	36	36	36	36
Vehicles with Onroad Engines for Emissions Estimates																													
Busses	70	72	72	72	72	71	69	67	63	59	55	51	47	43	39	35	31	28	26	24	24	24	24	24	24	24	24	24	24
Concrete Pump	12	10	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dump Truck	39	39	33	28	22	18	14	10	7	7	7	7	7	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Flatbed Truck	101	108	108	108	108	108	106	104	101	98	95	92	89	86	83	80	77	74	73	72	72	72	72	72	68	64	60	56	52
Staff & Security Truck	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
Pickup Truck	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
Water/Soiltac Truck	70	70	60	56	52	50	48	48	48	48	47	46	45	44	43	42	39	36	33	30	27	24	22	20	18	16	14	12	11
General Materials Delivery Trucks	21	21	18	15	12	9	6	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Suncatcher Pedestals Delivery Trucks	10	10	10	10	7	4	1	0	3	6	9	12	15	15	15	15	15	15	15	15	12	9	6	3	0	0	0	0	0
Total	1,076	1,125	1,122	1,118	1,102	1,071	1,009	957	912	876	843	809	776	724	668	620	576	545	530	511	493	476	464	453	438	429	421	413	406

HP=horsepower
G=gasoline
D=diesel P=propane max 115

max : 1,125

CONSTRUCTION VEHICLES REQUIREMENTS

Description	Activity	Make / Model	Fuel	Quantity	Frequency	Horse-power	Vehicle Weight (tons)	Max Daily Onsite Distance per Vehicle (mile/day)	Assumed distance percentage to drive on onsite sealed roads	Assumed distance percentage to drive on onsite unpaved roads	Assumed distance percentage to drive on onsite paved roads	Max Daily Offsite Round-trip Distance per Vehicle within Imperial County (mile/day)	Travel to and from
Busses	Shuttle between laydown area and main construction area	Bus	Gasoline	variable	Daily	175	12	12	0%	0%	100%	10	Laydown area
Concrete Pump Truck			Diesel	variable	Daily	250	20	6	0%	8%	82%	40	El Centro
Dump Truck			Diesel	variable	Daily	250	20	7	50%	50%	0%	0	on-site only
Flatbed Truck			Diesel	variable	Daily	250	10	28	100%	0%	0%	0	on-site only
Staff & Security Truck	Site Inspections & Security	Toyota Highlander or similar	Gasoline - Hybrid	5	Daily	187	2.25	33	100%	0%	0%	0	on-site only
Pickup Truck			Gasoline	variable	Daily	175	4	12	95%	5%	0%	0	on-site only
Water /Soiltac Truck			Diesel	variable	Daily	250	20	12	25%	75%	0%	0	on-site only
Worker Passenger Vehicles	Community to Work	Passenger vehicles	Gasoline & diesel	variable	Daily	100	2	0.3	100%	0%	0%	40	El Centro
General Construction Materials	Delivery trucks	transport truck	Diesel	variable	Daily	250	20	6	0%	0%	100%	100	Various locations
Suncatcher Delivery Trucks	Suncatcher Pedestals	transport truck	Diesel	variable	Daily	250	20	13	55%	0%	45%	240	Phoenix Area
	Stirling Engines	transport truck	Diesel	5	Daily	250	20	6	0%	0%	100%	50	Detroit
	Suncatcher Metal Supports	transport truck	Diesel	10	Daily	250	20	6	0%	0%	100%	240	Phoenix Area
	Suncatcher Mirrors	transport truck	Diesel	6	Daily	250	20	6	0%	0%	100%	50	Detroit
	Electrical and Control Systems	transport truck	Diesel	2	Daily	250	20	6	0%	0%	100%	240	Phoenix Area
	Azimuth and Elevation Drive	transport truck	Diesel	2	Daily	250	20	6	0%	0%	100%	50	Midwest

Note:

Vehicles with variable quantities, the quantity per month can be found in Table 5.2-19 Construction Equipment Projection
Deliveries coming from Midwest (Detroit and elsewhere) will travel by rail to Los Angeles then by transport truck to the site
Average distance from main service complex to center of east or west portion of the site is 3.5 miles thus the average round trip distance each maintenance vehicle travels is 7 miles
Bus circuit is 11 miles (6 miles onsite, 5 miles offsite) - each bus does this loop twice a day
East access road will be heavily sealed and is 3.5 miles, the sealant will be applied in sufficient quantity that the road can be washed as needed. Thus this road will be considered the same as the paved northern access road for emissions estimates.
North access road and MSC parking area will be paved, route is 1.5 miles
All deliveries will travel an onsite loop starting near east laydown area traveling to the MSC then to the north exit, the loop will consist of 3.5 miles eastern access road + 1 (delivery area) miles + 1.5 miles northern
Construction laydown area is sealed
Each flatbed truck is assumed to make 4 trips per day to SunCatcher instalation locations delivering assembled dishes and misc parts
The fenceline perimeter is approximately 20.5 miles. Each security vehicle is assumed to travel from the MSC around the perimeter plus one trip to the center of the site and back (plus 10% for misc trips) = 33 mile

Annual Onsite Combustion Emissions

Maximum annual construction equipment activity occurs in months 4-15.

Construction Assumptions - 30 days per month

Equipment	Number of Vehicles per year	Hours/Day	Emission rate per piece of equipment (lb/hr)										Annual Emissions (ton/year)									
			PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
Diesel Construction Equipment																						
Air Compressor	27	6	0.027	0.025	0.283	0.120	0.240	0.000	22.251	0.011	0.000	22.478	0.06	0.06	0.66	0.28	0.56	0.00	51.91	0.03	0.00	52.44
Asphalt Paver	0	7	0.069	0.064	0.413	0.135	0.796	0.001	54.450	0.012	0.000	54.706	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Backhoe	55	7	0.055	0.051	0.366	0.099	0.606	0.001	51.682	0.009	0.000	51.869	0.30	0.28	1.99	0.54	3.30	0.00	281.41	0.05	0.00	282.43
Compactor	34	7	0.067	0.062	0.422	0.128	0.777	0.001	58.936	0.012	0.000	59.178	0.23	0.21	1.45	0.44	2.66	0.00	201.98	0.04	0.00	202.81
Crane small	81	5	0.056	0.052	0.490	0.127	0.984	0.001	80.272	0.011	0.000	80.514	0.35	0.32	3.07	0.80	6.17	0.01	503.26	0.07	0.00	504.77
Crane large	10	7	0.073	0.067	0.716	0.191	1.876	0.002	179.940	0.017	0.000	180.302	0.07	0.07	0.74	0.20	1.94	0.00	185.70	0.02	0.00	186.07
Dozer	9	8	0.083	0.076	0.604	0.215	2.050	0.002	165.982	0.019	0.000	166.390	0.09	0.08	0.63	0.22	2.13	0.00	172.09	0.02	0.00	172.51
(March 20, 2009)	49	9	0.029	0.027	0.294	0.116	0.310	0.000	30.595	0.010	0.000	30.815	0.19	0.18	1.92	0.76	2.02	0.00	199.69	0.07	0.00	201.12
Grader	19	7	0.082	0.076	0.744	0.184	1.437	0.001	123.810	0.017	0.000	124.159	0.17	0.16	1.55	0.38	3.00	0.00	258.29	0.03	0.00	259.02
Light Tower	23	9	0.028	0.026	0.303	0.113	0.283	0.000	27.964	0.010	0.000	28.179	0.09	0.08	0.98	0.37	0.91	0.00	90.30	0.03	0.00	91.00
Loader	32	7	0.060	0.055	0.443	0.158	1.631	0.002	148.843	0.014	0.000	149.142	0.19	0.17	1.40	0.50	5.17	0.01	471.53	0.05	0.00	472.48
Maxi Sneeker (Trencher)	49	9	0.042	0.039	0.446	0.193	0.366	0.000	32.888	0.017	0.000	33.253	0.28	0.26	2.95	1.27	2.42	0.00	217.56	0.12	0.00	219.97
Skid Steer (Bobcat)	34	7	0.024	0.022	0.261	0.089	0.250	0.000	25.496	0.008	0.000	25.665	0.08	0.07	0.88	0.30	0.84	0.00	85.82	0.03	0.00	86.39
Welding Machine	43	5	0.029	0.027	0.305	0.127	0.275	0.000	25.935	0.011	0.000	26.175	0.10	0.09	1.06	0.44	0.96	0.00	90.33	0.04	0.00	91.17
Equipment fueled with Propane	0																					
Aerial Lift	48	6	0.003	0.003	1.410	0.006	0.222	0.000	31.235	0.048	0.000	32.239	0.01	0.01	5.60	0.02	0.88	0.00	124.14	0.19	0.00	128.13
Fork Lift	93	4	0.002	0.002	0.294	0.003	0.137	0.000	18.295	0.027	0.000	18.859	0.01	0.01	1.47	0.02	0.69	0.00	91.88	0.13	0.00	94.71
Telehandler	43	6	0.003	0.003	1.410	0.006	0.222	0.000	31.235	0.048	0.000	32.239	0.01	0.01	5.89	0.02	0.93	0.00	130.55	0.20	0.00	134.74
Vehicles with Onroad Engines for Emissions Estimates																						
Busses	72	12	0.000	0.000	0.092	0.008	0.007	0.000	3.683	0.000	0.000	3.826	0.00	0.00	1.20	0.10	0.09	0.00	47.74	0.00	0.01	49.58
Concrete Pump Truck	0	12	0.002	0.002	0.014	0.006	0.030	0.000	3.486	0.000	0.000	3.505	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	28	12	0.002	0.002	0.016	0.007	0.035	0.000	4.067	0.000	0.000	4.089	0.01	0.01	0.08	0.04	0.18	0.00	20.50	0.00	0.00	20.61
Flatbed Truck	108	12	0.009	0.008	0.063	0.030	0.142	0.000	16.269	0.000	0.000	16.355	0.17	0.15	1.23	0.58	2.75	0.00	316.27	0.01	0.00	317.94
Staff & Security Truck	60	24	0.000	0.000	0.006	0.000	0.000	0.000	0.988	0.000	0.000	1.048	0.00	0.00	0.14	0.00	0.00	0.00	21.35	0.00	0.00	22.63
Pickup Truck	120	12	0.000	0.000	0.023	0.002	0.002	0.000	1.888	0.000	0.000	1.931	0.00	0.00	0.49	0.05	0.05	0.00	40.77	0.00	0.00	41.71
Water/Soiltac Truck	56	12	0.004	0.003	0.027	0.013	0.061	0.000	6.972	0.000	0.000	7.009	0.04	0.03	0.27	0.13	0.61	0.00	70.28	0.00	0.00	70.65
Worker Passenger Vehicles	4083	12	0.000	0.000	0.001	0.000	0.000	0.000	0.047	0.000	0.000	0.048	0.00	0.00	0.42	0.04	0.04	0.00	34.68	0.00	0.00	35.48
Delivery Transport Trucks																						
General Materials Delivery T	15	24	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.752	0.01	0.00	0.04	0.02	0.08	0.00	9.41	0.00	0.00	9.46
Suncatcher Pedestals Delive	10	24	0.002	0.002	0.015	0.007	0.033	0.000	3.777	0.000	0.000	3.797	0.01	0.01	0.05	0.02	0.12	0.00	13.60	0.00	0.00	13.67
Stirling Engines	60	24	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.752	0.02	0.02	0.15	0.07	0.33	0.00	37.65	0.00	0.00	37.85
Suncatcher Metal Supports	120	24	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.752	0.04	0.04	0.29	0.14	0.66	0.00	75.30	0.00	0.00	75.70
Suncatcher Mirrors	72	24	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.752	0.02	0.02	0.18	0.08	0.39	0.00	45.18	0.00	0.00	45.42
Electrical and Control Systen	24	24	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.752	0.01	0.01	0.06	0.03	0.13	0.00	15.06	0.00	0.00	15.14
Azimuth and Elevation Drive	24	24	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.752	0.01	0.01	0.06	0.03	0.13	0.00	15.06	0.00	0.00	15.14
											Total		**2.58**	**2.37**	**36.91**	**7.88**	**40.14**	**0.04**	**3919.28**	**1.13**	**0.02**	**3950.75**

Number of Vehicles per year = sum of monthly daily maximum vehicle usage for the peak 12 months
delivery trucks can arrive at the site anytime during the day or night

Short-term Onsite Combustion Emissions

Highest activity occurs in month 6.

construction schedule = 12 hours per day 7 am to 7 pm pedestal installation = 16 hours per day

delivery trucks can arrive at the site anytime during the day or night

Equipment	Load Factor	Hours/Day	Horsepower	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
				Emission factors (ton/hr)									
Diesel Construction Equipment													
Air Compressor	0.48	6	50	1.35E-05	1.25E-05	1.42E-04	5.99E-05	1.20E-04	1.44E-07	1.11E-02	5.40E-06	0.00E+00	1.12E-02
Asphalt Paver	0.62	7	120	3.47E-05	3.19E-05	2.07E-04	6.75E-05	3.98E-04	3.19E-07	2.72E-02	6.09E-06	0.00E+00	2.74E-02
Backhoe	0.55	7	120	2.77E-05	2.55E-05	1.83E-04	4.96E-05	3.03E-04	3.03E-07	2.58E-02	4.47E-06	0.00E+00	2.59E-02
Compactor	0.56	7	120	3.36E-05	3.09E-05	2.11E-04	6.39E-05	3.89E-04	3.46E-07	2.95E-02	5.77E-06	0.00E+00	2.96E-02
Crane small	0.43	5	175	2.81E-05	2.59E-05	2.45E-04	6.37E-05	4.92E-04	4.52E-07	4.01E-02	5.75E-06	0.00E+00	4.03E-02
Crane large	0.43	7	500	3.63E-05	3.34E-05	3.58E-04	9.56E-05	9.38E-04	8.83E-07	9.00E-02	8.62E-06	0.00E+00	9.02E-02
Dozer	0.64	8	250	4.15E-05	3.82E-05	3.02E-04	1.08E-04	1.02E-03	9.34E-07	8.30E-02	9.70E-06	0.00E+00	8.32E-02
(March 20, 2009)	0.74	9	50	1.46E-05	1.35E-05	1.47E-04	5.80E-05	1.55E-04	1.98E-07	1.53E-02	5.23E-06	0.00E+00	1.54E-02
Grader	0.61	7	175	4.11E-05	3.78E-05	3.72E-04	9.21E-05	7.19E-04	6.97E-07	6.19E-02	8.31E-06	0.00E+00	6.21E-02
Light Tower	0.78	9	50	1.41E-05	1.30E-05	1.52E-04	5.67E-05	1.42E-04	1.81E-07	1.40E-02	5.12E-06	0.00E+00	1.41E-02
Loader	0.55	7	250	3.00E-05	2.76E-05	2.22E-04	7.89E-05	8.16E-04	8.37E-07	7.44E-02	7.11E-06	0.00E+00	7.46E-02
Maxi Sneeker (Trencher)	0.75	9	50	2.10E-05	1.94E-05	2.23E-04	9.63E-05	1.83E-04	2.13E-07	1.64E-02	8.69E-06	0.00E+00	1.66E-02
Skid Steer (Bobcat)	0.55	7	50	1.19E-05	1.09E-05	1.30E-04	4.46E-05	1.25E-04	1.65E-07	1.27E-02	4.02E-06	0.00E+00	1.28E-02
Welding Machine	0.45	5	50	1.47E-05	1.35E-05	1.52E-04	6.34E-05	1.37E-04	1.68E-07	1.30E-02	5.72E-06	0.00E+00	1.31E-02
Equipment fueled with Propane				**Emission factors (ton/hr)**									
Aerial Lift	0.46	6	120	1.39E-06	1.39E-06	7.05E-04	2.85E-06	1.11E-04	0.00E+00	1.56E-02	2.39E-05	0.00E+00	1.61E-02
Fork Lift	0.3	4	50	8.14E-07	8.14E-07	1.47E-04	1.60E-06	6.85E-05	0.00E+00	9.15E-03	1.34E-05	0.00E+00	9.43E-03
Telehandler	0.54	6	120	1.39E-06	1.39E-06	7.05E-04	2.85E-06	1.11E-04	0.00E+00	1.56E-02	2.39E-05	0.00E+00	1.61E-02
Vehicles with Onroad Engines for Emissions Estimates	Onsite Miles per Day Travelled per Vehicle			**Emission factors (g/mile)**									
Busses	12	12	175	6.60E-02	4.63E-02	4.19E+01	3.57E+00	3.17E+00	1.70E-02	1.67E+03	1.20E-01	2.00E-01	1.74E+03
Concrete Pump Truck	6	12	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03
Dump Truck	7	12	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03
Flatbed Truck	28	12	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03
Staff & Security Truck	33	24	187	1.00E-02	1.00E-02	2.10E+00	5.50E-02	3.00E-02	1.00E-02	3.26E+02	5.00E-02	6.00E-02	3.46E+02
Pickup Truck	12	12	175	5.80E-02	4.18E-02	1.04E+01	9.73E-01	9.71E-01	8.00E-03	8.57E+02	5.00E-02	6.00E-02	8.77E+02
Water/Soiltac Truck	12	12	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03
Worker Passenger Vehicles	0.3	12	NA	5.80E-02	4.18E-02	1.04E+01	9.73E-01	9.71E-01	8.00E-03	8.57E+02	5.00E-02	6.00E-02	8.77E+02
Delivery Transport Trucks													
General Materials Delivery Trucks	6	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03
Suncatcher Pedestals Delivery Truck	13	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03
Stirling Engines	6	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03
Suncatcher Metal Supports	6	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03
Suncatcher Mirrors	6	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03
Electrical and Control Systems	6	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03
Azimuth and Elevation Drive	6	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03

Equipment	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
	Emission rate per piece of equipment (lb/hr)									
Diesel Construction Equipment										
Air Compressor	0.027	0.025	0.283	0.120	0.240	0.000	22.251	0.011	0.00	22.48
Asphalt Paver	0.069	0.064	0.413	0.135	0.796	0.001	54.450	0.012	0.00	54.71
Backhoe	0.055	0.051	0.366	0.099	0.606	0.001	51.682	0.009	0.00	51.87
Compactor	0.067	0.062	0.422	0.128	0.777	0.001	58.936	0.012	0.00	59.18
Crane small	0.056	0.052	0.490	0.127	0.984	0.001	80.272	0.011	0.00	80.51
Crane large	0.073	0.067	0.716	0.191	1.876	0.002	179.940	0.017	0.00	180.30
Dozer	0.083	0.076	0.604	0.215	2.050	0.002	165.982	0.019	0.00	166.39
(March 20, 2009)	0.029	0.027	0.294	0.116	0.310	0.000	30.595	0.010	0.00	30.82
Grader	0.082	0.076	0.744	0.184	1.437	0.001	123.810	0.017	0.00	124.16
Light Tower	0.028	0.026	0.303	0.113	0.283	0.000	27.964	0.010	0.00	28.18
Loader	0.060	0.055	0.443	0.158	1.631	0.002	148.843	0.014	0.00	149.14
Maxi Sneeker (Trencher)	0.042	0.039	0.446	0.193	0.366	0.000	32.888	0.017	0.00	33.25
Skid Steer (Bobcat)	0.024	0.022	0.261	0.089	0.250	0.000	25.496	0.008	0.00	25.67
Welding Machine	0.029	0.027	0.305	0.127	0.275	0.000	25.935	0.011	0.00	26.18
Equipment fueled with Propane										
Aerial Lift	0.003	0.003	1.410	0.006	0.222	0.000	31.235	0.048	0.000	32.24
Fork Lift	0.002	0.002	0.294	0.003	0.137	0.000	18.295	0.027	0.000	18.86
Telehandler	0.003	0.003	1.410	0.006	0.222	0.000	31.235	0.048	0.000	32.24
Vehicles with Onroad Engines for Emissions Estimates										
Busses	0.000	0.000	0.092	0.008	0.007	0.000	3.683	0.000	0.000	3.83
Concrete Pump Truck	0.002	0.002	0.014	0.006	0.030	0.000	3.486	0.000	0.000	3.50
Dump Truck	0.002	0.002	0.016	0.007	0.035	0.000	4.067	0.000	0.000	4.09
Flatbed Truck	0.009	0.008	0.063	0.030	0.142	0.000	16.269	0.000	0.000	16.35
Staff & Security Truck	0.000	0.000	0.006	0.000	0.000	0.000	0.988	0.000	0.000	1.05
Pickup Truck	0.000	0.000	0.023	0.002	0.002	0.000	1.888	0.000	0.000	1.93
Water/Soiltac Truck	0.004	0.003	0.027	0.013	0.061	0.000	6.972	0.000	0.000	7.01
Worker Passenger Vehicles	0.000	0.000	0.001	0.000	0.000	0.000	0.047	0.000	0.000	0.05
Delivery Transport Trucks										
General Materials Delivery Trucks	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.75
Suncatcher Pedestals Delivery Truck	0.002	0.002	0.015	0.007	0.033	0.000	3.777	0.000	0.000	3.80
Stirling Engines	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.75
Suncatcher Metal Supports	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.75
Suncatcher Mirrors	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.75
Electrical and Control Systems	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.75
Azimuth and Elevation Drive	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.75

Equipment	Quantity Mo 1	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
	Month 1 Daily Emissions (lb/day)										
Diesel Construction Equipment											
Air Compressor	1	0.16	0.14	1.63	0.69	1.38	0.00	128.17	0.06	0.00	129.47
Asphalt Paver	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Backhoe	3	1.10	1.01	7.24	1.96	12.01	0.01	1023.30	0.18	0.00	1027.01
Compactor	1	0.45	0.42	2.83	0.86	5.22	0.00	396.05	0.08	0.00	397.68
Crane small	1	0.29	0.27	2.53	0.66	5.08	0.00	414.21	0.06	0.00	415.45
Crane large	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dozer	1	0.64	0.59	4.64	1.65	15.74	0.01	1274.74	0.15	0.00	1277.88
(March 20, 2009)	1	0.26	0.24	2.61	1.03	2.75	0.00	271.69	0.09	0.00	273.64
Grader	1	0.60	0.55	5.44	1.35	10.52	0.01	906.29	0.12	0.00	908.85
Light Tower	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loader	1	0.40	0.36	2.92	1.04	10.77	0.01	982.36	0.09	0.00	984.34
Maxi Sneeker (Trencher)	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Skid Steer (Bobcat)	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Welding Machine	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equipment fueled with Propane											
Aerial Lift	2	0.03	0.03	15.57	0.06	2.45	0.00	344.83	0.53	0.00	355.91
Fork Lift	2	0.01	0.01	2.11	0.02	0.99	0.00	131.72	0.19	0.00	135.78
Telehandler	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vehicles with Onroad Engines for Emissions Estimates											
Busses	4	0.01	0.00	4.43	0.38	0.34	0.00	176.80	0.01	0.02	183.63
Concrete Pump Truck	2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
Dump Truck	3	0.08	0.07	0.57	0.27	1.27	0.00	146.42	0.00	0.00	147.19
Flatbed Truck	2	0.21	0.19	1.52	0.71	3.40	0.00	390.45	0.01	0.01	392.52
Staff & Security Truck	5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
Pickup Truck	10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
Water/Soiltac Truck	4	0.18	0.16	1.31	0.61	2.91	0.00	334.67	0.01	0.01	336.44
Worker Passenger Vehicles	67	0.00	0.00	0.46	0.04	0.04	0.00	38.13	0.00	0.00	39.01
Delivery Transport Trucks											
General Materials Delivery Trucks	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Pedestals Delivery Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stirling Engines	5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
Suncatcher Metal Supports	10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
Suncatcher Mirrors	6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
Electrical and Control Systems	2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
Azimuth and Elevation Drive	2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
Total	**136**	**5.03**	**4.60**	**63.73**	**13.68**	**84.97**	**0.09**	**8434.47**	**1.64**	**0.09**	**8497.75**

Equipment	Quantity Mo 2	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
	Month 2 Daily Emissions (lb/day)										
Diesel Construction Equipment											
Air Compressor	1	0.16	0.14	1.63	0.69	1.38	0.00	128.17	0.06	0.00	129.47
Asphalt Paver	1	0.52	0.48	3.07	1.00	5.92	0.00	405.11	0.09	0.00	407.01
Backhoe	9	3.29	3.02	21.72	5.89	36.02	0.04	3069.89	0.53	0.00	3081.04
Compactor	3	1.35	1.25	8.50	2.58	15.67	0.01	1188.15	0.23	0.00	1193.03
Crane small	3	0.87	0.80	7.59	1.97	15.23	0.01	1242.62	0.18	0.00	1246.36
Crane large	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dozer	1	0.64	0.59	4.64	1.65	15.74	0.01	1274.74	0.15	0.00	1277.88
(March 20, 2009)	1	0.26	0.24	2.61	1.03	2.75	0.00	271.69	0.09	0.00	273.64
Grader	3	1.80	1.66	16.33	4.05	31.56	0.03	2718.87	0.37	0.00	2726.54
Light Tower	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loader	3	1.19	1.09	8.77	3.12	32.30	0.03	2947.09	0.28	0.00	2953.01
Maxi Sneeker (Trencher)	2	0.76	0.70	8.02	3.47	6.59	0.01	591.99	0.31	0.00	598.56
Skid Steer (Bobcat)	1	0.16	0.14	1.72	0.59	1.65	0.00	168.28	0.05	0.00	169.39
Welding Machine	1	0.16	0.15	1.65	0.68	1.48	0.00	140.05	0.06	0.00	141.35
Equipment fueled with Propane											
Aerial Lift	5	0.08	0.08	38.91	0.16	6.13	0.00	862.08	1.32	0.00	889.78
Fork Lift	5	0.03	0.03	5.28	0.06	2.46	0.00	329.30	0.48	0.00	339.46
Telehandler	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vehicles with Onroad Engines for Emissions Estimates											
Busses	6	0.01	0.01	6.64	0.57	0.50	0.00	265.21	0.02	0.03	275.44
Concrete Pump Truck	5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
Dump Truck	8	0.21	0.19	1.52	0.71	3.40	0.00	390.45	0.01	0.01	392.52
Flatbed Truck	9	0.94	0.85	6.86	3.21	15.29	0.02	1757.03	0.03	0.03	1766.33
Staff & Security Truck	5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
Pickup Truck	10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
Water/Soiltac Truck	14	0.63	0.56	4.57	2.14	10.19	0.01	1171.35	0.02	0.02	1177.56
Worker Passenger Vehicles	180	0.01	0.00	1.23	0.12	0.12	0.00	101.93	0.01	0.01	104.27
Delivery Transport Trucks											
General Materials Delivery Trucks	3	0.07	0.06	0.49	0.23	1.09	0.00	125.50	0.00	0.00	126.17
Suncatcher Pedestals Delivery Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stirling Engines	5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
Suncatcher Metal Supports	10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
Suncatcher Mirrors	6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
Electrical and Control Systems	2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
Azimuth and Elevation Drive	2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
	304	**13.81**	**12.65**	**160.18**	**36.48**	**216.69**	**0.22**	**20749.63**	**4.36**	**0.15**	**20887.92**

Diesel Construction Equipment	Quantity Mo 21	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
	Month 21 Daily Emissions (lb/day)										
Air Compressor	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Paver	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Backhoe	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Compactor	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crane small	4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
Crane large	3	1.50	1.38	14.77	3.95	38.71	0.04	3713.95	0.36	0.00	3721.43
Dozer	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generator	2	0.52	0.48	5.22	2.06	5.50	0.01	543.38	0.19	0.00	547.28
Grader	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light Tower	1	0.26	0.24	2.84	1.06	2.65	0.00	261.75	0.10	0.00	263.76
Loader	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maxi Sneeker (Trencher)	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Skid Steer (Bobcat)	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Welding Machine	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equipment fueled with Propane											
Aerial Lift	2	0.03	0.03	15.57	0.06	2.45	0.00	344.83	0.53	0.00	355.91
Fork Lift	5	0.03	0.03	5.28	0.06	2.46	0.00	329.30	0.48	0.00	339.46
Telehandler	3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
Vehicles with Onroad Engines for Emissions Estimates											
Busses	2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81
Concrete Pump Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flatbed Truck	6	0.63	0.56	4.57	2.14	10.19	0.01	1171.35	0.02	0.02	1177.56
Staff & Security Truck	5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
Pickup Truck	10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
Water Truck	4	0.18	0.16	1.31	0.61	2.91	0.00	334.67	0.01	0.01	336.44
Worker Passenger Vehicles	209	0.01	0.01	1.43	0.13	0.13	0.00	118.55	0.01	0.01	121.26
Delivery Transport Trucks											
General Materials Delivery Trucks	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Pedestals Delivery Trucks	3	0.15	0.13	1.06	0.50	2.37	0.00	271.92	0.01	0.00	273.36
Stirling Engines	5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
Suncatcher Metal Supports	10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
Suncatcher Mirrors	6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
Electrical and Control Systems	2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
Azimuth and Elevation Drive	2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
TOTALS	**284**	**5.10**	**4.66**	**99.38**	**15.69**	**101.55**	**0.10**	**10833.10**	**2.91**	**0.10**	**10925.64**

Diesel Construction Equipment	Quantity Mo 22	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
	Month 22 Daily Emissions (lb/day)										
Air Compressor	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Paver	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Backhoe	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Compactor	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crane small	4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
Crane large	3	1.50	1.38	14.77	3.95	38.71	0.04	3713.95	0.36	0.00	3721.43
Dozer	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generator	2	0.52	0.48	5.22	2.06	5.50	0.01	543.38	0.19	0.00	547.28
Grader	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light Tower	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loader	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maxi Sneeker (Trencher)	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Skid Steer (Bobcat)	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Welding Machine	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equipment fueled with Propane											
Aerial Lift	2	0.03	0.03	15.57	0.06	2.45	0.00	344.83	0.53	0.00	355.91
Fork Lift	5	0.03	0.03	5.28	0.06	2.46	0.00	329.30	0.48	0.00	339.46
Telehandler	3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
Vehicles with Onroad Engines for Emissions Estimates											
Busses	2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81
Concrete Pump Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flatbed Truck	6	0.63	0.56	4.57	2.14	10.19	0.01	1171.35	0.02	0.02	1177.56
Staff & Security Truck	5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
Pickup Truck	10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
Water Truck	3	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
Worker Passenger Vehicles	208	0.01	0.01	1.43	0.13	0.13	0.00	117.79	0.01	0.01	120.49
Delivery Transport Trucks											
General Materials Delivery Trucks	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Pedestals Delivery Trucks	3	0.15	0.13	1.06	0.50	2.37	0.00	271.92	0.01	0.00	273.36
Stirling Engines	5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
Suncatcher Metal Supports	10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
Suncatcher Mirrors	6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
Electrical and Control Systems	2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
Azimuth and Elevation Drive	2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
TOTALS	**281**	**4.79**	**4.38**	**96.20**	**14.47**	**98.17**	**0.10**	**10486.93**	**2.82**	**0.10**	**10577.00**

Diesel Construction Equipment	Quantity Mo 23	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
	Month 23 Daily Emissions (lb/day)										
Air Compressor	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Paver	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Backhoe	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Compactor	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crane small	4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
Crane large	3	1.50	1.38	14.77	3.95	38.71	0.04	3713.95	0.36	0.00	3721.43
Dozer	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generator	1	0.26	0.24	2.61	1.03	2.75	0.00	271.69	0.09	0.00	273.64
Grader	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light Tower	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loader	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maxi Sneeker (Trencher)	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Skid Steer (Bobcat)	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Welding Machine	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equipment fueled with Propane											
Aerial Lift	2	0.03	0.03	15.57	0.06	2.45	0.00	344.83	0.53	0.00	355.91
Fork Lift	5	0.03	0.03	5.28	0.06	2.46	0.00	329.30	0.48	0.00	339.46
Telehandler	3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
Vehicles with Onroad Engines for Emissions Estimates											
Busses	2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81
Concrete Pump Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flatbed Truck	6	0.63	0.56	4.57	2.14	10.19	0.01	1171.35	0.02	0.02	1177.56
Staff & Security Truck	5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
Pickup Truck	10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
Water Truck	3	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
Worker Passenger Vehicles	208	0.01	0.01	1.43	0.13	0.13	0.00	117.79	0.01	0.01	120.49
Delivery Transport Trucks											
General Materials Delivery Trucks	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Pedestals Delivery Trucks	3	0.15	0.13	1.06	0.50	2.37	0.00	271.92	0.01	0.00	273.36
Stirling Engines	5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
Suncatcher Metal Supports	10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
Suncatcher Mirrors	6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
Electrical and Control Systems	2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
Azimuth and Elevation Drive	2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
TOTALS	**280**	**4.53**	**4.14**	**93.59**	**13.44**	**95.42**	**0.09**	**10215.24**	**2.72**	**0.10**	**10303.36**

Diesel Construction Equipment	Quantity Mo 24	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
	Month 24 Daily Emissions (lb/day)										
Air Compressor	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Paver	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Backhoe	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Compactor	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crane small	4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
Crane large	3	1.50	1.38	14.77	3.95	38.71	0.04	3713.95	0.36	0.00	3721.43
Dozer	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generator	1	0.26	0.24	2.61	1.03	2.75	0.00	271.69	0.09	0.00	273.64
Grader	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light Tower	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loader	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maxi Sneeker (Trencher)	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Skid Steer (Bobcat)	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Welding Machine	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equipment fueled with Propane											
Aerial Lift	2	0.03	0.03	15.57	0.06	2.45	0.00	344.83	0.53	0.00	355.91
Fork Lift	5	0.03	0.03	5.28	0.06	2.46	0.00	329.30	0.48	0.00	339.46
Telehandler	3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
Vehicles with Onroad Engines for Emissions Estimates											
Busses	2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81
Concrete Pump Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flatbed Truck	6	0.63	0.56	4.57	2.14	10.19	0.01	1171.35	0.02	0.02	1177.56
Staff & Security Truck	5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
Pickup Truck	10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
Water Truck	3	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
Worker Passenger Vehicles	208	0.01	0.01	1.43	0.13	0.13	0.00	117.79	0.01	0.01	120.49
Delivery Transport Trucks											
General Materials Delivery Trucks	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Pedestals Delivery Trucks	3	0.15	0.13	1.06	0.50	2.37	0.00	271.92	0.01	0.00	273.36
Stirling Engines	5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
Suncatcher Metal Supports	10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
Suncatcher Mirrors	6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
Electrical and Control Systems	2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
Azimuth and Elevation Drive	2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
TOTALS	**280**	**4.53**	**4.14**	**93.59**	**13.44**	**95.42**	**0.09**	**10215.24**	**2.72**	**0.10**	**10303.36**

Notes:

Emission factors from CARB Off-road Mobile Source Emission Factors (2006-2020) for diesel and propane equipment. (2009 data used).

Dozer = Crawler Tractor

Loaders = Rubber tired loaders

Backhoe = Tractors/Loaders/Backhoes

Light Tower = Other Construction Equipment

Utilization Load Factors from SCAQMD

$PM_{2.5}$ emission factors obtained by multiplying the PM_{10} emissions by $PM_{2.5}$ fraction in CEIDARS list for onroad or offroad diesel vehicles.

For propane equipment assumed $PM_{2.5}$ and PM_{10} Fraction of total PM is 1.000

Onroad vehicle emissions from EMFAC2007 model

CH_4 and N_2O emission factors for the onroad vehicles are from reference source 2: Table C.5, California Climate Action Registry General Reporting Protocol Version 3.0, April 2007

The emissions of "Toyota Highlander Hybrid" meet the Tier 2/Bin 3 Federal emissions standard (reference source 3) and its performance is 27 mile/gallon in city (from Toyota website)

SO_2 emission factors for the Toyota Highlander Hybrid are from EMFAC2007- Light-Duty Trucks (LDT2-CAT).

CO_2 GWP (SAR, 1996) = 1
CH_4 GWP (SAR, 1996) = 21
N_2O GWP (SAR, 1996) = 310

Month 3 Daily Emissions (lb/day)

Quantity Mo 3	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
1	0.16	0.14	1.63	0.69	1.38	0.00	128.17	0.06	0.00	129.47
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	1.83	1.68	12.07	3.27	20.01	0.02	1705.49	0.30	0.00	1711.69
3	1.35	1.25	8.50	2.58	15.67	0.01	1188.15	0.23	0.00	1193.03
4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.64	0.59	4.64	1.65	15.74	0.01	1274.74	0.15	0.00	1277.88
1	0.26	0.24	2.61	1.03	2.75	0.00	271.69	0.09	0.00	273.64
3	1.80	1.66	16.33	4.05	31.56	0.03	2718.87	0.37	0.00	2726.54
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	1.19	1.09	8.77	3.12	32.30	0.03	2947.09	0.28	0.00	2953.01
2	0.76	0.70	8.02	3.47	6.59	0.01	591.99	0.31	0.00	598.56
1	0.16	0.14	1.72	0.59	1.65	0.00	168.28	0.05	0.00	169.39
2	0.32	0.29	3.29	1.37	2.97	0.00	280.10	0.12	0.00	282.69
5	0.08	0.08	38.91	0.16	6.13	0.00	862.08	1.32	0.00	889.78
7	0.04	0.04	7.40	0.08	3.45	0.00	461.03	0.68	0.00	475.25
1	0.02	0.02	9.14	0.04	1.44	0.00	202.40	0.31	0.00	208.91
6	0.01	0.01	6.64	0.57	0.50	0.00	265.21	0.02	0.03	275.44
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
7	0.18	0.16	1.33	0.62	2.97	0.00	341.65	0.01	0.01	343.45
9	0.94	0.85	6.86	3.21	15.29	0.02	1757.03	0.03	0.03	1766.33
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
8	0.36	0.32	2.61	1.22	5.83	0.01	669.35	0.01	0.01	672.89
249	0.01	0.01	1.71	0.16	0.16	0.00	141.20	0.01	0.01	144.44
3	0.07	0.06	0.49	0.23	1.09	0.00	125.50	0.00	0.00	126.17
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
366	**12.02**	**11.01**	**161.20**	**33.30**	**198.99**	**0.20**	**19356.95**	**4.65**	**0.14**	**19499.47**

Month 4 Daily Emissions (lb/day)

Quantity Mo 4	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
1	0.16	0.14	1.63	0.69	1.38	0.00	128.17	0.06	0.00	129.47
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	1.83	1.68	12.07	3.27	20.01	0.02	1705.49	0.30	0.00	1711.69
3	1.35	1.25	8.50	2.58	15.67	0.01	1188.15	0.23	0.00	1193.03
5	1.45	1.34	12.64	3.29	25.38	0.02	2071.03	0.30	0.00	2077.26
3	1.50	1.38	14.77	3.95	38.71	0.04	3713.95	0.36	0.00	3721.43
1	0.64	0.59	4.64	1.65	15.74	0.01	1274.74	0.15	0.00	1277.88
2	0.52	0.48	5.22	2.06	5.50	0.01	543.38	0.19	0.00	547.28
3	1.80	1.66	16.33	4.05	31.56	0.03	2718.87	0.37	0.00	2726.54
1	0.26	0.24	2.84	1.06	2.65	0.00	261.75	0.10	0.00	263.76
4	1.58	1.46	11.70	4.16	43.06	0.04	3929.45	0.38	0.00	3937.34
2	0.76	0.70	8.02	3.47	6.59	0.01	591.99	0.31	0.00	598.56
2	0.31	0.29	3.44	1.18	3.30	0.00	336.55	0.11	0.00	338.78
3	0.48	0.44	4.94	2.05	4.45	0.01	420.14	0.19	0.00	424.04
5	0.08	0.08	38.91	0.16	6.13	0.00	862.08	1.32	0.00	889.78
7	0.04	0.04	7.40	0.08	3.45	0.00	461.03	0.68	0.00	475.25
1	0.02	0.02	9.14	0.04	1.44	0.00	202.40	0.31	0.00	208.91
6	0.01	0.01	6.64	0.57	0.50	0.00	265.21	0.02	0.03	275.44
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.16	0.14	1.14	0.53	2.55	0.00	292.84	0.01	0.00	294.39
9	0.94	0.85	6.86	3.21	15.29	0.02	1757.03	0.03	0.03	1766.33
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
8	0.36	0.32	2.61	1.22	5.83	0.01	669.35	0.01	0.01	672.89
219	0.01	0.01	1.50	0.14	0.14	0.00	123.83	0.01	0.01	126.67
3	0.07	0.06	0.49	0.23	1.09	0.00	125.50	0.00	0.00	126.17
3	0.15	0.13	1.06	0.50	2.37	0.00	271.92	0.01	0.00	273.36
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
342	**15.05**	**13.80**	**190.08**	**42.31**	**262.18**	**0.26**	**25305.81**	**5.46**	**0.14**	**25465.07**

Month 5 Daily Emissions (lb/day)

Quantity Mo 5	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
3	0.47	0.43	4.90	2.07	4.15	0.00	384.50	0.19	0.00	388.42
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	1.83	1.68	12.07	3.27	20.01	0.02	1705.49	0.30	0.00	1711.69
3	1.35	1.25	8.50	2.58	15.67	0.01	1188.15	0.23	0.00	1193.03
5	1.45	1.34	12.64	3.29	25.38	0.02	2071.03	0.30	0.00	2077.26
3	1.50	1.38	14.77	3.95	38.71	0.04	3713.95	0.36	0.00	3721.43
1	0.64	0.59	4.64	1.65	15.74	0.01	1274.74	0.15	0.00	1277.88
2	0.52	0.48	5.22	2.06	5.50	0.01	543.38	0.19	0.00	547.28
3	1.80	1.66	16.33	4.05	31.56	0.03	2718.87	0.37	0.00	2726.54
2	0.53	0.49	5.67	2.12	5.30	0.01	523.49	0.19	0.00	527.52
4	1.58	1.46	11.70	4.16	43.06	0.04	3929.45	0.38	0.00	3937.34
2	0.76	0.70	8.02	3.47	6.59	0.01	591.99	0.31	0.00	598.56
2	0.31	0.29	3.44	1.18	3.30	0.00	336.55	0.11	0.00	338.78
4	0.64	0.59	6.59	2.74	5.93	0.01	560.19	0.25	0.00	565.38
6	0.09	0.09	46.70	0.19	7.35	0.00	1034.50	1.58	0.00	1067.74
7	0.04	0.04	7.40	0.08	3.45	0.00	461.03	0.68	0.00	475.25
2	0.04	0.04	18.27	0.07	2.88	0.00	404.80	0.62	0.00	417.81
6	0.01	0.01	6.64	0.57	0.50	0.00	265.21	0.02	0.03	275.44
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.10	0.09	0.76	0.36	1.70	0.00	195.23	0.00	0.00	196.26
9	0.94	0.85	6.86	3.21	15.29	0.02	1757.03	0.03	0.03	1766.33
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
6	0.27	0.24	1.96	0.92	4.37	0.00	502.01	0.01	0.01	504.67
219	0.01	0.01	1.50	0.14	0.14	0.00	123.83	0.01	0.01	126.67
3	0.07	0.06	0.49	0.23	1.09	0.00	125.50	0.00	0.00	126.17
3	0.15	0.13	1.06	0.50	2.37	0.00	271.92	0.01	0.00	273.36
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
344	**15.67**	**14.38**	**213.72**	**45.02**	**269.44**	**0.27**	**26073.81**	**6.31**	**0.14**	**26249.64**

Month 6 Daily Emissions (lb/day)

Quantity Mo 6	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
3	0.47	0.43	4.90	2.07	4.15	0.00	384.50	0.19	0.00	388.42
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	2.19	2.02	14.48	3.92	24.01	0.02	2046.59	0.35	0.00	2054.03
3	1.35	1.25	8.50	2.58	15.67	0.01	1188.15	0.23	0.00	1193.03
8	2.32	2.14	20.23	5.26	40.61	0.04	3313.65	0.47	0.00	3323.61
3	1.50	1.38	14.77	3.95	38.71	0.04	3713.95	0.36	0.00	3721.43
1	0.64	0.59	4.64	1.65	15.74	0.01	1274.74	0.15	0.00	1277.88
4	1.04	0.96	10.44	4.12	11.01	0.01	1086.75	0.37	0.00	1094.56
3	1.80	1.66	16.33	4.05	31.56	0.03	2718.87	0.37	0.00	2726.54
2	0.53	0.49	5.67	2.12	5.30	0.01	523.49	0.19	0.00	527.52
4	1.58	1.46	11.70	4.16	43.06	0.04	3929.45	0.38	0.00	3937.34
5	1.89	1.74	20.06	8.67	16.48	0.02	1479.97	0.78	0.00	1496.40
4	0.63	0.58	6.89	2.35	6.61	0.01	673.10	0.21	0.00	677.56
4	0.64	0.59	6.59	2.74	5.93	0.01	560.19	0.25	0.00	565.38
6	0.09	0.09	46.70	0.19	7.35	0.00	1034.50	1.58	0.00	1067.74
8	0.05	0.05	8.45	0.09	3.94	0.00	526.89	0.77	0.00	543.14
5	0.09	0.09	45.68	0.18	7.19	0.00	1012.01	1.55	0.00	1044.53
6	0.01	0.01	6.64	0.57	0.50	0.00	265.21	0.02	0.03	275.44
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.10	0.09	0.76	0.36	1.70	0.00	195.23	0.00	0.00	196.26
9	0.94	0.85	6.86	3.21	15.29	0.02	1757.03	0.03	0.03	1766.33
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
6	0.27	0.24	1.96	0.92	4.37	0.00	502.01	0.01	0.01	504.67
479	0.02	0.01	3.28	0.31	0.31	0.00	271.45	0.02	0.02	277.67
3	0.07	0.06	0.49	0.23	1.09	0.00	125.50	0.00	0.00	126.17
3	0.15	0.13	1.06	0.50	2.37	0.00	271.92	0.01	0.00	273.36
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
619	**18.95**	**17.40**	**274.67**	**56.38**	**312.35**	**0.31**	**30246.12**	**8.34**	**0.15**	**30467.84**

Month 25 Daily Emissions (lb/day)

Quantity Mo 25	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.26	0.24	2.61	1.03	2.75	0.00	271.69	0.09	0.00	273.64
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.03	0.03	15.57	0.06	2.45	0.00	344.83	0.53	0.00	355.91
5	0.03	0.03	5.28	0.06	2.46	0.00	329.30	0.48	0.00	339.46
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.63	0.56	4.57	2.14	10.19	0.01	1171.35	0.02	0.02	1177.56
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
3	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
208	0.01	0.01	1.43	0.13	0.13	0.00	117.79	0.01	0.01	120.49
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
274	**2.89**	**2.63**	**77.76**	**9.00**	**54.34**	**0.05**	**6229.36**	**2.36**	**0.10**	**6308.57**

Month 26 Daily Emissions (lb/day)

Quantity Mo 26	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.03	0.03	15.57	0.06	2.45	0.00	344.83	0.53	0.00	355.91
5	0.03	0.03	5.28	0.06	2.46	0.00	329.30	0.48	0.00	339.46
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.63	0.56	4.57	2.14	10.19	0.01	1171.35	0.02	0.02	1177.56
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
3	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
208	0.01	0.01	1.43	0.13	0.13	0.00	117.79	0.01	0.01	120.49
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
273	**2.63**	**2.39**	**75.15**	**7.97**	**51.59**	**0.05**	**5957.68**	**2.27**	**0.10**	**6034.93**

Month 27 Daily Emissions (lb/day)

Quantity Mo 27	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.03	0.03	15.57	0.06	2.45	0.00	344.83	0.53	0.00	355.91
5	0.03	0.03	5.28	0.06	2.46	0.00	329.30	0.48	0.00	339.46
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.63	0.56	4.57	2.14	10.19	0.01	1171.35	0.02	0.02	1177.56
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
3	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
208	0.01	0.01	1.43	0.13	0.13	0.00	117.79	0.01	0.01	120.49
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
273	**2.63**	**2.39**	**75.15**	**7.97**	**51.59**	**0.05**	**5957.68**	**2.27**	**0.10**	**6034.93**

Month 28 Daily Emissions (lb/day)

Quantity Mo 28	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.03	0.03	15.57	0.06	2.45	0.00	344.83	0.53	0.00	355.91
5	0.03	0.03	5.28	0.06	2.46	0.00	329.30	0.48	0.00	339.46
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.63	0.56	4.57	2.14	10.19	0.01	1171.35	0.02	0.02	1177.56
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
1	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
166	0.01	0.00	1.14	0.11	0.11	0.00	94.01	0.01	0.01	96.16
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
229	**2.54**	**2.31**	**74.21**	**7.64**	**50.10**	**0.05**	**5766.56**	**2.26**	**0.09**	**5842.38**

Month 7 Daily Emissions (lb/day)

Quantity Mo 7	PM$_{10}$	PM$_{2.5}$	CO	VOC	NO$_x$	SO$_2$	CO$_2$	CH$_4$	N$_2$O	CO$_2$e
3	0.47	0.43	4.90	2.07	4.15	0.00	384.50	0.19	0.00	388.42
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	2.19	2.02	14.48	3.92	24.01	0.02	2046.59	0.35	0.00	2054.03
3	1.35	1.25	8.50	2.58	15.67	0.01	1188.15	0.23	0.00	1193.03
8	2.32	2.14	20.23	5.26	40.61	0.04	3313.65	0.47	0.00	3323.61
1	0.50	0.46	4.92	1.32	12.90	0.01	1237.98	0.12	0.00	1240.48
1	0.64	0.59	4.64	1.65	15.74	0.01	1274.74	0.15	0.00	1277.88
4	1.04	0.96	10.44	4.12	11.01	0.01	1086.75	0.37	0.00	1094.56
2	1.20	1.11	10.89	2.70	21.04	0.02	1812.58	0.24	0.00	1817.69
2	0.53	0.49	5.67	2.12	5.30	0.01	523.49	0.19	0.00	527.52
3	1.19	1.09	8.77	3.12	32.30	0.03	2947.09	0.28	0.00	2953.01
5	1.89	1.74	20.06	8.67	16.48	0.02	1479.97	0.78	0.00	1496.40
3	0.47	0.43	5.16	1.77	4.95	0.01	504.83	0.16	0.00	508.17
4	0.64	0.59	6.59	2.74	5.93	0.01	560.19	0.25	0.00	565.38
5	0.08	0.08	38.91	0.16	6.13	0.00	862.08	1.32	0.00	889.78
8	0.05	0.05	8.45	0.09	3.94	0.00	526.89	0.77	0.00	543.14
4	0.07	0.07	36.54	0.15	5.76	0.00	809.61	1.24	0.00	835.62
6	0.01	0.01	6.64	0.57	0.50	0.00	265.21	0.02	0.03	275.44
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.10	0.09	0.76	0.36	1.70	0.00	195.23	0.00	0.00	196.26
9	0.94	0.85	6.86	3.21	15.29	0.02	1757.03	0.03	0.03	1766.33
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
4	0.18	0.16	1.31	0.61	2.91	0.00	334.67	0.01	0.01	336.44
487	0.02	0.01	3.34	0.31	0.31	0.00	275.98	0.02	0.02	282.31
3	0.07	0.06	0.49	0.23	1.09	0.00	125.50	0.00	0.00	126.17
1	0.05	0.04	0.35	0.17	0.79	0.00	90.64	0.00	0.00	91.12
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
616	**16.58**	**15.21**	**236.50**	**50.07**	**257.91**	**0.26**	**24994.31**	**7.26**	**0.14**	**25191.62**

Month 8 Daily Emissions (lb/day)

Quantity Mo 8	PM$_{10}$	PM$_{2.5}$	CO	VOC	NO$_x$	SO$_2$	CO$_2$	CH$_4$	N$_2$O	CO$_2$e
3	0.47	0.43	4.90	2.07	4.15	0.00	384.50	0.19	0.00	388.42
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	1.83	1.68	12.07	3.27	20.01	0.02	1705.49	0.30	0.00	1711.69
3	1.35	1.25	8.50	2.58	15.67	0.01	1188.15	0.23	0.00	1193.03
8	2.32	2.14	20.23	5.26	40.61	0.04	3313.65	0.47	0.00	3323.61
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.64	0.59	4.64	1.65	15.74	0.01	1274.74	0.15	0.00	1277.88
4	1.04	0.96	10.44	4.12	11.01	0.01	1086.75	0.37	0.00	1094.56
2	1.20	1.11	10.89	2.70	21.04	0.02	1812.58	0.24	0.00	1817.69
2	0.53	0.49	5.67	2.12	5.30	0.01	523.49	0.19	0.00	527.52
3	1.19	1.09	8.77	3.12	32.30	0.03	2947.09	0.28	0.00	2953.01
4	1.52	1.39	16.05	6.94	13.19	0.02	1183.98	0.63	0.00	1197.12
3	0.47	0.43	5.16	1.77	4.95	0.01	504.83	0.16	0.00	508.17
4	0.64	0.59	6.59	2.74	5.93	0.01	560.19	0.25	0.00	565.38
3	0.05	0.05	23.35	0.09	3.68	0.00	517.25	0.79	0.00	533.87
8	0.05	0.05	8.45	0.09	3.94	0.00	526.89	0.77	0.00	543.14
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
6	0.01	0.01	6.64	0.57	0.50	0.00	265.21	0.02	0.03	275.44
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.08	0.07	0.57	0.27	1.27	0.00	146.42	0.00	0.00	147.19
9	0.94	0.85	6.86	3.21	15.29	0.02	1757.03	0.03	0.03	1766.33
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
4	0.18	0.16	1.31	0.61	2.91	0.00	334.67	0.01	0.01	336.44
385	0.01	0.01	2.64	0.25	0.25	0.00	218.22	0.01	0.02	223.22
3	0.07	0.06	0.49	0.23	1.09	0.00	125.50	0.00	0.00	126.17
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
506	**15.20**	**13.95**	**199.21**	**45.95**	**232.53**	**0.24**	**22374.79**	**6.08**	**0.14**	**22545.44**

Month 9 Daily Emissions (lb/day)

Quantity Mo 9	PM$_{10}$	PM$_{2.5}$	CO	VOC	NO$_x$	SO$_2$	CO$_2$	CH$_4$	N$_2$O	CO$_2$e
2	0.31	0.29	3.26	1.38	2.77	0.00	256.33	0.12	0.00	258.95
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.46	1.34	9.66	2.62	16.01	0.02	1364.39	0.24	0.00	1369.35
3	1.35	1.25	8.50	2.58	15.67	0.01	1188.15	0.23	0.00	1193.03
7	2.03	1.87	17.70	4.60	35.53	0.03	2899.44	0.42	0.00	2908.16
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.64	0.59	4.64	1.65	15.74	0.01	1274.74	0.15	0.00	1277.88
6	1.56	1.43	15.66	6.18	16.51	0.02	1630.13	0.56	0.00	1641.84
1	0.60	0.55	5.44	1.35	10.52	0.01	906.29	0.12	0.00	908.85
2	0.53	0.49	5.67	2.12	5.30	0.01	523.49	0.19	0.00	527.52
2	0.79	0.73	5.85	2.08	21.53	0.02	1964.73	0.19	0.00	1968.67
4	1.52	1.39	16.05	6.94	13.19	0.02	1183.98	0.63	0.00	1197.12
2	0.31	0.29	3.44	1.18	3.30	0.00	336.55	0.11	0.00	338.78
4	0.64	0.59	6.59	2.74	5.93	0.01	560.19	0.25	0.00	565.38
3	0.05	0.05	23.35	0.09	3.68	0.00	517.25	0.79	0.00	533.87
8	0.05	0.05	8.45	0.09	3.94	0.00	526.89	0.77	0.00	543.14
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
6	0.01	0.01	6.64	0.57	0.50	0.00	265.21	0.02	0.03	275.44
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.94	0.85	6.86	3.21	15.29	0.02	1757.03	0.03	0.03	1766.33
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
4	0.18	0.16	1.31	0.61	2.91	0.00	334.67	0.01	0.01	336.44
334	0.01	0.01	2.29	0.21	0.21	0.00	189.15	0.01	0.01	193.48
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
445	**13.61**	**12.49**	**186.36**	**42.50**	**202.24**	**0.21**	**19676.77**	**5.81**	**0.13**	**19839.78**

Month 10 Daily Emissions (lb/day)

Quantity Mo 10	PM$_{10}$	PM$_{2.5}$	CO	VOC	NO$_x$	SO$_2$	CO$_2$	CH$_4$	N$_2$O	CO$_2$e
2	0.31	0.29	3.26	1.38	2.77	0.00	256.33	0.12	0.00	258.95
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.46	1.34	9.66	2.62	16.01	0.02	1364.39	0.24	0.00	1369.35
3	1.35	1.25	8.50	2.58	15.67	0.01	1188.15	0.23	0.00	1193.03
6	1.74	1.60	15.17	3.95	30.46	0.03	2485.23	0.36	0.00	2492.71
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	1.56	1.43	15.66	6.18	16.51	0.02	1630.13	0.56	0.00	1641.84
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.53	0.49	5.67	2.12	5.30	0.01	523.49	0.19	0.00	527.52
1	0.40	0.36	2.92	1.04	10.77	0.01	982.36	0.09	0.00	984.34
4	1.52	1.39	16.05	6.94	13.19	0.02	1183.98	0.63	0.00	1197.12
2	0.31	0.29	3.44	1.18	3.30	0.00	336.55	0.11	0.00	338.78
4	0.64	0.59	6.59	2.74	5.93	0.01	560.19	0.25	0.00	565.38
2	0.03	0.03	15.57	0.06	2.45	0.00	344.83	0.53	0.00	355.91
8	0.05	0.05	8.45	0.09	3.94	0.00	526.89	0.77	0.00	543.14
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
6	0.01	0.01	6.64	0.57	0.50	0.00	265.21	0.02	0.03	275.44
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.94	0.85	6.86	3.21	15.29	0.02	1757.03	0.03	0.03	1766.33
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
4	0.18	0.16	1.31	0.61	2.91	0.00	334.67	0.01	0.01	336.44
305	0.01	0.01	2.09	0.20	0.20	0.00	172.53	0.01	0.01	176.49
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
411	**11.67**	**10.70**	**162.84**	**37.75**	**158.89**	**0.17**	**15910.14**	**5.12**	**0.13**	**16058.32**

Month 29 Daily Emissions (lb/day)

Quantity Mo 29	PM$_{10}$	PM$_{2.5}$	CO	VOC	NO$_x$	SO$_2$	CO$_2$	CH$_4$	N$_2$O	CO$_2$e
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.03	0.03	15.57	0.06	2.45	0.00	344.83	0.53	0.00	355.91
5	0.03	0.03	5.28	0.06	2.46	0.00	329.30	0.48	0.00	339.46
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.63	0.56	4.57	2.14	10.19	0.01	1171.35	0.02	0.02	1177.56
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
1	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
166	0.01	0.00	1.14	0.11	0.11	0.00	94.01	0.01	0.01	96.16
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
229	**2.54**	**2.31**	**74.21**	**7.64**	**50.10**	**0.05**	**5766.56**	**2.26**	**0.09**	**5842.38**

Month 30 Daily Emissions (lb/day)

Quantity Mo 30	PM$_{10}$	PM$_{2.5}$	CO	VOC	NO$_x$	SO$_2$	CO$_2$	CH$_4$	N$_2$O	CO$_2$e
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.03	0.03	15.57	0.06	2.45	0.00	344.83	0.53	0.00	355.91
5	0.03	0.03	5.28	0.06	2.46	0.00	329.30	0.48	0.00	339.46
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.63	0.56	4.57	2.14	10.19	0.01	1171.35	0.02	0.02	1177.56
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
1	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
166	0.01	0.00	1.14	0.11	0.11	0.00	94.01	0.01	0.01	96.16
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
229	**2.54**	**2.31**	**74.21**	**7.64**	**50.10**	**0.05**	**5766.56**	**2.26**	**0.09**	**5842.38**

Month 31 Daily Emissions (lb/day)

Quantity Mo 31	PM$_{10}$	PM$_{2.5}$	CO	VOC	NO$_x$	SO$_2$	CO$_2$	CH$_4$	N$_2$O	CO$_2$e
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.03	0.03	15.57	0.06	2.45	0.00	344.83	0.53	0.00	355.91
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.63	0.56	4.57	2.14	10.19	0.01	1171.35	0.02	0.02	1177.56
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
1	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
166	0.01	0.00	1.14	0.11	0.11	0.00	94.01	0.01	0.01	96.16
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
224	**2.51**	**2.28**	**68.92**	**7.58**	**47.64**	**0.05**	**5437.25**	**1.78**	**0.09**	**5502.91**

Month 32 Daily Emissions (lb/day)

Quantity Mo 32	PM$_{10}$	PM$_{2.5}$	CO	VOC	NO$_x$	SO$_2$	CO$_2$	CH$_4$	N$_2$O	CO$_2$e
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.03	0.03	15.57	0.06	2.45	0.00	344.83	0.53	0.00	355.91
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.63	0.56	4.57	2.14	10.19	0.01	1171.35	0.02	0.02	1177.56
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
1	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
166	0.01	0.00	1.14	0.11	0.11	0.00	94.01	0.01	0.01	96.16
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
224	**2.51**	**2.28**	**68.92**	**7.58**	**47.64**	**0.05**	**5437.25**	**1.78**	**0.09**	**5502.91**

Month 11 Daily Emissions (lb/day)

Quantity Mo 11	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
2	0.31	0.29	3.26	1.38	2.77	0.00	256.33	0.12	0.00	258.95
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.46	1.34	9.66	2.62	16.01	0.02	1364.39	0.24	0.00	1369.35
3	1.35	1.25	8.50	2.58	15.67	0.01	1188.15	0.23	0.00	1193.03
6	1.74	1.60	15.17	3.95	30.46	0.03	2485.23	0.36	0.00	2492.71
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	1.56	1.43	15.66	6.18	16.51	0.02	1630.13	0.56	0.00	1641.84
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.53	0.49	5.67	2.12	5.30	0.01	523.49	0.19	0.00	527.52
1	0.40	0.36	2.92	1.04	10.77	0.01	982.36	0.09	0.00	984.34
4	1.52	1.39	16.05	6.94	13.19	0.02	1183.98	0.63	0.00	1197.12
2	0.31	0.29	3.44	1.18	3.30	0.00	336.55	0.11	0.00	338.78
4	0.64	0.59	6.59	2.74	5.93	0.01	560.19	0.25	0.00	565.38
2	0.03	0.03	15.57	0.06	2.45	0.00	344.83	0.53	0.00	355.91
8	0.05	0.05	8.45	0.09	3.94	0.00	526.89	0.77	0.00	543.14
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
6	0.01	0.01	6.64	0.57	0.50	0.00	265.21	0.02	0.03	275.44
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.94	0.85	6.86	3.21	15.29	0.02	1757.03	0.03	0.03	1766.33
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
4	0.18	0.16	1.31	0.61	2.91	0.00	334.67	0.01	0.01	336.44
305	0.01	0.01	2.09	0.20	0.20	0.00	172.53	0.01	0.01	176.49
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
411	**11.67**	**10.70**	**162.84**	**37.75**	**158.89**	**0.17**	**15910.14**	**5.12**	**0.13**	**16058.32**

Month 12 Daily Emissions (lb/day)

Quantity Mo 12	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
2	0.31	0.29	3.26	1.38	2.77	0.00	256.33	0.12	0.00	258.95
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.46	1.34	9.66	2.62	16.01	0.02	1364.39	0.24	0.00	1369.35
3	1.35	1.25	8.50	2.58	15.67	0.01	1188.15	0.23	0.00	1193.03
6	1.74	1.60	15.17	3.95	30.46	0.03	2485.23	0.36	0.00	2492.71
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	1.56	1.43	15.66	6.18	16.51	0.02	1630.13	0.56	0.00	1641.84
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.53	0.49	5.67	2.12	5.30	0.01	523.49	0.19	0.00	527.52
1	0.40	0.36	2.92	1.04	10.77	0.01	982.36	0.09	0.00	984.34
4	1.52	1.39	16.05	6.94	13.19	0.02	1183.98	0.63	0.00	1197.12
2	0.31	0.29	3.44	1.18	3.30	0.00	336.55	0.11	0.00	338.78
3	0.48	0.44	4.94	2.05	4.45	0.01	420.14	0.19	0.00	424.04
2	0.03	0.03	15.57	0.06	2.45	0.00	344.83	0.53	0.00	355.91
8	0.05	0.05	8.45	0.09	3.94	0.00	526.89	0.77	0.00	543.14
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
6	0.01	0.01	6.64	0.57	0.50	0.00	265.21	0.02	0.03	275.44
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.94	0.85	6.86	3.21	15.29	0.02	1757.03	0.03	0.03	1766.33
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
4	0.18	0.16	1.31	0.61	2.91	0.00	334.67	0.01	0.01	336.44
305	0.01	0.01	2.09	0.20	0.20	0.00	172.53	0.01	0.01	176.49
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
410	**11.51**	**10.56**	**161.19**	**37.06**	**157.41**	**0.16**	**15770.09**	**5.06**	**0.13**	**15916.98**

Month 13 Daily Emissions (lb/day)

Quantity Mo 13	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
2	0.31	0.29	3.26	1.38	2.77	0.00	256.33	0.12	0.00	258.95
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.46	1.34	9.66	2.62	16.01	0.02	1364.39	0.24	0.00	1369.35
3	1.35	1.25	8.50	2.58	15.67	0.01	1188.15	0.23	0.00	1193.03
8	2.32	2.14	20.23	5.26	40.61	0.04	3313.65	0.47	0.00	3323.61
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.64	0.59	4.64	1.65	15.74	0.01	1274.74	0.15	0.00	1277.88
3	0.78	0.72	7.83	3.09	8.26	0.01	815.06	0.28	0.00	820.92
2	1.20	1.11	10.89	2.70	21.04	0.02	1812.58	0.24	0.00	1817.69
2	0.53	0.49	5.67	2.12	5.30	0.01	523.49	0.19	0.00	527.52
3	1.19	1.09	8.77	3.12	32.30	0.03	2947.09	0.28	0.00	2953.01
5	1.89	1.74	20.06	8.67	16.48	0.02	1479.97	0.78	0.00	1496.40
4	0.63	0.58	6.89	2.35	6.61	0.01	673.10	0.21	0.00	677.56
3	0.48	0.44	4.94	2.05	4.45	0.01	420.14	0.19	0.00	424.04
4	0.06	0.06	31.13	0.13	4.90	0.00	689.66	1.06	0.00	711.83
8	0.05	0.05	8.45	0.09	3.94	0.00	526.89	0.77	0.00	543.14
4	0.07	0.07	36.54	0.15	5.76	0.00	809.61	1.24	0.00	835.62
6	0.01	0.01	6.64	0.57	0.50	0.00	265.21	0.02	0.03	275.44
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.08	0.07	0.57	0.27	1.27	0.00	146.42	0.00	0.00	147.19
9	0.94	0.85	6.86	3.21	15.29	0.02	1757.03	0.03	0.03	1766.33
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
4	0.18	0.16	1.31	0.61	2.91	0.00	334.67	0.01	0.01	336.44
357	0.01	0.01	2.44	0.23	0.23	0.00	201.98	0.01	0.01	206.61
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
475	**14.77**	**13.55**	**212.87**	**45.03**	**229.41**	**0.23**	**22191.14**	**6.59**	**0.14**	**22371.40**

Month 14 Daily Emissions (lb/day)

Quantity Mo 14	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
2	0.31	0.29	3.26	1.38	2.77	0.00	256.33	0.12	0.00	258.95
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.46	1.34	9.66	2.62	16.01	0.02	1364.39	0.24	0.00	1369.35
2	0.90	0.83	5.67	1.72	10.45	0.01	792.10	0.15	0.00	795.35
8	2.32	2.14	20.23	5.26	40.61	0.04	3313.65	0.47	0.00	3323.61
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.64	0.59	4.64	1.65	15.74	0.01	1274.74	0.15	0.00	1277.88
3	0.78	0.72	7.83	3.09	8.26	0.01	815.06	0.28	0.00	820.92
2	1.20	1.11	10.89	2.70	21.04	0.02	1812.58	0.24	0.00	1817.69
2	0.53	0.49	5.67	2.12	5.30	0.01	523.49	0.19	0.00	527.52
3	1.19	1.09	8.77	3.12	32.30	0.03	2947.09	0.28	0.00	2953.01
5	1.89	1.74	20.06	8.67	16.48	0.02	1479.97	0.78	0.00	1496.40
4	0.63	0.58	6.89	2.35	6.61	0.01	673.10	0.21	0.00	677.56
3	0.48	0.44	4.94	2.05	4.45	0.01	420.14	0.19	0.00	424.04
5	0.08	0.08	38.91	0.16	6.13	0.00	862.08	1.32	0.00	889.78
9	0.05	0.05	9.51	0.10	4.44	0.00	592.75	0.87	0.00	611.03
7	0.13	0.13	63.95	0.26	10.07	0.00	1416.81	2.17	0.00	1462.34
6	0.01	0.01	6.64	0.57	0.50	0.00	265.21	0.02	0.03	275.44
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.05	0.05	0.38	0.18	0.85	0.00	97.61	0.00	0.00	98.13
9	0.94	0.85	6.86	3.21	15.29	0.02	1757.03	0.03	0.03	1766.33
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
4	0.18	0.16	1.31	0.61	2.91	0.00	334.67	0.01	0.01	336.44
341	0.01	0.01	2.34	0.22	0.22	0.00	193.30	0.01	0.01	197.73
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
462	**14.36**	**13.19**	**245.99**	**44.23**	**229.79**	**0.23**	**22583.08**	**7.80**	**0.13**	**22788.34**

Month 15 Daily Emissions (lb/day)

Quantity Mo 15	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
2	0.31	0.29	3.26	1.38	2.77	0.00	256.33	0.12	0.00	258.95
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.46	1.34	9.66	2.62	16.01	0.02	1364.39	0.24	0.00	1369.35
2	0.90	0.83	5.67	1.72	10.45	0.01	792.10	0.15	0.00	795.35
6	1.74	1.60	15.17	3.95	30.46	0.03	2485.23	0.36	0.00	2492.71
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.64	0.59	4.64	1.65	15.74	0.01	1274.74	0.15	0.00	1277.88
3	0.78	0.72	7.83	3.09	8.26	0.01	815.06	0.28	0.00	820.92
1	0.60	0.55	5.44	1.35	10.52	0.01	906.29	0.12	0.00	908.85
2	0.53	0.49	5.67	2.12	5.30	0.01	523.49	0.19	0.00	527.52
3	1.19	1.09	8.77	3.12	32.30	0.03	2947.09	0.28	0.00	2953.01
5	1.89	1.74	20.06	8.67	16.48	0.02	1479.97	0.78	0.00	1496.40
4	0.63	0.58	6.89	2.35	6.61	0.01	673.10	0.21	0.00	677.56
3	0.48	0.44	4.94	2.05	4.45	0.01	420.14	0.19	0.00	424.04
5	0.08	0.08	38.91	0.16	6.13	0.00	862.08	1.32	0.00	889.78
6	0.04	0.04	6.34	0.07	2.96	0.00	395.16	0.58	0.00	407.35
5	0.09	0.09	45.68	0.18	7.19	0.00	1012.01	1.55	0.00	1044.53
6	0.01	0.01	6.64	0.57	0.50	0.00	265.21	0.02	0.03	275.44
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.05	0.05	0.38	0.18	0.85	0.00	97.61	0.00	0.00	98.13
9	0.94	0.85	6.86	3.21	15.29	0.02	1757.03	0.03	0.03	1766.33
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
4	0.18	0.16	1.31	0.61	2.91	0.00	334.67	0.01	0.01	336.44
347	0.01	0.01	2.38	0.22	0.22	0.00	196.70	0.01	0.01	201.21
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
460	**13.13**	**12.05**	**214.09**	**41.46**	**204.77**	**0.21**	**20249.39**	**6.65**	**0.13**	**20430.58**

Month 33 Daily Emissions (lb/day)

Quantity Mo 33	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.03	0.03	15.57	0.06	2.45	0.00	344.83	0.53	0.00	355.91
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.63	0.56	4.57	2.14	10.19	0.01	1171.35	0.02	0.02	1177.56
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
1	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
190	0.01	0.01	1.30	0.12	0.12	0.00	107.60	0.01	0.01	110.06
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
248	**2.51**	**2.28**	**69.09**	**7.59**	**47.65**	**0.05**	**5450.84**	**1.78**	**0.09**	**5516.82**

Month 34 Daily Emissions (lb/day)

Quantity Mo 34	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.08	0.08	38.91	0.16	6.13	0.00	862.08	1.32	0.00	889.78
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.63	0.56	4.57	2.14	10.19	0.01	1171.35	0.02	0.02	1177.56
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
1	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
190	0.01	0.01	1.30	0.12	0.12	0.00	107.60	0.01	0.01	110.06
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
251	**2.56**	**2.33**	**92.44**	**7.69**	**51.33**	**0.05**	**5968.09**	**2.57**	**0.09**	**6050.69**

Month 35 Daily Emissions (lb/day)

Quantity Mo 35	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.08	0.08	38.91	0.16	6.13	0.00	862.08	1.32	0.00	889.78
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.63	0.56	4.57	2.14	10.19	0.01	1171.35	0.02	0.02	1177.56
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
1	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
190	0.01	0.01	1.30	0.12	0.12	0.00	107.60	0.01	0.01	110.06
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
251	**2.56**	**2.33**	**92.44**	**7.69**	**51.33**	**0.05**	**5968.09**	**2.57**	**0.09**	**6050.69**

Month 36 Daily Emissions (lb/day)

Quantity Mo 36	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.08	0.08	38.91	0.16	6.13	0.00	862.08	1.32	0.00	889.78
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.21	0.19	1.52	0.71	3.40	0.00	390.45	0.01	0.01	392.52
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
1	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
153	0.01	0.00	1.05	0.10	0.10	0.00	86.83	0.01	0.01	88.82
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
210	**2.14**	**1.95**	**89.14**	**6.24**	**44.51**	**0.04**	**5166.42**	**2.56**	**0.08**	**5244.41**

Month 37 Daily Emissions (lb/day)

Quantity Mo 37	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.08	0.08	38.91	0.16	6.13	0.00	862.08	1.32	0.00	889.78
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.21	0.19	1.52	0.71	3.40	0.00	390.45	0.01	0.01	392.52
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
1	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
153	0.01	0.00	1.05	0.10	0.10	0.00	86.83	0.01	0.01	88.82
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
210	**2.14**	**1.95**	**89.14**	**6.24**	**44.51**	**0.04**	**5166.42**	**2.56**	**0.08**	**5244.41**

Month 16 Daily Emissions (lb/day)										
Quantity Mo 16	PM$_{10}$	PM$_{2.5}$	CO	VOC	NO$_x$	SO$_2$	CO$_2$	CH$_4$	N$_2$O	CO$_2$e
2	0.31	0.29	3.26	1.38	2.77	0.00	256.33	0.12	0.00	258.95
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.46	1.34	9.66	2.62	16.01	0.02	1364.39	0.24	0.00	1369.35
2	0.90	0.83	5.67	1.72	10.45	0.01	792.10	0.15	0.00	795.35
5	1.45	1.34	12.64	3.29	25.38	0.02	2071.03	0.30	0.00	2077.26
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.64	0.59	4.64	1.65	15.74	0.01	1274.74	0.15	0.00	1277.88
3	0.78	0.72	7.83	3.09	8.26	0.01	815.06	0.28	0.00	820.92
1	0.60	0.55	5.44	1.35	10.52	0.01	906.29	0.12	0.00	908.85
2	0.53	0.49	5.67	2.12	5.30	0.01	523.49	0.19	0.00	527.52
2	0.79	0.73	5.85	2.08	21.53	0.02	1964.73	0.19	0.00	1968.67
5	1.89	1.74	20.06	8.67	16.48	0.02	1479.97	0.78	0.00	1496.40
4	0.63	0.58	6.89	2.35	6.61	0.01	673.10	0.21	0.00	677.56
2	0.32	0.29	3.29	1.37	2.97	0.00	280.10	0.12	0.00	282.69
5	0.08	0.08	38.91	0.16	6.13	0.00	862.08	1.32	0.00	889.78
6	0.04	0.04	6.34	0.07	2.96	0.00	395.16	0.58	0.00	407.35
4	0.07	0.07	36.54	0.15	5.76	0.00	809.61	1.24	0.00	835.62
6	0.01	0.01	6.64	0.57	0.50	0.00	265.21	0.02	0.03	275.44
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.94	0.85	6.86	3.21	15.29	0.02	1757.03	0.03	0.03	1766.33
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
4	0.18	0.16	1.31	0.61	2.91	0.00	334.67	0.01	0.01	336.44
332	0.01	0.01	2.27	0.21	0.21	0.00	188.01	0.01	0.01	192.32
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
439	**12.21**	**11.20**	**197.37**	**38.85**	**185.14**	**0.19**	**18404.08**	**6.12**	**0.13**	**18573.53**

Month 17 Daily Emissions (lb/day)										
Quantity Mo 17	PM$_{10}$	PM$_{2.5}$	CO	VOC	NO$_x$	SO$_2$	CO$_2$	CH$_4$	N$_2$O	CO$_2$e
1	0.16	0.14	1.63	0.69	1.38	0.00	128.17	0.06	0.00	129.47
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.37	0.34	2.41	0.65	4.00	0.00	341.10	0.06	0.00	342.34
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	1.45	1.34	12.64	3.29	25.38	0.02	2071.03	0.30	0.00	2077.26
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.78	0.72	7.83	3.09	8.26	0.01	815.06	0.28	0.00	820.92
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.26	0.24	2.84	1.06	2.65	0.00	261.75	0.10	0.00	263.76
1	0.40	0.36	2.92	1.04	10.77	0.01	982.36	0.09	0.00	984.34
5	1.89	1.74	20.06	8.67	16.48	0.02	1479.97	0.78	0.00	1496.40
4	0.63	0.58	6.89	2.35	6.61	0.01	673.10	0.21	0.00	677.56
1	0.16	0.15	1.65	0.68	1.48	0.00	140.05	0.06	0.00	141.35
5	0.08	0.08	38.91	0.16	6.13	0.00	862.08	1.32	0.00	889.78
6	0.04	0.04	6.34	0.07	2.96	0.00	395.16	0.58	0.00	407.35
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
5	0.01	0.01	5.54	0.47	0.42	0.00	221.00	0.02	0.03	229.53
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.94	0.85	6.86	3.21	15.29	0.02	1757.03	0.03	0.03	1766.33
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
4	0.18	0.16	1.31	0.61	2.91	0.00	334.67	0.01	0.01	336.44
325	0.01	0.01	2.22	0.21	0.21	0.00	183.86	0.01	0.01	188.08
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
419	**7.98**	**7.31**	**155.04**	**28.56**	**118.62**	**0.12**	**12644.57**	**4.89**	**0.13**	**12786.47**

Month 18 Daily Emissions (lb/day)										
Quantity Mo 18	PM$_{10}$	PM$_{2.5}$	CO	VOC	NO$_x$	SO$_2$	CO$_2$	CH$_4$	N$_2$O	CO$_2$e
1	0.16	0.14	1.63	0.69	1.38	0.00	128.17	0.06	0.00	129.47
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.37	0.34	2.41	0.65	4.00	0.00	341.10	0.06	0.00	342.34
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.52	0.48	5.22	2.06	5.50	0.01	543.38	0.19	0.00	547.28
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.26	0.24	2.84	1.06	2.65	0.00	261.75	0.10	0.00	263.76
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.76	0.70	8.02	3.47	6.59	0.01	591.99	0.31	0.00	598.56
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.16	0.15	1.65	0.68	1.48	0.00	140.05	0.06	0.00	141.35
2	0.03	0.03	15.57	0.06	2.45	0.00	344.83	0.53	0.00	355.91
6	0.04	0.04	6.34	0.07	2.96	0.00	395.16	0.58	0.00	407.35
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
4	0.01	0.00	4.43	0.38	0.34	0.00	176.80	0.01	0.02	183.63
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.73	0.66	5.33	2.50	11.89	0.01	1366.58	0.03	0.02	1373.82
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
4	0.18	0.16	1.31	0.61	2.91	0.00	334.67	0.01	0.01	336.44
280	0.01	0.01	1.92	0.18	0.18	0.00	158.57	0.01	0.01	162.20
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
358	**5.01**	**4.58**	**101.77**	**17.34**	**76.34**	**0.08**	**8438.03**	**3.16**	**0.11**	**8539.47**

Month 19 Daily Emissions (lb/day)										
Quantity Mo 19	PM$_{10}$	PM$_{2.5}$	CO	VOC	NO$_x$	SO$_2$	CO$_2$	CH$_4$	N$_2$O	CO$_2$e
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.37	0.34	2.41	0.65	4.00	0.00	341.10	0.06	0.00	342.34
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.52	0.48	5.22	2.06	5.50	0.01	543.38	0.19	0.00	547.28
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.26	0.24	2.84	1.06	2.65	0.00	261.75	0.10	0.00	263.76
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.76	0.70	8.02	3.47	6.59	0.01	591.99	0.31	0.00	598.56
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.16	0.15	1.65	0.68	1.48	0.00	140.05	0.06	0.00	141.35
2	0.03	0.03	15.57	0.06	2.45	0.00	344.83	0.53	0.00	355.91
6	0.04	0.04	6.34	0.07	2.96	0.00	395.16	0.58	0.00	407.35
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
4	0.01	0.00	4.43	0.38	0.34	0.00	176.80	0.01	0.02	183.63
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.73	0.66	5.33	2.50	11.89	0.01	1366.58	0.03	0.02	1373.82
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
4	0.18	0.16	1.31	0.61	2.91	0.00	334.67	0.01	0.01	336.44
247	0.01	0.01	1.69	0.16	0.16	0.00	139.69	0.01	0.01	142.89
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
324	**4.86**	**4.44**	**99.91**	**16.63**	**74.93**	**0.08**	**8290.99**	**3.09**	**0.11**	**8390.68**

Month 20 Daily Emissions (lb/day)										
Quantity Mo 20	PM$_{10}$	PM$_{2.5}$	CO	VOC	NO$_x$	SO$_2$	CO$_2$	CH$_4$	N$_2$O	CO$_2$e
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
3	1.50	1.38	14.77	3.95	38.71	0.04	3713.95	0.36	0.00	3721.43
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.52	0.48	5.22	2.06	5.50	0.01	543.38	0.19	0.00	547.28
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.26	0.24	2.84	1.06	2.65	0.00	261.75	0.10	0.00	263.76
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.38	0.35	4.01	1.73	3.30	0.00	295.99	0.16	0.00	299.28
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.03	0.03	15.57	0.06	2.45	0.00	344.83	0.53	0.00	355.91
5	0.03	0.03	5.28	0.06	2.46	0.00	329.30	0.48	0.00	339.46
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.63	0.56	4.57	2.14	10.19	0.01	1171.35	0.02	0.02	1177.56
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
4	0.18	0.16	1.31	0.61	2.91	0.00	334.67	0.01	0.01	336.44
226	0.01	0.01	1.55	0.15	0.15	0.00	127.98	0.01	0.01	130.92
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.15	0.13	1.06	0.50	2.37	0.00	271.92	0.01	0.00	273.36
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
302	**5.48**	**5.01**	**103.50**	**17.43**	**104.86**	**0.10**	**11138.53**	**3.07**	**0.10**	**11234.58**

Month 38 Daily Emissions (lb/day)										
Quantity Mo 38	PM$_{10}$	PM$_{2.5}$	CO	VOC	NO$_x$	SO$_2$	CO$_2$	CH$_4$	N$_2$O	CO$_2$e
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.08	0.08	38.91	0.16	6.13	0.00	862.08	1.32	0.00	889.78
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.21	0.19	1.52	0.71	3.40	0.00	390.45	0.01	0.01	392.52
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
1	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
153	0.01	0.00	1.05	0.10	0.10	0.00	86.83	0.01	0.01	88.82
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
210	**2.14**	**1.95**	**89.14**	**6.24**	**44.51**	**0.04**	**5166.42**	**2.56**	**0.08**	**5244.41**

Month 39 Daily Emissions (lb/day)										
Quantity Mo 39	PM$_{10}$	PM$_{2.5}$	CO	VOC	NO$_x$	SO$_2$	CO$_2$	CH$_4$	N$_2$O	CO$_2$e
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.08	0.08	38.91	0.16	6.13	0.00	862.08	1.32	0.00	889.78
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.21	0.19	1.52	0.71	3.40	0.00	390.45	0.01	0.01	392.52
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
1	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
153	0.01	0.00	1.05	0.10	0.10	0.00	86.83	0.01	0.01	88.82
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
210	**2.14**	**1.95**	**89.14**	**6.24**	**44.51**	**0.04**	**5166.42**	**2.56**	**0.08**	**5244.41**

Month 40 Daily Emissions (lb/day)										
Quantity Mo 40	PM$_{10}$	PM$_{2.5}$	CO	VOC	NO$_x$	SO$_2$	CO$_2$	CH$_4$	N$_2$O	CO$_2$e
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.08	0.08	38.91	0.16	6.13	0.00	862.08	1.32	0.00	889.78
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.21	0.19	1.52	0.71	3.40	0.00	390.45	0.01	0.01	392.52
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
152	0.01	0.00	1.04	0.10	0.10	0.00	86.08	0.01	0.01	88.05
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
208	**2.09**	**1.91**	**88.80**	**6.08**	**43.78**	**0.04**	**5082.00**	**2.56**	**0.08**	**5159.53**

Monthly Comparison of Construction Equipment Emissions:

Month of Contruction	Total Equipment Quantity	Daily Emissions (lb/day)									
		PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
1	136	5.03	4.60	63.73	13.68	84.97	0.09	8434.47	1.64	0.093	8497.75
2	304	13.81	12.65	160.18	36.48	216.69	0.22	20749.63	4.36	0.151	20887.92
3	366	12.02	11.01	161.20	33.30	198.99	0.20	19356.95	4.65	0.145	19499.47
4	342	15.05	13.80	190.08	42.31	262.18	0.26	25305.81	5.46	0.144	25465.07
5	344	15.67	14.38	213.72	45.02	269.44	0.27	26073.81	6.31	0.140	26249.64
6	619	18.95	17.40	274.67	56.38	312.35	0.31	30246.12	8.34	0.150	30467.84
7	616	16.58	15.21	236.50	50.07	257.91	0.26	24994.31	7.26	0.145	25191.62
8	506	15.20	13.95	199.21	45.95	232.53	0.24	22374.79	6.08	0.139	22545.44
9	445	13.61	12.49	186.36	42.50	202.24	0.21	19676.77	5.81	0.132	19839.78
10	411	11.67	10.70	162.84	37.75	158.89	0.17	15910.14	5.12	0.131	16058.32
11	411	11.67	10.70	162.84	37.75	158.89	0.17	15910.14	5.12	0.131	16058.32
12	410	11.51	10.56	161.19	37.06	157.41	0.16	15770.09	5.06	0.131	15916.98
13	475	14.77	13.55	212.87	45.03	229.41	0.23	22191.14	6.59	0.135	22371.40
14	462	14.36	13.19	245.99	44.23	229.79	0.23	22583.08	7.80	0.134	22788.34
15	460	13.13	12.05	214.09	41.46	204.77	0.21	20249.39	6.65	0.134	20430.58
16	439	12.21	11.20	197.37	38.85	185.14	0.19	18404.08	6.12	0.132	18573.53
17	419	7.98	7.31	155.04	28.56	118.62	0.12	12644.57	4.89	0.127	12786.47
18	358	5.01	4.58	101.77	17.34	76.34	0.08	8438.03	3.16	0.113	8539.47
19	324	4.86	4.44	99.91	16.63	74.93	0.08	8290.99	3.09	0.112	8390.68
20	302	5.48	5.01	103.50	17.43	104.86	0.10	11138.53	3.07	0.102	11234.58
21	284	5.10	4.66	99.38	15.69	101.55	0.10	10833.10	2.91	0.101	10925.64
22	281	4.79	4.38	96.20	14.47	98.17	0.10	10486.93	2.82	0.100	10577.00
23	280	4.53	4.14	93.59	13.44	95.42	0.09	10215.24	2.72	0.100	10303.36
24	280	4.53	4.14	93.59	13.44	95.42	0.09	10215.24	2.72	0.100	10303.36
25	274	2.89	2.63	77.76	9.00	54.34	0.05	6229.36	2.36	0.095	6308.57
26	273	2.63	2.39	75.15	7.97	51.59	0.05	5957.68	2.27	0.095	6034.93
27	273	2.63	2.39	75.15	7.97	51.59	0.05	5957.68	2.27	0.095	6034.93
28	229	2.54	2.31	74.21	7.64	50.10	0.05	5766.56	2.26	0.091	5842.38
29	229	2.54	2.31	74.21	7.64	50.10	0.05	5766.56	2.26	0.091	5842.38
30	229	2.54	2.31	74.21	7.64	50.10	0.05	5766.56	2.26	0.091	5842.38
31	224	2.51	2.28	68.92	7.58	47.64	0.05	5437.25	1.78	0.091	5502.91
32	224	2.51	2.28	68.92	7.58	47.64	0.05	5437.25	1.78	0.091	5502.91
33	248	2.51	2.28	69.09	7.59	47.65	0.05	5450.84	1.78	0.092	5516.82
34	251	2.56	2.33	92.44	7.69	51.33	0.05	5968.09	2.57	0.092	6050.69
35	251	2.56	2.33	92.44	7.69	51.33	0.05	5968.09	2.57	0.092	6050.69
36	210	2.14	1.95	89.14	6.24	44.51	0.04	5166.42	2.56	0.078	5244.41
37	210	2.14	1.95	89.14	6.24	44.51	0.04	5166.42	2.56	0.078	5244.41
38	210	2.14	1.95	89.14	6.24	44.51	0.04	5166.42	2.56	0.078	5244.41
39	210	2.14	1.95	89.14	6.24	44.51	0.04	5166.42	2.56	0.078	5244.41
40	208	2.09	1.91	88.80	6.08	43.78	0.04	5082.00	2.56	0.077	5159.53
MAX VALUE (lb/day)	**619**	**18.95**	**17.40**	**274.67**	**56.38**	**312.35**	**0.31**	**30246.1**	**8.34**	**0.151**	**30467.8**

Months for Annual Contruction		Annual Emissions (ton/year)									
		PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
1	12	2.41	2.21	32.59	7.17	37.69	0.038	3672.05	0.98	0.0245	3700.17
2	13	2.56	2.35	34.82	7.64	39.85	0.040	3878.40	1.05	0.0251	3908.28
3	14	2.57	2.35	36.11	7.76	40.05	0.040	3905.90	1.10	0.0248	3936.78
4	15	2.58	2.37	36.91	7.88	40.14	0.041	3919.28	1.13	0.0247	3950.75
5	16	2.54	2.33	37.01	7.83	38.98	0.039	3815.76	1.14	0.0245	3847.38
6	17	2.42	2.22	36.13	7.58	36.72	0.037	3614.32	1.12	0.0243	3645.43
7	18	2.22	2.03	33.54	7.00	33.18	0.034	3287.20	1.04	0.0238	3316.50
8	19	2.04	1.87	31.49	6.50	30.43	0.031	3036.65	0.98	0.0233	3064.49
9	20	1.89	1.74	30.06	6.07	28.52	0.029	2868.10	0.94	0.0227	2894.83
10	21	1.77	1.62	28.75	5.67	27.01	0.027	2735.45	0.89	0.0223	2761.11
11	22	1.66	1.52	27.75	5.32	26.10	0.026	2654.10	0.86	0.0218	2678.89
12	23	1.56	1.43	26.71	4.95	25.15	0.025	2568.68	0.82	0.0213	2592.57
13	24	1.45	1.33	25.70	4.60	24.22	0.024	2485.35	0.79	0.0208	2508.37
14	25	1.27	1.17	23.67	4.06	21.59	0.022	2245.93	0.72	0.0202	2267.42
15	26	1.10	1.00	21.11	3.51	18.92	0.019	1996.55	0.64	0.0197	2016.12
16	27	0.94	0.86	19.03	3.01	16.62	0.017	1782.17	0.58	0.0191	1800.19
17	28	0.79	0.73	17.18	2.54	14.59	0.014	1592.61	0.52	0.0185	1609.22
18	29	0.71	0.65	15.97	2.23	13.57	0.013	1489.44	0.48	0.0179	1505.06
19	30	0.68	0.62	15.55	2.08	13.17	0.013	1449.37	0.47	0.0176	1464.60
20	31	0.64	0.58	15.09	1.95	12.76	0.012	1406.56	0.45	0.0173	1421.29
21	32	0.60	0.54	14.57	1.80	11.91	0.012	1321.04	0.43	0.0171	1335.31
22	33	0.56	0.51	14.11	1.68	11.10	0.011	1240.31	0.41	0.0170	1254.18
23	34	0.52	0.48	14.06	1.58	10.39	0.010	1172.52	0.41	0.0169	1186.28
24	35	0.49	0.45	14.04	1.49	9.73	0.009	1108.82	0.40	0.0168	1122.49
25	36	0.46	0.42	13.97	1.38	8.97	0.009	1033.09	0.40	0.0165	1046.61
26	37	0.45	0.41	14.14	1.34	8.82	0.008	1017.14	0.40	0.0162	1030.65
27	38	0.44	0.40	14.35	1.32	8.72	0.008	1005.27	0.41	0.0159	1018.79
28	39	0.43	0.39	14.56	1.29	8.61	0.008	993.40	0.41	0.0157	1006.93
29	40	0.43	0.39	14.78	1.27	8.51	0.008	983.14	0.42	0.0155	996.69
MAX VALUE (ton/year)		**2.58**	**2.37**	**37.01**	**7.88**	**40.14**	**0.041**	**3919.28**	**1.14**	**0.0251**	**3950.75**

Annual Offsite Combustion Emissions

Maximum annual construction activity occurs in months 4-15.

Construction Assumptions - 30 days per month

Equipment	Number of Vehicles per year	Offsite Miles per Day Travelled per Vehicle	Offsite Miles per Year Travelled all Vehicle	Emission factors (g/mile)										Annual Emissions (ton/year)									
				PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
Vehicles with Onroad Engines for Emissions Estimates																							
Busses	72	10	21600	0.066	0.046	41.898	3.565	3.171	0.017	1672.27	0.120	0.200	1736.79	0.00	0.00	1.00	0.08	0.08	0.00	39.78	0.00	0.00	41.32
Concrete Pump Truck	0	40	0	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	28	0	0	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flatbed Truck	108	0	0	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Staff & Security Truck	60	0	0	0.010	0.010	2.100	0.055	0.030	0.010	326.30	0.050	0.060	345.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck	120	0	0	0.058	0.042	10.368	0.973	0.971	0.008	857.01	0.050	0.060	876.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water/Soiltac Truck	56	0	0	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(March 20, 2009)	4083	40	4899200	0.058	0.042	10.368	0.973	0.971	0.008	857.01	0.050	0.060	876.66	0.31	0.23	55.94	5.25	5.24	0.04	4624.06	0.27	0.32	4730.09
Delivery Transport Trucks																							
General Materials Delivery T	15	100	45000	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	0.08	0.08	0.61	0.29	1.37	0.00	156.88	0.00	0.00	157.71
Suncatcher Pedestals Delive	10	240	72000	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
Stirling Engines	60	50	90000	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	0.17	0.15	1.22	0.57	2.73	0.00	313.76	0.01	0.00	315.42
Suncatcher Metal Supports	120	240	864000	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	1.61	1.45	11.75	5.50	26.21	0.03	3012.05	0.06	0.05	3028.00
Suncatcher Mirrors	72	50	108000	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	0.20	0.18	1.47	0.69	3.28	0.00	376.51	0.01	0.01	378.50
Electrical and Control Systen	24	240	172800	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	0.32	0.29	2.35	1.10	5.24	0.01	602.41	0.01	0.01	605.60
Azimuth and Elevation Drive	24	50	36000	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	0.07	0.06	0.49	0.23	1.09	0.00	125.50	0.00	0.00	126.17
													Total	**2.91**	**2.55**	**75.82**	**14.17**	**47.42**	**0.09**	**9501.96**	**0.36**	**0.40**	**9635.13**

Number of Vehicles per year = sum of monthly daily maximum vehicle usage for the peak 12 months

Short-term Offsite Combustion Emissions

construction schedule = 12 hours per day 7 am to 7 pm
delivery trucks can arrive at the site anytime during the day or night

Vehicles with Onroad Engines for Emissions Estimates	Offsite Miles per Day Travelled per Vehicle	Hours/Day	Horsepower	Emission factors (g/mile) PM10	PM2.5	CO	VOC	NOx	SO2	CO2	CH4	N2O	CO2e	Emission rate per piece of equipment (lb/hr) PM10	PM2.5	CO	VOC	NOx	SO2	CO2	CH4	N2O	CO2e	Month 1 Daily Emissions (lb/day) Quantity Mo 1	PM10	PM2.5	CO	VOC	NOx	SO2	CO2	CH4	N2O	CO2e	Month 2 Daily Emissions (lb/day) Quantity Mo 2	PM10	PM2.5	CO	VOC	NOx	SO2	CO2	CH4	N2O	CO2e
Busses	10	12	175	6.60E-02	4.63E-02	4.19E+01	3.57E+00	3.17E+00	1.70E-02	1.67E+03	1.20E-01	2.00E-01	1.74E+03	0.000	0.000	0.077	0.007	0.006	0.000	3.070	0.000	0.000	3.19	4	0.01	0.00	3.69	0.31	0.28	0.00	147.34	0.01	0.02	153.02	6	0.01	0.01	5.54	0.47	0.42	0.00	221.00	0.02	0.03	229.53
Concrete Pump Truck	40	12	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.012	0.011	0.091	0.042	0.202	0.000	23.241	0.000	0.000	23.36	2	0.30	0.27	2.18	1.02	4.85	0.01	557.79	0.01	0.01	560.74	5	0.75	0.67	5.44	2.55	12.14	0.01	1394.47	0.03	0.02	1401.85
Dump Truck	0	12	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flatbed Truck	0	12	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Staff & Security Truck	0	24	187	1.00E-02	1.00E-02	2.10E+00	5.50E-02	3.00E-02	1.00E-02	3.26E+02	5.00E-02	6.00E-02	3.46E+02	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck	0	12	175	5.80E-02	4.18E-02	1.04E+01	9.73E-01	9.71E-01	8.00E-03	8.57E+02	5.00E-02	6.00E-02	8.77E+02	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water/Soiltac Truck	0	12	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Passenger Vehicles	40	12	NA	5.80E-02	4.18E-02	1.04E+01	9.73E-01	9.71E-01	8.00E-03	8.57E+02	5.00E-02	6.00E-02	8.77E+02	0.000	0.000	0.076	0.007	0.007	0.000	6.292	0.000	0.000	6.44	67	0.34	0.25	61.51	5.77	5.76	0.05	5084.15	0.30	0.36	5200.73	180	0.92	0.66	164.43	15.43	15.40	0.13	13591.30	0.79	0.95	13902.93
(March 20, 2009)																																														
General Construction Materials	100	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.016	0.014	0.113	0.053	0.253	0.000	29.051	0.001	0.000	29.21	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
Suncatcher Pedestals	240	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.037	0.034	0.272	0.127	0.607	0.001	69.723	0.001	0.001	70.09	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stirling Engines	50	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.008	0.007	0.057	0.027	0.126	0.000	14.526	0.000	0.000	14.60	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
Suncatcher Metal Supports	240	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.037	0.034	0.272	0.127	0.607	0.001	69.723	0.001	0.001	70.09	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
Suncatcher Mirrors	50	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.008	0.007	0.057	0.027	0.126	0.000	14.526	0.000	0.000	14.60	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
Electrical and Control Syste	240	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.037	0.034	0.272	0.127	0.607	0.001	69.723	0.001	0.001	70.09	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
Azimuth and Elevation Driv	50	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.008	0.007	0.057	0.027	0.126	0.000	14.526	0.000	0.000	14.60	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
																							Total	122	13.84	12.37	163.42	52.05	225.09	0.29	30401.67	0.78	0.77	30657.19	265	15.99	14.19	279.62	67.21	260.35	0.40	41910.87	1.34	1.42	42379.80

Vehicles with Onroad Engines for Emissions Estimates	Month 21 Daily Emissions (lb/day) Quantity Mo 21	PM10	PM2.5	CO	VOC	NOx	SO2	CO2	CH4	N2O	CO2e	Month 22 Daily Emissions (lb/day) Quantity Mo 22	PM10	PM2.5	CO	VOC	NOx	SO2	CO2	CH4	N2O	CO2e	Month 23 Daily Emissions (lb/day) Quantity Mo 23	PM10	PM2.5	CO	VOC	NOx	SO2	CO2	CH4	N2O	CO2e	Month 24 Daily Emissions (lb/day) Quantity Mo 24	PM10	PM2.5	CO	VOC	NOx	SO2	CO2	CH4	N2O	CO2e
Busses	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51
Concrete Pump Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flatbed Truck	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Staff & Security Truck	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water/Soiltac Truck	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Passenger Vehicles	209	1.07	0.77	191.22	17.95	17.91	0.15	15806.18	0.92	1.11	16168.59	208	1.06	0.77	190.00	17.83	17.79	0.15	15705.50	0.92	1.10	16065.61	208	1.06	0.77	190.00	17.83	17.79	0.15	15705.50	0.92	1.10	16065.61	208	1.06	0.77	190.00	17.83	17.79	0.15	15705.50	0.92	1.10	16065.61
Delivery Transport Trucks																																														
General Construction Materials	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Pedestals	3	2.69	2.42	19.59	9.17	43.69	0.05	5020.09	0.10	0.08	5046.67	3	2.69	2.42	19.59	9.17	43.69	0.05	5020.09	0.10	0.08	5046.67	3	2.69	2.42	19.59	9.17	43.69	0.05	5020.09	0.10	0.08	5046.67	3	2.69	2.42	19.59	9.17	43.69	0.05	5020.09	0.10	0.08	5046.67
Stirling Engines	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
Suncatcher Metal Supports	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
Suncatcher Mirrors	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
Electrical and Control Systems	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
Azimuth and Elevation Drive	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
TOTALS	264	16.96	15.03	308.71	72.21	275.93	0.43	45512.33	1.49	1.58	46034.48	262	16.95	15.03	307.49	72.10	275.82	0.43	45411.65	1.48	1.58	45931.49	262	16.95	15.03	307.49	72.10	275.82	0.43	45411.65	1.48	1.58	45931.49	262	16.95	15.03	307.49	72.10	275.82	0.43	45411.65	1.48	1.58	45931.49

Notes:
Emission factors from CARB Off-road Mobile Source Emission Factors (2006-2020) for diesel and propane equipment. (2009 data used).
Dozer = Crawler Tractor
Loaders = Rubber tired loaders
Backhoe = Tractors/Loaders/Backhoes
Light Tower = Other Construction Equipment
Utilization Load Factors from SCAQMD
PM2.5 emission factors obtained by multiplying the PM10 emissions by PM2.5 fraction in CEIDARS list for onroad or offroad diesel vehicles.
For propane equipment assumed PM2.5 and PM10 Fraction of total PM is 1.000
Onroad vehicle emissions from EMFAC2007 model
CH_4 and N_2O emission factors for the onroad vehicles are from reference source 2: Table C.5, California Climate Action Registry General Reporting Protocol Version 3.0, April 2007

CO_2 GWP (SAR, 1996) =	1
CH_4 GWP (SAR, 1996) =	21
N_2O GWP (SAR, 1996) =	310

Month 3 Daily Emissions (lb/day)											Month 4 Daily Emissions (lb/day)											Month 5 Daily Emissions (lb/day)										
Quantity Mo 3	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 4	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 5	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
6	0.01	0.01	5.54	0.47	0.42	0.00	221.00	0.02	0.03	229.53	6	0.01	0.01	5.54	0.47	0.42	0.00	221.00	0.02	0.03	229.53	6	0.01	0.01	5.54	0.47	0.42	0.00	221.00	0.02	0.03	229.53
5	0.75	0.67	5.44	2.55	12.14	0.01	1394.47	0.03	0.02	1401.85	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
249	1.27	0.92	227.76	21.37	21.33	0.18	18826.47	1.10	1.32	19258.13	219	1.12	0.80	199.75	18.75	18.71	0.15	16510.91	0.96	1.16	16889.49	219	1.12	0.80	199.75	18.75	18.71	0.15	16510.91	0.96	1.16	16889.49
3	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	3	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	3	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3	2.69	2.42	19.59	9.17	43.69	0.05	5020.09	0.10	0.08	5046.67	3	2.69	2.42	19.59	9.17	43.69	0.05	5020.09	0.10	0.08	5046.67
5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
327	**16.35**	**14.45**	**342.95**	**73.15**	**266.28**	**0.44**	**47146.03**	**1.65**	**1.79**	**47735.00**	**294**	**18.13**	**16.08**	**329.09**	**77.14**	**295.21**	**0.46**	**48456.10**	**1.58**	**1.68**	**49011.17**	**290**	**18.13**	**16.08**	**329.09**	**77.14**	**295.21**	**0.46**	**48456.10**	**1.58**	**1.68**	**49011.17**

Month 25 Daily Emissions (lb/day)											Month 26 Daily Emissions (lb/day)											Month 27 Daily Emissions (lb/day)										
Quantity Mo 25	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 26	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 27	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
208	1.06	0.77	190.00	17.83	17.79	0.15	15705.50	0.92	1.10	16065.61	208	1.06	0.77	190.00	17.83	17.79	0.15	15705.50	0.92	1.10	16065.61	208	1.06	0.77	190.00	17.83	17.79	0.15	15705.50	0.92	1.10	16065.61
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
259	**14.26**	**12.61**	**287.90**	**62.93**	**232.13**	**0.38**	**40391.56**	**1.39**	**1.50**	**40884.82**	**259**	**14.26**	**12.61**	**287.90**	**62.93**	**232.13**	**0.38**	**40391.56**	**1.39**	**1.50**	**40884.82**	**259**	**14.26**	**12.61**	**287.90**	**62.93**	**232.13**	**0.38**	**40391.56**	**1.39**	**1.50**	**40884.82**

Month 6 Daily Emissions (lb/day)											Month 7 Daily Emissions (lb/day)											Month 8 Daily Emissions (lb/day)											Month 9 Daily Emissions (lb/day)										
Quantity Mo 6	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 7	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 8	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 9	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
6	0.01	0.01	5.54	0.47	0.42	0.00	221.00	0.02	0.03	229.53	6	0.01	0.01	5.54	0.47	0.42	0.00	221.00	0.02	0.03	229.53	6	0.01	0.01	5.54	0.47	0.42	0.00	221.00	0.02	0.03	229.53	6	0.01	0.01	5.54	0.47	0.42	0.00	221.00	0.02	0.03	229.53
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
479	2.45	1.76	437.86	41.09	41.01	0.34	36193.13	2.11	2.53	37022.99	487	2.49	1.79	445.17	41.78	41.69	0.34	36797.19	2.15	2.58	37640.90	385	1.97	1.42	351.99	33.03	32.97	0.27	29095.45	1.70	2.04	29762.57	334	1.71	1.23	305.10	28.63	28.57	0.24	25219.41	1.47	1.77	25797.66
3	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	3	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	3	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	2.69	2.42	19.59	9.17	43.69	0.05	5020.09	0.10	0.08	5046.67	1	0.90	0.81	6.53	3.06	14.56	0.02	1673.36	0.03	0.03	1682.22	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
550	**19.47**	**17.04**	**567.20**	**99.49**	**317.51**	**0.64**	**68138.32**	**2.73**	**3.06**	**69144.67**	**554**	**17.71**	**15.46**	**561.45**	**94.07**	**289.07**	**0.61**	**65395.65**	**2.70**	**3.05**	**66398.13**	**450**	**16.29**	**14.28**	**461.74**	**82.27**	**265.78**	**0.53**	**56020.55**	**2.22**	**2.49**	**56837.58**	**393**	**14.91**	**13.08**	**406.69**	**74.05**	**243.19**	**0.47**	**50052.81**	**1.95**	**2.18**	**50769.89**

Month 28 Daily Emissions (lb/day)											Month 29 Daily Emissions (lb/day)											Month 30 Daily Emissions (lb/day)											Month 31 Daily Emissions (lb/day)										
Quantity Mo 28	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 29	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 30	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 31	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
166	0.85	0.61	151.64	14.23	14.20	0.12	12534.20	0.73	0.88	12821.59	166	0.85	0.61	151.64	14.23	14.20	0.12	12534.20	0.73	0.88	12821.59	166	0.85	0.61	151.64	14.23	14.20	0.12	12534.20	0.73	0.88	12821.59	166	0.85	0.61	151.64	14.23	14.20	0.12	12534.20	0.73	0.88	12821.59
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
215	**14.05**	**12.46**	**249.53**	**59.33**	**228.54**	**0.35**	**37220.26**	**1.20**	**1.28**	**37640.80**	**215**	**14.05**	**12.46**	**249.53**	**59.33**	**228.54**	**0.35**	**37220.26**	**1.20**	**1.28**	**37640.80**	**215**	**14.05**	**12.46**	**249.53**	**59.33**	**228.54**	**0.35**	**37220.26**	**1.20**	**1.28**	**37640.80**	**215**	**14.05**	**12.46**	**249.53**	**59.33**	**228.54**	**0.35**	**37220.26**	**1.20**	**1.28**	**37640.80**

Month 10 Daily Emissions (lb/day)											Month 11 Daily Emissions (lb/day)											Month 12 Daily Emissions (lb/day)											Month 13 Daily Emissions (lb/day)										
Quantity Mo 10	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 11	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 12	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 13	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
6	0.01	0.01	5.54	0.47	0.42	0.00	221.00	0.02	0.03	229.53	6	0.01	0.01	5.54	0.47	0.42	0.00	221.00	0.02	0.03	229.53	6	0.01	0.01	5.54	0.47	0.42	0.00	221.00	0.02	0.03	229.53	6	0.01	0.01	5.54	0.47	0.42	0.00	221.00	0.02	0.03	229.53
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
305	1.56	1.12	278.31	26.12	26.06	0.21	23004.53	1.34	1.61	23532.00	305	1.56	1.12	278.31	26.12	26.06	0.21	23004.53	1.34	1.61	23532.00	305	1.56	1.12	278.31	26.12	26.06	0.21	23004.53	1.34	1.61	23532.00	357	1.82	1.31	325.81	30.58	30.51	0.25	26930.91	1.57	1.89	27548.40
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
364	**14.76**	**12.97**	**379.89**	**71.53**	**240.68**	**0.45**	**47837.93**	**1.82**	**2.03**	**48504.23**	**364**	**14.76**	**12.97**	**379.89**	**71.53**	**240.68**	**0.45**	**47837.93**	**1.82**	**2.03**	**48504.23**	**364**	**14.76**	**12.97**	**379.89**	**71.53**	**240.68**	**0.45**	**47837.93**	**1.82**	**2.03**	**48504.23**	**419**	**15.03**	**13.16**	**427.39**	**75.99**	**245.13**	**0.49**	**51764.30**	**2.05**	**2.30**	**52520.63**

Month 32 Daily Emissions (lb/day)											Month 33 Daily Emissions (lb/day)											Month 34 Daily Emissions (lb/day)											Month 35 Daily Emissions (lb/day)										
Quantity Mo 32	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 33	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 34	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 35	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
166	0.85	0.61	151.64	14.23	14.20	0.12	12534.20	0.73	0.88	12821.59	190	0.97	0.70	173.56	16.29	16.25	0.13	14346.37	0.84	1.00	14675.32	190	0.97	0.70	173.56	16.29	16.25	0.13	14346.37	0.84	1.00	14675.32	190	0.97	0.70	173.56	16.29	16.25	0.13	14346.37	0.84	1.00	14675.32
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
215	**14.05**	**12.46**	**249.53**	**59.33**	**228.54**	**0.35**	**37220.26**	**1.20**	**1.28**	**37640.80**	**239**	**14.17**	**12.55**	**271.46**	**61.39**	**230.59**	**0.37**	**39032.43**	**1.31**	**1.40**	**39494.53**	**239**	**14.17**	**12.55**	**271.46**	**61.39**	**230.59**	**0.37**	**39032.43**	**1.31**	**1.40**	**39494.53**	**239**	**14.17**	**12.55**	**271.46**	**61.39**	**230.59**	**0.37**	**39032.43**	**1.31**	**1.40**	**39494.53**

Month 14 Daily Emissions (lb/day)											Month 15 Daily Emissions (lb/day)											Month 16 Daily Emissions (lb/day)										
Quantity Mo 14	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 15	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 16	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
6	0.01	0.01	5.54	0.47	0.42	0.00	221.00	0.02	0.03	229.53	6	0.01	0.01	5.54	0.47	0.42	0.00	221.00	0.02	0.03	229.53	6	0.01	0.01	5.54	0.47	0.42	0.00	221.00	0.02	0.03	229.53
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
341	1.74	1.26	311.80	29.26	29.20	0.24	25773.13	1.50	1.80	26364.08	347	1.77	1.28	317.28	29.78	29.71	0.24	26226.18	1.53	1.84	26827.51	332	1.70	1.22	303.28	28.46	28.40	0.23	25068.40	1.46	1.76	25643.18
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
402	**14.95**	**13.11**	**413.39**	**74.67**	**243.82**	**0.48**	**50606.53**	**1.99**	**2.22**	**51336.31**	**408**	**14.98**	**13.13**	**418.87**	**75.19**	**244.33**	**0.48**	**51059.57**	**2.01**	**2.25**	**51799.74**	**391**	**14.90**	**13.07**	**404.86**	**73.87**	**243.02**	**0.47**	**49901.79**	**1.94**	**2.17**	**50615.42**

Month 36 Daily Emissions (lb/day)											Month 37 Daily Emissions (lb/day)											Month 38 Daily Emissions (lb/day)										
Quantity Mo 36	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 37	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 38	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
153	0.78	0.56	140.07	13.14	13.12	0.11	11577.77	0.68	0.81	11843.24	153	0.78	0.56	140.07	13.14	13.12	0.11	11577.77	0.68	0.81	11843.24	153	0.78	0.56	140.07	13.14	13.12	0.11	11577.77	0.68	0.81	11843.24
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
198	**13.98**	**12.41**	**237.96**	**58.24**	**227.45**	**0.34**	**36263.83**	**1.15**	**1.21**	**36662.45**	**198**	**13.98**	**12.41**	**237.96**	**58.24**	**227.45**	**0.34**	**36263.83**	**1.15**	**1.21**	**36662.45**	**198**	**13.98**	**12.41**	**237.96**	**58.24**	**227.45**	**0.34**	**36263.83**	**1.15**	**1.21**	**36662.45**

Month 17 Daily Emissions (lb/day)											Month 18 Daily Emissions (lb/day)										
Quantity Mo 17	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 18	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
5	0.01	0.01	4.61	0.39	0.35	0.00	184.17	0.01	0.02	191.28	4	0.01	0.00	3.69	0.31	0.28	0.00	147.34	0.01	0.02	153.02
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
325	1.66	1.19	296.58	27.83	27.78	0.23	24514.68	1.43	1.72	25076.77	280	1.43	1.03	255.77	24.00	23.95	0.20	21142.02	1.23	1.48	21626.78
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
383	**14.86**	**13.04**	**397.24**	**73.17**	**242.32**	**0.46**	**49311.24**	**1.91**	**2.13**	**50010.75**	**335**	**14.63**	**12.88**	**355.51**	**69.26**	**238.43**	**0.43**	**45901.75**	**1.71**	**1.89**	**46522.50**

Month 19 Daily Emissions (lb/day)											Month 20 Daily Emissions (lb/day)										
Quantity Mo 19	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 20	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
4	0.01	0.00	3.69	0.31	0.28	0.00	147.34	0.01	0.02	153.02	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
247	1.26	0.91	225.33	21.15	21.10	0.17	18625.12	1.09	1.30	19052.16	226	1.15	0.83	206.45	19.37	19.33	0.16	17064.63	1.00	1.19	17455.90
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3	2.69	2.42	19.59	9.17	43.69	0.05	5020.09	0.10	0.08	5046.67
5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
302	**14.46**	**12.76**	**325.07**	**66.40**	**235.58**	**0.41**	**43384.84**	**1.56**	**1.71**	**43947.89**	**281**	**17.04**	**15.09**	**323.93**	**73.64**	**277.36**	**0.44**	**46770.78**	**1.56**	**1.67**	**47321.79**

Month 39 Daily Emissions (lb/day)											Month 40 Daily Emissions (lb/day)										
Quantity Mo 39	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 40	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
153	0.78	0.56	140.07	13.14	13.12	0.11	11577.77	0.68	0.81	11843.24	152	0.78	0.56	138.85	13.03	13.00	0.11	11477.10	0.67	0.80	11740.25
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
198	**13.98**	**12.41**	**237.96**	**58.24**	**227.45**	**0.34**	**36263.83**	**1.15**	**1.21**	**36662.45**	**196**	**13.97**	**12.41**	**236.74**	**58.13**	**227.34**	**0.34**	**36163.15**	**1.14**	**1.20**	**36559.47**

Monthly Comparison of Construction Equipment Emissions:

Month of Contruction	Offroad Equipment Quantity	Daily Emissions (lb/day)									
		PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
1	122	13.84	12.37	163.42	52.05	225.09	0.29	30401.67	0.78	0.77	30657.19
2	265	15.99	14.19	279.62	67.21	260.35	0.40	41910.87	1.34	1.42	42379.80
3	327	16.35	14.45	342.95	73.15	266.28	0.44	47146.03	1.65	1.79	47735.00
4	294	18.13	16.08	329.09	77.14	295.21	0.46	48456.10	1.58	1.68	49011.17
5	290	18.13	16.08	329.09	77.14	295.21	0.46	48456.10	1.58	1.68	49011.17
6	550	19.47	17.04	567.20	99.49	317.51	0.64	68138.32	2.73	3.06	69144.67
7	554	17.71	15.46	561.45	94.07	289.07	0.61	65395.65	2.70	3.05	66398.13
8	450	16.29	14.28	461.74	82.27	265.78	0.53	56020.55	2.22	2.49	56837.58
9	393	14.91	13.08	406.69	74.05	243.19	0.47	50052.81	1.95	2.18	50769.89
10	364	14.76	12.97	379.89	71.53	240.68	0.45	47837.93	1.82	2.03	48504.23
11	364	14.76	12.97	379.89	71.53	240.68	0.45	47837.93	1.82	2.03	48504.23
12	364	14.76	12.97	379.89	71.53	240.68	0.45	47837.93	1.82	2.03	48504.23
13	419	15.03	13.16	427.39	75.99	245.13	0.49	51764.30	2.05	2.30	52520.63
14	402	14.95	13.11	413.39	74.67	243.82	0.48	50606.53	1.99	2.22	51336.31
15	408	14.98	13.13	418.87	75.19	244.33	0.48	51059.57	2.01	2.25	51799.74
16	391	14.90	13.07	404.86	73.87	243.02	0.47	49901.79	1.94	2.17	50615.42
17	383	14.86	13.04	397.24	73.17	242.32	0.46	49311.24	1.91	2.13	50010.75
18	335	14.63	12.88	355.51	69.26	238.43	0.43	45901.75	1.71	1.89	46522.50
19	302	14.46	12.76	325.07	66.40	235.58	0.41	43384.84	1.56	1.71	43947.89
20	281	17.04	15.09	323.93	73.64	277.36	0.44	46770.78	1.56	1.67	47321.79
21	264	16.96	15.03	308.71	72.21	275.93	0.43	45512.33	1.49	1.58	46034.48
22	262	16.95	15.03	307.49	72.10	275.82	0.43	45411.65	1.48	1.58	45931.49
23	262	16.95	15.03	307.49	72.10	275.82	0.43	45411.65	1.48	1.58	45931.49
24	262	16.95	15.03	307.49	72.10	275.82	0.43	45411.65	1.48	1.58	45931.49
25	259	14.26	12.61	287.90	62.93	232.13	0.38	40391.56	1.39	1.50	40884.82
26	259	14.26	12.61	287.90	62.93	232.13	0.38	40391.56	1.39	1.50	40884.82
27	259	14.26	12.61	287.90	62.93	232.13	0.38	40391.56	1.39	1.50	40884.82
28	215	14.05	12.46	249.53	59.33	228.54	0.35	37220.26	1.20	1.28	37640.80
29	215	14.05	12.46	249.53	59.33	228.54	0.35	37220.26	1.20	1.28	37640.80
30	215	14.05	12.46	249.53	59.33	228.54	0.35	37220.26	1.20	1.28	37640.80
31	215	14.05	12.46	249.53	59.33	228.54	0.35	37220.26	1.20	1.28	37640.80
32	215	14.05	12.46	249.53	59.33	228.54	0.35	37220.26	1.20	1.28	37640.80
33	239	14.17	12.55	271.46	61.39	230.59	0.37	39032.43	1.31	1.40	39494.53
34	239	14.17	12.55	271.46	61.39	230.59	0.37	39032.43	1.31	1.40	39494.53
35	239	14.17	12.55	271.46	61.39	230.59	0.37	39032.43	1.31	1.40	39494.53
36	198	13.98	12.41	237.96	58.24	227.45	0.34	36263.83	1.15	1.21	36662.45
37	198	13.98	12.41	237.96	58.24	227.45	0.34	36263.83	1.15	1.21	36662.45
38	198	13.98	12.41	237.96	58.24	227.45	0.34	36263.83	1.15	1.21	36662.45
39	198	13.98	12.41	237.96	58.24	227.45	0.34	36263.83	1.15	1.21	36662.45
40	196	13.97	12.41	236.74	58.13	227.34	0.34	36163.15	1.14	1.20	36559.47
MAX VALUE (lb/day)	**554**	**19.47**	**17.04**	**567.20**	**99.49**	**317.51**	**0.64**	**68138.32**	**2.73**	**3.06**	**69144.67**

Months for Annual Contruction		Annual Emissions (ton/year)									
		PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
1	12	2.93	2.58	68.71	13.67	47.70	0.085	8992.38	0.33	0.3631	9111.86
2	13	2.94	2.59	72.67	14.03	48.00	0.088	9312.82	0.35	0.3860	9439.81
3	14	2.93	2.57	74.68	14.14	47.75	0.089	9443.25	0.36	0.3980	9574.16
4	15	2.91	2.55	75.82	14.17	47.42	0.089	9501.96	0.36	0.4049	9635.13
5	16	2.86	2.51	76.96	14.12	46.64	0.090	9523.64	0.37	0.4122	9659.19
6	17	2.81	2.46	77.98	14.06	45.84	0.090	9536.47	0.37	0.4189	9674.19
7	18	2.74	2.40	74.80	13.61	44.66	0.087	9202.92	0.36	0.4012	9334.85
8	19	2.69	2.36	71.26	13.19	43.85	0.083	8872.76	0.34	0.3811	8998.10
9	20	2.70	2.37	69.19	13.06	44.03	0.082	8734.01	0.33	0.3689	8855.36
10	21	2.73	2.40	67.72	13.03	44.52	0.082	8665.90	0.33	0.3600	8784.33
11	22	2.76	2.43	66.63	13.04	45.05	0.081	8629.51	0.32	0.3532	8745.74
12	23	2.80	2.46	65.55	13.05	45.57	0.081	8593.12	0.32	0.3465	8707.15
13	24	2.83	2.50	64.46	13.06	46.10	0.081	8556.72	0.31	0.3398	8668.56
14	25	2.82	2.49	62.37	12.86	45.91	0.079	8386.13	0.30	0.3277	8494.02
15	26	2.81	2.48	60.49	12.69	45.73	0.078	8232.91	0.29	0.3169	8337.25
16	27	2.80	2.47	58.52	12.50	45.55	0.076	8072.89	0.28	0.3056	8173.53
17	28	2.78	2.46	56.19	12.29	45.33	0.074	7882.66	0.27	0.2921	7978.91
18	29	2.77	2.45	53.98	12.08	45.12	0.073	7701.30	0.26	0.2793	7793.36
19	30	2.76	2.45	52.39	11.93	44.97	0.071	7571.08	0.25	0.2702	7660.13
20	31	2.76	2.44	51.25	11.82	44.87	0.071	7478.61	0.25	0.2636	7565.53
21	32	2.71	2.40	50.14	11.61	44.14	0.069	7335.35	0.24	0.2577	7420.31
22	33	2.67	2.37	49.58	11.45	43.46	0.068	7238.15	0.24	0.2550	7322.21
23	34	2.63	2.33	49.04	11.29	42.78	0.067	7142.46	0.24	0.2524	7225.66
24	35	2.59	2.29	48.50	11.13	42.10	0.066	7046.77	0.23	0.2497	7129.10
25	36	2.54	2.25	47.46	10.92	41.37	0.065	6909.56	0.23	0.2442	6990.07
26	37	2.54	2.25	46.71	10.85	41.30	0.065	6847.64	0.23	0.2399	6926.73
27	38	2.53	2.25	45.96	10.78	41.23	0.064	6785.72	0.22	0.2355	6863.40
28	39	2.53	2.24	45.21	10.71	41.16	0.063	6723.81	0.22	0.2312	6800.06
29	40	2.53	2.24	45.02	10.69	41.15	0.063	6707.95	0.22	0.2301	6783.84
MAX VALUE (ton/year)		**2.94**	**2.59**	**77.98**	**14.17**	**48.00**	**0.090**	**9536.47**	**0.37**	**0.4189**	**9674.19**

Solar Two
Fugitive Dust Emissions (on-site)
Peak month = 6 Maximum annual construction equipment activity occurs in months 4-15.

Travel on sealed roads (paved)

$E = [k * (sL/2)^{0.65} * (W/3)^{1.5} - C] (1 - P/4N)$ EPA AP-42 Section 13.2.1 Paved Roads Equation 2
E = particulate emission factor (lb/VMT),
k = particle size multiplier for particle size range and units of interest
7.4 sL = road surface silt loading (grams per square meter) (g/m^2), from Table 13.2.1-4 for Municipal solid waste landfill
W = average weight (tons) of the vehicles traveling the road, and
C = emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear.

constants

	$PM_{2.5}$	PM_{10}
k	0.0024	0.016
C	0.00036	0.00047

12 P = Mean number of days per year with at least 0.01 inches of precipitation (from EL CENTRO 2 SSW COOP Station)
365 N = number of days in the year (averaging period)

Vehicle Type	Number of Vehicles (month 6)	Max Daily Distance per Vehicle (mile/day)	Assumed distance percentage to drive on sealed roads	Max Daily Distance per Vehicle to drive on sealed roads (mile/day)	Max Daily VMT (all vehicles)	Mean Vehicle Weight (tons)	Max. Operating Hours / Day	Number of Vehicles per year (months 4-15)	Max Annual VMT (all vehicles)	$PM_{2.5}$ EF (lbs/VMT)	PM_{10} EF (lbs/VMT)
Diesel Construction Equipment											
Air Compressor	3	0	0%	0	0	0.5	6	27	0	0.000	0.002
Asphalt Paver	0	0.2	0%	0	0	25	7	0	0	0.134	0.893
Backhoe	6	0	0%	0	0	11	7	55	0	0.039	0.260
Compactor	3	0	0%	0	0	10	7	34	0	0.034	0.226
Crane small	8	0.5	50%	0	2	10	5	81	607.5	0.034	0.226
Crane large	3	0.5	0%	0	0	35	7	10	0	0.222	1.480
Dozer	1	0	0%	0	0	20	8	9	0	0.096	0.639
Generator	4	0	0%	0	0	0.5	9	49	0	0.000	0.002
Grader	3	0	0%	0	0	20	7	19	0	0.096	0.639
Light Tower	2	0	0%	0	0	0.25	9	23	0	0.000	0.000
Loader	4	0	0%	0	0	25	7	32	0	0.134	0.893
Maxi Sneeker (Trencher)	5	0	0%	0	0	5	9	49	0	0.012	0.079
Skid Steer (Bobcat)	4	0	0%	0	0	2	7	34	0	0.003	0.020
Welding Machine	4	0	0%	0	0	0.5	5	43	0	0.000	0.002
Equipment fueled with Propane											
Aerial Lift	6	1	50%	1	3	4	6	48	720	0.008	0.057
Fork Lift	8	1	50%	1	4	3	4	93	1395	0.005	0.037
Telehandler	5	1	50%	1	3	3	6	43	645	0.005	0.037
Vehicles with Onroad Engines for Emissions Estimates											
Busses	6	12	0%	0	0	12	12	72	0	0.044	0.297
Concrete Pump	0	6	0%	0	0	20	12	0	0	0.096	0.639
Dump Truck	4	7	50%	4	14	20	12	28	2940	0.096	0.639
Flatbed Truck	9	28	100%	28	252	10	12	108	90720	0.034	0.226
Staff & Security Truck	5	33	100%	33	165	2.25	24	60	59400	0.003	0.024
Pickup Truck	10	12	95%	11	114	4	12	120	41040	0.008	0.057
Water/Soiltac Truck	6	12	25%	3	18	20	12	56	5040	0.096	0.639
Worker Passenger Vehicles	479	0.3	100%	0	144	2	12	4083	36744	0.003	0.020
Suncatcher Delivery Trucks											
General Materials Delivery Trucks	3	6	0%	0	0	20	24	15	0	0.096	0.639
Suncatcher Pedestals Delivery Trucks	3	13	55%	7	21	20	24	10	2145	0.096	0.639
Stirling Engines	5	6	0%	0	0	20	24	60	0	0.096	0.639
Suncatcher Metal Supports	10	6	0%	0	0	20	24	120	0	0.096	0.639
Suncatcher Mirrors	6	6	0%	0	0	20	24	72	0	0.096	0.639
Electrical and Control Systems	2	6	0%	0	0	20	24	24	0	0.096	0.639
Azimuth and Elevation Drive	2	6	0%	0	0	20	24	24	0	0.096	0.639

Vehicle Type	Watering Control Efficiency		PM_{10} Emissions (lb/hr)		PM_{10} Emissions (lb/day)		% of daily emissions	PM_{10} Emissions (tons/year)		$PM_{2.5}$ Emissions (lb/hr)		$PM_{2.5}$ Emissions (lb/day)		$PM_{2.5}$ Emissions (tons/year)	
	Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated		Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated
Diesel Construction Equipment															
Air Compressor	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Paver	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Backhoe	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Compactor	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crane small	0%	0%	0.09	0.09	0.45	0.45	0.43%	0.07	0.07	0.01	0.01	0.07	0.07	0.01	0.01
Crane large	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dozer	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generator	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grader	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light Tower	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loader	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maxi Sneeker (Trencher)	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Skid Steer (Bobcat)	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Welding Machine	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equipment fueled with Propane															
Aerial Lift	0%	0%	0.03	0.03	0.17	0.17	0.16%	0.02	0.02	0.00	0.00	0.02	0.02	0.00	0.00
Fork Lift	0%	0%	0.04	0.04	0.15	0.15	0.14%	0.03	0.03	0.01	0.01	0.02	0.02	0.00	0.00
Telehandler	0%	0%	0.01	0.01	0.09	0.09	0.09%	0.01	0.01	0.00	0.00	0.01	0.01	0.00	0.00
Vehicles with Onroad Engines for Emissions Estimates															
Busses	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Pump	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	0%	0%	0.75	0.75	8.94	8.94	8.51%	0.94	0.94	0.11	0.11	1.34	1.34	0.14	0.14
Flatbed Truck	0%	0%	4.74	4.74	56.84	56.84	54.11%	10.23	10.23	0.70	0.70	8.45	8.45	1.52	1.52
Staff & Security Truck	0%	0%	0.16	0.16	3.90	3.90	3.72%	0.70	0.70	0.02	0.02	0.54	0.54	0.10	0.10
Pickup Truck	0%	0%	0.54	0.54	6.47	6.47	6.15%	1.16	1.16	0.08	0.08	0.94	0.94	0.17	0.17
Water/Soiltac Truck	0%	0%	0.96	0.96	11.50	11.50	10.95%	1.61	1.61	0.14	0.14	1.72	1.72	0.24	0.24
Worker Passenger Vehicles	0%	0%	0.24	0.24	2.84	2.84	2.70%	0.36	0.36	0.03	0.03	0.38	0.38	0.05	0.05
Suncatcher Delivery Trucks															
General Materials Delivery Trucks	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Pedestals Delivery Trucks	0%	0%	0.57	0.57	13.70	13.70	13.04%	0.69	0.69	0.09	0.09	2.05	2.05	0.10	0.10
Stirling Engines	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Metal Supports	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Mirrors	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electrical and Control Systems	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Azimuth and Elevation Drive	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL Fugitive emissions for vehicles traveled on sealed road (paved)			**8.12**	**8.12**	**105.06**	**105.06**		**15.82**	**15.82**	**1.20**	**1.20**	**15.55**	**15.55**	**2.34**	**2.34**

Travel on paved road

$E = [k * (sL/2)^{0.65} * (W/3)^{1.5} - C] (1 - P/4N)$ EPA AP-42 Section 13.2.1 Paved Roads Equation 2

E = particulate emission factor (lb/VMT),
k = particle size multiplier for particle size range and units of interest

1.6 sL = road surface silt loading (grams per square meter) (g/m^2),
W = average weight (tons) of the vehicles traveling the road, and
C = emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear.

Rural roads CARB - Emission Inventory Database - Section 7.8 SJV - Entrained Paved Road Dust - Rural Roads (emission inventory code: 640-643-5400-0000), June 2006.

constants

	$PM_{2.5}$	PM_{10}
k	0.0024	0.016
C	0.00036	0.00047

12 P = Mean number of days per year with at least 0.01 inches of precipitation (from EL CENTRO 2 SSW COOP Station)
365 N = number of days in the year (averaging period)

Vehicle Type	Number of Vehicles (month 6)	Max Daily Distance per Vehicle (mile/day)	Assumed distance percentage to drive on paved road	Max Daily Distance per Vehicle to drive on paved road (mile/day)	Max Daily VMT (all vehicles)	Mean Vehicle Weight (tons)	Max. Operating Hours / Day	Number of Vehicles per year (months 4-15)	Max Annual VMT (all vehicles)	$PM_{2.5}$ EF (lbs/VMT)	PM_{10} EF (lbs/VMT)
Diesel Construction Equipment											
Air Compressor	3	0	0%	0	0	0.5	6	27	0	0.000	0.000
Asphalt Paver	0	0.2	0%	0	0	25	7	0	0	0.049	0.330
Backhoe	6	0	0%	0	0	11	7	55	0	0.014	0.096
Compactor	3	0	0%	0	0	10	7	34	0	0.012	0.083
Crane small	8	0.5	0%	0	0	10	5	81	0	0.012	0.083
Crane large	3	0.5	0%	0	0	35	7	10	0	0.082	0.547
Dozer	1	0	0%	0	0	20	8	9	0	0.035	0.236
Generator	4	0	0%	0	0	0.5	9	49	0	0.000	0.000
Grader	3	0	0%	0	0	20	7	19	0	0.035	0.236
Light Tower	2	0	0%	0	0	0.25	9	23	0	0.000	0.000
Loader	4	0	0%	0	0	25	7	32	0	0.049	0.330
Maxi Sneeker (Trencher)	5	0	0%	0	0	5	9	49	0	0.004	0.029
Skid Steer (Bobcat)	4	0	0%	0	0	2	7	34	0	0.001	0.007
Welding Machine	4	0	0%	0	0	0.5	5	43	0	0.000	0.000
Equipment fueled with Propane											
Aerial Lift	6	1	0%	0	0	4	6	48	0	0.003	0.021
Fork Lift	8	1	0%	0	0	3	4	93	0	0.002	0.013
Telehandler	5	1	0%	0	0	3	6	43	0	0.002	0.013
Vehicles with Onroad Engines for Emissions Estimates											
Busses	6	12	100%	12	72	12	12	72	25920	0.016	0.109
Concrete Pump	0	6	82%	4.92	0	20	12	0	0	0.035	0.236
Dump Truck	4	7	0%	0	0	20	12	28	0	0.035	0.236
Flatbed Truck	9	28	0%	0	0	10	12	108	0	0.012	0.083
Staff & Security Truck	5	33	0%	0	0	2.25	24	60	0	0.001	0.008
Pickup Truck	10	12	0%	0	0	4	12	120	0	0.003	0.021
Water/Soiltac Truck	6	12	0%	0	0	20	12	56	0	0.035	0.236
Worker Passenger Vehicles	479	0.3	0%	0	0	2	12	4083	0	0.001	0.007
Suncatcher Delivery Trucks											
General Materials Delivery Trucks	3	6	100%	6	18	20	24	15	2700	0.035	0.236
Suncatcher Pedestals Delivery Trucks	3	13	45%	5.85	18	20	24	10	1755	0.035	0.236
Stirling Engines	5	6	100%	6	30	20	24	60	10800	0.035	0.236
Suncatcher Metal Supports	10	6	100%	6	60	20	24	120	21600	0.035	0.236
Suncatcher Mirrors	6	6	100%	6	36	20	24	72	12960	0.035	0.236
Electrical and Control Systems	2	6	100%	6	12	20	24	24	4320	0.035	0.236
Azimuth and Elevation Drive	2	6	100%	6	12	20	24	24	4320	0.035	0.236

Vehicle Type	Watering Control Efficiency		PM_{10} Emissions (lb/hr)		PM_{10} Emissions (lb/day)		% of daily emissions	PM_{10} Emissions (tons/year)		$PM_{2.5}$ Emissions (lb/hr)		$PM_{2.5}$ Emissions (lb/day)		$PM_{2.5}$ Emissions (tons/year)	
	Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated		Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated
Diesel Construction Equipment															
Air Compressor	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Paver	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Backhoe	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Compactor	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crane small	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crane large	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dozer	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generator	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grader	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light Tower	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loader	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maxi Sneeker (Trencher)	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Skid Steer (Bobcat)	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Welding Machine	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equipment fueled with Propane															
Aerial Lift	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fork Lift	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Telehandler	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vehicles with Onroad Engines for Emissions Estimates															
Busses	0%	0%	0.66	0.66	7.87	7.87	15.25%	1.42	1.42	0.10	0.10	1.16	1.16	0.21	0.21
Concrete Pump	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flatbed Truck	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Staff & Security Truck	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water/Soiltac Truck	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Passenger Vehicles	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Delivery Trucks															
General Materials Delivery Trucks	0%	0%	0.18	0.18	4.24	4.24	8.22%	0.32	0.32	0.03	0.03	0.63	0.63	0.05	0.05
Suncatcher Pedestals Delivery Trucks	0%	0%	0.17	0.17	4.14	4.14	8.02%	0.21	0.21	0.03	0.03	0.62	0.62	0.03	0.03
Stirling Engines	0%	0%	0.29	0.29	7.07	7.07	13.70%	1.27	1.27	0.04	0.04	1.05	1.05	0.19	0.19
Suncatcher Metal Supports	0%	0%	0.59	0.59	14.15	14.15	27.41%	2.55	2.55	0.09	0.09	2.11	2.11	0.38	0.38
Suncatcher Mirrors	0%	0%	0.35	0.35	8.49	8.49	16.44%	1.53	1.53	0.05	0.05	1.26	1.26	0.23	0.23
Electrical and Control Systems	0%	0%	0.12	0.12	2.83	2.83	5.48%	0.51	0.51	0.02	0.02	0.42	0.42	0.08	0.08
Azimuth and Elevation Drive	0%	0%	0.12	0.12	2.83	2.83	5.48%	0.51	0.51	0.02	0.02	0.42	0.42	0.08	0.08
TOTAL Fugitive emissions for vehicles traveled on paved road			**2.48**	**2.48**	**51.63**	**51.63**		**8.31**	**8.31**	**0.37**	**0.37**	**7.67**	**7.67**	**1.23**	**1.23**

Travel on unpaved surfaces

$E = k * (s/12)^a * (W/3)^b * [(365 - P)/365]$ EPA AP-42 Section 13.2.2 Unpaved Roads Equations 1a and 2

E = size-specific emission factor (lb/VMT)

k, a, b = empirical constants

8.5 s = surface material silt content (%) Construction sites - Scraper routes

W = mean vehicle weight (tons)

constants

	$PM_{2.5}$	PM_{10}	Industrial Roads
k	0.15	1.5	
a	0.9	0.9	
b	0.45	0.45	

12 P = Mean number of days per year with at least 0.01 inches of precipitation (from EL CENTRO 2 SSW COOP Station)

Vehicle Type	Number of Vehicles (month 6)	Max Daily Distance per Vehicle (mile/day)	Assumed distance percentage to drive on unpaved roads	Max Daily Distance per Vehicle to drive on unpaved roads (mile/day)	Max Daily VMT (all vehicles)	Mean Vehicle Weight (tons)	Max. Operating Hours / Day	Number of Vehicles per year (months 4-15)	Max Annual VMT (all vehicles)	$PM_{2.5}$ EF (lbs/VMT)	PM_{10} EF (lbs/VMT)
Diesel Construction Equipment											
Air Compressor	3	0	100%	0	0	0.5	6	27	0	0.047	0.475
Asphalt Paver	0	0.2	100%	0.2	0	25	7	0	0	0.276	2.762
Backhoe	6	0	100%	0	0	11	7	55	0	0.191	1.909
Compactor	3	0	100%	0	0	10	7	34	0	0.183	1.828
Crane small	8	0.5	50%	0.25	2	10	5	81	607.5	0.183	1.828
Crane large	3	0.5	100%	0.5	2	35	7	10	150	0.321	3.213
Dozer	1	0	100%	0	0	20	8	9	0	0.250	2.498
Generator	4	0	100%	0	0	0.5	9	49	0	0.047	0.475
Grader	3	0	100%	0	0	20	7	19	0	0.250	2.498
Light Tower	2	0	100%	0	0	0.25	9	23	0	0.035	0.348
Loader	4	0	100%	0	0	25	7	32	0	0.276	2.762
Maxi Sneeker (Trencher)	5	0	100%	0	0	5	9	49	0	0.134	1.339
Skid Steer (Bobcat)	4	0	100%	0	0	2	7	34	0	0.089	0.886
Welding Machine	4	0	100%	0	0	0.5	5	43	0	0.047	0.475
Equipment fueled with Propane											
Aerial Lift	6	1	50%	0.5	3	4	6	48	720	0.121	1.211
Fork Lift	8	1	50%	0.5	4	3	4	93	1395	0.106	1.064
Telehandler	5	1	50%	0.5	3	3	6	43	645	0.106	1.064
Vehicles with Onroad Engines for Emissions Estimates											
Busses	6	12	0%	0	0	12	12	72	0	0.198	1.985
Concrete Pump	0	6	8%	0.48	0	20	12	0	0	0.250	2.498
Dump Truck	4	7	50%	3.5	14	20	12	28	2940	0.250	2.498
Flatbed Truck	9	28	0%	0	0	10	12	108	0	0.183	1.828
Staff & Security Truck	5	33	0%	0	0	2.25	24	60	0	0.093	0.934
Pickup Truck	10	12	5%	0.6	6	4	12	120	2160	0.121	1.211
Water/Soiltac Truck	6	12	75%	9	54	20	12	56	15120	0.250	2.498
Worker Passenger Vehicles	479	0.3	0%	0	0	2	12	4083	0	0.089	0.886
Suncatcher Delivery Trucks											
General Materials Delivery Trucks	3	6	0%	0	0	20	24	15	0	0.250	2.498
Suncatcher Pedestals Delivery Trucks	3	13	0%	0	0	20	24	10	0	0.250	2.498
Stirling Engines	5	6	0%	0	0	20	24	60	0	0.250	2.498
Suncatcher Metal Supports	10	6	0%	0	0	20	24	120	0	0.250	2.498
Suncatcher Mirrors	6	6	0%	0	0	20	24	72	0	0.250	2.498
Electrical and Control Systems	2	6	0%	0	0	20	24	24	0	0.250	2.498
Azimuth and Elevation Drive	2	6	0%	0	0	20	24	24	0	0.250	2.498

Vehicle Type	Watering Control Efficiency		PM_{10} Emissions (lb/hr)		PM_{10} Emissions (lb/day)		% of daily emissions	PM_{10} Emissions (tons/year)		$PM_{2.5}$ Emissions (lb/hr)		$PM_{2.5}$ Emissions (lb/day)		$PM_{2.5}$ Emissions (tons/year)	
	Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated		Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated
Diesel Construction Equipment															
Air Compressor	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Paver	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Backhoe	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Compactor	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crane small	0%	68%	0.71	0.23	3.66	1.17	1.86%	0.56	0.18	0.07	0.02	0.37	0.12	0.06	0.02
Crane large	0%	68%	0.70	0.22	4.82	1.54	2.46%	0.24	0.08	0.07	0.02	0.48	0.15	0.02	0.01
Dozer	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generator	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grader	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light Tower	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loader	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maxi Sneeker (Trencher)	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Skid Steer (Bobcat)	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Welding Machine	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equipment fueled with Propane															
Aerial Lift	0%	68%	0.66	0.21	3.63	1.16	1.85%	0.44	0.14	0.07	0.02	0.36	0.12	0.04	0.01
Fork Lift	0%	68%	1.18	0.38	4.25	1.36	2.17%	0.74	0.24	0.12	0.04	0.43	0.14	0.07	0.02
Telehandler	0%	68%	0.41	0.13	2.66	0.85	1.36%	0.34	0.11	0.04	0.01	0.27	0.09	0.03	0.01
Vehicles with Onroad Engines for Emissions Estimates															
Busses	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Pump	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	0%	68%	2.91	0.93	34.97	11.19	17.83%	3.67	1.17	0.29	0.09	3.50	1.12	0.37	0.12
Flatbed Truck	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Staff & Security Truck	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck	0%	68%	0.61	0.19	7.26	2.32	3.70%	1.31	0.42	0.06	0.02	0.73	0.23	0.13	0.04
Water/Soiltac Truck	0%	68%	11.24	3.60	134.88	43.16	68.77%	18.88	6.04	1.12	0.36	13.49	4.32	1.89	0.60
Worker Passenger Vehicles	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Delivery Trucks															
General Materials Delivery Trucks	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Pedestals Delivery Trucks	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stirling Engines	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Metal Supports	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Mirrors	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electrical and Control Systems	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Azimuth and Elevation Drive	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL Fugitive emissions for vehicles traveled on unpaved surfaces			**18.42**	**5.89**	**196.13**	**62.76**		**26.18**	**8.38**	**1.84**	**0.59**	**19.61**	**6.28**	**2.62**	**0.84**

Water efficiency from CEQA Table 11-4 maximum value for watering active sites 2 times daily

Bulldozing & grading EPA AP-42 Section 11.9

$E = p * 1 * s^{1.5} / M^{1.4}$ PM10 Emissions from bulldozing (lb/hr) Table 11.9-1 EMISSION FACTOR EQUATIONS FOR UNCONTROLLED OPEN DUST SOURCES AT WESTERN SURFACE COAL MINES (Overburden)

0.75 p = particle size multiplier for PM10
6.9 s = Silt content (%) (from Table 11.9-3 for bulldozers overburden)
7.9 M = Moisture content of surface material (%) (from Table 11.9-3 for bulldozers overburden)
0.75 lb/hr of PM10

$E = p * 5.7 * s^{1.2} / M^{1.3}$ PM2.5 Emissions from bulldozing (lb/hr) Table 11.9-1 EMISSION FACTOR EQUATIONS FOR UNCONTROLLED OPEN DUST SOURCES AT WESTERN SURFACE COAL MINES (Overburden)

0.105 p = particle size multiplier for PM2.5
6.9 s = Silt content (%) (from Table 11.9-3 for bulldozers overburden)
7.9 M = Moisture content of surface material (%) (from Table 11.9-3 for bulldozers overburden)
0.41 lb/hr of PM2.5

$E = p * 0.051 * S^{2.0}$ PM10 Emissions from grading (lb/VMT) Table 11.9-1 EMISSION FACTOR EQUATIONS FOR UNCONTROLLED OPEN DUST SOURCES AT WESTERN SURFACE COAL MINES (Overburden)

0.6 p = particle size multiplier for PM10
7.1 S = mean vehicle speed (mph) (from Table 11.9-3 for grader)
1.54 lb/VMT of PM10

$E = p * 0.040 * S^{2.5}$ PM2.5 Emissions from grading (lb/VMT) Table 11.9-1 EMISSION FACTOR EQUATIONS FOR UNCONTROLLED OPEN DUST SOURCES AT WESTERN SURFACE COAL MINES (Overburden)

0.031 p = particle size multiplier for PM2.5
7.1 S = mean vehicle speed (mph) (from Table 11.9-3 for grader)
0.17 lb/VMT of PM2.5

Equipment	Quantity/ month	Hours/ Day	VMT/day/ vehicle	Watering Control Efficiency	PM10 Emissions (lb/day)	PM2.5 Emissions (lb/day)	Number of Vehicles per year (months 4-15)	VMT/year/ vehicle	PM10 Emissions (ton/yr)	PM2.5 Emissions (ton/yr)
Compactor	3	7	2	68%	2.96	0.32	34	730	0.541	0.058
Dozer	1	8		68%	1.85	1.02	9		0.250	0.137
Maxi Sneeker (Trencher)	5	9	2	68%	4.94	0.53	49	730	0.901	0.097
Skid Steer (Bobcat)	4	7		68%	6.36	3.50	34		0.811	0.446
Grader	3	7	4	68%	5.92	0.64	19	1460	1.081	0.117
				Grading Total	**13.82**	**1.49**			**2.52**	**0.27**
				Bulldozing Total	**8.21**	**4.51**			**1.06**	**0.58**
				Total	**22.03**	**6.00**			**3.58**	**0.86**

12 months of earth work
12 total construction hours per work day
30 construction days per month

Water efficiency from CEQA Table 11-4 maximum value for watering active sites 2 times daily

Dirt Piling or Material Handling PM10 Emissions from Material Handling (lb/ton) from EPA AP-42 Chapter 13.2.4 Eq. 1

$E = k * 0.0032 * (U/5)^{1.3} / (M/2)^{1.4}$ E = Emission factor (lb/ton material handled)

7.45 U = Mean Wind speed (mph) (from 1991-1995 Imperial Co. airport data)
12 M = Moisture content of surface material (%) (from Table 13.2.4-1 for cover at municipal landfill)

	$PM_{2.5}$	PM_{10}
k	0.053	0.35

0.00003 lb/ton of PM2.5
0.00022 lb/ton of PM10

Equipment	Quantity/ month	Hours/ Day	Material Handled per Day (ton)	Watering Control Efficiency	PM10 Emissions (lb/day)	PM2.5 Emissions (lb/day)	Number of Vehicles per year (months 4-15)	Material Handled per year (ton)	PM10 Emissions (ton/yr)	PM2.5 Emissions (ton/yr)
Backhoe	6	7	2,804	68%	0.1966	0.0298	55	1009503	0.035	0.005
Wheeled Loader	4	7	2,804	68%	0.1966	0.0298	32	1009503	0.035	0.005
Dump Trucks	4	12	5,608	68%	0.3932	0.0595	28	2,019,006	0.071	0.011
				Total	**0.79**	**0.12**			**0.14**	**0.02**

Water efficiency from CEQA Table 11-4 maximum value for watering active sites 2 times daily
Assume 50% soil movement from loaders and 50% from backhoes

4,033 yd3/day 5,608 ton/day
1,452,000 yd3/project 2,019,006 tons/project 2781 density of soil (lb/yd3) (USDA NRCS Physical Soil Properti 0.5 depth of disturbance (yards) for Niland Fine Sand and Rositas Fine Sand soil)
total project
600 acres = 1,452,000 cubic yds, assume depth of soils moved is
3000 total acres disturbed as described in Table 3-17 of Project Description
only a small portion of this soil is picked up and moved via dump druck

Cover Storage Pile

$E = 1.7 * G/1.5 * (365-H)/235 * I/15 * J$ SCAQMD Table A9-9-E

PM10 Emission factor from wind erosion of storage piles per day per acre

15 G = Silt content (%) (from CEQA Handbook Table A9-9-E-1 for blended ore and dirt)
12 H = Number of days with >= 0.01 inches of precipitation per year (from El Centro 2 SSW weather station WRCC)
2.5 I = Percentage of time that the unobstructed wind speed exceeds 12 mph at mean pile height
0.5 J = Fraction of TSP that is PM10 = 0.5
2.128 lb/acre/day

wind speed percentage based on 2005 wind speed data as recorded at El Centro 2 SSW station

Source	Quantity	Size of Pile (acre)	Hours/Day	Days/Year per Pile	Watering Control Efficiency	PM10 Emissions (lb/day)	PM2.5 Emissions (lb/day)	PM10 Emissions (tons/yr)	PM2.5 Emissions (tons/yr)
Cover Storage Pile	2	1	24	182.5	68%	1.36	0.30	0.12	0.03

Water efficiency from CEQA Table 11-4 maximum value for watering active sites 2 times daily
pile size assumed
piles present only for 6 months

Construction on-site fugitive dust PM10 | **Month 6 construction on-site fugitive dust** | **Months 4-15 construction on-site fugitive dust**

Vehicle Type	Number of Vehicles (month 6)	Max Daily Distance per Vehicle (mile/day)	Sealed Road - PM_{10} Fugitive Emissions	Paved Road - PM_{10} Fugitive Emissions	Unpaved Road - PM_{10} Fugitive Emissions	Earthmoving Equipment - PM_{10} Fugitive Emissions	Total PM_{10} Fugitive Emissions	Sealed Road - PM_{10} Fugitive Emissions	Paved Road - PM_{10} Fugitive Emissions	Unpaved Road - PM_{10} Fugitive Emissions	Earthmoving Equipment - PM_{10} Fugitive Emissions	Total PM_{10} Fugitive Emissions
			lb/day					ton/year				
Diesel Construction Equipment												
Air Compressor	3	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Asphalt Paver	0	0.2	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Backhoe	6	0	0.00	0.00	0.00	0.20	0.20	0.00	0.00	0.00	0.04	0.04
Compactor	3	0	0.00	0.00	0.00	2.96	2.96	0.00	0.00	0.00	0.54	0.54
Crane small	8	0.5	0.45	0.00	1.17		1.62	0.07	0.00	0.18		0.25
Crane large	3	0.5	0.00	0.00	1.54		1.54	0.00	0.00	0.08		0.08
Dozer	1	0	0.00	0.00	0.00	1.85	1.85	0.00	0.00	0.00	0.25	0.25
Generator	4	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Grader	3	0	0.00	0.00	0.00	5.92	5.92	0.00	0.00	0.00	1.08	1.08
Light Tower	2	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Loader	4	0	0.00	0.00	0.00	0.20	0.20	0.00	0.00	0.00	0.04	0.04
Maxi Sneeker (Trencher)	5	0	0.00	0.00	0.00	4.94	4.94	0.00	0.00	0.00	0.90	0.90
Skid Steer (Bobcat)	4	0	0.00	0.00	0.00	6.36	6.36	0.00	0.00	0.00	0.81	0.81
Welding Machine	4	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Equipment fueled with Propane												
Aerial Lift	6	1	0.17	0.00	1.16		1.33	0.02	0.00	0.14		0.16
Fork Lift	8	1	0.15	0.00	1.36		1.51	0.03	0.00	0.24		0.26
Telehandler	5	1	0.09	0.00	0.85		0.94	0.01	0.00	0.11		0.12
Vehicles with Onroad Engines for Emissions Estimates												
Busses	6	12	0.00	7.87	0.00		7.87	0.00	1.42	0.00		1.42
Concrete Pump	0	6	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Dump Truck	4	7	8.94	0.00	11.19	0.39	20.53	0.94	0.00	1.17	0.07	2.18
Flatbed Truck	9	28	56.84	0.00	0.00		56.84	10.23	0.00	0.00		10.23
Staff & Security Truck	5	33	3.90	0.00	0.00		3.90	0.70	0.00	0.00		0.70
Pickup Truck	10	12	6.47	0.00	2.32		8.79	1.16	0.00	0.42		1.58
Water/Soiltac Truck	6	12	11.50	0.00	43.16		54.66	1.61	0.00	6.04		7.65
Worker Passenger Vehicles	479	0.3	2.84	0.00	0.00		2.84	0.36	0.00	0.00		0.36
Suncatcher Delivery Trucks												
General Materials Delivery Trucks	3	6	0.00	4.24	0.00		4.24	0.00	0.32	0.00		0.32
Suncatcher Pedestals Delivery Trucks	3	13	13.70	4.14	0.00		17.84	0.69	0.21	0.00		0.89
Stirling Engines	5	6	0.00	7.07	0.00		7.07	0.00	1.27	0.00		1.27
Suncatcher Metal Supports	10	6	0.00	14.15	0.00		14.15	0.00	2.55	0.00		2.55
Suncatcher Mirrors	6	6	0.00	8.49	0.00		8.49	0.00	1.53	0.00		1.53
Electrical and Control Systems	2	6	0.00	2.83	0.00		2.83	0.00	0.51	0.00		0.51
Azimuth and Elevation Drive	2	6	0.00	2.83	0.00		2.83	0.00	0.51	0.00		0.51
Storage piles						1.36	1.36				0.12	0.12
			105.06	**51.63**	**62.76**	**24.18**	**243.63**	**15.82**	**8.31**	**8.38**	**3.85**	**36.36**

Construction on-site fugitive dust PM2.5 | **Month 6 construction on-site fugitive dust** | **Months 4-15 construction on-site fugitive dust**

Vehicle Type	Number of Vehicles (month 6)	Max Daily Distance per Vehicle (mile/day)	Sealed Road - PM2.5 Fugitive Emissions	Paved Road - PM2.5 Fugitive Emissions	Unpaved Road - PM2.5 Fugitive Emissions	Earthmoving Equipment - PM2.5 Fugitive Emissions	Total PM2.5 Fugitive Emissions	Sealed Road - PM2.5 Fugitive Emissions	Paved Road - PM2.5 Fugitive Emissions	Unpaved Road - PM2.5 Fugitive Emissions	Earthmoving Equipment - PM2.5 Fugitive Emissions	Total PM2.5 Fugitive Emissions
			lb/day					ton/year				
Diesel Construction Equipment												
Air Compressor	3	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Asphalt Paver	0	0.2	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Backhoe	6	0	0.00	0.00	0.00	0.03	0.03	0.00	0.00	0.00	0.01	0.01
Compactor	3	0	0.00	0.00	0.00	0.32	0.32	0.00	0.00	0.00	0.06	0.06
Crane small	8	0.5	0.07	0.00	0.12		0.18	0.01	0.00	0.02		0.03
Crane large	3	0.5	0.00	0.00	0.15		0.15	0.00	0.00	0.01		0.01
Dozer	1	0	0.00	0.00	0.00	1.02	1.02	0.00	0.00	0.00	0.14	0.14
Generator	4	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Grader	3	0	0.00	0.00	0.00	0.64	0.64	0.00	0.00	0.00	0.12	0.12
Light Tower	2	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Loader	4	0	0.00	0.00	0.00	0.03	0.03	0.00	0.00	0.00	0.01	0.01
Maxi Sneeker (Trencher)	5	0	0.00	0.00	0.00	0.53	0.53	0.00	0.00	0.00	0.10	0.10
Skid Steer (Bobcat)	4	0	0.00	0.00	0.00	3.50	3.50	0.00	0.00	0.00	0.45	0.45
Welding Machine	4	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Equipment fueled with Propane												
Aerial Lift	6	1	0.02	0.00	0.12		0.14	0.00	0.00	0.01		0.02
Fork Lift	8	1	0.02	0.00	0.14		0.16	0.00	0.00	0.02		0.03
Telehandler	5	1	0.01	0.00	0.09		0.10	0.00	0.00	0.01		0.01
Vehicles with Onroad Engines for Emissions Estimates												
Busses	6	12	0.00	1.16	0.00		1.16	0.00	0.21	0.00		0.21
Concrete Pump	0	6	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Dump Truck	4	7	1.34	0.00	1.12	0.06	2.52	0.14	0.00	0.12	0.01	0.27
Flatbed Truck	9	28	8.45	0.00	0.00		8.45	1.52	0.00	0.00		1.52
Staff & Security Truck	5	33	0.54	0.00	0.00		0.54	0.10	0.00	0.00		0.10
Pickup Truck	10	12	0.94	0.00	0.23		1.17	0.17	0.00	0.04		0.21
Water/Soiltac Truck	6	12	1.72	0.00	4.32		6.04	0.24	0.00	0.60		0.85
Worker Passenger Vehicles	479	0.3	0.38	0.00	0.00		0.38	0.05	0.00	0.00		0.05
Suncatcher Delivery Trucks												
General Materials Delivery Trucks	3	6	0.00	0.63	0.00		0.63	0.00	0.05	0.00		0.05
Suncatcher Pedestals Delivery Trucks	3	13	2.05	0.62	0.00		2.67	0.10	0.03	0.00		0.13
Stirling Engines	5	6	0.00	1.05	0.00		1.05	0.00	0.19	0.00		0.19
Suncatcher Metal Supports	10	6	0.00	2.11	0.00		2.11	0.00	0.38	0.00		0.38
Suncatcher Mirrors	6	6	0.00	1.26	0.00		1.26	0.00	0.23	0.00		0.23
Electrical and Control Systems	2	6	0.00	0.42	0.00		0.42	0.00	0.08	0.00		0.08
Azimuth and Elevation Drive	2	6	0.00	0.42	0.00		0.42	0.00	0.08	0.00		0.08
Storage piles						0.30	0.30				0.03	0.03
			15.55	**7.67**	**6.28**	**6.43**	**35.92**	**2.34**	**1.23**	**0.84**	**0.90**	**5.31**

Solar Two
Fugitive Dust Emissions (offsite)
Peak month = 6
Maximum annual construction equipment activity occurs in months 4-15.

Travel on paved road

$E = [k * (sL/2)^{0.65} * (W/3)^{1.5} - C] (1 - P/4N)$ EPA AP-42 Section 13.2.1 Paved Roads Equation 2
E = particulate emission factor (lb/VMT),
k = particle size multiplier for particle size range and units of interest

0.32 sL = road surface silt loading (grams per square meter) (g/m^2), Local CARB - Emission Inventory Database - Section 7.9 Entrained Paved Road Dust -
0.02 sL = road surface silt loading (grams per square meter) (g/m^2), Freeway Local Streets & Freeways (emission inventory code: 640-641-5400-0000), July 1997
W = average weight (tons) of the vehicles traveling the road, and
C = emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear.

constants (March 20, 2009)

	$PM_{2.5}$	PM_{10}
k	0.0024	0.016
C	0.00036	0.00047

12 P = Mean number of days per year with at least 0.01 inches of precipitation (from EL CENTRO 2 SSW COOP Station)
365 N = number of days in the year (averaging period)

Vehicle Type	Number of Vehicles (month 6)	Number of Vehicles per year (months 4-15)	Max Daily Offsite Round-trip Distance per Vehicle within Imperial County (mile/day)	Max Daily VMT (all vehicles)	Max Annual VMT (all vehicles)	Mean Vehicle Weight (tons)	Max. Operating Hours / Day	Max. Operating Days / Month	$PM_{2.5}$ EF (lbs/VMT)	PM_{10} EF (lbs/VMT)
Vehicles with Onroad Engines for Emissions Estimates										
Busses	6	72	10	60	21600	12	12	30	0.005	0.038
Concrete Pump	0	0	40	0	0	20	12	30	0.012	0.083
Dump Truck	4	28	0	0	0	20	12	30	0.012	0.083
Flatbed Truck	9	108	0	0	0	10	12	30	0.004	0.029
Staff & Security Truck	5	60	0	0	0	2.25	24	30	0.000	0.003
Pickup Truck	10	120	0	0	0	4	12	30	0.001	0.007
Water/Soiltac Truck	6	56	0	0	0	20	12	30	0.012	0.083
Worker Passenger Vehicles	479	4083	40	19173	4899200	2	12	30	0.000	0.002
Suncatcher Delivery Trucks										
General Materials Delivery Trucks	3	15	100	300	45000	20	24	30	0.012	0.083
Suncatcher Pedestals Delivery Trucks	3	10	240	720	72000	20	24	30	0.012	0.083
Stirling Engines	5	60	50	250	90000	20	24	30	0.002	0.013
Suncatcher Metal Supports	10	120	240	2400	864000	20	24	30	0.002	0.013
Suncatcher Mirrors	6	72	50	300	108000	20	24	30	0.002	0.013
Electrical and Control Systems	2	24	240	480	172800	20	24	30	0.002	0.013
Azimuth and Elevation Drive	2	24	50	100	36000	20	24	30	0.002	0.013

	Watering Control Efficiency		PM_{10} Emissions (lb/hr)		PM_{10} Emissions (lb/day)		% of daily emissions	PM_{10} Emissions (tons/year)		$PM_{2.5}$ Emissions (lb/hr)		$PM_{2.5}$ Emissions (lb/day)		$PM_{2.5}$ Emissions (tons/year)	
Vehicle Type	Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated		Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated
Vehicles with Onroad Engines for Emissions Estimates															
Busses	0%	0%	0.19	0.19	2.29	2.29	1.31%	0.41	0.41	0.03	0.03	0.33	0.33	0.06	0.06
Concrete Pump	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flatbed Truck	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Staff & Security Truck	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water/Soiltac Truck	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Passenger Vehicles	0%	0%	3.45	3.45	41.39	41.39	23.71%	5.29	5.29	0.06	0.06	0.70	0.70	0.09	0.09
Suncatcher Delivery Trucks															
General Materials Delivery Trucks	0%	0%	1.03	1.03	24.76	24.76	14.19%	1.86	1.86	0.15	0.15	3.63	3.63	0.27	0.27
Suncatcher Pedestals Delivery Trucks	0%	0%	2.48	2.48	59.42	59.42	34.05%	2.97	2.97	0.36	0.36	8.71	8.71	0.44	0.44
Stirling Engines	0%	0%	0.14	0.14	3.31	3.31	1.89%	0.60	0.60	0.02	0.02	0.42	0.42	0.08	0.08
Suncatcher Metal Supports	0%	0%	1.32	1.32	31.74	31.74	18.18%	5.71	5.71	0.17	0.17	4.07	4.07	0.73	0.73
Suncatcher Mirrors	0%	0%	0.17	0.17	3.97	3.97	2.27%	0.71	0.71	0.02	0.02	0.51	0.51	0.09	0.09
Electrical and Control Systems	0%	0%	0.26	0.26	6.35	6.35	3.64%	1.14	1.14	0.03	0.03	0.81	0.81	0.15	0.15
Azimuth and Elevation Drive	0%	0%	0.06	0.06	1.32	1.32	0.76%	0.24	0.24	0.01	0.01	0.17	0.17	0.03	0.03
TOTAL Fugitive emissions for vehicle travel offsite paved roads			**9.09**	**9.09**	**174.54**	**174.54**		**18.93**	**18.93**	**0.85**	**0.85**	**19.35**	**19.35**	**1.93**	**1.93**

Number of Vehicles per year = sum of monthly daily maximum vehicle usage for the peak 12 months
delivery trucks can arrive at the site anytime during the day or night

CY	Season	AvgDays	Code	Equipment	Fuel	MaxHP	Class	C/R	Pre	Han	Port	County	Air B	Air D	Population	Activity (hr/day) total population	Consumptio	PM Exhaust (tons/day)	CO Exhaust (tons/day)	ROG Exhaust (tons/day)	NOX Exhaust (tons/day)	SO2 Exhaust (tons/day)	CO2 Exhaust (tons/day)	CH4 Exhaust (tons/day)	N2O Exhaust (tons/day)	PM Exhaust/Activity (tons/hr)	CO Exhaust/Activity (tons/hr)	ROG Exhaust/Activity (tons/hr)	NOX Exhaust/Activity (tons/hr)	SO2 Exhaust/Activity (tons/hr)	CO2 Exhaust/Activity (tons/hr)	CH4 Exhaust/Activity (tons/hr)	N2O Exhaust/Activity (tons/hr)
2009	Annual	Mon-Sun	2270002033	Bore/Drill Rigs	D	15	Construction and Mining Equipmer	U	P	NHH	P	Imperial	SS	IMP	2.70E-02	6.00E-02	2.83E-02	1.14E-07	1.89E-06	3.62E-07	2.27E-06	4.82E-09	3.10E-04	3.26E-08	0.00E+00	1.90E-06	3.16E-05	6.03E-06	3.78E-05	8.04E-08	5.17E-03	5.44E-07	0.00E+00
2009	Annual	Mon-Sun	2270002033	Bore/Drill Rigs	D	25	Construction and Mining Equipmer	U	P	NHH	P	Imperial	SS	IMP	8.09E-02	1.80E-01	1.31E-01	6.45E-07	5.97E-06	1.81E-06	1.16E-05	1.82E-08	1.44E-03	1.63E-07	0.00E+00	3.58E-06	3.32E-05	1.01E-05	6.48E-05	1.01E-07	7.99E-03	9.09E-07	0.00E+00
2009	Annual	Mon-Sun	2270002033	Bore/Drill Rigs	D	50	Construction and Mining Equipmer	U	P	NHH	P	Imperial	SS	IMP	3.53E-01	8.18E-01	1.17E+00	9.06E-06	1.07E-04	2.73E-05	1.17E-04	1.64E-07	1.27E-02	2.47E-06	0.00E+00	1.11E-05	1.30E-04	3.34E-05	1.43E-04	2.00E-07	1.55E-02	3.02E-06	0.00E+00
2009	Annual	Mon-Sun	2270002033	Bore/Drill Rigs	D	120	Construction and Mining Equipmer	U	P	NHH	P	Imperial	SS	IMP	1.08E+00	2.51E+00	8.84E+00	6.54E-05	6.10E-04	1.08E-04	8.54E-04	1.13E-06	9.67E-02	9.71E-06	0.00E+00	2.60E-05	2.43E-04	4.29E-05	3.40E-04	4.52E-07	3.85E-02	3.87E-06	0.00E+00
2009	Annual	Mon-Sun	2270002033	Bore/Drill Rigs	D	175	Construction and Mining Equipmer	U	P	NHH	P	Imperial	SS	IMP	2.51E-01	5.81E-01	3.73E+00	1.53E-05	2.19E-04	3.05E-05	2.96E-04	4.61E-07	4.09E-02	2.75E-06	0.00E+00	2.64E-05	3.77E-04	5.25E-05	5.10E-04	7.93E-07	7.05E-02	4.74E-06	0.00E+00
2009	Annual	Mon-Sun	2270002033	Bore/Drill Rigs	D	250	Construction and Mining Equipmer	U	N	NHH	P	Imperial	SS	IMP	2.16E-01	5.00E-01	4.25E+00	9.87E-06	8.68E-05	2.49E-05	3.27E-04	5.28E-07	4.69E-02	2.25E-06	0.00E+00	1.97E-05	1.74E-04	4.99E-05	6.55E-04	1.06E-06	9.40E-02	4.50E-06	0.00E+00
2009	Annual	Mon-Sun	2270002033	Bore/Drill Rigs	D	500	Construction and Mining Equipmer	U	N	NHH	P	Imperial	SS	IMP	4.80E-01	1.11E+00	1.56E+01	3.47E-05	3.11E-04	8.44E-05	1.03E-03	1.70E-06	1.73E-01	7.61E-06	0.00E+00	3.12E-05	2.79E-04	7.59E-05	9.22E-04	1.53E-06	1.56E-01	6.85E-06	0.00E+00
2009	Annual	Mon-Sun	2270002033	Bore/Drill Rigs	D	750	Construction and Mining Equipmer	U	N	NHH	P	Imperial	SS	IMP	1.24E+00	2.86E+00	7.97E+01	1.80E-04	1.58E-03	4.41E-04	5.43E-03	8.85E-06	8.80E-01	3.98E-05	0.00E+00	6.28E-05	5.52E-04	1.54E-04	1.89E-03	3.09E-06	3.07E-01	1.39E-05	0.00E+00
2009	Annual	Mon-Sun	2270002033	Bore/Drill Rigs	D	1000	Construction and Mining Equipmer	U	N	NHH	P	Imperial	SS	IMP	2.07E+00	4.80E+00	2.02E+02	5.19E-04	4.15E-03	1.38E-03	2.10E-02	2.24E-05	2.23E+00	1.24E-04	0.00E+00	1.08E-04	8.64E-04	2.87E-04	4.38E-03	4.66E-06	4.64E-01	2.59E-05	0.00E+00
2009	Annual	Mon-Sun	2270002042	Cement and Mortar Mixers	D	15	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	1.38E+00	1.13E+00	3.27E-01	1.86E-06	2.21E-05	4.67E-06	3.01E-05	5.57E-08	3.58E-03	4.21E-07	0.00E+00	1.64E-06	1.95E-05	4.12E-06	2.66E-05	4.91E-08	3.16E-03	3.72E-07	0.00E+00
2009	Annual	Mon-Sun	2270002042	Cement and Mortar Mixers	D	25	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	1.24E-01	1.02E-01	8.20E-02	5.92E-07	5.05E-06	1.91E-06	8.55E-06	1.14E-08	8.95E-04	1.72E-07	0.00E+00	5.80E-06	4.95E-05	1.87E-05	8.38E-05	1.11E-07	8.77E-03	1.69E-06	0.00E+00
2009	Annual	Mon-Sun	2270002039	Concrete/Industrial Saws	D	25	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	1.08E-02	1.75E-02	1.31E-02	6.17E-08	5.93E-07	1.76E-07	1.13E-06	1.83E-09	1.44E-04	1.59E-08	0.00E+00	3.53E-06	3.39E-05	1.01E-05	6.47E-05	1.04E-07	8.23E-03	9.09E-07	0.00E+00
2009	Annual	Mon-Sun	2270002039	Concrete/Industrial Saws	D	50	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	9.44E-02	1.50E-01	2.11E-01	2.38E-06	2.48E-05	9.92E-06	2.34E-05	2.93E-08	2.26E-03	8.95E-07	0.00E+00	1.59E-05	1.65E-04	6.61E-05	1.56E-04	1.95E-07	1.51E-02	5.97E-06	0.00E+00
(Marcl	Annual	Mon-Sun	2270002039	Concrete/Industrial Saws	D	120	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	1.64E-01	2.62E-01	8.89E-01	9.87E-06	6.57E-05	1.88E-05	1.19E-04	1.14E-07	9.69E-03	1.70E-06	0.00E+00	3.77E-05	2.51E-04	7.20E-05	4.55E-04	4.35E-07	3.70E-02	6.49E-06	0.00E+00
2009	Annual	Mon-Sun	2270002039	Concrete/Industrial Saws	D	175	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	5.39E-03	8.58E-03	6.27E-02	3.87E-07	3.78E-06	8.80E-07	7.49E-06	7.72E-09	6.86E-04	7.94E-08	0.00E+00	4.51E-05	4.41E-04	1.03E-04	8.73E-04	9.00E-07	8.00E-02	9.26E-06	0.00E+00
2009	Annual	Mon-Sun	2270002045	Cranes	D	50	Construction and Mining Equipmer	U	P	NHH	P	Imperial	SS	IMP	9.17E-02	3.22E-01	3.52E-01	4.89E-06	5.25E-05	2.21E-05	4.16E-05	4.82E-08	3.73E-03	2.00E-06	0.00E+00	1.52E-05	1.63E-04	6.87E-05	1.29E-04	1.50E-07	1.16E-02	6.20E-06	0.00E+00
2009	Annual	Mon-Sun	2270002045	Cranes	D	120	Construction and Mining Equipmer	U	P	NHH	P	Imperial	SS	IMP	1.01E+00	3.53E+00	8.14E+00	1.12E-04	6.64E-04	2.09E-04	1.22E-03	1.04E-06	8.85E-02	1.89E-05	0.00E+00	3.16E-05	1.88E-04	5.93E-05	3.45E-04	2.94E-07	2.51E-02	5.35E-06	0.00E+00
2009	Annual	Mon-Sun	2270002045	Cranes	D	175	Construction and Mining Equipmer	U	P	NHH	P	Imperial	SS	IMP	1.01E+00	3.53E+00	1.30E+01	9.94E-05	8.66E-04	2.25E-04	1.74E-03	1.60E-06	1.42E-01	2.03E-05	0.00E+00	2.81E-05	2.45E-04	6.37E-05	4.92E-04	4.52E-07	4.01E-02	5.75E-06	0.00E+00
2009	Annual	Mon-Sun	2270002045	Cranes	D	250	Construction and Mining Equipmer	U	N	NHH	P	Imperial	SS	IMP	1.95E+00	6.85E+00	3.49E+01	1.72E-04	1.25E-03	4.50E-04	4.48E-03	4.32E-06	3.84E-01	4.06E-05	0.00E+00	2.51E-05	1.83E-04	6.57E-05	6.55E-04	6.30E-07	5.60E-02	5.92E-06	0.00E+00
2009	Annual	Mon-Sun	2270002045	Cranes	D	500	Construction and Mining Equipmer	U	N	NHH	P	Imperial	SS	IMP	7.15E-01	2.51E+00	2.05E+01	9.11E-05	8.98E-04	2.40E-04	2.35E-03	2.22E-06	2.26E-01	2.16E-05	0.00E+00	3.63E-05	3.58E-04	9.56E-05	9.38E-04	8.83E-07	9.00E-02	8.62E-06	0.00E+00
2009	Annual	Mon-Sun	2270002045	Cranes	D	750	Construction and Mining Equipmer	U	N	NHH	P	Imperial	SS	IMP	2.59E+00	9.11E+00	1.26E+02	5.63E-04	5.49E-03	1.48E-03	1.47E-02	1.39E-05	1.38E+00	1.33E-04	0.00E+00	6.18E-05	6.02E-04	1.62E-04	1.61E-03	1.52E-06	1.51E-01	1.46E-05	0.00E+00
2009	Annual	Mon-Sun	2270002045	Cranes	D	9999	Construction and Mining Equipmer	U	N	NHH	P	Imperial	SS	IMP	3.26E+00	1.14E+01	5.05E+02	2.27E-03	2.55E-02	6.57E-03	7.22E-02	5.57E-05	5.54E+00	5.93E-04	0.00E+00	1.98E-04	2.23E-03	5.74E-04	6.32E-03	4.88E-06	4.85E-01	5.18E-05	0.00E+00
2009	Annual	Mon-Sun	2270002069	Crawler Tractors	D	50	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	3.77E-02	1.09E-01	1.28E-01	1.83E-06	1.97E-05	8.39E-06	1.53E-05	1.75E-08	1.36E-03	7.57E-07	0.00E+00	1.68E-05	1.81E-04	7.69E-05	1.41E-04	1.61E-07	1.24E-02	6.94E-06	0.00E+00
2009	Annual	Mon-Sun	2270002069	Crawler Tractors	D	120	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	2.14E+01	6.19E+01	1.87E+02	2.66E-03	1.57E-02	5.08E-03	2.94E-02	2.39E-05	2.03E+00	4.58E-04	0.00E+00	4.29E-05	2.54E-04	8.21E-05	4.76E-04	3.86E-07	3.29E-02	7.41E-06	0.00E+00
2009	Annual	Mon-Sun	2270002069	Crawler Tractors	D	175	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	7.25E+00	2.09E+01	1.16E+02	9.37E-04	8.01E-03	2.13E-03	1.63E-02	1.43E-05	1.27E+00	1.92E-04	0.00E+00	4.47E-05	3.83E-04	1.02E-04	7.80E-04	6.81E-07	6.05E-02	9.19E-06	0.00E+00
2009	Annual	Mon-Sun	2270002069	Crawler Tractors	D	250	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	6.23E+00	1.80E+01	1.36E+02	7.47E-04	5.43E-03	1.94E-03	1.84E-02	1.68E-05	1.49E+00	1.75E-04	0.00E+00	4.15E-05	3.02E-04	1.08E-04	1.02E-03	9.34E-07	8.30E-02	9.70E-06	0.00E+00
2009	Annual	Mon-Sun	2270002069	Crawler Tractors	D	500	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	4.27E+00	1.23E+01	1.46E+02	7.14E-04	7.98E-03	1.87E-03	1.77E-02	1.57E-05	1.60E+00	1.69E-04	0.00E+00	5.79E-05	6.47E-04	1.52E-04	1.44E-03	1.27E-06	1.29E-01	1.37E-05	0.00E+00
2009	Annual	Mon-Sun	2270002069	Crawler Tractors	D	750	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	1.06E+00	3.07E+00	6.51E+01	3.22E-04	3.57E-03	8.41E-04	8.07E-03	7.17E-06	7.13E-01	7.59E-05	0.00E+00	1.05E-04	1.16E-03	2.74E-04	2.62E-03	2.33E-06	2.32E-01	2.47E-05	0.00E+00
2009	Annual	Mon-Sun	2270002069	Crawler Tractors	D	1000	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	1.06E+00	3.07E+00	9.22E+01	4.53E-04	5.64E-03	1.29E-03	1.37E-02	1.01E-05	1.01E+00	1.16E-04	0.00E+00	1.47E-04	1.84E-03	4.20E-04	4.46E-03	3.31E-06	3.29E-01	3.79E-05	0.00E+00
2009	Annual	Mon-Sun	2270002054	Crushing/Proc. Equipment	D	50	Construction and Mining Equipmer	U	P	NHH	P	Imperial	SS	IMP	4.31E-01	1.13E+00	2.33E+00	3.07E-05	3.23E-04	1.36E-04	2.69E-04	3.21E-07	2.48E-02	1.22E-05	0.00E+00	2.71E-05	2.86E-04	1.20E-04	2.38E-04	2.84E-07	2.20E-02	1.08E-05	0.00E+00
2009	Annual	Mon-Sun	2270002054	Crushing/Proc. Equipment	D	120	Construction and Mining Equipmer	U	P	NHH	P	Imperial	SS	IMP	1.22E+00	3.18E+00	1.22E+01	1.59E-04	9.55E-04	2.96E-04	1.74E-03	1.55E-06	1.32E-01	2.67E-05	0.00E+00	4.98E-05	3.00E-04	9.30E-05	5.45E-04	4.87E-07	4.15E-02	8.39E-06	0.00E+00
2009	Annual	Mon-Sun	2270002054	Crushing/Proc. Equipment	D	175	Construction and Mining Equipmer	U	P	NHH	P	Imperial	SS	IMP	5.15E-01	1.35E+00	1.03E+01	7.46E-05	6.58E-04	1.67E-04	1.32E-03	1.27E-06	1.13E-01	1.51E-05	0.00E+00	5.53E-05	4.88E-04	1.24E-04	9.79E-04	9.40E-07	8.36E-02	1.12E-05	0.00E+00
2009	Annual	Mon-Sun	2270002054	Crushing/Proc. Equipment	D	250	Construction and Mining Equipmer	U	N	NHH	P	Imperial	SS	IMP	5.12E-02	1.34E-01	1.49E+00	6.04E-06	4.43E-05	1.60E-05	1.80E-04	1.84E-07	1.64E-02	1.44E-06	0.00E+00	4.50E-05	3.30E-04	1.19E-04	1.34E-03	1.37E-06	1.22E-01	1.08E-05	0.00E+00
2009	Annual	Mon-Sun	2270002054	Crushing/Proc. Equipment	D	500	Construction and Mining Equipmer	U	N	NHH	P	Imperial	SS	IMP	2.88E-01	7.55E-01	1.28E+01	4.77E-05	4.35E-04	1.23E-04	1.38E-03	1.38E-06	1.41E-01	1.11E-05	0.00E+00	6.31E-05	5.76E-04	1.63E-04	1.82E-03	1.83E-06	1.87E-01	1.47E-05	0.00E+00
2009	Annual	Mon-Sun	2270002054	Crushing/Proc. Equipment	D	750	Construction and Mining Equipmer	U	N	NHH	P	Imperial	SS	IMP	6.65E-02	1.74E-01	4.65E+00	1.75E-05	1.54E-04	4.55E-05	5.17E-04	5.15E-07	5.12E-02	4.11E-06	0.00E+00	1.01E-04	8.85E-04	2.61E-04	2.97E-03	2.96E-06	2.94E-01	2.36E-05	0.00E+00
2009	Annual	Mon-Sun	2270002054	Crushing/Proc. Equipment	D	9999	Construction and Mining Equipmer	U	N	NHH	P	Imperial	SS	IMP	6.65E-02	1.74E-01	1.04E+01	4.37E-05	4.52E-04	1.27E-04	1.45E-03	1.14E-06	1.14E-01	1.15E-05	0.00E+00	2.51E-04	2.60E-03	7.30E-04	8.30E-03	6.57E-06	6.53E-01	6.58E-05	0.00E+00
2009	Annual	Mon-Sun	2270002078	Dumpers/Tenders	D	25	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	6.47E-02	1.17E-01	4.08E-02	2.32E-07	2.02E-06	6.67E-07	3.88E-06	5.68E-09	4.47E-04	6.02E-08	0.00E+00	1.97E-06	1.72E-05	5.68E-06	3.31E-05	4.83E-08	3.81E-03	5.12E-07	0.00E+00
2009	Annual	Mon-Sun	2270002036	Excavators	D	25	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	9.98E-02	3.82E-01	2.86E-01	1.27E-06	1.29E-05	3.81E-06	2.43E-05	3.98E-08	3.14E-03	3.44E-07	0.00E+00	3.32E-06	3.38E-05	9.98E-06	6.36E-05	1.04E-07	8.21E-03	9.00E-07	0.00E+00
2009	Annual	Mon-Sun	2270002036	Excavators	D	50	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	3.76E+00	1.47E+01	1.72E+01	2.18E-04	2.39E-03	9.18E-04	1.96E-03	2.37E-06	1.83E-01	8.29E-05	0.00E+00	1.48E-05	1.63E-04	6.26E-05	1.34E-04	1.62E-07	1.25E-02	5.65E-06	0.00E+00
2009	Annual	Mon-Sun	2270002036	Excavators	D	120	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	1.02E+01	3.99E+01	1.35E+02	1.67E-03	1.07E-02	3.02E-03	1.79E-02	1.72E-05	1.47E+00	2.73E-04	0.00E+00	4.20E-05	2.68E-04	7.58E-05	4.49E-04	4.31E-07	3.68E-02	6.84E-06	0.00E+00
2009	Annual	Mon-Sun	2270002036	Excavators	D	175	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	1.97E+01	7.69E+01	3.94E+02	2.70E-03	2.58E-02	6.00E-03	4.60E-02	4.85E-05	4.31E+00	5.42E-04	0.00E+00	3.51E-05	3.35E-04	7.81E-05	5.99E-04	6.31E-07	5.61E-02	7.05E-06	0.00E+00
2009	Annual	Mon-Sun	2270002036	Excavators	D	250	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	8.00E+00	3.13E+01	2.25E+02	8.67E-04	6.47E-03	2.39E-03	2.51E-02	2.79E-05	2.48E+00	2.16E-04	0.00E+00	2.77E-05	2.07E-04	7.64E-05	8.01E-04	8.92E-07	7.93E-02	6.89E-06	0.00E+00
2009	Annual	Mon-Sun	2270002036	Excavators	D	500	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	5.77E+00	2.26E+01	2.39E+02	8.50E-04	7.44E-03	2.33E-03	2.33E-02	2.59E-05	2.63E+00	2.11E-04	0.00E+00	3.77E-05	3.30E-04	1.04E-04	1.03E-03	1.15E-06	1.17E-01	9.34E-06	0.00E+00
2009	Annual	Mon-Sun	2270002036	Excavators	D	750	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	6.25E-01	2.44E+00	4.29E+01	1.55E-04	1.33E-03	4.22E-04	4.31E-03	4.75E-06	4.73E-01	3.81E-05	0.00E+00	6.35E-05	5.46E-04	1.73E-04	1.76E-03	1.95E-06	1.94E-01	1.56E-05	0.00E+00
2009	Annual	Mon-Sun	2270002048	Graders	D	50	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	3.77E-02	9.88E-02	1.28E-01	1.69E-06	1.82E-05	7.45E-06	1.48E-05	1.76E-08	1.36E-03	6.72E-07	0.00E+00	1.71E-05	1.85E-04	7.54E-05	1.50E-04	1.78E-07	1.38E-02	6.80E-06	0.00E+00
2009	Annual	Mon-Sun	2270002048	Graders	D	120	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	2.52E+00	6.59E+00	2.27E+01	2.96E-04	1.82E-03	5.47E-04	3.23E-03	2.90E-06	2.47E-01	4.94E-05	0.00E+00	4.48E-05	2.76E-04	8.30E-05	4.90E-04	4.39E-07	3.74E-02	7.49E-06	0.00E+00
2009	Annual	Mon-Sun	2270002048	Graders	D	175	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	8.60E+00	2.25E+01	1.28E+02	9.25E-04	8.37E-03	2.07E-03	1.62E-02	1.57E-05	1.39E+00	1.87E-04	0.00E+00	4.11E-05	3.72E-04	9.21E-05	7.19E-04	6.97E-07	6.19E-02	8.31E-06	0.00E+00
2009	Annual	Mon-Sun	2270002048	Graders	D	250	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	5.34E+00	1.40E+01	1.09E+02	4.92E-04	3.63E-03	1.30E-03	1.33E-02	1.35E-05	1.20E+00	1.17E-04	0.00E+00	3.52E-05	2.60E-04	9.28E-05	9.50E-04	9.67E-07	8.60E-02	8.37E-06	0.00E+00
2009	Annual	Mon-Sun	2270002048	Graders	D	500	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	1.51E-01	3.95E-01	4.12E+00	1.69E-05	1.60E-04	4.44E-05	4.44E-04	4.45E-07	4.53E-02	4.01E-06	0.00E+00	4.26E-05	4.06E-04	1.12E-04	1.12E-03	1.13E-06	1.15E-01	1.01E-05	0.00E+00
2009	Annual	Mon-Sun	2270002048	Graders	D	750	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	3.99E-02	1.04E-01	2.30E+00	9.55E-06	8.97E-05	2.50E-05	2.55E-04	2.55E-07	2.53E-02	2.26E-06	0.00E+00	9.14E-05	8.59E-04	2.40E-04	2.44E-03	2.44E-06	2.43E-01	2.16E-05	0.00E+00
2009	Annual	Mon-Sun	2270002075	Off-Highway Tractors	D	120	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	2.70E-03	8.29E-03	3.58E-02	5.41E-07	3.12E-06	1.07E-06	6.14E-06	4.55E-09	3.88E-04	9.63E-08	0.00E+00	6.52E-05	3.76E-04	1.29E-04	7.41E-04	5.49E-07	4.68E-02	1.16E-05	0.00E+00
2009	Annual	Mon-Sun	2270002075	Off-Highway Tractors	D	175	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	3.30E+00	1.01E+01	6.06E+01	5.34E-04	4.38E-03	1.23E-03	9.37E-03	7.43E-06	6.61E-01	1.11E-04	0.00E+00	5.26E-05	4.32E-04	1.21E-04	9.24E-04	7.33E-07	6.52E-02	1.09E-05	0.00E+00
2009	Annual	Mon-Sun	2270002075	Off-Highway Tractors	D	250	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	3.12E+00	9.58E+00	5.70E+01	3.70E-04	2.68E-03	9.41E-04	8.55E-03	7.03E-06	6.24E-01	8.49E-05	0.00E+00	3.86E-05	2.80E-04	9.82E-05	8.92E-04	7.33E-07	6.52E-02	8.86E-06	0.00E+00
2009	Annual	Mon-Sun	2270002075	Off-Highway Tractors	D	750	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	6.68E+00	2.05E+01	5.33E+02	3.07E-03	3.93E-02	7.91E-03	7.34E-02	5.86E-05	5.83E+00	7.14E-04	0.00E+00	1.50E-04	1.91E-03	3.85E-04	3.58E-03	2.85E-06	2.84E-01	3.48E-05	0.00E+00
2009	Annual	Mon-Sun	2270002075	Off-Highway Tractors	D	1000	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	7.05E-01	2.17E+00	8.07E+01	4.54E-04	6.43E-03	1.27E-03	1.28E-02	8.86E-06	8.81E-01	1.15E-04	0.00E+00	2.10E-04	2.97E-03	5.86E-04	5.92E-03	4.09E-06	4.07E-01	5.29E-05	0.00E+00
2009	Annual	Mon-Sun	2270002051	Off-Highway Trucks	D	175	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	1.75E-01	9.57E-01	5.47E+00	3.91E-05	3.66E-04	8.80E-05	6.57E-04	6.73E-07	5.98E-02	7.94E-06	0.00E+00	4.08E-05	3.82E-04	9.19E-05	6.87E-04	7.03E-07	6.25E-02	8.30E-06	0.00E+00
2009	Annual	Mon-Sun	2270002051	Off-Highway Trucks	D	250	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	1.29E+00	7.07E+00	5.34E+01	2.17E-04	1.60E-03	6.09E-04	6.12E-03	6.62E-06	5.88E-01	5.50E-05	0.00E+00	3.07E-05	2.27E-04	8.62E-05	8.66E-04	9.36E-07	8.32E-02	7.78E-06	0.00E+00
2009	Annual	Mon-Sun	2270002051	Off-Highway Trucks	D	500	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	1.82E+00	9.96E+00	1.23E+02	4.60E-04	4.03E-03	1.29E-03	1.23E-02	1.33E-05	1.35E+00	1.17E-04	0.00E+00	4.62E-05	4.05E-04	1.30E-04	1.24E-03	1.34E-06	1.36E-01	1.17E-05	0.00E+00
2009	Annual	Mon-Sun	2270002051	Off-Highway Trucks	D	750	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	8.37E+00	4.57E+01	9.16E+02	3.48E-03	3.00E-02	9.70E-03	9.46E-02	1.01E-04	1.01E+01	8.75E-04	0.00E+00	7.61E-05	6.57E-04	2.12E-04	2.07E-03	2.22E-06	2.21E-01	1.92E-05	0.00E+00
2009	Annual	Mon-Sun	2270002051	Off-Highway Trucks	D	1000	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	3.92E+00	2.14E+01	6.08E+02	2.49E-03	2.39E-02	7.23E-03	8.19E-02	6.72E-05	6.68E+00	6.53E-04	0.00E+00	1.16E-04	1.12E-03	3.38E-04	3.82E-03	3.14E-06	3.12E-01	3.05E-05	0.00E+00
2009	Annual	Mon-Sun	2270002081	Other Construction Equipm	D	15	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	8.92E-01	1.69E+00	7.79E-01	3.14E-06	5.21E-05	9.95E-06	6.24E-05	1.33E-07	8.53E-03	8.97E-07	0.00E+00	1.86E-06	3.08E-05	5.89E-06	3.69E-05	7.86E-08	5.05E-03	5.31E-07	0.00E+00
2009	Annual	Mon-Sun	2270002081	Other Construction Equipm	D	25	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	1.51E-01	2.86E-01	1.72E-01	8.47E-07	7.84E-06	2.38E-06	1.53E-05	2.39E-08	1.89E-03	2.15E-07	0.00E+00	2.96E-06	2.74E-05	8.33E-06	5.35E-05	8.38E-08	6.60E-03	7.51E-07	0.00E+00
2009	Annual	Mon-Sun	2270002081	Other Construction Equipm	D	50	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	2.32E-01	4.48E-01	5.83E-01	6.32E-06	6.79E-05	2.54E-05	6.34E-05	8.10E-08	6.27E-03	2.29E-06	0.00E+00	1.41E-05	1.52E-04	5.67E-05	1.42E-04	1.81E-07	1.40E-02	5.12E-06	0.00E+00
2009	Annual	Mon-Sun	2270002081	Other Construction Equipm	D	120	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	3.83E-01	7.40E-01	2.74E+00	2.92E-05	2.02E-04	5.32E-05	3.42E-04	3.51E-07	2.99E-02	4.80E-06	0.00E+00	3.94E-05	2.73E-04	7.19E-05	4.62E-04	4.74E-07	4.04E-02	6.49E-06	0.00E+00
2009	Annual	Mon-Sun	2270002081	Other Construction Equipm	D	175	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	5.28E-01	1.02E+00	4.96E+00	2.92E-05	3.02E-04	6.41E-05	5.44E-04	6.11E-07	5.43E-02	5.79E-06	0.00E+00	2.86E-05	2.95E-04	6.28E-05	5.32E-04	5.99E-07	5.32E-02	5.66E-06	0.00E+00
2009	Annual	Mon-Sun	2270002081	Other Construction Equipm	D	500	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	1.23E+00	2.37E+00	2.73E+01	8.54E-05	7.74E-04	2.15E-04	2.51E-03	2.96E-06	3.01E-01	1.94E-05	0.00E+00	3.60E-05	3.26E-04	9.07E-05	1.06E-03	1.25E-06	1.27E-01	8.18E-06	0.00E+00
2009	Annual	Mon-Sun	2270002003	Pavers	D	25	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	4.04E-02	9.10E-02	7.75E-02	4.56E-07	3.96E-06	1.34E-06	7.49E-06	1.08E-08	8.49E-04	1.21E-07	0.00E+00	5.01E-06	4.35E-05	1.47E-05	8.22E-05	1.18E-07	9.32E-03	1.32E-06	0.00E+00
2009	Annual	Mon-Sun	2270002003	Pavers	D	50	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	2.35E+00	5.39E+00	7.11E+00	1.00E-04	1.06E-03	4.61E-04	8.49E-04	9.75E-07	7.54E-02	4.16E-05	0.00E+00	1.85E-05	1.97E-04	8.55E-05	1.57E-04	1.81E-07	1.40E-02	7.71E-06	0.00E+00
2009	Annual	Mon-Sun	2270002003	Pavers	D	120	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	2.77E+00	6.36E+00	2.02E+01	2.82E-04	1.68E-03	5.49E-04	3.23E-03	2.58E-06	2.20E-01	4.95E-05	0.00E+00	4.44E-05	2.64E-04	8.63E-05	5.08E-04	4.05E-07	3.46E-02	7.79E-06	0.00E+00
2009	Annual	Mon-Sun	2270002003	Pavers	D	175	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	1.72E+00	3.95E+00	2.32E+01	1.85E-04	1.59E-03	4.24E-04	3.32E-03	2.85E-06	2.53E-01	3.82E-05	0.00E+00	4.69E-05	4.01E-04	1.07E-04	8.41E-04	7.21E-07	6.41E-02	9.68E-06	0.00E+00
2009	Annual	Mon-Sun	2270002003	Pavers	D	250	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	2.08E-01	4.76E-01	4.21E+00	2.40E-05	1.76E-04	6.08E-05	5.83E-04	5.20E-07	4.62E-02	5.49E-06	0.00E+00	5.04E-05	3.69E-04	1.28E-04	1.22E-03	1.09E-06	9.71E-02	1.15E-05	0.00E+00
2009	Annual	Mon-Sun	2270002003	Pavers	D	500	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	2.13E-01	4.89E-01	5.20E+00	2.63E-05	3.09E-04	6.71E-05	6.50E-04	5.59E-07	5.69E-02	6.05E-06	0.00E+00	5.38E-05	6.33E-04	1.37E-04	1.33E-03	1.14E-06	1.17E-01	1.24E-05	0.00E+00
2009	Annual	Mon-Sun	2270002021	Paving Equipment	D	25	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	7.01E-02	1.59E-01	9.16E-02	4.51E-07	4.18E-06	1.27E-06	8.15E-06	1.28E-08	1.01E-03	1.14E-07	0.00E+00	2.83E-06	2.62E-05	7.96E-06	5.11E-05	8.00E-08	6.31E-03	7.18E-07	0.00E+00
2009	Annual	Mon-Sun	2270002021	Paving Equipment	D	50	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	5.93E-02	1.36E-01	1.54E-01	2.15E-06	2.28E-05	9.90E-06	1.83E-05	2.11E-08	1.63E-03	8.94E-07	0.00E+00	1.58E-05	1.67E-04	7.27E-05	1.34E-04	1.55E-07	1.20E-02	6.56E-06	0.00E+00
2009	Annual	Mon-Sun	2270002021	Paving Equipment	D	120	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	8.55E-01	1.96E+00	4.92E+00	6.81E-05	4.06E-04	1.33E-04	7.82E-04	6.27E-07	5.35E-02	1.20E-05	0.00E+00	3.47E-05	2.07E-04	6.75E-05	3.98E-04	3.19E-07	2.72E-02	6.09E-06	0.00E+00
2009	Annual	Mon-Sun	2270002021	Paving Equipment	D	175	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	4.02E-01	9.23E-01	4.26E+00	3.37E-05	2.89E-04	7.72E-05	6.09E-04	5.24E-07	4.66E-02	6.97E-06	0.00E+00	3.65E-05	3.13E-04	8.37E-05	6.60E-04	5.68E-07	5.05E-02	7.55E-06	0.00E+00
2009	Annual	Mon-Sun	2270002021	Paving Equipment	D	250	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	1.13E-01	2.60E-01	1.45E+00	8.16E-06	5.98E-05	2.07E-05	2.00E-04	1.79E-07	1.59E-02	1.86E-06	0.00E+00	3.14E-05	2.30E-04	7.94E-05	7.67E-04	6.87E-07	6.11E-02	7.16E-06	0.00E+00
2009	Annual	Mon-Sun	2270002009	Plate Compactors	D	15	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	8.68E-01	1.43E+00	2.81E-01	1.27E-06	1.88E-05	3.63E-06	2.29E-05	4.79E-08	3.08E-03	3.28E-07	0.00E+00	8.87E-07	1.32E-05	2.54E-06	1.61E-05	3.35E-08	2.15E-03	2.29E-07	0.00E+00

2009	Annual	Mon-Sun	2270002015	Rollers	D	15	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	1.63E+00	3.11E+00	8.97E-01	3.61E-06	5.99E-05	1.15E-05	7.18E-05	1.53E-07	9.82E-03	1.03E-06	0.00E+00	1.16E-06	1.93E-05	3.68E-06	2.31E-05	4.91E-08	3.16E-03	3.32E-07	0.00E+00
2009	Annual	Mon-Sun	2270002015	Rollers	D	25	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	6.82E-01	1.30E+00	7.89E-01	3.89E-06	3.60E-05	1.09E-05	7.03E-05	1.10E-07	8.67E-03	9.86E-07	0.00E+00	2.99E-06	2.77E-05	8.41E-06	5.40E-05	8.46E-08	6.67E-03	7.58E-07	0.00E+00
2009	Annual	Mon-Sun	2270002015	Rollers	D	50	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	2.12E+00	4.08E+00	4.97E+00	6.27E-05	6.64E-04	2.76E-04	5.70E-04	6.85E-07	5.30E-02	2.49E-05	0.00E+00	1.54E-05	1.63E-04	6.76E-05	1.40E-04	1.68E-07	1.30E-02	6.10E-06	0.00E+00
2009	Annual	Mon-Sun	2270002015	Rollers	D	120	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	1.14E+01	2.19E+01	5.93E+01	7.35E-04	4.62E-03	1.40E-03	8.52E-03	7.57E-06	6.46E-01	1.26E-04	0.00E+00	3.36E-05	2.11E-04	6.39E-05	3.89E-04	3.46E-07	2.95E-02	5.77E-06	0.00E+00
2009	Annual	Mon-Sun	2270002015	Rollers	D	175	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	4.58E+00	8.81E+00	4.35E+01	3.02E-04	2.77E-03	6.88E-04	5.59E-03	5.36E-06	4.76E-01	6.20E-05	0.00E+00	3.43E-05	3.15E-04	7.80E-05	6.35E-04	6.08E-07	5.40E-02	7.04E-06	0.00E+00
2009	Annual	Mon-Sun	2270002015	Rollers	D	250	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	6.50E-01	1.25E+00	8.69E+00	4.01E-05	3.00E-04	1.03E-04	1.07E-03	1.08E-06	9.56E-02	9.25E-06	0.00E+00	3.21E-05	2.40E-04	8.20E-05	8.58E-04	8.60E-07	7.65E-02	7.40E-06	0.00E+00
2009	Annual	Mon-Sun	2270002015	Rollers	D	500	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	4.56E-01	8.76E-01	8.73E+00	3.64E-05	3.69E-04	9.22E-05	9.68E-04	9.42E-07	9.59E-02	8.32E-06	0.00E+00	4.15E-05	4.20E-04	1.05E-04	1.10E-03	1.07E-06	1.09E-01	9.50E-06	0.00E+00
2009	Annual	Mon-Sun	2270002057	Rough Terrain Forklifts	D	50	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	2.99E-01	9.31E-01	1.48E+00	1.87E-05	2.01E-04	8.05E-05	1.68E-04	2.04E-07	1.58E-02	7.26E-06	0.00E+00	2.01E-05	2.16E-04	8.64E-05	1.81E-04	2.19E-07	1.69E-02	7.80E-06	0.00E+00
2009	Annual	Mon-Sun	2270002057	Rough Terrain Forklifts	D	120	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	1.43E+01	4.46E+01	1.28E+02	1.59E-03	1.00E-02	2.91E-03	1.74E-02	1.63E-05	1.39E+00	2.62E-04	0.00E+00	3.58E-05	2.24E-04	6.52E-05	3.89E-04	3.66E-07	3.12E-02	5.88E-06	0.00E+00
2009	Annual	Mon-Sun	2270002057	Rough Terrain Forklifts	D	175	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	1.84E+00	5.71E+00	3.26E+01	2.25E-04	2.09E-03	4.98E-04	3.93E-03	4.01E-06	3.56E-01	4.49E-05	0.00E+00	3.93E-05	3.66E-04	8.71E-05	6.87E-04	7.02E-07	6.24E-02	7.86E-06	0.00E+00
2009	Annual	Mon-Sun	2270002057	Rough Terrain Forklifts	D	250	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	1.02E-01	3.19E-01	2.47E+00	9.74E-06	7.24E-05	2.59E-05	2.83E-04	3.06E-07	2.72E-02	2.34E-06	0.00E+00	3.05E-05	2.27E-04	8.12E-05	8.88E-04	9.60E-07	8.53E-02	7.33E-06	0.00E+00
2009	Annual	Mon-Sun	2270002057	Rough Terrain Forklifts	D	500	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	6.74E-02	2.10E-01	2.44E+00	8.84E-06	7.85E-05	2.32E-05	2.46E-04	2.64E-07	2.69E-02	2.10E-06	0.00E+00	4.22E-05	3.74E-04	1.11E-04	1.17E-03	1.26E-06	1.28E-01	9.99E-06	0.00E+00
2009	Annual	Mon-Sun	2270002063	Rubber Tired Dozers	D	175	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	2.70E-02	1.21E-01	7.18E-01	6.51E-06	5.30E-05	1.51E-05	1.13E-04	8.80E-08	7.82E-03	1.36E-06	0.00E+00	5.38E-05	4.38E-04	1.25E-04	9.35E-04	7.28E-07	6.47E-02	1.13E-05	0.00E+00
2009	Annual	Mon-Sun	2270002063	Rubber Tired Dozers	D	250	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	6.61E-01	2.96E+00	2.48E+01	1.67E-04	1.20E-03	4.28E-04	3.79E-03	3.06E-06	2.72E-01	3.86E-05	0.00E+00	5.62E-05	4.05E-04	1.44E-04	1.28E-03	1.03E-06	9.17E-02	1.30E-05	0.00E+00
2009	Annual	Mon-Sun	2270002063	Rubber Tired Dozers	D	500	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	1.02E+00	4.56E+00	5.53E+01	3.26E-04	4.25E-03	8.56E-04	7.64E-03	5.92E-06	6.03E-01	7.72E-05	0.00E+00	7.16E-05	9.31E-04	1.88E-04	1.68E-03	1.30E-06	1.32E-01	1.69E-05	0.00E+00
2009	Annual	Mon-Sun	2270002063	Rubber Tired Dozers	D	750	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	1.77E+00	7.94E+00	1.45E+02	8.61E-04	1.11E-02	2.25E-03	2.03E-02	1.59E-05	1.58E+00	2.03E-04	0.00E+00	1.08E-04	1.40E-03	2.84E-04	2.56E-03	2.00E-06	1.99E-01	2.56E-05	0.00E+00
2009	Annual	Mon-Sun	2270002063	Rubber Tired Dozers	D	1000	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	1.20E-01	5.36E-01	1.45E+01	8.46E-05	1.20E-03	2.37E-04	2.35E-03	1.59E-06	1.59E-01	2.14E-05	0.00E+00	1.58E-04	2.24E-03	4.41E-04	4.38E-03	2.97E-06	2.96E-01	3.98E-05	0.00E+00
2009	Annual	Mon-Sun	2270002060	Rubber Tired Loaders	D	25	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	3.77E-02	9.91E-02	7.63E-02	3.59E-07	3.45E-06	1.03E-06	6.58E-06	1.06E-08	8.38E-04	9.25E-08	0.00E+00	3.62E-06	3.48E-05	1.03E-05	6.65E-05	1.07E-07	8.46E-03	9.34E-07	0.00E+00
2009	Annual	Mon-Sun	2270002060	Rubber Tired Loaders	D	50	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	7.33E-01	1.96E+00	2.87E+00	3.76E-05	4.05E-04	1.65E-04	3.32E-04	3.95E-07	3.05E-02	1.49E-05	0.00E+00	1.92E-05	2.07E-04	8.42E-05	1.69E-04	2.01E-07	1.56E-02	7.59E-06	0.00E+00
2009	Annual	Mon-Sun	2270002060	Rubber Tired Loaders	D	120	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	1.99E+01	5.33E+01	1.44E+02	1.86E-03	1.15E-02	3.44E-03	2.04E-02	1.84E-05	1.57E+00	3.11E-04	0.00E+00	3.49E-05	2.15E-04	6.45E-05	3.83E-04	3.45E-07	2.94E-02	5.82E-06	0.00E+00
2009	Annual	Mon-Sun	2270002060	Rubber Tired Loaders	D	175	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	1.12E+01	3.01E+01	1.46E+02	1.05E-03	9.54E-03	2.35E-03	1.84E-02	1.80E-05	1.60E+00	2.12E-04	0.00E+00	3.49E-05	3.17E-04	7.81E-05	6.12E-04	5.98E-07	5.31E-02	7.05E-06	0.00E+00
2009	Annual	Mon-Sun	2270002060	Rubber Tired Loaders	D	250	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	1.12E+01	2.99E+01	2.02E+02	8.96E-04	6.62E-03	2.36E-03	2.44E-02	2.50E-05	2.22E+00	2.13E-04	0.00E+00	3.00E-05	2.22E-04	7.89E-05	8.16E-04	8.37E-07	7.44E-02	7.11E-06	0.00E+00
2009	Annual	Mon-Sun	2270002060	Rubber Tired Loaders	D	500	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	4.65E+00	1.24E+01	1.34E+02	5.39E-04	5.11E-03	1.42E-03	1.43E-02	1.45E-05	1.47E+00	1.28E-04	0.00E+00	4.33E-05	4.11E-04	1.14E-04	1.15E-03	1.16E-06	1.18E-01	1.03E-05	0.00E+00
2009	Annual	Mon-Sun	2270002060	Rubber Tired Loaders	D	750	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	1.61E+00	4.30E+00	9.49E+01	3.87E-04	3.62E-03	1.01E-03	1.04E-02	1.05E-05	1.04E+00	9.13E-05	0.00E+00	8.99E-05	8.42E-04	2.35E-04	2.42E-03	2.44E-06	2.43E-01	2.12E-05	0.00E+00
2009	Annual	Mon-Sun	2270002060	Rubber Tired Loaders	D	1000	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	1.73E-01	4.62E-01	1.25E+01	5.21E-05	5.57E-04	1.50E-04	1.71E-03	1.38E-06	1.37E-01	1.36E-05	0.00E+00	1.13E-04	1.21E-03	3.26E-04	3.71E-03	2.98E-06	2.97E-01	2.94E-05	0.00E+00
2009	Annual	Mon-Sun	2270002018	Scrapers	D	120	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	1.05E-01	3.22E-01	1.39E+00	1.98E-05	1.17E-04	3.81E-05	2.21E-04	1.77E-07	1.51E-02	3.43E-06	0.00E+00	6.16E-05	3.62E-04	1.18E-04	6.85E-04	5.50E-07	4.69E-02	1.07E-05	0.00E+00
2009	Annual	Mon-Sun	2270002018	Scrapers	D	175	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	9.63E-01	2.95E+00	2.00E+01	1.62E-04	1.38E-03	3.70E-04	2.84E-03	2.45E-06	2.18E-01	3.33E-05	0.00E+00	5.50E-05	4.68E-04	1.25E-04	9.62E-04	8.32E-07	7.40E-02	1.13E-05	0.00E+00
2009	Annual	Mon-Sun	2270002018	Scrapers	D	250	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	9.38E-01	2.87E+00	2.74E+01	1.53E-04	1.11E-03	3.95E-04	3.76E-03	3.38E-06	3.01E-01	3.56E-05	0.00E+00	5.32E-05	3.87E-04	1.37E-04	1.31E-03	1.18E-06	1.05E-01	1.24E-05	0.00E+00
2009	Annual	Mon-Sun	2270002018	Scrapers	D	500	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	2.58E+00	7.91E+00	1.16E+02	5.77E-04	6.52E-03	1.51E-03	1.43E-02	1.25E-05	1.27E+00	1.36E-04	0.00E+00	7.30E-05	8.24E-04	1.90E-04	1.80E-03	1.58E-06	1.61E-01	1.72E-05	0.00E+00
2009	Annual	Mon-Sun	2270002018	Scrapers	D	750	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	2.09E+00	6.40E+00	1.62E+02	8.14E-04	9.11E-03	2.11E-03	2.03E-02	1.78E-05	1.77E+00	1.91E-04	0.00E+00	1.27E-04	1.42E-03	3.30E-04	3.17E-03	2.79E-06	2.77E-01	2.98E-05	0.00E+00
2009	Annual	Mon-Sun	2270002027	Signal Boards	D	15	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	7.59E+00	1.56E+01	4.39E+00	1.43E-05	2.94E-04	5.60E-05	3.51E-04	7.49E-07	4.81E-02	5.05E-06	0.00E+00	9.18E-07	1.88E-05	3.59E-06	2.25E-05	4.80E-08	3.08E-03	3.24E-07	0.00E+00
2009	Annual	Mon-Sun	2270002027	Signal Boards	D	50	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	3.77E-02	5.54E-02	9.33E-02	1.05E-06	1.08E-05	4.38E-06	1.04E-05	1.29E-08	1.00E-03	3.95E-07	0.00E+00	1.90E-05	1.96E-04	7.90E-05	1.87E-04	2.34E-07	1.81E-02	7.13E-06	0.00E+00
2009	Annual	Mon-Sun	2270002027	Signal Boards	D	120	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	6.17E-01	9.06E-01	3.33E+00	3.73E-05	2.46E-04	7.19E-05	4.49E-04	4.26E-07	3.63E-02	6.49E-06	0.00E+00	4.12E-05	2.71E-04	7.93E-05	4.96E-04	4.70E-07	4.01E-02	7.16E-06	0.00E+00
2009	Annual	Mon-Sun	2270002027	Signal Boards	D	175	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	3.83E-01	5.62E-01	3.96E+00	2.46E-05	2.38E-04	5.65E-05	4.79E-04	4.88E-07	4.34E-02	5.10E-06	0.00E+00	4.38E-05	4.23E-04	1.01E-04	8.53E-04	8.69E-07	7.72E-02	9.08E-06	0.00E+00
2009	Annual	Mon-Sun	2270002027	Signal Boards	D	250	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	8.09E-02	1.19E-01	1.37E+00	5.00E-06	3.87E-05	1.30E-05	1.57E-04	1.70E-07	1.51E-02	1.18E-06	0.00E+00	4.21E-05	3.26E-04	1.10E-04	1.32E-03	1.43E-06	1.28E-01	9.91E-06	0.00E+00
2009	Annual	Mon-Sun	2270002072	Skid Steer Loaders	D	25	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	5.18E+00	1.18E+01	7.47E+00	5.08E-05	4.35E-04	1.60E-04	7.60E-04	1.04E-06	8.16E-02	1.44E-05	0.00E+00	4.29E-06	3.68E-05	1.35E-05	6.42E-05	8.74E-08	6.89E-03	1.22E-06	0.00E+00
2009	Annual	Mon-Sun	2270002072	Skid Steer Loaders	D	50	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	4.70E+01	1.10E+02	1.30E+02	1.31E-03	1.43E-02	4.90E-03	1.38E-02	1.81E-05	1.40E+00	4.42E-04	0.00E+00	1.19E-05	1.30E-04	4.46E-05	1.25E-04	1.65E-07	1.27E-02	4.02E-06	0.00E+00
2009	Annual	Mon-Sun	2270002072	Skid Steer Loaders	D	120	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	2.46E+01	5.76E+01	1.13E+02	1.12E-03	8.21E-03	1.95E-03	1.29E-02	1.44E-05	1.23E+00	1.76E-04	0.00E+00	1.93E-05	1.42E-04	3.38E-05	2.23E-04	2.51E-07	2.14E-02	3.05E-06	0.00E+00
2009	Annual	Mon-Sun	2270002024	Surfacing Equipment	D	50	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	5.39E-02	6.70E-02	4.41E-02	5.00E-07	5.23E-06	2.10E-06	4.93E-06	6.11E-09	4.72E-04	1.90E-07	0.00E+00	7.47E-06	7.80E-05	3.14E-05	7.35E-05	9.11E-08	7.05E-03	2.83E-06	0.00E+00
2009	Annual	Mon-Sun	2270002024	Surfacing Equipment	D	120	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	1.08E-02	1.34E-02	3.92E-02	4.38E-07	2.93E-06	8.53E-07	5.42E-06	5.01E-09	4.27E-04	7.70E-08	0.00E+00	3.27E-05	2.19E-04	6.36E-05	4.05E-04	3.74E-07	3.19E-02	5.74E-06	0.00E+00
2009	Annual	Mon-Sun	2270002024	Surfacing Equipment	D	175	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	8.09E-03	1.01E-02	3.94E-02	2.48E-07	2.42E-06	5.71E-07	4.87E-06	4.85E-09	4.31E-04	5.15E-08	0.00E+00	2.46E-05	2.41E-04	5.67E-05	4.84E-04	4.82E-07	4.28E-02	5.12E-06	0.00E+00
2009	Annual	Mon-Sun	2270002024	Surfacing Equipment	D	250	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	1.62E-02	2.01E-02	1.23E-01	5.26E-07	4.11E-06	1.34E-06	1.46E-05	1.52E-08	1.35E-03	1.21E-07	0.00E+00	2.62E-05	2.04E-04	6.68E-05	7.28E-04	7.58E-07	6.74E-02	6.02E-06	0.00E+00
2009	Annual	Mon-Sun	2270002024	Surfacing Equipment	D	500	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	1.35E-01	1.68E-01	1.68E+00	6.55E-06	7.03E-05	1.65E-05	1.82E-04	1.82E-07	1.85E-02	1.49E-06	0.00E+00	3.91E-05	4.19E-04	9.84E-05	1.08E-03	1.08E-06	1.11E-01	8.87E-06	0.00E+00
2009	Annual	Mon-Sun	2270002024	Surfacing Equipment	D	750	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	3.99E-01	4.96E-01	7.82E+00	3.07E-05	3.26E-04	7.80E-05	8.61E-04	8.65E-07	8.60E-02	7.04E-06	0.00E+00	6.19E-05	6.58E-04	1.57E-04	1.74E-03	1.74E-06	1.73E-01	1.42E-05	0.00E+00
2009	Annual	Mon-Sun	2270002066	Tractors/Loaders/Backhoes	D	25	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	7.60E-01	1.96E+00	1.42E+00	7.76E-06	6.84E-05	2.20E-05	1.33E-04	1.97E-07	1.56E-02	1.99E-06	0.00E+00	3.95E-06	3.48E-05	1.12E-05	6.77E-05	1.01E-07	7.92E-03	1.01E-06	0.00E+00
2009	Annual	Mon-Sun	2270002066	Tractors/Loaders/Backhoes	D	50	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	4.54E+00	1.20E+01	1.71E+01	2.03E-04	2.22E-03	8.38E-04	1.90E-03	2.36E-06	1.83E-01	7.56E-05	0.00E+00	1.68E-05	1.84E-04	6.96E-05	1.58E-04	1.96E-07	1.52E-02	6.28E-06	0.00E+00
2009	Annual	Mon-Sun	2270002066	Tractors/Loaders/Backhoes	D	120	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	6.08E+01	1.61E+02	3.82E+02	4.46E-03	2.95E-02	7.99E-03	4.89E-02	4.89E-05	4.16E+00	7.21E-04	0.00E+00	2.77E-05	1.83E-04	4.96E-05	3.03E-04	3.03E-07	2.58E-02	4.47E-06	0.00E+00
2009	Annual	Mon-Sun	2270002066	Tractors/Loaders/Backhoes	D	175	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	4.54E+00	1.20E+01	5.57E+01	3.58E-04	3.54E-03	7.84E-04	6.24E-03	6.85E-06	6.09E-01	7.08E-05	0.00E+00	2.98E-05	2.94E-04	6.52E-05	5.19E-04	5.70E-07	5.06E-02	5.88E-06	0.00E+00
2009	Annual	Mon-Sun	2270002066	Tractors/Loaders/Backhoes	D	250	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	1.47E+00	3.89E+00	3.03E+01	1.08E-04	8.22E-04	2.91E-04	3.24E-03	3.76E-06	3.34E-01	2.63E-05	0.00E+00	2.79E-05	2.11E-04	7.49E-05	8.32E-04	9.65E-07	8.58E-02	6.76E-06	0.00E+00
2009	Annual	Mon-Sun	2270002066	Tractors/Loaders/Backhoes	D	500	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	2.37E+00	6.28E+00	9.81E+01	3.25E-04	2.82E-03	8.63E-04	9.16E-03	1.22E-05	1.08E+00	7.78E-05	0.00E+00	5.18E-05	4.50E-04	1.37E-04	1.46E-03	1.94E-06	1.72E-01	1.24E-05	0.00E+00
2009	Annual	Mon-Sun	2270002066	Tractors/Loaders/Backhoes	D	750	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	8.05E+00	2.13E+01	5.00E+02	1.69E-03	1.44E-02	4.45E-03	4.82E-02	6.21E-05	5.51E+00	4.01E-04	0.00E+00	7.90E-05	6.75E-04	2.08E-04	2.26E-03	2.91E-06	2.58E-01	1.88E-05	0.00E+00
2009	Annual	Mon-Sun	2270002030	Trenchers	D	15	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	2.02E-01	3.43E-01	1.32E-01	4.32E-07	8.85E-06	1.69E-06	1.06E-05	2.25E-08	1.45E-03	1.52E-07	0.00E+00	1.26E-06	2.58E-05	4.92E-06	3.08E-05	6.58E-08	4.23E-03	4.44E-07	0.00E+00
2009	Annual	Mon-Sun	2270002030	Trenchers	D	25	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	2.13E-01	3.61E-01	5.41E-01	2.54E-06	2.44E-05	7.26E-06	4.67E-05	7.53E-08	5.94E-03	6.55E-07	0.00E+00	7.05E-06	6.77E-05	2.01E-05	1.29E-04	2.09E-07	1.64E-02	1.82E-06	0.00E+00
2009	Annual	Mon-Sun	2270002030	Trenchers	D	50	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	8.11E+00	1.41E+01	2.18E+01	2.97E-04	3.14E-03	1.36E-03	2.58E-03	2.99E-06	2.32E-01	1.22E-04	0.00E+00	2.10E-05	2.23E-04	9.63E-05	1.83E-04	2.13E-07	1.64E-02	8.69E-06	0.00E+00
2009	Annual	Mon-Sun	2270002030	Trenchers	D	120	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	1.10E+01	1.91E+01	5.70E+01	7.69E-04	4.67E-03	1.52E-03	9.07E-03	7.26E-06	6.19E-01	1.37E-04	0.00E+00	4.03E-05	2.45E-04	7.95E-05	4.75E-04	3.80E-07	3.24E-02	7.17E-06	0.00E+00
2009	Annual	Mon-Sun	2270002030	Trenchers	D	175	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	1.20E+00	2.09E+00	1.37E+01	1.07E-04	9.32E-04	2.47E-04	1.97E-03	1.69E-06	1.50E-01	2.23E-05	0.00E+00	5.14E-05	4.46E-04	1.18E-04	9.42E-04	8.09E-07	7.19E-02	1.07E-05	0.00E+00
2009	Annual	Mon-Sun	2270002030	Trenchers	D	250	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	1.08E-01	1.87E-01	1.90E+00	1.09E-05	8.03E-05	2.73E-05	2.63E-04	2.35E-07	2.09E-02	2.47E-06	0.00E+00	5.82E-05	4.29E-04	1.46E-04	1.40E-03	1.25E-06	1.11E-01	1.32E-05	0.00E+00
2009	Annual	Mon-Sun	2270002030	Trenchers	D	500	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	1.38E-01	2.39E-01	3.39E+00	1.72E-05	2.11E-04	4.35E-05	4.26E-04	3.65E-07	3.72E-02	3.92E-06	0.00E+00	7.21E-05	8.85E-04	1.82E-04	1.78E-03	1.53E-06	1.56E-01	1.64E-05	0.00E+00
2009	Annual	Mon-Sun	2270002030	Trenchers	D	750	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	7.98E-02	1.39E-01	3.71E+00	1.90E-05	2.31E-04	4.80E-05	4.74E-04	4.09E-07	4.06E-02	4.33E-06	0.00E+00	1.37E-04	1.67E-03	3.46E-04	3.42E-03	2.95E-06	2.93E-01	3.12E-05	0.00E+00
2009	Annual	Mon-Sun	2266003010	Aerial Lifts	C4	15	Industrial Equipment	U	P	NHH	NP	Imperial	SS	IMP	1.65E-02	1.70E-02	1.36E-02	3.47E-08	1.22E-05	3.15E-08	3.34E-07	0.00E+00	7.57E-05	2.64E-07	0.00E+00	2.04E-06	7.18E-04	1.85E-06	1.96E-05	0.00E+00	4.45E-03	1.55E-05	0.00E+00
2009	Annual	Mon-Sun	2266003010	Aerial Lifts	C4	25	Industrial Equipment	U	P	NHH	NP	Imperial	SS	IMP	7.10E-01	7.30E-01	8.69E-01	2.44E-06	8.07E-04	3.04E-06	2.22E-05	0.00E+00	4.74E-03	2.55E-05	0.00E+00	3.35E-06	1.11E-03	4.16E-06	3.04E-05	0.00E+00	6.50E-03	3.49E-05	0.00E+00
2009	Annual	Mon-Sun	2266003020	Forklifts	C4	25	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	6.97E-03	2.39E-02	2.34E-02	8.06E-08	2.35E-05	1.48E-07	6.56E-07	0.00E+00	1.23E-04	1.24E-06	0.00E+00	3.38E-06	9.84E-04	6.22E-06	2.75E-05	0.00E+00	5.13E-03	5.21E-05	0.00E+00
2009	Annual	Mon-Sun	2266003020	Forklifts	C4	50	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	4.72E+00	2.33E+01	3.12E+01	1.89E-05	3.42E-03	3.73E-05	1.59E-03	0.00E+00	2.13E-01	3.13E-04	0.00E+00	8.14E-07	1.47E-04	1.60E-06	6.85E-05	0.00E+00	9.15E-03	1.34E-05	0.00E+00
2009	Annual	Mon-Sun	2266003020	Forklifts	C4	120	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	1.66E+01	8.17E+01	1.95E+02	1.14E-04	5.76E-02	2.33E-04	9.08E-03	0.00E+00	1.28E+00	1.95E-03	0.00E+00	1.39E-06	7.05E-04	2.85E-06	1.11E-04	0.00E+00	1.56E-02	2.39E-05	0.00E+00
2009	Annual	Mon-Sun	2266003020	Forklifts	C4	175	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	6.06E-01	2.99E+00	1.46E+01	8.67E-06	3.38E-03	1.09E-05	5.66E-04	0.00E+00	9.74E-02	9.13E-05	0.00E+00	2.90E-06	1.13E-03	3.64E-06	1.89E-04	0.00E+00	3.26E-02	3.05E-05	0.00E+00
2009	Annual	Mon-Sun	2270003010	Aerial Lifts	D	15	Industrial Equipment	U	P	NHH	NP	Imperial	SS	IMP	3.65E-01	4.00E-01	1.58E-01	8.33E-07	1.06E-05	2.15E-06	1.38E-05	2.69E-08	1.73E-03	1.94E-07	0.00E+00	2.09E-06	2.65E-05	5.38E-06	3.46E-05	6.73E-08	4.32E-03	4.85E-07	0.00E+00
2009	Annual	Mon-Sun	2270003010	Aerial Lifts	D	25	Industrial Equipment	U	P	NHH	NP	Imperial	SS	IMP	5.96E-01	6.52E-01	3.27E-01	2.30E-06	1.97E-05	7.37E-06	3.38E-05	4.53E-08	3.57E-03	6.65E-07	0.00E+00	3.53E-06	3.02E-05	1.13E-05	5.18E-05	6.95E-08	5.48E-03	1.02E-06	0.00E+00
2009	Annual	Mon-Sun	2270003010	Aerial Lifts	D	50	Industrial Equipment	U	P	NHH	NP	Imperial	SS	IMP	2.18E+00	2.29E+00	2.09E+00	2.22E-05	2.24E-04	8.94E-05	2.29E-04	2.90E-07	2.25E-02	8.07E-06	0.00E+00	9.67E-06	9.77E-05	3.90E-05	1.00E-04	1.27E-07	9.80E-03	3.52E-06	0.00E+00
2009	Annual	Mon-Sun	2270003010	Aerial Lifts	D	120	Industrial Equipment	U	P	NHH	NP	Imperial	SS	IMP	1.93E+00	2.03E+00	3.55E+00	3.75E-05	2.55E-04	7.40E-05	4.73E-04	4.54E-07	3.87E-02	6.68E-06	0.00E+00	1.84E-05	1.26E-04	3.64E-05	2.33E-04	2.23E-07	1.90E-02	3.29E-06	0.00E+00
2009	Annual	Mon-Sun	2270003010	Aerial Lifts	D	500	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	2.47E-01	2.61E-01	2.51E+00	8.15E-06	8.10E-05	2.07E-05	2.59E-04	2.72E-07	2.77E-02	1.86E-06	0.00E+00	3.13E-05	3.11E-04	7.93E-05	9.96E-04	1.04E-06	1.06E-01	7.16E-06	0.00E+00
2009	Annual	Mon-Sun	2270003010	Aerial Lifts	D	750	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	1.99E-02	2.10E-02	3.66E-01	1.20E-06	1.18E-05	3.09E-06	3.87E-05	4.05E-08	4.03E-03	2.79E-07	0.00E+00	5.73E-05	5.62E-04	1.48E-04	1.85E-03	1.93E-06	1.92E-01	1.33E-05	0.00E+00
2009	Annual	Mon-Sun	2270003020	Forklifts	D	50	Industrial Equipment	U	P	NHH	NP	Imperial	SS	IMP	6.60E-01	3.26E+00	2.24E+00	2.85E-05	3.10E-04	1.21E-04	2.54E-04	3.09E-07	2.39E-02	1.09E-05	0.00E+00	8.76E-06	9.50E-05	3.71E-05	7.79E-05	9.48E-08	7.33E-03	3.34E-06	0.00E+00
2009	Annual	Mon-Sun	2270003020	Forklifts	D	120	Industrial Equipment	U	P	NHH	NP	Imperial	SS	IMP	1.04E+00	5.11E+00	7.33E+00	9.40E-05	5.78E-04	1.66E-04	9.51E-04	9.35E-07	7.97E-02	1.50E-05	0.00E+00	1.84E-05	1.13E-04	3.25E-05	1.86E-04	1.83E-07	1.56E-02	2.94E-06	0.00E+00
2009	Annual	Mon-Sun	2270003020	Forklifts	D	175	Industrial Equipment	U	P	NHH	NP	Imperial	SS	IMP	1.04E+00	5.14E+00	1.32E+01	9.22E-05	8.49E-04	2.03E-04	1.52E-03	1.62E-06	1.44E-01	1.83E-05	0.00E+00	1.80E-05	1.65E-04	3.94E-05	2.97E-04	3.15E-07	2.80E-02	3.56E-06	0.00E+00
2009	Annual	Mon-Sun	2270003020	Forklifts	D	250	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	1.03E+00	5.10E+00	1.78E+01	6.06E-05	4.46E-04	1.72E-04	1.95E-03	2.21E-06	1.96E-01	1.55E-05	0.00E+00	1.19E-05	8.74E-05	3.36E-05	3.82E-04	4.33E-07	3.85E-02	3.04E-06	0.00E+00
2009	Annual	Mon-Sun	2270003020	Forklifts	D	500	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	4.42E-01	2.18E+00	1.10E+01	3.48E-05	2.64E-04	9.71E-05	1.04E-03	1.19E-06	1.21E-01	8.76E-06	0.00E+00	1.60E-05	1.21E-04	4.45E-05	4.75E-04	5.44E-07	5.54E-02	4.01E-06	0.00E+00
2009	Annual	Mon-Sun	2270003040	Other General Industrial Eq	D	15	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	1.27E-01	4.97E-01	1.45E-01	4.74E-07	9.70E-06	1.65E-06	1.16E-05	2.47E-08	1.59E-03	1.49E-07	0.00E+00	9.53E-07	1.95E-05	3.31E-06	2.33E-05	4.97E-08	3.19E-03	2.99E-07	0.00E+00
2009	Annual	Mon-Sun	2270003040	Other General Industrial Eq	D	25	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	1.70E-01	6.66E-01	4.65E-01	2.07E-06	2.10E-05	6.21E-06	3.95E-05	6.48E-08	5.11E-03	5.60E-07	0.00E+00	3.11E-06	3.16E-05	9.32E-06	5.94E-05	9.73E-08	7.67E-03	8.41E-07	0.00E+00
2009	Annual	Mon-Sun	2270003040	Other General Industrial Eq	D	50	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	2.11E-01	8.25E-01	8.46E-01	1.21E-05	1.28E-04	5.48E-05	1.00E-04	1.16E-07	8.96E-03	4.95E-06	0.00E+00	1.47E-05	1.55E-04	6.64E-05	1.21E-04	1.40E-07	1.09E-02	5.99E-06	0.00E+00
2009	Annual	Mon-Sun	2270003040	Other General Industrial Eq	D	120	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	8.45E-01	3.30E+00	9.41E+00	1.34E-04	7.69E-04	2.49E-04	1.40E-03	1.20E-06	1.02E-01	2.24E-05	0.00E+00	4.07E-05	2.33E-04	7.54E-05	4.25E-04	3.64E-07	3.10E-02	6.80E-06	0.00E+00
2009	Annual	Mon-Sun	2270003040	Other General Industrial Eq	D	175	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	8.47E-01	3.31E+00	1.45E+01	1.15E-04	9.62E-04	2.58E-04	1.95E-03	1.78E-06	1.59E-01	2.32E-05	0.00E+00	3.46E-05	2.91E-04	7.78E-05	5.89E-04	5.39E-07	4.79E-02	7.02E-06	0.00E+00
2009	Annual	Mon-Sun	2270003040	Other General Industrial Eq	D	250	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	8.44E-01	3.30E+00	2.03E+01	8.85E-05	6.37E-04	2.40E-04	2.57E-03	2.51E-06	2.23E-01	2.16E-05	0.00E+00	2.69E-05	1.93E-04	7.27E-05	7.79E-04	7.62E-07	6.77E-02	6.56E-06	0.00E+00

2009	Annual	Mon-Sun	2270003040	Other General Industrial Eq	D	500	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	8.42E-01	3.29E+00	3.96E+01	1.58E-04	1.42E-03	4.25E-04	4.45E-03	4.28E-06	4.36E-01	3.83E-05	0.00E+00	4.81E-05	4.33E-04	1.29E-04	1.35E-03	1.30E-06	1.33E-01	1.16E-05	0.00E+00
2009	Annual	Mon-Sun	2270003040	Other General Industrial Eq	D	750	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	2.10E-01	8.22E-01	1.63E+01	6.62E-05	5.87E-04	1.76E-04	1.88E-03	1.81E-06	1.80E-01	1.59E-05	0.00E+00	8.06E-05	7.14E-04	2.15E-04	2.29E-03	2.20E-06	2.19E-01	1.94E-05	0.00E+00
2009	Annual	Mon-Sun	2270003040	Other General Industrial Eq	D	1000	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	1.28E-01	5.00E-01	1.27E+01	5.67E-05	5.86E-04	1.64E-04	1.83E-03	1.41E-06	1.40E-01	1.48E-05	0.00E+00	1.13E-04	1.17E-03	3.29E-04	3.66E-03	2.81E-06	2.80E-01	2.97E-05	0.00E+00
2009	Annual	Mon-Sun	2270003050	Other Material Handling Eq	D	50	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	6.06E-03	2.19E-02	3.13E-02	4.44E-07	4.70E-06	2.01E-06	3.70E-06	4.29E-09	3.32E-04	1.81E-07	0.00E+00	2.03E-05	2.15E-04	9.18E-05	1.69E-04	1.96E-07	1.52E-02	8.28E-06	0.00E+00
2009	Annual	Mon-Sun	2270003050	Other Material Handling Eq	D	120	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	3.63E-02	1.31E-01	3.66E-01	5.18E-06	2.98E-05	9.61E-06	5.45E-05	4.67E-08	3.98E-03	8.67E-07	0.00E+00	3.94E-05	2.27E-04	7.32E-05	4.15E-04	3.56E-07	3.03E-02	6.60E-06	0.00E+00
2009	Annual	Mon-Sun	2270003050	Other Material Handling Eq	D	175	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	3.89E-02	1.41E-01	7.85E-01	6.15E-06	5.18E-05	1.38E-05	1.05E-04	9.66E-08	8.58E-03	1.25E-06	0.00E+00	4.37E-05	3.68E-04	9.82E-05	7.47E-04	6.86E-07	6.10E-02	8.86E-06	0.00E+00
2009	Annual	Mon-Sun	2270003050	Other Material Handling Eq	D	250	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	9.26E-02	3.35E-01	2.20E+00	9.56E-06	6.89E-05	2.58E-05	2.78E-04	2.73E-07	2.42E-02	2.32E-06	0.00E+00	2.86E-05	2.06E-04	7.70E-05	8.31E-04	8.15E-07	7.24E-02	6.95E-06	0.00E+00
2009	Annual	Mon-Sun	2270003050	Other Material Handling Eq	D	500	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	1.73E-02	6.25E-02	5.44E-01	2.16E-06	1.95E-05	5.76E-06	6.09E-05	5.88E-08	5.99E-03	5.19E-07	0.00E+00	3.46E-05	3.12E-04	9.20E-05	9.74E-04	9.40E-07	9.57E-02	8.31E-06	0.00E+00
2009	Annual	Mon-Sun	2270003050	Other Material Handling Eq	D	9999	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	5.19E-03	1.88E-02	6.33E-01	2.80E-06	2.91E-05	8.13E-06	9.06E-05	6.82E-08	6.95E-03	7.34E-07	0.00E+00	1.49E-04	1.55E-03	4.33E-04	4.83E-03	3.64E-06	3.70E-01	3.91E-05	0.00E+00
2009	Annual	Mon-Sun	2270003030	Sweepers/Scrubbers	D	15	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	4.85E-02	8.64E-02	4.70E-02	1.54E-07	3.14E-06	5.34E-07	3.75E-06	8.01E-09	5.15E-04	4.82E-08	0.00E+00	1.78E-06	3.64E-05	6.18E-06	4.35E-05	9.28E-08	5.96E-03	5.58E-07	0.00E+00
2009	Annual	Mon-Sun	2270003030	Sweepers/Scrubbers	D	25	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	4.85E-02	8.64E-02	7.71E-02	3.64E-07	3.48E-06	1.04E-06	6.66E-06	1.07E-08	8.46E-04	9.35E-08	0.00E+00	4.21E-06	4.03E-05	1.20E-05	7.71E-05	1.24E-07	9.80E-03	1.08E-06	0.00E+00
2009	Annual	Mon-Sun	2270003030	Sweepers/Scrubbers	D	50	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	9.44E-01	3.16E+00	4.67E+00	5.96E-05	6.36E-04	2.58E-04	5.29E-04	6.43E-07	4.98E-02	2.33E-05	0.00E+00	1.89E-05	2.01E-04	8.18E-05	1.68E-04	2.04E-07	1.58E-02	7.38E-06	0.00E+00
2009	Annual	Mon-Sun	2270003030	Sweepers/Scrubbers	D	120	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	1.56E+00	5.22E+00	1.80E+01	2.32E-04	1.40E-03	4.16E-04	2.40E-03	2.30E-06	1.96E-01	3.76E-05	0.00E+00	4.43E-05	2.69E-04	7.97E-05	4.59E-04	4.40E-07	3.75E-02	7.19E-06	0.00E+00
2009	Annual	Mon-Sun	2270003030	Sweepers/Scrubbers	D	175	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	7.19E-01	2.41E+00	1.53E+01	1.08E-04	9.68E-04	2.37E-04	1.82E-03	1.88E-06	1.67E-01	2.14E-05	0.00E+00	4.49E-05	4.03E-04	9.84E-05	7.57E-04	7.81E-07	6.94E-02	8.88E-06	0.00E+00
2009	Annual	Mon-Sun	2270003030	Sweepers/Scrubbers	D	250	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	1.15E-01	3.85E-01	2.83E+00	9.81E-06	7.20E-05	2.69E-05	3.17E-04	3.51E-07	3.12E-02	2.42E-06	0.00E+00	2.55E-05	1.87E-04	6.98E-05	8.24E-04	9.11E-07	8.09E-02	6.30E-06	0.00E+00
2009	Annual	Mon-Sun	2266006020	Gas Compressors	C4	50	Light Commercial Equipment	U	P	NHH	P	Imperial	SS	IMP	1.35E-01	3.14E+00	1.08E+01	5.66E-06	1.08E-03	6.12E-06	2.22E-04	0.00E+00	7.39E-02	5.13E-05	0.00E+00	1.80E-06	3.45E-04	1.95E-06	7.06E-05	0.00E+00	2.35E-02	1.63E-05	0.00E+00
2009	Annual	Mon-Sun	2266006020	Gas Compressors	C4	120	Light Commercial Equipment	U	P	NHH	P	Imperial	SS	IMP	2.79E-01	6.50E+00	6.29E+01	3.22E-05	1.73E-02	3.34E-05	1.31E-03	0.00E+00	4.15E-01	2.80E-04	0.00E+00	4.95E-06	2.67E-03	5.13E-06	2.02E-04	0.00E+00	6.39E-02	4.30E-05	0.00E+00
2009	Annual	Mon-Sun	2266006020	Gas Compressors	C4	175	Light Commercial Equipment	U	P	NHH	P	Imperial	SS	IMP	4.50E-02	1.05E+00	1.62E+01	8.60E-06	3.53E-03	9.30E-06	3.52E-04	0.00E+00	1.08E-01	7.80E-05	0.00E+00	8.21E-06	3.36E-03	8.88E-06	3.36E-04	0.00E+00	1.03E-01	7.44E-05	0.00E+00
2009	Annual	Mon-Sun	2266006020	Gas Compressors	C4	250	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	3.60E-02	8.39E-01	1.67E+01	9.90E-06	4.06E-03	7.16E-06	3.41E-04	0.00E+00	1.11E-01	6.00E-05	0.00E+00	1.18E-05	4.84E-03	8.54E-06	4.06E-04	0.00E+00	1.33E-01	7.16E-05	0.00E+00
2009	Annual	Mon-Sun	2266006020	Gas Compressors	C4	500	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	3.15E-02	7.34E-01	2.36E+01	1.39E-05	5.72E-03	1.01E-05	4.80E-04	0.00E+00	1.57E-01	8.45E-05	0.00E+00	1.90E-05	7.79E-03	1.37E-05	6.54E-04	0.00E+00	2.14E-01	1.15E-04	0.00E+00
2009	Annual	Mon-Sun	2266006005	Generator Sets	C4	120	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	8.69E-01	2.73E-01	1.72E+00	1.02E-06	3.60E-04	1.75E-06	1.15E-04	0.00E+00	1.15E-02	1.47E-05	0.00E+00	3.73E-06	1.32E-03	6.40E-06	4.22E-04	0.00E+00	4.20E-02	5.37E-05	0.00E+00
2009	Annual	Mon-Sun	2266006005	Generator Sets	C4	175	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	7.20E-01	2.27E-01	2.48E+00	1.49E-06	4.32E-04	2.04E-06	1.68E-04	0.00E+00	1.67E-02	1.71E-05	0.00E+00	6.57E-06	1.90E-03	8.99E-06	7.41E-04	0.00E+00	7.38E-02	7.54E-05	0.00E+00
2009	Annual	Mon-Sun	2270006015	Air Compressors	D	15	Light Commercial Equipment	U	P	NHH	P	Imperial	SS	IMP	2.33E-01	5.19E-01	1.72E-01	1.65E-06	1.35E-05	3.87E-06	2.24E-05	2.91E-08	1.87E-03	3.49E-07	0.00E+00	3.18E-06	2.60E-05	7.46E-06	4.31E-05	5.61E-08	3.61E-03	6.73E-07	0.00E+00
2009	Annual	Mon-Sun	2270006015	Air Compressors	D	25	Light Commercial Equipment	U	P	NHH	P	Imperial	SS	IMP	4.61E-01	1.03E+00	6.81E-01	5.27E-06	4.47E-05	1.74E-05	7.27E-05	9.41E-08	7.42E-03	1.57E-06	0.00E+00	5.12E-06	4.35E-05	1.70E-05	7.08E-05	9.16E-08	7.22E-03	1.53E-06	0.00E+00
2009	Annual	Mon-Sun	2270006015	Air Compressors	D	50	Light Commercial Equipment	U	P	NHH	P	Imperial	SS	IMP	4.19E+00	9.34E+00	9.75E+00	1.26E-04	1.32E-03	5.59E-04	1.12E-03	1.34E-06	1.04E-01	5.05E-05	0.00E+00	1.35E-05	1.42E-04	5.99E-05	1.20E-04	1.44E-07	1.11E-02	5.40E-06	0.00E+00
2009	Annual	Mon-Sun	2270006015	Air Compressors	D	120	Light Commercial Equipment	U	P	NHH	P	Imperial	SS	IMP	2.79E+01	6.22E+01	1.34E+02	1.73E-03	1.04E-02	3.26E-03	1.92E-02	1.71E-05	1.46E+00	2.94E-04	0.00E+00	2.77E-05	1.68E-04	5.24E-05	3.09E-04	2.75E-07	2.35E-02	4.73E-06	0.00E+00
2009	Annual	Mon-Sun	2270006015	Air Compressors	D	175	Light Commercial Equipment	U	P	NHH	P	Imperial	SS	IMP	1.06E+00	2.35E+00	9.52E+00	6.80E-05	6.01E-04	1.54E-04	1.23E-03	1.17E-06	1.04E-01	1.39E-05	0.00E+00	2.89E-05	2.55E-04	6.55E-05	5.22E-04	4.97E-07	4.42E-02	5.91E-06	0.00E+00
2009	Annual	Mon-Sun	2270006015	Air Compressors	D	250	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	1.49E+00	3.31E+00	1.97E+01	8.10E-05	5.96E-04	2.13E-04	2.40E-03	2.44E-06	2.17E-01	1.92E-05	0.00E+00	2.44E-05	1.80E-04	6.43E-05	7.26E-04	7.38E-07	6.56E-02	5.80E-06	0.00E+00
2009	Annual	Mon-Sun	2270006015	Air Compressors	D	500	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	1.94E+00	4.32E+00	4.54E+01	1.71E-04	1.59E-03	4.39E-04	4.96E-03	4.91E-06	5.00E-01	3.96E-05	0.00E+00	3.95E-05	3.67E-04	1.02E-04	1.15E-03	1.14E-06	1.16E-01	9.17E-06	0.00E+00
2009	Annual	Mon-Sun	2270006015	Air Compressors	D	750	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	7.25E-01	1.62E+00	2.63E+01	1.00E-04	9.18E-04	2.58E-04	2.94E-03	2.91E-06	2.89E-01	2.33E-05	0.00E+00	6.19E-05	5.68E-04	1.60E-04	1.82E-03	1.80E-06	1.79E-01	1.44E-05	0.00E+00
2009	Annual	Mon-Sun	2270006015	Air Compressors	D	1000	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	1.79E-02	3.99E-02	8.83E-01	3.73E-06	3.96E-05	1.08E-05	1.23E-04	9.75E-08	9.70E-03	9.74E-07	0.00E+00	9.34E-05	9.91E-04	2.71E-04	3.08E-03	2.44E-06	2.43E-01	2.44E-05	0.00E+00
2009	Annual	Mon-Sun	2270006005	Generator Sets	D	15	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	2.28E+01	2.10E+01	9.84E+00	7.61E-05	7.73E-04	1.89E-04	1.25E-03	1.67E-06	1.07E-01	1.70E-05	0.00E+00	3.62E-06	3.67E-05	8.97E-06	5.93E-05	7.93E-08	5.10E-03	8.09E-07	0.00E+00
2009	Annual	Mon-Sun	2270006005	Generator Sets	D	25	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	1.66E+01	1.54E+01	1.24E+01	8.59E-05	8.18E-04	2.41E-04	1.33E-03	1.72E-06	1.36E-01	2.18E-05	0.00E+00	5.58E-06	5.31E-05	1.57E-05	8.64E-05	1.12E-07	8.81E-03	1.42E-06	0.00E+00
2009	Annual	Mon-Sun	2270006005	Generator Sets	D	50	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	2.03E+01	1.88E+01	2.67E+01	2.75E-04	2.76E-03	1.09E-03	2.91E-03	3.72E-06	2.88E-01	9.84E-05	0.00E+00	1.46E-05	1.47E-04	5.80E-05	1.55E-04	1.98E-07	1.53E-02	5.23E-06	0.00E+00
2009	Annual	Mon-Sun	2270006005	Generator Sets	D	120	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	3.09E+01	2.86E+01	1.02E+02	1.05E-03	7.25E-03	2.08E-03	1.34E-02	1.30E-05	1.11E+00	1.87E-04	0.00E+00	3.66E-05	2.54E-04	7.27E-05	4.71E-04	4.57E-07	3.89E-02	6.56E-06	0.00E+00
2009	Annual	Mon-Sun	2270006005	Generator Sets	D	175	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	1.83E+00	1.69E+00	1.09E+01	6.23E-05	6.32E-04	1.47E-04	1.29E-03	1.35E-06	1.20E-01	1.32E-05	0.00E+00	3.69E-05	3.74E-04	8.69E-05	7.67E-04	7.98E-07	7.09E-02	7.84E-06	0.00E+00
2009	Annual	Mon-Sun	2270006005	Generator Sets	D	250	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	1.02E+00	9.44E-01	9.09E+00	3.07E-05	2.50E-04	8.09E-05	1.02E-03	1.13E-06	1.00E-01	7.30E-06	0.00E+00	3.26E-05	2.65E-04	8.58E-05	1.08E-03	1.19E-06	1.06E-01	7.74E-06	0.00E+00
2009	Annual	Mon-Sun	2270006005	Generator Sets	D	500	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	2.27E+00	2.10E+00	3.20E+01	1.01E-04	9.98E-04	2.56E-04	3.27E-03	3.47E-06	3.53E-01	2.31E-05	0.00E+00	4.82E-05	4.76E-04	1.22E-04	1.56E-03	1.65E-06	1.68E-01	1.10E-05	0.00E+00
2009	Annual	Mon-Sun	2270006005	Generator Sets	D	750	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	1.41E+00	1.30E+00	3.21E+01	1.03E-04	1.00E-03	2.65E-04	3.37E-03	3.56E-06	3.54E-01	2.39E-05	0.00E+00	7.88E-05	7.68E-04	2.03E-04	2.58E-03	2.73E-06	2.72E-01	1.83E-05	0.00E+00
2009	Annual	Mon-Sun	2270006005	Generator Sets	D	9999	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	3.67E-01	3.39E-01	1.62E+01	6.35E-05	6.48E-04	1.79E-04	2.11E-03	1.79E-06	1.78E-01	1.62E-05	0.00E+00	1.87E-04	1.91E-03	5.29E-04	6.22E-03	5.27E-06	5.24E-01	4.77E-05	0.00E+00
2009	Annual	Mon-Sun	2270006030	Pressure Washers	D	15	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	1.06E+00	4.19E-01	9.39E-02	7.26E-07	7.38E-06	1.80E-06	1.19E-05	1.59E-08	1.02E-03	1.62E-07	0.00E+00	1.73E-06	1.76E-05	4.30E-06	2.84E-05	3.80E-08	2.44E-03	3.88E-07	0.00E+00
2009	Annual	Mon-Sun	2270006030	Pressure Washers	D	25	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	2.46E-01	9.76E-02	3.19E-02	2.21E-07	2.10E-06	6.21E-07	3.42E-06	4.42E-09	3.49E-04	5.60E-08	0.00E+00	2.26E-06	2.15E-05	6.36E-06	3.50E-05	4.53E-08	3.57E-03	5.74E-07	0.00E+00
2009	Annual	Mon-Sun	2270006030	Pressure Washers	D	50	Light Commercial Equipment	U	P	NHH	P	Imperial	SS	IMP	4.88E-01	1.94E-01	1.28E-01	1.15E-06	1.12E-05	4.19E-06	1.36E-05	1.79E-08	1.38E-03	3.78E-07	0.00E+00	5.95E-06	5.81E-05	2.16E-05	7.01E-05	9.23E-08	7.14E-03	1.95E-06	0.00E+00
2009	Annual	Mon-Sun	2270006030	Pressure Washers	D	120	Light Commercial Equipment	U	P	NHH	P	Imperial	SS	IMP	2.01E-01	7.99E-02	8.80E-02	7.92E-07	5.97E-06	1.62E-06	1.11E-05	1.13E-08	9.61E-04	1.47E-07	0.00E+00	9.92E-06	7.48E-05	2.03E-05	1.39E-04	1.41E-07	1.20E-02	1.83E-06	0.00E+00
2009	Annual	Mon-Sun	2270006010	Pumps	D	15	Light Commercial Equipment	U	P	NHH	P	Imperial	SS	IMP	1.71E+01	1.88E+01	6.42E+00	6.17E-05	5.04E-04	1.45E-04	8.35E-04	1.09E-06	6.99E-02	1.30E-05	0.00E+00	3.27E-06	2.67E-05	7.67E-06	4.43E-05	5.77E-08	3.71E-03	6.92E-07	0.00E+00
2009	Annual	Mon-Sun	2270006010	Pumps	D	25	Light Commercial Equipment	U	P	NHH	P	Imperial	SS	IMP	5.11E+00	5.63E+00	5.03E+00	3.89E-05	3.30E-04	1.29E-04	5.38E-04	6.95E-07	5.48E-02	1.16E-05	0.00E+00	6.91E-06	5.87E-05	2.29E-05	9.55E-05	1.24E-07	9.73E-03	2.06E-06	0.00E+00
2009	Annual	Mon-Sun	2270006010	Pumps	D	50	Light Commercial Equipment	U	P	NHH	P	Imperial	SS	IMP	8.90E+00	9.81E+00	1.57E+01	1.68E-04	1.70E-03	6.81E-04	1.72E-03	2.18E-06	1.68E-01	6.15E-05	0.00E+00	1.71E-05	1.73E-04	6.94E-05	1.76E-04	2.22E-07	1.72E-02	6.26E-06	0.00E+00
2009	Annual	Mon-Sun	2270006010	Pumps	D	120	Light Commercial Equipment	U	P	NHH	P	Imperial	SS	IMP	1.74E+01	1.92E+01	6.87E+01	7.33E-04	4.96E-03	1.44E-03	9.19E-03	8.79E-06	7.49E-01	1.30E-04	0.00E+00	3.81E-05	2.58E-04	7.50E-05	4.78E-04	4.57E-07	3.89E-02	6.77E-06	0.00E+00
2009	Annual	Mon-Sun	2270006010	Pumps	D	175	Light Commercial Equipment	U	P	NHH	P	Imperial	SS	IMP	1.89E+00	2.08E+00	1.33E+01	7.90E-05	7.81E-04	1.85E-04	1.60E-03	1.64E-06	1.46E-01	1.67E-05	0.00E+00	3.79E-05	3.75E-04	8.86E-05	7.68E-04	7.88E-07	7.00E-02	8.00E-06	0.00E+00
2009	Annual	Mon-Sun	2270006010	Pumps	D	250	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	1.36E+00	1.50E+00	1.37E+01	4.82E-05	3.83E-04	1.26E-04	1.55E-03	1.70E-06	1.51E-01	1.14E-05	0.00E+00	3.21E-05	2.55E-04	8.43E-05	1.04E-03	1.13E-06	1.01E-01	7.60E-06	0.00E+00
2009	Annual	Mon-Sun	2270006010	Pumps	D	500	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	2.68E-02	2.96E-02	4.63E-01	1.51E-06	1.50E-05	3.84E-06	4.79E-05	5.01E-08	5.11E-03	3.46E-07	0.00E+00	5.11E-05	5.07E-04	1.30E-04	1.62E-03	1.69E-06	1.72E-01	1.17E-05	0.00E+00
2009	Annual	Mon-Sun	2270006010	Pumps	D	750	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	4.47E-03	4.93E-03	1.28E-01	4.22E-07	4.13E-06	1.09E-06	1.35E-05	1.41E-08	1.41E-03	9.81E-08	0.00E+00	8.56E-05	8.38E-04	2.20E-04	2.74E-03	2.87E-06	2.85E-01	1.99E-05	0.00E+00
2009	Annual	Mon-Sun	2270006010	Pumps	D	9999	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	9.84E-02	1.09E-01	6.68E+00	2.66E-05	2.77E-04	7.55E-05	8.81E-04	7.39E-07	7.35E-02	6.81E-06	0.00E+00	2.45E-04	2.55E-03	6.95E-04	8.12E-03	6.81E-06	6.77E-01	6.27E-05	0.00E+00
2009	Annual	Mon-Sun	2270006025	Welders	D	15	Light Commercial Equipment	U	P	NHH	P	Imperial	SS	IMP	7.73E+00	1.36E+01	3.87E+00	3.72E-05	3.04E-04	8.72E-05	5.03E-04	6.56E-07	4.22E-02	7.87E-06	0.00E+00	2.73E-06	2.23E-05	6.41E-06	3.70E-05	4.83E-08	3.10E-03	5.79E-07	0.00E+00
2009	Annual	Mon-Sun	2270006025	Welders	D	25	Light Commercial Equipment	U	P	NHH	P	Imperial	SS	IMP	6.80E+00	1.20E+01	6.19E+00	4.79E-05	4.07E-04	1.58E-04	6.62E-04	8.56E-07	6.75E-02	1.43E-05	0.00E+00	4.00E-06	3.40E-05	1.32E-05	5.53E-05	7.15E-08	5.64E-03	1.19E-06	0.00E+00
2009	Annual	Mon-Sun	2270006025	Welders	D	50	Light Commercial Equipment	U	P	NHH	P	Imperial	SS	IMP	2.09E+01	3.68E+01	4.47E+01	5.42E-04	5.61E-03	2.33E-03	5.06E-03	6.17E-06	4.78E-01	2.11E-04	0.00E+00	1.47E-05	1.52E-04	6.34E-05	1.37E-04	1.68E-07	1.30E-02	5.72E-06	0.00E+00
2009	Annual	Mon-Sun	2270006025	Welders	D	120	Light Commercial Equipment	U	P	NHH	P	Imperial	SS	IMP	1.63E+01	2.86E+01	5.18E+01	6.24E-04	3.93E-03	1.20E-03	7.25E-03	6.62E-06	5.64E-01	1.08E-04	0.00E+00	2.18E-05	1.37E-04	4.18E-05	2.54E-04	2.31E-07	1.97E-02	3.77E-06	0.00E+00
2009	Annual	Mon-Sun	2270006025	Welders	D	175	Light Commercial Equipment	U	P	NHH	P	Imperial	SS	IMP	8.05E-02	1.42E-01	6.35E-01	4.25E-06	3.91E-05	9.74E-06	8.00E-05	7.82E-08	6.95E-03	8.79E-07	0.00E+00	3.00E-05	2.76E-04	6.87E-05	5.64E-04	5.52E-07	4.91E-02	6.20E-06	0.00E+00
2009	Annual	Mon-Sun	2270006025	Welders	D	250	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	1.79E-02	3.15E-02	1.70E-01	6.66E-07	5.02E-06	1.74E-06	2.02E-05	2.11E-08	1.87E-03	1.57E-07	0.00E+00	2.11E-05	1.59E-04	5.54E-05	6.42E-04	6.69E-07	5.95E-02	5.00E-06	0.00E+00
2009	Annual	Mon-Sun	2270006025	Welders	D	500	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	4.47E-02	7.87E-02	5.98E-01	2.15E-06	2.06E-05	5.48E-06	6.41E-05	6.47E-08	6.59E-03	4.95E-07	0.00E+00	2.73E-05	2.61E-04	6.97E-05	8.14E-04	8.22E-07	8.37E-02	6.29E-06	0.00E+00

Title   : solar two 2010
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2008/04/29 13:46:11
Scen Year: 2010 -- All model years in the range 1970 to 2010 selected
Season : Annual
Area   : Imperial County APCD
`*****************************************************************************`

Year: 2010 -- Model Years 1970 to 2010 Inclusive -- Annual
Emfac2007 Emission Factors: V2.3 Nov 1 2006

District Average   District Average   Imperial County APCD

Table 1: Running Exhaust Emissions (grams/mile; grams/idle-hour)

Pollutant Name: Reactive Org Gases   Temperature: 90F   Relative Humidity: 10%

Speed MPH	LDA NCAT	LDA CAT	LDA DSL	LDA ALL	LDT1 NCAT	LDT1 CAT	LDT1 DSL	LDT1 ALL	LDT2 NCAT	LDT2 CAT	LDT2 DSL	LDT2 ALL	MDV NCAT	MDV CAT	MDV DSL	MDV ALL	LHD1 NCAT	LHD1 CAT	LHD1 DSL	LHD1 ALL	LHD2 NCAT	LHD2 CAT	LHD2 DSL	LHD2 ALL	MHD NCAT	MHD CAT	MHD DSL	MHD ALL	HHD NCAT	HHD CAT	HHD DSL	HHD ALL	OBUS NCAT	OBUS CAT	OBUS DSL	OBUS ALL	UBUS NCAT	UBUS CAT	UBUS DSL	UBUS ALL	MCY NCAT	MCY CAT	MCY DSL	MCY ALL	SBUS NCAT	SBUS CAT	SBUS DSL	SBUS ALL	MH NCAT	MH CAT	MH DSL	MH ALL	ALL NCAT	ALL CAT	ALL DSL	ALL ALL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.704	26.243	3.173	19.298	25.704	26.011	3.173	15.866	25.704	25.876	3.173	7.593	0	0	13.188	13.06	25.704	25.791	3.173	10.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.968	0.549	11.455	2.423
5	20.47	1.396	0.495	1.483	18.501	1.192	0.232	1.368	18.566	0.76	0.459	0.862	25.673	0.516	0.204	0.573	21.391	0.628	0.403	0.603	21.391	2.266	0.531	1.575	32.137	4.601	0.609	1.634	89.342	13.385	10.319	10.365	32.137	5.477	0.63	2.563	33.927	10.829	0.091	9.941	0	0	0	0	0	0	0	0	0	0	0	0	20.352	1.149	8.759	2.553
10	14.549	0.911	0.388	0.973	13.146	0.804	0.182	0.933	13.193	0.503	0.36	0.576	18.254	0.334	0.16	0.375	13.982	0.409	0.317	0.409	13.982	1.475	0.417	1.057	21.023	2.994	0.478	1.13	58.506	8.738	5.78	5.819	21.023	3.565	0.494	1.725	22.196	7.085	0.066	6.504	0	0	0	0	0	0	0	0	0	0	0	0	14.371	0.755	4.922	1.54
15	10.817	0.626	0.312	0.672	9.772	0.569	0.146	0.667	9.807	0.35	0.289	0.405	13.578	0.227	0.128	0.258	9.519	0.278	0.254	0.289	9.519	1	0.335	0.74	14.327	2.027	0.383	0.814	39.929	5.94	2.79	2.828	14.327	2.414	0.397	1.21	15.129	4.83	0.05	4.435	0	0	0	0	0	0	0	0	0	0	0	0	10.617	0.521	2.395	0.895
20	8.414	0.452	0.256	0.488	7.599	0.421	0.12	0.499	7.626	0.256	0.237	0.299	10.567	0.163	0.105	0.187	6.749	0.196	0.209	0.213	6.749	0.706	0.274	0.539	10.172	1.428	0.315	0.61	28.398	4.205	1.483	1.515	10.172	1.7	0.325	0.883	10.742	3.434	0.039	3.153	0	0	0	0	0	0	0	0	0	0	0	0	8.207	0.378	1.287	0.575
25	6.848	0.343	0.214	0.373	6.183	0.327	0.101	0.391	6.205	0.197	0.199	0.232	8.605	0.124	0.088	0.143	4.983	0.144	0.175	0.163	4.983	0.518	0.23	0.409	7.524	1.046	0.264	0.474	21.049	3.1	1.201	1.224	7.524	1.246	0.273	0.67	7.947	2.546	0.031	2.338	0	0	0	0	0	0	0	0	0	0	0	0	6.641	0.289	1.043	0.451
30	5.833	0.275	0.184	0.301	5.266	0.266	0.086	0.322	5.285	0.158	0.17	0.188	7.334	0.099	0.076	0.116	3.833	0.111	0.15	0.13	3.833	0.397	0.197	0.322	5.798	0.798	0.226	0.383	16.26	2.381	0.977	0.994	5.798	0.951	0.234	0.529	6.125	1.967	0.026	1.806	0	0	0	0	0	0	0	0	0	0	0	0	5.625	0.232	0.85	0.365
35	5.202	0.232	0.161	0.255	4.696	0.227	0.076	0.277	4.712	0.134	0.149	0.161	6.543	0.083	0.066	0.098	3.073	0.088	0.131	0.107	3.073	0.316	0.173	0.264	4.656	0.634	0.198	0.319	13.092	1.907	0.81	0.824	4.656	0.757	0.205	0.434	4.92	1.584	0.022	1.455	0	0	0	0	0	0	0	0	0	0	0	0	4.99	0.196	0.706	0.308
40	4.859	0.207	0.144	0.228	4.385	0.203	0.068	0.251	4.4	0.119	0.134	0.144	6.112	0.074	0.059	0.088	2.568	0.074	0.118	0.092	2.568	0.263	0.155	0.225	3.899	0.526	0.178	0.276	10.988	1.592	0.702	0.713	3.899	0.628	0.184	0.369	4.12	1.33	0.02	1.221	0	0	0	0	0	0	0	0	0	0	0	0	4.637	0.174	0.612	0.272
45	4.752	0.194	0.132	0.215	4.289	0.191	0.062	0.237	4.304	0.112	0.123	0.136	5.979	0.069	0.054	0.082	2.238	0.064	0.108	0.082	2.238	0.229	0.142	0.198	3.404	0.456	0.163	0.246	9.615	1.388	0.651	0.66	3.404	0.544	0.168	0.326	3.598	1.164	0.019	1.069	0	0	0	0	0	0	0	0	0	0	0	0	4.515	0.162	0.568	0.254
50	4.869	0.192	0.124	0.214	4.394	0.188	0.058	0.236	4.409	0.11	0.115	0.135	6.125	0.068	0.051	0.082	2.036	0.058	0.101	0.075	2.036	0.207	0.133	0.182	3.1	0.413	0.152	0.227	8.772	1.262	0.658	0.666	3.1	0.493	0.157	0.299	3.278	1.062	0.018	0.975	0	0	0	0	0	0	0	0	0	0	0	0	4.605	0.16	0.573	0.254

Pollutant Name: Carbon Monoxide   Temperature: 90F   Relative Humidity: 10%

Speed MPH	LDA NCAT	LDA CAT	LDA DSL	LDA ALL	LDT1 NCAT	LDT1 CAT	LDT1 DSL	LDT1 ALL	LDT2 NCAT	LDT2 CAT	LDT2 DSL	LDT2 ALL	MDV NCAT	MDV CAT	MDV DSL	MDV ALL	LHD1 NCAT	LHD1 CAT	LHD1 DSL	LHD1 ALL	LHD2 NCAT	LHD2 CAT	LHD2 DSL	LHD2 ALL	MHD NCAT	MHD CAT	MHD DSL	MHD ALL	HHD NCAT	HHD CAT	HHD DSL	HHD ALL	OBUS NCAT	OBUS CAT	OBUS DSL	OBUS ALL	UBUS NCAT	UBUS CAT	UBUS DSL	UBUS ALL	MCY NCAT	MCY CAT	MCY DSL	MCY ALL	SBUS NCAT	SBUS CAT	SBUS DSL	SBUS ALL	MH NCAT	MH CAT	MH DSL	MH ALL	ALL NCAT	ALL CAT	ALL DSL	ALL ALL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	150.122	152.045	26.3	114.193	150.122	151.217	26.3	95.729	150.122	150.736	26.3	50.527	0	0	49.119	48.644	150.122	150.435	26.3	68.982	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5.655	3.186	44.288	10.254
5	238.175	11.019	2.993	12.056	195.213	16.499	2.282	18.115	196.165	9.798	2.824	10.861	381.174	5.96	2.163	6.818	413.934	6.031	2.932	5.926	413.934	21.652	3.168	15.078	620.902	52.025	7.663	21.425	2379.877	158.347	16.757	18.617	620.902	62.975	8.103	32.555	642.028	33.004	4.156	30.67	0	0	0	0	0	0	0	0	0	0	0	0	245.873	11.418	14.868	13.214
10	173.598	9.622	2.064	10.368	142.284	13.802	1.574	14.87	142.978	8.428	1.947	9.191	277.825	5.231	1.491	5.851	275.395	4.012	2.022	3.964	275.395	14.405	2.185	10.065	413.093	34.613	5.284	14.404	1583.359	105.35	12.353	13.579	413.093	41.898	5.587	21.788	427.149	21.958	2.616	20.393	0	0	0	0	0	0	0	0	0	0	0	0	176.925	9.716	10.924	10.782
15	133.25	8.536	1.489	9.101	109.214	11.847	1.135	12.588	109.747	7.388	1.405	7.966	213.252	4.656	1.076	5.129	193.583	2.82	1.459	2.798	193.583	10.126	1.576	7.093	290.375	24.33	3.813	10.204	1112.989	74.053	9.011	9.87	290.375	29.451	4.032	15.384	300.255	15.435	1.748	14.327	0	0	0	0	0	0	0	0	0	0	0	0	134.259	8.461	7.965	9.021
20	107.712	7.669	1.125	8.121	88.283	10.39	0.858	10.937	88.713	6.579	1.061	7.04	172.382	4.192	0.813	4.572	143.769	2.095	1.102	2.083	143.769	7.52	1.191	5.277	215.653	18.07	2.88	7.617	826.586	54.997	6.858	7.494	215.653	21.873	3.045	11.458	222.991	11.463	1.24	10.636	0	0	0	0	0	0	0	0	0	0	0	0	107.424	7.503	6.059	7.768
25	91.693	6.964	0.889	7.346	75.153	9.286	0.678	9.723	75.52	5.937	0.839	6.327	146.745	3.81	0.642	4.132	112.81	1.644	0.871	1.637	112.81	5.901	0.941	4.144	169.215	14.179	2.276	5.99	648.592	43.154	5.819	6.314	169.215	17.163	2.407	9.002	174.973	8.995	0.935	8.342	0	0	0	0	0	0	0	0	0	0	0	0	90.617	6.754	5.125	6.905
30	82.202	6.384	0.735	6.725	67.374	8.444	0.561	8.826	67.703	5.423	0.694	5.772	131.556	3.494	0.531	3.782	93.523	1.363	0.72	1.356	93.523	4.892	0.778	3.434	140.285	11.754	1.883	4.962	537.702	35.776	4.941	5.35	140.285	14.228	1.991	7.46	145.058	7.457	0.748	6.914	0	0	0	0	0	0	0	0	0	0	0	0	80.577	6.161	4.346	6.231
35	77.608	5.905	0.637	6.228	63.609	7.808	0.485	8.176	63.919	5.012	0.601	5.342	124.203	3.23	0.46	3.503	81.917	1.193	0.624	1.186	81.917	4.285	0.674	3.005	122.876	10.296	1.63	4.331	470.975	31.337	4.223	4.582	122.876	12.463	1.723	6.521	127.057	6.531	0.635	6.054	0	0	0	0	0	0	0	0	0	0	0	0	75.52	5.69	3.717	5.71
40	77.162	5.514	0.577	5.837	63.243	7.345	0.44	7.735	63.551	4.688	0.544	5.018	123.489	3.012	0.417	3.284	75.808	1.104	0.565	1.094	75.808	3.965	0.61	2.775	113.712	9.528	1.476	3.983	435.853	29	3.666	4.001	113.712	11.533	1.561	6.013	117.582	6.044	0.573	5.601	0	0	0	0	0	0	0	0	0	0	0	0	74.596	5.322	3.233	5.319
45	80.793	5.201	0.547	5.543	66.219	7.041	0.417	7.486	66.542	4.443	0.516	4.792	129.3	2.835	0.395	3.121	74.122	1.08	0.536	1.064	74.122	3.877	0.579	2.705	111.183	9.316	1.4	3.859	426.156	28.355	3.27	3.6	111.183	11.277	1.48	5.849	114.966	5.91	0.549	5.476	0	0	0	0	0	0	0	0	0	0	0	0	77.651	5.046	2.892	5.049
50	89.088	4.967	0.543	5.348	73.018	6.896	0.414	7.437	73.374	4.274	0.512	4.665	142.575	2.698	0.392	3.015	76.57	1.116	0.532	1.093	76.57	4.005	0.574	2.784	114.855	9.624	1.389	3.94	440.233	29.291	3.034	3.379	114.855	11.649	1.469	6.002	118.763	6.105	0.558	5.656	0	0	0	0	0	0	0	0	0	0	0	0	85.175	4.86	2.692	4.9

Pollutant Name: Oxides of Nitrogen   Temperature: 90F   Relative Humidity: 10%

Speed MPH	LDA NCAT	LDA CAT	LDA DSL	LDA ALL	LDT1 NCAT	LDT1 CAT	LDT1 DSL	LDT1 ALL	LDT2 NCAT	LDT2 CAT	LDT2 DSL	LDT2 ALL	MDV NCAT	MDV CAT	MDV DSL	MDV ALL	LHD1 NCAT	LHD1 CAT	LHD1 DSL	LHD1 ALL	LHD2 NCAT	LHD2 CAT	LHD2 DSL	LHD2 ALL	MHD NCAT	MHD CAT	MHD DSL	MHD ALL	HHD NCAT	HHD CAT	HHD DSL	HHD ALL	OBUS NCAT	OBUS CAT	OBUS DSL	OBUS ALL	UBUS NCAT	UBUS CAT	UBUS DSL	UBUS ALL	MCY NCAT	MCY CAT	MCY DSL	MCY ALL	SBUS NCAT	SBUS CAT	SBUS DSL	SBUS ALL	MH NCAT	MH CAT	MH DSL	MH ALL	ALL NCAT	ALL CAT	ALL DSL	ALL ALL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.694	1.73	75.051	23.799	1.694	1.714	75.051	34.288	1.694	1.705	75.051	60.768	0	0	108.534	107.484	1.694	1.699	75.051	49.829	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.064	0.036	99.759	17.153
5	3.623	1.1	2.176	1.113	3.44	1.306	2.21	1.376	3.491	1.156	2.215	1.173	6.227	0.795	2.232	0.811	2.065	0.333	6.764	2.272	2.065	0.95	7.722	3.962	3.097	2.895	13.746	11.635	18.462	7.541	39.895	39.584	3.097	3.018	14.124	10.306	3.273	1.741	1.573	1.727	0	0	0	0	0	0	0	0	0	0	0	0	3.702	1.118	34.928	6.935
10	3.81	0.956	1.806	0.971	3.618	1.113	1.833	1.179	3.67	0.991	1.838	1.009	6.548	0.683	1.852	0.7	2.169	0.35	5.612	1.937	2.169	0.998	6.406	3.405	3.254	3.041	11.404	9.778	19.398	7.924	27.548	27.361	3.254	3.171	11.718	8.78	3.439	1.829	1.203	1.777	0	0	0	0	0	0	0	0	0	0	0	0	3.892	0.97	24.307	4.991
15	4.001	0.848	1.552	0.863	3.799	0.973	1.576	1.038	3.854	0.869	1.58	0.888	6.876	0.6	1.592	0.618	2.274	0.367	4.824	1.712	2.274	1.046	5.507	3.033	3.411	3.188	9.803	8.517	20.334	8.306	19.946	19.836	3.411	3.324	10.073	7.753	3.605	1.917	0.968	1.839	0	0	0	0	0	0	0	0	0	0	0	0	4.086	0.861	17.751	3.776
20	4.195	0.766	1.383	0.783	3.984	0.874	1.404	0.938	4.042	0.78	1.407	0.8	7.21	0.539	1.418	0.557	2.379	0.384	4.297	1.566	2.379	1.094	4.905	2.792	3.568	3.335	8.732	7.683	21.27	8.688	17.045	16.967	3.568	3.477	8.972	7.084	3.771	2.006	0.818	1.907	0	0	0	0	0	0	0	0	0	0	0	0	4.285	0.78	15.204	3.274
25	4.393	0.705	1.276	0.723	4.172	0.803	1.296	0.869	4.233	0.715	1.299	0.737	7.551	0.494	1.309	0.513	2.483	0.401	3.966	1.478	2.483	1.142	4.527	2.651	3.725	3.482	8.059	7.169	22.206	9.07	16.28	16.213	3.725	3.63	8.281	6.682	3.937	2.094	0.727	1.981	0	0	0	0	0	0	0	0	0	0	0	0	4.486	0.721	14.494	3.105
30	4.595	0.66	1.22	0.68	4.363	0.755	1.239	0.824	4.427	0.669	1.242	0.692	7.897	0.462	1.251	0.481	2.588	0.418	3.792	1.438	2.588	1.19	4.329	2.59	3.882	3.628	7.706	6.914	23.142	9.453	15.672	15.614	3.882	3.782	7.918	6.497	4.103	2.182	0.679	2.058	0	0	0	0	0	0	0	0	0	0	0	0	4.691	0.68	13.947	2.978
35	4.799	0.63	1.209	0.65	4.557	0.726	1.227	0.799	4.623	0.639	1.23	0.664	8.248	0.44	1.24	0.461	2.693	0.434	3.757	1.439	2.693	1.239	4.289	2.599	4.039	3.775	7.635	6.886	24.078	9.835	15.221	15.172	4.039	3.935	7.845	6.502	4.269	2.27	0.667	2.138	0	0	0	0	0	0	0	0	0	0	0	0	4.898	0.653	13.561	2.891
40	5.005	0.611	1.241	0.633	4.753	0.713	1.26	0.791	4.822	0.623	1.263	0.649	8.602	0.428	1.273	0.449	2.797	0.451	3.857	1.481	2.797	1.287	4.403	2.677	4.196	3.922	7.838	7.078	25.013	10.217	14.929	14.887	4.196	4.088	8.054	6.691	4.435	2.359	0.689	2.22	0	0	0	0	0	0	0	0	0	0	0	0	5.108	0.639	13.335	2.841
45	5.213	0.604	1.32	0.626	4.95	0.715	1.34	0.799	5.023	0.619	1.344	0.647	8.96	0.424	1.354	0.447	2.902	0.468	4.103	1.567	2.902	1.335	4.683	2.829	4.353	4.069	8.337	7.509	25.949	10.6	14.794	14.757	4.353	4.241	8.567	7.081	4.601	2.447	0.748	2.306	0	0	0	0	0	0	0	0	0	0	0	0	5.319	0.636	13.271	2.829
50	5.423	0.607	1.455	0.631	5.149	0.732	1.477	0.824	5.225	0.629	1.481	0.658	9.32	0.429	1.492	0.453	3.007	0.485	4.522	1.705	3.007	1.383	5.162	3.068	4.51	4.215	9.189	8.223	26.885	10.982	14.818	14.784	4.51	4.394	9.442	7.707	4.767	2.535	0.853	2.396	0	0	0	0	0	0	0	0	0	0	0	0	5.531	0.645	13.374	2.855

Pollutant Name: Carbon Dioxide   Temperature: 90F   Relative Humidity: 10%

Speed MPH	LDA NCAT	LDA CAT	LDA DSL	LDA ALL	LDT1 NCAT	LDT1 CAT	LDT1 DSL	LDT1 ALL	LDT2 NCAT	LDT2 CAT	LDT2 DSL	LDT2 ALL	MDV NCAT	MDV CAT	MDV DSL	MDV ALL	LHD1 NCAT	LHD1 CAT	LHD1 DSL	LHD1 ALL	LHD2 NCAT	LHD2 CAT	LHD2 DSL	LHD2 ALL	MHD NCAT	MHD CAT	MHD DSL	MHD ALL	HHD NCAT	HHD CAT	HHD DSL	HHD ALL	OBUS NCAT	OBUS CAT	OBUS DSL	OBUS ALL	UBUS NCAT	UBUS CAT	UBUS DSL	UBUS ALL	MCY NCAT	MCY CAT	MCY DSL	MCY ALL	SBUS NCAT	SBUS CAT	SBUS DSL	SBUS ALL	MH NCAT	MH CAT	MH DSL	MH ALL	ALL NCAT	ALL CAT	ALL DSL	ALL ALL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4776.9	4776.9	4098	4572.558	4776.9	4776.9	4098	4475.357	4776.9	4776.899	4098	4230.208	0	0	6617.133	6553.111	4776.9	4776.9	4098	4331.444	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	179.947	100.382	6028.556	1118.338
5	1405.838	1153.379	360.312	1153.16	1365.667	1398.684	347.569	1348.636	1365.662	1417.352	358.452	1414.046	1691.523	1948.458	347.175	1943.191	2513.51	2513.51	520.781	1913.719	2513.51	2513.51	533.103	1633.884	2513.51	2513.51	1505	1701.396	2513.51	2513.51	3845.359	3832.473	2513.51	2513.51	1505	1851.782	2513.51	2513.51	2245.284	2491.261	0	0	0	0	0	0	0	0	0	0	0	0	1444.013	1371.563	3377.77	1716.292
10	1050.615	856.979	360.312	857.007	1026.188	1040.656	347.569	1007.749	1026.187	1053.604	358.452	1051.472	1270.371	1447.647	347.175	1444.025	1672.267	1672.267	520.781	1325.682	1672.267	1672.267	533.103	1166.291	1672.267	1672.268	1505	1537.573	1672.267	1672.267	3165.446	3150.999	1672.267	1672.267	1505	1562.516	1672.267	1672.267	2245.284	1719.799	0	0	0	0	0	0	0	0	0	0	0	0	1073.452	1014.945	2805.545	1322.595
15	823.936	666.45	360.312	666.643	804.806	809.854	347.569	787.964	804.805	819.554	358.452	818.16	996.307	1125.76	347.175	1123.189	1175.484	1175.484	520.781	978.425	1175.484	1175.484	533.103	890.161	1175.485	1175.485	1505	1440.83	1175.484	1175.484	2595.958	2582.214	1175.484	1175.484	1505	1391.694	1175.484	1175.484	2245.284	1264.224	0	0	0	0	0	0	0	0	0	0	0	0	835.886	786.564	2326.256	1051.099
20	672.611	540.916	360.312	541.21	656.071	657.469	347.569	642.821	656.07	665.237	358.452	664.313	812.292	913.699	347.175	911.811	873	873	520.781	766.986	873	873	533.103	722.03	873	873	1505	1381.925	873	873	2183.16	2170.484	873	873	1505	1287.683	873	873	2245.284	986.831	0	0	0	0	0	0	0	0	0	0	0	0	678.004	636.586	1978.841	867.191
25	570.513	457.459	360.312	457.812	555.404	555.987	347.569	546.139	555.403	562.583	358.452	561.962	687.783	772.728	347.175	771.289	685.012	685.012	520.781	635.58	685.012	685.011	533.103	617.539	685.012	685.012	1505	1345.316	685.012	685.012	2042.684	2029.548	685.012	685.012	1505	1223.042	685.012	685.012	2245.284	814.436	0	0	0	0	0	0	0	0	0	0	0	0	571.999	537.138	1860.614	764.487
30	502.416	402.682	360.312	403.07	488.086	489.263	347.569	482.558	488.084	495.166	358.452	494.737	604.542	680.209	347.175	679.062	567.895	567.895	520.781	553.714	567.895	567.895	533.103	552.441	567.895	567.895	1505	1322.509	567.895	567.895	1924.234	1911.111	567.895	567.895	1505	1182.77	567.895	567.895	2245.284	707.034	0	0	0	0	0	0	0	0	0	0	0	0	501.554	471.983	1760.925	693.377
35	459.147	368.598	360.312	369.002	445.151	447.647	347.569	442.89	445.148	453.182	358.452	452.867	551.471	622.645	347.175	621.677	497.421	497.421	520.781	504.452	497.421	497.421	533.103	513.269	497.421	497.421	1505	1308.785	497.421	497.421	1827.808	1814.936	497.421	497.421	1505	1158.537	497.421	497.421	2245.284	642.405	0	0	0	0	0	0	0	0	0	0	0	0	456.869	431.473	1679.772	645.869
40	435.281	350.482	360.312	350.891	421.27	425.428	347.569	421.699	421.267	430.832	358.452	430.571	521.976	592.055	347.175	591.178	460.326	460.326	520.781	478.523	460.327	460.326	533.103	492.651	460.326	460.326	1505	1301.561	460.326	460.326	1753.406	1740.896	460.326	460.326	1505	1145.782	460.326	460.326	2245.284	608.388	0	0	0	0	0	0	0	0	0	0	0	0	432.181	409.927	1617.154	617.257
45	427.936	345.726	360.312	346.132	413.604	419.463	347.569	415.994	413.601	424.917	358.452	424.663	512.544	584.03	347.175	583.174	450.085	450.085	520.781	471.364	450.085	450.085	533.103	486.958	450.085	450.085	1505	1299.567	450.085	450.085	1701.031	1688.927	450.085	450.085	1505	1142.261	450.085	450.085	2245.284	598.996	0	0	0	0	0	0	0	0	0	0	0	0	424.444	404.229	1573.074	604.96
50	436.168	353.237	360.312	353.633	421.226	428.455	347.569	424.544	421.223	434.104	358.452	433.815	522.03	596.723	347.175	595.822	464.953	464.953	520.781	481.757	464.953	464.953	533.103	495.223	464.953	464.953	1505	1302.462	464.953	464.953	1670.679	1659.013	464.953	464.953	1505	1147.373	464.953	464.953	2245.284	612.631	0	0	0	0	0	0	0	0	0	0	0	0	432.68	413.099	1547.53	607.92

Pollutant Name: Sulfur Dioxide   Temperature: 90F   Relative Humidity: 10%

Speed MPH	LDA NCAT	LDA CAT	LDA DSL	LDA ALL	LDT1 NCAT	LDT1 CAT	LDT1 DSL	LDT1 ALL	LDT2 NCAT	LDT2 CAT	LDT2 DSL	LDT2 ALL	MDV NCAT	MDV CAT	MDV DSL	MDV ALL	LHD1 NCAT	LHD1 CAT	LHD1 DSL	LHD1 ALL	LHD2 NCAT	LHD2 CAT	LHD2 DSL	LHD2 ALL	MHD NCAT	MHD CAT	MHD DSL	MHD ALL	HHD NCAT	HHD CAT	HHD DSL	HHD ALL	OBUS NCAT	OBUS CAT	OBUS DSL	OBUS ALL	UBUS NCAT	UBUS CAT	UBUS DSL	UBUS ALL	MCY NCAT	MCY CAT	MCY DSL	MCY ALL	SBUS NCAT	SBUS CAT	SBUS DSL	SBUS ALL	MH NCAT	MH CAT	MH DSL	MH ALL	ALL NCAT	ALL CAT	ALL DSL	ALL ALL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.049	0.049	0.039	0.046	0.049	0.049	0.039	0.045	0.049	0.049	0.039	0.041	0	0	0.063	0.063	0.049	0.049	0.039	0.042	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.002	0.001	0.058	0.011
5	0.018	0.011	0.003	0.011	0.017	0.014	0.003	0.013	0.017	0.014	0.003	0.014	0.023	0.019	0.003	0.019	0.031	0.024	0.005	0.018	0.031	0.025	0.005	0.016	0.034	0.025	0.014	0.017	0.063	0.027	0.037	0.037	0.034	0.025	0.014	0.018	0.035	0.025	0.021	0.025	0	0	0	0	0	0	0	0	0	0	0	0	0.018	0.013	0.032	0.017
10	0.013	0.008	0.003	0.008	0.012	0.01	0.003	0.01	0.012	0.01	0.003	0.01	0.017	0.014	0.003	0.014	0.021	0.016	0.005	0.013	0.021	0.016	0.005	0.011	0.023	0.017	0.014	0.015	0.042	0.018	0.03	0.03	0.023	0.017	0.014	0.015	0.023	0.017	0.021	0.017	0	0	0	0	0	0	0	0	0	0	0	0	0.013	0.01	0.027	0.013
15	0.01	0.007	0.003	0.007	0.01	0.008	0.003	0.008	0.01	0.008	0.003	0.008	0.013	0.011	0.003	0.011	0.014	0.011	0.005	0.009	0.014	0.011	0.005	0.009	0.016	0.012	0.014	0.014	0.029	0.013	0.025	0.025	0.016	0.012	0.014	0.014	0.016	0.012	0.021	0.012	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0.008	0.022	0.01
20	0.008	0.005	0.003	0.005	0.008	0.006	0.003	0.006	0.008	0.006	0.003	0.006	0.011	0.009	0.003	0.009	0.011	0.008	0.005	0.007	0.011	0.009	0.005	0.007	0.012	0.009	0.014	0.013	0.022	0.009	0.021	0.021	0.012	0.009	0.014	0.012	0.012	0.009	0.021	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.006	0.019	0.008
25	0.007	0.005	0.003	0.005	0.007	0.005	0.003	0.005	0.007	0.005	0.003	0.005	0.009	0.007	0.003	0.007	0.008	0.007	0.005	0.006	0.008	0.007	0.005	0.006	0.009	0.007	0.014	0.013	0.017	0.007	0.02	0.019	0.009	0.007	0.014	0.012	0.009	0.007	0.021	0.008	0	0	0	0	0	0	0	0	0	0	0	0	0.007	0.005	0.018	0.007
30	0.006	0.004	0.003	0.004	0.006	0.005	0.003	0.005	0.006	0.005	0.003	0.005	0.008	0.007	0.003	0.007	0.007	0.005	0.005	0.005	0.007	0.006	0.005	0.005	0.008	0.006	0.014	0.013	0.014	0.006	0.018	0.018	0.008	0.006	0.014	0.011	0.008	0.006	0.021	0.007	0	0	0	0	0	0	0	0	0	0	0	0	0.006	0.005	0.017	0.007
35	0.006	0.004	0.003	0.004	0.005	0.004	0.003	0.004	0.005	0.004	0.003	0.004	0.007	0.006	0.003	0.006	0.006	0.005	0.005	0.005	0.006	0.005	0.005	0.005	0.007	0.005	0.014	0.013	0.012	0.005	0.017	0.017	0.007	0.005	0.014	0.011	0.007	0.005	0.021	0.006	0	0	0	0	0	0	0	0	0	0	0	0	0.006	0.004	0.016	0.006
40	0.005	0.003	0.003	0.003	0.005	0.004	0.003	0.004	0.005	0.004	0.003	0.004	0.007	0.006	0.003	0.006	0.006	0.004	0.005	0.005	0.006	0.004	0.005	0.005	0.006	0.005	0.014	0.012	0.011	0.005	0.017	0.017	0.006	0.005	0.014	0.011	0.006	0.005	0.021	0.006	0	0	0	0	0	0	0	0	0	0	0	0	0.005	0.004	0.015	0.006
45	0.005	0.003	0.003	0.003	0.005	0.004	0.003	0.004	0.005	0.004	0.003	0.004	0.007	0.006	0.003	0.006	0.006	0.004	0.005	0.005	0.006	0.004	0.005	0.005	0.006	0.004	0.014	0.012	0.011	0.005	0.016	0.016	0.006	0.005	0.014	0.011	0.006	0.004	0.021	0.006	0	0	0	0	0	0	0	0	0	0	0	0	0.005	0.004	0.015	0.006
50	0.006	0.003	0.003	0.003	0.005	0.004	0.003	0.004	0.005	0.004	0.003	0.004	0.007	0.006	0.003	0.006	0.006	0.004	0.005	0.005	0.006	0.005	0.005	0.005	0.006	0.005	0.014	0.012	0.011	0.005	0.016	0.016	0.006	0.005	0.014	0.011	0.006	0.005	0.021	0.006	0	0	0	0	0	0	0	0	0	0	0	0	0.006	0.004	0.015	0.006

Pollutant Name: PM10   Temperature: 90F   Relative Humidity: 10%

Speed MPH	LDA NCAT	LDA CAT	LDA DSL	LDA ALL	LDT1 NCAT	LDT1 CAT	LDT1 DSL	LDT1 ALL	LDT2 NCAT	LDT2 CAT	LDT2 DSL	LDT2 ALL	MDV NCAT	MDV CAT	MDV DSL	MDV ALL	LHD1 NCAT	LHD1 CAT	LHD1 DSL	LHD1 ALL	LHD2 NCAT	LHD2 CAT	LHD2 DSL	LHD2 ALL	MHD NCAT	MHD CAT	MHD DSL	MHD ALL	HHD NCAT	HHD CAT	HHD DSL	HHD ALL	OBUS NCAT	OBUS CAT	OBUS DSL	OBUS ALL	UBUS NCAT	UBUS CAT	UBUS DSL	UBUS ALL	MCY NCAT	MCY CAT	MCY DSL	MCY ALL	SBUS NCAT	SBUS CAT	SBUS DSL	SBUS ALL	MH NCAT	MH CAT	MH DSL	MH ALL	ALL NCAT	ALL CAT	ALL DSL	ALL ALL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.784	0.236	0	0	1.008	0.448	0	0	1.185	0.955	0	0	1.947	1.928	0	0	1.397	0.916	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.759	0.302
5	0.104	0.056	0.368	0.057	0.099	0.073	0.154	0.077	0.106	0.124	0.338	0.125	0.107	0.093	0.134	0.093	0.101	0.026	0.108	0.051	0.101	0.042	0.134	0.083	0.101	0.06	0.764	0.628	0.101	0.083	2.392	2.37	0.101	0.063	0.836	0.571	0.101	0.098	0.108	0.099	0	0	0	0	0	0	0	0	0	0	0	0	0.103	0.078	2.079	0.422
10	0.074	0.037	0.289	0.037	0.071	0.049	0.121	0.052	0.076	0.082	0.265	0.082	0.076	0.06	0.105	0.06	0.066	0.017	0.084	0.038	0.066	0.028	0.105	0.062	0.066	0.039	0.6	0.491	0.066	0.054	1.633	1.618	0.066	0.041	0.657	0.445	0.066	0.064	0.078	0.065	0	0	0	0	0	0	0	0	0	0	0	0	0.073	0.051	1.426	0.287
15	0.055	0.025	0.232	0.026	0.053	0.034	0.097	0.037	0.056	0.056	0.213	0.057	0.057	0.041	0.085	0.042	0.045	0.012	0.068	0.029	0.045	0.019	0.084	0.048	0.045	0.027	0.482	0.393	0.045	0.037	1.078	1.068	0.045	0.028	0.527	0.356	0.045	0.044	0.059	0.045	0	0	0	0	0	0	0	0	0	0	0	0	0.054	0.035	0.949	0.192
20	0.043	0.018	0.19	0.019	0.041	0.025	0.079	0.028	0.044	0.041	0.175	0.041	0.044	0.03	0.069	0.03	0.032	0.008	0.056	0.023	0.032	0.013	0.069	0.038	0.032	0.019	0.395	0.322	0.032	0.026	0.759	0.752	0.032	0.02	0.432	0.291	0.032	0.031	0.046	0.032	0	0	0	0	0	0	0	0	0	0	0	0	0.042	0.026	0.673	0.137
25	0.035	0.014	0.159	0.014	0.033	0.019	0.067	0.022	0.036	0.031	0.146	0.032	0.036	0.023	0.058	0.023	0.024	0.006	0.047	0.018	0.024	0.01	0.058	0.031	0.024	0.014	0.331	0.27	0.024	0.02	0.64	0.634	0.024	0.015	0.363	0.243	0.024	0.023	0.037	0.024	0	0	0	0	0	0	0	0	0	0	0	0	0.034	0.02	0.567	0.114
30	0.03	0.011	0.137	0.012	0.029	0.016	0.057	0.018	0.031	0.025	0.126	0.026	0.031	0.018	0.05	0.018	0.019	0.005	0.04	0.015	0.019	0.008	0.05	0.026	0.019	0.011	0.284	0.231	0.019	0.015	0.552	0.547	0.019	0.012	0.311	0.208	0.019	0.018	0.031	0.019	0	0	0	0	0	0	0	0	0	0	0	0	0.029	0.016	0.489	0.097
35	0.027	0.01	0.12	0.01	0.026	0.013	0.05	0.015	0.027	0.021	0.11	0.022	0.028	0.016	0.044	0.016	0.015	0.004	0.035	0.013	0.015	0.006	0.044	0.023	0.015	0.009	0.249	0.202	0.015	0.012	0.493	0.489	0.015	0.009	0.272	0.182	0.015	0.014	0.027	0.015	0	0	0	0	0	0	0	0	0	0	0	0	0.026	0.013	0.437	0.086
40	0.025	0.008	0.107	0.009	0.024	0.012	0.045	0.014	0.026	0.019	0.099	0.019	0.026	0.014	0.039	0.014	0.013	0.003	0.031	0.012	0.013	0.005	0.039	0.02	0.013	0.007	0.223	0.181	0.013	0.01	0.465	0.46	0.013	0.008	0.244	0.163	0.013	0.012	0.024	0.013	0	0	0	0	0	0	0	0	0	0	0	0	0.024	0.012	0.41	0.08
45	0.024	0.008	0.098	0.008	0.023	0.011	0.041	0.013	0.025	0.018	0.09	0.018	0.025	0.013	0.036	0.013	0.011	0.003	0.029	0.011	0.011	0.005	0.036	0.018	0.011	0.006	0.204	0.166	0.011	0.009	0.466	0.462	0.011	0.007	0.223	0.149	0.011	0.011	0.022	0.012	0	0	0	0	0	0	0	0	0	0	0	0	0.024	0.011	0.41	0.08
50	0.025	0.008	0.092	0.008	0.024	0.011	0.038	0.012	0.026	0.018	0.084	0.018	0.026	0.013	0.034	0.013	0.01	0.003	0.027	0.01	0.01	0.004	0.034	0.017	0.01	0.006	0.191	0.155	0.01	0.008	0.498	0.493	0.01	0.006	0.209	0.139	0.01	0.01	0.021	0.011	0	0	0	0	0	0	0	0	0	0	0	0	0.024	0.011	0.436	0.084

Pollutant Name: PM10 - Tire Wear   Temperature: 90F   Relative Humidity: 10%

Speed MPH	LDA NCAT	LDA CAT	LDA DSL	LDA ALL	LDT1 NCAT	LDT1 CAT	LDT1 DSL	LDT1 ALL	LDT2 NCAT	LDT2 CAT	LDT2 DSL	LDT2 ALL	MDV NCAT	MDV CAT	MDV DSL	MDV ALL	LHD1 NCAT	LHD1 CAT	LHD1 DSL	LHD1 ALL	LHD2 NCAT	LHD2 CAT	LHD2 DSL	LHD2 ALL	MHD NCAT	MHD CAT	MHD DSL	MHD ALL	HHD NCAT	HHD CAT	HHD DSL	HHD ALL	OBUS NCAT	OBUS CAT	OBUS DSL	OBUS ALL	UBUS NCAT	UBUS CAT	UBUS DSL	UBUS ALL	MCY NCAT	MCY CAT	MCY DSL	MCY ALL	SBUS NCAT	SBUS CAT	SBUS DSL	SBUS ALL	MH NCAT	MH CAT	MH DSL	MH ALL	ALL NCAT	ALL CAT	ALL DSL	ALL ALL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.036	0.036	0.012	0.012	0.012	0.012	0.012	0.012	0.008	0.012	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.008	0.032	0.012
10	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.036	0.036	0.012	0.012	0.012	0.012	0.012	0.012	0.008	0.012	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.008	0.032	0.012
15	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.036	0.036	0.012	0.012	0.012	0.012	0.012	0.012	0.008	0.012	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.008	0.032	0.012
20	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.036	0.036	0.012	0.012	0.012	0.012	0.012	0.012	0.008	0.012	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.008	0.032	0.012
25	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.036	0.036	0.012	0.012	0.012	0.012	0.012	0.012	0.008	0.012	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.008	0.032	0.012
30	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.036	0.036	0.012	0.012	0.012	0.012	0.012	0.012	0.008	0.012	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.008	0.032	0.012
35	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.036	0.036	0.012	0.012	0.012	0.012	0.012	0.012	0.008	0.012	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.008	0.032	0.012
40	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.036	0.036	0.012	0.012	0.012	0.012	0.012	0.012	0.008	0.012	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.008	0.032	0.012

45	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.036	0.036	0.012	0.012	0.012	0.012	0.012	0.012	0.008	0.012	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.008	0.032	0.012
50	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.036	0.036	0.012	0.012	0.012	0.012	0.012	0.012	0.008	0.012	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.008	0.032	0.012

Pollutant Name: PM10 - Break Wear Temperature: 90F Relative Humidity: 10%

Speed MPH	LDA NCAT	LDA CAT	LDA DSL	LDA ALL	LDT1 NCAT	LDT1 CAT	LDT1 DSL	LDT1 ALL	LDT2 NCAT	LDT2 CAT	LDT2 DSL	LDT2 ALL	MDV NCAT	MDV CAT	MDV DSL	MDV ALL	LHD1 NCAT	LHD1 CAT	LHD1 DSL	LHD1 ALL	LHD2 NCAT	LHD2 CAT	LHD2 DSL	LHD2 ALL	MHD NCAT	MHD CAT	MHD DSL	MHD ALL	HHD NCAT	HHD CAT	HHD DSL	HHD ALL	OBUS NCAT	OBUS CAT	OBUS DSL	OBUS ALL	UBUS NCAT	UBUS CAT	UBUS DSL	UBUS ALL	MCY NCAT	MCY CAT	MCY DSL	MCY ALL	SBUS NCAT	SBUS CAT	SBUS DSL	SBUS ALL	MH NCAT	MH CAT	MH DSL	MH ALL	ALL NCAT	ALL CAT	ALL DSL	ALL ALL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.028	0.028	0.028	0.028	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0	0	0	0	0	0	0	0	0	0	0	0	0.013	0.013	0.026	0.015
10	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.028	0.028	0.028	0.028	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0	0	0	0	0	0	0	0	0	0	0	0	0.013	0.013	0.026	0.015
15	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.028	0.028	0.028	0.028	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0	0	0	0	0	0	0	0	0	0	0	0	0.013	0.013	0.026	0.015
20	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.028	0.028	0.028	0.028	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0	0	0	0	0	0	0	0	0	0	0	0	0.013	0.013	0.026	0.015
25	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.028	0.028	0.028	0.028	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0	0	0	0	0	0	0	0	0	0	0	0	0.013	0.013	0.026	0.015
30	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.028	0.028	0.028	0.028	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0	0	0	0	0	0	0	0	0	0	0	0	0.013	0.013	0.026	0.015
35	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.028	0.028	0.028	0.028	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0	0	0	0	0	0	0	0	0	0	0	0	0.013	0.013	0.026	0.015
40	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.028	0.028	0.028	0.028	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0	0	0	0	0	0	0	0	0	0	0	0	0.013	0.013	0.026	0.015
45	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.028	0.028	0.028	0.028	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0	0	0	0	0	0	0	0	0	0	0	0	0.013	0.013	0.026	0.015
50	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.028	0.028	0.028	0.028	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0	0	0	0	0	0	0	0	0	0	0	0	0.013	0.013	0.026	0.015

Pollutant Name: Gasoline - mi/gal Temperature: 90F Relative Humidity: 10%

Speed MPH	LDA NCAT	LDA CAT	LDA DSL	LDA ALL	LDT1 NCAT	LDT1 CAT	LDT1 DSL	LDT1 ALL	LDT2 NCAT	LDT2 CAT	LDT2 DSL	LDT2 ALL	MDV NCAT	MDV CAT	MDV DSL	MDV ALL	LHD1 NCAT	LHD1 CAT	LHD1 DSL	LHD1 ALL	LHD2 NCAT	LHD2 CAT	LHD2 DSL	LHD2 ALL	MHD NCAT	MHD CAT	MHD DSL	MHD ALL	HHD NCAT	HHD CAT	HHD DSL	HHD ALL	OBUS NCAT	OBUS CAT	OBUS DSL	OBUS ALL	UBUS NCAT	UBUS CAT	UBUS DSL	UBUS ALL	MCY NCAT	MCY CAT	MCY DSL	MCY ALL	SBUS NCAT	SBUS CAT	SBUS DSL	SBUS ALL	MH NCAT	MH CAT	MH DSL	MH ALL	ALL NCAT	ALL CAT	ALL DSL	ALL ALL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	4.803	7.54	0	7.527	5.119	6.203	0	6.188	5.114	6.174	0	6.167	3.736	4.522	0	4.52	2.742	3.509	0	3.507	2.742	3.468	0	3.463	2.468	3.395	0	3.352	1.356	3.159	0	3.118	2.468	3.369	0	3.343	2.441	3.409	0	3.408	0	0	0	0	0	0	0	0	0	0	0	0	4.827	6.589	0	6.578
10	6.47	10.126	0	10.109	6.861	8.32	0	8.3	6.855	8.292	0	8.284	5.021	6.082	0	6.079	4.123	5.275	0	5.271	4.123	5.213	0	5.205	3.711	5.104	0	5.039	2.039	4.75	0	4.688	3.711	5.065	0	5.025	3.671	5.124	0	5.124	0	0	0	0	0	0	0	0	0	0	0	0	6.499	8.862	0	8.847
15	8.299	12.994	0	12.972	8.795	10.671	0	10.645	8.787	10.645	0	10.635	6.447	7.815	0	7.812	5.868	7.504	0	7.499	5.868	7.417	0	7.406	5.283	7.262	0	7.17	2.905	6.76	0	6.672	5.283	7.207	0	7.151	5.227	7.293	0	7.292	0	0	0	0	0	0	0	0	0	0	0	0	8.356	11.389	0	11.371
20	10.201	15.98	0	15.954	10.819	13.122	0	13.092	10.809	13.099	0	13.085	7.935	9.622	0	9.618	7.908	10.105	0	10.098	7.908	9.989	0	9.973	7.122	9.78	0	9.657	3.918	9.108	0	8.989	7.122	9.706	0	9.631	7.046	9.825	0	9.824	0	0	0	0	0	0	0	0	0	0	0	0	10.302	14.03	0	14.006
25	12.032	18.87	0	18.838	12.781	15.499	0	15.462	12.769	15.474	0	15.459	9.369	11.372	0	11.368	10.089	12.878	0	12.87	10.089	12.732	0	12.712	9.089	12.467	0	12.311	5.004	11.616	0	11.465	9.089	12.374	0	12.278	8.993	12.529	0	12.529	0	0	0	0	0	0	0	0	0	0	0	0	12.192	16.591	0	16.564
30	13.627	21.421	0	21.384	14.506	17.6	0	17.558	14.492	17.572	0	17.554	10.616	12.916	0	12.91	12.185	15.535	0	15.525	12.185	15.36	0	15.336	10.982	15.043	0	14.855	6.051	14.024	0	13.842	10.982	14.932	0	14.817	10.867	15.124	0	15.124	0	0	0	0	0	0	0	0	0	0	0	0	13.855	18.857	0	18.826
35	14.823	23.399	0	23.359	15.818	19.232	0	19.186	15.802	19.198	0	19.178	11.544	14.109	0	14.103	13.93	17.737	0	17.726	13.93	17.539	0	17.512	12.56	17.181	0	16.967	6.928	16.026	0	15.818	12.56	17.054	0	16.924	12.43	17.282	0	17.282	0	0	0	0	0	0	0	0	0	0	0	0	15.118	20.618	0	20.584
40	15.487	24.623	0	24.58	16.57	20.244	0	20.195	16.554	20.201	0	20.18	12.046	14.841	0	14.834	15.074	19.167	0	19.155	15.074	18.956	0	18.927	13.599	18.572	0	18.342	7.508	17.336	0	17.111	13.599	18.437	0	18.296	13.459	18.692	0	18.691	0	0	0	0	0	0	0	0	0	0	0	0	15.839	21.708	0	21.672
45	15.541	24.99	0	24.946	16.673	20.549	0	20.496	16.655	20.497	0	20.474	12.058	15.051	0	15.044	15.44	19.604	0	19.592	15.44	19.391	0	19.362	13.936	19.002	0	18.768	7.703	17.749	0	17.52	13.936	18.866	0	18.722	13.794	19.135	0	19.134	0	0	0	0	0	0	0	0	0	0	0	0	15.93	22.033	0	21.995
50	14.973	24.497	0	24.453	16.108	20.14	0	20.085	16.09	20.082	0	20.059	11.573	14.738	0	14.731	14.969	18.979	0	18.967	14.969	18.775	0	18.747	13.518	18.402	0	18.176	7.48	17.2	0	16.978	13.518	18.271	0	18.133	13.381	18.54	0	18.54	0	0	0	0	0	0	0	0	0	0	0	0	15.374	21.589	0	21.55

Pollutant Name: Diesel - mi/gal Temperature: 90F Relative Humidity: 10%

Speed MPH	LDA NCAT	LDA CAT	LDA DSL	LDA ALL	LDT1 NCAT	LDT1 CAT	LDT1 DSL	LDT1 ALL	LDT2 NCAT	LDT2 CAT	LDT2 DSL	LDT2 ALL	MDV NCAT	MDV CAT	MDV DSL	MDV ALL	LHD1 NCAT	LHD1 CAT	LHD1 DSL	LHD1 ALL	LHD2 NCAT	LHD2 CAT	LHD2 DSL	LHD2 ALL	MHD NCAT	MHD CAT	MHD DSL	MHD ALL	HHD NCAT	HHD CAT	HHD DSL	HHD ALL	OBUS NCAT	OBUS CAT	OBUS DSL	OBUS ALL	UBUS NCAT	UBUS CAT	UBUS DSL	UBUS ALL	MCY NCAT	MCY CAT	MCY DSL	MCY ALL	SBUS NCAT	SBUS CAT	SBUS DSL	SBUS ALL	MH NCAT	MH CAT	MH DSL	MH ALL	ALL NCAT	ALL CAT	ALL DSL	ALL ALL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	27.975	27.975	0	0	29.001	29.001	0	0	28.12	28.12	0	0	29.034	29.034	0	0	19.355	19.355	0	0	18.908	18.908	0	0	6.698	6.698	0	0	2.621	2.621	0	0	6.698	6.698	0	0	4.489	4.489	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4.845	4.845
10	0	0	27.975	27.975	0	0	29.001	29.001	0	0	28.12	28.12	0	0	29.034	29.034	0	0	19.355	19.355	0	0	18.908	18.908	0	0	6.698	6.698	0	0	3.184	3.184	0	0	6.698	6.698	0	0	4.489	4.489	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5.319	5.319
15	0	0	27.975	27.975	0	0	29.001	29.001	0	0	28.12	28.12	0	0	29.034	29.034	0	0	19.355	19.355	0	0	18.908	18.908	0	0	6.698	6.698	0	0	3.883	3.883	0	0	6.698	6.698	0	0	4.489	4.489	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5.907	5.907
20	0	0	27.975	27.975	0	0	29.001	29.001	0	0	28.12	28.12	0	0	29.034	29.034	0	0	19.355	19.355	0	0	18.908	18.908	0	0	6.698	6.698	0	0	4.617	4.617	0	0	6.698	6.698	0	0	4.489	4.489	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6.525	6.525
25	0	0	27.975	27.975	0	0	29.001	29.001	0	0	28.12	28.12	0	0	29.034	29.034	0	0	19.355	19.355	0	0	18.908	18.908	0	0	6.698	6.698	0	0	4.935	4.935	0	0	6.698	6.698	0	0	4.489	4.489	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6.792	6.792
30	0	0	27.975	27.975	0	0	29.001	29.001	0	0	28.12	28.12	0	0	29.034	29.034	0	0	19.355	19.355	0	0	18.908	18.908	0	0	6.698	6.698	0	0	5.238	5.238	0	0	6.698	6.698	0	0	4.489	4.489	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7.048	7.048
35	0	0	27.975	27.975	0	0	29.001	29.001	0	0	28.12	28.12	0	0	29.034	29.034	0	0	19.355	19.355	0	0	18.908	18.908	0	0	6.698	6.698	0	0	5.515	5.515	0	0	6.698	6.698	0	0	4.489	4.489	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7.28	7.28
40	0	0	27.975	27.975	0	0	29.001	29.001	0	0	28.12	28.12	0	0	29.034	29.034	0	0	19.355	19.355	0	0	18.908	18.908	0	0	6.698	6.698	0	0	5.749	5.749	0	0	6.698	6.698	0	0	4.489	4.489	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7.477	7.477
45	0	0	27.975	27.975	0	0	29.001	29.001	0	0	28.12	28.12	0	0	29.034	29.034	0	0	19.355	19.355	0	0	18.908	18.908	0	0	6.698	6.698	0	0	5.926	5.926	0	0	6.698	6.698	0	0	4.489	4.489	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7.626	7.626
50	0	0	27.975	27.975	0	0	29.001	29.001	0	0	28.12	28.12	0	0	29.034	29.034	0	0	19.355	19.355	0	0	18.908	18.908	0	0	6.698	6.698	0	0	6.033	6.033	0	0	6.698	6.698	0	0	4.489	4.489	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7.717	7.717

For on-site activity (mean vehicle speed = 10 mph, Temperature: 90F, Relative Humidity: 10%)

	Emission Factors (g/mile)									
	PM_{10}	**$PM_{2.5}$**	**CO**	**ROG**	**NO_x**	**SO_x**	**CO_2**	**CH_4**	**N_2O**	Assumptions for CH_4 and N_2O from Reference sources TAB
LDA-ALL	0.0580	0.0418	10.3680	0.9730	0.9710	0.0080	857.0070	0.05	0.06	Passenger Cars - Gasoline - Model Year 2000 - Present
LHD1-DSL	0.1090	0.0859	2.0220	0.3170	5.6120	0.0050	520.7810	0.01	0.03	Light Duty Truck - Diesel all model years
HHD-DSL	1.6970	1.5234	12.3530	5.7800	27.5480	0.0300	3165.4460	0.06	0.05	Heavy Duty Trucks - Diesel and Alternative Fuels - Model Year 1996 - Present
OBUS-CAT	0.0660	0.0463	41.8980	3.5650	3.1710	0.0170	1672.2670	0.12	0.20	Other Bus - Gasoline (with catalyst) - Model Year 1996 - Present

For off-site activity (mean vehicle speed = 50 mph, Temperature: 90F, Relative Humidity: 10%)

	Emission Factors (g/mile)									
	PM_{10}	**$PM_{2.5}$**	**CO**	**ROG**	**NO_x**	**SO_x**	**CO_2**	**CH_4**	**N_2O**	Assumptions for CH_4 and N_2O from Reference sources TAB
LDA-ALL	0.0290	0.0150	5.3480	0.2140	0.6310	0.0030	353.6330	0.05	0.06	Passenger Cars - Gasoline - Model Year 2000 - Present
LHD1-DSL	0.0520	0.0334	0.5320	0.1010	4.5220	0.0050	520.7810	0.01	0.03	Light Duty Truck - Diesel all model years
HHD-DSL	0.5620	0.4792	3.0340	0.6580	14.8180	0.0160	1670.6790	0.06	0.05	Heavy Duty Trucks - Diesel and Alternative Fuels - Model Year 1996 - Present
OBUS-CAT	0.0310	0.0141	11.6490	0.4930	4.3940	0.0050	464.9530	0.12	0.20	Other Bus - Gasoline (with catalyst) - Model Year 1996 - Present

Note:

$PM_{2.5}$ emission factors determined using guidance from SCAQMD
Final - Methodology to Calculate $PM_{2.5}$ and $PM_{2.5}$ Significance Thresholds
10/1/2006, Appendix A - Updated CEIDARS Table with $PM_{2.5}$ Fractions

On-road vehicles

- $PM_{2.5}$ Fraction of PM_{10}, Brake wear: 0.429
- $PM_{2.5}$ Fraction of PM_{10}, Diesel: 0.920
- $PM_{2.5}$ Fraction of PM_{10}, Gasoline-catalyst: 0.928
- $PM_{2.5}$ Fraction of PM_{10}, Tire wear: 0.250

Reference source 1: Table C.5, California Climate Action Registry General Reporting Protocol Version 3

Table C.5: Methane and Nitrous Oxide Emission Factors for Mobile Sources by Vehicle and Fuel Type

Vehicle Types/Model Years	CH_4 (g/mile)	N_2O (g/mile)
Passenger Cars - Gasoline		
Model Year 1966-1972	0.22	0.02
Model Year 1973-1974	0.19	0.02
Model Year 1975-1979	0.11	0.05
Model Year 1980-1983	0.07	0.08
Model Year 1984-1991	0.06	0.08
Model Year 1992	0.06	0.07
Model Year 1993	0.05	0.05
Model Year 1994-1999	0.05	0.04
Model Year 2000– present	0.04	0.04
Passenger Cars - Alternative Fuels and Diesel		
CNG Model Year 2000– present	0.04	0.04
LPG Model Year 2000– present	0.04	0.04
E85 Model Year 2000– present	0.04	0.04
Diesel all model years	0.01	0.02
Light Duty Truck (<5750 GVWR*) - Gasoline		
Model Year 1966-1972	0.22	0.02
Model Year 1973-1974	0.23	0.02
Model Year 1975-1979	0.14	0.07
Model Year 1980-1983	0.12	0.13
Model Year 1984-1991	0.11	0.14
Model Year 1992	0.09	0.11
Model Year 1993	0.07	0.08
Model Year 1994-1999	0.06	0.06
Model Year 2000– present	0.05	0.06

Table C.5: Methane and Nitrous Oxide Emission Factors for Mobile Sources by Vehicle and Fuel Type (continued)

Vehicle Types/Model Years	CH_4 (g/mile)	N_2O (g/mile)
Light Duty Truck - Alternative Fuels and Diesel		
CNG Model Year 2000– present	0.05	0.06
LPG Model Year 2000– present	0.05	0.06
E85 Model Year 2000– present	0.05	0.06
Diesel all model years	0.01	0.03
Heavy-Duty Vehicle (>5751 GVWR) - Gasoline		
Model Year 1981 and older	0.43	0.04
Model Year 1982-1984	0.42	0.05
Model Year 1985-1986	0.20	0.05
Model Year 1987	0.18	0.09
Model Year 1988-1989	0.17	0.09
Model Year 1990-present	0.12	0.20
Heavy Duty Trucks - Diesel and Alternative Fuels		
Model Year 1966-1982	0.10	0.05
Model Year 1983-1995	0.08	0.05
Model Year 1996 to present	0.06	0.05
CNG, LNG	3.48	0.05
FTD, Biodiesel	0.06	0.05
Motorcycles		
Model Year 1966-1995	0.42	0.01
Model Year 1996-present	0.09	0.01
Off-Road Vehicles/Construction Equipment by Fuel Type		
	CH_4 (kg/gallon)	N_2O (kg/gallon)
Butane	9.1×10^{-5}	4.1×10^{-4}
Distillate Fuel	.0014	.0001
Liquefied Petroleum Gas (LPG)	.0010	.0001
Motor Gasoline	.0013	.0001
Propane	9.1×10^{-5}	4.1×10^{-4}

Attachment AQ-2
Operational Emissions
(March 20, 2009)

Table 5.2-25a New
Estimated Daily Maximum Operational Emissions of Criteria Pollutants(lbs/day)

Activity	PM_{10}	$PM_{2.5}$	CO	ROC	NO_x	SO_x
On-Site Operational Emissions						
On-Site Combustion Emissions						
Diesel Generator	0.01	0.01	0.07	0.03	0.85	0.02
Maintenance & Security Vehicles and Equipment	0.17	0.16	102.24	13.49	13.02	0.04
Worker Vehicles	0.04	0.03	6.88	0.64	0.64	0.01
Visitor Cars and Delivery Trucks	0.06	0.06	1.00	0.26	1.06	0.00
Subtotal of On-site Combustion Emissions	**0.29**	**0.25**	**110.19**	**14.42**	**15.58**	**0.07**
On-Site Fugitive Emissions						
Diesel Generator						
Gasoline Tank				3.55		
Maintenance & Security Vehicles and Equipment	112.60	16.70				
Worker Vehicles	2.35	0.26				
Visitor Cars and Delivery Trucks	6.85	1.02				
Subtotal of On-Site Fugitive Emissions	**121.80**	**17.98**	**0.00**	**3.55**	**0.00**	**0.00**
Subtotal of On-Site Emissions	**122.09**	**18.23**	**110.19**	**17.97**	**15.58**	**0.07**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Worker Vehicles	0.27	0.14	47.55	1.90	5.58	0.03
Visitor Cars and Delivery Trucks	0.20	0.16	5.71	0.40	5.62	0.01
Subtotal of Off-Site Combustion Emissions	**0.47**	**0.30**	**53.26**	**2.30**	**11.21**	**0.04**
Off-Site Paved Road Fugitive Emissions						
Worker Vehicles	9.75	0.27				
Visitor Cars and Delivery Trucks	12.91	1.77				
Subtotal of Off-Site Fugitive Emissions	**22.66**	**2.04**				
Subtotal of Off-Site Emissions	**23.13**	**2.34**	**53.26**	**2.30**	**11.21**	**0.04**
Total Maximum Emissions	**145.22**	**20.57**	**163.45**	**20.27**	**26.79**	**0.11**

Table 5.2-25b New
Estimated Annual Maximum Operational Emissions of Criteria Pollutants (tons/year)

Activity	PM_{10}	$PM_{2.5}$	CO	ROC	NO_x	SO_x
On-Site Operational Emissions						
On-Site Combustion Emissions						
Diesel Generator	0.0003	0.0003	0.0019	0.0007	0.0221	0.0006
Maintenance & Security Vehicles and Equipment	0.03	0.03	18.40	2.43	2.34	0.01
Worker Vehicles	0.01	0.01	1.24	0.12	0.12	0.00
Visitor Cars and Delivery Trucks	0.00	0.00	0.09	0.01	0.04	0.00
Subtotal of On-site Combustion Emissions	**0.04**	**0.04**	**19.73**	**2.56**	**2.52**	**0.01**
On-Site Fugitive Emissions						
Diesel Generator						
Gasoline Tank				0.65		
Maintenance & Security Vehicles and Equipment	20.27	3.01				
Worker Vehicles	0.42	0.05				
Visitor Cars and Delivery Trucks	0.22	0.03				
Subtotal of On-Site Fugitive Emissions	**20.91**	**3.09**	**0.00**	**0.65**	**0.00**	**0.00**
Subtotal of On-Site Emissions	**20.95**	**3.12**	**19.73**	**3.21**	**2.52**	**0.01**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Worker Vehicles	0.05	0.02	8.56	0.34	1.01	0.01
Visitor Cars and Delivery Trucks	0.01	0.01	0.65	0.03	0.23	0.00
Subtotal of Off-Site Combustion Emissions	**0.06**	**0.03**	**9.21**	**0.37**	**1.23**	**0.01**
Off-Site Paved Road Fugitive Emissions						
Worker Vehicles	1.75	0.05				
Visitor Cars and Delivery Trucks	0.48	0.05				
Subtotal of Off-Site FugitiveEmissions	**2.23**	**0.10**				
Subtotal of Off-Site Emissions	**2.29**	**0.13**	**9.21**	**0.37**	**1.23**	**0.01**
Total Maximum Emissions	**23.24**	**3.26**	**28.94**	**3.58**	**3.75**	**0.02**

Table 5.2-26a New

Estimated Annual Maximum Operational Greenhouse Gases Emissions (metric tonnes/year)

Activity	CO_2	CH_4	N_2O	SF_6	CO_2e
On-Site Operational Emissions					
On-Site Combustion Emissions					
Diesel Generator	2.64	0.00	0.00		2.65
Maintenance & Security Vehicles and Equipment	891.81	0.43	0.10		930.65
Worker Vehicles	98.79	0.01	0.01		100.69
Visitor Cars and Delivery Trucks	8.55	0.00	0.00		8.68
Subtotal of On-site Combustion Emissions	**1,001.80**	**0.44**	**0.10**		**1,042.67**
On-Site Fugitive Emissions					
Potential sulfur hexafluoride (SF_6) emissions leakage emissions from proposed circuit breakers and other transmissions system equipment				0.01	271.83
Subtotal of On-Site Fugitive Emissions				0.01	271.83
Subtotal of On-Site Emissions	**1,001.80**	**0.44**	**0.10**	**0.01**	**1,314.51**
Off-Site On-Road Emissions					
Off-Site Combustion Emissions					
Worker Vehicles	593.01	0.08	0.08		618.33
Visitor Cars and Delivery Trucks	52.89	0.01	0.01		54.84
Subtotal of Off-Site Combustion Emissions	**645.90**	**0.08**	**0.08**		**673.18**
Subtotal of Off-Site Emissions	**645.90**	**0.08**	**0.08**		**673.18**
Total Maximum Emissions	**1,647.70**	**0.52**	**0.18**	**0.01**	**1,987.68**

Table DR-103
Estimated Annual Maximum Operation Emissions of Greenhouse Gases by Fuel Type

Fuel Type	Annual Maximum CO_2 Emissions (tons/year)	Emission Factor (lb CO_2 /gallon fuel)	**Annual Maximum Fuel Usage (gallons/year)**
On-site			
Gasoline	806	19.42	82,995
Diesel (Distillate Fuel #1,2&4))	9	22.38	761
Propane	290	12.65	45,800
Off-site			
Gasoline	683	19.42	70,307
Diesel (Distillate Fuel #1,2&4))	29	22.38	2,611
Propane	-	12.65	-
Total			
Gasoline	1,489	19.42	153,301
Diesel (Distillate Fuel #1,2&4))	38	22.38	3,372
Propane	290	12.65	45,800

Notes:

1. Assumed 2% of worker passenger vehicles CO_2 emissions are from burning diesel; the rest of them from burning gasoline.

2. Greenhouse gas emission factor from CCAR General Reporting Protocol April 2008 Table C.6.

Solar Two

Emissions from Emergency Diesel Generator

Rated Horsepower	**335**	**BHP**
Testing duration	**15**	**min/week**
Yearly testing	**52**	**week/year**
Expected non-emergency usage	**13**	**hr/yr**

Pollutant	Emision Factor	Emission Rate	Emission Rate per Testing	Yearly Emissions	Hourly Emission Rate	Annual Emission Rate
	g/HP/Hr	lb/hr	lb	lb/yr	g/s	g/s
NO_X	4.61	3.41	0.85	44.30	0.107	6.37E-04
CO	0.39	0.29	0.07	3.75	0.009	5.39E-05
VOC (Total Hydrocarbons)	0.15	0.11	0.03	1.44	0.003	2.07E-05
SO_X	0.12	0.09	0.02	1.15	0.003	1.66E-05
PM_{10}	0.06	0.04	0.01	0.58	0.001	8.29E-06
CO_2		447.54	111.88	5818.00	14.097	8.37E-02
CH_4		0.06	0.02	0.80	0.002	1.15E-05
N_2O		0.004	0.0011	0.06	0.0001	8.24E-07
CO_2e		450.20	112.55	5852.62	14.181	8.42E-02

Engine parameters

Flow Rate (acfm)	1218	17.726 m/s
Exhaust Temp (degrees C)	465	738.15 K
Stack Diameter (feet)	0.6667	0.2032 m
Stack height (feet) above ground	6.5	1.981 m
Fuel Use (gal/hr)[2]	20	20.000 gal/hr

Note:

1. The stack will be in outdoor enclosures, not in buildings.
2. Fuel use value is based on the engine parameter data in CARB Table 1 of "Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines", Oct 2000.
3. Emission rates for the criteria pollutant are based on vendor data (to meet Tier 3 requirements).
4. The stack will be in outdoor enclosures, not in buildings.
5. Greenhouse gas emission factors from CCAR General Reporting Protocol April 2008 Tables C.6 and C.7
6. Greenhouse Gas Global Warming Potential (GWP) - Intergovernmental Panel on Climate Change, Second Assessment Report (1996)

- CO_2 GWP (SAR, 1996) = 1
- CH_4 GWP (SAR, 1996) = 21
- N_2O GWP (SAR, 1996) = 310

Solar Two

Equipment = 5000-gal above ground storage tank
Fuel = Gasoline
Dimension= 88" W x 299" L x 67" H
Throughput (gal/year) = 18,000
Days of Operations (days/year) = 365

Description	TOG Emission Factor* (lbs/1000 gal)	TOG Emissions (tons/Year)	TOG Emissions (lbs/day)
Working Loss		0.063	0.345
Breathing Loss		0.575	3.152
Vehicle Refueling - Vapor Displacement	0.74	0.007	0.036
Vehicle Refueling - Spillage	0.42	0.004	0.021
Total Vehicle Refueling		0.010	0.057
Total TOG Emissions		**0.649**	**3.555**

Note:

1. Emission estimate based on 18,000 gallon per year tank throughput.
2. Emission factors from CARB Emission Inventory Estimation Guidelines Section 4.10 GASOLINE DISPENSING FACILITIES (Revised May 1999)
3. Emission estimates from EPA Tank4.0.9d model results

Solar Two

Table 5.2-27

Estimated maximum potential sulfur hexafluoride (SF_6) emissions leakage emissions from proposed circuit breakers and other transmissions system equipment

Breaker	Qty	Typical Make	Typical Model	SF6 Lbs/Bkr	Leakage Rate	Leakage Lbs/Yr (per Bkr)	Leakage Lbs/Yr (All Bkrs)	CO_2e emissions (metric tons/Yr)
230kV Main Breaker (2000A)	2	GE-Hitachi HVB	HP Series	240	1%	2.4	4.8	52.04
230kV Transformer Breaker (2000A)	5	GE-Hitachi HVB	HP Series	240	1%	2.4	12	130.09
34.5kV Capacitor Breaker (1200A)	10	GE-Hitachi HVB	HS Series	31	1%	0.31	3.1	33.61
34.5kV Solar Group Breaker (1200A)	15	GE-Hitachi HVB	HS Series	31	1%	0.31	4.65	50.41
48.3kV Capacitor Switcher	15	Southern States	CapSwitcher	7	0.50%	0.035	0.525	5.69
							CO_2e emissions (metric tons/Yr)	271.83

Note:

Greenhouse Gas Global Warming Potentials (GWPs) - Intergovernmental Panel on Climate Change, Second Assessment Report (1996)

Greenhouse Gas	GWP (SAR, 1996)
SF_6	23,900

OPERATIONS AND MAINTENANCE VEHICLES REQUIREMENTS

Description	Activity	Make / Model	Fuel	Quantity	Frequency	Horse-power	Vehicle Weight (tons)	Assumed idle time on site during washing & maintaining the sunchachers per vehicle (idle hr/day)	Max Daily Onsite Distance per Vehicle (mile/day)	Assumed distance percentage to drive on onsite sealed roads	Max Daily Offsite Round-trip Distance per Vehicle within Imperial County (mile/day)	Travel to and from	Max Daily Total Distance per Vehicle (mile/day)	Max. Operating Hours / Day	Max. Operating Days / Month
Washing Vehicle	Mirror Washing	12 ton Truck	Gasoline	35	Daily	225	12	4.0	7	100%	0	on-site only	7	8	30
LRU Maintenance Truck with Boom	Field Servicing & Maintenance	10 ton Truck	Gasoline	20	Daily	200	10	4.0	7	100%	0	on-site only	7	8	30
Staff & Security Truck	Site Inspections & Security	Toyota Highlander or similar	Gasoline - Hybrid	5	Daily	187	2.25		33	100%	0	on-site only	33	24	30
Rubber-wheeled forklift with telescoping boom	SunCatcher PCU & Mirror Maintenance	Telehandler	Propane	2	Daily	50	4		10	100%	0	on-site only	10	8	30
Forklift	Warehousing of supplies		Propane	2	Daily	50	3		10	100%	0	on-site only	10	8	30
Telescoping Man Lift	Facility Maintenance and SunCatcher PCU & Mirror Maintenance		Propane	7	Daily	50	3		10	100%	0	on-site only	10	8	30
Staff Cars	Community to Work	Passenger vehicles	Gasoline & diesel	100	Daily	100	2		3	0%	40	El Centro	43	2	30
Van Pooling	To be Defined	Passenger Truck/Van	Gasoline	4	Daily	150	4		3	0%	40	El Centro	43	2	30
Visitor Cars	Sales, Deliveries, Services	Passenger vehicles	Gasoline & diesel	8	Daily	100	2		3	0%	50	San Diego	53	8	22
Delivery Trucks	Operations and Maintenance Supplies	5 ton Cargo	Diesel	1	Weekly	200	5		3	0%	50	El Centro / Detroit	53	2	5
	Waste Management	20 ton	Diesel	1	Weekly	250	20		3	0%	50	Class III sites	53	2	5
	Hazardous Waste	20 ton	Diesel	1	Weekly	250	20		3	0%	50	Class I sites	53	2	5
Transport Tractor Trailers	Spare Parts, Building Supplies, Temporary Rental Equipment	40-foot	Diesel	1	Weekly	250	20		10	70%	40	El Centro	50	2	5

Note:

1. **Bold** are offroad equipment
2. All other vehicles and equipment will use on-road engines
3. 70% of the time the Project will get the supplies from the El Centro, CA area and 30% of the time the Project will get the supplies from Detroit, MI.
4. Two CLASS I sites are: (1) Clean Harbors Buttonwillow Landfill (Solid Waste Facility) Lokern Road Kern County, CA - 340 miles to Solar Two site; (2) Chemical Waste Management Kettleman Hills Landfill (Solids Waste Facility) 36251 Old Skyline Road Kettleman City, CA 93239 - 400 miles to Solar Two site
5. The fenceline perimeter is approximately 20.5 miles. Each security vehicle is assumed to travel from the MSC around the perimeter plus one trip to the center of the site and back (plus 10% for misc trips) = 33 miles
6. Average distance from main service complex to center of east or west portion of the site is 3.5 miles thus the average round trip distance each maintenance vehicle travels is 7 miles

Solar Two - Operation and Maintenance Equipment Emissions (on-site)

Emission Factors For Combustion Exhaust Emissions

Equipment Description	Horse-power	Vehicle Weight (lbs)	Fuel	Emission Factors (unit: g/mile or g/idle-hr for on-road vehicle and lb/hr for off-road equipment)									
				PM_{10}	$PM_{2.5}$	CO	ROG	NO_x	SO_x	CO_2	CH_4	N_2O	Total GHG - CO_2e
On-road Vehicle													
Washing Vehicle (running)	225	24,000	Gasoline	0.030	0.013	0.499	0.041	0.114	0.016	1672.267	0.120	0.200	1736.79
Washing Vehicle (idling)	225	24,000	Gasoline	0.000	0.000	155.230	27.137	1.790	0.049	4776.900	0.343	0.571	4961.20
LRU Maintenance Truck with Boom (running)	200	20,000	Gasoline	0.030	0.013	0.499	0.041	0.114	0.016	1672.267	0.120	0.200	1736.79
LRU Maintenance Truck with Boom (idling)	200	20,000	Gasoline	0.000	0.000	155.230	27.137	1.790	0.049	4776.900	0.343	0.571	4961.20
Staff & Security Truck	187	4,500	Gasoline - Hybrid	0.010	0.010	2.100	0.055	0.030	0.010	326.296	0.050	0.060	345.95
Staff Cars	100	4,000	Gasoline & diesel	0.058	0.042	10.368	0.973	0.971	0.008	857.007	0.050	0.050	873.56
Van Pooling	150	8,000	Gasoline	0.034	0.020	1.236	0.035	0.068	0.014	1463.779	0.070	0.080	1490.05
Visitor Cars	100	4,000	Gasoline & diesel	0.058	0.042	10.368	0.973	0.971	0.008	857.007	0.050	0.050	873.56
Operations and Maintenance Supplies truck	200	10,000	Diesel	0.109	0.086	2.022	0.317	5.612	0.005	520.781	0.050	0.060	540.43
Waste Management truck	250	40,000	Diesel	1.697	1.523	12.353	5.780	27.548	0.030	3165.446	0.080	0.050	3182.63
Hazardous Waste truck	250	40,000	Diesel	1.697	1.523	12.353	5.780	27.548	0.030	3165.446	0.080	0.050	3182.63
Transport Tractor Trailers truck	250	40,000	Diesel	1.697	1.523	12.353	5.780	27.548	0.030	3165.446	0.080	0.050	3182.63
Off-road Equipment													
Rubber-wheeled forklift with telescoping boom	50	8,000	Propane	0.002	0.002	0.294	0.003	0.137	0.000	18.295	0.027	0.001	19.28
Forklift	50	6,000	Propane	0.002	0.002	0.294	0.003	0.137	0.000	18.295	0.027	0.001	19.28
Telescoping Man Lift	50	6,000	Propane	0.002	0.002	0.294	0.003	0.137	0.000	18.295	0.027	0.001	19.28

Note:

1. Vehicle description in EMFAC2007 model
   - Washing vehicle is Medium-Heavy-Duty (MHD-CAT)
   - LRU Maintenance Truck with Boom is Light-Heavy-Duty (MHD-CAT)
   - Staff & Security Truck (gasoline) is Light-Heavy-Duty (LDT2-CAT)
   - Staff Car is Passenger Cars (LDA-ALL)
   - Van Pooling is Medium-Duty Trucks (MDV-CAT)
   - Visitor Cars is Passenger Cars (LDA-ALL)
   - Hydrogen Delivery Trucks is Heavy-Heavy-Duty (HHD-DSL)
   - Operations and Maintenance Supplies Delivery Truck is Light-Heavy-Duty (LHD1-DSL)
   - Waste Management Delivery Truck is Heavy-Heavy-Duty (HHD-DSL)
   - Hazardous Waste Delivery Truck is Heavy-Heavy-Duty (HHD-DSL)
   - Transport Tractor Trailer is Heavy-Heavy-Duty (HHD-DSL)
2. Criteria pollutant emission factors for propane fuel off-road equipment obtained from CARB OFFROAD2007.
3. Rubber-wheeled forklift with telescoping boom and telescoping man lift are all forklifts
4. PM emission factors determined using guidance from SCAQMD Final - Methodology to Calculate PM_{10} and $PM_{2.5}$ Significance Thresholds 10/1/2006, Appendix A - Updated CEIDARS Table with $PM_{2.5}$ Fractions

   On-road vehicles
   - $PM_{2.5}$ Fraction of PM_{10}, Brake wear: 0.429
   - $PM_{2.5}$ Fraction of PM_{10}, Diesel: 0.920
   - $PM_{2.5}$ Fraction of PM_{10}, Gasoline-catalyst: 0.928
   - $PM_{2.5}$ Fraction of PM_{10}, Tire wear: 0.250
   - Assume $PM_{2.5}$ and PM_{10} Fraction of total PM for gasoline hybrid car is: 1.000

   Off-road equipment
   - Assume $PM_{2.5}$ and PM_{10} Fraction of total PM for propane fuel equipment is: 1.000
5. The emissions of "Toyota Highlander Hybrid" meet the Tier 2/Bin 3 Federal emissions standard (reference source 3) and its performance is 27 mile/gallon in city (from Toyota website)
6. SO_2 emission factors for the Toyota Highlander Hybrid are from EMFAC2007- Light-Duty Trucks (LDT2-CAT).
7. N_2O emission factors for propane fuel off-road equipment are from reference source 1: Table C.4, California Climate Action Registry General Reporting Protocol Version 3.0, April 2008
8. CO_2 emission factors for gasoline and diesel fuel on-road vehicles are from EMFAC2007 model.
9. CH_4 and N_2O emission factors for the running vehicles (non-hybrid) are from reference source 2: Table C.5 (highest EF from model year 1993 to present), California Climate Action Registry General Reporting Protocol Version 3.0, April 2007
10. CH_4 and N_2O emission factors for the idling vehicles are scaled from the same type of running vehicle emission factor.
11. Greenhouse Gas Global Warming Potential (GWP) - Intergovernmental Panel on Climate Change, Second Assessment Report (1996)
    - CO_2 GWP (SAR, 1996) = 1
    - CH_4 GWP (SAR, 1996) = 21
    - N_2O GWP (SAR, 1996) = 310

Daily Emissions For Combustion Exhaust Emissions

Equipment Description	No. Of Units	Max Daily Distance per Vehicle (mile/day)	Max Daily VMT (all units)	Max. Daily Emissions (lb/day) PM_{10}	$PM_{2.5}$	CO	ROG	NO_x	SO_x	CO_2	CH_4	N_2O	Total GHG - CO_2e
On-road Vehicle													
Washing Vehicle (running)	35	7.0	245	0.016	0.007	0.269	0.022	0.062	0.009	902.435	0.065	0.108	937.253
Washing Vehicle (idling)	35	-	-	-	-	47.868	8.368	0.552	0.015	1,473.053	0.106	0.176	1,529.887
LRU Maintenance Truck with Boom (running)	20	7.0	140	0.009	0.004	0.154	0.013	0.035	0.005	515.677	0.037	0.062	535.573
LRU Maintenance Truck with Boom (idling)	20	-	-	-	-	27.353	4.782	0.315	0.009	841.744	0.060	0.101	874.221
Staff & Security Truck	5	33.0	165	0.004	0.004	0.763	0.020	0.011	0.004	118.588	0.018	0.022	125.729
Staff Cars	100	3.0	300	0.038	0.028	6.851	0.643	0.642	0.005	566.304	0.033	0.033	577.240
Van Pooling	4	3.0	12	0.001	0.001	0.033	0.001	0.002	0.000	38.690	0.002	0.002	39.385
Visitor Cars	8	3.0	24	0.003	0.002	0.548	0.051	0.051	0.000	45.304	0.003	0.003	46.179
Operations and Maintenance Supplies truck	1	3.0	3	0.001	0.001	0.013	0.002	0.037	0.000	3.441	0.000	0.000	3.571
Waste Management truck	1	3.0	3	0.011	0.010	0.082	0.038	0.182	0.000	20.917	0.001	0.000	21.031
Hazardous Waste truck	1	3.0	3	0.011	0.010	0.082	0.038	0.182	0.000	20.917	0.001	0.000	21.031
Transport Tractor Trailers truck	1	10.0	10	0.037	0.034	0.272	0.127	0.607	0.001	69.723	0.002	0.001	70.102
Off-road Equipment													
Rubber-wheeled forklift with telescoping boom	2			0.026	0.026	4.697	0.051	2.191	-	292.714	0.430	0.022	308.469
Forklift	2			0.026	0.026	4.697	0.051	2.191	-	292.714	0.430	0.022	308.469
Telescoping Man Lift	7			0.091	0.091	16.438	0.180	7.668	-	1,024.500	1.505	0.076	1,079.640
Max. Daily Emissions Total (lb/day)				**0.28**	**0.24**	**110.12**	**14.39**	**14.73**	**0.05**	**6,226.72**	**2.69**	**0.63**	**6,477.78**

Hourly Emissions For Combustion Exhaust Emissions

Equipment Description	Max. Operating Hours / Day	Max. Hourly Emissions (lb/hr) PM_{10}	$PM_{2.5}$	CO	ROG	NO_x	SO_x	CO_2	CH_4	N_2O	Total GHG - CO_2e
On-road Vehicle											
Washing Vehicle (running)	8	0.002	0.001	0.034	0.003	0.008	0.001	112.804	0.008	0.013	117.157
Washing Vehicle (idling)	8	-	-	5.984	1.046	0.069	0.002	184.132	0.013	0.022	191.236
LRU Maintenance Truck with Boom (running)	8	0.001	0.001	0.019	0.002	0.004	0.001	64.460	0.005	0.008	66.947
LRU Maintenance Truck with Boom (idling)	8	-	-	3.419	0.598	0.039	0.001	105.218	0.008	0.013	109.278
Staff & Security Truck	24	0.000	0.000	0.032	0.001	0.000	0.000	4.941	0.001	0.001	5.239
Staff Cars	2	0.019	0.014	3.426	0.321	0.321	0.003	283.152	0.017	0.017	288.620
Van Pooling	2	0.000	0.000	0.016	0.000	0.001	0.000	19.345	0.001	0.001	19.692
Visitor Cars	8	0.000	0.000	0.069	0.006	0.006	0.000	5.663	0.000	0.000	5.772
Operations and Maintenance Supplies truck	2	0.000	0.000	0.007	0.001	0.019	0.000	1.721	0.000	0.000	1.786
Waste Management truck	2	0.006	0.005	0.041	0.019	0.091	0.000	10.459	0.000	0.000	10.515
Hazardous Waste truck	2	0.006	0.005	0.041	0.019	0.091	0.000	10.459	0.000	0.000	10.515
Transport Tractor Trailers truck	2	0.019	0.017	0.136	0.064	0.303	0.000	34.862	0.001	0.001	35.051
Off-road Equipment											
Rubber-wheeled forklift with telescoping boom	8	0.003	0.003	0.587	0.006	0.274	-	36.589	0.054	0.003	38.559
Forklift	8	0.003	0.003	0.587	0.006	0.274	-	36.589	0.054	0.003	38.559
Telescoping Man Lift	8	0.011	0.011	2.055	0.022	0.958	-	128.063	0.188	0.009	134.955
Max. Hourly Emissions Total (lb/hr)		**0.07**	**0.06**	**16.45**	**2.12**	**2.46**	**0.01**	**1,038.46**	**0.35**	**0.09**	**1,073.88**

Yearly Emissions For Combustion Exhaust Emissions

Equipment Description	Max. Operating Days / Month	Max. Annual Emissions (ton/year) PM_{10}	$PM_{2.5}$	CO	ROG	NO_x	SO_x	CO_2	CH_4	N_2O	Total GHG - CO_2e
On-road Vehicle											
Washing Vehicle (running)	30	0.003	0.001	0.048	0.004	0.011	0.002	162.438	0.012	0.019	168.706
Washing Vehicle (idling)	30	-	-	8.616	1.506	0.099	0.003	265.150	0.019	0.032	275.380
LRU Maintenance Truck with Boom (running)	30	0.002	0.001	0.028	0.002	0.006	0.001	92.822	0.007	0.011	96.403
LRU Maintenance Truck with Boom (idling)	30	-	-	4.924	0.861	0.057	0.002	151.514	0.011	0.018	157.360
Staff & Security Truck	30	0.001	0.001	0.137	0.004	0.002	0.001	21.346	0.003	0.004	22.631
Staff Cars	30	0.007	0.005	1.233	0.116	0.115	0.001	101.935	0.006	0.006	103.903
Van Pooling	30	0.000	0.000	0.006	0.000	0.000	0.000	6.964	0.000	0.000	7.089
Visitor Cars	22	0.000	0.000	0.072	0.007	0.007	0.000	5.980	0.000	0.000	6.096
Operations and Maintenance Supplies truck	5	0.000	0.000	0.000	0.000	0.001	0.000	0.103	0.000	0.000	0.107
Waste Management truck	5	0.000	0.000	0.002	0.001	0.005	0.000	0.628	0.000	0.000	0.631
Hazardous Waste truck	5	0.000	0.000	0.002	0.001	0.005	0.000	0.628	0.000	0.000	0.631
Transport Tractor Trailers truck	5	0.001	0.001	0.008	0.004	0.018	0.000	2.092	0.000	0.000	2.103
Off-road Equipment											
Rubber-wheeled forklift with telescoping boom	30	0.005	0.005	0.845	0.009	0.394	-	52.689	0.077	0.004	55.524
Forklift	30	0.005	0.005	0.845	0.009	0.394	-	52.689	0.077	0.004	55.524
Telescoping Man Lift	30	0.016	0.016	2.959	0.032	1.380	-	184.410	0.271	0.014	194.335
Max. Annual Emissions Total (ton/year)		**0.04**	**0.04**	**19.73**	**2.56**	**2.50**	**0.01**	**1,101.39**	**0.48**	**0.11**	**1,146.42**

Solar Two
Fugitive Dust Emissions (on-site)

Travel on sealed roads (paved)

$E = [k * (sL/2)^{0.65} * (W/3)^{1.5} - C] (1 - P/4N)$ EPA AP-42 Section 13.2.1 Paved Roads Equation 2

E = particulate emission factor (lb/VMT),
k = particle size multiplier for particle size range and units of interest

7.4 sL = road surface silt loading (grams per square meter) (g/m^2), from AP-42 Table 13.2.1-4 for Municipal solid waste landfill
W = average weight (tons) of the vehicles traveling the road, and
C = emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear.

constants

	$PM_{2.5}$	PM_{10}
k	0.0024	0.016
C	0.00036	0.00047

12 P = Mean number of days per year with at least 0.01 inches of precipitation (from EL CENTRO 2 SSW COOP Station)
365 N = number of days in the year (averaging period)

Vehicle Type	No. Of Unit	Max Daily Distance per Vehicle (mile/day)	Assumed distance percentage to drive on sealed roads	Max Daily Distance per Vehicle to drive on sealed roads (mile/day)	Max Daily VMT (all units)	Mean Vehicle Weight (tons)	Max. Operating Hours / Day	Max. Operating Days / Month	$PM_{2.5}$ EF (lbs/VMT)	PM_{10} EF (lbs/VMT)
Washing Vehicle	35	7	100%	7	245	12	8	30	0.044	0.297
LRU Maintenance Truck with Boom	20	7	100%	7	140	10	8	30	0.034	0.226
Staff & Security Truck	5	33	100%	33	165	2.25	24	30	0.003	0.024
Rubber-wheeled forklift with telescoping boom	2	10	100%	10	20	4	8	30	0.008	0.057
Forklift	2	10	100%	10	20	3	8	30	0.005	0.037
Telescoping Man Lift	7	10	100%	10	70	3	8	30	0.005	0.037
Staff Cars	100	3	0%	0	0	2.0	2	30	0.003	0.020
Van Pooling	4	3	0%	0	0	4	2	30	0.008	0.057
Visitor Cars	8	3	0%	0	0	2	8	22	0.003	0.020
Operations and Maintenance Supplies truck	1	3	0%	0	0	5	2	5	0.012	0.079
Waste Management truck	1	3	0%	0	0	20	2	5	0.096	0.639
Hazardous Waste truck	1	3	0%	0	0	20	2	5	0.096	0.639
Transport Tractor Trailers truck	1	10	70%	7	7	20	2	5	0.096	0.639
	75									

Vehicle Type	Watering Control Efficiency		PM_{10} Emissions (lb/hr)		PM_{10} Emissions (lb/day)		% of daily emissions	PM_{10} Emissions (tons/year)		$PM_{2.5}$ Emissions (lb/hr)		$PM_{2.5}$ Emissions (lb/day)		$PM_{2.5}$ Emissions (tons/year)	
	Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated		Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated
Washing Vehicle	0%	0%	9.09	9.09	72.68	72.68	62.08%	13.08	13.08	1.35	1.35	10.83	10.83	1.95	1.95
LRU Maintenance Truck with Boom	0%	0%	3.95	3.95	31.58	31.58	26.97%	5.68	5.68	0.59	0.59	4.70	4.70	0.85	0.85
Staff & Security Truck	0%	0%	0.16	0.16	3.90	3.90	3.33%	0.70	0.70	0.02	0.02	0.54	0.54	0.10	0.10
Rubber-wheeled forklift with telescoping boom	0%	0%	0.14	0.14	1.13	1.13	0.97%	0.20	0.20	0.02	0.02	0.16	0.16	0.03	0.03
Forklift	0%	0%	0.09	0.09	0.73	0.73	0.63%	0.13	0.13	0.01	0.01	0.10	0.10	0.02	0.02
Telescoping Man Lift	0%	0%	0.32	0.32	2.57	2.57	2.19%	0.46	0.46	0.05	0.05	0.36	0.36	0.07	0.07
Staff Cars	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Van Pooling	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Visitor Cars	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operations and Maintenance Supplies truck	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Waste Management truck	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hazardous Waste truck	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Transport Tractor Trailers truck	0%	0%	2.24	2.24	4.47	4.47	3.82%	0.13	0.13	0.33	0.33	0.67	0.67	0.02	0.02
TOTAL Fugitive emissions for vehicles traveled on sealed road (paved)			**15.99**	**15.99**	**117.08**	**117.08**		**20.40**	**20.40**	**2.38**	**2.38**	**17.37**	**17.37**	**3.03**	**3.03**

Travel on paved road

$E = [k * (sL/2)^{0.65} * (W/3)^{1.5} - C] (1 - P/4N)$

EPA AP-42 Section 13.2.1 Paved Roads Equation 1
E = particulate emission factor (lb/VMT),
k = particle size multiplier for particle size range and units of interest

1.6 sL = road surface silt loading (grams per square meter) (g/m^2), From CARB - Emission Inventory Database - Section 7.8 SJV - Entrained Paved Road Dust - Rural Roads (emission inventory code: 640-643-5400-(
W = average weight (tons) of the vehicles traveling the road, and
C = emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear.

constants

	$PM_{2.5}$	PM_{10}
k	0.0024	0.016
C	0.00036	0.00047

12 P = Mean number of days per year with at least 0.01 inches of precipitation (from EL CENTRO 2 SSW COOP Station)
365 N = number of days in the year (averaging period)

Vehicle Type	No. Of Unit	Max Daily Distance per Vehicle (mile/day)	Assumed distance percentage to drive on paved road	Max Daily Distance per Vehicle to drive on paved road (mile/day)	Max Daily VMT (all units)	Mean Vehicle Weight (tons)	Max. Operating Hours / Day	Max. Operating Days / Month	$PM_{2.5}$ EF (lbs/VMT)	PM_{10} EF (lbs/VMT)
Washing Vehicle	35	7	0%	0	0	12	8	30	0.016	0.109
LRU Maintenance Truck with Boom	20	7	0%	0	0	10	8	30	0.012	0.083
Staff & Security Truck	5	33	0%	0	0	2.25	24	30	0.001	0.008
Rubber-wheeled forklift with telescoping boom	2	10	0%	0	0	4	8	30	0.003	0.021
Forklift	2	10	0%	0	0	3	8	30	0.002	0.013
Telescoping Man Lift	7	10	0%	0	0	3	8	30	0.002	0.013
Staff Cars	100	3	100%	3	300	2	2	30	0.001	0.007
Van Pooling	4	3	100%	3	12	4	2	30	0.003	0.021
Visitor Cars	8	3	100%	3	24	2	8	22	0.001	0.007
Operations and Maintenance Supplies truck	1	3	100%	3	3	5	2	5	0.004	0.029
Waste Management truck	1	3	100%	3	3	20	2	5	0.035	0.236
Hazardous Waste truck	1	3	100%	3	3	20	2	5	0.035	0.236
Transport Tractor Trailers truck	1	10	30%	3	3	20	2	5	0.035	0.236
	116									

Vehicle Type	Watering Control Efficiency		PM_{10} Emissions (lb/hr)		PM_{10} Emissions (lb/day)		% of daily emissions	PM_{10} Emissions (tons/year)		$PM_{2.5}$ Emissions (lb/hr)		$PM_{2.5}$ Emissions (lb/day)		$PM_{2.5}$ Emissions (tons/year)	
	Unmitigated	Mitigated[7]	Unmitigated	Mitigated[7]	Unmitigated	Mitigated[7]		Unmitigated	Mitigated[7]	Unmitigated	Mitigated[7]	Unmitigated	Mitigated[7]	Unmitigated	Mitigated[7]
Washing Vehicle	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LRU Maintenance Truck with Boom	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Staff & Security Truck	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rubber-wheeled forklift with telescoping boom	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Forklift	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Telescoping Man Lift	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Staff Cars	0%	0%	1.05	1.05	2.10	2.10	44.46%	0.38	0.38	0.11	0.11	0.23	0.23	0.04	0.04
Van Pooling	0%	0%	0.12	0.12	0.25	0.25	5.25%	0.04	0.04	0.02	0.02	0.03	0.03	0.01	0.01
Visitor Cars	0%	0%	0.02	0.02	0.17	0.17	3.56%	0.02	0.02	0.00	0.00	0.02	0.02	0.00	0.00
Operations and Maintenance Supplies truck	0%	0%	0.04	0.04	0.09	0.09	1.84%	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00
Waste Management truck	0%	0%	0.35	0.35	0.71	0.71	14.96%	0.02	0.02	0.05	0.05	0.11	0.11	0.00	0.00
Hazardous Waste truck	0%	0%	0.35	0.35	0.71	0.71	14.96%	0.02	0.02	0.05	0.05	0.11	0.11	0.00	0.00
Transport Tractor Trailers truck	0%	0%	0.35	0.35	0.71	0.71	14.96%	0.02	0.02	0.05	0.05	0.11	0.11	0.00	0.00
TOTAL Fugitive emissions for vehicles traveled on paved road			**2.30**	**2.30**	**4.73**	**4.73**		**0.51**	**0.51**	**0.30**	**0.30**	**0.61**	**0.61**	**0.06**	**0.06**

on-site fugitive

Vehicle Type	No. Of Unit	Max Daily Distance per Vehicle (mile/day)	Max. Operating Hours / Day	Assumed distance percentage to drive on sealed road (paved)	Assumed distance percentage to drive on paved road	Sealed Road - PM_{10} Fugitive Emissions (lb/day)	Paved Road - PM_{10} Fugitive Emissions (lb/day)	Total PM_{10} Fugitive Emissions (lb/day)
Washing Vehicle	35	7	8	100%	0%	72.68	0.00	72.68
LRU Maintenance Truck with Boom	20	7	8	100%	0%	31.58	0.00	31.58
Staff & Security Truck	5	33	24	100%	0%	3.90	0.00	3.90
Rubber-wheeled forklift with telescoping boom	2	10	8	100%	0%	1.13	0.00	1.13
Forklift	2	10	8	100%	0%	0.73	0.00	0.73
Telescoping Man Lift	7	10	8	100%	0%	2.57	0.00	2.57
Staff Cars	100	3	2	0%	100%	0.00	2.10	2.10
Van Pooling	4	3	2	0%	100%	0.00	0.25	0.25
Visitor Cars	8	3	8	0%	100%	0.00	0.17	0.17
Operations and Maintenance Supplies truck	1	3	2	0%	100%	0.00	0.09	0.09
Waste Management truck	1	3	2	0%	100%	0.00	0.71	0.71
Hazardous Waste truck	1	3	2	0%	100%	0.00	0.71	0.71
Transport Tractor Trailers truck	1	10	2	70%	30%	4.47	0.71	5.18
						117.08	**4.73**	**121.80**

Solar Two - Operation and Maintenance Equipment Emissions (off-site)

Emission Factors For Combustion Exhaust Emissions

Equipment Description	Horse-power	Vehicle Weight (lbs)	Fuel	Emission Factors (unit: g/mile or g/idle-hr for on-road vehicle and lb/hr for off-road equipment) PM_{10}	$PM_{2.5}$	CO	ROG	NO_x	SO_x	CO_2	CH_4	N_2O	Total GHG - CO_2e
On-road Vehicle													
Washing Vehicle (running)	driving on-site only												
Washing Vehicle (idling)													
LRU Maintenance Truck with Boom (running)													
LRU Maintenance Truck with Boom (idling)													
Staff & Security Truck													
Staff Cars	100	4,000	Gasoline & diesel	0.029	0.015	5.348	0.214	0.631	0.003	353.633	0.050	0.050	370.18
Van Pooling	150	8,000	Gasoline	0.034	0.020	1.236	0.035	0.068	0.014	1463.779	0.070	0.080	1490.05
Visitor Cars	100	4,000	Gasoline & diesel	0.029	0.015	5.348	0.214	0.631	0.003	353.633	0.050	0.050	370.18
Operations and Maintenance Supplies truck	200	10,000	Diesel	0.052	0.033	0.532	0.101	4.522	0.005	520.781	0.050	0.060	540.43
Waste Management truck	250	40,000	Diesel	0.562	0.479	3.034	0.658	14.818	0.016	1670.679	0.080	0.050	1687.86
Hazardous Waste truck	250	40,000	Diesel	0.562	0.479	3.034	0.658	14.818	0.016	1670.679	0.080	0.050	1687.86
Transport Tractor Trailers truck	250	40,000	Diesel	0.562	0.479	3.034	0.658	14.818	0.016	1670.679	0.080	0.050	1687.86
Off-road Equipment													
Rubber-wheeled forklift with telescoping boom	driving on-site only												
Forklift													
Telescoping Man Lift													

Note:

1. Vehicle description in EMFAC2007 model
   - Staff Car is Passenger Cars (LDA-ALL)
   - Van Pooling is Medium-Duty Trucks (MDV-CAT)
   - Visitor Cars is Passenger Cars (LDA-ALL)
   - Hydrogen Delivery Trucks is Heavy-Heavy-Duty (HHD-DSL)
   - Operations and Maintenance Supplies Delivery Truck is Light-Heavy-Duty (LHD1-DSL)
   - Waste Management Delivery Truck is Heavy-Heavy-Duty (HHD-DSL)
   - Hazardous Waste Delivery Truck is Heavy-Heavy-Duty (HHD-DSL)
   - Transport Tractor Trailer is Heavy-Heavy-Duty (HHD-DSL)
2. PM emission factors determined using guidance from SCAQMD Final - Methodology to Calculate PM_{10} and $PM_{2.5}$ Significance Thresholds 10/1/2006, Appendix A - Updated CEIDARS Table with $PM_{2.5}$ Fractions

   On-road vehicles
   - $PM_{2.5}$ Fraction of PM_{10}, Brake wear: 0.429
   - $PM_{2.5}$ Fraction of PM_{10}, Diesel: 0.920
   - $PM_{2.5}$ Fraction of PM_{10}, Gasoline-catalyst: 0.928
   - $PM_{2.5}$ Fraction of PM_{10}, Tire wear: 0.250
   - Assume $PM_{2.5}$ and PM_{10} Fraction of total PM for gasoline hybrid car is: 1.000
3. CO_2 emission factors for gasoline and diesel fuel on-road vehicles are from EMFAC2007 model.
4. CH_4 and N_2O emission factors for the running vehicles (non-hybrid) are from reference source 2: Table C.5 (highest EF from model year 1993 to present), California Climate Action Registry General Reporting Protocol Version 3.0, April 2007
5. Greenhouse Gas Global Warming Potential (GWP) - Intergovernmental Panel on Climate Change, Second Assessment Report (1996)
   - CO_2 GWP (SAR, 1996) = 1
   - CH_4 GWP (SAR, 1996) = 21
   - N_2O GWP (SAR, 1996) = 310

Daily Emissions For Combustion Exhaust Emissions

Equipment Description	No. Of Units	Max Daily Distance per Vehicle within Imperial County (mile/day)	Max Daily VMT (all units)	Max. Daily Emissions (lb/day) PM_{10}	$PM_{2.5}$	CO	ROG	NO_x	SO_x	CO_2	CH_4	N_2O	Total GHG - CO_2e
On-road Vehicle													
Washing Vehicle (running)													
Washing Vehicle (idling)													
LRU Maintenance Truck with Boom (running)													
LRU Maintenance Truck with Boom (idling)													
Staff & Security Truck													
Staff Cars	100	40.0	4,000	0.26	0.13	47.12	1.89	5.56	0.03	3,115.71	0.44	0.44	3,261.52
Van Pooling	4	40.0	160	0.01	0.01	0.44	0.01	0.02	0.00	515.87	0.02	0.03	525.13
Visitor Cars	8	50.0	400	0.03	0.01	4.71	0.19	0.56	0.00	311.57	0.04	0.04	326.15
Operations and Maintenance Supplies truck	1	50.0	50	0.01	0.00	0.06	0.01	0.50	0.00	57.35	0.01	0.01	59.52
Waste Management truck	1	50.0	50	0.06	0.05	0.33	0.07	1.63	0.00	184.00	0.01	0.01	185.89
Hazardous Waste truck	1	50.0	50	0.06	0.05	0.33	0.07	1.63	0.00	184.00	0.01	0.01	185.89
Transport Tractor Trailers truck	1	40.0	40	0.05	0.04	0.27	0.06	1.31	0.00	147.20	0.01	0.00	148.71
Off-road Equipment													
Rubber-wheeled forklift with telescoping boom													
Forklift													
Telescoping Man Lift													
Max. Daily Emissions Total (lb/day)				**0.47**	**0.30**	**53.26**	**2.30**	**11.21**	**0.04**	**4,515.69**	**0.54**	**0.53**	**4,692.81**

driving on-site only

Hourly Emissions For Combustion Exhaust Emissions

Equipment Description	Max. Operating Hours / Day	Max. Hourly Emissions (lb/hr) PM_{10}	$PM_{2.5}$	CO	ROG	NO_x	SO_x	CO_2	CH_4	N_2O	Total GHG - CO_2e
On-road Vehicle											
Washing Vehicle (running)											
Washing Vehicle (idling)											
LRU Maintenance Truck with Boom (running)											
LRU Maintenance Truck with Boom (idling)											
Staff & Security Truck											
Staff Cars	2	0.128	0.066	23.559	0.943	2.780	0.013	1,557.855	0.220	0.220	1,630.762
Van Pooling	2	0.006	0.003	0.218	0.006	0.012	0.002	257.935	0.012	0.014	262.564
Visitor Cars	8	0.003	0.002	0.589	0.024	0.069	0.000	38.946	0.006	0.006	40.769
Operations and Maintenance Supplies truck	2	0.003	0.002	0.029	0.006	0.249	0.000	28.677	0.003	0.003	29.759
Waste Management truck	2	0.031	0.026	0.167	0.036	0.816	0.001	91.998	0.004	0.003	92.944
Hazardous Waste truck	2	0.031	0.026	0.167	0.036	0.816	0.001	91.998	0.004	0.003	92.944
Transport Tractor Trailers truck	2	0.025	0.021	0.134	0.029	0.653	0.001	73.598	0.004	0.002	74.355
Off-road Equipment											
Rubber-wheeled forklift with telescoping boom											
Forklift											
Telescoping Man Lift											
Max. Hourly Emissions Total (lb/hour)		**0.23**	**0.15**	**24.86**	**1.08**	**5.39**	**0.02**	**2,141.01**	**0.25**	**0.25**	**2,224.10**

driving on-site only

Yearly Emissions For Combustion Exhaust Emissions

Equipment Description	Max. Operating Days / Month	Max. Annual Emissions (ton/year) PM_{10}	$PM_{2.5}$	CO	ROG	NO_x	SO_x	CO_2	CH_4	N_2O	Total GHG - CO_2e
On-road Vehicle											
Washing Vehicle (running)											
Washing Vehicle (idling)											
LRU Maintenance Truck with Boom (running)											
LRU Maintenance Truck with Boom (idling)											
Staff & Security Truck											
Staff Cars	30	0.05	0.02	8.48	0.34	1.00	0.00	560.83	0.08	0.08	587.07
Van Pooling	30	0.00	0.00	0.08	0.00	0.00	0.00	92.86	0.00	0.01	94.52
Visitor Cars	22	0.00	0.00	0.62	0.02	0.07	0.00	41.13	0.01	0.01	43.05
Operations and Maintenance Supplies truck	5	0.00	0.00	0.00	0.00	0.01	0.00	1.72	0.00	0.00	1.79
Waste Management truck	5	0.00	0.00	0.01	0.00	0.05	0.00	5.52	0.00	0.00	5.58
Hazardous Waste truck	5	0.00	0.00	0.01	0.00	0.05	0.00	5.52	0.00	0.00	5.58
Transport Tractor Trailers truck	5	0.00	0.00	0.01	0.00	0.04	0.00	4.42	0.00	0.00	4.46
Off-road Equipment											
Rubber-wheeled forklift with telescoping boom											
Forklift											
Telescoping Man Lift											
Max. Annual Emissions Total (ton/year)		**0.06**	**0.03**	**9.21**	**0.37**	**1.23**	**0.01**	**711.99**	**0.09**	**0.09**	**742.05**

driving on-site only

Solar Two
Fugitive Dust Emissions (off-site)

Travel on paved road

$E = [k * (sL/2)^{0.65} * (W/3)^{1.5} - C] (1 - P/4N)$ EPA AP-42 Section 13.2.1 Paved Roads Equation 2
E = particulate emission factor (lb/VMT),
k = particle size multiplier for particle size range and units of interest
0.32 sL = road surface silt loading (grams per square meter) (g/m^2), From CARB - Emission Inventory Database - Section 7.9 Entrained Paved Road Dust - Local Streets (emission inventory code: 640-641-5400-0000)
W = average weight (tons) of the vehicles traveling the road, and
C = emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear.

constants

	$PM_{2.5}$	PM_{10}
k	0.0024	0.016
C	0.00036	0.00047

12 P = Mean number of days per year with at least 0.01 inches of precipitation (from EL CENTRO 2 SSW COOP Station)
365 N = number of days in the year (averaging period)

Vehicle Type	No. Of Unit	Max Daily Distance per Vehicle (mile/day)	Assumed distance percentage to drive on paved road	Max Daily Distance per Vehicle to drive on paved road (mile/day)	Max Daily VMT (all units)	Mean Vehicle Weight (tons)	Max. Operating Hours / Day	Max. Operating Days / Month	$PM_{2.5}$ EF (lbs/VMT)	PM_{10} EF (lbs/VMT)
Washing Vehicle	driving on-site only									
LRU Maintenance Truck with Boom										
Staff & Security Truck										
Rubber-wheeled forklift with telescoping boom										
Forklift										
Telescoping Man Lift										
Staff Cars	100	40.0	100%	40	4000	2	2	30	0.000	0.002
Van Pooling	4	40.0	100%	40	160	4	2	30	0.001	0.007
Visitor Cars	8	50.0	100%	50	400	2	8	22	0.000	0.002
Operations and Maintenance Supplies truck	1	50.0	100%	50	50	5	2	5	0.001	0.010
Waste Management truck	1	50.0	100%	50	50	20	2	5	0.012	0.083
Hazardous Waste truck	1	50.0	100%	50	50	20	2	5	0.012	0.083
Transport Tractor Trailers truck	1	40.0	100%	40	40	20	2	5	0.012	0.083

Vehicle Type	Watering Control Efficiency		PM_{10} Emissions (lb/hr)		PM_{10} Emissions (lb/day)		% of daily emissions	PM_{10} Emissions (tons/year)		$PM_{2.5}$ Emissions (lb/hr)		$PM_{2.5}$ Emissions (lb/day)		$PM_{2.5}$ Emissions (tons/year)	
	Unmitigated	Mitigated[7]	Unmitigated	Mitigated[7]	Unmitigated	Mitigated[7]		Unmitigated	Mitigated[7]	Unmitigated	Mitigated[7]	Unmitigated	Mitigated[7]	Unmitigated	Mitigated[7]
Washing Vehicle	driving on-site only														
LRU Maintenance Truck with Boom															
Staff & Security Truck															
Rubber-wheeled forklift with telescoping boom															
Forklift															
Telescoping Man Lift															
Staff Cars	0%	0%	4.32	4.32	8.63	8.63	38.10%	1.55	1.55	0.07	0.07	0.15	0.15	0.03	0.03
Van Pooling	0%	0%	0.56	0.56	1.11	1.11	4.91%	0.20	0.20	0.06	0.06	0.12	0.12	0.02	0.02
Visitor Cars	0%	0%	0.11	0.11	0.86	0.86	3.81%	0.11	0.11	0.00	0.00	0.01	0.01	0.00	0.00
Operations and Maintenance Supplies truck	0%	0%	0.25	0.25	0.50	0.50	2.19%	0.01	0.01	0.03	0.03	0.06	0.06	0.00	0.00
Waste Management truck	0%	0%	2.06	2.06	4.13	4.13	18.21%	0.12	0.12	0.30	0.30	0.60	0.60	0.02	0.02
Hazardous Waste truck	0%	0%	2.06	2.06	4.13	4.13	18.21%	0.12	0.12	0.30	0.30	0.60	0.60	0.02	0.02
Transport Tractor Trailers truck	0%	0%	1.65	1.65	3.30	3.30	14.57%	0.10	0.10	0.24	0.24	0.48	0.48	0.01	0.01
TOTAL Fugitive emissions for vehicles traveled on paved road			**11.01**	**11.01**	**22.66**	**22.66**		**2.23**	**2.23**	**1.01**	**1.01**	**2.04**	**2.04**	**0.10**	**0.10**

off-site fugitive

Vehicle Type	No. Of Unit	Max Daily Distance per Vehicle (mile/day)	Max. Operating Hours / Day	Assumed distance percentage to drive on unpaved road	Assumed distance percentage to drive on paved road	Unpaved Road - PM_{10} Fugitive Emissions (lb/day)	Paved Road - PM_{10} Fugitive Emissions (lb/day)	Total PM_{10} Fugitive Emissions (lb/day)
Washing Vehicle								
LRU Maintenance Truck with Boom								
Staff & Security Truck								
Rubber-wheeled forklift with telescoping boom								
Forklift								
Telescoping Man Lift								
Staff Cars	100	40	2	0%	100%	0.00	8.63	8.63
Van Pooling	4	40	2	0%	100%	0.00	1.11	1.11
Visitor Cars	8	50	8	0%	100%	0.00	0.86	0.86
Operations and Maintenance Supplies truck	1	50	2	0%	100%	0.00	0.50	0.50
Waste Management truck	1	50	2	0%	100%	0.00	4.13	4.13
Hazardous Waste truck	1	50	2	0%	100%	0.00	4.13	4.13
Transport Tractor Trailers truck	1	40	2	0%	100%	0.00	3.30	3.30
						0.00	**22.66**	**22.66**

driving on-site only

Reference source 1: Table C.4, California Climate Action Registry General Reporting Protocol Version 3.0, April 2008

Table C.4: Carbon Dioxide Emission Factors for Transport Fuels

Fuel	Carbon Content	Heat Content	Fraction Oxidized	CO_2 Emission Factor
	kg C/MMBtu	MMBtu/barrel		kg CO_2/gallon
Aviation Gasoline	18.87	5.048	1.00	8.32
Biodiesel (B100)* +	NA	NA	1.00	9.46
Crude Oil	20.33	5.80	1.00	10.29
Diesel	19.95	5.825	1.00	10.15
Ethanol (E100)* +	17.99	3.539	1.00	5.56
Jet Fuel (Jet A or A-1)	19.33	5.670	1.00	9.57
Kerosene	19.72	5.670	1.00	9.76
Liquefied Natural Gas (LNG)+	NA	NA	1.00	4.46
Liquefied Petroleum Gas (LPG)+	17.23	3.849	1.00	5.79
Ethane	16.25	2.916	1.00	4.14
Isobutane	17.75	4.162	1.00	6.45
n-Butane	17.72	4.328	1.00	6.70
Propane	17.20	3.824	1.00	5.74
Methanol	NA	NA	1.00	4.10
Motor Gasoline	19.33	5.218	1.00	8.81
Residual Fuel Oil (#5, 6)	21.49	6.287	1.00	11.80
	kg C/MMBtu	Btu/standard cubic foot		kg CO_2/therm
Compressed Natural Gas (CNG)+	14.47	1027	1.00	5.31

Reference source 2: Table C.5, California Climate Action Registry General Reporting Protocol Version 3.0, April 2008

Table C.5: Methane and Nitrous Oxide Emission Factors for Mobile Sources by Vehicle and Fuel Type

Vehicle Types/Model Years	CH_4 (g/mile)	N_2O (g/mile)
Passenger Cars - Gasoline		
Model Year 1966-1972	0.22	0.02
Model Year 1973-1974	0.19	0.02
Model Year 1975-1979	0.11	0.05
Model Year 1980-1983	0.07	0.08
Model Year 1984-1991	0.06	0.08
Model Year 1992	0.06	0.07
Model Year 1993	0.05	0.05
Model Year 1994-1999	0.05	0.04
Model Year 2000– present	0.04	0.04
Passenger Cars - Alternative Fuels and Diesel		
CNG Model Year 2000– present	0.04	0.04
LPG Model Year 2000– present	0.04	0.04
E85 Model Year 2000– present	0.04	0.04
Diesel all model years	0.01	0.02
Light Duty Truck (<5750 GVWR*) - Gasoline		
Model Year 1966-1972	0.22	0.02
Model Year 1973-1974	0.23	0.02
Model Year 1975-1979	0.14	0.07
Model Year 1980-1983	0.12	0.13
Model Year 1984-1991	0.11	0.14
Model Year 1992	0.09	0.11
Model Year 1993	0.07	0.08
Model Year 1994-1999	0.06	0.06
Model Year 2000– present	0.05	0.06

Table C.5: Methane and Nitrous Oxide Emission Factors for Mobile Sources by Vehicle and Fuel Type (continued)

Vehicle Types/Model Years	CH_4 (g/mile)	N_2O (g/mile)
Light Duty Truck - Alternative Fuels and Diesel		
CNG Model Year 2000– present	0.05	0.06
LPG Model Year 2000– present	0.05	0.06
E85 Model Year 2000– present	0.05	0.06
Diesel all model years	0.01	0.03
Heavy-Duty Vehicle (>5751 GVWR) - Gasoline		
Model Year 1981 and older	0.43	0.04
Model Year 1982-1984	0.42	0.05
Model Year 1985-1986	0.20	0.05
Model Year 1987	0.18	0.09
Model Year 1988-1989	0.17	0.09
Model Year 1990-present	0.12	0.20
Heavy Duty Trucks - Diesel and Alternative Fuels		
Model Year 1966-1982	0.10	0.05
Model Year 1983-1995	0.08	0.05
Model Year 1996 to present	0.06	0.05
CNG, LNG	3.48	0.05
FTD, Biodiesel	0.06	0.05
Motorcycles		
Model Year 1966-1995	0.42	0.01
Model Year 1996-present	0.09	0.01
Off-Road Vehicles/Construction Equipment by Fuel Type		
	CH_4 (kg/gallon)	N_2O (kg/gallon)
Butane	9.1×10^{-5}	4.1×10^{-4}
Distillate Fuel	.0014	.0001
Liquefied Petroleum Gas (LPG)	.0010	.0001
Motor Gasoline	.0013	.0001
Propane	9.1×10^{-5}	4.1×10^{-4}

Summary of Current and Historical Light-Duty Vehicle Emission Standards

US EPA Federal Light-Duty Vehicle Emission Standards for Air Pollutants

Tier 2 Program

Standard	Model Year	Vehicles	Emission Limits at Full Useful Life (100,000-120,000 miles) Maximum Allowed Grams per Mile					Air Pollution Score
			NOx	NMOG	CO	PM	HCHO	
Bin 1	2004+	LDV, LLDT, HLDT, MDPV	0.00	0.000	0.0	0.0	0.0	10
Bin 2	2004+	LDV, LLDT, HLDT, MDPV	0.02	0.010	2.1	0.01	0.004	9
Bin 3	2004+	LDV, LLDT, HLDT, MDPV	0.03	0.055	2.1	0.01	0.011	8
Bin 4	2004+	LDV, LLDT, HLDT, MDPV	0.04	0.070	2.1	0.01	0.011	7
Bin 5	2004+	LDV, LLDT, HLDT, MDPV	0.07	0.090	4.2	0.01	0.018	6
Bin 6	2004+	LDV, LLDT, HLDT, MDPV	0.10	0.090	4.2	0.01	0.018	5
Bin 7	2004+	LDV, LLDT, HLDT, MDPV	0.15	0.090	4.2	0.02	0.018	4
Bin 8a	2004+	LDV, LLDT, HLDT, MDPV	0.20	0.125	4.2	0.02	0.018	3
Bin 8b	2004-2008	HLDT, MDPV	0.20	0.156	4.2	0.02	0.018	3
Bin 9a	2004-2006	LDV, LLDT	0.30	0.090	4.2	0.06	0.018	2
Bin 9b	2004-2006	LDT2	0.30	0.130	4.2	0.06	0.018	2
Bin 9c	2004-2008	HLDT, MDPV	0.30	0.180	4.2	0.06	0.018	2
Bin 10a	2004-2006	LDV, LLDT	0.60	0.156	4.2	0.08	0.018	1
Bin 10b	2004-2008	HLDT, MDPV	0.60	0.230	6.4	0.08	0.027	1
Bin 10c	2004-2008	LDT4, MDPV	0.60	0.280	6.4	0.08	0.027	1
Bin 11	2004-2008	MDPV	0.90	0.280	7.3	0.12	0.032	0

Title : Solar Two Project - for New MY Operational Vehicles (2009)
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2009/01/22 15:38:39
Scen Year: 2009 -- Model year 2009 selected
Season : Annual
Area : Imperial
****
Year: 2009 -- Model Years 2009 to 2009 Inclusive -- Annual
Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average | Imperial | County Average

Table 1: Running Exhaust Emissions (grams/mile; grams/idle-hour)

Pollutant Name: Reactive Org Gases Temperature: 90F Relative Humidity: 10%

Speed MPH	LDA NCAT	LDA CAT	LDA DSL	LDA ALL	LDT1 NCAT	LDT1 CAT	LDT1 DSL	LDT1 ALL	LDT2 NCAT	LDT2 CAT	LDT2 DSL	LDT2 ALL	MDV NCAT	MDV CAT	MDV DSL	MDV ALL	LHD1 NCAT	LHD1 CAT	LHD1 DSL	LHD1 ALL	LHD2 NCAT	LHD2 CAT	LHD2 DSL	LHD2 ALL	MHD NCAT	MHD CAT	MHD DSL	MHD ALL	HHD NCAT	HHD CAT	HHD DSL	HHD ALL	OBUS NCAT	OBUS CAT	OBUS DSL	OBUS ALL	UBUS NCAT	UBUS CAT	UBUS DSL	UBUS ALL	MCY NCAT	MCY CAT	MCY DSL	MCY ALL	SBUS NCAT	SBUS CAT	SBUS DSL	SBUS ALL	MH NCAT	MH CAT	MH DSL	MH ALL	ALL NCAT	ALL CAT	ALL DSL	ALL ALL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27.137	3.173	22.607	0	27.137	3.173	17.068	0	27.137	3.173	7.73	0	0	7.652	7.54	0	27.137	3.173	7.73	0	0	0	0	0	0	0	0	0	0	0	27.137	3.173	6.512	0	0	0	0	0	0.775	7.087	1.588
10	0	0.045	0	0.045	0	0.02	0	0.02	0	0.031	0	0.031	0	0.035	0	0.035	0	0.027	0.163	0.053	0	0.027	0.163	0.084	0	0.041	0.102	0.091	0	0.808	1.032	1.029	0	0.041	0.102	0.091	0	0.041	0.063	0.05	4.355	3.138	0	3.537	0	0.041	0.092	0.085	0	0.041	0.085	0.045	4.355	0.06	0.919	0.182
50	0	0.008	0	0.008	0	0.004	0	0.004	0	0.006	0	0.006	0	0.007	0	0.007	0	0.004	0.052	0.013	0	0.004	0.052	0.024	0	0.006	0.033	0.028	0	0.09	0.136	0.135	0	0.006	0.033	0.028	0	0.006	0.017	0.01	3.358	1.745	0	2.274	0	0.006	0.029	0.026	0	0.006	0.027	0.008	3.358	0.019	0.124	0.041

Pollutant Name: Carbon Monoxide Temperature: 90F Relative Humidity: 10%

Speed MPH	LDA NCAT	LDA CAT	LDA DSL	LDA ALL	LDT1 NCAT	LDT1 CAT	LDT1 DSL	LDT1 ALL	LDT2 NCAT	LDT2 CAT	LDT2 DSL	LDT2 ALL	MDV NCAT	MDV CAT	MDV DSL	MDV ALL	LHD1 NCAT	LHD1 CAT	LHD1 DSL	LHD1 ALL	LHD2 NCAT	LHD2 CAT	LHD2 DSL	LHD2 ALL	MHD NCAT	MHD CAT	MHD DSL	MHD ALL	HHD NCAT	HHD CAT	HHD DSL	HHD ALL	OBUS NCAT	OBUS CAT	OBUS DSL	OBUS ALL	UBUS NCAT	UBUS CAT	UBUS DSL	UBUS ALL	MCY NCAT	MCY CAT	MCY DSL	MCY ALL	SBUS NCAT	SBUS CAT	SBUS DSL	SBUS ALL	MH NCAT	MH CAT	MH DSL	MH ALL	ALL NCAT	ALL CAT	ALL DSL	ALL ALL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	155.23	26.3	130.861	0	155.23	26.3	101.057	0	155.23	26.3	50.819	0	0	41.429	40.822	0	155.23	26.3	50.819	0	0	0	0	0	0	0	0	0	0	0	155.23	26.3	44.264	0	0	0	0	0	4.434	39.506	8.951
10	0	1.171	0	1.171	0	0.662	0	0.662	0	0.983	0	0.983	0	1.236	0	1.236	0	0.324	1.131	0.477	0	0.324	1.131	0.663	0	0.499	1.555	1.354	0	44.397	2.233	2.851	0	0.499	1.555	1.354	0	0.526	2.506	1.259	37.043	12.264	0	20.392	0	0.492	1.397	1.271	0	0.488	1.292	0.548	37.043	1.225	2.124	1.439
50	0	0.617	0	0.617	0	0.349	0	0.349	0	0.518	0	0.518	0	0.652	0	0.652	0	0.09	0.297	0.129	0	0.09	0.297	0.177	0	0.139	0.409	0.358	0	12.344	0.858	1.026	0	0.139	0.409	0.358	0	0.146	0.535	0.29	48.856	8.3	0	21.602	0	0.137	0.367	0.335	0	0.136	0.34	0.151	48.856	0.634	0.795	0.787

Pollutant Name: Oxides of Nitrogen Temperature: 90F Relative Humidity: 10%

Speed MPH	LDA NCAT	LDA CAT	LDA DSL	LDA ALL	LDT1 NCAT	LDT1 CAT	LDT1 DSL	LDT1 ALL	LDT2 NCAT	LDT2 CAT	LDT2 DSL	LDT2 ALL	MDV NCAT	MDV CAT	MDV DSL	MDV ALL	LHD1 NCAT	LHD1 CAT	LHD1 DSL	LHD1 ALL	LHD2 NCAT	LHD2 CAT	LHD2 DSL	LHD2 ALL	MHD NCAT	MHD CAT	MHD DSL	MHD ALL	HHD NCAT	HHD CAT	HHD DSL	HHD ALL	OBUS NCAT	OBUS CAT	OBUS DSL	OBUS ALL	UBUS NCAT	UBUS CAT	UBUS DSL	UBUS ALL	MCY NCAT	MCY CAT	MCY DSL	MCY ALL	SBUS NCAT	SBUS CAT	SBUS DSL	SBUS ALL	MH NCAT	MH CAT	MH DSL	MH ALL	ALL NCAT	ALL CAT	ALL DSL	ALL ALL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.79	75.051	15.637	0	1.79	75.051	32.572	0	1.79	75.051	61.119	0	0	123.519	121.71	0	1.79	75.051	61.119	0	0	0	0	0	0	0	0	0	0	0	1.79	75.051	64.843	0	0	0	0	0	0.051	117.367	15.202
10	0	0.1	0	0.1	0	0.04	0	0.04	0	0.064	0	0.064	0	0.068	0	0.068	0	0.074	3.57	0.735	0	0.074	3.57	1.543	0	0.114	4.229	3.447	0	2.36	12.219	12.074	0	0.114	4.229	3.447	0	0.138	0.906	0.422	1.129	1.191	0	1.171	0	0.113	4.202	3.632	0	0.115	4.183	0.419	1.129	0.094	11.176	1.528
50	0	0.062	0	0.062	0	0.025	0	0.025	0	0.04	0	0.04	0	0.042	0	0.042	0	0.102	2.876	0.627	0	0.102	2.876	1.268	0	0.158	3.408	2.79	0	3.271	4.822	4.799	0	0.158	3.408	2.79	0	0.191	0.642	0.358	1.569	1.037	0	1.211	0	0.157	3.385	2.936	0	0.16	3.371	0.4	1.569	0.065	4.613	0.657

Pollutant Name: Carbon Dioxide Temperature: 90F Relative Humidity: 10%

Speed MPH	LDA NCAT	LDA CAT	LDA DSL	LDA ALL	LDT1 NCAT	LDT1 CAT	LDT1 DSL	LDT1 ALL	LDT2 NCAT	LDT2 CAT	LDT2 DSL	LDT2 ALL	MDV NCAT	MDV CAT	MDV DSL	MDV ALL	LHD1 NCAT	LHD1 CAT	LHD1 DSL	LHD1 ALL	LHD2 NCAT	LHD2 CAT	LHD2 DSL	LHD2 ALL	MHD NCAT	MHD CAT	MHD DSL	MHD ALL	HHD NCAT	HHD CAT	HHD DSL	HHD ALL	OBUS NCAT	OBUS CAT	OBUS DSL	OBUS ALL	UBUS NCAT	UBUS CAT	UBUS DSL	UBUS ALL	MCY NCAT	MCY CAT	MCY DSL	MCY ALL	SBUS NCAT	SBUS CAT	SBUS DSL	SBUS ALL	MH NCAT	MH CAT	MH DSL	MH ALL	ALL NCAT	ALL CAT	ALL DSL	ALL ALL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4776.9	4098	4648.583	0	4776.9	4098	4491.644	0	4776.9	4098	4227.108	0	0	6617.134	6520.218	0	4776.9	4098	4227.108	0	0	0	0	0	0	0	0	0	0	0	4776.9	4098	4192.593	0	0	0	0	0	136.452	6297.202	931.734
10	0	858.388	0	858.388	0	1076.264	0	1076.264	0	1076.264	0	1076.264	0	1463.779	0	1463.779	0	1672.267	519	1454.292	0	1672.267	519	1187.695	0	1672.267	1505	1536.809	0	1672.267	3165.447	3143.577	0	1672.267	1505	1536.809	0	1672.267	2151.152	1849.526	199.079	233.302	0	222.077	0	1672.267	1505	1528.306	0	1672.267	1505	1659.767	199.079	1017.944	2899.926	1258.758
50	0	354.33	0	354.33	0	444.082	0	444.082	0	444.082	0	444.082	0	603.977	0	603.977	0	464.953	519	475.168	0	464.953	519	487.662	0	464.953	1505	1307.212	0	464.953	1670.679	1653.02	0	464.953	1505	1307.212	0	464.953	2151.152	1089.098	99.654	181.779	0	154.842	0	464.953	1505	1360.087	0	464.953	1505	542.676	99.654	413.512	1592.876	564.966

Pollutant Name: Sulfur Dioxide Temperature: 90F Relative Humidity: 10%

Speed MPH	LDA NCAT	LDA CAT	LDA DSL	LDA ALL	LDT1 NCAT	LDT1 CAT	LDT1 DSL	LDT1 ALL	LDT2 NCAT	LDT2 CAT	LDT2 DSL	LDT2 ALL	MDV NCAT	MDV CAT	MDV DSL	MDV ALL	LHD1 NCAT	LHD1 CAT	LHD1 DSL	LHD1 ALL	LHD2 NCAT	LHD2 CAT	LHD2 DSL	LHD2 ALL	MHD NCAT	MHD CAT	MHD DSL	MHD ALL	HHD NCAT	HHD CAT	HHD DSL	HHD ALL	OBUS NCAT	OBUS CAT	OBUS DSL	OBUS ALL	UBUS NCAT	UBUS CAT	UBUS DSL	UBUS ALL	MCY NCAT	MCY CAT	MCY DSL	MCY ALL	SBUS NCAT	SBUS CAT	SBUS DSL	SBUS ALL	MH NCAT	MH CAT	MH DSL	MH ALL	ALL NCAT	ALL CAT	ALL DSL	ALL ALL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.049	0.039	0.047	0	0.049	0.039	0.045	0	0.049	0.039	0.041	0	0	0.063	0.062	0	0.049	0.039	0.041	0	0	0	0	0	0	0	0	0	0	0	0.049	0.039	0.041	0	0	0	0	0	0.001	0.06	0.009
10	0	0.008	0	0.008	0	0.01	0	0.01	0	0.01	0	0.01	0	0.014	0	0.014	0	0.016	0.005	0.014	0	0.016	0.005	0.011	0	0.016	0.014	0.015	0	0.017	0.03	0.03	0	0.016	0.014	0.015	0	0.016	0.021	0.018	0.003	0.003	0	0.003	0	0.016	0.014	0.015	0	0.016	0.014	0.016	0.003	0.01	0.028	0.012
50	0	0.003	0	0.003	0	0.004	0	0.004	0	0.004	0	0.004	0	0.006	0	0.006	0	0.004	0.005	0.005	0	0.004	0.005	0.005	0	0.004	0.014	0.012	0	0.005	0.016	0.016	0	0.004	0.014	0.012	0	0.004	0.021	0.01	0.002	0.002	0	0.002	0	0.004	0.014	0.013	0	0.004	0.014	0.005	0.002	0.004	0.015	0.005

Pollutant Name: PM10 Temperature: 90F Relative Humidity: 10%

Speed MPH	LDA NCAT	LDA CAT	LDA DSL	LDA ALL	LDT1 NCAT	LDT1 CAT	LDT1 DSL	LDT1 ALL	LDT2 NCAT	LDT2 CAT	LDT2 DSL	LDT2 ALL	MDV NCAT	MDV CAT	MDV DSL	MDV ALL	LHD1 NCAT	LHD1 CAT	LHD1 DSL	LHD1 ALL	LHD2 NCAT	LHD2 CAT	LHD2 DSL	LHD2 ALL	MHD NCAT	MHD CAT	MHD DSL	MHD ALL	HHD NCAT	HHD CAT	HHD DSL	HHD ALL	OBUS NCAT	OBUS CAT	OBUS DSL	OBUS ALL	UBUS NCAT	UBUS CAT	UBUS DSL	UBUS ALL	MCY NCAT	MCY CAT	MCY DSL	MCY ALL	SBUS NCAT	SBUS CAT	SBUS DSL	SBUS ALL	MH NCAT	MH CAT	MH DSL	MH ALL	ALL NCAT	ALL CAT	ALL DSL	ALL ALL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.763	0.144	0	0	0.763	0.321	0	0	0.763	0.618	0	0	0.135	0.133	0	0	0.763	0.618	0	0	0	0	0	0	0	0	0	0	0	0	0.763	0.657	0	0	0	0	0	0	0.213	0.028
10	0	0.007	0	0.007	0	0.007	0	0.007	0	0.014	0	0.013	0	0.013	0	0.013	0	0.004	0.047	0.012	0	0.004	0.047	0.022	0	0.005	0.204	0.166	0	0.016	0.051	0.05	0	0.005	0.204	0.166	0	0.008	0.077	0.034	0.063	0.004	0	0.024	0	0.003	0.196	0.169	0	0.001	0.184	0.015	0.063	0.009	0.061	0.016
50	0	0.001	0	0.001	0	0.001	0	0.001	0	0.003	0	0.003	0	0.003	0	0.003	0	0.001	0.015	0.003	0	0.001	0.015	0.007	0	0.001	0.065	0.053	0	0.002	0.061	0.06	0	0.001	0.065	0.053	0	0.001	0.021	0.008	0.049	0.002	0	0.018	0	0	0.063	0.054	0	0	0.059	0.005	0.049	0.002	0.059	0.009

Pollutant Name: PM10 - Tire Wear Temperature: 90F Relative Humidity: 10%

Speed MPH	LDA NCAT	LDA CAT	LDA DSL	LDA ALL	LDT1 NCAT	LDT1 CAT	LDT1 DSL	LDT1 ALL	LDT2 NCAT	LDT2 CAT	LDT2 DSL	LDT2 ALL	MDV NCAT	MDV CAT	MDV DSL	MDV ALL	LHD1 NCAT	LHD1 CAT	LHD1 DSL	LHD1 ALL	LHD2 NCAT	LHD2 CAT	LHD2 DSL	LHD2 ALL	MHD NCAT	MHD CAT	MHD DSL	MHD ALL	HHD NCAT	HHD CAT	HHD DSL	HHD ALL	OBUS NCAT	OBUS CAT	OBUS DSL	OBUS ALL	UBUS NCAT	UBUS CAT	UBUS DSL	UBUS ALL	MCY NCAT	MCY CAT	MCY DSL	MCY ALL	SBUS NCAT	SBUS CAT	SBUS DSL	SBUS ALL	MH NCAT	MH CAT	MH DSL	MH ALL	ALL NCAT	ALL CAT	ALL DSL	ALL ALL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0.008	0	0.008	0	0.008	0	0.008	0	0.008	0	0.008	0	0.008	0	0.008	0	0.012	0.012	0.012	0	0.012	0.012	0.012	0	0.012	0.012	0.012	0	0.012	0.036	0.036	0	0.012	0.012	0.012	0	0.012	0.008	0.011	0.004	0.004	0	0.004	0	0.012	0.012	0.012	0	0.012	0.012	0.012	0.004	0.008	0.033	0.011
50	0	0.008	0	0.008	0	0.008	0	0.008	0	0.008	0	0.008	0	0.008	0	0.008	0	0.012	0.012	0.012	0	0.012	0.012	0.012	0	0.012	0.012	0.012	0	0.012	0.036	0.036	0	0.012	0.012	0.012	0	0.012	0.008	0.011	0.004	0.004	0	0.004	0	0.012	0.012	0.012	0	0.012	0.012	0.012	0.004	0.008	0.033	0.011

Pollutant Name: PM10 - Break Wear Temperature: 90F Relative Humidity: 10%

Speed MPH	LDA NCAT	LDA CAT	LDA DSL	LDA ALL	LDT1 NCAT	LDT1 CAT	LDT1 DSL	LDT1 ALL	LDT2 NCAT	LDT2 CAT	LDT2 DSL	LDT2 ALL	MDV NCAT	MDV CAT	MDV DSL	MDV ALL	LHD1 NCAT	LHD1 CAT	LHD1 DSL	LHD1 ALL	LHD2 NCAT	LHD2 CAT	LHD2 DSL	LHD2 ALL	MHD NCAT	MHD CAT	MHD DSL	MHD ALL	HHD NCAT	HHD CAT	HHD DSL	HHD ALL	OBUS NCAT	OBUS CAT	OBUS DSL	OBUS ALL	UBUS NCAT	UBUS CAT	UBUS DSL	UBUS ALL	MCY NCAT	MCY CAT	MCY DSL	MCY ALL	SBUS NCAT	SBUS CAT	SBUS DSL	SBUS ALL	MH NCAT	MH CAT	MH DSL	MH ALL	ALL NCAT	ALL CAT	ALL DSL	ALL ALL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0.013	0	0.013	0	0.013	0	0.013	0	0.013	0	0.013	0	0.013	0	0.013	0	0.013	0.013	0.013	0	0.013	0.013	0.013	0	0.013	0.013	0.013	0	0.028	0.028	0.028	0	0.013	0.013	0.013	0	0.013	0.013	0.013	0.006	0.006	0	0.006	0	0.013	0.013	0.013	0	0.013	0.013	0.013	0.006	0.006	0.026	0.014
50	0	0.013	0	0.013	0	0.013	0	0.013	0	0.013	0	0.013	0	0.013	0	0.013	0	0.013	0.013	0.013	0	0.013	0.013	0.013	0	0.013	0.013	0.013	0	0.028	0.028	0.028	0	0.013	0.013	0.013	0	0.013	0.013	0.013	0.006	0.006	0	0.006	0	0.013	0.013	0.013	0	0.013	0.013	0.013	0.006	0.013	0.026	0.014

Pollutant Name: Gasoline - mi/gal Temperature: 90F Relative Humidity: 10%

Speed MPH	LDA NCAT	LDA CAT	LDA DSL	LDA ALL	LDT1 NCAT	LDT1 CAT	LDT1 DSL	LDT1 ALL	LDT2 NCAT	LDT2 CAT	LDT2 DSL	LDT2 ALL	MDV NCAT	MDV CAT	MDV DSL	MDV ALL	LHD1 NCAT	LHD1 CAT	LHD1 DSL	LHD1 ALL	LHD2 NCAT	LHD2 CAT	LHD2 DSL	LHD2 ALL	MHD NCAT	MHD CAT	MHD DSL	MHD ALL	HHD NCAT	HHD CAT	HHD DSL	HHD ALL	OBUS NCAT	OBUS CAT	OBUS DSL	OBUS ALL	UBUS NCAT	UBUS CAT	UBUS DSL	UBUS ALL	MCY NCAT	MCY CAT	MCY DSL	MCY ALL	SBUS NCAT	SBUS CAT	SBUS DSL	SBUS ALL	MH NCAT	MH CAT	MH DSL	MH ALL	ALL NCAT	ALL CAT	ALL DSL	ALL ALL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	10.299	0	10.299	0	8.225	0	8.225	0	8.22	0	8.22	0	6.045	0	6.045	0	5.297	0	5.297	0	5.297	0	5.297	0	5.296	0	5.296	0	5.079	0	5.079	0	5.296	0	5.296	0	5.296	0	5.296	32.659	33.722	0	33.374	0	5.296	0	5.296	0	5.296	0	5.296	32.659	9.168	0	9.242
50	0	24.938	0	24.938	0	19.929	0	19.929	0	19.916	0	19.916	0	14.646	0	14.646	0	19.052	0	19.052	0	19.052	0	19.052	0	19.048	0	19.048	0	18.279	0	18.279	0	19.048	0	19.048	0	19.048	0	19.048	47.305	44.169	0	45.198	0	19.048	0	19.048	0	19.048	0	19.048	47.305	22.158	0	22.237

Pollutant Name: Diesel - mi/gal Temperature: 90F Relative Humidity: 10%

Speed MPH	LDA NCAT	LDA CAT	LDA DSL	LDA ALL	LDT1 NCAT	LDT1 CAT	LDT1 DSL	LDT1 ALL	LDT2 NCAT	LDT2 CAT	LDT2 DSL	LDT2 ALL	MDV NCAT	MDV CAT	MDV DSL	MDV ALL	LHD1 NCAT	LHD1 CAT	LHD1 DSL	LHD1 ALL	LHD2 NCAT	LHD2 CAT	LHD2 DSL	LHD2 ALL	MHD NCAT	MHD CAT	MHD DSL	MHD ALL	HHD NCAT	HHD CAT	HHD DSL	HHD ALL	OBUS NCAT	OBUS CAT	OBUS DSL	OBUS ALL	UBUS NCAT	UBUS CAT	UBUS DSL	UBUS ALL	MCY NCAT	MCY CAT	MCY DSL	MCY ALL	SBUS NCAT	SBUS CAT	SBUS DSL	SBUS ALL	MH NCAT	MH CAT	MH DSL	MH ALL	ALL NCAT	ALL CAT	ALL DSL	ALL ALL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.422	19.422	19.422	0	19.422	19.422	19.422	0	6.698	6.698	6.698	0	3.184	3.184	3.184	0	6.698	6.698	6.698	0	4.686	4.686	4.686	0	0	0	0	0	6.698	6.698	6.698	0	6.698	6.698	6.698	0	4.363	4.363
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.422	19.422	19.422	0	19.422	19.422	19.422	0	6.698	6.698	6.698	0	6.033	6.033	6.033	0	6.698	6.698	6.698	0	4.686	4.686	4.686	0	0	0	0	0	6.698	6.698	6.698	0	6.698	6.698	6.698	0	6.854	6.854

For on-site activity (idle, Temperature: 90F, Relative Humidity: 10%)

	Emission Factors (grams/idle-hour)						
	PM_{10}	$PM_{2.5}$	CO	ROG	NO_x	SO_x	CO_2
MHD-CAT	0.0000	0.0000	155.2300	27.1370	1.7900	0.0490	4776.9000

For on-site activity (mean vehicle speed = 10 mph, Temperature: 90F, Relative Humidity: 10%)

	Emission Factors (g/mile)						
	PM_{10}	$PM_{2.5}$	CO	ROG	NO_x	SO_x	CO_2
MHD-CAT	0.0300	0.0132	0.4990	0.0410	0.1140	0.0160	1672.2670
LDT2-CAT	0.0350	0.0206	0.9830	0.0310	0.0640	0.0100	1076.2640
MDV-CAT	0.0340	0.0196	1.2360	0.0350	0.0680	0.0140	1463.7790

Note:

$PM_{2.5}$ emission factors determined using guidance from SCAQMD
Final - Methodology to Calculate $PM_{2.5}$ and $PM_{2.5}$ Significance Thresholds
10/1/2006, Appendix A - Updated CEIDARS Table with $PM_{2.5}$ Fractions

On-road vehicles

- $PM_{2.5}$ Fraction of PM_{10}, Brake wear: 0.429
- $PM_{2.5}$ Fraction of PM_{10}, Diesel: 0.920
- $PM_{2.5}$ Fraction of PM_{10}, Gasoline-catalyst: 0.928
- $PM_{2.5}$ Fraction of PM_{10}, Tire wear: 0.250

Title : solar two 2010
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2008/04/29 13:46:11
Scen Year: 2010 -- All model years in the range 1970 to 2010 selected
Season : Annual
Area : Imperial County APCD
****
Year: 2010 -- Model Years 1970 to 2010 Inclusive -- Annual
Emfac2007 Emission Factors: V2.3 Nov 1 2006

District Average District Average Imperial County APCD

Table 1: Running Exhaust Emissions (grams/mile; grams/idle-hour)

Pollutant Name: Reactive Org Gases Temperature: 90F Relative Humidity: 10%

Speed MPH	LDA NCAT	LDA CAT	LDA DSL	LDA ALL	LDT1 NCAT	LDT1 CAT	LDT1 DSL	LDT1 ALL	LDT2 NCAT	LDT2 CAT	LDT2 DSL	LDT2 ALL	MDV NCAT	MDV CAT	MDV DSL	MDV ALL	LHD1 NCAT	LHD1 CAT	LHD1 DSL	LHD1 ALL	LHD2 NCAT	LHD2 CAT	LHD2 DSL	LHD2 ALL	MHD NCAT	MHD CAT	MHD DSL	MHD ALL	HHD NCAT	HHD CAT	HHD DSL	HHD ALL	OBUS NCAT	OBUS CAT	OBUS DSL	OBUS ALL	UBUS NCAT	UBUS CAT	UBUS DSL	UBUS ALL	MCY NCAT	MCY CAT	MCY DSL	MCY ALL	SBUS NCAT	SBUS CAT	SBUS DSL	SBUS ALL	MH NCAT	MH CAT	MH DSL	MH ALL	ALL NCAT	ALL CAT	ALL DSL	ALL ALL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.704	26.243	3.173	19.298	25.704	26.011	3.173	15.866	25.704	25.876	3.173	7.593	0	0	13.188	13.06	25.704	25.791	3.173	10.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.968	0.549	11.455	2.423
5	20.47	1.396	0.495	1.483	18.501	1.192	0.232	1.368	18.566	0.76	0.459	0.862	25.673	0.516	0.204	0.573	21.391	0.628	0.403	0.603	21.391	2.266	0.531	1.575	32.137	4.601	0.609	1.634	89.342	13.385	10.319	10.365	32.137	5.477	0.63	2.563	33.927	10.829	0.091	9.941	0	0	0	0	0	0	0	0	0	0	0	0	20.352	1.149	8.759	2.553
10	14.549	0.911	0.388	0.973	13.146	0.804	0.182	0.933	13.193	0.503	0.36	0.576	18.254	0.334	0.16	0.375	13.982	0.409	0.317	0.409	13.982	1.475	0.417	1.057	21.023	2.994	0.478	1.13	58.506	8.738	5.78	5.819	21.023	3.565	0.494	1.725	22.196	7.085	0.066	6.504	0	0	0	0	0	0	0	0	0	0	0	0	14.371	0.755	4.922	1.54
15	10.817	0.626	0.312	0.672	9.772	0.569	0.146	0.667	9.807	0.35	0.289	0.405	13.578	0.227	0.128	0.258	9.519	0.278	0.254	0.289	9.519	1	0.335	0.74	14.327	2.027	0.383	0.814	39.929	5.94	2.79	2.828	14.327	2.414	0.397	1.21	15.129	4.83	0.05	4.435	0	0	0	0	0	0	0	0	0	0	0	0	10.617	0.521	2.395	0.895
20	8.414	0.452	0.256	0.488	7.599	0.421	0.12	0.499	7.626	0.256	0.237	0.299	10.567	0.163	0.105	0.187	6.749	0.196	0.209	0.213	6.749	0.706	0.274	0.539	10.172	1.428	0.315	0.61	28.398	4.205	1.483	1.515	10.172	1.7	0.325	0.883	10.742	3.434	0.039	3.153	0	0	0	0	0	0	0	0	0	0	0	0	8.207	0.378	1.287	0.575
25	6.848	0.343	0.214	0.373	6.183	0.327	0.101	0.391	6.205	0.197	0.199	0.232	8.605	0.124	0.088	0.143	4.983	0.144	0.175	0.163	4.983	0.518	0.23	0.409	7.524	1.046	0.264	0.474	21.049	3.1	1.201	1.224	7.524	1.246	0.273	0.67	7.947	2.546	0.031	2.338	0	0	0	0	0	0	0	0	0	0	0	0	6.641	0.289	1.043	0.451
30	5.833	0.275	0.184	0.301	5.266	0.266	0.086	0.322	5.285	0.158	0.17	0.188	7.334	0.099	0.076	0.116	3.833	0.111	0.15	0.13	3.833	0.397	0.197	0.322	5.798	0.798	0.226	0.383	16.26	2.381	0.977	0.994	5.798	0.951	0.234	0.529	6.125	1.967	0.026	1.806	0	0	0	0	0	0	0	0	0	0	0	0	5.625	0.232	0.85	0.365
35	5.202	0.232	0.161	0.255	4.696	0.227	0.076	0.277	4.712	0.134	0.149	0.161	6.543	0.083	0.066	0.098	3.073	0.088	0.131	0.107	3.073	0.316	0.173	0.264	4.656	0.634	0.198	0.319	13.092	1.907	0.81	0.824	4.656	0.757	0.205	0.434	4.92	1.584	0.022	1.455	0	0	0	0	0	0	0	0	0	0	0	0	4.99	0.196	0.706	0.308
40	4.859	0.207	0.144	0.228	4.385	0.203	0.068	0.251	4.4	0.119	0.134	0.144	6.112	0.074	0.059	0.088	2.568	0.074	0.118	0.092	2.568	0.263	0.155	0.225	3.899	0.526	0.178	0.276	10.988	1.592	0.702	0.713	3.899	0.628	0.184	0.369	4.12	1.33	0.02	1.221	0	0	0	0	0	0	0	0	0	0	0	0	4.637	0.174	0.612	0.272
45	4.752	0.194	0.132	0.215	4.289	0.191	0.062	0.237	4.304	0.112	0.123	0.136	5.979	0.069	0.054	0.082	2.238	0.064	0.108	0.082	2.238	0.229	0.142	0.198	3.404	0.456	0.163	0.246	9.615	1.388	0.651	0.66	3.404	0.544	0.168	0.326	3.598	1.164	0.019	1.069	0	0	0	0	0	0	0	0	0	0	0	0	4.515	0.162	0.568	0.254
50	4.869	0.192	0.124	0.214	4.394	0.188	0.058	0.236	4.409	0.11	0.115	0.135	6.125	0.068	0.051	0.082	2.036	0.058	0.101	0.075	2.036	0.207	0.133	0.182	3.1	0.413	0.152	0.227	8.772	1.262	0.658	0.666	3.1	0.493	0.157	0.299	3.278	1.062	0.018	0.975	0	0	0	0	0	0	0	0	0	0	0	0	4.605	0.16	0.573	0.254

Pollutant Name: Carbon Monoxide Temperature: 90F Relative Humidity: 10%

Speed MPH	LDA NCAT	LDA CAT	LDA DSL	LDA ALL	LDT1 NCAT	LDT1 CAT	LDT1 DSL	LDT1 ALL	LDT2 NCAT	LDT2 CAT	LDT2 DSL	LDT2 ALL	MDV NCAT	MDV CAT	MDV DSL	MDV ALL	LHD1 NCAT	LHD1 CAT	LHD1 DSL	LHD1 ALL	LHD2 NCAT	LHD2 CAT	LHD2 DSL	LHD2 ALL	MHD NCAT	MHD CAT	MHD DSL	MHD ALL	HHD NCAT	HHD CAT	HHD DSL	HHD ALL	OBUS NCAT	OBUS CAT	OBUS DSL	OBUS ALL	UBUS NCAT	UBUS CAT	UBUS DSL	UBUS ALL	MCY NCAT	MCY CAT	MCY DSL	MCY ALL	SBUS NCAT	SBUS CAT	SBUS DSL	SBUS ALL	MH NCAT	MH CAT	MH DSL	MH ALL	ALL NCAT	ALL CAT	ALL DSL	ALL ALL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	150.122	152.045	26.3	114.193	150.122	151.217	26.3	95.729	150.122	150.736	26.3	50.527	0	0	49.119	48.644	150.122	150.435	26.3	68.982	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5.655	3.186	44.288	10.254
5	238.175	11.019	2.993	12.056	195.213	16.499	2.282	18.115	196.165	9.798	2.824	10.861	381.174	5.96	2.163	6.818	413.934	6.031	2.932	5.926	413.934	21.652	3.168	15.078	620.902	52.025	7.663	21.425	2379.877	158.347	16.757	18.617	620.902	62.975	8.103	32.555	642.028	33.004	4.156	30.67	0	0	0	0	0	0	0	0	0	0	0	0	245.873	11.418	14.868	13.214
10	173.598	9.622	2.064	10.368	142.284	13.802	1.574	14.87	142.978	8.428	1.947	9.191	277.825	5.231	1.491	5.851	275.395	4.012	2.022	3.964	275.395	14.405	2.185	10.065	413.093	34.613	5.284	14.404	1583.359	105.35	12.353	13.579	413.093	41.898	5.587	21.788	427.149	21.958	2.616	20.393	0	0	0	0	0	0	0	0	0	0	0	0	176.925	9.716	10.924	10.782
15	133.25	8.536	1.489	9.101	109.214	11.847	1.135	12.588	109.747	7.388	1.405	7.966	213.252	4.656	1.076	5.129	193.583	2.82	1.459	2.798	193.583	10.126	1.576	7.093	290.375	24.33	3.813	10.204	1112.989	74.053	9.011	9.87	290.375	29.451	4.032	15.384	300.255	15.435	1.748	14.327	0	0	0	0	0	0	0	0	0	0	0	0	134.259	8.461	7.965	9.021
20	107.712	7.669	1.125	8.121	88.283	10.39	0.858	10.937	88.713	6.579	1.061	7.04	172.382	4.192	0.813	4.572	143.769	2.095	1.102	2.083	143.769	7.52	1.191	5.277	215.653	18.07	2.88	7.617	826.586	54.997	6.858	7.494	215.653	21.873	3.045	11.458	222.991	11.463	1.24	10.636	0	0	0	0	0	0	0	0	0	0	0	0	107.424	7.503	6.059	7.768
25	91.693	6.964	0.889	7.346	75.153	9.286	0.678	9.723	75.52	5.937	0.839	6.327	146.745	3.81	0.642	4.132	112.81	1.644	0.871	1.637	112.81	5.901	0.941	4.144	169.215	14.179	2.276	5.99	648.592	43.154	5.819	6.314	169.215	17.163	2.407	9.002	174.973	8.995	0.935	8.342	0	0	0	0	0	0	0	0	0	0	0	0	90.617	6.754	5.125	6.905
30	82.202	6.384	0.735	6.725	67.374	8.444	0.561	8.826	67.703	5.423	0.694	5.772	131.556	3.494	0.531	3.782	93.523	1.363	0.72	1.356	93.523	4.892	0.778	3.434	140.285	11.754	1.883	4.962	537.702	35.776	4.941	5.35	140.285	14.228	1.991	7.46	145.058	7.457	0.748	6.914	0	0	0	0	0	0	0	0	0	0	0	0	80.577	6.161	4.346	6.231
35	77.608	5.905	0.637	6.228	63.609	7.808	0.485	8.176	63.919	5.012	0.601	5.342	124.203	3.23	0.46	3.503	81.917	1.193	0.624	1.186	81.917	4.285	0.674	3.005	122.876	10.296	1.63	4.331	470.975	31.337	4.223	4.582	122.876	12.463	1.723	6.521	127.057	6.531	0.635	6.054	0	0	0	0	0	0	0	0	0	0	0	0	75.52	5.69	3.717	5.71
40	77.162	5.514	0.577	5.837	63.243	7.345	0.44	7.735	63.551	4.688	0.544	5.018	123.489	3.012	0.417	3.284	75.808	1.104	0.565	1.094	75.808	3.965	0.61	2.775	113.712	9.528	1.476	3.983	435.853	29	3.666	4.001	113.712	11.533	1.561	6.013	117.582	6.044	0.573	5.601	0	0	0	0	0	0	0	0	0	0	0	0	74.596	5.322	3.233	5.319
45	80.793	5.201	0.547	5.543	66.219	7.041	0.417	7.486	66.542	4.443	0.516	4.792	129.3	2.835	0.395	3.121	74.122	1.08	0.536	1.064	74.122	3.877	0.579	2.705	111.183	9.316	1.4	3.859	426.156	28.355	3.27	3.6	111.183	11.277	1.48	5.849	114.966	5.91	0.549	5.476	0	0	0	0	0	0	0	0	0	0	0	0	77.651	5.046	2.892	5.049
50	89.088	4.967	0.543	5.348	73.018	6.896	0.414	7.437	73.374	4.274	0.512	4.665	142.575	2.698	0.392	3.015	76.57	1.116	0.532	1.093	76.57	4.005	0.574	2.784	114.855	9.624	1.389	3.94	440.233	29.291	3.034	3.379	114.855	11.649	1.469	6.002	118.763	6.105	0.558	5.656	0	0	0	0	0	0	0	0	0	0	0	0	85.175	4.86	2.692	4.9

Pollutant Name: Oxides of Nitrogen Temperature: 90F Relative Humidity: 10%

Speed MPH	LDA NCAT	LDA CAT	LDA DSL	LDA ALL	LDT1 NCAT	LDT1 CAT	LDT1 DSL	LDT1 ALL	LDT2 NCAT	LDT2 CAT	LDT2 DSL	LDT2 ALL	MDV NCAT	MDV CAT	MDV DSL	MDV ALL	LHD1 NCAT	LHD1 CAT	LHD1 DSL	LHD1 ALL	LHD2 NCAT	LHD2 CAT	LHD2 DSL	LHD2 ALL	MHD NCAT	MHD CAT	MHD DSL	MHD ALL	HHD NCAT	HHD CAT	HHD DSL	HHD ALL	OBUS NCAT	OBUS CAT	OBUS DSL	OBUS ALL	UBUS NCAT	UBUS CAT	UBUS DSL	UBUS ALL	MCY NCAT	MCY CAT	MCY DSL	MCY ALL	SBUS NCAT	SBUS CAT	SBUS DSL	SBUS ALL	MH NCAT	MH CAT	MH DSL	MH ALL	ALL NCAT	ALL CAT	ALL DSL	ALL ALL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.694	1.73	75.051	23.799	1.694	1.714	75.051	34.288	1.694	1.705	75.051	60.768	0	0	108.534	107.484	1.694	1.699	75.051	49.829	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.064	0.036	99.759	17.153
5	3.623	1.1	2.176	1.113	3.44	1.306	2.21	1.376	3.491	1.156	2.215	1.173	6.227	0.795	2.232	0.811	2.065	0.333	6.764	2.272	2.065	0.95	7.722	3.962	3.097	2.895	13.746	11.635	18.462	7.541	39.895	39.584	3.097	3.018	14.124	10.306	3.273	1.741	1.573	1.727	0	0	0	0	0	0	0	0	0	0	0	0	3.702	1.118	34.928	6.935
10	3.81	0.956	1.806	0.971	3.618	1.113	1.833	1.179	3.67	0.991	1.838	1.009	6.548	0.683	1.852	0.7	2.169	0.35	5.612	1.937	2.169	0.998	6.406	3.405	3.254	3.041	11.404	9.778	19.398	7.924	27.548	27.361	3.254	3.171	11.718	8.78	3.439	1.829	1.203	1.777	0	0	0	0	0	0	0	0	0	0	0	0	3.892	0.97	24.307	4.991
15	4.001	0.848	1.552	0.863	3.799	0.973	1.576	1.038	3.854	0.869	1.58	0.888	6.876	0.6	1.592	0.618	2.274	0.367	4.824	1.712	2.274	1.046	5.507	3.033	3.411	3.188	9.803	8.517	20.334	8.306	19.946	19.836	3.411	3.324	10.073	7.753	3.605	1.917	0.968	1.839	0	0	0	0	0	0	0	0	0	0	0	0	4.086	0.861	17.751	3.776
20	4.195	0.766	1.383	0.783	3.984	0.874	1.404	0.938	4.042	0.78	1.407	0.8	7.21	0.539	1.418	0.557	2.379	0.384	4.297	1.566	2.379	1.094	4.905	2.792	3.568	3.335	8.732	7.683	21.27	8.688	17.045	16.967	3.568	3.477	8.972	7.084	3.771	2.006	0.818	1.907	0	0	0	0	0	0	0	0	0	0	0	0	4.285	0.78	15.204	3.274
25	4.393	0.705	1.276	0.723	4.172	0.803	1.296	0.869	4.233	0.715	1.299	0.737	7.551	0.494	1.309	0.513	2.483	0.401	3.966	1.478	2.483	1.142	4.527	2.651	3.725	3.482	8.059	7.169	22.206	9.07	16.28	16.213	3.725	3.63	8.281	6.682	3.937	2.094	0.727	1.981	0	0	0	0	0	0	0	0	0	0	0	0	4.486	0.721	14.494	3.105
30	4.595	0.66	1.22	0.68	4.363	0.755	1.239	0.824	4.427	0.669	1.242	0.692	7.897	0.462	1.251	0.481	2.588	0.418	3.792	1.438	2.588	1.19	4.329	2.59	3.882	3.628	7.706	6.914	23.142	9.453	15.672	15.614	3.882	3.782	7.918	6.497	4.103	2.182	0.679	2.058	0	0	0	0	0	0	0	0	0	0	0	0	4.691	0.68	13.947	2.978
35	4.799	0.63	1.209	0.65	4.557	0.726	1.227	0.799	4.623	0.639	1.23	0.664	8.248	0.44	1.24	0.461	2.693	0.434	3.757	1.439	2.693	1.239	4.289	2.599	4.039	3.775	7.635	6.886	24.078	9.835	15.221	15.172	4.039	3.935	7.845	6.502	4.269	2.27	0.667	2.138	0	0	0	0	0	0	0	0	0	0	0	0	4.898	0.653	13.561	2.891
40	5.005	0.611	1.241	0.633	4.753	0.713	1.26	0.791	4.822	0.623	1.263	0.649	8.602	0.428	1.273	0.449	2.797	0.451	3.857	1.481	2.797	1.287	4.403	2.677	4.196	3.922	7.838	7.078	25.013	10.217	14.929	14.887	4.196	4.088	8.054	6.691	4.435	2.359	0.689	2.22	0	0	0	0	0	0	0	0	0	0	0	0	5.108	0.639	13.335	2.841
45	5.213	0.604	1.32	0.626	4.95	0.715	1.34	0.799	5.023	0.619	1.344	0.647	8.96	0.424	1.354	0.447	2.902	0.468	4.103	1.567	2.902	1.335	4.683	2.829	4.353	4.069	8.337	7.509	25.949	10.6	14.794	14.757	4.353	4.241	8.567	7.081	4.601	2.447	0.748	2.306	0	0	0	0	0	0	0	0	0	0	0	0	5.319	0.636	13.271	2.829
50	5.423	0.607	1.455	0.631	5.149	0.732	1.477	0.824	5.225	0.629	1.481	0.658	9.32	0.429	1.492	0.453	3.007	0.485	4.522	1.705	3.007	1.383	5.162	3.068	4.51	4.215	9.189	8.223	26.885	10.982	14.818	14.784	4.51	4.394	9.442	7.707	4.767	2.535	0.853	2.396	0	0	0	0	0	0	0	0	0	0	0	0	5.531	0.645	13.374	2.855

Pollutant Name: Carbon Dioxide Temperature: 90F Relative Humidity: 10%

Speed MPH	LDA NCAT	LDA CAT	LDA DSL	LDA ALL	LDT1 NCAT	LDT1 CAT	LDT1 DSL	LDT1 ALL	LDT2 NCAT	LDT2 CAT	LDT2 DSL	LDT2 ALL	MDV NCAT	MDV CAT	MDV DSL	MDV ALL	LHD1 NCAT	LHD1 CAT	LHD1 DSL	LHD1 ALL	LHD2 NCAT	LHD2 CAT	LHD2 DSL	LHD2 ALL	MHD NCAT	MHD CAT	MHD DSL	MHD ALL	HHD NCAT	HHD CAT	HHD DSL	HHD ALL	OBUS NCAT	OBUS CAT	OBUS DSL	OBUS ALL	UBUS NCAT	UBUS CAT	UBUS DSL	UBUS ALL	MCY NCAT	MCY CAT	MCY DSL	MCY ALL	SBUS NCAT	SBUS CAT	SBUS DSL	SBUS ALL	MH NCAT	MH CAT	MH DSL	MH ALL	ALL NCAT	ALL CAT	ALL DSL	ALL ALL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4776.9	4776.9	4098	4572.558	4776.9	4776.9	4098	4475.357	4776.9	4776.899	4098	4230.208	0	0	6617.133	6553.111	4776.9	4776.9	4098	4331.444	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	179.947	100.382	6028.556	1118.338
5	1405.838	1153.379	360.312	1153.16	1365.667	1398.684	347.569	1348.636	1365.662	1417.352	358.452	1414.046	1691.523	1948.458	347.175	1943.191	2513.51	2513.51	520.781	1913.719	2513.51	2513.51	533.103	1633.884	2513.51	2513.51	1505	1701.396	2513.51	2513.51	3845.359	3832.473	2513.51	2513.51	1505	1851.782	2513.51	2513.51	2245.284	2491.261	0	0	0	0	0	0	0	0	0	0	0	0	1444.013	1371.563	3377.77	1716.292
10	1050.615	856.979	360.312	857.007	1026.188	1040.656	347.569	1007.749	1026.187	1053.604	358.452	1051.472	1270.371	1447.647	347.175	1444.025	1672.267	1672.267	520.781	1325.682	1672.267	1672.267	533.103	1166.291	1672.267	1672.268	1505	1537.573	1672.267	1672.267	3165.446	3150.999	1672.267	1672.267	1505	1562.516	1672.267	1672.267	2245.284	1719.799	0	0	0	0	0	0	0	0	0	0	0	0	1073.452	1014.945	2805.545	1322.595
15	823.936	666.45	360.312	666.643	804.806	809.854	347.569	787.964	804.805	819.554	358.452	818.16	996.307	1125.76	347.175	1123.189	1175.484	1175.484	520.781	978.425	1175.484	1175.484	533.103	890.161	1175.485	1175.485	1505	1440.83	1175.484	1175.484	2595.958	2582.214	1175.484	1175.484	1505	1391.694	1175.484	1175.484	2245.284	1264.224	0	0	0	0	0	0	0	0	0	0	0	0	835.886	786.564	2326.256	1051.099
20	672.611	540.916	360.312	541.21	656.071	657.469	347.569	642.821	656.07	665.237	358.452	664.313	812.292	913.699	347.175	911.811	873	873	520.781	766.986	873	873	533.103	722.03	873	873	1505	1381.925	873	873	2183.16	2170.484	873	873	1505	1287.683	873	873	2245.284	986.831	0	0	0	0	0	0	0	0	0	0	0	0	678.004	636.586	1978.841	867.191
25	570.513	457.459	360.312	457.812	555.404	555.987	347.569	546.139	555.403	562.583	358.452	561.962	687.783	772.728	347.175	771.289	685.012	685.012	520.781	635.58	685.012	685.011	533.103	617.539	685.012	685.012	1505	1345.316	685.012	685.012	2042.684	2029.548	685.012	685.012	1505	1223.042	685.012	685.012	2245.284	814.436	0	0	0	0	0	0	0	0	0	0	0	0	571.999	537.138	1860.614	764.487
30	502.416	402.682	360.312	403.07	488.086	489.263	347.569	482.558	488.084	495.166	358.452	494.737	604.542	680.209	347.175	679.062	567.895	567.895	520.781	553.714	567.895	567.895	533.103	552.441	567.895	567.895	1505	1322.509	567.895	567.895	1924.234	1911.111	567.895	567.895	1505	1182.77	567.895	567.895	2245.284	707.034	0	0	0	0	0	0	0	0	0	0	0	0	501.554	471.983	1760.925	693.377
35	459.147	368.598	360.312	369.002	445.151	447.647	347.569	442.89	445.148	453.182	358.452	452.867	551.471	622.645	347.175	621.677	497.421	497.421	520.781	504.452	497.421	497.421	533.103	513.269	497.421	497.421	1505	1308.785	497.421	497.421	1827.808	1814.936	497.421	497.421	1505	1158.537	497.421	497.421	2245.284	642.405	0	0	0	0	0	0	0	0	0	0	0	0	456.869	431.473	1679.772	645.869
40	435.281	350.482	360.312	350.891	421.27	425.428	347.569	421.699	421.267	430.832	358.452	430.571	521.976	592.055	347.175	591.178	460.326	460.326	520.781	478.523	460.327	460.326	533.103	492.651	460.326	460.326	1505	1301.561	460.326	460.326	1753.406	1740.896	460.326	460.326	1505	1145.782	460.326	460.326	2245.284	608.388	0	0	0	0	0	0	0	0	0	0	0	0	432.181	409.927	1617.154	617.257
45	427.936	345.726	360.312	346.132	413.604	419.463	347.569	415.994	413.601	424.917	358.452	424.663	512.544	584.03	347.175	583.174	450.085	450.085	520.781	471.364	450.085	450.085	533.103	486.958	450.085	450.085	1505	1299.567	450.085	450.085	1701.031	1688.927	450.085	450.085	1505	1142.261	450.085	450.085	2245.284	598.996	0	0	0	0	0	0	0	0	0	0	0	0	424.444	404.229	1573.074	604.96
50	436.168	353.237	360.312	353.633	421.226	428.455	347.569	424.544	421.223	434.104	358.452	433.815	522.03	596.723	347.175	595.822	464.953	464.953	520.781	481.757	464.953	464.953	533.103	495.223	464.953	464.953	1505	1302.462	464.953	464.953	1670.679	1659.013	464.953	464.953	1505	1147.373	464.953	464.953	2245.284	612.631	0	0	0	0	0	0	0	0	0	0	0	0	432.68	413.099	1547.53	607.92

Pollutant Name: Sulfur Dioxide Temperature: 90F Relative Humidity: 10%

Speed MPH	LDA NCAT	LDA CAT	LDA DSL	LDA ALL	LDT1 NCAT	LDT1 CAT	LDT1 DSL	LDT1 ALL	LDT2 NCAT	LDT2 CAT	LDT2 DSL	LDT2 ALL	MDV NCAT	MDV CAT	MDV DSL	MDV ALL	LHD1 NCAT	LHD1 CAT	LHD1 DSL	LHD1 ALL	LHD2 NCAT	LHD2 CAT	LHD2 DSL	LHD2 ALL	MHD NCAT	MHD CAT	MHD DSL	MHD ALL	HHD NCAT	HHD CAT	HHD DSL	HHD ALL	OBUS NCAT	OBUS CAT	OBUS DSL	OBUS ALL	UBUS NCAT	UBUS CAT	UBUS DSL	UBUS ALL	MCY NCAT	MCY CAT	MCY DSL	MCY ALL	SBUS NCAT	SBUS CAT	SBUS DSL	SBUS ALL	MH NCAT	MH CAT	MH DSL	MH ALL	ALL NCAT	ALL CAT	ALL DSL	ALL ALL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.049	0.049	0.039	0.046	0.049	0.049	0.039	0.045	0.049	0.049	0.039	0.041	0	0	0.063	0.063	0.049	0.049	0.039	0.042	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.002	0.001	0.058	0.011
5	0.018	0.011	0.003	0.011	0.017	0.014	0.003	0.013	0.017	0.014	0.003	0.014	0.023	0.019	0.003	0.019	0.031	0.024	0.005	0.018	0.031	0.025	0.005	0.016	0.034	0.025	0.014	0.017	0.063	0.027	0.037	0.037	0.034	0.025	0.014	0.018	0.035	0.025	0.021	0.025	0	0	0	0	0	0	0	0	0	0	0	0	0.018	0.013	0.032	0.017
10	0.013	0.008	0.003	0.008	0.012	0.01	0.003	0.01	0.012	0.01	0.003	0.01	0.017	0.014	0.003	0.014	0.021	0.016	0.005	0.013	0.021	0.016	0.005	0.011	0.023	0.017	0.014	0.015	0.042	0.018	0.03	0.03	0.023	0.017	0.014	0.015	0.023	0.017	0.021	0.017	0	0	0	0	0	0	0	0	0	0	0	0	0.013	0.01	0.027	0.013
15	0.01	0.007	0.003	0.007	0.01	0.008	0.003	0.008	0.01	0.008	0.003	0.008	0.013	0.011	0.003	0.011	0.014	0.011	0.005	0.009	0.014	0.011	0.005	0.009	0.016	0.012	0.014	0.014	0.029	0.013	0.025	0.025	0.016	0.012	0.014	0.014	0.016	0.012	0.021	0.012	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0.008	0.022	0.01
20	0.008	0.005	0.003	0.005	0.008	0.006	0.003	0.006	0.008	0.006	0.003	0.006	0.011	0.009	0.003	0.009	0.011	0.008	0.005	0.007	0.011	0.009	0.005	0.007	0.012	0.009	0.014	0.013	0.022	0.009	0.021	0.021	0.012	0.009	0.014	0.012	0.012	0.009	0.021	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.006	0.019	0.008
25	0.007	0.005	0.003	0.005	0.007	0.005	0.003	0.005	0.007	0.005	0.003	0.005	0.009	0.007	0.003	0.007	0.008	0.007	0.005	0.006	0.008	0.007	0.005	0.006	0.009	0.007	0.014	0.013	0.017	0.007	0.02	0.019	0.009	0.007	0.014	0.012	0.009	0.007	0.021	0.008	0	0	0	0	0	0	0	0	0	0	0	0	0.007	0.005	0.018	0.007
30	0.006	0.004	0.003	0.004	0.006	0.005	0.003	0.005	0.006	0.005	0.003	0.005	0.008	0.007	0.003	0.007	0.007	0.005	0.005	0.005	0.007	0.006	0.005	0.005	0.008	0.006	0.014	0.013	0.014	0.006	0.018	0.018	0.008	0.006	0.014	0.011	0.008	0.006	0.021	0.007	0	0	0	0	0	0	0	0	0	0	0	0	0.006	0.005	0.017	0.007
35	0.006	0.004	0.003	0.004	0.005	0.004	0.003	0.004	0.005	0.004	0.003	0.004	0.007	0.006	0.003	0.006	0.006	0.005	0.005	0.005	0.006	0.005	0.005	0.005	0.007	0.005	0.014	0.013	0.012	0.005	0.017	0.017	0.007	0.005	0.014	0.011	0.007	0.005	0.021	0.006	0	0	0	0	0	0	0	0	0	0	0	0	0.006	0.004	0.016	0.006
40	0.005	0.003	0.003	0.003	0.005	0.004	0.003	0.004	0.005	0.004	0.003	0.004	0.007	0.006	0.003	0.006	0.006	0.004	0.005	0.005	0.006	0.004	0.005	0.005	0.006	0.005	0.014	0.012	0.011	0.005	0.017	0.017	0.006	0.005	0.014	0.011	0.006	0.005	0.021	0.006	0	0	0	0	0	0	0	0	0	0	0	0	0.005	0.004	0.015	0.006
45	0.005	0.003	0.003	0.003	0.005	0.004	0.003	0.004	0.005	0.004	0.003	0.004	0.007	0.006	0.003	0.006	0.006	0.004	0.005	0.005	0.006	0.004	0.005	0.005	0.006	0.004	0.014	0.012	0.011	0.005	0.016	0.016	0.006	0.005	0.014	0.011	0.006	0.004	0.021	0.006	0	0	0	0	0	0	0	0	0	0	0	0	0.005	0.004	0.015	0.006
50	0.006	0.003	0.003	0.003	0.005	0.004	0.003	0.004	0.005	0.004	0.003	0.004	0.007	0.006	0.003	0.006	0.006	0.004	0.005	0.005	0.006	0.005	0.005	0.005	0.006	0.005	0.014	0.012	0.011	0.005	0.016	0.016	0.006	0.005	0.014	0.011	0.006	0.005	0.021	0.006	0	0	0	0	0	0	0	0	0	0	0	0	0.006	0.004	0.015	0.006

Pollutant Name: PM10 Temperature: 90F Relative Humidity: 10%

Speed MPH	LDA NCAT	LDA CAT	LDA DSL	LDA ALL	LDT1 NCAT	LDT1 CAT	LDT1 DSL	LDT1 ALL	LDT2 NCAT	LDT2 CAT	LDT2 DSL	LDT2 ALL	MDV NCAT	MDV CAT	MDV DSL	MDV ALL	LHD1 NCAT	LHD1 CAT	LHD1 DSL	LHD1 ALL	LHD2 NCAT	LHD2 CAT	LHD2 DSL	LHD2 ALL	MHD NCAT	MHD CAT	MHD DSL	MHD ALL	HHD NCAT	HHD CAT	HHD DSL	HHD ALL	OBUS NCAT	OBUS CAT	OBUS DSL	OBUS ALL	UBUS NCAT	UBUS CAT	UBUS DSL	UBUS ALL	MCY NCAT	MCY CAT	MCY DSL	MCY ALL	SBUS NCAT	SBUS CAT	SBUS DSL	SBUS ALL	MH NCAT	MH CAT	MH DSL	MH ALL	ALL NCAT	ALL CAT	ALL DSL	ALL ALL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.784	0.236	0	0	1.008	0.448	0	0	1.185	0.955	0	0	1.947	1.928	0	0	1.397	0.916	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.759	0.302
5	0.104	0.056	0.368	0.057	0.099	0.073	0.154	0.077	0.106	0.124	0.338	0.125	0.107	0.093	0.134	0.093	0.101	0.026	0.108	0.051	0.101	0.042	0.134	0.083	0.101	0.06	0.764	0.628	0.101	0.083	2.392	2.37	0.101	0.063	0.836	0.571	0.101	0.098	0.108	0.099	0	0	0	0	0	0	0	0	0	0	0	0	0.103	0.078	2.079	0.422
10	0.074	0.037	0.289	0.037	0.071	0.049	0.121	0.052	0.076	0.082	0.265	0.082	0.076	0.06	0.105	0.06	0.066	0.017	0.084	0.038	0.066	0.028	0.105	0.062	0.066	0.039	0.6	0.491	0.066	0.054	1.633	1.618	0.066	0.041	0.657	0.445	0.066	0.064	0.078	0.065	0	0	0	0	0	0	0	0	0	0	0	0	0.073	0.051	1.426	0.287
15	0.055	0.025	0.232	0.026	0.053	0.034	0.097	0.037	0.056	0.056	0.213	0.057	0.057	0.041	0.085	0.042	0.045	0.012	0.068	0.029	0.045	0.019	0.084	0.048	0.045	0.027	0.482	0.393	0.045	0.037	1.078	1.068	0.045	0.028	0.527	0.356	0.045	0.044	0.059	0.045	0	0	0	0	0	0	0	0	0	0	0	0	0.054	0.035	0.949	0.192
20	0.043	0.018	0.19	0.019	0.041	0.025	0.079	0.028	0.044	0.041	0.175	0.041	0.044	0.03	0.069	0.03	0.032	0.008	0.056	0.023	0.032	0.013	0.069	0.038	0.032	0.019	0.395	0.322	0.032	0.026	0.759	0.752	0.032	0.02	0.432	0.291	0.032	0.031	0.046	0.032	0	0	0	0	0	0	0	0	0	0	0	0	0.042	0.026	0.673	0.137
25	0.035	0.014	0.159	0.014	0.033	0.019	0.067	0.022	0.036	0.031	0.146	0.032	0.036	0.023	0.058	0.023	0.024	0.006	0.047	0.018	0.024	0.01	0.058	0.031	0.024	0.014	0.331	0.27	0.024	0.02	0.64	0.634	0.024	0.015	0.363	0.243	0.024	0.023	0.037	0.024	0	0	0	0	0	0	0	0	0	0	0	0	0.034	0.02	0.567	0.114
30	0.03	0.011	0.137	0.012	0.029	0.016	0.057	0.018	0.031	0.025	0.126	0.026	0.031	0.018	0.05	0.018	0.019	0.005	0.04	0.015	0.019	0.008	0.05	0.026	0.019	0.011	0.284	0.231	0.019	0.015	0.552	0.547	0.019	0.012	0.311	0.208	0.019	0.018	0.031	0.019	0	0	0	0	0	0	0	0	0	0	0	0	0.029	0.016	0.489	0.097
35	0.027	0.01	0.12	0.01	0.026	0.013	0.05	0.015	0.027	0.021	0.11	0.022	0.028	0.016	0.044	0.016	0.015	0.004	0.035	0.013	0.015	0.006	0.044	0.023	0.015	0.009	0.249	0.202	0.015	0.012	0.493	0.489	0.015	0.009	0.272	0.182	0.015	0.014	0.027	0.015	0	0	0	0	0	0	0	0	0	0	0	0	0.026	0.013	0.437	0.086
40	0.025	0.008	0.107	0.009	0.024	0.012	0.045	0.014	0.026	0.019	0.099	0.019	0.026	0.014	0.039	0.014	0.013	0.003	0.031	0.012	0.013	0.005	0.039	0.02	0.013	0.007	0.223	0.181	0.013	0.01	0.465	0.46	0.013	0.008	0.244	0.163	0.013	0.012	0.024	0.013	0	0	0	0	0	0	0	0	0	0	0	0	0.024	0.012	0.41	0.08
45	0.024	0.008	0.098	0.008	0.023	0.011	0.041	0.013	0.025	0.018	0.09	0.018	0.025	0.013	0.036	0.013	0.011	0.003	0.029	0.011	0.011	0.005	0.036	0.018	0.011	0.006	0.204	0.166	0.011	0.009	0.466	0.462	0.011	0.007	0.223	0.149	0.011	0.011	0.022	0.012	0	0	0	0	0	0	0	0	0	0	0	0	0.024	0.011	0.41	0.08
50	0.025	0.008	0.092	0.008	0.024	0.011	0.038	0.012	0.026	0.018	0.084	0.018	0.026	0.013	0.034	0.013	0.01	0.003	0.027	0.01	0.01	0.004	0.034	0.017	0.01	0.006	0.191	0.155	0.01	0.008	0.498	0.493	0.01	0.006	0.209	0.139	0.01	0.01	0.021	0.011	0	0	0	0	0	0	0	0	0	0	0	0	0.024	0.011	0.436	0.084

Pollutant Name: PM10 - Tire Wear Temperature: 90F Relative Humidity: 10%

Speed MPH	LDA NCAT	LDA CAT	LDA DSL	LDA ALL	LDT1 NCAT	LDT1 CAT	LDT1 DSL	LDT1 ALL	LDT2 NCAT	LDT2 CAT	LDT2 DSL	LDT2 ALL	MDV NCAT	MDV CAT	MDV DSL	MDV ALL	LHD1 NCAT	LHD1 CAT	LHD1 DSL	LHD1 ALL	LHD2 NCAT	LHD2 CAT	LHD2 DSL	LHD2 ALL	MHD NCAT	MHD CAT	MHD DSL	MHD ALL	HHD NCAT	HHD CAT	HHD DSL	HHD ALL	OBUS NCAT	OBUS CAT	OBUS DSL	OBUS ALL	UBUS NCAT	UBUS CAT	UBUS DSL	UBUS ALL	MCY NCAT	MCY CAT	MCY DSL	MCY ALL	SBUS NCAT	SBUS CAT	SBUS DSL	SBUS ALL	MH NCAT	MH CAT	MH DSL	MH ALL	ALL NCAT	ALL CAT	ALL DSL	ALL ALL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.036	0.036	0.012	0.012	0.012	0.012	0.012	0.012	0.008	0.012	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.008	0.032	0.012
10	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.036	0.036	0.012	0.012	0.012	0.012	0.012	0.012	0.008	0.012	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.008	0.032	0.012
15	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.036	0.036	0.012	0.012	0.012	0.012	0.012	0.012	0.008	0.012	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.008	0.032	0.012
20	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.036	0.036	0.012	0.012	0.012	0.012	0.012	0.012	0.008	0.012	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.008	0.032	0.012
25	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.036	0.036	0.012	0.012	0.012	0.012	0.012	0.012	0.008	0.012	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.008	0.032	0.012
30	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.036	0.036	0.012	0.012	0.012	0.012	0.012	0.012	0.008	0.012	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.008	0.032	0.012
35	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.036	0.036	0.012	0.012	0.012	0.012	0.012	0.012	0.008	0.012	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.008	0.032	0.012
40	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.036	0.036	0.012	0.012	0.012	0.012	0.012	0.012	0.008	0.012	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.008	0.032	0.012

45	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.036	0.036	0.012	0.012	0.012	0.012	0.012	0.012	0.008	0.012	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.008	0.032	0.012
50	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.036	0.036	0.012	0.012	0.012	0.012	0.012	0.012	0.008	0.012	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.008	0.032	0.012

Pollutant Name: PM10 - Break Wear Temperature: 90F Relative Humidity: 10%

Speed	LDA	LDA	LDA	LDA	LDT1	LDT1	LDT1	LDT1	LDT2	LDT2	LDT2	LDT2	MDV	MDV	MDV	MDV	LHD1	LHD1	LHD1	LHD1	LHD2	LHD2	LHD2	LHD2	MHD	MHD	MHD	MHD	HHD	HHD	HHD	HHD	OBUS	OBUS	OBUS	OBUS	UBUS	UBUS	UBUS	UBUS	MCY	MCY	MCY	MCY	SBUS	SBUS	SBUS	SBUS	MH	MH	MH	MH	ALL	ALL	ALL	ALL
MPH	NCAT	CAT	DSL	ALL	NCAT	CAT	DSL	ALL	NCAT	CAT	DSL	ALL	NCAT	CAT	DSL	ALL	NCAT	CAT	DSL	ALL	NCAT	CAT	DSL	ALL	NCAT	CAT	DSL	ALL	NCAT	CAT	DSL	ALL	NCAT	CAT	DSL	ALL	NCAT	CAT	DSL	ALL	NCAT	CAT	DSL	ALL	NCAT	CAT	DSL	ALL	NCAT	CAT	DSL	ALL	NCAT	CAT	DSL	ALL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.028	0.028	0.028	0.028	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0	0	0	0	0	0	0	0	0	0	0	0	0.013	0.013	0.026	0.015
10	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.028	0.028	0.028	0.028	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0	0	0	0	0	0	0	0	0	0	0	0	0.013	0.013	0.026	0.015
15	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.028	0.028	0.028	0.028	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0	0	0	0	0	0	0	0	0	0	0	0	0.013	0.013	0.026	0.015
20	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.028	0.028	0.028	0.028	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0	0	0	0	0	0	0	0	0	0	0	0	0.013	0.013	0.026	0.015
25	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.028	0.028	0.028	0.028	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0	0	0	0	0	0	0	0	0	0	0	0	0.013	0.013	0.026	0.015
30	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.028	0.028	0.028	0.028	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0	0	0	0	0	0	0	0	0	0	0	0	0.013	0.013	0.026	0.015
35	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.028	0.028	0.028	0.028	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0	0	0	0	0	0	0	0	0	0	0	0	0.013	0.013	0.026	0.015
40	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.028	0.028	0.028	0.028	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0	0	0	0	0	0	0	0	0	0	0	0	0.013	0.013	0.026	0.015
45	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.028	0.028	0.028	0.028	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0	0	0	0	0	0	0	0	0	0	0	0	0.013	0.013	0.026	0.015
50	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.028	0.028	0.028	0.028	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0	0	0	0	0	0	0	0	0	0	0	0	0.013	0.013	0.026	0.015

Pollutant Name: Gasoline - mi/gal Temperature: 90F Relative Humidity: 10%

Speed	LDA	LDA	LDA	LDA	LDT1	LDT1	LDT1	LDT1	LDT2	LDT2	LDT2	LDT2	MDV	MDV	MDV	MDV	LHD1	LHD1	LHD1	LHD1	LHD2	LHD2	LHD2	LHD2	MHD	MHD	MHD	MHD	HHD	HHD	HHD	HHD	OBUS	OBUS	OBUS	OBUS	UBUS	UBUS	UBUS	UBUS	MCY	MCY	MCY	MCY	SBUS	SBUS	SBUS	SBUS	MH	MH	MH	MH	ALL	ALL	ALL	ALL
MPH	NCAT	CAT	DSL	ALL	NCAT	CAT	DSL	ALL	NCAT	CAT	DSL	ALL	NCAT	CAT	DSL	ALL	NCAT	CAT	DSL	ALL	NCAT	CAT	DSL	ALL	NCAT	CAT	DSL	ALL	NCAT	CAT	DSL	ALL	NCAT	CAT	DSL	ALL	NCAT	CAT	DSL	ALL	NCAT	CAT	DSL	ALL	NCAT	CAT	DSL	ALL	NCAT	CAT	DSL	ALL	NCAT	CAT	DSL	ALL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	4.803	7.54	0	7.527	5.119	6.203	0	6.188	5.114	6.174	0	6.167	3.736	4.522	0	4.52	2.742	3.509	0	3.507	2.742	3.468	0	3.463	2.468	3.395	0	3.352	1.356	3.159	0	3.118	2.468	3.369	0	3.343	2.441	3.409	0	3.408	0	0	0	0	0	0	0	0	0	0	0	0	4.827	6.589	0	6.578
10	6.47	10.126	0	10.109	6.861	8.32	0	8.3	6.855	8.292	0	8.284	5.021	6.082	0	6.079	4.123	5.275	0	5.271	4.123	5.213	0	5.205	3.711	5.104	0	5.039	2.039	4.75	0	4.688	3.711	5.065	0	5.025	3.671	5.124	0	5.124	0	0	0	0	0	0	0	0	0	0	0	0	6.499	8.862	0	8.847
15	8.299	12.994	0	12.972	8.795	10.671	0	10.645	8.787	10.645	0	10.635	6.447	7.815	0	7.812	5.868	7.504	0	7.499	5.868	7.417	0	7.406	5.283	7.262	0	7.17	2.905	6.76	0	6.672	5.283	7.207	0	7.151	5.227	7.293	0	7.292	0	0	0	0	0	0	0	0	0	0	0	0	8.356	11.389	0	11.371
20	10.201	15.98	0	15.954	10.819	13.122	0	13.092	10.809	13.099	0	13.085	7.935	9.622	0	9.618	7.908	10.105	0	10.098	7.908	9.989	0	9.973	7.122	9.78	0	9.657	3.918	9.108	0	8.989	7.122	9.706	0	9.631	7.046	9.825	0	9.824	0	0	0	0	0	0	0	0	0	0	0	0	10.302	14.03	0	14.006
25	12.032	18.87	0	18.838	12.781	15.499	0	15.462	12.769	15.474	0	15.459	9.369	11.372	0	11.368	10.089	12.878	0	12.87	10.089	12.732	0	12.712	9.089	12.467	0	12.311	5.004	11.616	0	11.465	9.089	12.374	0	12.278	8.993	12.529	0	12.529	0	0	0	0	0	0	0	0	0	0	0	0	12.192	16.591	0	16.564
30	13.627	21.421	0	21.384	14.506	17.6	0	17.558	14.492	17.572	0	17.554	10.616	12.916	0	12.91	12.185	15.535	0	15.525	12.185	15.36	0	15.336	10.982	15.043	0	14.855	6.051	14.024	0	13.842	10.982	14.932	0	14.817	10.867	15.124	0	15.124	0	0	0	0	0	0	0	0	0	0	0	0	13.855	18.857	0	18.826
35	14.823	23.399	0	23.359	15.818	19.232	0	19.186	15.802	19.198	0	19.178	11.544	14.109	0	14.103	13.93	17.737	0	17.726	13.93	17.539	0	17.512	12.56	17.181	0	16.967	6.928	16.026	0	15.818	12.56	17.054	0	16.924	12.43	17.282	0	17.282	0	0	0	0	0	0	0	0	0	0	0	0	15.118	20.618	0	20.584
40	15.487	24.623	0	24.58	16.57	20.244	0	20.195	16.554	20.201	0	20.18	12.046	14.841	0	14.834	15.074	19.167	0	19.155	15.074	18.956	0	18.927	13.599	18.572	0	18.342	7.508	17.336	0	17.111	13.599	18.437	0	18.296	13.459	18.692	0	18.691	0	0	0	0	0	0	0	0	0	0	0	0	15.839	21.708	0	21.672
45	15.541	24.99	0	24.946	16.673	20.549	0	20.496	16.655	20.497	0	20.474	12.058	15.051	0	15.044	15.44	19.604	0	19.592	15.44	19.391	0	19.362	13.936	19.002	0	18.768	7.703	17.749	0	17.52	13.936	18.866	0	18.722	13.794	19.135	0	19.134	0	0	0	0	0	0	0	0	0	0	0	0	15.93	22.033	0	21.995
50	14.973	24.497	0	24.453	16.108	20.14	0	20.085	16.09	20.082	0	20.059	11.573	14.738	0	14.731	14.969	18.979	0	18.967	14.969	18.775	0	18.747	13.518	18.402	0	18.176	7.48	17.2	0	16.978	13.518	18.271	0	18.133	13.381	18.54	0	18.54	0	0	0	0	0	0	0	0	0	0	0	0	15.374	21.589	0	21.55

Pollutant Name: Diesel - mi/gal Temperature: 90F Relative Humidity: 10%

Speed	LDA	LDA	LDA	LDA	LDT1	LDT1	LDT1	LDT1	LDT2	LDT2	LDT2	LDT2	MDV	MDV	MDV	MDV	LHD1	LHD1	LHD1	LHD1	LHD2	LHD2	LHD2	LHD2	MHD	MHD	MHD	MHD	HHD	HHD	HHD	HHD	OBUS	OBUS	OBUS	OBUS	UBUS	UBUS	UBUS	UBUS	MCY	MCY	MCY	MCY	SBUS	SBUS	SBUS	SBUS	MH	MH	MH	MH	ALL	ALL	ALL	ALL
MPH	NCAT	CAT	DSL	ALL	NCAT	CAT	DSL	ALL	NCAT	CAT	DSL	ALL	NCAT	CAT	DSL	ALL	NCAT	CAT	DSL	ALL	NCAT	CAT	DSL	ALL	NCAT	CAT	DSL	ALL	NCAT	CAT	DSL	ALL	NCAT	CAT	DSL	ALL	NCAT	CAT	DSL	ALL	NCAT	CAT	DSL	ALL	NCAT	CAT	DSL	ALL	NCAT	CAT	DSL	ALL	NCAT	CAT	DSL	ALL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	27.975	27.975	0	0	29.001	29.001	0	0	28.12	28.12	0	0	29.034	29.034	0	0	19.355	19.355	0	0	18.908	18.908	0	0	6.698	6.698	0	0	2.621	2.621	0	0	6.698	6.698	0	0	4.489	4.489	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4.845	4.845
10	0	0	27.975	27.975	0	0	29.001	29.001	0	0	28.12	28.12	0	0	29.034	29.034	0	0	19.355	19.355	0	0	18.908	18.908	0	0	6.698	6.698	0	0	3.184	3.184	0	0	6.698	6.698	0	0	4.489	4.489	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5.319	5.319
15	0	0	27.975	27.975	0	0	29.001	29.001	0	0	28.12	28.12	0	0	29.034	29.034	0	0	19.355	19.355	0	0	18.908	18.908	0	0	6.698	6.698	0	0	3.883	3.883	0	0	6.698	6.698	0	0	4.489	4.489	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5.907	5.907
20	0	0	27.975	27.975	0	0	29.001	29.001	0	0	28.12	28.12	0	0	29.034	29.034	0	0	19.355	19.355	0	0	18.908	18.908	0	0	6.698	6.698	0	0	4.617	4.617	0	0	6.698	6.698	0	0	4.489	4.489	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6.525	6.525
25	0	0	27.975	27.975	0	0	29.001	29.001	0	0	28.12	28.12	0	0	29.034	29.034	0	0	19.355	19.355	0	0	18.908	18.908	0	0	6.698	6.698	0	0	4.935	4.935	0	0	6.698	6.698	0	0	4.489	4.489	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6.792	6.792
30	0	0	27.975	27.975	0	0	29.001	29.001	0	0	28.12	28.12	0	0	29.034	29.034	0	0	19.355	19.355	0	0	18.908	18.908	0	0	6.698	6.698	0	0	5.238	5.238	0	0	6.698	6.698	0	0	4.489	4.489	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7.048	7.048
35	0	0	27.975	27.975	0	0	29.001	29.001	0	0	28.12	28.12	0	0	29.034	29.034	0	0	19.355	19.355	0	0	18.908	18.908	0	0	6.698	6.698	0	0	5.515	5.515	0	0	6.698	6.698	0	0	4.489	4.489	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7.28	7.28
40	0	0	27.975	27.975	0	0	29.001	29.001	0	0	28.12	28.12	0	0	29.034	29.034	0	0	19.355	19.355	0	0	18.908	18.908	0	0	6.698	6.698	0	0	5.749	5.749	0	0	6.698	6.698	0	0	4.489	4.489	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7.477	7.477
45	0	0	27.975	27.975	0	0	29.001	29.001	0	0	28.12	28.12	0	0	29.034	29.034	0	0	19.355	19.355	0	0	18.908	18.908	0	0	6.698	6.698	0	0	5.926	5.926	0	0	6.698	6.698	0	0	4.489	4.489	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7.626	7.626
50	0	0	27.975	27.975	0	0	29.001	29.001	0	0	28.12	28.12	0	0	29.034	29.034	0	0	19.355	19.355	0	0	18.908	18.908	0	0	6.698	6.698	0	0	6.033	6.033	0	0	6.698	6.698	0	0	4.489	4.489	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7.717	7.717

For on-site activity (mean vehicle speed = 10 mph, Temperature: 90F, Relative Humidity: 10%)

	Emission Factors (g/mile)						
	PM_{10}	$PM_{2.5}$	CO	ROG	NO_x	SO_x	CO_2
LDA-ALL	0.0580	0.0418	10.3680	0.9730	0.9710	0.0080	857.0070
LHD1-DSL	0.1090	0.0859	2.0220	0.3170	5.6120	0.0050	520.7810
HHD-DSL	1.6970	1.5234	12.3530	5.7800	27.5480	0.0300	3165.4460

For off-site activity (mean vehicle speed = 50 mph, Temperature: 90F, Relative Humidity: 10%)

	Emission Factors (g/mile)						
	PM_{10}	$PM_{2.5}$	CO	ROG	NO_x	SO_x	CO_2
LDA-ALL	0.0290	0.0150	5.3480	0.2140	0.6310	0.0030	353.6330
LHD1-DSL	0.0520	0.0334	0.5320	0.1010	4.5220	0.0050	520.7810
HHD-DSL	0.5620	0.4792	3.0340	0.6580	14.8180	0.0160	1670.6790

Note:

$PM_{2.5}$ emission factors determined using guidance from SCAQMD
Final - Methodology to Calculate $PM_{2.5}$ and $PM_{2.5}$ Significance Thresholds
10/1/2006, Appendix A - Updated CEIDARS Table with $PM_{2.5}$ Fractions

On-road vehicles

- $PM_{2.5}$ Fraction of PM_{10}, Brake wear: 0.429
- $PM_{2.5}$ Fraction of PM_{10}, Diesel: 0.920
- $PM_{2.5}$ Fraction of PM_{10}, Gasoline-catalyst: 0.928
- $PM_{2.5}$ Fraction of PM_{10}, Tire wear: 0.250

CY	Season	AvgDays	Code	Equipment	Fuel	MaxHP	Class	C/R	Pre	Hand	Port	County	Air Basin	Air Dist.	Activity (hr/day) total population	PM Exhaust (tons/day)	CO Exhaust (tons/day)	ROG Exhaust (tons/day)	NOX Exhaust (tons/day)	SO2 Exhaust (tons/day)	CO2 Exhaust (tons/day)	CH4 Exhaust (tons/day)	N2O Exhaust (tons/day)	PM Exhaust/ Activity (tons/hr)	CO Exhaust/ Activity (tons/hr)	ROG Exhaust/ Activity (tons/hr)	NOX Exhaust/ Activity (tons/hr)	SO2 Exhaust/A ctivity (tons/hr)	CO2 Exhaust/ Activity (tons/hr)	CH4 Exhaust/ Activity (tons/hr)	N2O Exhaust/A ctivity (tons/hr)
2009	Annual	Mon-Sun	2266003010	Aerial Lifts	C4	15	Industrial Equipment	U	P	NHH	NP	Imperial	SS	IMP	1.70E-02	3.47E-08	1.22E-05	3.15E-08	3.34E-07	0.00E+00	7.57E-05	2.64E-07	0.00E+00	2.04E-06	7.18E-04	1.85E-06	1.96E-05	0.00E+00	4.45E-03	1.55E-05	0.00E+00
2009	Annual	Mon-Sun	2266003010	Aerial Lifts	C4	25	Industrial Equipment	U	P	NHH	NP	Imperial	SS	IMP	7.30E-01	2.44E-06	8.07E-04	3.04E-06	2.22E-05	0.00E+00	4.74E-03	2.55E-05	0.00E+00	3.35E-06	1.11E-03	4.16E-06	3.04E-05	0.00E+00	6.50E-03	3.49E-05	0.00E+00
2009	Annual	Mon-Sun	2266003020	Forklifts	C4	25	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	2.39E-02	8.06E-08	2.35E-05	1.48E-07	6.56E-07	0.00E+00	1.23E-04	1.24E-06	0.00E+00	3.38E-06	9.84E-04	6.22E-06	2.75E-05	0.00E+00	5.13E-03	5.21E-05	0.00E+00
2009	Annual	Mon-Sun	2266003020	Forklifts	C4	50	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	2.33E+01	1.89E-05	3.42E-03	3.73E-05	1.59E-03	0.00E+00	2.13E-01	3.13E-04	0.00E+00	8.14E-07	1.47E-04	1.60E-06	6.85E-05	0.00E+00	9.15E-03	1.34E-05	0.00E+00
2009	Annual	Mon-Sun	2266003020	Forklifts	C4	120	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	8.17E+01	1.14E-04	5.76E-02	2.33E-04	9.08E-03	0.00E+00	1.28E+00	1.95E-03	0.00E+00	1.39E-06	7.05E-04	2.85E-06	1.11E-04	0.00E+00	1.56E-02	2.39E-05	0.00E+00
2009	Annual	Mon-Sun	2266003020	Forklifts	C4	175	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	2.99E+00	8.67E-06	3.38E-03	1.09E-05	5.66E-04	0.00E+00	9.74E-02	9.13E-05	0.00E+00	2.90E-06	1.13E-03	3.64E-06	1.89E-04	0.00E+00	3.26E-02	3.05E-05	0.00E+00
2009	Annual	Mon-Sun	2270003010	Aerial Lifts	D	15	Industrial Equipment	U	P	NHH	NP	Imperial	SS	IMP	4.00E-01	8.33E-07	1.06E-05	2.15E-06	1.38E-05	2.69E-08	1.73E-03	1.94E-07	0.00E+00	2.09E-06	2.65E-05	5.38E-06	3.46E-05	6.73E-08	4.32E-03	4.85E-07	0.00E+00
2009	Annual	Mon-Sun	2270003010	Aerial Lifts	D	25	Industrial Equipment	U	P	NHH	NP	Imperial	SS	IMP	6.52E-01	2.30E-06	1.97E-05	7.37E-06	3.38E-05	4.53E-08	3.57E-03	6.65E-07	0.00E+00	3.53E-06	3.02E-05	1.13E-05	5.18E-05	6.95E-08	5.48E-03	1.02E-06	0.00E+00
2009	Annual	Mon-Sun	2270003010	Aerial Lifts	D	50	Industrial Equipment	U	P	NHH	NP	Imperial	SS	IMP	2.29E+00	2.22E-05	2.24E-04	8.94E-05	2.29E-04	2.90E-07	2.25E-02	8.07E-06	0.00E+00	9.67E-06	9.77E-05	3.90E-05	1.00E-04	1.27E-07	9.80E-03	3.52E-06	0.00E+00
2009	Annual	Mon-Sun	2270003010	Aerial Lifts	D	120	Industrial Equipment	U	P	NHH	NP	Imperial	SS	IMP	2.03E+00	3.75E-05	2.55E-04	7.40E-05	4.73E-04	4.54E-07	3.87E-02	6.68E-06	0.00E+00	1.84E-05	1.26E-04	3.64E-05	2.33E-04	2.23E-07	1.90E-02	3.29E-06	0.00E+00
2009	Annual	Mon-Sun	2270003010	Aerial Lifts	D	500	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	2.61E-01	8.15E-06	8.10E-05	2.07E-05	2.59E-04	2.72E-07	2.77E-02	1.86E-06	0.00E+00	3.13E-05	3.11E-04	7.93E-05	9.96E-04	1.04E-06	1.06E-01	7.16E-06	0.00E+00
2009	Annual	Mon-Sun	2270003010	Aerial Lifts	D	750	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	2.10E-02	1.20E-06	1.18E-05	3.09E-06	3.87E-05	4.05E-08	4.03E-03	2.79E-07	0.00E+00	5.73E-05	5.62E-04	1.48E-04	1.85E-03	1.93E-06	1.92E-01	1.33E-05	0.00E+00
2009	Annual	Mon-Sun	2270003020	Forklifts	D	50	Industrial Equipment	U	P	NHH	NP	Imperial	SS	IMP	3.26E+00	2.85E-05	3.10E-04	1.21E-04	2.54E-04	3.09E-07	2.39E-02	1.09E-05	0.00E+00	8.76E-06	9.50E-05	3.71E-05	7.79E-05	9.48E-08	7.33E-03	3.34E-06	0.00E+00
2009	Annual	Mon-Sun	2270003020	Forklifts	D	120	Industrial Equipment	U	P	NHH	NP	Imperial	SS	IMP	5.11E+00	9.40E-05	5.78E-04	1.66E-04	9.51E-04	9.35E-07	7.97E-02	1.50E-05	0.00E+00	1.84E-05	1.13E-04	3.25E-05	1.86E-04	1.83E-07	1.56E-02	2.94E-06	0.00E+00
2009	Annual	Mon-Sun	2270003020	Forklifts	D	175	Industrial Equipment	U	P	NHH	NP	Imperial	SS	IMP	5.14E+00	9.22E-05	8.49E-04	2.03E-04	1.52E-03	1.62E-06	1.44E-01	1.83E-05	0.00E+00	1.80E-05	1.65E-04	3.94E-05	2.97E-04	3.15E-07	2.80E-02	3.56E-06	0.00E+00
2009	Annual	Mon-Sun	2270003020	Forklifts	D	250	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	5.10E+00	6.06E-05	4.46E-04	1.72E-04	1.95E-03	2.21E-06	1.96E-01	1.55E-05	0.00E+00	1.19E-05	8.74E-05	3.36E-05	3.82E-04	4.33E-07	3.85E-02	3.04E-06	0.00E+00
2009	Annual	Mon-Sun	2270003020	Forklifts	D	500	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	2.18E+00	3.48E-05	2.64E-04	9.71E-05	1.04E-03	1.19E-06	1.21E-01	8.76E-06	0.00E+00	1.60E-05	1.21E-04	4.45E-05	4.75E-04	5.44E-07	5.54E-02	4.01E-06	0.00E+00

Attachment AQ-3 part 1
Overlap of Construction and Operations Emissions [month 8-19]
(March 20, 2009)

Table 5.2-27c New

Estimated Maximum Annual Construction and Operations Overlapping Emissions for Months 8-19 (tons/year)

CONSTRUCTION						
Activity	**PM_{10}**	**$PM_{2.5}$**	**CO**	**ROC**	**NO_x**	**SO_x**
On-Site Construction Emissions						
On-Site Combustion Emissions						
Construction Equipment	1.73	1.59	27.16	5.29	25.37	0.02
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.20	0.18	3.06	0.82	3.37	0.004
Worker Vehicles	0.002	0.002	0.397	0.037	0.037	0.0003
Security Vehicles	0.001	0.001	0.137	0.004	0.002	0.001
Suncatcher Delivery Trucks	0.102	0.092	0.742	0.347	1.655	0.002
Subtotal of On-site Combustion Emissions	**2.04**	**1.87**	**31.49**	**6.50**	**30.43**	**0.03**
On-Site Fugitive Dust Emissions						
Construction Equipment	3.68	0.80				
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	20.26	2.73				
Worker Vehicles	0.34	0.05				
Security Vehicles	0.70	0.10				
Suncatcher Delivery Trucks	6.43	0.96				
Subtotal of On-Site Fugitive Dust Emissions	**31.42**	**4.63**				
Subtotal of On-Site Emissions	**33.46**	**6.50**	**31.49**	**6.50**	**30.43**	**0.03**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.00	0.00	0.93	0.08	0.07	0.00
Worker Vehicles	0.30	0.21	52.92	4.97	4.96	0.04
Suncatcher Delivery Trucks	2.39	2.15	17.41	8.15	38.83	0.04
Subtotal of Off-Site Combustion Emissions	**2.69**	**2.36**	**71.26**	**13.19**	**43.85**	**0.08**
Off-Site Paved Road Fugitive Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.38	0.05	0.00	0.00	0.00	0.00
Worker Vehicles	5.00	0.08	0.00	0.00	0.00	0.00
Suncatcher Delivery Trucks	8.77	1.13	0.00	0.00	0.00	0.00
Subtotal of Off-Site Fugitive Emissions	**14.16**	**1.27**	**0.00**	**0.00**	**0.00**	**0.00**
Subtotal of Off-Site Emissions	**16.85**	**3.63**	**71.26**	**13.19**	**43.85**	**0.08**
Total Maximum Annual Emissions	**50.31**	**10.13**	**102.75**	**19.69**	**74.29**	**0.11**
OPERATIONS						
On-Site Operational Emissions						
On-Site Combustion Emissions						
Diesel Generator	0.00	0.00	0.00	0.00	0.02	0.00
Maintenance & Security Vehicles and Equipment	0.00	0.00	2.89	0.38	0.37	0.00
Worker Vehicles	0.00	0.00	0.19	0.02	0.02	0.00
Visitor Cars and Delivery Trucks	0.00	0.00	0.01	0.00	0.01	0.00
Subtotal of On-site Combustion Emissions	**0.01**	**0.01**	**3.10**	**0.40**	**0.41**	**0.00**
On-Site Fugitive Emissions						
Diesel Generator						
Gasoline Tank				0.65		
Maintenance & Security Vehicles and Equipment	3.18	0.47				
Worker Vehicles	0.07	0.01				
Visitor Cars and Delivery Trucks	0.03	0.01				
Subtotal of On-Site Fugitive Dust Emissions	**3.28**	**0.48**		**0.65**		
Subtotal of On-Site Emissions	**3.29**	**0.49**	**3.10**	**1.05**	**0.41**	**0.00**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Worker Vehicles	0.01	0.00	1.34	0.05	0.16	0.00
Visitor Cars and Delivery Trucks	0.00	0.00	0.10	0.00	0.04	0.00
Subtotal of Off-Site Combustion Emissions	**0.01**	**0.00**	**1.45**	**0.06**	**0.19**	**0.00**
Off-Site Paved Road Fugitive Emissions						
Worker Vehicles	0.28	0.01	0.00	0.00	0.00	0.00
Visitor Cars and Delivery Trucks	0.07	0.01	0.00	0.00	0.00	0.00
Subtotal of Off-Site FugitiveEmissions	**0.35**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**
Subtotal of Off-Site Emissions	**0.36**	**0.02**	**1.45**	**0.06**	**0.19**	**0.00**
Total Maximum Emissions	**3.65**	**0.51**	**4.55**	**1.11**	**0.61**	**0.00**
Construction and Operations Overlapping Emissions						
Total of On-Site Emissions Construction & Operations	**36.75**	**6.99**	**34.59**	**7.55**	**30.85**	**0.03**
Total of Off-Site Emissions Construction & Operations	**17.21**	**3.65**	**72.70**	**13.25**	**44.05**	**0.08**
Construction & Operations Overlap Total	**53.96**	**10.64**	**107.29**	**20.80**	**74.90**	**0.12**

Table 5.2-27b New
Estimated Maximum Daily Construction and Operations Overlapping Emissions for Month 8 (lbs/day)

CONSTRUCTION						
Activity	**PM_{10}**	**$PM_{2.5}$**	**CO**	**ROC**	**NO_x**	**SO_x**
On-Site Construction Emissions						
On-Site Combustion Emissions						
Construction Equipment	13.33	12.28	173.12	38.63	201.84	0.19
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	1.23	1.10	18.12	4.91	20.24	0.03
Worker Vehicles	0.01	0.01	2.64	0.25	0.25	0.00
Security Vehicles	0.00	0.00	0.76	0.02	0.01	0.00
Suncatcher Delivery Trucks	0.63	0.56	4.57	2.14	10.19	0.01
Subtotal of On-site Combustion Emissions	**15.20**	**13.95**	**199.21**	**45.95**	**232.53**	**0.24**
On-Site Fugitive Dust Emissions						
Construction Equipment	22.23	5.34				
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	126.80	17.01				
Worker Vehicles	2.28	0.31				
Security Vehicles	3.90	0.54				
Suncatcher Delivery Trucks	39.61	5.89				
Subtotal of On-Site Fugitive Dust Emissions	**194.84**	**29.09**				
Subtotal of On-Site Emissions	**210.04**	**43.05**	**199.21**	**45.95**	**232.53**	**0.24**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.01	0.01	5.54	0.47	0.42	0.00
Worker Vehicles	1.97	1.76	437.86	41.09	41.01	0.34
Suncatcher Delivery Trucks	14.32	15.27	123.80	57.93	276.09	0.30
Subtotal of Off-Site Combustion Emissions	**16.29**	**17.04**	**567.20**	**99.49**	**317.51**	**0.64**
Off-Site Paved Road Fugitive Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	2.29	0.02	0.00	0.00	0.00	0.00
Worker Vehicles	33.27	0.31	0.00	0.00	0.00	0.00
Suncatcher Delivery Trucks	71.44	0.67	0.00	0.00	0.00	0.00
Subtotal of Off-Site Fugitive Emissions	**107.00**	**1.00**	**0.00**	**0.00**	**0.00**	**0.00**
Subtotal of Off-Site Emissions	**123.29**	**18.04**	**567.20**	**99.49**	**317.51**	**0.64**
Total Maximum Annual Emissions	**333.33**	**61.08**	**766.41**	**145.44**	**550.05**	**0.88**
OPERATIONS						
On-Site Operational Emissions						
On-Site Combustion Emissions						
Diesel Generator	0.01	0.01	0.07	0.03	0.85	0.02
Maintenance & Security Vehicles and Equipment	0.00	0.00	2.45	0.32	0.31	0.00
Worker Vehicles	0.00	0.00	0.17	0.02	0.02	0.00
Visitor Cars and Delivery Trucks	0.00	0.00	0.02	0.01	0.03	0.00
Subtotal of On-site Combustion Emissions	**0.02**	**0.02**	**2.71**	**0.37**	**1.21**	**0.02**
On-Site Fugitive Emissions						
Diesel Generator						
Gasoline Tank				3.55		
Maintenance & Security Vehicles and Equipment	2.70	0.40				
Worker Vehicles	0.06	0.01				
Visitor Cars and Delivery Trucks	0.16	0.02				
Subtotal of On-Site Fugitive Dust Emissions	**2.92**	**0.43**		**3.55**		
Subtotal of On-Site Emissions	**2.94**	**0.45**	**2.71**	**3.93**	**1.21**	**0.02**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Worker Vehicles	0.01	0.00	1.14	0.05	0.13	0.00
Visitor Cars and Delivery Trucks	0.00	0.00	0.14	0.01	0.13	0.00
Subtotal of Off-Site Combustion Emissions	**0.01**	**0.01**	**1.28**	**0.06**	**0.27**	**0.00**
Off-Site Paved Road Fugitive Emissions						
Worker Vehicles	0.23	0.01	0.00	0.00	0.00	0.00
Visitor Cars and Delivery Trucks	0.31	0.04	0.00	0.00	0.00	0.00
Subtotal of Off-Site FugitiveEmissions	**0.54**	**0.05**	**0.00**	**0.00**	**0.00**	**0.00**
Subtotal of Off-Site Emissions	**0.56**	**0.06**	**1.28**	**0.06**	**0.27**	**0.00**
Total Maximum Emissions	**3.50**	**0.50**	**3.99**	**3.98**	**1.47**	**0.02**
Construction and Operations Overlapping Emissions						
Total of On-Site Emissions Construction & Operations	**212.98**	**43.49**	**201.92**	**49.88**	**233.74**	**0.26**
Total of Off-Site Emissions Construction & Operations	**123.85**	**18.09**	**568.48**	**99.55**	**317.78**	**0.64**
Construction & Operations Overlap Total	**336.83**	**61.59**	**770.40**	**149.42**	**551.52**	**0.90**

Table 5.2-27a New
Estimated Maximum hourly Construction and Operations Overlapping Emissions for Month 8 (lbs/hour)

CONSTRUCTION						
Activity	**PM_{10}**	**$PM_{2.5}$**	**CO**	**ROC**	**NO_x**	**SO_x**
On-Site Construction Emissions						
On-Site Combustion Emissions						
Construction Equipment	0.56	0.51	7.21	1.61	8.41	0.01
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.05	0.05	0.75	0.20	0.84	0.00
Worker Vehicles	0.00	0.00	0.11	0.01	0.01	0.00
Security Vehicles	0.00	0.00	0.03	0.00	0.00	0.00
Suncatcher Delivery Trucks	0.03	0.02	0.19	0.09	0.42	0.00
Subtotal of On-site Combustion Emissions	**0.63**	**0.58**	**8.30**	**1.91**	**9.69**	**0.01**
On-Site Fugitive Dust Emissions						
Construction Equipment	0.93	0.22				
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	5.28	0.71				
Worker Vehicles	0.10	0.01				
Security Vehicles	0.16	0.02				
Suncatcher Delivery Trucks	1.65	0.25				
Subtotal of On-Site Fugitive Dust Emissions	**8.12**	**1.21**				
Subtotal of On-Site Emissions	**8.75**	**1.79**	**8.30**	**1.91**	**9.69**	**0.01**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.00	0.00	0.23	0.02	0.02	0.00
Worker Vehicles	0.08	0.07	18.24	1.71	1.71	0.01
Suncatcher Delivery Trucks	0.60	0.64	5.16	2.41	11.50	0.01
Subtotal of Off-Site Combustion Emissions	**0.68**	**0.71**	**23.63**	**4.15**	**13.23**	**0.03**
Off-Site Paved Road Fugitive Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.10	0.00	0.00	0.00	0.00	0.00
Worker Vehicles	1.39	0.01	0.00	0.00	0.00	0.00
Suncatcher Delivery Trucks	2.98	0.03	0.00	0.00	0.00	0.00
Subtotal of Off-Site Fugitive Emissions	**4.46**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**
Subtotal of Off-Site Emissions	**5.14**	**0.75**	**23.63**	**4.15**	**13.23**	**0.03**
Total Maximum Annual Emissions	**13.89**	**2.55**	**31.93**	**6.06**	**22.92**	**0.04**
OPERATIONS						
On-Site Operational Emissions						
On-Site Combustion Emissions						
Diesel Generator	0.00	0.00	0.00	0.00	0.04	0.00
Maintenance & Security Vehicles and Equipment	0.00	0.00	0.10	0.01	0.01	0.00
Worker Vehicles	0.00	0.00	0.01	0.00	0.00	0.00
Visitor Cars and Delivery Trucks	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal of On-site Combustion Emissions	**0.00**	**0.00**	**0.11**	**0.02**	**0.05**	**0.00**
On-Site Fugitive Emissions						
Diesel Generator						
Gasoline Tank				0.15		
Maintenance & Security Vehicles and Equipment	0.11	0.02				
Worker Vehicles	0.00	0.00	0.00	0.00	0.00	0.00
Visitor Cars and Delivery Trucks	0.01	0.00	0.00	0.00	0.00	0.00
Subtotal of On-Site Fugitive Dust Emissions	**0.12**	**0.02**		**0.15**		
Subtotal of On-Site Emissions	**0.12**	**0.02**	**0.11**	**0.16**	**0.05**	**0.00**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Worker Vehicles	0.00	0.00	0.05	0.00	0.01	0.00
Visitor Cars and Delivery Trucks	0.00	0.00	0.01	0.00	0.01	0.00
Subtotal of Off-Site Combustion Emissions	**0.00**	**0.00**	**0.05**	**0.00**	**0.01**	**0.00**
Off-Site Paved Road Fugitive Emissions						
Worker Vehicles	0.01	0.00	0.00	0.00	0.00	0.00
Visitor Cars and Delivery Trucks	0.01	0.00	0.00	0.00	0.00	0.00
Subtotal of Off-Site FugitiveEmissions	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Subtotal of Off-Site Emissions	**0.02**	**0.00**	**0.05**	**0.00**	**0.01**	**0.00**
Total Maximum Emissions	**0.15**	**0.02**	**0.17**	**0.17**	**0.06**	**0.00**
Construction and Operations Overlapping Emissions						
Total of On-Site Emissions Construction & Operations	**8.87**	**1.81**	**8.41**	**2.08**	**9.74**	**0.01**
Total of Off-Site Emissions Construction & Operations	**5.16**	**0.75**	**23.69**	**4.15**	**13.24**	**0.03**
Construction & Operations Overlap Total	**14.03**	**2.57**	**32.10**	**6.23**	**22.98**	**0.04**

Anticipated Operational Capacity by Month of Construction Schedule

Month in Construction Schedule	MW Online	Fraction of peak MW
8	18	0.024
9	36	0.048
10	54	0.072
11	72	0.096
12	90	0.120
13	108	0.144
14	126	0.168
15	144	0.192
16	162	0.216
17	180	0.240
18	198	0.264
19	225	0.300
20	252	0.336
21	279	0.372
22	306	0.408
23	333	0.444
24	360	0.480
25	387	0.516
26	414	0.552
27	441	0.588
28	468	0.624
29	495	0.660
30	522	0.696
31	549	0.732
32	576	0.768
33	603	0.804
34	630	0.840
35	657	0.876
36	684	0.912
37	711	0.948
38	738	0.984
39	750	1.000
40	750	1.000

Year in Construction Schedule	Average Annual MW Online	Fraction of peak MW
8-19	118	0.16
9-20	137	0.18
10-21	158	0.21
11-22	179	0.24
12-23	200	0.27
13-24	223	0.30
14-25	246	0.33
15-26	270	0.36
16-27	295	0.39
17-28	320	0.43
18-29	347	0.46
19-30	374	0.50
20-31	401	0.53
21-32	428	0.57
22-33	455	0.61
23-34	482	0.64
24-35	509	0.68
25-36	536	0.71
26-37	563	0.75
27-38	590	0.79
28-39	615	0.82
29-40	639	0.85

Note: from month 8 - 18 18 MW will come online per month
after that 27 MW will come online per month until full 750MW buildout

Table 5.2-21 Revised

Estimated Maximum Annual Construction Emissions of Criteria Pollutants for Months 8-19 (tons/year)

Activity	PM_{10}	$PM_{2.5}$	CO	ROC	NO_x	SO_x
On-Site Construction Emissions						
On-Site Combustion Emissions						
Construction Equipment	1.73	1.59	27.16	5.29	25.37	0.02
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.204	0.182	3.058	0.820	3.369	0.004
Worker Vehicles	0.002	0.002	0.397	0.037	0.037	0.000
Security Vehicles	0.001	0.001	0.137	0.004	0.002	0.001
Suncatcher Delivery Trucks	0.102	0.092	0.742	0.347	1.655	0.002
Subtotal of On-site Combustion Emissions	**2.04**	**1.87**	**31.49**	**6.50**	**30.43**	**0.03**
On-Site Fugitive Dust Emissions						
Construction Equipment	3.68	0.80				
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	20.26	2.73				
Worker Vehicles	0.34	0.05				
Security Vehicles	0.70	0.10				
Suncatcher Delivery Trucks	6.43	0.96				
Subtotal of On-Site Fugitive Emissions	**31.42**	**4.63**				
Subtotal of On-Site Emissions	**33.46**	**6.50**	**31.49**	**6.50**	**30.43**	**0.03**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.00	0.00	0.93	0.08	0.07	0.00
Worker Vehicles	0.30	0.21	52.92	4.97	4.96	0.04
Suncatcher Delivery Trucks	2.39	2.15	17.41	8.15	38.83	0.04
Subtotal of Off-Site Combustion Emissions	**2.69**	**2.36**	**71.26**	**13.19**	**43.85**	**0.08**
Off-Site Paved Road Fugitive Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.38	0.05				
Worker Vehicles	5.00	0.08				
Suncatcher Delivery Trucks	8.77	1.13				
Subtotal of Off-Site Fugitive Emissions	**14.16**	**1.27**				
Subtotal of Off-Site Emissions	**16.85**	**3.63**	**71.26**	**13.19**	**43.85**	**0.08**
Total Maximum Annual Emissions	**50.31**	**10.13**	**102.75**	**19.69**	**74.29**	**0.11**

Table 5.2-20 Revised

Estimated Daily Maximum Construction Emissions of Criteria Pollutants for Month 8 (lbs/day)

Activity	PM_{10}	$PM_{2.5}$	CO	ROC	NO_x	SO_x
On-Site Construction Emissions						
On-Site Combustion Emissions						
Construction Equipment	13.33	12.28	173.12	38.63	201.84	0.19
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	1.23	1.10	18.12	4.91	20.24	0.03
Worker Vehicles	0.01	0.01	2.64	0.25	0.25	0.00
Security Vehicles	0.004	0.004	0.763	0.020	0.011	0.004
Suncatcher Delivery Trucks	0.63	0.56	4.57	2.14	10.19	0.01
Subtotal of On-site Combustion Emissions	**15.20**	**13.95**	**199.21**	**45.95**	**232.53**	**0.24**
On-Site Fugitive Emissions						
Construction Equipment	22.23	5.34				
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	126.80	17.01				
Worker Vehicles	2.28	0.31				
Security Vehicles	3.90	0.54				
Suncatcher Delivery Trucks	39.61	5.89				
Subtotal of On-Site Fugitive Emissions	**194.84**	**29.09**				
Subtotal of On-Site Emissions	**210.04**	**43.05**	**199.21**	**45.95**	**232.53**	**0.24**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.01	0.01	5.54	0.47	0.42	0.002
Worker Vehicles	1.97	1.76	437.86	41.09	41.01	0.34
Suncatcher Delivery Trucks	14.32	15.27	123.80	57.93	276.09	0.30
Subtotal of Off-Site Combustion Emissions	**16.29**	**17.04**	**567.20**	**99.49**	**317.51**	**0.64**
Off-Site Paved Road Fugitive Dust Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	2.29	0.02				
Worker Vehicles	33.27	0.31				
Suncatcher Delivery Trucks	71.44	0.67				
Subtotal of Off-Site Fugitive Emissions	**107.00**	**1.00**				
Subtotal of Off-Site Emissions	**123.29**	**18.04**	**567.20**	**99.49**	**317.51**	**0.64**
Total Maximum Daily Emissions	**333.33**	**61.08**	**766.41**	**145.44**	**550.05**	**0.88**

Table 5.2-25b New
Estimated Annual Maximum Operational Emissions of Criteria Pollutants (tons/year)

Activity	PM_{10}	$PM_{2.5}$	CO	ROC	NO_x	SO_x
On-Site Operational Emissions						
On-Site Combustion Emissions						
Diesel Generator	0.0003	0.0003	0.0019	0.0007	0.0221	0.0006
Maintenance & Security Vehicles and Equipment	0.03	0.03	18.40	2.43	2.34	0.01
Worker Vehicles	0.01	0.01	1.24	0.12	0.12	0.00
Visitor Cars and Delivery Trucks	0.00	0.00	0.09	0.01	0.04	0.00
Subtotal of On-site Combustion Emissions	**0.04**	**0.04**	**19.73**	**2.56**	**2.52**	**0.01**
On-Site Fugitive Emissions						
Diesel Generator						
Gasoline Tank				0.65		
Maintenance & Security Vehicles and Equipment	20.27	3.01				
Worker Vehicles	0.42	0.05				
Visitor Cars and Delivery Trucks	0.22	0.03				
Subtotal of On-Site Fugitive Emissions	**20.91**	**3.09**	**0.00**	**0.65**	**0.00**	**0.00**
Subtotal of On-Site Emissions	**20.95**	**3.12**	**19.73**	**3.21**	**2.52**	**0.01**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Worker Vehicles	0.05	0.02	8.56	0.34	1.01	0.01
Visitor Cars and Delivery Trucks	0.01	0.01	0.65	0.03	0.23	0.00
Subtotal of Off-Site Combustion Emissions	**0.06**	**0.03**	**9.21**	**0.37**	**1.23**	**0.01**
Off-Site Paved Road Fugitive Emissions						
Worker Vehicles	1.75	0.05				
Visitor Cars and Delivery Trucks	0.48	0.05				
Subtotal of Off-Site FugitiveEmissions	**2.23**	**0.10**				
Subtotal of Off-Site Emissions	**2.29**	**0.13**	**9.21**	**0.37**	**1.23**	**0.01**
Total Maximum Emissions	**23.24**	**3.26**	**28.94**	**3.58**	**3.75**	**0.02**

Table 5.2-25a New
Estimated Daily Maximum Operational Emissions of Criteria Pollutants(lbs/day)

Activity	PM_{10}	$PM_{2.5}$	CO	ROC	NO_x	SO_x
On-Site Operational Emissions						
On-Site Combustion Emissions						
Diesel Generator	0.01	0.01	0.07	0.03	0.85	0.02
Maintenance & Security Vehicles and Equipment	0.17	0.16	102.24	13.49	13.02	0.04
Worker Vehicles	0.04	0.03	6.88	0.64	0.64	0.01
Visitor Cars and Delivery Trucks	0.06	0.06	1.00	0.26	1.06	0.00
Subtotal of On-site Combustion Emissions	**0.29**	**0.25**	**110.19**	**14.42**	**15.58**	**0.07**
On-Site Fugitive Emissions						
Diesel Generator						
Gasoline Tank				3.55		
Maintenance & Security Vehicles and Equipment	112.60	16.70				
Worker Vehicles	2.35	0.26				
Visitor Cars and Delivery Trucks	6.85	1.02				
Subtotal of On-Site Fugitive Emissions	**121.80**	**17.98**	**0.00**	**3.55**	**0.00**	**0.00**
Subtotal of On-Site Emissions	**122.09**	**18.23**	**110.19**	**17.97**	**15.58**	**0.07**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Worker Vehicles	0.27	0.14	47.55	1.90	5.58	0.03
Visitor Cars and Delivery Trucks	0.20	0.16	5.71	0.40	5.62	0.01
Subtotal of Off-Site Combustion Emissions	**0.47**	**0.30**	**53.26**	**2.30**	**11.21**	**0.04**
Off-Site Paved Road Fugitive Emissions						
Worker Vehicles	9.75	0.27				
Visitor Cars and Delivery Trucks	12.91	1.77				
Subtotal of Off-Site Fugitive Emissions	**22.66**	**2.04**				
Subtotal of Off-Site Emissions	**23.13**	**2.34**	**53.26**	**2.30**	**11.21**	**0.04**
Total Maximum Emissions	**145.22**	**20.57**	**163.45**	**20.27**	**26.79**	**0.11**

Construction Trade Projection (750 MW)

Discipline	Hours	Month After Construction Start																																				Highest Per Day Requirement by Solar Two During Project	El Centro Total Available for the Project
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40		
Carpenters	83,472	10	14	31	31	31	43	47	40	36	28	28	28	21	11	11	10	10	10	10	10	10	10	10	10	10	10	10	0	0	0	0	0	0	0	0	0	0	0	0	47	80
Concrete Crews	81,008	9	15	29	29	29	46	46	42	36	24	24	24	21	11	11	10	10	10	10	10	10	10	10	10	10	10	10	0	0	0	0	0	0	0	0	0	0	0	0	46	140
Electricians	212,010	17	28	57	57	57	84	84	60	54	54	54	54	69	69	113	105	105	88	48	48	44	44	44	44	44	44	44	44	44	44	44	44	44	44	0	0	0	0	0	113	210
Ironworkers	100,330	19	23	41	41	41	44	48	36	32	24	24	24	36	26	26	25	25	10	10	10	10	10	10	10	10	10	10	0	0	0	0	0	0	0	0	0	0	0	0	48	130
Laborers	153,557	17	43	65	62	62	142	142	68	30	30	30	30	56	41	51	46	46	32	22	17	17	17	17	17	17	17	17	10	10	10	10	10	10	10	10	0	0	0	0	142	540
Miscellaneous Crews	10,000	0	0	0	0	0	10	10	10	10	10	10	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	630
Operators	205,183	25	82	93	75	75	86	86	72	59	51	51	51	84	88	67	61	52	34	34	27	26	25	25	25	25	25	25	2	2	2	2	2	2	2	2	1	1	1	1	88	190
Plumbers	25,040	0	5	9	9	9	22	26	26	22	14	14	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	100
Solar Two Technicians	145,920	0	0	0	0	0	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	N/A
SunCatcher Assemblers	371,200	0	0	0	0	0	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	N/A
SunCatcher Electricians	92,800	0	0	0	0	0	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	N/A
SunCatcher Ironworkers	185,600	0	0	0	0	0	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	N/A
SunCatcher Laborers	58,880	0	0	0	0	0	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	0	0	0	0	0	0	0	0	0	0	0	16	16	16	16	16	16	16	16	16	N/A
SunCatcher Material Handlers	92,800	0	0	0	0	0	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	N/A
SunCatcher Operators	29,440	0	0	0	0	0	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	8	8	8	8	8	8	8	8	N/A
SunCatcher Teamsters	44,160	0	0	0	0	0	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	0	0	0	0	0	0	0	0	0	0	0	0	12	12	12	12	12	12	12	12	N/A
SunCatcher Technicians	185,600	0	0	0	0	0	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	N/A
Teamsters	65,160	4	60	49	24	24	25	25	7	5	5	5	5	31	53	29	28	26	24	24	4	4	3	3	3	3	3	3	1	1	1	1	1	1	1	1	1	1	1	0	60	680
Technicians	3,504	0	0	0	0	0	5	5	5	5	5	5	5	5	1	1	1	1	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	5	60
Totals	**2,145,663**	**101**	**270**	**374**	**328**	**328**	**719**	**731**	**578**	**501**	**457**	**457**	**457**	**535**	**512**	**521**	**498**	**487**	**420**	**370**	**339**	**314**	**312**	**312**	**312**	**312**	**312**	**312**	**249**	**249**	**249**	**249**	**249**	**285**	**285**	**285**	**230**	**230**	**230**	**230**	**228**	**813**	**2,760**

Source: Bureau of Labor Statistics, 2008.

Note:

N/A = not applicable

14417 total personnel for 40 months
360 avg monthly personnel
731 max monthly personnel

Construction Equipment Projection (750 MW)
Revised Table 5.2-19

					Month After Construction Start																																			
Construction Equipment Description	HP	D	G	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Air Compressor	50	X			1	1	1	1	3	3	3	3	2	2	2	2	2	2	2	2	1	1																						
Asphalt Paver	120	X				1																																						
Backhoe	120	X			3	9	5	5	5	6	6	5	4	4	4	4	4	4	4	4	1	1	1																					
Compactor	120	X			1	3	3	3	3	3	3	3	3	3	3	3	3	2	2	2																								
Crane small	175	X			1	3	4	5	5	8	8	8	7	6	6	6	8	8	6	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Crane large	500	X						3	3	3	1													3	3	3	3	3																
Dozer	250	X			1	1	1	1	1	1	1	1	1				1	1	1	1																								
Generator	50	X			1	1	1	2	2	4	4	4	6	6	6	6	3	3	3	3	3	2	2	2	2	2	1	1	1															
Grader	175	X			1	3	3	3	3	3	2	2	1				2	2	1	1																								
Light Tower	50	X						1	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1																			
Loader	250	X			1	3	3	4	4	4	3	3	2	1	1	1	3	3	3	2	1																							
Maxi Sneeker (Trencher)	50	X				2	2	2	2	5	5	4	4	4	4	4	5	5	5	5	5	2	2	1																				
Skid Steer (Bobcat)	50	X				1	1	2	2	4	3	3	2	2	2	2	4	4	4	4	4																							
Welding Machine	50	X				1	2	3	4	4	4	4	4	4	4	3	3	3	3	2	1	1	1																					
Equipment fueled with Propane																																												
Aerial Lift	120			X	2	5	5	5	6	6	5	3	3	2	2	2	4	5	5	5	5	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	5	5	5	5	5	5	5
Fork Lift	50			X	2	5	7	7	7	8	8	8	8	8	8	8	8	9	6	6	6	6	6	5	5	5	5	5	5	5	5	5	5	5										
Telehandler	120			X			1	1	2	5	4	3	3	3	3	3	4	7	5	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Vehicles with Onroad Engines for Emissions Estimates																																												
Busses	175		X		4	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	4	4	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Concrete Pump	250	X			2	5	5																																					
Dump Truck	250	X			3	8	7	6	4	4	4	3					3	2	2																									
Flatbed Truck	250	X			2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	7	7	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	2	2	2	2	2
Staff & Security Truck	187	/			5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Pickup Truck	175		X		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Water/Soiltac Truck	250	X			4	14	8	8	6	6	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3	1	1	1	1	1	1	1	1	1	1	1	1	0
General Materials Delivery Trucks	250	X				3	3	3	3	3	3	3																																
Suncatcher Pedestals Delivery Trucks	250	X						3	3	3	1													3	3	3	3	3																
Total					44	99	92	98	100	115	104	96	86	81	81	80	93	96	88	82	69	53	52	51	50	48	47	47	41	40	40	38	38	38	33	33	33	36	36	32	32	32	32	31

Construction Equipment Description	1-12	2-13	3-14	4-15	5-16	6-17	7-18	8-19	9-20	10-21	11-22	12-23	13-24	14-25	15-26	16-27	17-28	18-29	19-30	20-31	21-32	22-33	23-34	24-35	25-36	26-37	27-38	28-39	29-40
Air Compressor	24	25	26	27	28	26	24	21	18	16	14	12	10	8	6	4	2	1	0	0	0	0	0	0	0	0	0	0	0
Asphalt Paver	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Backhoe	60	61	56	55	54	50	45	40	35	31	27	23	19	15	11	7	3	2	1	0	0	0	0	0	0	0	0	0	0
Compactor	34	36	35	34	33	30	27	24	21	18	15	12	9	6	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0
Crane small	67	74	79	81	81	81	77	73	69	66	64	62	60	56	52	50	49	48	48	48	48	48	48	48	48	48	48	48	48
Crane large	10	10	10	10	7	4	1	0	3	6	9	12	15	15	15	15	15	15	15	15	12	9	6	3	0	0	0	0	0
Dozer	9	9	9	9	9	8	7	6	5	4	4	4	4	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Generator	43	45	47	49	50	51	49	47	45	41	37	32	27	25	22	19	16	13	11	9	7	5	3	2	1	0	0	0	0
Grader	21	22	21	19	17	14	11	9	7	6	6	6	6	4	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Light Tower	17	19	21	23	24	23	22	21	20	19	17	15	13	11	9	7	5	4	3	2	1	0	0	0	0	0	0	0	0
Loader	30	32	32	32	30	27	23	20	17	15	14	13	12	9	6	3	1	0	0	0	0	0	0	0	0	0	0	0	0
Maxi Sneeker (Trencher)	38	43	46	49	52	55	52	49	46	42	38	34	30	25	20	15	10	5	3	1	0	0	0	0	0	0	0	0	0
Skid Steer (Bobcat)	24	28	31	34	36	38	34	31	28	26	24	22	20	16	12	8	4	0	0	0	0	0	0	0	0	0	0	0	0
Welding Machine	37	40	42	43	42	39	36	33	29	25	21	17	14	11	8	5	3	2	1	0	0	0	0	0	0	0	0	0	0
Equipment fueled with Propane																													
Aerial Lift	46	48	48	48	48	47	43	40	39	38	38	38	38	36	33	30	27	24	24	24	24	24	27	30	33	36	39	42	45
Fork Lift	84	90	94	93	92	91	89	87	84	81	78	75	72	69	65	64	63	62	61	55	50	45	40	35	30	25	20	15	10
Telehandler	28	32	39	43	46	47	45	44	44	44	44	44	44	43	39	37	36	36	36	36	36	36	36	36	36	36	36	36	36
Vehicles with Onroad Engines for Emissions Estimates																													
Busses	70	72	72	72	72	71	69	67	63	59	55	51	47	43	39	35	31	28	26	24	24	24	24	24	24	24	24	24	24
Concrete Pump	12	10	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dump Truck	39	39	33	28	22	18	14	10	7	7	7	7	7	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Flatbed Truck	101	108	108	108	108	108	106	104	101	98	95	92	89	86	83	80	77	74	73	72	72	72	72	72	68	64	60	56	52
Staff & Security Truck	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
Pickup Truck	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
Water/Soiltac Truck	70	70	60	56	52	50	48	48	48	48	47	46	45	44	43	42	39	36	33	30	27	24	22	20	18	16	14	12	11
General Materials Delivery Trucks	21	21	18	15	12	9	6	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Suncatcher Pedestals Delivery Trucks	10	10	10	10	7	4	1	0	3	6	9	12	15	15	15	15	15	15	15	15	12	9	6	3	0	0	0	0	0
Total	1,076	1,125	1,122	1,118	1,102	1,071	1,009	957	912	876	843	809	776	724	668	620	576	545	530	511	493	476	464	453	438	429	421	413	406

HP=horsepower
G=gasoline
D=diesel P=propane max 115

max : 1,125

CONSTRUCTION VEHICLES REQUIREMENTS

Description	Activity	Make / Model	Fuel	Quantity	Frequency	Horse-power	Vehicle Weight (tons)	Max Daily Onsite Distance per Vehicle (mile/day)	Assumed distance percentage to drive on onsite sealed roads	Assumed distance percentage to drive on onsite unpaved roads	Assumed distance percentage to drive on onsite paved roads	Max Daily Offsite Round-trip Distance per Vehicle within Imperial County (mile/day)	Travel to and from
Busses	Shuttle between laydown area and main construction area	Bus	Gasoline	variable	Daily	175	12	12	0%	0%	100%	10	Laydown area
Concrete Pump Truck			Diesel	variable	Daily	250	20	6	0%	8%	82%	40	El Centro
Dump Truck			Diesel	variable	Daily	250	20	7	50%	50%	0%	0	on-site only
Flatbed Truck			Diesel	variable	Daily	250	10	28	100%	0%	0%	0	on-site only
Staff & Security Truck	Site Inspections & Security	Toyota Highlander or similar	Gasoline - Hybrid	5	Daily	187	2.25	33	100%	0%	0%	0	on-site only
Pickup Truck			Gasoline	variable	Daily	175	4	12	95%	5%	0%	0	on-site only
Water /Soiltac Truck			Diesel	variable	Daily	250	20	12	25%	75%	0%	0	on-site only
Worker Passenger Vehicles	Community to Work	Passenger vehicles	Gasoline & diesel	variable	Daily	100	2	0.3	100%	0%	0%	40	El Centro
General Construction Materials	Delivery trucks	transport truck	Diesel	variable	Daily	250	20	6	0%	0%	100%	100	Various locations
Suncatcher Delivery Trucks	Suncatcher Pedestals	transport truck	Diesel	variable	Daily	250	20	13	55%	0%	45%	240	Phoenix Area
	Stirling Engines	transport truck	Diesel	5	Daily	250	20	6	0%	0%	100%	50	Detroit
	Suncatcher Metal Supports	transport truck	Diesel	10	Daily	250	20	6	0%	0%	100%	240	Phoenix Area
	Suncatcher Mirrors	transport truck	Diesel	6	Daily	250	20	6	0%	0%	100%	50	Detroit
	Electrical and Control Systems	transport truck	Diesel	2	Daily	250	20	6	0%	0%	100%	240	Phoenix Area
	Azimuth and Elevation Drive	transport truck	Diesel	2	Daily	250	20	6	0%	0%	100%	50	Midwest

Note:

Vehicles with variable quantities, the quantity per month can be found in Table 5.2-19 Construction Equipment Projection
Deliveries coming from Midwest (Detroit and elsewhere) will travel by rail to Los Angeles then by transport truck to the site
Average distance from main service complex to center of east or west portion of the site is 3.5 miles thus the average round trip distance each maintenance vehicle travels is 7 miles
Bus circuit is 11 miles (6 miles onsite, 5 miles offsite) - each bus does this loop twice a day
East access road will be heavily sealed and is 3.5 miles, the sealant will be applied in sufficient quantity that the road can be washed as needed. Thus this road will be considered the same as the paved northern access road for emissions estimates.
North access road and MSC parking area will be paved, route is 1.5 miles
All deliveries will travel an onsite loop starting near east laydown area traveling to the MSC then to the north exit, the loop will consist of 3.5 miles eastern access road + 1 (delivery area) miles + 1.5 miles northern
Construction laydown area is sealed
Each flatbed truck is assumed to make 4 trips per day to SunCatcher instalation locations delivering assembled dishes and misc parts
The fenceline perimeter is approximately 20.5 miles. Each security vehicle is assumed to travel from the MSC around the perimeter plus one trip to the center of the site and back (plus 10% for misc trips) = 33 mile

Annual Onsite Combustion Emissions

annual construction activity for months 8-19

Construction Assumptions - 30 days per month

Equipment	Number of Vehicles per year	Hours/Day	Emission rate per piece of equipment (lb/hr)										Annual Emissions (ton/year)									
			PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
Diesel Construction Equipment																						
Air Compressor	21	6	0.027	0.025	0.283	0.120	0.240	0.000	22.251	0.011	0.000	22.478	0.05	0.05	0.51	0.22	0.44	0.00	40.37	0.02	0.00	40.78
Asphalt Paver	0	7	0.069	0.064	0.413	0.135	0.796	0.001	54.450	0.012	0.000	54.706	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Backhoe	40	7	0.055	0.051	0.366	0.099	0.606	0.001	51.682	0.009	0.000	51.869	0.22	0.20	1.45	0.39	2.40	0.00	204.66	0.04	0.00	205.40
Compactor	24	7	0.067	0.062	0.422	0.128	0.777	0.001	58.936	0.012	0.000	59.178	0.16	0.15	1.02	0.31	1.88	0.00	142.58	0.03	0.00	143.16
Crane small	73	5	0.056	0.052	0.490	0.127	0.984	0.001	80.272	0.011	0.000	80.514	0.32	0.29	2.77	0.72	5.56	0.01	453.56	0.06	0.00	454.92
Crane large	0	7	0.073	0.067	0.716	0.191	1.876	0.002	179.940	0.017	0.000	180.302	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dozer	6	8	0.083	0.076	0.604	0.215	2.050	0.002	165.982	0.019	0.000	166.390	0.06	0.05	0.42	0.15	1.42	0.00	114.73	0.01	0.00	115.01
Generator	47	9	0.029	0.027	0.294	0.116	0.310	0.000	30.595	0.010	0.000	30.815	0.18	0.17	1.84	0.73	1.94	0.00	191.54	0.07	0.00	192.92
Grader	9	7	0.082	0.076	0.744	0.184	1.437	0.001	123.810	0.017	0.000	124.159	0.08	0.07	0.73	0.18	1.42	0.00	122.35	0.02	0.00	122.69
Light Tower	21	9	0.028	0.026	0.303	0.113	0.283	0.000	27.964	0.010	0.000	28.179	0.08	0.08	0.89	0.33	0.83	0.00	82.45	0.03	0.00	83.08
Loader	20	7	0.060	0.055	0.443	0.158	1.631	0.002	148.843	0.014	0.000	149.142	0.12	0.11	0.88	0.31	3.23	0.00	294.71	0.03	0.00	295.30
Maxi Sneeker (Trencher)	49	9	0.042	0.039	0.446	0.193	0.366	0.000	32.888	0.017	0.000	33.253	0.28	0.26	2.95	1.27	2.42	0.00	217.56	0.12	0.00	219.97
Skid Steer (Bobcat)	31	7	0.024	0.022	0.261	0.089	0.250	0.000	25.496	0.008	0.000	25.665	0.07	0.07	0.80	0.27	0.77	0.00	78.25	0.02	0.00	78.77
Welding Machine	33	5	0.029	0.027	0.305	0.127	0.275	0.000	25.935	0.011	0.000	26.175	0.08	0.07	0.82	0.34	0.73	0.00	69.32	0.03	0.00	69.97
Equipment fueled with Propane	0																					
Aerial Lift	40	6	0.003	0.003	1.410	0.006	0.222	0.000	31.235	0.048	0.000	32.239	0.01	0.01	4.67	0.02	0.74	0.00	103.45	0.16	0.00	106.77
Fork Lift	87	4	0.002	0.002	0.294	0.003	0.137	0.000	18.295	0.027	0.000	18.859	0.01	0.01	1.38	0.02	0.64	0.00	85.95	0.13	0.00	88.60
Telehandler	44	6	0.003	0.003	1.410	0.006	0.222	0.000	31.235	0.048	0.000	32.239	0.01	0.01	6.03	0.02	0.95	0.00	133.58	0.20	0.00	137.88
Vehicles with Onroad Engines for Emissions Estimates																						
Busses	67	12	0.000	0.000	0.092	0.008	0.007	0.000	3.683	0.000	0.000	3.826	0.00	0.00	1.11	0.09	0.08	0.00	44.42	0.00	0.01	46.14
Concrete Pump Truck	0	12	0.002	0.002	0.014	0.006	0.030	0.000	3.486	0.000	0.000	3.505	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	10	12	0.002	0.002	0.016	0.007	0.035	0.000	4.067	0.000	0.000	4.089	0.00	0.00	0.03	0.01	0.06	0.00	7.32	0.00	0.00	7.36
Flatbed Truck	104	12	0.009	0.008	0.063	0.030	0.142	0.000	16.269	0.000	0.000	16.355	0.16	0.15	1.19	0.56	2.65	0.00	304.55	0.01	0.00	306.16
Staff & Security Truck	60	24	0.000	0.000	0.006	0.000	0.000	0.000	0.988	0.000	0.000	1.048	0.00	0.00	0.14	0.00	0.00	0.00	21.35	0.00	0.00	22.63
Pickup Truck	120	12	0.000	0.000	0.023	0.002	0.002	0.000	1.888	0.000	0.000	1.931	0.00	0.00	0.49	0.05	0.05	0.00	40.77	0.00	0.00	41.71
Water/Soiltac Truck	48	12	0.004	0.003	0.027	0.013	0.061	0.000	6.972	0.000	0.000	7.009	0.03	0.03	0.24	0.11	0.52	0.00	60.24	0.00	0.00	60.56
Worker Passenger Vehicles	3862	12	0.000	0.000	0.001	0.000	0.000	0.000	0.047	0.000	0.000	0.048	0.00	0.00	0.40	0.04	0.04	0.00	32.81	0.00	0.00	33.56
Delivery Transport Trucks																						
General Materials Delivery T	3	24	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.752	0.00	0.00	0.01	0.00	0.02	0.00	1.88	0.00	0.00	1.89
Suncatcher Pedestals Delive	0	24	0.002	0.002	0.015	0.007	0.033	0.000	3.777	0.000	0.000	3.797	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stirling Engines	60	24	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.752	0.02	0.02	0.15	0.07	0.33	0.00	37.65	0.00	0.00	37.85
Suncatcher Metal Supports	120	24	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.752	0.04	0.04	0.29	0.14	0.66	0.00	75.30	0.00	0.00	75.70
Suncatcher Mirrors	72	24	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.752	0.02	0.02	0.18	0.08	0.39	0.00	45.18	0.00	0.00	45.42
Electrical and Control Systen	24	24	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.752	0.01	0.01	0.06	0.03	0.13	0.00	15.06	0.00	0.00	15.14
Azimuth and Elevation Drive	24	24	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.752	0.01	0.01	0.06	0.03	0.13	0.00	15.06	0.00	0.00	15.14
											Total		**2.04**	**1.87**	**31.49**	**6.50**	**30.43**	**0.03**	**3036.65**	**0.98**	**0.02**	**3064.49**

Number of Vehicles per year = sum of monthly daily maximum vehicle usage for the peak 12 months
delivery trucks can arrive at the site anytime during the day or night

Short-term Onsite Combustion Emissions

construction schedule = 12 hours per day 7 am to 7 pm pedestal installation = 16 hours per day
delivery trucks can arrive at the site anytime during the day or night

Equipment	Load Factor	Hours/Day	Horsepower	Emission factors (ton/hr) PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
Diesel Construction Equipment													
Air Compressor	0.48	6	50	1.35E-05	1.25E-05	1.42E-04	5.99E-05	1.20E-04	1.44E-07	1.11E-02	5.40E-06	0.00E+00	1.12E-02
Asphalt Paver	0.62	7	120	3.47E-05	3.19E-05	2.07E-04	6.75E-05	3.98E-04	3.19E-07	2.72E-02	6.09E-06	0.00E+00	2.74E-02
Backhoe	0.55	7	120	2.77E-05	2.55E-05	1.83E-04	4.96E-05	3.03E-04	3.03E-07	2.58E-02	4.47E-06	0.00E+00	2.59E-02
Compactor	0.56	7	120	3.36E-05	3.09E-05	2.11E-04	6.39E-05	3.89E-04	3.46E-07	2.95E-02	5.77E-06	0.00E+00	2.96E-02
Crane small	0.43	5	175	2.81E-05	2.59E-05	2.45E-04	6.37E-05	4.92E-04	4.52E-07	4.01E-02	5.75E-06	0.00E+00	4.03E-02
Crane large	0.43	7	500	3.63E-05	3.34E-05	3.58E-04	9.56E-05	9.38E-04	8.83E-07	9.00E-02	8.62E-06	0.00E+00	9.02E-02
Dozer	0.64	8	250	4.15E-05	3.82E-05	3.02E-04	1.08E-04	1.02E-03	9.34E-07	8.30E-02	9.70E-06	0.00E+00	8.32E-02
Generator	0.74	9	50	1.46E-05	1.35E-05	1.47E-04	5.80E-05	1.55E-04	1.98E-07	1.53E-02	5.23E-06	0.00E+00	1.54E-02
Grader	0.61	7	175	4.11E-05	3.78E-05	3.72E-04	9.21E-05	7.19E-04	6.97E-07	6.19E-02	8.31E-06	0.00E+00	6.21E-02
Light Tower	0.78	9	50	1.41E-05	1.30E-05	1.52E-04	5.67E-05	1.42E-04	1.81E-07	1.40E-02	5.12E-06	0.00E+00	1.41E-02
Loader	0.55	7	250	3.00E-05	2.76E-05	2.22E-04	7.89E-05	8.16E-04	8.37E-07	7.44E-02	7.11E-06	0.00E+00	7.46E-02
Maxi Sneeker (Trencher)	0.75	9	50	2.10E-05	1.94E-05	2.23E-04	9.63E-05	1.83E-04	2.13E-07	1.64E-02	8.69E-06	0.00E+00	1.66E-02
Skid Steer (Bobcat)	0.55	7	50	1.19E-05	1.09E-05	1.30E-04	4.46E-05	1.25E-04	1.65E-07	1.27E-02	4.02E-06	0.00E+00	1.28E-02
Welding Machine	0.45	5	50	1.47E-05	1.35E-05	1.52E-04	6.34E-05	1.37E-04	1.68E-07	1.30E-02	5.72E-06	0.00E+00	1.31E-02
Equipment fueled with Propane				Emission factors (ton/hr)									
Aerial Lift	0.46	6	120	1.39E-06	1.39E-06	7.05E-04	2.85E-06	1.11E-04	0.00E+00	1.56E-02	2.39E-05	0.00E+00	1.61E-02
Fork Lift	0.3	4	50	8.14E-07	8.14E-07	1.47E-04	1.60E-06	6.85E-05	0.00E+00	9.15E-03	1.34E-05	0.00E+00	9.43E-03
Telehandler	0.54	6	120	1.39E-06	1.39E-06	7.05E-04	2.85E-06	1.11E-04	0.00E+00	1.56E-02	2.39E-05	0.00E+00	1.61E-02
Vehicles with Onroad Engines for Emissions Estimates	Onsite Miles per Day Travelled per Vehicle			Emission factors (g/mile)									
Busses	12	12	175	6.60E-02	4.63E-02	4.19E+01	3.57E+00	3.17E+00	1.70E-02	1.67E+03	1.20E-01	2.00E-01	1.74E+03
Concrete Pump Truck	6	12	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03
Dump Truck	7	12	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03
Flatbed Truck	28	12	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03
Staff & Security Truck	33	24	187	1.00E-02	1.00E-02	2.10E+00	5.50E-02	3.00E-02	1.00E-02	3.26E+02	5.00E-02	6.00E-02	3.46E+02
Pickup Truck	12	12	175	5.80E-02	4.18E-02	1.04E+01	9.73E-01	9.71E-01	8.00E-03	8.57E+02	5.00E-02	6.00E-02	8.77E+02
Water/Soiltac Truck	12	12	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03
Worker Passenger Vehicles	0.3	12	NA	5.80E-02	4.18E-02	1.04E+01	9.73E-01	9.71E-01	8.00E-03	8.57E+02	5.00E-02	6.00E-02	8.77E+02
Delivery Transport Trucks													
General Materials Delivery Trucks	6	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03
Suncatcher Pedestals Delivery Truck	13	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03
Stirling Engines	6	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03
Suncatcher Metal Supports	6	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03
Suncatcher Mirrors	6	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03
Electrical and Control Systems	6	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03
Azimuth and Elevation Drive	6	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03

Equipment	Emission rate per piece of equipment (lb/hr) PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
Diesel Construction Equipment										
Air Compressor	0.027	0.025	0.283	0.120	0.240	0.000	22.251	0.011	0.00	22.48
Asphalt Paver	0.069	0.064	0.413	0.135	0.796	0.001	54.450	0.012	0.00	54.71
Backhoe	0.055	0.051	0.366	0.099	0.606	0.001	51.682	0.009	0.00	51.87
Compactor	0.067	0.062	0.422	0.128	0.777	0.001	58.936	0.012	0.00	59.18
Crane small	0.056	0.052	0.490	0.127	0.984	0.001	80.272	0.011	0.00	80.51
Crane large	0.073	0.067	0.716	0.191	1.876	0.002	179.940	0.017	0.00	180.30
Dozer	0.083	0.076	0.604	0.215	2.050	0.002	165.982	0.019	0.00	166.39
Generator	0.029	0.027	0.294	0.116	0.310	0.000	30.595	0.010	0.00	30.82
Grader	0.082	0.076	0.744	0.184	1.437	0.001	123.810	0.017	0.00	124.16
Light Tower	0.028	0.026	0.303	0.113	0.283	0.000	27.964	0.010	0.00	28.18
Loader	0.060	0.055	0.443	0.158	1.631	0.002	148.843	0.014	0.00	149.14
Maxi Sneeker (Trencher)	0.042	0.039	0.446	0.193	0.366	0.000	32.888	0.017	0.00	33.25
Skid Steer (Bobcat)	0.024	0.022	0.261	0.089	0.250	0.000	25.496	0.008	0.00	25.67
Welding Machine	0.029	0.027	0.305	0.127	0.275	0.000	25.935	0.011	0.00	26.18
Equipment fueled with Propane										
Aerial Lift	0.003	0.003	1.410	0.006	0.222	0.000	31.235	0.048	0.000	32.24
Fork Lift	0.002	0.002	0.294	0.003	0.137	0.000	18.295	0.027	0.000	18.86
Telehandler	0.003	0.003	1.410	0.006	0.222	0.000	31.235	0.048	0.000	32.24
Vehicles with Onroad Engines for Emissions Estimates										
Busses	0.000	0.000	0.092	0.008	0.007	0.000	3.683	0.000	0.000	3.83
Concrete Pump Truck	0.002	0.002	0.014	0.006	0.030	0.000	3.486	0.000	0.000	3.50
Dump Truck	0.002	0.002	0.016	0.007	0.035	0.000	4.067	0.000	0.000	4.09
Flatbed Truck	0.009	0.008	0.063	0.030	0.142	0.000	16.269	0.000	0.000	16.35
Staff & Security Truck	0.000	0.000	0.006	0.000	0.000	0.000	0.988	0.000	0.000	1.05
Pickup Truck	0.000	0.000	0.023	0.002	0.002	0.000	1.888	0.000	0.000	1.93
Water/Soiltac Truck	0.004	0.003	0.027	0.013	0.061	0.000	6.972	0.000	0.000	7.01
Worker Passenger Vehicles	0.000	0.000	0.001	0.000	0.000	0.000	0.047	0.000	0.000	0.05
Delivery Transport Trucks										
General Materials Delivery Trucks	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.75
Suncatcher Pedestals Delivery Truck	0.002	0.002	0.015	0.007	0.033	0.000	3.777	0.000	0.000	3.80
Stirling Engines	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.75
Suncatcher Metal Supports	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.75
Suncatcher Mirrors	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.75
Electrical and Control Systems	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.75
Azimuth and Elevation Drive	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.75
										Total

Equipment	Month 1 Daily Emissions (lb/day) Quantity Mo 1	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
Diesel Construction Equipment											
Air Compressor	1	0.16	0.14	1.63	0.69	1.38	0.00	128.17	0.06	0.00	129.47
Asphalt Paver	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Backhoe	3	1.10	1.01	7.24	1.96	12.01	0.01	1023.30	0.18	0.00	1027.01
Compactor	1	0.45	0.42	2.83	0.86	5.22	0.00	396.05	0.08	0.00	397.68
Crane small	1	0.29	0.27	2.53	0.66	5.08	0.00	414.21	0.06	0.00	415.45
Crane large	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dozer	1	0.64	0.59	4.64	1.65	15.74	0.01	1274.74	0.15	0.00	1277.88
Generator	1	0.26	0.24	2.61	1.03	2.75	0.00	271.69	0.09	0.00	273.64
Grader	1	0.60	0.55	5.44	1.35	10.52	0.01	906.29	0.12	0.00	908.85
Light Tower	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loader	1	0.40	0.36	2.92	1.04	10.77	0.01	982.36	0.09	0.00	984.34
Maxi Sneeker (Trencher)	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Skid Steer (Bobcat)	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Welding Machine	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equipment fueled with Propane											
Aerial Lift	2	0.03	0.03	15.57	0.06	2.45	0.00	344.83	0.53	0.00	355.91
Fork Lift	2	0.01	0.01	2.11	0.02	0.99	0.00	131.72	0.19	0.00	135.78
Telehandler	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vehicles with Onroad Engines for Emissions Estimates											
Busses	4	0.01	0.00	4.43	0.38	0.34	0.00	176.80	0.01	0.02	183.63
Concrete Pump Truck	2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
Dump Truck	3	0.08	0.07	0.57	0.27	1.27	0.00	146.42	0.00	0.00	147.19
Flatbed Truck	2	0.21	0.19	1.52	0.71	3.40	0.00	390.45	0.01	0.01	392.52
Staff & Security Truck	5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
Pickup Truck	10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
Water/Soiltac Truck	4	0.18	0.16	1.31	0.61	2.91	0.00	334.67	0.01	0.01	336.44
Worker Passenger Vehicles	67	0.00	0.00	0.46	0.04	0.04	0.00	38.13	0.00	0.00	39.01
Delivery Transport Trucks											
General Materials Delivery Trucks	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Pedestals Delivery Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stirling Engines	5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
Suncatcher Metal Supports	10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
Suncatcher Mirrors	6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
Electrical and Control Systems	2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
Azimuth and Elevation Drive	2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
Total	136	5.03	4.60	63.73	13.68	84.97	0.09	8434.47	1.64	0.09	8497.75

Equipment	Month 2 Daily Emissions (lb/day) Quantity Mo 2	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
Diesel Construction Equipment											
Air Compressor	1	0.16	0.14	1.63	0.69	1.38	0.00	128.17	0.06	0.00	129.47
Asphalt Paver	1	0.52	0.48	3.07	1.00	5.92	0.00	405.11	0.09	0.00	407.01
Backhoe	9	3.29	3.02	21.72	5.89	36.02	0.04	3069.89	0.53	0.00	3081.04
Compactor	3	1.35	1.25	8.50	2.58	15.67	0.01	1188.15	0.23	0.00	1193.03
Crane small	3	0.87	0.80	7.59	1.97	15.23	0.01	1242.62	0.18	0.00	1246.36
Crane large	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dozer	1	0.64	0.59	4.64	1.65	15.74	0.01	1274.74	0.15	0.00	1277.88
Generator	1	0.26	0.24	2.61	1.03	2.75	0.00	271.69	0.09	0.00	273.64
Grader	3	1.80	1.66	16.33	4.05	31.56	0.03	2718.87	0.37	0.00	2726.54
Light Tower	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loader	3	1.19	1.09	8.77	3.12	32.30	0.03	2947.09	0.28	0.00	2953.01
Maxi Sneeker (Trencher)	2	0.76	0.70	8.02	3.47	6.59	0.01	591.99	0.31	0.00	598.56
Skid Steer (Bobcat)	1	0.16	0.14	1.72	0.59	1.65	0.00	168.28	0.05	0.00	169.39
Welding Machine	1	0.16	0.15	1.65	0.68	1.48	0.00	140.05	0.06	0.00	141.35
Equipment fueled with Propane											
Aerial Lift	5	0.08	0.08	38.91	0.16	6.13	0.00	862.08	1.32	0.00	889.78
Fork Lift	5	0.03	0.03	5.28	0.06	2.46	0.00	329.30	0.48	0.00	339.46
Telehandler	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vehicles with Onroad Engines for Emissions Estimates											
Busses	6	0.01	0.01	6.64	0.57	0.50	0.00	265.21	0.02	0.03	275.44
Concrete Pump Truck	5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
Dump Truck	8	0.21	0.19	1.52	0.71	3.40	0.00	390.45	0.01	0.01	392.52
Flatbed Truck	9	0.94	0.85	6.86	3.21	15.29	0.02	1757.03	0.03	0.03	1766.33
Staff & Security Truck	5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
Pickup Truck	10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
Water/Soiltac Truck	14	0.63	0.56	4.57	2.14	10.19	0.01	1171.35	0.02	0.02	1177.56
Worker Passenger Vehicles	180	0.01	0.00	1.23	0.12	0.12	0.00	101.93	0.01	0.01	104.27
Delivery Transport Trucks											
General Materials Delivery Trucks	3	0.07	0.06	0.49	0.23	1.09	0.00	125.50	0.00	0.00	126.17
Suncatcher Pedestals Delivery Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stirling Engines	5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
Suncatcher Metal Supports	10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
Suncatcher Mirrors	6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
Electrical and Control Systems	2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
Azimuth and Elevation Drive	2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
Total	304	13.81	12.65	160.18	36.48	216.69	0.22	20749.63	4.36	0.15	20887.92

Diesel Construction Equipment	Month 21 Daily Emissions (lb/day) Quantity Mo 21	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Month 22 Daily Emissions (lb/day) Quantity Mo 22	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
Air Compressor	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Paver	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Backhoe	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Compactor	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crane small	4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81	4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
Crane large	3	1.50	1.38	14.77	3.95	38.71	0.04	3713.95	0.36	0.00	3721.43	3	1.50	1.38	14.77	3.95	38.71	0.04	3713.95	0.36	0.00	3721.43
Dozer	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generator	2	0.52	0.48	5.22	2.06	5.50	0.01	543.38	0.19	0.00	547.28	2	0.52	0.48	5.22	2.06	5.50	0.01	543.38	0.19	0.00	547.28
Grader	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light Tower	1	0.26	0.24	2.84	1.06	2.65	0.00	261.75	0.10	0.00	263.76	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loader	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maxi Sneeker (Trencher)	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Skid Steer (Bobcat)	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Welding Machine	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equipment fueled with Propane																						
Aerial Lift	2	0.03	0.03	15.57	0.06	2.45	0.00	344.83	0.53	0.00	355.91	2	0.03	0.03	15.57	0.06	2.45	0.00	344.83	0.53	0.00	355.91
Fork Lift	5	0.03	0.03	5.28	0.06	2.46	0.00	329.30	0.48	0.00	339.46	5	0.03	0.03	5.28	0.06	2.46	0.00	329.30	0.48	0.00	339.46
Telehandler	3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72	3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
Vehicles with Onroad Engines for Emissions Estimates																						
Busses	2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81	2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81
Concrete Pump Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flatbed Truck	6	0.63	0.56	4.57	2.14	10.19	0.01	1171.35	0.02	0.02	1177.56	6	0.63	0.56	4.57	2.14	10.19	0.01	1171.35	0.02	0.02	1177.56
Staff & Security Truck	5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73	5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
Pickup Truck	10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72	10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
Water Truck	4	0.18	0.16	1.31	0.61	2.91	0.00	334.67	0.01	0.01	336.44	3	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
Worker Passenger Vehicles	209	0.01	0.01	1.43	0.13	0.13	0.00	118.55	0.01	0.01	121.26	208	0.01	0.01	1.43	0.13	0.13	0.00	117.79	0.01	0.01	120.49
Delivery Transport Trucks																						
General Materials Delivery Trucks	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Pedestals Delivery Trucks	3	0.15	0.13	1.06	0.50	2.37	0.00	271.92	0.01	0.00	273.36	3	0.15	0.13	1.06	0.50	2.37	0.00	271.92	0.01	0.00	273.36
Stirling Engines	5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28	5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
Suncatcher Metal Supports	10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56	10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
Suncatcher Mirrors	6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33	6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
Electrical and Control Systems	2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11	2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
Azimuth and Elevation Drive	2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11	2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
TOTALS	284	5.10	4.66	99.38	15.69	101.55	0.10	10833.10	2.91	0.10	10925.64	281	4.79	4.38	96.20	14.47	98.17	0.10	10486.93	2.82	0.10	10577.00

Diesel Construction Equipment	Month 23 Daily Emissions (lb/day) Quantity Mo 23	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Month 24 Daily Emissions (lb/day) Quantity Mo 24	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
Air Compressor	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Paver	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Backhoe	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Compactor	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crane small	4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81	4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
Crane large	3	1.50	1.38	14.77	3.95	38.71	0.04	3713.95	0.36	0.00	3721.43	3	1.50	1.38	14.77	3.95	38.71	0.04	3713.95	0.36	0.00	3721.43
Dozer	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generator	1	0.26	0.24	2.61	1.03	2.75	0.00	271.69	0.09	0.00	273.64	1	0.26	0.24	2.61	1.03	2.75	0.00	271.69	0.09	0.00	273.64
Grader	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light Tower	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loader	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maxi Sneeker (Trencher)	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Skid Steer (Bobcat)	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Welding Machine	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equipment fueled with Propane																						
Aerial Lift	2	0.03	0.03	15.57	0.06	2.45	0.00	344.83	0.53	0.00	355.91	2	0.03	0.03	15.57	0.06	2.45	0.00	344.83	0.53	0.00	355.91
Fork Lift	5	0.03	0.03	5.28	0.06	2.46	0.00	329.30	0.48	0.00	339.46	5	0.03	0.03	5.28	0.06	2.46	0.00	329.30	0.48	0.00	339.46
Telehandler	3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72	3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
Vehicles with Onroad Engines for Emissions Estimates																						
Busses	2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81	2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81
Concrete Pump Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flatbed Truck	6	0.63	0.56	4.57	2.14	10.19	0.01	1171.35	0.02	0.02	1177.56	6	0.63	0.56	4.57	2.14	10.19	0.01	1171.35	0.02	0.02	1177.56
Staff & Security Truck	5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73	5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
Pickup Truck	10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72	10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
Water Truck	3	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33	3	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
Worker Passenger Vehicles	208	0.01	0.01	1.43	0.13	0.13	0.00	117.79	0.01	0.01	120.49	208	0.01	0.01	1.43	0.13	0.13	0.00	117.79	0.01	0.01	120.49
Delivery Transport Trucks																						
General Materials Delivery Trucks	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Pedestals Delivery Trucks	3	0.15	0.13	1.06	0.50	2.37	0.00	271.92	0.01	0.00	273.36	3	0.15	0.13	1.06	0.50	2.37	0.00	271.92	0.01	0.00	273.36
Stirling Engines	5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28	5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
Suncatcher Metal Supports	10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56	10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
Suncatcher Mirrors	6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33	6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
Electrical and Control Systems	2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11	2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
Azimuth and Elevation Drive	2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11	2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
TOTALS	280	4.53	4.14	93.59	13.44	95.42	0.09	10215.24	2.72	0.10	10303.36	280	4.53	4.14	93.59	13.44	95.42	0.09	10215.24	2.72	0.10	10303.36

Notes:

Emission factors from CARB Off-road Mobile Source Emission Factors (2006-2020) for diesel and propane equipment. (2009 data used).
Dozer = Crawler Tractor
Loaders = Rubber tired loaders
Backhoe = Tractors/Loaders/Backhoes
Light Tower = Other Construction Equipment
Utilization Load Factors from SCAQMD
$PM_{2.5}$ emission factors obtained by multiplying the PM_{10} emissions by $PM_{2.5}$ fraction in CEIDARS list for onroad or offroad diesel vehicles.
For propane equipment assumed $PM_{2.5}$ and PM_{10} Fraction of total PM is 1.000
Onroad vehicle emissions from EMFAC2007 model
CH_4 and N_2O emission factors for the onroad vehicles are from reference source 2: Table C.5, California Climate Action Registry General Reporting Protocol Version 3.0, April 2007
The emissions of "Toyota Highlander Hybrid" meet the Tier 2/Bin 3 Federal emissions standard (reference source 3) and its performance is 27 mile/gallon in city (from Toyota website)
SO_2 emission factors for the Toyota Highlander Hybrid are from EMFAC2007- Light-Duty Trucks (LDT2-CAT).

CO_2 GWP (SAR, 1996) =	1
CH_4 GWP (SAR, 1996) =	21
N_2O GWP (SAR, 1996) =	310

Month 3 Daily Emissions (lb/day)										
Quantity Mo 3	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
1	0.16	0.14	1.63	0.69	1.38	0.00	128.17	0.06	0.00	129.47
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	1.83	1.68	12.07	3.27	20.01	0.02	1705.49	0.30	0.00	1711.69
3	1.35	1.25	8.50	2.58	15.67	0.01	1188.15	0.23	0.00	1193.03
4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.64	0.59	4.64	1.65	15.74	0.01	1274.74	0.15	0.00	1277.88
1	0.26	0.24	2.61	1.03	2.75	0.00	271.69	0.09	0.00	273.64
3	1.80	1.66	16.33	4.05	31.56	0.03	2718.87	0.37	0.00	2726.54
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	1.19	1.09	8.77	3.12	32.30	0.03	2947.09	0.28	0.00	2953.01
2	0.76	0.70	8.02	3.47	6.59	0.01	591.99	0.31	0.00	598.56
1	0.16	0.14	1.72	0.59	1.65	0.00	168.28	0.05	0.00	169.39
2	0.32	0.29	3.29	1.37	2.97	0.00	280.10	0.12	0.00	282.69
5	0.08	0.08	38.91	0.16	6.13	0.00	862.08	1.32	0.00	889.78
7	0.04	0.04	7.40	0.08	3.45	0.00	461.03	0.68	0.00	475.25
1	0.02	0.02	9.14	0.04	1.44	0.00	202.40	0.31	0.00	208.91
6	0.01	0.01	6.64	0.57	0.50	0.00	265.21	0.02	0.03	275.44
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
7	0.18	0.16	1.33	0.62	2.97	0.00	341.65	0.01	0.01	343.45
9	0.94	0.85	6.86	3.21	15.29	0.02	1757.03	0.03	0.03	1766.33
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
8	0.36	0.32	2.61	1.22	5.83	0.01	669.35	0.01	0.01	672.89
249	0.01	0.01	1.71	0.16	0.16	0.00	141.20	0.01	0.01	144.44
3	0.07	0.06	0.49	0.23	1.09	0.00	125.50	0.00	0.00	126.17
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
366	**12.02**	**11.01**	**161.20**	**33.30**	**198.99**	**0.20**	**19356.95**	**4.65**	**0.14**	**19499.47**

Month 4 Daily Emissions (lb/day)										
Quantity Mo 4	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
1	0.16	0.14	1.63	0.69	1.38	0.00	128.17	0.06	0.00	129.47
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	1.83	1.68	12.07	3.27	20.01	0.02	1705.49	0.30	0.00	1711.69
3	1.35	1.25	8.50	2.58	15.67	0.01	1188.15	0.23	0.00	1193.03
5	1.45	1.34	12.64	3.29	25.38	0.02	2071.03	0.30	0.00	2077.26
3	1.50	1.38	14.77	3.95	38.71	0.04	3713.95	0.36	0.00	3721.43
1	0.64	0.59	4.64	1.65	15.74	0.01	1274.74	0.15	0.00	1277.88
2	0.52	0.48	5.22	2.06	5.50	0.01	543.38	0.19	0.00	547.28
3	1.80	1.66	16.33	4.05	31.56	0.03	2718.87	0.37	0.00	2726.54
1	0.26	0.24	2.84	1.06	2.65	0.00	261.75	0.10	0.00	263.76
4	1.58	1.46	11.70	4.16	43.06	0.04	3929.45	0.38	0.00	3937.34
2	0.76	0.70	8.02	3.47	6.59	0.01	591.99	0.31	0.00	598.56
2	0.31	0.29	3.44	1.18	3.30	0.00	336.55	0.11	0.00	338.78
3	0.48	0.44	4.94	2.05	4.45	0.01	420.14	0.19	0.00	424.04
5	0.08	0.08	38.91	0.16	6.13	0.00	862.08	1.32	0.00	889.78
7	0.04	0.04	7.40	0.08	3.45	0.00	461.03	0.68	0.00	475.25
1	0.02	0.02	9.14	0.04	1.44	0.00	202.40	0.31	0.00	208.91
6	0.01	0.01	6.64	0.57	0.50	0.00	265.21	0.02	0.03	275.44
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.16	0.14	1.14	0.53	2.55	0.00	292.84	0.01	0.00	294.39
9	0.94	0.85	6.86	3.21	15.29	0.02	1757.03	0.03	0.03	1766.33
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
8	0.36	0.32	2.61	1.22	5.83	0.01	669.35	0.01	0.01	672.89
219	0.01	0.01	1.50	0.14	0.14	0.00	123.83	0.01	0.01	126.67
3	0.07	0.06	0.49	0.23	1.09	0.00	125.50	0.00	0.00	126.17
3	0.15	0.13	1.06	0.50	2.37	0.00	271.92	0.01	0.00	273.36
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
342	**15.05**	**13.80**	**190.08**	**42.31**	**262.18**	**0.26**	**25305.81**	**5.46**	**0.14**	**25465.07**

Month 5 Daily Emissions (lb/day)										
Quantity Mo 5	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
3	0.47	0.43	4.90	2.07	4.15	0.00	384.50	0.19	0.00	388.42
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	1.83	1.68	12.07	3.27	20.01	0.02	1705.49	0.30	0.00	1711.69
3	1.35	1.25	8.50	2.58	15.67	0.01	1188.15	0.23	0.00	1193.03
5	1.45	1.34	12.64	3.29	25.38	0.02	2071.03	0.30	0.00	2077.26
3	1.50	1.38	14.77	3.95	38.71	0.04	3713.95	0.36	0.00	3721.43
1	0.64	0.59	4.64	1.65	15.74	0.01	1274.74	0.15	0.00	1277.88
2	0.52	0.48	5.22	2.06	5.50	0.01	543.38	0.19	0.00	547.28
3	1.80	1.66	16.33	4.05	31.56	0.03	2718.87	0.37	0.00	2726.54
2	0.53	0.49	5.67	2.12	5.30	0.01	523.49	0.19	0.00	527.52
4	1.58	1.46	11.70	4.16	43.06	0.04	3929.45	0.38	0.00	3937.34
2	0.76	0.70	8.02	3.47	6.59	0.01	591.99	0.31	0.00	598.56
2	0.31	0.29	3.44	1.18	3.30	0.00	336.55	0.11	0.00	338.78
4	0.64	0.59	6.59	2.74	5.93	0.01	560.19	0.25	0.00	565.38
6	0.09	0.09	46.70	0.19	7.35	0.00	1034.50	1.58	0.00	1067.74
7	0.04	0.04	7.40	0.08	3.45	0.00	461.03	0.68	0.00	475.25
2	0.04	0.04	18.27	0.07	2.88	0.00	404.80	0.62	0.00	417.81
6	0.01	0.01	6.64	0.57	0.50	0.00	265.21	0.02	0.03	275.44
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.10	0.09	0.76	0.36	1.70	0.00	195.23	0.00	0.00	196.26
9	0.94	0.85	6.86	3.21	15.29	0.02	1757.03	0.03	0.03	1766.33
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
6	0.27	0.24	1.96	0.92	4.37	0.00	502.01	0.01	0.01	504.67
219	0.01	0.01	1.50	0.14	0.14	0.00	123.83	0.01	0.01	126.67
3	0.07	0.06	0.49	0.23	1.09	0.00	125.50	0.00	0.00	126.17
3	0.15	0.13	1.06	0.50	2.37	0.00	271.92	0.01	0.00	273.36
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
344	**15.67**	**14.38**	**213.72**	**45.02**	**269.44**	**0.27**	**26073.81**	**6.31**	**0.14**	**26249.64**

Month 6 Daily Emissions (lb/day)										
Quantity Mo 6	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
3	0.47	0.43	4.90	2.07	4.15	0.00	384.50	0.19	0.00	388.42
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	2.19	2.02	14.48	3.92	24.01	0.02	2046.59	0.35	0.00	2054.03
3	1.35	1.25	8.50	2.58	15.67	0.01	1188.15	0.23	0.00	1193.03
8	2.32	2.14	20.23	5.26	40.61	0.04	3313.65	0.47	0.00	3323.61
3	1.50	1.38	14.77	3.95	38.71	0.04	3713.95	0.36	0.00	3721.43
1	0.64	0.59	4.64	1.65	15.74	0.01	1274.74	0.15	0.00	1277.88
4	1.04	0.96	10.44	4.12	11.01	0.01	1086.75	0.37	0.00	1094.56
3	1.80	1.66	16.33	4.05	31.56	0.03	2718.87	0.37	0.00	2726.54
2	0.53	0.49	5.67	2.12	5.30	0.01	523.49	0.19	0.00	527.52
4	1.58	1.46	11.70	4.16	43.06	0.04	3929.45	0.38	0.00	3937.34
5	1.89	1.74	20.06	8.67	16.48	0.02	1479.97	0.78	0.00	1496.40
4	0.63	0.58	6.89	2.35	6.61	0.01	673.10	0.21	0.00	677.56
4	0.64	0.59	6.59	2.74	5.93	0.01	560.19	0.25	0.00	565.38
6	0.09	0.09	46.70	0.19	7.35	0.00	1034.50	1.58	0.00	1067.74
8	0.05	0.05	8.45	0.09	3.94	0.00	526.89	0.77	0.00	543.14
5	0.09	0.09	45.68	0.18	7.19	0.00	1012.01	1.55	0.00	1044.53
6	0.01	0.01	6.64	0.57	0.50	0.00	265.21	0.02	0.03	275.44
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.10	0.09	0.76	0.36	1.70	0.00	195.23	0.00	0.00	196.26
9	0.94	0.85	6.86	3.21	15.29	0.02	1757.03	0.03	0.03	1766.33
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
6	0.27	0.24	1.96	0.92	4.37	0.00	502.01	0.01	0.01	504.67
479	0.02	0.01	3.28	0.31	0.31	0.00	271.45	0.02	0.02	277.67
3	0.07	0.06	0.49	0.23	1.09	0.00	125.50	0.00	0.00	126.17
3	0.15	0.13	1.06	0.50	2.37	0.00	271.92	0.01	0.00	273.36
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
619	**18.95**	**17.40**	**274.67**	**56.38**	**312.35**	**0.31**	**30246.12**	**8.34**	**0.15**	**30467.84**

Month 25 Daily Emissions (lb/day)										
Quantity Mo 25	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.26	0.24	2.61	1.03	2.75	0.00	271.69	0.09	0.00	273.64
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.03	0.03	15.57	0.06	2.45	0.00	344.83	0.53	0.00	355.91
5	0.03	0.03	5.28	0.06	2.46	0.00	329.30	0.48	0.00	339.46
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.63	0.56	4.57	2.14	10.19	0.01	1171.35	0.02	0.02	1177.56
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
3	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
208	0.01	0.01	1.43	0.13	0.13	0.00	117.79	0.01	0.01	120.49
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
274	**2.89**	**2.63**	**77.76**	**9.00**	**54.34**	**0.05**	**6229.36**	**2.36**	**0.10**	**6308.57**

Month 26 Daily Emissions (lb/day)										
Quantity Mo 26	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.03	0.03	15.57	0.06	2.45	0.00	344.83	0.53	0.00	355.91
5	0.03	0.03	5.28	0.06	2.46	0.00	329.30	0.48	0.00	339.46
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.63	0.56	4.57	2.14	10.19	0.01	1171.35	0.02	0.02	1177.56
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
3	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
208	0.01	0.01	1.43	0.13	0.13	0.00	117.79	0.01	0.01	120.49
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
273	**2.63**	**2.39**	**75.15**	**7.97**	**51.59**	**0.05**	**5957.68**	**2.27**	**0.10**	**6034.93**

Month 27 Daily Emissions (lb/day)										
Quantity Mo 27	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.03	0.03	15.57	0.06	2.45	0.00	344.83	0.53	0.00	355.91
5	0.03	0.03	5.28	0.06	2.46	0.00	329.30	0.48	0.00	339.46
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.63	0.56	4.57	2.14	10.19	0.01	1171.35	0.02	0.02	1177.56
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
3	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
208	0.01	0.01	1.43	0.13	0.13	0.00	117.79	0.01	0.01	120.49
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
273	**2.63**	**2.39**	**75.15**	**7.97**	**51.59**	**0.05**	**5957.68**	**2.27**	**0.10**	**6034.93**

Month 28 Daily Emissions (lb/day)										
Quantity Mo 28	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.03	0.03	15.57	0.06	2.45	0.00	344.83	0.53	0.00	355.91
5	0.03	0.03	5.28	0.06	2.46	0.00	329.30	0.48	0.00	339.46
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.63	0.56	4.57	2.14	10.19	0.01	1171.35	0.02	0.02	1177.56
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
1	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
166	0.01	0.00	1.14	0.11	0.11	0.00	94.01	0.01	0.01	96.16
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
229	**2.54**	**2.31**	**74.21**	**7.64**	**50.10**	**0.05**	**5766.56**	**2.26**	**0.09**	**5842.38**

Month 7 Daily Emissions (lb/day)

Quantity Mo 7	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
3	0.47	0.43	4.90	2.07	4.15	0.00	384.50	0.19	0.00	388.42
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	2.19	2.02	14.48	3.92	24.01	0.02	2046.59	0.35	0.00	2054.03
3	1.35	1.25	8.50	2.58	15.67	0.01	1188.15	0.23	0.00	1193.03
8	2.32	2.14	20.23	5.26	40.61	0.04	3313.65	0.47	0.00	3323.61
1	0.50	0.46	4.92	1.32	12.90	0.01	1237.98	0.12	0.00	1240.48
1	0.64	0.59	4.64	1.65	15.74	0.01	1274.74	0.15	0.00	1277.88
4	1.04	0.96	10.44	4.12	11.01	0.01	1086.75	0.37	0.00	1094.56
2	1.20	1.11	10.89	2.70	21.04	0.02	1812.58	0.24	0.00	1817.69
2	0.53	0.49	5.67	2.12	5.30	0.01	523.49	0.19	0.00	527.52
3	1.19	1.09	8.77	3.12	32.30	0.03	2947.09	0.28	0.00	2953.01
5	1.89	1.74	20.06	8.67	16.48	0.02	1479.97	0.78	0.00	1496.40
3	0.47	0.43	5.16	1.77	4.95	0.01	504.83	0.16	0.00	508.17
4	0.64	0.59	6.59	2.74	5.93	0.01	560.19	0.25	0.00	565.38
5	0.08	0.08	38.91	0.16	6.13	0.00	862.08	1.32	0.00	889.78
8	0.05	0.05	8.45	0.09	3.94	0.00	526.89	0.77	0.00	543.14
4	0.07	0.07	36.54	0.15	5.76	0.00	809.61	1.24	0.00	835.62
6	0.01	0.01	6.64	0.57	0.50	0.00	265.21	0.02	0.03	275.44
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.10	0.09	0.76	0.36	1.70	0.00	195.23	0.00	0.00	196.26
9	0.94	0.85	6.86	3.21	15.29	0.02	1757.03	0.03	0.03	1766.33
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
4	0.18	0.16	1.31	0.61	2.91	0.00	334.67	0.01	0.01	336.44
487	0.02	0.01	3.34	0.31	0.31	0.00	275.98	0.02	0.02	282.31
3	0.07	0.06	0.49	0.23	1.09	0.00	125.50	0.00	0.00	126.17
1	0.05	0.04	0.35	0.17	0.79	0.00	90.64	0.00	0.00	91.12
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
616	**16.58**	**15.21**	**236.50**	**50.07**	**257.91**	**0.26**	**24994.31**	**7.26**	**0.14**	**25191.62**

Month 8 Daily Emissions (lb/day)

Quantity Mo 8	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
3	0.47	0.43	4.90	2.07	4.15	0.00	384.50	0.19	0.00	388.42
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	1.83	1.68	12.07	3.27	20.01	0.02	1705.49	0.30	0.00	1711.69
3	1.35	1.25	8.50	2.58	15.67	0.01	1188.15	0.23	0.00	1193.03
8	2.32	2.14	20.23	5.26	40.61	0.04	3313.65	0.47	0.00	3323.61
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.64	0.59	4.64	1.65	15.74	0.01	1274.74	0.15	0.00	1277.88
4	1.04	0.96	10.44	4.12	11.01	0.01	1086.75	0.37	0.00	1094.56
2	1.20	1.11	10.89	2.70	21.04	0.02	1812.58	0.24	0.00	1817.69
2	0.53	0.49	5.67	2.12	5.30	0.01	523.49	0.19	0.00	527.52
3	1.19	1.09	8.77	3.12	32.30	0.03	2947.09	0.28	0.00	2953.01
4	1.52	1.39	16.05	6.94	13.19	0.02	1183.98	0.63	0.00	1197.12
3	0.47	0.43	5.16	1.77	4.95	0.01	504.83	0.16	0.00	508.17
4	0.64	0.59	6.59	2.74	5.93	0.01	560.19	0.25	0.00	565.38
3	0.05	0.05	23.35	0.09	3.68	0.00	517.25	0.79	0.00	533.87
8	0.05	0.05	8.45	0.09	3.94	0.00	526.89	0.77	0.00	543.14
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
6	0.01	0.01	6.64	0.57	0.50	0.00	265.21	0.02	0.03	275.44
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.08	0.07	0.57	0.27	1.27	0.00	146.42	0.00	0.00	147.19
9	0.94	0.85	6.86	3.21	15.29	0.02	1757.03	0.03	0.03	1766.33
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
4	0.18	0.16	1.31	0.61	2.91	0.00	334.67	0.01	0.01	336.44
385	0.01	0.01	2.64	0.25	0.25	0.00	218.22	0.01	0.02	223.22
3	0.07	0.06	0.49	0.23	1.09	0.00	125.50	0.00	0.00	126.17
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
506	**15.20**	**13.95**	**199.21**	**45.95**	**232.53**	**0.24**	**22374.79**	**6.08**	**0.14**	**22545.44**

Month 9 Daily Emissions (lb/day)

Quantity Mo 9	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
2	0.31	0.29	3.26	1.38	2.77	0.00	256.33	0.12	0.00	258.95
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.46	1.34	9.66	2.62	16.01	0.02	1364.39	0.24	0.00	1369.35
3	1.35	1.25	8.50	2.58	15.67	0.01	1188.15	0.23	0.00	1193.03
7	2.03	1.87	17.70	4.60	35.53	0.03	2899.44	0.42	0.00	2908.16
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.64	0.59	4.64	1.65	15.74	0.01	1274.74	0.15	0.00	1277.88
6	1.56	1.43	15.66	6.18	16.51	0.02	1630.13	0.56	0.00	1641.84
1	0.60	0.55	5.44	1.35	10.52	0.01	906.29	0.12	0.00	908.85
2	0.53	0.49	5.67	2.12	5.30	0.01	523.49	0.19	0.00	527.52
2	0.79	0.73	5.85	2.08	21.53	0.02	1964.73	0.19	0.00	1968.67
4	1.52	1.39	16.05	6.94	13.19	0.02	1183.98	0.63	0.00	1197.12
2	0.31	0.29	3.44	1.18	3.30	0.00	336.55	0.11	0.00	338.78
4	0.64	0.59	6.59	2.74	5.93	0.01	560.19	0.25	0.00	565.38
3	0.05	0.05	23.35	0.09	3.68	0.00	517.25	0.79	0.00	533.87
8	0.05	0.05	8.45	0.09	3.94	0.00	526.89	0.77	0.00	543.14
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
6	0.01	0.01	6.64	0.57	0.50	0.00	265.21	0.02	0.03	275.44
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.94	0.85	6.86	3.21	15.29	0.02	1757.03	0.03	0.03	1766.33
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
4	0.18	0.16	1.31	0.61	2.91	0.00	334.67	0.01	0.01	336.44
334	0.01	0.01	2.29	0.21	0.21	0.00	189.15	0.01	0.01	193.48
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
445	**13.61**	**12.49**	**186.36**	**42.50**	**202.24**	**0.21**	**19676.77**	**5.81**	**0.13**	**19839.78**

Month 10 Daily Emissions (lb/day)

Quantity Mo 10	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
2	0.31	0.29	3.26	1.38	2.77	0.00	256.33	0.12	0.00	258.95
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.46	1.34	9.66	2.62	16.01	0.02	1364.39	0.24	0.00	1369.35
3	1.35	1.25	8.50	2.58	15.67	0.01	1188.15	0.23	0.00	1193.03
6	1.74	1.60	15.17	3.95	30.46	0.03	2485.23	0.36	0.00	2492.71
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	1.56	1.43	15.66	6.18	16.51	0.02	1630.13	0.56	0.00	1641.84
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.53	0.49	5.67	2.12	5.30	0.01	523.49	0.19	0.00	527.52
1	0.40	0.36	2.92	1.04	10.77	0.01	982.36	0.09	0.00	984.34
4	1.52	1.39	16.05	6.94	13.19	0.02	1183.98	0.63	0.00	1197.12
2	0.31	0.29	3.44	1.18	3.30	0.00	336.55	0.11	0.00	338.78
4	0.64	0.59	6.59	2.74	5.93	0.01	560.19	0.25	0.00	565.38
2	0.03	0.03	15.57	0.06	2.45	0.00	344.83	0.53	0.00	355.91
8	0.05	0.05	8.45	0.09	3.94	0.00	526.89	0.77	0.00	543.14
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
6	0.01	0.01	6.64	0.57	0.50	0.00	265.21	0.02	0.03	275.44
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.94	0.85	6.86	3.21	15.29	0.02	1757.03	0.03	0.03	1766.33
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
4	0.18	0.16	1.31	0.61	2.91	0.00	334.67	0.01	0.01	336.44
305	0.01	0.01	2.09	0.20	0.20	0.00	172.53	0.01	0.01	176.49
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
411	**11.67**	**10.70**	**162.84**	**37.75**	**158.89**	**0.17**	**15910.14**	**5.12**	**0.13**	**16058.32**

Month 29 Daily Emissions (lb/day)

Quantity Mo 29	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.03	0.03	15.57	0.06	2.45	0.00	344.83	0.53	0.00	355.91
5	0.03	0.03	5.28	0.06	2.46	0.00	329.30	0.48	0.00	339.46
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.63	0.56	4.57	2.14	10.19	0.01	1171.35	0.02	0.02	1177.56
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
1	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
166	0.01	0.00	1.14	0.11	0.11	0.00	94.01	0.01	0.01	96.16
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
229	**2.54**	**2.31**	**74.21**	**7.64**	**50.10**	**0.05**	**5766.56**	**2.26**	**0.09**	**5842.38**

Month 30 Daily Emissions (lb/day)

Quantity Mo 30	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.03	0.03	15.57	0.06	2.45	0.00	344.83	0.53	0.00	355.91
5	0.03	0.03	5.28	0.06	2.46	0.00	329.30	0.48	0.00	339.46
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.63	0.56	4.57	2.14	10.19	0.01	1171.35	0.02	0.02	1177.56
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
1	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
166	0.01	0.00	1.14	0.11	0.11	0.00	94.01	0.01	0.01	96.16
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
229	**2.54**	**2.31**	**74.21**	**7.64**	**50.10**	**0.05**	**5766.56**	**2.26**	**0.09**	**5842.38**

Month 31 Daily Emissions (lb/day)

Quantity Mo 31	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.03	0.03	15.57	0.06	2.45	0.00	344.83	0.53	0.00	355.91
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.63	0.56	4.57	2.14	10.19	0.01	1171.35	0.02	0.02	1177.56
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
1	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
166	0.01	0.00	1.14	0.11	0.11	0.00	94.01	0.01	0.01	96.16
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
224	**2.51**	**2.28**	**68.92**	**7.58**	**47.64**	**0.05**	**5437.25**	**1.78**	**0.09**	**5502.91**

Month 32 Daily Emissions (lb/day)

Quantity Mo 32	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.03	0.03	15.57	0.06	2.45	0.00	344.83	0.53	0.00	355.91
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.63	0.56	4.57	2.14	10.19	0.01	1171.35	0.02	0.02	1177.56
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
1	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
166	0.01	0.00	1.14	0.11	0.11	0.00	94.01	0.01	0.01	96.16
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
224	**2.51**	**2.28**	**68.92**	**7.58**	**47.64**	**0.05**	**5437.25**	**1.78**	**0.09**	**5502.91**

Month 11 Daily Emissions (lb/day)

Quantity Mo 11	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
2	0.31	0.29	3.26	1.38	2.77	0.00	256.33	0.12	0.00	258.95
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.46	1.34	9.66	2.62	16.01	0.02	1364.39	0.24	0.00	1369.35
3	1.35	1.25	8.50	2.58	15.67	0.01	1188.15	0.23	0.00	1193.03
6	1.74	1.60	15.17	3.95	30.46	0.03	2485.23	0.36	0.00	2492.71
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	1.56	1.43	15.66	6.18	16.51	0.02	1630.13	0.56	0.00	1641.84
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.53	0.49	5.67	2.12	5.30	0.01	523.49	0.19	0.00	527.52
1	0.40	0.36	2.92	1.04	10.77	0.01	982.36	0.09	0.00	984.34
4	1.52	1.39	16.05	6.94	13.19	0.02	1183.98	0.63	0.00	1197.12
2	0.31	0.29	3.44	1.18	3.30	0.00	336.55	0.11	0.00	338.78
4	0.64	0.59	6.59	2.74	5.93	0.01	560.19	0.25	0.00	565.38
2	0.03	0.03	15.57	0.06	2.45	0.00	344.83	0.53	0.00	355.91
8	0.05	0.05	8.45	0.09	3.94	0.00	526.89	0.77	0.00	543.14
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
6	0.01	0.01	6.64	0.57	0.50	0.00	265.21	0.02	0.03	275.44
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.94	0.85	6.86	3.21	15.29	0.02	1757.03	0.03	0.03	1766.33
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
4	0.18	0.16	1.31	0.61	2.91	0.00	334.67	0.01	0.01	336.44
305	0.01	0.01	2.09	0.20	0.20	0.00	172.53	0.01	0.01	176.49
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
411	**11.67**	**10.70**	**162.84**	**37.75**	**158.89**	**0.17**	**15910.14**	**5.12**	**0.13**	**16058.32**

Month 12 Daily Emissions (lb/day)

Quantity Mo 12	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
2	0.31	0.29	3.26	1.38	2.77	0.00	256.33	0.12	0.00	258.95
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.46	1.34	9.66	2.62	16.01	0.02	1364.39	0.24	0.00	1369.35
3	1.35	1.25	8.50	2.58	15.67	0.01	1188.15	0.23	0.00	1193.03
6	1.74	1.60	15.17	3.95	30.46	0.03	2485.23	0.36	0.00	2492.71
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	1.56	1.43	15.66	6.18	16.51	0.02	1630.13	0.56	0.00	1641.84
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.53	0.49	5.67	2.12	5.30	0.01	523.49	0.19	0.00	527.52
1	0.40	0.36	2.92	1.04	10.77	0.01	982.36	0.09	0.00	984.34
4	1.52	1.39	16.05	6.94	13.19	0.02	1183.98	0.63	0.00	1197.12
2	0.31	0.29	3.44	1.18	3.30	0.00	336.55	0.11	0.00	338.78
3	0.48	0.44	4.94	2.05	4.45	0.01	420.14	0.19	0.00	424.04
2	0.03	0.03	15.57	0.06	2.45	0.00	344.83	0.53	0.00	355.91
8	0.05	0.05	8.45	0.09	3.94	0.00	526.89	0.77	0.00	543.14
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
6	0.01	0.01	6.64	0.57	0.50	0.00	265.21	0.02	0.03	275.44
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.94	0.85	6.86	3.21	15.29	0.02	1757.03	0.03	0.03	1766.33
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
4	0.18	0.16	1.31	0.61	2.91	0.00	334.67	0.01	0.01	336.44
305	0.01	0.01	2.09	0.20	0.20	0.00	172.53	0.01	0.01	176.49
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
410	**11.51**	**10.56**	**161.19**	**37.06**	**157.41**	**0.16**	**15770.09**	**5.06**	**0.13**	**15916.98**

Month 13 Daily Emissions (lb/day)

Quantity Mo 13	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
2	0.31	0.29	3.26	1.38	2.77	0.00	256.33	0.12	0.00	258.95
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.46	1.34	9.66	2.62	16.01	0.02	1364.39	0.24	0.00	1369.35
3	1.35	1.25	8.50	2.58	15.67	0.01	1188.15	0.23	0.00	1193.03
8	2.32	2.14	20.23	5.26	40.61	0.04	3313.65	0.47	0.00	3323.61
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.64	0.59	4.64	1.65	15.74	0.01	1274.74	0.15	0.00	1277.88
3	0.78	0.72	7.83	3.09	8.26	0.01	815.06	0.28	0.00	820.92
2	1.20	1.11	10.89	2.70	21.04	0.02	1812.58	0.24	0.00	1817.69
2	0.53	0.49	5.67	2.12	5.30	0.01	523.49	0.19	0.00	527.52
3	1.19	1.09	8.77	3.12	32.30	0.03	2947.09	0.28	0.00	2953.01
5	1.89	1.74	20.06	8.67	16.48	0.02	1479.97	0.78	0.00	1496.40
4	0.63	0.58	6.89	2.35	6.61	0.01	673.10	0.21	0.00	677.56
3	0.48	0.44	4.94	2.05	4.45	0.01	420.14	0.19	0.00	424.04
4	0.06	0.06	31.13	0.13	4.90	0.00	689.66	1.06	0.00	711.83
8	0.05	0.05	8.45	0.09	3.94	0.00	526.89	0.77	0.00	543.14
4	0.07	0.07	36.54	0.15	5.76	0.00	809.61	1.24	0.00	835.62
6	0.01	0.01	6.64	0.57	0.50	0.00	265.21	0.02	0.03	275.44
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.08	0.07	0.57	0.27	1.27	0.00	146.42	0.00	0.00	147.19
9	0.94	0.85	6.86	3.21	15.29	0.02	1757.03	0.03	0.03	1766.33
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
4	0.18	0.16	1.31	0.61	2.91	0.00	334.67	0.01	0.01	336.44
357	0.01	0.01	2.44	0.23	0.23	0.00	201.98	0.01	0.01	206.61
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
475	**14.77**	**13.55**	**212.87**	**45.03**	**229.41**	**0.23**	**22191.14**	**6.59**	**0.14**	**22371.40**

Month 14 Daily Emissions (lb/day)

Quantity Mo 14	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
2	0.31	0.29	3.26	1.38	2.77	0.00	256.33	0.12	0.00	258.95
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.46	1.34	9.66	2.62	16.01	0.02	1364.39	0.24	0.00	1369.35
2	0.90	0.83	5.67	1.72	10.45	0.01	792.10	0.15	0.00	795.35
8	2.32	2.14	20.23	5.26	40.61	0.04	3313.65	0.47	0.00	3323.61
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.64	0.59	4.64	1.65	15.74	0.01	1274.74	0.15	0.00	1277.88
3	0.78	0.72	7.83	3.09	8.26	0.01	815.06	0.28	0.00	820.92
2	1.20	1.11	10.89	2.70	21.04	0.02	1812.58	0.24	0.00	1817.69
2	0.53	0.49	5.67	2.12	5.30	0.01	523.49	0.19	0.00	527.52
3	1.19	1.09	8.77	3.12	32.30	0.03	2947.09	0.28	0.00	2953.01
5	1.89	1.74	20.06	8.67	16.48	0.02	1479.97	0.78	0.00	1496.40
4	0.63	0.58	6.89	2.35	6.61	0.01	673.10	0.21	0.00	677.56
3	0.48	0.44	4.94	2.05	4.45	0.01	420.14	0.19	0.00	424.04
5	0.08	0.08	38.91	0.16	6.13	0.00	862.08	1.32	0.00	889.78
9	0.05	0.05	9.51	0.10	4.44	0.00	592.75	0.87	0.00	611.03
7	0.13	0.13	63.95	0.26	10.07	0.00	1416.81	2.17	0.00	1462.34
6	0.01	0.01	6.64	0.57	0.50	0.00	265.21	0.02	0.03	275.44
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.05	0.05	0.38	0.18	0.85	0.00	97.61	0.00	0.00	98.13
9	0.94	0.85	6.86	3.21	15.29	0.02	1757.03	0.03	0.03	1766.33
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
4	0.18	0.16	1.31	0.61	2.91	0.00	334.67	0.01	0.01	336.44
341	0.01	0.01	2.34	0.22	0.22	0.00	193.30	0.01	0.01	197.73
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
462	**14.36**	**13.19**	**245.99**	**44.23**	**229.79**	**0.23**	**22583.08**	**7.80**	**0.13**	**22788.34**

Month 15 Daily Emissions (lb/day)

Quantity Mo 15	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
2	0.31	0.29	3.26	1.38	2.77	0.00	256.33	0.12	0.00	258.95
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.46	1.34	9.66	2.62	16.01	0.02	1364.39	0.24	0.00	1369.35
2	0.90	0.83	5.67	1.72	10.45	0.01	792.10	0.15	0.00	795.35
6	1.74	1.60	15.17	3.95	30.46	0.03	2485.23	0.36	0.00	2492.71
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.64	0.59	4.64	1.65	15.74	0.01	1274.74	0.15	0.00	1277.88
3	0.78	0.72	7.83	3.09	8.26	0.01	815.06	0.28	0.00	820.92
1	0.60	0.55	5.44	1.35	10.52	0.01	906.29	0.12	0.00	908.85
2	0.53	0.49	5.67	2.12	5.30	0.01	523.49	0.19	0.00	527.52
3	1.19	1.09	8.77	3.12	32.30	0.03	2947.09	0.28	0.00	2953.01
5	1.89	1.74	20.06	8.67	16.48	0.02	1479.97	0.78	0.00	1496.40
4	0.63	0.58	6.89	2.35	6.61	0.01	673.10	0.21	0.00	677.56
3	0.48	0.44	4.94	2.05	4.45	0.01	420.14	0.19	0.00	424.04
5	0.08	0.08	38.91	0.16	6.13	0.00	862.08	1.32	0.00	889.78
6	0.04	0.04	6.34	0.07	2.96	0.00	395.16	0.58	0.00	407.35
5	0.09	0.09	45.68	0.18	7.19	0.00	1012.01	1.55	0.00	1044.53
6	0.01	0.01	6.64	0.57	0.50	0.00	265.21	0.02	0.03	275.44
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.05	0.05	0.38	0.18	0.85	0.00	97.61	0.00	0.00	98.13
9	0.94	0.85	6.86	3.21	15.29	0.02	1757.03	0.03	0.03	1766.33
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
4	0.18	0.16	1.31	0.61	2.91	0.00	334.67	0.01	0.01	336.44
347	0.01	0.01	2.38	0.22	0.22	0.00	196.70	0.01	0.01	201.21
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
460	**13.13**	**12.05**	**214.09**	**41.46**	**204.77**	**0.21**	**20249.39**	**6.65**	**0.13**	**20430.58**

Month 33 Daily Emissions (lb/day)

Quantity Mo 33	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.03	0.03	15.57	0.06	2.45	0.00	344.83	0.53	0.00	355.91
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.63	0.56	4.57	2.14	10.19	0.01	1171.35	0.02	0.02	1177.56
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
1	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
190	0.01	0.01	1.30	0.12	0.12	0.00	107.60	0.01	0.01	110.06
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
248	**2.51**	**2.28**	**69.09**	**7.59**	**47.65**	**0.05**	**5450.84**	**1.78**	**0.09**	**5516.82**

Month 34 Daily Emissions (lb/day)

Quantity Mo 34	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.08	0.08	38.91	0.16	6.13	0.00	862.08	1.32	0.00	889.78
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.63	0.56	4.57	2.14	10.19	0.01	1171.35	0.02	0.02	1177.56
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
1	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
190	0.01	0.01	1.30	0.12	0.12	0.00	107.60	0.01	0.01	110.06
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
251	**2.56**	**2.33**	**92.44**	**7.69**	**51.33**	**0.05**	**5968.09**	**2.57**	**0.09**	**6050.69**

Month 35 Daily Emissions (lb/day)

Quantity Mo 35	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.08	0.08	38.91	0.16	6.13	0.00	862.08	1.32	0.00	889.78
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.63	0.56	4.57	2.14	10.19	0.01	1171.35	0.02	0.02	1177.56
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
1	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
190	0.01	0.01	1.30	0.12	0.12	0.00	107.60	0.01	0.01	110.06
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
251	**2.56**	**2.33**	**92.44**	**7.69**	**51.33**	**0.05**	**5968.09**	**2.57**	**0.09**	**6050.69**

Month 36 Daily Emissions (lb/day)

Quantity Mo 36	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.08	0.08	38.91	0.16	6.13	0.00	862.08	1.32	0.00	889.78
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.21	0.19	1.52	0.71	3.40	0.00	390.45	0.01	0.01	392.52
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
1	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
153	0.01	0.00	1.05	0.10	0.10	0.00	86.83	0.01	0.01	88.82
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
210	**2.14**	**1.95**	**89.14**	**6.24**	**44.51**	**0.04**	**5166.42**	**2.56**	**0.08**	**5244.41**

Month 37 Daily Emissions (lb/day)

Quantity Mo 37	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.08	0.08	38.91	0.16	6.13	0.00	862.08	1.32	0.00	889.78
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.21	0.19	1.52	0.71	3.40	0.00	390.45	0.01	0.01	392.52
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
1	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
153	0.01	0.00	1.05	0.10	0.10	0.00	86.83	0.01	0.01	88.82
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
210	**2.14**	**1.95**	**89.14**	**6.24**	**44.51**	**0.04**	**5166.42**	**2.56**	**0.08**	**5244.41**

Month 16 Daily Emissions (lb/day)

Quantity Mo 16	PM$_{10}$	PM$_{2.5}$	CO	VOC	NO$_x$	SO$_2$	CO$_2$	CH$_4$	N$_2$O	CO$_2$e
2	0.31	0.29	3.26	1.38	2.77	0.00	256.33	0.12	0.00	258.95
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.46	1.34	9.66	2.62	16.01	0.02	1364.39	0.24	0.00	1369.35
2	0.90	0.83	5.67	1.72	10.45	0.01	792.10	0.15	0.00	795.35
5	1.45	1.34	12.64	3.29	25.38	0.02	2071.03	0.30	0.00	2077.26
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.64	0.59	4.64	1.65	15.74	0.01	1274.74	0.15	0.00	1277.88
3	0.78	0.72	7.83	3.09	8.26	0.01	815.06	0.28	0.00	820.92
1	0.60	0.55	5.44	1.35	10.52	0.01	906.29	0.12	0.00	908.85
2	0.53	0.49	5.67	2.12	5.30	0.01	523.49	0.19	0.00	527.52
2	0.79	0.73	5.85	2.08	21.53	0.02	1964.73	0.19	0.00	1968.67
5	1.89	1.74	20.06	8.67	16.48	0.02	1479.97	0.78	0.00	1496.40
4	0.63	0.58	6.89	2.35	6.61	0.01	673.10	0.21	0.00	677.56
2	0.32	0.29	3.29	1.37	2.97	0.00	280.10	0.12	0.00	282.69
5	0.08	0.08	38.91	0.16	6.13	0.00	862.08	1.32	0.00	889.78
6	0.04	0.04	6.34	0.07	2.96	0.00	395.16	0.58	0.00	407.35
4	0.07	0.07	36.54	0.15	5.76	0.00	809.61	1.24	0.00	835.62
6	0.01	0.01	6.64	0.57	0.50	0.00	265.21	0.02	0.03	275.44
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.94	0.85	6.86	3.21	15.29	0.02	1757.03	0.03	0.03	1766.33
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
4	0.18	0.16	1.31	0.61	2.91	0.00	334.67	0.01	0.01	336.44
332	0.01	0.01	2.27	0.21	0.21	0.00	188.01	0.01	0.01	192.32
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
439	**12.21**	**11.20**	**197.37**	**38.85**	**185.14**	**0.19**	**18404.08**	**6.12**	**0.13**	**18573.53**

Month 17 Daily Emissions (lb/day)

Quantity Mo 17	PM$_{10}$	PM$_{2.5}$	CO	VOC	NO$_x$	SO$_2$	CO$_2$	CH$_4$	N$_2$O	CO$_2$e
1	0.16	0.14	1.63	0.69	1.38	0.00	128.17	0.06	0.00	129.47
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.37	0.34	2.41	0.65	4.00	0.00	341.10	0.06	0.00	342.34
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	1.45	1.34	12.64	3.29	25.38	0.02	2071.03	0.30	0.00	2077.26
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.78	0.72	7.83	3.09	8.26	0.01	815.06	0.28	0.00	820.92
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.26	0.24	2.84	1.06	2.65	0.00	261.75	0.10	0.00	263.76
1	0.40	0.36	2.92	1.04	10.77	0.01	982.36	0.09	0.00	984.34
5	1.89	1.74	20.06	8.67	16.48	0.02	1479.97	0.78	0.00	1496.40
4	0.63	0.58	6.89	2.35	6.61	0.01	673.10	0.21	0.00	677.56
1	0.16	0.15	1.65	0.68	1.48	0.00	140.05	0.06	0.00	141.35
5	0.08	0.08	38.91	0.16	6.13	0.00	862.08	1.32	0.00	889.78
6	0.04	0.04	6.34	0.07	2.96	0.00	395.16	0.58	0.00	407.35
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
5	0.01	0.01	5.54	0.47	0.42	0.00	221.00	0.02	0.03	229.53
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.94	0.85	6.86	3.21	15.29	0.02	1757.03	0.03	0.03	1766.33
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
4	0.18	0.16	1.31	0.61	2.91	0.00	334.67	0.01	0.01	336.44
325	0.01	0.01	2.22	0.21	0.21	0.00	183.86	0.01	0.01	188.08
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
419	**7.98**	**7.31**	**155.04**	**28.56**	**118.62**	**0.12**	**12644.57**	**4.89**	**0.13**	**12786.47**

Month 18 Daily Emissions (lb/day)

Quantity Mo 18	PM$_{10}$	PM$_{2.5}$	CO	VOC	NO$_x$	SO$_2$	CO$_2$	CH$_4$	N$_2$O	CO$_2$e
1	0.16	0.14	1.63	0.69	1.38	0.00	128.17	0.06	0.00	129.47
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.37	0.34	2.41	0.65	4.00	0.00	341.10	0.06	0.00	342.34
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.52	0.48	5.22	2.06	5.50	0.01	543.38	0.19	0.00	547.28
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.26	0.24	2.84	1.06	2.65	0.00	261.75	0.10	0.00	263.76
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.76	0.70	8.02	3.47	6.59	0.01	591.99	0.31	0.00	598.56
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.16	0.15	1.65	0.68	1.48	0.00	140.05	0.06	0.00	141.35
2	0.03	0.03	15.57	0.06	2.45	0.00	344.83	0.53	0.00	355.91
6	0.04	0.04	6.34	0.07	2.96	0.00	395.16	0.58	0.00	407.35
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
4	0.01	0.00	4.43	0.38	0.34	0.00	176.80	0.01	0.02	183.63
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.73	0.66	5.33	2.50	11.89	0.01	1366.58	0.03	0.02	1373.82
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
4	0.18	0.16	1.31	0.61	2.91	0.00	334.67	0.01	0.01	336.44
280	0.01	0.01	1.92	0.18	0.18	0.00	158.57	0.01	0.01	162.20
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
358	**5.01**	**4.58**	**101.77**	**17.34**	**76.34**	**0.08**	**8438.03**	**3.16**	**0.11**	**8539.47**

Month 19 Daily Emissions (lb/day)

Quantity Mo 19	PM$_{10}$	PM$_{2.5}$	CO	VOC	NO$_x$	SO$_2$	CO$_2$	CH$_4$	N$_2$O	CO$_2$e
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.37	0.34	2.41	0.65	4.00	0.00	341.10	0.06	0.00	342.34
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.52	0.48	5.22	2.06	5.50	0.01	543.38	0.19	0.00	547.28
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.26	0.24	2.84	1.06	2.65	0.00	261.75	0.10	0.00	263.76
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.76	0.70	8.02	3.47	6.59	0.01	591.99	0.31	0.00	598.56
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.16	0.15	1.65	0.68	1.48	0.00	140.05	0.06	0.00	141.35
2	0.03	0.03	15.57	0.06	2.45	0.00	344.83	0.53	0.00	355.91
6	0.04	0.04	6.34	0.07	2.96	0.00	395.16	0.58	0.00	407.35
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
4	0.01	0.00	4.43	0.38	0.34	0.00	176.80	0.01	0.02	183.63
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.73	0.66	5.33	2.50	11.89	0.01	1366.58	0.03	0.02	1373.82
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
4	0.18	0.16	1.31	0.61	2.91	0.00	334.67	0.01	0.01	336.44
247	0.01	0.01	1.69	0.16	0.16	0.00	139.69	0.01	0.01	142.89
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
324	**4.86**	**4.44**	**99.91**	**16.63**	**74.93**	**0.08**	**8290.99**	**3.09**	**0.11**	**8390.68**

Month 20 Daily Emissions (lb/day)

Quantity Mo 20	PM$_{10}$	PM$_{2.5}$	CO	VOC	NO$_x$	SO$_2$	CO$_2$	CH$_4$	N$_2$O	CO$_2$e
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
3	1.50	1.38	14.77	3.95	38.71	0.04	3713.95	0.36	0.00	3721.43
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.52	0.48	5.22	2.06	5.50	0.01	543.38	0.19	0.00	547.28
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.26	0.24	2.84	1.06	2.65	0.00	261.75	0.10	0.00	263.76
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.38	0.35	4.01	1.73	3.30	0.00	295.99	0.16	0.00	299.28
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.03	0.03	15.57	0.06	2.45	0.00	344.83	0.53	0.00	355.91
5	0.03	0.03	5.28	0.06	2.46	0.00	329.30	0.48	0.00	339.46
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.63	0.56	4.57	2.14	10.19	0.01	1171.35	0.02	0.02	1177.56
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
4	0.18	0.16	1.31	0.61	2.91	0.00	334.67	0.01	0.01	336.44
226	0.01	0.01	1.55	0.15	0.15	0.00	127.98	0.01	0.01	130.92
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.15	0.13	1.06	0.50	2.37	0.00	271.92	0.01	0.00	273.36
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
302	**5.48**	**5.01**	**103.50**	**17.43**	**104.86**	**0.10**	**11138.53**	**3.07**	**0.10**	**11234.58**

Month 38 Daily Emissions (lb/day)

Quantity Mo 38	PM$_{10}$	PM$_{2.5}$	CO	VOC	NO$_x$	SO$_2$	CO$_2$	CH$_4$	N$_2$O	CO$_2$e
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.08	0.08	38.91	0.16	6.13	0.00	862.08	1.32	0.00	889.78
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.21	0.19	1.52	0.71	3.40	0.00	390.45	0.01	0.01	392.52
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
1	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
153	0.01	0.00	1.05	0.10	0.10	0.00	86.83	0.01	0.01	88.82
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
210	**2.14**	**1.95**	**89.14**	**6.24**	**44.51**	**0.04**	**5166.42**	**2.56**	**0.08**	**5244.41**

Month 39 Daily Emissions (lb/day)

Quantity Mo 39	PM$_{10}$	PM$_{2.5}$	CO	VOC	NO$_x$	SO$_2$	CO$_2$	CH$_4$	N$_2$O	CO$_2$e
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.08	0.08	38.91	0.16	6.13	0.00	862.08	1.32	0.00	889.78
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.21	0.19	1.52	0.71	3.40	0.00	390.45	0.01	0.01	392.52
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
1	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
153	0.01	0.00	1.05	0.10	0.10	0.00	86.83	0.01	0.01	88.82
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
210	**2.14**	**1.95**	**89.14**	**6.24**	**44.51**	**0.04**	**5166.42**	**2.56**	**0.08**	**5244.41**

Month 40 Daily Emissions (lb/day)

Quantity Mo 40	PM$_{10}$	PM$_{2.5}$	CO	VOC	NO$_x$	SO$_2$	CO$_2$	CH$_4$	N$_2$O	CO$_2$e
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.16	1.07	10.11	2.63	20.31	0.02	1656.82	0.24	0.00	1661.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.08	0.08	38.91	0.16	6.13	0.00	862.08	1.32	0.00	889.78
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.05	0.05	27.41	0.11	4.32	0.00	607.20	0.93	0.00	626.72
2	0.00	0.00	2.21	0.19	0.17	0.00	88.40	0.01	0.01	91.81
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.21	0.19	1.52	0.71	3.40	0.00	390.45	0.01	0.01	392.52
5	0.00	0.00	0.76	0.02	0.01	0.00	118.59	0.02	0.02	125.73
10	0.02	0.01	2.74	0.26	0.26	0.00	226.52	0.01	0.02	231.72
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
152	0.01	0.00	1.04	0.10	0.10	0.00	86.08	0.01	0.01	88.05
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.11	0.10	0.82	0.38	1.82	0.00	209.17	0.00	0.00	210.28
10	0.22	0.20	1.63	0.76	3.64	0.00	418.34	0.01	0.01	420.56
6	0.13	0.12	0.98	0.46	2.18	0.00	251.00	0.00	0.00	252.33
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
2	0.04	0.04	0.33	0.15	0.73	0.00	83.67	0.00	0.00	84.11
208	**2.09**	**1.91**	**88.80**	**6.08**	**43.78**	**0.04**	**5082.00**	**2.56**	**0.08**	**5159.53**

Monthly Comparison of Construction Equipment Emissions:

		Daily Emissions (lb/day)									
Month of Contruction	**Total Equipment Quantity**	**PM_{10}**	**$PM_{2.5}$**	**CO**	**VOC**	**NO_x**	**SO_2**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
1	136	5.03	4.60	63.73	13.68	84.97	0.09	8434.47	1.64	0.093	8497.75
2	304	13.81	12.65	160.18	36.48	216.69	0.22	20749.63	4.36	0.151	20887.92
3	366	12.02	11.01	161.20	33.30	198.99	0.20	19356.95	4.65	0.145	19499.47
4	342	15.05	13.80	190.08	42.31	262.18	0.26	25305.81	5.46	0.144	25465.07
5	344	15.67	14.38	213.72	45.02	269.44	0.27	26073.81	6.31	0.140	26249.64
6	619	18.95	17.40	274.67	56.38	312.35	0.31	30246.12	8.34	0.150	30467.84
7	616	16.58	15.21	236.50	50.07	257.91	0.26	24994.31	7.26	0.145	25191.62
8	506	15.20	13.95	199.21	45.95	232.53	0.24	22374.79	6.08	0.139	22545.44
9	445	13.61	12.49	186.36	42.50	202.24	0.21	19676.77	5.81	0.132	19839.78
10	411	11.67	10.70	162.84	37.75	158.89	0.17	15910.14	5.12	0.131	16058.32
11	411	11.67	10.70	162.84	37.75	158.89	0.17	15910.14	5.12	0.131	16058.32
12	410	11.51	10.56	161.19	37.06	157.41	0.16	15770.09	5.06	0.131	15916.98
13	475	14.77	13.55	212.87	45.03	229.41	0.23	22191.14	6.59	0.135	22371.40
14	462	14.36	13.19	245.99	44.23	229.79	0.23	22583.08	7.80	0.134	22788.34
15	460	13.13	12.05	214.09	41.46	204.77	0.21	20249.39	6.65	0.134	20430.58
16	439	12.21	11.20	197.37	38.85	185.14	0.19	18404.08	6.12	0.132	18573.53
17	419	7.98	7.31	155.04	28.56	118.62	0.12	12644.57	4.89	0.127	12786.47
18	358	5.01	4.58	101.77	17.34	76.34	0.08	8438.03	3.16	0.113	8539.47
19	324	4.86	4.44	99.91	16.63	74.93	0.08	8290.99	3.09	0.112	8390.68
20	302	5.48	5.01	103.50	17.43	104.86	0.10	11138.53	3.07	0.102	11234.58
21	284	5.10	4.66	99.38	15.69	101.55	0.10	10833.10	2.91	0.101	10925.64
22	281	4.79	4.38	96.20	14.47	98.17	0.10	10486.93	2.82	0.100	10577.00
23	280	4.53	4.14	93.59	13.44	95.42	0.09	10215.24	2.72	0.100	10303.36
24	280	4.53	4.14	93.59	13.44	95.42	0.09	10215.24	2.72	0.100	10303.36
25	274	2.89	2.63	77.76	9.00	54.34	0.05	6229.36	2.36	0.095	6308.57
26	273	2.63	2.39	75.15	7.97	51.59	0.05	5957.68	2.27	0.095	6034.93
27	273	2.63	2.39	75.15	7.97	51.59	0.05	5957.68	2.27	0.095	6034.93
28	229	2.54	2.31	74.21	7.64	50.10	0.05	5766.56	2.26	0.091	5842.38
29	229	2.54	2.31	74.21	7.64	50.10	0.05	5766.56	2.26	0.091	5842.38
30	229	2.54	2.31	74.21	7.64	50.10	0.05	5766.56	2.26	0.091	5842.38
31	224	2.51	2.28	68.92	7.58	47.64	0.05	5437.25	1.78	0.091	5502.91
32	224	2.51	2.28	68.92	7.58	47.64	0.05	5437.25	1.78	0.091	5502.91
33	248	2.51	2.28	69.09	7.59	47.65	0.05	5450.84	1.78	0.092	5516.82
34	251	2.56	2.33	92.44	7.69	51.33	0.05	5968.09	2.57	0.092	6050.69
35	251	2.56	2.33	92.44	7.69	51.33	0.05	5968.09	2.57	0.092	6050.69
36	210	2.14	1.95	89.14	6.24	44.51	0.04	5166.42	2.56	0.078	5244.41
37	210	2.14	1.95	89.14	6.24	44.51	0.04	5166.42	2.56	0.078	5244.41
38	210	2.14	1.95	89.14	6.24	44.51	0.04	5166.42	2.56	0.078	5244.41
39	210	2.14	1.95	89.14	6.24	44.51	0.04	5166.42	2.56	0.078	5244.41
40	208	2.09	1.91	88.80	6.08	43.78	0.04	5082.00	2.56	0.077	5159.53
MAX VALUE (lb/day)	**619**	**18.95**	**17.40**	**274.67**	**56.38**	**312.35**	**0.31**	**30246.1**	**8.34**	**0.151**	**30467.8**

		Annual Emissions (ton/year)									
Months for Annual Contruction		**PM_{10}**	**$PM_{2.5}$**	**CO**	**VOC**	**NO_x**	**SO_2**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
1	**12**	2.41	2.21	32.59	7.17	37.69	0.038	3672.05	0.98	0.0245	3700.17
2	**13**	2.56	2.35	34.82	7.64	39.85	0.040	3878.40	1.05	0.0251	3908.28
3	**14**	2.57	2.35	36.11	7.76	40.05	0.040	3905.90	1.10	0.0248	3936.78
4	**15**	2.58	2.37	36.91	7.88	40.14	0.041	3919.28	1.13	0.0247	3950.75
5	**16**	2.54	2.33	37.01	7.83	38.98	0.039	3815.76	1.14	0.0245	3847.38
6	**17**	2.42	2.22	36.13	7.58	36.72	0.037	3614.32	1.12	0.0243	3645.43
7	**18**	2.22	2.03	33.54	7.00	33.18	0.034	3287.20	1.04	0.0238	3316.50
8	**19**	2.04	1.87	31.49	6.50	30.43	0.031	3036.65	0.98	0.0233	3064.49
9	**20**	1.89	1.74	30.06	6.07	28.52	0.029	2868.10	0.94	0.0227	2894.83
10	**21**	1.77	1.62	28.75	5.67	27.01	0.027	2735.45	0.89	0.0223	2761.11
11	**22**	1.66	1.52	27.75	5.32	26.10	0.026	2654.10	0.86	0.0218	2678.89
12	**23**	1.56	1.43	26.71	4.95	25.15	0.025	2568.68	0.82	0.0213	2592.57
13	**24**	1.45	1.33	25.70	4.60	24.22	0.024	2485.35	0.79	0.0208	2508.37
14	**25**	1.27	1.17	23.67	4.06	21.59	0.022	2245.93	0.72	0.0202	2267.42
15	**26**	1.10	1.00	21.11	3.51	18.92	0.019	1996.55	0.64	0.0197	2016.12
16	**27**	0.94	0.86	19.03	3.01	16.62	0.017	1782.17	0.58	0.0191	1800.19
17	**28**	0.79	0.73	17.18	2.54	14.59	0.014	1592.61	0.52	0.0185	1609.22
18	**29**	0.71	0.65	15.97	2.23	13.57	0.013	1489.44	0.48	0.0179	1505.06
19	**30**	0.68	0.62	15.55	2.08	13.17	0.013	1449.37	0.47	0.0176	1464.60
20	**31**	0.64	0.58	15.09	1.95	12.76	0.012	1406.56	0.45	0.0173	1421.29
21	**32**	0.60	0.54	14.57	1.80	11.91	0.012	1321.04	0.43	0.0171	1335.31
22	**33**	0.56	0.51	14.11	1.68	11.10	0.011	1240.31	0.41	0.0170	1254.18
23	**34**	0.52	0.48	14.06	1.58	10.39	0.010	1172.52	0.41	0.0169	1186.28
24	**35**	0.49	0.45	14.04	1.49	9.73	0.009	1108.82	0.40	0.0168	1122.49
25	**36**	0.46	0.42	13.97	1.38	8.97	0.009	1033.09	0.40	0.0165	1046.61
26	**37**	0.45	0.41	14.14	1.34	8.82	0.008	1017.14	0.40	0.0162	1030.65
27	**38**	0.44	0.40	14.35	1.32	8.72	0.008	1005.27	0.41	0.0159	1018.79
28	**39**	0.43	0.39	14.56	1.29	8.61	0.008	993.40	0.41	0.0157	1006.93
29	**40**	0.43	0.39	14.78	1.27	8.51	0.008	983.14	0.42	0.0155	996.69
MAX VALUE (ton/year)		**2.58**	**2.37**	**37.01**	**7.88**	**40.14**	**0.041**	**3919.28**	**1.14**	**0.0251**	**3950.75**

Annual Offsite Combustion Emissions

annual construction activity for months 8-19

Construction Assumptions - 30 days per month

Equipment	Number of Vehicles per year	Offsite Miles per Day Travelled per Vehicle	Offsite Miles per Year Travelled all Vehicle	Emission factors (g/mile)										Annual Emissions (ton/year)									
				PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
Vehicles with Onroad Engines for Emissions Estimates																							
Busses	67	10	20100	0.066	0.046	41.898	3.565	3.171	0.017	1672.27	0.120	0.200	1736.79	0.00	0.00	0.93	0.08	0.07	0.00	37.02	0.00	0.00	38.45
Concrete Pump Truck	0	40	0	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	10	0	0	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flatbed Truck	104	0	0	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Staff & Security Truck	60	0	0	0.010	0.010	2.100	0.055	0.030	0.010	326.30	0.050	0.060	345.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck	120	0	0	0.058	0.042	10.368	0.973	0.971	0.008	857.01	0.050	0.060	876.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water/Soiltac Truck	48	0	0	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Passenger Vehicles	3862	40	4634400	0.058	0.042	10.368	0.973	0.971	0.008	857.01	0.050	0.060	876.66	0.30	0.21	52.92	4.97	4.96	0.04	4374.13	0.26	0.31	4474.43
Delivery Transport Trucks																							
General Materials Delivery T	3	100	9000	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	0.02	0.02	0.12	0.06	0.27	0.00	31.38	0.00	0.00	31.54
Suncatcher Pedestals Delive	0	240	0	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stirling Engines	60	50	90000	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	0.17	0.15	1.22	0.57	2.73	0.00	313.76	0.01	0.00	315.42
Suncatcher Metal Supports	120	240	864000	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	1.61	1.45	11.75	5.50	26.21	0.03	3012.05	0.06	0.05	3028.00
Suncatcher Mirrors	72	50	108000	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	0.20	0.18	1.47	0.69	3.28	0.00	376.51	0.01	0.01	378.50
Electrical and Control Systen	24	240	172800	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	0.32	0.29	2.35	1.10	5.24	0.01	602.41	0.01	0.01	605.60
Azimuth and Elevation Drive	24	50	36000	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	0.07	0.06	0.49	0.23	1.09	0.00	125.50	0.00	0.00	126.17
													Total	**2.69**	**2.36**	**71.26**	**13.19**	**43.85**	**0.08**	**8872.76**	**0.34**	**0.38**	**8998.10**

Number of Vehicles per year = sum of monthly daily maximum vehicle usage for the peak 12 months

Short-term Offsite Combustion Emissions

construction schedule = 12 hours per day 7 am to 7 pm
delivery trucks can arrive at the site anytime during the day or night

Vehicles with Onroad Engines for Emissions Estimates	Offsite Miles per Day Travelled per Vehicle	Hours/Day	Horsepower	Emission factors (g/mile)										Emission rate per piece of equipment (lb/hr)									
				PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
Busses	10	12	175	6.60E-02	4.63E-02	4.19E+01	3.57E+00	3.17E+00	1.70E-02	1.67E+03	1.20E-01	2.00E-01	1.74E+03	0.000	0.000	0.077	0.007	0.006	0.000	3.070	0.000	0.000	3.19
Concrete Pump Truck	40	12	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.012	0.011	0.091	0.042	0.202	0.000	23.241	0.000	0.000	23.36
Dump Truck	0	12	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
Flatbed Truck	0	12	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
Staff & Security Truck	0	24	187	1.00E-02	1.00E-02	2.10E+00	5.50E-02	3.00E-02	1.00E-02	3.26E+02	5.00E-02	6.00E-02	3.46E+02	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
Pickup Truck	0	12	175	5.80E-02	4.18E-02	1.04E+01	9.73E-01	9.71E-01	8.00E-03	8.57E+02	5.00E-02	6.00E-02	8.77E+02	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
Water/Soiltac Truck	0	12	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
Worker Passenger Vehicles	40	12	NA	5.80E-02	4.18E-02	1.04E+01	9.73E-01	9.71E-01	8.00E-03	8.57E+02	5.00E-02	6.00E-02	8.77E+02	0.000	0.000	0.076	0.007	0.007	0.000	6.292	0.000	0.000	6.44
Delivery Transport Trucks																							
General Construction Materials	100	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.016	0.014	0.113	0.053	0.253	0.000	29.051	0.001	0.000	29.21
Suncatcher Pedestals	240	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.037	0.034	0.272	0.127	0.607	0.001	69.723	0.001	0.001	70.09
Stirling Engines	50	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.008	0.007	0.057	0.027	0.126	0.000	14.526	0.000	0.000	14.60
Suncatcher Metal Supports	240	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.037	0.034	0.272	0.127	0.607	0.001	69.723	0.001	0.001	70.09
Suncatcher Mirrors	50	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.008	0.007	0.057	0.027	0.126	0.000	14.526	0.000	0.000	14.60
Electrical and Control Systems	240	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.037	0.034	0.272	0.127	0.607	0.001	69.723	0.001	0.001	70.09
Azimuth and Elevation Drive	50	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.008	0.007	0.057	0.027	0.126	0.000	14.526	0.000	0.000	14.60
													Total										

Vehicles with Onroad Engines for Emissions Estimates	Month 1 Daily Emissions (lb/day)											Month 2 Daily Emissions (lb/day)										
	Quantity Mo 1	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 2	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
Busses	4	0.01	0.00	3.69	0.31	0.28	0.00	147.34	0.01	0.02	153.02	6	0.01	0.01	5.54	0.47	0.42	0.00	221.00	0.02	0.03	229.53
Concrete Pump Truck	2	0.30	0.27	2.18	1.02	4.85	0.01	557.79	0.01	0.01	560.74	5	0.75	0.67	5.44	2.55	12.14	0.01	1394.47	0.03	0.02	1401.85
Dump Truck	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flatbed Truck	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Staff & Security Truck	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water/Soiltac Truck	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Passenger Vehicles	67	0.34	0.25	61.51	5.77	5.76	0.05	5084.15	0.30	0.36	5200.73	180	0.92	0.66	164.43	15.43	15.40	0.13	13591.30	0.79	0.95	13902.93
Delivery Transport Trucks																						
General Construction Materials	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
Suncatcher Pedestals	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stirling Engines	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
Suncatcher Metal Supports	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
Suncatcher Mirrors	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
Electrical and Control Systems	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
Azimuth and Elevation Drive	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
	122	**13.84**	**12.37**	**163.42**	**52.05**	**225.09**	**0.29**	**30401.67**	**0.78**	**0.77**	**30657.19**	**265**	**15.99**	**14.19**	**279.62**	**67.21**	**260.35**	**0.40**	**41910.87**	**1.34**	**1.42**	**42379.80**

Vehicles with Onroad Engines for Emissions Estimates	Month 21 Daily Emissions (lb/day)											Month 22 Daily Emissions (lb/day)										
	Quantity Mo 21	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 22	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
Busses	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51
Concrete Pump Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flatbed Truck	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Staff & Security Truck	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water/Soiltac Truck	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Passenger Vehicles	209	1.07	0.77	191.22	17.95	17.91	0.15	15806.18	0.92	1.11	16168.59	208	1.06	0.77	190.00	17.83	17.79	0.15	15705.50	0.92	1.10	16065.61
Delivery Transport Trucks																						
General Construction Materials	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Pedestals	3	2.69	2.42	19.59	9.17	43.69	0.05	5020.09	0.10	0.08	5046.67	3	2.69	2.42	19.59	9.17	43.69	0.05	5020.09	0.10	0.08	5046.67
Stirling Engines	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
Suncatcher Metal Supports	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
Suncatcher Mirrors	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
Electrical and Control Systems	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
Azimuth and Elevation Drive	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
TOTALS	**264**	**16.96**	**15.03**	**308.71**	**72.21**	**275.93**	**0.43**	**45512.33**	**1.49**	**1.58**	**46034.48**	**262**	**16.95**	**15.03**	**307.49**	**72.10**	**275.82**	**0.43**	**45411.65**	**1.48**	**1.58**	**45931.49**

Vehicles with Onroad Engines for Emissions Estimates	Month 23 Daily Emissions (lb/day)											Month 24 Daily Emissions (lb/day)										
	Quantity Mo 23	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 24	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
Busses	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51
Concrete Pump Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flatbed Truck	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Staff & Security Truck	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water/Soiltac Truck	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Passenger Vehicles	208	1.06	0.77	190.00	17.83	17.79	0.15	15705.50	0.92	1.10	16065.61	208	1.06	0.77	190.00	17.83	17.79	0.15	15705.50	0.92	1.10	16065.61
Delivery Transport Trucks																						
General Construction Materials	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Pedestals	3	2.69	2.42	19.59	9.17	43.69	0.05	5020.09	0.10	0.08	5046.67	3	2.69	2.42	19.59	9.17	43.69	0.05	5020.09	0.10	0.08	5046.67
Stirling Engines	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
Suncatcher Metal Supports	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
Suncatcher Mirrors	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
Electrical and Control Systems	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
Azimuth and Elevation Drive	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
	262	**16.95**	**15.03**	**307.49**	**72.10**	**275.82**	**0.43**	**45411.65**	**1.48**	**1.58**	**45931.49**	**262**	**16.95**	**15.03**	**307.49**	**72.10**	**275.82**	**0.43**	**45411.65**	**1.48**	**1.58**	**45931.49**

Notes:
Emission factors from CARB Off-road Mobile Source Emission Factors (2006-2020) for diesel and propane equipment. (2009 data used).
Dozer = Crawler Tractor
Loaders = Rubber tired loaders
Backhoe = Tractors/Loaders/Backhoes
Light Tower = Other Construction Equipment
Utilization Load Factors from SCAQMD
PM2.5 emission factors obtained by multiplying the PM10 emissions by PM2.5 fraction in CEIDARS list for onroad or offroad diesel vehicles.
For propane equipment assumed PM2.5 and PM10 Fraction of total PM is 1.000
Onroad vehicle emissions from EMFAC2007 model
CH_4 and N_2O emission factors for the onroad vehicles are from reference source 2: Table C.5, California Climate Action Registry General Reporting Protocol Version 3.0, April 2007

CO_2 GWP (SAR, 1996) =	1
CH_4 GWP (SAR, 1996) =	21
N_2O GWP (SAR, 1996) =	310

Month 3 Daily Emissions (lb/day)											Month 4 Daily Emissions (lb/day)											Month 5 Daily Emissions (lb/day)										
Quantity Mo 3	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 4	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 5	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
6	0.01	0.01	5.54	0.47	0.42	0.00	221.00	0.02	0.03	229.53	6	0.01	0.01	5.54	0.47	0.42	0.00	221.00	0.02	0.03	229.53	6	0.01	0.01	5.54	0.47	0.42	0.00	221.00	0.02	0.03	229.53
5	0.75	0.67	5.44	2.55	12.14	0.01	1394.47	0.03	0.02	1401.85	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
249	1.27	0.92	227.76	21.37	21.33	0.18	18826.47	1.10	1.32	19258.13	219	1.12	0.80	199.75	18.75	18.71	0.15	16510.91	0.96	1.16	16889.49	219	1.12	0.80	199.75	18.75	18.71	0.15	16510.91	0.96	1.16	16889.49
3	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	3	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	3	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3	2.69	2.42	19.59	9.17	43.69	0.05	5020.09	0.10	0.08	5046.67	3	2.69	2.42	19.59	9.17	43.69	0.05	5020.09	0.10	0.08	5046.67
5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
327	**16.35**	**14.45**	**342.95**	**73.15**	**266.28**	**0.44**	**47146.03**	**1.65**	**1.79**	**47735.00**	**294**	**18.13**	**16.08**	**329.09**	**77.14**	**295.21**	**0.46**	**48456.10**	**1.58**	**1.68**	**49011.17**	**290**	**18.13**	**16.08**	**329.09**	**77.14**	**295.21**	**0.46**	**48456.10**	**1.58**	**1.68**	**49011.17**

Month 25 Daily Emissions (lb/day)											Month 26 Daily Emissions (lb/day)											Month 27 Daily Emissions (lb/day)										
Quantity Mo 25	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 26	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 27	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
208	1.06	0.77	190.00	17.83	17.79	0.15	15705.50	0.92	1.10	16065.61	208	1.06	0.77	190.00	17.83	17.79	0.15	15705.50	0.92	1.10	16065.61	208	1.06	0.77	190.00	17.83	17.79	0.15	15705.50	0.92	1.10	16065.61
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
259	**14.26**	**12.61**	**287.90**	**62.93**	**232.13**	**0.38**	**40391.56**	**1.39**	**1.50**	**40884.82**	**259**	**14.26**	**12.61**	**287.90**	**62.93**	**232.13**	**0.38**	**40391.56**	**1.39**	**1.50**	**40884.82**	**259**	**14.26**	**12.61**	**287.90**	**62.93**	**232.13**	**0.38**	**40391.56**	**1.39**	**1.50**	**40884.82**

Month 6 Daily Emissions (lb/day)											Month 7 Daily Emissions (lb/day)											Month 8 Daily Emissions (lb/day)											Month 9 Daily Emissions (lb/day)										
Quantity Mo 6	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 7	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 8	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 9	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
6	0.01	0.01	5.54	0.47	0.42	0.00	221.00	0.02	0.03	229.53	6	0.01	0.01	5.54	0.47	0.42	0.00	221.00	0.02	0.03	229.53	6	0.01	0.01	5.54	0.47	0.42	0.00	221.00	0.02	0.03	229.53	6	0.01	0.01	5.54	0.47	0.42	0.00	221.00	0.02	0.03	229.53
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
479	2.45	1.76	437.86	41.09	41.01	0.34	36193.13	2.11	2.53	37022.99	487	2.49	1.79	445.17	41.78	41.69	0.34	36797.19	2.15	2.58	37640.90	385	1.97	1.42	351.99	33.03	32.97	0.27	29095.45	1.70	2.04	29762.57	334	1.71	1.23	305.10	28.63	28.57	0.24	25219.41	1.47	1.77	25797.66
3	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	3	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	3	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	2.69	2.42	19.59	9.17	43.69	0.05	5020.09	0.10	0.08	5046.67	1	0.90	0.81	6.53	3.06	14.56	0.02	1673.36	0.03	0.03	1682.22	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
550	**19.47**	**17.04**	**567.20**	**99.49**	**317.51**	**0.64**	**68138.32**	**2.73**	**3.06**	**69144.67**	**554**	**17.71**	**15.46**	**561.45**	**94.07**	**289.07**	**0.61**	**65395.65**	**2.70**	**3.05**	**66398.13**	**450**	**16.29**	**14.28**	**461.74**	**82.27**	**265.78**	**0.53**	**56020.55**	**2.22**	**2.49**	**56837.58**	**393**	**14.91**	**13.08**	**406.69**	**74.05**	**243.19**	**0.47**	**50052.81**	**1.95**	**2.18**	**50769.89**

Month 28 Daily Emissions (lb/day)											Month 29 Daily Emissions (lb/day)											Month 30 Daily Emissions (lb/day)											Month 31 Daily Emissions (lb/day)										
Quantity Mo 28	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 29	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 30	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 31	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
166	0.85	0.61	151.64	14.23	14.20	0.12	12534.20	0.73	0.88	12821.59	166	0.85	0.61	151.64	14.23	14.20	0.12	12534.20	0.73	0.88	12821.59	166	0.85	0.61	151.64	14.23	14.20	0.12	12534.20	0.73	0.88	12821.59	166	0.85	0.61	151.64	14.23	14.20	0.12	12534.20	0.73	0.88	12821.59
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
215	**14.05**	**12.46**	**249.53**	**59.33**	**228.54**	**0.35**	**37220.26**	**1.20**	**1.28**	**37640.80**	**215**	**14.05**	**12.46**	**249.53**	**59.33**	**228.54**	**0.35**	**37220.26**	**1.20**	**1.28**	**37640.80**	**215**	**14.05**	**12.46**	**249.53**	**59.33**	**228.54**	**0.35**	**37220.26**	**1.20**	**1.28**	**37640.80**	**215**	**14.05**	**12.46**	**249.53**	**59.33**	**228.54**	**0.35**	**37220.26**	**1.20**	**1.28**	**37640.80**

Month 10 Daily Emissions (lb/day)											Month 11 Daily Emissions (lb/day)											Month 12 Daily Emissions (lb/day)											Month 13 Daily Emissions (lb/day)										
Quantity Mo 10	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 11	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 12	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 13	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
6	0.01	0.01	5.54	0.47	0.42	0.00	221.00	0.02	0.03	229.53	6	0.01	0.01	5.54	0.47	0.42	0.00	221.00	0.02	0.03	229.53	6	0.01	0.01	5.54	0.47	0.42	0.00	221.00	0.02	0.03	229.53	6	0.01	0.01	5.54	0.47	0.42	0.00	221.00	0.02	0.03	229.53
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
305	1.56	1.12	278.31	26.12	26.06	0.21	23004.53	1.34	1.61	23532.00	305	1.56	1.12	278.31	26.12	26.06	0.21	23004.53	1.34	1.61	23532.00	305	1.56	1.12	278.31	26.12	26.06	0.21	23004.53	1.34	1.61	23532.00	357	1.82	1.31	325.81	30.58	30.51	0.25	26930.91	1.57	1.89	27548.40
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
364	**14.76**	**12.97**	**379.89**	**71.53**	**240.68**	**0.45**	**47837.93**	**1.82**	**2.03**	**48504.23**	**364**	**14.76**	**12.97**	**379.89**	**71.53**	**240.68**	**0.45**	**47837.93**	**1.82**	**2.03**	**48504.23**	**364**	**14.76**	**12.97**	**379.89**	**71.53**	**240.68**	**0.45**	**47837.93**	**1.82**	**2.03**	**48504.23**	**419**	**15.03**	**13.16**	**427.39**	**75.99**	**245.13**	**0.49**	**51764.30**	**2.05**	**2.30**	**52520.63**

Month 32 Daily Emissions (lb/day)											Month 33 Daily Emissions (lb/day)											Month 34 Daily Emissions (lb/day)											Month 35 Daily Emissions (lb/day)										
Quantity Mo 32	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 33	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 34	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 35	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
166	0.85	0.61	151.64	14.23	14.20	0.12	12534.20	0.73	0.88	12821.59	190	0.97	0.70	173.56	16.29	16.25	0.13	14346.37	0.84	1.00	14675.32	190	0.97	0.70	173.56	16.29	16.25	0.13	14346.37	0.84	1.00	14675.32	190	0.97	0.70	173.56	16.29	16.25	0.13	14346.37	0.84	1.00	14675.32
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
215	**14.05**	**12.46**	**249.53**	**59.33**	**228.54**	**0.35**	**37220.26**	**1.20**	**1.28**	**37640.80**	**239**	**14.17**	**12.55**	**271.46**	**61.39**	**230.59**	**0.37**	**39032.43**	**1.31**	**1.40**	**39494.53**	**239**	**14.17**	**12.55**	**271.46**	**61.39**	**230.59**	**0.37**	**39032.43**	**1.31**	**1.40**	**39494.53**	**239**	**14.17**	**12.55**	**271.46**	**61.39**	**230.59**	**0.37**	**39032.43**	**1.31**	**1.40**	**39494.53**

Month 14 Daily Emissions (lb/day)											Month 15 Daily Emissions (lb/day)											Month 16 Daily Emissions (lb/day)										
Quantity Mo 14	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 15	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 16	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
6	0.01	0.01	5.54	0.47	0.42	0.00	221.00	0.02	0.03	229.53	6	0.01	0.01	5.54	0.47	0.42	0.00	221.00	0.02	0.03	229.53	6	0.01	0.01	5.54	0.47	0.42	0.00	221.00	0.02	0.03	229.53
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
341	1.74	1.26	311.80	29.26	29.20	0.24	25773.13	1.50	1.80	26364.08	347	1.77	1.28	317.28	29.78	29.71	0.24	26226.18	1.53	1.84	26827.51	332	1.70	1.22	303.28	28.46	28.40	0.23	25068.40	1.46	1.76	25643.18
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
402	**14.95**	**13.11**	**413.39**	**74.67**	**243.82**	**0.48**	**50606.53**	**1.99**	**2.22**	**51336.31**	**408**	**14.98**	**13.13**	**418.87**	**75.19**	**244.33**	**0.48**	**51059.57**	**2.01**	**2.25**	**51799.74**	**391**	**14.90**	**13.07**	**404.86**	**73.87**	**243.02**	**0.47**	**49901.79**	**1.94**	**2.17**	**50615.42**

Month 36 Daily Emissions (lb/day)											Month 37 Daily Emissions (lb/day)											Month 38 Daily Emissions (lb/day)										
Quantity Mo 36	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 37	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 38	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
153	0.78	0.56	140.07	13.14	13.12	0.11	11577.77	0.68	0.81	11843.24	153	0.78	0.56	140.07	13.14	13.12	0.11	11577.77	0.68	0.81	11843.24	153	0.78	0.56	140.07	13.14	13.12	0.11	11577.77	0.68	0.81	11843.24
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
198	**13.98**	**12.41**	**237.96**	**58.24**	**227.45**	**0.34**	**36263.83**	**1.15**	**1.21**	**36662.45**	**198**	**13.98**	**12.41**	**237.96**	**58.24**	**227.45**	**0.34**	**36263.83**	**1.15**	**1.21**	**36662.45**	**198**	**13.98**	**12.41**	**237.96**	**58.24**	**227.45**	**0.34**	**36263.83**	**1.15**	**1.21**	**36662.45**

Month 17 Daily Emissions (lb/day)											Month 18 Daily Emissions (lb/day)										
Quantity Mo 17	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 18	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
5	0.01	0.01	4.61	0.39	0.35	0.00	184.17	0.01	0.02	191.28	4	0.01	0.00	3.69	0.31	0.28	0.00	147.34	0.01	0.02	153.02
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
325	1.66	1.19	296.58	27.83	27.78	0.23	24514.68	1.43	1.72	25076.77	280	1.43	1.03	255.77	24.00	23.95	0.20	21142.02	1.23	1.48	21626.78
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
383	**14.86**	**13.04**	**397.24**	**73.17**	**242.32**	**0.46**	**49311.24**	**1.91**	**2.13**	**50010.75**	**335**	**14.63**	**12.88**	**355.51**	**69.26**	**238.43**	**0.43**	**45901.75**	**1.71**	**1.89**	**46522.50**

Month 19 Daily Emissions (lb/day)											Month 20 Daily Emissions (lb/day)										
Quantity Mo 19	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 20	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
4	0.01	0.00	3.69	0.31	0.28	0.00	147.34	0.01	0.02	153.02	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
247	1.26	0.91	225.33	21.15	21.10	0.17	18625.12	1.09	1.30	19052.16	226	1.15	0.83	206.45	19.37	19.33	0.16	17064.63	1.00	1.19	17455.90
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3	2.69	2.42	19.59	9.17	43.69	0.05	5020.09	0.10	0.08	5046.67
5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
302	**14.46**	**12.76**	**325.07**	**66.40**	**235.58**	**0.41**	**43384.84**	**1.56**	**1.71**	**43947.89**	**281**	**17.04**	**15.09**	**323.93**	**73.64**	**277.36**	**0.44**	**46770.78**	**1.56**	**1.67**	**47321.79**

Month 39 Daily Emissions (lb/day)											Month 40 Daily Emissions (lb/day)										
Quantity Mo 39	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 40	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
153	0.78	0.56	140.07	13.14	13.12	0.11	11577.77	0.68	0.81	11843.24	152	0.78	0.56	138.85	13.03	13.00	0.11	11477.10	0.67	0.80	11740.25
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
198	**13.98**	**12.41**	**237.96**	**58.24**	**227.45**	**0.34**	**36263.83**	**1.15**	**1.21**	**36662.45**	**196**	**13.97**	**12.41**	**236.74**	**58.13**	**227.34**	**0.34**	**36163.15**	**1.14**	**1.20**	**36559.47**

Monthly Comparison of Construction Equipment Emissions:

Month of Contruction	Offroad Equipment Quantity	Daily Emissions (lb/day)									
		PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
1	122	13.84	12.37	163.42	52.05	225.09	0.29	30401.67	0.78	0.77	30657.19
2	265	15.99	14.19	279.62	67.21	260.35	0.40	41910.87	1.34	1.42	42379.80
3	327	16.35	14.45	342.95	73.15	266.28	0.44	47146.03	1.65	1.79	47735.00
4	294	18.13	16.08	329.09	77.14	295.21	0.46	48456.10	1.58	1.68	49011.17
5	290	18.13	16.08	329.09	77.14	295.21	0.46	48456.10	1.58	1.68	49011.17
6	550	19.47	17.04	567.20	99.49	317.51	0.64	68138.32	2.73	3.06	69144.67
7	554	17.71	15.46	561.45	94.07	289.07	0.61	65395.65	2.70	3.05	66398.13
8	450	16.29	14.28	461.74	82.27	265.78	0.53	56020.55	2.22	2.49	56837.58
9	393	14.91	13.08	406.69	74.05	243.19	0.47	50052.81	1.95	2.18	50769.89
10	364	14.76	12.97	379.89	71.53	240.68	0.45	47837.93	1.82	2.03	48504.23
11	364	14.76	12.97	379.89	71.53	240.68	0.45	47837.93	1.82	2.03	48504.23
12	364	14.76	12.97	379.89	71.53	240.68	0.45	47837.93	1.82	2.03	48504.23
13	419	15.03	13.16	427.39	75.99	245.13	0.49	51764.30	2.05	2.30	52520.63
14	402	14.95	13.11	413.39	74.67	243.82	0.48	50606.53	1.99	2.22	51336.31
15	408	14.98	13.13	418.87	75.19	244.33	0.48	51059.57	2.01	2.25	51799.74
16	391	14.90	13.07	404.86	73.87	243.02	0.47	49901.79	1.94	2.17	50615.42
17	383	14.86	13.04	397.24	73.17	242.32	0.46	49311.24	1.91	2.13	50010.75
18	335	14.63	12.88	355.51	69.26	238.43	0.43	45901.75	1.71	1.89	46522.50
19	302	14.46	12.76	325.07	66.40	235.58	0.41	43384.84	1.56	1.71	43947.89
20	281	17.04	15.09	323.93	73.64	277.36	0.44	46770.78	1.56	1.67	47321.79
21	264	16.96	15.03	308.71	72.21	275.93	0.43	45512.33	1.49	1.58	46034.48
22	262	16.95	15.03	307.49	72.10	275.82	0.43	45411.65	1.48	1.58	45931.49
23	262	16.95	15.03	307.49	72.10	275.82	0.43	45411.65	1.48	1.58	45931.49
24	262	16.95	15.03	307.49	72.10	275.82	0.43	45411.65	1.48	1.58	45931.49
25	259	14.26	12.61	287.90	62.93	232.13	0.38	40391.56	1.39	1.50	40884.82
26	259	14.26	12.61	287.90	62.93	232.13	0.38	40391.56	1.39	1.50	40884.82
27	259	14.26	12.61	287.90	62.93	232.13	0.38	40391.56	1.39	1.50	40884.82
28	215	14.05	12.46	249.53	59.33	228.54	0.35	37220.26	1.20	1.28	37640.80
29	215	14.05	12.46	249.53	59.33	228.54	0.35	37220.26	1.20	1.28	37640.80
30	215	14.05	12.46	249.53	59.33	228.54	0.35	37220.26	1.20	1.28	37640.80
31	215	14.05	12.46	249.53	59.33	228.54	0.35	37220.26	1.20	1.28	37640.80
32	215	14.05	12.46	249.53	59.33	228.54	0.35	37220.26	1.20	1.28	37640.80
33	239	14.17	12.55	271.46	61.39	230.59	0.37	39032.43	1.31	1.40	39494.53
34	239	14.17	12.55	271.46	61.39	230.59	0.37	39032.43	1.31	1.40	39494.53
35	239	14.17	12.55	271.46	61.39	230.59	0.37	39032.43	1.31	1.40	39494.53
36	198	13.98	12.41	237.96	58.24	227.45	0.34	36263.83	1.15	1.21	36662.45
37	198	13.98	12.41	237.96	58.24	227.45	0.34	36263.83	1.15	1.21	36662.45
38	198	13.98	12.41	237.96	58.24	227.45	0.34	36263.83	1.15	1.21	36662.45
39	198	13.98	12.41	237.96	58.24	227.45	0.34	36263.83	1.15	1.21	36662.45
40	196	13.97	12.41	236.74	58.13	227.34	0.34	36163.15	1.14	1.20	36559.47
MAX VALUE (lb/day)	**554**	**19.47**	**17.04**	**567.20**	**99.49**	**317.51**	**0.64**	**68138.32**	**2.73**	**3.06**	**69144.67**

Months for Annual Contruction		Annual Emissions (ton/year)									
		PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
1	12	2.93	2.58	68.71	13.67	47.70	0.085	8992.38	0.33	0.3631	9111.86
2	13	2.94	2.59	72.67	14.03	48.00	0.088	9312.82	0.35	0.3860	9439.81
3	14	2.93	2.57	74.68	14.14	47.75	0.089	9443.25	0.36	0.3980	9574.16
4	15	2.91	2.55	75.82	14.17	47.42	0.089	9501.96	0.36	0.4049	9635.13
5	16	2.86	2.51	76.96	14.12	46.64	0.090	9523.64	0.37	0.4122	9659.19
6	17	2.81	2.46	77.98	14.06	45.84	0.090	9536.47	0.37	0.4189	9674.19
7	18	2.74	2.40	74.80	13.61	44.66	0.087	9202.92	0.36	0.4012	9334.85
8	19	2.69	2.36	71.26	13.19	43.85	0.083	8872.76	0.34	0.3811	8998.10
9	20	2.70	2.37	69.19	13.06	44.03	0.082	8734.01	0.33	0.3689	8855.36
10	21	2.73	2.40	67.72	13.03	44.52	0.082	8665.90	0.33	0.3600	8784.33
11	22	2.76	2.43	66.63	13.04	45.05	0.081	8629.51	0.32	0.3532	8745.74
12	23	2.80	2.46	65.55	13.05	45.57	0.081	8593.12	0.32	0.3465	8707.15
13	24	2.83	2.50	64.46	13.06	46.10	0.081	8556.72	0.31	0.3398	8668.56
14	25	2.82	2.49	62.37	12.86	45.91	0.079	8386.13	0.30	0.3277	8494.02
15	26	2.81	2.48	60.49	12.69	45.73	0.078	8232.91	0.29	0.3169	8337.25
16	27	2.80	2.47	58.52	12.50	45.55	0.076	8072.89	0.28	0.3056	8173.53
17	28	2.78	2.46	56.19	12.29	45.33	0.074	7882.66	0.27	0.2921	7978.91
18	29	2.77	2.45	53.98	12.08	45.12	0.073	7701.30	0.26	0.2793	7793.36
19	30	2.76	2.45	52.39	11.93	44.97	0.071	7571.08	0.25	0.2702	7660.13
20	31	2.76	2.44	51.25	11.82	44.87	0.071	7478.61	0.25	0.2636	7565.53
21	32	2.71	2.40	50.14	11.61	44.14	0.069	7335.35	0.24	0.2577	7420.31
22	33	2.67	2.37	49.58	11.45	43.46	0.068	7238.15	0.24	0.2550	7322.21
23	34	2.63	2.33	49.04	11.29	42.78	0.067	7142.46	0.24	0.2524	7225.66
24	35	2.59	2.29	48.50	11.13	42.10	0.066	7046.77	0.23	0.2497	7129.10
25	36	2.54	2.25	47.46	10.92	41.37	0.065	6909.56	0.23	0.2442	6990.07
26	37	2.54	2.25	46.71	10.85	41.30	0.065	6847.64	0.23	0.2399	6926.73
27	38	2.53	2.25	45.96	10.78	41.23	0.064	6785.72	0.22	0.2355	6863.40
28	39	2.53	2.24	45.21	10.71	41.16	0.063	6723.81	0.22	0.2312	6800.06
29	40	2.53	2.24	45.02	10.69	41.15	0.063	6707.95	0.22	0.2301	6783.84
MAX VALUE (ton/year)		**2.94**	**2.59**	**77.98**	**14.17**	**48.00**	**0.090**	**9536.47**	**0.37**	**0.4189**	**9674.19**

Solar Two
Fugitive Dust Emissions (on-site)
Short-term month = 8
annual construction activity for months = 8-19
Travel on sealed roads (paved)

$E = [k * (sL/2)^{0.65} * (W/3)^{1.5} - C] (1 - P/4N)$ EPA AP-42 Section 13.2.1 Paved Roads Equation 2

E = particulate emission factor (lb/VMT),
k = particle size multiplier for particle size range and units of interest
7.4 sL = road surface silt loading (grams per square meter) (g/m^2), from Table 13.2.1-4 for Municipal solid waste landfill
W = average weight (tons) of the vehicles traveling the road, and
C = emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear.

constants

	$PM_{2.5}$	PM_{10}
k	0.0024	0.016
C	0.00036	0.00047

12 P = Mean number of days per year with at least 0.01 inches of precipitation (from EL CENTRO 2 SSW COOP Station)
365 N = number of days in the year (averaging period)

Vehicle Type	Number of Vehicles (month 8)	Max Daily Distance per Vehicle (mile/day)	Assumed distance percentage to drive on sealed roads	Max Daily Distance per Vehicle to drive on sealed roads (mile/day)	Max Daily VMT (all vehicles)	Mean Vehicle Weight (tons)	Max. Operating Hours / Day	Number of Vehicles per year (months 8-19)	Max Annual VMT (all vehicles)	$PM_{2.5}$ EF (lbs/VMT)	PM_{10} EF (lbs/VMT)
Diesel Construction Equipment											
Air Compressor	3	0	0%	0	0	0.5	6	21	0	0.000	0.002
Asphalt Paver	0	0.2	0%	0	0	25	7	0	0	0.134	0.893
Backhoe	5	0	0%	0	0	11	7	40	0	0.039	0.260
Compactor	3	0	0%	0	0	10	7	24	0	0.034	0.226
Crane small	8	0.5	50%	0	2	10	5	73	547.5	0.034	0.226
Crane large	0	0.5	0%	0	0	35	7	0	0	0.222	1.480
Dozer	1	0	0%	0	0	20	8	6	0	0.096	0.639
Generator	4	0	0%	0	0	0.5	9	47	0	0.000	0.002
Grader	2	0	0%	0	0	20	7	9	0	0.096	0.639
Light Tower	2	0	0%	0	0	0.25	9	21	0	0.000	0.000
Loader	3	0	0%	0	0	25	7	20	0	0.134	0.893
Maxi Sneeker (Trencher)	4	0	0%	0	0	5	9	49	0	0.012	0.079
Skid Steer (Bobcat)	3	0	0%	0	0	2	7	31	0	0.003	0.020
Welding Machine	4	0	0%	0	0	0.5	5	33	0	0.000	0.002
Equipment fueled with Propane											
Aerial Lift	3	1	50%	1	2	4	6	40	600	0.008	0.057
Fork Lift	8	1	50%	1	4	3	4	87	1305	0.005	0.037
Telehandler	3	1	50%	1	2	3	6	44	660	0.005	0.037
Vehicles with Onroad Engines for Emissions Estimates											
Busses	6	12	0%	0	0	12	12	67	0	0.044	0.297
Concrete Pump	0	6	0%	0	0	20	12	0	0	0.096	0.639
Dump Truck	3	7	50%	4	11	20	12	10	1050	0.096	0.639
Flatbed Truck	9	28	100%	28	252	10	12	104	87360	0.034	0.226
Staff & Security Truck	5	33	100%	33	165	2.25	24	60	59400	0.003	0.024
Pickup Truck	10	12	95%	11	114	4	12	120	41040	0.008	0.057
Water/Soiltac Truck	4	12	25%	3	12	20	12	48	4320	0.096	0.639
Worker Passenger Vehicles	385	0.3	100%	0	116	2	12	3862	34758	0.003	0.020
Suncatcher Delivery Trucks											
General Materials Delivery Trucks	3	6	0%	0	0	20	24	3	0	0.096	0.639
Suncatcher Pedestals Delivery Trucks	0	13	55%	7	0	20	24	0	0	0.096	0.639
Stirling Engines	5	6	0%	0	0	20	24	60	0	0.096	0.639
Suncatcher Metal Supports	10	6	0%	0	0	20	24	120	0	0.096	0.639
Suncatcher Mirrors	6	6	0%	0	0	20	24	72	0	0.096	0.639
Electrical and Control Systems	2	6	0%	0	0	20	24	24	0	0.096	0.639
Azimuth and Elevation Drive	2	6	0%	0	0	20	24	24	0	0.096	0.639

Vehicle Type	Watering Control Efficiency		PM_{10} Emissions (lb/hr)		PM_{10} Emissions (lb/day)		% of daily emissions	PM_{10} Emissions (tons/year)		$PM_{2.5}$ Emissions (lb/hr)		$PM_{2.5}$ Emissions (lb/day)		$PM_{2.5}$ Emissions (tons/year)	
	Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated		Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated
Diesel Construction Equipment															
Air Compressor	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Paver	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Backhoe	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Compactor	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crane small	0%	0%	0.09	0.09	0.45	0.45	0.53%	0.06	0.06	0.01	0.01	0.07	0.07	0.01	0.01
Crane large	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dozer	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generator	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grader	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light Tower	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loader	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maxi Sneeker (Trencher)	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Skid Steer (Bobcat)	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Welding Machine	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equipment fueled with Propane															
Aerial Lift	0%	0%	0.02	0.02	0.09	0.09	0.10%	0.02	0.02	0.00	0.00	0.01	0.01	0.00	0.00
Fork Lift	0%	0%	0.04	0.04	0.15	0.15	0.17%	0.02	0.02	0.01	0.01	0.02	0.02	0.00	0.00
Telehandler	0%	0%	0.01	0.01	0.06	0.06	0.07%	0.01	0.01	0.00	0.00	0.01	0.01	0.00	0.00
Vehicles with Onroad Engines for Emissions Estimates															
Busses	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Pump	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	0%	0%	0.56	0.56	6.71	6.71	7.93%	0.34	0.34	0.08	0.08	1.00	1.00	0.05	0.05
Flatbed Truck	0%	0%	4.74	4.74	56.84	56.84	67.18%	9.85	9.85	0.70	0.70	8.45	8.45	1.47	1.47
Staff & Security Truck	0%	0%	0.16	0.16	3.90	3.90	4.61%	0.70	0.70	0.02	0.02	0.54	0.54	0.10	0.10
Pickup Truck	0%	0%	0.54	0.54	6.47	6.47	7.64%	1.16	1.16	0.08	0.08	0.94	0.94	0.17	0.17
Water/Soiltac Truck	0%	0%	0.64	0.64	7.67	7.67	9.06%	1.38	1.38	0.10	0.10	1.15	1.15	0.21	0.21
Worker Passenger Vehicles	0%	0%	0.19	0.19	2.28	2.28	2.70%	0.34	0.34	0.03	0.03	0.31	0.31	0.05	0.05
Suncatcher Delivery Trucks															
General Materials Delivery Trucks	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Pedestals Delivery Trucks	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stirling Engines	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Metal Supports	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Mirrors	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electrical and Control Systems	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Azimuth and Elevation Drive	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL Fugitive emissions for vehicles traveled on sealed road (paved)			**6.98**	**6.98**	**84.61**	**84.61**		**13.89**	**13.89**	**1.03**	**1.03**	**12.50**	**12.50**	**2.05**	**2.05**

Travel on paved road

$E = [k * (sL/2)^{0.65} * (W/3)^{1.5} - C] (1 - P/4N)$ EPA AP-42 Section 13.2.1 Paved Roads Equation 2

E = particulate emission factor (lb/VMT),

k = particle size multiplier for particle size range and units of interest

1.6 sL = road surface silt loading (grams per square meter) (g/m^2), Rural roads CARB - Emission Inventory Database - Section 7.8 SJV - Entrained Paved Road Dust - Rural Roads

W = average weight (tons) of the vehicles traveling the road, and (emission inventory code: 640-643-5400-0000), June 2006.

C = emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear.

constants

	$PM_{2.5}$	PM_{10}
k	0.0024	0.016
C	0.00036	0.00047

12 P = Mean number of days per year with at least 0.01 inches of precipitation (from EL CENTRO 2 SSW COOP Station)

365 N = number of days in the year (averaging period)

Vehicle Type	Number of Vehicles (month 8)	Max Daily Distance per Vehicle (mile/day)	Assumed distance percentage to drive on paved road	Max Daily Distance per Vehicle to drive on paved road (mile/day)	Max Daily VMT (all vehicles)	Mean Vehicle Weight (tons)	Max. Operating Hours / Day	Number of Vehicles per year (months 8-19)	Max Annual VMT (all vehicles)	$PM_{2.5}$ EF (lbs/VMT)	PM_{10} EF (lbs/VMT)
Diesel Construction Equipment											
Air Compressor	3	0	0%	0	0	0.5	6	21	0	0.000	0.000
Asphalt Paver	0	0.2	0%	0	0	25	7	0	0	0.049	0.330
Backhoe	5	0	0%	0	0	11	7	40	0	0.014	0.096
Compactor	3	0	0%	0	0	10	7	24	0	0.012	0.083
Crane small	8	0.5	0%	0	0	10	5	73	0	0.012	0.083
Crane large	0	0.5	0%	0	0	35	7	0	0	0.082	0.547
Dozer	1	0	0%	0	0	20	8	6	0	0.035	0.236
Generator	4	0	0%	0	0	0.5	9	47	0	0.000	0.000
Grader	2	0	0%	0	0	20	7	9	0	0.035	0.236
Light Tower	2	0	0%	0	0	0.25	9	21	0	0.000	0.000
Loader	3	0	0%	0	0	25	7	20	0	0.049	0.330
Maxi Sneeker (Trencher)	4	0	0%	0	0	5	9	49	0	0.004	0.029
Skid Steer (Bobcat)	3	0	0%	0	0	2	7	31	0	0.001	0.007
Welding Machine	4	0	0%	0	0	0.5	5	33	0	0.000	0.000
Equipment fueled with Propane											
Aerial Lift	3	1	0%	0	0	4	6	40	0	0.003	0.021
Fork Lift	8	1	0%	0	0	3	4	87	0	0.002	0.013
Telehandler	3	1	0%	0	0	3	6	44	0	0.002	0.013
Vehicles with Onroad Engines for Emissions Estimates											
Busses	6	12	100%	12	72	12	12	67	24120	0.016	0.109
Concrete Pump	0	6	82%	4.92	0	20	12	0	0	0.035	0.236
Dump Truck	3	7	0%	0	0	20	12	10	0	0.035	0.236
Flatbed Truck	9	28	0%	0	0	10	12	104	0	0.012	0.083
Staff & Security Truck	5	33	0%	0	0	2.25	24	60	0	0.001	0.008
Pickup Truck	10	12	0%	0	0	4	12	120	0	0.003	0.021
Water/Soiltac Truck	4	12	0%	0	0	20	12	48	0	0.035	0.236
Worker Passenger Vehicles	385	0.3	0%	0	0	2	12	3862	0	0.001	0.007
Suncatcher Delivery Trucks											
General Materials Delivery Trucks	3	6	100%	6	18	20	24	3	540	0.035	0.236
Suncatcher Pedestals Delivery Trucks	0	13	45%	5.85	0	20	24	0	0	0.035	0.236
Stirling Engines	5	6	100%	6	30	20	24	60	10800	0.035	0.236
Suncatcher Metal Supports	10	6	100%	6	60	20	24	120	21600	0.035	0.236
Suncatcher Mirrors	6	6	100%	6	36	20	24	72	12960	0.035	0.236
Electrical and Control Systems	2	6	100%	6	12	20	24	24	4320	0.035	0.236
Azimuth and Elevation Drive	2	6	100%	6	12	20	24	24	4320	0.035	0.236

Vehicle Type	Watering Control Efficiency		PM_{10} Emissions (lb/hr)		PM_{10} Emissions (lb/day)		% of daily emissions	PM_{10} Emissions (tons/year)		$PM_{2.5}$ Emissions (lb/hr)		$PM_{2.5}$ Emissions (lb/day)		$PM_{2.5}$ Emissions (tons/year)	
	Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated		Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated
Diesel Construction Equipment															
Air Compressor	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Paver	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Backhoe	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Compactor	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crane small	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crane large	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dozer	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generator	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grader	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light Tower	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loader	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maxi Sneeker (Trencher)	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Skid Steer (Bobcat)	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Welding Machine	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equipment fueled with Propane															
Aerial Lift	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fork Lift	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Telehandler	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vehicles with Onroad Engines for Emissions Estimates															
Busses	0%	0%	0.66	0.66	7.87	7.87	16.58%	1.32	1.32	0.10	0.10	1.16	1.16	0.19	0.19
Concrete Pump	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flatbed Truck	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Staff & Security Truck	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water/Soiltac Truck	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Passenger Vehicles	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Delivery Trucks															
General Materials Delivery Trucks	0%	0%	0.18	0.18	4.24	4.24	8.94%	0.06	0.06	0.03	0.03	0.63	0.63	0.01	0.01
Suncatcher Pedestals Delivery Trucks	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stirling Engines	0%	0%	0.29	0.29	7.07	7.07	14.90%	1.27	1.27	0.04	0.04	1.05	1.05	0.19	0.19
Suncatcher Metal Supports	0%	0%	0.59	0.59	14.15	14.15	29.79%	2.55	2.55	0.09	0.09	2.11	2.11	0.38	0.38
Suncatcher Mirrors	0%	0%	0.35	0.35	8.49	8.49	17.88%	1.53	1.53	0.05	0.05	1.26	1.26	0.23	0.23
Electrical and Control Systems	0%	0%	0.12	0.12	2.83	2.83	5.96%	0.51	0.51	0.02	0.02	0.42	0.42	0.08	0.08
Azimuth and Elevation Drive	0%	0%	0.12	0.12	2.83	2.83	5.96%	0.51	0.51	0.02	0.02	0.42	0.42	0.08	0.08
TOTAL Fugitive emissions for vehicles traveled on paved road			**2.31**	**2.31**	**47.49**	**47.49**		**7.75**	**7.75**	**0.34**	**0.34**	**7.05**	**7.05**	**1.15**	**1.15**

Travel on unpaved surfaces

$E = k * (s/12)^a * (W/3)^b * [(365 - P)/365]$ EPA AP-42 Section 13.2.2 Unpaved Roads Equations 1a and 2

E = size-specific emission factor (lb/VMT)

k, a, b = empirical constants

8.5 s = surface material silt content (%) Construction sites - Scraper routes

W = mean vehicle weight (tons)

constants

	$PM_{2.5}$	PM_{10}	Industrial Roads
k	0.15	1.5	
a	0.9	0.9	
b	0.45	0.45	

12 P = Mean number of days per year with at least 0.01 inches of precipitation (from EL CENTRO 2 SSW COOP Station)

Vehicle Type	Number of Vehicles (month 8)	Max Daily Distance per Vehicle (mile/day)	Assumed distance percentage to drive on unpaved roads	Max Daily Distance per Vehicle to drive on unpaved roads (mile/day)	Max Daily VMT (all vehicles)	Mean Vehicle Weight (tons)	Max. Operating Hours / Day	Number of Vehicles per year (months 8-19)	Max Annual VMT (all vehicles)	$PM_{2.5}$ EF (lbs/VMT)	PM_{10} EF (lbs/VMT)
Diesel Construction Equipment											
Air Compressor	3	0	100%	0	0	0.5	6	21	0	0.047	0.475
Asphalt Paver	0	0.2	100%	0.2	0	25	7	0	0	0.276	2.762
Backhoe	5	0	100%	0	0	11	7	40	0	0.191	1.909
Compactor	3	0	100%	0	0	10	7	24	0	0.183	1.828
Crane small	8	0.5	50%	0.25	2	10	5	73	547.5	0.183	1.828
Crane large	0	0.5	100%	0.5	0	35	7	0	0	0.321	3.213
Dozer	1	0	100%	0	0	20	8	6	0	0.250	2.498
Generator	4	0	100%	0	0	0.5	9	47	0	0.047	0.475
Grader	2	0	100%	0	0	20	7	9	0	0.250	2.498
Light Tower	2	0	100%	0	0	0.25	9	21	0	0.035	0.348
Loader	3	0	100%	0	0	25	7	20	0	0.276	2.762
Maxi Sneeker (Trencher)	4	0	100%	0	0	5	9	49	0	0.134	1.339
Skid Steer (Bobcat)	3	0	100%	0	0	2	7	31	0	0.089	0.886
Welding Machine	4	0	100%	0	0	0.5	5	33	0	0.047	0.475
Equipment fueled with Propane											
Aerial Lift	3	1	50%	0.5	2	4	6	40	600	0.121	1.211
Fork Lift	8	1	50%	0.5	4	3	4	87	1305	0.106	1.064
Telehandler	3	1	50%	0.5	2	3	6	44	660	0.106	1.064
Vehicles with Onroad Engines for Emissions Estimates											
Busses	6	12	0%	0	0	12	12	67	0	0.198	1.985
Concrete Pump	0	6	8%	0.48	0	20	12	0	0	0.250	2.498
Dump Truck	3	7	50%	3.5	11	20	12	10	1050	0.250	2.498
Flatbed Truck	9	28	0%	0	0	10	12	104	0	0.183	1.828
Staff & Security Truck	5	33	0%	0	0	2.25	24	60	0	0.093	0.934
Pickup Truck	10	12	5%	0.6	6	4	12	120	2160	0.121	1.211
Water/Soiltac Truck	4	12	75%	9	36	20	12	48	12960	0.250	2.498
Worker Passenger Vehicles	385	0.3	0%	0	0	2	12	3862	0	0.089	0.886
Suncatcher Delivery Trucks											
General Materials Delivery Trucks	3	6	0%	0	0	20	24	3	0	0.250	2.498
Suncatcher Pedestals Delivery Trucks	0	13	0%	0	0	20	24	0	0	0.250	2.498
Stirling Engines	5	6	0%	0	0	20	24	60	0	0.250	2.498
Suncatcher Metal Supports	10	6	0%	0	0	20	24	120	0	0.250	2.498
Suncatcher Mirrors	6	6	0%	0	0	20	24	72	0	0.250	2.498
Electrical and Control Systems	2	6	0%	0	0	20	24	24	0	0.250	2.498
Azimuth and Elevation Drive	2	6	0%	0	0	20	24	24	0	0.250	2.498

Vehicle Type	Watering Control Efficiency		PM_{10} Emissions (lb/hr)		PM_{10} Emissions (lb/day)		% of daily emissions	PM_{10} Emissions (tons/year)		$PM_{2.5}$ Emissions (lb/hr)		$PM_{2.5}$ Emissions (lb/day)		$PM_{2.5}$ Emissions (tons/year)	
	Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated		Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated
Diesel Construction Equipment															
Air Compressor	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Paver	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Backhoe	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Compactor	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crane small	0%	68%	0.71	0.23	3.66	1.17	2.71%	0.50	0.16	0.07	0.02	0.37	0.12	0.05	0.02
Crane large	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dozer	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generator	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grader	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light Tower	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loader	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maxi Sneeker (Trencher)	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Skid Steer (Bobcat)	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Welding Machine	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equipment fueled with Propane															
Aerial Lift	0%	68%	0.33	0.11	1.82	0.58	1.35%	0.36	0.12	0.03	0.01	0.18	0.06	0.04	0.01
Fork Lift	0%	68%	1.18	0.38	4.25	1.36	3.16%	0.69	0.22	0.12	0.04	0.43	0.14	0.07	0.02
Telehandler	0%	68%	0.25	0.08	1.60	0.51	1.18%	0.35	0.11	0.02	0.01	0.16	0.05	0.04	0.01
Vehicles with Onroad Engines for Emissions Estimates															
Busses	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Pump	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	0%	68%	2.19	0.70	26.23	8.39	19.47%	1.31	0.42	0.22	0.07	2.62	0.84	0.13	0.04
Flatbed Truck	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Staff & Security Truck	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck	0%	68%	0.61	0.19	7.26	2.32	5.39%	1.31	0.42	0.06	0.02	0.73	0.23	0.13	0.04
Water/Soiltac Truck	0%	68%	7.49	2.40	89.92	28.77	66.74%	16.19	5.18	0.75	0.24	8.99	2.88	1.62	0.52
Worker Passenger Vehicles	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Delivery Trucks															
General Materials Delivery Trucks	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Pedestals Delivery Trucks	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stirling Engines	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Metal Supports	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Mirrors	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electrical and Control Systems	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Azimuth and Elevation Drive	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL Fugitive emissions for vehicles traveled on unpaved surfaces			**12.75**	**4.08**	**134.73**	**43.11**		**20.71**	**6.63**	**1.27**	**0.41**	**13.47**	**4.31**	**2.07**	**0.66**

Water efficiency from CEQA Table 11-4 maximum value for watering active sites 2 times daily

Bulldozing & grading EPA AP-42 Section 11.9

$E = p * 1 * s^{1.5} / M^{1.4}$ PM10 Emissions from bulldozing (lb/hr) Table 11.9-1 EMISSION FACTOR EQUATIONS FOR UNCONTROLLED OPEN DUST SOURCES AT WESTERN SURFACE COAL MINES (Overburden)

0.75 p = particle size multiplier for PM10
6.9 s = Silt content (%) (from Table 11.9-3 for bulldozers overburden)
7.9 M = Moisture content of surface material (%) (from Table 11.9-3 for bulldozers overburden)
0.75 lb/hr of PM10

$E = p * 5.7 * s^{1.2} / M^{1.3}$ PM2.5 Emissions from bulldozing (lb/hr) Table 11.9-1 EMISSION FACTOR EQUATIONS FOR UNCONTROLLED OPEN DUST SOURCES AT WESTERN SURFACE COAL MINES (Overburden)

0.105 p = particle size multiplier for PM2.5
6.9 s = Silt content (%) (from Table 11.9-3 for bulldozers overburden)
7.9 M = Moisture content of surface material (%) (from Table 11.9-3 for bulldozers overburden)
0.41 lb/hr of PM2.5

$E = p * 0.051 * S^{2.0}$ PM10 Emissions from grading (lb/VMT) Table 11.9-1 EMISSION FACTOR EQUATIONS FOR UNCONTROLLED OPEN DUST SOURCES AT WESTERN SURFACE COAL MINES (Overburden)

0.6 p = particle size multiplier for PM10
7.1 S = mean vehicle speed (mph) (from Table 11.9-3 for grader)
1.54 lb/VMT of PM10

$E = p * 0.040 * S^{2.5}$ PM2.5 Emissions from grading (lb/VMT) Table 11.9-1 EMISSION FACTOR EQUATIONS FOR UNCONTROLLED OPEN DUST SOURCES AT WESTERN SURFACE COAL MINES (Overburden)

0.031 p = particle size multiplier for PM2.5
7.1 S = mean vehicle speed (mph) (from Table 11.9-3 for grader)
0.17 lb/VMT of PM2.5

Equipment	Number of Vehicles (month 8)	Hours/ Day	VMT/day/ vehicle	Watering Control Efficiency	PM10 Emissions (lb/day)	PM2.5 Emissions (lb/day)	Number of Vehicles per year (months 8-19)	VMT/year/ vehicle	PM10 Emissions (ton/yr)	PM2.5 Emissions (ton/yr)
Compactor	3	7	2	68%	2.96	0.32	24	730	0.541	0.058
Dozer	1	8		68%	1.85	1.02	6		0.166	0.092
Maxi Sneeker (Trencher)	4	9	2	68%	3.95	0.43	49	730	0.721	0.078
Skid Steer (Bobcat)	3	7		68%	4.77	2.62	31		0.739	0.406
Grader	2	7	4	68%	3.95	0.43	9	1460	0.721	0.078
				Grading Total	**10.86**	**1.17**			**1.98**	**0.21**
				Bulldozing Total	**6.62**	**3.64**			**0.91**	**0.50**
				Total	**17.48**	**4.81**			**2.89**	**0.71**

12 months of earth work
12 total construction hours per work day
30 construction days per month

Water efficiency from CEQA Table 11-4 maximum value for watering active sites 2 times daily

Dirt Piling or Material Handling PM10 Emissions from Material Handling (lb/ton) from EPA AP-42 Chapter 13.2.4 Eq. 1

$E = k * 0.0032 * (U/5)^{1.3} / (M/2)^{1.4}$ E = Emission factor (lb/ton material handled)

7.45 U = Mean Wind speed (mph) (from 1991-1995 Imperial Co. airport data)
12 M = Moisture content of surface material (%) (from Table 13.2.4-1 for cover at municipal landfill)

	$PM_{2.5}$	PM_{10}
k	0.053	0.35

0.00003 lb/ton of PM2.5
0.00022 lb/ton of PM10

Equipment	Number of Vehicles (month 8)	Hours/ Day	Material Handled per Day (ton)	Watering Control Efficiency	PM10 Emissions (lb/day)	PM2.5 Emissions (lb/day)	Number of Vehicles per year (months 8-19)	Material Handled per year (ton)	PM10 Emissions (ton/yr)	PM2.5 Emissions (ton/yr)
Backhoe	5	7	2,804	68%	0.1966	0.0298	40	1009503	0.035	0.005
Wheeled Loader	3	7	2,804	68%	0.1966	0.0298	20	1009503	0.035	0.005
Dump Trucks	3	12	5,608	68%	0.3932	0.0595	10	2,019,006	0.071	0.011
				Total	**0.79**	**0.12**			**0.14**	**0.02**

Water efficiency from CEQA Table 11-4 maximum value for watering active sites 2 times daily
Assume 50% soil movement from loaders and 50% from backhoes

4,033 yd3/day 5,608 ton/day
1,452,000 yd3/project 2,019,006 tons/project 2781 density of soil (lb/yd3) (USDA NRCS Physical Soil Properti 0.5 depth of disturbance (yards)
total project 600 acres = 1,452,000 for Niland Fine Sand and Rositas Fine Sand soil)
3000 total acres disturbed as described in Table 3-17 of Project Description 1,452,000 cubic yds, assume depth of soils moved is
only a small portion of this soil is picked up and moved via dump druck

Cover Storage Pile

$E = 1.7 * G/1.5 * (365-H)/235 * I/15 * J$ SCAQMD Table A9-9-E

PM10 Emission factor from wind erosion of storage piles per day per acre

15 G = Silt content (%) (from CEQA Handbook Table A9-9-E-1 for blended ore and dirt)
12 H = Number of days with >= 0.01 inches of precipitation per year (from El Centro 2 SSW weather station WRCC)
2.5 I = Percentage of time that the unobstructed wind speed exceeds 12 mph at mean pile height
0.5 J = Fraction of TSP that is PM10 = 0.5
2.128 lb/acre/day

wind speed percentage based on 2005 wind speed data as recorded at El Centro 2 SSW station

Source	Quantity	Size of Pile (acre)	Hours/Day	Days/Year per Pile	Watering Control Efficiency	PM10 Emissions (lb/day)	PM2.5 Emissions (lb/day)	PM10 Emissions (tons/yr)	PM2.5 Emissions (tons/yr)
Cover Storage Pile	2	1	24	182.5	68%	1.36	0.30	0.12	0.03

Water efficiency from CEQA Table 11-4 maximum value for watering active sites 2 times daily
pile size assumed
piles present only for 6 months

Construction on-site fugitive dust PM10 | **Month 8 construction on-site fugitive dust** | **Months 8-19 construction on-site fugitive dust**

Vehicle Type	Number of Vehicles (month 8)	Max Daily Distance per Vehicle (mile/day)	Sealed Road - PM_{10} Fugitive Emissions	Paved Road - PM_{10} Fugitive Emissions	Unpaved Road - PM_{10} Fugitive Emissions	Earthmoving Equipment - PM_{10} Fugitive Emissions	Total PM_{10} Fugitive Emissions	Sealed Road - PM_{10} Fugitive Emissions	Paved Road - PM_{10} Fugitive Emissions	Unpaved Road - PM_{10} Fugitive Emissions	Earthmoving Equipment - PM_{10} Fugitive Emissions	Total PM_{10} Fugitive Emissions
			lb/day					ton/year				
Diesel Construction Equipment												
Air Compressor	3	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Asphalt Paver	0	0.2	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Backhoe	5	0	0.00	0.00	0.00	0.20	0.20	0.00	0.00	0.00	0.04	0.04
Compactor	3	0	0.00	0.00	0.00	2.96	2.96	0.00	0.00	0.00	0.54	0.54
Crane small	8	0.5	0.45	0.00	1.17		1.62	0.06	0.00	0.16		0.22
Crane large	0	0.5	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Dozer	1	0	0.00	0.00	0.00	1.85	1.85	0.00	0.00	0.00	0.17	0.17
Generator	4	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Grader	2	0	0.00	0.00	0.00	3.95	3.95	0.00	0.00	0.00	0.72	0.72
Light Tower	2	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Loader	3	0	0.00	0.00	0.00	0.20	0.20	0.00	0.00	0.00	0.04	0.04
Maxi Sneeker (Trencher)	4	0	0.00	0.00	0.00	3.95	3.95	0.00	0.00	0.00	0.72	0.72
Skid Steer (Bobcat)	3	0	0.00	0.00	0.00	4.77	4.77	0.00	0.00	0.00	0.74	0.74
Welding Machine	4	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Equipment fueled with Propane												
Aerial Lift	3	1	0.09	0.00	0.58		0.67	0.02	0.00	0.12		0.13
Fork Lift	8	1	0.15	0.00	1.36		1.51	0.02	0.00	0.22		0.25
Telehandler	3	1	0.06	0.00	0.51		0.57	0.01	0.00	0.11		0.12
Vehicles with Onroad Engines for Emissions Estimates												
Busses	6	12	0.00	7.87	0.00		7.87	0.00	1.32	0.00		1.32
Concrete Pump	0	6	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Dump Truck	3	7	6.71	0.00	8.39	0.39	15.49	0.34	0.00	0.42	0.07	0.83
Flatbed Truck	9	28	56.84	0.00	0.00		56.84	9.85	0.00	0.00		9.85
Staff & Security Truck	5	33	3.90	0.00	0.00		3.90	0.70	0.00	0.00		0.70
Pickup Truck	10	12	6.47	0.00	2.32		8.79	1.16	0.00	0.42		1.58
Water/Soiltac Truck	4	12	7.67	0.00	28.77		36.44	1.38	0.00	5.18		6.56
Worker Passenger Vehicles	385	0.3	2.28	0.00	0.00		2.28	0.34	0.00	0.00		0.34
Suncatcher Delivery Trucks												
General Materials Delivery Trucks	3	6	0.00	4.24	0.00		4.24	0.00	0.06	0.00		0.06
Suncatcher Pedestals Delivery Trucks	0	13	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Stirling Engines	5	6	0.00	7.07	0.00		7.07	0.00	1.27	0.00		1.27
Suncatcher Metal Supports	10	6	0.00	14.15	0.00		14.15	0.00	2.55	0.00		2.55
Suncatcher Mirrors	6	6	0.00	8.49	0.00		8.49	0.00	1.53	0.00		1.53
Electrical and Control Systems	2	6	0.00	2.83	0.00		2.83	0.00	0.51	0.00		0.51
Azimuth and Elevation Drive	2	6	0.00	2.83	0.00		2.83	0.00	0.51	0.00		0.51
Storage piles						1.36	1.36				0.12	0.12
			84.61	**47.49**	**43.11**	**19.63**	**194.84**	**13.89**	**7.75**	**6.63**	**3.15**	**31.42**

Construction on-site fugitive dust PM2.5 | **Month 8 construction on-site fugitive dust** | **Months 8-19 construction on-site fugitive dust**

Vehicle Type	Number of Vehicles (month 8)	Max Daily Distance per Vehicle (mile/day)	Sealed Road - PM2.5 Fugitive Emissions	Paved Road - PM2.5 Fugitive Emissions	Unpaved Road - PM2.5 Fugitive Emissions	Earthmoving Equipment - PM2.5 Fugitive Emissions	Total PM2.5 Fugitive Emissions	Sealed Road - PM2.5 Fugitive Emissions	Paved Road - PM2.5 Fugitive Emissions	Unpaved Road - PM2.5 Fugitive Emissions	Earthmoving Equipment - PM2.5 Fugitive Emissions	Total PM2.5 Fugitive Emissions
			lb/day					ton/year				
Diesel Construction Equipment												
Air Compressor	3	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Asphalt Paver	0	0.2	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Backhoe	5	0	0.00	0.00	0.00	0.03	0.03	0.00	0.00	0.00	0.01	0.01
Compactor	3	0	0.00	0.00	0.00	0.32	0.32	0.00	0.00	0.00	0.06	0.06
Crane small	8	0.5	0.07	0.00	0.12		0.18	0.01	0.00	0.02		0.03
Crane large	0	0.5	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Dozer	1	0	0.00	0.00	0.00	1.02	1.02	0.00	0.00	0.00	0.09	0.09
Generator	4	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Grader	2	0	0.00	0.00	0.00	0.43	0.43	0.00	0.00	0.00	0.08	0.08
Light Tower	2	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Loader	3	0	0.00	0.00	0.00	0.03	0.03	0.00	0.00	0.00	0.01	0.01
Maxi Sneeker (Trencher)	4	0	0.00	0.00	0.00	0.43	0.43	0.00	0.00	0.00	0.08	0.08
Skid Steer (Bobcat)	3	0	0.00	0.00	0.00	2.62	2.62	0.00	0.00	0.00	0.41	0.41
Welding Machine	4	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Equipment fueled with Propane												
Aerial Lift	3	1	0.01	0.00	0.06		0.07	0.00	0.00	0.01		0.01
Fork Lift	8	1	0.02	0.00	0.14		0.16	0.00	0.00	0.02		0.03
Telehandler	3	1	0.01	0.00	0.05		0.06	0.00	0.00	0.01		0.01
Vehicles with Onroad Engines for Emissions Estimates												
Busses	6	12	0.00	1.16	0.00		1.16	0.00	0.19	0.00		0.19
Concrete Pump	0	6	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Dump Truck	3	7	1.00	0.00	0.84	0.06	1.90	0.05	0.00	0.04	0.01	0.10
Flatbed Truck	9	28	8.45	0.00	0.00		8.45	1.47	0.00	0.00		1.47
Staff & Security Truck	5	33	0.54	0.00	0.00		0.54	0.10	0.00	0.00		0.10
Pickup Truck	10	12	0.94	0.00	0.23		1.17	0.17	0.00	0.04		0.21
Water/Soiltac Truck	4	12	1.15	0.00	2.88		4.02	0.21	0.00	0.52		0.72
Worker Passenger Vehicles	385	0.3	0.31	0.00	0.00		0.31	0.05	0.00	0.00		0.05
Suncatcher Delivery Trucks												
General Materials Delivery Trucks	3	6	0.00	0.63	0.00		0.63	0.00	0.01	0.00		0.01
Suncatcher Pedestals Delivery Trucks	0	13	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Stirling Engines	5	6	0.00	1.05	0.00		1.05	0.00	0.19	0.00		0.19
Suncatcher Metal Supports	10	6	0.00	2.11	0.00		2.11	0.00	0.38	0.00		0.38
Suncatcher Mirrors	6	6	0.00	1.26	0.00		1.26	0.00	0.23	0.00		0.23
Electrical and Control Systems	2	6	0.00	0.42	0.00		0.42	0.00	0.08	0.00		0.08
Azimuth and Elevation Drive	2	6	0.00	0.42	0.00		0.42	0.00	0.08	0.00		0.08
Storage piles						0.30	0.30				0.03	0.03
			12.50	**7.05**	**4.31**	**5.23**	**29.09**	**2.05**	**1.15**	**0.66**	**0.76**	**4.63**

Solar Two
Fugitive Dust Emissions (offsite)

Short-term month = 8
annual construction activity for months = 8-19

Travel on paved road

$E = [k * (sL/2)^{0.65} * (W/3)^{1.5} - C] (1 - P/4N)$ EPA AP-42 Section 13.2.1 Paved Roads Equation 2
E = particulate emission factor (lb/VMT),
k = particle size multiplier for particle size range and units of interest

0.32 sL = road surface silt loading (grams per square meter) (g/m^2), Local CARB - Emission Inventory Database - Section 7.9 Entrained Paved Road Dust -
0.02 sL = road surface silt loading (grams per square meter) (g/m^2), Freeway Local Streets & Freeways (emission inventory code: 640-641-5400-0000), July 1997
W = average weight (tons) of the vehicles traveling the road, and
C = emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear.

constants

	$PM_{2.5}$	PM_{10}
k	0.0024	0.016
C	0.00036	0.00047

12 P = Mean number of days per year with at least 0.01 inches of precipitation (from EL CENTRO 2 SSW COOP Station)
365 N = number of days in the year (averaging period)

Vehicle Type	Number of Vehicles (month 8)	Number of Vehicles per year (months 8-19)	Max Daily Offsite Round-trip Distance per Vehicle within Imperial County (mile/day)	Max Daily VMT (all vehicles)	Max Annual VMT (all vehicles)	Mean Vehicle Weight (tons)	Max. Operating Hours / Day	Max. Operating Days / Month	$PM_{2.5}$ EF (lbs/VMT)	PM_{10} EF (lbs/VMT)
Vehicles with Onroad Engines for Emissions Estimates										
Busses	6	67	10	60	20100	12	12	30	0.005	0.038
Concrete Pump	0	0	40	0	0	20	12	30	0.012	0.083
Dump Truck	3	10	0	0	0	20	12	30	0.012	0.083
Flatbed Truck	9	104	0	0	0	10	12	30	0.004	0.029
Staff & Security Truck	5	60	0	0	0	2.25	24	30	0.000	0.003
Pickup Truck	10	120	0	0	0	4	12	30	0.001	0.007
Water/Soiltac Truck	4	48	0	0	0	20	12	30	0.012	0.083
Worker Passenger Vehicles	385	3862	40	15413	4634400	2	12	30	0.000	0.002
Suncatcher Delivery Trucks										
General Materials Delivery Trucks	3	3	100	300	9000	20	24	30	0.012	0.083
Suncatcher Pedestals Delivery Trucks	0	0	240	0	0	20	24	30	0.012	0.083
Stirling Engines	5	60	50	250	90000	20	24	30	0.002	0.013
Suncatcher Metal Supports	10	120	240	2400	864000	20	24	30	0.002	0.013
Suncatcher Mirrors	6	72	50	300	108000	20	24	30	0.002	0.013
Electrical and Control Systems	2	24	240	480	172800	20	24	30	0.002	0.013
Azimuth and Elevation Drive	2	24	50	100	36000	20	24	30	0.002	0.013

Vehicle Type	Watering Control Efficiency		PM_{10} Emissions (lb/hr)		PM_{10} Emissions (lb/day)		% of daily emissions	PM_{10} Emissions (tons/year)		$PM_{2.5}$ Emissions (lb/hr)		$PM_{2.5}$ Emissions (lb/day)		$PM_{2.5}$ Emissions (tons/year)	
	Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated		Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated
Vehicles with Onroad Engines for Emissions Estimates															
Busses	0%	0%	0.19	0.19	2.29	2.29	2.14%	0.38	0.38	0.03	0.03	0.33	0.33	0.05	0.05
Concrete Pump	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flatbed Truck	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Staff & Security Truck	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water/Soiltac Truck	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Passenger Vehicles	0%	0%	2.77	2.77	33.27	33.27	31.09%	5.00	5.00	0.05	0.05	0.57	0.57	0.08	0.08
Suncatcher Delivery Trucks															
General Materials Delivery Trucks	0%	0%	1.03	1.03	24.76	24.76	23.14%	0.37	0.37	0.15	0.15	3.63	3.63	0.05	0.05
Suncatcher Pedestals Delivery Trucks	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stirling Engines	0%	0%	0.14	0.14	3.31	3.31	3.09%	0.60	0.60	0.02	0.02	0.42	0.42	0.08	0.08
Suncatcher Metal Supports	0%	0%	1.32	1.32	31.74	31.74	29.66%	5.71	5.71	0.17	0.17	4.07	4.07	0.73	0.73
Suncatcher Mirrors	0%	0%	0.17	0.17	3.97	3.97	3.71%	0.71	0.71	0.02	0.02	0.51	0.51	0.09	0.09
Electrical and Control Systems	0%	0%	0.26	0.26	6.35	6.35	5.93%	1.14	1.14	0.03	0.03	0.81	0.81	0.15	0.15
Azimuth and Elevation Drive	0%	0%	0.06	0.06	1.32	1.32	1.24%	0.24	0.24	0.01	0.01	0.17	0.17	0.03	0.03
TOTAL Fugitive emissions for vehicle travel offsite paved roads			**5.94**	**5.94**	**107.00**	**107.00**		**14.16**	**14.16**	**0.47**	**0.47**	**10.51**	**10.51**	**1.27**	**1.27**

Number of Vehicles per year = sum of monthly daily maximum vehicle usage for the peak 12 months
delivery trucks can arrive at the site anytime during the day or night

CY	Season	AvgDays	Code	Equipment	Fuel	MaxHP	Class	C/R	Pre	Han	Port	County	Air B	Air D	Population	Activity (hr/day) total population	Consumptio	PM Exhaust (tons/day)	CO Exhaust (tons/day)	ROG Exhaust (tons/day)	NOX Exhaust (tons/day)	SO2 Exhaust (tons/day)	CO2 Exhaust (tons/day)	CH4 Exhaust (tons/day)	N2O Exhaust (tons/day)	PM Exhaust/Activity (tons/hr)	CO Exhaust/Activity (tons/hr)	ROG Exhaust/Activity (tons/hr)	NOX Exhaust/Activity (tons/hr)	SO2 Exhaust/Activity (tons/hr)	CO2 Exhaust/Activity (tons/hr)	CH4 Exhaust/Activity (tons/hr)	N2O Exhaust/Activity (tons/hr)
2009	Annual	Mon-Sun	2270002033	Bore/Drill Rigs	D	15	Construction and Mining Equipme	U	P	NHH	P	Imperial	SS	IMP	2.70E-02	6.00E-02	2.83E-02	1.14E-07	1.89E-06	3.62E-07	2.27E-06	4.82E-09	3.10E-04	3.26E-08	0.00E+00	1.90E-06	3.16E-05	6.03E-06	3.78E-05	8.04E-08	5.17E-03	5.44E-07	0.00E+00
2009	Annual	Mon-Sun	2270002033	Bore/Drill Rigs	D	25	Construction and Mining Equipme	U	P	NHH	P	Imperial	SS	IMP	8.09E-02	1.80E-01	1.31E-01	6.45E-07	5.97E-06	1.81E-06	1.16E-05	1.82E-08	1.44E-03	1.63E-07	0.00E+00	3.58E-06	3.32E-05	1.01E-05	6.48E-05	1.01E-07	7.99E-03	9.09E-07	0.00E+00
2009	Annual	Mon-Sun	2270002033	Bore/Drill Rigs	D	50	Construction and Mining Equipme	U	P	NHH	P	Imperial	SS	IMP	3.53E-01	8.18E-01	1.17E+00	9.06E-06	1.07E-04	2.73E-05	1.17E-04	1.64E-07	1.27E-02	2.47E-06	0.00E+00	1.11E-05	1.30E-04	3.34E-05	1.43E-04	2.00E-07	1.55E-02	3.02E-06	0.00E+00
2009	Annual	Mon-Sun	2270002033	Bore/Drill Rigs	D	120	Construction and Mining Equipme	U	P	NHH	P	Imperial	SS	IMP	1.08E+00	2.51E+00	8.84E+00	6.54E-05	6.10E-04	1.08E-04	8.54E-04	1.13E-06	9.67E-02	9.71E-06	0.00E+00	2.60E-05	2.43E-04	4.29E-05	3.40E-04	4.52E-07	3.85E-02	3.87E-06	0.00E+00
2009	Annual	Mon-Sun	2270002033	Bore/Drill Rigs	D	175	Construction and Mining Equipme	U	P	NHH	P	Imperial	SS	IMP	2.51E-01	5.81E-01	3.73E+00	1.53E-05	2.19E-04	3.05E-05	2.96E-04	4.61E-07	4.09E-02	2.75E-06	0.00E+00	2.64E-05	3.77E-04	5.25E-05	5.10E-04	7.93E-07	7.05E-02	4.74E-06	0.00E+00
2009	Annual	Mon-Sun	2270002033	Bore/Drill Rigs	D	250	Construction and Mining Equipme	U	N	NHH	P	Imperial	SS	IMP	2.16E-01	5.00E-01	4.25E+00	9.87E-06	8.68E-05	2.49E-05	3.27E-04	5.28E-07	4.69E-02	2.25E-06	0.00E+00	1.97E-05	1.74E-04	4.99E-05	6.55E-04	1.06E-06	9.40E-02	4.50E-06	0.00E+00
2009	Annual	Mon-Sun	2270002033	Bore/Drill Rigs	D	500	Construction and Mining Equipme	U	N	NHH	P	Imperial	SS	IMP	4.80E-01	1.11E+00	1.56E+01	3.47E-05	3.11E-04	8.44E-05	1.03E-03	1.70E-06	1.73E-01	7.61E-06	0.00E+00	3.12E-05	2.79E-04	7.59E-05	9.22E-04	1.53E-06	1.56E-01	6.85E-06	0.00E+00
2009	Annual	Mon-Sun	2270002033	Bore/Drill Rigs	D	750	Construction and Mining Equipme	U	N	NHH	P	Imperial	SS	IMP	1.24E+00	2.86E+00	7.97E+01	1.80E-04	1.58E-03	4.41E-04	5.43E-03	8.85E-06	8.80E-01	3.98E-05	0.00E+00	6.28E-05	5.52E-04	1.54E-04	1.89E-03	3.09E-06	3.07E-01	1.39E-05	0.00E+00
2009	Annual	Mon-Sun	2270002033	Bore/Drill Rigs	D	1000	Construction and Mining Equipme	U	N	NHH	P	Imperial	SS	IMP	2.07E+00	4.80E+00	2.02E+02	5.19E-04	4.15E-03	1.38E-03	2.10E-02	2.24E-05	2.23E+00	1.24E-04	0.00E+00	1.08E-04	8.64E-04	2.87E-04	4.38E-03	4.66E-06	4.64E-01	2.59E-05	0.00E+00
2009	Annual	Mon-Sun	2270002042	Cement and Mortar Mixers	D	15	Construction and Mining Equipme	U	P	NHH	NP	Imperial	SS	IMP	1.38E+00	1.13E+00	3.27E-01	1.86E-06	2.21E-05	4.67E-06	3.01E-05	5.57E-08	3.58E-03	4.21E-07	0.00E+00	1.64E-06	1.95E-05	4.12E-06	2.66E-05	4.91E-08	3.16E-03	3.72E-07	0.00E+00
2009	Annual	Mon-Sun	2270002042	Cement and Mortar Mixers	D	25	Construction and Mining Equipme	U	P	NHH	NP	Imperial	SS	IMP	1.24E-01	1.02E-01	8.20E-02	5.92E-07	5.05E-06	1.91E-06	8.55E-06	1.14E-08	8.95E-04	1.72E-07	0.00E+00	5.80E-06	4.95E-05	1.87E-05	8.38E-05	1.11E-07	8.77E-03	1.69E-06	0.00E+00
2009	Annual	Mon-Sun	2270002039	Concrete/Industrial Saws	D	25	Construction and Mining Equipme	U	P	NHH	NP	Imperial	SS	IMP	1.08E-02	1.75E-02	1.31E-02	6.17E-08	5.93E-07	1.76E-07	1.13E-06	1.83E-09	1.44E-04	1.59E-08	0.00E+00	3.53E-06	3.39E-05	1.01E-05	6.47E-05	1.04E-07	8.23E-03	9.09E-07	0.00E+00
2009	Annual	Mon-Sun	2270002039	Concrete/Industrial Saws	D	50	Construction and Mining Equipme	U	P	NHH	NP	Imperial	SS	IMP	9.44E-02	1.50E-01	2.11E-01	2.38E-06	2.48E-05	9.92E-06	2.34E-05	2.93E-08	2.26E-03	8.95E-07	0.00E+00	1.59E-05	1.65E-04	6.61E-05	1.56E-04	1.95E-07	1.51E-02	5.97E-06	0.00E+00
2009	Annual	Mon-Sun	2270002039	Concrete/Industrial Saws	D	120	Construction and Mining Equipme	U	P	NHH	NP	Imperial	SS	IMP	1.64E-01	2.62E-01	8.89E-01	9.87E-06	6.57E-05	1.88E-05	1.19E-04	1.14E-07	9.69E-03	1.70E-06	0.00E+00	3.77E-05	2.51E-04	7.20E-05	4.55E-04	4.35E-07	3.70E-02	6.49E-06	0.00E+00
2009	Annual	Mon-Sun	2270002039	Concrete/Industrial Saws	D	175	Construction and Mining Equipme	U	P	NHH	NP	Imperial	SS	IMP	5.39E-03	8.58E-03	6.27E-02	3.87E-07	3.78E-06	8.80E-07	7.49E-06	7.72E-09	6.86E-04	7.94E-08	0.00E+00	4.51E-05	4.41E-04	1.03E-04	8.73E-04	9.00E-07	8.00E-02	9.26E-06	0.00E+00
2009	Annual	Mon-Sun	2270002045	Cranes	D	50	Construction and Mining Equipme	U	P	NHH	P	Imperial	SS	IMP	9.17E-02	3.22E-01	3.52E-01	4.89E-06	5.25E-05	2.21E-05	4.16E-05	4.82E-08	3.73E-03	2.00E-06	0.00E+00	1.52E-05	1.63E-04	6.87E-05	1.29E-04	1.50E-07	1.16E-02	6.20E-06	0.00E+00
2009	Annual	Mon-Sun	2270002045	Cranes	D	120	Construction and Mining Equipme	U	P	NHH	P	Imperial	SS	IMP	1.01E+00	3.53E+00	8.14E+00	1.12E-04	6.64E-04	2.09E-04	1.22E-03	1.04E-06	8.85E-02	1.89E-05	0.00E+00	3.16E-05	1.88E-04	5.93E-05	3.45E-04	2.94E-07	2.51E-02	5.35E-06	0.00E+00
2009	Annual	Mon-Sun	2270002045	Cranes	D	175	Construction and Mining Equipme	U	P	NHH	P	Imperial	SS	IMP	1.01E+00	3.53E+00	1.30E+01	9.94E-05	8.66E-04	2.25E-04	1.74E-03	1.60E-06	1.42E-01	2.03E-05	0.00E+00	2.81E-05	2.45E-04	6.37E-05	4.92E-04	4.52E-07	4.01E-02	5.75E-06	0.00E+00
2009	Annual	Mon-Sun	2270002045	Cranes	D	250	Construction and Mining Equipme	U	N	NHH	P	Imperial	SS	IMP	1.95E+00	6.85E+00	3.49E+01	1.72E-04	1.25E-03	4.50E-04	4.48E-03	4.32E-06	3.84E-01	4.06E-05	0.00E+00	2.51E-05	1.83E-04	6.57E-05	6.55E-04	6.30E-07	5.60E-02	5.92E-06	0.00E+00
2009	Annual	Mon-Sun	2270002045	Cranes	D	500	Construction and Mining Equipme	U	N	NHH	P	Imperial	SS	IMP	7.15E-01	2.51E+00	2.05E+01	9.11E-05	8.98E-04	2.40E-04	2.35E-03	2.22E-06	2.26E-01	2.16E-05	0.00E+00	3.63E-05	3.58E-04	9.56E-05	9.38E-04	8.83E-07	9.00E-02	8.62E-06	0.00E+00
2009	Annual	Mon-Sun	2270002045	Cranes	D	750	Construction and Mining Equipme	U	N	NHH	P	Imperial	SS	IMP	2.59E+00	9.11E+00	1.26E+02	5.63E-04	5.49E-03	1.48E-03	1.47E-02	1.39E-05	1.38E+00	1.33E-04	0.00E+00	6.18E-05	6.02E-04	1.62E-04	1.61E-03	1.52E-06	1.51E-01	1.46E-05	0.00E+00
2009	Annual	Mon-Sun	2270002045	Cranes	D	9999	Construction and Mining Equipme	U	N	NHH	P	Imperial	SS	IMP	3.26E+00	1.14E+01	5.05E+02	2.27E-03	2.55E-02	6.57E-03	7.22E-02	5.57E-05	5.54E+00	5.93E-04	0.00E+00	1.98E-04	2.23E-03	5.74E-04	6.32E-03	4.88E-06	4.85E-01	5.18E-05	0.00E+00
2009	Annual	Mon-Sun	2270002069	Crawler Tractors	D	50	Construction and Mining Equipme	U	P	NHH	NP	Imperial	SS	IMP	3.77E-02	1.09E-01	1.28E-01	1.83E-06	1.97E-05	8.39E-06	1.53E-05	1.75E-08	1.36E-03	7.57E-07	0.00E+00	1.68E-05	1.81E-04	7.69E-05	1.41E-04	1.61E-07	1.24E-02	6.94E-06	0.00E+00
2009	Annual	Mon-Sun	2270002069	Crawler Tractors	D	120	Construction and Mining Equipme	U	P	NHH	NP	Imperial	SS	IMP	2.14E+01	6.19E+01	1.87E+02	2.66E-03	1.57E-02	5.08E-03	2.94E-02	2.39E-05	2.03E+00	4.58E-04	0.00E+00	4.29E-05	2.54E-04	8.21E-05	4.76E-04	3.86E-07	3.29E-02	7.41E-06	0.00E+00
2009	Annual	Mon-Sun	2270002069	Crawler Tractors	D	175	Construction and Mining Equipme	U	P	NHH	NP	Imperial	SS	IMP	7.25E+00	2.09E+01	1.16E+02	9.37E-04	8.01E-03	2.13E-03	1.63E-02	1.43E-05	1.27E+00	1.92E-04	0.00E+00	4.47E-05	3.83E-04	1.02E-04	7.80E-04	6.81E-07	6.05E-02	9.19E-06	0.00E+00
2009	Annual	Mon-Sun	2270002069	Crawler Tractors	D	250	Construction and Mining Equipme	U	N	NHH	NP	Imperial	SS	IMP	6.23E+00	1.80E+01	1.36E+02	7.47E-04	5.43E-03	1.94E-03	1.84E-02	1.68E-05	1.49E+00	1.75E-04	0.00E+00	4.15E-05	3.02E-04	1.08E-04	1.02E-03	9.34E-07	8.30E-02	9.70E-06	0.00E+00
2009	Annual	Mon-Sun	2270002069	Crawler Tractors	D	500	Construction and Mining Equipme	U	N	NHH	NP	Imperial	SS	IMP	4.27E+00	1.23E+01	1.46E+02	7.14E-04	7.98E-03	1.87E-03	1.77E-02	1.57E-05	1.60E+00	1.69E-04	0.00E+00	5.79E-05	6.47E-04	1.52E-04	1.44E-03	1.27E-06	1.29E-01	1.37E-05	0.00E+00
2009	Annual	Mon-Sun	2270002069	Crawler Tractors	D	750	Construction and Mining Equipme	U	N	NHH	NP	Imperial	SS	IMP	1.06E+00	3.07E+00	6.51E+01	3.22E-04	3.57E-03	8.41E-04	8.07E-03	7.17E-06	7.13E-01	7.59E-05	0.00E+00	1.05E-04	1.16E-03	2.74E-04	2.62E-03	2.33E-06	2.32E-01	2.47E-05	0.00E+00
2009	Annual	Mon-Sun	2270002069	Crawler Tractors	D	1000	Construction and Mining Equipme	U	N	NHH	NP	Imperial	SS	IMP	1.06E+00	3.07E+00	9.22E+01	4.53E-04	5.64E-03	1.29E-03	1.37E-02	1.01E-05	1.01E+00	1.16E-04	0.00E+00	1.47E-04	1.84E-03	4.20E-04	4.46E-03	3.31E-06	3.29E-01	3.79E-05	0.00E+00
2009	Annual	Mon-Sun	2270002054	Crushing/Proc. Equipment	D	50	Construction and Mining Equipme	U	P	NHH	P	Imperial	SS	IMP	4.31E-01	1.13E+00	2.33E+00	3.07E-05	3.23E-04	1.36E-04	2.69E-04	3.21E-07	2.48E-02	1.22E-05	0.00E+00	2.71E-05	2.86E-04	1.20E-04	2.38E-04	2.84E-07	2.20E-02	1.08E-05	0.00E+00
2009	Annual	Mon-Sun	2270002054	Crushing/Proc. Equipment	D	120	Construction and Mining Equipme	U	P	NHH	P	Imperial	SS	IMP	1.22E+00	3.18E+00	1.22E+01	1.59E-04	9.55E-04	2.96E-04	1.74E-03	1.55E-06	1.32E-01	2.67E-05	0.00E+00	4.98E-05	3.00E-04	9.30E-05	5.45E-04	4.87E-07	4.15E-02	8.39E-06	0.00E+00
2009	Annual	Mon-Sun	2270002054	Crushing/Proc. Equipment	D	175	Construction and Mining Equipme	U	P	NHH	P	Imperial	SS	IMP	5.15E-01	1.35E+00	1.03E+01	7.46E-05	6.58E-04	1.67E-04	1.32E-03	1.27E-06	1.13E-01	1.51E-05	0.00E+00	5.53E-05	4.88E-04	1.24E-04	9.79E-04	9.40E-07	8.36E-02	1.12E-05	0.00E+00
2009	Annual	Mon-Sun	2270002054	Crushing/Proc. Equipment	D	250	Construction and Mining Equipme	U	N	NHH	P	Imperial	SS	IMP	5.12E-02	1.34E-01	1.49E+00	6.04E-06	4.43E-05	1.60E-05	1.80E-04	1.84E-07	1.64E-02	1.44E-06	0.00E+00	4.50E-05	3.30E-04	1.19E-04	1.34E-03	1.37E-06	1.22E-01	1.08E-05	0.00E+00
2009	Annual	Mon-Sun	2270002054	Crushing/Proc. Equipment	D	500	Construction and Mining Equipme	U	N	NHH	P	Imperial	SS	IMP	2.88E-01	7.55E-01	1.28E+01	4.77E-05	4.35E-04	1.23E-04	1.38E-03	1.38E-06	1.41E-01	1.11E-05	0.00E+00	6.31E-05	5.76E-04	1.63E-04	1.82E-03	1.83E-06	1.87E-01	1.47E-05	0.00E+00
2009	Annual	Mon-Sun	2270002054	Crushing/Proc. Equipment	D	750	Construction and Mining Equipme	U	N	NHH	P	Imperial	SS	IMP	6.65E-02	1.74E-01	4.65E+00	1.75E-05	1.54E-04	4.55E-05	5.17E-04	5.15E-07	5.12E-02	4.11E-06	0.00E+00	1.01E-04	8.85E-04	2.61E-04	2.97E-03	2.96E-06	2.94E-01	2.36E-05	0.00E+00
2009	Annual	Mon-Sun	2270002054	Crushing/Proc. Equipment	D	9999	Construction and Mining Equipme	U	N	NHH	P	Imperial	SS	IMP	6.65E-02	1.74E-01	1.04E+01	4.37E-05	4.52E-04	1.27E-04	1.45E-03	1.14E-06	1.14E-01	1.15E-05	0.00E+00	2.51E-04	2.60E-03	7.30E-04	8.30E-03	6.57E-06	6.53E-01	6.58E-05	0.00E+00
2009	Annual	Mon-Sun	2270002078	Dumpers/Tenders	D	25	Construction and Mining Equipme	U	P	NHH	NP	Imperial	SS	IMP	6.47E-02	1.17E-01	4.08E-02	2.32E-07	2.02E-06	6.67E-07	3.88E-06	5.68E-09	4.47E-04	6.02E-08	0.00E+00	1.97E-06	1.72E-05	5.68E-06	3.31E-05	4.83E-08	3.81E-03	5.12E-07	0.00E+00
2009	Annual	Mon-Sun	2270002036	Excavators	D	25	Construction and Mining Equipme	U	P	NHH	NP	Imperial	SS	IMP	9.98E-02	3.82E-01	2.86E-01	1.27E-06	1.29E-05	3.81E-06	2.43E-05	3.98E-08	3.14E-03	3.44E-07	0.00E+00	3.32E-06	3.38E-05	9.98E-06	6.36E-05	1.04E-07	8.21E-03	9.00E-07	0.00E+00
2009	Annual	Mon-Sun	2270002036	Excavators	D	50	Construction and Mining Equipme	U	P	NHH	NP	Imperial	SS	IMP	3.76E+00	1.47E+01	1.72E+01	2.18E-04	2.39E-03	9.18E-04	1.96E-03	2.37E-06	1.83E-01	8.29E-05	0.00E+00	1.48E-05	1.63E-04	6.26E-05	1.34E-04	1.62E-07	1.25E-02	5.65E-06	0.00E+00
2009	Annual	Mon-Sun	2270002036	Excavators	D	120	Construction and Mining Equipme	U	P	NHH	NP	Imperial	SS	IMP	1.02E+01	3.99E+01	1.35E+02	1.67E-03	1.07E-02	3.02E-03	1.79E-02	1.72E-05	1.47E+00	2.73E-04	0.00E+00	4.20E-05	2.68E-04	7.58E-05	4.49E-04	4.31E-07	3.68E-02	6.84E-06	0.00E+00
2009	Annual	Mon-Sun	2270002036	Excavators	D	175	Construction and Mining Equipme	U	P	NHH	NP	Imperial	SS	IMP	1.97E+01	7.69E+01	3.94E+02	2.70E-03	2.58E-02	6.00E-03	4.60E-02	4.85E-05	4.31E+00	5.42E-04	0.00E+00	3.51E-05	3.35E-04	7.81E-05	5.99E-04	6.31E-07	5.61E-02	7.05E-06	0.00E+00
2009	Annual	Mon-Sun	2270002036	Excavators	D	250	Construction and Mining Equipme	U	N	NHH	NP	Imperial	SS	IMP	8.00E+00	3.13E+01	2.25E+02	8.67E-04	6.47E-03	2.39E-03	2.51E-02	2.79E-05	2.48E+00	2.16E-04	0.00E+00	2.77E-05	2.07E-04	7.64E-05	8.01E-04	8.92E-07	7.93E-02	6.89E-06	0.00E+00
2009	Annual	Mon-Sun	2270002036	Excavators	D	500	Construction and Mining Equipme	U	N	NHH	NP	Imperial	SS	IMP	5.77E+00	2.26E+01	2.39E+02	8.50E-04	7.44E-03	2.33E-03	2.33E-02	2.59E-05	2.63E+00	2.11E-04	0.00E+00	3.77E-05	3.30E-04	1.04E-04	1.03E-03	1.15E-06	1.17E-01	9.34E-06	0.00E+00
2009	Annual	Mon-Sun	2270002036	Excavators	D	750	Construction and Mining Equipme	U	N	NHH	NP	Imperial	SS	IMP	6.25E-01	2.44E+00	4.29E+01	1.55E-04	1.33E-03	4.22E-04	4.31E-03	4.75E-06	4.73E-01	3.81E-05	0.00E+00	6.35E-05	5.46E-04	1.73E-04	1.76E-03	1.95E-06	1.94E-01	1.56E-05	0.00E+00
2009	Annual	Mon-Sun	2270002048	Graders	D	50	Construction and Mining Equipme	U	P	NHH	NP	Imperial	SS	IMP	3.77E-02	9.88E-02	1.28E-01	1.69E-06	1.82E-05	7.45E-06	1.48E-05	1.76E-08	1.36E-03	6.72E-07	0.00E+00	1.71E-05	1.85E-04	7.54E-05	1.50E-04	1.78E-07	1.38E-02	6.80E-06	0.00E+00
2009	Annual	Mon-Sun	2270002048	Graders	D	120	Construction and Mining Equipme	U	P	NHH	NP	Imperial	SS	IMP	2.52E+00	6.59E+00	2.27E+01	2.96E-04	1.82E-03	5.47E-04	3.23E-03	2.90E-06	2.47E-01	4.94E-05	0.00E+00	4.48E-05	2.76E-04	8.30E-05	4.90E-04	4.39E-07	3.74E-02	7.49E-06	0.00E+00
2009	Annual	Mon-Sun	2270002048	Graders	D	175	Construction and Mining Equipme	U	P	NHH	NP	Imperial	SS	IMP	8.60E+00	2.25E+01	1.28E+02	9.25E-04	8.37E-03	2.07E-03	1.62E-02	1.57E-05	1.39E+00	1.87E-04	0.00E+00	4.11E-05	3.72E-04	9.21E-05	7.19E-04	6.97E-07	6.19E-02	8.31E-06	0.00E+00
2009	Annual	Mon-Sun	2270002048	Graders	D	250	Construction and Mining Equipme	U	N	NHH	NP	Imperial	SS	IMP	5.34E+00	1.40E+01	1.09E+02	4.92E-04	3.63E-03	1.30E-03	1.33E-02	1.35E-05	1.20E+00	1.17E-04	0.00E+00	3.52E-05	2.60E-04	9.28E-05	9.50E-04	9.67E-07	8.60E-02	8.37E-06	0.00E+00
2009	Annual	Mon-Sun	2270002048	Graders	D	500	Construction and Mining Equipme	U	N	NHH	NP	Imperial	SS	IMP	1.51E-01	3.95E-01	4.12E+00	1.69E-05	1.60E-04	4.44E-05	4.44E-04	4.45E-07	4.53E-02	4.01E-06	0.00E+00	4.26E-05	4.06E-04	1.12E-04	1.12E-03	1.13E-06	1.15E-01	1.01E-05	0.00E+00
2009	Annual	Mon-Sun	2270002048	Graders	D	750	Construction and Mining Equipme	U	N	NHH	NP	Imperial	SS	IMP	3.99E-02	1.04E-01	2.30E+00	9.55E-06	8.97E-05	2.50E-05	2.55E-04	2.55E-07	2.53E-02	2.26E-06	0.00E+00	9.14E-05	8.59E-04	2.40E-04	2.44E-03	2.44E-06	2.43E-01	2.16E-05	0.00E+00
2009	Annual	Mon-Sun	2270002075	Off-Highway Tractors	D	120	Construction and Mining Equipme	U	P	NHH	NP	Imperial	SS	IMP	2.70E-03	8.29E-03	3.58E-02	5.41E-07	3.12E-06	1.07E-06	6.14E-06	4.55E-09	3.88E-04	9.63E-08	0.00E+00	6.52E-05	3.76E-04	1.29E-04	7.41E-04	5.49E-07	4.68E-02	1.16E-05	0.00E+00
2009	Annual	Mon-Sun	2270002075	Off-Highway Tractors	D	175	Construction and Mining Equipme	U	P	NHH	NP	Imperial	SS	IMP	3.30E+00	1.01E+01	6.06E+01	5.34E-04	4.38E-03	1.23E-03	9.37E-03	7.43E-06	6.61E-01	1.11E-04	0.00E+00	5.26E-05	4.32E-04	1.21E-04	9.24E-04	7.33E-07	6.52E-02	1.09E-05	0.00E+00
2009	Annual	Mon-Sun	2270002075	Off-Highway Tractors	D	250	Construction and Mining Equipme	U	N	NHH	NP	Imperial	SS	IMP	3.12E+00	9.58E+00	5.70E+01	3.70E-04	2.68E-03	9.41E-04	8.55E-03	7.03E-06	6.24E-01	8.49E-05	0.00E+00	3.86E-05	2.80E-04	9.82E-05	8.92E-04	7.33E-07	6.52E-02	8.86E-06	0.00E+00
2009	Annual	Mon-Sun	2270002075	Off-Highway Tractors	D	750	Construction and Mining Equipme	U	N	NHH	NP	Imperial	SS	IMP	6.68E+00	2.05E+01	5.33E+02	3.07E-03	3.93E-02	7.91E-03	7.34E-02	5.86E-05	5.83E+00	7.14E-04	0.00E+00	1.50E-04	1.91E-03	3.85E-04	3.58E-03	2.85E-06	2.84E-01	3.48E-05	0.00E+00
2009	Annual	Mon-Sun	2270002075	Off-Highway Tractors	D	1000	Construction and Mining Equipme	U	N	NHH	NP	Imperial	SS	IMP	7.05E-01	2.17E+00	8.07E+01	4.54E-04	6.43E-03	1.27E-03	1.28E-02	8.86E-06	8.81E-01	1.15E-04	0.00E+00	2.10E-04	2.97E-03	5.86E-04	5.92E-03	4.09E-06	4.07E-01	5.29E-05	0.00E+00
2009	Annual	Mon-Sun	2270002051	Off-Highway Trucks	D	175	Construction and Mining Equipme	U	P	NHH	NP	Imperial	SS	IMP	1.75E-01	9.57E-01	5.47E+00	3.91E-05	3.66E-04	8.80E-05	6.57E-04	6.73E-07	5.98E-02	7.94E-06	0.00E+00	4.08E-05	3.82E-04	9.19E-05	6.87E-04	7.03E-07	6.25E-02	8.30E-06	0.00E+00
2009	Annual	Mon-Sun	2270002051	Off-Highway Trucks	D	250	Construction and Mining Equipme	U	N	NHH	NP	Imperial	SS	IMP	1.29E+00	7.07E+00	5.34E+01	2.17E-04	1.60E-03	6.09E-04	6.12E-03	6.62E-06	5.88E-01	5.50E-05	0.00E+00	3.07E-05	2.27E-04	8.62E-05	8.66E-04	9.36E-07	8.32E-02	7.78E-06	0.00E+00
2009	Annual	Mon-Sun	2270002051	Off-Highway Trucks	D	500	Construction and Mining Equipme	U	N	NHH	NP	Imperial	SS	IMP	1.82E+00	9.96E+00	1.23E+02	4.60E-04	4.03E-03	1.29E-03	1.23E-02	1.33E-05	1.35E+00	1.17E-04	0.00E+00	4.62E-05	4.05E-04	1.30E-04	1.24E-03	1.34E-06	1.36E-01	1.17E-05	0.00E+00
2009	Annual	Mon-Sun	2270002051	Off-Highway Trucks	D	750	Construction and Mining Equipme	U	N	NHH	NP	Imperial	SS	IMP	8.37E+00	4.57E+01	9.16E+02	3.48E-03	3.00E-02	9.70E-03	9.46E-02	1.01E-04	1.01E+01	8.75E-04	0.00E+00	7.61E-05	6.57E-04	2.12E-04	2.07E-03	2.22E-06	2.21E-01	1.92E-05	0.00E+00
2009	Annual	Mon-Sun	2270002051	Off-Highway Trucks	D	1000	Construction and Mining Equipme	U	N	NHH	NP	Imperial	SS	IMP	3.92E+00	2.14E+01	6.08E+02	2.49E-03	2.39E-02	7.23E-03	8.19E-02	6.72E-05	6.68E+00	6.53E-04	0.00E+00	1.16E-04	1.12E-03	3.38E-04	3.82E-03	3.14E-06	3.12E-01	3.05E-05	0.00E+00
2009	Annual	Mon-Sun	2270002081	Other Construction Equipm	D	15	Construction and Mining Equipme	U	P	NHH	NP	Imperial	SS	IMP	8.92E-01	1.69E+00	7.79E-01	3.14E-06	5.21E-05	9.95E-06	6.24E-05	1.33E-07	8.53E-03	8.97E-07	0.00E+00	1.86E-06	3.08E-05	5.89E-06	3.69E-05	7.86E-08	5.05E-03	5.31E-07	0.00E+00
2009	Annual	Mon-Sun	2270002081	Other Construction Equipm	D	25	Construction and Mining Equipme	U	P	NHH	NP	Imperial	SS	IMP	1.51E-01	2.86E-01	1.72E-01	8.47E-07	7.84E-06	2.38E-06	1.53E-05	2.39E-08	1.89E-03	2.15E-07	0.00E+00	2.96E-06	2.74E-05	8.33E-06	5.35E-05	8.38E-08	6.60E-03	7.51E-07	0.00E+00
2009	Annual	Mon-Sun	2270002081	Other Construction Equipm	D	50	Construction and Mining Equipme	U	P	NHH	NP	Imperial	SS	IMP	2.32E-01	4.48E-01	5.83E-01	6.32E-06	6.79E-05	2.54E-05	6.34E-05	8.10E-08	6.27E-03	2.29E-06	0.00E+00	1.41E-05	1.52E-04	5.67E-05	1.42E-04	1.81E-07	1.40E-02	5.12E-06	0.00E+00
2009	Annual	Mon-Sun	2270002081	Other Construction Equipm	D	120	Construction and Mining Equipme	U	P	NHH	NP	Imperial	SS	IMP	3.83E-01	7.40E-01	2.74E+00	2.92E-05	2.02E-04	5.32E-05	3.42E-04	3.51E-07	2.99E-02	4.80E-06	0.00E+00	3.94E-05	2.73E-04	7.19E-05	4.62E-04	4.74E-07	4.04E-02	6.49E-06	0.00E+00
2009	Annual	Mon-Sun	2270002081	Other Construction Equipm	D	175	Construction and Mining Equipme	U	P	NHH	NP	Imperial	SS	IMP	5.28E-01	1.02E+00	4.96E+00	2.92E-05	3.02E-04	6.41E-05	5.44E-04	6.11E-07	5.43E-02	5.79E-06	0.00E+00	2.86E-05	2.95E-04	6.28E-05	5.32E-04	5.99E-07	5.32E-02	5.66E-06	0.00E+00
2009	Annual	Mon-Sun	2270002081	Other Construction Equipm	D	500	Construction and Mining Equipme	U	N	NHH	NP	Imperial	SS	IMP	1.23E+00	2.37E+00	2.73E+01	8.54E-05	7.74E-04	2.15E-04	2.51E-03	2.96E-06	3.01E-01	1.94E-05	0.00E+00	3.60E-05	3.26E-04	9.07E-05	1.06E-03	1.25E-06	1.27E-01	8.18E-06	0.00E+00
2009	Annual	Mon-Sun	2270002003	Pavers	D	25	Construction and Mining Equipme	U	P	NHH	NP	Imperial	SS	IMP	4.04E-02	9.10E-02	7.75E-02	4.56E-07	3.96E-06	1.34E-06	7.49E-06	1.08E-08	8.49E-04	1.21E-07	0.00E+00	5.01E-06	4.35E-05	1.47E-05	8.22E-05	1.18E-07	9.32E-03	1.32E-06	0.00E+00
2009	Annual	Mon-Sun	2270002003	Pavers	D	50	Construction and Mining Equipme	U	P	NHH	NP	Imperial	SS	IMP	2.35E+00	5.39E+00	7.11E+00	1.00E-04	1.06E-03	4.61E-04	8.49E-04	9.75E-07	7.54E-02	4.16E-05	0.00E+00	1.85E-05	1.97E-04	8.55E-05	1.57E-04	1.81E-07	1.40E-02	7.71E-06	0.00E+00
2009	Annual	Mon-Sun	2270002003	Pavers	D	120	Construction and Mining Equipme	U	P	NHH	NP	Imperial	SS	IMP	2.77E+00	6.36E+00	2.02E+01	2.82E-04	1.68E-03	5.49E-04	3.23E-03	2.58E-06	2.20E-01	4.95E-05	0.00E+00	4.44E-05	2.64E-04	8.63E-05	5.08E-04	4.05E-07	3.46E-02	7.79E-06	0.00E+00
2009	Annual	Mon-Sun	2270002003	Pavers	D	175	Construction and Mining Equipme	U	P	NHH	NP	Imperial	SS	IMP	1.72E+00	3.95E+00	2.32E+01	1.85E-04	1.59E-03	4.24E-04	3.32E-03	2.85E-06	2.53E-01	3.82E-05	0.00E+00	4.69E-05	4.01E-04	1.07E-04	8.41E-04	7.21E-07	6.41E-02	9.68E-06	0.00E+00
2009	Annual	Mon-Sun	2270002003	Pavers	D	250	Construction and Mining Equipme	U	N	NHH	NP	Imperial	SS	IMP	2.08E-01	4.76E-01	4.21E+00	2.40E-05	1.76E-04	6.08E-05	5.83E-04	5.20E-07	4.62E-02	5.49E-06	0.00E+00	5.04E-05	3.69E-04	1.28E-04	1.22E-03	1.09E-06	9.71E-02	1.15E-05	0.00E+00
2009	Annual	Mon-Sun	2270002003	Pavers	D	500	Construction and Mining Equipme	U	N	NHH	NP	Imperial	SS	IMP	2.13E-01	4.89E-01	5.20E+00	2.63E-05	3.09E-04	6.71E-05	6.50E-04	5.59E-07	5.69E-02	6.05E-06	0.00E+00	5.38E-05	6.33E-04	1.37E-04	1.33E-03	1.14E-06	1.17E-01	1.24E-05	0.00E+00
2009	Annual	Mon-Sun	2270002021	Paving Equipment	D	25	Construction and Mining Equipme	U	P	NHH	NP	Imperial	SS	IMP	7.01E-02	1.59E-01	9.16E-02	4.51E-07	4.18E-06	1.27E-06	8.15E-06	1.28E-08	1.01E-03	1.14E-07	0.00E+00	2.83E-06	2.62E-05	7.96E-06	5.11E-05	8.00E-08	6.31E-03	7.18E-07	0.00E+00
2009	Annual	Mon-Sun	2270002021	Paving Equipment	D	50	Construction and Mining Equipme	U	P	NHH	NP	Imperial	SS	IMP	5.93E-02	1.36E-01	1.54E-01	2.15E-06	2.28E-05	9.90E-06	1.83E-05	2.11E-08	1.63E-03	8.94E-07	0.00E+00	1.58E-05	1.67E-04	7.27E-05	1.34E-04	1.55E-07	1.20E-02	6.56E-06	0.00E+00
2009	Annual	Mon-Sun	2270002021	Paving Equipment	D	120	Construction and Mining Equipme	U	P	NHH	NP	Imperial	SS	IMP	8.55E-01	1.96E+00	4.92E+00	6.81E-05	4.06E-04	1.33E-04	7.82E-04	6.27E-07	5.35E-02	1.20E-05	0.00E+00	3.47E-05	2.07E-04	6.75E-05	3.98E-04	3.19E-07	2.72E-02	6.09E-06	0.00E+00
2009	Annual	Mon-Sun	2270002021	Paving Equipment	D	175	Construction and Mining Equipme	U	P	NHH	NP	Imperial	SS	IMP	4.02E-01	9.23E-01	4.26E+00	3.37E-05	2.89E-04	7.72E-05	6.09E-04	5.24E-07	4.66E-02	6.97E-06	0.00E+00	3.65E-05	3.13E-04	8.37E-05	6.60E-04	5.68E-07	5.05E-02	7.55E-06	0.00E+00
2009	Annual	Mon-Sun	2270002021	Paving Equipment	D	250	Construction and Mining Equipme	U	N	NHH	NP	Imperial	SS	IMP	1.13E-01	2.60E-01	1.45E+00	8.16E-06	5.98E-05	2.07E-05	2.00E-04	1.79E-07	1.59E-02	1.86E-06	0.00E+00	3.14E-05	2.30E-04	7.94E-05	7.67E-04	6.87E-07	6.11E-02	7.16E-06	0.00E+00
2009	Annual	Mon-Sun	2270002009	Plate Compactors	D	15	Construction and Mining Equipme	U	P	NHH	NP	Imperial	SS	IMP	8.68E-01	1.43E+00	2.81E-01	1.27E-06	1.88E-05	3.63E-06	2.29E-05	4.79E-08	3.08E-03	3.28E-07	0.00E+00	8.87E-07	1.32E-05	2.54E-06	1.61E-05	3.35E-08	2.15E-03	2.29E-07	0.00E+00

2009	Annual	Mon-Sun	2270002015	Rollers	D	15	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	1.63E+00	3.11E+00	8.97E-01	3.61E-06	5.99E-05	1.15E-05	7.18E-05	1.53E-07	9.82E-03	1.03E-06	0.00E+00	1.16E-06	1.93E-05	3.68E-06	2.31E-05	4.91E-08	3.16E-03	3.32E-07	0.00E+00
2009	Annual	Mon-Sun	2270002015	Rollers	D	25	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	6.82E-01	1.30E+00	7.89E-01	3.89E-06	3.60E-05	1.09E-05	7.03E-05	1.10E-07	8.67E-03	9.86E-07	0.00E+00	2.99E-06	2.77E-05	8.41E-06	5.40E-05	8.46E-08	6.67E-03	7.58E-07	0.00E+00
2009	Annual	Mon-Sun	2270002015	Rollers	D	50	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	2.12E+00	4.08E+00	4.97E+00	6.27E-05	6.64E-04	2.76E-04	5.70E-04	6.85E-07	5.30E-02	2.49E-05	0.00E+00	1.54E-05	1.63E-04	6.76E-05	1.40E-04	1.68E-07	1.30E-02	6.10E-06	0.00E+00
2009	Annual	Mon-Sun	2270002015	Rollers	D	120	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	1.14E+01	2.19E+01	5.93E+01	7.35E-04	4.62E-03	1.40E-03	8.52E-03	7.57E-06	6.46E-01	1.26E-04	0.00E+00	3.36E-05	2.11E-04	6.39E-05	3.89E-04	3.46E-07	2.95E-02	5.77E-06	0.00E+00
2009	Annual	Mon-Sun	2270002015	Rollers	D	175	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	4.58E+00	8.81E+00	4.35E+01	3.02E-04	2.77E-03	6.88E-04	5.59E-03	5.36E-06	4.76E-01	6.20E-05	0.00E+00	3.43E-05	3.15E-04	7.80E-05	6.35E-04	6.08E-07	5.40E-02	7.04E-06	0.00E+00
2009	Annual	Mon-Sun	2270002015	Rollers	D	250	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	6.50E-01	1.25E+00	8.69E+00	4.01E-05	3.00E-04	1.03E-04	1.07E-03	1.08E-06	9.56E-02	9.25E-06	0.00E+00	3.21E-05	2.40E-04	8.20E-05	8.58E-04	8.60E-07	7.65E-02	7.40E-06	0.00E+00
2009	Annual	Mon-Sun	2270002015	Rollers	D	500	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	4.56E-01	8.76E-01	8.73E+00	3.64E-05	3.69E-04	9.22E-05	9.68E-04	9.42E-07	9.59E-02	8.32E-06	0.00E+00	4.15E-05	4.20E-04	1.05E-04	1.10E-03	1.07E-06	1.09E-01	9.50E-06	0.00E+00
2009	Annual	Mon-Sun	2270002057	Rough Terrain Forklifts	D	50	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	2.99E-01	9.31E-01	1.48E+00	1.87E-05	2.01E-04	8.05E-05	1.68E-04	2.04E-07	1.58E-02	7.26E-06	0.00E+00	2.01E-05	2.16E-04	8.64E-05	1.81E-04	2.19E-07	1.69E-02	7.80E-06	0.00E+00
2009	Annual	Mon-Sun	2270002057	Rough Terrain Forklifts	D	120	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	1.43E+01	4.46E+01	1.28E+02	1.59E-03	1.00E-02	2.91E-03	1.74E-02	1.63E-05	1.39E+00	2.62E-04	0.00E+00	3.58E-05	2.24E-04	6.52E-05	3.89E-04	3.66E-07	3.12E-02	5.88E-06	0.00E+00
2009	Annual	Mon-Sun	2270002057	Rough Terrain Forklifts	D	175	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	1.84E+00	5.71E+00	3.26E+01	2.25E-04	2.09E-03	4.98E-04	3.93E-03	4.01E-06	3.56E-01	4.49E-05	0.00E+00	3.93E-05	3.66E-04	8.71E-05	6.87E-04	7.02E-07	6.24E-02	7.86E-06	0.00E+00
2009	Annual	Mon-Sun	2270002057	Rough Terrain Forklifts	D	250	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	1.02E-01	3.19E-01	2.47E+00	9.74E-06	7.24E-05	2.59E-05	2.83E-04	3.06E-07	2.72E-02	2.34E-06	0.00E+00	3.05E-05	2.27E-04	8.12E-05	8.88E-04	9.60E-07	8.53E-02	7.33E-06	0.00E+00
2009	Annual	Mon-Sun	2270002057	Rough Terrain Forklifts	D	500	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	6.74E-02	2.10E-01	2.44E+00	8.84E-06	7.85E-05	2.32E-05	2.46E-04	2.64E-07	2.69E-02	2.10E-06	0.00E+00	4.22E-05	3.74E-04	1.11E-04	1.17E-03	1.26E-06	1.28E-01	9.99E-06	0.00E+00
2009	Annual	Mon-Sun	2270002063	Rubber Tired Dozers	D	175	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	2.70E-02	1.21E-01	7.18E-01	6.51E-06	5.30E-05	1.51E-05	1.13E-04	8.80E-08	7.82E-03	1.36E-06	0.00E+00	5.38E-05	4.38E-04	1.25E-04	9.35E-04	7.28E-07	6.47E-02	1.13E-05	0.00E+00
2009	Annual	Mon-Sun	2270002063	Rubber Tired Dozers	D	250	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	6.61E-01	2.96E+00	2.48E+01	1.67E-04	1.20E-03	4.28E-04	3.79E-03	3.06E-06	2.72E-01	3.86E-05	0.00E+00	5.62E-05	4.05E-04	1.44E-04	1.28E-03	1.03E-06	9.17E-02	1.30E-05	0.00E+00
2009	Annual	Mon-Sun	2270002063	Rubber Tired Dozers	D	500	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	1.02E+00	4.56E+00	5.53E+01	3.26E-04	4.25E-03	8.56E-04	7.64E-03	5.92E-06	6.03E-01	7.72E-05	0.00E+00	7.16E-05	9.31E-04	1.88E-04	1.68E-03	1.30E-06	1.32E-01	1.69E-05	0.00E+00
2009	Annual	Mon-Sun	2270002063	Rubber Tired Dozers	D	750	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	1.77E+00	7.94E+00	1.45E+02	8.61E-04	1.11E-02	2.25E-03	2.03E-02	1.59E-05	1.58E+00	2.03E-04	0.00E+00	1.08E-04	1.40E-03	2.84E-04	2.56E-03	2.00E-06	1.99E-01	2.56E-05	0.00E+00
2009	Annual	Mon-Sun	2270002063	Rubber Tired Dozers	D	1000	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	1.20E-01	5.36E-01	1.45E+01	8.46E-05	1.20E-03	2.37E-04	2.35E-03	1.59E-06	1.59E-01	2.14E-05	0.00E+00	1.58E-04	2.24E-03	4.41E-04	4.38E-03	2.97E-06	2.96E-01	3.98E-05	0.00E+00
2009	Annual	Mon-Sun	2270002060	Rubber Tired Loaders	D	25	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	3.77E-02	9.91E-02	7.63E-02	3.59E-07	3.45E-06	1.03E-06	6.58E-06	1.06E-08	8.38E-04	9.25E-08	0.00E+00	3.62E-06	3.48E-05	1.03E-05	6.65E-05	1.07E-07	8.46E-03	9.34E-07	0.00E+00
2009	Annual	Mon-Sun	2270002060	Rubber Tired Loaders	D	50	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	7.33E-01	1.96E+00	2.87E+00	3.76E-05	4.05E-04	1.65E-04	3.32E-04	3.95E-07	3.05E-02	1.49E-05	0.00E+00	1.92E-05	2.07E-04	8.42E-05	1.69E-04	2.01E-07	1.56E-02	7.59E-06	0.00E+00
2009	Annual	Mon-Sun	2270002060	Rubber Tired Loaders	D	120	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	1.99E+01	5.33E+01	1.44E+02	1.86E-03	1.15E-02	3.44E-03	2.04E-02	1.84E-05	1.57E+00	3.11E-04	0.00E+00	3.49E-05	2.15E-04	6.45E-05	3.83E-04	3.45E-07	2.94E-02	5.82E-06	0.00E+00
2009	Annual	Mon-Sun	2270002060	Rubber Tired Loaders	D	175	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	1.12E+01	3.01E+01	1.46E+02	1.05E-03	9.54E-03	2.35E-03	1.84E-02	1.80E-05	1.60E+00	2.12E-04	0.00E+00	3.49E-05	3.17E-04	7.81E-05	6.12E-04	5.98E-07	5.31E-02	7.05E-06	0.00E+00
2009	Annual	Mon-Sun	2270002060	Rubber Tired Loaders	D	250	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	1.12E+01	2.99E+01	2.02E+02	8.96E-04	6.62E-03	2.36E-03	2.44E-02	2.50E-05	2.22E+00	2.13E-04	0.00E+00	3.00E-05	2.22E-04	7.89E-05	8.16E-04	8.37E-07	7.44E-02	7.11E-06	0.00E+00
2009	Annual	Mon-Sun	2270002060	Rubber Tired Loaders	D	500	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	4.65E+00	1.24E+01	1.34E+02	5.39E-04	5.11E-03	1.42E-03	1.43E-02	1.45E-05	1.47E+00	1.28E-04	0.00E+00	4.33E-05	4.11E-04	1.14E-04	1.15E-03	1.16E-06	1.18E-01	1.03E-05	0.00E+00
2009	Annual	Mon-Sun	2270002060	Rubber Tired Loaders	D	750	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	1.61E+00	4.30E+00	9.49E+01	3.87E-04	3.62E-03	1.01E-03	1.04E-02	1.05E-05	1.04E+00	9.13E-05	0.00E+00	8.99E-05	8.42E-04	2.35E-04	2.42E-03	2.44E-06	2.43E-01	2.12E-05	0.00E+00
2009	Annual	Mon-Sun	2270002060	Rubber Tired Loaders	D	1000	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	1.73E-01	4.62E-01	1.25E+01	5.21E-05	5.57E-04	1.50E-04	1.71E-03	1.38E-06	1.37E-01	1.36E-05	0.00E+00	1.13E-04	1.21E-03	3.26E-04	3.71E-03	2.98E-06	2.97E-01	2.94E-05	0.00E+00
2009	Annual	Mon-Sun	2270002018	Scrapers	D	120	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	1.05E-01	3.22E-01	1.39E+00	1.98E-05	1.17E-04	3.81E-05	2.21E-04	1.77E-07	1.51E-02	3.43E-06	0.00E+00	6.16E-05	3.62E-04	1.18E-04	6.85E-04	5.50E-07	4.69E-02	1.07E-05	0.00E+00
2009	Annual	Mon-Sun	2270002018	Scrapers	D	175	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	9.63E-01	2.95E+00	2.00E+01	1.62E-04	1.38E-03	3.70E-04	2.84E-03	2.45E-06	2.18E-01	3.33E-05	0.00E+00	5.50E-05	4.68E-04	1.25E-04	9.62E-04	8.32E-07	7.40E-02	1.13E-05	0.00E+00
2009	Annual	Mon-Sun	2270002018	Scrapers	D	250	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	9.38E-01	2.87E+00	2.74E+01	1.53E-04	1.11E-03	3.95E-04	3.76E-03	3.38E-06	3.01E-01	3.56E-05	0.00E+00	5.32E-05	3.87E-04	1.37E-04	1.31E-03	1.18E-06	1.05E-01	1.24E-05	0.00E+00
2009	Annual	Mon-Sun	2270002018	Scrapers	D	500	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	2.58E+00	7.91E+00	1.16E+02	5.77E-04	6.52E-03	1.51E-03	1.43E-02	1.25E-05	1.27E+00	1.36E-04	0.00E+00	7.30E-05	8.24E-04	1.90E-04	1.80E-03	1.58E-06	1.61E-01	1.72E-05	0.00E+00
2009	Annual	Mon-Sun	2270002018	Scrapers	D	750	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	2.09E+00	6.40E+00	1.62E+02	8.14E-04	9.11E-03	2.11E-03	2.03E-02	1.78E-05	1.77E+00	1.91E-04	0.00E+00	1.27E-04	1.42E-03	3.30E-04	3.17E-03	2.79E-06	2.77E-01	2.98E-05	0.00E+00
2009	Annual	Mon-Sun	2270002027	Signal Boards	D	15	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	7.59E+00	1.56E+01	4.39E+00	1.43E-05	2.94E-04	5.60E-05	3.51E-04	7.49E-07	4.81E-02	5.05E-06	0.00E+00	9.18E-07	1.88E-05	3.59E-06	2.25E-05	4.80E-08	3.08E-03	3.24E-07	0.00E+00
2009	Annual	Mon-Sun	2270002027	Signal Boards	D	50	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	3.77E-02	5.54E-02	9.33E-02	1.05E-06	1.08E-05	4.38E-06	1.04E-05	1.29E-08	1.00E-03	3.95E-07	0.00E+00	1.90E-05	1.96E-04	7.90E-05	1.87E-04	2.34E-07	1.81E-02	7.13E-06	0.00E+00
2009	Annual	Mon-Sun	2270002027	Signal Boards	D	120	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	6.17E-01	9.06E-01	3.33E+00	3.73E-05	2.46E-04	7.19E-05	4.49E-04	4.26E-07	3.63E-02	6.49E-06	0.00E+00	4.12E-05	2.71E-04	7.93E-05	4.96E-04	4.70E-07	4.01E-02	7.16E-06	0.00E+00
2009	Annual	Mon-Sun	2270002027	Signal Boards	D	175	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	3.83E-01	5.62E-01	3.96E+00	2.46E-05	2.38E-04	5.65E-05	4.79E-04	4.88E-07	4.34E-02	5.10E-06	0.00E+00	4.38E-05	4.23E-04	1.01E-04	8.53E-04	8.69E-07	7.72E-02	9.08E-06	0.00E+00
2009	Annual	Mon-Sun	2270002027	Signal Boards	D	250	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	8.09E-02	1.19E-01	1.37E+00	5.00E-06	3.87E-05	1.30E-05	1.57E-04	1.70E-07	1.51E-02	1.18E-06	0.00E+00	4.21E-05	3.26E-04	1.10E-04	1.32E-03	1.43E-06	1.28E-01	9.91E-06	0.00E+00
2009	Annual	Mon-Sun	2270002072	Skid Steer Loaders	D	25	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	5.18E+00	1.18E+01	7.47E+00	5.08E-05	4.35E-04	1.60E-04	7.60E-04	1.04E-06	8.16E-02	1.44E-05	0.00E+00	4.29E-06	3.68E-05	1.35E-05	6.42E-05	8.74E-08	6.89E-03	1.22E-06	0.00E+00
2009	Annual	Mon-Sun	2270002072	Skid Steer Loaders	D	50	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	4.70E+01	1.10E+02	1.30E+02	1.31E-03	1.43E-02	4.90E-03	1.38E-02	1.81E-05	1.40E+00	4.42E-04	0.00E+00	1.19E-05	1.30E-04	4.46E-05	1.25E-04	1.65E-07	1.27E-02	4.02E-06	0.00E+00
2009	Annual	Mon-Sun	2270002072	Skid Steer Loaders	D	120	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	2.46E+01	5.76E+01	1.13E+02	1.12E-03	8.21E-03	1.95E-03	1.29E-02	1.44E-05	1.23E+00	1.76E-04	0.00E+00	1.93E-05	1.42E-04	3.38E-05	2.23E-04	2.51E-07	2.14E-02	3.05E-06	0.00E+00
2009	Annual	Mon-Sun	2270002024	Surfacing Equipment	D	50	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	5.39E-02	6.70E-02	4.41E-02	5.00E-07	5.23E-06	2.10E-06	4.93E-06	6.11E-09	4.72E-04	1.90E-07	0.00E+00	7.47E-06	7.80E-05	3.14E-05	7.35E-05	9.11E-08	7.05E-03	2.83E-06	0.00E+00
2009	Annual	Mon-Sun	2270002024	Surfacing Equipment	D	120	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	1.08E-02	1.34E-02	3.92E-02	4.38E-07	2.93E-06	8.53E-07	5.42E-06	5.01E-09	4.27E-04	7.70E-08	0.00E+00	3.27E-05	2.19E-04	6.36E-05	4.05E-04	3.74E-07	3.19E-02	5.74E-06	0.00E+00
2009	Annual	Mon-Sun	2270002024	Surfacing Equipment	D	175	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	8.09E-03	1.01E-02	3.94E-02	2.48E-07	2.42E-06	5.71E-07	4.87E-06	4.85E-09	4.31E-04	5.15E-08	0.00E+00	2.46E-05	2.41E-04	5.67E-05	4.84E-04	4.82E-07	4.28E-02	5.12E-06	0.00E+00
2009	Annual	Mon-Sun	2270002024	Surfacing Equipment	D	250	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	1.62E-02	2.01E-02	1.23E-01	5.26E-07	4.11E-06	1.34E-06	1.46E-05	1.52E-08	1.35E-03	1.21E-07	0.00E+00	2.62E-05	2.04E-04	6.68E-05	7.28E-04	7.58E-07	6.74E-02	6.02E-06	0.00E+00
2009	Annual	Mon-Sun	2270002024	Surfacing Equipment	D	500	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	1.35E-01	1.68E-01	1.68E+00	6.55E-06	7.03E-05	1.65E-05	1.82E-04	1.82E-07	1.85E-02	1.49E-06	0.00E+00	3.91E-05	4.19E-04	9.84E-05	1.08E-03	1.08E-06	1.11E-01	8.87E-06	0.00E+00
2009	Annual	Mon-Sun	2270002024	Surfacing Equipment	D	750	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	3.99E-01	4.96E-01	7.82E+00	3.07E-05	3.26E-04	7.80E-05	8.61E-04	8.65E-07	8.60E-02	7.04E-06	0.00E+00	6.19E-05	6.58E-04	1.57E-04	1.74E-03	1.74E-06	1.73E-01	1.42E-05	0.00E+00
2009	Annual	Mon-Sun	2270002066	Tractors/Loaders/Backhoes	D	25	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	7.60E-01	1.96E+00	1.42E+00	7.76E-06	6.84E-05	2.20E-05	1.33E-04	1.97E-07	1.56E-02	1.99E-06	0.00E+00	3.95E-06	3.48E-05	1.12E-05	6.77E-05	1.01E-07	7.92E-03	1.01E-06	0.00E+00
2009	Annual	Mon-Sun	2270002066	Tractors/Loaders/Backhoes	D	50	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	4.54E+00	1.20E+01	1.71E+01	2.03E-04	2.22E-03	8.38E-04	1.90E-03	2.36E-06	1.83E-01	7.56E-05	0.00E+00	1.68E-05	1.84E-04	6.96E-05	1.58E-04	1.96E-07	1.52E-02	6.28E-06	0.00E+00
2009	Annual	Mon-Sun	2270002066	Tractors/Loaders/Backhoes	D	120	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	6.08E+01	1.61E+02	3.82E+02	4.46E-03	2.95E-02	7.99E-03	4.89E-02	4.89E-05	4.16E+00	7.21E-04	0.00E+00	2.77E-05	1.83E-04	4.96E-05	3.03E-04	3.03E-07	2.58E-02	4.47E-06	0.00E+00
2009	Annual	Mon-Sun	2270002066	Tractors/Loaders/Backhoes	D	175	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	4.54E+00	1.20E+01	5.57E+01	3.58E-04	3.54E-03	7.84E-04	6.24E-03	6.85E-06	6.09E-01	7.08E-05	0.00E+00	2.98E-05	2.94E-04	6.52E-05	5.19E-04	5.70E-07	5.06E-02	5.88E-06	0.00E+00
2009	Annual	Mon-Sun	2270002066	Tractors/Loaders/Backhoes	D	250	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	1.47E+00	3.89E+00	3.03E+01	1.08E-04	8.22E-04	2.91E-04	3.24E-03	3.76E-06	3.34E-01	2.63E-05	0.00E+00	2.79E-05	2.11E-04	7.49E-05	8.32E-04	9.65E-07	8.58E-02	6.76E-06	0.00E+00
2009	Annual	Mon-Sun	2270002066	Tractors/Loaders/Backhoes	D	500	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	2.37E+00	6.28E+00	9.81E+01	3.25E-04	2.82E-03	8.63E-04	9.16E-03	1.22E-05	1.08E+00	7.78E-05	0.00E+00	5.18E-05	4.50E-04	1.37E-04	1.46E-03	1.94E-06	1.72E-01	1.24E-05	0.00E+00
2009	Annual	Mon-Sun	2270002066	Tractors/Loaders/Backhoes	D	750	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	8.05E+00	2.13E+01	5.00E+02	1.69E-03	1.44E-02	4.45E-03	4.82E-02	6.21E-05	5.51E+00	4.01E-04	0.00E+00	7.90E-05	6.75E-04	2.08E-04	2.26E-03	2.91E-06	2.58E-01	1.88E-05	0.00E+00
2009	Annual	Mon-Sun	2270002030	Trenchers	D	15	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	2.02E-01	3.43E-01	1.32E-01	4.32E-07	8.85E-06	1.69E-06	1.06E-05	2.25E-08	1.45E-03	1.52E-07	0.00E+00	1.26E-06	2.58E-05	4.92E-06	3.08E-05	6.58E-08	4.23E-03	4.44E-07	0.00E+00
2009	Annual	Mon-Sun	2270002030	Trenchers	D	25	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	2.13E-01	3.61E-01	5.41E-01	2.54E-06	2.44E-05	7.26E-06	4.67E-05	7.53E-08	5.94E-03	6.55E-07	0.00E+00	7.05E-06	6.77E-05	2.01E-05	1.29E-04	2.09E-07	1.64E-02	1.82E-06	0.00E+00
2009	Annual	Mon-Sun	2270002030	Trenchers	D	50	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	8.11E+00	1.41E+01	2.18E+01	2.97E-04	3.14E-03	1.36E-03	2.58E-03	2.99E-06	2.32E-01	1.22E-04	0.00E+00	2.10E-05	2.23E-04	9.63E-05	1.83E-04	2.13E-07	1.64E-02	8.69E-06	0.00E+00
2009	Annual	Mon-Sun	2270002030	Trenchers	D	120	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	1.10E+01	1.91E+01	5.70E+01	7.69E-04	4.67E-03	1.52E-03	9.07E-03	7.26E-06	6.19E-01	1.37E-04	0.00E+00	4.03E-05	2.45E-04	7.95E-05	4.75E-04	3.80E-07	3.24E-02	7.17E-06	0.00E+00
2009	Annual	Mon-Sun	2270002030	Trenchers	D	175	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	1.20E+00	2.09E+00	1.37E+01	1.07E-04	9.32E-04	2.47E-04	1.97E-03	1.69E-06	1.50E-01	2.23E-05	0.00E+00	5.14E-05	4.46E-04	1.18E-04	9.42E-04	8.09E-07	7.19E-02	1.07E-05	0.00E+00
2009	Annual	Mon-Sun	2270002030	Trenchers	D	250	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	1.08E-01	1.87E-01	1.90E+00	1.09E-05	8.03E-05	2.73E-05	2.63E-04	2.35E-07	2.09E-02	2.47E-06	0.00E+00	5.82E-05	4.29E-04	1.46E-04	1.40E-03	1.25E-06	1.11E-01	1.32E-05	0.00E+00
2009	Annual	Mon-Sun	2270002030	Trenchers	D	500	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	1.38E-01	2.39E-01	3.39E+00	1.72E-05	2.11E-04	4.35E-05	4.26E-04	3.65E-07	3.72E-02	3.92E-06	0.00E+00	7.21E-05	8.85E-04	1.82E-04	1.78E-03	1.53E-06	1.56E-01	1.64E-05	0.00E+00
2009	Annual	Mon-Sun	2270002030	Trenchers	D	750	Construction and Mining Equipmer	U	N	NHH	NP	Imperial	SS	IMP	7.98E-02	1.39E-01	3.71E+00	1.90E-05	2.31E-04	4.80E-05	4.74E-04	4.09E-07	4.06E-02	4.33E-06	0.00E+00	1.37E-04	1.67E-03	3.46E-04	3.42E-03	2.95E-06	2.93E-01	3.12E-05	0.00E+00
2009	Annual	Mon-Sun	2266003010	Aerial Lifts	C4	15	Industrial Equipment	U	P	NHH	NP	Imperial	SS	IMP	1.65E-02	1.70E-02	1.36E-02	3.47E-08	1.22E-05	3.15E-08	3.34E-07	0.00E+00	7.57E-05	2.64E-07	0.00E+00	2.04E-06	7.18E-04	1.85E-06	1.96E-05	0.00E+00	4.45E-03	1.55E-05	0.00E+00
2009	Annual	Mon-Sun	2266003010	Aerial Lifts	C4	25	Industrial Equipment	U	P	NHH	NP	Imperial	SS	IMP	7.10E-01	7.30E-01	8.69E-01	2.44E-06	8.07E-04	3.04E-06	2.22E-05	0.00E+00	4.74E-03	2.55E-05	0.00E+00	3.35E-06	1.11E-03	4.16E-06	3.04E-05	0.00E+00	6.50E-03	3.49E-05	0.00E+00
2009	Annual	Mon-Sun	2266003020	Forklifts	C4	25	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	6.97E-03	2.39E-02	2.34E-02	8.06E-08	2.35E-05	1.48E-07	6.56E-07	0.00E+00	1.23E-04	1.24E-06	0.00E+00	3.38E-06	9.84E-04	6.22E-06	2.75E-05	0.00E+00	5.13E-03	5.21E-05	0.00E+00
2009	Annual	Mon-Sun	2266003020	Forklifts	C4	50	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	4.72E+00	2.33E+01	3.12E+01	1.89E-05	3.42E-03	3.73E-05	1.59E-03	0.00E+00	2.13E-01	3.13E-04	0.00E+00	8.14E-07	1.47E-04	1.60E-06	6.85E-05	0.00E+00	9.15E-03	1.34E-05	0.00E+00
2009	Annual	Mon-Sun	2266003020	Forklifts	C4	120	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	1.66E+01	8.17E+01	1.95E+02	1.14E-04	5.76E-02	2.33E-04	9.08E-03	0.00E+00	1.28E+00	1.95E-03	0.00E+00	1.39E-06	7.05E-04	2.85E-06	1.11E-04	0.00E+00	1.56E-02	2.39E-05	0.00E+00
2009	Annual	Mon-Sun	2266003020	Forklifts	C4	175	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	6.06E-01	2.99E+00	1.46E+01	8.67E-06	3.38E-03	1.09E-05	5.66E-04	0.00E+00	9.74E-02	9.13E-05	0.00E+00	2.90E-06	1.13E-03	3.64E-06	1.89E-04	0.00E+00	3.26E-02	3.05E-05	0.00E+00
2009	Annual	Mon-Sun	2270003010	Aerial Lifts	D	15	Industrial Equipment	U	P	NHH	NP	Imperial	SS	IMP	3.65E-01	4.00E-01	1.58E-01	8.33E-07	1.06E-05	2.15E-06	1.38E-05	2.69E-08	1.73E-03	1.94E-07	0.00E+00	2.09E-06	2.65E-05	5.38E-06	3.46E-05	6.73E-08	4.32E-03	4.85E-07	0.00E+00
2009	Annual	Mon-Sun	2270003010	Aerial Lifts	D	25	Industrial Equipment	U	P	NHH	NP	Imperial	SS	IMP	5.96E-01	6.52E-01	3.27E-01	2.30E-06	1.97E-05	7.37E-06	3.38E-05	4.53E-08	3.57E-03	6.65E-07	0.00E+00	3.53E-06	3.02E-05	1.13E-05	5.18E-05	6.95E-08	5.48E-03	1.02E-06	0.00E+00
2009	Annual	Mon-Sun	2270003010	Aerial Lifts	D	50	Industrial Equipment	U	P	NHH	NP	Imperial	SS	IMP	2.18E+00	2.29E+00	2.09E+00	2.22E-05	2.24E-04	8.94E-05	2.29E-04	2.90E-07	2.25E-02	8.07E-06	0.00E+00	9.67E-06	9.77E-05	3.90E-05	1.00E-04	1.27E-07	9.80E-03	3.52E-06	0.00E+00
2009	Annual	Mon-Sun	2270003010	Aerial Lifts	D	120	Industrial Equipment	U	P	NHH	NP	Imperial	SS	IMP	1.93E+00	2.03E+00	3.55E+00	3.75E-05	2.55E-04	7.40E-05	4.73E-04	4.54E-07	3.87E-02	6.68E-06	0.00E+00	1.84E-05	1.26E-04	3.64E-05	2.33E-04	2.23E-07	1.90E-02	3.29E-06	0.00E+00
2009	Annual	Mon-Sun	2270003010	Aerial Lifts	D	500	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	2.47E-01	2.61E-01	2.51E+00	8.15E-06	8.10E-05	2.07E-05	2.59E-04	2.72E-07	2.77E-02	1.86E-06	0.00E+00	3.13E-05	3.11E-04	7.93E-05	9.96E-04	1.04E-06	1.06E-01	7.16E-06	0.00E+00
2009	Annual	Mon-Sun	2270003010	Aerial Lifts	D	750	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	1.99E-02	2.10E-02	3.66E-01	1.20E-06	1.18E-05	3.09E-06	3.87E-05	4.05E-08	4.03E-03	2.79E-07	0.00E+00	5.73E-05	5.62E-04	1.48E-04	1.85E-03	1.93E-06	1.92E-01	1.33E-05	0.00E+00
2009	Annual	Mon-Sun	2270003020	Forklifts	D	50	Industrial Equipment	U	P	NHH	NP	Imperial	SS	IMP	6.60E-01	3.26E+00	2.24E+00	2.85E-05	3.10E-04	1.21E-04	2.54E-04	3.09E-07	2.39E-02	1.09E-05	0.00E+00	8.76E-06	9.50E-05	3.71E-05	7.79E-05	9.48E-08	7.33E-03	3.34E-06	0.00E+00
2009	Annual	Mon-Sun	2270003020	Forklifts	D	120	Industrial Equipment	U	P	NHH	NP	Imperial	SS	IMP	1.04E+00	5.11E+00	7.33E+00	9.40E-05	5.78E-04	1.66E-04	9.51E-04	9.35E-07	7.97E-02	1.50E-05	0.00E+00	1.84E-05	1.13E-04	3.25E-05	1.86E-04	1.83E-07	1.56E-02	2.94E-06	0.00E+00
2009	Annual	Mon-Sun	2270003020	Forklifts	D	175	Industrial Equipment	U	P	NHH	NP	Imperial	SS	IMP	1.04E+00	5.14E+00	1.32E+01	9.22E-05	8.49E-04	2.03E-04	1.52E-03	1.62E-06	1.44E-01	1.83E-05	0.00E+00	1.80E-05	1.65E-04	3.94E-05	2.97E-04	3.15E-07	2.80E-02	3.56E-06	0.00E+00
2009	Annual	Mon-Sun	2270003020	Forklifts	D	250	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	1.03E+00	5.10E+00	1.78E+01	6.06E-05	4.46E-04	1.72E-04	1.95E-03	2.21E-06	1.96E-01	1.55E-05	0.00E+00	1.19E-05	8.74E-05	3.36E-05	3.82E-04	4.33E-07	3.85E-02	3.04E-06	0.00E+00
2009	Annual	Mon-Sun	2270003020	Forklifts	D	500	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	4.42E-01	2.18E+00	1.10E+01	3.48E-05	2.64E-04	9.71E-05	1.04E-03	1.19E-06	1.21E-01	8.76E-06	0.00E+00	1.60E-05	1.21E-04	4.45E-05	4.75E-04	5.44E-07	5.54E-02	4.01E-06	0.00E+00
2009	Annual	Mon-Sun	2270003040	Other General Industrial Eq	D	15	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	1.27E-01	4.97E-01	1.45E-01	4.74E-07	9.70E-06	1.65E-06	1.16E-05	2.47E-08	1.59E-03	1.49E-07	0.00E+00	9.53E-07	1.95E-05	3.31E-06	2.33E-05	4.97E-08	3.19E-03	2.99E-07	0.00E+00
2009	Annual	Mon-Sun	2270003040	Other General Industrial Eq	D	25	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	1.70E-01	6.66E-01	4.65E-01	2.07E-06	2.10E-05	6.21E-06	3.95E-05	6.48E-08	5.11E-03	5.60E-07	0.00E+00	3.11E-06	3.16E-05	9.32E-06	5.94E-05	9.73E-08	7.67E-03	8.41E-07	0.00E+00
2009	Annual	Mon-Sun	2270003040	Other General Industrial Eq	D	50	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	2.11E-01	8.25E-01	8.46E-01	1.21E-05	1.28E-04	5.48E-05	1.00E-04	1.16E-07	8.96E-03	4.95E-06	0.00E+00	1.47E-05	1.55E-04	6.64E-05	1.21E-04	1.40E-07	1.09E-02	5.99E-06	0.00E+00
2009	Annual	Mon-Sun	2270003040	Other General Industrial Eq	D	120	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	8.45E-01	3.30E+00	9.41E+00	1.34E-04	7.69E-04	2.49E-04	1.40E-03	1.20E-06	1.02E-01	2.24E-05	0.00E+00	4.07E-05	2.33E-04	7.54E-05	4.25E-04	3.64E-07	3.10E-02	6.80E-06	0.00E+00
2009	Annual	Mon-Sun	2270003040	Other General Industrial Eq	D	175	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	8.47E-01	3.31E+00	1.45E+01	1.15E-04	9.62E-04	2.58E-04	1.95E-03	1.78E-06	1.59E-01	2.32E-05	0.00E+00	3.46E-05	2.91E-04	7.78E-05	5.89E-04	5.39E-07	4.79E-02	7.02E-06	0.00E+00
2009	Annual	Mon-Sun	2270003040	Other General Industrial Eq	D	250	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	8.44E-01	3.30E+00	2.03E+01	8.85E-05	6.37E-04	2.40E-04	2.57E-03	2.51E-06	2.23E-01	2.16E-05	0.00E+00	2.69E-05	1.93E-04	7.27E-05	7.79E-04	7.62E-07	6.77E-02	6.56E-06	0.00E+00

2009	Annual	Mon-Sun	2270003040	Other General Industrial Eq	D	500	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	8.42E-01	3.29E+00	3.96E+01	1.58E-04	1.42E-03	4.25E-04	4.45E-03	4.28E-06	4.36E-01	3.83E-05	0.00E+00	4.81E-05	4.33E-04	1.29E-04	1.35E-03	1.30E-06	1.33E-01	1.16E-05	0.00E+00
2009	Annual	Mon-Sun	2270003040	Other General Industrial Eq	D	750	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	2.10E-01	8.22E-01	1.63E+01	6.62E-05	5.87E-04	1.76E-04	1.88E-03	1.81E-06	1.80E-01	1.59E-05	0.00E+00	8.06E-05	7.14E-04	2.15E-04	2.29E-03	2.20E-06	2.19E-01	1.94E-05	0.00E+00
2009	Annual	Mon-Sun	2270003040	Other General Industrial Eq	D	1000	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	1.28E-01	5.00E-01	1.27E+01	5.67E-05	5.86E-04	1.64E-04	1.83E-03	1.41E-06	1.40E-01	1.48E-05	0.00E+00	1.13E-04	1.17E-03	3.29E-04	3.66E-03	2.81E-06	2.80E-01	2.97E-05	0.00E+00
2009	Annual	Mon-Sun	2270003050	Other Material Handling Eq	D	50	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	6.06E-03	2.19E-02	3.13E-02	4.44E-07	4.70E-06	2.01E-06	3.70E-06	4.29E-09	3.32E-04	1.81E-07	0.00E+00	2.03E-05	2.15E-04	9.18E-05	1.69E-04	1.96E-07	1.52E-02	8.28E-06	0.00E+00
2009	Annual	Mon-Sun	2270003050	Other Material Handling Eq	D	120	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	3.63E-02	1.31E-01	3.66E-01	5.18E-06	2.98E-05	9.61E-06	5.45E-05	4.67E-08	3.98E-03	8.67E-07	0.00E+00	3.94E-05	2.27E-04	7.32E-05	4.15E-04	3.56E-07	3.03E-02	6.60E-06	0.00E+00
2009	Annual	Mon-Sun	2270003050	Other Material Handling Eq	D	175	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	3.89E-02	1.41E-01	7.85E-01	6.15E-06	5.18E-05	1.38E-05	1.05E-04	9.66E-08	8.58E-03	1.25E-06	0.00E+00	4.37E-05	3.68E-04	9.82E-05	7.47E-04	6.86E-07	6.10E-02	8.86E-06	0.00E+00
2009	Annual	Mon-Sun	2270003050	Other Material Handling Eq	D	250	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	9.26E-02	3.35E-01	2.20E+00	9.56E-06	6.89E-05	2.58E-05	2.78E-04	2.73E-07	2.42E-02	2.32E-06	0.00E+00	2.86E-05	2.06E-04	7.70E-05	8.31E-04	8.15E-07	7.24E-02	6.95E-06	0.00E+00
2009	Annual	Mon-Sun	2270003050	Other Material Handling Eq	D	500	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	1.73E-02	6.25E-02	5.44E-01	2.16E-06	1.95E-05	5.76E-06	6.09E-05	5.88E-08	5.99E-03	5.19E-07	0.00E+00	3.46E-05	3.12E-04	9.20E-05	9.74E-04	9.40E-07	9.57E-02	8.31E-06	0.00E+00
2009	Annual	Mon-Sun	2270003050	Other Material Handling Eq	D	9999	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	5.19E-03	1.88E-02	6.33E-01	2.80E-06	2.91E-05	8.13E-06	9.06E-05	6.82E-08	6.95E-03	7.34E-07	0.00E+00	1.49E-04	1.55E-03	4.33E-04	4.83E-03	3.64E-06	3.70E-01	3.91E-05	0.00E+00
2009	Annual	Mon-Sun	2270003030	Sweepers/Scrubbers	D	15	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	4.85E-02	8.64E-02	4.70E-02	1.54E-07	3.14E-06	5.34E-07	3.75E-06	8.01E-09	5.15E-04	4.82E-08	0.00E+00	1.78E-06	3.64E-05	6.18E-06	4.35E-05	9.28E-08	5.96E-03	5.58E-07	0.00E+00
2009	Annual	Mon-Sun	2270003030	Sweepers/Scrubbers	D	25	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	4.85E-02	8.64E-02	7.71E-02	3.64E-07	3.48E-06	1.04E-06	6.66E-06	1.07E-08	8.46E-04	9.35E-08	0.00E+00	4.21E-06	4.03E-05	1.20E-05	7.71E-05	1.24E-07	9.80E-03	1.08E-06	0.00E+00
2009	Annual	Mon-Sun	2270003030	Sweepers/Scrubbers	D	50	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	9.44E-01	3.16E+00	4.67E+00	5.96E-05	6.36E-04	2.58E-04	5.29E-04	6.43E-07	4.98E-02	2.33E-05	0.00E+00	1.89E-05	2.01E-04	8.18E-05	1.68E-04	2.04E-07	1.58E-02	7.38E-06	0.00E+00
2009	Annual	Mon-Sun	2270003030	Sweepers/Scrubbers	D	120	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	1.56E+00	5.22E+00	1.80E+01	2.32E-04	1.40E-03	4.16E-04	2.40E-03	2.30E-06	1.96E-01	3.76E-05	0.00E+00	4.43E-05	2.69E-04	7.97E-05	4.59E-04	4.40E-07	3.75E-02	7.19E-06	0.00E+00
2009	Annual	Mon-Sun	2270003030	Sweepers/Scrubbers	D	175	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	7.19E-01	2.41E+00	1.53E+01	1.08E-04	9.68E-04	2.37E-04	1.82E-03	1.88E-06	1.67E-01	2.14E-05	0.00E+00	4.49E-05	4.03E-04	9.84E-05	7.57E-04	7.81E-07	6.94E-02	8.88E-06	0.00E+00
2009	Annual	Mon-Sun	2270003030	Sweepers/Scrubbers	D	250	Industrial Equipment	U	N	NHH	NP	Imperial	SS	IMP	1.15E-01	3.85E-01	2.83E+00	9.81E-06	7.20E-05	2.69E-05	3.17E-04	3.51E-07	3.12E-02	2.42E-06	0.00E+00	2.55E-05	1.87E-04	6.98E-05	8.24E-04	9.11E-07	8.09E-02	6.30E-06	0.00E+00
2009	Annual	Mon-Sun	2266006020	Gas Compressors	C4	50	Light Commercial Equipment	U	P	NHH	P	Imperial	SS	IMP	1.35E-01	3.14E+00	1.08E+01	5.66E-06	1.08E-03	6.12E-06	2.22E-04	0.00E+00	7.39E-02	5.13E-05	0.00E+00	1.80E-06	3.45E-04	1.95E-06	7.06E-05	0.00E+00	2.35E-02	1.63E-05	0.00E+00
2009	Annual	Mon-Sun	2266006020	Gas Compressors	C4	120	Light Commercial Equipment	U	P	NHH	P	Imperial	SS	IMP	2.79E-01	6.50E+00	6.29E+01	3.22E-05	1.73E-02	3.34E-05	1.31E-03	0.00E+00	4.15E-01	2.80E-04	0.00E+00	4.95E-06	2.67E-03	5.13E-06	2.02E-04	0.00E+00	6.39E-02	4.30E-05	0.00E+00
2009	Annual	Mon-Sun	2266006020	Gas Compressors	C4	175	Light Commercial Equipment	U	P	NHH	P	Imperial	SS	IMP	4.50E-02	1.05E+00	1.62E+01	8.60E-06	3.53E-03	9.30E-06	3.52E-04	0.00E+00	1.08E-01	7.80E-05	0.00E+00	8.21E-06	3.36E-03	8.88E-06	3.36E-04	0.00E+00	1.03E-01	7.44E-05	0.00E+00
2009	Annual	Mon-Sun	2266006020	Gas Compressors	C4	250	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	3.60E-02	8.39E-01	1.67E+01	9.90E-06	4.06E-03	7.16E-06	3.41E-04	0.00E+00	1.11E-01	6.00E-05	0.00E+00	1.18E-05	4.84E-03	8.54E-06	4.06E-04	0.00E+00	1.33E-01	7.16E-05	0.00E+00
2009	Annual	Mon-Sun	2266006020	Gas Compressors	C4	500	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	3.15E-02	7.34E-01	2.36E+01	1.39E-05	5.72E-03	1.01E-05	4.80E-04	0.00E+00	1.57E-01	8.45E-05	0.00E+00	1.90E-05	7.79E-03	1.37E-05	6.54E-04	0.00E+00	2.14E-01	1.15E-04	0.00E+00
2009	Annual	Mon-Sun	2266006005	Generator Sets	C4	120	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	8.69E-01	2.73E-01	1.72E+00	1.02E-06	3.60E-04	1.75E-06	1.15E-04	0.00E+00	1.15E-02	1.47E-05	0.00E+00	3.73E-06	1.32E-03	6.40E-06	4.22E-04	0.00E+00	4.20E-02	5.37E-05	0.00E+00
2009	Annual	Mon-Sun	2266006005	Generator Sets	C4	175	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	7.20E-01	2.27E-01	2.48E+00	1.49E-06	4.32E-04	2.04E-06	1.68E-04	0.00E+00	1.67E-02	1.71E-05	0.00E+00	6.57E-06	1.90E-03	8.99E-06	7.41E-04	0.00E+00	7.38E-02	7.54E-05	0.00E+00
2009	Annual	Mon-Sun	2270006015	Air Compressors	D	15	Light Commercial Equipment	U	P	NHH	P	Imperial	SS	IMP	2.33E-01	5.19E-01	1.72E-01	1.65E-06	1.35E-05	3.87E-06	2.24E-05	2.91E-08	1.87E-03	3.49E-07	0.00E+00	3.18E-06	2.60E-05	7.46E-06	4.31E-05	5.61E-08	3.61E-03	6.73E-07	0.00E+00
2009	Annual	Mon-Sun	2270006015	Air Compressors	D	25	Light Commercial Equipment	U	P	NHH	P	Imperial	SS	IMP	4.61E-01	1.03E+00	6.81E-01	5.27E-06	4.47E-05	1.74E-05	7.27E-05	9.41E-08	7.42E-03	1.57E-06	0.00E+00	5.12E-06	4.35E-05	1.70E-05	7.08E-05	9.16E-08	7.22E-03	1.53E-06	0.00E+00
2009	Annual	Mon-Sun	2270006015	Air Compressors	D	50	Light Commercial Equipment	U	P	NHH	P	Imperial	SS	IMP	4.19E+00	9.34E+00	9.75E+00	1.26E-04	1.32E-03	5.59E-04	1.12E-03	1.34E-06	1.04E-01	5.05E-05	0.00E+00	1.35E-05	1.42E-04	5.99E-05	1.20E-04	1.44E-07	1.11E-02	5.40E-06	0.00E+00
2009	Annual	Mon-Sun	2270006015	Air Compressors	D	120	Light Commercial Equipment	U	P	NHH	P	Imperial	SS	IMP	2.79E+01	6.22E+01	1.34E+02	1.73E-03	1.04E-02	3.26E-03	1.92E-02	1.71E-05	1.46E+00	2.94E-04	0.00E+00	2.77E-05	1.68E-04	5.24E-05	3.09E-04	2.75E-07	2.35E-02	4.73E-06	0.00E+00
2009	Annual	Mon-Sun	2270006015	Air Compressors	D	175	Light Commercial Equipment	U	P	NHH	P	Imperial	SS	IMP	1.06E+00	2.35E+00	9.52E+00	6.80E-05	6.01E-04	1.54E-04	1.23E-03	1.17E-06	1.04E-01	1.39E-05	0.00E+00	2.89E-05	2.55E-04	6.55E-05	5.22E-04	4.97E-07	4.42E-02	5.91E-06	0.00E+00
2009	Annual	Mon-Sun	2270006015	Air Compressors	D	250	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	1.49E+00	3.31E+00	1.97E+01	8.10E-05	5.96E-04	2.13E-04	2.40E-03	2.44E-06	2.17E-01	1.92E-05	0.00E+00	2.44E-05	1.80E-04	6.43E-05	7.26E-04	7.38E-07	6.56E-02	5.80E-06	0.00E+00
2009	Annual	Mon-Sun	2270006015	Air Compressors	D	500	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	1.94E+00	4.32E+00	4.54E+01	1.71E-04	1.59E-03	4.39E-04	4.96E-03	4.91E-06	5.00E-01	3.96E-05	0.00E+00	3.95E-05	3.67E-04	1.02E-04	1.15E-03	1.14E-06	1.16E-01	9.17E-06	0.00E+00
2009	Annual	Mon-Sun	2270006015	Air Compressors	D	750	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	7.25E-01	1.62E+00	2.63E+01	1.00E-04	9.18E-04	2.58E-04	2.94E-03	2.91E-06	2.89E-01	2.33E-05	0.00E+00	6.19E-05	5.68E-04	1.60E-04	1.82E-03	1.80E-06	1.79E-01	1.44E-05	0.00E+00
2009	Annual	Mon-Sun	2270006015	Air Compressors	D	1000	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	1.79E-02	3.99E-02	8.83E-01	3.73E-06	3.96E-05	1.08E-05	1.23E-04	9.75E-08	9.70E-03	9.74E-07	0.00E+00	9.34E-05	9.91E-04	2.71E-04	3.08E-03	2.44E-06	2.43E-01	2.44E-05	0.00E+00
2009	Annual	Mon-Sun	2270006005	Generator Sets	D	15	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	2.28E+01	2.10E+01	9.84E+00	7.61E-05	7.73E-04	1.89E-04	1.25E-03	1.67E-06	1.07E-01	1.70E-05	0.00E+00	3.62E-06	3.67E-05	8.97E-06	5.93E-05	7.93E-08	5.10E-03	8.09E-07	0.00E+00
2009	Annual	Mon-Sun	2270006005	Generator Sets	D	25	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	1.66E+01	1.54E+01	1.24E+01	8.59E-05	8.18E-04	2.41E-04	1.33E-03	1.72E-06	1.36E-01	2.18E-05	0.00E+00	5.58E-06	5.31E-05	1.57E-05	8.64E-05	1.12E-07	8.81E-03	1.42E-06	0.00E+00
2009	Annual	Mon-Sun	2270006005	Generator Sets	D	50	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	2.03E+01	1.88E+01	2.67E+01	2.75E-04	2.76E-03	1.09E-03	2.91E-03	3.72E-06	2.88E-01	9.84E-05	0.00E+00	1.46E-05	1.47E-04	5.80E-05	1.55E-04	1.98E-07	1.53E-02	5.23E-06	0.00E+00
2009	Annual	Mon-Sun	2270006005	Generator Sets	D	120	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	3.09E+01	2.86E+01	1.02E+02	1.05E-03	7.25E-03	2.08E-03	1.34E-02	1.30E-05	1.11E+00	1.87E-04	0.00E+00	3.66E-05	2.54E-04	7.27E-05	4.71E-04	4.57E-07	3.89E-02	6.56E-06	0.00E+00
2009	Annual	Mon-Sun	2270006005	Generator Sets	D	175	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	1.83E+00	1.69E+00	1.09E+01	6.23E-05	6.32E-04	1.47E-04	1.29E-03	1.35E-06	1.20E-01	1.32E-05	0.00E+00	3.69E-05	3.74E-04	8.69E-05	7.67E-04	7.98E-07	7.09E-02	7.84E-06	0.00E+00
2009	Annual	Mon-Sun	2270006005	Generator Sets	D	250	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	1.02E+00	9.44E-01	9.09E+00	3.07E-05	2.50E-04	8.09E-05	1.02E-03	1.13E-06	1.00E-01	7.30E-06	0.00E+00	3.26E-05	2.65E-04	8.58E-05	1.08E-03	1.19E-06	1.06E-01	7.74E-06	0.00E+00
2009	Annual	Mon-Sun	2270006005	Generator Sets	D	500	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	2.27E+00	2.10E+00	3.20E+01	1.01E-04	9.98E-04	2.56E-04	3.27E-03	3.47E-06	3.53E-01	2.31E-05	0.00E+00	4.82E-05	4.76E-04	1.22E-04	1.56E-03	1.65E-06	1.68E-01	1.10E-05	0.00E+00
2009	Annual	Mon-Sun	2270006005	Generator Sets	D	750	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	1.41E+00	1.30E+00	3.21E+01	1.03E-04	1.00E-03	2.65E-04	3.37E-03	3.56E-06	3.54E-01	2.39E-05	0.00E+00	7.88E-05	7.68E-04	2.03E-04	2.58E-03	2.73E-06	2.72E-01	1.83E-05	0.00E+00
2009	Annual	Mon-Sun	2270006005	Generator Sets	D	9999	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	3.67E-01	3.39E-01	1.62E+01	6.35E-05	6.48E-04	1.79E-04	2.11E-03	1.79E-06	1.78E-01	1.62E-05	0.00E+00	1.87E-04	1.91E-03	5.29E-04	6.22E-03	5.27E-06	5.24E-01	4.77E-05	0.00E+00
2009	Annual	Mon-Sun	2270006030	Pressure Washers	D	15	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	1.06E+00	4.19E-01	9.39E-02	7.26E-07	7.38E-06	1.80E-06	1.19E-05	1.59E-08	1.02E-03	1.62E-07	0.00E+00	1.73E-06	1.76E-05	4.30E-06	2.84E-05	3.80E-08	2.44E-03	3.88E-07	0.00E+00
2009	Annual	Mon-Sun	2270006030	Pressure Washers	D	50	Light Commercial Equipment	U	P	NHH	P	Imperial	SS	IMP	4.88E-01	1.94E-01	1.28E-01	1.15E-06	1.12E-05	4.19E-06	1.36E-05	1.79E-08	1.38E-03	3.78E-07	0.00E+00	5.95E-06	5.81E-05	2.16E-05	7.01E-05	9.23E-08	7.14E-03	1.95E-06	0.00E+00
2009	Annual	Mon-Sun	2270006030	Pressure Washers	D	120	Light Commercial Equipment	U	P	NHH	P	Imperial	SS	IMP	2.01E-01	7.99E-02	8.80E-02	7.92E-07	5.97E-06	1.62E-06	1.11E-05	1.13E-08	9.61E-04	1.47E-07	0.00E+00	9.92E-06	7.48E-05	2.03E-05	1.39E-04	1.41E-07	1.20E-02	1.83E-06	0.00E+00
2009	Annual	Mon-Sun	2270006010	Pumps	D	15	Light Commercial Equipment	U	P	NHH	P	Imperial	SS	IMP	1.71E+01	1.88E+01	6.42E+00	6.17E-05	5.04E-04	1.45E-04	8.35E-04	1.09E-06	6.99E-02	1.30E-05	0.00E+00	3.27E-06	2.67E-05	7.67E-06	4.43E-05	5.77E-08	3.71E-03	6.92E-07	0.00E+00
2009	Annual	Mon-Sun	2270006010	Pumps	D	25	Light Commercial Equipment	U	P	NHH	P	Imperial	SS	IMP	5.11E+00	5.63E+00	5.03E+00	3.89E-05	3.30E-04	1.29E-04	5.38E-04	6.95E-07	5.48E-02	1.16E-05	0.00E+00	6.91E-06	5.87E-05	2.29E-05	9.55E-05	1.24E-07	9.73E-03	2.06E-06	0.00E+00
2009	Annual	Mon-Sun	2270006010	Pumps	D	50	Light Commercial Equipment	U	P	NHH	P	Imperial	SS	IMP	8.90E+00	9.81E+00	1.57E+01	1.68E-04	1.70E-03	6.81E-04	1.72E-03	2.18E-06	1.68E-01	6.15E-05	0.00E+00	1.71E-05	1.73E-04	6.94E-05	1.76E-04	2.22E-07	1.72E-02	6.26E-06	0.00E+00
2009	Annual	Mon-Sun	2270006010	Pumps	D	120	Light Commercial Equipment	U	P	NHH	P	Imperial	SS	IMP	1.74E+01	1.92E+01	6.87E+01	7.33E-04	4.96E-03	1.44E-03	9.19E-03	8.79E-06	7.49E-01	1.30E-04	0.00E+00	3.81E-05	2.58E-04	7.50E-05	4.78E-04	4.57E-07	3.89E-02	6.77E-06	0.00E+00
2009	Annual	Mon-Sun	2270006010	Pumps	D	175	Light Commercial Equipment	U	P	NHH	P	Imperial	SS	IMP	1.89E+00	2.08E+00	1.33E+01	7.90E-05	7.81E-04	1.85E-04	1.60E-03	1.64E-06	1.46E-01	1.67E-05	0.00E+00	3.79E-05	3.75E-04	8.86E-05	7.68E-04	7.88E-07	7.00E-02	8.00E-06	0.00E+00
2009	Annual	Mon-Sun	2270006010	Pumps	D	250	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	1.36E+00	1.50E+00	1.37E+01	4.82E-05	3.83E-04	1.26E-04	1.55E-03	1.70E-06	1.51E-01	1.14E-05	0.00E+00	3.21E-05	2.55E-04	8.43E-05	1.04E-03	1.13E-06	1.01E-01	7.60E-06	0.00E+00
2009	Annual	Mon-Sun	2270006010	Pumps	D	500	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	2.68E-02	2.96E-02	4.63E-01	1.51E-06	1.50E-05	3.84E-06	4.79E-05	5.01E-08	5.11E-03	3.46E-07	0.00E+00	5.11E-05	5.07E-04	1.30E-04	1.62E-03	1.69E-06	1.72E-01	1.17E-05	0.00E+00
2009	Annual	Mon-Sun	2270006010	Pumps	D	750	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	4.47E-03	4.93E-03	1.28E-01	4.22E-07	4.13E-06	1.09E-06	1.35E-05	1.41E-08	1.41E-03	9.81E-08	0.00E+00	8.56E-05	8.38E-04	2.20E-04	2.74E-03	2.87E-06	2.85E-01	1.99E-05	0.00E+00
2009	Annual	Mon-Sun	2270006010	Pumps	D	9999	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	9.84E-02	1.09E-01	6.68E+00	2.66E-05	2.77E-04	7.55E-05	8.81E-04	7.39E-07	7.35E-02	6.81E-06	0.00E+00	2.45E-04	2.55E-03	6.95E-04	8.12E-03	6.81E-06	6.77E-01	6.27E-05	0.00E+00
2009	Annual	Mon-Sun	2270006025	Welders	D	15	Light Commercial Equipment	U	P	NHH	P	Imperial	SS	IMP	7.73E+00	1.36E+01	3.87E+00	3.72E-05	3.04E-04	8.72E-05	5.03E-04	6.56E-07	4.22E-02	7.87E-06	0.00E+00	2.73E-06	2.23E-05	6.41E-06	3.70E-05	4.83E-08	3.10E-03	5.79E-07	0.00E+00
2009	Annual	Mon-Sun	2270006025	Welders	D	25	Light Commercial Equipment	U	P	NHH	P	Imperial	SS	IMP	6.80E+00	1.20E+01	6.19E+00	4.79E-05	4.07E-04	1.58E-04	6.62E-04	8.56E-07	6.75E-02	1.43E-05	0.00E+00	4.00E-06	3.40E-05	1.32E-05	5.53E-05	7.15E-08	5.64E-03	1.19E-06	0.00E+00
2009	Annual	Mon-Sun	2270006025	Welders	D	50	Light Commercial Equipment	U	P	NHH	P	Imperial	SS	IMP	2.09E+01	3.68E+01	4.47E+01	5.42E-04	5.61E-03	2.33E-03	5.06E-03	6.17E-06	4.78E-01	2.11E-04	0.00E+00	1.47E-05	1.52E-04	6.34E-05	1.37E-04	1.68E-07	1.30E-02	5.72E-06	0.00E+00
2009	Annual	Mon-Sun	2270006025	Welders	D	120	Light Commercial Equipment	U	P	NHH	P	Imperial	SS	IMP	1.63E+01	2.86E+01	5.18E+01	6.24E-04	3.93E-03	1.20E-03	7.25E-03	6.62E-06	5.64E-01	1.08E-04	0.00E+00	2.18E-05	1.37E-04	4.18E-05	2.54E-04	2.31E-07	1.97E-02	3.77E-06	0.00E+00
2009	Annual	Mon-Sun	2270006025	Welders	D	175	Light Commercial Equipment	U	P	NHH	P	Imperial	SS	IMP	8.05E-02	1.42E-01	6.35E-01	4.25E-06	3.91E-05	9.74E-06	8.00E-05	7.82E-08	6.95E-03	8.79E-07	0.00E+00	3.00E-05	2.76E-04	6.87E-05	5.64E-04	5.52E-07	4.91E-02	6.20E-06	0.00E+00
2009	Annual	Mon-Sun	2270006025	Welders	D	250	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	1.79E-02	3.15E-02	1.70E-01	6.66E-07	5.02E-06	1.74E-06	2.02E-05	2.11E-08	1.87E-03	1.57E-07	0.00E+00	2.11E-05	1.59E-04	5.54E-05	6.42E-04	6.69E-07	5.95E-02	5.00E-06	0.00E+00
2009	Annual	Mon-Sun	2270006025	Welders	D	500	Light Commercial Equipment	U	N	NHH	P	Imperial	SS	IMP	4.47E-02	7.87E-02	5.98E-01	2.15E-06	2.06E-05	5.48E-06	6.41E-05	6.47E-08	6.59E-03	4.95E-07	0.00E+00	2.73E-05	2.61E-04	6.97E-05	8.14E-04	8.22E-07	8.37E-02	6.29E-06	0.00E+00

Title : solar two 2010
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2008/04/29 13:46:11
Scen Year: 2010 -- All model years in the range 1970 to 2010 selected
Season : Annual
Area : Imperial County APCD
****

Year: 2010 -- Model Years 1970 to 2010 Inclusive -- Annual
Emfac2007 Emission Factors: V2.3 Nov 1 2006

District Average District Average Imperial County APCD

Table 1: Running Exhaust Emissions (grams/mile; grams/idle-hour)

Pollutant Name: Reactive Org Gases Temperature: 90F Relative Humidity: 10%

Speed MPH	LDA NCAT	LDA CAT	LDA DSL	LDA ALL	LDT1 NCAT	LDT1 CAT	LDT1 DSL	LDT1 ALL	LDT2 NCAT	LDT2 CAT	LDT2 DSL	LDT2 ALL	MDV NCAT	MDV CAT	MDV DSL	MDV ALL	LHD1 NCAT	LHD1 CAT	LHD1 DSL	LHD1 ALL	LHD2 NCAT	LHD2 CAT	LHD2 DSL	LHD2 ALL	MHD NCAT	MHD CAT	MHD DSL	MHD ALL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.704	26.243	3.173	19.298	25.704	26.011	3.173	15.866	25.704	25.876	3.173	7.593
5	20.47	1.396	0.495	1.483	18.501	1.192	0.232	1.368	18.566	0.76	0.459	0.862	25.673	0.516	0.204	0.573	21.391	0.628	0.403	0.603	21.391	2.266	0.531	1.575	32.137	4.601	0.609	1.634
10	14.549	0.911	0.388	0.973	13.146	0.804	0.182	0.933	13.193	0.503	0.36	0.576	18.254	0.334	0.16	0.375	13.982	0.409	0.317	0.409	13.982	1.475	0.417	1.057	21.023	2.994	0.478	1.13
15	10.817	0.626	0.312	0.672	9.772	0.569	0.146	0.667	9.807	0.35	0.289	0.405	13.578	0.227	0.128	0.258	9.519	0.278	0.254	0.289	9.519	1	0.335	0.74	14.327	2.027	0.383	0.814
20	8.414	0.452	0.256	0.488	7.599	0.421	0.12	0.499	7.626	0.256	0.237	0.299	10.567	0.163	0.105	0.187	6.749	0.196	0.209	0.213	6.749	0.706	0.274	0.539	10.172	1.428	0.315	0.61
25	6.848	0.343	0.214	0.373	6.183	0.327	0.101	0.391	6.205	0.197	0.199	0.232	8.605	0.124	0.088	0.143	4.983	0.144	0.175	0.163	4.983	0.518	0.23	0.409	7.524	1.046	0.264	0.474
30	5.833	0.275	0.184	0.301	5.266	0.266	0.086	0.322	5.285	0.158	0.17	0.188	7.334	0.099	0.076	0.116	3.833	0.111	0.15	0.13	3.833	0.397	0.197	0.322	5.798	0.798	0.226	0.383
35	5.202	0.232	0.161	0.255	4.696	0.227	0.076	0.277	4.712	0.134	0.149	0.161	6.543	0.083	0.066	0.098	3.073	0.088	0.131	0.107	3.073	0.316	0.173	0.264	4.656	0.634	0.198	0.319
40	4.859	0.207	0.144	0.228	4.385	0.203	0.068	0.251	4.4	0.119	0.134	0.144	6.112	0.074	0.059	0.088	2.568	0.074	0.118	0.092	2.568	0.263	0.155	0.225	3.899	0.526	0.178	0.276
45	4.752	0.194	0.132	0.215	4.289	0.191	0.062	0.237	4.304	0.112	0.123	0.136	5.979	0.069	0.054	0.082	2.238	0.064	0.108	0.082	2.238	0.229	0.142	0.198	3.404	0.456	0.163	0.246
50	4.869	0.192	0.124	0.214	4.394	0.188	0.058	0.236	4.409	0.11	0.115	0.135	6.125	0.068	0.051	0.082	2.036	0.058	0.101	0.075	2.036	0.207	0.133	0.182	3.1	0.413	0.152	0.227

Speed MPH	HHD NCAT	HHD CAT	HHD DSL	HHD ALL	OBUS NCAT	OBUS CAT	OBUS DSL	OBUS ALL	UBUS NCAT	UBUS CAT	UBUS DSL	UBUS ALL	MCY NCAT	MCY CAT	MCY DSL	MCY ALL	SBUS NCAT	SBUS CAT	SBUS DSL	SBUS ALL	MH NCAT	MH CAT	MH DSL	MH ALL	ALL NCAT	ALL CAT	ALL DSL	ALL ALL
0	0	0	13.188	13.06	25.704	25.791	3.173	10.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.968	0.549	11.455	2.423
5	89.342	13.385	10.319	10.365	32.137	5.477	0.63	2.563	33.927	10.829	0.091	9.941	0	0	0	0	0	0	0	0	0	0	0	0	20.352	1.149	8.759	2.553
10	58.506	8.738	5.78	5.819	21.023	3.565	0.494	1.725	22.196	7.085	0.066	6.504	0	0	0	0	0	0	0	0	0	0	0	0	14.371	0.755	4.922	1.54
15	39.929	5.94	2.79	2.828	14.327	2.414	0.397	1.21	15.129	4.83	0.05	4.435	0	0	0	0	0	0	0	0	0	0	0	0	10.617	0.521	2.395	0.895
20	28.398	4.205	1.483	1.515	10.172	1.7	0.325	0.883	10.742	3.434	0.039	3.153	0	0	0	0	0	0	0	0	0	0	0	0	8.207	0.378	1.287	0.575
25	21.049	3.1	1.201	1.224	7.524	1.246	0.273	0.67	7.947	2.546	0.031	2.338	0	0	0	0	0	0	0	0	0	0	0	0	6.641	0.289	1.043	0.451
30	16.26	2.381	0.977	0.994	5.798	0.951	0.234	0.529	6.125	1.967	0.026	1.806	0	0	0	0	0	0	0	0	0	0	0	0	5.625	0.232	0.85	0.365
35	13.092	1.907	0.81	0.824	4.656	0.757	0.205	0.434	4.92	1.584	0.022	1.455	0	0	0	0	0	0	0	0	0	0	0	0	4.99	0.196	0.706	0.308
40	10.988	1.592	0.702	0.713	3.899	0.628	0.184	0.369	4.12	1.33	0.02	1.221	0	0	0	0	0	0	0	0	0	0	0	0	4.637	0.174	0.612	0.272
45	9.615	1.388	0.651	0.66	3.404	0.544	0.168	0.326	3.598	1.164	0.019	1.069	0	0	0	0	0	0	0	0	0	0	0	0	4.515	0.162	0.568	0.254
50	8.772	1.262	0.658	0.666	3.1	0.493	0.157	0.299	3.278	1.062	0.018	0.975	0	0	0	0	0	0	0	0	0	0	0	0	4.605	0.16	0.573	0.254

Pollutant Name: Carbon Monoxide Temperature: 90F Relative Humidity: 10%

Speed MPH	LDA NCAT	LDA CAT	LDA DSL	LDA ALL	LDT1 NCAT	LDT1 CAT	LDT1 DSL	LDT1 ALL	LDT2 NCAT	LDT2 CAT	LDT2 DSL	LDT2 ALL	MDV NCAT	MDV CAT	MDV DSL	MDV ALL	LHD1 NCAT	LHD1 CAT	LHD1 DSL	LHD1 ALL	LHD2 NCAT	LHD2 CAT	LHD2 DSL	LHD2 ALL	MHD NCAT	MHD CAT	MHD DSL	MHD ALL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	150.122	152.045	26.3	114.193	150.122	151.217	26.3	95.729	150.122	150.736	26.3	50.527
5	238.175	11.019	2.993	12.056	195.213	16.499	2.282	18.115	196.165	9.798	2.824	10.861	381.174	5.96	2.163	6.818	413.934	6.031	2.932	5.926	413.934	21.652	3.168	15.078	620.902	52.025	7.663	21.425
10	173.598	9.622	2.064	10.368	142.284	13.802	1.574	14.87	142.978	8.428	1.947	9.191	277.825	5.231	1.491	5.851	275.395	4.012	2.022	3.964	275.395	14.405	2.185	10.065	413.093	34.613	5.284	14.404
15	133.25	8.536	1.489	9.101	109.214	11.847	1.135	12.588	109.747	7.388	1.405	7.966	213.252	4.656	1.076	5.129	193.583	2.82	1.459	2.798	193.583	10.126	1.576	7.093	290.375	24.33	3.813	10.204
20	107.712	7.669	1.125	8.121	88.283	10.39	0.858	10.937	88.713	6.579	1.061	7.04	172.382	4.192	0.813	4.572	143.769	2.095	1.102	2.083	143.769	7.52	1.191	5.277	215.653	18.07	2.88	7.617
25	91.693	6.964	0.889	7.346	75.153	9.286	0.678	9.723	75.52	5.937	0.839	6.327	146.745	3.81	0.642	4.132	112.81	1.644	0.871	1.637	112.81	5.901	0.941	4.144	169.215	14.179	2.276	5.99
30	82.202	6.384	0.735	6.725	67.374	8.444	0.561	8.826	67.703	5.423	0.694	5.772	131.556	3.494	0.531	3.782	93.523	1.363	0.72	1.356	93.523	4.892	0.778	3.434	140.285	11.754	1.883	4.962
35	77.608	5.905	0.637	6.228	63.609	7.808	0.485	8.176	63.919	5.012	0.601	5.342	124.203	3.23	0.46	3.503	81.917	1.193	0.624	1.186	81.917	4.285	0.674	3.005	122.876	10.296	1.63	4.331
40	77.162	5.514	0.577	5.837	63.243	7.345	0.44	7.735	63.551	4.688	0.544	5.018	123.489	3.012	0.417	3.284	75.808	1.104	0.565	1.094	75.808	3.965	0.61	2.775	113.712	9.528	1.476	3.983
45	80.793	5.201	0.547	5.543	66.219	7.041	0.417	7.486	66.542	4.443	0.516	4.792	129.3	2.835	0.395	3.121	74.122	1.08	0.536	1.064	74.122	3.877	0.579	2.705	111.183	9.316	1.4	3.859
50	89.088	4.967	0.543	5.348	73.018	6.896	0.414	7.437	73.374	4.274	0.512	4.665	142.575	2.698	0.392	3.015	76.57	1.116	0.532	1.093	76.57	4.005	0.574	2.784	114.855	9.624	1.389	3.94

Speed MPH	HHD NCAT	HHD CAT	HHD DSL	HHD ALL	OBUS NCAT	OBUS CAT	OBUS DSL	OBUS ALL	UBUS NCAT	UBUS CAT	UBUS DSL	UBUS ALL	MCY NCAT	MCY CAT	MCY DSL	MCY ALL	SBUS NCAT	SBUS CAT	SBUS DSL	SBUS ALL	MH NCAT	MH CAT	MH DSL	MH ALL	ALL NCAT	ALL CAT	ALL DSL	ALL ALL
0	0	0	49.119	48.644	150.122	150.435	26.3	68.982	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5.655	3.186	44.288	10.254
5	2379.877	158.347	16.757	18.617	620.902	62.975	8.103	32.555	642.028	33.004	4.156	30.67	0	0	0	0	0	0	0	0	0	0	0	0	245.873	11.418	14.868	13.214
10	1583.359	105.35	12.353	13.579	413.093	41.898	5.587	21.788	427.149	21.958	2.616	20.393	0	0	0	0	0	0	0	0	0	0	0	0	176.925	9.716	10.924	10.782
15	1112.989	74.053	9.011	9.87	290.375	29.451	4.032	15.384	300.255	15.435	1.748	14.327	0	0	0	0	0	0	0	0	0	0	0	0	134.259	8.461	7.965	9.021
20	826.586	54.997	6.858	7.494	215.653	21.873	3.045	11.458	222.991	11.463	1.24	10.636	0	0	0	0	0	0	0	0	0	0	0	0	107.424	7.503	6.059	7.768
25	648.592	43.154	5.819	6.314	169.215	17.163	2.407	9.002	174.973	8.995	0.935	8.342	0	0	0	0	0	0	0	0	0	0	0	0	90.617	6.754	5.125	6.905
30	537.702	35.776	4.941	5.35	140.285	14.228	1.991	7.46	145.058	7.457	0.748	6.914	0	0	0	0	0	0	0	0	0	0	0	0	80.577	6.161	4.346	6.231
35	470.975	31.337	4.223	4.582	122.876	12.463	1.723	6.521	127.057	6.531	0.635	6.054	0	0	0	0	0	0	0	0	0	0	0	0	75.52	5.69	3.717	5.71
40	435.853	29	3.666	4.001	113.712	11.533	1.561	6.013	117.582	6.044	0.573	5.601	0	0	0	0	0	0	0	0	0	0	0	0	74.596	5.322	3.233	5.319
45	426.156	28.355	3.27	3.6	111.183	11.277	1.48	5.849	114.966	5.91	0.549	5.476	0	0	0	0	0	0	0	0	0	0	0	0	77.651	5.046	2.892	5.049
50	440.233	29.291	3.034	3.379	114.855	11.649	1.469	6.002	118.763	6.105	0.558	5.656	0	0	0	0	0	0	0	0	0	0	0	0	85.175	4.86	2.692	4.9

Pollutant Name: Oxides of Nitrogen Temperature: 90F Relative Humidity: 10%

Speed MPH	LDA NCAT	LDA CAT	LDA DSL	LDA ALL	LDT1 NCAT	LDT1 CAT	LDT1 DSL	LDT1 ALL	LDT2 NCAT	LDT2 CAT	LDT2 DSL	LDT2 ALL	MDV NCAT	MDV CAT	MDV DSL	MDV ALL	LHD1 NCAT	LHD1 CAT	LHD1 DSL	LHD1 ALL	LHD2 NCAT	LHD2 CAT	LHD2 DSL	LHD2 ALL	MHD NCAT	MHD CAT	MHD DSL	MHD ALL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.694	1.73	75.051	23.799	1.694	1.714	75.051	34.288	1.694	1.705	75.051	60.768
5	3.623	1.1	2.176	1.113	3.44	1.306	2.21	1.376	3.491	1.156	2.215	1.173	6.227	0.795	2.232	0.811	2.065	0.333	6.764	2.272	2.065	0.95	7.722	3.962	3.097	2.895	13.746	11.635
10	3.81	0.956	1.806	0.971	3.618	1.113	1.833	1.179	3.67	0.991	1.838	1.009	6.548	0.683	1.852	0.7	2.169	0.35	5.612	1.937	2.169	0.998	6.406	3.405	3.254	3.041	11.404	9.778
15	4.001	0.848	1.552	0.863	3.799	0.973	1.576	1.038	3.854	0.869	1.58	0.888	6.876	0.6	1.592	0.618	2.274	0.367	4.824	1.712	2.274	1.046	5.507	3.033	3.411	3.188	9.803	8.517
20	4.195	0.766	1.383	0.783	3.984	0.874	1.404	0.938	4.042	0.78	1.407	0.8	7.21	0.539	1.418	0.557	2.379	0.384	4.297	1.566	2.379	1.094	4.905	2.792	3.568	3.335	8.732	7.683
25	4.393	0.705	1.276	0.723	4.172	0.803	1.296	0.869	4.233	0.715	1.299	0.737	7.551	0.494	1.309	0.513	2.483	0.401	3.966	1.478	2.483	1.142	4.527	2.651	3.725	3.482	8.059	7.169
30	4.595	0.66	1.22	0.68	4.363	0.755	1.239	0.824	4.427	0.669	1.242	0.692	7.897	0.462	1.251	0.481	2.588	0.418	3.792	1.438	2.588	1.19	4.329	2.59	3.882	3.628	7.706	6.914
35	4.799	0.63	1.209	0.65	4.557	0.726	1.227	0.799	4.623	0.639	1.23	0.664	8.248	0.44	1.24	0.461	2.693	0.434	3.757	1.439	2.693	1.239	4.289	2.599	4.039	3.775	7.635	6.886
40	5.005	0.611	1.241	0.633	4.753	0.713	1.26	0.791	4.822	0.623	1.263	0.649	8.602	0.428	1.273	0.449	2.797	0.451	3.857	1.481	2.797	1.287	4.403	2.677	4.196	3.922	7.838	7.078
45	5.213	0.604	1.32	0.626	4.95	0.715	1.34	0.799	5.023	0.619	1.344	0.647	8.96	0.424	1.354	0.447	2.902	0.468	4.103	1.567	2.902	1.335	4.683	2.829	4.353	4.069	8.337	7.509
50	5.423	0.607	1.455	0.631	5.149	0.732	1.477	0.824	5.225	0.629	1.481	0.658	9.32	0.429	1.492	0.453	3.007	0.485	4.522	1.705	3.007	1.383	5.162	3.068	4.51	4.215	9.189	8.223

Speed MPH	HHD NCAT	HHD CAT	HHD DSL	HHD ALL	OBUS NCAT	OBUS CAT	OBUS DSL	OBUS ALL	UBUS NCAT	UBUS CAT	UBUS DSL	UBUS ALL	MCY NCAT	MCY CAT	MCY DSL	MCY ALL	SBUS NCAT	SBUS CAT	SBUS DSL	SBUS ALL	MH NCAT	MH CAT	MH DSL	MH ALL	ALL NCAT	ALL CAT	ALL DSL	ALL ALL
0	0	0	108.534	107.484	1.694	1.699	75.051	49.829	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.064	0.036	99.759	17.153
5	18.462	7.541	39.895	39.584	3.097	3.018	14.124	10.306	3.273	1.741	1.573	1.727	0	0	0	0	0	0	0	0	0	0	0	0	3.702	1.118	34.928	6.935
10	19.398	7.924	27.548	27.361	3.254	3.171	11.718	8.78	3.439	1.829	1.203	1.777	0	0	0	0	0	0	0	0	0	0	0	0	3.892	0.97	24.307	4.991
15	20.334	8.306	19.946	19.836	3.411	3.324	10.073	7.753	3.605	1.917	0.968	1.839	0	0	0	0	0	0	0	0	0	0	0	0	4.086	0.861	17.751	3.776
20	21.27	8.688	17.045	16.967	3.568	3.477	8.972	7.084	3.771	2.006	0.818	1.907	0	0	0	0	0	0	0	0	0	0	0	0	4.285	0.78	15.204	3.274
25	22.206	9.07	16.28	16.213	3.725	3.63	8.281	6.682	3.937	2.094	0.727	1.981	0	0	0	0	0	0	0	0	0	0	0	0	4.486	0.721	14.494	3.105
30	23.142	9.453	15.672	15.614	3.882	3.782	7.918	6.497	4.103	2.182	0.679	2.058	0	0	0	0	0	0	0	0	0	0	0	0	4.691	0.68	13.947	2.978
35	24.078	9.835	15.221	15.172	4.039	3.935	7.845	6.502	4.269	2.27	0.667	2.138	0	0	0	0	0	0	0	0	0	0	0	0	4.898	0.653	13.561	2.891
40	25.013	10.217	14.929	14.887	4.196	4.088	8.054	6.691	4.435	2.359	0.689	2.22	0	0	0	0	0	0	0	0	0	0	0	0	5.108	0.639	13.335	2.841
45	25.949	10.6	14.794	14.757	4.353	4.241	8.567	7.081	4.601	2.447	0.748	2.306	0	0	0	0	0	0	0	0	0	0	0	0	5.319	0.636	13.271	2.829
50	26.885	10.982	14.818	14.784	4.51	4.394	9.442	7.707	4.767	2.535	0.853	2.396	0	0	0	0	0	0	0	0	0	0	0	0	5.531	0.645	13.374	2.855

Pollutant Name: Carbon Dioxide Temperature: 90F Relative Humidity: 10%

Speed MPH	LDA NCAT	LDA CAT	LDA DSL	LDA ALL	LDT1 NCAT	LDT1 CAT	LDT1 DSL	LDT1 ALL	LDT2 NCAT	LDT2 CAT	LDT2 DSL	LDT2 ALL	MDV NCAT	MDV CAT	MDV DSL	MDV ALL	LHD1 NCAT	LHD1 CAT	LHD1 DSL	LHD1 ALL	LHD2 NCAT	LHD2 CAT	LHD2 DSL	LHD2 ALL	MHD NCAT	MHD CAT	MHD DSL	MHD ALL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4776.9	4776.9	4098	4572.558	4776.9	4776.9	4098	4475.357	4776.9	4776.899	4098	4230.208
5	1405.838	1153.379	360.312	1153.16	1365.667	1398.684	347.569	1348.636	1365.662	1417.352	358.452	1414.046	1691.523	1948.458	347.175	1943.191	2513.51	2513.51	520.781	1913.719	2513.51	2513.51	533.103	1633.884	2513.51	2513.51	1505	1701.396
10	1050.615	856.979	360.312	857.007	1026.188	1040.656	347.569	1007.749	1026.187	1053.604	358.452	1051.472	1270.371	1447.647	347.175	1444.025	1672.267	1672.267	520.781	1325.682	1672.267	1672.267	533.103	1166.291	1672.267	1672.268	1505	1537.573
15	823.936	666.45	360.312	666.643	804.806	809.854	347.569	787.964	804.805	819.554	358.452	818.16	996.307	1125.76	347.175	1123.189	1175.484	1175.484	520.781	978.425	1175.484	1175.484	533.103	890.161	1175.485	1175.485	1505	1440.83
20	672.611	540.916	360.312	541.21	656.071	657.469	347.569	642.821	656.07	665.237	358.452	664.313	812.292	913.699	347.175	911.811	873	873	520.781	766.986	873	873	533.103	722.03	873	873	1505	1381.925
25	570.513	457.459	360.312	457.812	555.404	555.987	347.569	546.139	555.403	562.583	358.452	561.962	687.783	772.728	347.175	771.289	685.012	685.012	520.781	635.58	685.012	685.011	533.103	617.539	685.012	685.012	1505	1345.316
30	502.416	402.682	360.312	403.07	488.086	489.263	347.569	482.558	488.084	495.166	358.452	494.737	604.542	680.209	347.175	679.062	567.895	567.895	520.781	553.714	567.895	567.895	533.103	552.441	567.895	567.895	1505	1322.509
35	459.147	368.598	360.312	369.002	445.151	447.647	347.569	442.89	445.148	453.182	358.452	452.867	551.471	622.645	347.175	621.677	497.421	497.421	520.781	504.452	497.421	497.421	533.103	513.269	497.421	497.421	1505	1308.785
40	435.281	350.482	360.312	350.891	421.27	425.428	347.569	421.699	421.267	430.832	358.452	430.571	521.976	592.055	347.175	591.178	460.326	460.326	520.781	478.523	460.327	460.326	533.103	492.651	460.326	460.326	1505	1301.561
45	427.936	345.726	360.312	346.132	413.604	419.463	347.569	415.994	413.601	424.917	358.452	424.663	512.544	584.03	347.175	583.174	450.085	450.085	520.781	471.364	450.085	450.085	533.103	486.958	450.085	450.085	1505	1299.567
50	436.168	353.237	360.312	353.633	421.226	428.455	347.569	424.544	421.223	434.104	358.452	433.815	522.03	596.723	347.175	595.822	464.953	464.953	520.781	481.757	464.953	464.953	533.103	495.223	464.953	464.953	1505	1302.462

Speed MPH	HHD NCAT	HHD CAT	HHD DSL	HHD ALL	OBUS NCAT	OBUS CAT	OBUS DSL	OBUS ALL	UBUS NCAT	UBUS CAT	UBUS DSL	UBUS ALL	MCY NCAT	MCY CAT	MCY DSL	MCY ALL	SBUS NCAT	SBUS CAT	SBUS DSL	SBUS ALL	MH NCAT	MH CAT	MH DSL	MH ALL	ALL NCAT	ALL CAT	ALL DSL	ALL ALL
0	0	0	6617.133	6553.111	4776.9	4776.9	4098	4331.444	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	179.947	100.382	6028.556	1118.338
5	2513.51	2513.51	3845.359	3832.473	2513.51	2513.51	1505	1851.782	2513.51	2513.51	2245.284	2491.261	0	0	0	0	0	0	0	0	0	0	0	0	1444.013	1371.563	3377.77	1716.292
10	1672.267	1672.267	3165.446	3150.999	1672.267	1672.267	1505	1562.516	1672.267	1672.267	2245.284	1719.799	0	0	0	0	0	0	0	0	0	0	0	0	1073.452	1014.945	2805.545	1322.595
15	1175.484	1175.484	2595.958	2582.214	1175.484	1175.484	1505	1391.694	1175.484	1175.484	2245.284	1264.224	0	0	0	0	0	0	0	0	0	0	0	0	835.886	786.564	2326.256	1051.099
20	873	873	2183.16	2170.484	873	873	1505	1287.683	873	873	2245.284	986.831	0	0	0	0	0	0	0	0	0	0	0	0	678.004	636.586	1978.841	867.191
25	685.012	685.012	2042.684	2029.548	685.012	685.012	1505	1223.042	685.012	685.012	2245.284	814.436	0	0	0	0	0	0	0	0	0	0	0	0	571.999	537.138	1860.614	764.487
30	567.895	567.895	1924.234	1911.111	567.895	567.895	1505	1182.77	567.895	567.895	2245.284	707.034	0	0	0	0	0	0	0	0	0	0	0	0	501.554	471.983	1760.925	693.377
35	497.421	497.421	1827.808	1814.936	497.421	497.421	1505	1158.537	497.421	497.421	2245.284	642.405	0	0	0	0	0	0	0	0	0	0	0	0	456.869	431.473	1679.772	645.869
40	460.326	460.326	1753.406	1740.896	460.326	460.326	1505	1145.782	460.326	460.326	2245.284	608.388	0	0	0	0	0	0	0	0	0	0	0	0	432.181	409.927	1617.154	617.257
45	450.085	450.085	1701.031	1688.927	450.085	450.085	1505	1142.261	450.085	450.085	2245.284	598.996	0	0	0	0	0	0	0	0	0	0	0	0	424.444	404.229	1573.074	604.96
50	464.953	464.953	1670.679	1659.013	464.953	464.953	1505	1147.373	464.953	464.953	2245.284	612.631	0	0	0	0	0	0	0	0	0	0	0	0	432.68	413.099	1547.53	607.92

Pollutant Name: Sulfur Dioxide Temperature: 90F Relative Humidity: 10%

Speed MPH	LDA NCAT	LDA CAT	LDA DSL	LDA ALL	LDT1 NCAT	LDT1 CAT	LDT1 DSL	LDT1 ALL	LDT2 NCAT	LDT2 CAT	LDT2 DSL	LDT2 ALL	MDV NCAT	MDV CAT	MDV DSL	MDV ALL	LHD1 NCAT	LHD1 CAT	LHD1 DSL	LHD1 ALL	LHD2 NCAT	LHD2 CAT	LHD2 DSL	LHD2 ALL	MHD NCAT	MHD CAT	MHD DSL	MHD ALL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.049	0.049	0.039	0.046	0.049	0.049	0.039	0.045	0.049	0.049	0.039	0.041
5	0.018	0.011	0.003	0.011	0.017	0.014	0.003	0.013	0.017	0.014	0.003	0.014	0.023	0.019	0.003	0.019	0.031	0.024	0.005	0.018	0.031	0.025	0.005	0.016	0.034	0.025	0.014	0.017
10	0.013	0.008	0.003	0.008	0.012	0.01	0.003	0.01	0.012	0.01	0.003	0.01	0.017	0.014	0.003	0.014	0.021	0.016	0.005	0.013	0.021	0.016	0.005	0.011	0.023	0.017	0.014	0.015
15	0.01	0.007	0.003	0.007	0.01	0.008	0.003	0.008	0.01	0.008	0.003	0.008	0.013	0.011	0.003	0.011	0.014	0.011	0.005	0.009	0.014	0.011	0.005	0.009	0.016	0.012	0.014	0.014
20	0.008	0.005	0.003	0.005	0.008	0.006	0.003	0.006	0.008	0.006	0.003	0.006	0.011	0.009	0.003	0.009	0.011	0.008	0.005	0.007	0.011	0.009	0.005	0.007	0.012	0.009	0.014	0.013
25	0.007	0.005	0.003	0.005	0.007	0.005	0.003	0.005	0.007	0.005	0.003	0.005	0.009	0.007	0.003	0.007	0.008	0.007	0.005	0.006	0.008	0.007	0.005	0.006	0.009	0.007	0.014	0.013
30	0.006	0.004	0.003	0.004	0.006	0.005	0.003	0.005	0.006	0.005	0.003	0.005	0.008	0.007	0.003	0.007	0.007	0.005	0.005	0.005	0.007	0.006	0.005	0.005	0.008	0.006	0.014	0.013
35	0.006	0.004	0.003	0.004	0.005	0.004	0.003	0.004	0.005	0.004	0.003	0.004	0.007	0.006	0.003	0.006	0.006	0.005	0.005	0.005	0.006	0.005	0.005	0.005	0.007	0.005	0.014	0.013
40	0.005	0.003	0.003	0.003	0.005	0.004	0.003	0.004	0.005	0.004	0.003	0.004	0.007	0.006	0.003	0.006	0.006	0.004	0.005	0.005	0.006	0.004	0.005	0.005	0.006	0.005	0.014	0.012
45	0.005	0.003	0.003	0.003	0.005	0.004	0.003	0.004	0.005	0.004	0.003	0.004	0.007	0.006	0.003	0.006	0.006	0.004	0.005	0.005	0.006	0.004	0.005	0.005	0.006	0.004	0.014	0.012
50	0.006	0.003	0.003	0.003	0.005	0.004	0.003	0.004	0.005	0.004	0.003	0.004	0.007	0.006	0.003	0.006	0.006	0.004	0.005	0.005	0.006	0.005	0.005	0.005	0.006	0.005	0.014	0.012

Speed MPH	HHD NCAT	HHD CAT	HHD DSL	HHD ALL	OBUS NCAT	OBUS CAT	OBUS DSL	OBUS ALL	UBUS NCAT	UBUS CAT	UBUS DSL	UBUS ALL	MCY NCAT	MCY CAT	MCY DSL	MCY ALL	SBUS NCAT	SBUS CAT	SBUS DSL	SBUS ALL	MH NCAT	MH CAT	MH DSL	MH ALL	ALL NCAT	ALL CAT	ALL DSL	ALL ALL
0	0	0	0.063	0.063	0.049	0.049	0.039	0.042	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.002	0.001	0.058	0.011
5	0.063	0.027	0.037	0.037	0.034	0.025	0.014	0.018	0.035	0.025	0.021	0.025	0	0	0	0	0	0	0	0	0	0	0	0	0.018	0.013	0.032	0.017
10	0.042	0.018	0.03	0.03	0.023	0.017	0.014	0.015	0.023	0.017	0.021	0.017	0	0	0	0	0	0	0	0	0	0	0	0	0.013	0.01	0.027	0.013
15	0.029	0.013	0.025	0.025	0.016	0.012	0.014	0.014	0.016	0.012	0.021	0.012	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0.008	0.022	0.01
20	0.022	0.009	0.021	0.021	0.012	0.009	0.014	0.012	0.012	0.009	0.021	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.006	0.019	0.008
25	0.017	0.007	0.02	0.019	0.009	0.007	0.014	0.012	0.009	0.007	0.021	0.008	0	0	0	0	0	0	0	0	0	0	0	0	0.007	0.005	0.018	0.007
30	0.014	0.006	0.018	0.018	0.008	0.006	0.014	0.011	0.008	0.006	0.021	0.007	0	0	0	0	0	0	0	0	0	0	0	0	0.006	0.005	0.017	0.007
35	0.012	0.005	0.017	0.017	0.007	0.005	0.014	0.011	0.007	0.005	0.021	0.006	0	0	0	0	0	0	0	0	0	0	0	0	0.006	0.004	0.016	0.006
40	0.011	0.005	0.017	0.017	0.006	0.005	0.014	0.011	0.006	0.005	0.021	0.006	0	0	0	0	0	0	0	0	0	0	0	0	0.005	0.004	0.015	0.006
45	0.011	0.005	0.016	0.016	0.006	0.005	0.014	0.011	0.006	0.004	0.021	0.006	0	0	0	0	0	0	0	0	0	0	0	0	0.005	0.004	0.015	0.006
50	0.011	0.005	0.016	0.016	0.006	0.005	0.014	0.011	0.006	0.005	0.021	0.006	0	0	0	0	0	0	0	0	0	0	0	0	0.006	0.004	0.015	0.006

Pollutant Name: PM10 Temperature: 90F Relative Humidity: 10%

Speed MPH	LDA NCAT	LDA CAT	LDA DSL	LDA ALL	LDT1 NCAT	LDT1 CAT	LDT1 DSL	LDT1 ALL	LDT2 NCAT	LDT2 CAT	LDT2 DSL	LDT2 ALL	MDV NCAT	MDV CAT	MDV DSL	MDV ALL	LHD1 NCAT	LHD1 CAT	LHD1 DSL	LHD1 ALL	LHD2 NCAT	LHD2 CAT	LHD2 DSL	LHD2 ALL	MHD NCAT	MHD CAT	MHD DSL	MHD ALL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.784	0.236	0	0	1.008	0.448	0	0	1.185	0.955
5	0.104	0.056	0.368	0.057	0.099	0.073	0.154	0.077	0.106	0.124	0.338	0.125	0.107	0.093	0.134	0.093	0.101	0.026	0.108	0.051	0.101	0.042	0.134	0.083	0.101	0.06	0.764	0.628
10	0.074	0.037	0.289	0.037	0.071	0.049	0.121	0.052	0.076	0.082	0.265	0.082	0.076	0.06	0.105	0.06	0.066	0.017	0.084	0.038	0.066	0.028	0.105	0.062	0.066	0.039	0.6	0.491
15	0.055	0.025	0.232	0.026	0.053	0.034	0.097	0.037	0.056	0.056	0.213	0.057	0.057	0.041	0.085	0.042	0.045	0.012	0.068	0.029	0.045	0.019	0.084	0.048	0.045	0.027	0.482	0.393
20	0.043	0.018	0.19	0.019	0.041	0.025	0.079	0.028	0.044	0.041	0.175	0.041	0.044	0.03	0.069	0.03	0.032	0.008	0.056	0.023	0.032	0.013	0.069	0.038	0.032	0.019	0.395	0.322
25	0.035	0.014	0.159	0.014	0.033	0.019	0.067	0.022	0.036	0.031	0.146	0.032	0.036	0.023	0.058	0.023	0.024	0.006	0.047	0.018	0.024	0.01	0.058	0.031	0.024	0.014	0.331	0.27
30	0.03	0.011	0.137	0.012	0.029	0.016	0.057	0.018	0.031	0.025	0.126	0.026	0.031	0.018	0.05	0.018	0.019	0.005	0.04	0.015	0.019	0.008	0.05	0.026	0.019	0.011	0.284	0.231
35	0.027	0.01	0.12	0.01	0.026	0.013	0.05	0.015	0.027	0.021	0.11	0.022	0.028	0.016	0.044	0.016	0.015	0.004	0.035	0.013	0.015	0.006	0.044	0.023	0.015	0.009	0.249	0.202
40	0.025	0.008	0.107	0.009	0.024	0.012	0.045	0.014	0.026	0.019	0.099	0.019	0.026	0.014	0.039	0.014	0.013	0.003	0.031	0.012	0.013	0.005	0.039	0.02	0.013	0.007	0.223	0.181
45	0.024	0.008	0.098	0.008	0.023	0.011	0.041	0.013	0.025	0.018	0.09	0.018	0.025	0.013	0.036	0.013	0.011	0.003	0.029	0.011	0.011	0.005	0.036	0.018	0.011	0.006	0.204	0.166
50	0.025	0.008	0.092	0.008	0.024	0.011	0.038	0.012	0.026	0.018	0.084	0.018	0.026	0.013	0.034	0.013	0.01	0.003	0.027	0.01	0.01	0.004	0.034	0.017	0.01	0.006	0.191	0.155

Speed MPH	HHD NCAT	HHD CAT	HHD DSL	HHD ALL	OBUS NCAT	OBUS CAT	OBUS DSL	OBUS ALL	UBUS NCAT	UBUS CAT	UBUS DSL	UBUS ALL	MCY NCAT	MCY CAT	MCY DSL	MCY ALL	SBUS NCAT	SBUS CAT	SBUS DSL	SBUS ALL	MH NCAT	MH CAT	MH DSL	MH ALL	ALL NCAT	ALL CAT	ALL DSL	ALL ALL
0	0	0	1.947	1.928	0	0	1.397	0.916	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.759	0.302
5	0.101	0.083	2.392	2.37	0.101	0.063	0.836	0.571	0.101	0.098	0.108	0.099	0	0	0	0	0	0	0	0	0	0	0	0	0.103	0.078	2.079	0.422
10	0.066	0.054	1.633	1.618	0.066	0.041	0.657	0.445	0.066	0.064	0.078	0.065	0	0	0	0	0	0	0	0	0	0	0	0	0.073	0.051	1.426	0.287
15	0.045	0.037	1.078	1.068	0.045	0.028	0.527	0.356	0.045	0.044	0.059	0.045	0	0	0	0	0	0	0	0	0	0	0	0	0.054	0.035	0.949	0.192
20	0.032	0.026	0.759	0.752	0.032	0.02	0.432	0.291	0.032	0.031	0.046	0.032	0	0	0	0	0	0	0	0	0	0	0	0	0.042	0.026	0.673	0.137
25	0.024	0.02	0.64	0.634	0.024	0.015	0.363	0.243	0.024	0.023	0.037	0.024	0	0	0	0	0	0	0	0	0	0	0	0	0.034	0.02	0.567	0.114
30	0.019	0.015	0.552	0.547	0.019	0.012	0.311	0.208	0.019	0.018	0.031	0.019	0	0	0	0	0	0	0	0	0	0	0	0	0.029	0.016	0.489	0.097
35	0.015	0.012	0.493	0.489	0.015	0.009	0.272	0.182	0.015	0.014	0.027	0.015	0	0	0	0	0	0	0	0	0	0	0	0	0.026	0.013	0.437	0.086
40	0.013	0.01	0.465	0.46	0.013	0.008	0.244	0.163	0.013	0.012	0.024	0.013	0	0	0	0	0	0	0	0	0	0	0	0	0.024	0.012	0.41	0.08
45	0.011	0.009	0.466	0.462	0.011	0.007	0.223	0.149	0.011	0.011	0.022	0.012	0	0	0	0	0	0	0	0	0	0	0	0	0.024	0.011	0.41	0.08
50	0.01	0.008	0.498	0.493	0.01	0.006	0.209	0.139	0.01	0.01	0.021	0.011	0	0	0	0	0	0	0	0	0	0	0	0	0.024	0.011	0.436	0.084

Pollutant Name: PM10 - Tire Wear Temperature: 90F Relative Humidity: 10%

Speed MPH	LDA NCAT	LDA CAT	LDA DSL	LDA ALL	LDT1 NCAT	LDT1 CAT	LDT1 DSL	LDT1 ALL	LDT2 NCAT	LDT2 CAT	LDT2 DSL	LDT2 ALL	MDV NCAT	MDV CAT	MDV DSL	MDV ALL	LHD1 NCAT	LHD1 CAT	LHD1 DSL	LHD1 ALL	LHD2 NCAT	LHD2 CAT	LHD2 DSL	LHD2 ALL	MHD NCAT	MHD CAT	MHD DSL	MHD ALL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012
10	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012
15	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012
20	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012
25	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012
30	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012
35	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012
40	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012

Speed MPH	HHD NCAT	HHD CAT	HHD DSL	HHD ALL	OBUS NCAT	OBUS CAT	OBUS DSL	OBUS ALL	UBUS NCAT	UBUS CAT	UBUS DSL	UBUS ALL	MCY NCAT	MCY CAT	MCY DSL	MCY ALL	SBUS NCAT	SBUS CAT	SBUS DSL	SBUS ALL	MH NCAT	MH CAT	MH DSL	MH ALL	ALL NCAT	ALL CAT	ALL DSL	ALL ALL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0.012	0.012	0.036	0.036	0.012	0.012	0.012	0.012	0.012	0.012	0.008	0.012	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.008	0.032	0.012
10	0.012	0.012	0.036	0.036	0.012	0.012	0.012	0.012	0.012	0.012	0.008	0.012	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.008	0.032	0.012
15	0.012	0.012	0.036	0.036	0.012	0.012	0.012	0.012	0.012	0.012	0.008	0.012	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.008	0.032	0.012
20	0.012	0.012	0.036	0.036	0.012	0.012	0.012	0.012	0.012	0.012	0.008	0.012	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.008	0.032	0.012
25	0.012	0.012	0.036	0.036	0.012	0.012	0.012	0.012	0.012	0.012	0.008	0.012	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.008	0.032	0.012
30	0.012	0.012	0.036	0.036	0.012	0.012	0.012	0.012	0.012	0.012	0.008	0.012	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.008	0.032	0.012
35	0.012	0.012	0.036	0.036	0.012	0.012	0.012	0.012	0.012	0.012	0.008	0.012	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.008	0.032	0.012
40	0.012	0.012	0.036	0.036	0.012	0.012	0.012	0.012	0.012	0.012	0.008	0.012	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.008	0.032	0.012

45	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.036	0.036	0.012	0.012	0.012	0.012	0.012	0.012	0.008	0.012	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.008	0.032	0.012
50	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.036	0.036	0.012	0.012	0.012	0.012	0.012	0.012	0.008	0.012	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.008	0.032	0.012

Pollutant Name: PM10 - Break Wear Temperature: 90F Relative Humidity: 10%

Speed MPH	LDA NCAT	LDA CAT	LDA DSL	LDA ALL	LDT1 NCAT	LDT1 CAT	LDT1 DSL	LDT1 ALL	LDT2 NCAT	LDT2 CAT	LDT2 DSL	LDT2 ALL	MDV NCAT	MDV CAT	MDV DSL	MDV ALL	LHD1 NCAT	LHD1 CAT	LHD1 DSL	LHD1 ALL	LHD2 NCAT	LHD2 CAT	LHD2 DSL	LHD2 ALL	MHD NCAT	MHD CAT	MHD DSL	MHD ALL	HHD NCAT	HHD CAT	HHD DSL	HHD ALL	OBUS NCAT	OBUS CAT	OBUS DSL	OBUS ALL	UBUS NCAT	UBUS CAT	UBUS DSL	UBUS ALL	MCY NCAT	MCY CAT	MCY DSL	MCY ALL	SBUS NCAT	SBUS CAT	SBUS DSL	SBUS ALL	MH NCAT	MH CAT	MH DSL	MH ALL	ALL NCAT	ALL CAT	ALL DSL	ALL ALL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.028	0.028	0.028	0.028	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0	0	0	0	0	0	0	0	0	0	0	0	0.013	0.013	0.026	0.015
10	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.028	0.028	0.028	0.028	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0	0	0	0	0	0	0	0	0	0	0	0	0.013	0.013	0.026	0.015
15	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.028	0.028	0.028	0.028	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0	0	0	0	0	0	0	0	0	0	0	0	0.013	0.013	0.026	0.015
20	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.028	0.028	0.028	0.028	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0	0	0	0	0	0	0	0	0	0	0	0	0.013	0.013	0.026	0.015
25	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.028	0.028	0.028	0.028	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0	0	0	0	0	0	0	0	0	0	0	0	0.013	0.013	0.026	0.015
30	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.028	0.028	0.028	0.028	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0	0	0	0	0	0	0	0	0	0	0	0	0.013	0.013	0.026	0.015
35	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.028	0.028	0.028	0.028	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0	0	0	0	0	0	0	0	0	0	0	0	0.013	0.013	0.026	0.015
40	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.028	0.028	0.028	0.028	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0	0	0	0	0	0	0	0	0	0	0	0	0.013	0.013	0.026	0.015
45	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.028	0.028	0.028	0.028	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0	0	0	0	0	0	0	0	0	0	0	0	0.013	0.013	0.026	0.015
50	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.028	0.028	0.028	0.028	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0	0	0	0	0	0	0	0	0	0	0	0	0.013	0.013	0.026	0.015

Pollutant Name: Gasoline - mi/gal Temperature: 90F Relative Humidity: 10%

Speed MPH	LDA NCAT	LDA CAT	LDA DSL	LDA ALL	LDT1 NCAT	LDT1 CAT	LDT1 DSL	LDT1 ALL	LDT2 NCAT	LDT2 CAT	LDT2 DSL	LDT2 ALL	MDV NCAT	MDV CAT	MDV DSL	MDV ALL	LHD1 NCAT	LHD1 CAT	LHD1 DSL	LHD1 ALL	LHD2 NCAT	LHD2 CAT	LHD2 DSL	LHD2 ALL	MHD NCAT	MHD CAT	MHD DSL	MHD ALL	HHD NCAT	HHD CAT	HHD DSL	HHD ALL	OBUS NCAT	OBUS CAT	OBUS DSL	OBUS ALL	UBUS NCAT	UBUS CAT	UBUS DSL	UBUS ALL	MCY NCAT	MCY CAT	MCY DSL	MCY ALL	SBUS NCAT	SBUS CAT	SBUS DSL	SBUS ALL	MH NCAT	MH CAT	MH DSL	MH ALL	ALL NCAT	ALL CAT	ALL DSL	ALL ALL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	4.803	7.54	0	7.527	5.119	6.203	0	6.188	5.114	6.174	0	6.167	3.736	4.522	0	4.52	2.742	3.509	0	3.507	2.742	3.468	0	3.463	2.468	3.395	0	3.352	1.356	3.159	0	3.118	2.468	3.369	0	3.343	2.441	3.409	0	3.408	0	0	0	0	0	0	0	0	0	0	0	0	4.827	6.589	0	6.578
10	6.47	10.126	0	10.109	6.861	8.32	0	8.3	6.855	8.292	0	8.284	5.021	6.082	0	6.079	4.123	5.275	0	5.271	4.123	5.213	0	5.205	3.711	5.104	0	5.039	2.039	4.75	0	4.688	3.711	5.065	0	5.025	3.671	5.124	0	5.124	0	0	0	0	0	0	0	0	0	0	0	0	6.499	8.862	0	8.847
15	8.299	12.994	0	12.972	8.795	10.671	0	10.645	8.787	10.645	0	10.635	6.447	7.815	0	7.812	5.868	7.504	0	7.499	5.868	7.417	0	7.406	5.283	7.262	0	7.17	2.905	6.76	0	6.672	5.283	7.207	0	7.151	5.227	7.293	0	7.292	0	0	0	0	0	0	0	0	0	0	0	0	8.356	11.389	0	11.371
20	10.201	15.98	0	15.954	10.819	13.122	0	13.092	10.809	13.099	0	13.085	7.935	9.622	0	9.618	7.908	10.105	0	10.098	7.908	9.989	0	9.973	7.122	9.78	0	9.657	3.918	9.108	0	8.989	7.122	9.706	0	9.631	7.046	9.825	0	9.824	0	0	0	0	0	0	0	0	0	0	0	0	10.302	14.03	0	14.006
25	12.032	18.87	0	18.838	12.781	15.499	0	15.462	12.769	15.474	0	15.459	9.369	11.372	0	11.368	10.089	12.878	0	12.87	10.089	12.732	0	12.712	9.089	12.467	0	12.311	5.004	11.616	0	11.465	9.089	12.374	0	12.278	8.993	12.529	0	12.529	0	0	0	0	0	0	0	0	0	0	0	0	12.192	16.591	0	16.564
30	13.627	21.421	0	21.384	14.506	17.6	0	17.558	14.492	17.572	0	17.554	10.616	12.916	0	12.91	12.185	15.535	0	15.525	12.185	15.36	0	15.336	10.982	15.043	0	14.855	6.051	14.024	0	13.842	10.982	14.932	0	14.817	10.867	15.124	0	15.124	0	0	0	0	0	0	0	0	0	0	0	0	13.855	18.857	0	18.826
35	14.823	23.399	0	23.359	15.818	19.232	0	19.186	15.802	19.198	0	19.178	11.544	14.109	0	14.103	13.93	17.737	0	17.726	13.93	17.539	0	17.512	12.56	17.181	0	16.967	6.928	16.026	0	15.818	12.56	17.054	0	16.924	12.43	17.282	0	17.282	0	0	0	0	0	0	0	0	0	0	0	0	15.118	20.618	0	20.584
40	15.487	24.623	0	24.58	16.57	20.244	0	20.195	16.554	20.201	0	20.18	12.046	14.841	0	14.834	15.074	19.167	0	19.155	15.074	18.956	0	18.927	13.599	18.572	0	18.342	7.508	17.336	0	17.111	13.599	18.437	0	18.296	13.459	18.692	0	18.691	0	0	0	0	0	0	0	0	0	0	0	0	15.839	21.708	0	21.672
45	15.541	24.99	0	24.946	16.673	20.549	0	20.496	16.655	20.497	0	20.474	12.058	15.051	0	15.044	15.44	19.604	0	19.592	15.44	19.391	0	19.362	13.936	19.002	0	18.768	7.703	17.749	0	17.52	13.936	18.866	0	18.722	13.794	19.135	0	19.134	0	0	0	0	0	0	0	0	0	0	0	0	15.93	22.033	0	21.995
50	14.973	24.497	0	24.453	16.108	20.14	0	20.085	16.09	20.082	0	20.059	11.573	14.738	0	14.731	14.969	18.979	0	18.967	14.969	18.775	0	18.747	13.518	18.402	0	18.176	7.48	17.2	0	16.978	13.518	18.271	0	18.133	13.381	18.54	0	18.54	0	0	0	0	0	0	0	0	0	0	0	0	15.374	21.589	0	21.55

Pollutant Name: Diesel - mi/gal Temperature: 90F Relative Humidity: 10%

Speed MPH	LDA NCAT	LDA CAT	LDA DSL	LDA ALL	LDT1 NCAT	LDT1 CAT	LDT1 DSL	LDT1 ALL	LDT2 NCAT	LDT2 CAT	LDT2 DSL	LDT2 ALL	MDV NCAT	MDV CAT	MDV DSL	MDV ALL	LHD1 NCAT	LHD1 CAT	LHD1 DSL	LHD1 ALL	LHD2 NCAT	LHD2 CAT	LHD2 DSL	LHD2 ALL	MHD NCAT	MHD CAT	MHD DSL	MHD ALL	HHD NCAT	HHD CAT	HHD DSL	HHD ALL	OBUS NCAT	OBUS CAT	OBUS DSL	OBUS ALL	UBUS NCAT	UBUS CAT	UBUS DSL	UBUS ALL	MCY NCAT	MCY CAT	MCY DSL	MCY ALL	SBUS NCAT	SBUS CAT	SBUS DSL	SBUS ALL	MH NCAT	MH CAT	MH DSL	MH ALL	ALL NCAT	ALL CAT	ALL DSL	ALL ALL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	27.975	27.975	0	0	29.001	29.001	0	0	28.12	28.12	0	0	29.034	29.034	0	0	19.355	19.355	0	0	18.908	18.908	0	0	6.698	6.698	0	0	2.621	2.621	0	0	6.698	6.698	0	0	4.489	4.489	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4.845	4.845
10	0	0	27.975	27.975	0	0	29.001	29.001	0	0	28.12	28.12	0	0	29.034	29.034	0	0	19.355	19.355	0	0	18.908	18.908	0	0	6.698	6.698	0	0	3.184	3.184	0	0	6.698	6.698	0	0	4.489	4.489	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5.319	5.319
15	0	0	27.975	27.975	0	0	29.001	29.001	0	0	28.12	28.12	0	0	29.034	29.034	0	0	19.355	19.355	0	0	18.908	18.908	0	0	6.698	6.698	0	0	3.883	3.883	0	0	6.698	6.698	0	0	4.489	4.489	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5.907	5.907
20	0	0	27.975	27.975	0	0	29.001	29.001	0	0	28.12	28.12	0	0	29.034	29.034	0	0	19.355	19.355	0	0	18.908	18.908	0	0	6.698	6.698	0	0	4.617	4.617	0	0	6.698	6.698	0	0	4.489	4.489	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6.525	6.525
25	0	0	27.975	27.975	0	0	29.001	29.001	0	0	28.12	28.12	0	0	29.034	29.034	0	0	19.355	19.355	0	0	18.908	18.908	0	0	6.698	6.698	0	0	4.935	4.935	0	0	6.698	6.698	0	0	4.489	4.489	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6.792	6.792
30	0	0	27.975	27.975	0	0	29.001	29.001	0	0	28.12	28.12	0	0	29.034	29.034	0	0	19.355	19.355	0	0	18.908	18.908	0	0	6.698	6.698	0	0	5.238	5.238	0	0	6.698	6.698	0	0	4.489	4.489	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7.048	7.048
35	0	0	27.975	27.975	0	0	29.001	29.001	0	0	28.12	28.12	0	0	29.034	29.034	0	0	19.355	19.355	0	0	18.908	18.908	0	0	6.698	6.698	0	0	5.515	5.515	0	0	6.698	6.698	0	0	4.489	4.489	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7.28	7.28
40	0	0	27.975	27.975	0	0	29.001	29.001	0	0	28.12	28.12	0	0	29.034	29.034	0	0	19.355	19.355	0	0	18.908	18.908	0	0	6.698	6.698	0	0	5.749	5.749	0	0	6.698	6.698	0	0	4.489	4.489	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7.477	7.477
45	0	0	27.975	27.975	0	0	29.001	29.001	0	0	28.12	28.12	0	0	29.034	29.034	0	0	19.355	19.355	0	0	18.908	18.908	0	0	6.698	6.698	0	0	5.926	5.926	0	0	6.698	6.698	0	0	4.489	4.489	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7.626	7.626
50	0	0	27.975	27.975	0	0	29.001	29.001	0	0	28.12	28.12	0	0	29.034	29.034	0	0	19.355	19.355	0	0	18.908	18.908	0	0	6.698	6.698	0	0	6.033	6.033	0	0	6.698	6.698	0	0	4.489	4.489	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7.717	7.717

For on-site activity (mean vehicle speed = 10 mph, Temperature: 90F, Relative Humidity: 10%)

	Emission Factors (g/mile)									
	PM_{10}	**$PM_{2.5}$**	**CO**	**ROG**	**NO_x**	**SO_x**	**CO_2**	**CH_4**	**N_2O**	Assumptions for CH_4 and N_2O from Reference sources TAB
LDA-ALL	0.0580	0.0418	10.3680	0.9730	0.9710	0.0080	857.0070	0.05	0.06	Passenger Cars - Gasoline - Model Year 2000 - Present
LHD1-DSL	0.1090	0.0859	2.0220	0.3170	5.6120	0.0050	520.7810	0.01	0.03	Light Duty Truck - Diesel all model years
HHD-DSL	1.6970	1.5234	12.3530	5.7800	27.5480	0.0300	3165.4460	0.06	0.05	Heavy Duty Trucks - Diesel and Alternative Fuels - Model Year 1996 - Present
OBUS-CAT	0.0660	0.0463	41.8980	3.5650	3.1710	0.0170	1672.2670	0.12	0.20	Other Bus - Gasoline (with catalyst) - Model Year 1996 - Present

For off-site activity (mean vehicle speed = 50 mph, Temperature: 90F, Relative Humidity: 10%)

	Emission Factors (g/mile)									
	PM_{10}	**$PM_{2.5}$**	**CO**	**ROG**	**NO_x**	**SO_x**	**CO_2**	**CH_4**	**N_2O**	Assumptions for CH_4 and N_2O from Reference sources TAB
LDA-ALL	0.0290	0.0150	5.3480	0.2140	0.6310	0.0030	353.6330	0.05	0.06	Passenger Cars - Gasoline - Model Year 2000 - Present
LHD1-DSL	0.0520	0.0334	0.5320	0.1010	4.5220	0.0050	520.7810	0.01	0.03	Light Duty Truck - Diesel all model years
HHD-DSL	0.5620	0.4792	3.0340	0.6580	14.8180	0.0160	1670.6790	0.06	0.05	Heavy Duty Trucks - Diesel and Alternative Fuels - Model Year 1996 - Present
OBUS-CAT	0.0310	0.0141	11.6490	0.4930	4.3940	0.0050	464.9530	0.12	0.20	Other Bus - Gasoline (with catalyst) - Model Year 1996 - Present

Note:

$PM_{2.5}$ emission factors determined using guidance from SCAQMD
Final - Methodology to Calculate $PM_{2.5}$ and $PM_{2.5}$ Significance Thresholds
10/1/2006, Appendix A - Updated CEIDARS Table with $PM_{2.5}$ Fractions

On-road vehicles

- $PM_{2.5}$ Fraction of PM_{10}, Brake wear: 0.429
- $PM_{2.5}$ Fraction of PM_{10}, Diesel: 0.920
- $PM_{2.5}$ Fraction of PM_{10}, Gasoline-catalyst: 0.928
- $PM_{2.5}$ Fraction of PM_{10}, Tire wear: 0.250

Reference source 1: Table C.5, California Climate Action Registry General Reporting Protocol Version 3

Table C.5: Methane and Nitrous Oxide Emission Factors for Mobile Sources by Vehicle and Fuel Type

Vehicle Types/Model Years	CH_4 (g/mile)	N_2O (g/mile)
Passenger Cars - Gasoline		
Model Year 1966-1972	0.22	0.02
Model Year 1973-1974	0.19	0.02
Model Year 1975-1979	0.11	0.05
Model Year 1980-1983	0.07	0.08
Model Year 1984-1991	0.06	0.08
Model Year 1992	0.06	0.07
Model Year 1993	0.05	0.05
Model Year 1994-1999	0.05	0.04
Model Year 2000– present	0.04	0.04
Passenger Cars - Alternative Fuels and Diesel		
CNG Model Year 2000– present	0.04	0.04
LPG Model Year 2000– present	0.04	0.04
E85 Model Year 2000– present	0.04	0.04
Diesel all model years	0.01	0.02
Light Duty Truck (<5750 GVWR*) - Gasoline		
Model Year 1966-1972	0.22	0.02
Model Year 1973-1974	0.23	0.02
Model Year 1975-1979	0.14	0.07
Model Year 1980-1983	0.12	0.13
Model Year 1984-1991	0.11	0.14
Model Year 1992	0.09	0.11
Model Year 1993	0.07	0.08
Model Year 1994-1999	0.06	0.06
Model Year 2000– present	0.05	0.06

Table C.5: Methane and Nitrous Oxide Emission Factors for Mobile Sources by Vehicle and Fuel Type (continued)

Vehicle Types/Model Years	CH_4 (g/mile)	N_2O (g/mile)
Light Duty Truck - Alternative Fuels and Diesel		
CNG Model Year 2000– present	0.05	0.06
LPG Model Year 2000– present	0.05	0.06
E85 Model Year 2000– present	0.05	0.06
Diesel all model years	0.01	0.03
Heavy-Duty Vehicle (>5751 GVWR) - Gasoline		
Model Year 1981 and older	0.43	0.04
Model Year 1982-1984	0.42	0.05
Model Year 1985-1986	0.20	0.05
Model Year 1987	0.18	0.09
Model Year 1988-1989	0.17	0.09
Model Year 1990-present	0.12	0.20
Heavy Duty Trucks - Diesel and Alternative Fuels		
Model Year 1966-1982	0.10	0.05
Model Year 1983-1995	0.08	0.05
Model Year 1996 to present	0.06	0.05
CNG, LNG	3.48	0.05
FTD, Biodiesel	0.06	0.05
Motorcycles		
Model Year 1966-1995	0.42	0.01
Model Year 1996-present	0.09	0.01
Off-Road Vehicles/Construction Equipment by Fuel Type		
	CH_4 (kg/gallon)	N_2O (kg/gallon)
Butane	9.1×10^{-5}	4.1×10^{-4}
Distillate Fuel	.0014	.0001
Liquefied Petroleum Gas (LPG)	.0010	.0001
Motor Gasoline	.0013	.0001
Propane	9.1×10^{-5}	4.1×10^{-4}

Table 5.2-27c New

Estimated Maximum Annual Construction and Operations Overlapping Emissions for Months 11-22 (tons/year)

CONSTRUCTION						
Activity	**PM_{10}**	**$PM_{2.5}$**	**CO**	**ROC**	**NO_x**	**SO_x**
On-Site Construction Emissions						
On-Site Combustion Emissions						
Construction Equipment	1.16	1.07	21.88	3.48	19.46	0.02
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.18	0.16	2.53	0.70	2.91	0.004
Worker Vehicles	0.002	0.001	0.338	0.032	0.032	0.0003
Security Vehicles	0.001	0.001	0.137	0.004	0.002	0.001
Suncatcher Delivery Trucks	0.112	0.100	0.814	0.381	1.816	0.002
Subtotal of On-site Combustion Emissions	**1.45**	**1.33**	**25.70**	**4.60**	**24.22**	**0.02**
On-Site Fugitive Dust Emissions						
Construction Equipment	3.57	0.65				
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	17.81	2.38				
Worker Vehicles	0.29	0.04				
Security Vehicles	0.70	0.10				
Suncatcher Delivery Trucks	7.70	1.15				
Subtotal of On-Site Fugitive Dust Emissions	**30.09**	**4.31**				
Subtotal of On-Site Emissions	**31.54**	**5.64**	**25.70**	**4.60**	**24.22**	**0.02**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.00	0.00	0.65	0.06	0.05	0.00
Worker Vehicles	0.25	0.18	45.05	4.23	4.22	0.03
Suncatcher Delivery Trucks	2.58	2.31	18.76	8.78	41.83	0.05
Subtotal of Off-Site Combustion Emissions	**2.83**	**2.50**	**64.46**	**13.06**	**46.10**	**0.08**
Off-Site Paved Road Fugitive Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.27	0.04	0.00	0.00	0.00	0.00
Worker Vehicles	4.26	0.07	0.00	0.00	0.00	0.00
Suncatcher Delivery Trucks	12.86	1.73	0.00	0.00	0.00	0.00
Subtotal of Off-Site Fugitive Emissions	**17.39**	**1.84**	**0.00**	**0.00**	**0.00**	**0.00**
Subtotal of Off-Site Emissions	**20.22**	**4.34**	**64.46**	**13.06**	**46.10**	**0.08**
Total Maximum Annual Emissions	**51.75**	**9.98**	**90.16**	**17.66**	**70.32**	**0.10**
OPERATIONS						
On-Site Operational Emissions						
On-Site Combustion Emissions						
Diesel Generator	0.00	0.00	0.00	0.00	0.02	0.00
Maintenance & Security Vehicles and Equipment	0.01	0.01	5.47	0.72	0.70	0.00
Worker Vehicles	0.00	0.00	0.37	0.03	0.03	0.00
Visitor Cars and Delivery Trucks	0.00	0.00	0.03	0.00	0.01	0.00
Subtotal of On-site Combustion Emissions	**0.01**	**0.01**	**5.86**	**0.76**	**0.76**	**0.00**
On-Site Fugitive Emissions						
Diesel Generator						
Gasoline Tank				0.65		
Maintenance & Security Vehicles and Equipment	6.02	0.89				
Worker Vehicles	0.13	0.01				
Visitor Cars and Delivery Trucks	0.07	0.01				
Subtotal of On-Site Fugitive Dust Emissions	**6.21**	**0.92**		**0.65**		
Subtotal of On-Site Emissions	**6.22**	**0.93**	**5.86**	**1.41**	**0.76**	**0.00**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Worker Vehicles	0.01	0.01	2.54	0.10	0.30	0.00
Visitor Cars and Delivery Trucks	0.00	0.00	0.19	0.01	0.07	0.00
Subtotal of Off-Site Combustion Emissions	**0.02**	**0.01**	**2.74**	**0.11**	**0.37**	**0.00**
Off-Site Paved Road Fugitive Emissions						
Worker Vehicles	0.52	0.01	0.00	0.00	0.00	0.00
Visitor Cars and Delivery Trucks	0.14	0.02	0.00	0.00	0.00	0.00
Subtotal of Off-Site FugitiveEmissions	**0.66**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**
Subtotal of Off-Site Emissions	**0.68**	**0.04**	**2.74**	**0.11**	**0.37**	**0.00**
Total Maximum Emissions	**6.90**	**0.97**	**8.60**	**1.52**	**1.13**	**0.00**
Construction and Operations Overlapping Emissions						
Total of On-Site Emissions Construction & Operations	**37.76**	**6.57**	**31.56**	**6.01**	**24.98**	**0.03**
Total of Off-Site Emissions Construction & Operations	**20.90**	**4.38**	**67.20**	**13.17**	**46.47**	**0.08**
Construction & Operations Overlap Total	**58.66**	**10.95**	**98.76**	**19.18**	**71.45**	**0.11**

Table 5.2-27b New
Estimated Maximum Daily Construction and Operations Overlapping Emissions for Month 11 (lbs/day)

CONSTRUCTION						
Activity	**PM_{10}**	**$PM_{2.5}$**	**CO**	**ROC**	**NO_x**	**SO_x**
On-Site Construction Emissions						
On-Site Combustion Emissions						
Construction Equipment	12.96	11.94	187.46	37.96	199.84	0.19
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	1.23	1.10	18.12	4.91	20.24	0.03
Worker Vehicles	0.01	0.01	2.44	0.23	0.23	0.00
Security Vehicles	0.00	0.00	0.76	0.02	0.01	0.00
Suncatcher Delivery Trucks	0.56	0.50	4.08	1.91	9.10	0.01
Subtotal of On-site Combustion Emissions	**14.77**	**13.55**	**212.87**	**45.03**	**229.41**	**0.23**
On-Site Fugitive Dust Emissions						
Construction Equipment	25.22	6.36				
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	126.80	17.01				
Worker Vehicles	2.11	0.29				
Security Vehicles	3.90	0.54				
Suncatcher Delivery Trucks	35.37	5.26				
Subtotal of On-Site Fugitive Dust Emissions	**193.41**	**29.46**				
Subtotal of On-Site Emissions	**208.18**	**43.02**	**212.87**	**45.03**	**229.41**	**0.23**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.01	0.01	5.54	0.47	0.42	0.00
Worker Vehicles	1.82	1.31	325.81	30.58	30.51	0.25
Suncatcher Delivery Trucks	13.19	11.84	96.05	44.94	214.19	0.23
Subtotal of Off-Site Combustion Emissions	**15.03**	**13.16**	**427.39**	**75.99**	**245.13**	**0.49**
Off-Site Paved Road Fugitive Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	2.29	0.03	0.00	0.00	0.00	0.00
Worker Vehicles	30.80	0.39	0.00	0.00	0.00	0.00
Suncatcher Delivery Trucks	46.68	0.59	0.00	0.00	0.00	0.00
Subtotal of Off-Site Fugitive Emissions	**79.76**	**1.00**	**0.00**	**0.00**	**0.00**	**0.00**
Subtotal of Off-Site Emissions	**94.79**	**14.16**	**427.39**	**75.99**	**245.13**	**0.49**
Total Maximum Annual Emissions	**302.96**	**57.18**	**640.27**	**121.02**	**474.54**	**0.72**
OPERATIONS						
On-Site Operational Emissions						
On-Site Combustion Emissions						
Diesel Generator	0.01	0.01	0.07	0.03	0.85	0.02
Maintenance & Security Vehicles and Equipment	0.02	0.02	14.72	1.94	1.88	0.01
Worker Vehicles	0.01	0.00	0.99	0.09	0.09	0.00
Visitor Cars and Delivery Trucks	0.01	0.01	0.14	0.04	0.15	0.00
Subtotal of On-site Combustion Emissions	**0.05**	**0.05**	**15.93**	**2.10**	**2.97**	**0.03**
On-Site Fugitive Emissions						
Diesel Generator						
Gasoline Tank				3.55		
Maintenance & Security Vehicles and Equipment	16.21	2.40				
Worker Vehicles	0.34	0.04				
Visitor Cars and Delivery Trucks	0.99	0.15				
Subtotal of On-Site Fugitive Dust Emissions	**17.54**	**2.59**		**3.55**		
Subtotal of On-Site Emissions	**17.59**	**2.63**	**15.93**	**5.65**	**2.97**	**0.03**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Worker Vehicles	0.04	0.02	6.85	0.27	0.80	0.00
Visitor Cars and Delivery Trucks	0.03	0.02	0.82	0.06	0.81	0.00
Subtotal of Off-Site Combustion Emissions	**0.07**	**0.04**	**7.67**	**0.33**	**1.61**	**0.01**
Off-Site Paved Road Fugitive Emissions						
Worker Vehicles	1.40	0.04	0.00	0.00	0.00	0.00
Visitor Cars and Delivery Trucks	1.86	0.25	0.00	0.00	0.00	0.00
Subtotal of Off-Site FugitiveEmissions	**3.26**	**0.29**	**0.00**	**0.00**	**0.00**	**0.00**
Subtotal of Off-Site Emissions	**3.33**	**0.34**	**7.67**	**0.33**	**1.61**	**0.01**
Total Maximum Emissions	**20.92**	**2.97**	**23.60**	**5.99**	**4.59**	**0.03**
Construction and Operations Overlapping Emissions						
Total of On-Site Emissions Construction & Operations	**225.77**	**45.65**	**228.80**	**50.69**	**232.39**	**0.26**
Total of Off-Site Emissions Construction & Operations	**98.12**	**14.50**	**435.06**	**76.32**	**246.74**	**0.49**
Construction & Operations Overlap Total	**323.89**	**60.15**	**663.86**	**127.01**	**479.13**	**0.75**

Table 5.2-27a New
Estimated Maximum Daily Construction and Operations Overlapping Emissions for Month 11 (lbs/hour)

CONSTRUCTION						
Activity	**PM_{10}**	**$PM_{2.5}$**	**CO**	**ROC**	**NO_x**	**SO_x**
On-Site Construction Emissions						
On-Site Combustion Emissions						
Construction Equipment	0.54	0.50	7.81	1.58	8.33	0.01
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.05	0.05	0.75	0.20	0.84	0.00
Worker Vehicles	0.00	0.00	0.10	0.01	0.01	0.00
Security Vehicles	0.00	0.00	0.03	0.00	0.00	0.00
Suncatcher Delivery Trucks	0.02	0.02	0.17	0.08	0.38	0.00
Subtotal of On-site Combustion Emissions	**0.62**	**0.56**	**8.87**	**1.88**	**9.56**	**0.01**
On-Site Fugitive Dust Emissions						
Construction Equipment	1.05	0.27				
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	5.28	0.71				
Worker Vehicles	0.09	0.01				
Security Vehicles	0.16	0.02				
Suncatcher Delivery Trucks	1.47	0.22				
Subtotal of On-Site Fugitive Dust Emissions	**8.06**	**1.23**				
Subtotal of On-Site Emissions	**8.67**	**1.79**	**8.87**	**1.88**	**9.56**	**0.01**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.00	0.00	0.23	0.02	0.02	0.00
Worker Vehicles	0.08	0.05	13.58	1.27	1.27	0.01
Suncatcher Delivery Trucks	0.55	0.49	4.00	1.87	8.92	0.01
Subtotal of Off-Site Combustion Emissions	**0.63**	**0.55**	**17.81**	**3.17**	**10.21**	**0.02**
Off-Site Paved Road Fugitive Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.10	0.00	0.00	0.00	0.00	0.00
Worker Vehicles	1.28	0.02	0.00	0.00	0.00	0.00
Suncatcher Delivery Trucks	1.94	0.02	0.00	0.00	0.00	0.00
Subtotal of Off-Site Fugitive Emissions	**3.32**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**
Subtotal of Off-Site Emissions	**3.95**	**0.59**	**17.81**	**3.17**	**10.21**	**0.02**
Total Maximum Annual Emissions	**12.62**	**2.38**	**26.68**	**5.04**	**19.77**	**0.03**
OPERATIONS						
On-Site Operational Emissions						
On-Site Combustion Emissions						
Diesel Generator	0.00	0.00	0.00	0.00	0.04	0.00
Maintenance & Security Vehicles and Equipment	0.00	0.00	0.61	0.08	0.08	0.00
Worker Vehicles	0.00	0.00	0.04	0.00	0.00	0.00
Visitor Cars and Delivery Trucks	0.00	0.00	0.01	0.00	0.01	0.00
Subtotal of On-site Combustion Emissions	**0.00**	**0.00**	**0.66**	**0.09**	**0.12**	**0.00**
On-Site Fugitive Emissions						
Diesel Generator						
Gasoline Tank				0.15		
Maintenance & Security Vehicles and Equipment	0.68	0.10				
Worker Vehicles	0.01	0.00	0.00	0.00	0.00	0.00
Visitor Cars and Delivery Trucks	0.04	0.01	0.00	0.00	0.00	0.00
Subtotal of On-Site Fugitive Dust Emissions	**0.73**	**0.11**		**0.15**		
Subtotal of On-Site Emissions	**0.73**	**0.11**	**0.66**	**0.24**	**0.12**	**0.00**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Worker Vehicles	0.00	0.00	0.29	0.01	0.03	0.00
Visitor Cars and Delivery Trucks	0.00	0.00	0.03	0.00	0.03	0.00
Subtotal of Off-Site Combustion Emissions	**0.00**	**0.00**	**0.32**	**0.01**	**0.07**	**0.00**
Off-Site Paved Road Fugitive Emissions						
Worker Vehicles	0.06	0.00	0.00	0.00	0.00	0.00
Visitor Cars and Delivery Trucks	0.08	0.01	0.00	0.00	0.00	0.00
Subtotal of Off-Site FugitiveEmissions	**0.14**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**
Subtotal of Off-Site Emissions	**0.14**	**0.01**	**0.32**	**0.01**	**0.07**	**0.00**
Total Maximum Emissions	**0.87**	**0.12**	**0.98**	**0.25**	**0.19**	**0.00**
Construction and Operations Overlapping Emissions						
Total of On-Site Emissions Construction & Operations	**9.41**	**1.90**	**9.53**	**2.11**	**9.68**	**0.01**
Total of Off-Site Emissions Construction & Operations	**4.09**	**0.60**	**18.13**	**3.18**	**10.28**	**0.02**
Construction & Operations Overlap Total	**13.50**	**2.51**	**27.66**	**5.29**	**19.96**	**0.03**

Anticipated Operational Capacity by Month of Construction Schedule

Month in Construction Schedule	MW Online	Fraction of peak MW
8	18	0.024
9	36	0.048
10	54	0.072
11	72	0.096
12	90	0.120
13	108	0.144
14	126	0.168
15	144	0.192
16	162	0.216
17	180	0.240
18	198	0.264
19	225	0.300
20	252	0.336
21	279	0.372
22	306	0.408
23	333	0.444
24	360	0.480
25	387	0.516
26	414	0.552
27	441	0.588
28	468	0.624
29	495	0.660
30	522	0.696
31	549	0.732
32	576	0.768
33	603	0.804
34	630	0.840
35	657	0.876
36	684	0.912
37	711	0.948
38	738	0.984
39	750	1.000
40	750	1.000

Year in Construction Schedule	Average Annual MW Online	Fraction of peak MW
8-19	118	0.16
9-20	137	0.18
10-21	158	0.21
11-22	179	0.24
12-23	200	0.27
13-24	223	0.30
14-25	246	0.33
15-26	270	0.36
16-27	295	0.39
17-28	320	0.43
18-29	347	0.46
19-30	374	0.50
20-31	401	0.53
21-32	428	0.57
22-33	455	0.61
23-34	482	0.64
24-35	509	0.68
25-36	536	0.71
26-37	563	0.75
27-38	590	0.79
28-39	615	0.82
29-40	639	0.85

Note: from month 8 - 18 18 MW will come online per month
after that 27 MW will come online per month until full 750MW buildout

Table 5.2-21 Revised

Estimated Maximum Annual Construction Emissions of Criteria Pollutants for Months 13-24 (tons/year)

Activity	PM_{10}	$PM_{2.5}$	CO	ROC	NO_x	SO_x
On-Site Construction Emissions						
On-Site Combustion Emissions						
Construction Equipment	1.16	1.07	21.88	3.48	19.46	0.02
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.177	0.158	2.531	0.701	2.910	0.004
Worker Vehicles	0.002	0.001	0.338	0.032	0.032	0.000
Security Vehicles	0.001	0.001	0.137	0.004	0.002	0.001
Suncatcher Delivery Trucks	0.112	0.100	0.814	0.381	1.816	0.002
Subtotal of On-site Combustion Emissions	**1.45**	**1.33**	**25.70**	**4.60**	**24.22**	**0.02**
On-Site Fugitive Dust Emissions						
Construction Equipment	3.57	0.65				
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	17.81	2.38				
Worker Vehicles	0.29	0.04				
Security Vehicles	0.70	0.10				
Suncatcher Delivery Trucks	7.70	1.15				
Subtotal of On-Site Fugitive Emissions	**30.09**	**4.31**				
Subtotal of On-Site Emissions	**31.54**	**5.64**	**25.70**	**4.60**	**24.22**	**0.02**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.00	0.00	0.65	0.06	0.05	0.00
Worker Vehicles	0.25	0.18	45.05	4.23	4.22	0.03
Suncatcher Delivery Trucks	2.58	2.31	18.76	8.78	41.83	0.05
Subtotal of Off-Site Combustion Emissions	**2.83**	**2.50**	**64.46**	**13.06**	**46.10**	**0.08**
Off-Site Paved Road Fugitive Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.27	0.04				
Worker Vehicles	4.26	0.07				
Suncatcher Delivery Trucks	12.86	1.73				
Subtotal of Off-Site Fugitive Emissions	**17.39**	**1.84**				
Subtotal of Off-Site Emissions	**20.22**	**4.34**	**64.46**	**13.06**	**46.10**	**0.08**
Total Maximum Annual Emissions	**51.75**	**9.98**	**90.16**	**17.66**	**70.32**	**0.10**

Table 5.2-20 Revised

Estimated Daily Maximum Construction Emissions of Criteria Pollutants for Month 13 (lbs/day)

Activity	PM_{10}	$PM_{2.5}$	CO	ROC	NO_x	SO_x
On-Site Construction Emissions						
On-Site Combustion Emissions						
Construction Equipment	12.96	11.94	187.46	37.96	199.84	0.19
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	1.23	1.10	18.12	4.91	20.24	0.03
Worker Vehicles	0.01	0.01	2.44	0.23	0.23	0.00
Security Vehicles	0.004	0.004	0.763	0.020	0.011	0.004
Suncatcher Delivery Trucks	0.56	0.50	4.08	1.91	9.10	0.01
Subtotal of On-site Combustion Emissions	**14.77**	**13.55**	**212.87**	**45.03**	**229.41**	**0.23**
On-Site Fugitive Emissions						
Construction Equipment	25.22	6.36				
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	126.80	17.01				
Worker Vehicles	2.11	0.29				
Security Vehicles	3.90	0.54				
Suncatcher Delivery Trucks	35.37	5.26				
Subtotal of On-Site Fugitive Emissions	**193.41**	**29.46**				
Subtotal of On-Site Emissions	**208.18**	**43.02**	**212.87**	**45.03**	**229.41**	**0.23**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.01	0.01	5.54	0.47	0.42	0.00
Worker Vehicles	1.82	1.31	325.81	30.58	30.51	0.25
Suncatcher Delivery Trucks	13.19	11.84	96.05	44.94	214.19	0.23
Subtotal of Off-Site Combustion Emissions	**15.03**	**13.16**	**427.39**	**75.99**	**245.13**	**0.49**
Off-Site Paved Road Fugitive Dust Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	2.29	0.03				
Worker Vehicles	30.80	0.39				
Suncatcher Delivery Trucks	46.68	0.59				
Subtotal of Off-Site Fugitive Emissions	**79.76**	**1.00**				
Subtotal of Off-Site Emissions	**94.79**	**14.16**	**427.39**	**75.99**	**245.13**	**0.49**
Total Maximum Daily Emissions	**302.96**	**57.18**	**640.27**	**121.02**	**474.54**	**0.72**

Table 5.2-25b New
Estimated Annual Maximum Operational Emissions of Criteria Pollutants (tons/year)

Activity	PM_{10}	$PM_{2.5}$	CO	ROC	NO_x	SO_x
On-Site Operational Emissions						
On-Site Combustion Emissions						
Diesel Generator	0.0003	0.0003	0.0019	0.0007	0.0221	0.0006
Maintenance & Security Vehicles and Equipment	0.03	0.03	18.40	2.43	2.34	0.01
Worker Vehicles	0.01	0.01	1.24	0.12	0.12	0.00
Visitor Cars and Delivery Trucks	0.00	0.00	0.09	0.01	0.04	0.00
Subtotal of On-site Combustion Emissions	**0.04**	**0.04**	**19.73**	**2.56**	**2.52**	**0.01**
On-Site Fugitive Emissions						
Diesel Generator						
Gasoline Tank				0.65		
Maintenance & Security Vehicles and Equipment	20.27	3.01				
Worker Vehicles	0.42	0.05				
Visitor Cars and Delivery Trucks	0.22	0.03				
Subtotal of On-Site Fugitive Emissions	**20.91**	**3.09**	**0.00**	**0.65**	**0.00**	**0.00**
Subtotal of On-Site Emissions	**20.95**	**3.12**	**19.73**	**3.21**	**2.52**	**0.01**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Worker Vehicles	0.05	0.02	8.56	0.34	1.01	0.01
Visitor Cars and Delivery Trucks	0.01	0.01	0.65	0.03	0.23	0.00
Subtotal of Off-Site Combustion Emissions	**0.06**	**0.03**	**9.21**	**0.37**	**1.23**	**0.01**
Off-Site Paved Road Fugitive Emissions						
Worker Vehicles	1.75	0.05				
Visitor Cars and Delivery Trucks	0.48	0.05				
Subtotal of Off-Site FugitiveEmissions	**2.23**	**0.10**				
Subtotal of Off-Site Emissions	**2.29**	**0.13**	**9.21**	**0.37**	**1.23**	**0.01**
Total Maximum Emissions	**23.24**	**3.26**	**28.94**	**3.58**	**3.75**	**0.02**

Table 5.2-25a New
Estimated Daily Maximum Operational Emissions of Criteria Pollutants(lbs/day)

Activity	PM_{10}	$PM_{2.5}$	CO	ROC	NO_x	SO_x
On-Site Operational Emissions						
On-Site Combustion Emissions						
Diesel Generator	0.01	0.01	0.07	0.03	0.85	0.02
Maintenance & Security Vehicles and Equipment	0.17	0.16	102.24	13.49	13.02	0.04
Worker Vehicles	0.04	0.03	6.88	0.64	0.64	0.01
Visitor Cars and Delivery Trucks	0.06	0.06	1.00	0.26	1.06	0.00
Subtotal of On-site Combustion Emissions	**0.29**	**0.25**	**110.19**	**14.42**	**15.58**	**0.07**
On-Site Fugitive Emissions						
Diesel Generator						
Gasoline Tank				3.55		
Maintenance & Security Vehicles and Equipment	112.60	16.70				
Worker Vehicles	2.35	0.26				
Visitor Cars and Delivery Trucks	6.85	1.02				
Subtotal of On-Site Fugitive Emissions	**121.80**	**17.98**	**0.00**	**3.55**	**0.00**	**0.00**
Subtotal of On-Site Emissions	**122.09**	**18.23**	**110.19**	**17.97**	**15.58**	**0.07**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Worker Vehicles	0.27	0.14	47.55	1.90	5.58	0.03
Visitor Cars and Delivery Trucks	0.20	0.16	5.71	0.40	5.62	0.01
Subtotal of Off-Site Combustion Emissions	**0.47**	**0.30**	**53.26**	**2.30**	**11.21**	**0.04**
Off-Site Paved Road Fugitive Emissions						
Worker Vehicles	9.75	0.27				
Visitor Cars and Delivery Trucks	12.91	1.77				
Subtotal of Off-Site Fugitive Emissions	**22.66**	**2.04**				
Subtotal of Off-Site Emissions	**23.13**	**2.34**	**53.26**	**2.30**	**11.21**	**0.04**
Total Maximum Emissions	**145.22**	**20.57**	**163.45**	**20.27**	**26.79**	**0.11**

Construction Trade Projection (750 MW)

		Month After Construction Start																																								
Discipline	**Hours**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**Highest Per Day Requirement by Solar Two During Project**	**El Centro Total Available for the Project**
Carpenters	83,472	10	14	31	31	31	43	47	40	36	28	28	28	21	11	11	10	10	10	10	10	10	10	10	10	10	10	10	0	0	0	0	0	0	0	0	0	0	0	0	47	80
Concrete Crews	81,008	9	15	29	29	29	46	46	42	36	24	24	24	21	11	11	10	10	10	10	10	10	10	10	10	10	10	10	0	0	0	0	0	0	0	0	0	0	0	0	46	140
Electricians	212,010	17	28	57	57	57	84	84	60	54	54	54	54	69	69	113	105	105	88	48	48	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	0	0	0	0	113	210
Ironworkers	100,330	19	23	41	41	41	44	48	36	32	24	24	24	36	26	26	25	25	10	10	10	10	10	10	10	10	10	10	0	0	0	0	0	0	0	0	0	0	0	0	48	130
Laborers	153,557	17	43	65	62	62	142	142	68	30	30	30	30	56	41	51	46	46	32	22	17	17	17	17	17	17	17	17	10	10	10	10	10	10	10	10	0	0	0	0	142	540
Miscellaneous Crews	10,000	0	0	0	0	0	10	10	10	10	10	10	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	630
Operators	205,183	25	82	93	75	75	86	86	72	59	51	51	51	84	88	67	61	52	34	34	27	26	25	25	25	25	25	25	2	2	2	2	2	2	2	1	1	1	1	0	88	190
Plumbers	25,040	0	5	9	9	9	22	26	26	22	14	14	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	100
Solar Two Technicians	145,920	0	0	0	0	0	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	N/A
SunCatcher Assemblers	371,200	0	0	0	0	0	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	N/A
SunCatcher Electricians	92,800	0	0	0	0	0	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	N/A
SunCatcher Ironworkers	185,600	0	0	0	0	0	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	N/A
SunCatcher Laborers	58,880	0	0	0	0	0	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	0	0	0	0	0	0	0	0	0	0	0	16	16	16	16	16	16	16	16	16	N/A
SunCatcher Material Handlers	92,800	0	0	0	0	0	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	N/A
SunCatcher Operators	29,440	0	0	0	0	0	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	0	8	8	8	8	8	8	8	8	8	N/A
SunCatcher Teamsters	44,160	0	0	0	0	0	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	0	0	0	0	0	0	0	0	0	0	0	12	12	12	12	12	12	12	12	12	N/A
SunCatcher Technicians	185,600	0	0	0	0	0	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	N/A
Teamsters	65,160	4	60	49	24	24	25	25	7	5	5	5	5	31	53	29	28	26	24	24	4	4	3	3	3	3	3	3	1	1	1	1	1	1	1	1	1	1	1	0	60	680
Technicians	3,504	0	0	0	0	0	5	5	5	5	5	5	5	1	1	1	1	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	5	60
Totals	**2,145,663**	**101**	**270**	**374**	**328**	**328**	**719**	**731**	**578**	**501**	**457**	**457**	**457**	**535**	**512**	**521**	**498**	**487**	**420**	**370**	**339**	**314**	**312**	**312**	**312**	**312**	**312**	**312**	**249**	**249**	**249**	**249**	**249**	**285**	**285**	**285**	**230**	**230**	**230**	**230**	**228**	**813**	**2,760**

Source: Bureau of Labor Statistics, 2008.

Note:

N/A = not applicable

14417 total personnel for 40 months
360 avg monthly personnel
731 max monthly personnel

Construction Equipment Projection (750 MW)
Revised Table 5.2-19

Month After Construction Start

Construction Equipment Description	HP	D	G	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Air Compressor	50	X			1	1	1	1	3	3	3	3	2	2	2	2	2	2	2	2	1	1		
Asphalt Paver	120	X				1																		
Backhoe	120	X			3	9	5	5	5	6	6	5	4	4	4	4	4	4	4	4	1	1	1	
Compactor	120	X			1	3	3	3	3	3	3	3	3	3	3	3	3	2	2	2				
Crane small	175	X			1	3	4	5	5	8	8	8	7	6	6	6	8	8	6	5	5	4	4	4
Crane large	500	X						3	3	3	1													3
Dozer	250	X			1	1	1	1	1	1	1	1	1				1	1	1	1				
Generator	50	X			1	1	1	2	2	4	4	4	6	6	6	6	3	3	3	3	3	2	2	2
Grader	175	X			1	3	3	3	3	3	2	2	1				2	2	1	1				
Light Tower	50	X						1	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1
Loader	250	X			1	3	3	4	4	4	3	3	2	1	1	1	3	3	3	2	1			
Maxi Sneeker (Trencher)	50	X				2	2	2	2	5	5	4	4	4	4	4	5	5	5	5	5	2	2	1
Skid Steer (Bobcat)	50	X				1	1	2	2	4	3	3	2	2	2	2	4	4	4	4	4			
Welding Machine	50	X				1	2	3	4	4	4	4	4	4	4	3	3	3	3	2	1	1	1	
Equipment fueled with Propane																								
Aerial Lift	120			X	2	5	5	5	6	6	5	3	3	2	2	2	4	5	5	5	5	2	2	2
Fork Lift	50			X	2	5	7	7	7	8	8	8	8	8	8	8	8	9	6	6	6	6	6	5
Telehandler	120			X			1	1	2	5	4	3	3	3	3	3	4	7	5	4	3	3	3	3
Vehicles with Onroad Engines for Emissions Estimates																								
Busses	175		X		4	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	4	4	2
Concrete Pump	250	X			2	5	5																	
Dump Truck	250	X			3	8	7	6	4	4	4	3					3	2	2					
Flatbed Truck	250	X			2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	7	7	6
Staff & Security Truck	187	/			5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Pickup Truck	175		X		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Water/Soiltac Truck	250	X			4	14	8	8	6	6	4	4	4	4	4	4	4	4	4	4	4	4	4	4
General Materials Delivery Trucks	250	X				3	3	3	3	3	3	3												
Suncatcher Pedestals Delivery Trucks	250	X						3	3	3	1													3
Total					44	99	92	98	100	115	104	96	86	81	81	80	93	96	88	82	69	53	52	51

Construction Equipment Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Air Compressor																				
Asphalt Paver																				
Backhoe																				
Compactor																				
Crane small	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Crane large	3	3	3	3																
Dozer																				
Generator	2	2	1	1	1															
Grader																				
Light Tower	1																			
Loader																				
Maxi Sneeker (Trencher)																				
Skid Steer (Bobcat)																				
Welding Machine																				
Equipment fueled with Propane																				
Aerial Lift	2	2	2	2	2	2	2	2	2	2	2	2	2	5	5	5	5	5	5	5
Fork Lift	5	5	5	5	5	5	5	5	5	5										
Telehandler	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Vehicles with Onroad Engines for Emissions Estimates																				
Busses	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Concrete Pump																				
Dump Truck																				
Flatbed Truck	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	2	2	2	2	2
Staff & Security Truck	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Pickup Truck	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Water/Soiltac Truck	4	3	3	3	3	3	3	1	1	1	1	1	1	1	1	1	1	1	1	0
General Materials Delivery Trucks																				
Suncatcher Pedestals Delivery Trucks	3	3	3	3																
Total	50	48	47	47	41	40	40	38	38	38	33	33	33	36	36	32	32	32	32	31

Construction Equipment Description	1-12	2-13	3-14	4-15	5-16	6-17	7-18	8-19	9-20	10-21	11-22	12-23	13-24	14-25	15-26
Air Compressor	24	25	26	27	28	26	24	21	18	16	14	12	10	8	6
Asphalt Paver	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Backhoe	60	61	56	55	54	50	45	40	35	31	27	23	19	15	11
Compactor	34	36	35	34	33	30	27	24	21	18	15	12	9	6	4
Crane small	67	74	79	81	81	81	77	73	69	66	64	62	60	56	52
Crane large	10	10	10	10	7	4	1	0	3	6	9	12	15	15	15
Dozer	9	9	9	9	9	8	7	6	5	4	4	4	4	3	2
Generator	43	45	47	49	50	51	49	47	45	41	37	32	27	25	22
Grader	21	22	21	19	17	14	11	9	7	6	6	6	6	4	2
Light Tower	17	19	21	23	24	23	22	21	20	19	17	15	13	11	9
Loader	30	32	32	32	30	27	23	20	17	15	14	13	12	9	6
Maxi Sneeker (Trencher)	38	43	46	49	52	55	52	49	46	42	38	34	30	25	20
Skid Steer (Bobcat)	24	28	31	34	36	38	34	31	28	26	24	22	20	16	12
Welding Machine	37	40	42	43	42	39	36	33	29	25	21	17	14	11	8
Equipment fueled with Propane															
Aerial Lift	46	48	48	48	48	47	43	40	39	38	38	38	38	36	33
Fork Lift	84	90	94	93	92	91	89	87	84	81	78	75	72	69	65
Telehandler	28	32	39	43	46	47	45	44	44	44	44	44	44	43	39
Vehicles with Onroad Engines for Emissions Estimates															
Busses	70	72	72	72	72	71	69	67	63	59	55	51	47	43	39
Concrete Pump	12	10	5	0	0	0	0	0	0	0	0	0	0	0	0
Dump Truck	39	39	33	28	22	18	14	10	7	7	7	7	7	4	2
Flatbed Truck	101	108	108	108	108	108	106	104	101	98	95	92	89	86	83
Staff & Security Truck	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
Pickup Truck	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
Water/Soiltac Truck	70	70	60	56	52	50	48	48	48	48	47	46	45	44	43
General Materials Delivery Trucks	21	21	18	15	12	9	6	3	0	0	0	0	0	0	0
Suncatcher Pedestals Delivery Trucks	10	10	10	10	7	4	1	0	3	6	9	12	15	15	15
Total	1,076	1,125	1,122	1,118	1,102	1,071	1,009	957	912	876	843	809	776	724	668

Construction Equipment Description	16-27	17-28	18-29	19-30	20-31	21-32	22-33	23-34	24-35	25-36	26-37	27-38	28-39	29-40
Air Compressor	4	2	1	0	0	0	0	0	0	0	0	0	0	0
Asphalt Paver	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Backhoe	7	3	2	1	0	0	0	0	0	0	0	0	0	0
Compactor	2	0	0	0	0	0	0	0	0	0	0	0	0	0
Crane small	50	49	48	48	48	48	48	48	48	48	48	48	48	48
Crane large	15	15	15	15	15	12	9	6	3	0	0	0	0	0
Dozer	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Generator	19	16	13	11	9	7	5	3	2	1	0	0	0	0
Grader	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Light Tower	7	5	4	3	2	1	0	0	0	0	0	0	0	0
Loader	3	1	0	0	0	0	0	0	0	0	0	0	0	0
Maxi Sneeker (Trencher)	15	10	5	3	1	0	0	0	0	0	0	0	0	0
Skid Steer (Bobcat)	8	4	0	0	0	0	0	0	0	0	0	0	0	0
Welding Machine	5	3	2	1	0	0	0	0	0	0	0	0	0	0
Equipment fueled with Propane														
Aerial Lift	30	27	24	24	24	24	24	27	30	33	36	39	42	45
Fork Lift	64	63	62	61	55	50	45	40	35	30	25	20	15	10
Telehandler	37	36	36	36	36	36	36	36	36	36	36	36	36	36
Vehicles with Onroad Engines for Emissions Estimates														
Busses	35	31	28	26	24	24	24	24	24	24	24	24	24	24
Concrete Pump	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dump Truck	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Flatbed Truck	80	77	74	73	72	72	72	72	72	68	64	60	56	52
Staff & Security Truck	60	60	60	60	60	60	60	60	60	60	60	60	60	60
Pickup Truck	120	120	120	120	120	120	120	120	120	120	120	120	120	120
Water/Soiltac Truck	42	39	36	33	30	27	24	22	20	18	16	14	12	11
General Materials Delivery Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Suncatcher Pedestals Delivery Trucks	15	15	15	15	15	12	9	6	3	0	0	0	0	0
Total	620	576	545	530	511	493	476	464	453	438	429	421	413	406

HP=horsepower
G=gasoline
D=diesel P=propane max 115

max : 1,125

CONSTRUCTION VEHICLES REQUIREMENTS

Description	Activity	Make / Model	Fuel	Quantity	Frequency	Horse-power	Vehicle Weight (tons)	Max Daily Onsite Distance per Vehicle (mile/day)	Assumed distance percentage to drive on onsite sealed roads	Assumed distance percentage to drive on onsite unpaved roads	Assumed distance percentage to drive on onsite paved roads	Max Daily Offsite Round-trip Distance per Vehicle within Imperial County (mile/day)	Travel to and from
Busses	Shuttle between laydown area and main construction area	Bus	Gasoline	variable	Daily	175	12	12	0%	0%	100%	10	Laydown area
Concrete Pump Truck			Diesel	variable	Daily	250	20	6	0%	8%	82%	40	El Centro
Dump Truck			Diesel	variable	Daily	250	20	7	50%	50%	0%	0	on-site only
Flatbed Truck			Diesel	variable	Daily	250	10	28	100%	0%	0%	0	on-site only
Staff & Security Truck	Site Inspections & Security	Toyota Highlander or similar	Gasoline - Hybrid	5	Daily	187	2.25	33	100%	0%	0%	0	on-site only
Pickup Truck			Gasoline	variable	Daily	175	4	12	95%	5%	0%	0	on-site only
Water /Soiltac Truck			Diesel	variable	Daily	250	20	12	25%	75%	0%	0	on-site only
Worker Passenger Vehicles	Community to Work	Passenger vehicles	Gasoline & diesel	variable	Daily	100	2	0.3	100%	0%	0%	40	El Centro
General Construction Materials	Delivery trucks	transport truck	Diesel	variable	Daily	250	20	6	0%	0%	100%	100	Various locations
Suncatcher Delivery Trucks	Suncatcher Pedestals	transport truck	Diesel	variable	Daily	250	20	13	55%	0%	45%	240	Phoenix Area
	Stirling Engines	transport truck	Diesel	5	Daily	250	20	6	0%	0%	100%	50	Detroit
	Suncatcher Metal Supports	transport truck	Diesel	10	Daily	250	20	6	0%	0%	100%	240	Phoenix Area
	Suncatcher Mirrors	transport truck	Diesel	6	Daily	250	20	6	0%	0%	100%	50	Detroit
	Electrical and Control Systems	transport truck	Diesel	2	Daily	250	20	6	0%	0%	100%	240	Phoenix Area
	Azimuth and Elevation Drive	transport truck	Diesel	2	Daily	250	20	6	0%	0%	100%	50	Midwest

Note:

Vehicles with variable quantities, the quantity per month can be found in Table 5.2-19 Construction Equipment Projection
Deliveries coming from Midwest (Detroit and elsewhere) will travel by rail to Los Angeles then by transport truck to the site
Average distance from main service complex to center of east or west portion of the site is 3.5 miles thus the average round trip distance each maintenance vehicle travels is 7 miles
Bus circuit is 11 miles (6 miles onsite, 5 miles offsite) - each bus does this loop twice a day
East access road will be heavily sealed and is 3.5 miles, the sealant will be applied in sufficient quantity that the road can be washed as needed. Thus this road will be considered the same as the paved northern ac
North access road and MSC parking area will be paved, route is 1.5 miles
All deliveries will travel an onsite loop starting near east laydown area traveling to the MSC then to the north exit, the loop will consist of 3.5 miles eastern access road + 1 (delivery area) miles + 1.5 miles northern
Construction laydown area is sealed
Each flatbed truck is assumed to make 4 trips per day to SunCatcher instalation locations delivering assembled dishes and misc parts
The fenceline perimeter is approximately 20.5 miles. Each security vehicle is assumed to travel from the MSC around the perimeter plus one trip to the center of the site and back (plus 10% for misc trips) = 33 miles

Annual Onsite Combustion Emissions

annual construction activity for months 13-24

Construction Assumptions - 30 days per month

Equipment	Number of Vehicles per year	Hours/Day	Emission rate per piece of equipment (lb/hr)										Annual Emissions (ton/year)									
			PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
Diesel Construction Equipment																						
Air Compressor	10	6	0.027	0.025	0.283	0.120	0.240	0.000	22.251	0.011	0.000	22.478	0.02	0.02	0.24	0.10	0.21	0.00	19.23	0.01	0.00	19.42
Asphalt Paver	0	7	0.069	0.064	0.413	0.135	0.796	0.001	54.450	0.012	0.000	54.706	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Backhoe	19	7	0.055	0.051	0.366	0.099	0.606	0.001	51.682	0.009	0.000	51.869	0.10	0.10	0.69	0.19	1.14	0.00	97.21	0.02	0.00	97.57
Compactor	9	7	0.067	0.062	0.422	0.128	0.777	0.001	58.936	0.012	0.000	59.178	0.06	0.06	0.38	0.12	0.71	0.00	53.47	0.01	0.00	53.69
Crane small	60	5	0.056	0.052	0.490	0.127	0.984	0.001	80.272	0.011	0.000	80.514	0.26	0.24	2.28	0.59	4.57	0.00	372.79	0.05	0.00	373.91
Crane large	15	7	0.073	0.067	0.716	0.191	1.876	0.002	179.940	0.017	0.000	180.302	0.11	0.10	1.11	0.30	2.90	0.00	278.55	0.03	0.00	279.11
Dozer	4	8	0.083	0.076	0.604	0.215	2.050	0.002	165.982	0.019	0.000	166.390	0.04	0.04	0.28	0.10	0.94	0.00	76.48	0.01	0.00	76.67
Generator	27	9	0.029	0.027	0.294	0.116	0.310	0.000	30.595	0.010	0.000	30.815	0.11	0.10	1.06	0.42	1.11	0.00	110.03	0.04	0.00	110.82
Grader	6	7	0.082	0.076	0.744	0.184	1.437	0.001	123.810	0.017	0.000	124.159	0.05	0.05	0.49	0.12	0.95	0.00	81.57	0.01	0.00	81.80
Light Tower	13	9	0.028	0.026	0.303	0.113	0.283	0.000	27.964	0.010	0.000	28.179	0.05	0.05	0.55	0.21	0.52	0.00	51.04	0.02	0.00	51.43
Loader	12	7	0.060	0.055	0.443	0.158	1.631	0.002	148.843	0.014	0.000	149.142	0.07	0.07	0.53	0.19	1.94	0.00	176.83	0.02	0.00	177.18
Maxi Sneeker (Trencher)	30	9	0.042	0.039	0.446	0.193	0.366	0.000	32.888	0.017	0.000	33.253	0.17	0.16	1.81	0.78	1.48	0.00	133.20	0.07	0.00	134.68
Skid Steer (Bobcat)	20	7	0.024	0.022	0.261	0.089	0.250	0.000	25.496	0.008	0.000	25.665	0.05	0.04	0.52	0.18	0.50	0.00	50.48	0.02	0.00	50.82
Welding Machine	14	5	0.029	0.027	0.305	0.127	0.275	0.000	25.935	0.011	0.000	26.175	0.03	0.03	0.35	0.14	0.31	0.00	29.41	0.01	0.00	29.68
Equipment fueled with Propane	0																					
Aerial Lift	38	6	0.003	0.003	1.410	0.006	0.222	0.000	31.235	0.048	0.000	32.239	0.01	0.01	4.44	0.02	0.70	0.00	98.28	0.15	0.00	101.44
Fork Lift	72	4	0.002	0.002	0.294	0.003	0.137	0.000	18.295	0.027	0.000	18.859	0.01	0.01	1.14	0.01	0.53	0.00	71.13	0.10	0.00	73.32
Telehandler	44	6	0.003	0.003	1.410	0.006	0.222	0.000	31.235	0.048	0.000	32.239	0.01	0.01	6.03	0.02	0.95	0.00	133.58	0.20	0.00	137.88
Vehicles with Onroad Engines for Emissions Estimates																						
Busses	47	12	0.000	0.000	0.092	0.008	0.007	0.000	3.683	0.000	0.000	3.826	0.00	0.00	0.78	0.07	0.06	0.00	31.16	0.00	0.00	32.36
Concrete Pump Truck	0	12	0.002	0.002	0.014	0.006	0.030	0.000	3.486	0.000	0.000	3.505	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	7	12	0.002	0.002	0.016	0.007	0.035	0.000	4.067	0.000	0.000	4.089	0.00	0.00	0.02	0.01	0.04	0.00	5.12	0.00	0.00	5.15
Flatbed Truck	89	12	0.009	0.008	0.063	0.030	0.142	0.000	16.269	0.000	0.000	16.355	0.14	0.13	1.02	0.48	2.27	0.00	260.63	0.00	0.00	262.01
Staff & Security Truck	60	24	0.000	0.000	0.006	0.000	0.000	0.000	0.988	0.000	0.000	1.048	0.00	0.00	0.14	0.00	0.00	0.00	21.35	0.00	0.00	22.63
Pickup Truck	120	12	0.000	0.000	0.023	0.002	0.002	0.000	1.888	0.000	0.000	1.931	0.00	0.00	0.49	0.05	0.05	0.00	40.77	0.00	0.00	41.71
Water/Soiltac Truck	45	12	0.004	0.003	0.027	0.013	0.061	0.000	6.972	0.000	0.000	7.009	0.03	0.03	0.22	0.10	0.49	0.00	56.48	0.00	0.00	56.78
Worker Passenger Vehicles	3288	12	0.000	0.000	0.001	0.000	0.000	0.000	0.047	0.000	0.000	0.048	0.00	0.00	0.34	0.03	0.03	0.00	27.93	0.00	0.00	28.57
Delivery Transport Trucks																						
General Materials Delivery T	0	24	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.752	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Pedestals Delive	15	24	0.002	0.002	0.015	0.007	0.033	0.000	3.777	0.000	0.000	3.797	0.01	0.01	0.08	0.04	0.18	0.00	20.39	0.00	0.00	20.50
Stirling Engines	60	24	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.752	0.02	0.02	0.15	0.07	0.33	0.00	37.65	0.00	0.00	37.85
Suncatcher Metal Supports	120	24	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.752	0.04	0.04	0.29	0.14	0.66	0.00	75.30	0.00	0.00	75.70
Suncatcher Mirrors	72	24	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.752	0.02	0.02	0.18	0.08	0.39	0.00	45.18	0.00	0.00	45.42
Electrical and Control Systen	24	24	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.752	0.01	0.01	0.06	0.03	0.13	0.00	15.06	0.00	0.00	15.14
Azimuth and Elevation Drive	24	24	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.752	0.01	0.01	0.06	0.03	0.13	0.00	15.06	0.00	0.00	15.14
												Total	**1.45**	**1.33**	**25.70**	**4.60**	**24.22**	**0.02**	**2485.35**	**0.79**	**0.02**	**2508.37**

Number of Vehicles per year = sum of monthly daily maximum vehicle usage for the peak 12 months

delivery trucks can arrive at the site anytime during the day or night

Short-term Onsite Combustion Emissions

construction schedule = 12 hours per day 7 am to 7 pm; pedestal installation = 16 hours per day
delivery trucks can arrive at the site anytime during the day or night

Equipment	Load Factor	Hours/Day	Horsepower	EF PM10	EF PM2.5	EF CO	EF VOC	EF NOx	EF SO2	EF CO2	EF CH4	EF N2O	EF CO2e	Rate PM10	Rate PM2.5	Rate CO	Rate VOC	Rate NOx	Rate SO2	Rate CO2	Rate CH4	Rate N2O	Rate CO2e	Quantity Mo 1	PM10
Diesel Construction Equipment				Emission factors (ton/hr)										Emission rate per piece of equipment (lb/hr)											
Air Compressor	0.48	6	50	1.35E-05	1.25E-05	1.42E-04	5.99E-05	1.20E-04	1.44E-07	1.11E-02	5.40E-06	0.00E+00	1.12E-02	0.027	0.025	0.283	0.120	0.240	0.000	22.251	0.011	0.00	22.48	1	0.16
Asphalt Paver	0.62	7	120	3.47E-05	3.19E-05	2.07E-04	6.75E-05	3.98E-04	3.19E-07	2.72E-02	6.09E-06	0.00E+00	2.74E-02	0.069	0.064	0.413	0.135	0.796	0.001	54.450	0.012	0.00	54.71	0	0.00
Backhoe	0.55	7	120	2.77E-05	2.55E-05	1.83E-04	4.96E-05	3.03E-04	3.03E-07	2.58E-02	4.47E-06	0.00E+00	2.59E-02	0.055	0.051	0.366	0.099	0.606	0.001	51.682	0.009	0.00	51.87	3	1.10
Compactor	0.56	7	120	3.36E-05	3.09E-05	2.11E-04	6.39E-05	3.89E-04	3.46E-07	2.95E-02	5.77E-06	0.00E+00	2.96E-02	0.067	0.062	0.422	0.128	0.777	0.001	58.936	0.012	0.00	59.18	1	0.45
Crane small	0.43	5	175	2.81E-05	2.59E-05	2.45E-04	6.37E-05	4.92E-04	4.52E-07	4.01E-02	5.75E-06	0.00E+00	4.03E-02	0.056	0.052	0.490	0.127	0.984	0.001	80.272	0.011	0.00	80.51	1	0.29
Crane large	0.43	7	500	3.63E-05	3.34E-05	3.58E-04	9.56E-05	9.38E-04	8.83E-07	9.00E-02	8.62E-06	0.00E+00	9.02E-02	0.073	0.067	0.716	0.191	1.876	0.002	179.940	0.017	0.00	180.30	0	0.00
Dozer	0.64	8	250	4.15E-05	3.82E-05	3.02E-04	1.08E-04	1.02E-03	9.34E-07	8.30E-02	9.70E-06	0.00E+00	8.32E-02	0.083	0.076	0.604	0.215	2.050	0.002	165.982	0.019	0.00	166.39	1	0.64
Generator	0.74	9	50	1.46E-05	1.35E-05	1.47E-04	5.80E-05	1.55E-04	1.98E-07	1.53E-02	5.23E-06	0.00E+00	1.54E-02	0.029	0.027	0.294	0.116	0.310	0.000	30.595	0.010	0.00	30.82	1	0.26
Grader	0.61	7	175	4.11E-05	3.78E-05	3.72E-04	9.21E-05	7.19E-04	6.97E-07	6.19E-02	8.31E-06	0.00E+00	6.21E-02	0.082	0.076	0.744	0.184	1.437	0.001	123.810	0.017	0.00	124.16	1	0.60
Light Tower	0.78	9	50	1.41E-05	1.30E-05	1.52E-04	5.67E-05	1.42E-04	1.81E-07	1.40E-02	5.12E-06	0.00E+00	1.41E-02	0.028	0.026	0.303	0.113	0.283	0.000	27.964	0.010	0.00	28.18	0	0.00
Loader	0.55	7	250	3.00E-05	2.76E-05	2.22E-04	7.89E-05	8.16E-04	8.37E-07	7.44E-02	7.11E-06	0.00E+00	7.46E-02	0.060	0.055	0.443	0.158	1.631	0.002	148.843	0.014	0.00	149.14	1	0.40
Maxi Sneeker (Trencher)	0.75	9	50	2.10E-05	1.94E-05	2.23E-04	9.63E-05	1.83E-04	2.13E-07	1.64E-02	8.69E-06	0.00E+00	1.66E-02	0.042	0.039	0.446	0.193	0.366	0.000	32.888	0.017	0.00	33.25	0	0.00
Skid Steer (Bobcat)	0.55	7	50	1.19E-05	1.09E-05	1.30E-04	4.46E-05	1.25E-04	1.65E-07	1.27E-02	4.02E-06	0.00E+00	1.28E-02	0.024	0.022	0.261	0.089	0.250	0.000	25.496	0.008	0.00	25.67	0	0.00
Welding Machine	0.45	5	50	1.47E-05	1.35E-05	1.52E-04	6.34E-05	1.37E-04	1.68E-07	1.30E-02	5.72E-06	0.00E+00	1.31E-02	0.029	0.027	0.305	0.127	0.275	0.000	25.935	0.011	0.00	26.18	0	0.00
Equipment fueled with Propane				Emission factors (ton/hr)																					
Aerial Lift	0.46	6	120	1.39E-06	1.39E-06	7.05E-04	2.85E-06	1.11E-04	0.00E+00	1.56E-02	2.39E-05	0.00E+00	1.61E-02	0.003	0.003	1.410	0.006	0.222	0.000	31.235	0.048	0.000	32.24	2	0.03
Fork Lift	0.3	4	50	8.14E-07	8.14E-07	1.47E-04	1.60E-06	6.85E-05	0.00E+00	9.15E-03	1.34E-05	0.00E+00	9.43E-03	0.002	0.002	0.294	0.003	0.137	0.000	18.295	0.027	0.000	18.86	2	0.01
Telehandler	0.54	6	120	1.39E-06	1.39E-06	7.05E-04	2.85E-06	1.11E-04	0.00E+00	1.56E-02	2.39E-05	0.00E+00	1.61E-02	0.003	0.003	1.410	0.006	0.222	0.000	31.235	0.048	0.000	32.24	0	0.00
Vehicles with Onroad Engines for Emissions Estimates	Onsite Miles per Day Travelled per Vehicle			Emission factors (g/mile)																					
Busses	12	12	175	6.60E-02	4.63E-02	4.19E+01	3.57E+00	3.17E+00	1.70E-02	1.67E+03	1.20E-01	2.00E-01	1.74E+03	0.000	0.000	0.092	0.008	0.007	0.000	3.683	0.000	0.000	3.83	4	0.01
Concrete Pump Truck	6	12	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.002	0.002	0.014	0.006	0.030	0.000	3.486	0.000	0.000	3.50	2	0.04
Dump Truck	7	12	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.002	0.002	0.016	0.007	0.035	0.000	4.067	0.000	0.000	4.09	3	0.08
Flatbed Truck	28	12	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.009	0.008	0.063	0.030	0.142	0.000	16.269	0.000	0.000	16.35	2	0.21
Staff & Security Truck	33	24	187	1.00E-02	1.00E-02	2.10E+00	5.50E-02	3.00E-02	1.00E-02	3.26E+02	5.00E-02	6.00E-02	3.46E+02	0.000	0.000	0.006	0.000	0.000	0.000	0.988	0.000	0.000	1.05	5	0.00
Pickup Truck	12	12	175	5.80E-02	4.18E-02	1.04E+01	9.73E-01	9.71E-01	8.00E-03	8.57E+02	5.00E-02	6.00E-02	8.77E+02	0.000	0.000	0.023	0.002	0.002	0.000	1.888	0.000	0.000	1.93	10	0.02
Water/Soiltac Truck	12	12	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.004	0.003	0.027	0.013	0.061	0.000	6.972	0.000	0.000	7.01	4	0.18
Worker Passenger Vehicles	0.3	12	NA	5.80E-02	4.18E-02	1.04E+01	9.73E-01	9.71E-01	8.00E-03	8.57E+02	5.00E-02	6.00E-02	8.77E+02	0.000	0.000	0.001	0.000	0.000	0.000	0.047	0.000	0.000	0.05	67	0.00
Delivery Transport Trucks																									
General Materials Delivery Trucks	6	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.75	0	0.00
Suncatcher Pedestals Delivery Trucks	13	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.002	0.002	0.015	0.007	0.033	0.000	3.777	0.000	0.000	3.80	0	0.00
Stirling Engines	6	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.75	5	0.11
Suncatcher Metal Supports	6	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.75	10	0.22
Suncatcher Mirrors	6	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.75	6	0.13
Electrical and Control System	6	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.75	2	0.04
Azimuth and Elevation Drive	6	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.75	2	0.04
																							Total	136	5.03

Notes:
Emission factors from CARB Off-road Mobile Source Emission Factors (2006-2020) for diesel and propane equipment. (2009 data used).
Dozer = Crawler Tractor
Loaders = Rubber tired loaders
Backhoe = Tractors/Loaders/Backhoes
Light Tower = Other Construction Equipment
Utilization Load Factors from SCAQMD
$PM_{2.5}$ emission factors obtained by multiplying the PM emissions by $PM_{2.5}$ fraction in CEIDARS list for onroad or offroad diesel vehicles.
For propane equipment assumed $PM_{2.5}$ and PM_{10} Fraction of total PM is 1.000
Onroad vehicle emissions from EMFAC2007 model
CH_4 and N_2O emission factors for the onroad vehicles are from reference source 2: Table C.5, California Climate Action Registry General Reporting Protocol Version 3.0, April 2007
The emissions of "Toyota Highlander Hybrid" meet the Tier 2/Bin 3 Federal emissions standard (reference source 3) and its performance is 27 mile/gallon in city (from Toyota website)
SO_2 emission factors for the Toyota Highlander Hybrid are from EMFAC2007- Light-Duty Trucks (LDT2-CAT).

CO_2 GWP (SAR, 1996) = 1
CH_4 GWP (SAR, 1996) = 21
N_2O GWP (SAR, 1996) = 310

Monthly Comparison of Construction Equipment Emissions:

Month of Contruction	Total Equipment Quantity	PM10	PM2.5	CO	VOC	NOx	SO2	CO2	CH4	N2O	CO2e
	Daily Emissions (lb/day)										
1	136	5.03	4.60	63.73	13.68	84.97	0.09	8634.67	1.64	0.083	8697.75
2	304	13.81	12.65	160.18	36.48	216.69	0.22	20749.63	4.36	0.151	20887.92
3	366	12.02	11.01	161.20	33.30	198.99	0.20	19356.95	4.65	0.145	19499.47
4	342	15.05	13.80	190.08	42.31	262.18	0.26	25305.81	5.46	0.144	25465.07
5	344	15.67	14.38	213.72	45.02	269.44	0.27	26073.81	6.31	0.140	26249.64
6	619	18.95	17.40	274.67	56.38	312.35	0.31	30246.12	8.34	0.150	30467.84
7	616	16.58	15.21	236.50	50.07	257.91	0.26	24994.31	7.26	0.145	25191.62
8	506	15.20	13.95	199.21	45.95	232.53	0.24	22374.79	6.08	0.139	22545.44
9	445	13.61	12.49	186.36	42.50	202.24	0.21	19676.77	5.81	0.132	19839.78
10	411	11.67	10.70	162.84	37.75	158.89	0.17	15910.14	5.12	0.131	16058.32
11	411	11.67	10.70	162.84	37.75	158.89	0.17	15910.14	5.12	0.131	16058.32
12	410	11.51	10.56	161.19	37.06	157.41	0.16	15770.09	5.06	0.131	15916.98
13	475	14.77	13.55	212.87	45.03	229.41	0.23	22191.14	6.59	0.135	22371.40
14	462	14.36	13.19	245.99	44.23	229.79	0.23	22583.08	7.80	0.134	22788.34
15	460	13.13	12.05	214.09	41.46	204.77	0.21	20249.39	6.65	0.134	20430.58
16	439	12.21	11.20	197.37	38.85	185.14	0.19	18404.08	6.12	0.132	18573.53
17	419	7.98	7.31	155.04	28.56	118.62	0.12	12644.57	4.89	0.127	12786.47
18	358	5.01	4.58	101.77	17.34	76.34	0.08	8438.03	3.16	0.113	8539.47
19	324	4.86	4.44	99.91	16.63	74.93	0.08	8290.99	3.09	0.112	8390.68
20	302	5.48	5.01	103.50	17.43	104.86	0.10	11138.53	3.07	0.102	11234.58
21	284	5.10	4.66	99.38	15.69	101.55	0.10	10833.10	2.91	0.101	10925.64
22	281	4.79	4.38	96.20	14.47	98.17	0.10	10486.93	2.82	0.100	10577.00
23	280	4.53	4.14	93.59	13.44	95.42	0.09	10215.34	2.72	0.100	10303.36
24	280	4.53	4.14	93.59	13.44	95.42	0.09	10215.34	2.72	0.100	10303.36
25	274	2.89	2.63	77.76	9.00	54.34	0.05	6229.36	2.36	0.095	6308.57
26	273	2.63	2.39	75.15	7.97	51.59	0.05	5957.68	2.27	0.095	6034.93
27	273	2.63	2.39	75.15	7.97	51.59	0.05	5957.68	2.27	0.095	6034.93
28	229	2.54	2.31	74.21	7.64	50.10	0.05	5766.56	2.26	0.091	5842.38
29	229	2.54	2.31	74.21	7.64	50.10	0.05	5766.56	2.26	0.091	5842.38
30	229	2.54	2.31	74.21	7.64	50.10	0.05	5766.56	2.26	0.091	5842.38
31	224	2.51	2.28	68.82	7.58	47.64	0.05	5437.25	1.78	0.091	5502.91
32	224	2.51	2.28	68.82	7.58	47.64	0.05	5437.25	1.78	0.091	5502.91
33	248	2.51	2.28	69.09	7.59	47.65	0.05	5450.84	1.78	0.092	5516.82
34	251	2.56	2.33	92.44	7.69	51.33	0.05	5968.09	2.57	0.092	6050.69
35	251	2.56	2.33	92.44	7.69	51.33	0.05	5968.09	2.57	0.092	6050.69
36	210	2.14	1.95	89.14	6.24	44.51	0.04	5166.42	2.56	0.078	5244.41
37	210	2.14	1.95	89.14	6.24	44.51	0.04	5166.42	2.56	0.078	5244.41
38	210	2.14	1.95	89.14	6.24	44.51	0.04	5166.42	2.56	0.078	5244.41
39	210	2.14	1.95	89.14	6.24	44.51	0.04	5166.42	2.56	0.078	5244.41
40	208	2.09	1.91	88.80	6.08	43.78	0.04	5082.00	2.56	0.077	5159.53
MAX VALUE (lb/day)	619	18.95	17.40	274.67	56.38	312.35	0.31	30246.1	8.34	0.151	30467.8

Months for Annual Contruction		PM10	PM2.5	CO	VOC	NOx	SO2	CO2	CH4	N2O	CO2e
		Annual Emissions (ton/year)									
1	12	2.41	2.21	32.59	7.17	37.69	0.038	3672.05	0.98	0.0245	3700.17
2	13	2.56	2.35	34.82	7.64	39.85	0.040	3878.40	1.05	0.0251	3908.28
3	14	2.57	2.36	36.11	7.76	40.05	0.040	3905.90	1.10	0.0248	3936.78
4	15	2.58	2.37	36.91	7.88	40.14	0.041	3919.28	1.13	0.0247	3950.75
5	16	2.54	2.33	37.01	7.83	38.98	0.039	3815.76	1.14	0.0245	3847.38
6	17	2.42	2.22	36.13	7.58	36.72	0.037	3614.32	1.12	0.0243	3645.43
7	18	2.22	2.03	33.54	7.00	33.18	0.034	3287.20	1.04	0.0238	3316.50
8	19	2.04	1.87	31.49	6.50	30.43	0.031	3036.65	0.98	0.0233	3064.49
9	20	1.89	1.74	30.06	6.07	28.53	0.029	2868.10	0.94	0.0227	2894.83
10	21	1.77	1.62	28.75	5.67	27.01	0.027	2735.45	0.89	0.0223	2761.11
11	22	1.66	1.52	27.75	5.32	26.10	0.026	2654.10	0.86	0.0218	2678.89
12	23	1.56	1.43	26.71	4.95	25.15	0.025	2568.68	0.82	0.0213	2592.57
13	24	1.45	1.33	25.70	4.60	24.22	0.024	2485.35	0.79	0.0208	2508.37
14	25	1.27	1.17	23.67	4.06	21.59	0.022	2245.93	0.72	0.0202	2267.42
15	26	1.10	1.00	21.11	3.51	18.92	0.019	1996.55	0.64	0.0197	2016.12
16	27	0.94	0.86	19.03	3.01	16.62	0.017	1782.17	0.58	0.0191	1800.19
17	28	0.79	0.73	17.18	2.54	14.59	0.014	1592.61	0.52	0.0185	1609.22
18	29	0.71	0.65	15.97	2.23	13.57	0.013	1489.44	0.48	0.0179	1505.06
19	30	0.68	0.62	15.55	2.08	13.17	0.013	1449.37	0.47	0.0176	1464.60
20	31	0.64	0.58	15.09	1.95	12.76	0.012	1406.56	0.45	0.0173	1421.29
21	32	0.60	0.54	14.57	1.80	11.91	0.012	1321.04	0.43	0.0171	1335.31
22	33	0.56	0.51	14.11	1.68	11.10	0.011	1240.31	0.41	0.0170	1254.18
23	34	0.52	0.48	14.06	1.58	10.39	0.010	1172.52	0.41	0.0169	1186.28
24	35	0.49	0.45	14.04	1.49	9.73	0.009	1108.82	0.40	0.0168	1122.49
25	36	0.46	0.42	13.97	1.38	8.97	0.009	1033.09	0.40	0.0165	1046.61
26	37	0.45	0.41	14.14	1.34	8.82	0.008	1017.14	0.40	0.0162	1030.65
27	38	0.44	0.40	14.35	1.32	8.72	0.008	1005.27	0.41	0.0159	1018.79
28	39	0.43	0.39	14.56	1.29	8.61	0.008	993.40	0.41	0.0157	1006.93
29	40	0.43	0.39	14.78	1.27	8.51	0.008	983.14	0.42	0.0155	996.69
MAX VALUE (ton/year)		2.58	2.37	37.01	7.88	40.14	0.041	3919.28	1.14	0.0251	3950.75

Annual Offsite Combustion Emissions

annual construction activity for months 13-24

Construction Assumptions - 30 days per month

Equipment	Number of Vehicles per year	Offsite Miles per Day Travelled per Vehicle	Offsite Miles per Year Travelled all Vehicle	Emission factors (g/mile)										Annual Emissions (ton/year)									
				PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
Vehicles with Onroad Engines for Emissions Estimates																							
Busses	47	10	14100	0.066	0.046	41.898	3.565	3.171	0.017	1672.27	0.120	0.200	1736.79	0.00	0.00	0.65	0.06	0.05	0.00	25.97	0.00	0.00	26.97
Concrete Pump Truck	0	40	0	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	7	0	0	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flatbed Truck	89	0	0	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Staff & Security Truck	60	0	0	0.010	0.010	2.100	0.055	0.030	0.010	326.30	0.050	0.060	345.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck	120	0	0	0.058	0.042	10.368	0.973	0.971	0.008	857.01	0.050	0.060	876.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water/Soiltac Truck	45	0	0	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Passenger Vehicles	3288	40	3945600	0.058	0.042	10.368	0.973	0.971	0.008	857.01	0.050	0.060	876.66	0.25	0.18	45.05	4.23	4.22	0.03	3724.02	0.22	0.26	3809.40
Delivery Transport Trucks																							
General Materials Delivery T	0	100	0	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Pedestals Delive	15	240	108000	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	0.20	0.18	1.47	0.69	3.28	0.00	376.51	0.01	0.01	378.50
Stirling Engines	60	50	90000	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	0.17	0.15	1.22	0.57	2.73	0.00	313.76	0.01	0.00	315.42
Suncatcher Metal Supports	120	240	864000	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	1.61	1.45	11.75	5.50	26.21	0.03	3012.05	0.06	0.05	3028.00
Suncatcher Mirrors	72	50	108000	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	0.20	0.18	1.47	0.69	3.28	0.00	376.51	0.01	0.01	378.50
Electrical and Control Systen	24	240	172800	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	0.32	0.29	2.35	1.10	5.24	0.01	602.41	0.01	0.01	605.60
Azimuth and Elevation Drive	24	50	36000	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	0.07	0.06	0.49	0.23	1.09	0.00	125.50	0.00	0.00	126.17
													Total	**2.83**	**2.50**	**64.46**	**13.06**	**46.10**	**0.08**	**8556.72**	**0.31**	**0.34**	**8668.56**

Number of Vehicles per year = sum of monthly daily maximum vehicle usage for the peak 12 months

Short-term Offsite Combustion Emissions

construction schedule = 12 hours per day 7 am to 7 pm
delivery trucks can arrive at the site anytime during the day or night

Vehicles with Onroad Engines for Emissions Estimates	Offsite Miles per Day Travelled per Vehicle	Hours/Day	Horsepower	EF PM_{10}	EF $PM_{2.5}$	EF CO	EF VOC	EF NO_x	EF SO_2	EF CO_2	EF CH_4	EF N_2O	EF CO_2e	ER PM_{10}	ER $PM_{2.5}$	ER CO	ER VOC	ER NO_x	ER SO_2	ER CO_2	ER CH_4	ER N_2O	ER CO_2e
				Emission factors (g/mile)										Emission rate per piece of equipment (lb/hr)									
Busses	10	12	175	6.60E-02	4.63E-02	4.19E+01	3.57E+00	3.17E+00	1.70E-02	1.67E+03	1.20E-01	2.00E-01	1.74E+03	0.000	0.000	0.077	0.007	0.006	0.000	3.070	0.000	0.000	3.19
Concrete Pump Truck	40	12	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.012	0.011	0.091	0.042	0.202	0.000	23.241	0.000	0.000	23.36
Dump Truck	0	12	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
Flatbed Truck	0	12	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
Staff & Security Truck	0	24	187	1.00E-02	1.00E-02	2.10E+00	5.50E-02	3.00E-02	1.00E-02	3.26E+02	5.00E-02	6.00E-02	3.46E+02	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
Pickup Truck	0	12	175	5.80E-02	4.18E-02	1.04E+01	9.73E-01	9.71E-01	8.00E-03	8.57E+02	5.00E-02	6.00E-02	8.77E+02	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
Water/Soiltac Truck	0	12	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
Worker Passenger Vehicle	40	12	NA	5.80E-02	4.18E-02	1.04E+01	9.73E-01	9.71E-01	8.00E-03	8.57E+02	5.00E-02	6.00E-02	8.77E+02	0.000	0.000	0.076	0.007	0.007	0.000	6.292	0.000	0.000	6.44
Delivery Transport Trucks																							
General Construction Materials	100	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.016	0.014	0.113	0.053	0.253	0.000	29.051	0.001	0.000	29.21
Suncatcher Pedestals	240	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.037	0.034	0.272	0.127	0.607	0.001	69.723	0.001	0.001	70.09
Stirling Engines	50	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.008	0.007	0.057	0.027	0.126	0.000	14.526	0.000	0.000	14.60
Suncatcher Metal Support	240	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.037	0.034	0.272	0.127	0.607	0.001	69.723	0.001	0.001	70.09
Suncatcher Mirrors	50	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.008	0.007	0.057	0.027	0.126	0.000	14.526	0.000	0.000	14.60
Electrical and Control Syst	240	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.037	0.034	0.272	0.127	0.607	0.001	69.723	0.001	0.001	70.09
Azimuth and Elevation Dri	50	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03	0.008	0.007	0.057	0.027	0.126	0.000	14.526	0.000	0.000	14.60

	Quantity Mo 21	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	Quantity Mo 22	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
	Month 21 Daily Emissions (lb/day)											Month 22 Daily Emissions (lb/day)										
Vehicles with Onroad Engines for Emissions Estimates																						
Busses	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51
Concrete Pump Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flatbed Truck	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Staff & Security Truck	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water/Soiltac Truck	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Passenger Vehicles	209	1.07	0.77	191.22	17.95	17.91	0.15	15806.18	0.92	1.11	16168.59	208	1.06	0.77	190.00	17.83	17.79	0.15	15705.50	0.92	1.10	16065.61
Delivery Transport Trucks																						
General Construction Materials	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Pedestals	3	2.69	2.42	19.59	9.17	43.69	0.05	5020.09	0.10	0.08	5046.67	3	2.69	2.42	19.59	9.17	43.69	0.05	5020.09	0.10	0.08	5046.67
Stirling Engines	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
Suncatcher Metal Supports	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
Suncatcher Mirrors	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
Electrical and Control Systems	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
Azimuth and Elevation Drive	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
TOTALS	264	16.96	15.03	308.71	72.21	275.93	0.43	45512.33	1.49	1.58	46034.48	262	16.95	15.03	307.49	72.10	275.82	0.43	45411.65	1.48	1.58	45931.49

Notes:
Emission factors from CARB Off-road Mobile Source Emission Factors (2006-2020) for diesel and propane equipment. (2009 data used).
Dozer = Crawler Tractor
Loaders = Rubber tired loaders
Backhoe = Tractors/Loaders/Backhoes
Light Tower = Other Construction Equipment
Utilization Load Factors from SCAQMD
PM2.5 emission factors obtained by multiplying the PM10 emissions by PM2.5 fraction in CEIDARS list for onroad or offroad diesel vehicles.
For propane equipment assumed PM2.5 and PM10 Fraction of total PM is 1.000
Onroad vehicle emissions from EMFAC2007 model
CH_4 and N_2O emission factors for the onroad vehicles are from reference source 2: Table C.5, California Climate Action Registry General Reporting Protocol Version 3.0, April 2007

CO_2 GWP (SAR, 1996) = 1
CH_4 GWP (SAR, 1996) = 21
N_2O GWP (SAR, 1996) = 310

Monthly Comparison of Construction Equipment Emissions:

Month of Contruction	Offroad Equipment Quantity	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
		Daily Emissions (lb/day)									
1	122	13.84	12.37	163.42	52.05	225.09	0.29	30401.67	0.78	0.77	30657.19
2	265	15.99	14.19	279.62	67.21	260.35	0.40	41910.87	1.34	1.42	42379.80
3	327	16.35	14.45	342.95	73.15	266.28	0.44	47146.03	1.65	1.79	47735.00
4	294	18.13	16.08	329.09	77.14	295.21	0.46	48456.10	1.58	1.68	49011.17
5	290	18.13	16.08	329.09	77.14	295.21	0.46	48456.10	1.58	1.68	49011.17
6	550	19.47	17.04	567.20	99.49	317.51	0.64	68138.32	2.73	3.06	69144.67
7	554	17.71	15.46	561.45	94.07	289.07	0.61	65395.65	2.70	3.05	66398.13
8	450	16.29	14.28	461.74	82.27	265.78	0.53	56020.55	2.22	2.49	56837.58
9	393	14.91	13.08	406.69	74.05	243.19	0.47	50052.81	1.95	2.18	50769.89
10	364	14.76	12.97	379.89	71.53	240.68	0.45	47837.93	1.82	2.03	48504.23
11	364	14.76	12.97	379.89	71.53	240.68	0.45	47837.93	1.82	2.03	48504.23
12	364	14.76	12.97	379.89	71.53	240.68	0.45	47837.93	1.82	2.03	48504.23
13	419	15.03	13.16	427.39	75.99	245.13	0.49	51764.30	2.05	2.30	52520.63
14	402	14.95	13.11	413.39	74.67	243.82	0.48	50606.53	1.99	2.22	51336.31
15	408	14.98	13.13	418.87	75.19	244.33	0.48	51059.57	2.01	2.25	51799.74
16	391	14.90	13.07	404.86	73.87	243.02	0.47	49901.79	1.94	2.17	50615.42
17	383	14.86	13.04	397.24	73.17	242.32	0.46	49311.24	1.91	2.13	50010.75
18	335	14.63	12.88	355.51	69.26	238.43	0.43	45801.75	1.71	1.89	46522.50
19	302	14.46	12.76	325.07	66.40	235.58	0.41	43384.84	1.56	1.71	43947.89
20	281	17.04	15.09	323.93	73.64	277.36	0.44	46770.78	1.56	1.67	47321.79
21	264	16.96	15.03	308.71	72.21	275.93	0.43	45512.33	1.49	1.58	46034.48
22	262	16.95	15.03	307.49	72.10	275.82	0.43	45411.65	1.48	1.58	45931.49
23	262	16.95	15.03	307.49	72.10	275.82	0.43	45411.65	1.48	1.58	45931.49
24	262	16.95	15.03	307.49	72.10	275.82	0.43	45411.65	1.48	1.58	45931.49
25	259	14.26	12.61	287.90	62.93	232.13	0.38	40391.56	1.39	1.50	40884.82
26	259	14.26	12.61	287.90	62.93	232.13	0.38	40391.56	1.39	1.50	40884.82
27	259	14.26	12.61	287.90	62.93	232.13	0.38	40391.56	1.39	1.50	40884.82
28	215	14.05	12.46	249.53	59.33	228.54	0.35	37220.26	1.20	1.28	37640.80
29	215	14.05	12.46	249.53	59.33	228.54	0.35	37220.26	1.20	1.28	37640.80
30	215	14.05	12.46	249.53	59.33	228.54	0.35	37220.26	1.20	1.28	37640.80
31	215	14.05	12.46	249.53	59.33	228.54	0.35	37220.26	1.20	1.28	37640.80
32	215	14.05	12.46	249.53	59.33	228.54	0.35	37220.26	1.20	1.28	37640.80
33	239	14.17	12.55	271.46	61.39	230.59	0.37	39032.43	1.31	1.40	39494.53
34	239	14.17	12.55	271.46	61.39	230.59	0.37	39032.43	1.31	1.40	39494.53
35	239	14.17	12.55	271.46	61.39	230.59	0.37	39032.43	1.31	1.40	39494.53
36	198	13.98	12.41	237.96	58.24	227.45	0.34	36263.83	1.15	1.21	36662.45
37	198	13.98	12.41	237.96	58.24	227.45	0.34	36263.83	1.15	1.21	36662.45
38	198	13.98	12.41	237.96	58.24	227.45	0.34	36263.83	1.15	1.21	36662.45
39	198	13.98	12.41	237.96	58.24	227.45	0.34	36263.83	1.15	1.21	36662.45
40	196	13.97	12.41	236.74	58.13	227.34	0.34	36163.15	1.14	1.20	36559.47
MAX VALUE (lb/day)	554	19.47	17.04	567.20	99.49	317.51	0.64	68138.32	2.73	3.06	69144.67

Months for Annual Contruction		PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
		Annual Emissions (ton/year)									
1	12	2.93	2.58	68.71	13.67	47.70	0.085	8992.38	0.33	0.3631	9111.86
2	13	2.94	2.59	72.67	14.03	48.00	0.088	9312.82	0.35	0.3860	9439.81
3	14	2.93	2.57	74.68	14.14	47.75	0.089	9443.25	0.36	0.3980	9574.16
4	15	2.91	2.55	75.82	14.17	47.42	0.089	9501.96	0.36	0.4049	9635.13
5	16	2.86	2.51	76.96	14.12	46.64	0.090	9523.64	0.37	0.4122	9659.19
6	17	2.81	2.46	77.98	14.06	45.84	0.090	9536.47	0.37	0.4189	9674.19
7	18	2.74	2.40	74.80	13.61	44.66	0.087	9202.92	0.36	0.4012	9334.85
8	19	2.69	2.36	71.26	13.19	43.85	0.083	8872.76	0.34	0.3811	8998.10
9	20	2.70	2.37	68.19	13.06	44.03	0.082	8734.01	0.33	0.3689	8855.36
10	21	2.73	2.40	67.72	13.03	44.52	0.082	8665.90	0.33	0.3600	8784.33
11	22	2.76	2.43	66.63	13.04	45.05	0.081	8629.51	0.32	0.3532	8745.74
12	23	2.80	2.46	65.55	13.05	45.57	0.081	8593.12	0.32	0.3465	8707.15
13	24	2.83	2.50	64.46	13.06	46.10	0.081	8556.72	0.31	0.3398	8668.56
14	25	2.82	2.49	62.37	12.86	45.91	0.079	8386.13	0.30	0.3277	8494.02
15	26	2.81	2.48	60.49	12.69	45.73	0.078	8232.91	0.29	0.3169	8337.25
16	27	2.80	2.47	58.52	12.50	45.55	0.076	8072.89	0.28	0.3056	8173.53
17	28	2.78	2.46	56.19	12.29	45.33	0.074	7882.66	0.27	0.2921	7978.91
18	29	2.77	2.45	53.98	12.08	45.12	0.073	7701.30	0.26	0.2793	7793.36
19	30	2.76	2.45	52.39	11.93	44.97	0.071	7571.08	0.25	0.2702	7660.13
20	31	2.76	2.44	51.25	11.82	44.87	0.071	7478.61	0.25	0.2636	7565.53
21	32	2.71	2.40	50.14	11.61	44.14	0.069	7335.35	0.24	0.2577	7420.31
22	33	2.67	2.37	49.58	11.45	43.46	0.068	7238.15	0.24	0.2550	7322.21
23	34	2.63	2.33	49.04	11.29	42.78	0.067	7142.46	0.24	0.2524	7225.66
24	35	2.58	2.29	48.50	11.13	42.10	0.066	7046.77	0.23	0.2497	7129.10
25	36	2.54	2.25	47.46	10.92	41.37	0.065	6909.56	0.23	0.2442	6990.07
26	37	2.54	2.25	46.71	10.85	41.30	0.065	6847.64	0.23	0.2399	6926.73
27	38	2.53	2.25	45.96	10.78	41.23	0.064	6785.72	0.22	0.2355	6863.40
28	39	2.53	2.24	45.21	10.71	41.16	0.063	6723.81	0.22	0.2312	6800.06
29	40	2.53	2.24	45.02	10.69	41.15	0.063	6707.95	0.22	0.2301	6783.84
MAX VALUE (ton/year)		2.94	2.59	77.98	14.17	48.00	0.090	9536.47	0.37	0.4189	9674.19

Solar Two
Fugitive Dust Emissions (on-site)
Short-term month = 13
annual construction activity for months = 13-24
Travel on sealed roads (paved)

$E = [k * (sL/2)^{0.65} * (W/3)^{1.5} - C] (1 - P/4N)$ EPA AP-42 Section 13.2.1 Paved Roads Equation 2

E = particulate emission factor (lb/VMT),
k = particle size multiplier for particle size range and units of interest
7.4 sL = road surface silt loading (grams per square meter) (g/m^2), from Table 13.2.1-4 for Municipal solid waste landfill
W = average weight (tons) of the vehicles traveling the road, and
C = emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear.

constants

	$PM_{2.5}$	PM_{10}
k	0.0024	0.016
C	0.00036	0.00047

12 P = Mean number of days per year with at least 0.01 inches of precipitation (from EL CENTRO 2 SSW COOP Station)
365 N = number of days in the year (averaging period)

Vehicle Type	Number of Vehicles (month 13)	Max Daily Distance per Vehicle (mile/day)	Assumed distance percentage to drive on sealed roads	Max Daily Distance per Vehicle to drive on sealed roads (mile/day)	Max Daily VMT (all vehicles)	Mean Vehicle Weight (tons)	Max. Operating Hours / Day	Number of Vehicles per year (months 13-24)	Max Annual VMT (all vehicles)	$PM_{2.5}$ EF (lbs/VMT)	PM_{10} EF (lbs/VMT)
Diesel Construction Equipment											
Air Compressor	2	0	0%	0	0	0.5	6	10	0	0.000	0.002
Asphalt Paver	0	0.2	0%	0	0	25	7	0	0	0.134	0.893
Backhoe	4	0	0%	0	0	11	7	19	0	0.039	0.260
Compactor	3	0	0%	0	0	10	7	9	0	0.034	0.226
Crane small	8	0.5	50%	0	2	10	5	60	450	0.034	0.226
Crane large	0	0.5	0%	0	0	35	7	15	0	0.222	1.480
Dozer	1	0	0%	0	0	20	8	4	0	0.096	0.639
Generator	3	0	0%	0	0	0.5	9	27	0	0.000	0.002
Grader	2	0	0%	0	0	20	7	6	0	0.096	0.639
Light Tower	2	0	0%	0	0	0.25	9	13	0	0.000	0.000
Loader	3	0	0%	0	0	25	7	12	0	0.134	0.893
Maxi Sneeker (Trencher)	5	0	0%	0	0	5	9	30	0	0.012	0.079
Skid Steer (Bobcat)	4	0	0%	0	0	2	7	20	0	0.003	0.020
Welding Machine	3	0	0%	0	0	0.5	5	14	0	0.000	0.002
Equipment fueled with Propane											
Aerial Lift	4	1	50%	1	2	4	6	38	570	0.008	0.057
Fork Lift	8	1	50%	1	4	3	4	72	1080	0.005	0.037
Telehandler	4	1	50%	1	2	3	6	44	660	0.005	0.037
Vehicles with Onroad Engines for Emissions Estimates											
Busses	6	12	0%	0	0	12	12	47	0	0.044	0.297
Concrete Pump	0	6	0%	0	0	20	12	0	0	0.096	0.639
Dump Truck	3	7	50%	4	11	20	12	7	735	0.096	0.639
Flatbed Truck	9	28	100%	28	252	10	12	89	74760	0.034	0.226
Staff & Security Truck	5	33	100%	33	165	2.25	24	60	59400	0.003	0.024
Pickup Truck	10	12	95%	11	114	4	12	120	41040	0.008	0.057
Water/Soiltac Truck	4	12	25%	3	12	20	12	45	4050	0.096	0.639
Worker Passenger Vehicles	357	0.3	100%	0	107	2	12	3288	29592	0.003	0.020
Suncatcher Delivery Trucks											
General Materials Delivery Trucks	0	6	0%	0	0	20	24	0	0	0.096	0.639
Suncatcher Pedestals Delivery Trucks	0	13	55%	7	0	20	24	15	3217.5	0.096	0.639
Stirling Engines	5	6	0%	0	0	20	24	60	0	0.096	0.639
Suncatcher Metal Supports	10	6	0%	0	0	20	24	120	0	0.096	0.639
Suncatcher Mirrors	6	6	0%	0	0	20	24	72	0	0.096	0.639
Electrical and Control Systems	2	6	0%	0	0	20	24	24	0	0.096	0.639
Azimuth and Elevation Drive	2	6	0%	0	0	20	24	24	0	0.096	0.639

Vehicle Type	Watering Control Efficiency		PM_{10} Emissions (lb/hr)		PM_{10} Emissions (lb/day)		% of daily emissions	PM_{10} Emissions (tons/year)		$PM_{2.5}$ Emissions (lb/hr)		$PM_{2.5}$ Emissions (lb/day)		$PM_{2.5}$ Emissions (tons/year)	
	Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated		Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated
Diesel Construction Equipment															
Air Compressor	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Paver	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Backhoe	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Compactor	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crane small	0%	0%	0.09	0.09	0.45	0.45	0.53%	0.05	0.05	0.01	0.01	0.07	0.07	0.01	0.01
Crane large	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dozer	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generator	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grader	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light Tower	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loader	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maxi Sneeker (Trencher)	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Skid Steer (Bobcat)	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Welding Machine	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equipment fueled with Propane															
Aerial Lift	0%	0%	0.02	0.02	0.11	0.11	0.13%	0.02	0.02	0.00	0.00	0.02	0.02	0.00	0.00
Fork Lift	0%	0%	0.04	0.04	0.15	0.15	0.17%	0.02	0.02	0.01	0.01	0.02	0.02	0.00	0.00
Telehandler	0%	0%	0.01	0.01	0.07	0.07	0.09%	0.01	0.01	0.00	0.00	0.01	0.01	0.00	0.00
Vehicles with Onroad Engines for Emissions Estimates															
Busses	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Pump	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	0%	0%	0.56	0.56	6.71	6.71	7.94%	0.23	0.23	0.08	0.08	1.00	1.00	0.04	0.04
Flatbed Truck	0%	0%	4.74	4.74	56.84	56.84	67.28%	8.43	8.43	0.70	0.70	8.45	8.45	1.25	1.25
Staff & Security Truck	0%	0%	0.16	0.16	3.90	3.90	4.62%	0.70	0.70	0.02	0.02	0.54	0.54	0.10	0.10
Pickup Truck	0%	0%	0.54	0.54	6.47	6.47	7.65%	1.16	1.16	0.08	0.08	0.94	0.94	0.17	0.17
Water/Soiltac Truck	0%	0%	0.64	0.64	7.67	7.67	9.07%	1.29	1.29	0.10	0.10	1.15	1.15	0.19	0.19
Worker Passenger Vehicles	0%	0%	0.18	0.18	2.11	2.11	2.50%	0.29	0.29	0.02	0.02	0.29	0.29	0.04	0.04
Suncatcher Delivery Trucks															
General Materials Delivery Trucks	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Pedestals Delivery Trucks	0%	0%	0.00	0.00	0.00	0.00	0.00%	1.03	1.03	0.00	0.00	0.00	0.00	0.15	0.15
Stirling Engines	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Metal Supports	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Mirrors	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electrical and Control Systems	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Azimuth and Elevation Drive	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL Fugitive emissions for vehicles traveled on sealed road (paved)			**6.97**	**6.97**	**84.49**	**84.49**		**13.25**	**13.25**	**1.03**	**1.03**	**12.48**	**12.48**	**1.96**	**1.96**

Travel on paved road

$E = [k * (sL/2)^{0.65} * (W/3)^{1.5} - C] (1 - P/4N)$ EPA AP-42 Section 13.2.1 Paved Roads Equation 2

E = particulate emission factor (lb/VMT),
k = particle size multiplier for particle size range and units of interest
1.6 sL = road surface silt loading (grams per square meter) (g/m^2),
W = average weight (tons) of the vehicles traveling the road, and
C = emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear.

Rural roads CARB - Emission Inventory Database - Section 7.8 SJV - Entrained Paved Road Dust - Rural Roads (emission inventory code: 640-643-5400-0000), June 2006.

constants

	$PM_{2.5}$	PM_{10}
k	0.0024	0.016
C	0.00036	0.00047

12 P = Mean number of days per year with at least 0.01 inches of precipitation (from EL CENTRO 2 SSW COOP Station)
365 N = number of days in the year (averaging period)

Vehicle Type	Number of Vehicles (month 13)	Max Daily Distance per Vehicle (mile/day)	Assumed distance percentage to drive on paved road	Max Daily Distance per Vehicle to drive on paved road (mile/day)	Max Daily VMT (all vehicles)	Mean Vehicle Weight (tons)	Max. Operating Hours / Day	Number of Vehicles per year (months 13-24)	Max Annual VMT (all vehicles)	$PM_{2.5}$ EF (lbs/VMT)	PM_{10} EF (lbs/VMT)
Diesel Construction Equipment											
Air Compressor	2	0	0%	0	0	0.5	6	10	0	0.000	0.000
Asphalt Paver	0	0.2	0%	0	0	25	7	0	0	0.049	0.330
Backhoe	4	0	0%	0	0	11	7	19	0	0.014	0.096
Compactor	3	0	0%	0	0	10	7	9	0	0.012	0.083
Crane small	8	0.5	0%	0	0	10	5	60	0	0.012	0.083
Crane large	0	0.5	0%	0	0	35	7	15	0	0.082	0.547
Dozer	1	0	0%	0	0	20	8	4	0	0.035	0.236
Generator	3	0	0%	0	0	0.5	9	27	0	0.000	0.000
Grader	2	0	0%	0	0	20	7	6	0	0.035	0.236
Light Tower	2	0	0%	0	0	0.25	9	13	0	0.000	0.000
Loader	3	0	0%	0	0	25	7	12	0	0.049	0.330
Maxi Sneeker (Trencher)	5	0	0%	0	0	5	9	30	0	0.004	0.029
Skid Steer (Bobcat)	4	0	0%	0	0	2	7	20	0	0.001	0.007
Welding Machine	3	0	0%	0	0	0.5	5	14	0	0.000	0.000
Equipment fueled with Propane											
Aerial Lift	4	1	0%	0	0	4	6	38	0	0.003	0.021
Fork Lift	8	1	0%	0	0	3	4	72	0	0.002	0.013
Telehandler	4	1	0%	0	0	3	6	44	0	0.002	0.013
Vehicles with Onroad Engines for Emissions Estimates											
Busses	6	12	100%	12	72	12	12	47	16920	0.016	0.109
Concrete Pump	0	6	82%	4.92	0	20	12	0	0	0.035	0.236
Dump Truck	3	7	0%	0	0	20	12	7	0	0.035	0.236
Flatbed Truck	9	28	0%	0	0	10	12	89	0	0.012	0.083
Staff & Security Truck	5	33	0%	0	0	2.25	24	60	0	0.001	0.008
Pickup Truck	10	12	0%	0	0	4	12	120	0	0.003	0.021
Water/Soiltac Truck	4	12	0%	0	0	20	12	45	0	0.035	0.236
Worker Passenger Vehicles	357	0.3	0%	0	0	2	12	3288	0	0.001	0.007
Suncatcher Delivery Trucks											
General Materials Delivery Trucks	0	6	100%	6	0	20	24	0	0	0.035	0.236
Suncatcher Pedestals Delivery Trucks	0	13	45%	5.85	0	20	24	15	2632.5	0.035	0.236
Stirling Engines	5	6	100%	6	30	20	24	60	10800	0.035	0.236
Suncatcher Metal Supports	10	6	100%	6	60	20	24	120	21600	0.035	0.236
Suncatcher Mirrors	6	6	100%	6	36	20	24	72	12960	0.035	0.236
Electrical and Control Systems	2	6	100%	6	12	20	24	24	4320	0.035	0.236
Azimuth and Elevation Drive	2	6	100%	6	12	20	24	24	4320	0.035	0.236

Vehicle Type	Watering Control Efficiency		PM_{10} Emissions (lb/hr)		PM_{10} Emissions (lb/day)		% of daily emissions	PM_{10} Emissions (tons/year)		$PM_{2.5}$ Emissions (lb/hr)		$PM_{2.5}$ Emissions (lb/day)		$PM_{2.5}$ Emissions (tons/year)	
	Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated		Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated
Diesel Construction Equipment															
Air Compressor	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Paver	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Backhoe	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Compactor	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crane small	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crane large	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dozer	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generator	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grader	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light Tower	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loader	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maxi Sneeker (Trencher)	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Skid Steer (Bobcat)	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Welding Machine	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equipment fueled with Propane															
Aerial Lift	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fork Lift	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Telehandler	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vehicles with Onroad Engines for Emissions Estimates															
Busses	0%	0%	0.66	0.66	7.87	7.87	18.21%	0.93	0.93	0.10	0.10	1.16	1.16	0.14	0.14
Concrete Pump	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flatbed Truck	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Staff & Security Truck	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water/Soiltac Truck	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Passenger Vehicles	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Delivery Trucks															
General Materials Delivery Trucks	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Pedestals Delivery Trucks	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.31	0.31	0.00	0.00	0.00	0.00	0.05	0.05
Stirling Engines	0%	0%	0.29	0.29	7.07	7.07	16.36%	1.27	1.27	0.04	0.04	1.05	1.05	0.19	0.19
Suncatcher Metal Supports	0%	0%	0.59	0.59	14.15	14.15	32.72%	2.55	2.55	0.09	0.09	2.11	2.11	0.38	0.38
Suncatcher Mirrors	0%	0%	0.35	0.35	8.49	8.49	19.63%	1.53	1.53	0.05	0.05	1.26	1.26	0.23	0.23
Electrical and Control Systems	0%	0%	0.12	0.12	2.83	2.83	6.54%	0.51	0.51	0.02	0.02	0.42	0.42	0.08	0.08
Azimuth and Elevation Drive	0%	0%	0.12	0.12	2.83	2.83	6.54%	0.51	0.51	0.02	0.02	0.42	0.42	0.08	0.08
TOTAL Fugitive emissions for vehicles traveled on paved road			**2.13**	**2.13**	**43.24**	**43.24**		**7.60**	**7.60**	**0.32**	**0.32**	**6.42**	**6.42**	**1.13**	**1.13**

Travel on unpaved surfaces

$E = k * (s/12)^a * (W/3)^b * [(365 - P)/365]$ EPA AP-42 Section 13.2.2 Unpaved Roads Equations 1a and 2
E = size-specific emission factor (lb/VMT)
k, a, b = empirical constants
8.5 s = surface material silt content (%) Construction sites - Scraper routes
W = mean vehicle weight (tons)

constants

	$PM_{2.5}$	PM_{10}	Industrial Roads
k	0.15	1.5	
a	0.9	0.9	
b	0.45	0.45	

12 P = Mean number of days per year with at least 0.01 inches of precipitation (from EL CENTRO 2 SSW COOP Station)

Vehicle Type	Number of Vehicles (month 13)	Max Daily Distance per Vehicle (mile/day)	Assumed distance percentage to drive on unpaved roads	Max Daily Distance per Vehicle to drive on unpaved roads (mile/day)	Max Daily VMT (all vehicles)	Mean Vehicle Weight (tons)	Max. Operating Hours / Day	Number of Vehicles per year (months 13-24)	Max Annual VMT (all vehicles)	$PM_{2.5}$ EF (lbs/VMT)	PM_{10} EF (lbs/VMT)
Diesel Construction Equipment											
Air Compressor	2	0	100%	0	0	0.5	6	10	0	0.047	0.475
Asphalt Paver	0	0.2	100%	0.2	0	25	7	0	0	0.276	2.762
Backhoe	4	0	100%	0	0	11	7	19	0	0.191	1.909
Compactor	3	0	100%	0	0	10	7	9	0	0.183	1.828
Crane small	8	0.5	50%	0.25	2	10	5	60	450	0.183	1.828
Crane large	0	0.5	100%	0.5	0	35	7	15	225	0.321	3.213
Dozer	1	0	100%	0	0	20	8	4	0	0.250	2.498
Generator	3	0	100%	0	0	0.5	9	27	0	0.047	0.475
Grader	2	0	100%	0	0	20	7	6	0	0.250	2.498
Light Tower	2	0	100%	0	0	0.25	9	13	0	0.035	0.348
Loader	3	0	100%	0	0	25	7	12	0	0.276	2.762
Maxi Sneeker (Trencher)	5	0	100%	0	0	5	9	30	0	0.134	1.339
Skid Steer (Bobcat)	4	0	100%	0	0	2	7	20	0	0.089	0.886
Welding Machine	3	0	100%	0	0	0.5	5	14	0	0.047	0.475
Equipment fueled with Propane											
Aerial Lift	4	1	50%	0.5	2	4	6	38	570	0.121	1.211
Fork Lift	8	1	50%	0.5	4	3	4	72	1080	0.106	1.064
Telehandler	4	1	50%	0.5	2	3	6	44	660	0.106	1.064
Vehicles with Onroad Engines for Emissions Estimates											
Busses	6	12	0%	0	0	12	12	47	0	0.198	1.985
Concrete Pump	0	6	8%	0.48	0	20	12	0	0	0.250	2.498
Dump Truck	3	7	50%	3.5	11	20	12	7	735	0.250	2.498
Flatbed Truck	9	28	0%	0	0	10	12	89	0	0.183	1.828
Staff & Security Truck	5	33	0%	0	0	2.25	24	60	0	0.093	0.934
Pickup Truck	10	12	5%	0.6	6	4	12	120	2160	0.121	1.211
Water/Soiltac Truck	4	12	75%	9	36	20	12	45	12150	0.250	2.498
Worker Passenger Vehicles	357	0.3	0%	0	0	2	12	3288	0	0.089	0.886
Suncatcher Delivery Trucks											
General Materials Delivery Trucks	0	6	0%	0	0	20	24	0	0	0.250	2.498
Suncatcher Pedestals Delivery Trucks	0	13	0%	0	0	20	24	15	0	0.250	2.498
Stirling Engines	5	6	0%	0	0	20	24	60	0	0.250	2.498
Suncatcher Metal Supports	10	6	0%	0	0	20	24	120	0	0.250	2.498
Suncatcher Mirrors	6	6	0%	0	0	20	24	72	0	0.250	2.498
Electrical and Control Systems	2	6	0%	0	0	20	24	24	0	0.250	2.498
Azimuth and Elevation Drive	2	6	0%	0	0	20	24	24	0	0.250	2.498

Vehicle Type	Watering Control Efficiency		PM_{10} Emissions (lb/hr)		PM_{10} Emissions (lb/day)		% of daily emissions	PM_{10} Emissions (tons/year)		$PM_{2.5}$ Emissions (lb/hr)		$PM_{2.5}$ Emissions (lb/day)		$PM_{2.5}$ Emissions (tons/year)	
	Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated		Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated
Diesel Construction Equipment															
Air Compressor	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Paver	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Backhoe	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Compactor	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crane small	0%	68%	0.71	0.23	3.66	1.17	2.69%	0.41	0.13	0.07	0.02	0.37	0.12	0.04	0.01
Crane large	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.36	0.12	0.00	0.00	0.00	0.00	0.04	0.01
Dozer	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generator	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grader	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light Tower	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loader	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maxi Sneeker (Trencher)	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Skid Steer (Bobcat)	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Welding Machine	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equipment fueled with Propane															
Aerial Lift	0%	68%	0.44	0.14	2.42	0.77	1.78%	0.35	0.11	0.04	0.01	0.24	0.08	0.03	0.01
Fork Lift	0%	68%	1.18	0.38	4.25	1.36	3.13%	0.57	0.18	0.12	0.04	0.43	0.14	0.06	0.02
Telehandler	0%	68%	0.33	0.11	2.13	0.68	1.57%	0.35	0.11	0.03	0.01	0.21	0.07	0.04	0.01
Vehicles with Onroad Engines for Emissions Estimates															
Busses	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Pump	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	0%	68%	2.19	0.70	26.23	8.39	19.30%	0.92	0.29	0.22	0.07	2.62	0.84	0.09	0.03
Flatbed Truck	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Staff & Security Truck	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck	0%	68%	0.61	0.19	7.26	2.32	5.35%	1.31	0.42	0.06	0.02	0.73	0.23	0.13	0.04
Water/Soiltac Truck	0%	68%	7.49	2.40	89.92	28.77	66.18%	15.17	4.86	0.75	0.24	8.99	2.88	1.52	0.49
Worker Passenger Vehicles	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Delivery Trucks															
General Materials Delivery Trucks	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Pedestals Delivery Trucks	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stirling Engines	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Metal Supports	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Mirrors	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electrical and Control Systems	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Azimuth and Elevation Drive	0%	68%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL Fugitive emissions for vehicles traveled on unpaved surfaces			**12.94**	**4.14**	**135.87**	**43.48**		**19.44**	**6.22**	**1.29**	**0.41**	**13.59**	**4.35**	**1.94**	**0.62**

Water efficiency from CEQA Table 11-4 maximum value for watering active sites 2 times daily

Bulldozing & grading

EPA AP-42 Section 11.9

$E = p * 1 * s^{1.5} / M^{1.4}$ PM10 Emissions from bulldozing (lb/hr) Table 11.9-1 EMISSION FACTOR EQUATIONS FOR UNCONTROLLED OPEN DUST SOURCES AT WESTERN SURFACE COAL MINES (Overburden)

0.75 p = particle size multiplier for PM10
6.9 s = Silt content (%) (from Table 11.9-3 for bulldozers overburden)
7.9 M = Moisture content of surface material (%) (from Table 11.9-3 for bulldozers overburden)
0.75 lb/hr of PM10

$E = p * 5.7 * s^{1.2} / M^{1.3}$ PM2.5 Emissions from bulldozing (lb/hr) Table 11.9-1 EMISSION FACTOR EQUATIONS FOR UNCONTROLLED OPEN DUST SOURCES AT WESTERN SURFACE COAL MINES (Overburden)

0.105 p = particle size multiplier for PM2.5
6.9 s = Silt content (%) (from Table 11.9-3 for bulldozers overburden)
7.9 M = Moisture content of surface material (%) (from Table 11.9-3 for bulldozers overburden)
0.41 lb/hr of PM2.5

$E = p * 0.051 * S^{2.0}$ PM10 Emissions from grading (lb/VMT) Table 11.9-1 EMISSION FACTOR EQUATIONS FOR UNCONTROLLED OPEN DUST SOURCES AT WESTERN SURFACE COAL MINES (Overburden)

0.6 p = particle size multiplier for PM10
7.1 S = mean vehicle speed (mph) (from Table 11.9-3 for grader)
1.54 lb/VMT of PM10

$E = p * 0.040 * S^{2.5}$ PM2.5 Emissions from grading (lb/VMT) Table 11.9-1 EMISSION FACTOR EQUATIONS FOR UNCONTROLLED OPEN DUST SOURCES AT WESTERN SURFACE COAL MINES (Overburden)

0.031 p = particle size multiplier for PM2.5
7.1 S = mean vehicle speed (mph) (from Table 11.9-3 for grader)
0.17 lb/VMT of PM2.5

Equipment	Number of Vehicles (month 13)	Hours/ Day	VMT/day/ vehicle	Watering Control Efficiency	PM10 Emissions (lb/day)	PM2.5 Emissions (lb/day)	Number of Vehicles per year (months 13-24)	VMT/year/ vehicle	PM10 Emissions (ton/yr)	PM2.5 Emissions (ton/yr)
Compactor	3	7	2	68%	2.96	0.32	9	730	0.541	0.058
Dozer	1	8		68%	1.85	1.02	4		0.111	0.061
Maxi Sneeker (Trencher)	5	9	2	68%	4.94	0.53	30	730	0.901	0.097
Skid Steer (Bobcat)	4	7		68%	6.36	3.50	20		0.477	0.262
Grader	2	7	4	68%	3.95	0.43	6	1460	0.721	0.078
				Grading Total	**11.85**	**1.28**			**2.16**	**0.23**
				Bulldozing Total	**8.21**	**4.51**			**0.59**	**0.32**
				Total	**20.06**	**5.79**			**2.75**	**0.56**

12 months of earth work
12 total construction hours per work day
30 construction days per month

Water efficiency from CEQA Table 11-4 maximum value for watering active sites 2 times daily

Dirt Piling or Material Handling

PM10 Emissions from Material Handling (lb/ton) from EPA AP-42 Chapter 13.2.4 Eq. 1

$E = k * 0.0032 * (U/5)^{1.3} / (M/2)^{1.4}$ E = Emission factor (lb/ton material handled)

7.45 U = Mean Wind speed (mph) (from 1991-1995 Imperial Co. airport data)
12 M = Moisture content of surface material (%) (from Table 13.2.4-1 for cover at municipal landfill)

	$PM_{2.5}$	PM_{10}
k	0.053	0.35

0.00003 lb/ton of PM2.5
0.00022 lb/ton of PM10

Equipment	Number of Vehicles (month 13)	Hours/ Day	Material Handled per Day (ton)	Watering Control Efficiency	PM10 Emissions (lb/day)	PM2.5 Emissions (lb/day)	Number of Vehicles per year (months 13-24)	Material Handled per year (ton)	PM10 Emissions (ton/yr)	PM2.5 Emissions (ton/yr)
Backhoe	4	7	2,804	68%	0.1966	0.0298	19	1009503	0.035	0.005
Wheeled Loader	3	7	2,804	68%	0.1966	0.0298	12	1009503	0.035	0.005
Dump Trucks	3	12	5,608	68%	0.3932	0.0595	7	2,019,006	0.071	0.011
				Total	**0.79**	**0.12**			**0.14**	**0.02**

Water efficiency from CEQA Table 11-4 maximum value for watering active sites 2 times daily
Assume 50% soil movement from loaders and 50% from backhoes

4,033 yd3/day 5,608 ton/day
1,452,000 yd3/project 2,019,006 tons/project 2781 density of soil (lb/yd3) (USDA NRCS Physical Soil Properti 0.5 depth of disturbance (yards)
total project for Niland Fine Sand and Rositas Fine Sand soil)
600 acres = 1,452,000 cubic yds, assume depth of soils moved is
3000 total acres disturbed as described in Table 3-17 of Project Description
only a small portion of this soil is picked up and moved via dump druck

Cover Storage Pile

$E = 1.7 * G/1.5 * (365-H)/235 * I/15 * J$ SCAQMD Table A9-9-E

PM10 Emission factor from wind erosion of storage piles per day per acre

15 G = Silt content (%) (from CEQA Handbook Table A9-9-E-1 for blended ore and dirt)
12 H = Number of days with >= 0.01 inches of precipitation per year (from El Centro 2 SSW weather station WRCC)
2.5 I = Percentage of time that the unobstructed wind speed exceeds 12 mph at mean pile height
0.5 J = Fraction of TSP that is PM10 = 0.5
2.128 lb/acre/day

wind speed percentage based on 2005 wind speed data as recorded at El Centro 2 SSW station

Source	Quantity	Size of Pile (acre)	Hours/Day	Days/Year per Pile	Watering Control Efficiency	PM10 Emissions (lb/day)	PM2.5 Emissions (lb/day)	PM10 Emissions (tons/yr)	PM2.5 Emissions (tons/yr)
Cover Storage Pile	2	1	24	182.5	68%	1.36	0.30	0.12	0.03

Water efficiency from CEQA Table 11-4 maximum value for watering active sites 2 times daily
pile size assumed
piles present only for 6 months

Construction on-site fugitive dust PM10 | **Month 13 construction on-site fugitive dust** | **Months 13-24 construction on-site fugitive dust**

Vehicle Type	Number of Vehicles (month 13)	Max Daily Distance per Vehicle (mile/day)	Sealed Road - PM_{10} Fugitive Emissions	Paved Road - PM_{10} Fugitive Emissions	Unpaved Road - PM_{10} Fugitive Emissions	Earthmoving Equipment - PM_{10} Fugitive Emissions	Total PM_{10} Fugitive Emissions	Sealed Road - PM_{10} Fugitive Emissions	Paved Road - PM_{10} Fugitive Emissions	Unpaved Road - PM_{10} Fugitive Emissions	Earthmoving Equipment - PM_{10} Fugitive Emissions	Total PM_{10} Fugitive Emissions
			lb/day					ton/year				
Diesel Construction Equipment												
Air Compressor	2	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Asphalt Paver	0	0.2	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Backhoe	4	0	0.00	0.00	0.00	0.20	0.20	0.00	0.00	0.00	0.04	0.04
Compactor	3	0	0.00	0.00	0.00	2.96	2.96	0.00	0.00	0.00	0.54	0.54
Crane small	8	0.5	0.45	0.00	1.17		1.62	0.05	0.00	0.13		0.18
Crane large	0	0.5	0.00	0.00	0.00		0.00	0.00	0.00	0.12		0.12
Dozer	1	0	0.00	0.00	0.00	1.85	1.85	0.00	0.00	0.00	0.11	0.11
Generator	3	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Grader	2	0	0.00	0.00	0.00	3.95	3.95	0.00	0.00	0.00	0.72	0.72
Light Tower	2	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Loader	3	0	0.00	0.00	0.00	0.20	0.20	0.00	0.00	0.00	0.04	0.04
Maxi Sneeker (Trencher)	5	0	0.00	0.00	0.00	4.94	4.94	0.00	0.00	0.00	0.90	0.90
Skid Steer (Bobcat)	4	0	0.00	0.00	0.00	6.36	6.36	0.00	0.00	0.00	0.48	0.48
Welding Machine	3	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Equipment fueled with Propane												
Aerial Lift	4	1	0.11	0.00	0.77		0.89	0.02	0.00	0.11		0.13
Fork Lift	8	1	0.15	0.00	1.36		1.51	0.02	0.00	0.18		0.20
Telehandler	4	1	0.07	0.00	0.68		0.75	0.01	0.00	0.11		0.12
Vehicles with Onroad Engines for Emissions Estimates												
Busses	6	12	0.00	7.87	0.00		7.87	0.00	0.93	0.00		0.93
Concrete Pump	0	6	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Dump Truck	3	7	6.71	0.00	8.39	0.39	15.49	0.23	0.00	0.29	0.07	0.60
Flatbed Truck	9	28	56.84	0.00	0.00		56.84	8.43	0.00	0.00		8.43
Staff & Security Truck	5	33	3.90	0.00	0.00		3.90	0.70	0.00	0.00		0.70
Pickup Truck	10	12	6.47	0.00	2.32		8.79	1.16	0.00	0.42		1.58
Water/Soiltac Truck	4	12	7.67	0.00	28.77		36.44	1.29	0.00	4.86		6.15
Worker Passenger Vehicles	357	0.3	2.11	0.00	0.00		2.11	0.29	0.00	0.00		0.29
Suncatcher Delivery Trucks												
General Materials Delivery Trucks	0	6	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Suncatcher Pedestals Delivery Trucks	0	13	0.00	0.00	0.00		0.00	1.03	0.31	0.00		1.34
Stirling Engines	5	6	0.00	7.07	0.00		7.07	0.00	1.27	0.00		1.27
Suncatcher Metal Supports	10	6	0.00	14.15	0.00		14.15	0.00	2.55	0.00		2.55
Suncatcher Mirrors	6	6	0.00	8.49	0.00		8.49	0.00	1.53	0.00		1.53
Electrical and Control Systems	2	6	0.00	2.83	0.00		2.83	0.00	0.51	0.00		0.51
Azimuth and Elevation Drive	2	6	0.00	2.83	0.00		2.83	0.00	0.51	0.00		0.51
Storage piles						1.36	1.36				0.12	0.12
			84.49	**43.24**	**43.48**	**22.20**	**193.41**	**13.25**	**7.60**	**6.22**	**3.02**	**30.09**

Construction on-site fugitive dust PM2.5 | **Month 13 construction on-site fugitive dust** | **Months 13-24 construction on-site fugitive dust**

Vehicle Type	Number of Vehicles (month 13)	Max Daily Distance per Vehicle (mile/day)	Sealed Road - PM2.5 Fugitive Emissions	Paved Road - PM2.5 Fugitive Emissions	Unpaved Road - PM2.5 Fugitive Emissions	Earthmoving Equipment - PM2.5 Fugitive Emissions	Total PM2.5 Fugitive Emissions	Sealed Road - PM2.5 Fugitive Emissions	Paved Road - PM2.5 Fugitive Emissions	Unpaved Road - PM2.5 Fugitive Emissions	Earthmoving Equipment - PM2.5 Fugitive Emissions	Total PM2.5 Fugitive Emissions
			lb/day					ton/year				
Diesel Construction Equipment												
Air Compressor	2	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Asphalt Paver	0	0.2	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Backhoe	4	0	0.00	0.00	0.00	0.03	0.03	0.00	0.00	0.00	0.01	0.01
Compactor	3	0	0.00	0.00	0.00	0.32	0.32	0.00	0.00	0.00	0.06	0.06
Crane small	8	0.5	0.07	0.00	0.12		0.18	0.01	0.00	0.01		0.02
Crane large	0	0.5	0.00	0.00	0.00		0.00	0.00	0.00	0.01		0.01
Dozer	1	0	0.00	0.00	0.00	1.02	1.02	0.00	0.00	0.00	0.06	0.06
Generator	3	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Grader	2	0	0.00	0.00	0.00	0.43	0.43	0.00	0.00	0.00	0.08	0.08
Light Tower	2	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Loader	3	0	0.00	0.00	0.00	0.03	0.03	0.00	0.00	0.00	0.01	0.01
Maxi Sneeker (Trencher)	5	0	0.00	0.00	0.00	0.53	0.53	0.00	0.00	0.00	0.10	0.10
Skid Steer (Bobcat)	4	0	0.00	0.00	0.00	3.50	3.50	0.00	0.00	0.00	0.26	0.26
Welding Machine	3	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Equipment fueled with Propane												
Aerial Lift	4	1	0.02	0.00	0.08		0.09	0.00	0.00	0.01		0.01
Fork Lift	8	1	0.02	0.00	0.14		0.16	0.00	0.00	0.02		0.02
Telehandler	4	1	0.01	0.00	0.07		0.08	0.00	0.00	0.01		0.01
Vehicles with Onroad Engines for Emissions Estimates												
Busses	6	12	0.00	1.16	0.00		1.16	0.00	0.14	0.00		0.14
Concrete Pump	0	6	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Dump Truck	3	7	1.00	0.00	0.84	0.06	1.90	0.04	0.00	0.03	0.01	0.08
Flatbed Truck	9	28	8.45	0.00	0.00		8.45	1.25	0.00	0.00		1.25
Staff & Security Truck	5	33	0.54	0.00	0.00		0.54	0.10	0.00	0.00		0.10
Pickup Truck	10	12	0.94	0.00	0.23		1.17	0.17	0.00	0.04		0.21
Water/Soiltac Truck	4	12	1.15	0.00	2.88		4.02	0.19	0.00	0.49		0.68
Worker Passenger Vehicles	357	0.3	0.29	0.00	0.00		0.29	0.04	0.00	0.00		0.04
Suncatcher Delivery Trucks												
General Materials Delivery Trucks	0	6	0.00	0.00	0.00		0.00	0.00	0.00	0.00		0.00
Suncatcher Pedestals Delivery Trucks	0	13	0.00	0.00	0.00		0.00	0.15	0.05	0.00		0.20
Stirling Engines	5	6	0.00	1.05	0.00		1.05	0.00	0.19	0.00		0.19
Suncatcher Metal Supports	10	6	0.00	2.11	0.00		2.11	0.00	0.38	0.00		0.38
Suncatcher Mirrors	6	6	0.00	1.26	0.00		1.26	0.00	0.23	0.00		0.23
Electrical and Control Systems	2	6	0.00	0.42	0.00		0.42	0.00	0.08	0.00		0.08
Azimuth and Elevation Drive	2	6	0.00	0.42	0.00		0.42	0.00	0.08	0.00		0.08
Storage piles						0.30	0.30				0.03	0.03
			12.48	**6.42**	**4.35**	**6.21**	**29.46**	**1.96**	**1.13**	**0.62**	**0.61**	**4.31**

Solar Two
Fugitive Dust Emissions (offsite)

Short-term month = 13
annual construction activity for months = 13-24

Travel on paved road

$E = [k * (sL/2)^{0.65} * (W/3)^{1.5} - C] (1 - P/4N)$ EPA AP-42 Section 13.2.1 Paved Roads Equation 2

E = particulate emission factor (lb/VMT),
k = particle size multiplier for particle size range and units of interest

0.32 sL = road surface silt loading (grams per square meter) (g/m^2), Local CARB - Emission Inventory Database - Section 7.9 Entrained Paved Road Dust -
0.02 sL = road surface silt loading (grams per square meter) (g/m^2), Freeway Local Streets & Freeways (emission inventory code: 640-641-5400-0000), July 1997
W = average weight (tons) of the vehicles traveling the road, and
C = emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear.

constants

	$PM_{2.5}$	PM_{10}
k	0.0024	0.016
C	0.00036	0.00047

12 P = Mean number of days per year with at least 0.01 inches of precipitation (from EL CENTRO 2 SSW COOP Station)
365 N = number of days in the year (averaging period)

Vehicle Type	Number of Vehicles (month 13)	Number of Vehicles per year (months 13-24)	Max Daily Offsite Round-trip Distance per Vehicle within Imperial County (mile/day)	Max Daily VMT (all vehicles)	Max Annual VMT (all vehicles)	Mean Vehicle Weight (tons)	Max. Operating Hours / Day	Max. Operating Days / Month	$PM_{2.5}$ EF (lbs/VMT)	PM_{10} EF (lbs/VMT)
Vehicles with Onroad Engines for Emissions Estimates										
Busses	6	47	10	60	14100	12	12	30	0.005	0.038
Concrete Pump	0	0	40	0	0	20	12	30	0.012	0.083
Dump Truck	3	7	0	0	0	20	12	30	0.012	0.083
Flatbed Truck	9	89	0	0	0	10	12	30	0.004	0.029
Staff & Security Truck	5	60	0	0	0	2.25	24	30	0.000	0.003
Pickup Truck	10	120	0	0	0	4	12	30	0.001	0.007
Water/Soiltac Truck	4	45	0	0	0	20	12	30	0.012	0.083
Worker Passenger Vehicles	357	3288	40	14267	3945600	2	12	30	0.000	0.002
Suncatcher Delivery Trucks										
General Materials Delivery Trucks	0	0	100	0	0	20	24	30	0.012	0.083
Suncatcher Pedestals Delivery Trucks	0	15	240	0	108000	20	24	30	0.012	0.083
Stirling Engines	5	60	50	250	90000	20	24	30	0.002	0.013
Suncatcher Metal Supports	10	120	240	2400	864000	20	24	30	0.002	0.013
Suncatcher Mirrors	6	72	50	300	108000	20	24	30	0.002	0.013
Electrical and Control Systems	2	24	240	480	172800	20	24	30	0.002	0.013
Azimuth and Elevation Drive	2	24	50	100	36000	20	24	30	0.002	0.013

	Watering Control Efficiency		PM_{10} Emissions (lb/hr)		PM_{10} Emissions (lb/day)		% of daily emissions	PM_{10} Emissions (tons/year)		$PM_{2.5}$ Emissions (lb/hr)		$PM_{2.5}$ Emissions (lb/day)		$PM_{2.5}$ Emissions (tons/year)	
Vehicle Type	Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated		Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated
Vehicles with Onroad Engines for Emissions Estimates															
Busses	0%	0%	0.19	0.19	2.29	2.29	2.87%	0.27	0.27	0.03	0.03	0.33	0.33	0.04	0.04
Concrete Pump	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flatbed Truck	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Staff & Security Truck	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water/Soiltac Truck	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Passenger Vehicles	0%	0%	2.57	2.57	30.80	30.80	38.61%	4.26	4.26	0.04	0.04	0.52	0.52	0.07	0.07
Suncatcher Delivery Trucks															
General Materials Delivery Trucks	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Pedestals Delivery Trucks	0%	0%	0.00	0.00	0.00	0.00	0.00%	4.46	4.46	0.00	0.00	0.00	0.00	0.65	0.65
Stirling Engines	0%	0%	0.14	0.14	3.31	3.31	4.14%	0.60	0.60	0.02	0.02	0.42	0.42	0.08	0.08
Suncatcher Metal Supports	0%	0%	1.32	1.32	31.74	31.74	39.79%	5.71	5.71	0.17	0.17	4.07	4.07	0.73	0.73
Suncatcher Mirrors	0%	0%	0.17	0.17	3.97	3.97	4.97%	0.71	0.71	0.02	0.02	0.51	0.51	0.09	0.09
Electrical and Control Systems	0%	0%	0.26	0.26	6.35	6.35	7.96%	1.14	1.14	0.03	0.03	0.81	0.81	0.15	0.15
Azimuth and Elevation Drive	0%	0%	0.06	0.06	1.32	1.32	1.66%	0.24	0.24	0.01	0.01	0.17	0.17	0.03	0.03
TOTAL Fugitive emissions for vehicle travel offsite paved roads			**4.70**	**4.70**	**79.76**	**79.76**		**17.39**	**17.39**	**0.32**	**0.32**	**6.84**	**6.84**	**1.84**	**1.84**

Number of Vehicles per year = sum of monthly daily maximum vehicle usage for the peak 12 months
delivery trucks can arrive at the site anytime during the day or night

CY	Season	AvgDays	Code	Equipment	Fuel	MaxHP	Class	C/R	Pre	Hand	Port	County	Air B	Air D	Population	Activity (hr/day) total population	Consumptio	PM Exhaust (tons/day)	CO Exhaust (tons/day)	ROG Exhaust (tons/day)	NOX Exhaust (tons/day)	SO2 Exhaust (tons/day)	CO2 Exhaust (tons/day)	CH4 Exhaust (tons/day)	N2O Exhaust (tons/day)	PM Exhaust/Activity (tons/hr)	CO Exhaust/Activity (tons/hr)	ROG Exhaust/Activity (tons/hr)	NOX Exhaust/Activity (tons/hr)	SO2 Exhaust/Activity (tons/hr)	CO2 Exhaust/Activity (tons/hr)	CH4 Exhaust/Activity (tons/hr)	N2O Exhaust/Activity (tons/hr)
2009	Annual	Mon-Sun	2270002033	Bore/Drill Rigs	D	15	Construction and Mining Equipmer	U	P	NHH	P	Imperial	SS	IMP	2.70E-02	6.00E-02	2.83E-02	1.14E-07	1.89E-06	3.62E-07	2.27E-06	4.82E-09	3.10E-04	3.26E-08	0.00E+00	1.90E-06	3.16E-05	6.03E-06	3.78E-05	8.04E-08	5.17E-03	5.44E-07	0.00E+00
2009	Annual	Mon-Sun	2270002033	Bore/Drill Rigs	D	25	Construction and Mining Equipmer	U	P	NHH	P	Imperial	SS	IMP	8.09E-02	1.80E-01	1.31E-01	6.45E-07	5.97E-06	1.81E-06	1.16E-05	1.82E-08	1.44E-03	1.63E-07	0.00E+00	3.58E-06	3.32E-05	1.01E-05	6.48E-05	1.01E-07	7.99E-03	9.09E-07	0.00E+00
2009	Annual	Mon-Sun	2270002033	Bore/Drill Rigs	D	50	Construction and Mining Equipmer	U	P	NHH	P	Imperial	SS	IMP	3.53E-01	8.18E-01	1.17E+00	9.06E-06	1.07E-04	2.73E-05	1.17E-04	1.64E-07	1.27E-02	2.47E-06	0.00E+00	1.11E-05	1.30E-04	3.34E-05	1.43E-04	2.00E-07	1.55E-02	3.02E-06	0.00E+00
2009	Annual	Mon-Sun	2270002033	Bore/Drill Rigs	D	120	Construction and Mining Equipmer	U	P	NHH	P	Imperial	SS	IMP	1.08E+00	2.51E+00	8.84E+00	6.54E-05	6.10E-04	1.08E-04	8.54E-04	1.13E-06	9.67E-02	9.71E-06	0.00E+00	2.60E-05	2.43E-04	4.29E-05	3.40E-04	4.52E-07	3.85E-02	3.87E-06	0.00E+00
2009	Annual	Mon-Sun	2270002033	Bore/Drill Rigs	D	175	Construction and Mining Equipmer	U	P	NHH	P	Imperial	SS	IMP	2.51E-01	5.81E-01	3.73E+00	1.53E-05	2.19E-04	3.05E-05	2.96E-04	4.61E-07	4.09E-02	2.75E-06	0.00E+00	2.64E-05	3.77E-04	5.25E-05	5.10E-04	7.93E-07	7.05E-02	4.74E-06	0.00E+00
2009	Annual	Mon-Sun	2270002033	Bore/Drill Rigs	D	250	Construction and Mining Equipmer	U	N	NHH	P	Imperial	SS	IMP	2.16E-01	5.00E-01	4.25E+00	9.87E-06	8.68E-05	2.49E-05	3.27E-04	5.28E-07	4.69E-02	2.25E-06	0.00E+00	1.97E-05	1.74E-04	4.99E-05	6.55E-04	1.06E-06	9.40E-02	4.50E-06	0.00E+00
2009	Annual	Mon-Sun	2270002033	Bore/Drill Rigs	D	500	Construction and Mining Equipmer	U	N	NHH	P	Imperial	SS	IMP	4.80E-01	1.11E+00	1.56E+01	3.47E-05	3.11E-04	8.44E-05	1.03E-03	1.70E-06	1.73E-01	7.61E-06	0.00E+00	3.12E-05	2.79E-04	7.59E-05	9.22E-04	1.53E-06	1.56E-01	6.85E-06	0.00E+00
2009	Annual	Mon-Sun	2270002033	Bore/Drill Rigs	D	750	Construction and Mining Equipmer	U	N	NHH	P	Imperial	SS	IMP	1.24E+00	2.86E+00	7.97E+01	1.80E-04	1.58E-03	4.41E-04	5.43E-03	8.85E-06	8.80E-01	3.98E-05	0.00E+00	6.28E-05	5.52E-04	1.54E-04	1.89E-03	3.09E-06	3.07E-01	1.39E-05	0.00E+00
2009	Annual	Mon-Sun	2270002033	Bore/Drill Rigs	D	1000	Construction and Mining Equipmer	U	N	NHH	P	Imperial	SS	IMP	2.07E+00	4.80E+00	2.02E+02	5.19E-04	4.15E-03	1.38E-03	2.10E-02	2.24E-05	2.23E+00	1.24E-04	0.00E+00	1.08E-04	8.64E-04	2.87E-04	4.38E-03	4.66E-06	4.64E-01	2.59E-05	0.00E+00
2009	Annual	Mon-Sun	2270002042	Cement and Mortar Mixers	D	15	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	1.38E+00	1.13E+00	3.27E-01	1.86E-06	2.21E-05	4.67E-06	3.01E-05	5.57E-08	3.58E-03	4.21E-07	0.00E+00	1.64E-06	1.95E-05	4.12E-06	2.66E-05	4.91E-08	3.16E-03	3.72E-07	0.00E+00
2009	Annual	Mon-Sun	2270002042	Cement and Mortar Mixers	D	25	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	1.24E-01	1.02E-01	8.20E-02	5.92E-07	5.05E-06	1.91E-06	8.55E-06	1.14E-08	8.95E-04	1.72E-07	0.00E+00	5.80E-06	4.95E-05	1.87E-05	8.38E-05	1.11E-07	8.77E-03	1.69E-06	0.00E+00
2009	Annual	Mon-Sun	2270002039	Concrete/Industrial Saws	D	25	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	1.08E-02	1.75E-02	1.31E-02	6.17E-08	5.93E-07	1.76E-07	1.13E-06	1.83E-09	1.44E-04	1.59E-08	0.00E+00	3.53E-06	3.39E-05	1.01E-05	6.47E-05	1.04E-07	8.23E-03	9.09E-07	0.00E+00
2009	Annual	Mon-Sun	2270002039	Concrete/Industrial Saws	D	50	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	9.44E-02	1.50E-01	2.11E-01	2.38E-06	2.48E-05	9.92E-06	2.34E-05	2.93E-08	2.26E-03	8.95E-07	0.00E+00	1.59E-05	1.65E-04	6.61E-05	1.56E-04	1.95E-07	1.51E-02	5.97E-06	0.00E+00
2009	Annual	Mon-Sun	2270002039	Concrete/Industrial Saws	D	120	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	1.64E-01	2.62E-01	8.89E-01	9.87E-06	6.57E-05	1.88E-05	1.19E-04	1.14E-07	9.69E-03	1.70E-06	0.00E+00	3.77E-05	2.51E-04	7.20E-05	4.55E-04	4.35E-07	3.70E-02	6.49E-06	0.00E+00
2009	Annual	Mon-Sun	2270002039	Concrete/Industrial Saws	D	175	Construction and Mining Equipmer	U	P	NHH	NP	Imperial	SS	IMP	5.39E-03	8.58E-03	6.27E-02	3.87E-07	3.78E-06	8.80E-07	7.49E-06	7.72E-09	6.86E-04	7.94E-08	0.00E+00	4.51E-05	4.41E-04	1.03E-04	8.73E-04	9.00E-07	8.00E-02	9.26E-06	0.00E+00
2009	Annual	Mon-Sun	2270002045	Cranes	D	50	Construction and Mining Equipmer	U	P	NHH	P	Imperial	SS	IMP	9.17E-02	3.22E-01	3.52E-01	4.89E-06	5.25E-05	2.21E-05	4.16E-05	4.82E-08	3.73E-03	2.00E-06	0.00E+00	1.52E-05	1.63E-04	6.87E-05	1.29E-04	1.50E-07	1.16E-02	6.20E-06	0.00E+00
2009	Annual	Mon-Sun	2270002045	Cranes	D	120	Construction and Mining Equipmer	U	P	NHH	P	Imperial	SS	IMP	1.01E+00	3.53E+00	8.14E+00	1.12E-04	6.64E-04	2.09E-04	1.22E-03	1.04E-06	8.85E-02	1.89E-05	0.00E+00	3.16E-05	1.88E-04	5.93E-05	3.45E-04	2.94E-07	2.51E-02	5.35E-06	0.00E+00
2009	Annual	Mon-Sun	2270002045	Cranes	D	175	Construction and Mining Equipmer	U	P	NHH	P	Imperial	SS	IMP	1.01E+00	3.53E+00	1.30E+01	9.94E-05	8.66E-04	2.25E-04	1.74E-03	1.60E-06	1.42E-01	2.03E-05	0.00E+00	2.81E-05	2.45E-04	6.37E-05	4.92E-04	4.52E-07	4.01E-02	5.75E-06	0.00E+00

Title : solar two 2010
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2008/04/29 13:46:11
Scen Year: 2010 -- All model years in the range 1970 to 2010 selected
Season : Annual
Area : Imperial County APCD
****

Year: 2010 -- Model Years 1970 to 2010 Inclusive -- Annual
Emfac2007 Emission Factors: V2.3 Nov 1 2006

District Average District Average Imperial County APCD

Table 1: Running Exhaust Emissions (grams/mile; grams/idle-hour)

Pollutant Name: Reactive Org Gases Temperature: 90F Relative Humidity: 10%

Speed MPH	LDA NCAT	LDA CAT	LDA DSL	LDA ALL	LDT1 NCAT	LDT1 CAT	LDT1 DSL	LDT1 ALL	LDT2 NCAT	LDT2 CAT	LDT2 DSL	LDT2 ALL	MDV NCAT	MDV CAT	MDV DSL	MDV ALL	LHD1 NCAT	LHD1 CAT	LHD1 DSL	LHD1 ALL	LHD2 NCAT	LHD2 CAT	LHD2 DSL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.704	26.243	3.173	19.298	25.704	26.011	3.173
5	20.47	1.396	0.495	1.483	18.501	1.192	0.232	1.368	18.566	0.76	0.459	0.862	25.673	0.516	0.204	0.573	21.391	0.628	0.403	0.603	21.391	2.266	0.531
10	14.549	0.911	0.388	0.973	13.146	0.804	0.182	0.933	13.193	0.503	0.36	0.576	18.254	0.334	0.16	0.375	13.982	0.409	0.317	0.409	13.982	1.475	0.417
15	10.817	0.626	0.312	0.672	9.772	0.569	0.146	0.667	9.807	0.35	0.289	0.405	13.578	0.227	0.128	0.258	9.519	0.278	0.254	0.289	9.519	1	0.335
20	8.414	0.452	0.256	0.488	7.599	0.421	0.12	0.499	7.626	0.256	0.237	0.299	10.567	0.163	0.105	0.187	6.749	0.196	0.209	0.213	6.749	0.706	0.274
25	6.848	0.343	0.214	0.373	6.183	0.327	0.101	0.391	6.205	0.197	0.199	0.232	8.605	0.124	0.088	0.143	4.983	0.144	0.175	0.163	4.983	0.518	0.23
30	5.833	0.275	0.184	0.301	5.266	0.266	0.086	0.322	5.285	0.158	0.17	0.188	7.334	0.099	0.076	0.116	3.833	0.111	0.15	0.13	3.833	0.397	0.197
35	5.202	0.232	0.161	0.255	4.696	0.227	0.076	0.277	4.712	0.134	0.149	0.161	6.543	0.083	0.066	0.098	3.073	0.088	0.131	0.107	3.073	0.316	0.173
40	4.859	0.207	0.144	0.228	4.385	0.203	0.068	0.251	4.4	0.119	0.134	0.144	6.112	0.074	0.059	0.088	2.568	0.074	0.118	0.092	2.568	0.263	0.155
45	4.752	0.194	0.132	0.215	4.289	0.191	0.062	0.237	4.304	0.112	0.123	0.136	5.979	0.069	0.054	0.082	2.238	0.064	0.108	0.082	2.238	0.229	0.142
50	4.869	0.192	0.124	0.214	4.394	0.188	0.058	0.236	4.409	0.11	0.115	0.135	6.125	0.068	0.051	0.082	2.036	0.058	0.101	0.075	2.036	0.207	0.133

Pollutant Name: Carbon Monoxide Temperature: 90F Relative Humidity: 10%

Pollutant Name: Oxides of Nitrogen Temperature: 90F Relative Humidity: 10%

Pollutant Name: Carbon Dioxide Temperature: 90F Relative Humidity: 10%

Pollutant Name: Sulfur Dioxide Temperature: 90F Relative Humidity: 10%

Pollutant Name: PM10 Temperature: 90F Relative Humidity: 10%

Pollutant Name: PM10 - Tire Wear Temperature: 90F Relative Humidity: 10%

Pollutant Name: PM10 - Break Wear Temperature: 90F Relative Humidity: 10%

Pollutant Name: Gasoline - mi/gal Temperature: 90F Relative Humidity: 10%

Pollutant Name: Diesel - mi/gal Temperature: 90F Relative Humidity: 10%

For on-site activity (mean vehicle speed = 10 mph, Temperature: 90F, Relative Humidity: 10%)

	Emission Factors (g/mile)									
	PM_{10}	$PM_{2.5}$	CO	ROG	NO_x	SO_x	CO_2	CH_4	N_2O	Assumptions for CH_4 and N_2O from Reference sources TAB
LDA-ALL	0.0580	0.0418	10.3680	0.9730	0.9710	0.0080	857.0070	0.05	0.06	Passenger Cars - Gasoline - Model Year 2000 - Present
LHD1-DSL	0.1090	0.0859	2.0220	0.3170	5.6120	0.0050	520.7810	0.01	0.03	Light Duty Truck - Diesel all model years
HHD-DSL	1.6970	1.5234	12.3530	5.7800	27.5480	0.0300	3165.4460	0.06	0.05	Heavy Duty Trucks - Diesel and Alternative Fuels - Model Year 1996 - Present
OBUS-CAT	0.0660	0.0463	41.8980	3.5650	3.1710	0.0170	1672.2670	0.12	0.20	Other Bus - Gasoline (with catalyst) - Model Year 1996 - Present

For off-site activity (mean vehicle speed = 50 mph, Temperature: 90F, Relative Humidity: 10%)

	Emission Factors (g/mile)									
	PM_{10}	$PM_{2.5}$	CO	ROG	NO_x	SO_x	CO_2	CH_4	N_2O	Assumptions for CH_4 and N_2O from Reference sources TAB
LDA-ALL	0.0290	0.0150	5.3480	0.2140	0.6310	0.0030	353.6330	0.05	0.06	Passenger Cars - Gasoline - Model Year 2000 - Present
LHD1-DSL	0.0520	0.0334	0.5320	0.1010	4.5220	0.0050	520.7810	0.01	0.03	Light Duty Truck - Diesel all model years
HHD-DSL	0.5620	0.4792	3.0340	0.6580	14.8180	0.0160	1670.6790	0.06	0.05	Heavy Duty Trucks - Diesel and Alternative Fuels - Model Year 1996 - Present
OBUS-CAT	0.0310	0.0141	11.6490	0.4930	4.3940	0.0050	464.9530	0.12	0.20	Other Bus - Gasoline (with catalyst) - Model Year 1996 - Present

Note:

$PM_{2.5}$ emission factors determined using guidance from SCAQMD
Final - Methodology to Calculate $PM_{2.5}$ and $PM_{2.5}$ Significance Thresholds
10/1/2006, Appendix A - Updated CEIDARS Table with $PM_{2.5}$ Fractions

On-road vehicles

- $PM_{2.5}$ Fraction of PM_{10}, Brake wear: 0.429
- $PM_{2.5}$ Fraction of PM_{10}, Diesel: 0.920
- $PM_{2.5}$ Fraction of PM_{10}, Gasoline-catalyst: 0.928
- $PM_{2.5}$ Fraction of PM_{10}, Tire wear: 0.250

Reference source 1: Table C.5, California Climate Action Registry General Reporting Protocol Version

Table C.5: Methane and Nitrous Oxide Emission Factors for Mobile Sources by Vehicle and Fuel Type

Vehicle Types/Model Years	CH_4 (g/mile)	N_2O (g/mile)
Passenger Cars - Gasoline		
Model Year 1966-1972	0.22	0.02
Model Year 1973-1974	0.19	0.02
Model Year 1975-1979	0.11	0.05
Model Year 1980-1983	0.07	0.08
Model Year 1984-1991	0.06	0.08
Model Year 1992	0.06	0.07
Model Year 1993	0.05	0.05
Model Year 1994-1999	0.05	0.04
Model Year 2000– present	0.04	0.04
Passenger Cars - Alternative Fuels and Diesel		
CNG Model Year 2000– present	0.04	0.04
LPG Model Year 2000– present	0.04	0.04
E85 Model Year 2000– present	0.04	0.04
Diesel all model years	0.01	0.02
Light Duty Truck (<5750 GVWR*) - Gasoline		
Model Year 1966-1972	0.22	0.02
Model Year 1973-1974	0.23	0.02
Model Year 1975-1979	0.14	0.07
Model Year 1980-1983	0.12	0.13
Model Year 1984-1991	0.11	0.14
Model Year 1992	0.09	0.11
Model Year 1993	0.07	0.08
Model Year 1994-1999	0.06	0.06
Model Year 2000– present	0.05	0.06

Table C.5: Methane and Nitrous Oxide Emission Factors for Mobile Sources by Vehicle and Fuel Type (continued)

Vehicle Types/Model Years	CH_4 (g/mile)	N_2O (g/mile)
Light Duty Truck - Alternative Fuels and Diesel		
CNG Model Year 2000– present	0.05	0.06
LPG Model Year 2000– present	0.05	0.06
E85 Model Year 2000– present	0.05	0.06
Diesel all model years	0.01	0.03
Heavy-Duty Vehicle (>5751 GVWR) - Gasoline		
Model Year 1981 and older	0.43	0.04
Model Year 1982-1984	0.42	0.05
Model Year 1985-1986	0.20	0.05
Model Year 1987	0.18	0.09
Model Year 1988-1989	0.17	0.09
Model Year 1990-present	0.12	0.20
Heavy Duty Trucks - Diesel and Alternative Fuels		
Model Year 1966-1982	0.10	0.05
Model Year 1983-1995	0.08	0.05
Model Year 1996 to present	0.06	0.05
CNG, LNG	3.48	0.05
FTD, Biodiesel	0.06	0.05
Motorcycles		
Model Year 1966-1995	0.42	0.01
Model Year 1996-present	0.09	0.01
Off-Road Vehicles/Construction Equipment by Fuel Type		
	CH_4 (kg/gallon)	N_2O (kg/gallon)
Butane	9.1×10^{-5}	4.1×10^{-4}
Distillate Fuel	.0014	.0001
Liquefied Petroleum Gas (LPG)	.0010	.0001
Motor Gasoline	.0013	.0001
Propane	9.1×10^{-5}	4.1×10^{-4}

Attachment AQ-3 part 2
Overlap of Construction and Operations Emissions [month 13-24]
(March 20, 2009)

Table 5.2-27c New

Estimated Maximum Annual Construction and Operations Overlapping Emissions for Months 11-22 (tons/year)

CONSTRUCTION						
Activity	**PM_{10}**	**$PM_{2.5}$**	**CO**	**ROC**	**NO_x**	**SO_x**
On-Site Construction Emissions						
On-Site Combustion Emissions						
Construction Equipment	1.16	1.07	21.88	3.48	19.46	0.02
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.18	0.16	2.53	0.70	2.91	0.004
Worker Vehicles	0.002	0.001	0.338	0.032	0.032	0.0003
Security Vehicles	0.001	0.001	0.137	0.004	0.002	0.001
Suncatcher Delivery Trucks	0.112	0.100	0.814	0.381	1.816	0.002
Subtotal of On-site Combustion Emissions	**1.45**	**1.33**	**25.70**	**4.60**	**24.22**	**0.02**
On-Site Fugitive Dust Emissions						
Construction Equipment	3.57	0.65				
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	17.81	2.38				
Worker Vehicles	0.29	0.04				
Security Vehicles	0.70	0.10				
Suncatcher Delivery Trucks	7.70	1.15				
Subtotal of On-Site Fugitive Dust Emissions	**30.09**	**4.31**				
Subtotal of On-Site Emissions	**31.54**	**5.64**	**25.70**	**4.60**	**24.22**	**0.02**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.00	0.00	0.65	0.06	0.05	0.00
Worker Vehicles	0.25	0.18	45.05	4.23	4.22	0.03
Suncatcher Delivery Trucks	2.58	2.31	18.76	8.78	41.83	0.05
Subtotal of Off-Site Combustion Emissions	**2.83**	**2.50**	**64.46**	**13.06**	**46.10**	**0.08**
Off-Site Paved Road Fugitive Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.27	0.04	0.00	0.00	0.00	0.00
Worker Vehicles	4.26	0.07	0.00	0.00	0.00	0.00
Suncatcher Delivery Trucks	12.86	1.73	0.00	0.00	0.00	0.00
Subtotal of Off-Site Fugitive Emissions	**17.39**	**1.84**	**0.00**	**0.00**	**0.00**	**0.00**
Subtotal of Off-Site Emissions	**20.22**	**4.34**	**64.46**	**13.06**	**46.10**	**0.08**
Total Maximum Annual Emissions	**51.75**	**9.98**	**90.16**	**17.66**	**70.32**	**0.10**
OPERATIONS						
On-Site Operational Emissions						
On-Site Combustion Emissions						
Diesel Generator	0.00	0.00	0.00	0.00	0.02	0.00
Maintenance & Security Vehicles and Equipment	0.01	0.01	5.47	0.72	0.70	0.00
Worker Vehicles	0.00	0.00	0.37	0.03	0.03	0.00
Visitor Cars and Delivery Trucks	0.00	0.00	0.03	0.00	0.01	0.00
Subtotal of On-site Combustion Emissions	**0.01**	**0.01**	**5.86**	**0.76**	**0.76**	**0.00**
On-Site Fugitive Emissions						
Diesel Generator						
Gasoline Tank				0.65		
Maintenance & Security Vehicles and Equipment	6.02	0.89				
Worker Vehicles	0.13	0.01				
Visitor Cars and Delivery Trucks	0.07	0.01				
Subtotal of On-Site Fugitive Dust Emissions	**6.21**	**0.92**		**0.65**		
Subtotal of On-Site Emissions	**6.22**	**0.93**	**5.86**	**1.41**	**0.76**	**0.00**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Worker Vehicles	0.01	0.01	2.54	0.10	0.30	0.00
Visitor Cars and Delivery Trucks	0.00	0.00	0.19	0.01	0.07	0.00
Subtotal of Off-Site Combustion Emissions	**0.02**	**0.01**	**2.74**	**0.11**	**0.37**	**0.00**
Off-Site Paved Road Fugitive Emissions						
Worker Vehicles	0.52	0.01	0.00	0.00	0.00	0.00
Visitor Cars and Delivery Trucks	0.14	0.02	0.00	0.00	0.00	0.00
Subtotal of Off-Site FugitiveEmissions	**0.66**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**
Subtotal of Off-Site Emissions	**0.68**	**0.04**	**2.74**	**0.11**	**0.37**	**0.00**
Total Maximum Emissions	**6.90**	**0.97**	**8.60**	**1.52**	**1.13**	**0.00**
Construction and Operations Overlapping Emissions						
Total of On-Site Emissions Construction & Operations	**37.76**	**6.57**	**31.56**	**6.01**	**24.98**	**0.03**
Total of Off-Site Emissions Construction & Operations	**20.90**	**4.38**	**67.20**	**13.17**	**46.47**	**0.08**
Construction & Operations Overlap Total	**58.66**	**10.95**	**98.76**	**19.18**	**71.45**	**0.11**

Table 5.2-27b New
Estimated Maximum Daily Construction and Operations Overlapping Emissions for Month 11 (lbs/day)

CONSTRUCTION						
Activity	**PM_{10}**	**$PM_{2.5}$**	**CO**	**ROC**	**NO_x**	**SO_x**
On-Site Construction Emissions						
On-Site Combustion Emissions						
Construction Equipment	12.96	11.94	187.46	37.96	199.84	0.19
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	1.23	1.10	18.12	4.91	20.24	0.03
Worker Vehicles	0.01	0.01	2.44	0.23	0.23	0.00
Security Vehicles	0.00	0.00	0.76	0.02	0.01	0.00
Suncatcher Delivery Trucks	0.56	0.50	4.08	1.91	9.10	0.01
Subtotal of On-site Combustion Emissions	**14.77**	**13.55**	**212.87**	**45.03**	**229.41**	**0.23**
On-Site Fugitive Dust Emissions						
Construction Equipment	25.22	6.36				
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	126.80	17.01				
Worker Vehicles	2.11	0.29				
Security Vehicles	3.90	0.54				
Suncatcher Delivery Trucks	35.37	5.26				
Subtotal of On-Site Fugitive Dust Emissions	**193.41**	**29.46**				
Subtotal of On-Site Emissions	**208.18**	**43.02**	**212.87**	**45.03**	**229.41**	**0.23**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.01	0.01	5.54	0.47	0.42	0.00
Worker Vehicles	1.82	1.31	325.81	30.58	30.51	0.25
Suncatcher Delivery Trucks	13.19	11.84	96.05	44.94	214.19	0.23
Subtotal of Off-Site Combustion Emissions	**15.03**	**13.16**	**427.39**	**75.99**	**245.13**	**0.49**
Off-Site Paved Road Fugitive Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	2.29	0.03	0.00	0.00	0.00	0.00
Worker Vehicles	30.80	0.39	0.00	0.00	0.00	0.00
Suncatcher Delivery Trucks	46.68	0.59	0.00	0.00	0.00	0.00
Subtotal of Off-Site Fugitive Emissions	**79.76**	**1.00**	**0.00**	**0.00**	**0.00**	**0.00**
Subtotal of Off-Site Emissions	**94.79**	**14.16**	**427.39**	**75.99**	**245.13**	**0.49**
Total Maximum Annual Emissions	**302.96**	**57.18**	**640.27**	**121.02**	**474.54**	**0.72**
OPERATIONS						
On-Site Operational Emissions						
On-Site Combustion Emissions						
Diesel Generator	0.01	0.01	0.07	0.03	0.85	0.02
Maintenance & Security Vehicles and Equipment	0.02	0.02	14.72	1.94	1.88	0.01
Worker Vehicles	0.01	0.00	0.99	0.09	0.09	0.00
Visitor Cars and Delivery Trucks	0.01	0.01	0.14	0.04	0.15	0.00
Subtotal of On-site Combustion Emissions	**0.05**	**0.05**	**15.93**	**2.10**	**2.97**	**0.03**
On-Site Fugitive Emissions						
Diesel Generator						
Gasoline Tank				3.55		
Maintenance & Security Vehicles and Equipment	16.21	2.40				
Worker Vehicles	0.34	0.04				
Visitor Cars and Delivery Trucks	0.99	0.15				
Subtotal of On-Site Fugitive Dust Emissions	**17.54**	**2.59**		**3.55**		
Subtotal of On-Site Emissions	**17.59**	**2.63**	**15.93**	**5.65**	**2.97**	**0.03**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Worker Vehicles	0.04	0.02	6.85	0.27	0.80	0.00
Visitor Cars and Delivery Trucks	0.03	0.02	0.82	0.06	0.81	0.00
Subtotal of Off-Site Combustion Emissions	**0.07**	**0.04**	**7.67**	**0.33**	**1.61**	**0.01**
Off-Site Paved Road Fugitive Emissions						
Worker Vehicles	1.40	0.04	0.00	0.00	0.00	0.00
Visitor Cars and Delivery Trucks	1.86	0.25	0.00	0.00	0.00	0.00
Subtotal of Off-Site FugitiveEmissions	**3.26**	**0.29**	**0.00**	**0.00**	**0.00**	**0.00**
Subtotal of Off-Site Emissions	**3.33**	**0.34**	**7.67**	**0.33**	**1.61**	**0.01**
Total Maximum Emissions	**20.92**	**2.97**	**23.60**	**5.99**	**4.59**	**0.03**
Construction and Operations Overlapping Emissions						
Total of On-Site Emissions Construction & Operations	**225.77**	**45.65**	**228.80**	**50.69**	**232.39**	**0.26**
Total of Off-Site Emissions Construction & Operations	**98.12**	**14.50**	**435.06**	**76.32**	**246.74**	**0.49**
Construction & Operations Overlap Total	**323.89**	**60.15**	**663.86**	**127.01**	**479.13**	**0.75**

Table 5.2-27a New
Estimated Maximum Daily Construction and Operations Overlapping Emissions for Month 11 (lbs/hour)

CONSTRUCTION						
Activity	**PM_{10}**	**$PM_{2.5}$**	**CO**	**ROC**	**NO_x**	**SO_x**
On-Site Construction Emissions						
On-Site Combustion Emissions						
Construction Equipment	0.54	0.50	7.81	1.58	8.33	0.01
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.05	0.05	0.75	0.20	0.84	0.00
Worker Vehicles	0.00	0.00	0.10	0.01	0.01	0.00
Security Vehicles	0.00	0.00	0.03	0.00	0.00	0.00
Suncatcher Delivery Trucks	0.02	0.02	0.17	0.08	0.38	0.00
Subtotal of On-site Combustion Emissions	**0.62**	**0.56**	**8.87**	**1.88**	**9.56**	**0.01**
On-Site Fugitive Dust Emissions						
Construction Equipment	1.05	0.27				
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	5.28	0.71				
Worker Vehicles	0.09	0.01				
Security Vehicles	0.16	0.02				
Suncatcher Delivery Trucks	1.47	0.22				
Subtotal of On-Site Fugitive Dust Emissions	**8.06**	**1.23**				
Subtotal of On-Site Emissions	**8.67**	**1.79**	**8.87**	**1.88**	**9.56**	**0.01**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.00	0.00	0.23	0.02	0.02	0.00
Worker Vehicles	0.08	0.05	13.58	1.27	1.27	0.01
Suncatcher Delivery Trucks	0.55	0.49	4.00	1.87	8.92	0.01
Subtotal of Off-Site Combustion Emissions	**0.63**	**0.55**	**17.81**	**3.17**	**10.21**	**0.02**
Off-Site Paved Road Fugitive Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.10	0.00	0.00	0.00	0.00	0.00
Worker Vehicles	1.28	0.02	0.00	0.00	0.00	0.00
Suncatcher Delivery Trucks	1.94	0.02	0.00	0.00	0.00	0.00
Subtotal of Off-Site Fugitive Emissions	**3.32**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**
Subtotal of Off-Site Emissions	**3.95**	**0.59**	**17.81**	**3.17**	**10.21**	**0.02**
Total Maximum Annual Emissions	**12.62**	**2.38**	**26.68**	**5.04**	**19.77**	**0.03**
OPERATIONS						
On-Site Operational Emissions						
On-Site Combustion Emissions						
Diesel Generator	0.00	0.00	0.00	0.00	0.04	0.00
Maintenance & Security Vehicles and Equipment	0.00	0.00	0.61	0.08	0.08	0.00
Worker Vehicles	0.00	0.00	0.04	0.00	0.00	0.00
Visitor Cars and Delivery Trucks	0.00	0.00	0.01	0.00	0.01	0.00
Subtotal of On-site Combustion Emissions	**0.00**	**0.00**	**0.66**	**0.09**	**0.12**	**0.00**
On-Site Fugitive Emissions						
Diesel Generator						
Gasoline Tank				0.15		
Maintenance & Security Vehicles and Equipment	0.68	0.10				
Worker Vehicles	0.01	0.00	0.00	0.00	0.00	0.00
Visitor Cars and Delivery Trucks	0.04	0.01	0.00	0.00	0.00	0.00
Subtotal of On-Site Fugitive Dust Emissions	**0.73**	**0.11**		**0.15**		
Subtotal of On-Site Emissions	**0.73**	**0.11**	**0.66**	**0.24**	**0.12**	**0.00**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Worker Vehicles	0.00	0.00	0.29	0.01	0.03	0.00
Visitor Cars and Delivery Trucks	0.00	0.00	0.03	0.00	0.03	0.00
Subtotal of Off-Site Combustion Emissions	**0.00**	**0.00**	**0.32**	**0.01**	**0.07**	**0.00**
Off-Site Paved Road Fugitive Emissions						
Worker Vehicles	0.06	0.00	0.00	0.00	0.00	0.00
Visitor Cars and Delivery Trucks	0.08	0.01	0.00	0.00	0.00	0.00
Subtotal of Off-Site FugitiveEmissions	**0.14**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**
Subtotal of Off-Site Emissions	**0.14**	**0.01**	**0.32**	**0.01**	**0.07**	**0.00**
Total Maximum Emissions	**0.87**	**0.12**	**0.98**	**0.25**	**0.19**	**0.00**
Construction and Operations Overlapping Emissions						
Total of On-Site Emissions Construction & Operations	**9.41**	**1.90**	**9.53**	**2.11**	**9.68**	**0.01**
Total of Off-Site Emissions Construction & Operations	**4.09**	**0.60**	**18.13**	**3.18**	**10.28**	**0.02**
Construction & Operations Overlap Total	**13.50**	**2.51**	**27.66**	**5.29**	**19.96**	**0.03**

Anticipated Operational Capacity by Month of Construction Schedule

Month in Construction Schedule	MW Online	Fraction of peak MW
8	18	0.024
9	36	0.048
10	54	0.072
11	72	0.096
12	90	0.120
13	108	0.144
14	126	0.168
15	144	0.192
16	162	0.216
17	180	0.240
18	198	0.264
19	225	0.300
20	252	0.336
21	279	0.372
22	306	0.408
23	333	0.444
24	360	0.480
25	387	0.516
26	414	0.552
27	441	0.588
28	468	0.624
29	495	0.660
30	522	0.696
31	549	0.732
32	576	0.768
33	603	0.804
34	630	0.840
35	657	0.876
36	684	0.912
37	711	0.948
38	738	0.984
39	750	1.000
40	750	1.000

Year in Construction Schedule	Average Annual MW Online	Fraction of peak MW
8-19	118	0.16
9-20	137	0.18
10-21	158	0.21
11-22	179	0.24
12-23	200	0.27
13-24	223	0.30
14-25	246	0.33
15-26	270	0.36
16-27	295	0.39
17-28	320	0.43
18-29	347	0.46
19-30	374	0.50
20-31	401	0.53
21-32	428	0.57
22-33	455	0.61
23-34	482	0.64
24-35	509	0.68
25-36	536	0.71
26-37	563	0.75
27-38	590	0.79
28-39	615	0.82
29-40	639	0.85

Note: from month 8 - 18 18 MW will come online per month
after that 27 MW will come online per month until full 750MW buildout

Table 5.2-21 Revised

Estimated Maximum Annual Construction Emissions of Criteria Pollutants for Months 13-24 (tons/year)

Activity	PM_{10}	$PM_{2.5}$	CO	ROC	NO_x	SO_x
On-Site Construction Emissions						
On-Site Combustion Emissions						
Construction Equipment	1.16	1.07	21.88	3.48	19.46	0.02
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.177	0.158	2.531	0.701	2.910	0.004
Worker Vehicles	0.002	0.001	0.338	0.032	0.032	0.000
Security Vehicles	0.001	0.001	0.137	0.004	0.002	0.001
Suncatcher Delivery Trucks	0.112	0.100	0.814	0.381	1.816	0.002
Subtotal of On-site Combustion Emissions	**1.45**	**1.33**	**25.70**	**4.60**	**24.22**	**0.02**
On-Site Fugitive Dust Emissions						
Construction Equipment	3.57	0.65				
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	17.81	2.38				
Worker Vehicles	0.29	0.04				
Security Vehicles	0.70	0.10				
Suncatcher Delivery Trucks	7.70	1.15				
Subtotal of On-Site Fugitive Emissions	**30.09**	**4.31**				
Subtotal of On-Site Emissions	**31.54**	**5.64**	**25.70**	**4.60**	**24.22**	**0.02**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.00	0.00	0.65	0.06	0.05	0.00
Worker Vehicles	0.25	0.18	45.05	4.23	4.22	0.03
Suncatcher Delivery Trucks	2.58	2.31	18.76	8.78	41.83	0.05
Subtotal of Off-Site Combustion Emissions	**2.83**	**2.50**	**64.46**	**13.06**	**46.10**	**0.08**
Off-Site Paved Road Fugitive Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.27	0.04				
Worker Vehicles	4.26	0.07				
Suncatcher Delivery Trucks	12.86	1.73				
Subtotal of Off-Site Fugitive Emissions	**17.39**	**1.84**				
Subtotal of Off-Site Emissions	**20.22**	**4.34**	**64.46**	**13.06**	**46.10**	**0.08**
Total Maximum Annual Emissions	**51.75**	**9.98**	**90.16**	**17.66**	**70.32**	**0.10**

Table 5.2-20 Revised

Estimated Daily Maximum Construction Emissions of Criteria Pollutants for Month 13 (lbs/day)

Activity	PM_{10}	$PM_{2.5}$	CO	ROC	NO_x	SO_x
On-Site Construction Emissions						
On-Site Combustion Emissions						
Construction Equipment	12.96	11.94	187.46	37.96	199.84	0.19
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	1.23	1.10	18.12	4.91	20.24	0.03
Worker Vehicles	0.01	0.01	2.44	0.23	0.23	0.00
Security Vehicles	0.004	0.004	0.763	0.020	0.011	0.004
Suncatcher Delivery Trucks	0.56	0.50	4.08	1.91	9.10	0.01
Subtotal of On-site Combustion Emissions	**14.77**	**13.55**	**212.87**	**45.03**	**229.41**	**0.23**
On-Site Fugitive Emissions						
Construction Equipment	25.22	6.36				
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	126.80	17.01				
Worker Vehicles	2.11	0.29				
Security Vehicles	3.90	0.54				
Suncatcher Delivery Trucks	35.37	5.26				
Subtotal of On-Site Fugitive Emissions	**193.41**	**29.46**				
Subtotal of On-Site Emissions	**208.18**	**43.02**	**212.87**	**45.03**	**229.41**	**0.23**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	0.01	0.01	5.54	0.47	0.42	0.00
Worker Vehicles	1.82	1.31	325.81	30.58	30.51	0.25
Suncatcher Delivery Trucks	13.19	11.84	96.05	44.94	214.19	0.23
Subtotal of Off-Site Combustion Emissions	**15.03**	**13.16**	**427.39**	**75.99**	**245.13**	**0.49**
Off-Site Paved Road Fugitive Dust Emissions						
Construction Trucks (Concrete, Dump Trucks, Flatbed Trucks, …)	2.29	0.03				
Worker Vehicles	30.80	0.39				
Suncatcher Delivery Trucks	46.68	0.59				
Subtotal of Off-Site Fugitive Emissions	**79.76**	**1.00**				
Subtotal of Off-Site Emissions	**94.79**	**14.16**	**427.39**	**75.99**	**245.13**	**0.49**
Total Maximum Daily Emissions	**302.96**	**57.18**	**640.27**	**121.02**	**474.54**	**0.72**

Table 5.2-25b New
Estimated Annual Maximum Operational Emissions of Criteria Pollutants (tons/year)

Activity	PM_{10}	$PM_{2.5}$	CO	ROC	NO_x	SO_x
On-Site Operational Emissions						
On-Site Combustion Emissions						
Diesel Generator	0.0003	0.0003	0.0019	0.0007	0.0221	0.0006
Maintenance & Security Vehicles and Equipment	0.03	0.03	18.40	2.43	2.34	0.01
Worker Vehicles	0.01	0.01	1.24	0.12	0.12	0.00
Visitor Cars and Delivery Trucks	0.00	0.00	0.09	0.01	0.04	0.00
Subtotal of On-site Combustion Emissions	**0.04**	**0.04**	**19.73**	**2.56**	**2.52**	**0.01**
On-Site Fugitive Emissions						
Diesel Generator						
Gasoline Tank				0.65		
Maintenance & Security Vehicles and Equipment	20.27	3.01				
Worker Vehicles	0.42	0.05				
Visitor Cars and Delivery Trucks	0.22	0.03				
Subtotal of On-Site Fugitive Emissions	**20.91**	**3.09**	**0.00**	**0.65**	**0.00**	**0.00**
Subtotal of On-Site Emissions	**20.95**	**3.12**	**19.73**	**3.21**	**2.52**	**0.01**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Worker Vehicles	0.05	0.02	8.56	0.34	1.01	0.01
Visitor Cars and Delivery Trucks	0.01	0.01	0.65	0.03	0.23	0.00
Subtotal of Off-Site Combustion Emissions	**0.06**	**0.03**	**9.21**	**0.37**	**1.23**	**0.01**
Off-Site Paved Road Fugitive Emissions						
Worker Vehicles	1.75	0.05				
Visitor Cars and Delivery Trucks	0.48	0.05				
Subtotal of Off-Site FugitiveEmissions	**2.23**	**0.10**				
Subtotal of Off-Site Emissions	**2.29**	**0.13**	**9.21**	**0.37**	**1.23**	**0.01**
Total Maximum Emissions	**23.24**	**3.26**	**28.94**	**3.58**	**3.75**	**0.02**

Table 5.2-25a New
Estimated Daily Maximum Operational Emissions of Criteria Pollutants(lbs/day)

Activity	PM_{10}	$PM_{2.5}$	CO	ROC	NO_x	SO_x
On-Site Operational Emissions						
On-Site Combustion Emissions						
Diesel Generator	0.01	0.01	0.07	0.03	0.85	0.02
Maintenance & Security Vehicles and Equipment	0.17	0.16	102.24	13.49	13.02	0.04
Worker Vehicles	0.04	0.03	6.88	0.64	0.64	0.01
Visitor Cars and Delivery Trucks	0.06	0.06	1.00	0.26	1.06	0.00
Subtotal of On-site Combustion Emissions	**0.29**	**0.25**	**110.19**	**14.42**	**15.58**	**0.07**
On-Site Fugitive Emissions						
Diesel Generator						
Gasoline Tank				3.55		
Maintenance & Security Vehicles and Equipment	112.60	16.70				
Worker Vehicles	2.35	0.26				
Visitor Cars and Delivery Trucks	6.85	1.02				
Subtotal of On-Site Fugitive Emissions	**121.80**	**17.98**	**0.00**	**3.55**	**0.00**	**0.00**
Subtotal of On-Site Emissions	**122.09**	**18.23**	**110.19**	**17.97**	**15.58**	**0.07**
Off-Site On-Road Emissions						
Off-Site Combustion Emissions						
Worker Vehicles	0.27	0.14	47.55	1.90	5.58	0.03
Visitor Cars and Delivery Trucks	0.20	0.16	5.71	0.40	5.62	0.01
Subtotal of Off-Site Combustion Emissions	**0.47**	**0.30**	**53.26**	**2.30**	**11.21**	**0.04**
Off-Site Paved Road Fugitive Emissions						
Worker Vehicles	9.75	0.27				
Visitor Cars and Delivery Trucks	12.91	1.77				
Subtotal of Off-Site Fugitive Emissions	**22.66**	**2.04**				
Subtotal of Off-Site Emissions	**23.13**	**2.34**	**53.26**	**2.30**	**11.21**	**0.04**
Total Maximum Emissions	**145.22**	**20.57**	**163.45**	**20.27**	**26.79**	**0.11**

Construction Trade Projection (750 MW)

		Month After Construction Start																																								
Discipline	**Hours**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**Highest Per Day Requirement by Solar Two During Project**	**El Centro Total Available for the Project**
Carpenters	83,472	10	14	31	31	31	43	47	40	36	28	28	28	21	11	11	10	10	10	10	10	10	10	10	10	10	10	10	0	0	0	0	0	0	0	0	0	0	0	0	47	80
Concrete Crews	81,008	9	15	29	29	29	46	46	42	36	24	24	24	21	11	11	10	10	10	10	10	10	10	10	10	10	10	10	0	0	0	0	0	0	0	0	0	0	0	0	46	140
Electricians	212,010	17	28	57	57	57	84	84	60	54	54	54	54	69	69	113	105	105	88	48	48	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	0	0	0	0	113	210
Ironworkers	100,330	19	23	41	41	41	44	48	36	32	24	24	24	36	26	26	25	25	10	10	10	10	10	10	10	10	10	10	0	0	0	0	0	0	0	0	0	0	0	0	48	130
Laborers	153,557	17	43	65	62	62	142	142	68	30	30	30	30	56	41	51	46	46	32	22	17	17	17	17	17	17	17	17	10	10	10	10	10	10	10	10	0	0	0	0	142	540
Miscellaneous Crews	10,000	0	0	0	0	0	10	10	10	10	10	10	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	630
Operators	205,183	25	82	93	75	75	86	86	72	59	51	51	51	84	88	67	61	52	34	34	27	26	25	25	25	25	25	25	2	2	2	2	2	2	2	1	1	1	1	0	88	190
Plumbers	25,040	0	5	9	9	9	22	26	26	22	14	14	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	100
Solar Two Technicians	145,920	0	0	0	0	0	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	N/A
SunCatcher Assemblers	371,200	0	0	0	0	0	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	N/A
SunCatcher Electricians	92,800	0	0	0	0	0	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	N/A
SunCatcher Ironworkers	185,600	0	0	0	0	0	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	N/A
SunCatcher Laborers	58,880	0	0	0	0	0	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	0	0	0	0	0	0	0	0	0	0	0	16	16	16	16	16	16	16	16	16	N/A
SunCatcher Material Handlers	92,800	0	0	0	0	0	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	N/A
SunCatcher Operators	29,440	0	0	0	0	0	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	0	8	8	8	8	8	8	8	8	8	N/A
SunCatcher Teamsters	44,160	0	0	0	0	0	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	0	0	0	0	0	0	0	0	0	0	0	12	12	12	12	12	12	12	12	12	N/A
SunCatcher Technicians	185,600	0	0	0	0	0	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	N/A
Teamsters	65,160	4	60	49	24	24	25	25	7	5	5	5	5	31	53	29	28	26	24	24	4	4	3	3	3	3	3	3	1	1	1	1	1	1	1	1	1	1	1	0	60	680
Technicians	3,504	0	0	0	0	0	5	5	5	5	5	5	5	1	1	1	1	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	5	60
Totals	**2,145,663**	**101**	**270**	**374**	**328**	**328**	**719**	**731**	**578**	**501**	**457**	**457**	**457**	**535**	**512**	**521**	**498**	**487**	**420**	**370**	**339**	**314**	**312**	**312**	**312**	**312**	**312**	**312**	**249**	**249**	**249**	**249**	**249**	**285**	**285**	**285**	**230**	**230**	**230**	**230**	**228**	**813**	**2,760**

Source: Bureau of Labor Statistics, 2008.

Note:

N/A = not applicable

14417 total personnel for 40 months
360 avg monthly personnel
731 max monthly personnel

Construction Equipment Projection (750 MW)
Revised Table 5.2-19

Month After Construction Start

Construction Equipment Description	HP	D	G	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Air Compressor	50	X			1	1	1	1	3	3	3	3	2	2	2	2	2	2	2	2	1	1																						
Asphalt Paver	120	X				1																																						
Backhoe	120	X			3	9	5	5	5	6	6	5	4	4	4	4	4	4	4	4	1	1	1																					
Compactor	120	X			1	3	3	3	3	3	3	3	3	3	3	3	3	2	2	2																								
Crane small	175	X			1	3	4	5	5	8	8	8	7	6	6	6	8	8	6	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Crane large	500	X						3	3	3	1													3	3	3	3	3																
Dozer	250	X			1	1	1	1	1	1	1	1	1				1	1	1	1																								
Generator	50	X			1	1	1	2	2	4	4	4	6	6	6	6	3	3	3	3	3	2	2	2	2	2	1	1	1															
Grader	175	X			1	3	3	3	3	3	2	2	1				2	2	1	1																								
Light Tower	50	X						1	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1																			
Loader	250	X			1	3	3	4	4	4	3	3	2	1	1	1	3	3	3	2	1																							
Maxi Sneeker (Trencher)	50	X				2	2	2	2	5	5	4	4	4	4	4	5	5	5	5	5	2	2	1																				
Skid Steer (Bobcat)	50	X				1	1	2	2	4	3	3	2	2	2	2	4	4	4	4	4																							
Welding Machine	50	X				1	2	3	4	4	4	4	4	4	4	3	3	3	3	2	1	1	1																					
Equipment fueled with Propane																																												
Aerial Lift	120			X	2	5	5	5	6	6	5	3	3	2	2	2	4	5	5	5	5	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	5	5	5	5	5	5	5
Fork Lift	50			X	2	5	7	7	7	8	8	8	8	8	8	8	8	9	6	6	6	6	6	5	5	5	5	5	5	5	5	5	5	5										
Telehandler	120			X			1	1	2	5	4	3	3	3	3	3	4	7	5	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Vehicles with Onroad Engines for Emissions Estimates																																												
Busses	175		X		4	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	4	4	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Concrete Pump	250	X			2	5	5																																					
Dump Truck	250	X			3	8	7	6	4	4	4	3					3	2	2																									
Flatbed Truck	250	X			2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	7	7	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	2	2	2	2	2
Staff & Security Truck	187	/			5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Pickup Truck	175		X		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Water/Soiltac Truck	250	X			4	14	8	8	6	6	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3	1	1	1	1	1	1	1	1	1	1	1	1	0
General Materials Delivery Trucks	250	X				3	3	3	3	3	3																																	
Suncatcher Pedestals Delivery Trucks	250	X						3	3	3	1													3	3	3	3	3																
Total					44	99	92	98	100	115	104	96	86	81	81	80	93	96	88	82	69	53	52	51	50	48	47	47	41	40	40	38	38	38	33	33	33	36	36	32	32	32	32	31

Construction Equipment Description	1-12	2-13	3-14	4-15	5-16	6-17	7-18	8-19	9-20	10-21	11-22	12-23	13-24	14-25	15-26	16-27	17-28	18-29	19-30	20-31	21-32	22-33	23-34	24-35	25-36	26-37	27-38	28-39	29-40
Air Compressor	24	25	26	27	28	26	24	21	18	16	14	12	10	8	6	4	2	1	0	0	0	0	0	0	0	0	0	0	0
Asphalt Paver	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Backhoe	60	61	56	55	54	50	45	40	35	31	27	23	19	15	11	7	3	2	1	0	0	0	0	0	0	0	0	0	0
Compactor	34	36	35	34	33	30	27	24	21	18	15	12	9	6	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0
Crane small	67	74	79	81	81	81	77	73	69	66	64	62	60	56	52	50	49	48	48	48	48	48	48	48	48	48	48	48	48
Crane large	10	10	10	10	7	4	1	0	3	6	9	12	15	15	15	15	15	15	15	15	12	9	6	3	0	0	0	0	0
Dozer	9	9	9	9	9	8	7	6	5	4	4	4	4	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Generator	43	45	47	49	50	51	49	47	45	41	37	32	27	25	22	19	16	13	11	9	7	5	3	2	1	0	0	0	0
Grader	21	22	21	19	17	14	11	9	7	6	6	6	6	4	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Light Tower	17	19	21	23	24	23	22	21	20	19	17	15	13	11	9	7	5	4	3	2	1	0	0	0	0	0	0	0	0
Loader	30	32	32	32	30	27	23	20	17	15	14	13	12	9	6	3	1	0	0	0	0	0	0	0	0	0	0	0	0
Maxi Sneeker (Trencher)	38	43	46	49	52	55	52	49	46	42	38	34	30	25	20	15	10	5	3	1	0	0	0	0	0	0	0	0	0
Skid Steer (Bobcat)	24	28	31	34	36	38	34	31	28	26	24	22	20	16	12	8	4	0	0	0	0	0	0	0	0	0	0	0	0
Welding Machine	37	40	42	43	42	39	36	33	29	25	21	17	14	11	8	5	3	2	1	0	0	0	0	0	0	0	0	0	0
Equipment fueled with Propane																													
Aerial Lift	46	48	48	48	48	47	43	40	39	38	38	38	38	36	33	30	27	24	24	24	24	24	27	30	33	36	39	42	45
Fork Lift	84	90	94	93	92	91	89	87	84	81	78	75	72	69	65	64	63	62	61	55	50	45	40	35	30	25	20	15	10
Telehandler	28	32	39	43	46	47	45	44	44	44	44	44	44	43	39	37	36	36	36	36	36	36	36	36	36	36	36	36	36
Vehicles with Onroad Engines for Emissions Estimates																													
Busses	70	72	72	72	72	71	69	67	63	59	55	51	47	43	39	35	31	28	26	24	24	24	24	24	24	24	24	24	24
Concrete Pump	12	10	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dump Truck	39	39	33	28	22	18	14	10	7	7	7	7	7	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Flatbed Truck	101	108	108	108	108	108	106	104	101	98	95	92	89	86	83	80	77	74	73	72	72	72	72	72	68	64	60	56	52
Staff & Security Truck	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
Pickup Truck	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
Water/Soiltac Truck	70	70	60	56	52	50	48	48	48	48	47	46	45	44	43	42	39	36	33	30	27	24	22	20	18	16	14	12	11
General Materials Delivery Trucks	21	21	18	15	12	9	6	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Suncatcher Pedestals Delivery Trucks	10	10	10	10	7	4	1	0	3	6	9	12	15	15	15	15	15	15	15	15	12	9	6	3	0	0	0	0	0
Total	1,076	1,125	1,122	1,118	1,102	1,071	1,009	957	912	876	843	809	776	724	668	620	576	545	530	511	493	476	464	453	438	429	421	413	406

HP=horsepower
G=gasoline
D=diesel P=propane max 115

max : 1,125

CONSTRUCTION VEHICLES REQUIREMENTS

Description	Activity	Make / Model	Fuel	Quantity	Frequency	Horse-power	Vehicle Weight (tons)	Max Daily Onsite Distance per Vehicle (mile/day)	Assumed distance percentage to drive on onsite sealed roads	Assumed distance percentage to drive on onsite unpaved roads	Assumed distance percentage to drive on onsite paved roads	Max Daily Offsite Round-trip Distance per Vehicle within Imperial County (mile/day)	Travel to and from
Busses	Shuttle between laydown area and main construction area	Bus	Gasoline	variable	Daily	175	12	12	0%	0%	100%	10	Laydown area
Concrete Pump Truck			Diesel	variable	Daily	250	20	6	0%	8%	82%	40	El Centro
Dump Truck			Diesel	variable	Daily	250	20	7	50%	50%	0%	0	on-site only
Flatbed Truck			Diesel	variable	Daily	250	10	28	100%	0%	0%	0	on-site only
Staff & Security Truck	Site Inspections & Security	Toyota Highlander or similar	Gasoline - Hybrid	5	Daily	187	2.25	33	100%	0%	0%	0	on-site only
Pickup Truck			Gasoline	variable	Daily	175	4	12	95%	5%	0%	0	on-site only
Water /Soiltac Truck			Diesel	variable	Daily	250	20	12	25%	75%	0%	0	on-site only
Worker Passenger Vehicles	Community to Work	Passenger vehicles	Gasoline & diesel	variable	Daily	100	2	0.3	100%	0%	0%	40	El Centro
General Construction Materials	Delivery trucks	transport truck	Diesel	variable	Daily	250	20	6	0%	0%	100%	100	Various locations
Suncatcher Delivery Trucks	Suncatcher Pedestals	transport truck	Diesel	variable	Daily	250	20	13	55%	0%	45%	240	Phoenix Area
	Stirling Engines	transport truck	Diesel	5	Daily	250	20	6	0%	0%	100%	50	Detroit
	Suncatcher Metal Supports	transport truck	Diesel	10	Daily	250	20	6	0%	0%	100%	240	Phoenix Area
	Suncatcher Mirrors	transport truck	Diesel	6	Daily	250	20	6	0%	0%	100%	50	Detroit
	Electrical and Control Systems	transport truck	Diesel	2	Daily	250	20	6	0%	0%	100%	240	Phoenix Area
	Azimuth and Elevation Drive	transport truck	Diesel	2	Daily	250	20	6	0%	0%	100%	50	Midwest

Note:

Vehicles with variable quantities, the quantity per month can be found in Table 5.2-19 Construction Equipment Projection
Deliveries coming from Midwest (Detroit and elsewhere) will travel by rail to Los Angeles then by transport truck to the site
Average distance from main service complex to center of east or west portion of the site is 3.5 miles thus the average round trip distance each maintenance vehicle travels is 7 miles
Bus circuit is 11 miles (6 miles onsite, 5 miles offsite) - each bus does this loop twice a day
East access road will be heavily sealed and is 3.5 miles, the sealant will be applied in sufficient quantity that the road can be washed as needed. Thus this road will be considered the same as the paved northern ac
North access road and MSC parking area will be paved, route is 1.5 miles
All deliveries will travel an onsite loop starting near east laydown area traveling to the MSC then to the north exit, the loop will consist of 3.5 miles eastern access road + 1 (delivery area) miles + 1.5 miles northern
Construction laydown area is sealed
Each flatbed truck is assumed to make 4 trips per day to SunCatcher instalation locations delivering assembled dishes and misc parts
The fenceline perimeter is approximately 20.5 miles. Each security vehicle is assumed to travel from the MSC around the perimeter plus one trip to the center of the site and back (plus 10% for misc trips) = 33 miles

Annual Onsite Combustion Emissions

annual construction activity for months 13-24

Construction Assumptions - 30 days per month

Equipment	Number of Vehicles per year	Hours/Day	Emission rate per piece of equipment (lb/hr)										Annual Emissions (ton/year)									
			PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
Diesel Construction Equipment																						
Air Compressor	10	6	0.027	0.025	0.283	0.120	0.240	0.000	22.251	0.011	0.000	22.478	0.02	0.02	0.24	0.10	0.21	0.00	19.23	0.01	0.00	19.42
Asphalt Paver	0	7	0.069	0.064	0.413	0.135	0.796	0.001	54.450	0.012	0.000	54.706	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Backhoe	19	7	0.055	0.051	0.366	0.099	0.606	0.001	51.682	0.009	0.000	51.869	0.10	0.10	0.69	0.19	1.14	0.00	97.21	0.02	0.00	97.57
Compactor	9	7	0.067	0.062	0.422	0.128	0.777	0.001	58.936	0.012	0.000	59.178	0.06	0.06	0.38	0.12	0.71	0.00	53.47	0.01	0.00	53.69
Crane small	60	5	0.056	0.052	0.490	0.127	0.984	0.001	80.272	0.011	0.000	80.514	0.26	0.24	2.28	0.59	4.57	0.00	372.79	0.05	0.00	373.91
Crane large	15	7	0.073	0.067	0.716	0.191	1.876	0.002	179.940	0.017	0.000	180.302	0.11	0.10	1.11	0.30	2.90	0.00	278.55	0.03	0.00	279.11
Dozer	4	8	0.083	0.076	0.604	0.215	2.050	0.002	165.982	0.019	0.000	166.390	0.04	0.04	0.28	0.10	0.94	0.00	76.48	0.01	0.00	76.67
Generator	27	9	0.029	0.027	0.294	0.116	0.310	0.000	30.595	0.010	0.000	30.815	0.11	0.10	1.06	0.42	1.11	0.00	110.03	0.04	0.00	110.82
Grader	6	7	0.082	0.076	0.744	0.184	1.437	0.001	123.810	0.017	0.000	124.159	0.05	0.05	0.49	0.12	0.95	0.00	81.57	0.01	0.00	81.80
Light Tower	13	9	0.028	0.026	0.303	0.113	0.283	0.000	27.964	0.010	0.000	28.179	0.05	0.05	0.55	0.21	0.52	0.00	51.04	0.02	0.00	51.43
Loader	12	7	0.060	0.055	0.443	0.158	1.631	0.002	148.843	0.014	0.000	149.142	0.07	0.07	0.53	0.19	1.94	0.00	176.83	0.02	0.00	177.18
Maxi Sneeker (Trencher)	30	9	0.042	0.039	0.446	0.193	0.366	0.000	32.888	0.017	0.000	33.253	0.17	0.16	1.81	0.78	1.48	0.00	133.20	0.07	0.00	134.68
Skid Steer (Bobcat)	20	7	0.024	0.022	0.261	0.089	0.250	0.000	25.496	0.008	0.000	25.665	0.05	0.04	0.52	0.18	0.50	0.00	50.48	0.02	0.00	50.82
Welding Machine	14	5	0.029	0.027	0.305	0.127	0.275	0.000	25.935	0.011	0.000	26.175	0.03	0.03	0.35	0.14	0.31	0.00	29.41	0.01	0.00	29.68
Equipment fueled with Propane	0																					
Aerial Lift	38	6	0.003	0.003	1.410	0.006	0.222	0.000	31.235	0.048	0.000	32.239	0.01	0.01	4.44	0.02	0.70	0.00	98.28	0.15	0.00	101.44
Fork Lift	72	4	0.002	0.002	0.294	0.003	0.137	0.000	18.295	0.027	0.000	18.859	0.01	0.01	1.14	0.01	0.53	0.00	71.13	0.10	0.00	73.32
Telehandler	44	6	0.003	0.003	1.410	0.006	0.222	0.000	31.235	0.048	0.000	32.239	0.01	0.01	6.03	0.02	0.95	0.00	133.58	0.20	0.00	137.88
Vehicles with Onroad Engines for Emissions Estimates																						
Busses	47	12	0.000	0.000	0.092	0.008	0.007	0.000	3.683	0.000	0.000	3.826	0.00	0.00	0.78	0.07	0.06	0.00	31.16	0.00	0.00	32.36
Concrete Pump Truck	0	12	0.002	0.002	0.014	0.006	0.030	0.000	3.486	0.000	0.000	3.505	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	7	12	0.002	0.002	0.016	0.007	0.035	0.000	4.067	0.000	0.000	4.089	0.00	0.00	0.02	0.01	0.04	0.00	5.12	0.00	0.00	5.15
Flatbed Truck	89	12	0.009	0.008	0.063	0.030	0.142	0.000	16.269	0.000	0.000	16.355	0.14	0.13	1.02	0.48	2.27	0.00	260.63	0.00	0.00	262.01
Staff & Security Truck	60	24	0.000	0.000	0.006	0.000	0.000	0.000	0.988	0.000	0.000	1.048	0.00	0.00	0.14	0.00	0.00	0.00	21.35	0.00	0.00	22.63
Pickup Truck	120	12	0.000	0.000	0.023	0.002	0.002	0.000	1.888	0.000	0.000	1.931	0.00	0.00	0.49	0.05	0.05	0.00	40.77	0.00	0.00	41.71
Water/Soiltac Truck	45	12	0.004	0.003	0.027	0.013	0.061	0.000	6.972	0.000	0.000	7.009	0.03	0.03	0.22	0.10	0.49	0.00	56.48	0.00	0.00	56.78
Worker Passenger Vehicles	3288	12	0.000	0.000	0.001	0.000	0.000	0.000	0.047	0.000	0.000	0.048	0.00	0.00	0.34	0.03	0.03	0.00	27.93	0.00	0.00	28.57
Delivery Transport Trucks																						
General Materials Delivery T	0	24	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.752	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Pedestals Delive	15	24	0.002	0.002	0.015	0.007	0.033	0.000	3.777	0.000	0.000	3.797	0.01	0.01	0.08	0.04	0.18	0.00	20.39	0.00	0.00	20.50
Stirling Engines	60	24	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.752	0.02	0.02	0.15	0.07	0.33	0.00	37.65	0.00	0.00	37.85
Suncatcher Metal Supports	120	24	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.752	0.04	0.04	0.29	0.14	0.66	0.00	75.30	0.00	0.00	75.70
Suncatcher Mirrors	72	24	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.752	0.02	0.02	0.18	0.08	0.39	0.00	45.18	0.00	0.00	45.42
Electrical and Control Systen	24	24	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.752	0.01	0.01	0.06	0.03	0.13	0.00	15.06	0.00	0.00	15.14
Azimuth and Elevation Drive	24	24	0.001	0.001	0.007	0.003	0.015	0.000	1.743	0.000	0.000	1.752	0.01	0.01	0.06	0.03	0.13	0.00	15.06	0.00	0.00	15.14
												Total	**1.45**	**1.33**	**25.70**	**4.60**	**24.22**	**0.02**	**2485.35**	**0.79**	**0.02**	**2508.37**

Number of Vehicles per year = sum of monthly daily maximum vehicle usage for the peak 12 months

delivery trucks can arrive at the site anytime during the day or night

Short-term Onsite Combustion Emissions

construction schedule = 12 hours per day 7 am to 7 pm pedestal installation = 16 hours per day
delivery trucks can arrive at the site anytime during the day or night

Equipment	Load Factor	Hours/Day	Horsepower	Emission factors (ton/hr) PM10	PM2.5	CO	VOC	NOx	SO2	CO2	CH4	N2O	CO2e
Diesel Construction Equipment													
Air Compressor	0.48	6	50	1.35E-05	1.25E-05	1.42E-04	5.99E-05	1.20E-04	1.44E-07	1.11E-02	5.40E-06	0.00E+00	1.12E-02
Asphalt Paver	0.62	7	120	3.47E-05	3.19E-05	2.07E-04	6.75E-05	3.98E-04	3.19E-07	2.72E-02	6.09E-06	0.00E+00	2.74E-02
Backhoe	0.55	7	120	2.77E-05	2.55E-05	1.83E-04	4.96E-05	3.03E-04	3.03E-07	2.58E-02	4.47E-06	0.00E+00	2.59E-02
Compactor	0.56	7	120	3.36E-05	3.09E-05	2.11E-04	6.39E-05	3.89E-04	3.46E-07	2.95E-02	5.77E-06	0.00E+00	2.96E-02
Crane small	0.43	5	175	2.81E-05	2.59E-05	2.45E-04	6.37E-05	4.92E-04	4.52E-07	4.01E-02	5.75E-06	0.00E+00	4.03E-02
Crane large	0.43	7	500	3.63E-05	3.34E-05	3.58E-04	9.56E-05	9.38E-04	8.83E-07	9.00E-02	8.62E-06	0.00E+00	9.02E-02
Dozer	0.64	8	250	4.15E-05	3.82E-05	3.02E-04	1.08E-04	1.02E-03	9.34E-07	8.30E-02	9.70E-06	0.00E+00	8.32E-02
Generator	0.74	9	50	1.46E-05	1.35E-05	1.47E-04	5.80E-05	1.55E-04	1.98E-07	1.53E-02	5.23E-06	0.00E+00	1.54E-02
Grader	0.61	7	175	4.11E-05	3.78E-05	3.72E-04	9.21E-05	7.19E-04	6.97E-07	6.19E-02	8.31E-06	0.00E+00	6.21E-02
Light Tower	0.78	9	50	1.41E-05	1.30E-05	1.52E-04	5.67E-05	1.42E-04	1.81E-07	1.40E-02	5.12E-06	0.00E+00	1.41E-02
Loader	0.55	7	250	3.00E-05	2.76E-05	2.22E-04	7.89E-05	8.16E-04	8.37E-07	7.44E-02	7.11E-06	0.00E+00	7.46E-02
Maxi Sneeker (Trencher)	0.75	9	50	2.10E-05	1.94E-05	2.23E-04	9.63E-05	1.83E-04	2.13E-07	1.64E-02	8.69E-06	0.00E+00	1.66E-02
Skid Steer (Bobcat)	0.55	7	50	1.19E-05	1.09E-05	1.30E-04	4.46E-05	1.25E-04	1.65E-07	1.27E-02	4.02E-06	0.00E+00	1.28E-02
Welding Machine	0.45	5	50	1.47E-05	1.35E-05	1.52E-04	6.34E-05	1.37E-04	1.68E-07	1.30E-02	5.72E-06	0.00E+00	1.31E-02
Equipment fueled with Propane				Emission factors (ton/hr)									
Aerial Lift	0.46	6	120	1.39E-06	1.39E-06	7.05E-04	2.85E-06	1.11E-04	0.00E+00	1.56E-02	2.39E-05	0.00E+00	1.61E-02
Fork Lift	0.3	4	50	8.14E-07	8.14E-07	1.47E-04	1.60E-06	6.85E-05	0.00E+00	9.15E-03	1.34E-05	0.00E+00	9.43E-03
Telehandler	0.54	6	120	1.39E-06	1.39E-06	7.05E-04	2.85E-06	1.11E-04	0.00E+00	1.56E-02	2.39E-05	0.00E+00	1.61E-02
Vehicles with Onroad Engines for Emissions Estimates	Onsite Miles per Day Travelled per Vehicle			Emission factors (g/mile)									
Busses	12	12	175	6.60E-02	4.63E-02	4.19E+01	3.57E+00	3.17E+00	1.70E-02	1.67E+03	1.20E-01	2.00E-01	1.74E+03
Concrete Pump Truck	6	12	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03
Dump Truck	7	12	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03
Flatbed Truck	28	12	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03
Staff & Security Truck	33	24	187	1.00E-02	1.00E-02	2.10E+00	5.50E-02	3.00E-02	1.00E-02	3.26E+02	5.00E-02	6.00E-02	3.46E+02
Pickup Truck	12	12	175	5.80E-02	4.18E-02	1.04E+01	9.73E-01	9.71E-01	8.00E-03	8.57E+02	5.00E-02	6.00E-02	8.77E+02
Water/Soiltac Truck	12	12	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03
Worker Passenger Vehicles	0.3	12	NA	5.80E-02	4.18E-02	1.04E+01	9.73E-01	9.71E-01	8.00E-03	8.57E+02	5.00E-02	6.00E-02	8.77E+02
Delivery Transport Trucks													
General Materials Delivery Trucks	6	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03
Suncatcher Pedestals Delivery Truc	13	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03
Stirling Engines	6	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03
Suncatcher Metal Supports	6	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03
Suncatcher Mirrors	6	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03
Electrical and Control System	6	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03
Azimuth and Elevation Drive	6	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03

Notes:
Emission factors from CARB Off-road Mobile Source Emission Factors (2006-2020) for diesel and propane equipment. (2009 data used).
Dozer = Crawler Tractor
Loaders = Rubber tired loaders
Backhoe = Tractors/Loaders/Backhoes
Light Tower = Other Construction Equipment
Utilization Load Factors from SCAQMD
$PM_{2.5}$ emission factors obtained by multiplying the PM_{10} emissions by $PM_{2.5}$ fraction in CEIDARS list for onroad or offroad diesel vehicles.
For propane equipment assumed $PM_{2.5}$ and PM_{10} Fraction of total PM is 1.000
Onroad vehicle emissions from EMFAC2007 model
CH_4 and N_2O emission factors for the onroad vehicles are from reference source 2: Table C.5, California Climate Action Registry General Reporting Protocol Version 3.0, April 2007
The emissions of "Toyota Highlander Hybrid" meet the Tier 2/Bin 3 Federal emissions standard (reference source 3) and its performance is 27 mile/gallon in city (from Toyota website)
SO_2 emission factors for the Toyota Highlander Hybrid are from EMFAC2007- Light-Duty Trucks (LDT2-CAT).

CO_2 GWP (SAR, 1996) = 1
CH_4 GWP (SAR, 1996) = 21
N_2O GWP (SAR, 1996) = 310

Monthly Comparison of Construction Equipment Emissions:

Month of Contruction	Total Equipment Quantity	Daily Emissions (lb/day) PM10	PM2.5	CO	VOC	NOx	SO2	CO2	CH4	N2O	CO2e
1	136	5.03	4.60	63.73	13.68	84.97	0.09	8634.67	1.64	0.083	8697.75
2	304	13.81	12.65	160.18	36.48	216.69	0.22	20749.63	4.36	0.151	20887.92
3	366	12.02	11.01	161.20	33.30	188.99	0.20	19356.95	4.65	0.145	19499.47
4	342	15.05	13.80	190.08	42.31	262.18	0.26	25305.81	5.46	0.144	25465.07
5	344	15.67	14.38	213.72	45.02	269.44	0.27	26073.81	6.31	0.140	26249.64
6	619	18.95	17.40	274.67	56.38	312.35	0.31	30246.12	8.34	0.150	30467.84
7	616	16.58	15.21	236.50	50.07	257.91	0.26	24994.31	7.26	0.145	25191.62
8	506	15.20	13.95	199.21	45.95	232.53	0.24	22374.79	6.08	0.139	22545.44
9	445	13.61	12.49	186.36	42.50	202.24	0.21	19676.77	5.81	0.132	19839.78
10	411	11.67	10.70	162.84	37.75	158.89	0.17	15910.14	5.12	0.131	16058.32
11	411	11.67	10.70	162.84	37.75	158.89	0.17	15910.14	5.12	0.131	16058.32
12	410	11.51	10.56	161.19	37.06	157.41	0.16	15770.09	5.06	0.131	15916.98
13	475	14.77	13.55	212.87	45.03	229.41	0.23	22191.14	6.59	0.135	22371.40
14	462	14.36	13.19	245.99	44.23	229.79	0.23	22583.08	7.80	0.134	22788.34
15	460	13.13	12.05	214.09	41.46	204.77	0.21	20249.39	6.65	0.134	20430.58
16	439	12.21	11.20	197.37	38.85	185.14	0.19	18404.08	6.12	0.132	18573.53
17	419	7.98	7.31	155.04	28.56	118.62	0.12	12644.57	4.89	0.127	12786.47
18	358	5.01	4.58	101.77	17.34	76.34	0.08	8438.03	3.16	0.113	8539.47
19	324	4.86	4.44	98.91	16.63	74.93	0.08	8290.99	3.09	0.112	8390.68
20	302	5.48	5.01	103.50	17.43	104.86	0.10	11138.53	3.07	0.102	11234.58
21	284	5.10	4.66	99.38	15.69	101.55	0.10	10833.10	2.91	0.101	10925.64
22	281	4.79	4.38	96.20	14.47	98.17	0.10	10486.93	2.82	0.100	10577.00
23	280	4.53	4.14	93.59	13.44	95.42	0.09	10215.34	2.72	0.100	10303.36
24	280	4.53	4.14	93.59	13.44	95.42	0.09	10215.34	2.72	0.100	10303.36
25	274	2.89	2.63	77.76	9.00	54.34	0.05	6229.36	2.36	0.085	6308.57
26	273	2.63	2.39	75.15	7.97	51.59	0.05	5957.68	2.27	0.085	6034.93
27	273	2.63	2.39	75.15	7.97	51.59	0.05	5957.68	2.27	0.085	6034.93
28	229	2.54	2.31	74.21	7.64	50.10	0.05	5766.56	2.26	0.081	5842.38
29	229	2.54	2.31	74.21	7.64	50.10	0.05	5766.56	2.26	0.081	5842.38
30	229	2.54	2.31	74.21	7.64	50.10	0.05	5766.56	2.26	0.081	5842.38
31	224	2.51	2.28	68.82	7.58	47.64	0.05	5437.25	1.78	0.081	5502.91
32	224	2.51	2.28	68.82	7.58	47.64	0.05	5437.25	1.78	0.081	5502.91
33	248	2.51	2.28	69.09	7.59	47.65	0.05	5450.84	1.78	0.082	5516.82
34	251	2.56	2.33	92.44	7.69	51.33	0.05	5968.09	2.57	0.082	6050.69
35	251	2.56	2.33	92.44	7.69	51.33	0.05	5968.09	2.57	0.082	6050.69
36	210	2.14	1.95	89.14	6.24	44.51	0.04	5166.42	2.56	0.078	5244.41
37	210	2.14	1.95	89.14	6.24	44.51	0.04	5166.42	2.56	0.078	5244.41
38	210	2.14	1.95	89.14	6.24	44.51	0.04	5166.42	2.56	0.078	5244.41
39	210	2.14	1.95	89.14	6.24	44.51	0.04	5166.42	2.56	0.078	5244.41
40	208	2.09	1.91	88.80	6.08	43.78	0.04	5082.00	2.56	0.077	5159.53
MAX VALUE (lb/day)	619	18.95	17.40	274.67	56.38	312.35	0.31	30246.1	8.34	0.151	30467.8

Months for Annual Contruction		Annual Emissions (ton/year) PM10	PM2.5	CO	VOC	NOx	SO2	CO2	CH4	N2O	CO2e
1	12	2.41	2.21	32.59	7.17	37.69	0.038	3672.05	0.98	0.0245	3700.17
2	13	2.56	2.35	34.82	7.64	39.85	0.040	3878.40	1.05	0.0251	3908.28
3	14	2.57	2.35	36.11	7.76	40.05	0.040	3905.90	1.10	0.0248	3936.78
4	15	2.58	2.37	36.91	7.88	40.14	0.041	3919.28	1.13	0.0247	3950.75
5	16	2.54	2.33	37.01	7.83	38.98	0.039	3815.76	1.14	0.0245	3847.38
6	17	2.42	2.22	36.13	7.58	36.72	0.037	3614.32	1.12	0.0243	3645.43
7	18	2.22	2.03	33.54	7.00	33.18	0.034	3287.20	1.04	0.0238	3316.50
8	19	2.04	1.87	31.49	6.50	30.43	0.031	3036.65	0.98	0.0233	3064.49
9	20	1.89	1.74	30.06	6.07	28.52	0.029	2868.10	0.94	0.0227	2894.83
10	21	1.77	1.62	28.75	5.67	27.01	0.027	2735.45	0.89	0.0223	2761.11
11	22	1.66	1.52	27.75	5.32	26.10	0.026	2654.10	0.86	0.0218	2678.89
12	23	1.56	1.43	26.71	4.95	25.15	0.025	2568.68	0.82	0.0213	2592.57
13	24	1.45	1.33	25.70	4.60	24.22	0.024	2485.35	0.79	0.0208	2508.37
14	25	1.27	1.17	23.67	4.06	21.58	0.022	2245.93	0.72	0.0202	2267.42
15	26	1.10	1.00	21.11	3.51	18.92	0.019	1996.55	0.64	0.0197	2016.12
16	27	0.94	0.86	19.03	3.01	16.62	0.017	1782.17	0.58	0.0191	1800.19
17	28	0.79	0.73	17.18	2.54	14.59	0.014	1592.61	0.52	0.0185	1609.22
18	29	0.71	0.65	15.97	2.23	13.57	0.013	1489.44	0.48	0.0179	1505.06
19	30	0.68	0.62	15.55	2.08	13.17	0.013	1449.37	0.47	0.0176	1464.60
20	31	0.64	0.58	15.09	1.95	12.76	0.012	1406.56	0.45	0.0173	1421.29
21	32	0.60	0.54	14.57	1.80	11.91	0.012	1321.04	0.43	0.0171	1335.31
22	33	0.56	0.51	14.11	1.68	11.10	0.011	1240.31	0.41	0.0170	1254.18
23	34	0.52	0.48	14.06	1.58	10.39	0.010	1172.52	0.41	0.0169	1186.28
24	35	0.49	0.45	14.04	1.49	9.73	0.009	1108.82	0.40	0.0168	1122.49
25	36	0.46	0.42	13.97	1.38	8.97	0.009	1033.09	0.40	0.0165	1046.61
26	37	0.45	0.41	14.14	1.34	8.82	0.008	1017.14	0.40	0.0162	1030.65
27	38	0.44	0.40	14.35	1.32	8.72	0.008	1005.27	0.41	0.0159	1018.79
28	39	0.43	0.39	14.56	1.29	8.61	0.008	993.40	0.41	0.0157	1006.93
29	40	0.43	0.39	14.78	1.27	8.51	0.008	983.14	0.42	0.0155	996.69
MAX VALUE (ton/year)		2.58	2.37	37.01	7.88	40.14	0.041	3919.28	1.14	0.0251	3950.75

Annual Offsite Combustion Emissions

annual construction activity for months 13-24

Construction Assumptions - 30 days per month

Equipment	Number of Vehicles per year	Offsite Miles per Day Travelled per Vehicle	Offsite Miles per Year Travelled all Vehicle	Emission factors (g/mile)										Annual Emissions (ton/year)									
				PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
Vehicles with Onroad Engines for Emissions Estimates																							
Busses	47	10	14100	0.066	0.046	41.898	3.565	3.171	0.017	1672.27	0.120	0.200	1736.79	0.00	0.00	0.65	0.06	0.05	0.00	25.97	0.00	0.00	26.97
Concrete Pump Truck	0	40	0	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	7	0	0	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flatbed Truck	89	0	0	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Staff & Security Truck	60	0	0	0.010	0.010	2.100	0.055	0.030	0.010	326.30	0.050	0.060	345.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck	120	0	0	0.058	0.042	10.368	0.973	0.971	0.008	857.01	0.050	0.060	876.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water/Soiltac Truck	45	0	0	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Passenger Vehicles	3288	40	3945600	0.058	0.042	10.368	0.973	0.971	0.008	857.01	0.050	0.060	876.66	0.25	0.18	45.05	4.23	4.22	0.03	3724.02	0.22	0.26	3809.40
Delivery Transport Trucks																							
General Materials Delivery T	0	100	0	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Pedestals Delive	15	240	108000	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	0.20	0.18	1.47	0.69	3.28	0.00	376.51	0.01	0.01	378.50
Stirling Engines	60	50	90000	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	0.17	0.15	1.22	0.57	2.73	0.00	313.76	0.01	0.00	315.42
Suncatcher Metal Supports	120	240	864000	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	1.61	1.45	11.75	5.50	26.21	0.03	3012.05	0.06	0.05	3028.00
Suncatcher Mirrors	72	50	108000	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	0.20	0.18	1.47	0.69	3.28	0.00	376.51	0.01	0.01	378.50
Electrical and Control Systen	24	240	172800	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	0.32	0.29	2.35	1.10	5.24	0.01	602.41	0.01	0.01	605.60
Azimuth and Elevation Drive	24	50	36000	1.697	1.523	12.353	5.780	27.548	0.030	3165.45	0.060	0.050	3182.21	0.07	0.06	0.49	0.23	1.09	0.00	125.50	0.00	0.00	126.17
													Total	**2.83**	**2.50**	**64.46**	**13.06**	**46.10**	**0.08**	**8556.72**	**0.31**	**0.34**	**8668.56**

Number of Vehicles per year = sum of monthly daily maximum vehicle usage for the peak 12 months

Short-term Offsite Combustion Emissions

construction schedule = 12 hours per day 7 am to 7 pm
delivery trucks can arrive at the site anytime during the day or night

Vehicles with Onroad Engines for Emissions Estimates	Offsite Miles per Day Travelled per Vehicle	Hours/Day	Horsepower	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
				Emission factors (g/mile)									
Busses	10	12	175	6.60E-02	4.63E-02	4.19E+01	3.57E+00	3.17E+00	1.70E-02	1.67E+03	1.20E-01	2.00E-01	1.74E+03
Concrete Pump Truck	40	12	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03
Dump Truck	0	12	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03
Flatbed Truck	0	12	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03
Staff & Security Truck	0	24	187	1.00E-02	1.00E-02	2.10E+00	5.50E-02	3.00E-02	1.00E-02	3.26E+02	5.00E-02	6.00E-02	3.46E+02
Pickup Truck	0	12	175	5.80E-02	4.18E-02	1.04E+01	9.73E-01	9.71E-01	8.00E-03	8.57E+02	5.00E-02	6.00E-02	8.77E+02
Water/Soiltac Truck	0	12	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03
Worker Passenger Vehicle	40	12	NA	5.80E-02	4.18E-02	1.04E+01	9.73E-01	9.71E-01	8.00E-03	8.57E+02	5.00E-02	6.00E-02	8.77E+02
Delivery Transport Trucks													
General Construction Materials	100	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03
Suncatcher Pedestals	240	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03
Stirling Engines	50	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03
Suncatcher Metal Support	240	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03
Suncatcher Mirrors	50	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03
Electrical and Control Sys	240	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03
Azimuth and Elevation Dri	50	24	250	1.70E+00	1.52E+00	1.24E+01	5.78E+00	2.75E+01	3.00E-02	3.17E+03	6.00E-02	5.00E-02	3.18E+03

Vehicles with Onroad Engines for Emissions Estimates	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
	Emission rate per piece of equipment (lb/hr)									
Busses	0.000	0.000	0.077	0.007	0.006	0.000	3.070	0.000	0.000	3.19
Concrete Pump Truck	0.012	0.011	0.091	0.042	0.202	0.000	23.241	0.000	0.000	23.36
Dump Truck	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
Flatbed Truck	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
Staff & Security Truck	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
Pickup Truck	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
Water/Soiltac Truck	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
Worker Passenger Vehicle	0.000	0.000	0.076	0.007	0.007	0.000	6.292	0.000	0.000	6.44
Delivery Transport Trucks										
General Construction Materials	0.016	0.014	0.113	0.053	0.253	0.000	29.051	0.001	0.000	29.21
Suncatcher Pedestals	0.037	0.034	0.272	0.127	0.607	0.001	69.723	0.001	0.001	70.09
Stirling Engines	0.008	0.007	0.057	0.027	0.126	0.000	14.526	0.000	0.000	14.60
Suncatcher Metal Support	0.037	0.034	0.272	0.127	0.607	0.001	69.723	0.001	0.001	70.09
Suncatcher Mirrors	0.008	0.007	0.057	0.027	0.126	0.000	14.526	0.000	0.000	14.60
Electrical and Control Sys	0.037	0.034	0.272	0.127	0.607	0.001	69.723	0.001	0.001	70.09
Azimuth and Elevation Dri	0.008	0.007	0.057	0.027	0.126	0.000	14.526	0.000	0.000	14.60

Month 1 Daily Emissions (lb/day)

Vehicle	Quantity Mo 1	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
Busses	4	0.01	0.00	3.69	0.31	0.28	0.00	147.34	0.01	0.02	153.02
Concrete Pump Truck	2	0.30	0.27	2.18	1.02	4.85	0.01	557.79	0.01	0.01	560.74
Dump Truck	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flatbed Truck	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Staff & Security Truck	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water/Soiltac Truck	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Passenger Vehicle	67	0.34	0.25	61.51	5.77	5.76	0.05	5084.15	0.30	0.36	5200.73
General Construction Materials	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Pedestals	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stirling Engines	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
Suncatcher Metal Support	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
Suncatcher Mirrors	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
Electrical and Control Sys	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
Azimuth and Elevation Dri	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
Total	122	13.84	12.37	163.42	52.05	225.09	0.29	30401.67	0.78	0.77	30657.19

Month 2 Daily Emissions (lb/day)

Vehicle	Quantity Mo 2	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
Busses	6	0.01	0.01	5.54	0.47	0.42	0.00	221.00	0.02	0.03	229.53
Concrete Pump Truck	5	0.75	0.67	5.44	2.55	12.14	0.01	1394.47	0.03	0.02	1401.85
Dump Truck	8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flatbed Truck	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Staff & Security Truck	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water/Soiltac Truck	14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Passenger Vehicle	180	0.92	0.66	164.43	15.43	15.40	0.13	13591.30	0.79	0.95	13902.93
General Construction Materials	3	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
Suncatcher Pedestals	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stirling Engines	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
Suncatcher Metal Support	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
Suncatcher Mirrors	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
Electrical and Control Sys	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
Azimuth and Elevation Dri	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
Total	265	15.99	14.19	279.62	67.21	260.35	0.40	41910.87	1.34	1.42	42379.80

Month 3 Daily Emissions (lb/day)

Vehicle	Quantity Mo 3	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
Busses	6	0.01	0.01	5.54	0.47	0.42	0.00	221.00	0.02	0.03	229.53
Concrete Pump Truck	5	0.75	0.67	5.44	2.55	12.14	0.01	1394.47	0.03	0.02	1401.85
Dump Truck	7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flatbed Truck	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Staff & Security Truck	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water/Soiltac Truck	8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Passenger Vehicle	249	1.27	0.92	227.76	21.37	21.33	0.18	18826.47	1.10	1.32	19258.13
General Construction Materials	3	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
Suncatcher Pedestals	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stirling Engines	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
Suncatcher Metal Support	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
Suncatcher Mirrors	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
Electrical and Control Sys	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
Azimuth and Elevation Dri	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
Total	327	16.35	14.45	342.95	73.15	266.28	0.44	47146.03	1.65	1.79	47735.00

Month 4 Daily Emissions (lb/day)

Vehicle	Quantity Mo 4	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
Busses	6	0.01	0.01	5.54	0.47	0.42	0.00	221.00	0.02	0.03	229.53
Concrete Pump Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flatbed Truck	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Staff & Security Truck	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water/Soiltac Truck	8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Passenger Vehicle	219	1.12	0.80	199.75	18.75	18.71	0.15	16510.91	0.96	1.16	16889.49
General Construction Materials	3	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
Suncatcher Pedestals	3	2.69	2.42	19.59	9.17	43.69	0.05	5020.09	0.10	0.08	5046.67
Stirling Engines	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
Suncatcher Metal Support	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
Suncatcher Mirrors	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
Electrical and Control Sys	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
Azimuth and Elevation Dri	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
Total	294	18.13	16.08	329.09	77.14	295.21	0.46	48456.10	1.58	1.68	49011.17

Month 5 Daily Emissions (lb/day)

Vehicle	Quantity Mo 5	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
Busses	6	0.01	0.01	5.54	0.47	0.42	0.00	221.00	0.02	0.03	229.53
Concrete Pump Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flatbed Truck	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Staff & Security Truck	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water/Soiltac Truck	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Passenger Vehicle	219	1.12	0.80	199.75	18.75	18.71	0.15	16510.91	0.96	1.16	16889.49
General Construction Materials	3	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
Suncatcher Pedestals	3	2.69	2.42	19.59	9.17	43.69	0.05	5020.09	0.10	0.08	5046.67
Stirling Engines	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
Suncatcher Metal Support	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
Suncatcher Mirrors	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
Electrical and Control Sys	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
Azimuth and Elevation Dri	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
Total	290	18.13	16.08	329.09	77.14	295.21	0.46	48456.10	1.58	1.68	49011.17

Month 6 Daily Emissions (lb/day)

Vehicle	Quantity Mo 6	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
Busses	6	0.01	0.01	5.54	0.47	0.42	0.00	221.00	0.02	0.03	229.53
Concrete Pump Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flatbed Truck	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Staff & Security Truck	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water/Soiltac Truck	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Passenger Vehicle	479	2.45	1.76	437.86	41.09	41.01	0.34	36193.13	2.11	2.53	37022.99
General Construction Materials	3	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
Suncatcher Pedestals	3	2.69	2.42	19.59	9.17	43.69	0.05	5020.09	0.10	0.08	5046.67
Stirling Engines	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
Suncatcher Metal Support	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
Suncatcher Mirrors	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
Electrical and Control Sys	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
Azimuth and Elevation Dri	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
Total	550	19.47	17.04	567.20	99.49	317.51	0.64	68138.32	2.73	3.06	69144.67

Vehicle	Quantity Mo 7	PM_{10}	$PM_{2.5}$
Busses	6	0.01	0.01
Concrete Pump Truck	0	0.00	0.00
Dump Truck	4	0.00	0.00
Flatbed Truck	9	0.00	0.00
Staff & Security Truck	5	0.00	0.00
Pickup Truck	10	0.00	0.00
Water/Soiltac Truck	4	0.00	0.00
Worker Passenger Vehicle	487	2.49	1.79
General Construction Materials	3	1.12	1.01
Suncatcher Pedestals	1	0.90	0.81
Stirling Engines	5	0.93	0.84
Suncatcher Metal Support	10	8.97	8.05
Suncatcher Mirrors	6	1.12	1.01
Electrical and Control Sys	2	1.79	1.61
Azimuth and Elevation Dri	2	0.37	0.34
Total	554	17.71	15.46

Month 21 Daily Emissions (lb/day)

Vehicles with Onroad Engines for Emissions Estimates	Quantity Mo 21	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
Busses	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51
Concrete Pump Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flatbed Truck	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Staff & Security Truck	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water/Soiltac Truck	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Passenger Vehicles	209	1.07	0.77	191.22	17.95	17.91	0.15	15806.18	0.92	1.11	16168.59
Delivery Transport Trucks											
General Construction Materials	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Pedestals	3	2.69	2.42	19.59	9.17	43.69	0.05	5020.09	0.10	0.08	5046.67
Stirling Engines	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
Suncatcher Metal Supports	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
Suncatcher Mirrors	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
Electrical and Control Systems	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
Azimuth and Elevation Drive	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
TOTALS	264	16.96	15.03	308.71	72.21	275.93	0.43	45512.33	1.49	1.58	46034.48

Month 22 Daily Emissions (lb/day)

Vehicle	Quantity Mo 22	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
Busses	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51
Concrete Pump Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flatbed Truck	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Staff & Security Truck	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water/Soiltac Truck	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Passenger Vehicles	208	1.06	0.77	190.00	17.83	17.79	0.15	15705.50	0.92	1.10	16065.61
General Construction Materials	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Pedestals	3	2.69	2.42	19.59	9.17	43.69	0.05	5020.09	0.10	0.08	5046.67
Stirling Engines	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
Suncatcher Metal Supports	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
Suncatcher Mirrors	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
Electrical and Control Systems	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
Azimuth and Elevation Drive	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
TOTALS	262	16.95	15.03	307.49	72.10	275.82	0.43	45411.65	1.48	1.58	45931.49

Month 23 Daily Emissions (lb/day)

Vehicle	Quantity Mo 23	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
Busses	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51
Concrete Pump Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flatbed Truck	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Staff & Security Truck	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water/Soiltac Truck	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Passenger Vehicles	208	1.06	0.77	190.00	17.83	17.79	0.15	15705.50	0.92	1.10	16065.61
General Construction Materials	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Pedestals	3	2.69	2.42	19.59	9.17	43.69	0.05	5020.09	0.10	0.08	5046.67
Stirling Engines	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
Suncatcher Metal Supports	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
Suncatcher Mirrors	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
Electrical and Control Systems	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
Azimuth and Elevation Drive	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
TOTALS	262	16.95	15.03	307.49	72.10	275.82	0.43	45411.65	1.48	1.58	45931.49

Month 24 Daily Emissions (lb/day)

Vehicle	Quantity Mo 24	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
Busses	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51
Concrete Pump Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flatbed Truck	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Staff & Security Truck	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water/Soiltac Truck	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Passenger Vehicles	208	1.06	0.77	190.00	17.83	17.79	0.15	15705.50	0.92	1.10	16065.61
General Construction Materials	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Pedestals	3	2.69	2.42	19.59	9.17	43.69	0.05	5020.09	0.10	0.08	5046.67
Stirling Engines	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
Suncatcher Metal Supports	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
Suncatcher Mirrors	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
Electrical and Control Systems	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
Azimuth and Elevation Drive	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
TOTALS	262	16.95	15.03	307.49	72.10	275.82	0.43	45411.65	1.48	1.58	45931.49

Month 25 Daily Emissions (lb/day)

Vehicle	Quantity Mo 25	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
Busses	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51
Concrete Pump Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flatbed Truck	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Staff & Security Truck	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water/Soiltac Truck	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Passenger Vehicles	208	1.06	0.77	190.00	17.83	17.79	0.15	15705.50	0.92	1.10	16065.61
General Construction Materials	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Pedestals	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stirling Engines	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
Suncatcher Metal Supports	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
Suncatcher Mirrors	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
Electrical and Control Systems	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
Azimuth and Elevation Drive	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
TOTALS	259	14.26	12.61	287.90	62.93	232.13	0.38	40391.56	1.39	1.50	40884.82

Month 26 Daily Emissions (lb/day)

Vehicle	Quantity Mo 26	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
Busses	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51
Concrete Pump Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flatbed Truck	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Staff & Security Truck	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water/Soiltac Truck	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Passenger Vehicles	208	1.06	0.77	190.00	17.83	17.79	0.15	15705.50	0.92	1.10	16065.61
General Construction Materials	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Pedestals	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stirling Engines	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
Suncatcher Metal Supports	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
Suncatcher Mirrors	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
Electrical and Control Systems	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
Azimuth and Elevation Drive	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
TOTALS	259	14.26	12.61	287.90	62.93	232.13	0.38	40391.56	1.39	1.50	40884.82

Month 27 Daily Emissions (lb/day)

Vehicle	Quantity Mo 27	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
Busses	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51
Concrete Pump Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flatbed Truck	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Staff & Security Truck	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water/Soiltac Truck	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Passenger Vehicles	208	1.06	0.77	190.00	17.83	17.79	0.15	15705.50	0.92	1.10	16065.61
General Construction Materials	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Pedestals	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stirling Engines	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
Suncatcher Metal Supports	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
Suncatcher Mirrors	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
Electrical and Control Systems	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
Azimuth and Elevation Drive	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
TOTALS	259	14.26	12.61	287.90	62.93	232.13	0.38	40391.56	1.39	1.50	40884.82

Month 28 Daily Emissions (lb/day)

Vehicle	Quantity Mo 28	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
Busses	2	0.00	0.00	1.85	0.16	0.14	0.00	73.67	0.01	0.01	76.51
Concrete Pump Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flatbed Truck	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Staff & Security Truck	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pickup Truck	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water/Soiltac Truck	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Passenger Vehicles	166	0.85	0.61	151.64	14.23	14.20	0.12	12534.20	0.73	0.88	12821.59
General Construction Materials	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Pedestals	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stirling Engines	5	0.93	0.84	6.80	3.18	15.17	0.02	1743.09	0.03	0.03	1752.32
Suncatcher Metal Supports	10	8.97	8.05	65.30	30.56	145.63	0.16	16733.64	0.32	0.26	16822.23
Suncatcher Mirrors	6	1.12	1.01	8.16	3.82	18.20	0.02	2091.70	0.04	0.03	2102.78
Electrical and Control Systems	2	1.79	1.61	13.06	6.11	29.13	0.03	3346.73	0.06	0.05	3364.45
Azimuth and Elevation Drive	2	0.37	0.34	2.72	1.27	6.07	0.01	697.23	0.01	0.01	700.93
TOTALS	215	14.05	12.46	249.53	59.33	228.54	0.35	37220.26	1.20	1.28	37640.80

Vehicle	Quantity Mo 29	PM_{10}	$PM_{2.5}$
Busses	2	0.00	0.00
Concrete Pump Truck	0	0.00	0.00
Dump Truck	0	0.00	0.00
Flatbed Truck	6	0.00	0.00
Staff & Security Truck	5	0.00	0.00
Pickup Truck	10	0.00	0.00
Water/Soiltac Truck	1	0.00	0.00
Worker Passenger Vehicles	166	0.85	0.61
General Construction Materials	0	0.00	0.00
Suncatcher Pedestals	0	0.00	0.00
Stirling Engines	5	0.93	0.84
Suncatcher Metal Supports	10	8.97	8.05
Suncatcher Mirrors	6	1.12	1.01
Electrical and Control Systems	2	1.79	1.61
Azimuth and Elevation Drive	2	0.37	0.34
TOTALS	215	14.05	12.46

Notes:
Emission factors from CARB Off-road Mobile Source Emission Factors (2006-2020) for diesel and propane equipment. (2009 data used).
Dozer = Crawler Tractor
Loaders = Rubber tired loaders
Backhoe = Tractors/Loaders/Backhoes
Light Tower = Other Construction Equipment
Utilization Load Factors from SCAQMD
PM2.5 emission factors obtained by multiplying the PM10 emissions by PM2.5 fraction in CEIDARS list for onroad or offroad diesel vehicles.
For propane equipment assumed PM2.5 and PM10 Fraction of total PM is 1.000
Onroad vehicle emissions from EMFAC2007 model
CH_4 and N_2O emission factors for the onroad vehicles are from reference source 2: Table C.5, California Climate Action Registry General Reporting Protocol Version 3.0, April 2007

CO_2 GWP (SAR, 1996) = 1
CH_4 GWP (SAR, 1996) = 21
N_2O GWP (SAR, 1996) = 310

Monthly Comparison of Construction Equipment Emissions:

Month of Contruction	Offroad Equipment Quantity	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
		Daily Emissions (lb/day)									
1	122	13.84	12.37	163.42	52.05	225.09	0.29	30401.67	0.78	0.77	30657.19
2	265	15.99	14.19	279.62	67.21	260.35	0.40	41910.87	1.34	1.42	42379.80
3	327	16.35	14.45	342.95	73.15	266.28	0.44	47146.03	1.65	1.79	47735.00
4	294	18.13	16.08	329.09	77.14	295.21	0.46	48456.10	1.58	1.68	49011.17
5	290	18.13	16.08	329.09	77.14	295.21	0.46	48456.10	1.58	1.68	49011.17
6	550	19.47	17.04	567.20	99.49	317.51	0.64	68138.32	2.73	3.06	69144.67
7	554	17.71	15.46	561.45	94.07	289.07	0.61	65395.65	2.70	3.05	66398.13
8	450	16.29	14.28	461.74	82.27	265.78	0.53	56020.55	2.22	2.49	56837.58
9	393	14.91	13.08	406.69	74.05	243.19	0.47	50052.81	1.95	2.18	50769.89
10	364	14.76	12.97	379.89	71.53	240.68	0.45	47837.93	1.82	2.03	48504.23
11	364	14.76	12.97	379.89	71.53	240.68	0.45	47837.93	1.82	2.03	48504.23
12	364	14.76	12.97	379.89	71.53	240.68	0.45	47837.93	1.82	2.03	48504.23
13	419	15.03	13.16	427.39	75.99	245.13	0.49	51764.30	2.05	2.30	52520.63
14	402	14.95	13.11	413.39	74.67	243.82	0.48	50606.53	1.99	2.22	51336.31
15	408	14.98	13.13	418.87	75.19	244.33	0.48	51059.57	2.01	2.25	51799.74
16	391	14.90	13.07	404.86	73.87	243.02	0.47	49901.79	1.94	2.17	50615.42
17	383	14.86	13.04	397.24	73.17	242.32	0.46	49311.24	1.91	2.13	50010.75
18	335	14.63	12.88	355.51	69.26	238.43	0.43	45901.75	1.71	1.89	46522.50
19	302	14.46	12.76	325.07	66.40	235.58	0.41	43384.84	1.56	1.71	43947.89
20	281	17.04	15.09	323.93	73.64	277.36	0.44	46770.78	1.56	1.67	47321.79
21	264	16.96	15.03	308.71	72.21	275.93	0.43	45512.33	1.49	1.58	46034.48
22	262	16.95	15.03	307.49	72.10	275.82	0.43	45411.65	1.48	1.58	45931.49
23	262	16.95	15.03	307.49	72.10	275.82	0.43	45411.65	1.48	1.58	45931.49
24	262	16.95	15.03	307.49	72.10	275.82	0.43	45411.65	1.48	1.58	45931.49
25	259	14.26	12.61	287.90	62.93	232.13	0.38	40391.56	1.39	1.50	40884.82
26	259	14.26	12.61	287.90	62.93	232.13	0.38	40391.56	1.39	1.50	40884.82
27	259	14.26	12.61	287.90	62.93	232.13	0.38	40391.56	1.39	1.50	40884.82
28	215	14.05	12.46	249.53	59.33	228.54	0.35	37220.26	1.20	1.28	37640.80
29	215	14.05	12.46	249.53	59.33	228.54	0.35	37220.26	1.20	1.28	37640.80
30	215	14.05	12.46	249.53	59.33	228.54	0.35	37220.26	1.20	1.28	37640.80
31	215	14.05	12.46	249.53	59.33	228.54	0.35	37220.26	1.20	1.28	37640.80
32	215	14.05	12.46	249.53	59.33	228.54	0.35	37220.26	1.20	1.28	37640.80
33	239	14.17	12.55	271.46	61.39	230.59	0.37	39032.43	1.31	1.40	39494.53
34	239	14.17	12.55	271.46	61.39	230.59	0.37	39032.43	1.31	1.40	39494.53
35	239	14.17	12.55	271.46	61.39	230.59	0.37	39032.43	1.31	1.40	39494.53
36	198	13.98	12.41	237.96	58.24	227.45	0.34	36263.83	1.15	1.21	36662.45
37	198	13.98	12.41	237.96	58.24	227.45	0.34	36263.83	1.15	1.21	36662.45
38	198	13.98	12.41	237.96	58.24	227.45	0.34	36263.83	1.15	1.21	36662.45
39	198	13.98	12.41	237.96	58.24	227.45	0.34	36263.83	1.15	1.21	36662.45
40	196	13.97	12.41	236.74	58.13	227.34	0.34	36163.15	1.14	1.20	36559.47
MAX VALUE (lb/day)	554	19.47	17.04	567.20	99.49	317.51	0.64	68138.32	2.73	3.06	69144.67

Months for Annual Contruction		PM_{10}	$PM_{2.5}$	CO	VOC	NO_x	SO_2	CO_2	CH_4	N_2O	CO_2e
		Annual Emissions (ton/year)									
1	12	2.93	2.58	68.71	13.67	47.70	0.085	8992.38	0.33	0.3631	9111.86
2	13	2.94	2.59	72.67	14.03	48.00	0.088	9312.82	0.35	0.3860	9439.81
3	14	2.93	2.57	74.68	14.14	47.75	0.089	9443.25	0.36	0.3980	9574.16
4	15	2.91	2.55	75.82	14.17	47.42	0.089	9501.96	0.36	0.4049	9635.13
5	16	2.86	2.51	76.96	14.12	46.64	0.090	9523.64	0.37	0.4122	9659.19
6	17	2.81	2.46	77.98	14.06	45.84	0.090	9536.47	0.37	0.4189	9674.19
7	18	2.74	2.40	74.80	13.61	44.66	0.087	9202.92	0.36	0.4012	9334.85
8	19	2.68	2.36	71.26	13.19	43.85	0.083	8872.76	0.34	0.3811	8998.10
9	20	2.70	2.37	68.19	13.06	44.03	0.082	8734.01	0.33	0.3689	8855.36
10	21	2.73	2.40	67.72	13.03	44.52	0.082	8665.90	0.33	0.3600	8784.33
11	22	2.76	2.43	66.63	13.04	45.05	0.081	8629.51	0.32	0.3532	8745.74
12	23	2.80	2.46	65.55	13.05	45.57	0.081	8593.12	0.32	0.3465	8707.15
13	24	2.83	2.50	64.46	13.06	46.10	0.081	8556.72	0.31	0.3398	8668.56
14	25	2.82	2.49	62.37	12.86	45.91	0.079	8386.13	0.30	0.3277	8494.02
15	26	2.81	2.48	60.49	12.69	45.73	0.078	8232.91	0.29	0.3169	8337.25
16	27	2.80	2.47	58.52	12.50	45.55	0.076	8072.89	0.28	0.3056	8173.53
17	28	2.78	2.46	56.19	12.29	45.33	0.074	7882.66	0.27	0.2921	7978.91
18	29	2.77	2.45	53.98	12.08	45.12	0.073	7701.30	0.26	0.2793	7793.36
19	30	2.76	2.45	52.39	11.93	44.97	0.071	7571.08	0.25	0.2702	7660.13
20	31	2.76	2.44	51.25	11.82	44.87	0.071	7478.61	0.25	0.2636	7565.53
21	32	2.71	2.40	50.14	11.61	44.14	0.069	7335.35	0.24	0.2577	7420.31
22	33	2.67	2.37	49.58	11.45	43.46	0.068	7238.15	0.24	0.2550	7322.21
23	34	2.63	2.33	49.04	11.29	42.78	0.067	7142.46	0.24	0.2524	7225.66
24	35	2.58	2.29	48.50	11.13	42.10	0.066	7046.77	0.23	0.2497	7129.10
25	36	2.54	2.25	47.46	10.92	41.37	0.065	6909.56	0.23	0.2442	6990.07
26	37	2.54	2.25	46.71	10.85	41.30	0.065	6847.64	0.23	0.2399	6926.73
27	38	2.53	2.25	45.96	10.78	41.23	0.064	6785.72	0.22	0.2355	6863.40
28	39	2.53	2.24	45.21	10.71	41.16	0.063	6723.81	0.22	0.2312	6800.06
29	40	2.53	2.24	45.02	10.69	41.15	0.063	6707.95	0.22	0.2301	6783.84
MAX VALUE (ton/year)		2.94	2.59	77.98	14.17	48.00	0.090	9536.47	0.37	0.4189	9674.19

Solar Two
Fugitive Dust Emissions (on-site)
Short-term month = 13
annual construction activity for months = 13-24
Travel on sealed roads (paved)

$E = [k * (sL/2)^{0.65} * (W/3)^{1.5} - C] (1 - P/4N)$ EPA AP-42 Section 13.2.1 Paved Roads Equation 2

E = particulate emission factor (lb/VMT),
k = particle size multiplier for particle size range and units of interest
7.4 sL = road surface silt loading (grams per square meter) (g/m^2), from Table 13.2.1-4 for Municipal solid waste landfill
W = average weight (tons) of the vehicles traveling the road, and
C = emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear.

constants

	$PM_{2.5}$	PM_{10}
k	0.0024	0.016
C	0.00036	0.00047

12 P = Mean number of days per year with at least 0.01 inches of precipitation (from EL CENTRO 2 SSW COOP Station)
365 N = number of days in the year (averaging period)

Vehicle Type	Number of Vehicles (month 13)	Max Daily Distance per Vehicle (mile/day)	Assumed distance percentage to drive on sealed roads	Max Daily Distance per Vehicle to drive on sealed roads (mile/day)	Max Daily VMT (all vehicles)	Mean Vehicle Weight (tons)	Max. Operating Hours / Day	Number of Vehicles per year (months 13-24)	Max Annual VMT (all vehicles)	$PM_{2.5}$ EF (lbs/VMT)	PM_{10} EF (lbs/VMT)
Diesel Construction Equipment											
Air Compressor	2	0	0%	0	0	0.5	6	10	0	0.000	0.002
Asphalt Paver	0	0.2	0%	0	0	25	7	0	0	0.134	0.893
Backhoe	4	0	0%	0	0	11	7	19	0	0.039	0.260
Compactor	3	0	0%	0	0	10	7	9	0	0.034	0.226
Crane small	8	0.5	50%	0	2	10	5	60	450	0.034	0.226
Crane large	0	0.5	0%	0	0	35	7	15	0	0.222	1.480
Dozer	1	0	0%	0	0	20	8	4	0	0.096	0.639
Generator	3	0	0%	0	0	0.5	9	27	0	0.000	0.002
Grader	2	0	0%	0	0	20	7	6	0	0.096	0.639
Light Tower	2	0	0%	0	0	0.25	9	13	0	0.000	0.000
Loader	3	0	0%	0	0	25	7	12	0	0.134	0.893
Maxi Sneeker (Trencher)	5	0	0%	0	0	5	9	30	0	0.012	0.079
Skid Steer (Bobcat)	4	0	0%	0	0	2	7	20	0	0.003	0.020
Welding Machine	3	0	0%	0	0	0.5	5	14	0	0.000	0.002
Equipment fueled with Propane											
Aerial Lift	4	1	50%	1	2	4	6	38	570	0.008	0.057
Fork Lift	8	1	50%	1	4	3	4	72	1080	0.005	0.037
Telehandler	4	1	50%	1	2	3	6	44	660	0.005	0.037
Vehicles with Onroad Engines for Emissions Estimates											
Busses	6	12	0%	0	0	12	12	47	0	0.044	0.297
Concrete Pump	0	6	0%	0	0	20	12	0	0	0.096	0.639
Dump Truck	3	7	50%	4	11	20	12	7	735	0.096	0.639
Flatbed Truck	9	28	100%	28	252	10	12	89	74760	0.034	0.226
Staff & Security Truck	5	33	100%	33	165	2.25	24	60	59400	0.003	0.024
Pickup Truck	10	12	95%	11	114	4	12	120	41040	0.008	0.057
Water/Soiltac Truck	4	12	25%	3	12	20	12	45	4050	0.096	0.639
Worker Passenger Vehicles	357	0.3	100%	0	107	2	12	3288	29592	0.003	0.020
Suncatcher Delivery Trucks											
General Materials Delivery Trucks	0	6	0%	0	0	20	24	0	0	0.096	0.639
Suncatcher Pedestals Delivery Trucks	0	13	55%	7	0	20	24	15	3217.5	0.096	0.639
Stirling Engines	5	6	0%	0	0	20	24	60	0	0.096	0.639
Suncatcher Metal Supports	10	6	0%	0	0	20	24	120	0	0.096	0.639
Suncatcher Mirrors	6	6	0%	0	0	20	24	72	0	0.096	0.639
Electrical and Control Systems	2	6	0%	0	0	20	24	24	0	0.096	0.639
Azimuth and Elevation Drive	2	6	0%	0	0	20	24	24	0	0.096	0.639

Vehicle Type	Watering Control Efficiency		PM_{10} Emissions (lb/hr)		PM_{10} Emissions (lb/day)		% of daily emissions	PM_{10} Emissions (tons/year)		$PM_{2.5}$ Emissions (lb/hr)		$PM_{2.5}$ Emissions (lb/day)		$PM_{2.5}$ Emissions (tons/year)	
	Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated		Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated
Diesel Construction Equipment															
Air Compressor	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Paver	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Backhoe	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Compactor	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crane small	0%	0%	0.09	0.09	0.45	0.45	0.53%	0.05	0.05	0.01	0.01	0.07	0.07	0.01	0.01
Crane large	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dozer	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generator	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grader	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light Tower	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loader	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maxi Sneeker (Trencher)	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Skid Steer (Bobcat)	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Welding Machine	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equipment fueled with Propane															
Aerial Lift	0%	0%	0.02	0.02	0.11	0.11	0.13%	0.02	0.02	0.00	0.00	0.02	0.02	0.00	0.00
Fork Lift	0%	0%	0.04	0.04	0.15	0.15	0.17%	0.02	0.02	0.01	0.01	0.02	0.02	0.00	0.00
Telehandler	0%	0%	0.01	0.01	0.07	0.07	0.09%	0.01	0.01	0.00	0.00	0.01	0.01	0.00	0.00
Vehicles with Onroad Engines for Emissions Estimates															
Busses	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Pump	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Truck	0%	0%	0.56	0.56	6.71	6.71	7.94%	0.23	0.23	0.08	0.08	1.00	1.00	0.04	0.04
Flatbed Truck	0%	0%	4.74	4.74	56.84	56.84	67.28%	8.43	8.43	0.70	0.70	8.45	8.45	1.25	1.25
Staff & Security Truck	0%	0%	0.16	0.16	3.90	3.90	4.62%	0.70	0.70	0.02	0.02	0.54	0.54	0.10	0.10
Pickup Truck	0%	0%	0.54	0.54	6.47	6.47	7.65%	1.16	1.16	0.08	0.08	0.94	0.94	0.17	0.17
Water/Soiltac Truck	0%	0%	0.64	0.64	7.67	7.67	9.07%	1.29	1.29	0.10	0.10	1.15	1.15	0.19	0.19
Worker Passenger Vehicles	0%	0%	0.18	0.18	2.11	2.11	2.50%	0.29	0.29	0.02	0.02	0.29	0.29	0.04	0.04
Suncatcher Delivery Trucks															
General Materials Delivery Trucks	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Pedestals Delivery Trucks	0%	0%	0.00	0.00	0.00	0.00	0.00%	1.03	1.03	0.00	0.00	0.00	0.00	0.15	0.15
Stirling Engines	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Metal Supports	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suncatcher Mirrors	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electrical and Control Systems	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Azimuth and Elevation Drive	0%	0%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL Fugitive emissions for vehicles traveled on sealed road (paved)			**6.97**	**6.97**	**84.49**	**84.49**		**13.25**	**13.25**	**1.03**	**1.03**	**12.48**	**12.48**	**1.96**	**1.96**

Attachment AQ-4
Solar Two Project - ICAPCD Letter Confirming Requirements
(March 25, 2009)

150 SOUTH NINTH STREET
EL CENTRO, CA 92243-2850

TELEPHONE: (760) 482-4606
FAX: (760) 353-9904

AIR POLLUTION CONTROL DISTRICT

03/06/09

Christopher Meyer
Siting Project Manager
California Energy Commission
1516 Ninth Street, MS 15
Sacramento, CA 95814

Dear Mr. Meyer,

An Authority to Construct application has been received by the Imperial County Air Pollution Control District on behalf of SES Solar Two LLC Project. The proposed Project will be located on an approximate 6,500 acres near Plaster City in Imperial County. This application is currently under review.

The ICAPCD requires emission reduction credits from a new stationary source that has the Potential to Emit 137 pounds per day or more of nitrogen oxides, reactive organic compounds, carbon monoxide, sulfur oxides, or PM10. Excess emissions will be required offsetting. Project related stationary emissions, including fugitive emissions, will be included in the offset assessment. The Air Pollution Control Officer may exempt emergency standby equipment used for non-utility electrical power generation (per Rule 207C.2.f) from the offset requirements in Rule 207.

If you have any questions regarding this Project, please call the undersigned at 760 482 4606.

Sincerely,

Jaime Hernandez
APCD Senior Engineer

Attachment AQ-5
Solar Two Project - Heat Balance for Data Request 106
(March 25, 2009)

Solar Two Heat Balance for Data Request 106

Total Watt-(hours)/m^2 over measured time, DNI >250	1,199,278	NOTE each data point is 10 minutes, so the sum is divided by 6 intervals/hour, used > 350, since this is usable DNI for dishes					
Total 10 minute intervals	10,270						
Total Watt-(hours)/m^2 over measured time, DNI >0	1,223,668	NOTE each data point is 10 minutes, so the sum is divided by 6 intervals/hour, used > 350, since this is usable DNI for dishes					
	23,935	Total Data Points					
Total hours where production is possible	1712						
Days in dataset	186						
Total hours in this dataset	4464						
Hours/year	8760						
Years in dataset	0.5096						
Total Watt-hour/m^2/year in S2	2,401,283						
Useable Watt-hour/m^2/year	2,353,422						
Dish Diameter	38	feet					
Shading Dish Area (includes structure) =	105.4	meters square					
Reflective Dish Area (mirror Surfaces) =	87.4	meters square					
Total insolation/dish/year	253,007,274	Watt-hour/year/dish					
Useable insolation/dish/year	205,689,081	Watt-hour/year/dish					
Total area	6500	acres =	281,320,000	sq feet =	26,135,641	square meters	
Total insolation/6500 acre field	62,759,076,131	KW-hr/6500 acre field					
Total Insolation /suncatcher	253,007	kW-hr/dish					
Useable Insolation/SunCatcher	205,689	kW-hr/dish	6,170,672,431	kW-hr/year entire field			
# dishes	30,000						
Insolation on Suncatcher	9.8%	Amount of insolation intercepted and reflected by the dish					
		as a percentage of the total on the field					
		Note: no energy is taken from the field, when DNI is < 250 W/m^2					
Field efficiency	96%						
Average Dish efficiency (measured at MPP)	27.5%						
Dish O&M Availability	98.0%						
High Wind Availability	96.0%						
Field Transmission Losses	98.0%						
% of total insolation power taken from field	2.39%	of total insolation is taken from the field in the form of electricity, rest is rejected as waste heat					
Total Power taken from field	1,501,964,970	KW-hr/6500 acre field/year					
	3412.142	BTU/KW-hr					
Total BTU's taken from field	5.12492E+12	BTU/6500 acre field/year					

Attachment AQ-6
Solar Two Project - ICAPCD Correspondance to Date
(March 25, 2009)

El Centro, CA 92243
(760) 482-4606

AIR POLLUTION CONTROL DISTRICT

Attachment AQ-6 part one

APPLICATION FOR

- [x] Authority to Construction
- [ ] New
- [ ] Amendment
- [ ] Permit to Operate
- [ ] Transfer of Ownership
- [ ] Relocation
- [ ] Name change
- [ ] Emission Credit Banking $85.00
- [ ] Change of Permit Conditions
- [ ] Equipment Modification or Addition

PERMIT NUMBER (if any)

1. Name of Applicant: **SES Solar Two LLC.**
2. Responsible Person: **Bob Liden**
3. Mailing Address: **2920 E. Camelback Road, Suite 150**
4. Title: **Executive Vice President**
5. City: **Phoenix** | State: **AZ** | Zip Code: **85016**
6. Phone (Area Code): **(602) 957-1818** | Cell Phone (Area Code):
7. Type of Organization (Corp., Government, Individual, etc.): **LLC (Limited Liability Company)**
8. Brief Description of Project/Activity: **The project will consist about 30,000 solar dish Stirling systems and the design electric capacity will be 750 MW.**
9. Location of Project/Activity: **The project encompasses approximately 6,500 acres and is located near Plaster City in Imperial County.**
10. Property Owner: **Bureau of Land Management (BLM)**
11. Person in Charge at Location: **Bob Liden**
12. Title: **Executive Vice President**
13. Phone Number (Area Code): **(602) 957-1818**
14. Anticipated Date of Construction: Start **Oct. 2009**; Completion **Feb. 2013**
15. Anticipated Life of Project: **40 years**
16. Estimated Emissions

	Uncontrolled lbs/day	Controlled lbs/day
For largest single pollutant	N/A	0.29 (NOx)
Total for all emissions	N/A	0.33 (all pollutants)

17. Other Permits Have Been or Will be Obtained From: **N/A**
18. [x] Plot plans, flow charts, calculations, equipment description and other information required by "List and Critieria" attached.
19. [ ] The information previously submitted with _____ is still valid and no changes have been made except as shown on attachement.
20. [ ] Request for confidential handling of attached.
21. [x] Total pages attached **15**

"I am familiar with the Rules and Regulations of the Imperial County Air Pollution Control District and I certify that the operation of the plant and/or equipment which is subject to the application will comply with said Rules and Regulations."

August 5, 2008
Date

Signature of Responsible Person

OFFICE USE ONLY: All payments must be made by Check or Money Order. Cash will not be accepted Thank you.
Note: An application fee of $157.00 is due upon submission of an application.

Date application submitted: _____ **Amount paid:** _____

Received by: _____ **Receipt Number:** _____

Staff Comments:

150 South Ninth Street
El Centro, CA 92243
(760) 482-4606

IMPERIAL COUNTY
AIR POLLUTION CONTROL DISTRICT
Attachment AQ-6 part two

INTERNAL COMBUSTION ENGINE SUMMARY FORM

NOTICE

An application will not be processed unless ALL fields in "Section A" are complete.

Section A

Company/Agency **SES Solar Two LLC.**	Phone Number **(602) 957-1818**
Equipment Location **near Plaster City in Imperial County, California**	Existing Permit # (if any) **N/A**
Engine Manufacturer **Cummins**	Model Number **QSL9-G3NR3 or similar**
Engine Serial Number: **TBD**	EPA/C.A.R.B. 12-character Engine Family Name **TBD**
Manufacturer Date: **TBD**	Is unit equipped with a non-resettable hour meter? ☒ Yes ☐ No

Utilization of Engine

☐ Electrical Generator _____ Kw ☐ Fire Pump ☐ Portable
☐ Compressor Driver _____ cfm ☒ Other **Emergency Generator**
☐ Pump Driver _____ gpm ☐ Rental

Fuel Information — Air to Fuel Ratio **TBD**

☐ Natural Gas ☐ Gasoline ☐ LPG ☐ Other _____
☐ Digester Gas ☐ Landfill Gas ☒ Diesel Oil

Engine Size (Manufacturers Rating) BHP@ **335** RPM

Operating Schedule

_____ Hr/Days _____ Days/Week
_____ Weeks/Year Maximum Operating Hours _____ Hrs/Days

☒ Emergency Only (indicate hours operated for testing & maintenance)
15 minutes per week or 13 hours per year.

Section B

Is this unit designed to be moved or carried from one location to another, or does it have wheels, skids,
☐ Yes (Portable) ☒ No (Stationary)

150 South Ninth Street
El Centro, CA 92243
(760) 482-4606

IMPERIAL COUNTY
AIR POLLUTION CONTROL DISTRICT

INTERNAL COMBUSTION ENGINE SUMMARY FORM

Section C

Engine Description — Number of Cylinders: 6

☐ Two Cycle	or	☒ Four Cycle
☒ Lean Burn	or	☐ Rich Burn
☐ Turbocharged	☒ Turbocharged/Aftercooled	☐ Naturally Aspirated

Sulfer Content of Disgester Gas, Landfill Gas or Diesel

15 ppm sulfur content of diesel fuel

Maximum Rated Fuel Consumption (Gas/Hr, Cu. Ft/Hr)

19.2 gal/hr

Average Load Percentage %

Energy Recovery From Exhaust ☐ Yes ☒ No If yes, please explain

Emission Control Device ☐ Yes ☒ No If yes, please explain

Emission Data:

POLLUTANT	EMISSION BEFORE CONTROL Gr/BHP PPM Lb/Day	EMISSION AFTER CONTROL Gr/BHP PPM Lb/Day
NMHC or TOC	N/A	0.15 Gr/BHP-hour
NOx	N/A	4.61 Gr/BHP-hour
CO	N/A	0.39 Gr/BHP-hour
PM10	N/A	0.06 Gr/BHP-hour
SOx	N/A	0.12 Gr/BHP-hour
	☒ Manufacturer Data	☐ Source Test Data

Section D

Stationary Engines Only

Stack Dimensions

Height Above Grade 6.5 Ft Height Above Building Ft

Exhaust Cross Section

Diameter 8 In Width In Length In

Exhaust Temperature 869 °F Direction of Stack Outlet ☐ Horizontal ☒ Vertical ☐ Other

End of the Stack ☒ Open ☐ Capped ☐ Flapper Valve

Stack Serves

☒ Only this equipment
☐ Other equipment also

Exhaust Flow 1,218 CFM
Total Flow Rate CFM
Exhaust Pressure CFM

Receptor Information. A receptor is a residence or business whose occupants could be exposed to toxic emissions from your facility.

Nearest offsite receptor **residence**

Distance to nearest offsite receptor 18,491 feet

Distance to nearest school grounds 44,230 feet

John Lague / Sam Wang
Name of preparer

November 20, 2008
Date

IMPERIAL COUNTY AIR POLLUTION CONTROL DISTRICT
150 SOUTH NINTH STREET
EL CENTRO, CA 92243
PHONE: (760) 482-4606
FAX: (760) 353-9904

SUPPLEMENTAL APPLICATION INFORMATION
GASOLINE DISPENSING FACILITIES

Permit to be Issued to: SES Solar Two LLC.

Address: near Plaster City in Imperial County

Date: January 16, 2009

Explanation of construction plans with anticipation dates: The project will consist about 30,000 solar dish Stirling system on an approximately 6,500 acres land. The anticipated date of construction is from Oct. 2009 through Feb. 2013.

☒ New Site ☐ Modification of Existing Site ☒ Storage Tank Data Sheet Enclosed ☐ Site Plant of all underground piping enclosed

IMPERIAL COUNTY AIR POLLUTION CONTROL DISTRICT RULES REQUIRE THAT PHASE I AND PHASE II VAPOR RECOVERY SYSTEMS NEED TO BE CALIFORNIA AIR RESOURCES BOARD (CARB) CERTIFIED. SYSTEMS MUST BE INSTALLED AND OPERATED IN ACCORDANCE WITH EXECUTIVE ORDERS ISSUED BY THE CARB.

PHASE I (delivery to tank)
CHECK THE EXECUTIVE ORDER THAT APPLIES TO THE SYSTEM TO BE INSTALLED OR MODIFIED

ABOVE GROUND	G-70-102-A	
	OTHER	G-70-200-B/C (California ARB Exec. Order) G-97-A
UNDERGROUND	VR-101-C PHIL-TITE	
	VR-102-C OPW	
	VR-103-A EBW	
	VR-104-A CNI MANUFACTURING	
	OTHER	

PHASE II (delivered to vehicle)
CHECK THE EXECUTIVE ORDER THAT APPLIES TO THE SYSTEM TO BE INSTALLED OR MODIFIED

ABOVE GROUND			
✓BALANCE		G-70-200-B	
VACUUM ASSIST	HASSTECH	G-70-___	
	HIRT	G-70-___	
	HEALY	G-70-___	
	MARCONI	G-70-___	
	OTHER		

	PREMIUM	REGULAR	UNLEADED	DIESEL	OTHER
No. of Existing Nozzles	0	0	0	0	0
No. of Nozzles to be Added or Removed:	0	0	1 New	0	0
New Total Number of Nozzles:	0	0	1	0	0
No. of Islands, including Diesel Islands:	0				

IMPERIAL COUNTY AIR POLLUTION CONTROL DISTRICT
150 SOUTH NINTH STREET
EL CENTRO, CA 92243
PH: (760) 482-4606 / FAX: (760) 353-9904

IMPERIAL COUNTY AIR POLLUTION CONTROL DISTRICT
STORAGE TANKS DATA SHEET

☐ UNDERGROUND
☒ ABOVEGROUND

it will be installed to within 6 inches of the bottom of the tank.

New	Exist	Tank # (if any)	Tank Capacity Gallons	Premium	Regular	Unleaded Octane #87	Diesel	Other	Submerged Fill Tube		Fill Tube		Overfill Protected	
									YES	NO	Dual 2 Point	Coaxial	Yes	No
X			5,000			X			X		X		X part of ff	
AVERAGE MONTHLY THROUGHPUT (GALLONS):						1,500								

The gasoline in the tank is for on-site company vehicles use only.

Include a site plan of all tanks, dispensers, and underground piping. Also identify all vapor return piping material, diameter, length and slope.

Name of Preparer(s): John Lague / Sam Wang

Company: URS Corporation

Address: 1615 Murrey Canyon Road, Suite 1000, San Diego - CA 92108

Signature of Preparer:

Before/during the process of an application for Authority to Construct/Permit to Operate, we MAY REQUIRE further information.

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA
1516 NINTH STREET, SACRAMENTO, CA 95814
1-800-822-6228 – WWW.ENERGY.CA.GOV

APPLICATION FOR CERTIFICATION
For the SES SOLAR TWO PROJECT

Docket No. 08-AFC-5

PROOF OF SERVICE
(Revised 2/25/09)

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DECLARATION OF SERVICE

I, Angela Leiba, declare that on March 27, 2009, I served and filed copies of the attached Response to CEC and BLM Data Requests 53-110. The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at: **[www.energy.ca.gov/sitingcases/solartwo]**. The document has been sent to both the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, in the following manner:

(*Check all that Apply*)

FOR SERVICE TO ALL OTHER PARTIES:

_**X**___sent electronically to all email addresses on the Proof of Service list;

_**X**___by personal delivery or by depositing in the United States mail at Sacramento, California with first-class postage thereon fully prepaid and addressed as provided on the Proof of Service list above to those addresses **NOT** marked "email preferred."

AND

FOR FILING WITH THE ENERGY COMMISSION:

__**X**___sending an original paper copy and one electronic copy, mailed and emailed respectively, to the address below (***preferred method***);

OR

_____depositing in the mail an original and 12 paper copies, as follows:

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 08-AFC-5
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512

docket@energy.state.ca.us

I declare under penalty of perjury that the foregoing is true and correct.

Original Signed By:
Angela Leiba