

APPENDIX A
CRITERIA AIR POLLUTANT AND
GREENHOUSE GAS EMISSIONS, AND ENERGY USE

Operational Emissions

CalEEMod Operational Emissions Estimates:

Operational Source	ROG	Maximum Daily (pounds per year)		
		NOX	PM10	
Ares	0.024	0	0	0
Energy	0	0	0	0
Mobile	0.0359	0.4462	0.4462	12.1948
Offroad	0.602	6.3349	6.3349	0.2714
Stationary	0.0443	0.2311	0.2311	0.0195
Total Annual Emissions	0.7062	7.0122	7.0122	12.4857
PCAPCD Thresholds	55	55	55	82
Exceed Thresholds?	No	No	No	No

Annual Operational GHG Emissions: 424.8015329

Generation Substation

Equipment	Quantity	SF6 Quantity (lb)	Total (lb)
230KV CB (SF6)	2	161	322
230/34.5kV TX	2	0	0
34.5kV CB (Vacuum)	14	0	0
Cap Bank Circuit Switcher	4	2	8
Contingency (30%)			99
Total (Substation)			429

Equipment	Quantity	SF6 Quantity (lb)	Total (lb)
230KV CB (SF6)	9	161	1449
Contingency (30%)			434.7
Total (Switch Station)			1883.7
Switch Station and Substation Total			2312.7

Potential SF6 Emissions:

Total SF6 Use (Metric Tons)	% Leak, Per CARB Regulation	Total Annual SF6 Emissions	Total Annual CO2e Emissions from SF6 Use (MT CO2e)
1.05	0.01	0.01	250.72

Constants	
lb	grams
1	453.592
ton	lb
1	2000
metric ton	lb
1	2204.62
GWP CO2	SF6
1	23900

Max Theoretical Generating Capacity

344 MW	Energy Generation Rate (MWh)	Energy Generation Rate (MMBtu)
	748,944	2,555,396.93

Energy Generation Rate = Generating Capacity * Capacity Factor * Operational Duration

Applicant-provided data for Annual Energy Generation Rate

1 MWh = 3.412000 MMBtu

GHG emissions avoided by use of solar power vs. fossil fuels:

Energy Generation Rate (MW hours per year)	748,944
CO2 emissions factor for SMUD General Power Mix (MT CO2e/MW hour) ¹ in the year 2025	0.08
Theoretical CO2 emissions if proposed project's electricity were produced via non-renewable source (MT CO2e per year)	61,453
CO2 emissions factor from non-renewable electricity sources within SMUD Power Mix (MT CO2e/MW hour) ¹	0.45
Theoretical CO2 emissions if proposed project's electricity were produced via non-renewable source (MT CO2e per year)	340,667

¹ See Tab: SMUD 2020-2030

Operational Energy Consumption

Operational Activity	MT CO2 per year (CalEEMod Output)	Diesel Use (gallons per year)	Gasoline Use (gallons per year)	Notes
Area	0.00002	0	-	Assumes all diesel-powered
Energy	0	-	-	Any energy requirements would be fed from onsite GHG-free production, with the exception of the backup generator stationary source provided separately below
Mobile	33.334	1,763	1,896	See Fleet Mix and below calculation as % Diesel, % Gasoline
Offroad	138.1271	13,558	-	Modeled based on all diesel-powered equipment
Stationary	0.51	50	-	Modeled as diesel-powered generator
Total Annual Fuel Consumption	-	15,372	1,896	

*Note that this assumes that the maximum daily off-roach equipment use and visitor travel would occur throughout the year, which is an overestimate of total activity.

Mobile Fleet Mix

Vehicle Category (adjusted in CalEEMod files)	% Fleet Mix (adjusted in CalEEMod)	% Diesel (estimate based on EMFAC data)	% Gasoline (estimate based on EMFAC data)
MDV	25%	2%	98%
LHD1	25%	43%	57%
LHD2	25%	70%	30%
MHD	25%	100%	0%
Weighted Average % Fuel Use for Operations:		54%	46%

Conversion of CO2e Emissions to Fuel Use:

Fuel Type	MT CO2e/gallon
Diesel	1.02E-02
Gasoline	8.11E-03

SMUD Emission Factors - 2020

Electricity Portfolio	SMUD
Eligible Renewables	34%
Coal	0%
Large Hydro	29%
Natural Gas	35%
Nuclear	1%
Other	0%
Unspecified	1%
Total	100%
Total Renewable	64%
Total Coal	0%
Total "Gas"	36%
Emissions Factors	SMUD
lb CO2e/MWh	358.00
MT CO2e/MWh	0.162

Conversion Factor

MT/lbs
0.000453592

Assumes 'unspecified' is combined cycle natural gas generation

Electricity Portfolio Sources:

CEC Power Content Labels <https://www.energy.ca.gov/filebrowser/download/3900>

Emissions Factor Sources:

CO2e/MWh based on "general mix" (<https://www.smud.org/SMUDPCL>)

SMUD Emission Factor Forecasted

2020 2030
33% 100%

RPS reduces share in other energy sources on weighted basis from their 2017 contribution to power content label

SMUD - 2020 Power Content Label	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
RPS	33.8%	39.7%	46.4%	53.1%	59.8%	66.5%	73.2%	79.9%	86.6%	93.3%	100.0%
Large Hydroelectric	29.1%	26.5%	23.6%	20.6%	17.7%	14.7%	11.8%	8.8%	5.9%	2.9%	0.0%
Natural Gas	35.2%	32.1%	28.5%	24.9%	21.4%	17.8%	14.2%	10.7%	7.1%	3.5%	-0.1%
Nuclear	1.3%	1.2%	1.1%	0.9%	0.8%	0.7%	0.5%	0.4%	0.3%	0.1%	0.0%
Unspecified	0.5%	0.5%	0.4%	0.4%	0.3%	0.3%	0.2%	0.2%	0.1%	0.0%	0.0%
Total	100%	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%

Renewable Energy	64%	67.39%	71.01%	74.62%	78.24%	81.86%	85.48%	89.10%	92.72%	96.34%	99.95%
Non-Renewable	36%	32.5%	28.9%	25.3%	21.7%	18.0%	14.4%	10.8%	7.2%	3.6%	0.05%
Non-Renewable											
MT CO2e/MWh	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
MT CO2e/MWh	0.16	0.15	0.13	0.11	0.10	0.08	0.07	0.05	0.03	0.02	0.00
lbs CO2e/MWh	358.00	326.04	289.76	253.47	217.18	180.90	144.61	108.32	72.03	35.75	0.46

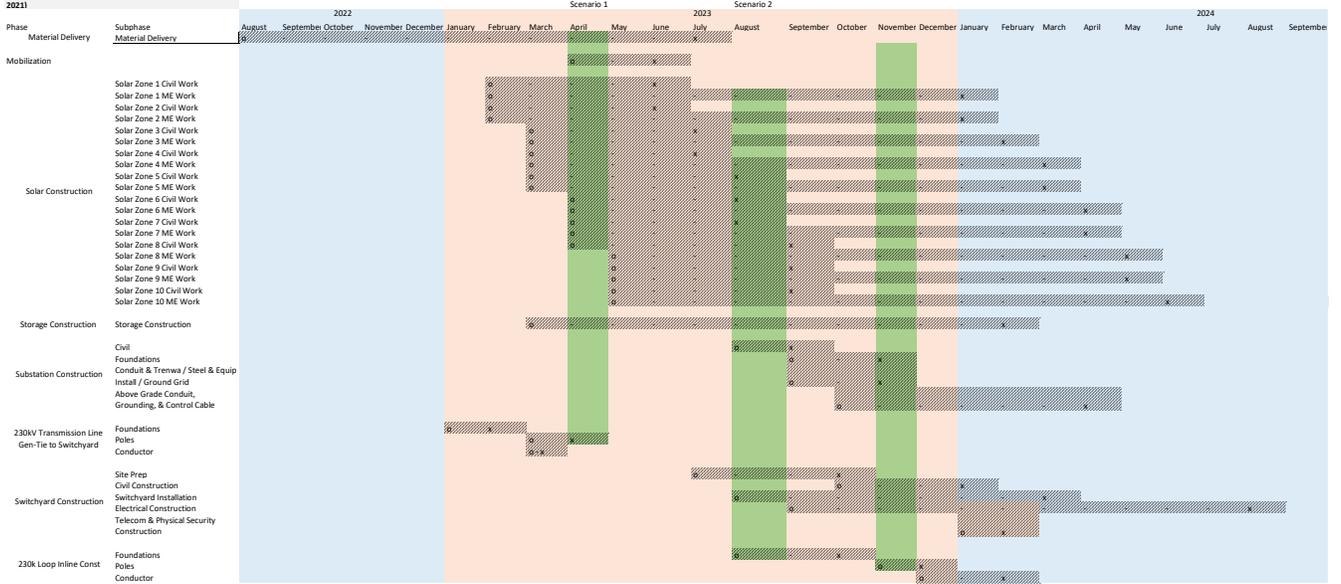
Conversion Factor

MT/lbs
0.000453592
2204.62

Construction Fuel Consumption

Phase	Subphase	Activity	Gallons Diesel	Gallons Gasoline
Material Procurement & Delivery	Material Procurement & Delivery	Equipment Use	0	#N/A
Material Procurement & Delivery	Material Procurement & Delivery	On-Site Vehicle Use	3817	0
Material Procurement & Delivery	Material Procurement & Delivery	Off-site On-road Vehicles	35480	1238
Mobilization	Mobilization	Equipment Use	2478	#N/A
Mobilization	Mobilization	On-Site Vehicle Use	81	1434
Mobilization	Mobilization	Off-site On-road Vehicles	51	1256
Solar Construction	Solar Construction (Civil)	Equipment Use	541342	#N/A
Solar Construction	Solar Construction (Civil)	On-Site Vehicle Use	43800	45618
Solar Construction	Solar Construction (Civil)	Off-site On-road Vehicles	510	17729
Solar Construction	Solar Construction (ME)	Equipment Use		
Solar Construction	Solar Construction (ME)	On-Site Vehicle Use		
Solar Construction	Solar Construction (ME)	Off-site On-road Vehicles	4451	173899
Storage Construction	Storage Construction	Equipment Use	72917	#N/A
Storage Construction	Storage Construction	On-Site Vehicle Use	0	0
Storage Construction	Storage Construction	Off-site On-road Vehicles	1795	10897
Substation Construction	Substation Construction (Civil)	Equipment Use	7725	#N/A
Substation Construction	Substation Construction (Civil)	On-Site Vehicle Use	674	889
Substation Construction	Substation Construction (Civil)	Off-site On-road Vehicles	51	1664
Substation Construction	Substation Construction (Foundations)	Equipment Use		
Substation Construction	Substation Construction (Foundations)	On-Site Vehicle Use		
Substation Construction	Substation Construction (Foundations)	Off-site On-road Vehicles	449	1091
Substation Construction	Substation Construction (Trench)	Equipment Use		
Substation Construction	Substation Construction (Trench)	On-Site Vehicle Use		
Substation Construction	Substation Construction (Trench)	Off-site On-road Vehicles	112	885
Substation Construction	Substation Construction (Above Grade)	Equipment Use		
Substation Construction	Substation Construction (Above Grade)	On-Site Vehicle Use		
Substation Construction	Substation Construction (Above Grade)	Off-site On-road Vehicles	262	2065
Transmission Line	Transmission Line (Foundations)	Equipment Use		
Transmission Line	Transmission Line (Foundations)	On-Site Vehicle Use		
Transmission Line	Transmission Line (Foundations)	Off-site On-road Vehicles	299	728
Transmission Line	Transmission Line (Poles)	Equipment Use		
Transmission Line	Transmission Line (Poles)	On-Site Vehicle Use		
Transmission Line	Transmission Line (Poles)	Off-site On-road Vehicles	5	439
Transmission Line	Transmission Line (Conductors)	Equipment Use		
Transmission Line	Transmission Line (Conductors)	On-Site Vehicle Use		
Transmission Line	Transmission Line (Conductors)	Off-site On-road Vehicles	37	295
Switchyard Construction	Switchyard Construction (Site Prep)	Equipment Use	13428	#N/A
Switchyard Construction	Switchyard Construction (Site Prep)	On-Site Vehicle Use	1092	1440
Switchyard Construction	Switchyard Construction (Site Prep)	Off-site On-road Vehicles	150	1180
Switchyard Construction	Switchyard Construction (Civil)	Equipment Use		
Switchyard Construction	Switchyard Construction (Civil)	On-Site Vehicle Use		
Switchyard Construction	Switchyard Construction (Civil)	Off-site On-road Vehicles	598	1455
Switchyard Construction	Switchyard Construction (Building)	Equipment Use		
Switchyard Construction	Switchyard Construction (Building)	On-Site Vehicle Use		
Switchyard Construction	Switchyard Construction (Building)	Off-site On-road Vehicles	299	4538
Switchyard Construction	Switchyard Construction (Electrical)	Equipment Use		
Switchyard Construction	Switchyard Construction (Electrical)	On-Site Vehicle Use		
Switchyard Construction	Switchyard Construction (Electrical)	Off-site On-road Vehicles	449	3541
Switchyard Construction	Switchyard Construction (Telecom & Security)	Equipment Use		
Switchyard Construction	Switchyard Construction (Telecom & Security)	On-Site Vehicle Use		
Switchyard Construction	Switchyard Construction (Telecom & Security)	Off-site On-road Vehicles	75	590
Loop Inline Construction	Loop Inline Construction (Foundations)	Equipment Use		
Loop Inline Construction	Loop Inline Construction (Foundations)	On-Site Vehicle Use		
Loop Inline Construction	Loop Inline Construction (Foundations)	Off-site On-road Vehicles	347	816
Loop Inline Construction	Loop Inline Construction (Poles)	Equipment Use		
Loop Inline Construction	Loop Inline Construction (Poles)	On-Site Vehicle Use		
Loop Inline Construction	Loop Inline Construction (Poles)	Off-site On-road Vehicles	20	448
Loop Inline Construction	Loop Inline Construction (Conductor)	Equipment Use		
Loop Inline Construction	Loop Inline Construction (Conductor)	On-Site Vehicle Use		
Loop Inline Construction	Loop Inline Construction (Conductor)	Off-site On-road Vehicles	10	823
Totals		Equipment Use	637889	0
		On-Site Vehicle Use	49464	49382
		Off-site On-road Vehicles	45452	225577
		Total	732805	274959

Construction Schedule (Oct 2021)



Construction Emissions Summary

Emissions Source	Criteria Pollutant Daily Emissions (lb/dy)				
	ROG	NOX	PM10 (Exhaus)	PM10 (Fugitive Dust)	PM10 (Total)
"Early" Phases of Work (Material Procurement & Delivery, Mobilization, Early Solar Const., Early Storage Const., Max of Substation phase)	28	219	12	157	169
On-site Vehicles	10	11	1	1195	1195
On-Road Vehicles	2	7	0.1	5	5
Total	40	237	12	1357	1369

"Mid" Phases of Work (Mid Solar Const., Mid Storage Const., Max of Substation phase, Early Switchyard Const.)	17	115	8	181	189
On-site Vehicles	16	17	1	2004	2005
On-Road Vehicles	2	5	0.1	5	5
Total	34	137	9	2190	2199

"Late" Phases of Work (Late Solar Const., Late Storage Const., Mid Substation phase, Mid Switchyard Const.)	18	115	8	187	195
On-site Vehicles	2	4	0	816	816
On-Road Vehicles	1	4	0.1	4	4
Total	22	123	9	1007	1015

USED FOR EIR:

Maximum Daily Emissions	Off-Road Equipment	28	219	12	187	195
	On-site Vehicles	16	17	1	2004	2005
	On-Road Vehicles	2	7	0.1	5	5
	Total Of All Activity	46	243	13	2,196	2,205
	PCAPCD Thresholds	82	82	NA	NA	82

*Maximum emissions for each pollutant would not necessarily occur on the same day, but are representative of the maximum potential daily emissions for each pollutant over the construction period.

Maximum emissions of would occur during the Early Scenario phases of work.

Note that on-site vehicle PM Exhaust Emissions also include brake wear. This was not included with fugitive dust because the control measures for on-site fugitive dust would not apply to this emissions source.

		GHG Emissions (MT CO2e)	
	Material Procurement & Delivery	405.69	INTERNAL LOOK: Year 1 Emissions Estimate 202.8474099
	Mobilization	59.27	59.27
	Solar Construction	9620.51	6413.671358
	Storage Construction	1069.85	891.5385087
	Substation Construction (Includes Transmission Line)	182.68	146.1471112
	Switchyard Construction (Includes Loop Inline)	325.94	162.9691999
	Total	11663.94	7876.44
	Average Annual	5831.968165	

Theoretical GHG of Emissions of GHG

8311.43093

		Mitigated Criteria Pollutant Daily Emissions (lb/dy)				
	Emissions Source	ROG	NOX	PM10 (Exhaust)	PM10 (Fugitive Dust)	PM10 (Total)
"Early" Phases of Work (Material Procurement & Delivery, Mobilization, Early Solar Const., Early Storage Const., Max of Substation phase)	Off-Road Equipment	28	175	12	58	70
	On-site Vehicles	10	11	1	109	110
	On-Road Vehicles	2	7	0.1	5	5
	Total	40	193	12	172	184

"Mid" Phases of Work (Mid Solar Const., Mid Storage Const., Max of Substation phase, Early Switchyard Const.)	Off-Road Equipment	17	92	8	67	75
	On-site Vehicles	16	17	1	183	184
	On-Road Vehicles	2	5	0.1	5	5
	Total	34	114	9	255	264

"Late" Phases of Work (Late Solar Const., Late Storage Const., Mid Substation phase, Mid Switchyard Const.)	Off-Road Equipment	18	92	8	69	77
	On-site Vehicles	2	4	0	74	75
	On-Road Vehicles	1	4	0.1	4	4
	Total	22	100	9	148	156

Maximum Daily Emissions Scenario	Off-Road Equipment	28	175	12	67	75
	On-site Vehicles	10	11	1	183	184
	On-Road Vehicles	2	7	0.1	5	5
	Total Of All Activity	40	193	12	255	264
	PCAPCD Thresholds	82	82	NA	NA	82

*Maximum emissions for each pollutant would not necessarily occur on the same day, but are representative of the maximum potential daily emissions for each pollutant over the construction period.
Maximum emissions would occur during the Early Scenario phases of work.

Mitigated Scenario assumes:

*NOx reductions of a minimum of 20% achieved in accordance with PCAPCD requirements to submit an emissions reduction plan and equipment inventory when actual equipment is confirmed;

*Reduction in fugitive dust from off-road equipment of at least 63% due to regular watering;

*Reduction in fugitive dust from on-site vehicles of at least 84% through application of gravel; daily watering would also be conducted as needed and vehicle speeds would be restricted to no more than 15 mph, but additive reductions were not assumed.

NOx Reduction Factor:	20%
Earthwork Fugitive Dust Control Factor:	63%
Unpaved Roadway Fugitive Dust Control Factor for Gravel Application:	84%
Unpaved Roadway Fugitive Dust Control Factor for Reduced Speed:	57%

Main data table with columns for Project/Phase/Activity, Equipment, Resources, Duration, and Daily Output (Rough, Form, Rebar, etc.)

Minimum Ongoing Base on Construction Schedule (Planning Only) Construction...
Maximum Ongoing Base on Construction Schedule (Planning Only) Construction...
Minimum Ongoing Base on Construction Schedule (Planning Only) Construction...
Total Equipment Days (Days) for the project organization.

Summary table with columns for Equipment, Days, and various resource metrics.

On-road Construction Vehicles

Project Phase / Vehicle Category	Number of Vehicles/day	Daily One-way Trips / Vehicle	Total Trips/Day (Number * Daily Trip Factor)	Notes	Total Days ¹	Trip Distance	Daily Criteria Pollutant Emissions (pounds per day)					Total GHG Emissions (metric tons)					Total Fuel Consumption		
							ROG	NOx	PM10 (Exhaust)	PM10 (Fugitive Dust)	PM10 (Total)	CO	CO2	CH4	N2O	CO2e	Gallons Diesel	Gallons Gasoline	
Material Procurement & Delivery																			
Worker Trips	2	2	4			352	16.8	0.0056	0.0128	0.0002	0.0174	0.0177	0.1742	8.1523	0.0002	0.0002	8.2104	0.0000	870.8242
Vendor Trips	1	2	2			352	6.6	0.0039	0.0414	0.0008	0.0054	0.0062	0.0102	3.9008	0.0000	0.0004	4.0060	598.4692	366.7665
Haul Trips (Based on 76,800 cy material import for substation and s	19	2	38			264	20	0.0375	3.0336	0.0301	0.3654	0.3955	0.3413	339.0260	0.0022	0.0535	353.2738	34881.0380	0.0000
Other	0	0	0			0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-site On-road Vehicles																			
						Phase Total:		0.0471	3.0878	0.0311	0.3883	0.4194	0.5258	351.0791	0.0024	0.0541	365.4902	35479.5072	1237.5907
Mobilization																			
Worker Trips	15	2	30			66	16.8	0.0422	0.0957	0.0019	0.1306	0.1325	1.3069	11.4641	0.0003	0.0003	11.5458	0.0000	1224.5965
Vendor Trips	1	2	2	30 deliveries total		30	6.6	0.0039	0.0414	0.0008	0.0054	0.0062	0.0102	0.3325	0.0000	0.0000	0.3414	51.0059	31.2585
Haul Trips	0	2	0			1	20	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other	0	0	0			0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-site On-road Vehicles																			
						Phase Total:		0.0461	0.1371	0.0026	0.1361	0.1387	1.3171	11.7966	0.0003	0.0003	11.8872	51.0059	1255.8550
Solar Construction (Civil Work)																			
Worker Trips	80	2	160			176	16.8	0.2250	0.5102	0.0099	0.6968	0.7067	6.9700	163.0455	0.0040	0.0040	164.2072	0.0000	17416.4834
Vendor Trips	10	2	20	30 deliveries total per "phase" (assume this is per "zone") is 1 per day for each of 10 zones.		30	6.6	0.0391	0.4141	0.0075	0.0544	0.0619	0.1023	3.3246	0.0000	0.0003	3.4142	510.0590	312.5851
Haul Trips	0	2	0			1	20	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other	0	0	0			0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-site On-road Vehicles																			
						Phase Total:		0.2640	0.9244	0.0174	0.7512	0.7686	7.0722	166.3701	0.0040	0.0043	167.6214	510.0590	17729.0685
Solar Construction (ME Work)																			
Worker Trips	370	2	740			374	16.8	1.0405	2.3599	0.0457	3.2227	3.2683	32.2360	1602.4313	0.0389	0.0390	1613.8488	0.0000	17171.3761
Vendor Trips	7	2	14	101 inverters over 15 month period (7 per month), plus 3 daily for modules, 1 daily for tables, and 2 daily for piles)		374	6.6	0.0274	0.2899	0.0053	0.0381	0.0433	0.0716	29.0125	0.0004	0.0029	29.7944	4451.1150	2727.8259
Haul Trips	0	2	0			1	20	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other	0	0	0			0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-site On-road Vehicles																			
						Phase Total:		1.0678	2.6498	0.0510	3.2607	3.3117	32.3076	1631.4439	0.0393	0.0419	1643.6432	4451.1150	173899.2020
Storage Construction																			
Worker Trips	30	2	60			264	16.8	0.0844	0.1913	0.0037	0.2613	0.2650	2.6137	91.7131	0.0022	0.0022	92.3665	0.0000	9796.7719
Vendor Trips	4	2	8	131 inverters over 14 months (7 per month), individual deliveries of 524 BESS containers over 12 months; 30 additional equipment deliveries.		264	6.6	0.0156	0.1656	0.0030	0.0217	0.0248	0.0409	11.7025	0.0001	0.0012	12.0179	1795.4077	1100.2995
Haul Trips	0	2	0			1	20	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other	0	0	0			0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-site On-road Vehicles																			
						Phase Total:		0.1000	0.3570	0.0067	0.2830	0.2898	2.6546	103.4156	0.0024	0.0034	104.3845	1795.4077	10897.0714
Substation Construction (Civil)																			
Worker Trips	30	2	60			44	16.8	0.0844	0.1913	0.0037	0.2613	0.2650	2.6137	15.2855	0.0004	0.0004	15.3944	0.0000	1632.7953
Vendor Trips	1	2	2	30 equipment deliveries		44	6.6	0.0002	0.0040	0.0030	0.1073	0.0004	0.0002	2.6915	0.0000	0.0001	0.7205	51.0059	31.2585
Haul Trips	0	2	0			1	20	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other	0	0	0			0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-site On-road Vehicles																			
						Phase Total:		0.0846	0.1954	0.0467	0.3686	0.2654	2.6139	15.9770	0.0004	0.0005	16.1149	51.0059	1664.0538
Substation Construction (Foundations)																			
Worker Trips	10	2	20			66	16.8	0.0281	0.0638	0.0012	0.0871	0.0883	0.8712	7.6428	0.0002	0.0002	7.6972	0.0000	816.3977
Vendor Trips	4	2	8			66	6.6	0.0156	0.1656	0.0030	0.0217	0.0248	0.0409	2.9256	0.0000	0.0003	3.0045	448.8519	275.0749
Haul Trips	0	2	0			1	20	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other	0	0	0			0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-site On-road Vehicles																			
						Phase Total:		0.0438	0.2294	0.0043	0.1088	0.1131	0.9122	10.5684	0.0002	0.0005	10.7017	448.8519	1091.4725
Substation Construction (Conduit/Steel & Equip Install / Ground Grid)																			
Worker Trips	10	2	20			66	16.8	0.0281	0.0638	0.0012	0.0871	0.0883	0.8712	7.6428	0.0002	0.0002	7.6972	0.0000	816.3977
Vendor Trips	1	2	2			66	6.6	0.0039	0.0414	0.0008	0.0054	0.0062	0.0102	0.7314	0.0000	0.0001	0.7511	112.2130	68.7687
Haul Trips	0	2	0			1	20	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other	0	0	0			0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-site On-road Vehicles																			
						Phase Total:		0.0320	0.1052	0.0020	0.0925	0.0945	0.8815	8.3742	0.0002	0.0003	8.4483	112.2130	885.1664
Substation Construction (Above Grade Conduit/Grinding/Control Cable)																			
Worker Trips	10	2	20			154	16.8	0.0281	0.0638	0.0012	0.0871	0.0883	0.8712	17.8331	0.0004	0.0004	17.9602	0.0000	1904.9279
Vendor Trips	1	2	2			154	6.6	0.0039	0.0414	0.0008	0.0054	0.0062	0.0102	1.7066	0.0000	0.0002	1.7526	261.8303	160.4603
Haul Trips	0	2	0			1	20	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other	0	0	0			0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-site On-road Vehicles																			
						Phase Total:		0.0320	0.1052	0.0020	0.0925	0.0945	0.8815	19.5397	0.0005	0.0006	19.7128	261.8303	2065.3882
Transmission Line Gen-Tie to Switchyard (Foundations)																			
Worker Trips	10	2	20			44	16.8	0.0281	0.0638	0.0012	0.0871	0.0883	0.8712	5.0952	0.0001	0.0001	5.1315	0.0000	544.2651
Vendor Trips	4	2	8			44	6.6	0.0156	0.1656	0.0030	0.0217	0.0248	0.0409	1.9504	0.0000	0.0002	2.0030	299.2346	183.3833
Haul Trips	0	2	0			1	20	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other	0	0	0			0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-site On-road Vehicles																			
						Phase Total:		0.0438	0.2294	0.0043	0.1088	0.1131	0.9122	7.0456	0.0001	0.0003	7.1345	299.2346	727.6484
Transmission Line Gen-Tie to Switchyard (Poles)																			
Worker Trips	8	2	16																

Switchyard Construction (Site Prep)																				
Worker Trips	10	2	20			88	16.8	0.0281	0.0638	0.0012	0.0871	0.0883	0.8712	10.1903	0.0002	0.0002	10.2629	0.0000	1088.5302	
Vendor Trips	1	2	2			88	6.6	0.0039	0.0414	0.0008	0.0054	0.0062	0.0102	0.9752	0.0000	0.0001	1.0015	149.6173	91.6916	
Haul Trips	0	2	0				20	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Other	0	0	0			0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Off-site On-road Vehicles	Phase Total:																			
								0.0320	0.1052	0.0020	0.0925	0.0945	0.8815	11.1656	0.0003	0.0003	11.2644	149.6173	1180.2218	
Switchyard Construction (Civil Const)																				
Worker Trips	10	2	20			88	16.8	0.0281	0.0638	0.0012	0.0871	0.0883	0.8712	10.1903	0.0002	0.0002	10.2629	0.0000	1088.5302	
Vendor Trips	4	2	8			88	6.6	0.0156	0.1656	0.0030	0.0217	0.0248	0.0409	3.9008	0.0000	0.0004	4.0060	598.4692	366.7665	
Haul Trips	0	2	0			1	20	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Other	0	0	0			0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Off-site On-road Vehicles	Phase Total:																			
								0.0438	0.2294	0.0043	0.1088	0.1131	0.9122	14.0912	0.0003	0.0006	14.2689	598.4692	1455.2967	
Switchyard Construction (Switchyard Const - Building)																				
Worker Trips	20	2	40			176	16.8	0.0562	0.1276	0.0025	0.1742	0.1767	1.7425	40.7614	0.0010	0.0010	41.0518	0.0000	4354.1209	
Vendor Trips	1	2	2			176	6.6	0.0039	0.0414	0.0008	0.0054	0.0062	0.0102	1.9504	0.0000	0.0002	2.0030	299.2346	183.3833	
Haul Trips	0	2	0			1	20	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Other	0	0	0			0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Off-site On-road Vehicles	Phase Total:																			
								0.0601	0.1690	0.0032	0.1796	0.1829	1.7527	42.7118	0.0010	0.0012	43.0548	299.2346	4537.5041	
Switchyard Construction (Elect Const)																				
Worker Trips	10	2	20			264	16.8	0.0281	0.0638	0.0012	0.0871	0.0883	0.8712	30.5710	0.0007	0.0007	30.7888	0.0000	3265.5906	
Vendor Trips	1	2	2			264	6.6	0.0039	0.0414	0.0008	0.0054	0.0062	0.0102	2.9256	0.0000	0.0003	3.0045	448.8519	275.0749	
Haul Trips	0	2	0			1	20	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Other	0	0	0			0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Off-site On-road Vehicles	Phase Total:																			
								0.0320	0.1052	0.0020	0.0925	0.0945	0.8815	33.4967	0.0008	0.0010	33.7933	448.8519	3540.6655	
Switchyard Construction (Telecom & Security Const)																				
Worker Trips	10	2	20			44	16.8	0.0281	0.0638	0.0012	0.0871	0.0883	0.8712	5.0952	0.0001	0.0001	5.1315	0.0000	544.2691	
Vendor Trips	1	2	2			44	6.6	0.0039	0.0414	0.0008	0.0054	0.0062	0.0102	0.4876	0.0000	0.0000	0.5007	74.8087	45.8458	
Haul Trips	0	2	0			1	20	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Other	0	0	0			0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Off-site On-road Vehicles	Phase Total:																			
								0.0320	0.1052	0.0020	0.0925	0.0945	0.8815	5.5828	0.0001	0.0002	5.6322	74.8087	590.1109	
Loop Inline Construction (Foundations)																				
Worker Trips	10	2	20			66	16.8	0.0281	0.0638	0.0012	0.0871	0.0883	0.8712	7.6428	0.0002	0.0002	7.6972	0.0000	816.3977	
Vendor Trips	5	2	2	20 concrete deliveries per pole = 120 concrete delive		30	6.6	0.0195	0.2071	0.0038	0.0272	0.0310	0.0511	1.6623	0.0000	0.0002	1.7071	347.1844	0.0000	
Haul Trips	0	2	0			1	20	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Other	0	0	0			0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Off-site On-road Vehicles	Phase Total:																			
								0.0477	0.2708	0.0050	0.1143	0.1193	0.9224	9.3050	0.0002	0.0004	9.4043	347.1844	816.3977	
Loop Inline Construction (Poles)																				
Worker Trips	8	2	16			44	16.8	0.0225	0.0510	0.0010	0.0697	0.0707	0.6970	4.0761	0.0001	0.0001	4.1052	0.0000	435.4121	
Vendor Trips	1	2	2	6 poles		12	6.6	0.0039	0.0414	0.0008	0.0054	0.0062	0.0102	0.1330	0.0000	0.0000	0.1366	20.4024	12.5034	
Haul Trips	0	2	0			1	20	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Other	0	0	0			0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Off-site On-road Vehicles	Phase Total:																			
								0.0264	0.0924	0.0017	0.0751	0.0769	0.7072	4.2091	0.0001	0.0001	4.2417	20.4024	447.9155	
Loop Inline Construction (Conductor)																				
Worker Trips	10	2	20			66	16.8	0.0281	0.0638	0.0012	0.0871	0.0883	0.8712	7.6428	0.0002	0.0002	7.6972	0.0000	816.3977	
Vendor Trips	1	2	2	6 deliveries		6	6.6	0.0039	0.0414	0.0008	0.0054	0.0062	0.0102	0.0665	0.0000	0.0000	0.0683	10.2012	6.2517	
Haul Trips	0	2	0			1	20	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Other	0	0	0			0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Off-site On-road Vehicles	Phase Total:																			
								0.0320	0.1052	0.0020	0.0925	0.0945	0.8815	7.7092	0.0002	0.0002	7.7655	10.2012	825.6494	
								Total	2.13	9.40	0.19	6.61	6.65	59.49	2460.78	0.05	0.11	2491.52	45451.51	225576.87

On-Road Construction Vehicle Emissions Factors

On-Road Vehicle Emissions Factors	PM10_Paved														N2O	RUNI	N2O	STRE
	ROG_RUNEX	ROG_STREX	NOx_RUNEX	NOx_STREX	PM10_RUNEX	PM10_STREX	PM10_PMTV	PM10_PMBW	Roadway Dust	CO_RUNEX	CO_STREX	CO2_RUNEX	CO2_STREX	CH4_RUNEX				
Worker Vehicles	0.013002355	0.419328169	0.066133727	0.3354837	0.001533068	0.00224703	0.008	0.0086558	0.100925461	0.947299695	3.844829	339.61343	84.4499904	0.003195779	0.086958902	0.006209	0.03651	
Vendor Trucks	0.124285756	0.065926479	1.348110667	0.4941479	0.025904259	0.00012138	0.0104801	0.07540679	0.100925461	0.348793618	0.017656	837.80951	11.4177783	0.008155247	0.013310067	0.081253	0.020166	
Haul Trucks	0.022393439	0	1.664839724	2.9142271	0.017968375	0	0.03600001	0.08116908	0.100925461	0.203724077	0	1689.7195	0	0.010821418	0	0.266826	0	
Concrete Trucks	0.008501461	0	0.917996838	3.6855249	0.01288367	0	0.03600001	0.08035575	0.100925461	0.049398327	0	1746.204	0	0.000879246	0	0.275145	0	

Constants	
lb	grams
1	453.592
ton	2000
metric ton	lb
1	2204.62
GWP CO2e CH4	28
GWP CO2e N2O	265

On-Road Vehicle Fuel Consumption	gallons/mile	%Diesel	% Gasoline	Total Check
Worker Vehicles	0.036814469	0%	100%	100%
Vendor Trucks	0.20773841	62%	38%	100%
Haul Trucks	0.173848873	100%	0%	100%
Concrete Trucks	0.175345664	100%	0%	100%

Trip Length Assumptions - CalEEMod	
Workers	16.8
Vendor	6.6
Haul Trucks	20
Other	0

Source: EMFAC2021 (v1.0.1) Emissions Inventory

Region Type: Sub-Area

Region: Placer (SV)

Calendar Year: 2025

Season: Annual

Vehicle Classification: EMFAC202x Categories

Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Yr	Vehicle Category	Model Yea	Speed	Fuel	Population	Total VMT	%VMT	CVMT	EVMT	Trips	NH3_RUNEX	Fuel Consumption	Fuel Consumption Rate (gallons/mile)
Placer (SV)	2025	LDA	Aggregate	Aggregate	Gasoline	72395.6	2651241.838	51%	2651241.838	0	336960.9	0.104880063	89.73466	0.033846
Placer (SV)	2025	LDA	Aggregate	Aggregate	Diesel	265.547	7267.393163	0%	7267.393163	0	1116.581	2.48339E-05	0.169954	0.023386
Placer (SV)	2025	LDA	Aggregate	Aggregate	Plug-in Hyl	2232.385	97685.26901	2%	46814.63768	50870.63	9230.914	0.002044171	1.669305	0.017089
Placer (SV)	2025	LDT1	Aggregate	Aggregate	Gasoline	9188.123	315727.7117	6%	315727.7117	0	40619.77	0.012546485	12.6237	0.039983
Placer (SV)	2025	LDT1	Aggregate	Aggregate	Diesel	4.216368	27.72923028	0%	27.72923028	0	11.55953	9.47553E-08	0.00117	0.042207
Placer (SV)	2025	LDT1	Aggregate	Aggregate	Plug-in Hyl	15.36103	876.6091945	0%	381.1709448	495.4382	63.51784	1.76471E-05	0.013547	0.015454
Placer (SV)	2025	LDT2	Aggregate	Aggregate	Gasoline	49476.75	2051810.539	40%	2051810.539	0	231710.6	0.084227349	84.96462	0.04141
Placer (SV)	2025	LDT2	Aggregate	Aggregate	Diesel	201.4639	8460.561026	0%	8460.561026	0	950.7171	2.89111E-05	0.262003	0.030968
Placer (SV)	2025	LDT2	Aggregate	Aggregate	Plug-in Hyl	425.6062	22810.44274	0%	10453.1479	12357.29	1759.881	0.000483291	0.373066	0.016355
													Weighted Average:	0.036814
Placer (SV)	2025	T6T5	Aggregate	Aggregate	Gasoline	224.9616	10297.24983	99.8%	10297.24983	0	4501.032	0.00051069	2.137843	0.207613
Placer (SV)	2025	T7T5	Aggregate	Aggregate	Gasoline	0.65291	19.36954684	0.2%	19.36954684	0	13.06342	8.02053E-07	0.005315	0.274404
													Weighted Average:	0.207738
Placer (SV)	2025	T7 Single Concrete/Transit Mix Class 8	Aggregate	Aggregate	Diesel	20.24477	1435.582216	12.5%	1435.582216	0	190.7057	0.000348136	0.251723	0.175346
Placer (SV)	2025	T7 Single Dump Class 8	Aggregate	Aggregate	Diesel	170.3296	10086.57307	87.5%	10086.57307	0	1604.505	0.0024449	1.753539	0.173849

On-road Vehicle (separate calculations)
Construction and Mining - Bore/Drill Rigs
Construction and Mining - Cranes
Construction and Mining - Crawler Tractors
Construction and Mining - Excavators
Construction and Mining - Graders
Construction and Mining - Misc - Asphalt Pavers
Construction and Mining - Misc - Bore/Drill Rigs
Construction and Mining - Misc - Cement And Mortar Mixers
Construction and Mining - Misc - Concrete/Industrial Saws
Construction and Mining - Misc - Cranes
Construction and Mining - Misc - Crushing/Proc. Equipment
Construction and Mining - Misc - Dumpers/Tenders
Construction and Mining - Misc - Excavators
Construction and Mining - Misc - Other
Construction and Mining - Misc - Pavers
Construction and Mining - Misc - Paving Equipment
Construction and Mining - Misc - Plate Compactors
Construction and Mining - Misc - Rollers
Construction and Mining - Misc - Rough Terrain Forklifts
Construction and Mining - Misc - Signal Boards
Construction and Mining - Misc - Skid Steer Loaders
Construction and Mining - Misc - Surfacing Equipment
Construction and Mining - Misc - Tampers/Rammers
Construction and Mining - Misc - Tractors/Loaders/Backhoes
Construction and Mining - Misc - Trenchers
Construction and Mining - Off-Highway Tractors
Construction and Mining - Off-Highway Trucks
Construction and Mining - Other
Construction and Mining - Pavers
Construction and Mining - Paving Equipment
Construction and Mining - Rollers
Construction and Mining - Rough Terrain Forklifts
Construction and Mining - Rubber Tired Dozers
Construction and Mining - Rubber Tired Loaders
Construction and Mining - Scrapers
Construction and Mining - Skid Steer Loaders
Construction and Mining - Surfacing Equipment
Construction and Mining - Tractors/Loaders/Backhoes
Construction and Mining - Trenchers
Industrial - Aerial Lifts
Industrial - Forklifts
Industrial - Misc - Aerial Lifts
Industrial - Misc - Forklifts
Industrial - Misc - Other General Industrial Equipment
Industrial - Misc - Other Material Handling Equipment
Industrial - Misc - Sweepers/Scrubbers
Industrial - Other General Industrial Equipment
Industrial - Other Material Handling Equipment
Light Commercial - Misc - Air Compressors
Light Commercial - Misc - Gas Compressors
Light Commercial - Misc - Generator Sets
Light Commercial - Misc - Pressure Washers
Light Commercial - Misc - Pumps
Light Commercial - Misc - Welders
Portable Equipment - Non-Rental Compressor
Portable Equipment - Non-Rental Generator
Portable Equipment - Non-Rental Other
Portable Equipment - Non-Rental Pump
Portable Equipment - Rental Compressor
Portable Equipment - Rental Generator
Portable Equipment - Rental Other
Portable Equipment - Rental Pump

Model Output: OFFROAD2021 (v1.0.1) Emissions Inventory
 Region Type: Sub-Area
 Region: Placer (SV)
 Calendar Year: 2022
 Scenario: All Adopted Rules - Exhaust
 Vehicle Classification: OFFROAD2021 Equipment Types
 Units: tons/day for Emissions, gallons/year for Fuel, hours/year for Activity, Horsepower-h

Region	Calendar Y	Equipment Category	HC_tpd	ROG_tpd	TOG_tpd	CO2_tpd	NOx_tpd	CO2_tpd	PM10_tpd	PM2.5_tpd	SOx_tpd	NH3_tpd	Constants		Days per Y	Fuel Consum	Total_Activ	Horsepower_H	
													lb	grams					
Placer (SV)	2022	Construction and Mining - Bore/Drill Rigs	5.64126E-05	6.82592E-05	8.12341E-05	0.00124586	0.00080371	0.198728658	3.27981E-05	3.01743E-05	1.83566E-06	1.622E-06	6.64753244	2934.68	250165.3244				
Placer (SV)	2022	Construction and Mining - Bore/Drill Rigs	6.63252E-05	8.02535E-05	9.55083E-05	0.00170673	0.00075433	0.202212326	3.6276E-05	3.09359E-05	1.84759E-06	2.15599E-06	9999.60948	2568.115	383259.1929				
Placer (SV)	2022	Construction and Mining - Bore/Drill Rigs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Placer (SV)	2022	Construction and Mining - Bore/Drill Rigs	8.51287E-05	0.00013000	0.000122585	0.000900001	0.00106362	0.442290792	3.47383E-05	3.19529E-05	4.08664E-06	3.60992E-06	14349.6377	2670.024	557918.5232				
Placer (SV)	2022	Construction and Mining - Bore/Drill Rigs	3.71809E-05	4.48989E-05	5.35405E-05	0.000308767	0.00129483	0.44229483	1.74402E-05	1.5769E-05	8.89317E-06	7.14027E-06	14349.6377	2670.024	557918.5232				
Placer (SV)	2022	Construction and Mining - Bore/Drill Rigs	0.000119946	0.000145134	0.000172722	0.001394012	0.00131481	0.744935815	4.50701E-05	4.14644E-05	6.8837E-06	6.08077E-06	24168.6221	2308.827	942126.7084				
Placer (SV)	2022	Construction and Mining - Bore/Drill Rigs	2.3949E-05	2.83068E-05	3.36874E-05	0.000412033	0.000428865	0.065829346	2.11822E-05	1.94874E-05	6.09729E-07	5.53729E-07	2155.76063	1171.35	83613.26895				
Placer (SV)	2022	Construction and Mining - Bore/Drill Rigs	5.07495E-05	6.14069E-05	7.30739E-05	0.000730535	0.0004081	0.402320671	1.91295E-05	1.75995E-05	3.70232E-06	3.20902E-06	13081.9564	779.026	497989.9216				
Placer (SV)	2022	Construction and Mining - Cranes	0.000628842	0.000325299	0.000388133	0.00226028	0.00165997	0.298703082	0.000193644	0.000178152	2.17359E-06	1.88351E-06	7487.04546	155.038	28852.07626				
Placer (SV)	2022	Construction and Mining - Cranes	0.000652859	0.000789559	0.000404117	0.000609633	0.00795134	0.914662251	0.00042735	0.000393162	8.48392E-06	7.46533E-06	29675.2904	13597.9	198874.386				
Placer (SV)	2022	Construction and Mining - Cranes	1.34588E-06	1.62573E-06	1.93476E-06	7.57299E-06	6.66642E-06	0.00015853	5.12111E-07	4.71424E-07	7.02066E-09	6.65888E-09	26.469441	63.9959	1598.48962				
Placer (SV)	2022	Construction and Mining - Cranes	0.000813025	0.000983761	0.001170977	0.000931669	0.01171967	1.57176929	0.00046281	0.000425786	1.45573E-05	1.28726E-05	51169.3066	15583.52	343765.458				
Placer (SV)	2022	Construction and Mining - Cranes	3.92633E-05	4.75086E-05	5.65391E-05	0.000170937	0.00013625	0.01218151	1.40998E-05	1.29718E-05	1.2103E-07	1.07885E-07	428.848346	622.013	29644.9867				
Placer (SV)	2022	Construction and Mining - Cranes	0.00107311	0.001230964	0.001464927	0.009896727	0.013568698	7.498897675	0.000500856	0.000500856	2.53934E-05	2.24441E-05	88216.4961	16323.86	59157.19673				
Placer (SV)	2022	Construction and Mining - Cranes	1.09735E-05	1.32348E-05	1.57499E-05	4.57089E-05	9.97492E-05	0.005131882	9.29237E-06	8.54898E-06	4.89678E-08	4.53818E-08	172.97802	165.873	11541.89103				
Placer (SV)	2022	Construction and Mining - Cranes	2.26355E-05	3.1327E-05	4.18129E-05	0.000274181	0.000359169	0.055183444	1.76959E-05	1.62080E-05	5.09327E-07	4.504E-07	2521.56929	130.098	120489.6549				
Placer (SV)	2022	Construction and Mining - Cranes	0.000611111	0.000194404	0.000231999	0.00163883	0.002280404	0.151912106	0.000104874	0.00013976E-05	1.39966E-06	1.23888E-06	4928.59179	352.866	33011.2094				
Placer (SV)	2022	Construction and Mining - Crawler Tractors	0.001743852	0.002110661	0.002511147	0.013877447	0.01794749	1.866101966	0.000143644	0.000123437	1.73856E-06	1.53941E-06	61192.5011	3300.152	275232.240				
Placer (SV)	2022	Construction and Mining - Crawler Tractors	0.001261546	0.00152647	0.001816626	0.010773502	0.014999847	0.202902723	0.000838304	0.00077124	1.90347E-05	1.68371E-05	6928.6027	2001.52	103519.642				
Placer (SV)	2022	Construction and Mining - Crawler Tractors	0.00120045	0.00145297	0.00172853	0.008004284	0.01725175	2.164094479	0.00064092	0.000638665	1.99721E-05	1.74631E-05	70211.161	15419.52	318891.054				
Placer (SV)	2022	Construction and Mining - Crawler Tractors	0.000115347	0.00014078	0.00016754	0.00032111	0.000398905	0.042810706	3.99544E-05	3.6785E-05	9.32316E-07	8.49451E-07	1388.942	1347.61	56654.0912				
Placer (SV)	2022	Construction and Mining - Crawler Tractors	0.002615935	0.003164192	0.00376565	0.022184075	0.03412858	7.567450393	0.00121702	0.00121966	6.98864E-05	6.17466E-05	24517.745	2871.07	1108274.63				
Placer (SV)	2022	Construction and Mining - Crawler Tractors	1.40885E-05	1.72029E-05	2.02586E-05	5.3184E-05	0.000138511	0.000670598	9.84812E-06	9.09396E-06	4.21775E-08	3.70666E-08	149.48848	96.17407	6236.79015				
Placer (SV)	2022	Construction and Mining - Excavators	5.24578E-05	6.35096E-05	7.55817E-05	0.000430267	0.000480478	0.077799295	2.89299E-06	2.63395E-06	1.63939E-06	1.476994E-06	6.34348E-07	270.56979	215.7	13095.1682			
Placer (SV)	2022	Construction and Mining - Excavators	0.000242588	0.000293589	0.000349716	0.00131264	0.004970182	0.45643086	0.000134618	0.000123848	4.02773E-06	3.56299E-06	14259.06	655.894	63770.2814				
Placer (SV)	2022	Construction and Mining - Excavators	0.000141535	0.000172574	0.000203104	0.001272064	0.001504987	4.689215131	0.000729573	0.00071207	4.33122E-06	3.82732E-06	15218.251	5272.31	770036.366				
Placer (SV)	2022	Construction and Mining - Excavators	2.93155E-06	3.54717E-06	4.2134E-06	9.9612E-06	6.76026E-06	0.000524139	9.42981E-07	8.67542E-07	4.75798E-09	4.27795E-09	101.50164	31.0072	775.73987				
Placer (SV)	2022	Construction and Mining - Excavators	0.001423387	0.001721298	0.002049977	0.012634002	0.016236644	5.98078295	0.000516721	0.000475411	5.53081E-05	4.89632E-05	194.234	4496.4	98240.779				
Placer (SV)	2022	Construction and Mining - Excavators	0.001147799	0.00138837	0.00165283	0.012439973	0.016737358	1.71184517	0.00044187	0.000427052	1.57919E-05	1.39714E-05	55536.963	70648.68	253004.71				
Placer (SV)	2022	Construction and Mining - Excavators	0.002125727	0.00257213	0.003061047	0.021820277	0.02868328	10.47497272	0.0006955	0.00063866	9.83758E-05	8.69018E-05	343.9483	51718.6	1754276.23				
Placer (SV)	2022	Construction and Mining - Excavators	1.23169E-06	1.49035E-06	1.77364E-06	4.83136E-06	1.18027E-05	0.000043995	8.65344E-07	7.96126E-07	3.69294E-09	3.29246E-09	13.08706	12.5204	663.581119				
Placer (SV)	2022	Construction and Mining - Excavators	3.81333E-05	4.63309E-05	5.55817E-05	0.000430267	0.000480478	0.084789295	3.19529E-06	2.92898E-06	1.63939E-06	1.476994E-06	6.34348E-07	270.56979	215.7	13095.1682			
Placer (SV)	2022	Construction and Mining - Excavators	0.14244E-05	0.26285E-05	0.41050E-05	0.00053629	0.001535181	0.295611976	1.22949E-06	1.15898E-06	7.21544E-06	6.52175E-06	9590.80501	602.875	48502.1925				
Placer (SV)	2022	Construction and Mining - Graders	0.000349473	0.000422862	0.000503241	0.002139598	0.00325124	0.000264306	0.000243159	0.00023187E-06	2.18127E-06	2.05881E-06	8171.95624	4749.65	39218.762				
Placer (SV)	2022	Construction and Mining - Graders	0.001935427	0.002341867	0.002787016	0.010739625	0.012573708	2.86404717	0.001218846	0.001121338	2.64215E-05	2.37316E-05	9920.874	3940.25	438001.1658				
Placer (SV)	2022	Construction and Mining - Graders	9.21142E-07	1.11458E-06	1.32644E-06	4.43931E-06	3.41399E-06	0.000292998	4.1137E-07	3.7846E-07	3.01504E-09	2.68060E-09	10.67729	10.6864	454.2160247				
Placer (SV)	2022	Construction and Mining - Graders	0.000208968	0.000248168	0.000294937	0.001488293	0.002188293	0.011488293	0.000193864	0.00018256E-06	1.79525E-06	1.63238E-06	6611.506	4281.54	37000.789				
Placer (SV)	2022	Construction and Mining - Graders	3.48155E-05	4.21268E-05	5.000181812	0.000101066	0.000101066	0.01093864	1.17962E-06	1.08525E-06	1.00959E-07	9.87304E-08	356.83804	180.381	15174.66249				
Placer (SV)	2022	Construction and Mining - Graders	0.0001812	0.000167125	0.000198892	0.000557302	0.000211822	0.259685122	0.259685122	0.259685122	2.39607E-06	2.11896E-06	8427.11225	1127.45	936969.9891				
Placer (SV)	2022	Construction and Mining - Graders	1.11377E-05	1.34766E-05	1.60383E-05	4.5341E-05	0.000105198	0.47042391	8.83176E-06	8.12522E-06	4.53116E-08	3.87088E-08	153.86166	101.248	7102.909071				
Placer (SV)	2022	Construction and Mining - Graders	0.000150673	0.000181214	0.000216969	0.000765022	0.000246242	0.205099756	7.71523E-06	7.09801E-06	1.8909E-06	1.67128E-06	6651.31576	317.879	314591.8341				
Placer (SV)	2022	Construction and Mining - Asphalt Pavers	2.21738E-05	2.63991E-05	3.17387E-05	0.000178454	0.000178454	0.022498175	0.000198274	0.00018256E-06	1.71413E-06	1.57113E-06	1971.12	1002.0	12002.0				
Placer (SV)	2022	Construction and Mining - Asphalt Pavers	6.12264E-05	6.18388E-05	6.00067376	0.002070784	0.002070784	7.9348E-08	2.39592E-05	1.81025E-05	3.29751E-08	4.55188E-08	1239.40953	0	0				
Placer (SV)	2022	Construction and Mining - Asphalt Pavers	0.000270622	0.000273328	0.000297802	0.000199388	0.000168975	3.095E-07	0.000102078	7.57656E-05	1.45975E-07	0.201499E-07	574.1297	10.47	430.7	13782.4			
Placer (SV)	2022	Construction and Mining - Asphalt Pavers	4.39826E-05	4.04444E-05	4.83513E-05	0.001360693	6.37121E-05	0.02185882	1.49501E-06	1.12956E-06	2.86616E-07	3.55473E-07	10.147	43.07					

On-road Vehicle (separate calculations)
Construction and Mining - Bore/Drill Rigs
Construction and Mining - Cranes
Construction and Mining - Crawler Tractors
Construction and Mining - Excavators
Construction and Mining - Graders
Construction and Mining - Misc - Asphalt Pavers
Construction and Mining - Misc - Bore/Drill Rigs
Construction and Mining - Misc - Cement And Mortar Mixers
Construction and Mining - Misc - Concrete/Industrial Saws
Construction and Mining - Misc - Cranes
Construction and Mining - Misc - Crushing/Proc. Equipment
Construction and Mining - Misc - Dumpers/Tenders
Construction and Mining - Misc - Excavators
Construction and Mining - Misc - Other
Construction and Mining - Misc - Pavers
Construction and Mining - Misc - Paving Equipment
Construction and Mining - Misc - Plate Compactors
Construction and Mining - Misc - Rollers
Construction and Mining - Misc - Rough Terrain Forklifts
Construction and Mining - Misc - Signal Boards
Construction and Mining - Misc - Skid Steer Loaders
Construction and Mining - Misc - Surfacing Equipment
Construction and Mining - Misc - Tampers/Rammers
Construction and Mining - Misc - Tractors/Loaders/Backhoes
Construction and Mining - Misc - Trenchers
Construction and Mining - Off-Highway Tractors
Construction and Mining - Off-Highway Trucks
Construction and Mining - Other
Construction and Mining - Pavers
Construction and Mining - Paving Equipment
Construction and Mining - Rollers
Construction and Mining - Rough Terrain Forklifts
Construction and Mining - Rubber Tired Dozers
Construction and Mining - Rubber Tired Loaders
Construction and Mining - Scrapers
Construction and Mining - Skid Steer Loaders
Construction and Mining - Surfacing Equipment
Construction and Mining - Tractors/Loaders/Backhoes
Construction and Mining - Trenchers
Industrial - Aerial Lifts
Industrial - Forklifts
Industrial - Misc - Aerial Lifts
Industrial - Misc - Forklifts
Industrial - Misc - Other General Industrial Equipment
Industrial - Misc - Other Material Handling Equipment
Industrial - Misc - Sweepers/Scrubbers
Industrial - Other General Industrial Equipment
Industrial - Other Material Handling Equipment
Light Commercial - Misc - Air Compressors
Light Commercial - Misc - Gas Compressors
Light Commercial - Misc - Generator Sets
Light Commercial - Misc - Pressure Washers
Light Commercial - Misc - Pumps
Light Commercial - Misc - Welders
Portable Equipment - Non-Rental Compressor
Portable Equipment - Non-Rental Generator
Portable Equipment - Non-Rental Other
Portable Equipment - Non-Rental Pump
Portable Equipment - Rental Compressor
Portable Equipment - Rental Generator
Portable Equipment - Rental Other
Portable Equipment - Rental Pump

Model Output: OFFROAD2021 (v1.0.1) Emissions Inventory

Region Type: Sub-Area

Region: Placer (SV)

Calendar Year: 2022

Scenario: All Adopted Rules - Exhaust

Vehicle Classification: OFFROAD2021 Equipment Types

Units: tons/day for Emissions, gallons/year for Fuel, hours/year for Activity, Horsepower-hr

Region	Calendar Y	Equipment Category	g/hp-hr calculations:	CO2	PM10	PM2.5	SOX	NH3	Fuel Consumption_gal/HP-hr			
Placer (SV)	2022	Construction and Mining - Bore/Drill Rigs	ROG TOG Co NOX CO2 PM10 PM2.5 SOX NH3									
Placer (SV)	2022	Construction and Mining - Bore/Drill Rigs	0.090348816	1.07523	1.649031	1.06255	263.0399	0.034312	0.039939	0.00243	0.002147	0.025773
Placer (SV)	2022	Construction and Mining - Bore/Drill Rigs	0.069336174	0.82516	1.474557	0.651717	266.2844	0.029628	0.026728	0.00246	0.002173	0.026091
Placer (SV)	2022	Construction and Mining - Bore/Drill Rigs	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Placer (SV)	2022	Construction and Mining - Bore/Drill Rigs	0.06113347	0.67259	0.765478	0.61261	262.4976	0.026167	0.024988	0.00243	0.002143	0.025172
Placer (SV)	2022	Construction and Mining - Bore/Drill Rigs	0.321301452	0.382375	2.205148	2.183034	301.5943	0.122412	0.112619	0.00278	0.002462	0.029551
Placer (SV)	2022	Construction and Mining - Bore/Drill Rigs	0.051004327	0.060699	0.488986	0.473768	261.792	0.015839	0.014572	0.002419	0.002137	0.025651
Placer (SV)	2022	Construction and Mining - Bore/Drill Rigs	0.112091462	0.133398	1.667241	1.696273	260.6762	0.083878	0.077168	0.002407	0.002128	0.025541
Placer (SV)	2022	Construction and Mining - Bore/Drill Rigs	0.040829801	0.048591	0.485736	0.2474	268.0943	0.01272	0.01	0.002478	0.002168	0.026368
Placer (SV)	2022	Construction and Mining - Bore/Drill Rigs	0.083512743	0.099387	0.496402	1.932181	264.7868	0.044371	0.040821	0.002446	0.002161	0.025944
Placer (SV)	2022	Construction and Mining - Cranes	0.165109992	0.196495	1.147586	1.47985	151.6107	0.098287	0.090424	0.001398	0.001237	0.014855
Placer (SV)	2022	Construction and Mining - Cranes	0.131511472	0.15651	1.000477	1.32373	152.2719	0.071145	0.065453	0.001405	0.001243	0.01492
Placer (SV)	2022	Construction and Mining - Cranes	0.336765446	0.400779	1.568784	1.81011	169.0014	0.106882	0.097596	0.001554	0.001379	0.016559
Placer (SV)	2022	Construction and Mining - Cranes	0.096757348	0.112769	0.519767	1.070501	151.9147	0.044579	0.040112	0.001402	0.00124	0.014885
Placer (SV)	2022	Construction and Mining - Cranes	0.613419463	0.73002	2.207104	1.75923	170.6697	0.182054	0.167489	0.001563	0.001393	0.016723
Placer (SV)	2022	Construction and Mining - Cranes	0.06802784	0.080959	0.54694	0.74887	151.9707	0.030069	0.027663	0.001403	0.00124	0.01489
Placer (SV)	2022	Construction and Mining - Cranes	0.379610268	0.451768	1.311104	2.86118	152.9384	0.26654	0.245217	0.001405	0.001248	0.014985
Placer (SV)	2022	Construction and Mining - Cranes	0.09654922	0.114602	0.753488	0.807046	151.6517	0.048393	0.044522	0.0014	0.001238	0.014859
Placer (SV)	2022	Construction and Mining - Cranes	0.154955569	0.232013	1.638931	2.80541	151.2004	0.10488	0.096489	0.0014	0.00124	0.014885
Placer (SV)	2022	Construction and Mining - Crawler Tractors	0.25386153	0.302116	1.669272	2.159263	226.917	0.172807	0.158982	0.002092	0.001852	0.022234
Placer (SV)	2022	Construction and Mining - Crawler Tractors	0.167604492	0.199463	1.402514	1.646964	226.5041	0.092045	0.084681	0.00209	0.001849	0.022193
Placer (SV)	2022	Construction and Mining - Crawler Tractors	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Placer (SV)	2022	Construction and Mining - Crawler Tractors	0.8228088	0.97921	3.051551	2.331455	250.213	0.233519	0.214837	0.002293	0.002042	0.024516
Placer (SV)	2022	Construction and Mining - Crawler Tractors	0.094520539	0.112487	0.662681	1.019486	226.0545	0.039482	0.036323	0.002088	0.001845	0.022149
Placer (SV)	2022	Construction and Mining - Crawler Tractors	0.837939714	0.997218	2.716401	1.636006	226.8062	0.48654	0.447617	0.002076	0.001851	0.022223
Placer (SV)	2022	Construction and Mining - Excavators	0.181796085	0.219721	0.680888	1.05542	224.2324	0.08285	0.076226	0.002075	0.001836	0.022038
Placer (SV)	2022	Construction and Mining - Excavators	0.152570011	0.181571	0.68184	1.280455	226.5929	0.069893	0.064301	0.002091	0.001849	0.022202
Placer (SV)	2022	Construction and Mining - Excavators	0.09507421	0.113146	1.329905	0.988781	220.6462	0.051897	0.047745	0.001853	0.001638	0.019866
Placer (SV)	2022	Construction and Mining - Excavators	0.073642085	0.08764	1.174794	0.64585	201.6426	0.031372	0.028862	0.001862	0.001646	0.019755
Placer (SV)	2022	Construction and Mining - Excavators	0.151519309	1.803205	4.254943	2.890142	233.8888	0.402799	0.370575	0.002032	0.001827	0.021937
Placer (SV)	2022	Construction and Mining - Excavators	0.058048096	0.090083	0.425821	0.546908	201.7006	0.017417	0.016023	0.001864	0.001647	0.019771
Placer (SV)	2022	Construction and Mining - Excavators	0.181765221	0.216316	1.628093	1.410025	224.0313	0.060751	0.055891	0.002067	0.001829	0.021951
Placer (SV)	2022	Construction and Mining - Excavators	0.04853686	0.057763	0.401565	0.39031	200.9177	0.031214	0.012074	0.001856	0.001614	0.019686
Placer (SV)	2022	Construction and Mining - Excavators	0.74367389	0.885033	2.410814	5.889476	201.2912	0.431806	0.397261	0.001843	0.001643	0.019723
Placer (SV)	2022	Construction and Mining - Excavators	0.091296514	0.109721	0.680888	1.05542	224.2324	0.08285	0.076226	0.002075	0.001836	0.022038
Placer (SV)	2022	Construction and Mining - Excavators	0.042511911	0.050593	0.377967	1.04808	201.8167	0.014537	0.013374	0.001865	0.001647	0.019774
Placer (SV)	2022	Construction and Mining - Graders	0.357019547	0.424883	1.803349	2.807378	212.6601	0.22315	0.205298	0.001957	0.001736	0.020837
Placer (SV)	2022	Construction and Mining - Graders	0.177041569	0.210694	1.413991	1.659939	216.1576	0.092143	0.084771	0.001997	0.001767	0.021215
Placer (SV)	2022	Construction and Mining - Graders	0.812526979	0.966874	3.163335	2.488496	239.5116	0.299887	0.275896	0.002198	0.001958	0.023507
Placer (SV)	2022	Construction and Mining - Graders	0.124721862	0.148148	0.68184	1.280455	226.5929	0.069893	0.064301	0.002091	0.001849	0.022202
Placer (SV)	2022	Construction and Mining - Graders	0.919236669	1.093968	3.233438	2.143142	239.894	0.257402	0.23661	0.002195	0.001958	0.023505
Placer (SV)	2022	Construction and Mining - Graders	0.139402889	0.165901	0.464859	1.825165	216.5457	0.056084	0.051597	0.001999	0.001767	0.021218
Placer (SV)	2022	Construction and Mining - Graders	0.628251852	0.747672	2.113797	4.904995	221.0799	0.411718	0.37878	0.002028	0.001804	0.021662
Placer (SV)	2022	Construction and Mining - Graders	0.191892334	0.228588	0.80572	2.64844	215.7807	0.081206	0.074709	0.001939	0.001761	0.021143
Placer (SV)	2022	Construction and Mining - Graders	0.56169196	0.71599	2.640428	1.647797	212.6601	0.043112	0.032574	0.001974	0.001738	0.020528
Placer (SV)	2022	Construction and Mining - Misc - Asphalt Pavers	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Placer (SV)	2022	Construction and Mining - Misc - Asphalt Pavers	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Placer (SV)	2022	Construction and Mining - Misc - Asphalt Pavers	0.970959913	1.16164	76.04137	1.530682	521.0033	0.039517	0.027138	0.006334	0.006854	0.079623
Placer (SV)	2022	Construction and Mining - Misc - Bore/Drill Rigs	0.39142921	0.55324	1.64148	1.647797	212.6601	0.043112	0.032574	0.001974	0.001738	0.020528
Placer (SV)	2022	Construction and Mining - Misc - Bore/Drill Rigs	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Placer (SV)	2022	Construction and Mining - Misc - Bore/Drill Rigs	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Placer (SV)	2022	Construction and Mining - Misc - Bore/Drill Rigs	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Placer (SV)	2022	Construction and Mining - Misc - Bore/Drill Rigs	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Placer (SV)	2022	Construction and Mining - Misc - Cement And Mortar Mixers	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Placer (SV)	2022	Construction and Mining - Misc - Cement And Mortar Mixers	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Placer (SV)	2022	Construction and Mining - Misc - Cement And Mortar Mixers	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Placer (SV)	2022	Construction and Mining - Misc - Cement And Mortar Mixers	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Placer (SV)	2022	Construction and Mining - Misc - Concrete/Industrial Saws	0.244490492	0.292506	13.17198	0.676582	606.5825	0.042292	0.031954	0.00586	0.008327	0.071783
Placer (SV)	2022	Construction and Mining - Misc - Concrete/Industrial Saws	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Placer (SV)	2022	Construction and Mining - Misc - Concrete/Industrial Saws	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Placer (SV)	2022	Construction and Mining - Misc - Concrete/Industrial Saws	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Placer (SV)	2022	Construction and Mining - Misc - Concrete/Industrial Saws	0.645599304	0.772383	52.44352	1.147022	615.9373	0.042462	0.032083	0.007489	0.009318	0.080323
Placer (SV)	2022	Construction and Mining - Misc - Concrete/Industrial Saws	0.408231808	0.493926	3.346191	1.81779	615.9373	0.042462	0.032083	0.007489	0.009318	0.080323
Placer (SV)	2022	Construction and Mining - Misc - Cranes	0.394898452	0.472561	16.77036	1.163611	368.5922	0.025002	0.01889	0.003465	0.00519	0.044745
Placer (SV)	2022	Construction and Mining - Misc - Cranes	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Placer (SV)	2022	Construction and Mining - Misc - Cranes	0.758171998	0.907069	55.02305	1.202607	354.7825	0.024458	0.01848	0.004314	0.006134	0.052879
Placer (SV)	2022	Construction and Mining - Misc - Crushing/Proc. Equipment	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Placer (SV)	2022	Construction and Mining - Misc - Crushing/Proc. Equipment	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Placer (SV)	2022	Construction and Mining - Misc - Dumpers/Tenders	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Placer (SV)	2022	Construction and Mining - Misc - Dumpers/Tenders	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Placer (SV)	2022	Construction and Mining - Misc - Dumpers/Tenders	3.419933724	4.000258	126.9022	2.529864	176.1397	1.416842	1.070503	0.005403	0.005146	0.044331
Placer (SV)	2022</											

Placer (SV)	2022	Construction and Mining - Off-Highway Tractors	0.080430948	0.095719	0.514619	0.777936	229.5425	0.027479	0.025281	0.00212	0.001873	0.022491	0.92
Placer (SV)	2022	Construction and Mining - Off-Highway Tractors	0.33689387	0.400891	2.228084	1.8571	255.0056	0.112341	0.103353	0.002349	0.002081	0.024986	0.92
Placer (SV)	2022	Construction and Mining - Off-Highway Tractors	0.05642571	0.069954	0.704051	0.646757	100.2118	0.002118	0.001871	0.002464			0.92
Placer (SV)	2022	Construction and Mining - Off-Highway Tractors	0.141704802	0.16684	1.667617	1.397804	230.2812	0.073545	0.070237	0.002126	0.001008	0.022563	0.92
Placer (SV)	2022	Construction and Mining - Off-Highway Tractors	0.100680428	0.119818	0.460739	0.747264	226.1784	0.037698	0.034682	0.002089	0.001846	0.022161	0.92
Placer (SV)	2022	Construction and Mining - Off-Highway Tractors	0.111442496	0.132626	0.558316	1.570014	229.7848	0.04196	0.038603	0.002122	0.001875	0.022515	0.92
Placer (SV)	2022	Construction and Mining - Off-Highway Trucks	0.125754277	0.149658	1.4721	1.132209	202.0321	0.072169	0.066395	0.001865	0.001649	0.019795	0.92
Placer (SV)	2022	Construction and Mining - Off-Highway Trucks	0.09461256	0.111485	0.48971	0.808911	191.2059	0.012019	0.010858	0.001646	0.001474	0.017144	0.92
Placer (SV)	2022	Construction and Mining - Off-Highway Trucks	0.088731663	0.105577	0.322825	0.211835	223.9804	0.227481	0.209283	0.002049	0.001828	0.021946	0.92
Placer (SV)	2022	Construction and Mining - Off-Highway Trucks	0.082792091	0.098529	0.499258	0.628205	200.717	0.024826	0.02284	0.001854	0.001638	0.019667	0.92
Placer (SV)	2022	Construction and Mining - Off-Highway Trucks	0.278888111	0.3319	2.055375	1.647311	222.8181	0.098888	0.091069	0.002054	0.001819	0.021842	0.92
Placer (SV)	2022	Construction and Mining - Off-Highway Trucks	0.074448531	0.0886	0.471082	0.568693	201.8179	0.020583	0.018937	0.001862	0.001646	0.019795	0.92
Placer (SV)	2022	Construction and Mining - Off-Highway Trucks	0.112591676	0.149825	0.518324	0.868081	201.4525	0.035783	0.032902	0.001859	0.001649	0.019736	0.92
Placer (SV)	2022	Construction and Mining - Off-Highway Trucks	0.10041891	0.119507	0.669091	0.856265	201.2559	0.033376	0.030706	0.001858	0.001643	0.019719	0.92
Placer (SV)	2022	Construction and Mining - Off-Highway Trucks	0.079890787	0.095077	0.473359	1.346741	202.2123	0.027995	0.025755	0.001868	0.001665	0.019813	0.92
Placer (SV)	2022	Construction and Mining - Other	0.170364946	0.202748	1.501636	1.607929	219.0751	0.111795	0.102851	0.002021	0.001788	0.021465	0.92
Placer (SV)	2022	Construction and Mining - Other	0.12340206	0.146857	1.133335	1.250217	218.4413	0.063376	0.061046	0.002016	0.001783	0.021401	0.92
Placer (SV)	2022	Construction and Mining - Other	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.92
Placer (SV)	2022	Construction and Mining - Other	0.098014035	0.116645	0.580253	1.125007	219.8567	0.043391	0.03992	0.002003	0.001794	0.021542	0.92
Placer (SV)	2022	Construction and Mining - Other	0.380538043	0.452872	1.238149	1.961815	244.9284	0.14391	0.132397	0.002255	0.001999	0.023998	0.92
Placer (SV)	2022	Construction and Mining - Other	0.074291354	0.088413	0.574692	0.784487	219.1136	0.028934	0.026619	0.002024	0.001789	0.021471	0.92
Placer (SV)	2022	Construction and Mining - Other	0.1447167305	0.173216	1.112174	1.370402	216.8486	0.290683	0.275904	0.001909	0.001767	0.021212	0.92
Placer (SV)	2022	Construction and Mining - Other	0.077779447	0.092564	0.453708	0.897267	218.4609	0.029501	0.027141	0.002018	0.001783	0.021405	0.92
Placer (SV)	2022	Construction and Mining - Other	0.053199033	0.063311	0.41057	1.195762	219.1231	0.021749	0.020009	0.002025	0.001788	0.02147	0.92
Placer (SV)	2022	Construction and Mining - Pavers	0.099886894	0.118874	1.411019	1.17684	218.383	0.061944	0.056989	0.002017	0.001782	0.021998	0.92
Placer (SV)	2022	Construction and Mining - Pavers	0.099914283	0.108126	1.139058	1.044112	216.9056	0.044112	0.040582	0.002029	0.001793	0.021527	0.92
Placer (SV)	2022	Construction and Mining - Pavers	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.92
Placer (SV)	2022	Construction and Mining - Pavers	0.062110306	0.073916	0.42084	0.827046	219.2928	0.025293	0.023269	0.002026	0.00179	0.021487	0.92
Placer (SV)	2022	Construction and Mining - Pavers	0.451618229	0.537463	2.115975	1.829088	243.8418	0.136397	0.125486	0.002243	0.00199	0.023892	0.92
Placer (SV)	2022	Construction and Mining - Pavers	0.045831176	0.054543	0.404048	0.528674	219.2646	0.015311	0.014086	0.002026	0.00179	0.021484	0.92
Placer (SV)	2022	Construction and Mining - Pavers	0.421702439	0.514508	1.718321	1.412657	217.8268	0.114263	0.106942	0.001989	0.001774	0.021888	0.92
Placer (SV)	2022	Construction and Mining - Pavers	0.021730826	0.025861	0.188836	0.191267	203.0652	0.00336	0.002027	0.00179	0.021484	0.92	
Placer (SV)	2022	Construction and Mining - Paving Equipment	0.092366706	0.109924	1.222305	0.965447	187.6854	0.051198	0.047102	0.001733	0.001532	0.018339	0.92
Placer (SV)	2022	Construction and Mining - Paving Equipment	0.085669403	0.101954	1.099779	0.812509	187.1021	0.043007	0.039566	0.001728	0.001527	0.018333	0.92
Placer (SV)	2022	Construction and Mining - Paving Equipment	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.92
Placer (SV)	2022	Construction and Mining - Paving Equipment	0.070061479	0.083403	0.411446	0.797526	187.5011	0.030484	0.028645	0.001732	0.00153	0.018372	0.92
Placer (SV)	2022	Construction and Mining - Paving Equipment	0.203737537	0.242031	1.510443	1.365121	207.2498	0.066995	0.061636	0.001911	0.001692	0.020307	0.92
Placer (SV)	2022	Construction and Mining - Paving Equipment	0.059664712	0.071006	0.389177	0.661882	187.1627	0.021305	0.0196	0.001729	0.001528	0.018339	0.92
Placer (SV)	2022	Construction and Mining - Paving Equipment	0.186266209	0.221672	1.389914	1.967366	188.9661	0.144623	0.132915	0.001742	0.001542	0.018315	0.92
Placer (SV)	2022	Construction and Mining - Paving Equipment	0.047746887	0.052052	0.473777	0.414052	187.6395	0.01042	0.009587	0.001734	0.001531	0.018385	0.92
Placer (SV)	2022	Construction and Mining - Paving Equipment	0.035825795	0.042636	0.350286	0.831365	187.5262	0.013693	0.012598	0.001733	0.001531	0.018374	0.92
Placer (SV)	2022	Construction and Mining - Rollers	0.111973285	0.133257	1.289532	1.172852	198.0392	0.067106	0.061737	0.001828	0.001616	0.019404	0.92
Placer (SV)	2022	Construction and Mining - Rollers	0.061593577	0.073301	1.092065	0.642528	197.8864	0.029498	0.027138	0.001828	0.001615	0.019389	0.92
Placer (SV)	2022	Construction and Mining - Rollers	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.92
Placer (SV)	2022	Construction and Mining - Rollers	0.082875493	0.098629	0.579646	0.966264	198.068	0.036332	0.034246	0.001829	0.001617	0.019407	0.92
Placer (SV)	2022	Construction and Mining - Rollers	0.07566227	0.328061	1.646944	1.544839	220.1906	0.093461	0.085985	0.002029	0.001797	0.021575	0.92
Placer (SV)	2022	Construction and Mining - Rollers	0.056960704	0.067788	0.523084	0.650706	199.1134	0.020219	0.020257	0.001839	0.001625	0.019509	0.92
Placer (SV)	2022	Construction and Mining - Rollers	0.734929639	0.874627	2.383092	2.466288	199.1526	0.395228	0.36361	0.001821	0.001625	0.019513	0.92
Placer (SV)	2022	Construction and Mining - Rough Terrain Forklifts	0.052167385	0.062036	0.242018	0.475099	122.1328	0.028416	0.028416	0.001732	0.00153	0.020805	0.92
Placer (SV)	2022	Construction and Mining - Rough Terrain Forklifts	0.101274111	0.120525	1.207191	0.899093	212.1827	0.050523	0.051195	0.001959	0.001732	0.02079	0.92
Placer (SV)	2022	Construction and Mining - Rough Terrain Forklifts	0.156415924	0.186148	1.607308	2.04532	236.0685	0.112164	0.103191	0.002179	0.001927	0.02313	0.92
Placer (SV)	2022	Construction and Mining - Rough Terrain Forklifts	0.04682894	0.05573	0.396826	0.629334	212.2929	0.014503	0.013342	0.001961	0.001732	0.020795	0.92
Placer (SV)	2022	Construction and Mining - Rough Terrain Forklifts	0.318412267	0.378937	1.729403	1.61879	235.8069	0.0952	0.087584	0.002172	0.001925	0.023105	0.92
Placer (SV)	2022	Construction and Mining - Rough Terrain Forklifts	0.02792462	0.032885	0.178014	0.3711	210.4048	0.003489	0.003489	0.001732	0.001531	0.020869	0.92
Placer (SV)	2022	Construction and Mining - Rough Terrain Forklifts	0.71012606	0.845109	2.379981	1.585281	212.2416	0.399186	0.376751	0.001955	0.001732	0.020796	0.92
Placer (SV)	2022	Construction and Mining - Rough Terrain Forklifts	0.048374342	0.052182	0.391507	0.537828	212.0158	0.003809	0.003504	0.001959	0.00173	0.020774	0.92
Placer (SV)	2022	Construction and Mining - Rubber Tired Dozers	0.273487508	0.325473	1.664888	2.289906	210.1425	0.174976	0.160978	0.001936	0.001715	0.020959	0.92
Placer (SV)	2022	Construction and Mining - Rubber Tired Dozers	0.25427972	0.302802	1.487317	1.848719	209.7319	0.147817	0.136919	0.001936	0.001715	0.020959	0.92
Placer (SV)	2022	Construction and Mining - Rubber Tired Dozers	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.92
Placer (SV)	2022	Construction and Mining - Rubber Tired Dozers	0.211138099	0.251272	1.196313	2.332133	209.3583	0.106743	0.098204	0.00193	0.001709	0.020513	0.92
Placer (SV)	2022	Construction and Mining - Rubber Tired Dozers	0.499195361	0.594084	2.475993	1.803084	231.9718	0.146767	0.135026	0.002132	0.001893	0.022729	0.92
Placer (SV)	2022	Construction and Mining - Rubber Tired Dozers	0.186044267	0.221408	1.477429	1.922627	210.1305	0.08625	0.07935	0.001938	0.001715	0.020991	0.92
Placer (SV)	2022	Construction and Mining - Rubber Tired Dozers	0.35202229	0.419523	1.810931	2.845477	209.396	0.066974	0.066974	0.001938	0.001715	0.020991	0.92
Placer (SV)	2022	Construction and Mining - Rubber Tired Dozers	0.098975211	0.117789	0.430236	1.429307	208.6619	0.040086	0.036879	0.001927	0.001703	0.020445	0.92
Placer (SV)	2022	Construction and Mining - Rubber Tired Dozers	0.159493585	0.189811	1.39197	1.365707	189.2031	0.096589	0.088862	0.001745	0.001544	0.018538	0.92
Placer (SV)	2022	Construction and Mining - Rubber Tired Loaders	0.106706151	0.126898	1.194359	0.911064	190.5172	0.049142	0.045211	0.001759	0.001555	0.018667	0.92
Placer (SV)	2022	Construction and Mining - Rubber Tired Loaders	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.92
Placer (SV)	2022	Construction and Mining - Rubber Tired Loaders	0.081423798	0.096901	0.446627	0.83851	190.4263	0.028275	0.026013	0.001759	0.001554	0.018658	0.92
Placer (SV)	2022	Construction and Mining - Rubber Tired Loaders	0.427737974	0.509044	2.251701	1.723194	213.0371	0.128591	0.118304	0.001959	0.001739	0.020874	0.92
Placer (SV)	2022	Construction and Mining - Rubber Tired Loaders	0.088459499	0.105274	0.506064	0.823984	190.0368	0.030936	0.028461	0.001755	0.001551	0.018162	0.92
Placer (SV)	2022	Construction and Mining - Rubber Tired Loaders	0.063712777	0.075823	0.329163	0.46579	189.4514	0.016451	0.015135	0.00175	0.001546	0.018563	0.92
Placer (SV)	2022	Construction and Mining - Rubber Tired Loaders	0.0712192	0.087725	0.419327	0.562377	191.216	0.028637	0.028637	0.00175	0		

Placer (SV)	2022	Industrial - Misc - Forklifts	0	0.011539	6.986585	0.595661	202.3105	0	0	0	0	0.033407	#NDV/01
Placer (SV)	2022	Industrial - Misc - Forklifts	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01
Placer (SV)	2022	Industrial - Misc - Forklifts	0	0.234502	36.67108	1.029757	151.8103	0	0	0	0	0.043478	#NDV/01
Placer (SV)	2022	Industrial - Misc - Forklifts	0.522878462	0.625566	67.30947	1.345409	235.0252	0.016202	0.012242	0.002857	0.004547	0.039199	7.755556
Placer (SV)	2022	Industrial - Misc - Forklifts	0	0.01937	3.234309	0.846276	202.3627	0	0	0	0	0.032554	#NDV/01
Placer (SV)	2022	Industrial - Misc - Other General Industrial Equipment	0.118482258	0.253453	16.80304	1.397449	422.3843	0.02945	0.022251	0.004081	0.0059	0.050859	7.755556
Placer (SV)	2022	Industrial - Misc - Other General Industrial Equipment	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01
Placer (SV)	2022	Industrial - Misc - Other General Industrial Equipment	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01
Placer (SV)	2022	Industrial - Misc - Other General Industrial Equipment	0.107896618	0.129086	11.46721	1.024546	318.0351	0.0228	0.017226	0.003159	0.004286	0.036946	7.755556
Placer (SV)	2022	Industrial - Misc - Other General Industrial Equipment	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01
Placer (SV)	2022	Industrial - Misc - Other General Industrial Equipment	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01
Placer (SV)	2022	Industrial - Misc - Other General Industrial Equipment	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01
Placer (SV)	2022	Industrial - Misc - Other General Industrial Equipment	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01
Placer (SV)	2022	Industrial - Misc - Other General Industrial Equipment	0.586956504	0.702229	21.46845	1.446113	423.2331	0.029177	0.022045	0.005146	0.006902	0.059496	7.755556
Placer (SV)	2022	Industrial - Misc - Other Material Handling Equipment	0.366838107	0.438881	18.86576	1.800329	419.6537	0.029259	0.022107	0.004054	0.005955	0.051332	7.755556
Placer (SV)	2022	Industrial - Misc - Other Material Handling Equipment	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01
Placer (SV)	2022	Industrial - Misc - Sweepers/Scrubbers	0.238754283	0.285643	16.4446	1.684177	551.3395	0.038441	0.029604	0.005327	0.007166	0.06603	7.755556
Placer (SV)	2022	Industrial - Misc - Sweepers/Scrubbers	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01
Placer (SV)	2022	Industrial - Misc - Sweepers/Scrubbers	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01
Placer (SV)	2022	Industrial - Misc - Sweepers/Scrubbers	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01
Placer (SV)	2022	Industrial - Misc - Sweepers/Scrubbers	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01
Placer (SV)	2022	Industrial - Misc - Sweepers/Scrubbers	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01
Placer (SV)	2022	Industrial - Misc - Sweepers/Scrubbers	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01
Placer (SV)	2022	Industrial - Misc - Sweepers/Scrubbers	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01
Placer (SV)	2022	Industrial - Other General Industrial Equipment	0.659196434	0.786868	52.17111	4.93874	154.0777	0.03838	0.02886	0.00673	0.008659	0.074847	7.755556
Placer (SV)	2022	Industrial - Other General Industrial Equipment	0.262789988	0.312741	1.437971	2.072498	181.2926	0.017896	0.016493	0.001627	0.00148	0.01763	0.92
Placer (SV)	2022	Industrial - Other General Industrial Equipment	0.0889818	0.105896	1.116492	0.779598	180.5688	0.041337	0.03803	0.001667	0.001474	0.017692	0.92
Placer (SV)	2022	Industrial - Other General Industrial Equipment	1.387229795	1.650918	3.812002	2.624869	200.5819	0.360688	0.331998	0.00182	0.001637	0.019653	0.92
Placer (SV)	2022	Industrial - Other General Industrial Equipment	0.074378945	0.088517	0.447065	0.799936	180.717	0.025878	0.023807	0.001669	0.001475	0.017712	0.92
Placer (SV)	2022	Industrial - Other General Industrial Equipment	0.23958237	0.285124	1.23464	1.432356	201.0205	0.08163	0.074668	0.00183	0.001641	0.018966	0.92
Placer (SV)	2022	Industrial - Other General Industrial Equipment	0.053841787	0.064076	0.37593	0.392014	180.4816	0.031617	0.021228	0.001667	0.001473	0.017684	0.92
Placer (SV)	2022	Industrial - Other General Industrial Equipment	0.082451037	0.098124	1.217765	0.870946	180.4711	0.04335	0.039882	0.001667	0.001473	0.017683	0.92
Placer (SV)	2022	Industrial - Other General Industrial Equipment	0.05652435	0.067269	0.620953	0.427397	180.8784	0.022118	0.020348	0.001671	0.001476	0.017723	0.92
Placer (SV)	2022	Industrial - Other Material Handling Equipment	0.047527795	0.056562	0.345693	1.19058	180.4822	0.01835	0.016882	0.001667	0.001473	0.017684	0.92
Placer (SV)	2022	Industrial - Other Material Handling Equipment	0.081063486	0.095472	1.380801	0.913288	208.8449	0.034114	0.031385	0.001929	0.001705	0.020463	0.92
Placer (SV)	2022	Industrial - Other Material Handling Equipment	0.110788298	0.131847	1.298961	0.900429	208.947	0.058261	0.0536	0.001929	0.001705	0.020473	0.92
Placer (SV)	2022	Industrial - Other Material Handling Equipment	0.292703945	0.348342	2.028918	1.43397	231.9613	0.056562	0.052037	0.002137	0.001893	0.022728	0.92
Placer (SV)	2022	Industrial - Other Material Handling Equipment	0.099999738	0.119008	0.471972	0.959374	208.7188	0.038173	0.035119	0.001927	0.001704	0.020451	0.92
Placer (SV)	2022	Industrial - Other Material Handling Equipment	0.441228771	0.527476	2.32664	1.973212	213.3993	0.158837	0.14317	0.002147	0.001905	0.022869	0.92
Placer (SV)	2022	Industrial - Other Material Handling Equipment	0.07907866	0.09411	0.543676	0.743643	208.9111	0.027241	0.025062	0.00193	0.001705	0.020469	0.92
Placer (SV)	2022	Industrial - Other Material Handling Equipment	0.201110057	0.239338	1.600799	1.790453	207.7794	0.141238	0.129939	0.001916	0.001696	0.020359	0.92
Placer (SV)	2022	Industrial - Other Material Handling Equipment	0.121697697	0.14483	0.436453	1.03854	208.6408	0.025263	0.048358	0.001926	0.001703	0.020443	0.92
Placer (SV)	2022	Industrial - Other Material Handling Equipment	0.031017284	0.0394	0.231906	0.608379	208.6408	0.008632	0.07417	0.001929	0.001703	0.020443	0.92
Placer (SV)	2022	Light Commercial - Misc - Air Compressors	0.491724231	0.588294	22.382421	1.386509	433.5188	0.030254	0.022858	0.001492	0.001256	0.053835	7.755556
Placer (SV)	2022	Light Commercial - Misc - Air Compressors	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01
Placer (SV)	2022	Light Commercial - Misc - Air Compressors	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01
Placer (SV)	2022	Light Commercial - Misc - Air Compressors	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01
Placer (SV)	2022	Light Commercial - Misc - Air Compressors	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01
Placer (SV)	2022	Light Commercial - Misc - Air Compressors	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01
Placer (SV)	2022	Light Commercial - Misc - Air Compressors	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01
Placer (SV)	2022	Light Commercial - Misc - Air Compressors	0.977020549	1.188897	75.43563	1.478036	438.3731	0.030221	0.022834	0.00533	0.007439	0.06413	7.755556
Placer (SV)	2022	Light Commercial - Misc - Air Compressors	0.327522015	0.396302	2.384682	1.990887	273.037	0.093192	0.085736	0.00533	0.002296	0.027569	0.92
Placer (SV)	2022	Light Commercial - Misc - Gas Compressors	0	0.062957	27.50201	2.086656	657.9771	0	0	0	0	0.109949	#NDV/01
Placer (SV)	2022	Light Commercial - Misc - Gas Compressors	0	0.055538	20.84729	1.582869	462	0	0	0	0	0.105238	#NDV/01
Placer (SV)	2022	Light Commercial - Misc - Gas Compressors	0	0.035853	20.88012	1.751568	572.4301	0	0	0	0	0.094863	#NDV/01
Placer (SV)	2022	Light Commercial - Misc - Gas Compressors	0	0.055153	9.766792	2.026214	664.957	0	0	0	0	0.106749	#NDV/01
Placer (SV)	2022	Light Commercial - Misc - Gas Compressors	0	0.036894	20.90363	1.75354	573.6704	0	0	0	0	0.094968	#NDV/01
Placer (SV)	2022	Light Commercial - Misc - Generator Sets	0.314605282	0.375744	13.18517	1.954302	526.0487	0.036677	0.027712	0.005082	0.007166	0.062625	7.755556
Placer (SV)	2022	Light Commercial - Misc - Generator Sets	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01
Placer (SV)	2022	Light Commercial - Misc - Generator Sets	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01
Placer (SV)	2022	Light Commercial - Misc - Generator Sets	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01
Placer (SV)	2022	Light Commercial - Misc - Generator Sets	0.1932748	0.231232	17.50436	2.120031	527.0015	0.03778	0.028545	0.005235	0.007353	0.06339	7.755556
Placer (SV)	2022	Light Commercial - Misc - Generator Sets	0	0.017431	11.46887	1.597975	491.283	0	0	0	0	0.080051	#NDV/01
Placer (SV)	2022	Light Commercial - Misc - Generator Sets	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01
Placer (SV)	2022	Light Commercial - Misc - Generator Sets	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01
Placer (SV)	2022	Light Commercial - Misc - Generator Sets	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01
Placer (SV)	2022	Light Commercial - Misc - Generator Sets	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01
Placer (SV)	2022	Light Commercial - Misc - Generator Sets	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01	#NDV/01
Placer (SV)	2022	Light Commercial - Misc - Generator Sets	0.69342749	0.829508	47.44303	1.602826	532.5528	0.036714	0.027739	0.006475	0.008086	0.069704	7.755556
Placer (SV)	2022	Light Commercial - Misc - Generator Sets	0.347509772	0.420487	2.860839	2.843385	420.6396	0.112312	0.103327	0.005438	0.003531	0.042385	0.92
Placer (SV)	2022	Light Commercial - Misc - Pressure Washers	#NDV/01	#NDV/01	#NDV								

On-road Vehicle (separate calculations)
Construction and Mining - Bore/Drill Rigs
Construction and Mining - Cranes
Construction and Mining - Crawler Tractors
Construction and Mining - Excavators
Construction and Mining - Graders
Construction and Mining - Misc - Asphalt Pavers
Construction and Mining - Misc - Bore/Drill Rigs
Construction and Mining - Misc - Cement And Mortar Mixers
Construction and Mining - Misc - Concrete/Industrial Saws
Construction and Mining - Misc - Cranes
Construction and Mining - Misc - Crushing/Proc. Equipment
Construction and Mining - Misc - Dumpers/Tenders
Construction and Mining - Misc - Excavators
Construction and Mining - Misc - Other
Construction and Mining - Misc - Pavers
Construction and Mining - Misc - Paving Equipment
Construction and Mining - Misc - Plate Compactors
Construction and Mining - Misc - Rollers
Construction and Mining - Misc - Rough Terrain Forklifts
Construction and Mining - Misc - Signal Boards
Construction and Mining - Misc - Skid Steer Loaders
Construction and Mining - Misc - Surfacing Equipment
Construction and Mining - Misc - Tampers/Rammers
Construction and Mining - Misc - Tractors/Loaders/Backhoes
Construction and Mining - Misc - Trenchers
Construction and Mining - Off-Highway Tractors
Construction and Mining - Off-Highway Trucks
Construction and Mining - Other
Construction and Mining - Pavers
Construction and Mining - Paving Equipment
Construction and Mining - Rollers
Construction and Mining - Rough Terrain Forklifts
Construction and Mining - Rubber Tired Dozers
Construction and Mining - Rubber Tired Loaders
Construction and Mining - Scrapers
Construction and Mining - Skid Steer Loaders
Construction and Mining - Surfacing Equipment
Construction and Mining - Tractors/Loaders/Backhoes
Construction and Mining - Trenchers
Industrial - Aerial Lifts
Industrial - Forklifts
Industrial - Misc - Aerial Lifts
Industrial - Misc - Forklifts
Industrial - Misc - Other General Industrial Equipment
Industrial - Misc - Other Material Handling Equipment
Industrial - Misc - Sweepers/Scrubbers
Industrial - Other General Industrial Equipment
Industrial - Other Material Handling Equipment
Light Commercial - Misc - Air Compressors
Light Commercial - Misc - Gas Compressors
Light Commercial - Misc - Generator Sets
Light Commercial - Misc - Pressure Washers
Light Commercial - Misc - Pumps
Light Commercial - Misc - Welders
Portable Equipment - Non-Rental Compressor
Portable Equipment - Non-Rental Generator
Portable Equipment - Non-Rental Other
Portable Equipment - Non-Rental Pump
Portable Equipment - Rental Compressor
Portable Equipment - Rental Generator
Portable Equipment - Rental Other
Portable Equipment - Rental Pump

Source: EMFAC2021 (v1.0.1) Emission Rates
 Region Type: Sub-Area
 Region: Placer (SV)
 Calendar Year: 2022
 Season: Annual

Vehicle Classification: EMFAC202x Categories
 Units: miles/day for CVMT and EVMT, g/mile for RUNEX, PMBW and PMTW, mph for Speed, kWh/mile for Energy Consumption, gallon/mile for Fuel Consumption, PHEV calculated based on total VMT.

Region	Calendar Y	Vehicle Category	Model Year	Fuel	Total VMT	%VMT	CVMT	EVMT	NOx	RUNE	PM2.5_RU	PM10_RU	CO2	RUNE CH4	RUNE N2O	RUNE ROG	RUNE TOG	RUNE CO	RUNE3 SOx	RUNE NH3	PM10	PM1	PM2.5_PW	Fuel Consu	Energy Consumption	
Placer (SV)	2022	MDV	Aggregate	15 Gasoline	8036.686	89%	8036.686	0	0.15249	0.004029	0.004382	705.1438	0.012366	0.011329	0.052359	0.076313	1.816503	0.006971	0.033836	0.01245	0.004357	0.081964	0	0		
Placer (SV)	2022	MDV	Aggregate	15 Diesel	190.3211	2%	190.3211	0	0.109981	0.011549	0.012072	721.7627	0.003871	0.113714	0.083336	0.094872	1.510689	0.006839	0.0031	0.012259	0.004291	0.071071	0	0.39428		
Placer (SV)	2022	MDV	Aggregate	15 Electricity	301.255	3%	0	301.255	0	0	0	0	0	0	0	0	0	0	0	0	0	0.003353	0.001174	0	0.39428	
Placer (SV)	2022	MDV	Aggregate	15 Plug-in Hyt	484.0506	5%	26.38249	457.6681	0.000702	0.000248	0.000027	26.19791	0.000143	0.000128	0.000453	0.000066	0.053084	0.000259	0.002289	0.003369	0.001179	0.003045	0.302429	0		
Weighted Average Emissions Factors:																										
0.138343 0.00385 0.004177 645.4578 0.011117 0.012511 0.048475 0.070091 1.654612 0.006375 0.030362 0.011654 0.004079 0.074755																										
Placer (SV)	2022	LHD1	Aggregate	15 Gasoline	26719.32	57%	26719.32	0	0.220608	0.002103	0.002287	1163.522	0.012256	0.012585	0.058835	0.085852	1.418582	0.011503	0.044936	0.078	0.0273	0.135245	0	0		
Placer (SV)	2022	LHD1	Aggregate	15 Diesel	20256.03	43%	20256.03	0	2.784305	0.078899	0.082467	867.2241	0.016901	0.136632	0.363865	0.414236	1.124701	0.008217	0.139308	0.078	0.0273	0.085395	0	0		
Weighted Average Emissions Factors:																										
1.326088 0.035218 0.036861 1035.757 0.014259 0.066075 0.190366 0.227453 1.291859 0.010086 0.08563 0.078 0.0273 0.113749																										
Placer (SV)	2022	LHD2	Aggregate	15 Gasoline	3334.173	30%	3334.173	0	0.157439	0.001669	0.001815	1285.972	0.008102	0.009915	0.036569	0.053361	1.097113	0.012713	0.044979	0.091	0.03185	0.149478	0	0		
Placer (SV)	2022	LHD2	Aggregate	15 Diesel	7875.004	70%	7875.004	0	1.864902	0.056998	0.059575	1078.155	0.012494	0.169864	0.268988	0.306226	0.786019	0.010216	0.173499	0.091	0.03185	0.106165	0	0		
Weighted Average Emissions Factors:																										
1.357017 0.04054 0.042394 1139.971 0.011188 0.122287 0.199855 0.231011 0.878554 0.010959 0.135271 0.091 0.03185 0.119048																										
Placer (SV)	2022	T6 Utility Class 5	Aggregate	15 Diesel	21.97262	1	21.97262	0	1.512352	0.003374	0.003527	1564.293	0.001727	0.246455	0.037189	0.042337	0.169078	0.014813	0.210333	0.061496	0.021524	0.154034	0	0		
Weighted Average Emissions Factors:																										
1.512352 0.003374 0.003527 1564.293 0.001727 0.246455 0.037189 0.042337 0.169078 0.014813 0.210333 0.061496 0.021524 0.154034																										
Placer (SV)	2022	T7 Single Other Class 8	Aggregate	15 Diesel	331.9407	98%	331.9407	0	4.405634	0.008943	0.009347	2418.704	0.005139	0.381068	0.110638	0.125953	0.568761	0.022904	0.206665	0.138068	0.048324	0.238167	0	0		
Placer (SV)	2022	T7 Single Other Class 8	Aggregate	15 Natural Ga	5.546367	2%	5.546367	0	1.784174	0.004302	0.004678	2663.122	3.607721	0.542895	0.051547	3.681944	19.6027	0	1.06	0.148438	0.051953	0.339309	0	0		
Weighted Average Emissions Factors:																										
4.362552 0.008867 0.00927 2422.721 0.064345 0.383727 0.109667 0.184393 0.88157 0.022527 0.218722 0.138239 0.048384 0.23983																										

0.297619
 0.166667
 5.681818 2
 1.893939 4
 0.25 2
 2.429924

Model Output: OFFROAD2021 (v1.0.1) Emissions Inventory

Region Type: Sub-Area

Region: Placer (SV)

Calendar Year: 2022

Scenario: All Adopted Rules - Exhaust

Vehicle Classification: OFFROAD2021 Equipment Types

Units: tons/day for Emissions, gallons/year for Fuel, hours/year for Activity, Horsepower-hours/year for Horsepower-hours

Region	Calendar Yr	Vehicle Cat	Model Year	Horsepower	Fuel	HC_tpd	ROG_tpd	TOG_tpd	CO_tpd	NOx_tpd	CO2_tpd	PM10_tpd	PM2.5_tpd	SOx_tpd	NH3_tpd	Fuel Consu	Total_Activ	% Activity	Total_Pop	Horsepower_Hours_h	gal/hp-hr
Placer (SV)	2022	Agricultura	Aggregate	25	Gasoline	0.009218	0.011154	0.013274	0.106159	0.003752	0.3871471	0.000331	0.000305	3.25E-06	3.16E-06	12547.04	1740.344	16.42%	70	401816.4	0.031226
Placer (SV)	2022	Agricultura	Aggregate	25	Diesel	0.000216	0.000262	0.000311	0.001559	0.00148	0.2206629	6.71E-05	6.18E-05	2.00E-06	1.80E-06	7151.459	2912.218	27.47%	16	306741.5	0.023314
Placer (SV)	2022	Agricultura	Aggregate	25	Electric	0	0	0	0	0	0	0	0	0	0	0	448.1151	4.23%	0	76347.63	0
Placer (SV)	2022	Agricultura	Aggregate	50	Gasoline	0.000363	0.000439	0.000522	0.016326	0.000964	0.4446817	3.35E-05	3.08E-05	4.04E-06	3.63E-06	14411.68	1362.792	12.86%	46	461531.1	0.031226
Placer (SV)	2022	Agricultura	Aggregate	50	Diesel	0.000572	0.000693	0.000824	0.004682	0.004268	0.6974879	0.000178	0.000164	6.34E-06	5.69E-06	22604.87	4137.416	39.03%	36	969571.6	0.023314
100.00%																					
g/hp-hr calculations:																				gal/hp-hr	
						7.596463	9.191721	10.93891	87.48214	3.091928	319.03371	0.273114	0.251265	0.00268	0.002601						0.031226
						0.233302	0.282296	0.335954	1.682903	1.597495	238.20179	0.072479	0.066681	0.002164	0.001942						0.023314
						0	0	0	0	0	0	0	0	0	0						0
						0.260264	0.314919	0.37478	11.71267	0.691727	319.03371	0.024	0.02208	0.0029	0.002601						0.031226
						0.195459	0.236505	0.28146	1.599122	1.457505	238.20179	0.060728	0.05587	0.002165	0.001942						0.023314
Weighted Average Emissions Factors:						1.42094	1.71934	2.04616	16.95407	1.60423	251.79411	0.09153	0.08421	0.00225	0.00205						0.02464

Days per year:

365	
Constants	
lb	grams
1	453.592
ton	lb
1	2000
metric ton	lb
1	2204.62
GWP CO2e	CH4
28	
GWP CO2e	N2O
265	

CalEEMod
Equipment HP and Load Factors

OFFROAD Equipment Type	Horsepower	Load Factor
Aerial Lifts	63	0.31
Air Compressors	78	0.48
Bore/Drill Rigs	221	0.50
Cement and Mortar Mixers	9	0.56
Concrete/Industrial Saws	81	0.73
Cranes	231	0.29
Crawler Tractors	212	0.43
Crushing/Proc. Equipment	85	0.78
Dumpers/Tenders	16	0.38
Excavators	158	0.38
Forklifts	89	0.201
Generator Sets	84	0.74
Graders	187	0.41
Off-Highway Tractors	124	0.44
Off-Highway Trucks	402	0.38
On-road Vehicle (separate calculati	0	0.00
Other Construction Equipment	171	0.42
Other General Industrial Equipmen	88	0.34
Other Material Handling Equipmen	168	0.40
Pavers	130	0.42
Paving Equipment	132	0.36
Plate Compactors	8	0.43
Pressure Washers	13	0.3
Pumps	84	0.74
Rollers	80	0.38
Rough Terrain Forklifts	100	0.40
Rubber Tired Dozers	247	0.4
Rubber Tired Loaders	203	0.36
Scrapers	367	0.48
Signal Boards	6	0.82
Skid Steer Loaders	65	0.37
Surfacing Equipment	263	0.30
Sweepers/Scrubbers	64	0.46
Tractors/Loaders/Backhoes	97	0.37
Trenchers	78	0.50
UTV (separate calculations)	0	0.00
Welders	46	0.45

Fugitive Dust Emissions

Unpaved Road Dust

Equation: $EF = (k \cdot (s/12)^a \cdot (W/3)^b)$
 Ref: AP-42, Section 13.2.2, "Unpaved Roads," November 2006

Constants:

$k_u =$	1.5	(Particle size multiplier for PM10)
	0.15	(Particle size multiplier for PM2.5)
$s =$	3.9	Unpaved surface material silt content (%)
$a =$	0.9	for PM10 and PM2.5
$b =$	0.45	for PM10 and PM2.5
$W =$	see below	CAIEMod default for range of vehicle fleet mix on unpaved roadways
Control Factor for Gravel Roads:	84%	Per WRAP Handbook
$P =$	74	days of precipitation / yr > 0.01 in

Source: spreadsheet link at 4th bullet: <https://www3.epa.gov/tncchie1/ap>

Per CalEEMod User Guide App D, Table 1.1

	W (Tons)	Curb Weight	
W (F-150)	2.5		5000
W (F-250)	3.25		6500
W (15-Passenger Van)	5		10000
W (F-550)	3.75		7500
W (18-Wheeler)	15		30000
W (ATV)	1.5		3000

EF (PM10) (lb/VMT)	Vehicle Category
0.5025	F-150
0.5655	F-250
0.6865	15-Passenger Van
0.6031	F-550
1.1254	18-Wheeler
0.3993	ATV

Conversion:	tons
pounds	2000 1

¹ Uncontrolled emissions [lb/day] = Emission factor [lb/mi] x Number x Daily miles traveled [mi/vehicle-day]
 Fugitive Dust from Construction & Demolition, http://www.aqmd.gov/ceqa/handbook/mitigation/fugitive/MM_fugitive.html

Truck Loading and Stockpiling

Earthwork Quantities (no import/export, only grading/earthwork)

Assumptions	Earthwork (CY)	Earthwork (tons)
Soil	572,400	723,609
Aggregate Import	76,800	38,362
Total	649,200	761,970

Total Emissions from Stockpiling and Truck Loading Soils	PM10 (lbs)	PM2.5 (lbs)	PM10 (tons)	PM2.5 (tons)
Total Emissions from Stockpiling and Truck Loading Soils	68.04	10.30	0.03402	0.00515
Daily Emissions from Stockpiling and Truck Loading Soils	0.31	0.05	0.00	0.00

*Earthwork assumed to occur over 10 months of civil work phases. Aggregate import could extend this, but used 10 months as a conservative duration to estimate daily emissions.

Fugitive Dust Emission Factors

Storage Pile and Truck Loading Fugitive Dust Emission Factors

$EF_p = k \cdot (0.0032) \cdot ((U/9)^{-1}) \cdot ((M/2)^{-1})$

Variable	Amount	Units	Notes
EF (PM ₁₀) for soil	0.000089	lb/ton	
EF (PM _{2.5}) for soil	0.000014	lb/ton	
k (PM ₁₀)	0.35	factor	999 0.4995
k (PM _{2.5})	0.053	factor	
U (mean wind speed)	4.92	miles/hr	Based on CalEEMod Appendix D Table 1.1: 2.2 m/s for PCAPCD.
M (moisture content) of saturated soil	12.00	percent	Based on default moisture content in CalEEMod User's Guide (Appendix A)
Soil density (CalEEMod default)	1.26	tons/cy	
Roadway aggregate average density	0.50	tons/cy	EPA: https://www.epa.gov/sites/default/files/2016-04/documents/volume_to_weight_conversion_factors_memo_randum_04192016_508fml.pdf
M (moisture content) of demolition debris	2.00	percent	Based on CalEEMod default using MRI report (Appendix A)

$E \text{ (lbs)} = EF \text{ (lb/ton)} \times TP \text{ (tons)}$

Bulldozing, Scraping and Grading

PM10 Emission Factor [lb/hr] = $0.75 \times (\text{silt content } [\%])^{1.5} / (\text{moisture})^{1.4}$

PM2.5 Emission Factor [lb/hr] = $0.60 \times (\text{silt content } [\%])^{1.2} / (\text{moisture})^{1.3}$

Reference: AP-42, Table 11.9-1, July 1998

Parameter	Value	Basis
Silt Content	6.9	USEPA, AP-42, July 1998, Table 11.9-3 Typical Values for Correction Factors Applicable to the Predictive Emission
Moisture	7.9	USEPA, AP-42, July 1998, Table 11.9-3 Typical Values for Correction Factors Applicable to the Predictive Emission

PM10 Emission Factor 0.75 lb/hr
 PM2.5 Emission Factor 0.41 lb/hr

Emissions [pounds per day] = Controlled emission factor [pounds per hour] x Bulldozing, scraping or grading time [hours/day]

Conversion Factors	
tons	pounds 2000
cubic feet	cubic yards 27

Sources:

Paved Roads Fugitive Dust Emissions

Paved Roads	100%
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Paved Road Dust

$$EF_{DUST} = [(k(sL)^{0.91} \times (W)^{1.02})(1 - P/4N)]$$

Source: AP-42 Section 13.2.1 (Paved Roads) - <http://www.epa.gov/ttnchie1/ap42/ch13/final/c13s0201.pdf>

Variable	Value	Description
k (PM10)	0.0022	particle size multiplier for particle size range and units of interest (lb/VMT)
k (PM2.5)	0.00054	particle size multiplier for particle size range and units of interest (lb/VMT)
sL	0.032	road surface silt loading (g/m^2) based on EPA 2011 default for collector streets (https://ww3.arb.ca.gov/ei/areasrc/fullpdf/full7-9_2016.pdf)
W	2.4	average weight of all vehicles based on AP-42 and CalEEMod default values.
P	74	number of "wet" days with at least 0.254 mm of precipitation during the averaging period (CalEEMod User Guide, Appendix D, Table 1.1)
N	365	number of days in averaging period

All Vehicle Trip Types

EF (PM10)	0.100925461	g/mi
EF (PM2.5)	0.024772613	g/mi

Conversion Units	
lbs	tons
2000	1
lb	grams
1	453.59237

SMUD Country Acres Operations - Placer-Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

**SMUD Country Acres Operations
Placer-Sacramento County, Winter**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	1.00	1,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	74
Climate Zone	2	Operational Year		2024	
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	357.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Operational emissions estaimtes for maximum daily vehicle and equipment use.

Construction Phase -

Off-road Equipment - Operational emissions run only. Construction activity zeroed out.

Grading -

Trips and VMT - Operational emissions run only. Construction activities zeroed out.

Vehicle Trips - Up to 12 daily trips concurrently; assume all are primary trips and C-W to utilize maximum trip distances.

Fleet Mix - Assumes a fleet mix with even split between MDV, LHD1, LHD2, and MHD to capture larger utility trucks and an occassional target truck that could serve the site; and assumes that daily workers by utilize trucks similar to F-150 as opposed to average fleet mix.

Road Dust - Assumes approximately 2.5 miles travelled on unpaved on-site roads as part of daily site work. On-site travel would be slower, anticipated at approximately 15 mph.

Operational Off-Road Equipment - Conservative estiamte of on-site equipment use of 1 crane, 1 forklift, 1 loader, and 1 lift for 8 hours on the same day.

Stationary Sources - Emergency Generators and Fire Pumps -

SMUD Country Acres Operations - Placer-Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Construction Off-road Equipment Mitigation -

Energy Mitigation - 748,900 MWh/year estimated power generation.

Table Name	Column Name	Default Value	New Value
tblFleetMix	HHD	0.01	0.00
tblFleetMix	LDA	0.47	0.00
tblFleetMix	LDT1	0.06	0.00
tblFleetMix	LDT2	0.21	0.00
tblFleetMix	LHD1	0.03	0.25
tblFleetMix	LHD2	8.3910e-003	0.25
tblFleetMix	MCY	0.03	0.00
tblFleetMix	MDV	0.15	0.25
tblFleetMix	MH	5.4500e-003	0.00
tblFleetMix	MHD	0.01	0.25
tblFleetMix	OBUS	5.5600e-004	0.00
tblFleetMix	SBUS	9.7700e-004	0.00
tblFleetMix	UBUS	4.1200e-004	0.00
tblLandUse	LandUseSquareFeet	0.00	1,000.00
tblLandUse	LotAcreage	0.00	1.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOperationalOffRoadEquipment	OperLoadFactor	0.29	0.29
tblOperationalOffRoadEquipment	OperLoadFactor	0.20	0.20
tblOperationalOffRoadEquipment	OperLoadFactor	0.37	0.37
tblOperationalOffRoadEquipment	OperLoadFactor	0.31	0.31
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00

SMUD Country Acres Operations - Placer-Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	MeanVehicleSpeed	40	15
tblRoadDust	RoadPercentPave	100	85
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	27.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	1.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblVehicleTrips	CW_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	WD_TR	0.00	12.00

2.0 Emissions Summary

SMUD Country Acres Operations - Placer-Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0240	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0359	0.4462	0.2977	2.7100e-003	12.1902	4.5400e-003	12.1948	1.2364	4.3400e-003	1.2407		282.3838	282.3838	2.8600e-003	0.0281	290.8354
Offroad	0.6020	6.3349	6.2211	0.0120		0.2714	0.2714		0.2497	0.2497	0.0000	1,166.1361	1,166.1361	0.3772		1,175.5649
Stationary	0.0443	0.2311	0.1784	2.1000e-004		0.0195	0.0195		0.0195	0.0195		22.6669	22.6669	3.1800e-003		22.7463
Total	0.7062	7.0122	6.6972	0.0150	12.1902	0.2954	12.4856	1.2364	0.2735	1.5099	0.0000	1,471.1870	1,471.1870	0.3832	0.0281	1,489.1469

SMUD Country Acres Operations - Placer-Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0240	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0359	0.4462	0.2977	2.7100e-003	12.1902	4.5400e-003	12.1948	1.2364	4.3400e-003	1.2407		282.3838	282.3838	2.8600e-003	0.0281	290.8354
Offroad	0.6020	6.3349	6.2211	0.0120		0.2714	0.2714		0.2497	0.2497	0.0000	1,166.1361	1,166.1361	0.3772		1,175.5649
Stationary	0.0443	0.2311	0.1784	2.1000e-004		0.0195	0.0195		0.0195	0.0195		22.6669	22.6669	3.1800e-003		22.7463
Total	0.7062	7.0122	6.6972	0.0150	12.1902	0.2954	12.4856	1.2364	0.2735	1.5099	0.0000	1,471.1870	1,471.1870	0.3832	0.0281	1,489.1469

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	8/13/2022	8/15/2022	5	1	

Acres of Grading (Site Preparation Phase): 0

SMUD Country Acres Operations - Placer-Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	0.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	0.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	0.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

SMUD Country Acres Operations - Placer-Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000							

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000							

SMUD Country Acres Operations - Placer-Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Site Preparation - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000							

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000							

SMUD Country Acres Operations - Placer-Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Kilowatt Hours of Renewable Electricity Generated

Percent of Electricity Use Generated with Renewable Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

SMUD Country Acres Operations - Placer-Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

SMUD Country Acres Operations - Placer-Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0240	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	0.0240	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.5400e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0214					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	0.0240	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

SMUD Country Acres Operations - Placer-Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.5400e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0214					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	0.0240	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Cranes	1	8.00	260	231	0.29	Diesel
Forklifts	1	8.00	260	89	0.20	Diesel
Tractors/Loaders/Backhoes	1	8.00	260	97	0.37	Diesel

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Aerial Lifts	1	8.00	260	63	0.31	Diesel
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UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Aerial Lifts	0.0344	0.5232	1.0864	1.6700e-003		9.0700e-003	9.0700e-003		8.3500e-003	8.3500e-003	0.0000	161.6756	161.6756	0.0523		162.9828
Cranes	0.3296	3.4813	1.7631	5.7300e-003		0.1449	0.1449		0.1333	0.1333	0.0000	555.1462	555.1462	0.1796		559.6348
Forklifts	0.0947	0.8879	1.1450	1.5400e-003		0.0513	0.0513		0.0472	0.0472	0.0000	148.7710	148.7710	0.0481		149.9739
Tractors/Loaders/Backhoes	0.1433	1.4424	2.2265	3.1000e-003		0.0662	0.0662		0.0609	0.0609	0.0000	300.5434	300.5434	0.0972		302.9734
Total	0.6020	6.3349	6.2211	0.0120		0.2714	0.2714		0.2497	0.2497	0.0000	1,166.1361	1,166.1361	0.3772		1,175.5649

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	1	50	27	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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SMUD Country Acres Operations - Placer-Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (25 - 50 HP)	0.0443	0.2311	0.1784	2.1000e-004		0.0195	0.0195		0.0195	0.0195		22.6669	22.6669	3.1800e-003		22.7463
Total	0.0443	0.2311	0.1784	2.1000e-004		0.0195	0.0195		0.0195	0.0195		22.6669	22.6669	3.1800e-003		22.7463

11.0 Vegetation

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

**SMUD Country Acres Operations
Placer-Sacramento County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	1.00	1,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	74
Climate Zone	2			Operational Year	2024
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	357.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Operational emissions estaimtes for maximum daily vehicle and equipment use.

Construction Phase -

Off-road Equipment - Operational emissions run only. Construction activity zeroed out.

Trips and VMT - Operational emissions run only. Construction activities zeroed out.

Grading -

Vehicle Trips - Up to 12 daily trips concurrently; assume all are primary trips and C-W to utilize maximum trip distances.

Road Dust - Assumes approximately 2.5 miles travelled on unpaved on-site roads as part of daily site work. On-site travel would be slower, anticipated at approximately 15 mph.

Construction Off-road Equipment Mitigation -

Energy Mitigation - 748,900 MWh/year estimated power generation.

Operational Off-Road Equipment - Conservative estiamte of on-site equipment use of 1 crane, 1 forklift, 1 loader, and 1 lift for 8 hours on the same day.

SMUD Country Acres Operations - Placer-Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Fleet Mix - Adjusted fleet mix of MDV, LHD1, LHD2, and MHD. Assumes daily workers utilize trucks similar to F-150 as opposed to average fleet mix, and larger utility trucks and an occasional large truck for maintenance.

Stationary Sources - Emergency Generators and Fire Pumps -

Table Name	Column Name	Default Value	New Value
tblFleetMix	HHD	0.01	0.00
tblFleetMix	LDA	0.47	0.00
tblFleetMix	LDT1	0.06	0.00
tblFleetMix	LDT2	0.21	0.00
tblFleetMix	LHD1	0.03	0.25
tblFleetMix	LHD2	8.3910e-003	0.25
tblFleetMix	MCY	0.03	0.00
tblFleetMix	MDV	0.15	0.25
tblFleetMix	MH	5.4500e-003	0.00
tblFleetMix	MHD	0.01	0.25
tblFleetMix	OBUS	5.5600e-004	0.00
tblFleetMix	SBUS	9.7700e-004	0.00
tblFleetMix	UBUS	4.1200e-004	0.00
tblLandUse	LandUseSquareFeet	0.00	1,000.00
tblLandUse	LotAcreage	0.00	1.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	MeanVehicleSpeed	40	15
tblRoadDust	RoadPercentPave	100	85
tblTripsAndVMT	WorkerTripNumber	5.00	0.00

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	4.3700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	4.6900e-003	0.0568	0.0386	3.5000e-004	1.5841	5.9000e-004	1.5847	0.1606	5.6000e-004	0.1611	0.0000	33.3340	33.3340	3.3000e-004	3.3000e-003	34.3249
Offroad	0.0786	0.8271	0.8115	1.5700e-003		0.0354	0.0354		0.0326	0.0326	0.0000	138.1271	138.1271	0.0447	0.0000	139.2439
Stationary	1.1100e-003	5.7800e-003	4.4600e-003	1.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	0.5141	0.5141	7.0000e-005	0.0000	0.5159
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0888	0.8897	0.8546	1.9300e-003	1.5841	0.0365	1.6206	0.1606	0.0336	0.1942	0.0000	171.9751	171.9751	0.0451	3.3000e-003	174.0847

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	4.3700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	-	-	-11.2100	-1.3588	-
												121,604.1328	121,604.1328			122,289.2982
Mobile	4.6900e-003	0.0568	0.0386	3.5000e-004	1.5841	5.9000e-004	1.5847	0.1606	5.6000e-004	0.1611	0.0000	33.3340	33.3340	3.3000e-004	3.3000e-003	34.3249
Offroad	0.0786	0.8271	0.8115	1.5700e-003		0.0354	0.0354		0.0326	0.0326	0.0000	138.1271	138.1271	0.0447	0.0000	139.2439
Stationary	1.1100e-003	5.7800e-003	4.4600e-003	1.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	0.5141	0.5141	7.0000e-005	0.0000	0.5159
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0888	0.8897	0.8546	1.9300e-003	1.5841	0.0365	1.6206	0.1606	0.0336	0.1942	0.0000	-	-	-11.1649	-1.3555	-
												121,432.1576	121,432.1576			122,115.2135

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	70,710.30	70,710.30	24,872.31	41,175.15	70,246.99

3.0 Construction Detail

Construction Phase

SMUD Country Acres Operations - Placer-Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	8/13/2022	8/15/2022	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	0.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	0.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	0.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

SMUD Country Acres Operations - Placer-Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	-7.489e+008	-121,604.1328	-11.2100	-1.3588	-122,289.2982
Total		-121,604.1328	-11.2100	-1.3588	-122,289.2982

6.0 Area Detail

6.1 Mitigation Measures Area

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	4.3700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	4.3700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	4.6000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.9100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	4.3700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	4.6000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.9100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	4.3700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

7.0 Water Detail

7.1 Mitigation Measures Water

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Aerial Lifts	1	8.00	260	63	0.31	Diesel

SMUD Country Acres Operations - Placer-Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Cranes	1	8.00	260	231	0.29	Diesel
Forklifts	1	8.00	260	89	0.20	Diesel
Tractors/Loaders/Backhoes	1	8.00	260	97	0.37	Diesel

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Aerial Lifts	4.5000e-003	0.0684	0.1421	2.2000e-004		1.1900e-003	1.1900e-003		1.0900e-003	1.0900e-003	0.0000	19.1784	19.1784	6.2000e-003	0.0000	19.3335
Cranes	0.0431	0.4556	0.2307	7.5000e-004		0.0190	0.0190		0.0174	0.0174	0.0000	65.9023	65.9023	0.0213	0.0000	66.4352
Forklifts	0.0123	0.1149	0.1481	2.0000e-004		6.6300e-003	6.6300e-003		6.1000e-003	6.1000e-003	0.0000	17.4579	17.4579	5.6500e-003	0.0000	17.5990
Tractors/Loaders/Backhoes	0.0187	0.1883	0.2906	4.1000e-004		8.6400e-003	8.6400e-003		7.9500e-003	7.9500e-003	0.0000	35.5885	35.5885	0.0115	0.0000	35.8763
Total	0.0786	0.8271	0.8115	1.5800e-003		0.0354	0.0354		0.0326	0.0326	0.0000	138.1271	138.1271	0.0447	0.0000	139.2439

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	1	50	27	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

SMUD Country Acres Operations - Placer-Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Equipment Type	Number
----------------	--------

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (25 - 50 HP)	1.1100e-003	5.7800e-003	4.4600e-003	1.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	0.5141	0.5141	7.0000e-005	0.0000	0.5159
Total	1.1100e-003	5.7800e-003	4.4600e-003	1.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	0.5141	0.5141	7.0000e-005	0.0000	0.5159

11.0 Vegetation

SMUD Country Acres Operations - Placer-Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

SMUD Country Acres Operations

Placer-Sacramento County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	1.00	1,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	74
Climate Zone	2	Operational Year		2024	
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	357.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Operational emissions estaimtes for maximum daily vehicle and equipment use.

Construction Phase -

Off-road Equipment - Operational emissions run only. Construction activity zeroed out.

Grading -

Trips and VMT - Operational emissions run only. Construction activities zeroed out.

Vehicle Trips - Up to 12 daily trips concurrently; assume all are primary trips and C-W to utilize maximum trip distances.

Fleet Mix - Assumes a fleet mix with even split between MDV, LHD1, LHD2, and MHD to capture larger utility trucks and an occassional target truck that could serve the site; and assumes that daily workers by utilize trucks similar to F-150 as opposed to average fleet mix.

Road Dust - Assumes approximately 2.5 miles travelled on unpaved on-site roads as part of daily site work. On-site travel would be slower, anticipated at approximately 15 mph.

Operational Off-Road Equipment - Conservative estiamte of on-site equipment use of 1 crane, 1 forklift, 1 loader, and 1 lift for 8 hours on the same day.

Stationary Sources - Emergency Generators and Fire Pumps -

SMUD Country Acres Operations - Placer-Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Construction Off-road Equipment Mitigation -

Energy Mitigation - 748,900 MWh/year estimated power generation.

Table Name	Column Name	Default Value	New Value
tblFleetMix	HHD	0.01	0.00
tblFleetMix	LDA	0.47	0.00
tblFleetMix	LDT1	0.06	0.00
tblFleetMix	LDT2	0.21	0.00
tblFleetMix	LHD1	0.03	0.25
tblFleetMix	LHD2	8.3910e-003	0.25
tblFleetMix	MCY	0.03	0.00
tblFleetMix	MDV	0.15	0.25
tblFleetMix	MH	5.4500e-003	0.00
tblFleetMix	MHD	0.01	0.25
tblFleetMix	OBUS	5.5600e-004	0.00
tblFleetMix	SBUS	9.7700e-004	0.00
tblFleetMix	UBUS	4.1200e-004	0.00
tblLandUse	LandUseSquareFeet	0.00	1,000.00
tblLandUse	LotAcreage	0.00	1.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOperationalOffRoadEquipment	OperLoadFactor	0.29	0.29
tblOperationalOffRoadEquipment	OperLoadFactor	0.20	0.20
tblOperationalOffRoadEquipment	OperLoadFactor	0.37	0.37
tblOperationalOffRoadEquipment	OperLoadFactor	0.31	0.31
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00

SMUD Country Acres Operations - Placer-Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	MeanVehicleSpeed	40	15
tblRoadDust	RoadPercentPave	100	85
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	27.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	1.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblVehicleTrips	CW_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	WD_TR	0.00	12.00

2.0 Emissions Summary

SMUD Country Acres Operations - Placer-Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0240	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0378	0.4116	0.3121	2.7400e-003	12.1902	4.5400e-003	12.1948	1.2364	4.3300e-003	1.2407		285.3589	285.3589	2.7900e-003	0.0278	293.7145
Offroad	0.6020	6.3349	6.2211	0.0120		0.2714	0.2714		0.2497	0.2497	0.0000	1,166.1361	1,166.1361	0.3772		1,175.5649
Stationary	0.0443	0.2311	0.1784	2.1000e-004		0.0195	0.0195		0.0195	0.0195		22.6669	22.6669	3.1800e-003		22.7463
Total	0.7080	6.9776	6.7116	0.0150	12.1902	0.2954	12.4856	1.2364	0.2735	1.5099	0.0000	1,474.1622	1,474.1622	0.3831	0.0278	1,492.0260

SMUD Country Acres Operations - Placer-Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0240	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0378	0.4116	0.3121	2.7400e-003	12.1902	4.5400e-003	12.1948	1.2364	4.3300e-003	1.2407		285.3589	285.3589	2.7900e-003	0.0278	293.7145
Offroad	0.6020	6.3349	6.2211	0.0120		0.2714	0.2714		0.2497	0.2497	0.0000	1,166.1361	1,166.1361	0.3772		1,175.5649
Stationary	0.0443	0.2311	0.1784	2.1000e-004		0.0195	0.0195		0.0195	0.0195		22.6669	22.6669	3.1800e-003		22.7463
Total	0.7080	6.9776	6.7116	0.0150	12.1902	0.2954	12.4856	1.2364	0.2735	1.5099	0.0000	1,474.1622	1,474.1622	0.3831	0.0278	1,492.0260

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	8/13/2022	8/15/2022	5	1	

Acres of Grading (Site Preparation Phase): 0

SMUD Country Acres Operations - Placer-Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	0.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	0.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	0.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

SMUD Country Acres Operations - Placer-Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000							

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000							

SMUD Country Acres Operations - Placer-Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Site Preparation - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000							

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000							

SMUD Country Acres Operations - Placer-Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Kilowatt Hours of Renewable Electricity Generated

Percent of Electricity Use Generated with Renewable Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

SMUD Country Acres Operations - Placer-Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

SMUD Country Acres Operations - Placer-Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0240	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	0.0240	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.5400e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0214					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	0.0240	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

SMUD Country Acres Operations - Placer-Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.5400e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0214					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	0.0240	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Cranes	1	8.00	260	231	0.29	Diesel
Forklifts	1	8.00	260	89	0.20	Diesel
Tractors/Loaders/Backhoes	1	8.00	260	97	0.37	Diesel

SMUD Country Acres Operations - Placer-Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Aerial Lifts	1	8.00	260	63	0.31	Diesel
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UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Aerial Lifts	0.0344	0.5232	1.0864	1.6700e-003		9.0700e-003	9.0700e-003		8.3500e-003	8.3500e-003	0.0000	161.6756	161.6756	0.0523		162.9828
Cranes	0.3296	3.4813	1.7631	5.7300e-003		0.1449	0.1449		0.1333	0.1333	0.0000	555.1462	555.1462	0.1796		559.6348
Forklifts	0.0947	0.8879	1.1450	1.5400e-003		0.0513	0.0513		0.0472	0.0472	0.0000	148.7710	148.7710	0.0481		149.9739
Tractors/Loaders/Backhoes	0.1433	1.4424	2.2265	3.1000e-003		0.0662	0.0662		0.0609	0.0609	0.0000	300.5434	300.5434	0.0972		302.9734
Total	0.6020	6.3349	6.2211	0.0120		0.2714	0.2714		0.2497	0.2497	0.0000	1,166.1361	1,166.1361	0.3772		1,175.5649

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	1	50	27	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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SMUD Country Acres Operations - Placer-Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Equipment Type	lb/day										lb/day						
Emergency Generator - Diesel (25 - 50 HP)	0.0443	0.2311	0.1784	2.1000e-004		0.0195	0.0195		0.0195	0.0195		22.6669	22.6669	3.1800e-003			22.7463
Total	0.0443	0.2311	0.1784	2.1000e-004		0.0195	0.0195		0.0195	0.0195		22.6669	22.6669	3.1800e-003			22.7463

11.0 Vegetation
