

**TABLE 2  
SAN ARDO ILA  
CONSTRUCTION AND OPERATION EMISSIONS SUMMARY**

**Construction Engine Emissions**

SOURCE	SIZE / GROSS HP	DAILY AMOUNT (1) (hrs or trips)	NUMBER OF DAYS	NUMBER OF UNITS	ONE-WAY DISTANCE (miles)	NO <sub>x</sub>			ROG			PM <sub>10</sub>			SO <sub>x</sub>			CO			NOTES	
						EF (2)	Daily (lbs/day)	Total (tons)	EF (2)	Daily (lbs/day)	Total (tons)	EF (2)	Daily (lbs/day)	Total (tons)	EF (2)	Daily (lbs/day)	Total (tons)	EF (2)	Daily (lbs/day)	Total (tons)		
<b>Demolition (35 cy)</b>																						
Excavator	84	8	1	1	-	774	14	0.007	64	1.1	0.001	13	0.2	0.0001	58	1.0	0.001	79	1.4	0.001	6	
Equipment Delivery Truck	Low boy	1	1	-	30	11.3	1.5	0.001	2.2	0.3	0.0001	0.59	0.08	0.0000	0.31	0.0	0.000	14.0	1.9	0.001	7	
Semi-end Dump Trucks	20 ton	2	1	-	100	11.3	10	0.005	2.2	1.9	0.001	0.59	0.5	0.000	0.31	0.3	0.000	14.0	12	0.006	7	
Worker Light Truck	Light	2	1	-	30	1.00	0.3	0.0001	0.35	0.1	0.0000	0	0	0	0.06	0.02	0.00001	7.22	1.9	0.0010	7	
<b>Maxima and Subtotals (Demolition)</b>							25	0.013		3.5	0.0017		0.8	0.0004		1.3	0.0007		17.5	0.009		
<b>Site Grading (40 cy)</b>																						
Backhoe Loader	200	4	2	1	-	2370	21	0.0209	180	1.6	0.0016	15	0.13	0.00013	135	1.2	0.0012	205	1.8	0.0018	6	
Vac Truck	153	8	2	1	-	1660	29	0.0293	110	1.9	0.0019	15	0.26	0.00026	105	1.9	0.0019	110	1.9	0.0019	6	
Surveying Lt-Heavy Duty Truck	117	6	3	1	-	780	10	0.0155	72	1.0	0.0014	44	0.6	0.00087	85	1.1	0.0017	105	1.4	0.0021	6	
Lt-Heavy Duty Truck	10 cu yd	2	2	1	30	11.3	3.0	0.0030	2.2	0.58	0.00058	0.59	0.16	0.00016	0.31	0.08	0.0001	14	3.7	0.0037	7	
Worker Light Truck	175	3	2.5	1	30	18.4	7.3	0.00915	4.4	1.73	0.00216	0.84	0.333	0.000417	0.31	0.123	0.0002	35	13.7	0.0171	6	
Equipment Delivery Truck	Low boy	3	2	-	30	11.3	4.5	0.0045	2.2	0.9	0.0009	0.59	0.23	0.00023	0.31	0.12	0.0001	14	5.6	0.0056	7	
Worker Light Truck	Light	2	9	-	30	1.0	0.26	0.00119	0.35	0.09	0.00042	0	0	0	0.06	0.02	0.0001	7.2	1.9	0.0086	7	
<b>Maxima and Subtotals (Site Grading)</b>							44	0.083		5.2	0.0090		1.3	0.0021		2.2	0.0052		26.9	0.041		
<b>Pad Construction (270cy)</b>																						
Cement Truck	10 yd3	4	2	-	30	11.3	6.0	0.0060	2.2	1.2	0.00116	0.59	0.31	0.00031	0.31	0.2	0.0002	14	7.4	0.0074	7	
Gravel Truck	10 yd3	4	1.5	-	30	11.3	6.0	0.0045	2.2	1.2	0.00087	0.59	0.31	0.00023	0.31	0.2	0.0001	14	7.4	0.0056	7	
Worker Light Truck	Light	2	2	-	30	1.0	0.3	0.0003	0.35	0.1	0.00009	0	0	0	0.06	0.0	0.0000	7.2	1.9	0.0019	7	
<b>Maxima and Subtotals (Pad Construction)</b>							12.2	0.01		2.4	0.0021		0.62	0.00055		0.3	0.0003		16.8	0.01		
<b>Trenching &amp; Utility Installation (350cy)</b>																						
Excavator	84	8	12	2	-	774	27	0.164	64	2.3	0.0136	13	0.5	0.0028	58	2.0	0.0122	79	2.8	0.017	6	
Equipment Delivery Truck	Low boy	1	2	-	30	11.3	1.5	0.001	2.2	0.3	0.0003	0.59	0.08	0.0001	0.31	0.0	0.0000	14	1.9	0.002	7	
Worker Light Truck	Light	2	12	-	30	1.0	0.3	0.002	0.35	0.1	0.0006	0	0	0	0.06	0.0	0.0001	7.2	1.9	0.011	7	
<b>Maxima and Subtotals (Trenching and Utility Installation)</b>							29	0.17		2.7	0.0144		0.55	0.0029		2.1	0.0124		6.5	0.03		
<b>Access Road Construction (75cy)</b>																						
Grader	200	4	3	1	-	2370	21	0.031	180	1.6	0.002	15	0.13	0.0002	135	1.2	0.002	205	1.8	0.003	6	
Dozer	153	4	3	1	-	1660	15	0.022	110	1.0	0.002	15	0.13	0.0002	105	0.9	0.001	110	1.0	0.002	6	
Gravel Truck	10 yd3	4	2	-	30	11.3	6.0	0.0060	2.2	1.2	0.0012	0.6	0.3	0.0003	0.3	0.2	0.0002	14	7.4	0.0074	7	
Compactor	-	4	2	1	-	1787	16	0.016	71	0.6	0.001	67	0.6	0.001	235	2.1	0.002	128	1.1	0.001	8	
Equipment Delivery Truck	Low boy	1	2	-	30	11.3	1.5	0.002	2.2	0.3	0.000	0.6	0.08	0.0001	0.3	0.0	0.000	14	1.9	0.002	7	
Worker Light Truck	Light	-	8	2	25	1.0	0.2	0.001	0.35	0.08	0.000	0	0	0	0.06	0.0	0.000	7.2	1.6	0.006	7	
<b>Maxima and Subtotals (Access Road Construction)</b>							29	0.08		3.1	0.01		1.0	0.0014		2.3	0.006		12.7	0.02		
<b>Shelter Placement</b>																						
Crane	150 ton	8	1	1	-	576	10	0.005	82	1.4	0.0007	64	1.1	0.0006	41	0.7	0.000	1624	29	0.014	8	
Equipment Delivery Truck	Low boy	10	1	-	150	11.3	74	0.037	2.2	15	0.0073	0.59	3.9	0.002	0.31	2.1	0.001	14	93	0.046	7	
Worker Light Truck	Light	2	2	-	30	1.0	0.3	0.0003	0.35	0.1	0.00009	0	0	0	0.06	0.0	0.000	7.2	1.9	0.002	7	
<b>Maxima and Subtotals (Shelter Placement)</b>							85	0.043		16	0.0081		5.0	0.003		2.8	0.00		123	0.06		
<b>General Construction Activities</b>																						
Compactor	<25 hp	6	12	1	-	8	0.11	0.00065	227	3.0	0.0180	1.4	0.02	0.0001	0	0	0	6350	84	0.504	8	
Equipment Delivery Truck	Low boy	1	2	-	30	11.3	1.5	0.001	2.2	0.3	0.0003	0.59	0.1	0.0001	0.31	0.04	0.00004	14	1.9	0.002	7	
Construction Generator	<50 hp	8	12	1	-	0.02	0.0003	0.000002	0.002	0.00004	0.0000002	0.001	0.00002	0.0000001	0.002	0.00004	0.0000002	0.01	0.0002	0.000001	8	
Water Truck	4500 gal.	1	3	-	30	11.3	1.5	0.002	2.2	0.29	0.0004	0.59	0.08	0.0001	0.31	0.04	0.00006	14.0	1.9	0.003	6	
Worker Light Truck	Light	1	33	-	30	1.0	0.13	0.002	0.35	0.0	0.0008	0	0	0	0.06	0.008	0.0001	7.2	1.0	0.016	7	
<b>Maxima and Subtotals (General Construction)</b>							3.2	0.007		3.6	0.0195		0.2	0.0003		0.16	0.0002		89	0.52		
<b>Maxima and Subtotals, Construction Engine Emissions<sup>(3)</sup></b>							85	0.40		16	0.061		5	0.01		3	0.03		123	0.52	0.00	
<b>Total Construction Emissions (Fugitive plus exhaust)</b>								0.40			0.061			25	0.44			0.03			0.52	
<b>Construction Thresholds</b>								--			--		82 lb/day			--				--		
<b>Insignificant Impact<sup>(9)</sup></b>								Yes			Yes		Yes			Yes			Yes			

**Construction Fugitive Dust Emissions**

SOURCE	DAILY AMOUNT (hours)	DAYS OF ACTIVITY	AREA OF GRADING / TRENCHING	PM <sub>10</sub> EMISSIONS			NOTES
				EF	(daily lbs)	(total tons)	
Site Grading	8	13	0.27 acres	39.4 lb/acre-day	11	0.068	12
Access Road Construction and Use	8	34	0.46 acres	39.4 lb/acre-day	18	0.308	13
Trenching - Cable Installation	8	12	-	0.51 lb/hr	4.1	0.024	
Wind Erosion	24	29	0.29 acres	6.6 lb/acre-day	1.9	0.028	11
<b>Subtotal, Construction Fugitive Emissions<sup>(3)</sup></b>					20	0.43	15
<b>Total PM10 Construction Emissions (Engine Exhaust and Fugitive)<sup>(3)</sup></b>						0.44	

(Continued)

Operation Emissions <sup>(4)</sup>

SOURCE	SIZE / GROSS HP	DAILY AMOUNT (hours)	DAYS OF ACTIVITY	NUMBER OF UNITS	ONE-WAY DISTANCE (miles)	NO <sub>x</sub>			ROG			PM <sub>10</sub>			SO <sub>x</sub>			CO			NOTES
						EF	Daily	Annual	EF	Daily	Annual	EF	Daily	Annual	EF	Daily	Annual	EF	Daily	Annual	
						(g/hr) <sup>(2)</sup>	(lbs/day)	(tons/year)	(g/hr) <sup>(2)</sup>	(lbs/day)	(tons/year)	(g/hr) <sup>(2)</sup>	(lbs/day)	(tons/year)	(g/hr) <sup>(2)</sup>	(lbs/day)	(tons/year)	(g/hr) <sup>(2)</sup>	(lbs/day)	(tons/year)	
Emergency Generator	337 (300 KW)	0.5	60	1		2,325	2.6	0.08	337	0.37	0.011	135	0.15	0.004	313	0.35	0.010	2,865	3.2	0.09	6,14
Worker Light Truck	Light	-	60	1	30	1.0	0.13	0.004	0.35	0.05	0.001	0	0	0	0.06	0.01	0.0002	7.2	0.96	0.03	7
<b>Total Operation Emissions <sup>(5)</sup></b>							2.70	0.08		0.42	0.013		0.15	0.004		0.35	0.011		4.1	0.12	
<b>Operation Thresholds</b>						Exempt			Exempt			Exempt			Exempt			Exempt			
<b>Insignificant Impact <sup>(10)</sup></b>						Yes			Yes			Yes			Yes			Yes			

'-' = Not applicable

- Unit abbreviations: g/hr = grams per hour, lb/day = pounds per day, tpy = tons per year, tpq = tons per quarter
- (1) Daily amount is measured in hours for off-road construction equipment (e.g., grader), and in number of trips for on-road vehicles (e.g., worker light-truck).
  - (2) Emission factors are in grams per hour for off-road equipment, and in grams per mile for on-road vehicles.
  - (3) Construction engine emission subtotals are for the complete project. Major pieces of construction off-road equipment (e.g., grader, dozer) are used consecutively, not concurrently.
  - (4) Operation and construction will not occur simultaneously, and hence, the emissions are not additive.
  - (5) Operational emission totals are for the project. Only one generator will be tested on a single day.
  - (6) Emission factors are from Caterpillar Corp.
  - (7) EMFAC7G Emission Factors (1998, 15mph, 75°F)
  - (8) SCAQMD CEQA Handbook, Table A9-8-B
  - (9) Construction emissions have insignificant impact when no emission of a major piece of off-road equipment exceeds threshold (i.e., major pieces are used consequently, not concurrently).
  - (10) Operation emissions have an insignificant impact if emergency generators are exempt from regulatory limits or if no regulations apply.
  - (11) Number of days subject to wind erosion equal to days for trenching.
  - (12) Area to be graded is sum of 115-foot by 66-foot fenced compound and 10-foot wide perimeter band.
  - (13) Access road assumed to be 1000 ft long and 10 ft wide.
  - (14) The 25-minute test cycle will be conducted mostly at 50 percent load. To be conservative, the horsepower is stated and emissions are calculated at 75 percent load.
  - (15) Daily construction fugitive emissions includes the specific activity plus wind erosion.