

Appendix D Air Quality and Greenhouse Gas Calculations

**DYNEGY - MORRO BAY MARINE TERMINAL
CRITERIA POLLUTANTS & GREENHOUSE GAS EMISSIONS
TABLE 1: EMISSIONS SUMMARY**

Source ID	Source	Peak Day Emissions, lbs/day										Annual Emissions, tons/yr											
		NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂	MTCO ₂ e	
2	Pre-Project Debris Survey	25.40	1.02	1.12	1.12	1.26	19.18	4.84	0.02	0.12	2,833.7	0.025	0.001	0.001	0.001	0.001	0.019	0.005	0.000	0.000	2.834	2.579	
3	Onshore Decommissioning Work - Dune Segment Cementing	16.08	1.79	0.55	0.55	1.34	12.06	0.03	0.04	0.24	5,117.6	0.041	0.006	0.002	0.002	0.003	0.057	0.000	0.000	0.001	21.607	19.682	
4	Onshore Decommissioning Work - Thrust Block Demolition	20.72	1.27	0.34	0.33	0.73	7.73	0.01	0.04	0.18	7,482.1	0.027	0.002	0.001	0.001	0.001	0.014	0.000	0.000	0.000	10.790	9.815	
5	Onshore Decommissioning Work - Beach Segment Removal	32.68	5.37	1.26	1.23	3.96	29.46	0.09	0.11	0.66	13,179.0	0.245	0.040	0.009	0.009	0.030	0.221	0.001	0.001	0.005	98.843	89.999	
6	Offshore Decommissioning Work - 24" Pipeline Removal	141.16	13.20	6.30	6.30	9.80	116.62	9.22	0.27	1.58	33,738.4	2.117	0.198	0.095	0.094	0.147	1.749	0.138	0.004	0.024	506.076	460.719	
7	Offshore Decommissioning Work - 16" Pipeline Removal	141.16	13.20	6.30	6.30	9.80	116.62	9.22	0.27	1.58	33,738.4	2.073	0.197	0.094	0.094	0.147	1.746	0.138	0.004	0.024	493.555	449.348	
8	Surf Zone Decommissioning Work - Offshore DBR Spread	153.36	16.62	6.33	6.33	12.80	113.61	6.05	0.31	1.88	39,055.6	0.895	0.094	0.039	0.039	0.070	0.737	0.045	0.002	0.011	231.407	210.695	
9	Surf Zone Decommissioning Work - Onshore DBR Spread	103.33	14.73	3.90	3.89	9.30	63.06	0.19	0.20	1.35	26,002.3	0.572	0.083	0.022	0.022	0.051	0.370	0.001	0.001	0.008	150.849	137.345	
10	Post-Project Debris Survey	12.74	0.52	0.56	0.56	0.63	9.87	2.42	0.01	0.07	1,554.5	0.013	0.001	0.001	0.001	0.001	0.010	0.002	0.000	0.000	1.555	1.415	
Average Pounds/Day		71.85	7.53	2.96	2.96	5.51	54.24	3.56	0.14	0.85	18,077.98	-	-	-	-	-	-	-	-	-	-	-	
Peak Day within San Luis Obispo County - 2018		153.36	16.62	6.33	6.33	12.80	116.62	9.22	0.31	1.88	39,055.64	-	-	-	-	-	-	-	-	-	-	-	
Total Annual Emissions within San Luis Obispo County		-	-	-	-	-	-	-	-	-	-	6.009	0.622	0.263	0.262	0.450	4.924	0.331	0.012	0.073	1517.514	-	
GHG - MTCO₂e conversions																				298	25	1	-
Total MTCO₂, tons/yr																				1,381.598			

Notes:
 - EPA Emission Factors for Greenhouse Gas Inventories (298 for N₂O, 25 for CH₄, and 1 for CO₂, April 2014, Table 9- Global Warming Potentials (GWPs) - http://www.epa.gov/sites/production/files/2015-07/documents/emission-factors_2014.pdf

- NO_x - Oxides of Nitrogen
- ROG - Reactive Organic Gases
- PM_{2.5} - Particulate Matter 2.5 Microns or Less
- PM₁₀ - Particulate Matter 10 Microns or Less
- DPM - Diesel Particulate Matter
- CO - carbon monoxide
- SO₂ - Sulfur Dioxide
- N₂O - Nitrous Oxide
- CH₄ - Methane
- CO₂ - Carbon Dioxide

**DYNEGY - MORRO BAY MARINE TERMINAL
CRITERIA POLLUTANTS & GREENHOUSE GAS EMISSIONS
TABLE 2: PRE-PROJECT DEBRIS SURVEY**

OFF-ROAD SOURCES

Source	BHP	Load Factor	Number	Hours/Day	Duration (days)	Emission Factors (g/bhp-hr)										Emissions (lb/day)										Total Emissions (tons)									
						NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂
Supply Boat - Main Engine	298	38	2	10	2	5.071	0.201	0.224	0.224	0.253	3.729	0.969	0.004	0.021	512	25.32	1.005	1.117	1.117	1.261	18.617	4.840	0.021	0.105	2,558	0.025	0.001	0.001	0.001	0.001	0.019	0.005	0.000	0.000	2.558
Total																25.32	1.005	1.117	1.117	1.261	18.617	4.840	0.021	0.105	2,558	0.025	0.001	0.001	0.001	0.019	0.005	0.000	0.000	2.558	

ON-ROAD SOURCES

Source	Peak Round Trips/Day	Average Round Trips/Day	Number of Vehicles	Length of Round Trip (miles)	Duration (days)	Emission Factors (g/mile)										Peak Day Emissions (lb/day)										Total Emissions (tons)									
						NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂
Passenger Vehicle - LDA	2.8	2.8	3	36	2	0.090	0.019	0.002	0.001	0.000	0.658	0.000	0.000	0.017	352	0.060	0.012	0.001	0.001	0.000	0.439	0.000	0.000	0.012	234	6E-05	1E-05	1E-06	1E-06	0.0000	0.0004	0.0000	3E-08	1E-05	0.234
Light-Duty Truck - LDT2	1.2	1.2	1	36	2	0.243	0.037	0.002	0.002	0.000	1.268	0.000	0.000	0.017	430	0.023	0.004	0.000	0.000	0.000	0.121	0.000	0.000	0.002	40.9	2E-05	4E-06	2E-07	2E-07	0.0000	0.0001	0.0000	4E-09	2E-06	0.041
Total																0.083	0.016	0.001	0.001	0.000	0.559	0.000	0.000	0.013	275.3	8E-05	2E-05	1E-06	1E-06	0.0000	0.0006	0.0000	0.000	1E-05	0.275

Notes:

- Hours per day and durations provided by Project Applicant.
- Round trips for LDA and LDT2 is estimated from San Luis Obsipo.

**DYNEGY - MORRO BAY MARINE TERMINAL
CRITERIA POLLUTANTS & GREENHOUSE GAS EMISSIONS
TABLE 3: DUNE SEGMENTS - CEMENTING**

OFF-ROAD SOURCES

Source	BHP	Load Factor	Number	Hours/Day	Duration (days)	Emission Factors (g/bhp-hr)										Emissions (lb/day)										Total Emissions (tons)										
						NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂	
Cement Pump	220	74	1	12	2	2.624	0.242	0.075	0.075	0.253	1.065	0.006	0.004	0.021	568	11.30	1.042	0.323	0.323	1.087	4.587	0.026	0.018	0.090	2,448	0.011	0.001	0.000	0.000	0.001	0.005	0.000	0.000	0.000	0.000	2.448
Rough Terrain (R/T) Crane	173	43	1	4	15	3.557	0.532	0.200	0.200	0.253	3.371	0.006	0.004	0.048	568	2.33	0.349	0.131	0.131	0.166	2.211	0.004	0.003	0.031	372.8	0.018	0.003	0.001	0.001	0.001	0.017	0.000	0.000	0.000	0.000	2.796
Light Plant	14	74	1	5	4	4.728	0.679	0.237	0.237	0.253	3.580	0.008	0.004	0.041	568	0.54	0.078	0.027	0.027	0.029	0.409	0.001	0.000	0.005	64.9	0.001	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.130
Welding Machine	25	45	2	5	10	4.661	0.807	0.232	0.232	0.253	2.531	0.007	0.004	0.072	568	1.16	0.200	0.058	0.058	0.063	0.628	0.002	0.001	0.018	140.9	0.006	0.001	0.000	0.000	0.000	0.003	0.000	0.000	0.000	0.000	0.705
Total															15.33	1.669	0.539	0.539	1.345	7.83	0.032	0.022	0.144	3,026	0.036	0.005	0.002	0.002	0.003	0.025	0.000	0.000	0.000	0.000	6.08	

ON-ROAD SOURCES

Source	Peak Round Trips/Day	Average Round Trips/Day	Number of Vehicles	Length of Round Trip (miles)	Duration (days)	Emission Factors (g/mile)										Peak Day Emissions (lb/day)										Total Emissions (tons)										
						NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂	
Passenger Vehicle - LDA	7.7	7.7	8	36	15	0.090	0.019	0.002	0.001	0.000	0.658	0.000	0.004	0.017	352	0.440	0.091	0.008	0.007	0.000	3.216	0.000	0.018	0.085	1719	0.003	0.001	0.000	0.000	0.000	0.024	0.000	0.000	0.000	0.000	12.892
Light-Duty Truck - LDT2	3.3	3.3	3	36	15	0.243	0.037	0.002	0.002	0.000	1.268	0.000	0.004	0.017	430	0.191	0.029	0.001	0.001	0.000	0.996	0.000	0.003	0.014	337.6	0.001	0.000	0.000	0.000	0.000	0.007	0.000	0.000	0.000	0.000	2.532
Heavy Duty Trucks (Cement) - T7TC	1	1	1	10	6	5.594	0.091	0.049	0.047	0.000	0.373	0.000	0.005	0.005	1577	0.123	0.002	0.001	0.001	0.000	0.008	0.000	0.000	0.000	34.8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.104	
Total															0.754	0.122	0.010	0.009	0.000	4.221	0.000	0.021	0.098	2,091	0.005	0.001	0.000	0.000	0.000	0.032	0.000	0.000	0.000	0.000	15.529	

Notes:

- Hours per day and durations provided by Project Applicant.
- Round trips for LDA and LDT2 is estimated from San Luis Obsipo.
- Estimated cement truck to originate from concrete facility in the Morro Bay Area, 10 mile round trip

**DYNEGY - MORRO BAY MARINE TERMINAL
CRITERIA POLLUTANTS & GREENHOUSE GAS EMISSIONS
TABLE 4: THRUST BLOCK DEMOLITION**

OFF-ROAD SOURCES

Source	BHP	Load Factor	Number	Hours/Day	Duration (days)	Emission Factors (g/bhp-hr)										Emissions (lb/day)										Total Emissions (tons)										
						NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂	
Excavator	286	57	1	8	4	1.916	0.325	0.069	0.069	0.253	1.140	0.005	0.004	0.029	568	5.51	0.934	0.198	0.198	0.726	3.278	0.014	0.012	0.083	1,634	0.011	0.002	0.000	0.000	0.001	0.007	0.000	0.000	0.000	0.000	3.268
Total																5.51	0.934	0.198	0.198	0.726	3.278	0.014	0.012	0.083	1,634	0.011	0.002	0.000	0.000	0.001	0.007	0.000	0.000	0.000	0.000	3.27

ON-ROAD SOURCES

Source	Peak Round Trips/Day	Average Round Trips/Day	Number of Vehicles	Length of Round Trip (miles)	Duration (days)	Emission Factors (g/mile)										Peak Day Emissions (lb/day)										Total Emissions (tons)										
						NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂	
Passenger Vehicle - LDA	7.0	7.0	7	36	4	0.090	0.019	0.002	0.001	0.000	0.658	0.000	0.004	0.017	352	0.350	0.073	0.006	0.006	0.000	2,558	0.000	0.014	0.067	1,367	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.735
Light-Duty Truck - LDT2	3.0	3.0	3	36	4	0.243	0.037	0.002	0.002	0.000	1.268	0.000	0.004	0.017	430	0.173	0.026	0.001	0.001	0.000	0.906	0.000	0.003	0.012	306.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.614
Heavy Duty Trucks (End Dump) - T7TC	2.0	2.0	2	300	2	5.553	0.091	0.049	0.047	0.000	0.373	0.000	0.005	0.005	1578	14.690	0.241	0.130	0.125	0.000	0.988	0.000	0.013	0.013	4,174	0.015	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	4.174
Total																15.213	0.340	0.138	0.131	0.000	4.452	0.000	0.029	0.093	5,848	0.016	0.000	0.000	0.000	0.000	0.008	0.000	0.000	0.000	0.000	7.522

Notes:

- Hours per day and durations provided by Project Applicant.
- Round trips for LDA and LDT2 is estimated from San Luis Obsipo.
- Estimated trucks to transport loads to B&B Metals in Bakersfield, 300 mile round trip.

**DYNEGY - MORRO BAY MARINE TERMINAL
CRITERIA POLLUTANTS & GREENHOUSE GAS EMISSIONS
TABLE 5: BEACH SEGMENT REMOVAL**

OFF-ROAD SOURCES

Source	BHP	Load Factor	Number	Hours/Day	Duration (days)	Emission Factors (g/bhp-hr)										Emissions (lb/day)										Total Emissions (tons)									
						NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂
Excavator	286	57	2	8	15	1.916	0.325	0.069	0.069	0.253	1.140	0.005	0.004	0.029	568	11.02	1.869	0.397	0.397	1.452	6.555	0.029	0.024	0.167	3,268	0.083	0.014	0.003	0.003	0.011	0.049	0.000	0.000	0.001	24.509
Rough Terrain (R/T) Crane	173	43	1	8	15	3.557	0.532	0.200	0.200	0.253	3.371	0.006	0.004	0.048	568	4.667	0.698	0.262	0.262	0.331	4.423	0.008	0.006	0.063	745.6	0.035	0.005	0.002	0.002	0.002	0.033	0.000	0.000	0.000	5.592
Wheel Loader	907	54	1	8	15	1.812	0.295	0.067	0.064	0.253	1.115	0.006	0.004	0.026	568	15.65	2.548	0.579	0.553	2.181	9.632	0.052	0.036	0.225	4,909	0.117	0.019	0.004	0.004	0.016	0.072	0.000	0.000	0.002	36.818
Total																31.3	5.12	1.238	1.212	3.964	20.61	0.088	0.066	0.454	8,923	0.235	0.038	0.009	0.009	0.030	0.155	0.001	0.000	0.003	66.92

ON-ROAD SOURCES

Source	Peak Round Trips/Day	Average Round Trips/Day	Number of Vehicles	Length of Round Trip (miles)	Duration (days)	Emission Factors (g/mile)										Peak Day Emissions (lb/day)										Total Emissions (tons)									
						NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂
Passenger Vehicle - LDA	11.2	11.2	11	36	15	0.090	0.019	0.002	0.001	0.000	0.658	0.000	0.004	0.017	352	0.879	0.183	0.015	0.014	0.000	6.43	0.000	0.035	0.169	3,438	0.007	0.001	0.000	0.000	0.000	0.048	0.000	0.000	0.001	25.785
Light-Duty Truck - LDT2	4.8	4.8	5	36	15	0.243	0.037	0.002	0.002	0.000	1.268	0.000	0.004	0.017	430	0.462	0.071	0.003	0.003	0.000	2.416	0.000	0.007	0.033	818	0.003	0.001	0.000	0.000	0.000	0.018	0.000	0.000	0.000	6.139
Total																1.342	0.253	0.019	0.017	0.000	8.85	0.000	0.042	0.202	4,256	0.010	0.002	0.000	0.000	0.000	0.066	0.000	0.000	0.002	31.923

Notes:

- Hours per day and durations provided by Project Applicant.
- Round trips for LDA and LDT2 is estimated from San Luis Obsipo.

**DYNEGY - MORRO BAY MARINE TERMINAL
CRITERIA POLLUTANTS & GREENHOUSE GAS EMISSIONS
TABLE 6: OFFSHORE SEGMENT REMOVAL - 24" PIPELINE**

OFF-ROAD SOURCES

Source	BHP	Load Factor	Number	Hours/Day	Duration (days)	Emission Factors (g/bhp-hr)										Emissions (lb/day)										Total Emissions (tons)									
						NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂
300kW Electrical Generator (Toyo Pump)	402	74	1	10	30	2.310	0.211	0.069	0.069	0.253	1.028	0.005	0.004	0.027	598	15.15	1.384	0.453	0.453	1.656	6.742	0.033	0.028	0.177	3924	0.227	0.021	0.007	0.007	0.025	0.101	0.000	0.000	0.003	58.857
Air Compressor - Diver's 5120	47	78	1	10	30	4.707	1.300	0.329	0.329	0.253	5.429	0.007	0.004	0.021	598	3.804	1.051	0.266	0.266	0.204	4.388	0.006	0.003	0.017	483.5	0.057	0.016	0.004	0.004	0.003	0.066	0.000	0.000	0.000	7.253
Air Compressor - Industrial 750CFM	275	78	1	4	30	2.465	0.307	0.083	0.083	0.253	1.101	0.005	0.004	0.029	598	4.663	0.581	0.157	0.157	0.478	2.083	0.009	0.008	0.055	1132	0.070	0.009	0.002	0.002	0.007	0.031	0.000	0.000	0.001	16.976
Anchor Winches - RB-90s	238	62	2	8	30	1.788	0.250	0.061	0.061	0.253	1.060	0.005	0.004	0.021	598	9.306	1.301	0.318	0.318	1.314	5.517	0.026	0.022	0.109	3114	0.140	0.020	0.005	0.005	0.020	0.083	0.000	0.000	0.002	46.712
Crew Boat	500	38	2	4	30	5.071	0.201	0.224	0.224	0.253	3.729	0.969	0.004	0.021	512	16.992	0.675	0.750	0.750	0.846	12.494	3.249	0.014	0.070	1717.0	0.255	0.010	0.011	0.011	0.013	0.187	0.049	0.000	0.001	25.756
Crew Boat Generator	75	74	1	24	30	3.752	0.461	0.239	0.239	0.253	3.418	0.006	0.004	0.041	568	11.018	1.354	0.702	0.702	0.741	10.037	0.018	0.012	0.120	1669	0.165	0.020	0.011	0.011	0.011	0.151	0.000	0.000	0.002	25.032
Derrick Barge - Crane	150	43	1	10	30	3.557	0.532	0.200	0.200	0.253	3.371	0.006	0.004	0.048	568	5.058	0.756	0.284	0.284	0.359	4.793	0.009	0.006	0.068	808.1	0.076	0.011	0.004	0.004	0.005	0.072	0.000	0.000	0.001	12.122
Derrick Barge - Generator	100	74	1	24	30	3.752	0.461	0.239	0.239	0.253	3.418	0.006	0.004	0.041	568	14.690	1.805	0.936	0.936	0.989	13.383	0.023	0.016	0.161	2225	0.220	0.027	0.014	0.014	0.015	0.201	0.000	0.000	0.002	33.377
Jet Pump	250	74	1	4	30	2.624	0.242	0.075	0.075	0.253	1.065	0.006	0.004	0.021	568	4.281	0.395	0.122	0.122	0.412	1.737	0.010	0.007	0.034	927.1	0.064	0.006	0.002	0.002	0.006	0.026	0.000	0.000	0.001	13.907
Pull Winch - RB-90	238	62	1	6	30	1.788	0.250	0.061	0.061	0.253	1.060	0.005	0.004	0.021	568	3.490	0.488	0.119	0.119	0.493	2.069	0.010	0.008	0.041	1109	0.052	0.007	0.002	0.002	0.007	0.031	0.000	0.000	0.001	16.639
Tugboat - Main Engine	500	68	2	4	30	5.071	0.201	0.224	0.224	0.253	3.729	0.969	0.004	0.021	512	30.41	1.207	1.342	1.342	1.514	22.36	5.813	0.025	0.126	3073	0.456	0.018	0.020	0.020	0.023	0.335	0.087	0.000	0.002	46.089
Tugboat - Generator	75	74	1	24	30	3.752	0.461	0.239	0.239	0.253	3.418	0.006	0.004	0.041	568	11.02	1.354	0.702	0.702	0.741	10.04	0.018	0.012	0.120	1669	0.165	0.020	0.011	0.011	0.011	0.151	0.000	0.000	0.002	25.032
Welding Machine	25	45	1	8	30	4.661	0.807	0.232	0.232	0.253	2.531	0.007	0.004	0.072	568	0.925	0.160	0.046	0.046	0.050	0.502	0.001	0.001	0.014	112.8	0.014	0.002	0.001	0.001	0.001	0.008	0.000	0.000	0.000	1.691
Total															130.8	12.510	6.195	6.195	9.798	96.14	9.224	0.163	1.114	21963	1.962	0.188	0.093	0.093	0.147	1.442	0.138	0.002	0.017	329.44	

ON-ROAD SOURCES

Source	Peak Round Trips/Day	Average Round Trips/Day	Number of Vehicles	Length of Round Trip (miles)	Duration (days)	Emission Factors (g/mile)										Peak Day Emissions (lb/day)										Total Emissions (tons)									
						NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂
Passenger Vehicle - LDA	16.8	16.8	17	36	30	0.090	0.019	0.002	0.001	0.000	0.658	0.000	0.004	0.017	352	2.039	0.423	0.035	0.033	0.000	14.911	0.000	0.082	0.392	7970	0.031	0.006	0.001	0.000	0.000	0.224	0.000	0.001	0.006	#####
Light-Duty Truck - LDT2	7.2	7.2	7	36	30	0.243	0.037	0.002	0.002	0.000	1.268	0.000	0.004	0.017	430	0.971	0.148	0.007	0.007	0.000	5.073	0.000	0.014	0.069	1719	0.015	0.002	0.000	0.000	0.000	0.076	0.000	0.000	0.001	25.782
Heavy Duty Trucks (End Dump) - T7T	1	1	2	300	30	5.553	0.091	0.049	0.047	0.000	0.373	0.000	0.005	0.005	1578	7.345	0.121	0.065	0.062	0.000	0.494	0.000	0.006	0.007	2087	0.110	0.002	0.001	0.001	0.000	0.007	0.000	0.000	0.000	31.304
Total															10.355	0.692	0.108	0.102	0.000	20.478	0.000	0.102	0.468	11776	0.155	0.010	0.002	0.002	0.000	0.307	0.000	0.002	0.007	#####	

Notes:

- Hours per day and durations provided by Project Applicant.
- Round trips for LDA and LDT2 is estimated from San Luis Obsipo.
- Estimated trucks to transport loads to B&B Metals in Bakersfield, 300 mile round trip.

**DYNEGY - MORRO BAY MARINE TERMINAL
CRITERIA POLLUTANTS & GREENHOUSE GAS EMISSIONS
TABLE 7: OFFSHORE SEGMENT REMOVAL - 16" PIPELINE**

OFF-ROAD SOURCES

Source	BHP	Load Factor	Number	Hours/Day	Duration (days)	Emission Factors (g/bhp-hr)										Emissions (lb/day)										Total Emissions (tons)									
						NO _x	ROG	PM ₁₀	PM _{2.5}	CO	DPM	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂
300kW Electrical Generator (Toyo Pump)	402	74	1	10	30	2.310	0.211	0.069	0.069	0.253	1.028	0.005	0.004	0.027	598	15.15	1.384	0.453	0.453	1.656	6.742	0.033	0.028	0.177	3924	0.227	0.021	0.007	0.007	0.025	0.101	0.000	0.000	0.003	58.857
Air Compressor - Diver's 5120	47	78	1	10	30	4.707	1.300	0.329	0.329	0.253	5.429	0.007	0.004	0.021	598	3.804	1.051	0.266	0.266	0.204	4.388	0.006	0.003	0.017	483.5	0.057	0.016	0.004	0.004	0.003	0.066	0.000	0.000	0.000	7.253
Air Compressor - Industrial 750CFM	275	78	1	4	30	2.465	0.307	0.083	0.083	0.253	1.101	0.005	0.004	0.029	598	4.663	0.581	0.157	0.157	0.478	2.083	0.009	0.008	0.055	1132	0.070	0.009	0.002	0.002	0.007	0.031	0.000	0.000	0.001	16.976
Anchor Winches - RB-90s	238	62	2	8	30	1.788	0.250	0.061	0.061	0.253	1.060	0.005	0.004	0.021	598	9.306	1.301	0.318	0.318	1.314	5.517	0.026	0.022	0.109	3114	0.140	0.020	0.005	0.005	0.020	0.083	0.000	0.000	0.002	46.712
Crew Boat	500	38	2	4	30	5.071	0.201	0.224	0.224	0.253	3.729	0.969	0.004	0.021	512	16.992	0.675	0.750	0.750	0.846	12.494	3.249	0.014	0.070	1717.0	0.255	0.010	0.011	0.011	0.013	0.187	0.049	0.000	0.001	25.756
Crew Boat Generator	75	74	1	24	30	3.752	0.461	0.239	0.239	0.253	3.418	0.006	0.004	0.041	568	11.018	1.354	0.702	0.702	0.741	10.037	0.018	0.012	0.120	1669	0.165	0.020	0.011	0.011	0.011	0.151	0.000	0.000	0.002	25.032
Derrick Barge - Crane	150	43	1	10	30	3.557	0.532	0.200	0.200	0.253	3.371	0.006	0.004	0.048	568	5.058	0.756	0.284	0.284	0.359	4.793	0.009	0.006	0.068	808.1	0.076	0.011	0.004	0.004	0.005	0.072	0.000	0.000	0.001	12.122
Derrick Barge - Generator	100	74	1	24	30	3.752	0.461	0.239	0.239	0.253	3.418	0.006	0.004	0.041	568	14.690	1.805	0.936	0.936	0.989	13.383	0.023	0.016	0.161	2225	0.220	0.027	0.014	0.014	0.015	0.201	0.000	0.000	0.002	33.377
Jet Pump	250	74	1	4	30	2.624	0.242	0.075	0.075	0.253	1.065	0.006	0.004	0.021	568	4.281	0.395	0.122	0.122	0.412	1.737	0.010	0.007	0.034	927.1	0.064	0.006	0.002	0.002	0.006	0.026	0.000	0.000	0.001	13.907
Pull Winch - RB-90	238	62	1	6	30	1.788	0.250	0.061	0.061	0.253	1.060	0.005	0.004	0.021	568	3.490	0.488	0.119	0.119	0.493	2.069	0.010	0.008	0.041	1109	0.052	0.007	0.002	0.002	0.007	0.031	0.000	0.000	0.001	16.639
Tugboat - Main Engine	500	68	2	4	30	5.071	0.201	0.224	0.224	0.253	3.729	0.969	0.004	0.021	512	30.41	1.207	1.342	1.342	1.514	22.358	5.813	0.025	0.126	3073	0.456	0.018	0.020	0.020	0.023	0.335	0.087	0.000	0.002	46.089
Tugboat - Generator	75	74	1	24	30	3.752	0.461	0.239	0.239	0.253	3.418	0.006	0.004	0.041	568	11.02	1.354	0.702	0.702	0.741	10.037	0.018	0.012	0.120	1669	0.165	0.020	0.011	0.011	0.011	0.151	0.000	0.000	0.002	25.032
Welding Machine	25	45	1	8	30	4.661	0.807	0.232	0.232	0.253	2.531	0.007	0.004	0.072	568	0.925	0.160	0.046	0.046	0.050	0.502	0.001	0.001	0.014	112.8	0.014	0.002	0.001	0.001	0.001	0.008	0.000	0.000	0.000	1.691
Total																130.8	12.510	6.195	6.195	9.798	96.141	9.224	0.163	1.114	21963	1.962	0.188	0.093	0.093	0.147	1.442	0.138	0.002	0.017	329.44

ON-ROAD SOURCES

Source	Peak Round Trips/Day	Average Round Trips/Day	Number of Vehicles	Length of Round Trip (miles)	Duration (days)	Emission Factors (g/mile)										Peak Day Emissions (lb/day)										Total Emissions (tons)									
						NO _x	ROG	PM ₁₀	PM _{2.5}	CO	DPM	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂
Passenger Vehicle - LDA	16.8	16.8	17	36	30	0.090	0.019	0.002	0.001	0.000	0.658	0.000	0.004	0.017	352	2.039	0.423	0.035	0.033	0.000	14.911	0.000	0.082	0.392	7970	0.031	0.006	0.001	0.000	0.000	0.224	0.000	0.001	0.006	119.55
Light-Duty Truck - LDT2	7.2	7.2	7	36	30	0.243	0.037	0.002	0.002	0.000	1.268	0.000	0.004	0.017	430	0.971	0.148	0.007	0.007	0.000	5.073	0.000	0.014	0.069	1719	0.015	0.002	0.000	0.000	0.076	0.000	0.000	0.001	25.782	
Heavy Duty Trucks (End Dump) - T7TC	1	1	2	300	18	5.553	0.091	0.049	0.047	0.000	0.373	0.000	0.005	0.005	1578	7.345	0.121	0.065	0.062	0.000	0.494	0.000	0.006	0.007	2087	0.066	0.001	0.001	0.001	0.000	0.004	0.000	0.000	0.000	18.782
Total																10.355	0.692	0.108	0.102	0.000	20.478	0.000	0.102	0.468	11776	0.111	0.010	0.001	0.001	0.000	0.304	0.000	0.001	0.007	164.11

Notes:

- Hours per day and durations provided by Project Applicant.
- Round trips for LDA and LDT2 is estimated from San Luis Obsipo.
- Estimated trucks to transport loads to B&B Metals in Bakersfield, 300 mile round trip.

**DYNEGY - MORRO BAY MARINE TERMINAL
CRITERIA POLLUTANTS & GREENHOUSE GAS EMISSIONS
TABLE 8: SURF ZONE OFFSHORE DPR SPREAD**

OFF-ROAD SOURCES

Source	BHP	Load Factor	Number	Hours/Day	Duration (days)	Emission Factors (g/bhp-hr)										Emissions (lb/day)										Total Emissions (tons)									
						NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂
300kW Electrical Generator (Toyo Pump)	402	74	1	10	15	2.310	0.211	0.069	0.069	0.253	1.028	0.005	0.004	0.027	598	15.15	1.384	0.453	0.453	1.656	6.742	0.033	0.028	0.177	3924	0.114	0.010	0.003	0.003	0.012	0.051	0.000	0.000	0.001	29.428
Air Compressor - Diver's 5120	47	78	1	10	15	4.707	1.300	0.329	0.329	0.253	5.429	0.007	0.004	0.021	598	3.804	1.051	0.266	0.266	0.204	4.388	0.006	0.003	0.017	483.5	0.029	0.008	0.002	0.002	0.002	0.033	0.000	0.000	0.000	3.627
Air Compressor - Industrial 750CFM	275	78	1	10	10	2.465	0.307	0.083	0.083	0.253	1.101	0.005	0.004	0.029	598	11.657	1.452	0.392	0.392	1.194	5.206	0.024	0.020	0.137	2829	0.058	0.007	0.002	0.002	0.006	0.026	0.000	0.000	0.001	14.146
Air Compressor - Industrial 1300CFM	540	78	2	8	6	2.533	0.309	0.084	0.084	0.253	1.101	0.005	0.004	0.027	598	37.633	4.591	1.248	1.248	3.751	16.358	0.074	0.062	0.401	8889.1	0.113	0.014	0.004	0.004	0.011	0.049	0.000	0.000	0.001	26.667
Anchor Winches - RB-90s	238	62	2	4	15	1.788	0.250	0.061	0.061	0.253	1.060	0.005	0.004	0.021	598	4.653	0.651	0.159	0.159	0.657	2.759	0.013	0.011	0.055	1557	0.035	0.005	0.001	0.001	0.005	0.021	0.000	0.000	0.000	11.678
Derrick Barge - Crane	150	43	1	10	15	3.557	0.532	0.200	0.200	0.253	3.371	0.006	0.004	0.048	568	5.058	0.756	0.284	0.284	0.359	4.793	0.009	0.006	0.068	808.1	0.038	0.006	0.002	0.002	0.003	0.036	0.000	0.000	0.001	6.061
Derrick Barge - Generator	100	74	1	24	15	3.752	0.461	0.239	0.239	0.253	3.418	0.006	0.004	0.041	568	14.690	1.805	0.936	0.936	0.989	13.383	0.023	0.016	0.161	2225	0.110	0.014	0.007	0.007	0.007	0.100	0.000	0.000	0.001	16.688
Jet Pump	250	74	1	10	10	2.624	0.242	0.075	0.075	0.253	1.065	0.006	0.004	0.021	568	10.702	0.987	0.306	0.306	1.030	4.344	0.024	0.017	0.086	2317.8	0.054	0.005	0.002	0.002	0.005	0.022	0.000	0.000	0.000	11.589
Pull Winch - RB-90	238	62	1	8	4	1.788	0.250	0.061	0.061	0.253	1.060	0.005	0.004	0.021	568	4.653	0.651	0.159	0.159	0.657	2.759	0.013	0.011	0.055	1479	0.009	0.001	0.000	0.000	0.001	0.006	0.000	0.000	0.000	2.958
Tugboat - Main Engine	500	68	2	4	15	5.071	0.201	0.224	0.224	0.253	3.729	0.969	0.004	0.021	512	30.41	1.207	1.342	1.342	1.514	22.36	5.813	0.025	0.126	3073	0.228	0.009	0.010	0.010	0.011	0.168	0.044	0.000	0.001	23.045
Tugboat - Generator	75	74	1	24	15	3.752	0.461	0.239	0.239	0.253	3.418	0.006	0.004	0.041	568	11.02	1.354	0.702	0.702	0.741	10.04	0.018	0.012	0.120	1669	0.083	0.010	0.005	0.005	0.006	0.075	0.000	0.000	0.001	12.516
Welding Machine	25	45	1	8	6	4.661	0.807	0.232	0.232	0.253	2.531	0.007	0.004	0.072	568	0.925	0.160	0.046	0.046	0.050	0.502	0.001	0.001	0.014	112.8	0.003	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.338	
Total															150.4	16.048	6.292	6.292	12.803	93.63	6.051	0.213	1.417	29367	0.873	0.089	0.039	0.039	0.070	0.587	0.045	0.001	0.008	158.74	

ON-ROAD SOURCES

Source	Peak Round Trips/Day	Average Round Trips/Day	Number of Vehicles	Length of Round Trip (miles)	Duration (days)	Emission Factors (g/mile)										Peak Day Emissions (lb/day)										Total Emissions (tons)									
						NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂
Passenger Vehicle - LDA	16.8	16.8	17	36	15	0.090	0.019	0.002	0.001	0.000	0.658	0.000	0.004	0.017	352	2.039	0.423	0.035	0.033	0.000	14.911	0.000	0.082	0.392	7970	0.015	0.003	0.000	0.000	0.000	0.112	0.000	0.001	0.003	59.774
Light-Duty Truck - LDT2	7.2	7.2	7	36	15	0.243	0.037	0.002	0.002	0.000	1.268	0.000	0.004	0.017	430	0.971	0.148	0.007	0.007	0.000	5.073	0.000	0.014	0.069	1719	0.007	0.001	0.000	0.000	0.000	0.038	0.000	0.000	0.001	12.891
Total															3.010	0.571	0.043	0.039	0.000	19.98	0.000	0.096	0.461	9689	0.023	0.004	0.000	0.000	0.000	0.150	0.000	0.001	0.003	72.665	

Notes:

- Hours per day and durations provided by Project Applicant.
- Round trips for LDA and LDT2 is estimated from San Luis Obsipo.

**DYNEGY - MORRO BAY MARINE TERMINAL
CRITERIA POLLUTANTS & GREENHOUSE GAS EMISSIONS
TABLE 9: SURF ZONE ONSHORE DPR SPREAD**

OFF-ROAD SOURCES

Source	BHP	Load Factor	Number	Hours/Day	Duration (days)	Emission Factors (g/bhp-hr)										Emissions (lb/day)										Total Emissions (tons)									
						NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂
Air Compressor - Industrial 1300CFM	540	78	2	8	6	2.533	0.309	0.084	0.084	0.253	1.101	0.005	0.004	0.027	598	37.633	4.591	1.248	1.248	3.751	16.358	0.074	0.062	0.401	8889.1	0.113	0.014	0.004	0.004	0.011	0.049	0.000	0.000	0.001	26.667
Bulldozer	436	64	2	10	15	3.206	0.429	0.121	0.121	0.253	1.578	0.005	0.004	0.038	598	39.445	5.278	1.489	1.489	3.107	19.415	0.062	0.052	0.468	7361	0.296	0.040	0.011	0.011	0.023	0.146	0.000	0.000	0.004	55.209
Dewatering Pump -PowerPrime DV100C	49	74	3	8	10	4.422	0.973	0.267	0.267	0.253	4.397	0.007	0.004	0.021	568	8.484	1.867	0.512	0.512	0.484	8.436	0.013	0.008	0.040	1090.3	0.042	0.009	0.003	0.003	0.002	0.042	0.000	0.000	0.000	5.452
Excavator	286	57	2	10	15	1.916	0.325	0.069	0.069	0.253	1.140	0.005	0.004	0.029	568	13.772	2.336	0.496	0.496	1.815	8.194	0.036	0.030	0.208	4085	0.103	0.018	0.004	0.004	0.014	0.061	0.000	0.000	0.002	30.637
Light Plant	14	74	2	8	6	4.728	0.679	0.237	0.237	0.253	3.580	0.008	0.004	0.041	568	1.73	0.248	0.087	0.087	0.092	1.31	0.003	0.002	0.015	208	0.005	0.001	0.000	0.000	0.000	0.004	0.000	0.000	0.000	0.623
Welding Machine	25	45	1	8	6	4.661	0.807	0.232	0.232	0.253	2.531	0.007	0.004	0.072	568	0.925	0.160	0.046	0.046	0.050	0.502	0.001	0.001	0.014	112.8	0.003	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.338
Total																102.0	14.480	3.878	3.878	9.300	54.21	0.189	0.155	1.147	21746	0.562	0.081	0.022	0.022	0.051	0.304	0.001	0.001	0.007	118.93

ON-ROAD SOURCES

Source	Peak Round Trips/Day	Average Round Trips/Day	Number of Vehicles	Length of Round Trip (miles)	Duration (days)	Emission Factors (g/mile)										Peak Day Emissions (lb/day)										Total Emissions (tons)									
						NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂
Passenger Vehicle - LDA	11.2	11.2	11	36	15	0.090	0.019	0.002	0.001	0.000	0.658	0.000	0.004	0.017	352	0.879	0.183	0.015	0.014	0.000	6.432	0.000	0.035	0.169	3438	0.007	0.001	0.000	0.000	0.000	0.048	0.000	0.000	0.001	25.785
Light-Duty Truck - LDT2	4.8	4.8	5	36	15	0.243	0.037	0.002	0.002	0.000	1.268	0.000	0.004	0.017	430	0.462	0.071	0.003	0.003	0.000	2.416	0.000	0.007	0.033	818	0.003	0.001	0.000	0.000	0.000	0.018	0.000	0.000	0.000	6.139
Total																1.342	0.253	0.019	0.017	0.000	8.85	0.000	0.042	0.202	4256	0.01	0.002	1E-04	1E-04	0.000	0.066	0.000	0.000	0.002	31.92

Notes:

- Hours per day and durations provided by Project Applicant.
- Round trips for LDA and LDT2 is estimated from San Luis Obsipo.

**DYNEGY - MORRO BAY MARINE TERMINAL
CRITERIA POLLUTANTS & GREENHOUSE GAS EMISSIONS
TABLE 11: EMISSION FACTORS AND ASSUMPTIONS**

Onsite	Source	Operational Horsepower	Load Factor	Emission Factors, g/bhp-hr										Emission Factors, lb/bhp-hr									
				NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂
300kW Electrical Generator (Toyo Pump)		402	74	2.310	0.211	0.069	0.069	0.253	1.028	0.005	0.0042	0.027	598.3	0.0051	0.0005	0.0002	0.0002	0.0006	0.0023	0.00001	0.00001	0.00006	1.3190
Air Compressor - Diver's 5120		47	78	4.707	1.300	0.329	0.329	0.253	5.429	0.007	0.0042	0.021	598.3	0.0104	0.0029	0.0007	0.0007	0.0006	0.0120	0.00002	0.00001	0.00005	1.3190
Air Compressor - Industrial 1300CFM		540	78	2.533	0.309	0.084	0.084	0.253	1.101	0.005	0.0042	0.027	598.3	0.0056	0.0007	0.0002	0.0002	0.0006	0.0024	0.00001	0.00001	0.00006	1.3190
Air Compressor - Industrial 750CFM		275	78	2.465	0.307	0.083	0.083	0.253	1.101	0.005	0.0042	0.029	598.3	0.0054	0.0007	0.0002	0.0002	0.0006	0.0024	0.00001	0.00001	0.00006	1.3190
Anchor Winches - RB-90s		238	62	1.788	0.250	0.061	0.061	0.253	1.060	0.005	0.0042	0.021	598.3	0.0039	0.0006	0.0001	0.0001	0.0006	0.0023	0.00001	0.00001	0.00005	1.3190
Bulldozer		436	64	3.206	0.429	0.121	0.121	0.253	1.578	0.005	0.0042	0.038	598.3	0.0071	0.0009	0.0003	0.0003	0.0006	0.0035	0.00001	0.00001	0.00008	1.3190
Cement Pump		220	74	2.624	0.242	0.075	0.075	0.253	1.065	0.006	0.0042	0.021	568.3	0.0058	0.0005	0.0002	0.0002	0.0006	0.0023	0.00001	0.00001	0.00005	1.2529
Crew Boat		500	38	5.071	0.201	0.224	0.224	0.253	3.729	0.969	0.0042	0.021	512.4	0.0112	0.0004	0.0005	0.0005	0.0006	0.0082	0.00214	0.00001	0.00005	1.1296
Crew Boat Generator		75	74	3.752	0.461	0.239	0.239	0.253	3.418	0.006	0.0042	0.041	568.3	0.0083	0.0010	0.0005	0.0005	0.0006	0.0075	0.00001	0.00001	0.00009	1.2529
Derrick Barge - Crane		150	43	3.557	0.532	0.200	0.200	0.253	3.371	0.006	0.0042	0.048	568.3	0.0078	0.0012	0.0004	0.0004	0.0006	0.0074	0.00001	0.00001	0.00011	1.2529
Derrick Barge - Generator		100	74	3.752	0.461	0.239	0.239	0.253	3.418	0.006	0.0042	0.041	568.3	0.0083	0.0010	0.0005	0.0005	0.0006	0.0075	0.00001	0.00001	0.00009	1.2529
Dewatering Pump -PowerPrime DV100C		49	74	4.422	0.973	0.267	0.267	0.253	4.397	0.007	0.0042	0.021	568.3	0.0097	0.0021	0.0006	0.0006	0.0006	0.0097	0.00002	0.00001	0.00005	1.2529
Excavator		286	57	1.916	0.325	0.069	0.069	0.253	1.140	0.005	0.0042	0.029	568.3	0.0042	0.0007	0.0002	0.0002	0.0006	0.0025	0.00001	0.00001	0.00006	1.2529
Jet Pump		250	74	2.624	0.242	0.075	0.075	0.253	1.065	0.006	0.0042	0.021	568.3	0.0058	0.0005	0.0002	0.0002	0.0006	0.0023	0.00001	0.00001	0.00005	1.2529
Light Plant		14	74	4.728	0.679	0.237	0.237	0.253	3.580	0.008	0.0042	0.041	568.3	0.0104	0.0015	0.0005	0.0005	0.0006	0.0079	0.00002	0.00001	0.00009	1.2529
Pull Winch - RB-90		238	62	1.788	0.250	0.061	0.061	0.253	1.060	0.005	0.0042	0.021	568.3	0.0039	0.0006	0.0001	0.0001	0.0006	0.0023	0.00001	0.00001	0.00005	1.2529
Rough Terrain (R/T) Crane		173	43	3.557	0.532	0.200	0.200	0.253	3.371	0.006	0.0042	0.048	568.3	0.0078	0.0012	0.0004	0.0004	0.0006	0.0074	0.00001	0.00001	0.00011	1.2529
Supply Boat - Main Engine		298	38	5.071	0.201	0.224	0.224	0.253	3.729	0.969	0.0042	0.021	512.4	0.0112	0.0004	0.0005	0.0005	0.0006	0.0082	0.0021	0.0000	0.0000	1.1296
Tugboat - Main Engine		500	68	5.071	0.201	0.224	0.224	0.253	3.729	0.969	0.0042	0.021	512.4	0.0112	0.0004	0.0005	0.0005	0.0006	0.0082	0.0021	0.0000	0.0000	1.1296
Tugboat - Generator		75	74	3.752	0.461	0.239	0.239	0.253	3.418	0.006	0.0042	0.041	568.3	0.0083	0.0010	0.0005	0.0005	0.0006	0.0075	0.00001	0.00001	0.00009	1.2529
Welding Machine		25	45	4.661	0.807	0.232	0.232	0.253	2.531	0.007	0.0042	0.072	568.3	0.0103	0.0018	0.0005	0.0005	0.0006	0.0056	0.00002	0.00001	0.00016	1.2529
Wheel Loader		907	54	1.812	0.295	0.067	0.064	0.253	1.115	0.006	0.0042	0.026	568.3	0.0040	0.0007	0.0001	0.0001	0.0006	0.0025	0.0000	0.0000	0.0001	1.2529

Offsite	Source	Region	Speed	Emission Factors, g/mile										Emission Factors, lb/mile									
				NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂
Passenger Vehicle - LDA		San Luis Obispo County	65	0.090	0.019	0.002	0.001	0.000	0.658	0.000	0.0036	0.0173	351.6	0.0002	0.0000	0.0000	0.0000	0.0000	0.0015	0.00000	0.00001	0.00004	0.7752
Light-Duty Truck - LDT2		San Luis Obispo County	65	0.243	0.037	0.002	0.002	0.000	1.268	0.000	0.0036	0.0173	429.7	0.0005	0.0001	0.0000	0.0000	0.0000	0.0028	0.00000	0.00001	0.00004	0.9473
Heavy Duty Trucks (Cement) - T7TC		San Luis Obispo County	55	5.594	0.091	0.049	0.047	0.000	0.373	0.000	0.0048	0.0051	1577.7	0.0123	0.0002	0.0001	0.0001	0.0000	0.0008	0.00000	0.00001	0.00001	3.4768
Heavy Duty Trucks (End Dump) - T7TC		Statewide	55	5.553	0.091	0.049	0.047	0.000	0.373	0.000	0.0048	0.0051	1577.7	0.0122	0.0002	0.0001	0.0001	0.0000	0.0008	0.00000	0.00001	0.00001	3.4782

Notes:

- Equipment list and engine size provided by Project Applicant. HP were adjusted whenever data was available for the size of the equipment provided by the applicant.
- N₂O and CH₄ emission factors for construction equipment and harbor craft were obtained from CFR Part 98 Table C-2 and CalEEMod Appendix D- Default Data Tables, Table 3.4 using 2018 as the base year. Kg/mmbtu was converted to kg/bhp-hr using a diesel energy density of 7000 btu/hp-hr.
- CO₂ emission factor for harbor craft was obtained from https://www.eia.gov/environment/emissions/co2_vol_mass.cfm, 72.3 kg/mmbtu. Utilizing a diesel energy density of 7000 btu/hp-hr, CO₂ emission factor is 512.4 g/bhp-hr.
- CO₂ emission factors for construction equipment were obtained from CalEEMod Appendix D- Default Data Tables, Table 3.4 using 2018 as the base year.
- Criteria Pollutant emission factors and load factors for harbor crafts were obtained from the Puget Sound Maritime Air Emissions Inventory, dated August 2012, Table 4.5: Harbor Vessel Emission Factors for Diesel Engines, g/kW-hr (assuming Tier 2 engine) and Table 4.8: Load Factors.
 - One Crew Boat (treated as a crewboat), assumed to be operating 500 HP rated engine.
 - One Survey Boat (treated as a crewboat), assumed to be operating one engines rated at 298 HP, Tier 2, 2.23 liters/cyl
 - One Tugboat (treated as a tugboat, ocean), assumed to be operating one 500 HP rated engines.
- Harbor craft emission factors were converted from g/kW-hr to g/bhp-hr by application of the following conversion 1 kw = 1.341 bhp.
- Construction equipment load factors and Criteria Pollutant emission factors were derived from CalEEMod Appendix D- Default Data Tables, Tables 3.3 and 3.4 using 2018 as the base year
- On-road vehicle Criteria Pollutant emissions factors were obtained from EMFAC2014, assuming base year of 2018, considering San Luis Obispo County and Statewide, Season: Annual
- EPA Emission Factors for GHG Inventories, updated 4 April 2014, Table 3: Mobile Combustion CH₄ and N₂O Emission Factors for On-road Gasoline Vehicles (assuming average base year of 2009) and Table 4: Mobile Combustion CH₄ and N₂O Emission Factors for On-road Diesel and Alternative Fuel Vehicles
- g/bhp-hr was converted to lb/bhp-hr by the following conversion 1 gram = 0.0022046 lb.
- CalEEMod Assumptions:
 - Anchor Winches - RB-90s classified as "other construction equipment"
 - Light plant classified as "generator"
 - Bulldozer classified as "crawler tractor"