

**PG&E R-1390B L-057A-1 Decommissioning Project  
Pre-Project Survey**

OFF-ROAD SOURCES					Emission Factors: pounds/BHP-hr 1								Total English Tons										
Source	Fuel	BHP	Number	Total Hours per Source	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O			
Excavator	Diesel	310	0	0	0.00149	0.00014	0.00005	0.00004	0.00095	0.44475	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
Wheeled loader	Diesel	240	0	0	0.00242	0.00022	0.00008	0.00008	0.00104	0.41981	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
Flush pump	Diesel	20	0	0	0.00734	0.00100	0.00035	0.00032	0.00500	0.92729	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
Air compressor	Diesel	20	0	0	0.00480	0.00066	0.00022	0.00020	0.00285	0.60486	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
Dive compressor	Diesel	50	0	0	0.00450	0.00081	0.00024	0.00022	0.00537	0.60145	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
Welding machine	Diesel	20	0	0	0.00447	0.00061	0.00021	0.00019	0.00285	0.56374	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
Crane (on barge)	Diesel	330	0	0	0.00268	0.00023	0.00011	0.00010	0.00113	0.33508	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
Barge support tugs (2)	Diesel	500	0	0	0.00523	0.00041	0.00026	0.00026	0.00151	0.33228	0.000007	0.000015	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
Crew/support vessels (2)	Diesel	100	0	0	0.00452	0.00068	0.00024	0.00024	0.00337	0.40731	0.000012	0.000018	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
Support skiff 5	Gasoline	25	0	0	0.00603	0.02569	0.00770	0.00770	0.66875	0.59000	0.000029	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
Survey vessel (2 outboards <sup>5</sup> )	Gasoline	135	2	12	0.00515	0.02194	0.00770	0.00770	0.49320	0.59000	0.000029	0.000010	0.008	0.036	0.012	0.012	0.799	0.96	0.000	0.000			
Toyo pump (generator)	Diesel	75	0	0	0.00232	0.00026	0.00012	0.00011	0.00258	0.34452	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
Concrete pump	Diesel	300	0	0	0.00107	0.00012	0.00004	0.00004	0.00071	0.34452	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
													<b>0.008</b>	<b>0.036</b>	<b>0.012</b>	<b>0.012</b>	<b>0.799</b>	<b>0.956</b>	<b>0.0000</b>	<b>0.0000</b>			

**ON-ROAD SOURCES**

On Road Sources	Miles/One-way Trip	Total Trips	Emission Factors, grams/mile <sup>3</sup>							Total English Tons									
			NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	
Light-duty truck (LDT2) <sup>2,4</sup>	0	0	0.09362	0.01621	0.00132	0.00121	1.05751	312.7829	0.00391	0.00743	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Totals =&gt;</b>											<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

Off-Road & On-Road Source Totals

**0.008    0.036    0.012    0.012    0.799    0.956    0.0000    0.0000**

Notes:

- <sup>1</sup> Emission factors from OFFROAD 2017 (ver 1.0.1) for the San Joaquin Valley Air Basin, except diesel vessel factors from San Pedro Bay Ports Emissions Inventory
- <sup>2</sup> One-way trip distance to Stockton (~20 miles) for workers
- <sup>3</sup> Emission factors from EMFAC 2017 for San Joaquin County year 2021 annual emissions
- <sup>4</sup> Assumes two workers per truck, three round trips (6 one-way trips) per day
- <sup>5</sup> Emission factors from 2010 Federal standards for outboard motors (average of 2-stroke and 4-stroke)

**Greenhouse Gas Emissions Summary**

<b>Metric Tons</b>	0.853	0.000	0.000
<b>CO2E</b>	0.853	0.001	0.004
<b>Total CO2E</b>			<b>0.9</b>

**PG&E R-1390B L-057A-1 Decommissioning Project  
Mobilization**

**OFF-ROAD SOURCES**

Source	Fuel	BHP	Number	Total Hours per Source	Emission Factors: pounds/BHP-hr 1								Total English Tons										
					NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O			
Excavator	Diesel	310	4	0	0.00149	0.00014	0.00005	0.00004	0.00095	0.44475	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
Wheeled loader	Diesel	240	2	0	0.00242	0.00022	0.00008	0.00008	0.00104	0.41981	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
Flush pump	Diesel	20	0	0	0.00734	0.00100	0.00035	0.00032	0.00500	0.92729	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
Air compressor	Diesel	20	0	0	0.00480	0.00066	0.00022	0.00020	0.00285	0.60486	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
Dive compressor	Diesel	50	0	0	0.00450	0.00081	0.00024	0.00022	0.00537	0.60145	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
Welding machine	Diesel	20	0	0	0.00447	0.00061	0.00021	0.00019	0.00285	0.56374	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
Crane (on barge)	Diesel	330	0	0	0.00268	0.00023	0.00011	0.00010	0.00113	0.33508	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
Barge support tugs (2)	Diesel	500	2	10	0.00523	0.00041	0.00026	0.00026	0.00151	0.33228	0.000007	0.000015	0.026	0.002	0.001	0.001	0.008	1.66	0.000	0.000			
Crew/support vessels (2)	Diesel	100	2	2.2	0.00452	0.00068	0.00024	0.00024	0.00337	0.40731	0.000012	0.000018	0.001	0.000	0.000	0.000	0.001	0.09	0.000	0.000			
Support skiff <sup>5</sup>	Gasoline	25	0	0	0.00603	0.02569	0.00770	0.00770	0.66875	0.59000	0.000029	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
Survey vessel (2 outboards <sup>5</sup> )	Gasoline	135	0	0	0.00515	0.02194	0.00770	0.00770	0.49320	0.59000	0.000029	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
Toyo pump (generator)	Diesel	75	0	0	0.00232	0.00026	0.00012	0.00011	0.00258	0.34452	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
Concrete pump	Diesel	300	0	0	0.00107	0.00012	0.00004	0.00004	0.00071	0.34452	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
													<b>0.027</b>	<b>0.002</b>	<b>0.001</b>	<b>0.001</b>	<b>0.008</b>	<b>1.751</b>	<b>0.0000</b>	<b>0.0001</b>			

**ON-ROAD SOURCES**

On Road Sources	Miles/One-way Trip	Total Trips	Emission Factors, grams/mile <sup>3</sup>								Total English Tons										
			NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O			
Light-duty truck (LDT2) <sup>2,4</sup>	20	60	0.09362	0.01621	0.00132	0.00121	1.05751	312.7829	0.00391	0.00743	0.0001	0.0000	0.0000	0.0000	0.0014	0.4137	0.0000	0.0000			
Heavy-duty truck (T6 instate) <sup>6</sup>	35	32	3.25788	0.13298	0.07421	0.07100	0.48376	951.7774	0.00618	0.14961	0.0040	0.0002	0.0001	0.0006	1.1750	0.0000	0.0002				
Heavy-duty truck (T6 instate) <sup>7</sup>	35	12	3.25788	0.13298	0.07421	0.07100	0.48376	951.7774	0.00618	0.14961	0.0015	0.0001	0.0000	0.0000	0.0002	0.4406	0.0000	0.0001			
<b>Totals =&gt;</b>											<b>0.0057</b>	<b>0.0002</b>	<b>0.0001</b>	<b>0.0001</b>	<b>0.0022</b>	<b>2.0294</b>	<b>0.0000</b>	<b>0.0003</b>			

**Off-Road & On-Road Source Totals**

**0.033      0.002      0.001      0.001      0.011      3.780      0.0001      0.0003**

- Notes:  
<sup>1</sup> Emission factors from OFFROAD 2017 (ver 1.0.1) for the San Joaquin Valley Air Basin, except diesel vessel factors from San Pedro Bay Ports Emissions Inventory  
<sup>2</sup> One-way trip distance to Stockton (~20 miles) for workers  
<sup>3</sup> Emission factors from EMFAC 2017 for San Joaquin County year 2021 annual emissions  
<sup>4</sup> Assumes two workers per truck, three round trips (6 one-way trips) per day  
<sup>5</sup> Emission factors from 2010 Federal standards for outboard motors (average of 2-stroke and 4-stroke)  
<sup>6</sup> Water tank delivery  
<sup>7</sup> Equipment delivery

**Greenhouse Gas Emissions Summary**

<b>Metric Tons</b>	3.375	0.000	0.000
<b>CO2E</b>	3.375	0.001	0.081
<b>Total CO2E</b>			<b>3.5</b>

**PG&E R-1390B L-057A-1 Decommissioning Project  
Terrestrial Excavation**

**OFF-ROAD SOURCES**

Source	Fuel	BHP	Number	Total Hours per Source	Emission Factors: pounds/BHP-hr <sup>1</sup>								Total English Tons											
					NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O				
Excavator	Diesel	310	4	60	0.00149	0.00014	0.00005	0.00004	0.00095	0.44475	0.000023	0.000010	0.055	0.005	0.002	0.002	0.035	16.54	0.001	0.000				
Wheeled loader	Diesel	240	2	60	0.00242	0.00022	0.00008	0.00008	0.00104	0.41981	0.000023	0.000010	0.035	0.003	0.001	0.001	0.015	6.05	0.000	0.000				
Flush pump	Diesel	20	0	0	0.00734	0.00100	0.00035	0.00032	0.00500	0.92729	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000				
Air compressor	Diesel	20	0	0	0.00480	0.00066	0.00022	0.00020	0.00285	0.60486	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000				
Dive compressor	Diesel	50	0	0	0.00450	0.00081	0.00024	0.00022	0.00537	0.60145	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000				
Welding machine	Diesel	20	0	0	0.00447	0.00061	0.00021	0.00019	0.00285	0.56374	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000				
Crane (on barge)	Diesel	330	0	0	0.00268	0.00023	0.00011	0.00010	0.00113	0.33508	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000				
Barge support tugs (2)	Diesel	500	0	0	0.00523	0.00041	0.00026	0.00026	0.00151	0.33228	0.000007	0.000015	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000				
Crew/support vessels (2)	Diesel	100	0	0	0.00452	0.00068	0.00024	0.00024	0.00337	0.40731	0.000012	0.000018	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000				
Support skiff <sup>5</sup>	Gasoline	25	0	0	0.00603	0.02569	0.00770	0.00770	0.66875	0.59000	0.000029	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000				
Survey vessel (2 outboards <sup>5</sup> )	Gasoline	135	0	0	0.00515	0.02194	0.00770	0.00770	0.49320	0.59000	0.000029	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000				
Toyo pump (generator)	Diesel	75	0	0	0.00232	0.00026	0.00012	0.00011	0.00258	0.34452	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000				
Concrete pump	Diesel	300	0	0	0.00107	0.00012	0.00004	0.00004	0.00071	0.34452	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000				
													<b>0.090</b>	<b>0.008</b>	<b>0.003</b>	<b>0.003</b>	<b>0.050</b>	<b>22.590</b>	<b>0.0012</b>	<b>0.0005</b>				

**ON-ROAD SOURCES**

On Road Sources	Miles/One-way Trip	Total Trips	Emission Factors, grams/mile <sup>3</sup>								Total English Tons											
			NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O				
Light-duty truck (LDT2) <sup>2,4</sup>	20	80	0.09362	0.01621	0.00132	0.00121	1.05751	312.7829	0.00391	0.00743	0.0002	0.0000	0.0000	0.0000	0.0019	0.5516	0.0000	0.0000				
Heavy-duty truck (T6 instate) <sup>6</sup>	35	8	3.25788	0.13298	0.07421	0.07100	0.48376	951.7774	0.00618	0.14961	0.0010	0.0000	0.0000	0.0001	0.2938	0.0000	0.0000					
<b>Totals =&gt;</b>											<b>0.0012</b>	<b>0.0001</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0020</b>	<b>0.8454</b>	<b>0.0000</b>	<b>0.0001</b>				

**Off-Road & On-Road Source Totals**

**0.091      0.008      0.003      0.003      0.052      23.435      0.0012      0.0006**

- Notes:  
<sup>1</sup> Emission factors from OFFROAD 2017 (ver 1.0.1) for the San Joaquin Valley Air Basin, except diesel vessel factors from San Pedro Bay Ports Emissions Inventory  
<sup>2</sup> One-way trip distance to Stockton (~20 miles) for workers  
<sup>3</sup> Emission factors from EMFAC 2017 for San Joaquin County year 2021 annual emissions  
<sup>4</sup> Assumes two workers per truck, four round trips (8 one-way trips) per day  
<sup>5</sup> Emission factors from 2010 Federal standards for outboard motors (average of 2-stroke and 4-stroke)  
<sup>6</sup> Shoring delivery and return

**Greenhouse Gas Emissions Summary**

<b>Metric Tons</b>	20.924	0.001	0.001
<b>CO2E</b>	20.924	0.030	0.136
<b>Total CO2E</b>			<b>21.1</b>

**PG&E R-1390B L-057A-1 Decommissioning Project  
Pigging & Flushing**

OFF-ROAD SOURCES					Emission Factors: pounds/BHP-hr 1								Total English Tons							
Source	Fuel	BHP	Number	Total Hours per Source	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Excavator	Diesel	310	2	8	0.00149	0.00014	0.00005	0.00004	0.00095	0.44475	0.000023	0.000010	0.004	0.000	0.000	0.000	0.002	1.10	0.000	0.000
Wheeled loader	Diesel	240	2	8	0.00242	0.00022	0.00008	0.00008	0.00104	0.41981	0.000023	0.000010	0.005	0.000	0.000	0.000	0.002	0.81	0.000	0.000
Flush pump	Diesel	20	1	16	0.00734	0.00100	0.00035	0.00032	0.00500	0.92729	0.000023	0.000010	0.001	0.000	0.000	0.000	0.001	0.15	0.000	0.000
Air compressor	Diesel	20	1	8	0.00480	0.00066	0.00022	0.00020	0.00285	0.60486	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.05	0.000	0.000
Dive compressor	Diesel	50	0	0	0.00450	0.00081	0.00024	0.00022	0.00537	0.60145	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000
Welding machine	Diesel	20	1	16	0.00447	0.00061	0.00021	0.00019	0.00285	0.56374	0.000023	0.000010	0.001	0.000	0.000	0.000	0.000	0.09	0.000	0.000
Crane (on barge)	Diesel	330	0	0	0.00268	0.00023	0.00011	0.00010	0.00113	0.33508	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000
Barge support tugs (2)	Diesel	500	0	0	0.00523	0.00041	0.00026	0.00026	0.00151	0.33228	0.000007	0.000015	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000
Crew/support vessels (2)	Diesel	100	0	0	0.00452	0.00068	0.00024	0.00024	0.00337	0.40731	0.000012	0.000018	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000
Support skiff <sup>5</sup>	Gasoline	25	0	0	0.00603	0.02569	0.00770	0.00770	0.66875	0.59000	0.000029	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000
Survey vessel (2 outboards <sup>5</sup> )	Gasoline	135	0	0	0.00515	0.02194	0.00770	0.00770	0.49320	0.59000	0.000029	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000
Toyo pump (generator)	Diesel	75	0	0	0.00232	0.00026	0.00012	0.00011	0.00258	0.34452	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000
Concrete pump	Diesel	300	0	0	0.00107	0.00012	0.00004	0.00004	0.00071	0.34452	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000
													<b>0.011</b>	<b>0.001</b>	<b>0.000</b>	<b>0.000</b>	<b>0.006</b>	<b>2.196</b>	<b>0.0001</b>	<b>0.0000</b>

**ON-ROAD SOURCES**

On Road Sources	Miles/One-way Trip	Total Trips	Emission Factors, grams/mile <sup>3</sup>							Total English Tons								
			NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Light-duty truck (LDT2) <sup>2,4</sup>	20	32	0.09362	0.01621	0.00132	0.00121	1.05751	312.7829	0.00391	0.00743	0.0001	0.0000	0.0000	0.0000	0.0007	0.2207	0.0000	0.0000
Heavy-duty truck (T6 instate) <sup>6</sup>	25	32	3.25788	0.13298	0.07421	0.07100	0.48376	951.7774	0.00618	0.14961	0.0029	0.0001	0.0001	0.0001	0.0004	0.8393	0.0000	0.0001
Heavy-duty truck (T6 instate) <sup>7</sup>	35	16	3.25788	0.13298	0.07421	0.07100	0.48376	951.7774	0.00618	0.14961	0.0020	0.0001	0.0000	0.0000	0.0003	0.5875	0.0000	0.0001
<b>Totals =&gt;</b>											<b>0.0049</b>	<b>0.0002</b>	<b>0.0001</b>	<b>0.0001</b>	<b>0.0015</b>	<b>1.6475</b>	<b>0.0000</b>	<b>0.0002</b>

**Off-Road & On-Road Source Totals**

**0.016      0.001      0.000      0.000      0.007      3.843      0.0001      0.0003**

- Notes:  
<sup>1</sup> Emission factors from OFFROAD 2017 (ver 1.0.1) for the San Joaquin Valley Air Basin, except diesel vessel factors from San Pedro Bay Ports Emissions Inventory  
<sup>2</sup> One-way trip distance to Stockton (~20 miles) for workers  
<sup>3</sup> Emission factors from EMFAC 2017 for San Joaquin County year 2021 annual emissions  
<sup>4</sup> Assumes two workers per truck, two round trips (4 one-way trips) per day  
<sup>5</sup> Emission factors from 2010 Federal standards for outboard motors (average of 2-stroke and 4-stroke)  
<sup>6</sup> Flush water import  
<sup>7</sup> Vacuum trucks

**Greenhouse Gas Emissions Summary**

<b>Metric Tons</b>	3.432	0.000	0.000
<b>CO2E</b>	3.432	0.003	0.066
<b>Total CO2E</b>			<b>3.5</b>



**PG&E R-1390B L-057A-1 Decommissioning Project  
Pipeline Removal**

**OFF-ROAD SOURCES**

Source	Fuel	BHP	Number	Total Hours per Source	Emission Factors: pounds/BHP-hr 1								Total English Tons							
					NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Excavator	Diesel	310	0	0	0.00149	0.00014	0.00005	0.00004	0.00095	0.44475	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000
Wheeled loader	Diesel	240	0	0	0.00242	0.00022	0.00008	0.00008	0.00104	0.41981	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000
Flush pump	Diesel	20	0	0	0.00734	0.00100	0.00035	0.00032	0.00500	0.92729	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000
Air compressor	Diesel	20	0	0	0.00480	0.00066	0.00022	0.00020	0.00285	0.60486	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000
Dive compressor	Diesel	50	2	540	0.00450	0.00081	0.00024	0.00022	0.00537	0.60145	0.000023	0.000010	0.122	0.022	0.006	0.006	0.145	16.24	0.001	0.000
Welding machine	Diesel	20	0	0	0.00447	0.00061	0.00021	0.00019	0.00285	0.56374	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000
Crane (on barge)	Diesel	330	2	540	0.00268	0.00023	0.00011	0.00010	0.00113	0.33508	0.000023	0.000010	0.478	0.040	0.019	0.018	0.200	59.71	0.004	0.002
Barge support tugs (2)	Diesel	500	2	180	0.00523	0.00041	0.00026	0.00026	0.00151	0.33228	0.000007	0.000015	0.471	0.037	0.023	0.023	0.136	29.91	0.001	0.001
Crew/support vessels (2)	Diesel	100	2	180	0.00452	0.00068	0.00024	0.00024	0.00337	0.40731	0.000012	0.000018	0.081	0.012	0.004	0.004	0.061	7.33	0.000	0.000
Support skiff <sup>5</sup>	Gasoline	25	2	270	0.00603	0.02569	0.00770	0.00770	0.66875	0.59000	0.000029	0.000010	0.041	0.173	0.052	0.052	4.514	3.98	0.000	0.000
Survey vessel (2 outboards <sup>5</sup> )	Gasoline	135	0	0	0.00515	0.02194	0.00770	0.00770	0.49320	0.59000	0.000029	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000
Toyo pump (generator)	Diesel	75	2	180	0.00232	0.00026	0.00012	0.00011	0.00258	0.34452	0.000023	0.000010	0.031	0.003	0.002	0.001	0.035	4.65	0.000	0.000
Concrete pump	Diesel	300	0	0	0.00107	0.00012	0.00004	0.00004	0.00071	0.34452	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000
													<b>1.224</b>	<b>0.288</b>	<b>0.107</b>	<b>0.105</b>	<b>5.091</b>	<b>121.82</b>	<b>0.0061</b>	<b>0.0039</b>

**ON-ROAD SOURCES**

On Road Sources	Miles/One-way Trip	Total Trips	Emission Factors, grams/mile <sup>3</sup>								Total English Tons							
			NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Light-duty truck (LDT2) <sup>2,4</sup>	20	900	0.09362	0.01621	0.00132	0.00121	1.05751	312.7829	0.00391	0.00743	0.0019	0.0003	0.0000	0.0000	0.0210	6.2060	0.0001	0.0001
<b>Totals =&gt;</b>											<b>0.0019</b>	<b>0.0003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0210</b>	<b>6.2060</b>	<b>0.0001</b>	<b>0.0001</b>

**Off-Road & On-Road Source Totals**

**1.226      0.288      0.107      0.105      5.112      128.026      0.0062      0.0041**

Notes:

- <sup>1</sup> Emission factors from OFFROAD 2017 (ver 1.0.1) for the San Joaquin Valley Air Basin, except diesel vessel factors from San Pedro Bay Ports Emissions Inventory
- <sup>2</sup> One-way trip distance to Stockton (~20 miles) for workers
- <sup>3</sup> Emission factors from EMFAC 2017 for San Joaquin County year 2021 annual emissions
- <sup>4</sup> Assumes two workers per truck, 10 round trips (20 one-way trips) per day (some workers stay on the tugs)
- <sup>5</sup> Emission factors from 2010 Federal standards for outboard motors (average of 2-stroke and 4-stroke)

**Greenhouse Gas Emissions Summary**

<b>Metric Tons</b>	114.309	0.006	0.004
<b>CO2E</b>	114.309	0.156	0.964
<b>Total CO2E</b>			<b>115.4</b>

**PG&E R-1390B L-057A-1 Decommissioning Project  
Site Restoration and Demobilization**

**OFF-ROAD SOURCES**

Source	Fuel	BHP	Number	Total Hours per Source	Emission Factors: pounds/BHP-hr 1								Total English Tons										
					NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O			
Excavator	Diesel	310	4	40	0.00149	0.00014	0.00005	0.00004	0.00095	0.44475	0.000023	0.000010	0.037	0.003	0.001	0.001	0.023	11.03	0.001	0.000			
Wheeled loader	Diesel	240	2	40	0.00242	0.00022	0.00008	0.00008	0.00104	0.41981	0.000023	0.000010	0.023	0.002	0.001	0.001	0.010	4.03	0.000	0.000			
Flush pump	Diesel	20	0	0	0.00734	0.00100	0.00035	0.00032	0.00500	0.92729	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
Air compressor	Diesel	20	0	0	0.00480	0.00066	0.00022	0.00020	0.00285	0.60486	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
Dive compressor	Diesel	50	0	0	0.00450	0.00081	0.00024	0.00022	0.00537	0.60145	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
Welding machine	Diesel	20	0	0	0.00447	0.00061	0.00021	0.00019	0.00285	0.56374	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
Crane (on barge)	Diesel	330	0	0	0.00268	0.00023	0.00011	0.00010	0.00113	0.33508	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
Barge support tugs (2)	Diesel	500	2	10	0.00523	0.00041	0.00026	0.00026	0.00151	0.33228	0.000007	0.000015	0.026	0.002	0.001	0.001	0.008	1.66	0.000	0.000			
Crew/support vessels (2)	Diesel	100	2	2.2	0.00452	0.00068	0.00024	0.00024	0.00337	0.40731	0.000012	0.000018	0.001	0.000	0.000	0.000	0.001	0.09	0.000	0.000			
Support skiff <sup>5</sup>	Gasoline	25	0	0	0.00603	0.02569	0.00770	0.00770	0.66875	0.59000	0.000029	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
Survey vessel (2 outboards <sup>5</sup> )	Gasoline	135	0	0	0.00515	0.02194	0.00770	0.00770	0.49320	0.59000	0.000029	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
Toyo pump (generator)	Diesel	75	0	0	0.00232	0.00026	0.00012	0.00011	0.00258	0.34452	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
Concrete pump	Diesel	300	0	0	0.00107	0.00012	0.00004	0.00004	0.00071	0.34452	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
													<b>0.087</b>	<b>0.008</b>	<b>0.003</b>	<b>0.003</b>	<b>0.042</b>	<b>16.811</b>	<b>0.0008</b>	<b>0.0004</b>			

**ON-ROAD SOURCES**

On Road Sources	Miles/One-way Trip	Total Trips	Emission Factors, grams/mile <sup>3</sup>								Total English Tons										
			NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O			
Light-duty truck (LDT2) <sup>2,4</sup>	20	60	0.09362	0.01621	0.00132	0.00121	1.05751	312.7829	0.00391	0.00743	0.0001	0.0000	0.0000	0.0000	0.0014	0.4137	0.0000	0.0000			
Heavy-duty truck (T6 instate) <sup>6</sup>	35	32	3.25788	0.13298	0.07421	0.07100	0.48376	951.7774	0.00618	0.14961	0.0040	0.0002	0.0001	0.0001	0.0006	1.1750	0.0000	0.0002			
Heavy-duty truck (T6 instate) <sup>7</sup>	35	12	3.25788	0.13298	0.07421	0.07100	0.48376	951.7774	0.00618	0.14961	0.0015	0.0001	0.0000	0.0000	0.0002	0.4406	0.0000	0.0001			
Heavy-duty truck (T6 instate) <sup>8</sup>	25	32	3.25788	0.13298	0.07421	0.07100	0.48376	951.7774	0.00618	0.14961	0.0029	0.0001	0.0001	0.0001	0.0004	0.8393	0.0000	0.0001			
Heavy-duty truck (T6 instate) <sup>9</sup>	35	100	3.25788	0.13298	0.07421	0.07100	0.48376	951.7774	0.00618	0.14961	0.0126	0.0005	0.0003	0.0003	0.0019	3.6720	0.0000	0.0006			
<b>Totals =&gt;</b>											<b>0.0211</b>	<b>0.0009</b>	<b>0.0005</b>	<b>0.0005</b>	<b>0.0045</b>	<b>6.5407</b>	<b>0.0000</b>	<b>0.0010</b>			

**Off-Road & On-Road Source Totals**

**0.108      0.009      0.004      0.004      0.046      23.352      0.0009      0.0014**

- Notes:  
<sup>1</sup> Emission factors from OFFROAD 2017 (ver 1.0.1) for the San Joaquin Valley Air Basin, except diesel vessel factors from San Pedro Bay Ports Emissions Inventory  
<sup>2</sup> One-way trip distance to Stockton (~20 miles) for workers  
<sup>3</sup> Emission factors from EMFAC 2017 for San Joaquin County year 2021 annual emissions  
<sup>4</sup> Assumes two workers per truck, three round trips (6 one-way trips) per day  
<sup>5</sup> Emission factors from 2010 Federal standards for outboard motors (average of 2-stroke and 4-stroke)  
<sup>6</sup> Water tank return  
<sup>7</sup> Equipment return  
<sup>8</sup> Flush water export  
<sup>9</sup> Solid waste disposal

**Greenhouse Gas Emissions Summary**

<b>Metric Tons</b>	20.850	0.001	0.001
<b>CO2E</b>	20.850	0.022	0.330
<b>Total CO2E</b>			<b>21.2</b>

**PG&E R-1390B L-057A-1 Decommissioning Project  
Post-Project Survey**

**OFF-ROAD SOURCES**

Source	Fuel	BHP	Number	Total Hours per Source	Emission Factors: pounds/BHP-hr 1								Total English Tons										
					NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O			
Excavator	Diesel	310	0	0	0.00149	0.00014	0.00005	0.00004	0.00095	0.44475	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
Wheeled loader	Diesel	240	0	0	0.00242	0.00022	0.00008	0.00008	0.00104	0.41981	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
Flush pump	Diesel	20	0	0	0.00734	0.00100	0.00035	0.00032	0.00500	0.92729	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
Air compressor	Diesel	20	0	0	0.00480	0.00066	0.00022	0.00020	0.00285	0.60486	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
Dive compressor	Diesel	50	0	0	0.00450	0.00081	0.00024	0.00022	0.00537	0.60145	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
Welding machine	Diesel	20	0	0	0.00447	0.00061	0.00021	0.00019	0.00285	0.56374	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
Crane (on barge)	Diesel	330	0	0	0.00268	0.00023	0.00011	0.00010	0.00113	0.33508	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
Barge support tugs (2)	Diesel	500	0	0	0.00523	0.00041	0.00026	0.00026	0.00151	0.33228	0.000007	0.000015	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
Crew/support vessels (2)	Diesel	100	0	0	0.00452	0.00068	0.00024	0.00024	0.00337	0.40731	0.000012	0.000018	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
Support skiff <sup>5</sup>	Gasoline	25	0	0	0.00603	0.02569	0.00770	0.00770	0.66875	0.59000	0.000029	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
Survey vessel (2 outboards <sup>5</sup> )	Gasoline	135	2	12	0.00515	0.02194	0.00770	0.00770	0.49320	0.59000	0.000029	0.000010	0.008	0.036	0.012	0.012	0.799	0.96	0.000	0.000			
Toyo pump (generator)	Diesel	75	0	0	0.00232	0.00026	0.00012	0.00011	0.00258	0.34452	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
Concrete pump	Diesel	300	0	0	0.00107	0.00012	0.00004	0.00004	0.00071	0.34452	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000			
													<b>0.008</b>	<b>0.036</b>	<b>0.012</b>	<b>0.012</b>	<b>0.799</b>	<b>0.956</b>	<b>0.0000</b>	<b>0.0000</b>			

**ON-ROAD SOURCES**

On Road Sources	Miles/One-way Trip	Total Trips	Emission Factors, grams/mile <sup>3</sup>								Total English Tons							
			NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Light-duty truck (LDT2) <sup>2,4</sup>	0	0	0.09362	0.01621	0.00132	0.00121	1.05751	312.7829	0.00391	0.00743	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Totals =&gt;</b>											<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**Off-Road & On-Road Source Totals**

**0.008      0.036      0.012      0.012      0.799      0.956      0.0000      0.0000**

**Notes:**

- <sup>1</sup> Emission factors from OFFROAD 2017 (ver 1.0.1) for the San Joaquin Valley Air Basin, except diesel vessel factors from San Pedro Bay Ports Emissions Inventory
- <sup>2</sup> One-way trip distance to Stockton (~20 miles) for workers
- <sup>3</sup> Emission factors from EMFAC 2017 for San Joaquin County year 2021 annual emissions
- <sup>4</sup> Assumes two workers per truck, three round trips (6 one-way trips) per day
- <sup>5</sup> Emission factors from 2010 Federal standards for outboard motors (average of 2-stroke and 4-stroke)

**Greenhouse Gas Emissions Summary**

<b>Metric Tons</b>	0.853	0.000	0.000
<b>CO2E</b>	0.853	0.001	0.004
<b>Total CO2E</b>			<b>0.9</b>



**PG&E R-1390B L-057A-1 Decommissioning Project  
Air Pollutant and Greenhouse Gas Emissions Totals**

Task	Air Pollutants: Total English Tons					GHG: Total Metric Tons			
	NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	CO2E
Pre-Project Survey	0.01	0.04	0.01	0.01	0.80	0.9	0.0000	0.0000	0.9
Mobilization	0.03	0.00	0.00	0.00	0.01	3.4	0.0000	0.0003	3.5
Terrestrial Excavation	0.09	0.01	0.00	0.00	0.05	20.9	0.0011	0.0005	21.1
Pigging and Flushing	0.02	0.00	0.00	0.00	0.01	3.4	0.0001	0.0002	3.5
Cementing	0.01	0.00	0.00	0.00	0.01	2.5	0.0001	0.0001	2.5
Pipeline Removal	1.23	0.29	0.11	0.10	5.11	114.3	0.0056	0.0036	115.4
Site Restoration and Demobilization	0.11	0.01	0.00	0.00	0.05	20.8	0.0008	0.0012	21.2
Post-Project Survey	0.01	0.04	0.01	0.01	0.80	0.9	0.0000	0.0000	0.9
<b>Total</b>	<b>1.50</b>	<b>0.38</b>	<b>0.14</b>	<b>0.14</b>	<b>6.83</b>	<b>167.0</b>	<b>0.008</b>	<b>0.006</b>	<b>168.9</b>

Project Average lb/day\*                      **33.7**                      **8.6**                      **3.2**                      **3.1**                      **153.5**

\*Based on 89 work days (87 per the PEP + 2 for the pre- and post-project surveys)