Rio Vista 83 Well Development Project
CRITERIA POLLUTANTS & GREENHOUSE GAS EMISSIONS June 20, 2025
TABLE 1: Total Project Emissions Summary

Total Project Emissions by Phase	Number of Wells	Peak Day Emissions (pounds/day)									Annual Emissions (tons/year)									$MTCO_2E$
		NO_X	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	NO_X	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	
Well Site Preparation/Access Roads	83	6.56	0.451	20.4	1.86	19.0	0.103	1.67	1.14	10,896	0.494	0.052	0.63	0.128	1.89	0.008	0.076	0.120	847	790
Drilling Operations	83	86.7	10.9	17.2	4.57	407	0.923	2.81	5.174	102,877	54.1	6.78	3.13	1.47	254	0.577	0.669	3.22	64,309	58,588
Well Completion Operations	83	4.22	0.958	7.58	1.95	36.0	0.082	0.521	1.98	8,021	0.666	0.098	1.80	0.452	3.97	0.017	0.119	0.177	1,690	1,567
Pipelines	--	6.56	0.643	6.8	1.86	28.0	0.178	1.75	1.64	10,896	0.318	0.042	0.265	0.062	1.78	0.006	0.039	0.103	554	515

Total Project Emissions	NO_X	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	NO_X	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	$MTCO_2E$
Maximum Daily Project Emissions - Pound/day	86.7	10.9	20.4	4.57	407	0.923	2.81	5.17	102,877	--	--	--	--	--	--	--	--	--	--
Total Project Emissions - Tons/Year	--	--	--	--	--	--	--	--	--	55.5	6.97	5.83	2.11	261	0.608	0.904	3.62	67,400	61,460
GHG - $MTCO_2E$ conversions																	**273**	**27.9**	**1**
Total Project GHG Emissions - $MTCO_2E$																		***61,460***	

Notes:
Dust mitigations applied - watering unpaved roads two times per day.
Includes all project emissions genrated in five air districts.
-- Not Available or Applicable.

Rio Vista 83 Well Development Project
CRITERIA POLLUTANTS & GREENHOUSE GAS EMISSIONS June 20, 2025
TABLE 2: Emissions Summary within BAAQMD Jurisdiction

Contra Costa County Project Emissions by Phase	Number of Wells	Peak Day Emissions (pounds/day)													Annual Emissions (tons/year)													$MTCO_2E$
		NO_X	ROG	$PM_{10}E$	$PM_{10}D$	$PM_{10}T$	$PM_{2.5}E$	$PM_{2.5}D$	$PM_{2.5}T$	CO	SO_2	N_2O	CH_4	CO_2	NO_X	ROG	$PM_{10}E$	$PM_{10}D$	$PM_{10}T$	$PM_{2.5}E$	$PM_{2.5}D$	$PM_{2.5}T$	CO	SO_2	N_2O	CH_4	CO_2	
Well Site Preparation/Access Roads	12	2.06	0.446	0.060	4.80	4.86	0.060	0.714	0.77	18.9	0.038	0.040	1.14	3,575	0.030	0.007	0.001	0.033	0.034	0.001	0.005	0.006	0.264	0.001	0.001	0.017	53.9	49.5
Drilling Operations	12	85.8	10.9	1.6	5.69	7.29	1.61	0.863	2.47	407	0.91	0.78	5.17	101,236	7.70	0.979	0.144	0.130	0.274	0.144	0.0197	0.164	36.6	0.082	0.069	0.466	9,101	8,285
Well Completion Operations	12	4.12	0.951	0.127	3.41	3.54	0.127	0.516	0.643	35.8	0.079	0.067	1.98	7,747	0.047	0.011	0.001	0.102	0.104	0.001	0.0155	0.017	0.424	0.001	0.001	0.025	87.3	80.0
Pipelines	--	2.90	0.641	0.086	4.8	4.86	0.085	0.713	0.77	28.0	0.054	0.054	1.635	5,113	0.041	0.009	0.001	0.021	0.034	0.001	0.003	0.006	0.414	0.001	0.001	0.024	74.9	68.7
Maximum Daily Project Emissions - Pound/day		**85.8**	**10.9**	**1.61**	**5.69**	**7.29**	**1.61**	**0.86**	**2.47**	**407**	**0.908**	**0.780**	**5.17**	**101,236**	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Project Emissions - Tons/Year		--	--	--	--	--	--	--	--	--	--	--	--	--	**7.82**	**1.006**	**0.148**	**0.286**	**0.446**	**0.148**	**0.043**	**0.192**	**37.7**	**0.084**	**0.071**	**0.532**	**9,317**	**8,483**
BAAQMD Thresholds - Pound/day		**54**	**54**	**82**	--	--	**54**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BAAQMD Thresholds - Tons/year		--	--	--	--	--	--	--	--	--	--	--	--	--	**10**	**10**	**15**	--	--	**10**	--	--	--	--	--	--	--	--
																										GHG - $MTCO_2E$ conversions	**273**	**27.9**	**1**
																										Total Project GHG Emissions - $MTCO_2E$		***8,483***	

Notes:
80 Bold text and purple shading indicates that a criteria pollutant is above the daily BAAQMD threshold.
BAAQMD - Bay Area Air Quality Management District
Dust mitigations applied - watering unpaved roads two times per day.
-- Not Available or Applicable.

Rio Vista 83 Well Development Project
CRITERIA POLLUTANTS & GREENHOUSE GAS EMISSIONS June 20, 2025
TABLE 3: Emissions Summary within SMAQMD Jurisdiction

Sacramento County Project Emissions by Phase and Year	Number of Wells	Peak Day Emissions (pounds/day)									Annual Emissions (tons/year)									$MTCO_2E$
		NO_X	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	NO_X	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	
Year -1																				
Well Site Preparation/Access Roads	32	2.38	0.451	5.72	0.91	19.0	0.043	0.122	1.14	4,107	0.086	0.018	0.13	0.019	0.706	0.002	0.003	0.046	152	140
Drilling Operations	12	86.7	10.9	8.40	2.77	407	0.923	1.01	5.17	102,877	7.74	0.979	0.304	0.172	36.6	0.082	0.078	0.466	9,162	8,343
Well Completion Operations	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Maximum Daily Pound/day and Tons/year	**86.7**	**10.9**	**8.40**	**2.77**	**407**	**0.923**	**1.01**	**5.17**	**102,877**	**7.83**	**1.00**	**0.43**	**0.192**	**37.3**	**0.084**	**0.081**	**0.512**	**9,315**	**8,483**	
Year -2																				
Well Site Preparation/Access Roads	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Drilling Operations	20	86.7	10.9	8.40	2.77	407	0.923	1.01	5.17	102,877	12.90	1.632	0.506	0.287	61.0	0.137	0.131	0.776	15,270	13,905
Well Completion Operations	9	4.22	0.958	3.91	0.739	36.0	0.082	0.094	1.98	8,021	0.038	0.008	0.001	0.001	0.324	0.001	0.001	0.019	71.6	65.8
Maximum Daily Pound/day and Tons/year	**86.7**	**10.9**	**8.40**	**2.77**	**407**	**0.923**	**1.01**	**5.17**	**102,877**	**12.9**	**1.64**	**0.507**	**0.289**	**61.4**	**0.138**	**0.132**	**0.795**	**15,342**	**13,971**	
Year -3																				
Well Site Preparation/Access Roads	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Drilling Operations	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Well Completion Operations	23	4.22	0.958	3.91	0.739	36.0	0.082	0.094	1.98	8,021	0.096	0.021	0.003	0.003	0.829	0.002	0.003	0.048	183	168
Pipelines	--	2.01	0.366	4.96	0.83	15.8	0.036	0.116	0.920	3,437	0.075	0.016	0.058	0.011	0.707	0.001	0.002	0.041	134	123
Maximum Daily Pound/day and Tons/year	**4.22**	**0.958**	**4.96**	**0.83**	**36.0**	**0.082**	**0.116**	**1.98**	**8,021**	**0.171**	**0.037**	**0.061**	**0.014**	**1.536**	**0.003**	**0.005**	**0.089**	**317**	**291**	
SMAQMD thresholds - Pound/day	**85**	**--**	**80**	**82**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
SMAQMD thresholds - Tons/year	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**14.6**	**15**	**--**	**--**	**--**	**--**	**--**	**--**	

Total Sacramento County Project Emissions by Phase	Number of Wells	Peak Day Emissions (pounds/day)									Annual Emissions (tons/year)									$MTCO_2E$
		NO_X	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	NO_X	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	
Well Site Preparation/Access Roads	32	2.38	0.451	5.72	0.91	19.0	0.043	0.122	1.14	4,107	0.086	0.018	0.130	0.019	0.706	0.002	0.003	0.046	152	140
Drilling Operations	32	86.7	10.9	8.40	2.77	407	0.923	1.01	5.17	102,877	20.6	2.61	0.810	0.460	97.7	0.219	0.209	1.24	24,433	22,248
Well Completion Operations	32	4.22	0.958	3.91	0.739	36.0	0.082	0.094	1.98	8,021	0.134	0.030	0.004	0.004	1.153	0.003	0.004	0.067	255	234
Pipelines	--	2.01	0.366	4.96	0.831	15.839	0.036	0.116	0.920	3,437	0.075	0.016	0.058	0.011	0.71	0.001	0.002	0.041	134	123
Maximum Daily Project Emissions - Pound/day	**86.7**	**10.9**	**8.4**	**2.77**	**407**	**0.923**	**1.01**	**5.17**	**102,877**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**		
Total Project Emissions - Tons										**20.9**	**2.68**	**1.00**	**0.494**	**100.2**	**0.225**	**0.218**	**1.40**	**24,974**	**22,745**	
GHG - $MTCO_2E$ conversions																		**273**	**27.9**	**1**
Project GHG Emissions Year -1																			***8,483***	
Project GHG Emissions Year -2																			***13,971***	
Project GHG Emissions Year -3																			***291***	
GHG Emissions Threshold $MTCO_2E$ per year																			***1,100***	
Total Project GHG Emissions - $MTCO_2E$																			***22,745***	

Contra Costa County Project Emissions within SMAQMD by Phase	Number of Wells	Peak Day Emissions (pounds/day)									Annual Emissions (tons/year)									$MTCO_2E$
		NO_X	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	NO_X	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	
Well Site Preparation/Access Roads	12	0.396	0.006	0.411	0.112	0.077	0.006	0.101	0.0004	658	0.002	0.00004	0.002	0.001	0.0005	0.00004	0.0006	0.000002	3.95	3.73
Drilling Operations	12	0.260	0.004	0.008	0.003	0.101	0.001	0.019	0.001	147	0.005	0.00005	0.0002	0.0001	0.001	0.00002	0.0004	0.000004	2.48	2.34
Well Completion Operations	12	0.116	0.007	0.458	0.118	0.341	0.003	0.033	0.001	331	0.003	0.0002	0.014	0.004	0.0102	0.0001	0.001	0.00003	9.92	9.25
Pipelines	--	0.396	0.006	0.411	0.112	0.077	0.006	0.101	0.0004	658	0.001	0.00002	0.002	0.0004	0.0003	0.0000	0.0004	0.000001	2.47	2.33
Maximum Daily Project Emissions - Pound/day	**0.396**	**0.007**	**0.458**	**0.118**	**0.341**	**0.006**	**0.101**	**0.001**	**658**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**		
Total Project Emissions - Tons/Year										**0.012**	**0.0003**	**0.018**	**0.005**	**0.012**	**0.0002**	**0.002**	**0.00004**	**18.8**	**17.7**	
SMAQMD thresholds - Pound/day	**85**	**--**	**80**	**82**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
SMAQMD thresholds - Tons/year	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**14.6**	**15**	**--**	**--**	**--**	**--**	**--**	**--**	
GHG - $MTCO_2E$ conversions																		**273**	**27.9**	**1**
Total Project GHG Emissions - $MTCO_2E$																			***17.7***	
GHG Emissions Threshold $MTCO_2E$ per year																			***1,100***	

padre associates, inc. ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

Solano County Project Emissions within SMAQMD by Phase and Year	Number of Wells	Peak Day Emissions (pounds/day)									Annual Emissions (tons/year)									$MTCO_2E$
		NO_X	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	NO_X	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	
Project Year -1																				
Well Site Preparation/Access Roads	22	0.156	0.003	0.162	0.044	0.031	0.002	0.040	0.0002	260	0.002	0.00003	0.002	0.0005	0.00034	0.00003	0.00044	0.000002	2.86	2.70
Drilling Operations	13	0.676	0.010	0.684	0.187	0.238	0.011	0.164	0.001	1,117	0.041	0.0005	0.029	0.008	0.0033	0.0006	0.0099	0.00002	63.4	60.0
Well Completion Operations	6	0.061	0.004	0.182	0.047	0.170	0.001	0.014	0.001	150	0.001	0.0001	0.003	0.001	0.0025	0.00002	0.0002	0.00001	2.25	2.10
Maximum Daily Pound/day and Tons/year		**0.676**	**0.010**	**0.684**	**0.187**	**0.238**	**0.011**	**0.164**	**0.001**	**1,117**	**0.044**	**0.001**	**0.034**	**0.009**	**0.006**	**0.001**	**0.011**	**0.00004**	**68.5**	**64.8**
Project Year -2																				
Well Site Preparation/Access Roads	4	0.156	0.003	0.162	0.044	0.031	0.002	0.040	0.0002	260	0.000	0.00001	0.000	0.0001	0.00006	0.00000	0.00008	0.0000003	0.520	0.491
Drilling Operations	13	0.676	0.010	0.684	0.187	0.238	0.011	0.164	0.001	1,117	0.041	0.0005	0.029	0.008	0.0033	0.0006	0.0099	0.00002	63.4	60.0
Well Completion Operations	20	0.061	0.004	0.182	0.047	0.170	0.001	0.014	0.001	150	0.003	0.0002	0.009	0.002	0.0085	0.0001	0.0007	0.00003	7.51	6.99
Maximum Daily Pound/day and Tons/year		**0.676**	**0.010**	**0.684**	**0.187**	**0.238**	**0.011**	**0.164**	**0.001**	**1,117**	**0.045**	**0.001**	**0.039**	**0.011**	**0.012**	**0.001**	**0.011**	**0.00006**	**71.4**	**67.5**
Project Year -2																				
Well Site Preparation/Access Roads	13	0.156	0.003	0.162	0.044	0.031	0.002	0.040	0.0002	260	0.001	0.00002	0.001	0.0003	0.00020	0.00002	0.00026	0.000001	1.69	1.60
Drilling Operations	13	0.676	0.010	0.684	0.187	0.238	0.011	0.164	0.001	1,117	0.041	0.0005	0.029	0.008	0.0033	0.0006	0.0099	0.00002	63.4	60.0
Well Completion Operations	13	0.061	0.004	0.182	0.047	0.170	0.001	0.014	0.001	150	0.002	0.0001	0.006	0.002	0.0055	0.00005	0.0005	0.00002	4.88	4.54
Pipelines	--	0.156	0.003	0.162	0.044	0.031	0.002	0.040	0.0002	260	0.001	0.00001	0.001	0.0002	0.0002	0.00001	0.00022	0.000001	1.46	1.38
Maximum Daily Pound/day and Tons/year		**0.676**	**0.010**	**0.684**	**0.187**	**0.238**	**0.011**	**0.164**	**0.001**	**1,117**	**0.045**	**0.001**	**0.037**	**0.010**	**0.009**	**0.001**	**0.011**	**0.00005**	**71.4**	**67.5**
SMAQMD thresholds - Pound/day		**85**	--	**80**	**82**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SMAQMD thresholds - Tons/year		--	--	--	--	--	--	--	--	--	--	--	**14.6**	**15**	--	--	--	--	--	--

Solano County Project Emissions within SMAQMD by Phase	Number of Wells	Peak Day Emissions (pounds/day)									Annual Emissions (tons/year)									$MTCO_2E$
		NO_X	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	NO_X	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	
Well Site Preparation/Access Roads	32	0.156	0.003	0.162	0.044	0.031	0.002	0.040	0.0002	260	0.003	0.00005	0.003	0.001	0.001	0.0000	0.001	0.000003	5.07	4.79
Drilling Operations	32	0.676	0.010	0.684	0.187	0.238	0.011	0.164	0.001	1117	0.124	0.001	0.088	0.025	0.010	0.002	0.030	0.0001	190	180
Well Completion Operations	32	0.061	0.004	0.182	0.047	0.170	0.001	0.014	0.001	150	0.006	0.0004	0.018	0.005	0.017	0.0001	0.001	0.0001	14.64	13.6
Pipelines	--	0.156	0.003	0.162	0.044	0.031	0.002	0.040	0.0002	260	0.001	0.00001	0.001	0.000	0.000	0.0000	0.000	0.000001	1.46	1.38
Maximum Daily Project Emissions - Pound/day		**0.676**	**0.010**	**0.684**	**0.187**	**0.238**	**0.011**	**0.164**	**0.001**	**1117**	--	--	--	--	--	--	--	--	--	
Total Project Emissions - Tons											**0.134**	**0.002**	**0.110**	**0.031**	**0.027**	**0.002**	**0.032**	**0.0001**	**211**	**200**
																		GHG - $MTCO_2E$ conversions	**273**	**27.9**	**1**
																		Project GHG Emissions Year -1		***64.8***	
																		Project GHG Emissions Year -2		***67.5***	
																		Project GHG Emissions Year -3		***67.5***	
																		GHG Emissions Threshold $MTCO_2E$ per year		***1,100***	
																		Total Project GHG Emissions - $MTCO_2E$		***200***	

80 Bold text and purple shading indicates that a criteria pollutant is above the daily maximum SMAQMD threshold.
14.6 Bold text and orange shading indicates that a criteria pollutant or GHG is above the yearly SMAQMD threshold.
SMAQMD - Sacramento Metropolitan Air Quality Management District
Dust mitigations applied - watering unpaved roads two times per day.
-- Not Available or Applicable.

Rio Vista 83 Well Development Project
CRITERIA POLLUTANTS & GREENHOUSE GAS EMISSIONS June 20, 2025
TABLE 4: Emissions Summary within YAQMD Jurisdiction

Solano County Project Emissions by Phase and Year	Number of Wells	Peak Day Emissions (pounds/day)									Annual Emissions (tons/year)									$MTCO_2E$
		NO_X	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	NO_X	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	
Year -1																				
Well Site Preparation/Access Roads	22	2.18	0.448	5.78	0.88	18.9	0.040	0.072	1.14	3,784	0.057	0.012	0.10	0.014	0.485	0.001	0.001	0.032	101	92.9
Drilling Operations	13	86.0	10.9	7.65	2.56	407	0.912	0.843	5.17	101,701	8.35	1.06	0.302	0.179	39.7	0.088	0.076	0.504	9,868	8,983
Well Completion Operations	6	4.18	0.955	3.717	0.690	35.93	0.081	0.081	1.98	7,897	0.025	0.006	0.089	0.003	0.214	0.000	0.001	0.013	45.9	42.1
Maximum Daily Pound/day and Tons/year		**86.0**	**10.9**	**7.65**	**2.56**	**407**	**0.912**	**0.843**	**5.17**	**101,701**	**8.43**	**1.08**	**0.490**	**0.196**	**40.4**	**0.090**	**0.078**	**0.549**	**10,015**	**9,118**
Year -2																				
Well Site Preparation/Access Roads	4	2.18	0.448	5.78	0.88	18.9	0.040	0.072	1.14	3,784	0.010	0.002	0.018	0.003	0.088	0.000	0.000	0.006	18.4	16.9
Drilling Operations	13	86.0	10.9	7.65	2.56	407	0.912	0.843	5.17	101,701	8.35	1.06	0.302	0.179	39.7	0.088	0.076	0.504	9,868	8,983
Well Completion Operations	20	4.18	0.955	3.717	0.690	35.9	0.081	0.081	1.98	7,897	0.082	0.018	0.046	0.010	0.715	0.002	0.002	0.042	153	140.4
Maximum Daily Pound/day and Tons/year		**86.0**	**10.9**	**7.65**	**2.56**	**407**	**0.912**	**0.843**	**5.17**	**101,701**	**8.44**	**1.08**	**0.365**	**0.192**	**40.5**	**0.090**	**0.078**	**0.552**	**10,039**	**9,141**
Year -3																				
Well Site Preparation/Access Roads	13	2.18	0.448	5.78	0.88	18.9	0.040	0.072	1.14	3,784	0.034	0.007	0.059	0.008	0.287	0.001	0.001	0.019	59.8	54.9
Drilling Operations	13	86.0	10.9	7.65	2.56	407	0.912	0.843	5.17	101,701	8.35	1.06	0.302	0.179	39.7	0.088	0.076	0.504	9,868	8,983
Well Completion Operations	13	4.18	0.955	3.717	0.690	35.9	0.081	0.081	1.98	7,897	0.053	0.012	0.030	0.006	0.465	0.001	0.001	0.027	99.459	91.2
Pipelines	--	3.03	0.643	4.804	0.81	28.0	0.056	0.086	1.635	5322.378	0.064	0.015	0.029	0.006	0.635	0.001	0.001	0.037	116	107
Maximum Daily Pound/day and Tons/year		**86.0**	**10.9**	**7.65**	**2.56**	**407**	**0.912**	**0.843**	**5.17**	**101,701**	**8.50**	**1.09**	**0.419**	**0.200**	**41.1**	**0.091**	**0.079**	**0.587**	**10,143**	**9,236**
YSAQMD thresholds - Pound/day		--	--	**80**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
YSAQMD thresholds - Tons/year		--	--	--	--	--	--	--	--	--	**10**	**10**	--	--	--	--	--	--	--	--

Total Solano County Project Emissions by Phase	Number of Wells	Peak Day Emissions (pounds/day)									Total Emissions									$MTCO_2E$
		NO_X	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	NO_X	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	
Well Site Preparation/Access Roads	39	2.18	0.448	5.78	0.88	18.9	0.040	0.072	1.14	3,784	0.101	0.022	0.18	0.025	0.860	0.002	0.002	0.056	179	165
Drilling Operations	39	86.0	10.9	7.65	2.56	407	0.912	0.843	5.17	101,701	25.1	3.181	0.905	0.537	119	0.265	0.228	1.51	29,603	26,950
Well Completion Operations	39	4.18	0.955	3.72	0.690	35.926	0.081	0.081	1.98	7,897	0.160	0.036	0.089	0.019	1.39	0.003	0.004	0.082	298.377	274
Pipelines	--	3.026	0.643	4.80	0.81	28.0	0.056	0.086	1.64	5,322	0.064	0.015	0.029	0.006	0.635	0.001	0.001	0.037	116	107
Maximum Daily Emissions - Pound/day		**86.0**	**10.9**	**7.65**	**2.56**	**407**	**0.912**	**0.843**	**5.17**	**101,701**	--	--	--	--	--	--	--	--	--	--
Total Project Emissions - Tons		--	--	--	--	--	--	--	--	--	**25.4**	**3.25**	**1.20**	**0.587**	**122**	**0.272**	**0.235**	**1.69**	**30,197**	**27,495**
GHG - $MTCO_2E$ conversions																		**273**	**27.9**	**1**
																			Project GHG Emissions Year -1	***9,118***
																			Project GHG Emissions Year -2	***9,141***
																			Project GHG Emissions Year -3	***9,236***
																			Total Project GHG Emissions - $MTCO_2E$	***27,495***

Notes:

80	Bold text and purple shading indicates that a criteria pollutant is above the daily maximum YSAQMD threshold.
10	Bold text and orange shading indicates that a criteria pollutant is above the yearly YSAQMD threshold.

YSAQMD - Yolo-Solano Air Quality Management District
Dust mitigations applied - watering unpaved roads two times per day.
-- Not Available or Applicable.

Rio Vista 83 Well Development Project
CRITERIA POLLUTANTS & GREENHOUSE GAS EMISSIONS June 20, 2025
TABLE 5: Emissions Summary within SJVAPCD Jurisdiction

Contra Costa County Project Emissions with SJVAPCD by Phase	Number of Wells	Peak Day Emissions (pounds/day)									Annual Emissions (tons/year)									$MTCO_2E$
		NO_X	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	NO_X	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	
Well Site Preparation/Access Roads	12	6.56	0.105	6.81	1.86	1.28	0.103	1.67	0.006	10,896	0.039	0.001	0.041	0.011	0.008	0.001	0.010	0.00004	65.4	61.8
Drilling Operations	12	11.4	0.236	17.2	4.6	9.17	0.201	2.81	0.029	21,089	0.075	0.001	0.345	0.092	0.055	0.001	0.018	0.0002	137	129
Well Completion Operations	12	1.52	0.100	7.58	1.95	4.67	0.048	0.521	0.014	4,940	0.046	0.003	0.227	0.058	0.140	0.001	0.016	0.0004	148	138
Pipelines	--	6.56	0.105	6.81	1.86	1.28	0.103	1.67	0.006	10,896	0.025	0.0004	0.026	0.007	0.005	0.0004	0.006	0.00002	40.9	38.6
Maximum Daily Prject Emissions - Pound/day		**11.4**	**0.236**	**17.2**	**4.57**	**9.17**	**0.201**	**2.81**	**0.029**	**21,089**	--	--	--	--	--	--	--	--	--	--
Total Project Emissions - Tons/Year		--	--	--	--	--	--	--	--	--	**0.18**	**0.006**	**0.64**	**0.17**	**0.21**	**0.004**	**0.050**	**0.001**	**391**	**368**
SJVAPCD thresholds - Tons/year		--	--	--	--	--	--	--	--	--	**10**	**10**	**15**	**15**	**100**	**27**	--	--	--	--
																		GHG - $MTCO_2E$ conversions	**273**	**27.9**	**1**
																		Total Project GHG Emissions - $MTCO_2E$		***368***	

Sacramento County Project Emissions within SJVAPCD by Phase and Year	Number of Wells	Peak Day Emissions (pounds/day)									Annual Emissions (tons/year)									$MTCO_2E$
		NO_X	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	NO_X	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	
Year -1																				
Well Site Preparation/Access Roads	32	6.56	0.105	20.4	0.145	1.28	0.103	1.67	0.006	10,896	0.105	0.002	0.109	0.030	0.021	0.002	0.027	0.0001	174	165
Drilling Operations	12	11.4	0.236	17.2	4.57	9.17	0.20	2.81	0.03	21,089	0.075	0.001	0.129	0.034	0.055	0.001	0.018	0.000	137	129
Well Completion Operations	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Maximum Daily Pound/day and Tons/year		**11.4**	**0.236**	**20.4**	**4.57**	**9.17**	**0.201**	**2.81**	**0.03**	**21,089**	**0.180**	**0.003**	**0.238**	**0.064**	**0.076**	**0.003**	**0.045**	**0.000**	**311**	**294**
Year -2																				
Well Site Preparation/Access Roads	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0000	0.000	0.000
Drilling Operations	20	11.4	0.236	17.2	4.57	9.17	0.20	2.81	0.03	21,089	0.125	0.002	0.215	0.057	0.092	0.002	0.031	0.0003	228	215
Well Completion Operations	9	1.52	0.100	7.58	1.95	4.67	0.048	0.521	0.014	4,940	0.034	0.002	0.171	0.044	0.105	0.001	0.012	0.0003	111	104
Maximum Daily Pound/day and Tons/year		**11.4**	**0.236**	**17.2**	**4.57**	**9.17**	**0.201**	**2.81**	**0.03**	**21,089**	**0.159**	**0.005**	**0.385**	**0.101**	**0.197**	**0.003**	**0.043**	**0.001**	**339**	**318**
Year -3																				
Well Site Preparation/Access Roads	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Drilling Operations	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Well Completion Operations	23	1.52	0.100	7.58	1.95	4.67	0.048	0.521	0.014	4,940	0.087	0.006	0.436	0.112	0.269	0.003	0.030	0.001	284	265
Pipelines	--	6.56	0.105	6.81	1.86	3.00	0.178	1.75	0.026	10,896	0.074	0.001	0.077	0.021	0.014	0.001	0.019	0.0001	123	116
Maximum Daily Pound/day and Tons/year		**6.56**	**0.105**	**7.58**	**1.95**	**4.67**	**0.178**	**1.75**	**0.026**	**10,896**	**0.161**	**0.007**	**0.512**	**0.133**	**0.283**	**0.004**	**0.049**	**0.001**	**407**	**381**
SJVAPCD thresholds - Tons/year		--	--	--	--	--	--	--	--	--	**10**	**10**	**15**	**15**	**100**	**27**	--	--	--	--

Total Sacramento County Project Emissions within SJVAPCD by Phase	Number of Wells	NO_X	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	NO_X	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	$MTCO_2E$
Well Site Preparation/Access Roads	32	6.56	0.105	20.4	0.145	1.28	0.103	1.67	0.006	10,896	0.105	0.002	0.109	0.030	0.021	0.002	0.027	0.0001	174	165
Drilling Operations	32	11.4	0.236	17.2	4.57	9.17	0.201	2.81	0.029	21,089	0.200	0.004	0.343	0.091	0.148	0.003	0.049	0.0005	365	344
Well Completion Operations	32	1.52	0.100	7.58	1.95	4.67	0.048	0.521	0.014	4,940	0.122	0.008	0.606	0.156	0.374	0.004	0.042	0.001	395	369
Pipelines	--	6.6	0.1	6.8	1.9	3.0	0.2	1.7	0.0	10,896	0.074	0.001	0.077	0.021	0.014	0.001	0.019	0.0001	123	116
Maximum Daily Project Emissions - Pound/day		**11.4**	**0.236**	**20.4**	**4.57**	**9.17**	**0.201**	**2.81**	**0.029**	**21,089**	--	--	--	--	--	--	--	--	--	--
Total Project Emissions - Tons		--	--	--	--	--	--	--	--	--	**0.500**	**0.015**	**1.14**	**0.298**	**0.556**	**0.010**	**0.137**	**0.002**	**1,057**	**993**
																		GHG - $MTCO_2E$ conversions	**273**	**27.9**	**1**
																		Total Project GHG Emissions - $MTCO_2E$		***993***	

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

Solano County Project Emissions within SJVAPCD by Phase and Year	Number of Wells	Peak Day Emissions (pounds/day)									Annual Emissions (tons/year)									$MTCO_2E$
		NO_X	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	NO_X	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	
Year -1																				
Well Site Preparation/Access Roads	22	6.56	0.105	6.8	1.86	1.28	0.103	1.67	0.006	10,896	0.072	0.001	0.075	0.020	0.014	0.001	0.018	0.0001	120	113
Drilling Operations	13	11.4	0.236	17.2	4.57	9.17	0.201	2.81	0.029	21,089	0.081	0.002	0.117	0.031	0.060	0.001	0.020	0.0002	148	140
Well Completion Operations	6	1.52	0.100	7.6	1.95	4.67	0.05	0.521	0.014	4,940	0.023	0.001	0.114	0.029	0.070	0.001	0.008	0.0002	74.1	69
Maximum Daily Pound/day and Tons/year		**11.4**	**0.236**	**17.2**	**4.57**	**9.17**	**0.201**	**2.81**	**0.029**	**21,089**	**0.176**	**0.004**	**0.306**	**0.081**	**0.144**	**0.003**	**0.046**	**0.000**	**342**	**322**
Year -2																				
Well Site Preparation/Access Roads	4	6.56	0.105	6.8	1.86	1.28	0.103	1.67	0.006	10,896	0.013	0.000	0.014	0.004	0.003	0.000	0.003	0.0000	22	21
Drilling Operations	13	11.4	0.236	17.2	4.57	9.17	0.201	2.81	0.029	21,089	0.081	0.002	0.117	0.031	0.060	0.001	0.020	0.0002	148	140
Well Completion Operations	20	1.52	0.100	7.6	1.95	4.67	0.05	0.52	0.01	4,940	0.076	0.005	0.379	0.097	0.234	0.002	0.026	0.0007	247.0	231
Maximum Daily Pound/day and Tons/year		**11.4**	**0.236**	**17.2**	**4.57**	**9.17**	**0.201**	**2.81**	**0.029**	**21,089**	**0.170**	**0.007**	**0.509**	**0.132**	**0.296**	**0.004**	**0.049**	**0.001**	**417**	**391**
Year -3																				
Well Site Preparation/Access Roads	13	6.56	0.105	6.8	1.86	1.28	0.103	1.67	0.006	10,896	0.043	0.001	0.044	0.012	0.008	0.001	0.011	0.0000	71	67
Drilling Operations	13	11.4	0.236	17.2	4.57	9.17	0.201	2.81	0.029	21,089	0.081	0.002	0.117	0.031	0.060	0.001	0.020	0.0002	148	140
Well Completion Operations	13	1.52	0.100	7.6	1.95	4.67	0.05	0.52	0.01	4,940	0.049	0.003	0.246	0.063	0.152	0.002	0.017	0.0004	160.5	150
Pipelines	--	6.56	0.105	6.8	1.86	1.28	0.103	1.67	0.006	10,896	0.037	0.001	0.038	0.010	0.007	0.001	0.009	0.00004	61.3	57.9
Maximum Daily Pound/day and Tons/year		**11.4**	**0.236**	**17.2**	**4.57**	**9.17**	**0.201**	**2.81**	**0.029**	**21,089**	**0.210**	**0.006**	**0.446**	**0.117**	**0.227**	**0.004**	**0.057**	**0.001**	**441**	**414**
SJVAPCD thresholds - Tons/year		--	--	--	--	--	--	--	--	--	**10**	**10**	**15**	**15**	**100**	**27**	--	--	--	--

Solano County Project Emissions within SJVAPCD by Phase	Number of Wells	NO_X	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	NO_X	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	$MTCO_2E$
Well Site Preparation/Access Roads	32	6.56	0.105	6.8	1.861	1.28	0.103	1.67	0.006	10,896	0.128	0.002	0.133	0.036	0.025	0.002	0.033	0.0001	212	201
Drilling Operations	32	11.4	0.236	17.2	4.57	9.17	0.201	2.81	0.029	21,089	0.244	0.005	0.351	0.093	0.180	0.004	0.060	0.0006	445	419
Well Completion Operations	32	1.52	0.100	7.58	1.95	4.67	0.048	0.521	0.014	4,940	0.148	0.010	0.739	0.190	0.456	0.005	0.051	0.001	482	450
Pipelines	--	6.6	0.1	6.8	1.9	1.3	0.1	1.7	0.0	10,896	0.037	0.001	0.038	0.010	0.007	0.001	0.009	0.0000	61	58
Maximum Daily Project Emissions - Pound/day		**11.4**	**0.236**	**17.2**	**4.57**	**9.17**	**0.201**	**2.81**	**0.029**	**21,089**	--	--	--	--	--	--	--	--	--	--
Total Emissions - Tons		--	--	--	--	--	--	--	--	--	**0.557**	**0.017**	**1.26**	**0.330**	**0.668**	**0.011**	**0.153**	**0.002**	**1,201**	**1,127**
																	GHG - $MTCO_2E$ conversions		**273**	**27.9**	**1**
																		Total Project GHG Emissions - $MTCO_2E$		***1,127***	

Notes:

10 Bold text and orange shading indicates that a criteria pollutant is above the yearly SJVAPCD threshold.

SJVAPCD - San Joaquin Valley Air Pollution Control District

-- Not Available or Applicable.

Rio Vista 83 Well Development Project
CRITERIA POLLUTANTS & GREENHOUSE GAS EMISSIONS June 20, 2025
TABLE 6: Emissions Summary within FRAQMD Jurisdiction

Total Contra Costa County Project Emissions within FRAQMD	Number of Wells	Peak Day Emissions (pounds/day)									Annual Emissions (tons/year)									$MTCO_2E$
		NO_X	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	NO_X	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	
Drilling Operations	12	0.246	0.003	0.166	0.047	0.012	0.004	0.059	0.0001	372	0.0221	0.0002	0.015	0.004	0.001	0.0003	0.005	0.00001	33.5	31.7
Maximum Daily Project Emissions - Pound/day		**0.246**	**0.003**	**0.166**	**0.047**	**0.012**	**0.004**	**0.059**	**0.0001**	**372**	--	--	--	--	--	--	--	--	--	--
Total Project Emissions - Tons/Year		--	--	--	--	--	--	--	--	--	**0.022**	**0.0002**	**0.015**	**0.004**	**0.001**	**0.0003**	**0.005**	**0.00001**	**33.5**	**31.7**
FRAQMD thresholds - Pound/day		--	--	**80**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
																			GHG - $MTCO_2E$ conversions	**273**	**27.9**	**1**
																			Total Project GHG Emissions - $MTCO_2E$		***31.7***	

Sacramento County Project Emissions within FRAQMD by Phase and Year	Number of Wells	Peak Day Emissions (pounds/day)									Annual Emissions (tons/year)									$MTCO_2E$
		NO_X	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	NO_X	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	
Year -1																				
Drilling Operations	12	0.246	0.003	0.166	0.047	0.012	0.004	0.059	0.0001	372	0.022	0.0002	0.015	0.004	0.0010	0.0003	0.0053	0.00001	33.5	31.7
Year -2																				
Drilling Operations	20	0.246	0.003	0.166	0.047	0.012	0.004	0.059	0.0001	372	0.037	0.0004	0.025	0.007	0.0017	0.0005	0.0088	0.00002	55.9	52.9
Year -3																				
Drilling Operations	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FRAQMD thresholds - Pound/day		--	--	**80**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Sacramento County Project Total Emissions within FRAQMD	NO_X	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	NO_X	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	$MTCO_2E$
Maximum Daily Project Emissions - Pound/day	**0.246**	**0.003**	**0.166**	**0.047**	**0.012**	**0.004**	**0.059**	**0.0001**	**372**	--	--	--	--	--	--	--	--	--	--
Total Project Emissions - Tons	--	--	--	--	--	--	--	--	--	**0.059**	**0.001**	**0.040**	**0.011**	**0.003**	**0.001**	**0.014**	**0.00003**	**89.4**	**84.6**
																		GHG - $MTCO_2E$ conversions	**273**	**27.9**	**1**
																		Total Project GHG Emissions - $MTCO_2E$		***84.6***	

Solano County Project Emissions within FRAQMD by Phase and Year	Number of Wells	Peak Day Emissions (pounds/day)									Annual Emissions (tons/year)									$MTCO_2E$
		NO_X	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	NO_X	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	
Year -1																				
Drilling Operations	13	0.246	0.003	0.166	0.047	0.012	0.004	0.059	0.0001	372	0.024	0.0003	0.016	0.005	0.001	0.0003	0.006	0.00001	36	34.4
Year -2																				
Drilling Operations	13	0.246	0.003	0.166	0.047	0.012	0.004	0.059	0.0001	372	0.024	0.0003	0.016	0.005	0.001	0.0003	0.006	0.00001	36	34.4
Year -2																				
Drilling Operations	13	0.246	0.003	0.166	0.047	0.012	0.004	0.059	0.0001	372	0.024	0.0003	0.016	0.005	0.001	0.0003	0.006	0.00001	36	34.4
FRAQMD thresholds - Pound/day		--	--	**80**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Solano County Project Total Emissions within FRAQMD	NO_X	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	NO_X	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	$MTCO_2E$
Maximum Daily Project Emissions - Pound/day	**0.246**	**0.003**	**0.166**	**0.047**	**0.012**	**0.004**	**0.059**	**0.0001**	**372**	--	--	--	--	--	--	--	--	--	--
Total Project Emissions - Tons/Year	--	--	--	--	--	--	--	--	--	**0.072**	**0.001**	**0.049**	**0.014**	**0.003**	**0.001**	**0.017**	**0.00004**	**109**	**103**
																		GHG - $MTCO_2E$ conversions	**273**	**27.9**	**1**
																		Total Project GHG Emissions - $MTCO_2E$		***103***	

Notes:
80 Bold text and purple shading indicates that a criteria pollutant is above the daily maximum FRAQMD threshold.
FRAQMD - Feather River Air Quality Management District
-- Not Available or Applicable.

padre associates, inc. ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS