Appendix D Table of Contents - Air Emissions Calculations for the POLA PMPU PEIR

Table D-1. Existing Facility Acres by Cargo Type for use in Extracting 2011 POLA Emissions

Land Use/Terminal	*Acres*
Break Bulk	
Berths 54-55: Stevedore Services of America (SSA)	12.0
Berths 153-155: Crescent Warehouse Company	5.0
Berths 174-181: Pasha Stevedoring Terminals	80.0
Berths 210-211: SA Recycling	26.7
Total	123.7
Liquid Bulk	
Berths 118-119: Kinder Morgan	12.4
Berths 148-151: ConocoPhillips	13.5
Berths 163-164: Ultramar/Valero	16.3
Berths 167-169: Equillon/Shell Oil	9.1
Berths 187-191: Vopak	34.7
Berths 238-240: ExxonMobil	31.4
Total	117.4
Dry Bulk	
Berths 165-166: Rio Tinto/Borax	7.0

Table D-2. POLA 2011 Emissions by Source Category

Source Category	*Tons per Year*						
	VOC	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*	*CO2e*
Assist Tugs	23.1	141.7	271.4	0.2	10.1	9.3	18,107
Locomotives - Switching	4.3	20.8	69.7	0.1	1.5	1.4	7,290
Locomotives - Line Haul	50.8	175.6	982.2	5.8	28.8	26.1	62,214
Trucks	65.5	348.2	1,405.5	3.6	23.0	21.1	348,555

Table D-3. POLA 2011 Emissions from Liquid Bulk Cargo Handling and Transfer

Source Category	*Tons per Year*						
	VOC	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*	*CO2e*
Tanker - Aframax	0.50	1.10	10.30	5.20	0.50	0.50	1,412
Tanker - Chemical	5.40	12.70	127.90	70.50	6.50	5.90	16,521
Tanker - Handysize	2.20	5.20	58.60	48.60	3.50	3.10	7,617
Tanker - Panamax	6.50	15.10	151.30	161.10	10.90	9.40	19,501
Assist Tugs	3.43	21.06	40.33	0.03	1.50	1.38	2,691
Cargo Handling Equipment	0.10	1.10	0.50	-	-	-	73
Locomotives	1.05	3.73	19.99	0.11	0.58	0.52	1,321
Trucks	0.04	0.21	0.84	0.00	0.01	0.01	209
Annual Emissions	19.22	60.20	409.76	285.54	23.49	20.82	49,345
Annual Emissions per acre (117.4 acres)	0.16	0.51	3.49	2.43	0.20	0.18	420

Table D-4. Annual Emissions from Liquid Bulk Cargo Handling and Transfer - PMPU Planning Area 2

Source Category	*Tons per Year*						
	VOC	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*	*CO2e*
OGVs	0.05	0.12	1.19	0.97	0.07	0.06	153.50
Assist Tugs	0.01	0.07	0.14	0.00	0.01	0.00	9.17
Cargo Handling Equipment	0.00	0.00	0.00	-	-	-	0.25
Locomotives	0.00	0.01	0.07	0.00	0.00	0.00	4.50
Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.71
Annual Emissions (0.4 Acres)	0.07	0.21	1.40	0.97	0.08	0.07	168.12

Table D-5. Average Daily Emissions from Liquid Bulk Cargo Handling and Transfer - PMPU Planning Area 2

Source Category	*Pounds per Day*						
	VOC	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*	*CO2e*
OGVs	0.3	0.6	6.5	5.3	0.4	0.4	841
Assist Tugs	0.1	0.4	0.8	0.0	0.0	0.0	50
Cargo Handling Equipment	0.0	0.0	0.0	-	-	-	1
Locomotives	0.0	0.1	0.4	0.0	0.0	0.0	25
Trucks	0.0	0.0	0.0	0.0	0.0	0.0	4
Daily Emissions (0.4 Acres)	0.4	1.1	7.6	5.3	0.4	0.4	921

Table D-6. Annual Emissions from Liquid Bulk Cargo Handling and Transfer - PMPU Planning Area 3

Source Category	*Tons per Year*						
	VOC	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*	*CO2e*
OGVs	(2.06)	(4.82)	(49.22)	(40.35)	(3.03)	(2.67)	(6,370)
Assist Tugs	(0.49)	(2.98)	(5.70)	(0.00)	(0.21)	(0.20)	(380)
Cargo Handling Equipment	(0.01)	(0.16)	(0.07)	-	-	-	(10)
Locomotives	(0.15)	(0.53)	(2.83)	(0.02)	(0.08)	(0.07)	(187)
Trucks	(0.01)	(0.03)	(0.12)	(0.00)	(0.00)	(0.00)	(30)
Annual Emissions (-16.6 Acres)	(2.72)	(8.51)	(57.94)	(40.38)	(3.32)	(2.94)	(6,977)

Table D-7. Average Daily Emissions from Liquid Bulk Cargo Handling and Transfer - PMPU Planning Area 3

Source Category	*Pounds per Day*						
	VOC	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*	*CO2e*
OGVs	(11.3)	(26.4)	(269.7)	(221.1)	(16.6)	(14.6)	(34,905)
Assist Tugs	(2.7)	(16.3)	(31.2)	(0.0)	(1.2)	(1.1)	(2,085)
Cargo Handling Equipment	(0.1)	(0.9)	(0.4)	-	-	-	(57)
Locomotives	(0.8)	(2.9)	(15.5)	(0.1)	(0.4)	(0.4)	(1,023)
Trucks	(0.0)	(0.2)	(0.7)	(0.0)	(0.0)	(0.0)	(162)
Daily Emissions (-16.6 Acres)	(14.9)	(46.6)	(317.5)	(221.2)	(18.2)	(16.1)	(38,231)

Table D-8. Annual Emissions from Liquid Bulk Cargo Handling and Transfer - PMPU Planning Area 4

Source Category	*Tons per Year*						
	VOC	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*	*CO2e*
OGVs	(0.12)	(0.29)	(2.97)	(2.43)	(0.18)	(0.16)	(383.74)
Assist Tugs	(0.03)	(0.18)	(0.34)	(0.00)	(0.01)	(0.01)	(22.92)
Cargo Handling Equipment	(0.00)	(0.01)	(0.00)	-	-	-	(0.62)
Locomotives	(0.01)	(0.03)	(0.17)	(0.00)	(0.00)	(0.00)	(11.25)
Trucks	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(1.78)
Annual Emissions (-1.0 Acres)	(0.16)	(0.51)	(3.49)	(2.43)	(0.20)	(0.18)	(420.31)

Table D-9. Average Daily Emissions from Liquid Bulk Cargo Handling and Transfer - PMPU Planning Area 4

Source Category	*Pounds per Day*						
	VOC	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*	*CO2e*
OGVs	(0.7)	(1.6)	(16.2)	(13.3)	(1.0)	(0.9)	(2,103)
Assist Tugs	(0.2)	(1.0)	(1.9)	(0.0)	(0.1)	(0.1)	(126)
Cargo Handling Equipment	(0.0)	(0.1)	(0.0)	-	-	-	(3)
Locomotives	(0.0)	(0.2)	(0.9)	(0.0)	(0.0)	(0.0)	(62)
Trucks	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(10)
Daily Emissions (-1.0 Acres)	(0.9)	(2.8)	(19.1)	(13.3)	(1.1)	(1.0)	(2,303)

Table D-10. POLA 2011 Emissions from Dry Bulk Cargo Handling and Transfer

Source Category	*Tons per Year*						
	VOC	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*	*CO2e*
OGVs - Bulk	2.40	5.60	56.70	16.20	2.20	1.90	3,308
OGVs - Bulk Heavy Load	0.10	0.30	3.60	0.90	0.10	0.10	230
OGVs - Bulk Wood Chips	-	0.10	1.00	0.30	-	-	51
Assist Tugs	0.99	6.09	11.67	0.01	0.43	0.40	779
Cargo Handling Equipment	0.40	1.90	4.80	-	0.30	0.20	286
Locomotives	1.05	3.73	19.99	0.11	0.58	0.52	1,321
Trucks	0.03	0.17	0.70	0.00	0.01	0.01	174
Annual Emissions	4.97	17.90	98.46	17.52	3.62	3.13	6,148
Annual Emissions per acre (7.0 acres)	0.71	2.56	14.07	2.50	0.52	0.45	878

Table D-11. Annual Emissions from Dry Bulk Cargo Handling and Transfer - PMPU Planning Area 2

Source Category	*Tons per Year*						
	VOC	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*	*CO2e*
OGVs	(1.25)	(3.00)	(30.65)	(8.70)	(1.15)	(1.00)	(1,794.50)
Assist Tugs	(0.50)	(3.05)	(5.84)	(0.00)	(0.22)	(0.20)	(389.30)
Cargo Handling Equipment	(0.20)	(0.95)	(2.40)	-	(0.15)	(0.10)	(143.00)
Locomotives	(0.52)	(1.87)	(9.99)	(0.06)	(0.29)	(0.26)	(660.29)
Trucks	(0.02)	(0.09)	(0.35)	(0.00)	(0.01)	(0.01)	(87.14)
Annual Emissions (-3.5 Acres)	(2.49)	(8.95)	(49.23)	(8.76)	(1.81)	(1.57)	(3,074.23)

Table D-12. Average Daily Emissions from Dry Bulk Cargo Handling and Transfer - PMPU Planning Area 2

Source Category	*Pounds per Day*						
	VOC	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*	*CO2e*
OGVs	(6.8)	(16.4)	(167.9)	(47.7)	(6.3)	(5.5)	(9,833)
Assist Tugs	(2.7)	(16.7)	(32.0)	(0.0)	(1.2)	(1.1)	(2,133)
Cargo Handling Equipment	(1.1)	(5.2)	(13.2)	-	(0.8)	(0.5)	(784)
Locomotives	(2.9)	(10.2)	(54.8)	(0.3)	(1.6)	(1.4)	(3,618)
Trucks	(0.1)	(0.5)	(1.9)	(0.0)	(0.0)	(0.0)	(477)
Daily Emissions (-3.5 Acres)	(13.6)	(49.0)	(269.8)	(48.0)	(9.9)	(8.6)	(16,845)

Table D-13. POLA 2011 Emissions from Break Bulk Cargo Handling and Transfer

Source Category	Tons per Year						
	VOC	CO	NOx	SOx	PM10	PM2.5	CO2e
OGVs - General Cargo	4.60	11.10	123.90	28.90	4.30	3.90	6,367
OGVs - Reefers	1.50	3.60	41.80	8.00	1.20	1.10	2,218
Assist Tugs	1.80	11.05	21.17	0.02	0.79	0.73	1,412
Cargo Handling Equipment	4.20	20.80	64.20	0.10	2.50	2.30	8,146
Locomotives	1.05	3.73	19.99	0.11	0.58	0.52	1,321
Trucks	0.26	1.39	5.62	0.01	0.09	0.08	1,394
Annual Emissions	13.41	51.68	276.68	37.14	9.46	8.63	20,858
Annual Emissions per acre (123.7 acres)	0.11	0.42	2.24	0.30	0.08	0.07	169

Table D-14. Annual Emissions from Break Bulk Cargo Handling and Transfer - PMPU Planning Area 2

Source Category	Tons per Year						
	VOC	CO	NOx	SOx	PM10	PM2.5	CO2e
OGVs	(0.10)	(0.24)	(2.68)	(0.60)	(0.09)	(0.08)	(138.80)
Assist Tugs	(0.03)	(0.18)	(0.34)	(0.00)	(0.01)	(0.01)	(22.84)
Cargo Handling Equipment	(0.07)	(0.34)	(1.04)	(0.00)	(0.04)	(0.04)	(131.71)
Locomotives	(0.02)	(0.06)	(0.32)	(0.00)	(0.01)	(0.01)	(21.35)
Trucks	(0.00)	(0.02)	(0.09)	(0.00)	(0.00)	(0.00)	(22.54)
Annual Emissions (-2.0 Acres)	(0.22)	(0.84)	(4.47)	(0.60)	(0.15)	(0.14)	(337.24)

Table D-15. Average Daily Emissions from Break Bulk Cargo Handling and Transfer - PMPU Planning Area 2

Source Category	Pounds per Day						
	VOC	CO	NOx	SOx	PM10	PM2.5	CO2e
OGVs	(0.5)	(1.3)	(14.7)	(3.3)	(0.5)	(0.4)	(761)
Assist Tugs	(0.2)	(1.0)	(1.9)	(0.0)	(0.1)	(0.1)	(125)
Cargo Handling Equipment	(0.4)	(1.8)	(5.7)	(0.0)	(0.2)	(0.2)	(722)
Locomotives	(0.1)	(0.3)	(1.8)	(0.0)	(0.1)	(0.0)	(117)
Trucks	(0.0)	(0.1)	(0.5)	(0.0)	(0.0)	(0.0)	(124)
Daily Emissions (-2.0 Acres)	(1.2)	(4.6)	(24.5)	(3.3)	(0.8)	(0.8)	(1,848)

Table D-16. Annual Emissions from Break Bulk Cargo Handling and Transfer - PMPU Planning Area 3

Source Category	Tons per Year						
	VOC	CO	NOx	SOx	PM10	PM2.5	CO2e
OGVs	(1.31)	(3.16)	(35.63)	(7.93)	(1.18)	(1.08)	(1,846)
Assist Tugs	(0.39)	(2.38)	(4.55)	(0.00)	(0.17)	(0.16)	(304)
Cargo Handling Equipment	(0.90)	(4.47)	(13.81)	(0.02)	(0.54)	(0.49)	(1,752)
Locomotives	(0.23)	(0.80)	(4.30)	(0.02)	(0.12)	(0.11)	(284)
Trucks	(0.06)	(0.30)	(1.21)	(0.00)	(0.02)	(0.02)	(300)
Annual Emissions (-26.6 Acres)	(2.88)	(11.11)	(59.50)	(7.99)	(2.03)	(1.86)	(4,485)

Note: The project description designates the Berths 210-212 area as dry bulk land use, but the 2011 POLA Emissions Inventory idenfitied it as a break bulk termina

Table D-17. Average Daily Emissions from Break Bulk Cargo Handling and Transfer - PMPU Planning Area 3

Source Category	*Pounds per Day*						
	VOC	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*	*CO2e*
OGVs	(7.2)	(17.3)	(195.2)	(43.5)	(6.5)	(5.9)	(10,116)
Assist Tugs	(2.1)	(13.0)	(24.9)	(0.0)	(0.9)	(0.9)	(1,664)
Cargo Handling Equipment	(4.9)	(24.5)	(75.6)	(0.1)	(2.9)	(2.7)	(9,598)
Locomotives	(1.2)	(4.4)	(23.5)	(0.1)	(0.7)	(0.6)	(1,556)
Trucks	(0.3)	(1.6)	(6.6)	(0.0)	(0.1)	(0.1)	(1,643)
Daily Emissions (-26.6 Acres)	(15.8)	(60.9)	(326.0)	(43.8)	(11.1)	(10.2)	(24,577)

Note: The project description designates the Berths 210-212 area as dry bulk land use, but the 2011 POLA Emissions Inventory idenfitied it as a break bulk termina

Table D-18. Annual Emissions from Break Bulk Cargo Handling and Transfer - PMPU Planning Area 4

Source Category	*Tons per Year*						
	VOC	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*	*CO2e*
OGVs	0.84	2.02	22.77	5.07	0.76	0.69	1,180
Assist Tugs	0.25	1.52	2.91	0.00	0.11	0.10	194
Cargo Handling Equipment	0.58	2.86	8.82	0.01	0.34	0.32	1,119
Locomotives	0.14	0.51	2.75	0.02	0.08	0.07	181
Trucks	0.04	0.19	0.77	0.00	0.01	0.01	192
Annual Emissions (17 Acres)	1.84	7.10	38.02	5.10	1.30	1.19	2,867

Table D-19. Average Daily Emissions from Break Bulk Cargo Handling and Transfer - PMPU Planning Area 4

Source Category	*Pounds per Day*						
	VOC	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*	*CO2e*
OGVs	4.6	11.1	124.8	27.8	4.1	3.8	6,465
Assist Tugs	1.4	8.3	15.9	0.0	0.6	0.5	1,064
Cargo Handling Equipment	3.2	15.7	48.3	0.1	1.9	1.7	6,134
Locomotives	0.8	2.8	15.1	0.1	0.4	0.4	994
Trucks	0.2	1.0	4.2	0.0	0.1	0.1	1,050
Daily Emissions (17 Acres)	10.1	38.9	208.3	28.0	7.1	6.5	15,707

	A	B	C	D	E	F
1	Table D-20. Off-Terminal Truck VMT by Speed Category for Full Build-out of the POLA PMPU					
2		*Vehicle Type/Daily Vehicle Miles Travelled*				
3	*Speed*	*Bobtail*	*Chassis*	*Container*	*Total Trucks*	*Autos*
4	0-10	43	65	209	317	0.20
5	11-15	684	281	1,611	2,576	178
6	16-20	2,343	642	6,111	9,096	961
7	21-25	9,231	2,177	19,056	30,464	3,280
8	26-30	13,454	3,567	28,342	45,363	4,114
9	31-35	5,276	1,899	15,089	22,264	1,934
10	36-40	8,903	2,518	27,718	39,139	2,517
11	41-45	8,851	3,074	29,483	41,408	1,603
12	46-50	4,779	1,236	11,602	17,617	1,349
13	51-55	1,979	373	6,268	8,620	622
14	56-60	1,469	250	3,620	5,339	303
15	61-65	308	105	872	1,284	103
16	Total Daily VMT	57,319	16,186	149,981	223,487	16,964

	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	Table D-21. On-Road Truck Emission Factors - POLA PMPU												
2		*Emission Factors (Grams/Mile)*											
3	*Project Year/Speed*	*VOC*	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*	*Dust PM10*	*Dust PM2.5*	*Total PM10*	*Total PM2.5*	*CO2*	*References*
4	*Year 2025*												
5	5	3.26	6.51	9.27	0.02	0.10	0.09	0.09	0.03	0.19	0.12	3,564	(1)
6	10	1.90	4.06	6.97	0.02	0.09	0.09	0.09	0.03	0.18	0.12	2,944	(1)
7	15	0.96	2.35	5.25	0.02	0.09	0.08	0.09	0.03	0.18	0.11	2,417	(1)
8	20	0.41	1.28	3.96	0.02	0.08	0.07	0.09	0.03	0.17	0.10	1,907	(1)
9	25	0.36	1.20	3.55	0.02	0.07	0.07	0.09	0.03	0.16	0.10	1,779	(1)
10	30	0.32	1.15	3.20	0.02	0.07	0.07	0.09	0.03	0.16	0.10	1,670	(1)
11	35	0.28	1.13	2.92	0.02	0.08	0.07	0.09	0.03	0.17	0.10	1,579	(1)
12	40	0.24	1.12	2.69	0.02	0.08	0.07	0.09	0.03	0.17	0.10	1,507	(1)
13	45	0.21	1.13	2.52	0.02	0.09	0.08	0.09	0.03	0.18	0.11	1,454	(1)
14	50	0.19	1.17	2.41	0.02	0.10	0.09	0.09	0.03	0.19	0.12	1,419	(1)
15	55	0.17	1.23	2.37	0.02	0.12	0.11	0.09	0.03	0.21	0.14	1,403	(1)
16	60	0.16	1.30	2.38	0.02	0.13	0.12	0.09	0.03	0.22	0.15	1,405	(1)
17	65	0.16	1.40	2.46	0.02	0.15	0.14	0.09	0.03	0.24	0.17	1,426	(1)
18	Notes: (1) From EMFAC2011 (ARB 2011), as developed for the Ports truck fleets (Starcrest LLC 2012) for year 2025.												
19													
20													
21	Table D-22. On-Road Auto Emission Factors - POLA PMPU												
22		*Emission Factors (Grams/Mile)*											
23	*Project Year/Mode*	*VOC*	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*	*Dust PM10*	*Dust PM2.5*	*Total PM10*	*Total PM2.5*	*CO2*	*References*
24	*Year 2025*												
25	5	0.07	1.14	0.11	0.01	0.01	0.01	0.02	0.01	0.03	0.02	701	(1)
26	10	0.05	1.03	0.09	0.01	0.01	0.01	0.02	0.01	0.03	0.01	521	(1)
27	15	0.03	0.94	0.08	0.01	0.01	0.00	0.02	0.01	0.03	0.01	401	(1)
28	20	0.02	0.85	0.07	0.01	0.00	0.00	0.02	0.01	0.02	0.01	320	(1)
29	25	0.02	0.78	0.07	0.01	0.00	0.00	0.02	0.01	0.02	0.01	266	(1)
30	30	0.01	0.72	0.06	0.01	0.00	0.00	0.02	0.01	0.02	0.01	228	(1)
31	35	0.01	0.66	0.06	0.01	0.00	0.00	0.02	0.01	0.02	0.01	204	(1)
32	40	0.01	0.61	0.06	0.01	0.00	0.00	0.02	0.01	0.02	0.01	189	(1)
33	45	0.01	0.57	0.05	0.01	0.00	0.00	0.02	0.01	0.02	0.01	183	(1)
34	50	0.01	0.53	0.05	0.01	0.00	0.00	0.02	0.01	0.02	0.01	183	(1)
35	55	0.01	0.50	0.05	0.01	0.00	0.00	0.02	0.01	0.02	0.01	188	(1)
36	60	0.01	0.46	0.06	0.01	0.00	0.00	0.02	0.01	0.02	0.01	200	(1)
37	65	0.01	0.43	0.06	0.01	0.00	0.00	0.02	0.01	0.02	0.01	223	(1)
38	Notes: (1) From EMFAC2011 (ARB 2011) for SCAB average fleet and year 2025.												

	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH
1	Table D-23. Daily Off-Terminal Truck Emissions - POLA PMPU Full Build-out - Combined Planning Areas											
2		*Pounds per Day*										
3	*Year/Speed*	*VOC*	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*	*Dust PM10*	*Dust PM2.5*	*Total PM10*	*Total PM2.5*	*CO2*
4	*Year 2025*											
5	0-10	2.3	4.6	6.5	0.0	0.1	0.1	0.1	0.0	0.1	0.1	2,491
6	10-15	10.8	23.0	39.6	0.1	0.5	0.5	0.5	0.2	1.0	0.7	16,720
7	15-20	19.3	47.2	105.2	0.3	1.7	1.6	1.8	0.6	3.5	2.2	48,483
8	20-25	27.9	85.7	266.3	1.1	5.2	4.8	6.0	2.0	11.2	6.8	128,101
9	25-30	36.2	120.5	355.6	1.7	7.4	6.8	9.0	3.0	16.4	9.8	177,974
10	30-35	15.5	56.7	157.3	0.8	3.6	3.3	4.4	1.5	8.0	4.8	81,989
11	35-40	23.8	97.2	251.7	1.4	6.5	6.0	7.8	2.6	14.3	8.6	136,317
12	40-45	22.0	102.1	245.4	1.5	7.4	6.8	8.2	2.7	15.6	9.5	137,645
13	45-50	8.3	44.0	97.9	0.6	3.5	3.2	3.5	1.2	7.0	4.4	56,485
14	50-55	3.6	22.2	45.9	0.3	1.9	1.8	1.7	0.6	3.6	2.3	26,976
15	55-60	2.0	14.4	27.9	0.2	1.4	1.3	1.1	0.4	2.4	1.6	16,516
16	60-65	0.5	3.7	6.7	0.0	0.4	0.3	0.3	0.1	0.6	0.4	3,978
17	Subtotal	172.2	621.3	1,606.0	8.2	39.5	36.4	44.4	14.8	83.9	51.1	833,676
18												
19												
20	Table D-24. Daily Auto Emissions - POLA PMPU Full Build-out - Combined Planning Areas											
21		*Pounds per Day*										
22	*Year/Speed*	*VOC*	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*	*Dust PM10*	*Dust PM2.5*	*Total PM10*	*Total PM2.5*	*CO2*
23	*Year 2025*											
24	0-10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
25	10-15	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	204
26	15-20	0.1	2.0	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.0	849
27	20-25	0.2	6.2	0.5	0.1	0.0	0.0	0.2	0.1	0.2	0.1	2,316
28	25-30	0.1	7.1	0.6	0.1	0.0	0.0	0.2	0.1	0.2	0.1	2,410
29	30-35	0.1	3.1	0.3	0.0	0.0	0.0	0.1	0.0	0.1	0.0	974
30	35-40	0.1	3.7	0.3	0.1	0.0	0.0	0.1	0.0	0.1	0.0	1,131
31	40-45	0.0	2.2	0.2	0.0	0.0	0.0	0.1	0.0	0.1	0.0	670
32	45-50	0.0	1.7	0.2	0.0	0.0	0.0	0.1	0.0	0.1	0.0	544
33	50-55	0.0	0.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	251
34	55-60	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	126
35	60-65	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45
36	Subtotal	0.6	27.4	2.4	0.4	0.1	0.1	0.8	0.3	0.9	0.4	9,518
37												
38												
39	Table D-25. Daily Off-Terminal Vehicle Emissions - POLA PMPU Full Build-out - All Planning Areas											
40		*Pounds per Day*										
41	*Planning Area/Source*	*VOC*	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*					*CO2*
42	*Planning Area 2*											
43	Trucks	77.1	278.1	719.0	3.7	17.7	16.3					373,252
44	Autos	0.3	12.4	1.1	0.2	0.0	0.0					4,288
45	Subtotal	77.4	290.5	720.1	3.9	17.7	16.3					377,541
46	*Planning Area 3*											
47	Trucks	94.5	341.0	881.4	4.5	21.7	20.0					457,528
48	Autos	0.3	15.1	1.3	0.2	0.1	0.0					5,230
49	Subtotal	94.8	356.0	882.7	4.7	21.7	20.0					462,758
50	*Planning Area 4*											
51	Trucks	0.6	2.2	5.6	0.0	0.1	0.1					2,896
52	Autos											
53	Subtotal	0.6	2.2	5.6	0.0	0.1	0.1					2,896

	A	B	C	D	E	F	G	H	I	J
1	Table D-26. On-Road Truck Operational Data for Full Build-out of the POLA PMPU									
2		*Idling Time/*	*Miles/*	*Annual*	*Peak Daily*	*Average*	*Annual*	*Annual*	*Peak Day*	*Peak Day*
3	*Activity/Planning Area*	*Trip (Hrs) (1)*	*Trip (1)*	*Truck Trips (2)*	*Trips (3)*	*Speed (MPH)*	*Idling (Hrs)*	*Miles*	*Idling (Hrs)*	*Miles*
4	*On-Terminal*									
5	Planning Area 2	0.54	1.7	1,825,005	6,685	13	985,503	3,102,509	3,610	11,365
6	*Planning Area 3*	0.54	1.7	2,473,380	9,060	13	1,335,625	4,204,746	4,892	15,402
7	*Planning Area 4*	0.13	0.4	13,650	50	7	1,775	5,460	7	20
8	*Off-Terminal*									
9	Planning Area 2	0.17		1,825,005	6,685		304,168		1,114	
10	*Planning Area 3*	0.17		2,473,380	9,060		412,230		1,510	
11	*Planning Area 4*	0.17		13,650	50		2,275		8	
12	Notes: (1) On-terminal durations from the POLA 2011 Air Emissions Inventory Report (Starcrest 2012) - PA 2 and 3 = container trucks and PA 4 =									
13	non-container truck data.									
14	(2) Equal to peak daily trips times 273.									
15	(3) From PEIR Table 3.12-14 and equate to daily trips during a peak month.									

	L	M	N	O	P	Q	R	S	T	U	V	W	X
1	Table D-27. On-Road Truck Emission Factors - POLA PMPU												
2	*Project Year/Mode*	*Emission Factors (Grams/Mile)*											*References*
3		*VOC*	*CO*	*NOx*	*SOx*	*DPM_{10}*	*$DPM_{2.5}$*					*CO2*	
4								*Dust PM10*	*Dust PM2.5*	*Total PM10*	*Total PM2.5*		
5	*Year 2025*												
6	On-road Truck - Idle	4.30	16.60	27.90	0.05	0.06	0.06			0.06	0.06	4,934	(1)
7	On-road Truck - 5 mph	3.26	6.51	9.27	0.03	0.10	0.09	0.09	0.03	0.19	0.12	3,564	(1)
8	On-road Truck - 7 mph	2.72	5.53	8.35	0.03	0.10	0.09	0.09	0.03	0.19	0.12	3,316	(2)
9	On-road Truck - 10 mph	1.90	4.06	6.97	0.03	0.09	0.09	0.09	0.03	0.18	0.12	2,944	(1)
10	On-road Truck - 13 mph	1.34	3.03	5.94	0.02	0.09	0.08	0.09	0.03	0.18	0.11	2,628	(2)
11	On-road Truck - 15 mph	0.96	2.35	5.25	0.02	0.09	0.08	0.09	0.03	0.18	0.11	2,417	(1)
12	Notes: (1) From EMFAC2011 (ARB 2011), as developed for the Ports truck fleets (Starcrest LLC 2012). Units in gr/m, except idle factors in units of gr/hr.												
13	(2) Interpolated values.												

	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL
1	Table D-28. Peak Daily Truck Emissions - POLA PMPU Planning Area 2												
2		*Pounds per Day*											*MTPY*
3	*Activity/Mode*	*VOC*	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*	*Dust PM10*	*Dust PM2.5*	*Total PM10*	*Total PM2.5*	*CO2*	*CO2*
4	*On-Terminal*												
5	Truck - Idling	34.2	132.1	222.1	0.4	0.5	0.4			0.5	0.4	39,275	4,874
6	Truck - Driving	33.5	76.0	148.8	0.6	2.2	2.1	2.3	0.8	4.5	2.8	65,854	8,172
7	Subtotal - On-Terminal	67.8	208.2	370.8	1.0	2.7	2.5	2.3	0.8	5.0	3.2	105,129	13,046
8	*Off-Terminal*												
9	Truck - Idling	10.6	40.8	68.5	0.1	0.1	0.1			0.1	0.1	12,122	1,504
10	Truck - Driving	77.1	278.1	719.0	3.7	17.7	16.3	19.9	6.6	37.5	22.9	373,252	46,317
11	Auto - Driving	0.3	12.4	1.1	0.2	0.0	0.0	0.4	0.1	0.4	0.2	4,288	532
12	Subtotal - Off-Terminal	87.9	331.3	788.6	4.0	17.9	16.5	20.2	6.7	38.1	23.2	389,663	48,354
13	Total - Planning Area 2	155.7	539.5	1,159.5	5.0	20.6	18.9	22.5	7.5	43.1	26.4	494,792	61,399
14	Notes:												
15													
16	Table D-29. Peak Daily Truck Emissions - POLA PMPU Planning Area 3												
17		*Pounds per Day*											*MTPY*
18	*Activity/Mode*	*VOC*	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*	*Dust PM10*	*Dust PM2.5*	*Total PM10*	*Total PM2.5*	*CO2*	*CO2*
19	*On-Terminal*												
20	Truck - Idling	46.4	179.1	301.0	0.6	0.6	0.6			0.6	0.6	53,228	6,605
21	Truck - Driving	45.4	103.0	201.6	0.8	3.0	2.8	3.1	1.0	6.1	3.8	89,251	11,075
22	Subtotal - On-Terminal	91.8	282.1	502.6	1.3	3.7	3.4	3.1	1.0	6.7	4.4	142,479	17,680
23	*Off-Terminal*												
24	Truck - Idling	14.3	55.3	92.9	0.2	0.2	0.2			0.2	0.2	16,429	2,039
25	Truck - Driving	94.5	341.0	881.4	4.5	21.7	20.0	24.3	8.1	46.0	28.1	457,528	56,775
26	Auto - Driving	0.3	15.1	1.3	0.2	0.1	0.0	0.4	0.1	0.5	0.2	5,230	649
27	Subtotal - Off-Terminal	109.2	411.3	975.6	4.9	21.9	20.2	24.8	8.3	46.7	28.4	479,187	59,463
28	Total - Planning Area 3	201.0	693.4	1,478.2	6.2	25.6	23.6	27.8	9.3	53.4	32.8	621,666	77,143
29	Notes:												
30													
31	Table D-30. Peak Daily Truck Emissions - POLA PMPU Planning Area 4												
32		*Pounds per Day*											*MTPY*
33	*Activity/Mode*	*VOC*	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*	*Dust PM10*	*Dust PM2.5*	*Total PM10*	*Total PM2.5*	*CO2*	*CO2*
34	*On-Terminal*												
35	Truck - Idling	0.1	0.2	0.4	0.0	0.0	0.0			0.0	0.0	71	9
36	Truck - Driving	0.1	0.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	146	18
37	Subtotal - On-Terminal	0.2	0.5	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	217	27
38	*Off-Terminal*												
39	Truck - Idling	0.1	0.3	0.5	0.0	0.0	0.0			0.0	0.0	90.67	11
40	Truck - Driving	0.6	2.2	5.6	0.0	0.1	0.1	0.2	0.1	0.3	0.2	2,896	359
41	Auto - Driving												-
42	Subtotal - Off-Terminal	0.7	2.5	6.1	0.0	0.1	0.1	0.2	0.1	0.3	0.2	2,987	371
43	Total - Planning Area 4	0.9	2.9	6.9	0.0	0.1	0.1	0.2	0.1	0.3	0.2	3,203	398

	A	B	C	D	E	F	G	H
1	Table D-31. Switching Locomotive Usages by Rail Yard Location - POLA PMPU Incremental Full Buil-out Year 2035							
2			*Load*	*Number*	*Hourly*	*Hours/*	*Annual*	*Total*
3	*Equipment Type/Location*	*Hp*	*Factor*	*Active*	*Hp-Hr*	*Round Trip*	*Round Trips*	*Hp-Hrs*
4	Yard Locomotive - On-Dock Rail Yard	2,028	0.10	1	203	3.5	2,855	2,026,621
5	Yard Locomotive - Off-Dock Rail Yard	2,028	0.10	1	203	3.5	4,025	2,856,803
6	Line Haul Locomotive - All Rail Yards	4,000	0.10	1	400	3.5	6,880	9,632,000
7	Notes: From APL EIR							
8								
9								
10	Table D-32. Haul Line Locomotive Usages By Rail Yard Location - POLA PMPU Incremental Full Buil-out Year 2035							
11		*Tons/*		*Gallons/*		*Annual*	*Total Annual*	
12	*Activity/Location*	*Train*	*Miles*	*k Ton-Miles*	*Hp-Hr/Gallon*	*Train Trips*	*Hp-Hrs*	
13	Line Hauling - On-dock Rail Yard	6,344	116.1	0.99	20.8	5,710	86,346,038	
14	Line Hauling - Off-dock Rail Yard	6,344	93.3	0.99	20.8	8,050	97,813,682	
15	Notes: 2011 POLA EI Approach							
16								
17								
18	Table D-33. Fraction of Train Trips Generated by each Planning Area from Year 2035 Train Analysis - POLA PMPU							
19		*Annual*						
20	*Project Scenario/Rail Yard*	*Trips*						
21	Planning Area 2	0.32						
22	Planning Area 3	0.68						
23	Planning Area 4	-						

	J	K	L	M	N	O	P	Q	R
1	Table D-34. Emission Factors for Locomotives - POLA PMPU								
2		*Emission Factors (Gm/Hp-Hr)*							
3	*Project Scenario/Equipment*	*VOC*	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*	*CO2*	*References*
4	Year 2025								
5	Switch Yard Locomotive - On-Dock	0.26	1.83	4.50	0.01	0.04	0.03	678	(1)
6	Switch Yard Locomotive - Off-Dock	0.53	1.83	9.87	0.01	0.21	0.19	670	(2)
7	Line Haul Locomotive	0.13	1.28	3.56	0.01	0.08	0.07	487	(3)
8	Notes: (1) Data from 2011 POLA EI Table 6.1 and equate to Tier 3 locomotive standards.								
9	(2) Data from APL DEIR Appendix E1 Table 1.4-17 and equate to national switching locomotive fleet average emission factors for year 2025.								
10	(3) Data from APL DEIR Appendix E1 Table 1.4-17 and equate to national line haul locomotive fleet average emission factors for year 2025.								

	T	U	V	W	X	Y	Z	AA
1	Table D-35. Annual Locomotive Emissions - POLA PMPU Incremental Full Buil-out Year 2035							
2		*Tons per Year*						
3	*Scenario/Source Activity*	*VOC*	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*	*CO2*
4	*Planning Areas 2 and 3*							
5	Yard Locomotive - On-Dock Rail Yard	0.58	4.09	10.05	0.01	0.08	0.07	1,515
6	Yard Locomotive - Off-Dock Rail Yard	1.67	5.76	31.08	0.02	0.66	0.61	2,110
7	Line Haul Locomotive Switching - All Rail Yards	1.34	13.59	37.80	0.05	0.85	0.78	5,171
8	Line Hauling - On-dock Rail Yard	11.99	121.83	338.84	0.48	7.61	7.01	46,352
9	Line Hauling - Off-dock Rail Yard	13.59	138.01	383.84	0.54	8.63	7.94	52,508
10	Total Tons Per Year	29.17	283.28	801.60	1.09	17.83	16.40	107,655
11	*Planning Area 2*							
12	Total Tons Per Year	9.33	90.65	256.51	0.35	5.71	5.25	34,450
13	Total Pounds per Peak Day (1)	54	527	1,491	2	33	31	200,288
14	Total Pounds per Annual Average Day	51	497	1,406	2	31	29	188,765
15	*Planning Area 3*							
16	Total Tons Per Year	19.83	192.63	545.09	0.74	12.13	11.16	73,205
17	Total Pounds per Peak Day (1)	115	1,120	3,169	4	70	65	425,613
18	Total Pounds per Annual Average Day	109	1,056	2,987	4	66	61	401,126
19	Note: Based on 344 days per year of operations.							

Table D-36. Berths 302-306 Unmitigated Peak Daily Operational Emissions - Year 2025

Scenario	*Annual TEUs*	*PMPU/APL TEUs*
Berths 302-306 Project Year 2025	3,122,000	
Planning Area 2	2,238,000	0.72
Planning Area 3		
212-225 - YTI	2,535,000	0.81
302-305 - APL	2,747,000	0.88
Total Planning Area 3	5,282,000	1.69
Total PMPU Increment	7,520,000	2.41

Table D-37. Berths 302-306 Project Unmitigated Peak Daily Operational Emissions - Year 2025

	Pounds per Day					
Scenario/Emission Source	*VOC*	*CO*	*NO_X*	*SO_X*	*PM_{10}*	*$PM_{2.5}$*
Container Cargo						
OGVs	606	1,136	9,762	306	190	152
Assist Tugs	11	56	63	-	2	1
Cargo Handling Equipment	30	387	117	2	4	4
Trains	54	509	1,448	2	31	29
Trucks	254	815	2,171	7	187	67
Worker Commuer Vehicles	24	204	14	1	81	17
Total - Year 2025 (3,122,000 TEUs)	979	3,107	13,575	318	495	270

Table D-38. Unmitigated Peak Daily Operational Emissions - Year 2025 - Full Build-out of PMPU Planning Area 2

	Pounds per Day					
Scenario/Emission Source	*VOC*	*CO*	*NO_X*	*SO_X*	*PM_{10}*	*$PM_{2.5}$*
Container Cargo						
OGVs	434	814	6,998	219	136	109
Assist Tugs	8	40	45	-	1	1
Cargo Handling Equipment	22	277	84	1	3	3
Trains	54	527	1,491	2	33	31
Trucks	156	539	1,159	5	43	26
Worker Commuer Vehicles	0	12	1	0	0	0
Total - Container Cargo	674	2,211	9,779	228	217	170
Liquid Bulk Cargo						
OGVs	0	1	6	5	0	0
Assist Tugs	0	0	1	0	0	0
Cargo Handling Equipment	0	0	0	-	-	-
Trains	0	0	0	0	0	0
Trucks	0	0	0	0	0	0
Total - Liquid Bulk Cargo	0	1	8	5	0	0
Dry Bulk Cargo						
OGVs	(7)	(16)	(168)	(48)	(6)	(5)
Assist Tugs	(3)	(17)	(32)	(0)	(1)	(1)
Cargo Handling Equipment	(1)	(5)	(13)	-	(1)	(1)
Trains	(3)	(10)	(55)	(0)	(2)	(1)
Trucks	(0)	(0)	(2)	(0)	(0)	(0)
Total - Dry Bulk Cargo	(14)	(49)	(270)	(48)	(10)	(9)
Break Bulk Cargo						
OGVs	(0.5)	(1.3)	(14.7)	(3.3)	(0.5)	(0.4)
Assist Tugs	(0.2)	(1.0)	(1.9)	(0.0)	(0.1)	(0.1)
Cargo Handling Equipment	(0.4)	(1.8)	(5.7)	(0.0)	(0.2)	(0.2)
Trains	(0.1)	(0.3)	(1.8)	(0.0)	(0.1)	(0.0)
Trucks	(0.0)	(0.1)	(0.5)	(0.0)	(0.0)	(0.0)
Total - Break Bulk Cargo	(1.2)	(4.6)	(24.5)	(3.3)	(0.8)	(0.8)
Total PMPU Planning Area 2	660	2,158	9,492	182	206	161

Table D-39. Unmitigated Peak Daily Operational Emissions - Year 2025 - Full Build-out of PMPU Planning Area 3

	Pounds per Day					
Scenario/Emission Source	*VOC*	*CO*	*NO_X*	*SO_X*	*PM_{10}*	*$PM_{2.5}$*
Container Cargo						
OGVs	1,025	1,922	16,516	518	321	257
Assist Tugs	19	95	107	-	3	2
Cargo Handling Equipment	51	655	198	3	7	7
Trains	115	1,120	3,169	4	70	65
Trucks	201	693	1,478	6	53	33
Worker Commuer Vehicles	0	15	1	0	0	0
Total - Container Cargo	1,411	4,500	21,469	532	456	363
Liquid Bulk Cargo						
OGVs	(11)	(26)	(270)	(221)	(17)	(15)
Assist Tugs	(3)	(16)	(31)	(0)	(1)	(1)
Cargo Handling Equipment	(0)	(1)	(0)	-	-	-
Trains	(1)	(3)	(15)	(0)	(0)	(0)
Trucks	(0)	(0)	(1)	(0)	(0)	(0)
Total - Liquid Bulk Cargo	(15)	(47)	(317)	(221)	(18)	(16)
Dry Bulk Cargo (1)						
OGVs	(7)	(17)	(195)	(43)	(6)	(6)
Assist Tugs	(2)	(13)	(25)	(0)	(1)	(1)
Cargo Handling Equipment	(5)	(25)	(76)	(0)	(3)	(3)
Trains	(1)	(4)	(24)	(0)	(1)	(1)
Trucks	(0)	(2)	(7)	(0)	(0)	(0)
Total - Dry Bulk Cargo	(16)	(61)	(326)	(44)	(11)	(10)
Total PMPU Planning Area 3	1,381	4,392	20,826	267	426	337

Note: (1) The project description designates the Berths 210-212 area as dry bulk land use, but since the 2011 POLA Emissions Inventory idenfitied it as a break bulk terminal, its emissions are based on the break bulk module.

Table D-40. Unmitigated Peak Daily Operational Emissions - Year 2025 - Full Build-out of PMPU Planning Area 4

	Pounds per Day					
Scenario/Emission Source	*VOC*	*CO*	*NO_X*	*SO_X*	*PM_{10}*	*$PM_{2.5}$*
Liquid Bulk Cargo						
OGVs	(1)	(2)	(16)	(13)	(1)	(1)
Assist Tugs	(0)	(1)	(2)	(0)	(0)	(0)
Cargo Handling Equipment	(0)	(0)	(0)	-	-	-
Trains	(0)	(0)	(1)	(0)	(0)	(0)
Trucks	(0)	(0)	(0)	(0)	(0)	(0)
Total - Liquid Bulk Cargo	(1)	(3)	(19)	(13)	(1)	(1)
Break Bulk Cargo						
OGVs	5	11	125	28	4	4
Assist Tugs	1	8	16	0	1	1
Cargo Handling Equipment	3	16	48	0	2	2
Trains	1	3	15	0	0	0
Trucks	0	1	4	0	0	0
Total - Break Bulk Cargo	10	39	208	28	7	7
Total PMPU Planning Area 4	9	36	189	15	6	6

Table D-41. Berths 302-306 Project Mitigated Peak Daily Operational Emissions - Year 2025

	Pounds per Day					
Scenario/Emission Source	*VOC*	*CO*	*NO_X*	*SO_X*	*PM_{10}*	*$PM_{2.5}$*
Container Cargo						
OGVs	625	1,104	7,822	239	164	130
Assist Tugs	11	56	63	-	2	1
Cargo Handling Equipment	31	393	118	2	5	4
Trains	54	509	1,448	2	31	29
Trucks	254	815	2,171	7	187	67
Worker Commuer Vehicles	24	204	14	1	81	17
Total - Year 2025 (3,122,000 TEUs)	999	3,081	11,636	251	470	248

Table D-42. Mitigated Peak Daily Operational Emissions - Year 2025 - Full Build-out of PMPU Planning Area 2

	Pounds per Day					
Scenario/Emission Source	*VOC*	*CO*	*NO_X*	*SO_X*	*PM_{10}*	*$PM_{2.5}$*
Container Cargo						
OGVs	448	791	5,607	171	118	93
Assist Tugs	8	40	45	-	1	1
Cargo Handling Equipment	22	282	85	1	4	3
Trains	54	527	1,491	2	33	31
Trucks	156	539	1,159	5	43	26
Worker Commuer Vehicles	0	12	1	0	0	0
Total - Container Cargo	688	2,192	8,389	180	199	154
Liquid Bulk Cargo						
OGVs	0	1	6	5	0	0
Assist Tugs	0	0	1	0	0	0
Cargo Handling Equipment	0	0	0	-	-	-
Trains	0	0	0	0	0	0
Trucks	0	0	0	0	0	0
Total - Liquid Bulk Cargo	0	1	8	5	0	0
Dry Bulk Cargo						
OGVs	(7)	(16)	(168)	(48)	(6)	(5)
Assist Tugs	(3)	(17)	(32)	(0)	(1)	(1)
Cargo Handling Equipment	(1)	(5)	(13)	-	(1)	(1)
Trains	(3)	(10)	(55)	(0)	(2)	(1)
Trucks	(0)	(0)	(2)	(0)	(0)	(0)
Total - Dry Bulk Cargo	(14)	(49)	(270)	(48)	(10)	(9)
Break Bulk Cargo						
OGVs	(0.5)	(1.3)	(14.7)	(3.3)	(0.5)	(0.4)
Assist Tugs	(0.2)	(1.0)	(1.9)	(0.0)	(0.1)	(0.1)
Cargo Handling Equipment	(0.4)	(1.8)	(5.7)	(0.0)	(0.2)	(0.2)
Trains	(0.1)	(0.3)	(1.8)	(0.0)	(0.1)	(0.0)
Trucks	(0.0)	(0.1)	(0.5)	(0.0)	(0.0)	(0.0)
Total - Break Bulk Cargo	(1.2)	(4.6)	(24.5)	(3.3)	(0.8)	(0.8)
Total PMPU Planning Area 2	674	2,140	8,102	134	189	145

Table D-43. Mitigated Peak Daily Operational Emissions - Year 2025 - Full Build-out of PMPU Planning Area 3

	Pounds per Day					
Scenario/Emission Source	*VOC*	*CO*	*NO_X*	*SO_X*	*PM_{10}*	*$PM_{2.5}$*
Container Cargo						
OGVs	1,057	1,868	13,234	404	277	220
Assist Tugs	19	95	107	-	3	2
Cargo Handling Equipment	52	665	200	3	8	7
Trains	115	1,120	3,169	4	70	65
Trucks	201	693	1,478	6	53	33
Worker Commuer Vehicles	0	15	1	0	0	0
Total - Container Cargo	1,445	4,456	18,189	419	413	326
Liquid Bulk Cargo						
OGVs	(11)	(26)	(270)	(221)	(17)	(15)
Assist Tugs	(3)	(16)	(31)	(0)	(1)	(1)
Cargo Handling Equipment	(0)	(1)	(0)	-	-	-
Trains	(1)	(3)	(15)	(0)	(0)	(0)
Trucks	(0)	(0)	(1)	(0)	(0)	(0)
Total - Liquid Bulk Cargo	(15)	(47)	(317)	(221)	(18)	(16)
Dry Bulk Cargo (1)						
OGVs	(7)	(17)	(195)	(43)	(6)	(6)
Assist Tugs	(2)	(13)	(25)	(0)	(1)	(1)
Cargo Handling Equipment	(5)	(25)	(76)	(0)	(3)	(3)
Trains	(1)	(4)	(24)	(0)	(1)	(1)
Trucks	(0)	(2)	(7)	(0)	(0)	(0)
Total - Dry Bulk Cargo	(16)	(61)	(326)	(44)	(11)	(10)
Total PMPU Planning Area 3	1,414	4,348	17,545	154	384	300

Note: (1) The project description designates the Berths 210-212 area as dry bulk land use, but since the 2011 POLA Emissions Inventory idenfitied it as a break bulk terminal, its emissions are based on the break bulk module.

Table D-44. Mitigated Peak Daily Operational Emissions - Year 2025 - Full Build-out of PMPU Planning Area 4

	Pounds per Day					
Scenario/Emission Source	*VOC*	*CO*	*NO_X*	*SO_X*	*PM_{10}*	*$PM_{2.5}$*
Liquid Bulk Cargo						
OGVs	(1)	(2)	(16)	(13)	(1)	(1)
Assist Tugs	(0)	(1)	(2)	(0)	(0)	(0)
Cargo Handling Equipment	(0)	(0)	(0)	-	-	-
Trains	(0)	(0)	(1)	(0)	(0)	(0)
Trucks	(0)	(0)	(0)	(0)	(0)	(0)
Total - Liquid Bulk Cargo	(1)	(3)	(19)	(13)	(1)	(1)
Break Bulk Cargo						
OGVs	5	11	125	28	4	4
Assist Tugs	1	8	16	0	1	1
Cargo Handling Equipment	3	16	48	0	2	2
Trains	1	3	15	0	0	0
Trucks	0	1	4	0	0	0
Total - Break Bulk Cargo	10	39	208	28	7	7
Total PMPU Planning Area 4	9	36	189	15	6	6

Table D-45. Berths 302-306 Project Unmitigated Average Daily Operational Emissions - Year 2025

	Pounds per Day					
Scenario/Emission Source	*VOC*	*CO*	*NO_X*	*SO_X*	*PM_{10}*	*$PM_{2.5}$*
Container Cargo						
OGVs	229	441	3,840	139	78	61
Assist Tugs	6	28	31	-	1	1
Cargo Handling Equipment	21	276	83	2	3	3
Trains	48	449	1,281	2	28	26
Trucks	184	590	1,572	5	135	48
Worker Commuer Vehicles	18	149	10	1	59	12
Total - Year 2025 (3,122,000 TEUs)	506	1,933	6,817	149	304	151

Table D-46. Unmitigated Average Daily Operational Emissions - Year 2025 - Full Build-out of PMPU Planning Area 2

	Pounds per Day					
Scenario/Emission Source	*VOC*	*CO*	*NO_X*	*SO_X*	*PM_{10}*	*$PM_{2.5}$*
Container Cargo						
OGVs	164	316	2,753	100	56	44
Assist Tugs	4	20	22	-	1	1
Cargo Handling Equipment	15	198	59	1	2	2
Trains	51	497	1,406	2	31	29
Trucks	156	539	1,159	5	43	26
Worker Commuer Vehicles	0	12	1	0	0	0
Total - Container Cargo	391	1,583	5,401	108	133	102
Liquid Bulk Cargo						
OGVs	0	1	6	5	0	0
Assist Tugs	0	0	1	0	0	0
Cargo Handling Equipment	0	0	0	-	-	-
Trains	0	0	0	0	0	0
Trucks	0	0	0	0	0	0
Total - Liquid Bulk Cargo	0	1	8	5	0	0
Dry Bulk Cargo						
OGVs	(7)	(16)	(168)	(48)	(6)	(5)
Assist Tugs	(3)	(17)	(32)	(0)	(1)	(1)
Cargo Handling Equipment	(1)	(5)	(13)	-	(1)	(1)
Trains	(3)	(10)	(55)	(0)	(2)	(1)
Trucks	(0)	(0)	(2)	(0)	(0)	(0)
Total - Dry Bulk Cargo	(14)	(49)	(270)	(48)	(10)	(9)
Break Bulk Cargo						
OGVs	(0.5)	(1.3)	(14.7)	(3.3)	(0.5)	(0.4)
Assist Tugs	(0.2)	(1.0)	(1.9)	(0.0)	(0.1)	(0.1)
Cargo Handling Equipment	(0.4)	(1.8)	(5.7)	(0.0)	(0.2)	(0.2)
Trains	(0.1)	(0.3)	(1.8)	(0.0)	(0.1)	(0.0)
Trucks	(0.0)	(0.1)	(0.5)	(0.0)	(0.0)	(0.0)
Total - Break Bulk Cargo	(1.2)	(4.6)	(24.5)	(3.3)	(0.8)	(0.8)
Total PMPU Planning Area 2	376	1,530	5,114	62	123	93

Table D-47. Unmitigated Average Daily Operational Emissions - Year 2025 - Full Build-out of PMPU Planning Area 3

	Pounds per Day					
Scenario/Emission Source	*VOC*	*CO*	*NO_X*	*SO_X*	*PM_{10}*	*$PM_{2.5}$*
Container Cargo						
OGVs	387	746	6,497	235	132	103
Assist Tugs	10	47	52	-	2	2
Cargo Handling Equipment	36	467	140	3	5	5
Trains	109	1,056	2,987	4	66	61
Trucks	201	693	1,478	6	53	33
Worker Commuer Vehicles	0	15	1	0	0	0
Total - Container Cargo	743	3,024	11,156	249	259	204
Liquid Bulk Cargo						
OGVs	(11)	(26)	(270)	(221)	(17)	(15)
Assist Tugs	(3)	(16)	(31)	(0)	(1)	(1)
Cargo Handling Equipment	(0)	(1)	(0)	-	-	-
Trains	(1)	(3)	(15)	(0)	(0)	(0)
Trucks	(0)	(0)	(1)	(0)	(0)	(0)
Total - Liquid Bulk Cargo	(15)	(47)	(317)	(221)	(18)	(16)
Dry Bulk Cargo (1)						
OGVs	(7)	(17)	(195)	(43)	(6)	(6)
Assist Tugs	(2)	(13)	(25)	(0)	(1)	(1)
Cargo Handling Equipment	(5)	(25)	(76)	(0)	(3)	(3)
Trains	(1)	(4)	(24)	(0)	(1)	(1)
Trucks	(0)	(2)	(7)	(0)	(0)	(0)
Total - Dry Bulk Cargo	(16)	(61)	(326)	(44)	(11)	(10)
Total PMPU Planning Area 3	712	2,917	10,512	(16)	229	178

Note: (1) The project description designates the Berths 210-212 area as dry bulk land use, but since the 2011 POLA Emissions Inventory idenfitied it as a break bulk terminal, its emissions are based on the break bulk module.

130.01

Table D-48. Unmitigated Average Daily Operational Emissions - Year 2025 - Full Build-out of PMPU Planning Area 4

	Pounds per Day					
Scenario/Emission Source	*VOC*	*CO*	*NO_X*	*SO_X*	*PM_{10}*	*$PM_{2.5}$*
Liquid Bulk Cargo						
OGVs	(1)	(2)	(16)	(13)	(1)	(1)
Assist Tugs	(0)	(1)	(2)	(0)	(0)	(0)
Cargo Handling Equipment	(0)	(0)	(0)	-	-	-
Trains	(0)	(0)	(1)	(0)	(0)	(0)
Trucks	(0)	(0)	(0)	(0)	(0)	(0)
Total - Liquid Bulk Cargo	(1)	(3)	(19)	(13)	(1)	(1)
Break Bulk Cargo						
OGVs	5	11	125	28	4	4
Assist Tugs	1	8	16	0	1	1
Cargo Handling Equipment	3	16	48	0	2	2
Trains	1	3	15	0	0	0
Trucks	0	1	4	0	0	0
Total - Liquid Bulk Cargo	10	39	208	28	7	7
Total PMPU Planning Area 4	9	36	189	15	6	6

Table D-49. Berths 302-306 Project Mitigated Average Daily Operational Emissions - Year 2025

	Pounds per Day					
Scenario/Emission Source	*VOC*	*CO*	*NO_X*	*SO_X*	*PM_{10}*	*$PM_{2.5}$*
Container Cargo						
OGVs	238	440	3,231	121	71	56
Assist Tugs	6	28	31	-	1	1
Cargo Handling Equipment	22	281	84	2	3	3
Trains	48	449	1,281	2	28	26
Trucks	184	590	1,572	5	135	48
Worker Commuer Vehicles	18	149	10	1	59	12
Total - Year 2025 (3,122,000 TEUs)	516	1,937	6,209	131	297	146

Table D-50. Mitigated Average Daily Operational Emissions - Year 2025 - Full Build-out of PMPU Planning Area 2

	Pounds per Day					
Scenario/Emission Source	*VOC*	*CO*	*NO_X*	*SO_X*	*PM_{10}*	*$PM_{2.5}$*
Container Cargo						
OGVs	171	315	2,316	87	51	40
Assist Tugs	4	20	22	-	1	1
Cargo Handling Equipment	16	201	60	1	2	2
Trains	51	497	1,406	2	31	29
Trucks	156	539	1,159	5	43	26
Worker Commuer Vehicles	0	12	1	0	0	0
Total - Container Cargo	398	1,585	4,965	95	128	98
Liquid Bulk Cargo						
OGVs	0	1	6	5	0	0
Assist Tugs	0	0	1	0	0	0
Cargo Handling Equipment	0	0	0	-	-	-
Trains	0	0	0	0	0	0
Trucks	0	0	0	0	0	0
Total - Liquid Bulk Cargo	0	1	8	5	0	0
Dry Bulk Cargo						
OGVs	(7)	(16)	(168)	(48)	(6)	(5)
Assist Tugs	(3)	(17)	(32)	(0)	(1)	(1)
Cargo Handling Equipment	(1)	(5)	(13)	-	(1)	(1)
Trains	(3)	(10)	(55)	(0)	(2)	(1)
Trucks	(0)	(0)	(2)	(0)	(0)	(0)
Total - Dry Bulk Cargo	(14)	(49)	(270)	(48)	(10)	(9)
Break Bulk Cargo						
OGVs	(0.5)	(1.3)	(14.7)	(3.3)	(0.5)	(0.4)
Assist Tugs	(0.2)	(1.0)	(1.9)	(0.0)	(0.1)	(0.1)
Cargo Handling Equipment	(0.4)	(1.8)	(5.7)	(0.0)	(0.2)	(0.2)
Trains	(0.1)	(0.3)	(1.8)	(0.0)	(0.1)	(0.0)
Trucks	(0.0)	(0.1)	(0.5)	(0.0)	(0.0)	(0.0)
Total - Break Bulk Cargo	(1.2)	(4.6)	(24.5)	(3.3)	(0.8)	(0.8)
Total PMPU Planning Area 2	383	1,533	4,678	49	118	89

Table D-51. Mitigated Average Daily Operational Emissions - Year 2025 - Full Build-out of PMPU Planning Area 3

	Pounds per Day					
Scenario/Emission Source	*VOC*	*CO*	*NO_X*	*SO_X*	*PM_{10}*	*$PM_{2.5}$*
Container Cargo						
OGVs	403	744	5,466	205	120	95
Assist Tugs	10	47	52	-	2	2
Cargo Handling Equipment	37	475	142	3	5	5
Trains	109	1,056	2,987	4	66	61
Trucks	201	693	1,478	6	53	33
Worker Commuer Vehicles	0	15	1	0	0	0
Total - Container Cargo	760	3,031	10,127	219	247	196
Liquid Bulk Cargo						
OGVs	(11)	(26)	(270)	(221)	(17)	(15)
Assist Tugs	(3)	(16)	(31)	(0)	(1)	(1)
Cargo Handling Equipment	(0)	(1)	(0)	-	-	-
Trains	(1)	(3)	(15)	(0)	(0)	(0)
Trucks	(0)	(0)	(1)	(0)	(0)	(0)
Total - Liquid Bulk Cargo	(15)	(47)	(317)	(221)	(18)	(16)
Dry Bulk Cargo (1)						
OGVs	(7)	(17)	(195)	(43)	(6)	(6)
Assist Tugs	(2)	(13)	(25)	(0)	(1)	(1)
Cargo Handling Equipment	(5)	(25)	(76)	(0)	(3)	(3)
Trains	(1)	(4)	(24)	(0)	(1)	(1)
Trucks	(0)	(2)	(7)	(0)	(0)	(0)
Total - Dry Bulk Cargo	(16)	(61)	(326)	(44)	(11)	(10)
Total PMPU Planning Area 3	729	2,924	9,484	(46)	217	169

Note: (1) The project description designates the Berths 210-212 area as dry bulk land use, but since the 2011 POLA Emissions Inventory idenfitied it as a break bulk terminal, its emissions are based on the break bulk module.

Table D-52. Mitigated Average Daily Operational Emissions - Year 2025 - Full Build-out of PMPU Planning Area 4

	Pounds per Day					
Scenario/Emission Source	*VOC*	*CO*	*NO_X*	*SO_X*	*PM_{10}*	*$PM_{2.5}$*
Liquid Bulk Cargo						
OGVs	(1)	(2)	(16)	(13)	(1)	(1)
Assist Tugs	(0)	(1)	(2)	(0)	(0)	(0)
Cargo Handling Equipment	(0)	(0)	(0)	-	-	-
Trains	(0)	(0)	(1)	(0)	(0)	(0)
Trucks	(0)	(0)	(0)	(0)	(0)	(0)
Total - Liquid Bulk Cargo	(1)	(3)	(19)	(13)	(1)	(1)
Break Bulk Cargo						
OGVs	5	11	125	28	4	4
Assist Tugs	1	8	16	0	1	1
Cargo Handling Equipment	3	16	48	0	2	2
Trains	1	3	15	0	0	0
Trucks	0	1	4	0	0	0
Total - Liquid Bulk Cargo	10	39	208	28	7	7
Total PMPU Planning Area 4	9	36	189	15	6	6

Table D-53. Total GHG Emissions from Individual Construction Activities associated with the PMPU

Activity	*Total Emissions (Metric Tons)*			
	CO_2	CH_4	N_2O	CO_2e
General Landfill Construction	3,223	0.5	0.03	3,243
Confined Landfill Construction	3,390	0.5	0.04	3,411
Wharf Construction	2,015	0.1	0.05	2,031
Backland Construction	1,107	0.07	0.03	1,118
AMP Installation	166	0.01	0	168
Demolition	46	0	0	46
Building Construction	712	0.04	0.02	719
Reefer Area Expansion	161	0.01	0.01	162
Utility Infrastructure	127	0.01	0	128
Cranes Installation	59	0	0	59
Modify Gate	122	0.01	0	123
Worker Commute	443	0.02	0.01	446

Table D-54. Total GHG Emissions from Construction Activities for each PMPU Planning Area

Area/Activity	*Total Emissions (Metric Tons)*			
	CO_2	CH_4	N_2O	CO_2e
Planning Area 2				
6-Acre Landfill Construction (1)	3,868	0.6	0.0	3,892
16-Acre Landfill Construction (1)	10,314	1.5	0.1	10,378
Wharf Construction	2,015	0.1	0.1	2,031
Backland Construction	1,107	0.1	0.0	1,118
AMP Installation	166	0.0	-	168
Demolition	46	-	-	46
Building Construction	712	0.0	0.0	719
Reefer Area Expansion	161	0.0	0.0	162
Utility Infrastructure	127	0.0	-	128
Cranes Installation	59	-	-	59
Modify Gate	122	0.0	-	123
Worker Commute	443	0.0	0.0	446
Total GHGs - Planning Area 2	19,139	2.34	0.25	19,269
Planning Area 3				
18-Acre Landfill Construction	11,603	1.7	0.1	11,675
Terminal/Backland Developments (2)	26,439	1.4	0.6	26,663
Total GHGs - Planning Area 3	38,042	3.13	0.75	38,338
Planning Area 4				
Terminal/Backland Developments (3)	1,821	0.1	0.0	1,837
Total GHGs - Planning Area 4	1,821	0.10	0.04	1,837
Total GHGs - PMPU	59,003	5.6	1.0	59,444

Notes: (1) Equates to emissions from the general landfill construction activity times the proposed landfill acreage/5 acres.

(2) Equates to emissions from the combined non-landfill construction activities times 261.3/49 acres.

(3) Equates to emissions from the combined non-landfill construction activities times 18/49 acres.

Table D-55. Berths 302-306 Project Unmitigated Operational GHG Emissions - Year 2025

	Total Emissions (Metric Tons)				
Scenario/Emission Source	CO_2	CH_4	N_2O	*HFC-134*	*CO2e*
Container Cargo					
OGVs - Transit					84,858
OGVs - Hoteling					11,483
Assist Tugs					537
Cargo Handling Equipment					23,097
Trains					72,613
Trucks					97,262
Reefer Refrigerant Losses					1,377
Worker Commuer Vehicles					6,655
Total - Year 2025					296,443

Table D-56. Unmitigated Annual GHG Emissions - Year 2025 - Full Build-out of PMPU Planning Area 2

	Total Emissions (Metric Tons)				
Activity/Emission Source	CO_2	CH_4	N_2O	*HFC-134*	*CO2e*
Construction					
Construction - 30-Year Average					642
Container Cargo					
OGVs					69,062
Assist Tugs					385
Cargo Handling Equipment					16,557
Trains					31,318
Trucks					61,399
Reefer Refrigerant Losses					987
Worker Commuer Vehicles					4,771
Total - Container Cargo	-	-	-	-	184,479
Liquid Bulk Cargo					
OGVs					153
Assist Tugs					9
Cargo Handling Equipment					0
Trains					4
Trucks					1
Total - Liquid Bulk Cargo					168
Dry Bulk Cargo					
OGVs					(1,795)
Assist Tugs					(389)
Cargo Handling Equipment					(143)
Trains					(660)
Trucks					(87)
Total - Dry Bulk Cargo					(3,074)
Break Bulk Cargo					
OGVs					(139)
Assist Tugs					(23)
Cargo Handling Equipment					(132)
Trains					(21)
Trucks					(23)
Total - Break Bulk Cargo					(337)
Total GHGs - Planning Area 2					181,878

Table D-57. Unmitigated Annual GHG Emissions - Year 2025 - Full Build-out of PMPU Planning Area 3

Activity/Emission Source	Total Emissions (Metric Tons)				
	CO_2	CH_4	N_2O	HFC-134	CO2e
Construction					
Construction - 30-Year Average					1,278
Container Cargo					
OGVs					162,996
Assist Tugs					909
Cargo Handling Equipment					39,077
Trains					66,550
Trucks					77,143
Reefer Refrigerant Losses					2,330
Worker Commuer Vehicles					11,259
Total - Container Cargo	-	-	-	-	360,264
Liquid Bulk Cargo					
OGVs					(6,370)
Assist Tugs					(380)
Cargo Handling Equipment					(10)
Trains					(187)
Trucks					(30)
Total - Liquid Bulk Cargo					(6,977)
Dry Bulk Cargo (1)					
OGVs					(10,116)
Assist Tugs					(1,664)
Cargo Handling Equipment					(9,598)
Trains					(1,556)
Trucks					(1,643)
Total - Dry Bulk Cargo					(24,577)
Total GHGs - Planning Area 3					329,988

Note: (1) The project description designates the Berths 210-212 area as dry bulk land use, but since the 2011 POLA Emissions Inventory idenfitied it as a break bulk terminal, its emissions are based on the break bulk module.

Table D-58. Unmitigated Annual GHG Emissions - Year 2025 - Full Build-out of PMPU Planning Area 4

Activity/Emission Source	Total Emissions (Metric Tons)				
	CO_2	CH_4	N_2O	HFC-134	CO2e
Construction					
Construction - 30-Year Average					61
Liquid Bulk Cargo					
OGVs					(384)
Assist Tugs					(23)
Cargo Handling Equipment					(1)
Trains					(11)
Trucks					(2)
Total - Liquid Bulk Cargo					(420)
Break Bulk Cargo					
OGVs					1,180
Assist Tugs					194
Cargo Handling Equipment					1,119
Trains					181
Trucks					398
Total - Break Bulk Cargo					3,072
Total GHGs - Planning Area 4					2,713

Table D-59. Berths 302-306 Project Mitigated Operational GHG Emissions - Year 2025

Scenario/Emission Source	*CO_2*	*CH_4*	*N_2O*	*HFC-134*	*CO2e*
Container Cargo					
OGVs - Transit					80,437
OGVs - Hoteling					11,483
Assist Tugs					537
Cargo Handling Equipment					23,097
Trains					72,613
Trucks					97,262
Reefer Refrigerant Losses					1,377
Worker Commuer Vehicles					6,655
Total - Year 2025					296,443

Table D-60. Mitigated Annual GHG Emissions - Year 2025 - Full Build-out of PMPU Planning Area 2

Activity/Emission Source	*CO_2*	*CH_4*	*N_2O*	*HFC-134*	*CO2e*
Construction					
Construction - 30-Year Average					642
Container Cargo					
OGVs					65,893
Assist Tugs					385
Cargo Handling Equipment					16,557
Trains					31,318
Trucks					61,399
Reefer Refrigerant Losses					987
Worker Commuer Vehicles					4,771
Total - Container Cargo	-	-	-	-	181,309
Liquid Bulk Cargo					
OGVs					153
Assist Tugs					9
Cargo Handling Equipment					0
Trains					4
Trucks					1
Total - Liquid Bulk Cargo					168
Dry Bulk Cargo					
OGVs					(1,795)
Assist Tugs					(389)
Cargo Handling Equipment					(143)
Trains					(660)
Trucks					(87)
Total - Dry Bulk Cargo					(3,074)
Break Bulk Cargo					
OGVs					(139)
Assist Tugs					(23)
Cargo Handling Equipment					(132)
Trains					(21)
Trucks					(23)
Total - Break Bulk Cargo					(337)
Total GHGs - Planning Area 2					178,708

Table D-61. Mitigated Annual GHG Emissions - Year 2025 - Full Build-out of PMPU Planning Area 3

Activity/Emission Source	CO_2	CH_4	N_2O	*HFC-134*	*CO2e*
Construction					
Construction - 30-Year Average					1,278
Container Cargo					
OGVs					155,516
Assist Tugs					909
Cargo Handling Equipment					39,077
Trains					66,550
Trucks					77,143
Reefer Refrigerant Losses					2,330
Worker Commuer Vehicles					11,259
Total - Container Cargo	-	-	-	-	352,784
Liquid Bulk Cargo					
OGVs					(6,370)
Assist Tugs					(380)
Cargo Handling Equipment					(10)
Trains					(187)
Trucks					(30)
Total - Liquid Bulk Cargo					(6,977)
Dry Bulk Cargo (1)					
OGVs					(10,116)
Assist Tugs					(1,664)
Cargo Handling Equipment					(9,598)
Trains					(1,556)
Trucks					(1,643)
Total - Dry Bulk Cargo					(24,577)
Total GHGs - Planning Area 3					322,508

Note: (1) The project description designates the Berths 210-212 area as dry bulk land use, but since the 2011 POLA Emissions Inventory idenfitied it as a break bulk terminal, its emissions are based on the break bulk module.

Table D-62. Mitigated Annual GHG Emissions - Year 2025 - Full Build-out of PMPU Planning Area 4

Activity/Emission Source	CO_2	CH_4	N_2O	*HFC-134*	*CO2e*
Construction					
Construction - 30-Year Average					61
Liquid Bulk Cargo					
OGVs					(384)
Assist Tugs					(23)
Cargo Handling Equipment					(1)
Trains					(11)
Trucks					(2)
Total - Liquid Bulk Cargo					(420)
Break Bulk Cargo					
OGVs					1,180
Assist Tugs					194
Cargo Handling Equipment					1,119
Trains					181
Trucks					398
Total - Break Bulk Cargo					3,072
Total GHGs - Planning Area 4					2,713