

Equipment Type	MOVES Location ID	Name Link	Year/Day	Start on 2017	Stop on 2016	Start on 2017	End on 2017	KW	Horsepower HP	Fuel Type	Power kW ²		Emission Factor (g/kWh)			NOx Emissions (short tons)			SO2 Emissions (short tons)			PM10 Emissions (short tons)			Total Emissions (short tons)															
													CO2	CH4	N2O	CO2	CH4	N2O	CO2	CH4	N2O	CO2	CH4	N2O	CO2	CH4	N2O													
Note: N2O conversion factor = 0.000154 g/kg-hr																																								
Min Engine Load Factor																																								
Tug, 1997, 2000 HP			1	12	106	104	183	183	1491	2000	Diesel	0.50	679.47	0.000476087	naaa				710.44	0.00	0.04	1233.21	0.01	0.07	1226.51	0.01	0.07	4306.47	0.01	0.26										
Tug, 1945, 4000 HP			1	12	106	104	183	183	2883	4000	Diesel	0.50	679.47	0.000260	naaa				1420.87	0.00	0.00	2464.42	0.01	0.15	2453.03	0.01	0.14	8793.34	0.01	0.52										
Bulk, 1st 60 HP (Pave and Supply)			1	12	106	104	183	183	-45	60	Diesel	0.43	679.47	0.00548233	naaa				1918	0.00	0.00	33.36	0.00	0.00	33.12	0.00	0.00	33.12	0.00	0.00										
SALC, 1st 200 HP (Cover and Supply)			1	12	106	104	183	183	149	200	Diesel	0.43	679.47	0.00548233	naaa				63.94	0.00	0.00	110.99	0.00	0.01	110.39	0.00	0.01	110.39	0.00	0.01										
Safety boat, P-BOA033, 24 200hp (Work Boat)			1	12	106	104	183	183	149	200	Diesel	0.43	679.47	0.00548233	naaa				63.94	0.00	0.00	110.99	0.00	0.01	110.39	0.00	0.01	110.39	0.00	0.01										
Air-seal equipment																																								
Case 9209, 550 tons	Cranes		1	12	0	0	183	183	246	550	Diesel	0.43	naaa	naaa	#	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	182.35	0.00	0.02	182.36	0.00	0.02	364.73	0.00	0.00								
Case 9150, 550 tons	Cranes		1	12	0	0	183	183	246	550	Diesel	0.43	naaa	naaa	#	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	182.35	0.00	0.02	182.36	0.00	0.02	364.73	0.00	0.00								
Case 2009, 550 tons	Cranes		1	12	0	0	183	183	246	550	Diesel	0.43	naaa	naaa	#	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	182.36	0.00	0.02	182.36	0.00	0.02	364.73	0.00	0.03								
Fordill 551H056 Teledyne, 30, 000, SP	Forklifts		1	12	106	104	183	183	55	74	Diesel	0.59	naaa	naaa	#	36.49	0.00	0.00	63.33	0.00	0.01	62.99	0.00	0.01	62.99	0.00	0.01	225.80	0.00	0.02										
Fordill 1044D 30, 10k, 50'	Forklifts		2	12	106	104	183	183	82	110	Diesel	0.59	naaa	naaa	#	97.50	0.00	0.01	160.59	0.00	0.02	160.67	0.00	0.02	160.67	0.00	0.02	404.62	0.00	0.06										
Fordill 1044D 30, 10k, 50' Welding Machine, Whittaker DAW500S, 500 hp	Welders		2	12	106	104	183	183	3.0	6.1	Diesel	0.21	naaa	naaa	#	2.49	0.00	0.00	4.32	0.00	0.00	4.30	0.00	0.00	4.30	0.00	0.00	4.30	0.00	0.00										
Welding Machine (41 Mag 30, 480 amp)	Welders		2	12	106	104	183	183	2.5	6.1	Diesel	0.21	naaa	naaa	#	2.49	0.00	0.00	4.32	0.00	0.00	4.30	0.00	0.00	4.30	0.00	0.00	4.30	0.00	0.00										
Moffett (Z-60, S-85 NC, Z, 13t)	Aerial Lifts		3	12	106	104	183	183	55	74	Diesel	0.21	naaa	naaa	#	45.38	0.00	0.00	76.77	0.00	0.01	76.34	0.00	0.01	76.34	0.00	0.01	200.82	0.01	0.03										
Aztek 10", 6"	Air Compressors		1	12	106	104	183	183	2	6.1	Diesel	0.43	naaa	naaa	#	2.14	0.00	0.00	3.75	0.00	0.00	3.73	0.00	0.00	3.73	0.00	0.00	3.73	0.00	0.00										
Generators G25	Generators Sess		1	12	106	104	183	183	20	27	Diesel	0.43	naaa	naaa	#	9.53	0.00	0.00	16.55	0.00	0.00	16.46	0.00	0.00	16.46	0.00	0.00	16.46	0.00	0.01										
Generators G85	Generators Sess		1	12	106	104	183	183	75	100	Diesel	0.43	naaa	naaa	#	32.16	0.00	0.00	55.83	0.00	0.01	55.52	0.00	0.01	55.52	0.00	0.01	199.03	0.00	0.02										
Generators G85	Generators Sess		1	12	106	104	183	183	232	313	Diesel	0.43	naaa	naaa	#	99.52	0.00	0.01	172.76	0.00	0.02	171.82	0.00	0.02	171.82	0.00	0.02	415.93	0.01	0.06										
Generators G200	Generators Sess		1	12	106	104	183	183	447	600	Diesel	0.43	naaa	naaa	#	1343.90	0.02	0.12	2332.81	0.04	0.21	2320.13	0.04	0.21	2320.13	0.04	0.21	8316.97	0.14	0.77										
Air compressor (2nd) 1800 CFM, 1600 HP	Air Compressors		7	12	106	104	183	183	447	600	Diesel	0.43	naaa	naaa	#	1343.90	0.02	0.12	2332.81	0.04	0.21	2320.13	0.04	0.21	2320.13	0.04	0.21	8316.97	0.14	0.77										
General hauler E3000, 10000 gal	Generator Sess		1	12	106	104	183	183	8	9	Diesel	0.43	naaa	naaa	#	2.85	0.00	0.00	4.05	0.00	0.00	4.03	0.00	0.00	4.03	0.00	0.00	4.03	0.00	0.00										
Excavator, Hitachi 1200-6	Excavators		1	12	106	104	183	183	567	760	Diesel	0.59	naaa	naaa	#	337.41	0.00	0.03	585.49	0.01	0.05	582.51	0.01	0.05	582.51	0.01	0.05	2088.13	0.02	0.19										
Light Plant (7x1)	Signal Board/Light Plant		7	12	106	104	183	183	8	11	Diesel	0.43	naaa	naaa	#	26.62	0.00	0.00	46.27	0.01	0.00	45.98	0.01	0.00	45.98	0.01	0.00	164.76	0.02	0.01										
Loader (Genstar 475, 6 CY)	Roller/Tyre Loaders		1	12	106	104	183	183	202	270	Diesel	0.59	naaa	naaa	#	126.34	0.00	0.01	208.89	0.00	0.02	207.75	0.00	0.02	207.75	0.00	0.02	744.72	0.00	0.07										
Loader (880Z) 3.5 CY Digging, 4.0 CY (shredding)	Roller/Tyre Loaders		2	12	106	104	183	183	233	299	Diesel	0.59	naaa	naaa	#	265.34	0.00	0.02	460.94	0.00	0.04	458.43	0.00	0.04	458.43	0.00	0.04	1643.34	0.00	0.13										
Conestoga truck motor	Conestoga & Motor Motors		2	12	30	60	60	0	7	10	Diesel	0.43	naaa	naaa	#	2.81	0.00	0.00	4.01	0.00	0.00	4.01	0.00	0.00	4.01	0.00	0.00	4.01	0.00	0.00										
BC400 Rotary Drilling rig (Diesel motor BS 100 B)	Boat/Drill Rigs		2	12	106	104	183	183	433	581	Diesel	0.43	naaa	naaa	#	371.49	0.01	0.03	644.85	0.01	0.06	641.35	0.01	0.06	641.35	0.01	0.06	2299.04	0.04	0.21										
Medium size bulldozer	Crawler Tractor/Dozers		2	12	106	104	183	183	1125	1600	Diesel	0.59	naaa	naaa	#	149.21	0.00	0.01	259.00	0.00	0.02	257.59	0.00	0.02	257.59	0.00	0.02	923.59	0.00	0.09										
On-road vehicles																																								
Total Vehicle miles traveled																		Daily mileage (10 in one way trip length and 1 mi in-																						
																		Equipment Expense Details																						
Conestoga truck	31	2	4500	30	60	60	0	0		Diesel	21							904.938299	0.013447808	0.115441543	1.26	0.00	0.00	2.51	0.00	0.00	2.51	0.00	0.00	4.28	0.00	0.00								
1/2 ton pickup trucks	52	8	178200	106	104	183	183			Gasoline	21							302.8744764	0.009133718	0.002503677	7.71	0.00	0.00	13.39	0.00	0.00	13.31	0.00	0.00	47.73	0.00	0.00								
Passenger vehicle	21	1	17700	106	104	183	183			Gasoline	21							310.6414662	0.008167043	0.00166499	6.76	0.00	0.00	1.32	0.00	0.00	1.32	0.00	0.00	4.72	0.00	0.00								
Equipment without direct utilization																																								
Derrick Range/Hammer, 55-800 (Hydraulic)	operated by crew																																							
Hammer (connected to power unit)	operated by crew																																							
Hydraulic Deep Hammer (connected to A&S crew loader)	operated by crew																																							
Derrick Range - Cyle 300 Proche-32 RE build 1996, 700 tons																																								
Derrick Range - American Haul & Derrick R350 Re build 1996, 300 tons																																								
Derrick Range Cyle 3731078, 400 tons																																								
Derrick Range Diver 1001844, 400 tons																																								
Derrick Range Cyle 321972, 130 tons																																								
Derrick Range Cyle 421967, 100 tons																																								
Dump Snow, 3000 CY																																								
ARS Flat Range, 3200 tons																																								
ARS Spgr, 3100 tons																																								
ARS Flat Range, 2700 tons																																								
ARS Flat Range, 5500 tons																																								
Fuel Cell (4x) 1100 gal, 500-gal diesel, 500-gal diesel, 100-gal gasoline																																								
Hydraulic shovels																																								
Spreader bar, 325 tons																																								
Wheeler, RB 90																																								
																		5335.93									0.06	0.41	0088.71	0.10	0.71	9586.64	0.10	0.75	9579.91	0.10	0.75	13800.45	0.35	2.61

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EPA Port Emissions Inventory Guidance for load factors and emission factors, Table H.6, Average Harbor Craft Emission Factors by Engine Group, Power Range, and Model Year, Table H.7 Average Harbor Craft Emission Factors by Engine Tier. <https://www.epa.gov/state-and-local-transportation/port-emissions-inventory-guidance>. Assumed Pre-1999 Harbor Craft and use only of main engine to be conservative. Aux engine size/use unknown at the time.

^a Load factors for water side boats were obtained from EPA Port Emissions Inventory Guidance for Load Factors and Emission Factors. Table 4.4 Default Harbor Craft Propulsion and Auxiliary Engine Load Factors. Load factors for off-road equipment are from MOVES.

³ N₂O emissions estimated based on the ratio of g N₂O per gallon of construction diesel to gallons of diesel per g CO₂, obtained from Tables 2.7 and 2.1, respectively, of the 2023 Climate Registry Default Emission Factors. Retrieved from <https://theclimateregistry.org/wp-content/uploads/2023/06/2023-Default-Emission-Factors-Final.pdf>, June 2023.

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0.74569987 kw = 1 hp
907184.74 grams = 1 short ton
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Terminal 1 Schedule July 2025-Oct 2028. Construction season from April 1 to October 31. Working 6 days/week and 12 hours/day (one crew/shift)

7/1/2025	4/1/2026	4/1/2027	4/1/2028
10/31/2025	10/31/2026	10/31/2027	10/31/2028
106	184	183	183

Terminal 2 Schedule April 2029-Oct 2031

4/1/2029	4/1/2030	4/1/2031
10/31/2029	10/31/2030	10/31/2031
183	184	184