

APPENDIX U

ASAP Air Quality Emission, Regulatory, and Support Documentation

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Table 5.16-2 Potential Camp Operations Maximum 12-month Emissions

Camp Name	VOC Emissions (STPY)	NO _x Emissions (STPY)	CO Emissions (STPY)	SO ₂ Emissions (STPY)	PM ₁₀ Emissions (STPY)	PM _{2.5} Emissions (STPY)	CO _{2E} Emissions (STPY)	HAP Emissions (STPY)
Cantwell	36.2	35	4.4	0.63	3.7	3.6	54,402	2.1
Dietrich	50.5	49	6.1	0.88	5.1	5.1	75,860	2.9
Dunbar	39.7	39	4.8	0.69	4.0	4.0	59,655	2.3
Five Mile	57.8	57	7.0	1.01	5.9	5.8	86,900	3.3
Franklin Bluffs	57.7	56	6.9	1.01	5.9	5.8	86,722	3.3
Galbraith Lake	86.4	85	10.4	1.51	8.8	8.7	129,905	5.0
Happy Valley	67.0	65	8.1	1.17	6.8	6.7	100,612	3.9
Healy	56.1	55	6.7	0.98	5.7	5.6	84,229	3.2
Livengood	86.7	85	10.4	1.51	8.8	8.7	130,350	5.0
Prospect	84.7	83	10.2	1.48	8.6	8.5	127,234	4.9
Prudhoe Bay	43.6	43	5.2	0.76	4.4	4.4	65,442	2.5
Rustic Wilderness	52.4	51	6.3	0.91	5.3	5.3	78,709	3.0
Swan Lake	45.2	44	5.4	0.79	4.6	4.5	67,935	2.6

Notes:

- Please refer to deliverable # 008-49-911-002 for details on emissions calculations and assumptions.
- Only emissions from onsite stationary sources are summarized in this table.
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- The emissions information presented for the construction camps is current as of information available on August 1, 2014.

CO – Carbon Monoxide
 NO_x – Oxides of Nitrogen
 SO₂ – Sulfur Dioxide
 VOC – Volatile Organic Compound

Table 5.16-3 Gas Conditioning Facility Emission Unit Inventory

Item	Number of Units	Purpose	Rated Capacity	Fuel	Change from the FEIS project design (USACE, 2012)
Power Generation Turbines	3	To generate power for the GCF.	29 MW	Treated and Untreated Gas	New Equipment ^c
Feed-gas Compressor Turbines	2	To drive CO ₂ compressor.	22 MW	Treated and Untreated Gas	New Equipment ^c
CO ₂ Compressor Turbines	2	To drive Feed-gas Compressor.	11.93 MW	Treated and Untreated Gas	New Equipment ^c
Emergency Power Generators	4	Emergency.	2.5 MW	ULSD	Same as 2012 project
Heaters	4 (3 Operating + 1 Spare)	To heat Propylene Glycol from 150 to 240°F.	129.60 MMBTU/hr (LHV)	Treated and Untreated Gas	New Equipment ^c
Flares	2	To burn HC at 100 psig.	35,625 MMBTU/hr (LHV)	Treated and Untreated Gas	Same as 2012 project
	2	To burn HC at 10 psig.	990 MMBTU/hr (LHV)	Treated and Untreated Gas	Same as 2012 project
Fire Pump Generators	4	To extinguish fires inside a module during an emergency event.	0.4 MW	ULSD	New Equipment ^c
Other Emergency Generators	2	Generators for infrastructure, camps, and shops. Emergency use only after construction.	1.5 MW	ULSD	Same as 2012 project
Burn Pit	1	Burn excess HC liquid from the Flare Knock-out Drum during an emergency flaring event.	TBD	-	New Equipment ^c
<p>Notes:</p> <p>^aThe equipment list for the GCF is current as of information available on August 15, 2014.</p> <p>^bPlease refer to deliverable # 008-14-910-010 for details on the GCF inventory.</p> <p>^cAlthough there is new equipment for the current design of the GCF, overall air quality impacts are expected to be the same between the project proposed in the FEIS (USACE, 2012) and the current project.</p> <p>°F - Fahrenheit CO₂ - Carbon Dioxide HC - Hydrocarbon LHV - Lower Heating Value MMBTU/hr - million British thermal units per hour MW - megawatt psig - pound per square inch gauge TBD - To Be Determined ULSD - Ultra-low-sulfur Diesel</p>					

Table 5.16-4 Gas Conditioning Facility Operations Emissions

Emission Source	NO _x Emissions (STPY)	CO Emissions (STPY)	PM ₁₀ Emissions (STPY)	PM _{2.5} Emissions (STPY)	SO ₂ Emissions (STPY)	VOC Emissions (STPY)	HAP Emissions (STPY)	CO ₂ _ε Emissions (STPY)
GCF in FEIS (USACE, 2012)	4,442	913	49	49	4	170	68	519,695
GCF in current design	781	548	52.6	52.6	5.14	168	10	959,041
Notes:								
a. The emissions information presented for the GCF is current as of information available on August 15, 2014.								
b. Please refer to deliverable # 008-14-910-010 for details on the GCF inventory, calculations and assumptions.								

Table 5.16-5 Impact of Revisions to Aboveground Facility Operations Emissions

Emission Source	NO _x Emissions (STPY)	CO Emissions (STPY)	PM ₁₀ Emissions (STPY)	PM _{2.5} Emissions (STPY)	SO ₂ Emissions (STPY)	VOC Emissions (STPY)	HAP Emissions (STPY)	CO ₂ _ε Emissions (STPY)
GCF in FEIS (USACE, 2012)	4,442	913	49	49	4	170	68	519,695
Two Compressor Stations in FEIS (USACE, 2012)	638	538	38	38	1.6	78	4	164,322
Straddle and Offtake Facility	367	147	10	10	0.6	19	3	85,639
Total 2012 Operations	5,447	1,598	97	97	6.2	267	75	769,656
Current Project Operations	781	548	52.6	52.6	5.14	168	10	959,041
Notes:								
a. The emissions information presented for the GCF is current as of information available on August 15, 2014.								
b. Please refer to deliverable # 008-14-910-010 for details on the GCF inventory, calculations and assumptions.								

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AGDC: Alaska Stand Alone Pipeline (ASAP) Project

North Slope Construction

Annual Emissions Summary

Year	Emissions (tons)										
	VOC	NOx	CO	SO2	PM10	PM2.5	CO2	N2O	CH4	CO2e	Total HAPs
-1	1.70	0	0	0	0	0	0	0	0	0	1.51E-02
Onsite Sources	1.70	0	0	0	0	0	0	0	0	0	1.51E-02
Onroad Equipment	0	0	0	0	0	0	0	0	0	0	0
NONRoad Equipment	0	0	0	0	0	0	0	0	0	0	0
Marine Equipment	0	0	0	0	0	0	0	0	0	0	0
ANNUAL TOTAL	1.70	0	0	0	0	0	0	0	0	0	1.51E-02

Year	Emissions (tons)										
	VOC	NOx	CO	SO2	PM10	PM2.5	CO2	N2O	CH4	CO2e	Total HAPs
0	1.70	0	0	0	0	0	0	0	0	0	1.51E-02
Onsite Sources	1.70	0	0	0	0	0	0	0	0	0	1.51E-02
Onroad Equipment	0.83	7.97	23.97	0.03	0.64	0.51	1,934	0.02	0.05	1,940	0.17
NONRoad Equipment	0	0	0	0	0	0	0	0	0	0	0
Marine Equipment	0	0	0	0	0	0	0	0	0	0	0
ANNUAL TOTAL	2.53	7.97	23.97	0.03	0.64	0.51	1,934	0.02	0.05	1,940	0.18

Year	Emissions (tons)										
	VOC	NOx	CO	SO2	PM10	PM2.5	CO2	N2O	CH4	CO2e	Total HAPs
1	1.72	0.53	0.44	0.0032	0.040	0.040	1,538	0.0029	0.029	1,539	4.54E-02
Onsite Sources	1.72	0.53	0.44	0.0032	0.040	0.040	1,538	0.0029	0.029	1,539	4.54E-02
Onroad Equipment	1.67	15.34	49.17	0.05	1.25	0.99	3,817	0.03	0.09	3,829	0.34
NONRoad Equipment	8.04	145	56.3	0.64	8.50	8.26	18,425	0.15	0.75	18,489	0.43
Marine Equipment	0	0	0	0	0	0	0	0	0	0	0
ANNUAL TOTAL	11.4	161.1	105.9	0.7	9.8	9.3	23,780	0.2	0.9	23,857	0.8

Year	Emissions (tons)										
	VOC	NOx	CO	SO2	PM10	PM2.5	CO2	N2O	CH4	CO2e	Total HAPs
2	1.70	0.085	0.071	0.0005	0.0064	0.0064	50.5	0.0001	0.0010	50.6	1.67E-02
Onsite Sources	1.70	0.085	0.071	0.0005	0.0064	0.0064	50.5	0.0001	0.0010	50.6	1.67E-02
Onroad Equipment	3.16	29.63	91.43	0.09	2.39	1.90	7,221	0.06	0.18	7,245	0.64
NONRoad Equipment	14.5	255	97.9	0.32	15.5	15.0	33,499	0.27	1.36	33,614	0.81
Marine Equipment	101	1991	1032	268	144	140	142,354	4.13	18.6	144,023	3.91
ANNUAL TOTAL	120.1	2275.3	1220.9	268.6	162.1	156.8	183,125	4.5	20.1	184,933	5.4

Year	Emissions (tons)										
	VOC	NOx	CO	SO2	PM10	PM2.5	CO2	N2O	CH4	CO2e	Total HAPs
3	1.70	0	0	0	0	0	0	0	0	0	1.51E-02
Onsite Sources	1.70	0	0	0	0	0	0	0	0	0	1.51E-02
Onroad Equipment	0.97	9.30	27.97	0.03	0.75	0.60	2,256	0.02	0.06	2,263	0.19
NONRoad Equipment	0	0	0	0	0	0	0	0	0	0	0
Marine Equipment	0	0	0	0	0	0	0	0	0	0	0
ANNUAL TOTAL	2.66	9.30	27.97	0.03	0.75	0.60	2,256	0.02	0.06	2,263	0.21

Notes:

(1) Onsite sources include all stationary sources (diesel refueling, gasoline refueling, storage tank and heaters)

AGDC: Alaska Stand Alone Pipeline (ASAP) Project
 North Slope Construction
 Construction Activity Emissions Summary

Construction Activity	Time Period	Emissions (tons)										
		VOC	Nox	CO	SO2	PM10	PM2.5	CO2	N2O	CH4	CO2e	Total HAPs
West Dock Upgrades - Dredging	Monthly	27	28	29	30	31	32	33	34	35		
		1.11	15.1	5.62	0.019	0.89	0.86	2,019	0.016	0.081	2,026	0.053
	-1	0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.000	0	0.000
	0	0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.000	0	0.000
	1	1.11	15.1	5.62	0.019	0.89	0.86	2,019	0.016	0.081	2,026	0.053
	2	3.33	45.3	16.9	0.058	2.66	2.57	6,056	0.049	0.24	6,077	0.16
	3	0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.00	0	0.00
	Rolling Annual	4.45	60.4	22.5	0.077	3.54	3.43	8,075	0.066	0.32	8,103	0.21
	S0	0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.00	0	0.00
	W0	0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.00	0	0.00
	S0.5	0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.00	0	0.00
	W1	0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.00	0	0.00
	S1.5	0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.00	0	0.00
	W2	4.45	60.4	22.5	0.077	3.54	3.43	8,075	0.066	0.32	8,103	0.21
	S2.5	0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.00	0	0.000
	W3	0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.00	0	0.000
S3.5	0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.00	0	0.000	
West Dock Upgrades - Bridge Bypass Abutment Installation	Monthly	1.63	26.7	12.5	0.127	1.58	1.52	3,740	0.029	0.14	3,752	0.098
	-1	0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.00	0	0.000
	0	0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.00	0	0.000
	1	8.16	133	62.3	0.63	7.89	7.62	18,700	0.14	0.71	18,760	0.49
	2	0.00	0.0	0.0	0.00	0.00	0.00	0	0.00	0.00	0	0.00
	3	0.00	0.0	0.0	0.00	0.00	0.00	0	0.00	0.00	0	0.00
	Rolling Annual	8.16	133	62.3	0.63	7.89	7.62	18,700	0.14	0.71	18,760	0.49
	S0	0.00	0.0	0.0	0.00	0.00	0.00	0	0.000	0.00	0	0.00
	W0	0.00	0.0	0.0	0.00	0.00	0.00	0	0.000	0.00	0	0.00
	S0.5	0.00	0.0	0.0	0.00	0.00	0.00	0	0.000	0.00	0	0.00
	W1	6.53	106.7	49.9	0.51	6.31	6.10	14,960	0.115	0.57	15,008	0.39
	S1.5	1.63	26.7	12.5	0.127	1.58	1.52	3,740	0.029	0.14	3,752	0.098
	W2	0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.000	0	0.000
	S2.5	0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.000	0	0.000
	W3	0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.000	0	0.000
	S3.5	0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.000	0	0.000
West Dock Upgrades - West Dock Ramp Installation	Monthly	1.00	14.6	7.32	0.019	0.88	0.84	1,989	0.016	0.079	1,996	0.057
	-1	0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.000	0	0.000
	0	0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.000	0	0.000
	1	0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.000	0	0.000
	2	9.00	131	65.9	0.17	7.90	7.60	17,899	0.15	0.71	17,960	0.51
	3	0.00	0.0	0.0	0.00	0.00	0.00	0	0.00	0.00	0	0.00
	Rolling Annual	9.00	131	65.9	0.17	7.90	7.60	17,899	0.15	0.71	17,960	0.51
	S0	0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.00	0	0.00
	W0	0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.00	0	0.00
	S0.5	0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.00	0	0.00
	W1	0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.00	0	0.00
	S1.5	0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.00	0	0.00
	W2	2.00	29.1	14.6	0.038	1.75	1.69	3,978	0.033	0.16	3,991	0.11
	S2.5	6.00	87.4	43.9	0.12	5.26	5.07	11,933	0.098	0.47	11,974	0.34
	W3	1.00	14.6	7.32	0.019	0.88	0.84	1,989	0.016	0.079	1,996	0.057
	S3.5	0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.000	0	0.000
Module Transportation Module Sealift and Offload	Monthly	52	1,017	525	134	74	71	73,991	2.09	9.40	74,836	2.03
	-1	0	0	0	0	0	0	0	0.00	0	0	0.00
	0	0	0	0	0	0	0	0	0.00	0	0	0.00
	1	0	0	0	0	0	0	0	0.00	0	0	0.00
	2	103	2,034	1,049	268	147	143	147,983	4.17	18.8	149,671	4.06
	3	0	0	0	0	0	0	0	0.00	0.0	0	0.00
	Rolling Annual	103	2,034	1,049	268	147	143	147,983	4.17	18.8	149,671	4.06
	S0	0	0	0	0	0	0	0	0.00	0.0	0	0.00
	W0	0	0	0	0	0	0	0	0.00	0.0	0	0.00
	S0.5	0	0	0	0	0	0	0	0.00	0.0	0	0.00
	W1	0	0	0	0	0	0	0	0.00	0.0	0	0.00
	S1.5	0	0	0	0	0	0	0	0.00	0.0	0	0.00
	W2	0	0	0	0	0	0	0	0.00	0.0	0	0.00
	S2.5	103	2,034	1,049	268	147	143	147,983	4.17	18.8	149,671	4.06
	W3	0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.00	0	0.000
	S3.5	0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.00	0	0.000

AGDC: Alaska Stand Alone Pipeline (ASAP) Project
 North Slope Construction
 Construction Activity Emissions Summary

Construction Activity	Time Period	Emissions (tons)										
		VOC	Nox	CO	SO2	PM10	PM2.5	CO2	N2O	CH4	CO2e	Total HAPs
Module Transportation Module Transport to GCF	Monthly	1.24	20.5	8.46	0.026	1.28	1.24	2,693	0.022	0.11	2,702	0.074
	-1	0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.00	0	0.000
	0	0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.00	0	0.000
	1	0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.00	0	0.000
	2	2.48	41.0	16.9	0.052	2.56	2.47	5,386	0.044	0.22	5,404	0.15
	3	0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.00	0	0.000
	Rolling Annual	2.48	41.0	16.9	0.052	2.56	2.47	5,386	0.044	0.22	5,404	0.15
	S0	0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.00	0	0.000
	W0	0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.00	0	0.000
	S0.5	0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.00	0	0.000
	W1	0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.00	0	0.000
	S1.5	0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.00	0	0.000
	W2	0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.00	0	0.000
	S2.5	2.48	41.0	16.9	0.052	2.56	2.47	5,386	0.044	0.22	5,404	0.15
	W3	0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.000	0	0.000
	S3.5	0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.000	0	0.000
	North Slope Construction - Personnel and Material Transport to the North Slope	Monthly	0.069	0.66	2.00	0.002	0.05	0.04	161	0.001	0.004	162
-1		0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.000	0	0.000
0		0.83	8.0	24.0	0.025	0.64	0.51	1,934	0.017	0.047	1,940	0.17
1		1.32	12.6	38.0	0.040	1.02	0.81	3,062	0.027	0.075	3,071	0.26
2		2.49	23.9	71.9	0.075	1.93	1.53	5,801	0.051	0.14	5,819	0.50
3		0.97	9.30	28.0	0.029	0.75	0.60	2,256	0.020	0.055	2,263	0.19
Rolling Annual		2.49	23.9	71.9	0.075	1.93	1.53	5,801	0.051	0.14	5,819	0.50
S0		0.00	0.0	0.0	0.000	0.00	0.00	0	0.000	0.000	0	0.000
W0		0.28	2.66	7.99	0.008	0.21	0.17	645	0.006	0.016	647	0.056
S0.5		0.42	3.98	12.0	0.013	0.32	0.26	967	0.008	0.024	970	0.083
W1		0.42	3.98	12.0	0.013	0.32	0.26	967	0.008	0.024	970	0.083
S1.5		0.69	6.64	20.0	0.021	0.54	0.43	1,611	0.014	0.039	1,617	0.14
W2		1.18	11.3	34.0	0.036	0.91	0.72	2,739	0.024	0.067	2,748	0.24
S2.5		1.25	12.0	36.0	0.038	0.96	0.77	2,900	0.025	0.071	2,910	0.25
W3		1.11	10.6	32.0	0.034	0.86	0.68	2,578	0.023	0.063	2,586	0.22
S3.5		0.28	2.66	7.99	0.008	0.21	0.17	645	0.006	0.016	647	0.056

Equipment	Category	Quantity	bhp ^a	Tier Level	Load Factor ^b	Transient Adjustment Factor	Hours/Month ^c	Fuel Consumption (lb/hp-hr)	Emissions Rates (g/bhp-hr)																	
									VOC	Nox	CO	SO2	PM10	PM2.5	CO2	N2O	CH4	Benzene	Toluene	Xylenes	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH
West Dock Upgrades - Dredging																										
Ice Tractor - Drill/Pump	Tractors/Trailers	6	200	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.3E-03	2.1E-02	3.0E-03	1.3E-03	9.2E-04	1.3E-04	3.8E-03	2.5E-03	3.0E-04	2.7E-04	5.4E-04
Lube Truck	Tractors/Trailers	2	260	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.23	533	4.3E-03	2.2E-02	3.0E-03	1.3E-03	9.3E-04	1.3E-04	3.9E-03	2.5E-03	3.0E-04	2.8E-04	5.5E-04
Fuel Truck 2500-4000 gallon	Tractors/Trailers	2	260	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.23	533	4.3E-03	2.2E-02	3.0E-03	1.3E-03	9.3E-04	1.3E-04	3.9E-03	2.5E-03	3.0E-04	2.8E-04	5.5E-04
Water Truck 2500 gallon	Tractors/Trailers	2	200	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.23	533	4.3E-03	2.2E-02	3.0E-03	1.3E-03	9.3E-04	1.3E-04	3.9E-03	2.5E-03	3.0E-04	2.8E-04	5.5E-04
48 CY B70	Gravel Haul Equipment	6	500	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.23	533	4.3E-03	2.2E-02	3.0E-03	1.3E-03	9.3E-04	1.3E-04	3.9E-03	2.5E-03	3.0E-04	2.8E-04	5.5E-04
D9 Dozer	Dozers	1	436	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.23	533	4.3E-03	2.2E-02	3.0E-03	1.3E-03	9.3E-04	1.3E-04	3.9E-03	2.5E-03	3.0E-04	2.8E-04	5.5E-04
D10 Dozer	Dozers	1	600	2	0.59	High LF	720	0.37	0.18	3.93	2.24	0.0050	0.24	0.23	533	4.3E-03	2.2E-02	3.0E-03	1.3E-03	9.3E-04	1.3E-04	3.9E-03	2.5E-03	3.0E-04	2.8E-04	5.5E-04
336 Excavator	Backhoes/Graders	3	190	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.23	533	4.3E-03	2.2E-02	3.0E-03	1.3E-03	9.3E-04	1.3E-04	3.9E-03	2.5E-03	3.0E-04	2.8E-04	5.5E-04
Ditchwch Trencher (RT 120 Quad)	Backhoes/Graders	1	120	2	0.59	High LF	720	0.37	0.37	3.93	1.46	0.0050	0.33	0.32	533	4.3E-03	2.2E-02	3.0E-03	1.3E-03	9.3E-04	1.3E-04	3.9E-03	2.5E-03	3.0E-04	2.8E-04	5.5E-04
135 Ton RT (Grove RT9130E)	Cranes	1	285	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.3E-03	2.1E-02	3.0E-03	1.3E-03	9.2E-04	1.3E-04	3.8E-03	2.5E-03	3.0E-04	2.7E-04	5.4E-04
966 Loader w / bucket	Forklifts/Loaders	1	235	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.23	533	4.3E-03	2.2E-02	3.0E-03	1.3E-03	9.3E-04	1.3E-04	3.9E-03	2.5E-03	3.0E-04	2.8E-04	5.5E-04
Maxlite - 7.5 KW (Magnum MLT4080)	Light Plants	16	13	2	0.43	Average LF	720	0.41	0.45	4.48	2.38	0.0055	0.39	0.38	587	4.8E-03	2.4E-02	3.4E-03	1.5E-03	1.0E-03	1.4E-04	4.2E-03	2.8E-03	3.3E-04	3.1E-04	6.0E-04
Generator, 120kw (Caterpillar XQE150)	Portable Generators	2	180	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.3E-03	2.1E-02	3.0E-03	1.3E-03	9.2E-04	1.3E-04	3.8E-03	2.5E-03	3.0E-04	2.7E-04	5.4E-04
West Dock Upgrades - Bridge Bypass Abutment Installation																										
1 T. Flatbed	Tractors/Trailers	1	400	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.3E-03	2.1E-02	3.0E-03	1.3E-03	9.2E-04	1.3E-04	3.8E-03	2.5E-03	3.0E-04	2.7E-04	5.4E-04
40,000#Tractor, Truck Medium Duty	Tractors/Trailers	4	525	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.23	533	4.3E-03	2.2E-02	3.0E-03	1.3E-03	9.3E-04	1.3E-04	3.9E-03	2.5E-03	3.0E-04	2.8E-04	5.5E-04
Ice Tractor - Drill/Pump	Tractors/Trailers	2	145	2	0.43	Average LF	720	0.37	0.35	4.14	0.95	0.0050	0.27	0.26	528	4.3E-03	2.1E-02	3.0E-03	1.3E-03	9.2E-04	1.3E-04	3.8E-03	2.5E-03	3.0E-04	2.7E-04	5.4E-04
Mechanic's Truck	Tractors/Trailers	1	260	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.23	533	4.3E-03	2.2E-02	3.0E-03	1.3E-03	9.3E-04	1.3E-04	3.9E-03	2.5E-03	3.0E-04	2.8E-04	5.5E-04
Tire Truck	Tractors/Trailers	1	260	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.23	533	4.3E-03	2.2E-02	3.0E-03	1.3E-03	9.3E-04	1.3E-04	3.9E-03	2.5E-03	3.0E-04	2.8E-04	5.5E-04
Lube Truck	Tractors/Trailers	1	260	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.23	533	4.3E-03	2.2E-02	3.0E-03	1.3E-03	9.3E-04	1.3E-04	3.9E-03	2.5E-03	3.0E-04	2.8E-04	5.5E-04
Fuel Truck 2500-4000 gallon	Tractors/Trailers	1	260	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.23	533	4.3E-03	2.2E-02	3.0E-03	1.3E-03	9.3E-04	1.3E-04	3.9E-03	2.5E-03	3.0E-04	2.8E-04	5.5E-04
Water Truck 2500 gallon	Tractors/Trailers	1	200	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.23	533	4.3E-03	2.2E-02	3.0E-03	1.3E-03	9.3E-04	1.3E-04	3.9E-03	2.5E-03	3.0E-04	2.8E-04	5.5E-04
SOW	Tractors/Trailers	1	475	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.3E-03	2.1E-02	3.0E-03	1.3E-03	9.2E-04	1.3E-04	3.8E-03	2.5E-03	3.0E-04	2.7E-04	5.4E-04
30 CY Maxi Haul End Dump	Gravel Haul Equipment	8	600	2	0.59	High LF	720	0.37	0.18	3.93	2.24	0.0050	0.24	0.23	533	4.3E-03	2.2E-02	3.0E-03	1.3E-03	9.3E-04	1.3E-04	3.9E-03	2.5E-03	3.0E-04	2.8E-04	5.5E-04
D9 Dozer	Dozers	1	436	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.23	533	4.3E-03	2.2E-02	3.0E-03	1.3E-03	9.3E-04	1.3E-04	3.9E-03	2.5E-03	3.0E-04	2.8E-04	5.5E-04
D10 Dozer	Dozers	1	600	2	0.59	High LF	720	0.37	0.18	3.93	2.24	0.0050	0.24	0.23	533	4.3E-03	2.2E-02	3.0E-03	1.3E-03	9.3E-04	1.3E-04	3.9E-03	2.5E-03	3.0E-04	2.8E-04	5.5E-04
Ditchwch Trencher (RT 120 Quad)	Backhoes/Graders	1	113	2	0.59	High LF	720	0.37	0.37	3.93	1.46	0.0050	0.33	0.32	533	4.3E-03	2.2E-02	3.0E-03	1.3E-03	9.3E-04	1.3E-04	3.9E-03	2.5E-03	3.0E-04	2.8E-04	5.5E-04
135 Ton RT (Grove RT9130E)	Cranes	1	285	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.3E-03	2.1E-02	3.0E-03	1.3E-03	9.2E-04	1.3E-04	3.8E-03	2.5E-03	3.0E-04	2.7E-04	5.4E-04
200 Ton Manitowoc Lattice	Cranes	2	340	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.3E-03	2.1E-02	3.0E-03	1.3E-03	9.2E-04	1.3E-04	3.8E-03	2.5E-03	3.0E-04	2.7E-04	5.4E-04
966 Loader w / bucket	Forklifts/Loaders	1	235	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.23	533	4.3E-03	2.2E-02	3.0E-03	1.3E-03	9.3E-04	1.3E-04	3.9E-03	2.5E-03	3.0E-04	2.8E-04	5.5E-04
1600 CFM	Air Compressors/Drills	1	560	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.3E-03	2.1E-02	3.0E-03	1.3E-03	9.2E-04	1.3E-04	3.8E-03	2.5E-03	3.0E-04	2.7E-04	5.4E-04
APE D80-42 Diesel Hammer	Air Compressors/Drills	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
APE 200-6 Vibratory Hammer	Air Compressors/Drills	2	765	2	0.43	Average LF	720	0.37	0.17	4.14	0.84	0.0050	0.19	0.19	528	4.3E-03	2.1E-02	2.5E-03	9.1E-04	6.2E-04	0.0E+00	2.6E-04	8.2E-05	2.5E-05	4.2E-04	6.9E-04
Maxlite - 7.5 KW (Magnum MLT4080)	Light Plants	16	13	2	0.43	Average LF	720	0.41	0.45	4.48	2.38	0.0055	0.39	0.38	587	4.8E-03	2.4E-02	3.4E-03	1.5E-03	1.0E-03	1.4E-04	4.2E-03	2.8E-03	3.3E-04	3.1E-04	6.0E-04
Stadium Light	Light Plants	2	18	2	0.43	Average LF	720	0.41	0.45	4.48	2.38	0.0055	0.39	0.38	587	4.8E-03	2.4E-02	3.4E-03	1.5E-03	1.0E-03	1.4E-04	4.2E-03	2.8E-03	3.3E-04	3.1E-04	6.0E-04
JLG Articulating Lift 60' - 79'	Aerial Work Platform	1	50	2	0.21	Low LF	720	0.48	0.87	5.22	6.69	0.0065	0.70	0.68	692	5.6E-03	2.8E-02	4.0E-03	1.7E-03	1.2E-03	1.7E-04	5.0E-03	3.3E-03	3.9E-04	3.6E-04	7.1E-04
400 amp Diesel	Welding	4	100	2	0.21	Low LF	720	0.43	0.80	4.55	2.45	0.0059	0.52	0.51	623	5.1E-03	2.5E-02	3.6E-03	1.6E-03	1.1E-03	1.5E-04	4.5E-03	2.9E-03	3.5E-04	3.2E-04	6.4E-04
Generator, 120kw (Caterpillar XQE150)	Portable Generators	2	180	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.3E-03	2.1E-02	3.0E-03	1.3E-03	9.2E-04	1.3E-04	3.8E-03	2.5E-03	3.0E-04	2.7E-04	5.4E-04
West Dock Upgrades - West Dock Ramp Installation																										
1 T. Flatbed	Tractors/Trailers	1	400	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.3E-03	2.1E-02	3.0E-03	1.3E-03	9.2E-04	1.3E-04	3.8E-03	2.5E-03	3.0E-04	2.7E-04	5.4E-04
40,000#Tractor, Truck Medium Duty	Tractors/Trailers	4	525	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.23	533	4.3E-03	2.2E-02	3.0E-03	1.3E-03	9.3E-04	1.3E-04	3.9E-03	2.5E-03	3.0E-04	2.8E-04	5.5E-04
Mechanic's Truck	Tractors/Trailers	1	260	2	0.59	High LF	720	0.3																		

									Emissions Rates (tons/month)																						
Equipment	Category	Quantity	bhp ^a	Tier Level	Load Factor ^b	Transient Adjustment Factor	Hours/Month ^c	Fuel Consumption (lb/hp-hr)	VOC	Nox	CO	SO2	PM10	PM2.5	CO2	N2O	CH4	CO2e ^f	Total HAPs	Benzene	Toluene	Xylenes	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH			
West Dock Upgrades - Dredging																															
Ice Tractor - Drill/Pump	Tractors/Trailers	6	200	2	0.43	Average LF	720	0.37	1.3E-01	1.7E+00	3.4E-01	2.0E-03	7.9E-02	7.7E-02	2.2E+02	1.8E-03	8.8E-03	2.2E+02	5.1E-03	1.2E-03	5.4E-04	3.8E-04	5.2E-05	1.6E-03	1.0E-03	1.2E-04	1.1E-04	2.2E-04			
Lube Truck	Tractors/Trailers	2	260	2	0.59	High LF	720	0.37	8.2E-02	9.3E-01	3.1E-01	1.2E-03	5.8E-02	5.6E-02	1.3E+02	1.1E-03	5.3E-03	1.3E+02	3.1E-03	7.4E-04	3.3E-04	2.3E-04	3.1E-05	9.4E-04	6.1E-04	7.4E-05	6.7E-05	1.3E-04			
Fuel Truck 2500-4000 gallon	Tractors/Trailers	2	260	2	0.59	High LF	720	0.37	8.2E-02	9.3E-01	3.1E-01	1.2E-03	5.8E-02	5.6E-02	1.3E+02	1.1E-03	5.3E-03	1.3E+02	3.1E-03	7.4E-04	3.3E-04	2.3E-04	3.1E-05	9.4E-04	6.1E-04	7.4E-05	6.7E-05	1.3E-04			
Water Truck 2500 gallon	Tractors/Trailers	2	200	2	0.59	High LF	720	0.37	6.3E-02	7.2E-01	2.4E-01	9.4E-04	4.5E-02	4.3E-02	1.0E+02	8.1E-04	4.0E-03	1.0E+02	2.4E-03	5.7E-04	2.5E-04	1.7E-04	2.4E-05	7.2E-04	4.7E-04	5.2E-05	1.0E-04				
48 CY B70	Gravel Haul Equipment	6	500	2	0.59	High LF	720	0.37	2.5E-01	5.8E+00	2.0E+00	7.1E-03	3.3E-01	3.2E-01	7.5E+02	6.1E-03	3.0E-02	7.5E+02	1.8E-02	4.2E-03	1.9E-03	1.3E-03	1.8E-04	5.4E-03	3.5E-03	4.2E-04	3.9E-04	7.7E-04			
D9 Dozer	Dozers	1	436	2	0.59	High LF	720	0.37	3.7E-02	8.5E-01	2.9E-01	1.0E-03	4.9E-02	4.7E-02	1.1E+02	8.8E-04	4.4E-03	1.1E+02	2.6E-03	6.3E-04	2.7E-04	1.9E-04	2.6E-05	7.9E-04	5.1E-04	6.2E-05	5.7E-05	1.1E-04			
D10 Dozer	Dozers	1	600	2	0.59	High LF	720	0.37	5.1E-02	1.1E+00	6.3E-01	1.4E-03	6.7E-02	6.5E-02	1.5E+02	1.2E-03	6.1E-03	1.5E+02	3.6E-03	8.6E-04	3.8E-04	2.6E-04	3.6E-05	1.1E-03	7.0E-04	8.5E-05	7.8E-05	1.5E-04			
336 Excavator	Backhoes/Graders	3	190	2	0.59	High LF	720	0.37	8.9E-02	1.0E+00	3.4E-01	1.3E-03	6.4E-02	6.2E-02	1.4E+02	1.2E-03	5.8E-03	1.4E+02	3.5E-03	8.1E-04	3.6E-04	2.5E-04	3.4E-05	1.0E-03	6.7E-04	8.1E-05	7.4E-05	1.5E-04			
Ditchwitch Trencher (RT 120 Quad)	Backhoes/Graders	1	120	2	0.59	High LF	720	0.37	2.1E-02	2.2E-01	8.2E-02	2.8E-04	1.8E-02	1.8E-02	3.0E+01	2.4E-04	1.2E-03	3.0E+01	7.3E-04	1.7E-04	7.5E-05	5.2E-05	7.2E-06	2.0E-03	1.4E-04	1.7E-05	1.6E-05	3.1E-05			
135 Ton RT (Grove RT9130E)	Cranes	1	285	2	0.43	Average LF	720	0.37	3.1E-02	3.9E-01	8.0E-02	4.8E-04	1.9E-02	1.8E-02	5.1E+01	4.2E-04	2.1E-03	5.1E+01	1.2E-03	2.9E-04	1.3E-04	9.0E-05	1.2E-05	3.7E-04	2.4E-04	2.9E-05	2.7E-05	5.3E-05			
966 Loader w / bucket	Forklifts/Loaders	1	235	2	0.59	High LF	720	0.37	3.7E-02	4.2E-01	1.4E-01	5.5E-04	2.6E-02	2.5E-02	5.9E+01	4.8E-04	2.4E-03	5.9E+01	1.4E-03	3.4E-04	1.5E-04	1.0E-04	1.4E-05	4.2E-04	2.8E-04	3.3E-05	3.0E-05	6.0E-05			
Maxlite - 7.5 KW (Magnum MLT4080)	Light Plants	16	13	2	0.43	Average LF	720	0.41	3.2E-02	3.2E-01	1.7E-01	3.9E-04	2.8E-02	2.7E-02	4.2E+01	3.4E-04	1.7E-03	4.2E+01	1.0E-03	2.4E-04	1.0E-04	7.3E-05	1.0E-05	3.0E-04	2.0E-04	2.4E-05	2.2E-05	4.3E-05			
Generator, 120kw (Caterpillar XQE150)	Portable Generators	2	180	2	0.43	Average LF	720	0.37	3.9E-02	4.9E-01	1.0E-01	6.1E-04	2.4E-02	2.3E-02	6.5E+01	5.2E-04	2.6E-03	6.5E+01	1.6E-03	3.7E-04	1.6E-04	1.1E-04	1.6E-05	4.7E-04	3.0E-04	3.7E-05	3.4E-05	6.7E-05			
West Dock Upgrades - Bridge Bypass Abutment Installation																															
1 T. Flatbed	Tractors/Trailers	1	400	2	0.43	Average LF	720	0.37	2.4E-02	6.0E-01	1.3E-01	6.8E-04	2.6E-02	2.6E-02	7.2E+01	5.8E-04	2.9E-03	7.2E+01	1.7E-03	4.1E-04	1.8E-04	1.3E-04	1.7E-05	5.2E-04	3.4E-04	4.1E-05	3.7E-05	7.4E-05			
40,000#Tractor, Truck Medium Duty	Tractors/Trailers	4	525	2	0.59	High LF	720	0.37	1.8E-01	4.1E+00	1.4E+00	5.0E-03	2.3E-01	2.3E-01	5.2E+02	4.3E-03	2.1E-02	5.3E+02	1.3E-02	3.0E-03	1.3E-03	9.2E-04	1.3E-04	3.8E-03	2.5E-03	3.0E-04	2.7E-04	5.4E-04			
Ice Tractor - Drill/Pump	Tractors/Trailers	2	145	2	0.43	Average LF	720	0.37	3.5E-02	4.1E-01	9.4E-02	4.9E-04	2.6E-02	2.5E-02	5.2E+01	4.2E-04	2.1E-03	5.2E+01	1.3E-03	3.0E-04	1.3E-04	9.1E-05	1.3E-05	3.8E-04	2.5E-04	3.0E-05	2.7E-05	5.4E-05			
Mechanic's Truck	Tractors/Trailers	1	260	2	0.59	High LF	720	0.37	4.1E-02	4.7E-01	1.5E-01	6.1E-04	2.9E-02	2.8E-02	6.5E+01	5.3E-04	2.6E-03	6.5E+01	1.6E-03	3.7E-04	1.6E-04	1.1E-04	1.6E-05	4.7E-04	3.1E-04	3.7E-05	3.4E-05	6.7E-05			
Tire Truck	Tractors/Trailers	1	260	2	0.59	High LF	720	0.37	4.1E-02	4.7E-01	1.5E-01	6.1E-04	2.9E-02	2.8E-02	6.5E+01	5.3E-04	2.6E-03	6.5E+01	1.6E-03	3.7E-04	1.6E-04	1.1E-04	1.6E-05	4.7E-04	3.1E-04	3.7E-05	3.4E-05	6.7E-05			
Lube Truck	Tractors/Trailers	1	260	2	0.59	High LF	720	0.37	4.1E-02	4.7E-01	1.5E-01	6.1E-04	2.9E-02	2.8E-02	6.5E+01	5.3E-04	2.6E-03	6.5E+01	1.6E-03	3.7E-04	1.6E-04	1.1E-04	1.6E-05	4.7E-04	3.1E-04	3.7E-05	3.4E-05	6.7E-05			
Fuel Truck 2500-4000 gallon	Tractors/Trailers	1	260	2	0.59	High LF	720	0.37	4.1E-02	4.7E-01	1.5E-01	6.1E-04	2.9E-02	2.8E-02	6.5E+01	5.3E-04	2.6E-03	6.5E+01	1.6E-03	3.7E-04	1.6E-04	1.1E-04	1.6E-05	4.7E-04	3.1E-04	3.7E-05	3.4E-05	6.7E-05			
Water Truck 2500 gallon	Tractors/Trailers	1	200	2	0.59	High LF	720	0.37	3.1E-02	3.6E-01	1.2E-01	4.7E-04	2.2E-02	2.2E-02	5.0E+01	4.0E-04	2.0E-03	5.0E+01	1.2E-03	2.9E-04	1.3E-04	8.7E-05	1.2E-05	3.6E-04	2.3E-04	2.8E-05	2.6E-05	5.1E-05			
SOW	Tractors/Trailers	1	475	2	0.43	Average LF	720	0.37	2.8E-02	7.1E-01	1.5E-01	8.1E-04	3.1E-02	3.0E-02	8.6E+01	6.9E-04	3.5E-03	8.6E+01	2.1E-03	4.9E-04	2.1E-04	1.5E-04	2.1E-05	6.2E-04	4.0E-04	4.9E-05	4.4E-05	8.8E-05			
30 CY Maxi Haul End Dump	Gravel Haul Equipment	8	600	2	0.59	High LF	720	0.37	4.1E-01	8.8E+00	5.0E+00	1.1E-02	5.4E-01	5.2E-01	1.2E+03	9.7E-03	4.9E-02	1.2E+03	2.9E-02	6.9E-03	3.0E-03	2.1E-03	2.9E-04	8.7E-03	5.6E-03	6.8E-04	6.2E-04	1.2E-03			
D9 Dozer	Dozers	1	436	2	0.59	High LF	720	0.37	3.7E-02	8.5E-01	2.9E-01	1.0E-03	4.9E-02	4.7E-02	1.1E+02	8.8E-04	4.4E-03	1.1E+02	2.6E-03	6.2E-04	2.7E-04	1.9E-04	2.6E-05	7.9E-04	5.1E-04	6.2E-05	5.7E-05	1.1E-04			
D10 Dozer	Dozers	1	600	2	0.59	High LF	720	0.37	5.1E-02	1.1E+00	6.3E-01	1.4E-03	6.7E-02	6.5E-02	1.5E+02	1.2E-03	6.1E-03	1.5E+02	3.6E-03	8.6E-04	3.8E-04	2.6E-04	3.6E-05	1.1E-03	7.0E-04	8.5E-05	7.8E-05	1.5E-04			
Ditchwitch Trencher (RT 120 Quad)	Backhoes/Graders	1	113	2	0.59	High LF	720	0.37	1.9E-02	2.1E-01	7.7E-02	2.7E-04	1.7E-02	1.7E-02	2.8E+01	2.3E-04	1.1E-03	2.8E+01	6.8E-04	1.6E-04	7.1E-05	4.9E-05	6.8E-06	2.0E-04	1.3E-04	1.6E-05	1.5E-05	2.9E-05			
135 Ton RT (Grove RT9130E)	Cranes	1	285	2	0.43	Average LF	720	0.37	3.1E-02	3.9E-01	8.0E-02	4.8E-04	1.9E-02	1.8E-02	5.1E+01	4.2E-04	2.1E-03	5.1E+01	1.2E-03	2.9E-04	1.3E-04	9.0E-05	1.2E-05	3.7E-04	2.4E-04	2.9E-05	2.7E-05	5.3E-05			
200 Ton Manitowoc Lattice	Cranes	2	340	2	0.43	Average LF	720	0.37	4.0E-02	1.0E+00	2.2E-01	1.2E-03	4.5E-02	4.4E-02	1.2E+02	9.9E-04	5.0E-03	1.2E+02	3.0E-03	7.0E-04	3.1E-04	2.1E-04	2.9E-05	8.9E-04	5.8E-04	6.9E-05	6.4E-05	1.3E-04			
966 Loader w / bucket	Forklifts/Loaders	1	235	2	0.59	High LF	720	0.37	3.7E-02	4.2E-01	1.4E-01	5.5E-04	2.6E-02	2.5E-02	5.9E+01	4.8E-04	2.4E-03	5.9E+01	1.4E-03	3.4E-04	1.5E-04	1.0E-04	1.4E-05	4.2E-04	2.8E-04	3.3E-05	3.0E-05	6.0E-05			
1600 CFM	Air Compressors/Drills	1	560	2	0.43	Average LF	720	0.37	3.3E-02	8.4E-01	1.8E-01	9.5E-04	3.7E-02	3.6E-02	1.0E+02	8.2E-04	4.1E-03	1.0E+02	2.4E-03	5.8E-04	2.5E-04	1.8E-04	2.4E-05	7.3E-04	4.7E-04	5.7E-05	5.2E-05	1.0E-04			
APE D80-42 Diesel Hammer	Air Compressors/Drills	1	560	2	0.43	Average LF	720	0.37	3.3E-02	8.4E-01	1.8E-01	9.5E-04	3.7E-02	3.6E-02	1.0E+02	8.2E-04	4.1E-03	1.0E+02	2.4E-03	5.8E-04	2.5E-04	1.8E-04	2.4E-05	7.3E-04	4.7E-04	5.7E-05	5.2E-05	1.0E-04			
APE 200-6 Vibratory Hammer	Air Compressors/Drills	2	765	2	0.43	Average LF	720	0.37	9.0E-02	2.2E+00	4.4E-01	2.6E-03	1.0E-01	9.8E-02	2.8E+02	2.2E-03	1.1E-02	2.8E+02	2.9E-03	1.3E-03	4.7E-04	3.3E-04	0.0E+00	1.3E-04	4.3E-05	1.3E-05	2.2E-04	3.6E-04			
Maxlite - 7.5 KW (Magnum MLT4080)	Light Plants	16	13	2	0.43	Average LF	720	0.41	3.2E-02	3.2E-01	1.7E-01	3.9E-04	2.8E-02	2.7E-02	4.2E+01	3.4E-04	1.7E-03	4.2E+01	1.0E-03	2.4E-04	1.0E-04	7.3E-05	1.0E-05	3.0E-04	2.0E-04	2.4E-05	2.2E-05	4.3E-05			
Stadium Light	Light Plants	2	18	2	0.43	Average LF	720	0.41	5.6E-03	5.5E-02	2.9E-02	6.8E-05	4.8E-03	4.7E-03	7.2E+00	5.8E-05	2.9E-04	7.2E+00	1.7E-04	4.1E-05	1.8E-05	1.3E-05	1.7E-06	5.2E-05	3.4E-05	4.1E-06					

AGDC: Alaska Stand Alone Pipeline (ASAP) Project
 North Slope Construction
 Miscellaneous Equipment: Emissions Calculations

Equipment	Category	Hours/Month	Quantity	Fuel Consumption (gal/hr) ^a	Emissions Rates (lb/MMBtu) ^b																	
					VOC	Nox	CO	SO2	PM10	PM2.5 ^c	CO2	N2O	CH4	Benzene	Toluene	Xylenes	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH
West Dock Upgrades - Bridge Bypass Abutment Installation																						
APE D80-42 Diesel Hammer	Air Compressors/Drills	720	1	6.5	3.50E-01	4.41	0.95	0.29	0.31	0.31	1.63E+02	1.32E-03	6.61E-03	9.3E-04	4.1E-04	2.9E-04	3.9E-05	1.2E-03	7.7E-04	9.3E-05	8.5E-05	1.7E-04

^a Fuel Consumption from manufacturer's specification

^b Emission factors for criteria pollutants from AP-42 Section 3.3. Emission factors for GHGs from 40 CFR 98.33 Subpart C

^c Assume PM_{2.5} emission factor is 100% of PM₁₀ emission factor

^d Emission rate (tons/month) = Emission Rate (lb/MMBtu) * hours/month * quantity * fuel Consumption (gal/hr) * Heat Content (MMBtu/gal)/2000 (lb/ton)

^e CO_{2e} = CO₂ + CH₄ * 25 + N₂O * 2.98

AGDC: Alaska Stand Alone Pipeline (ASAP) Project

North Slope Construction

Miscellaneous Equipment: Emissions Calculations

Equipment	Category	Hours/Month	Quantity	Fuel Consumption (gal/hr) ^a	Emissions Rates (tons/month) ^d																			
					VOC	Nox	CO	SO2	PM10	PM2.5	CO2	N2O	CH4	CO2e ^e	Total HAPs	Benzene	Toluene	Xylenes	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH
West Dock Upgrades - Bridge Bypass Abutment Installation																								
APE D80-42 Diesel Hammer	Air Compressors/Drills	720	1	6.5	1.1E-01	1.4E+00	3.1E-01	9.4E-02	1.0E-01	1.0E-01	5.3E+01	4.3E-04	2.1E-03	5.3E+01	1.3E-03	3.0E-04	1.3E-04	9.2E-05	1.3E-05	3.8E-04	2.5E-04	3.0E-05	2.7E-05	5.4E-05

^a Fuel Consumption from manufacturer's specification

^b Emission factors for criteria pollutants from AP-42 Section 3.3. Emission factors for GHGs from 40 CFR 98.33 Subpart C

^c Assume PM_{2.5} emission factor is 100% of PM₁₀ emission factor

^d Emission rate (tons/month) = Emission Rate (lb/MMBtu) * hours/month * quantity * fuel Consumption (gal/hr) * Heat Content (MMBtu/gal)/2000 (lb/ton)

^e CO2e = CO2 + CH4 * 25 + N2O * 2.98

AGDC: Alaska Stand Alone Pipeline (ASAP) Project

North Slope Construction

Onroad Equipment: Emissions Calculations

Equipment	Category	MOVES Vehicle Category	Average Speed (mph)	Quantity	Miles/Month	Hours/Month	Emissions Rates (g/mile) ^a																	
							VOC	Nox	CO	SO2	PM10	PM2.5	CO2	N2O	CH4	Benzene	Toluene	Xylenes	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH
West Dock Upgrades - Dredging																								
Pickups, F-350 Crewcab	Pickup Trucks/Buses	Passenger Truck	25	5	9000	360	0.23	0.85	9.01	8.0E-03	1.1E-01	7.8E-02	457	6.1E-03	1.2E-02	1.0E-02	2.0E-02	1.7E-02	7.6E-04	2.8E-03	1.3E-03	1.7E-04	5.6E-04	9.1E-04
SUV Excursion	Pickup Trucks/Buses	Passenger Car	25	1	9000	360	0.05	0.27	4.42	5.9E-03	6.7E-02	4.5E-02	336	1.9E-03	5.4E-03	2.5E-03	4.9E-03	4.0E-03	1.8E-04	5.6E-04	2.7E-04	3.3E-05	1.2E-04	2.7E-04
44 Passenger Bus	Pickup Trucks/Buses	Transit Bus	25	2	9000	360	0.53	8.28	6.15	8.0E-03	5.1E-01	4.4E-01	1111	6.5E-03	2.9E-02	4.8E-03	3.9E-03	3.6E-03	1.5E-03	4.3E-02	1.9E-02	3.5E-03	4.7E-03	7.7E-03
West Dock Upgrades - Bridge Bypass Abutment Installation																								
Pickups, F-350 Crewcab	Pickup Trucks/Buses	Passenger Truck	25	10	18000	720	0.23	0.85	9.01	8.0E-03	1.1E-01	7.8E-02	457	6.1E-03	1.2E-02	1.0E-02	2.0E-02	1.7E-02	7.6E-04	2.8E-03	1.3E-03	1.7E-04	5.6E-04	9.1E-04
SUV Excursion	Pickup Trucks/Buses	Passenger Car	25	1	18000	720	0.05	0.27	4.42	5.9E-03	6.7E-02	4.5E-02	336	1.9E-03	5.4E-03	2.5E-03	4.9E-03	4.0E-03	1.8E-04	5.6E-04	2.7E-04	3.3E-05	1.2E-04	2.7E-04
44 Passenger Bus	Pickup Trucks/Buses	Transit Bus	25	2	18000	720	0.53	8.28	6.15	8.0E-03	5.1E-01	4.4E-01	1111	6.5E-03	2.9E-02	4.8E-03	3.9E-03	3.6E-03	1.5E-03	4.3E-02	1.9E-02	3.5E-03	4.7E-03	7.7E-03
West Dock Upgrades - West Dock Ramp Installation																								
Pickups, F-350 Crewcab	Pickup Trucks/Buses	Passenger Truck	25	6	18000	720	0.23	0.85	9.01	8.0E-03	1.1E-01	7.8E-02	457	6.1E-03	1.2E-02	1.0E-02	2.0E-02	1.7E-02	7.6E-04	2.8E-03	1.3E-03	1.7E-04	5.6E-04	9.1E-04
SUV Excursion	Pickup Trucks/Buses	Passenger Car	25	1	18000	720	0.05	0.27	4.42	5.9E-03	6.7E-02	4.5E-02	336	1.9E-03	5.4E-03	2.5E-03	4.9E-03	4.0E-03	1.8E-04	5.6E-04	2.7E-04	3.3E-05	1.2E-04	2.7E-04
44 Passenger Bus	Pickup Trucks/Buses	Transit Bus	25	2	18000	720	0.53	8.28	6.15	8.0E-03	5.1E-01	4.4E-01	1111	6.5E-03	2.9E-02	4.8E-03	3.9E-03	3.6E-03	1.5E-03	4.3E-02	1.9E-02	3.5E-03	4.7E-03	7.7E-03
Module Transportation - Module Sealift and Offload																								
Pickups, F-350 Crewcab	Pickup Trucks/Buses	Passenger Truck	25	15	7500	300	0.23	0.85	9.01	8.0E-03	1.1E-01	7.8E-02	457	6.1E-03	1.2E-02	1.0E-02	2.0E-02	1.7E-02	7.6E-04	2.8E-03	1.3E-03	1.7E-04	5.6E-04	9.1E-04
9-15 Passenger Van	Pickup Trucks/Buses	Transit Bus	25	4	3000	120	0.53	8.28	6.15	8.0E-03	5.1E-01	4.4E-01	1111	6.5E-03	2.9E-02	4.8E-03	3.9E-03	3.6E-03	1.5E-03	4.3E-02	1.9E-02	3.5E-03	4.7E-03	7.7E-03
Module Transportation - Module Transport to GCF																								
Pickups, F-350 Crewcab	Pickup Trucks/Buses	Passenger Truck	25	15	7500	300	0.23	0.85	9.01	8.0E-03	1.1E-01	7.8E-02	457	6.1E-03	1.2E-02	1.0E-02	2.0E-02	1.7E-02	7.6E-04	2.8E-03	1.3E-03	1.7E-04	5.6E-04	9.1E-04
9-15 Passenger Van	Pickup Trucks/Buses	Transit Bus	25	4	7500	300	0.53	8.28	6.15	8.0E-03	5.1E-01	4.4E-01	1111	6.5E-03	2.9E-02	4.8E-03	3.9E-03	3.6E-03	1.5E-03	4.3E-02	1.9E-02	3.5E-03	4.7E-03	7.7E-03
North Slope Construction - Personnel and Material Transport to the North Slope																								
Pickups, F-350 Crewcab	Pickup Trucks/Buses	Passenger Truck	25	50	2500	100	0.23	0.85	9.01	8.0E-03	1.1E-01	7.8E-02	457	6.1E-03	1.2E-02	1.0E-02	2.0E-02	1.7E-02	7.6E-04	2.8E-03	1.3E-03	1.7E-04	5.6E-04	9.1E-04
SUV Excursion	Pickup Trucks/Buses	Passenger Car	25	30	2500	100	0.05	0.27	4.42	5.9E-03	6.7E-02	4.5E-02	336	1.9E-03	5.4E-03	2.5E-03	4.9E-03	4.0E-03	1.8E-04	5.6E-04	2.7E-04	3.3E-05	1.2E-04	2.7E-04
9-15 Passenger Van	Pickup Trucks/Buses	Transit Bus	25	20	2500	100	0.53	8.28	6.15	8.0E-03	5.1E-01	4.4E-01	1111	6.5E-03	2.9E-02	4.8E-03	3.9E-03	3.6E-03	1.5E-03	4.3E-02	1.9E-02	3.5E-03	4.7E-03	7.7E-03
44 Passenger Bus	Pickup Trucks/Buses	Transit Bus	25	3	2500	100	0.53	8.28	6.15	8.0E-03	5.1E-01	4.4E-01	1111	6.5E-03	2.9E-02	4.8E-03	3.9E-03	3.6E-03	1.5E-03	4.3E-02	1.9E-02	3.5E-03	4.7E-03	7.7E-03

^a Emission rates are calculated based on an average of winter and summer emissions rates from the EPA MOVES Model for the North Slope Borough, using default fuel formulation, meteorology, fuel type mixture, and age distribution for 2016.

^b Emission Rate (tons/month) = Emission Rate (g/mile) * quantity * Miles/month / 453.6 (lb/g) / 2000 (lb/ton)

^c CO2e = CO2 + CH4 * 25 + N2O * 2.98

2016 Efs conservatively used to estimate emissions for all project years.

All North Slope roads assumed to be Rural Unrestricted road type.

AGDC: Alaska Stand Alone Pipeline (ASAP) Project

North Slope Construction

Onroad Equipment: Emissions Calculations

Equipment	Category	MOVES Vehicle Category	Average Speed (mph)	Quantity	Miles/Month	Hours/Month	Emissions Rates (tons/month) ^b																			
							VOC	Nox	CO	SO2	PM10	PM2.5	CO2	N2O	CH4	CO2e ^c	Total HAPs	Benzene	Toluene	Xylenes	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH
West Dock Upgrades - Dredging																										
Pickups, F-350 Crewcab	Pickup Trucks/Buses	Passenger Truck	25	5	9000	360	1.1E-02	4.2E-02	4.5E-01	3.9E-04	5.6E-03	3.9E-03	2.3E+01	3.0E-04	6.0E-04	2.3E+01	2.6E-03	5.2E-04	1.0E-03	8.2E-04	3.8E-05	1.4E-04	6.4E-05	8.6E-06	2.8E-05	4.5E-05
SUV Excursion	Pickup Trucks/Buses	Passenger Car	25	1	9000	360	5.3E-04	2.6E-03	4.4E-02	5.9E-05	6.7E-04	4.4E-04	3.3E+00	1.9E-05	5.4E-05	3.3E+00	1.3E-04	2.5E-05	4.8E-05	3.9E-05	1.8E-06	5.5E-06	2.6E-06	3.3E-07	1.2E-06	2.7E-06
44 Passenger Bus	Pickup Trucks/Buses	Transit Bus	25	2	9000	360	1.0E-02	1.6E-01	1.2E-01	1.6E-04	1.0E-02	8.8E-03	2.2E+01	1.3E-04	5.7E-04	2.2E+01	1.7E-03	9.5E-05	7.8E-05	7.0E-05	3.0E-05	8.5E-04	3.7E-04	6.9E-05	9.3E-05	1.5E-04
West Dock Upgrades - Bridge Bypass Abutment Installation																										
Pickups, F-350 Crewcab	Pickup Trucks/Buses	Passenger Truck	25	10	18000	720	4.5E-02	1.7E-01	1.8E+00	1.6E-03	2.2E-02	1.5E-02	9.1E+01	1.2E-03	2.4E-03	9.1E+01	1.1E-02	2.1E-03	4.0E-03	3.3E-03	1.5E-04	5.5E-04	2.6E-04	3.4E-05	1.1E-04	1.8E-04
SUV Excursion	Pickup Trucks/Buses	Passenger Car	25	1	18000	720	1.1E-03	5.3E-03	8.8E-02	1.2E-04	1.3E-03	8.9E-04	6.7E+00	3.8E-05	1.1E-04	6.7E+00	2.5E-04	5.0E-05	9.7E-05	7.9E-05	3.6E-06	1.1E-05	5.3E-06	6.5E-07	2.4E-06	5.4E-06
44 Passenger Bus	Pickup Trucks/Buses	Transit Bus	25	2	18000	720	2.1E-02	3.3E-01	2.4E-01	3.2E-04	2.0E-02	1.8E-02	4.4E+01	2.6E-04	1.1E-03	4.4E+01	3.4E-03	1.9E-04	1.6E-04	1.4E-04	6.0E-05	1.7E-03	7.5E-04	1.4E-04	1.9E-04	3.1E-04
West Dock Upgrades - West Dock Ramp Installation																										
Pickups, F-350 Crewcab	Pickup Trucks/Buses	Passenger Truck	25	6	18000	720	2.7E-02	1.0E-01	1.1E+00	9.5E-04	1.3E-02	9.3E-03	5.4E+01	7.3E-04	1.4E-03	5.5E+01	6.4E-03	1.2E-03	2.4E-03	2.0E-03	9.0E-05	3.3E-04	1.5E-04	2.1E-05	6.6E-05	1.1E-04
SUV Excursion	Pickup Trucks/Buses	Passenger Car	25	1	18000	720	1.1E-03	5.3E-03	8.8E-02	1.2E-04	1.3E-03	8.9E-04	6.7E+00	3.8E-05	1.1E-04	6.7E+00	2.5E-04	5.0E-05	9.7E-05	7.9E-05	3.6E-06	1.1E-05	5.3E-06	6.5E-07	2.4E-06	5.4E-06
44 Passenger Bus	Pickup Trucks/Buses	Transit Bus	25	2	18000	720	2.1E-02	3.3E-01	2.4E-01	3.2E-04	2.0E-02	1.8E-02	4.4E+01	2.6E-04	1.1E-03	4.4E+01	3.4E-03	1.9E-04	1.6E-04	1.4E-04	6.0E-05	1.7E-03	7.5E-04	1.4E-04	1.9E-04	3.1E-04
Module Transportation - Module Sealift and Offload																										
Pickups, F-350 Crewcab	Pickup Trucks/Buses	Passenger Truck	25	15	7500	300	2.8E-02	1.1E-01	1.1E+00	9.9E-04	1.4E-02	9.7E-03	5.7E+01	7.6E-04	1.5E-03	5.7E+01	6.6E-03	1.3E-03	2.5E-03	2.1E-03	9.4E-05	3.4E-04	1.6E-04	2.2E-05	6.9E-05	1.1E-04
9-15 Passenger Van	Pickup Trucks/Buses	Transit Bus	25	4	3000	120	7.0E-03	1.1E-01	8.1E-02	1.1E-04	6.8E-03	5.9E-03	1.5E+01	8.6E-05	3.8E-04	1.5E+01	1.1E-03	6.3E-05	5.2E-05	4.7E-05	2.0E-05	5.6E-04	2.5E-04	4.6E-05	6.2E-05	1.0E-04
Module Transportation - Module Transport to GCF																										
Pickups, F-350 Crewcab	Pickup Trucks/Buses	Passenger Truck	25	15	7500	300	2.8E-02	1.1E-01	1.1E+00	9.9E-04	1.4E-02	9.7E-03	5.7E+01	7.6E-04	1.5E-03	5.7E+01	6.6E-03	1.3E-03	2.5E-03	2.1E-03	9.4E-05	3.4E-04	1.6E-04	2.2E-05	6.9E-05	1.1E-04
9-15 Passenger Van	Pickup Trucks/Buses	Transit Bus	25	4	7500	300	1.7E-02	2.7E-01	2.0E-01	2.6E-04	1.7E-02	1.5E-02	3.7E+01	2.1E-04	9.5E-04	3.7E+01	2.9E-03	1.6E-04	1.3E-04	1.2E-04	5.0E-05	1.4E-03	6.2E-04	1.1E-04	1.6E-04	2.5E-04
North Slope Construction - Personnel and Material Transport to the North Slope																										
Pickups, F-350 Crewcab	Pickup Trucks/Buses	Passenger Truck	25	50	2500	100	3.1E-02	1.2E-01	1.2E+00	1.1E-03	1.5E-02	1.1E-02	6.3E+01	8.4E-04	1.7E-03	6.3E+01	7.4E-03	1.4E-03	2.8E-03	2.3E-03	1.0E-04	3.8E-04	1.8E-04	2.4E-05	7.7E-05	1.3E-04
SUV Excursion	Pickup Trucks/Buses	Passenger Car	25	30	2500	100	4.5E-03	2.2E-02	3.7E-01	4.9E-04	5.6E-03	3.7E-03	2.8E+01	1.6E-04	4.5E-04	2.8E+01	1.0E-03	2.1E-04	4.0E-04	3.3E-04	1.5E-05	4.6E-05	2.2E-05	2.7E-06	1.0E-05	2.3E-05
9-15 Passenger Van	Pickup Trucks/Buses	Transit Bus	25	20	2500	100	2.9E-02	4.6E-01	3.4E-01	4.4E-04	2.8E-02	2.4E-02	6.1E+01	3.6E-04	1.6E-03	6.1E+01	4.8E-03	2.6E-04	2.2E-04	2.0E-04	8.3E-05	2.4E-03	1.0E-03	1.9E-04	2.6E-04	4.2E-04
44 Passenger Bus	Pickup Trucks/Buses	Transit Bus	25	3	2500	100	4.3E-03	6.8E-02	5.1E-02	6.6E-05	4.2E-03	3.7E-03	9.2E+00	5.4E-05	2.4E-04	9.2E+00	7.1E-04	4.0E-05	3.2E-05	2.9E-05	1.2E-05	3.5E-04	1.6E-04	2.9E-05	3.9E-05	6.4E-05

^a Emission rates are calculated based on an average of winter and summer emissions rates from the EPA MOVES Model for the North Slope Borough, using default fuel formulation, meteorology, fuel type mixture, and age distribution for 2016.

^b Emission Rate (tons/month) = Emission Rate (g/mile) * quantity * Miles/month / 453.6 (lb/g) / 2000 (lb/ton)

^c CO2e = CO2 + CH4 * 25 + N2O * 2.98

2016 Efs conservatively used to estimate emissions for all project years.

All North Slope roads assumed to be Rural Unrestricted road type.

AGDC: Alaska Stand Alone Pipeline (ASAP) Project

North Slope Construction

Marine Equipment: Emissions Calculations

Equipment	bhp ^a	Kw	Quantity	Category	Tier Level	Load Factor ^b	Transient Adjustment Factor	Hours/Month	Fuel Consumption (lb/hp-hr)	Emissions Rates (g/hp-hr) ^{c,d}																	
										VOC	Nox	CO	SO2	PM10	PM2.5 ^e	CO2	N2O	CH4	Benzene	Toluene	Xylenes	Propylene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH
Module Transportation - Module Sealift and Offload																											
Ocean Tug	7200	5369	23	2	2	0.85	Average LF	720	0.37	0.37	7.31	3.73	0.97	0.54	0.52	515	1.5E-02	6.7E-02	2.5E-03	9.1E-04	6.2E-04	9.0E-03	2.6E-04	8.2E-05	2.5E-05	4.2E-04	6.9E-04
Offload Assist Tugs	1450	1081	6	1	2	0.79	Average LF	720	0.37	0.20	5.07	3.73	0.97	0.22	0.22	515	1.5E-02	6.7E-02	2.5E-03	9.1E-04	6.2E-04	9.0E-03	2.6E-04	8.2E-05	2.5E-05	4.2E-04	6.9E-04

^a HP from ASAP Construction Equipment Rev B (7-15-2014) spreadsheet provided by Fluor

^b Equipment load factors from Table 3-3 EPA Load Factors for Harbor Craft in April 2009 *Current Methodologies in Preparing Mobile Source Port-Related Emission Inventories*

^c Emission factors for criteria pollutants and GHG from Table 3-8: Harbor Craft Emission Factors in *April 2009 Current Methodologies in Preparing Mobile Source Port-Related Emission Inventories* [\[Please refer to the Marine Equipment Tab\]](#)

^d Emission factors for HAPs from AP-42 Section 3.4

^e Assume PM_{2.5} emission factor is 97% of PM₁₀ emission factor

^f CO2e = CO2 + CH4 * 25 + N2O * 2.98

AGDC: Alaska Stand Alone Pipeline (ASAP) Project

North Slope Construction

Marine Equipment: Emissions Calculations

Equipment	bhp ^a	Kw	Quantity	Category	Tier Level	Load Factor ^b	Transient Adjustment Factor	Hours/Month	Fuel Consumption (lb/hp-hr)	Emissions Rates (tons/month) ^{c, d}																			
										VOC	Nox	CO	SO2	PM10	PM2.5	CO2	N2O	CH4	CO2e ^f	Total HAPs	Benzene	Toluene	Xylenes	Propylene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH
Module Transportation - Module Sealift and Offload																													
Ocean Tug	7200	5369	23	2	2	0.85	Average LF	720	0.37	4.9E+01	9.6E+02	4.9E+02	1.3E+02	7.1E+01	6.8E+01	6.8E+04	2.0E+00	8.8E+00	6.8E+04	1.9E+00	3.3E-01	1.2E-01	8.2E-02	1.2E+00	3.4E-02	1.1E-02	3.4E-03	5.5E-02	9.0E-02
Offload Assist Tugs	1450	1081	6	1	2	0.79	Average LF	720	0.37	1.4E+00	3.5E+01	2.6E+01	6.7E+00	1.5E+00	1.5E+00	3.6E+03	1.0E-01	4.6E-01	3.6E+03	9.7E-02	1.7E-02	6.3E-03	4.3E-03	6.2E-02	1.8E-03	5.6E-04	1.8E-04	2.9E-03	4.7E-03

^a HP from ASAP Construction Equipment Rev B (7-15-2014) spreadsheet provided by Fluor

^b Equipment load factors from Table 3-3 EPA Load Factors for Harbor Craft in April 2009 *Current Methodologies in Preparing Mobile Source Port-Related Emission Inventories*

^c Emission factors for criteria pollutants and GHG from Table 3-8: Harbor Craft Emission Factors in *April 2009 Current Methodologies in Preparing Mobile Source Port-Related Emission Inventories* [Please refer to the Marine Equipment Tab]

^d Emission factors for HAPs from AP-42 Section 3.4

^e Assume PM_{2.5} emission factor is 97% of PM₁₀ emission factor

^f CO2e = CO2 + CH4 * 25 + N2O * 2.98

AGDC: Alaska Stand Alone Pipeline (ASAP) Project
 Pipeline Construction
 Emissions Summary Outside of Non-Attainment Area

Spread 1	Yr 0 Emissions (tons)										
	VOC	No _x	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂	N ₂ O	CH ₄	CO ₂ e	Total HAPs
Gravel Handling Operations ^(a)	-	-	-	-	75.4	24.6	-	-	-	-	-
Site Disturbance and Fugitive Dust ^(a)	-	-	-	-	163	16.3	-	-	-	-	-
Onroad Fugitive Emissions	-	-	-	-	2,668	267	-	-	-	-	-
NonRoad Equipment	841	18,220	6,362	22.1	982	978	2,337,502	18.9	94.8	2,345,515	56.7
Onroad Equipment	3.64	16.2	138	0.12	1.90	1.35	7,325	0.094	0.19	7,358	0.84
TOTAL	845	18,236	6,500	22.2	3,891	1,287	2,344,826	19.0	95.0	2,352,872	57.6

Note:

^(a)Assume that stock pile and fugitive dust emissions occur only during the summer months

Spread 1	Yr 1 Emissions (tons)										
	VOC	No _x	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂	N ₂ O	CH ₄	CO ₂ e	Total HAPs
Gravel Handling Operations ^(a)	-	-	-	-	82.1	25.3	-	-	-	-	-
Site Disturbance and Fugitive Dust ^(a)	-	-	-	-	163	16.3	-	-	-	-	-
Onroad Fugitive Emissions	-	-	-	-	4,446	445	-	-	-	-	-
NonRoad Equipment	1,556	33,707	11,771	40.9	1,817	1,809	4,324,378	35.0	175	4,339,202	105
Onroad Equipment	6.74	29.9	255	0.23	3.51	2.51	13,551	0.175	0.36	13,612	1.55
TOTAL	1,563	33,737	12,026	41.1	6,512	2,298	4,337,929	35.2	176	4,352,814	107

Note:

^(a)Assume that stock pile and fugitive dust emissions occur only during the summer months

Spread 1	Yr 2 Emissions (tons)										
	VOC	No _x	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂	N ₂ O	CH ₄	CO ₂ e	Total HAPs
Gravel Handling Operations ^(a)	-	-	-	-	76.9	24.7	-	-	-	-	-
Site Disturbance and Fugitive Dust ^(a)	-	-	-	-	163	16.3	-	-	-	-	-
Onroad Fugitive Emissions	-	-	-	-	2,174	217	-	-	-	-	-
NonRoad Equipment	1,009	21,864	7,635	26.5	1,178	1,174	2,805,002	22.7	114	2,814,618	68.1
Onroad Equipment	4.37	19.4	166	0.15	2.28	1.63	8,790	0.11	0.23	8,829	1.01
TOTAL	1,014	21,884	7,801	26.7	3,595	1,434	2,813,792	22.8	114	2,823,447	69.1

Note:

^(a)Assume that stock pile and fugitive dust emissions occur only during the summer months

AGDC: Alaska Stand Alone Pipeline (ASAP) Project
 Pipeline Construction
 Emissions Summary Outside of Non-Attainment Area

Spread 2	Yr 0 Emissions (tons)										
	VOC	No _x	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂	N ₂ O	CH ₄	CO ₂ e	Total HAPs
Gravel Handling Operations ^(a)	-	-	-	-	74.2	24.4	-	-	-	-	-
Site Disturbance and Fugitive Dust ^(a)	-	-	-	-	169	16.9	-	-	-	-	-
Onroad Fugitive Emissions	-	-	-	-	2,174	217	-	-	-	-	-
NonRoad Equipment	715	15,487	5,408	18.8	835	831	1,986,876	16.1	80.6	1,993,687	48.2
Onroad Equipment	3.10	13.8	117	0.10	1.61	1.15	6,226	0.080	0.16	6,254	0.71
TOTAL	718	15,501	5,525	18.9	3,253	1,091	1,993,102	16.2	80.8	1,999,941	48.9

Note:

^(a)Assume that stock pile and fugitive dust emissions occur only during the summer months

Spread 2	Yr 1 Emissions (tons)										
	VOC	No _x	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂	N ₂ O	CH ₄	CO ₂ e	Total HAPs
Gravel Handling Operations ^(a)	-	-	-	-	80.7	25.2	-	-	-	-	-
Site Disturbance and Fugitive Dust ^(a)	-	-	-	-	169	16.9	-	-	-	-	-
Onroad Fugitive Emissions	-	-	-	-	3,854	385	-	-	-	-	-
NonRoad Equipment	1,409	30,519	10,657	37.0	1,645	1,638	3,915,315	31.7	158.8	3,928,737	95.1
Onroad Equipment	6.11	27.1	231	0.21	3.18	2.27	12,269	0.158	0.32	12,324	1.40
TOTAL	1,415	30,546	10,888	37.2	5,751	2,068	3,927,584	31.9	159.1	3,941,061	96.5

Note:

^(a)Assume that stock pile and fugitive dust emissions occur only during the summer months

Spread 2	Yr 2 Emissions (tons)										
	VOC	No _x	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂	N ₂ O	CH ₄	CO ₂ e	Total HAPs
Gravel Handling Operations ^(a)	-	-	-	-	73.2	24.3	-	-	-	-	-
Site Disturbance and Fugitive Dust ^(a)	-	-	-	-	169	16.9	-	-	-	-	-
Onroad Fugitive Emissions	-	-	-	-	1,779	178	-	-	-	-	-
NonRoad Equipment	610	13,210	4,613	16.0	712	709	1,694,689	13.7	68.7	1,700,498	41.1
Onroad Equipment	2.64	11.7	100	0.089	1.38	0.98	5,310	0.068	0.14	5,334	0.61
TOTAL	613	13,221	4,713	16.1	2,734	929	1,699,999	13.8	68.9	1,705,832	41.7

Note:

^(a)Assume that stock pile and fugitive dust emissions occur only during the summer months

AGDC: Alaska Stand Alone Pipeline (ASAP) Project
 Pipeline Construction
 Emissions Summary Outside of Non-Attainment Area

Spread 3	Yr 0 Emissions (tons)										
	VOC	No _x	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂	N ₂ O	CH ₄	CO ₂ e	Total HAPs
Gravel Handling Operations ^(a)	-	-	-	-	70.1	23.9	-	-	-	-	-
Site Disturbance and Fugitive Dust ^(a)	-	-	-	-	180	18.0	-	-	-	-	-
Onroad Fugitive Emissions	-	-	-	-	988	99	-	-	-	-	-
NonRoad Equipment	273	5,922	2,068	7.2	319	318	759,688	6.15	30.8	762,292	18.4
Onroad Equipment	1.18	5.26	44.8	0.040	0.62	0.44	2,381	0.031	0.063	2,391	0.27
TOTAL	275	5,927	2,113	7.2	1,557	459	762,069	6.18	30.9	764,684	18.7

Note:

^(a)Assume that stock pile and fugitive dust emissions occur only during the summer months

Spread 3	Yr 1 Emissions (tons)										
	VOC	No _x	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂	N ₂ O	CH ₄	CO ₂ e	Total HAPs
Gravel Handling Operations ^(a)	-	-	-	-	82.8	25.4	-	-	-	-	-
Site Disturbance and Fugitive Dust ^(a)	-	-	-	-	180	18.0	-	-	-	-	-
Onroad Fugitive Emissions	-	-	-	-	5,336	534	-	-	-	-	-
NonRoad Equipment	1,640	35,530	12,407	43.1	1,915	1,907	4,558,128	36.9	185	4,573,754	111
Onroad Equipment	7.11	31.6	269	0.24	3.70	2.64	14,283	0.18	0.38	14,347	1.63
TOTAL	1,647	35,561	12,676	43.3	7,517	2,487	4,572,411	37.1	185	4,588,101	112

Note:

^(a)Assume that stock pile and fugitive dust emissions occur only during the summer months

Spread 3	Yr 2 Emissions (tons)										
	VOC	No _x	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂	N ₂ O	CH ₄	CO ₂ e	Total HAPs
Gravel Handling Operations ^(a)	-	-	-	-	75.8	24.6	-	-	-	-	-
Site Disturbance and Fugitive Dust ^(a)	-	-	-	-	180	18.0	-	-	-	-	-
Onroad Fugitive Emissions	-	-	-	-	1,877	188	-	-	-	-	-
NonRoad Equipment	883	19,131	6,681	23.2	1,031	1,027	2,454,377	19.9	99.6	2,462,790	59.6
Onroad Equipment	3.83	17.0	145	0.13	1.99	1.42	7,691	0.099	0.20	7,725	0.88
TOTAL	887	19,148	6,825	23.3	3,166	1,259	2,462,068	20.0	99.8	2,470,516	60.5

Note:

^(a)Assume that stock pile and fugitive dust emissions occur only during the summer months

AGDC: Alaska Stand Alone Pipeline (ASAP) Project
 Pipeline Construction
 Emissions Summary Outside of Non-Attainment Area

Spread 4	Yr 0 Emissions (tons)										
	VOC	No _x	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂	N ₂ O	CH ₄	CO ₂ e	Total HAPs
Gravel Handling Operations ^(a)	-	-	-	-	62.7	20.5	-	-	-	-	-
Site Disturbance and Fugitive Dust ^(a)	-	-	-	-	171	17.1	-	-	-	-	-
Onroad Fugitive Emissions	-	-	-	-	2,273	227	-	-	-	-	-
NonRoad Equipment	694	15,032	5,249	18.2	810	807	1,928,439	15.6	78.2	1,935,050	46.8
Onroad Equipment	3.01	13.4	114	0.10	1.57	1.12	6,043	0.078	0.16	6,070	0.69
TOTAL	697	15,045	5,363	18.3	3,318	1,073	1,934,482	15.7	78.4	1,941,120	47.5

Note:

^(a)Assume that stock pile and fugitive dust emissions occur only during the summer months

Spread 4	Yr 1 Emissions (tons)										
	VOC	No _x	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂	N ₂ O	CH ₄	CO ₂ e	Total HAPs
Gravel Handling Operations ^(a)	-	-	-	-	78.7	25.0	-	-	-	-	-
Site Disturbance and Fugitive Dust ^(a)	-	-	-	-	205	20.5	-	-	-	-	-
Onroad Fugitive Emissions	-	-	-	-	3,557	356	-	-	-	-	-
NonRoad Equipment	1,199	25,964	9,067	31.5	1,399	1,394	3,330,940	27.0	135	3,342,358	80.9
Onroad Equipment	5.19	23.1	197	0.18	2.70	1.93	10,438	0.13	0.27	10,485	1.19
TOTAL	1,204	25,987	9,263	31.7	5,243	1,797	3,341,377	27.1	135	3,352,843	82.1

Note:

^(a)Assume that stock pile and fugitive dust emissions occur only during the summer months

Spread 4	Yr 2 Emissions (tons)										
	VOC	No _x	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂	N ₂ O	CH ₄	CO ₂ e	Total HAPs
Gravel Handling Operations ^(a)	-	-	-	-	74.0	24.4	-	-	-	-	-
Site Disturbance and Fugitive Dust ^(a)	-	-	-	-	205	20.5	-	-	-	-	-
Onroad Fugitive Emissions	-	-	-	-	1,482	148	-	-	-	-	-
NonRoad Equipment	694	15,032	5,249	18.2	810	807	1,928,439	15.6	78.2	1,935,050	46.8
Onroad Equipment	3.01	13.4	114	0.10	1.57	1.12	6,043	0.078	0.16	6,070	0.69
TOTAL	697	15,045	5,363	18.3	2,573	1,001	1,934,482	15.7	78.4	1,941,120	47.5

Note:

^(a)Assume that stock pile and fugitive dust emissions occur only during the summer months

AGDC: Alaska Stand Alone Pipeline (ASAP) Project

Pipeline Construction

Spread Construction Activity for Outside PM_{2.5} Non-Attainment Area

	Number of 200-person module camp months					
	Yr 0		Yr 1		Yr 2	
	Winter Months	Summer Months	Winter Months	Summer Months	Winter Months	Summer Months
Spread 1	13	27	29	45	26	22
Spread 2	12	22	28	39	11	18
Spread 3	3	10	24	54	23	19
Spread 4	10	23	21	36	18	15

Note:

This table is based on the information provided in the "Updated Camp Chart" worksheet (see Camp Activity tab). Total = # of 200 person modules * months in operation).

	Number of Months Operational					
	Yr 0		Yr 1		Yr 2	
	Winter Months	Summer Months	Winter Months	Summer Months	Winter Months	Summer Months
Spread 1	2	6	6	6	6	6
Spread 2	0	6	6	6	6	6
Spread 3	0	6	6	6	6	6
Spread 4	0	5	6	6	6	6

Note:

This table is based on the information provided in the "Updated Camp Chart" worksheet (see Camp Activity tab). Total = # of 200 person modules * months in operation).

AGDC: Alaska Stand Alone Pipeline (ASAP) Project
 Construction Camps and Storage Yards
 Indirect Emissions Summary by Year for areas outside the PM_{2.5} NAA

Emissions (tons)																				
Yr 0	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂	N ₂ O	CH ₄	CO _{2e}	Total HAPs	Benzene	Toluene	Xylenes	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH
Pipe Haul Truck Trips	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fuel Truck Trips	1.0E+00	2.7E+01	6.7E+00	3.8E-02	1.6E+03	1.6E+02	5.1E+03	5.1E-03	7.9E-02	5.1E+03	1.7E-01	8.4E-03	5.8E-03	5.8E-03	2.9E-03	8.9E-02	3.9E-02	7.1E-03	9.6E-03	1.6E-02
Refuse Truck Trips	1.9E-02	5.0E-01	1.2E-01	7.1E-04	3.0E+01	3.1E+00	9.4E+01	9.6E-05	1.5E-03	9.4E+01	3.2E-03	1.6E-04	1.1E-04	1.1E-04	5.4E-05	1.7E-03	7.2E-04	1.3E-04	1.8E-04	2.9E-04
Supply Truck Trips	2.0E-01	5.1E+00	1.3E+00	7.2E-03	2.9E+02	3.0E+01	9.5E+02	9.7E-04	1.5E-02	9.5E+02	3.3E-02	1.6E-03	1.1E-03	1.1E-03	5.5E-04	1.7E-02	7.3E-03	1.3E-03	1.8E-03	2.9E-03
Pipe Rail Transport	2.7E+01	4.5E+02	8.5E+01	1.0E+01	1.8E+01	1.8E+01	3.3E+04	2.6E-01	1.3E+00	3.3E+04	3.2E-01	1.6E-01	5.6E-02	3.9E-02	-	1.6E-02	5.0E-03	1.6E-03	2.6E-02	4.2E-02
ANNUAL TOTAL	2.8E+01	4.8E+02	9.3E+01	1.0E+01	2.0E+03	2.1E+02	3.9E+04	2.7E-01	1.4E+00	3.9E+04	5.2E-01	1.7E-01	6.3E-02	4.6E-02	3.5E-03	1.2E-01	5.2E-02	1.0E-02	3.8E-02	6.1E-02

Emissions (tons)																				
Yr 1	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂	N ₂ O	CH ₄	CO _{2e}	Total HAPs	Benzene	Toluene	Xylenes	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH
Pipe Haul Truck Trips	2.3E+00	5.9E+01	1.5E+01	8.3E-02	3.4E+03	3.5E+02	1.1E+04	1.1E-02	1.7E-01	1.1E+04	3.8E-01	1.8E-02	1.3E-02	1.3E-02	6.4E-03	1.9E-01	8.5E-02	1.5E-02	2.1E-02	3.4E-02
Fuel Truck Trips	4.3E-01	1.1E+01	2.8E+00	1.6E-02	6.8E+02	6.8E+01	2.1E+03	2.1E-03	3.3E-02	2.1E+03	7.2E-02	3.5E-03	2.4E-03	2.4E-03	1.2E-03	3.7E-02	1.6E-02	2.9E-03	4.0E-03	6.5E-03
Refuse Truck Trips	8.5E-03	2.2E-01	5.5E-02	3.1E-04	1.3E+01	1.3E+00	4.1E+01	4.2E-05	6.4E-04	4.1E+01	1.4E-03	6.9E-05	4.8E-05	4.7E-05	2.4E-05	7.3E-04	3.2E-04	5.8E-05	7.8E-05	1.3E-04
Supply Truck Trips	9.7E-02	2.5E+00	6.3E-01	3.6E-03	1.5E+02	1.5E+01	4.7E+02	4.8E-04	7.4E-03	4.7E+02	1.6E-02	7.9E-04	5.5E-04	5.4E-04	2.7E-04	8.3E-03	3.6E-03	6.6E-04	9.0E-04	1.5E-03
Pipe Rail Transport	2.6E+02	4.4E+03	8.3E+02	9.9E+01	1.8E+02	1.7E+02	3.2E+05	2.6E+00	1.3E+01	3.2E+05	3.2E+00	1.5E+00	5.5E-01	3.8E-01	-	1.5E-01	4.9E-02	1.5E-02	2.5E-01	4.2E-01
ANNUAL TOTAL	2.7E+02	4.5E+03	8.5E+02	9.9E+01	4.4E+03	6.0E+02	3.3E+05	2.6E+00	1.3E+01	3.3E+05	3.6E+00	1.5E+00	5.7E-01	3.9E-01	7.9E-03	4.0E-01	1.5E-01	3.5E-02	2.8E-01	4.6E-01

Emissions (tons)																				
Yr 2	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂	N ₂ O	CH ₄	CO _{2e}	Total HAPs	Benzene	Toluene	Xylenes	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH
Pipe Haul Truck Trips	9.7E-01	2.5E+01	6.3E+00	3.5E-02	1.5E+03	1.5E+02	4.7E+03	4.8E-03	7.4E-02	4.7E+03	1.6E-01	7.9E-03	5.5E-03	5.4E-03	2.7E-03	8.3E-02	3.6E-02	6.6E-03	9.0E-03	1.5E-02
Fuel Truck Trips	1.4E+00	3.6E+01	8.9E+00	5.0E-02	2.2E+03	2.2E+02	6.7E+03	6.8E-03	1.0E-01	6.7E+03	2.3E-01	1.1E-02	7.7E-03	7.6E-03	3.9E-03	1.2E-01	5.1E-02	9.4E-03	1.3E-02	2.1E-02
Refuse Truck Trips	2.4E-02	6.1E-01	1.5E-01	8.6E-04	3.7E+01	3.7E+00	1.2E+02	1.2E-04	1.8E-03	1.2E+02	3.9E-03	1.9E-04	1.3E-04	1.3E-04	6.6E-05	2.0E-03	8.8E-04	1.6E-04	2.2E-04	3.6E-04
Supply Truck Trips	2.9E-01	7.5E+00	1.9E+00	1.1E-02	4.3E+02	4.4E+01	1.4E+03	1.4E-03	2.2E-02	1.4E+03	4.8E-02	2.3E-03	1.6E-03	1.6E-03	8.1E-04	2.5E-02	1.1E-02	2.0E-03	2.7E-03	4.3E-03
Pipe Rail Transport	3.9E+01	6.5E+02	1.2E+02	1.5E+01	2.6E+01	2.6E+01	4.7E+04	3.8E-01	1.9E+00	4.7E+04	4.6E-01	2.3E-01	8.1E-02	5.6E-02	-	2.3E-02	7.3E-03	2.3E-03	3.8E-02	6.1E-02
ANNUAL TOTAL	4.2E+01	7.2E+02	1.4E+02	1.5E+01	4.1E+03	4.4E+02	6.0E+04	4.0E-01	2.1E+00	6.0E+04	9.0E-01	2.5E-01	9.6E-02	7.1E-02	7.4E-03	2.5E-01	1.1E-01	2.0E-02	6.2E-02	1.0E-01

AGDC: Alaska Stand Alone Pipeline (ASAP) Project
 Construction Camps and Storage Yards
 Speciated Pipe Rail Delivery Emissions Summary for areas outside the PM_{2.5} NAA

Destination	Time Period	Emissions (tons)																		
		VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5} ^(a)	CO ₂	N ₂ O	CH ₄	CO ₂ e	Total HAPs	Benzene	Toluene	Xylenes	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH
Fairbanks	Monthly	2.5E+01	4.2E+02	7.9E+01	9.4E+00	1.7E+01	1.6E+01	3.0E+04	2.5E-01	1.2E+00	3.0E+04	2.9E-01	1.4E-01	5.2E-02	3.6E-02	1.5E-02	4.7E-03	1.5E-03	2.4E-02	3.9E-02
	-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	0	2.6E+01	4.3E+02	8.1E+01	9.6E+00	1.7E+01	1.7E+01	3.1E+04	2.5E-01	1.3E+00	3.1E+04	3.0E-01	1.5E-01	5.4E-02	3.7E-02	1.5E-02	4.8E-03	1.5E-03	2.5E-02	4.0E-02
	1	1.7E+02	2.8E+03	5.4E+02	6.4E+01	1.2E+02	1.1E+02	2.1E+05	1.7E+00	8.4E+00	2.1E+05	2.0E+00	9.9E-01	3.6E-01	2.5E-01	1.0E-01	3.2E-02	1.0E-02	1.7E-01	2.7E-01
	2	3.9E+01	6.5E+02	1.2E+02	1.5E+01	2.6E+01	2.6E+01	4.7E+04	3.8E-01	1.9E+00	4.7E+04	4.6E-01	2.3E-01	8.1E-02	5.6E-02	2.3E-02	7.3E-03	2.3E-03	3.8E-02	6.1E-02
	Rolling Annual	1.7E+02	2.9E+03	5.5E+02	6.5E+01	1.2E+02	1.1E+02	2.1E+05	1.7E+00	8.5E+00	2.1E+05	2.0E+00	1.0E+00	3.6E-01	2.5E-01	1.0E-01	3.2E-02	1.0E-02	1.7E-01	2.7E-01
	S0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W1	8.8E+01	1.5E+03	2.8E+02	3.3E+01	5.9E+01	5.8E+01	1.1E+05	8.7E-01	4.3E+00	1.1E+05	1.0E+00	5.1E-01	1.8E-01	1.3E-01	5.2E-02	1.6E-02	5.2E-03	8.5E-02	1.4E-01
	S1.5	8.4E+01	1.4E+03	2.7E+02	3.2E+01	5.7E+01	5.5E+01	1.0E+05	8.3E-01	4.1E+00	1.0E+05	9.8E-01	4.9E-01	1.8E-01	1.2E-01	4.9E-02	1.6E-02	4.9E-03	8.1E-02	1.3E-01
	W2	5.9E+01	9.9E+02	1.9E+02	2.2E+01	4.0E+01	3.9E+01	7.2E+04	5.9E-01	2.9E+00	7.2E+04	7.0E-01	3.4E-01	1.2E-01	8.6E-02	3.5E-02	1.1E-02	3.5E-03	5.8E-02	9.4E-02
	S2.5	3.7E+00	6.3E+01	1.2E+01	1.4E+00	2.5E+00	2.5E+00	4.5E+03	3.7E-02	1.8E-01	4.6E+03	4.4E-02	2.2E-02	7.8E-03	5.4E-03	2.2E-03	7.0E-04	2.2E-04	3.6E-03	5.9E-03
Dunbar	Monthly	1.1E+01	1.8E+02	3.4E+01	4.1E+00	7.4E+00	7.1E+00	1.3E+04	1.1E-01	5.4E-01	1.3E+04	1.4E-01	6.3E-02	2.3E-02	1.6E-02	6.4E-03	2.0E-03	6.4E-04	1.1E-02	1.7E-02
	-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	0	1.2E+00	2.1E+01	3.9E+00	4.7E-01	8.4E-01	8.2E-01	1.5E+03	1.2E-02	6.1E-02	1.5E+03	1.6E-02	7.2E-03	2.6E-03	1.8E-03	7.3E-04	2.3E-04	7.3E-05	1.2E-03	2.0E-03
	1	6.4E+01	1.1E+03	2.0E+02	2.4E+01	4.3E+01	4.2E+01	7.8E+04	6.3E-01	3.2E+00	7.8E+04	8.1E-01	3.7E-01	1.3E-01	9.2E-02	3.8E-02	1.2E-02	3.8E-03	6.2E-02	1.0E-01
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Rolling Annual	6.4E+01	1.1E+03	2.0E+02	2.4E+01	4.3E+01	4.2E+01	7.8E+04	6.3E-01	3.2E+00	7.8E+04	8.1E-01	3.7E-01	1.3E-01	9.2E-02	3.8E-02	1.2E-02	3.8E-03	6.2E-02	1.0E-01
	S0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W1	4.1E+01	6.9E+02	1.3E+02	1.5E+01	2.8E+01	2.7E+01	5.0E+04	4.1E-01	2.0E+00	5.0E+04	5.2E-01	2.4E-01	8.6E-02	5.9E-02	2.4E-02	7.7E-03	2.4E-03	4.0E-02	6.5E-02
	S1.5	1.1E+01	1.9E+02	3.6E+01	4.3E+00	7.6E+00	7.4E+00	1.4E+04	1.1E-01	5.6E-01	1.4E+04	1.4E-01	6.5E-02	2.4E-02	1.6E-02	6.6E-03	2.1E-03	6.6E-04	1.1E-02	1.8E-02
	W2	1.3E+01	2.1E+02	4.0E+01	4.8E+00	8.6E+00	8.3E+00	1.5E+04	1.3E-01	6.3E-01	1.6E+04	1.6E-01	7.4E-02	2.7E-02	1.8E-02	7.5E-03	2.4E-03	7.5E-04	1.2E-02	2.0E-02
	S2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anchorage	Monthly	6.6E+00	1.1E+02	2.1E+01	2.5E+00	4.5E+00	4.3E+00	8.0E+03	6.5E-02	3.2E-01	8.0E+03	8.4E-02	3.8E-02	1.4E-02	9.5E-03	3.9E-03	1.2E-03	3.9E-04	6.4E-03	1.0E-02
	-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1	2.9E+01	4.8E+02	9.1E+01	1.1E+01	1.9E+01	1.9E+01	3.5E+04	2.8E-01	1.4E+00	3.5E+04	3.7E-01	1.7E-01	6.0E-02	4.1E-02	1.7E-02	5.4E-03	1.7E-03	2.8E-02	4.5E-02
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Rolling Annual	2.9E+01	4.8E+02	9.1E+01	1.1E+01	1.9E+01	1.9E+01	3.5E+04	2.8E-01	1.4E+00	3.5E+04	3.7E-01	1.7E-01	6.0E-02	4.1E-02	1.7E-02	5.4E-03	1.7E-03	2.8E-02	4.5E-02
	S0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W1	1.8E+01	3.1E+02	5.8E+01	6.9E+00	1.2E+01	1.2E+01	2.2E+04	1.8E-01	9.0E-01	2.2E+04	2.3E-01	1.1E-01	3.8E-02	2.6E-02	1.1E-02	3.4E-03	1.1E-03	1.8E-02	2.9E-02
	S1.5	7.1E+00	1.2E+02	2.3E+01	2.7E+00	4.8E+00	4.7E+00	8.6E+03	7.0E-02	3.5E-01	8.7E+03	9.0E-02	4.1E-02	1.5E-02	1.0E-02	4.2E-03	1.3E-03	4.2E-04	6.9E-03	1.1E-02
	W2	3.3E+00	5.5E+01	1.1E+01	1.2E+00	2.2E+00	2.2E+00	4.0E+03	3.3E-02	1.6E-01	4.0E+03	4.2E-02	1.9E-02	6.9E-03	4.8E-03	1.9E-03	6.2E-04	1.9E-04	3.2E-03	5.2E-03
	S2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note:
^(a)PM_{2.5} is assumed to be 97% of PM₁₀

AGDC: Alaska Stand Alone Pipeline (ASAP) Project
 Construction Camps and Storage Yards
 Speciated Pipe Truck Delivery Emissions Summary for areas outside the PM_{2.5} NAA

Storage Yard Name	Time Period	Emissions (tons)																			
		VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂	N ₂ O	CH ₄	CO ₂ e	Total HAPs	Benzene	Toluene	Xylenes	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH
Prudhoe Bay	Monthly	5.6E-02	1.5E+00	3.6E-01	2.1E-03	8.5E+01	8.6E+00	2.7E+02	2.8E-04	4.3E-03	2.7E+02	9.4E-03	4.6E-04	3.2E-04	3.1E-04	1.6E-04	4.8E-03	2.1E-03	3.8E-04	5.2E-04	8.5E-04
	-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1	7.4E-02	1.9E+00	4.8E-01	2.7E-03	1.1E+02	1.1E+01	3.6E+02	3.7E-04	5.6E-03	3.6E+02	1.2E-02	6.0E-04	4.1E-04	4.1E-04	2.1E-04	6.3E-03	2.8E-03	5.0E-04	6.8E-04	1.1E-03
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Rolling Annual	7.4E-02	1.9E+00	4.8E-01	2.7E-03	1.1E+02	1.1E+01	3.6E+02	3.7E-04	5.6E-03	3.6E+02	1.2E-02	6.0E-04	4.1E-04	4.1E-04	2.1E-04	6.3E-03	2.8E-03	5.0E-04	6.8E-04	1.1E-03
	W-0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W2	7.4E-02	1.9E+00	4.8E-01	2.7E-03	1.1E+02	1.1E+01	3.6E+02	3.7E-04	5.6E-03	3.6E+02	1.2E-02	6.0E-04	4.1E-04	4.1E-04	2.1E-04	6.3E-03	2.8E-03	5.0E-04	6.8E-04	1.1E-03	
S2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Franklin Bluffs	Monthly	1.2E-01	3.3E+00	8.0E-01	4.5E-03	1.9E+02	1.9E+01	6.0E+02	6.2E-04	9.4E-03	6.0E+02	2.1E-02	1.0E-03	7.0E-04	6.9E-04	3.5E-04	1.1E-02	4.6E-03	8.4E-04	1.2E-03	1.9E-03
	-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	4.9E-01	1.3E+01	3.1E+00	1.8E-02	7.4E+02	7.4E+01	2.4E+03	2.4E-03	3.7E-02	2.4E+03	8.1E-02	3.9E-03	2.7E-03	2.7E-03	1.4E-03	4.2E-02	1.8E-02	3.3E-03	4.5E-03	7.3E-03
	Rolling Annual	4.9E-01	1.3E+01	3.1E+00	1.8E-02	7.4E+02	7.4E+01	2.4E+03	2.4E-03	3.7E-02	2.4E+03	8.1E-02	3.9E-03	2.7E-03	2.7E-03	1.4E-03	4.2E-02	1.8E-02	3.3E-03	4.5E-03	7.3E-03
	W-0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W2	1.8E-01	4.6E+00	1.1E+00	6.4E-03	2.7E+02	2.7E+01	8.5E+02	8.7E-04	1.3E-02	8.6E+02	2.9E-02	1.4E-03	9.9E-04	9.8E-04	4.9E-04	1.5E-02	6.6E-03	1.2E-03	1.6E-03	2.6E-03	
S2.5	3.1E-01	8.2E+00	2.0E+00	1.1E-02	4.7E+02	4.7E+01	1.5E+03	1.5E-03	2.4E-02	1.5E+03	5.2E-02	2.5E-03	1.7E-03	1.7E-03	8.7E-04	2.7E-02	1.2E-02	2.1E-03	2.9E-03	4.7E-03	
Happy Valley	Monthly	1.4E-01	3.8E+00	9.3E-01	5.3E-03	2.2E+02	2.2E+01	7.0E+02	7.2E-04	1.1E-02	7.0E+02	2.4E-02	1.2E-03	8.1E-04	8.0E-04	4.1E-04	1.2E-02	5.4E-03	9.8E-04	1.3E-03	2.2E-03
	-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	3.1E-01	8.1E+00	2.0E+00	1.1E-02	4.7E+02	4.7E+01	1.5E+03	1.5E-03	2.3E-02	1.5E+03	5.2E-02	2.5E-03	1.7E-03	1.7E-03	8.6E-04	2.6E-02	1.2E-02	2.1E-03	2.9E-03	4.6E-03
	Rolling Annual	3.1E-01	8.1E+00	2.0E+00	1.1E-02	4.7E+02	4.7E+01	1.5E+03	1.5E-03	2.3E-02	1.5E+03	5.2E-02	2.5E-03	1.7E-03	1.7E-03	8.6E-04	2.6E-02	1.2E-02	2.1E-03	2.9E-03	4.6E-03
	W-0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W2	2.9E-01	7.5E+00	1.8E+00	1.0E-02	4.3E+02	4.4E+01	1.4E+03	1.4E-03	2.2E-02	1.4E+03	4.8E-02	2.3E-03	1.6E-03	1.6E-03	8.0E-04	2.5E-02	1.1E-02	1.9E-03	2.6E-03	4.3E-03	
S2.5	2.3E-02	6.0E-01	1.5E-01	8.3E-04	3.4E+01	3.5E+00	1.1E+02	1.1E-04	1.7E-03	1.1E+02	3.8E-03	1.8E-04	1.3E-04	1.3E-04	6.4E-05	2.0E-03	8.5E-04	1.6E-04	2.1E-04	3.4E-04	
Slope Mountain	Monthly	7.7E-02	2.0E+00	5.0E-01	2.8E-03	1.2E+02	1.2E+01	3.7E+02	3.8E-04	5.9E-03	3.7E+02	1.3E-02	6.2E-04	4.3E-04	4.3E-04	2.2E-04	6.6E-03	2.9E-03	5.2E-04	7.1E-04	1.2E-03
	-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1	2.9E-01	7.5E+00	1.8E+00	1.0E-02	4.3E+02	4.4E+01	1.4E+03	1.4E-03	2.2E-02	1.4E+03	4.8E-02	2.3E-03	1.6E-03	1.6E-03	8.0E-04	2.5E-02	1.1E-02	1.9E-03	2.6E-03	4.3E-03
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Rolling Annual	2.9E-01	7.5E+00	1.8E+00	1.0E-02	4.3E+02	4.4E+01	1.4E+03	1.4E-03	2.2E-02	1.4E+03	4.8E-02	2.3E-03	1.6E-03	1.6E-03	8.0E-04	2.5E-02	1.1E-02	1.9E-03	2.6E-03	4.3E-03
	W-0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W1	2.1E-01	5.5E+00	1.4E+00	7.6E-03	3.2E+02	3.2E+01	1.0E+03	1.0E-03	1.6E-02	1.0E+03	3.5E-02	1.7E-03	1.2E-03	1.2E-03	5.9E-04	1.8E-02	7.8E-03	1.4E-03	1.9E-03	3.1E-03
	S1.5	7.6E-02	2.0E+00	4.9E-01	2.8E-03	1.2E+02	1.2E+01	3.7E+02	3.8E-04	5.8E-03	3.7E+02	1.3E-02	6.2E-04	4.3E-04	4.2E-04	2.1E-04	6.6E-03	2.9E-03	5.2E-04	7.1E-04	1.1E-03
W2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
S2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

AGDC: Alaska Stand Alone Pipeline (ASAP) Project

Construction Camps and Storage Yards

Speciated Pipe Truck Delivery Emissions Summary for areas outside the PM_{2.5} NAA

Storage Yard Name	Time Period	Emissions (tons)																			
		VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂	N ₂ O	CH ₄	CO ₂ e	Total HAPs	Benzene	Toluene	Xylenes	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH
Galbraith Lake	Monthly	7.8E-02	2.1E+00	5.1E-01	2.9E-03	1.2E+02	1.2E+01	3.8E+02	3.9E-04	6.0E-03	3.8E+02	1.3E-02	6.4E-04	4.4E-04	4.4E-04	2.2E-04	6.7E-03	2.9E-03	5.3E-04	7.3E-04	1.2E-03
	-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1	3.0E-01	7.8E+00	1.9E+00	1.1E-02	4.5E+02	4.5E+01	1.4E+03	1.5E-03	2.3E-02	1.4E+03	5.0E-02	2.4E-03	1.7E-03	1.6E-03	8.3E-04	2.5E-02	1.1E-02	2.0E-03	2.8E-03	4.5E-03
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Rolling Annual	3.0E-01	7.8E+00	1.9E+00	1.1E-02	4.5E+02	4.5E+01	1.4E+03	1.5E-03	2.3E-02	1.4E+03	5.0E-02	2.4E-03	1.7E-03	1.6E-03	8.3E-04	2.5E-02	1.1E-02	2.0E-03	2.8E-03	4.5E-03
	W-0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W1	2.5E-01	6.6E+00	1.6E+00	9.2E-03	3.8E+02	3.9E+01	1.2E+03	1.3E-03	1.9E-02	1.2E+03	4.2E-02	2.0E-03	1.4E-03	1.4E-03	7.1E-04	2.2E-02	9.4E-03	1.7E-03	2.3E-03	3.8E-03
	S1.5	4.4E-02	1.2E+00	2.9E-01	1.6E-03	6.7E+01	6.8E+00	2.2E+02	2.2E-04	3.4E-03	2.2E+02	7.4E-03	3.6E-04	2.5E-04	2.5E-04	1.2E-04	3.8E-03	1.7E-03	3.0E-04	4.1E-04	6.7E-04
	W2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Chandalar	Monthly	6.5E-02	1.7E+00	4.2E-01	2.4E-03	9.8E+01	9.9E+00	3.2E+02	3.2E-04	4.9E-03	3.2E+02	1.1E-02	5.3E-04	3.6E-04	3.6E-04	1.8E-04	5.6E-03	2.4E-03	4.4E-04	6.0E-04	9.7E-04
	-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1	1.1E-01	2.7E+00	6.8E-01	3.9E-03	1.6E+02	1.6E+01	5.2E+02	5.2E-04	8.0E-03	5.2E+02	1.8E-02	8.5E-04	5.9E-04	5.8E-04	3.0E-04	9.0E-03	3.9E-03	7.2E-04	9.8E-04	1.6E-03
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Rolling Annual	1.1E-01	2.7E+00	6.8E-01	3.9E-03	1.6E+02	1.6E+01	5.2E+02	5.2E-04	8.0E-03	5.2E+02	1.8E-02	8.5E-04	5.9E-04	5.8E-04	3.0E-04	9.0E-03	3.9E-03	7.2E-04	9.8E-04	1.6E-03
	W-0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W1	1.1E-01	2.7E+00	6.8E-01	3.9E-03	1.6E+02	1.6E+01	5.2E+02	5.2E-04	8.0E-03	5.2E+02	1.8E-02	8.5E-04	5.9E-04	5.8E-04	3.0E-04	9.0E-03	3.9E-03	7.2E-04	9.8E-04	1.6E-03
	S1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MS-106-1	Monthly	5.8E-02	1.5E+00	3.7E-01	2.1E-03	8.8E+01	8.8E+00	2.8E+02	2.9E-04	4.4E-03	2.8E+02	9.7E-03	4.7E-04	3.3E-04	3.2E-04	1.6E-04	5.0E-03	2.2E-03	3.9E-04	5.4E-04	8.7E-04
	-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1	1.8E-01	4.6E+00	1.1E+00	6.5E-03	2.7E+02	2.7E+01	8.7E+02	8.8E-04	1.4E-02	8.7E+02	3.0E-02	1.4E-03	1.0E-03	9.9E-04	5.0E-04	1.5E-02	6.6E-03	1.2E-03	1.6E-03	2.7E-03
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Rolling Annual	1.8E-01	4.6E+00	1.1E+00	6.5E-03	2.7E+02	2.7E+01	8.7E+02	8.8E-04	1.4E-02	8.7E+02	3.0E-02	1.4E-03	1.0E-03	9.9E-04	5.0E-04	1.5E-02	6.6E-03	1.2E-03	1.6E-03	2.7E-03
	W-0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W1	7.2E-02	1.9E+00	4.6E-01	2.6E-03	1.1E+02	1.1E+01	3.5E+02	3.6E-04	5.5E-03	3.5E+02	1.2E-02	5.8E-04	4.1E-04	4.0E-04	2.0E-04	6.2E-03	2.7E-03	4.9E-04	6.7E-04	1.1E-03
	S1.5	1.1E-01	2.7E+00	6.8E-01	3.9E-03	1.6E+02	1.6E+01	5.2E+02	5.2E-04	8.0E-03	5.2E+02	1.8E-02	8.6E-04	5.9E-04	5.9E-04	3.0E-04	9.1E-03	3.9E-03	7.2E-04	9.8E-04	1.6E-03
	W2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MS-102-1	Monthly	6.4E-02	1.6E+00	4.1E-01	2.3E-03	9.6E+01	9.7E+00	3.1E+02	3.2E-04	4.8E-03	3.1E+02	1.1E-02	5.2E-04	3.6E-04	3.5E-04	1.8E-04	5.5E-03	2.4E-03	4.3E-04	5.9E-04	9.6E-04
	-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1	2.8E-01	7.2E+00	1.8E+00	1.0E-02	4.2E+02	4.2E+01	1.4E+03	1.4E-03	2.1E-02	1.4E+03	4.6E-02	2.2E-03	1.6E-03	1.5E-03	7.8E-04	2.4E-02	1.0E-02	1.9E-03	2.6E-03	4.2E-03
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Rolling Annual	2.8E-01	7.2E+00	1.8E+00	1.0E-02	4.2E+02	4.2E+01	1.4E+03	1.4E-03	2.1E-02	1.4E+03	4.6E-02	2.2E-03	1.6E-03	1.5E-03	7.8E-04	2.4E-02	1.0E-02	1.9E-03	2.6E-03	4.2E-03
	W-0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W1	4.6E-03	1.2E-01	2.9E-02	1.7E-04	6.9E+00	6.9E-01	2.2E+01	2.3E-05	3.5E-04	2.2E+01	7.6E-04	3.7E-05	2.6E-05	2.5E-05	1.3E-05	3.9E-04	1.7E-04	3.1E-05	4.2E-05	6.8E-05
	S1.5	2.7E-01	7.0E+00	1.8E+00	1.0E-02	4.1E+02	4.2E+01	1.3E+03	1.4E-03	2.1E-02	1.3E+03	4.6E-02	2.2E-03	1.5E-03	1.5E-03	7.6E-04	2.3E-02	1.0E-02	1.9E-03	2.5E-03	4.1E-03
	W2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Prospect	Monthly	5.5E-02	1.4E+00	3.5E-01	2.0E-03	8.3E+01	8.3E+00	2.7E+02	2.7E-04	4.1E-03	2.7E+02	9.1E-03	4.4E-04	3.1E-04	3.0E-04	1.5E-04	4.7E-03	2.0E-03	3.7E-04	5.1E-04	8.2E-04
	-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1	2.9E-01	7.4E+00	1.9E+00	1.1E-02	4.4E+02	4.4E+01	1.4E+03	1.4E-03	2.2E-02	1.4E+03	4.8E-02	2.3E-03	1.6E-03	1.6E-03	8.1E-04	2.5E-02	1.1E-02	2.0E-03	2.7E-03	4.3E-03
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Rolling Annual	2.9E-01	7.4E+00	1.9E+00	1.1E-02	4.4E+02	4.4E+01	1.4E+03	1.4E-03	2.2E-02	1.4E+03	4.8E-02	2.3E-03	1.6E-03	1.6E-03	8.1E-04	2.5E-02	1.1E-02	2.0E-03	2.7E-03	4.3E-03
	W-0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Pipe Trip Emission Summary

NOTICE – THIS DOCUMENT CONTAINS CONFIDENTIAL AND PROPRIETARY INFORMATION AND SHALL NOT BE DUPLICATED, DISTRIBUTED, DISCLOSED, SHARED OR USED FOR ANY PURPOSE EXCEPT AS MAY BE AUTHORIZED BY AGDC IN WRITING.

AGDC: Alaska Stand Alone Pipeline (ASAP) Project
 Construction Camps and Storage Yards
 Speciated Pipe Truck Delivery Emissions Summary for areas outside the PM_{2.5} NAA

Storage Yard Name	Time Period	Emissions (tons)																			
		VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂	N ₂ O	CH ₄	CO ₂ e	Total HAPs	Benzene	Toluene	Xylenes	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH
	W1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S1.5	2.6E-01	6.8E+00	1.7E+00	9.6E-03	4.0E+02	4.0E+01	1.3E+03	1.3E-03	2.0E-02	1.3E+03	4.4E-02	2.1E-03	1.5E-03	1.5E-03	7.4E-04	2.2E-02	9.8E-03	1.8E-03	2.4E-03	3.9E-03
	W2	2.6E-02	6.6E-01	1.7E-01	9.4E-04	3.9E+01	3.9E+00	1.3E+02	1.3E-04	1.9E-03	1.3E+02	4.3E-03	2.1E-04	1.4E-04	1.4E-04	7.2E-05	2.2E-03	9.6E-04	1.7E-04	2.4E-04	3.9E-04
	S2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Storage Yard Name	Time Period	Emissions (tons)																			
		VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂	N ₂ O	CH ₄	CO ₂ e	Total HAPs	Benzene	Toluene	Xylenes	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH
	W1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W2	4.8E-02	1.3E+00	3.1E-01	1.8E-03	7.3E+01	7.4E+00	2.4E+02	2.4E-04	3.7E-03	2.4E+02	8.1E-03	3.9E-04	2.7E-04	2.7E-04	1.4E-04	4.1E-03	1.8E-03	3.3E-04	4.5E-04	7.3E-04
	S2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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 Construction Camps and Storage Yards
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Storage Yard Name	Time Period	Emissions (tons)																			
		VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂	N ₂ O	CH ₄	CO ₂ e	Total HAPs	Benzene	Toluene	Xylenes	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH
Chatanika	Monthly	2.1E-02	5.5E-01	1.4E-01	7.8E-04	3.2E+01	3.2E+00	1.0E+02	1.0E-04	1.6E-03	1.0E+02	3.5E-03	1.7E-04	1.2E-04	1.2E-04	5.9E-05	1.8E-03	7.9E-04	1.4E-04	2.0E-04	3.2E-04
	-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	3.9E-02	1.0E+00	2.5E-01	1.4E-03	5.9E+01	5.9E+00	1.9E+02	1.9E-04	3.0E-03	1.9E+02	6.5E-03	3.2E-04	2.2E-04	2.2E-04	1.1E-04	3.3E-03	1.5E-03	2.7E-04	3.6E-04	5.9E-04
	Rolling Annual	3.9E-02	1.0E+00	2.5E-01	1.4E-03	5.9E+01	5.9E+00	1.9E+02	1.9E-04	3.0E-03	1.9E+02	6.5E-03	3.2E-04	2.2E-04	2.2E-04	1.1E-04	3.3E-03	1.5E-03	2.7E-04	3.6E-04	5.9E-04
	W-0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W2	3.9E-02	1.0E+00	2.5E-01	1.4E-03	5.9E+01	5.9E+00	1.9E+02	1.9E-04	3.0E-03	1.9E+02	6.5E-03	3.2E-04	2.2E-04	2.2E-04	1.1E-04	3.3E-03	1.5E-03	2.7E-04	3.6E-04	5.9E-04
S2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dunbar	Monthly	7.1E-04	1.8E-02	4.6E-03	2.6E-05	1.1E+00	1.1E-01	3.5E+00	3.5E-06	5.4E-05	3.5E+00	1.2E-04	5.7E-06	4.0E-06	3.9E-06	2.0E-06	6.1E-05	2.6E-05	4.8E-06	6.6E-06	1.1E-05
	-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1	2.3E-03	6.1E-02	1.5E-02	8.7E-05	3.6E+00	3.6E-01	1.2E+01	1.2E-05	1.8E-04	1.2E+01	3.9E-04	1.9E-05	1.3E-05	1.3E-05	6.6E-06	2.0E-04	8.8E-05	1.6E-05	2.2E-05	3.5E-05
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Rolling Annual	2.3E-03	6.1E-02	1.5E-02	8.7E-05	3.6E+00	3.6E-01	1.2E+01	1.2E-05	1.8E-04	1.2E+01	3.9E-04	1.9E-05	1.3E-05	1.3E-05	6.6E-06	2.0E-04	8.8E-05	1.6E-05	2.2E-05	3.5E-05
	W-0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W1	8.4E-04	2.2E-02	5.4E-03	3.1E-05	1.3E+00	1.3E-01	4.1E+00	4.2E-06	6.4E-05	4.1E+00	1.4E-04	6.8E-06	4.7E-06	4.7E-06	2.3E-06	7.2E-05	3.1E-05	5.7E-06	7.8E-06	1.3E-05
	S1.5	1.5E-03	3.9E-02	9.8E-03	5.6E-05	2.3E+00	2.3E-01	7.4E+00	7.5E-06	1.1E-04	7.4E+00	2.5E-04	1.2E-05	8.5E-06	8.4E-06	4.2E-06	1.3E-04	5.6E-05	1.0E-05	1.4E-05	2.3E-05
	W2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Rex	Monthly	1.0E-02	2.7E-01	6.7E-02	3.8E-04	1.6E+01	1.6E+00	5.1E+01	5.2E-05	7.9E-04	5.1E+01	1.7E-03	8.4E-05	5.9E-05	5.8E-05	2.9E-05	8.9E-04	3.9E-04	7.1E-05	9.6E-05	1.6E-04
	-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1	3.1E-02	8.0E-01	2.0E-01	1.1E-03	4.7E+01	4.7E+00	1.5E+02	1.5E-04	2.3E-03	1.5E+02	5.2E-03	2.5E-04	1.7E-04	1.7E-04	8.7E-05	2.6E-03	1.2E-03	2.1E-04	2.9E-04	4.6E-04
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Rolling Annual	3.1E-02	8.0E-01	2.0E-01	1.1E-03	4.7E+01	4.7E+00	1.5E+02	1.5E-04	2.3E-03	1.5E+02	5.2E-03	2.5E-04	1.7E-04	1.7E-04	8.7E-05	2.6E-03	1.2E-03	2.1E-04	2.9E-04	4.6E-04
	W-0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W1	1.2E-02	3.0E-01	7.5E-02	4.3E-04	1.8E+01	1.8E+00	5.7E+01	5.8E-05	8.8E-04	5.7E+01	1.9E-03	9.4E-05	6.5E-05	6.5E-05	3.3E-05	1.0E-03	4.3E-04	7.9E-05	1.1E-04	1.7E-04
	S1.5	1.9E-02	5.0E-01	1.2E-01	7.0E-04	2.9E+01	2.9E+00	9.4E+01	9.6E-05	1.5E-03	9.4E+01	3.2E-03	1.6E-04	1.1E-04	1.1E-04	5.4E-05	1.7E-03	7.2E-04	1.3E-04	1.8E-04	2.9E-04
	W2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Healy	Monthly	1.5E-02	3.9E-01	9.8E-02	5.5E-04	2.3E+01	2.3E+00	7.4E+01	7.5E-05	1.2E-03	7.4E+01	2.5E-03	1.2E-04	8.5E-05	8.4E-05	4.2E-05	1.3E-03	5.7E-04	1.0E-04	1.4E-04	2.3E-04
	-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1	3.1E-02	8.2E-01	2.0E-01	1.2E-03	4.8E+01	4.8E+00	1.5E+02	1.6E-04	2.4E-03	1.5E+02	5.3E-03	2.6E-04	1.8E-04	1.7E-04	8.8E-05	2.7E-03	1.2E-03	2.1E-04	2.9E-04	4.7E-04
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Rolling Annual	3.1E-02	8.2E-01	2.0E-01	1.2E-03	4.8E+01	4.8E+00	1.5E+02	1.6E-04	2.4E-03	1.5E+02	5.3E-03	2.6E-04	1.8E-04	1.7E-04	8.8E-05	2.7E-03	1.2E-03	2.1E-04	2.9E-04	4.7E-04
	W-0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W1	3.1E-02	8.2E-01	2.0E-01	1.2E-03	4.8E+01	4.8E+00	1.5E+02	1.6E-04	2.4E-03	1.5E+02	5.3E-03	2.6E-04	1.8E-04	1.7E-04	8.8E-05	2.7E-03	1.2E-03	2.1E-04	2.9E-04	4.7E-04
	S1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Cantwell	Monthly	4.7E-02	1.2E+00	3.0E-01	1.7E-03	7.1E+01	7.2E+00	2.3E+02	2.3E-04	3.6E-03	2.3E+02	7.8E-03	3.8E-04	2.6E-04	2.6E-04	1.3E-04	4.0E-03	1.8E-03	3.2E-04	4.4E-04	7.1E-04
	-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1	1.4E-01	3.6E+00	9.0E-01	5.1E-03	2.1E+02	2.1E+01	6.8E+02	6.9E-04	1.1E-02	6.8E+02	2.3E-02	1.1E-03	7.9E-04	7.8E-04	3.9E-04	1.2E-02	5.2E-03	9.5E-04	1.3E-03	2.1E-03
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Rolling Annual	1.4E-01	3.6E+00	9.0E-01	5.1E-03	2.1E+02	2.1E+01	6.8E+02	6.9E-04	1.1E-02	6.8E+02	2.3E-02	1.1E-03	7.9E-04	7.8E-04	3.9E-04	1.2E-02	5.2E-03	9.5E-04	1.3E-03	2.1E-03
	W-0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Pipe Trip Emission Summary

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Construction Camps and Storage Yards

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Storage Yard Name	Time Period	Emissions (tons)																			
		VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂	N ₂ O	CH ₄	CO ₂ e	Total HAPs	Benzene	Toluene	Xylenes	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH
	W1	5.7E-02	1.5E+00	3.7E-01	2.1E-03	8.7E+01	8.8E+00	2.8E+02	2.9E-04	4.4E-03	2.8E+02	9.6E-03	4.7E-04	3.2E-04	3.2E-04	1.6E-04	4.9E-03	2.1E-03	3.9E-04	5.3E-04	8.6E-04
	S1.5	8.2E-02	2.1E+00	5.3E-01	3.0E-03	1.2E+02	1.3E+01	4.0E+02	4.1E-04	6.2E-03	4.0E+02	1.4E-02	6.7E-04	4.6E-04	4.6E-04	2.3E-04	7.0E-03	3.1E-03	5.6E-04	7.6E-04	1.2E-03
	W2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

AGDC: Alaska Stand Alone Pipeline (ASAP) Project
 Construction Camps and Storage Yards
 Speciated Pipe Truck Delivery Emissions Summary for areas outside the PM_{2.5} NAA

Storage Yard Name	Time Period	Emissions (tons)																			
		VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂	N ₂ O	CH ₄	CO ₂ e	Total HAPs	Benzene	Toluene	Xylenes	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH
Broad Pass	Monthly	3.8E-02	9.8E-01	2.4E-01	1.4E-03	5.7E+01	5.8E+00	1.8E+02	1.9E-04	2.9E-03	1.8E+02	6.3E-03	3.1E-04	2.1E-04	2.1E-04	1.1E-04	3.2E-03	1.4E-03	2.6E-04	3.5E-04	5.7E-04
	-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1	1.1E-01	2.8E+00	6.9E-01	3.9E-03	1.6E+02	1.6E+01	5.2E+02	5.3E-04	8.2E-03	5.2E+02	1.8E-02	8.7E-04	6.0E-04	6.0E-04	3.0E-04	9.2E-03	4.0E-03	7.3E-04	9.9E-04	1.6E-03
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Rolling Annual	1.1E-01	2.8E+00	6.9E-01	3.9E-03	1.6E+02	1.6E+01	5.2E+02	5.3E-04	8.2E-03	5.2E+02	1.8E-02	8.7E-04	6.0E-04	6.0E-04	3.0E-04	9.2E-03	4.0E-03	7.3E-04	9.9E-04	1.6E-03
	W-0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W1	3.8E-02	9.8E-01	2.4E-01	1.4E-03	5.7E+01	5.8E+00	1.8E+02	1.9E-04	2.9E-03	1.8E+02	6.3E-03	3.1E-04	2.1E-04	2.1E-04	1.1E-04	3.2E-03	1.4E-03	2.6E-04	3.5E-04	5.7E-04
	S1.5	6.9E-02	1.8E+00	4.5E-01	2.5E-03	1.1E+02	1.1E+01	3.4E+02	3.4E-04	5.3E-03	3.4E+02	1.2E-02	5.6E-04	3.9E-04	3.9E-04	1.9E-04	6.0E-03	2.6E-03	4.7E-04	6.4E-04	1.0E-03
	W2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Swan Lake	Monthly	2.9E-02	7.6E-01	1.9E-01	1.1E-03	4.5E+01	4.5E+00	1.4E+02	1.5E-04	2.2E-03	1.4E+02	4.9E-03	2.4E-04	1.7E-04	1.6E-04	8.3E-05	2.5E-03	1.1E-03	2.0E-04	2.7E-04	4.4E-04
	-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1	8.8E-02	2.3E+00	5.7E-01	3.2E-03	1.3E+02	1.3E+01	4.3E+02	4.4E-04	6.7E-03	4.3E+02	1.5E-02	7.1E-04	5.0E-04	4.9E-04	2.5E-04	7.5E-03	3.3E-03	6.0E-04	8.1E-04	1.3E-03
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Rolling Annual	8.8E-02	2.3E+00	5.7E-01	3.2E-03	1.3E+02	1.3E+01	4.3E+02	4.4E-04	6.7E-03	4.3E+02	1.5E-02	7.1E-04	5.0E-04	4.9E-04	2.5E-04	7.5E-03	3.3E-03	6.0E-04	8.1E-04	1.3E-03
	W-0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W1	3.5E-02	9.0E-01	2.3E-01	1.3E-03	5.3E+01	5.3E+00	1.7E+02	1.7E-04	2.7E-03	1.7E+02	5.8E-03	2.8E-04	2.0E-04	1.9E-04	9.8E-05	3.0E-03	1.3E-03	2.4E-04	3.2E-04	5.2E-04
	S1.5	5.3E-02	1.4E+00	3.4E-01	1.9E-03	8.0E+01	8.1E+00	2.6E+02	2.6E-04	4.0E-03	2.6E+02	8.9E-03	4.3E-04	3.0E-04	2.9E-04	1.5E-04	4.5E-03	2.0E-03	3.6E-04	4.9E-04	8.0E-04
	W2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Rustic Wilderness	Monthly	3.2E-02	8.4E-01	2.1E-01	1.2E-03	4.9E+01	4.9E+00	1.6E+02	1.6E-04	2.5E-03	1.6E+02	5.4E-03	2.6E-04	1.8E-04	1.8E-04	9.0E-05	2.8E-03	1.2E-03	2.2E-04	3.0E-04	4.9E-04
	-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1	1.8E-01	4.8E+00	1.2E+00	6.7E-03	2.8E+02	2.8E+01	8.9E+02	9.1E-04	1.4E-02	8.9E+02	3.1E-02	1.5E-03	1.0E-03	1.0E-03	5.2E-04	1.6E-02	6.9E-03	1.3E-03	1.7E-03	2.8E-03
	2	4.9E-02	1.3E+00	3.1E-01	1.8E-03	7.4E+01	7.4E+00	2.4E+02	2.4E-04	3.7E-03	2.4E+02	8.1E-03	3.9E-04	2.7E-04	2.7E-04	1.4E-04	4.2E-03	1.8E-03	3.3E-04	4.5E-04	7.3E-04
	Rolling Annual	2.3E-01	6.0E+00	1.5E+00	8.5E-03	3.5E+02	3.5E+01	1.1E+03	1.2E-03	1.8E-02	1.1E+03	3.9E-02	1.9E-03	1.3E-03	1.3E-03	6.5E-04	2.0E-02	8.7E-03	1.6E-03	2.2E-03	3.5E-03
	W-0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W1	3.7E-02	9.6E-01	2.4E-01	1.4E-03	5.6E+01	5.7E+00	1.8E+02	1.8E-04	2.8E-03	1.8E+02	6.2E-03	3.0E-04	2.1E-04	2.1E-04	1.0E-04	3.2E-03	1.4E-03	2.5E-04	3.4E-04	5.6E-04
	S1.5	1.1E-01	2.8E+00	7.1E-01	4.0E-03	1.7E+02	1.7E+01	5.3E+02	5.4E-04	8.4E-03	5.3E+02	1.8E-02	8.9E-04	6.2E-04	6.1E-04	3.1E-04	9.4E-03	4.1E-03	7.5E-04	1.0E-03	1.7E-03
	W2	8.6E-02	2.2E+00	5.5E-01	3.1E-03	1.3E+02	1.3E+01	4.2E+02	4.3E-04	6.5E-03	4.2E+02	1.4E-02	6.9E-04	4.8E-04	4.8E-04	2.4E-04	7.3E-03	3.2E-03	5.8E-04	7.9E-04	1.3E-03
S2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

AGDC: Alaska Stand Alone Pipeline (ASAP) Project
Construction Camps and Storage Yards
Speciated Fuel Truck Trip Emissions Summary for areas outside the PM_{2.5} NAA

Camp Name	Time Period	Emissions (tons)																				
		VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂	N ₂ O	CH ₄	CO ₂ e	Total HAPs	Benzene	Toluene	Xylenes	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH	
Prudhoe Bay	Monthly	1.2E-02	3.2E-01	7.9E-02	4.4E-04	1.9E+01	1.9E+00	5.9E+01	6.0E-05	9.2E-04	5.9E+01	2.0E-03	9.9E-05	6.8E-05	6.8E-05	3.4E-05	1.0E-03	4.5E-04	8.3E-05	1.1E-04	1.8E-04	
	-1	1.1E-01	2.8E+00	7.0E-01	3.9E-03	1.7E+02	1.7E+01	5.2E+02	5.3E-04	8.2E-03	5.2E+02	1.8E-02	8.7E-04	6.1E-04	6.0E-04	3.0E-04	9.2E-03	4.0E-03	7.3E-04	1.0E-03	1.6E-03	
	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	1.1E-01	2.8E+00	7.0E-01	3.9E-03	1.7E+02	1.7E+01	5.2E+02	5.3E-04	8.2E-03	5.2E+02	1.8E-02	8.7E-04	6.1E-04	6.0E-04	3.0E-04	9.2E-03	4.0E-03	7.3E-04	1.0E-03	1.6E-03	
	Rolling Annual	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
	S0	2.3E-02	5.9E-01	1.5E-01	8.2E-04	3.6E+01	3.6E+00	1.1E+02	1.1E-04	1.7E-03	1.1E+02	3.8E-03	1.8E-04	1.3E-04	1.3E-04	6.3E-05	1.9E-03	8.4E-04	1.5E-04	2.1E-04	3.4E-04	
	W0	6.4E-02	1.7E+00	4.2E-01	2.3E-03	1.0E+02	1.0E+01	3.1E+02	3.2E-04	4.9E-03	3.1E+02	1.1E-02	5.2E-04	3.6E-04	3.6E-04	1.8E-04	5.5E-03	2.4E-03	4.4E-04	6.0E-04	9.7E-04	
	S0.5	2.3E-02	5.9E-01	1.5E-01	8.2E-04	3.6E+01	3.6E+00	1.1E+02	1.1E-04	1.7E-03	1.1E+02	3.8E-03	1.8E-04	1.3E-04	1.3E-04	6.3E-05	1.9E-03	8.4E-04	1.5E-04	2.1E-04	3.4E-04	
	W1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S2.5	1.1E-01	2.8E+00	7.0E-01	3.9E-03	1.7E+02	1.7E+01	5.2E+02	5.3E-04	8.2E-03	5.2E+02	1.8E-02	8.7E-04	6.1E-04	6.0E-04	3.0E-04	9.2E-03	4.0E-03	7.3E-04	1.0E-03	1.6E-03	
	Franklin Bluffs	Monthly	1.1E-02	2.9E-01	7.2E-02	4.0E-04	1.7E+01	1.8E+00	5.4E+01	5.5E-05	8.4E-04	5.4E+01	1.9E-03	9.0E-05	6.3E-05	6.2E-05	3.1E-05	9.5E-04	4.2E-04	7.6E-05	1.0E-04	1.7E-04
-1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0		5.9E-02	1.5E+00	3.8E-01	2.1E-03	9.2E+01	9.3E+00	2.8E+02	2.9E-04	4.5E-03	2.8E+02	9.8E-03	4.8E-04	3.3E-04	3.3E-04	1.6E-04	5.0E-03	2.2E-03	4.0E-04	5.4E-04	8.8E-04	
1		6.8E-02	1.8E+00	4.4E-01	3.2E-03	1.1E+02	1.1E+01	3.3E+02	3.4E-04	5.2E-03	3.3E+02	1.1E-02	5.5E-04	3.8E-04	3.8E-04	1.9E-04	5.8E-03	2.5E-03	4.6E-04	6.3E-04	1.0E-03	
2		1.2E-01	3.1E+00	7.6E-01	4.3E-03	1.8E+02	1.9E+01	5.7E+02	5.8E-04	8.9E-03	5.7E+02	2.0E-02	9.5E-04	6.6E-04	6.5E-04	3.3E-04	1.0E-02	4.4E-03	8.0E-04	1.1E-03	1.8E-03	
Rolling Annual		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
S0		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W0		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W1		4.0E-02	1.0E+00	2.6E-01	1.4E-03	6.2E+01	6.3E+00	1.9E+02	2.0E-04	3.0E-03	1.9E+02	6.6E-03	3.2E-04	2.2E-04	2.2E-04	1.1E-04	3.4E-03	1.5E-03	2.7E-04	3.7E-04	6.0E-04	
S1.5		5.9E-02	1.5E+00	3.8E-01	2.1E-03	9.2E+01	9.3E+00	2.8E+02	2.9E-04	4.5E-03	2.8E+02	9.8E-03	4.8E-04	3.3E-04	3.3E-04	1.6E-04	5.0E-03	2.2E-03	4.0E-04	5.4E-04	8.8E-04	
W2		3.0E-02	7.9E-01	1.9E-01	1.1E-03	4.7E+01	4.8E+00	1.5E+02	1.5E-04	2.3E-03	1.5E+02	5.0E-03	2.4E-04	1.7E-04	1.7E-04	8.4E-05	2.6E-03	1.1E-03	2.1E-04	2.8E-04	4.5E-04	
S2.5		1.3E-01	3.3E+00	8.2E-01	4.6E-03	2.0E+02	2.0E+01	6.2E+02	6.3E-04	9.7E-03	6.2E+02	2.1E-02	1.0E-03	7.1E-04	7.1E-04	3.6E-04	1.1E-02	4.7E-03	8.6E-04	1.2E-03	1.9E-03	
Happy Valley		Monthly	1.0E-02	2.6E-01	6.5E-02	3.6E-04	1.6E+01	1.6E+00	4.9E+01	5.0E-05	7.6E-04	4.9E+01	1.7E-03	8.1E-05	5.6E-05	5.6E-05	2.8E-05	8.6E-04	3.7E-04	6.8E-05	9.3E-05	1.5E-04
	-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	0	7.9E-02	2.1E+00	5.1E-01	2.9E-03	1.2E+02	1.2E+01	3.8E+02	3.9E-04	6.0E-03	3.8E+02	1.3E-02	6.4E-04	4.4E-04	4.4E-04	2.2E-04	6.7E-03	2.9E-03	5.3E-04	7.3E-04	1.2E-03	
	1	8.7E-02	2.3E+00	5.6E-01	3.2E-03	1.4E+02	1.4E+01	4.2E+02	4.3E-04	6.6E-03	4.2E+02	1.5E-02	7.1E-04	4.8E-04	4.8E-04	2.4E-04	7.5E-03	3.3E-03	5.9E-04	8.1E-04	1.3E-03	
	2	1.1E-01	2.8E+00	6.8E-01	3.8E-03	1.7E+02	1.7E+01	5.1E+02	5.2E-04	8.0E-03	5.1E+02	1.8E-02	8.6E-04	6.0E-04	5.9E-04	3.0E-04	9.1E-03	4.0E-03	7.2E-04	9.8E-04	1.6E-03	
	Rolling Annual	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
	S0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S0.5	8.6E-03	2.3E-01	5.5E-02	3.1E-04	1.3E+01	1.4E+00	4.2E+01	4.3E-05	6.5E-04	4.2E+01	1.4E-03	6.9E-05	4.8E-05	4.8E-05	2.4E-05	7.3E-04	3.2E-04	5.8E-05	7.9E-05	1.3E-04	
	W1	5.3E-02	1.4E+00	3.4E-01	1.9E-03	8.3E+01	8.4E+00	2.6E+02	2.6E-04	4.0E-03	2.6E+02	8.8E-03	4.3E-04	3.0E-04	2.9E-04	1.5E-04	4.5E-03	2.0E-03	3.6E-04	4.9E-04	7.9E-04	
	S1.5	5.3E-02	1.4E+00	3.4E-01	1.9E-03	8.3E+01	8.4E+00	2.6E+02	2.6E-04	4.0E-03	2.6E+02	8.8E-03	4.3E-04	3.0E-04	2.9E-04	1.5E-04	4.5E-03	2.0E-03	3.6E-04	4.9E-04	7.9E-04	
	W2	5.3E-02	1.4E+00	3.4E-01	1.9E-03	8.3E+01	8.4E+00	2.6E+02	2.6E-04	4.0E-03	2.6E+02	8.8E-03	4.3E-04	3.0E-04	2.9E-04	1.5E-04	4.5E-03	2.0E-03	3.6E-04	4.9E-04	7.9E-04	
	S2.5	1.7E-01	4.4E+00	1.1E+00	6.0E-03	2.6E+02	2.6E+01	8.0E+02	8.2E-04	1.3E-02	8.0E+02	2.8E-02	1.3E-03	9.3E-04	9.2E-04	4.6E-04	1.4E-02	6.2E-03	1.1E-03	1.5E-03	2.5E-03	
	Galbraith Lake	Monthly	1.3E-02	3.3E-01	8.2E-02	4.6E-04	2.0E+01	2.0E+00	6.2E+01	6.3E-05	9.7E-04	6.2E+01	2.1E-03	1.0E-04	7.2E-05	7.1E-05	3.6E-05	1.1E-03	4.8E-04	8.7E-05	1.2E-04	1.9E-04
-1		1.1E-01	3.0E+00	7.3E-01	4.1E-03	1.8E+02	1.8E+01	5.5E+02	5.6E-04	8.6E-03	5.5E+02	1.9E-02	9.1E-04	6.3E-04	6.3E-04	3.2E-04	9.7E-03	4.2E-03	7.7E-04	1.0E-03	1.7E-03	
0		1.1E-01	2.9E+00	7.2E-01	4.0E-03	1.7E+02	1.8E+01	5.4E+02	5.5E-04	8.4E-03	5.4E+02	1.9E-02	9.0E-04	6.2E-04	6.2E-04	3.1E-04	9.5E-03	4.1E-03	7.5E-04	1.0E-03	1.7E-03	
1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2		1.3E-01	3.5E+00	8.6E-01	4.8E-03	2.1E+02	2.1E+01	6.4E+02	6.6E-04	1.0E-02	6.4E+02	2.2E-02	1.1E-03	7.5E-04	7.4E-04	3.7E-04	1.1E-02	5.0E-03	9.0E-04	1.2E-03	2.0E-03	
Rolling Annual		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
S0		2.4E-02	6.2E-01	1.5E-01	8.6E-04	3.7E+01	3.7E+00	1.1E+02	1.2E-04	1.8E-03	1.1E+02	3.9E-03	1.9E-04	1.3E-04	1.3E-04	6.6E-05	2.0E-03	8.8E-04	1.6E-04	2.2E-04	3.6E-04	
W0		6.7E-02	1.8E+00	4.3E-01	2.4E-03	1.1E+02	1.1E+01	3.3E+02	3.3E-04	5.1E-03	3.3E+02	1.1E-02	5.5E-04	3.8E-04	3.7E-04	1.9E-04	5.8E-03	2.5E-03	4.6E-04	6.2E-04	1.0E-03	
S0.5		6.7E-02	1.8E+00	4.3E-01	2.4E-03	1.1E+02	1.1E+01	3.3E+02	3.3E-04	5.1E-03	3.3E+02	1.1E-02	5.5E-04	3.8E-04	3.7E-04	1.9E-04	5.8E-03	2.5E-03	4.6E-04	6.2E-04	1.0E-03	
W1		6.7E-02	1.8E+00	4.3E-01	2.4E-03	1.1E+02	1.1E+01	3.3E+02	3.3E-04	5.1E-03	3.3E+02	1.1E-02	5.5E-04	3.8E-04	3.7E-04	1.9E-04	5.8E-03	2.5E-03	4.6E-04	6.2E-04	1.0E-03	
S1.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S2.5		2.2E-01	5.8E+00	1.4E+00	8.1E-03	3.5E+02	3.5E+01	1.1E+03	1.1E-03	1.7E-02	1.1E+03	3.7E-02	1.8E-03	1.2E-03	1.2E-03	6.2E-04	1.9E-02	8.3E-03	1.5E-03	2.1E-03	3.3E-03	
Dietrich		Monthly	1.4E-02	3.5E-01	8.9E-02	5.0E-04	2.2E+01	2.2E+00	6.7E+01	6.8E-05	1.0E-03	6.7E+01	2.3E-03	1.1E-04	7.7E-05	7.6E-05	3.8E-05	1.2E-03	5.1E-04	9.3E-05	1.3E-04	2.1E-04
	-1	1.2E-01	3.1E+00	7.9E-01	4.5E-03	1.9E+02	1.9E+01	6.0E+02	6.0E-04	9.2E-03	6.0E+02	2.0E-02	9.9E-04	6.8E-04	6.8E-04	3.4E-04	1.0E-02	4.5E-03	8.3E-04	1.1E-03	1.8E-03	
	0	9.6E-02	2.5E+00	6.2E-01	3.5E-03	1.5E+02	1.5E+01	4.7E+02	4.8E-04	7.3E-03	4.7E+02	1.6E-02	7.8E-04	5.4E-04	5.3E-04	2.7E-04	8.2E-03	3.6E-03	6.5E-04	8.9E-04	1.4E-03	
	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	1.4E-01	3.7E+00	9.2E-01	5.3E-03	2.3E+02	2.3E+01	7.0E+02	7.1E-04	1.1E-02	7.0E+02	2.4E-02	1.2E-03	8.1E-04	8.0E-04	4.0E-04	1.2E-02					

AGDC: Alaska Stand Alone Pipeline (ASAP) Project
 Construction Camps and Storage Yards
 Speciated Fuel Truck Trip Emissions Summary for areas outside the PM_{2.5} NAA

Camp Name	Time Period	Emissions (tons)																				
		VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂	N ₂ O	CH ₄	CO ₂ e	Total HAPs	Benzene	Toluene	Xylenes	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH	
Prospect	Monthly	8.1E-03	2.1E-01	5.2E-02	3.0E-04	1.3E+01	1.3E+00	4.0E+01	4.0E-05	6.1E-04	4.0E+01	1.3E-03	6.5E-05	4.5E-05	4.5E-05	2.3E-05	6.9E-04	3.0E-04	5.5E-05	7.5E-05	1.2E-04	
	-1	5.6E-02	1.5E+00	3.6E-01	2.1E-03	8.9E+01	9.0E+00	2.8E+02	2.8E-04	4.3E-03	2.8E+02	9.4E-03	4.6E-04	3.2E-04	3.1E-04	1.6E-04	4.8E-03	2.1E-03	3.8E-04	5.2E-04	8.5E-04	
	0	7.7E-02	2.0E+00	5.0E-01	2.8E-03	1.2E+02	1.2E+01	3.8E+02	3.8E-04	5.9E-03	3.8E+02	1.3E-02	6.3E-04	4.4E-04	4.3E-04	2.2E-04	6.6E-03	2.9E-03	5.3E-04	7.2E-04	1.2E-03	
	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2	8.5E-02	2.2E+00	5.5E-01	3.1E-03	1.3E+02	1.4E+01	4.2E+02	4.2E-04	6.5E-03	4.2E+02	1.4E-02	6.9E-04	4.8E-04	4.7E-04	2.4E-04	7.3E-03	3.2E-03	5.8E-04	7.9E-04	1.3E-03	
	Rolling Annual	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
	S0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	W0	4.3E-02	1.1E+00	2.8E-01	1.6E-03	6.7E+01	6.8E+00	2.1E+02	2.1E-04	3.2E-03	2.1E+02	7.1E-03	3.5E-04	2.4E-04	2.4E-04	1.2E-04	3.7E-03	1.6E-03	2.9E-04	4.0E-04	6.4E-04	
	S0.5	4.3E-02	1.1E+00	2.8E-01	1.6E-03	6.7E+01	6.8E+00	2.1E+02	2.1E-04	3.2E-03	2.1E+02	7.1E-03	3.5E-04	2.4E-04	2.4E-04	1.2E-04	3.7E-03	1.6E-03	2.9E-04	4.0E-04	6.4E-04	
	W1	4.3E-02	1.1E+00	2.8E-01	1.6E-03	6.7E+01	6.8E+00	2.1E+02	2.1E-04	3.2E-03	2.1E+02	7.1E-03	3.5E-04	2.4E-04	2.4E-04	1.2E-04	3.7E-03	1.6E-03	2.9E-04	4.0E-04	6.4E-04	
	S1.5	6.9E-03	1.8E-01	4.5E-02	2.5E-04	1.1E+01	1.1E+00	3.4E+01	3.4E-05	5.3E-04	3.4E+01	1.2E-03	5.6E-05	3.9E-05	3.8E-05	1.9E-05	5.9E-04	2.6E-04	4.7E-05	6.4E-05	1.0E-04	
	W2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	S2.5	1.3E-01	3.5E+00	8.6E-01	4.9E-03	2.1E+02	2.1E+01	6.6E+02	6.6E-04	1.0E-02	6.6E+02	2.2E-02	1.1E-03	7.5E-04	7.4E-04	3.7E-04	1.1E-02	5.0E-03	9.1E-04	1.2E-03	2.0E-03	
	Five Mile	Monthly	4.5E-03	1.2E-01	2.9E-02	1.7E-04	7.1E+00	7.2E-01	2.2E+01	2.2E-05	3.4E-04	2.2E+01	7.5E-04	3.7E-05	2.5E-05	2.5E-05	1.3E-05	3.9E-04	1.7E-04	3.1E-05	4.2E-05	6.8E-05
-1		2.4E-02	6.2E-01	1.5E-01	8.8E-04	3.8E+01	3.8E+00	1.2E+02	1.2E-04	1.8E-03	1.2E+02	4.0E-03	1.9E-04	1.3E-04	1.3E-04	6.7E-05	2.0E-03	8.9E-04	1.6E-04	2.2E-04	3.6E-04	
0		4.7E-02	1.2E+00	3.0E-01	1.7E-03	7.4E+01	7.5E+00	2.3E+02	2.3E-04	3.6E-03	2.3E+02	7.9E-03	3.8E-04	2.6E-04	2.6E-04	1.3E-04	4.0E-03	1.8E-03	3.2E-04	4.4E-04	7.1E-04	
1		3.9E-02	1.0E+00	2.5E-01	1.4E-03	6.2E+01	6.2E+00	1.9E+02	2.0E-04	3.0E-03	1.9E+02	6.6E-03	3.2E-04	2.4E-04	2.2E-04	1.1E-04	3.4E-03	1.5E-03	2.7E-04	3.6E-04	5.9E-04	
2		4.8E-02	1.2E+00	3.1E-01	1.8E-03	7.5E+01	7.6E+00	2.3E+02	2.4E-04	3.6E-03	2.3E+02	8.0E-03	3.9E-04	2.7E-04	2.7E-04	1.3E-04	4.1E-03	1.8E-03	3.2E-04	4.4E-04	7.2E-04	
Rolling Annual		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
S0		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
W0		1.6E-02	4.2E-01	1.0E-01	5.9E-04	2.5E+01	2.6E+00	7.9E+01	8.0E-05	1.2E-03	7.9E+01	2.7E-03	1.3E-04	9.1E-05	9.0E-05	4.5E-05	1.4E-03	6.0E-04	1.1E-04	1.5E-04	2.4E-04	
S0.5		2.4E-02	6.2E-01	1.5E-01	8.8E-04	3.8E+01	3.8E+00	1.2E+02	1.2E-04	1.8E-03	1.2E+02	4.0E-03	1.9E-04	1.3E-04	1.3E-04	6.7E-05	2.0E-03	8.9E-04	1.6E-04	2.2E-04	3.6E-04	
W1		2.4E-02	6.2E-01	1.5E-01	8.8E-04	3.8E+01	3.8E+00	1.2E+02	1.2E-04	1.8E-03	1.2E+02	4.0E-03	1.9E-04	1.3E-04	1.3E-04	6.7E-05	2.0E-03	8.9E-04	1.6E-04	2.2E-04	3.6E-04	
S1.5		2.4E-02	6.2E-01	1.5E-01	8.8E-04	3.8E+01	3.8E+00	1.2E+02	1.2E-04	1.8E-03	1.2E+02	4.0E-03	1.9E-04	1.3E-04	1.3E-04	6.7E-05	2.0E-03	8.9E-04	1.6E-04	2.2E-04	3.6E-04	
W2		2.4E-02	6.2E-01	1.5E-01	8.8E-04	3.8E+01	3.8E+00	1.2E+02	1.2E-04	1.8E-03	1.2E+02	4.0E-03	1.9E-04	1.3E-04	1.3E-04	6.7E-05	2.0E-03	8.9E-04	1.6E-04	2.2E-04	3.6E-04	
S2.5		1.1E-01	2.8E+00	7.1E-01	4.1E-03	1.7E+02	1.7E+01	5.4E+02	5.5E-04	8.4E-03	5.4E+02	1.8E-02	8.9E-04	6.2E-04	6.1E-04	3.1E-04	9.4E-03	4.1E-03	7.5E-04	1.0E-03	1.7E-03	
Livengood		Monthly	1.8E-03	4.7E-02	1.2E-02	6.7E-05	2.9E+00	2.9E-01	8.9E+00	9.1E-06	1.4E-04	9.0E+00	3.0E-04	1.5E-05	1.0E-05	1.0E-05	5.1E-06	1.6E-04	6.8E-05	1.2E-05	1.7E-05	2.7E-05
	-1	1.8E-03	4.7E-02	1.2E-02	6.7E-05	2.9E+00	2.9E-01	8.9E+00	9.1E-06	1.4E-04	9.0E+00	3.0E-04	1.5E-05	1.0E-05	1.0E-05	5.1E-06	1.6E-04	6.8E-05	1.2E-05	1.7E-05	2.7E-05	
	0	1.9E-02	4.9E-01	1.2E-01	7.0E-04	3.0E+01	3.0E+00	9.3E+01	9.4E-05	1.4E-03	9.3E+01	3.2E-03	1.5E-04	1.1E-04	1.1E-04	5.3E-05	1.6E-03	7.1E-04	1.3E-04	1.8E-04	2.9E-04	
	1	1.6E-02	4.1E-01	1.0E-01	5.8E-04	2.5E+00	2.5E+00	7.8E+01	7.9E-05	1.2E-03	7.8E+01	2.7E-03	1.3E-04	9.0E-05	8.8E-05	4.5E-05	1.4E-03	5.9E-04	1.1E-04	1.5E-04	2.4E-04	
	2	1.9E-02	5.0E-01	1.2E-01	7.1E-04	3.0E+01	3.1E+00	9.5E+01	9.6E-05	1.5E-03	9.5E+01	3.2E-03	1.6E-04	1.1E-04	1.1E-04	5.4E-05	1.7E-03	7.2E-04	1.3E-04	1.8E-04	2.9E-04	
	Rolling Annual	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
	S0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	W0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	S0.5	8.1E-03	2.1E-01	5.2E-02	3.0E-04	1.3E+01	1.3E+00	4.0E+01	4.0E-05	6.1E-04	4.0E+01	1.4E-03	6.6E-05	4.6E-05	4.5E-05	2.3E-05	6.9E-04	3.0E-04	5.5E-05	7.5E-05	1.2E-04	
	W1	9.6E-03	2.5E-01	6.2E-02	3.5E-04	1.5E+01	1.5E+00	4.7E+01	4.8E-05	7.3E-04	4.7E+01	1.6E-03	7.8E-05	5.4E-05	5.4E-05	2.7E-05	8.3E-04	3.6E-04	6.6E-05	8.9E-05	1.5E-04	
	S1.5	9.6E-03	2.5E-01	6.2E-02	3.5E-04	1.5E+01	1.5E+00	4.7E+01	4.8E-05	7.3E-04	4.7E+01	1.6E-03	7.8E-05	5.4E-05	5.4E-05	2.7E-05	8.3E-04	3.6E-04	6.6E-05	8.9E-05	1.5E-04	
	W2	9.6E-03	2.5E-01	6.2E-02	3.5E-04	1.5E+01	1.5E+00	4.7E+01	4.8E-05	7.3E-04	4.7E+01	1.6E-03	7.8E-05	5.4E-05	5.4E-05	2.7E-05	8.3E-04	3.6E-04	6.6E-05	8.9E-05	1.5E-04	
	S2.5	3.7E-02	9.5E-01	2.4E-01	1.4E-03	5.8E+01	5.8E+00	1.8E+02	1.8E-04	2.8E-03	1.8E+02	6.1E-03	3.0E-04	2.1E-04	2.0E-04	1.0E-04	3.2E-03	1.4E-03	2.5E-04	3.4E-04	5.5E-04	
	Dunbar	Monthly	1.7E-02	4.4E-01	1.1E-01	6.2E-04	2.7E+01	2.7E+00	8.3E+01	8.4E-05	1.3E-03	8.3E+01	2.8E-03	1.4E-04	9.5E-05	9.4E-05	4.7E-05	1.4E-03	6.3E-04	1.1E-04	1.6E-04	2.5E-04
-1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
0		8.9E-02	2.3E+00	5.8E-01	3.3E-03	1.4E+02	1.4E+01	4.4E+02	4.4E-04	6.8E-03	4.4E+02	1.5E-02	7.2E-04	5.0E-04	5.0E-04	2.5E-04	7.6E-03	3.3E-03	6.1E-04	8.3E-04	1.3E-03	
1		4.6E-02	1.2E+00	3.0E-01	1.7E-03	7.2E+01	7.3E+00	2.3E+02	2.3E-04	3.5E-03	2.3E+02	7.6E-03	3.7E-04	2.6E-04	2.5E-04	1.3E-04	3.9E-03	1.7E-03	3.1E-04	4.2E-04	6.9E-04	
2		1.3E-01	3.4E+00	8.6E-01	4.9E-03	2.1E+02	2.1E+01	6.5E+02	6.6E-04	1.0E-02	6.5E+02	2.2E-02	1.1E-03	7.5E-04	7.4E-04	3.7E-04	1.1E-02	5.0E-03	9.0E-04	1.2E-03	2.0E-03	
Rolling Annual		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
S0		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
W0		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
S0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
W1		6.0E-02	1.6E+00	3.9E-01	2.2E-03	9.5E+01	9.6E+00	3.0E+02	3.0E-04	4.6E-03	3.0E+02	1.0E-02	4.9E-04	3.4E-04	3.3E-04	1.7E-04	5.2E-03	2.3E-03	4.1E-04	5.6E-04	9.1E-04	
S1.5		7.5E-02	1.9E+00	4.8E-01	2.8E-03	1.2E+02	1.2E+01	3.7E+02	3.7E-04	5.7E-03	3.7E+02	1.2E-02	6.1E-04	4.2E-04	4.2E-04	2.1E-04	6.4E-03	2.8E-03	5.1E-04	6.9E-04	1.1E-03	
W2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
S2.5		1.3E-01	3.4E+00	8.6E-01	4.9E-03	2.1E+02	2.1E+01	6.5E+02	6.6E-04	1.0E-02	6.5E+02	2.2E-02	1.1E-03	7.5E-04	7.4E-04	3.7E-04	1.1E-02	5.0E-03	9.0E-04	1.2E-03	2.0E-03	
Healy		Monthly	1.4E-02	3.6E-01	8.9E-02	5.1E-04	2.2E+01	2.2E+00	6.7E+01	6.9E-05	1.1E-03	6.7E+01	2.3E-03	1.1E-04	7.8E-05	7.7E-05	3.9E-05	1.2E-03	5.2E-04	9.4E-05	1.3E-04	2.1E-04
	-1	9.7E-02	2.5E+00	6.2E-01	3.5E-03	1.5E+00	1.5E+01	4.7E+02	4.8E-04	7.4E-03	4.7E+02	1.6E-02	7.8E-04	5.4E-04	5.4E-04	2.7E-04	8.3E-03	3.6E-03	6.6E-04	9.0E-04	1.5E-03	
	0	1.3E-01	3.4E+00	8.5E-01	4.8E-03	2.1E+02	2.1E+01															

AGDC: Alaska Stand Alone Pipeline (ASAP) Project

Construction Camps and Storage Yards

Speciated Fuel Truck Trip Emissions Summary for areas outside the PM_{2.5} NAA

Camp Name	Time Period	Emissions (tons)																				
		VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂	N ₂ O	CH ₄	CO ₂ e	Total HAPs	Benzene	Toluene	Xylenes	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH	
Cantwell	Monthly	1.2E-02	3.2E-01	7.9E-02	4.5E-04	1.9E+01	1.9E+00	6.0E+01	6.1E-05	9.3E-04	6.0E+01	2.1E-03	1.0E-04	6.9E-05	6.8E-05	3.4E-05	1.1E-03	4.6E-04	8.4E-05	1.1E-04	1.8E-04	
	-1	6.5E-02	1.7E+00	4.2E-01	2.4E-03	1.0E+02	1.0E+01	3.2E+02	3.2E-04	4.9E-03	3.2E+02	1.1E-02	5.3E-04	3.7E-04	3.6E-04	1.8E-04	5.6E-03	2.4E-03	4.4E-04	6.0E-04	9.8E-04	
	0	1.3E-01	3.3E+00	8.3E-01	4.7E-03	2.0E+02	2.0E+01	6.2E+02	6.4E-04	9.7E-03	6.3E+02	2.1E-02	1.0E-03	7.2E-04	7.1E-04	3.6E-04	1.1E-02	4.8E-03	8.7E-04	1.2E-03	1.9E-03	
	1	1.1E-01	2.8E+00	6.9E-01	3.9E-03	1.7E+02	1.7E+01	5.2E+02	5.3E-04	8.1E-03	5.2E+02	1.8E-02	8.7E-04	6.0E-04	5.9E-04	3.0E-04	9.2E-03	4.0E-03	7.3E-04	9.9E-04	1.6E-03	
	2	1.3E-01	3.4E+00	8.4E-01	4.8E-03	2.0E+02	2.1E+01	6.3E+02	6.4E-04	9.9E-03	6.3E+02	2.2E-02	1.1E-03	7.3E-04	7.2E-04	3.6E-04	1.1E-02	4.9E-03	8.8E-04	1.2E-03	2.0E-03	
	Rolling Annual	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
	S0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W0	4.4E-02	1.1E+00	2.8E-01	1.6E-03	6.9E+01	7.0E+00	2.1E+02	2.2E-04	3.3E-03	2.1E+02	7.3E-03	3.6E-04	2.5E-04	2.4E-04	1.2E-04	3.8E-03	1.6E-03	3.0E-04	4.1E-04	6.6E-04	
	S0.5	6.5E-02	1.7E+00	4.2E-01	2.4E-03	1.0E+02	1.0E+01	3.2E+02	3.2E-04	4.9E-03	3.2E+02	1.1E-02	5.3E-04	3.7E-04	3.6E-04	1.8E-04	5.6E-03	2.4E-03	4.4E-04	6.0E-04	9.8E-04	
	W1	6.5E-02	1.7E+00	4.2E-01	2.4E-03	1.0E+02	1.0E+01	3.2E+02	3.2E-04	4.9E-03	3.2E+02	1.1E-02	5.3E-04	3.7E-04	3.6E-04	1.8E-04	5.6E-03	2.4E-03	4.4E-04	6.0E-04	9.8E-04	
	S1.5	6.5E-02	1.7E+00	4.2E-01	2.4E-03	1.0E+02	1.0E+01	3.2E+02	3.2E-04	4.9E-03	3.2E+02	1.1E-02	5.3E-04	3.7E-04	3.6E-04	1.8E-04	5.6E-03	2.4E-03	4.4E-04	6.0E-04	9.8E-04	
	W2	6.5E-02	1.7E+00	4.2E-01	2.4E-03	1.0E+02	1.0E+01	3.2E+02	3.2E-04	4.9E-03	3.2E+02	1.1E-02	5.3E-04	3.7E-04	3.6E-04	1.8E-04	5.6E-03	2.4E-03	4.4E-04	6.0E-04	9.8E-04	
	S2.5	3.0E-01	7.8E+00	1.9E+00	1.1E-02	4.7E+02	4.8E+01	1.5E+03	1.5E-03	2.3E-02	1.5E+03	5.0E-02	2.4E-03	1.7E-03	1.7E-03	8.4E-04	2.6E-02	1.1E-02	2.0E-03	2.8E-03	4.5E-03	
	Swan Lake	Monthly	9.2E-03	2.4E-01	5.9E-02	3.3E-04	1.4E+01	1.5E+00	4.4E+01	4.5E-05	7.0E-04	4.4E+01	1.5E-03	7.4E-05	5.2E-05	5.1E-05	2.6E-05	7.9E-04	3.4E-04	6.2E-05	8.5E-05	1.4E-04
-1		4.1E-02	1.1E+00	2.6E-01	1.5E-03	6.4E+01	6.4E+00	2.0E+02	2.0E-04	3.1E-03	2.0E+02	6.8E-03	3.3E-04	2.3E-04	2.3E-04	1.1E-04	3.5E-03	1.5E-03	2.8E-04	3.8E-04	6.1E-04	
0		8.8E-02	2.3E+00	5.7E-01	3.2E-03	1.4E+02	1.4E+01	4.3E+02	4.3E-04	6.7E-03	4.3E+02	1.5E-02	7.1E-04	4.9E-04	4.9E-04	2.5E-04	7.5E-03	3.3E-03	6.0E-04	8.1E-04	1.3E-03	
1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2		9.5E-02	2.5E+00	6.2E-01	3.5E-03	1.5E+02	1.5E+01	4.6E+02	4.7E-04	7.3E-03	4.6E+02	1.6E-02	7.7E-04	5.4E-04	5.3E-04	2.7E-04	8.2E-03	3.6E-03	6.5E-04	8.9E-04	1.4E-03	
Rolling Annual		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
S0		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W0		2.5E-02	6.4E-01	1.6E-01	9.0E-04	3.9E+01	3.9E+00	1.2E+02	1.2E-04	1.9E-03	1.2E+02	4.2E-03	2.0E-04	1.4E-04	1.4E-04	7.0E-05	2.1E-03	9.3E-04	1.7E-04	2.3E-04	3.7E-04	
S0.5		4.8E-02	1.3E+00	3.1E-01	1.8E-03	7.6E+01	7.7E+00	2.3E+02	2.4E-04	3.7E-03	2.4E+02	8.1E-03	3.9E-04	2.7E-04	2.7E-04	1.4E-04	4.2E-03	1.8E-03	3.3E-04	4.5E-04	7.3E-04	
W1		4.8E-02	1.3E+00	3.1E-01	1.8E-03	7.6E+01	7.7E+00	2.3E+02	2.4E-04	3.7E-03	2.4E+02	8.1E-03	3.9E-04	2.7E-04	2.7E-04	1.4E-04	4.2E-03	1.8E-03	3.3E-04	4.5E-04	7.3E-04	
S1.5		7.8E-03	2.0E-01	5.1E-02	2.9E-04	1.2E+01	1.2E+00	3.8E+01	3.9E-05	6.0E-04	3.8E+01	1.3E-03	6.4E-05	4.4E-05	4.4E-05	2.2E-05	6.7E-04	2.9E-04	5.3E-05	7.3E-05	1.2E-04	
W2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S2.5		1.3E-01	3.3E+00	8.3E-01	4.7E-03	2.0E+02	2.0E+01	6.2E+02	6.4E-04	9.8E-03	6.2E+02	2.1E-02	1.0E-03	7.2E-04	7.1E-04	3.6E-04	1.1E-02	4.8E-03	8.7E-04	1.2E-03	1.9E-03	
Rustic Wilderness		Monthly	1.1E-02	2.8E-01	7.0E-02	3.9E-04	1.7E+01	1.7E+00	5.2E+01	5.3E-05	8.2E-04	5.2E+01	1.8E-03	8.7E-05	6.1E-05	6.0E-05	3.0E-05	9.2E-04	4.0E-04	7.3E-05	1.0E-04	1.6E-04
	-1	6.6E-02	1.7E+00	4.3E-01	2.4E-03	1.0E+02	1.0E+01	3.2E+02	3.3E-04	5.0E-03	3.2E+02	1.1E-02	5.4E-04	3.7E-04	3.7E-04	1.9E-04	5.7E-03	2.5E-03	4.5E-04	6.1E-04	9.9E-04	
	0	1.1E-01	2.9E+00	7.3E-01	4.1E-03	1.8E+02	1.8E+01	5.4E+02	5.6E-04	8.5E-03	5.5E+02	1.9E-02	9.1E-04	6.3E-04	6.2E-04	3.1E-04	9.6E-03	4.2E-03	7.6E-04	1.0E-03	1.7E-03	
	1	6.6E-02	1.7E+00	4.3E-01	2.4E-03	1.0E+02	1.0E+01	3.2E+02	3.3E-04	5.0E-03	3.2E+02	1.1E-02	5.4E-04	3.7E-04	3.7E-04	1.9E-04	5.7E-03	2.5E-03	4.5E-04	6.1E-04	9.9E-04	
	2	1.1E-01	2.9E+00	7.4E-01	4.1E-03	1.8E+02	1.8E+01	5.5E+02	5.6E-04	8.7E-03	5.5E+02	1.9E-02	9.2E-04	6.4E-04	6.3E-04	3.2E-04	9.8E-03	4.3E-03	7.7E-04	1.1E-03	1.7E-03	
	Rolling Annual	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
	S0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W0	4.8E-02	1.2E+00	3.1E-01	1.7E-03	7.5E+01	7.6E+00	2.3E+02	2.4E-04	3.6E-03	2.3E+02	8.0E-03	3.9E-04	2.7E-04	2.7E-04	1.3E-04	4.1E-03	1.8E-03	3.2E-04	4.4E-04	7.2E-04	
	S0.5	5.7E-02	1.5E+00	3.7E-01	2.1E-03	9.0E+01	9.0E+00	2.8E+02	2.8E-04	4.3E-03	2.8E+02	9.5E-03	4.6E-04	3.2E-04	3.2E-04	1.6E-04	4.9E-03	2.1E-03	3.9E-04	5.3E-04	8.6E-04	
	W1	5.7E-02	1.5E+00	3.7E-01	2.1E-03	9.0E+01	9.0E+00	2.8E+02	2.8E-04	4.3E-03	2.8E+02	9.5E-03	4.6E-04	3.2E-04	3.2E-04	1.6E-04	4.9E-03	2.1E-03	3.9E-04	5.3E-04	8.6E-04	
	S1.5	5.7E-02	1.5E+00	3.7E-01	2.1E-03	9.0E+01	9.0E+00	2.8E+02	2.8E-04	4.3E-03	2.8E+02	9.5E-03	4.6E-04	3.2E-04	3.2E-04	1.6E-04	4.9E-03	2.1E-03	3.9E-04	5.3E-04	8.6E-04	
	W2	2.9E-02	7.6E-01	1.9E-01	1.1E-03	4.6E+01	4.6E+00	1.4E+02	1.5E-04	2.2E-03	1.4E+02	4.9E-03	2.4E-04	1.6E-04	1.6E-04	8.2E-05	2.5E-03	1.1E-03	2.0E-04	2.7E-04	4.4E-04	
	S2.5	2.4E-01	6.3E+00	1.6E+00	8.9E-03	3.9E+02	3.9E+01	1.2E+03	1.2E-03	1.9E-02	1.2E+03	4.1E-02	2.0E-03	1.4E-03	1.4E-03	6.9E-04	2.1E-02	9.1E-03	1.7E-03	2.3E-03	3.7E-03	

AGDC: Alaska Stand Alone Pipeline (ASAP) Project
 Construction Camps and Storage Yards
 Speciated Refuse Truck Trip Emissions Summary for areas outside the PM_{2.5} NAA

Camp Name	Time Period	Emissions (tons)																				
		VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂	N ₂ O	CH ₄	CO ₂ e	Total HAPs	Benzene	Toluene	Xylenes	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH	
Prudhoe Bay	Monthly	1.8E-05	4.8E-04	1.2E-04	6.7E-07	2.9E-02	2.9E-03	8.9E-02	9.1E-08	1.4E-06	8.9E-02	3.1E-06	1.5E-07	1.0E-07	1.0E-07	5.1E-08	1.6E-06	6.9E-07	1.2E-07	1.7E-07	2.8E-07	
	-1	1.6E-04	4.2E-03	1.0E-03	5.9E-06	2.5E-01	2.6E-02	7.8E-01	8.0E-07	1.2E-05	7.8E-01	2.7E-05	1.3E-06	9.1E-07	9.0E-07	4.5E-07	1.4E-05	6.0E-06	1.1E-06	1.5E-06	2.4E-06	
	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2	1.6E-04	4.2E-03	1.0E-03	5.9E-06	2.5E-01	2.6E-02	7.8E-01	8.0E-07	1.2E-05	7.8E-01	2.7E-05	1.3E-06	9.1E-07	9.0E-07	4.5E-07	1.4E-05	6.0E-06	1.1E-06	1.5E-06	2.4E-06	
	Rolling Annual	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
	S0	3.3E-05	8.7E-04	2.1E-04	1.2E-06	5.2E-02	5.2E-03	1.6E-01	1.6E-07	2.5E-06	1.6E-01	5.5E-06	2.7E-07	1.9E-07	1.8E-07	9.3E-08	2.8E-06	1.2E-06	2.2E-07	3.1E-07	5.0E-07	
	W0	9.9E-05	2.6E-03	6.4E-04	3.6E-06	1.6E-01	1.6E-02	4.8E-01	4.9E-07	7.5E-06	4.8E-01	1.7E-05	8.0E-07	5.6E-07	5.5E-07	2.8E-07	8.5E-06	3.7E-06	6.7E-07	9.2E-07	1.5E-06	
	S0.5	3.3E-05	8.7E-04	2.1E-04	1.2E-06	5.2E-02	5.2E-03	1.6E-01	1.6E-07	2.5E-06	1.6E-01	5.5E-06	2.7E-07	1.9E-07	1.8E-07	9.3E-08	2.8E-06	1.2E-06	2.2E-07	3.1E-07	5.0E-07	
	W1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	S1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	W2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
S2.5	1.6E-04	4.2E-03	1.0E-03	5.9E-06	2.5E-01	2.6E-02	7.8E-01	8.0E-07	1.2E-05	7.8E-01	2.7E-05	1.3E-06	9.1E-07	9.0E-07	4.5E-07	1.4E-05	6.0E-06	1.1E-06	1.5E-06	2.4E-06		
Franklin Bluffs	Monthly	2.1E-04	5.4E-03	1.3E-03	7.5E-06	3.2E-01	3.3E-02	1.0E+00	1.0E-06	1.6E-05	1.0E+00	3.5E-05	1.7E-06	1.2E-06	1.1E-06	5.8E-07	1.8E-05	7.7E-06	1.4E-06	1.9E-06	3.1E-06	
	-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	0	1.1E-03	2.9E-02	7.2E-03	4.1E-05	1.7E+00	1.8E-01	5.4E+00	5.5E-06	8.5E-05	5.4E+00	1.9E-04	9.0E-06	6.3E-06	6.2E-06	3.1E-06	9.6E-05	4.2E-05	7.6E-06	1.0E-05	1.7E-05	
	1	1.3E-03	3.4E-02	8.3E-03	4.7E-05	2.0E+00	2.0E-01	6.2E+00	6.4E-06	9.7E-05	6.2E+00	2.1E-04	1.0E-05	7.2E-06	7.1E-06	3.6E-06	1.1E-04	4.8E-05	8.7E-06	1.2E-05	1.9E-05	
	2	2.2E-03	5.8E-02	1.4E-02	8.0E-05	3.4E+00	3.5E-01	1.1E+01	1.1E-05	1.7E-04	1.1E+01	3.7E-04	1.8E-05	1.2E-05	1.2E-05	6.1E-06	1.9E-04	8.2E-05	1.5E-05	2.0E-05	3.3E-05	
	Rolling Annual	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
	S0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	W0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	S0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	W1	7.4E-04	2.0E-02	4.8E-03	2.7E-05	1.2E+00	1.2E-01	3.6E+00	3.7E-06	5.7E-05	3.6E+00	1.2E-04	6.0E-06	4.2E-06	4.1E-06	2.1E-06	6.4E-05	2.8E-05	5.1E-06	6.9E-06	1.1E-05	
	S1.5	1.1E-03	2.8E-02	6.9E-03	3.9E-05	1.7E+00	1.7E-01	5.2E+00	5.3E-06	8.2E-05	5.2E+00	1.8E-04	8.7E-06	6.0E-06	6.0E-06	3.0E-06	9.2E-05	4.0E-05	7.3E-06	1.0E-05	1.6E-05	
	W2	5.8E-04	1.5E-02	3.7E-03	2.1E-05	9.1E-01	9.1E-02	2.8E+00	2.9E-06	4.4E-05	2.8E+00	9.7E-05	4.7E-06	3.3E-06	3.2E-06	1.6E-06	5.0E-05	2.2E-05	3.9E-06	5.4E-06	8.7E-06	
S2.5	2.4E-03	6.2E-02	1.5E-02	8.6E-05	3.7E+00	3.7E-01	1.1E+01	1.2E-05	1.8E-04	1.1E+01	3.9E-04	1.9E-05	1.3E-05	1.3E-05	6.6E-06	2.0E-04	8.8E-05	1.6E-05	2.2E-05	3.5E-05		
Happy Valley	Monthly	2.5E-04	6.6E-03	1.6E-03	9.2E-06	4.0E-01	4.0E-02	1.2E+00	1.3E-06	1.9E-05	1.2E+00	4.2E-05	2.0E-06	1.4E-06	1.4E-06	7.1E-07	2.2E-05	9.4E-06	1.7E-06	2.3E-06	3.8E-06	
	-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	0	2.0E-03	5.3E-02	1.3E-02	7.4E-05	3.2E+00	3.2E-01	9.8E+00	1.0E-05	1.5E-04	9.8E+00	3.4E-04	1.6E-05	1.1E-05	1.1E-05	5.7E-06	1.7E-04	7.5E-05	1.4E-05	1.9E-05	3.0E-05	
	1	2.2E-03	5.8E-02	1.4E-02	8.1E-05	3.5E+00	3.5E-01	1.1E+01	1.1E-05	1.7E-04	1.1E+01	3.7E-04	1.8E-05	1.3E-05	1.2E-05	6.2E-06	1.9E-04	8.3E-05	1.5E-05	2.1E-05	3.3E-05	
	2	2.7E-03	7.0E-02	1.7E-02	9.7E-05	4.2E+00	4.2E-01	1.3E+01	1.3E-05	2.0E-04	1.3E+01	4.5E-04	2.2E-05	1.5E-05	1.5E-05	7.5E-06	2.3E-04	1.0E-04	1.8E-05	2.5E-05	4.0E-05	
	Rolling Annual	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
	S0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	W0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	S0.5	2.5E-04	6.6E-03	1.6E-03	9.2E-06	4.0E-01	4.0E-02	1.2E+00	1.3E-06	1.9E-05	1.2E+00	4.2E-05	2.0E-06	1.4E-06	1.4E-06	7.1E-07	2.2E-05	9.4E-06	1.7E-06	2.3E-06	3.8E-06	
	W1	1.4E-03	3.6E-02	8.8E-03	5.0E-05	2.1E+00	2.2E-01	6.6E+00	6.8E-06	1.0E-04	6.6E+00	2.3E-04	1.1E-05	7.7E-06	7.6E-06	3.8E-06	1.2E-04	5.1E-05	9.3E-06	1.3E-05	2.0E-05	
	S1.5	1.3E-03	3.4E-02	8.5E-03	4.8E-05	2.1E+00	2.1E-01	6.4E+00	6.5E-06	1.0E-04	6.4E+00	2.2E-04	1.1E-05	7.4E-06	7.3E-06	3.7E-06	1.1E-04	4.9E-05	8.9E-06	1.2E-05	2.0E-05	
	W2	1.4E-03	3.6E-02	8.8E-03	5.0E-05	2.1E+00	2.2E-01	6.6E+00	6.8E-06	1.0E-04	6.6E+00	2.3E-04	1.1E-05	7.7E-06	7.6E-06	3.8E-06	1.2E-04	5.1E-05	9.3E-06	1.3E-05	2.0E-05	
S2.5	4.2E-03	1.1E-01	2.7E-02	1.5E-04	6.6E+00	6.6E-01	2.0E+01	2.1E-05	3.2E-04	2.0E+01	7.0E-04	3.4E-05	2.4E-05	2.3E-05	1.2E-05	3.6E-04	1.6E-04	2.9E-05	3.9E-05	6.3E-05		
Galbraith Lake	Monthly	1.8E-05	4.8E-04	1.2E-04	6.7E-07	2.9E-02	2.9E-03	8.9E-02	9.1E-08	1.4E-06	8.9E-02	3.1E-06	1.5E-07	1.0E-07	1.0E-07	5.1E-08	1.6E-06	6.9E-07	1.2E-07	1.7E-07	2.8E-07	
	-1	1.6E-04	4.2E-03	1.0E-03	5.9E-06	2.5E-01	2.6E-02	7.8E-01	8.0E-07	1.2E-05	7.8E-01	2.7E-05	1.3E-06	9.1E-07	9.0E-07	4.5E-07	1.4E-05	6.0E-06	1.1E-06	1.5E-06	2.4E-06	
	0	1.6E-04	4.2E-03	1.0E-03	5.9E-06	2.5E-01	2.6E-02	7.8E-01	8.0E-07	1.2E-05	7.8E-01	2.7E-05	1.3E-06	9.1E-07	9.0E-07	4.5E-07	1.4E-05	6.0E-06	1.1E-06	1.5E-06	2.4E-06	
	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2	1.9E-04	5.1E-03	1.3E-03	7.1E-06	3.1E-01	3.1E-02	9.4E-01	9.7E-07	1.5E-05	9.4E-01	3.3E-05	1.6E-06	1.1E-06	1.1E-06	5.5E-07	1.7E-05	7.3E-06	1.3E-06	1.8E-06	2.9E-06	
	Rolling Annual	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
	S0	3.3E-05	8.7E-04	2.1E-04	1.2E-06	5.2E-02	5.2E-03	1.6E-01	1.6E-07	2.5E-06	1.6E-01	5.5E-06	2.7E-07	1.9E-07	1.8E-07	9.3E-08	2.8E-06	1.2E-06	2.2E-07	3.1E-07	5.0E-07	
	W0	9.9E-05	2.6E-03	6.4E-04	3.6E-06	1.6E-01	1.6E-02	4.8E-01	4.9E-07	7.5E-06	4.8E-01	1.7E-05	8.0E-07	5.6E-07	5.5E-07	2.8E-07	8.5E-06	3.7E-06	6.7E-07	9.2E-07	1.5E-06	
	S0.5	9.9E-05	2.6E-03	6.4E-04	3.6E-06	1.6E-01	1.6E-02	4.8E-01	4.9E-07	7.5E-06	4.8E-01	1.7E-05	8.0E-07	5.6E-07	5.5E-07	2.8E-07	8.5E-06	3.7E-06	6.7E-07	9.2E-07	1.5E-06	
	W1	9.9E-05	2.6E-03	6.4E-04	3.6E-06	1.6E-01	1.6E-02	4.8E-01	4.9E-07	7.5E-06	4.8E-01	1.7E-05	8.0E-07	5.6E-07	5.5E-07	2.8E-07	8.5E-06	3.7E-06	6.7E-07	9.2E-07	1.5E-06	
	S1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	W2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
S2.5	3.2E-04	8.5E-03	2.1E-03	1.2E-05	5.1E-01	5.1E-02	1.6E+00	1.6E-06	2.5E-05	1.6E+00	5.4E-05	2.6E-06	1.8E-06	1.8E-06	9.1E-07	2.8E-05	1.2E-05	2.2E-06	3.0E-06	4.9E-06		
Dietrich	Monthly	3.1E-04	7.9E-03	2.0E-03	1.1E-05	4.8E-01	4.9E-02	1.5E+00	1.5E-06	2.3E-05	1.5E+00	5.1E-05	2.5E-06	1.7E-06	1.7E-06	8.6E-07	2.6E-05	1.1E-05	2.1E-06	2.9E-06	4.6E-06	
	-1	2.7E-03	7.0E-02	1.7E-02	1.0E-04	4.2E+00	4.3E-01	1.3E+01	1.3E-05	2.1E-04	1.3E+01	4.5E-04	2.2E-05	1.5E-05	1.5E-05	7.6E-06	2.3E-04	1.0E-04	1.8E-05	2.5E-05	4.1E-05	
	0	2.2E-03	5.6E-02	1.4E-02	7.9E-05	3.4E+00	3.4E-01	1.1E+01	1.1E-05	1.6E-04	1.1E+01	3.6E-04	1.7E-05	1.2E-05	1.2E-05	6.0E-06	1.8E-04	8.0E-05	1.5E-05	2.0E-05	3.2E-05	
	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2	3.3E-03	8.4E-02	2.1E-02	1.2E-04	5.1E+00	5.2E-01	1.6E+01	1.6E-05	2.5E-04	1.6E+01	5.4E-04	2.6E-05	1.8E-05	1.8E-05	9.1E-06	2.8E-04	1.2E-04	2.2E-05	3.0E-05	4.9E-05	
	Rolling Annual	#REF!	#REF!	#REF!	#REF!	#																

AGDC: Alaska Stand Alone Pipeline (ASAP) Project
 Construction Camps and Storage Yards
 Speciated Refuse Truck Trip Emissions Summary for areas outside the PM_{2.5} NAA

Camp Name	Time Period	Emissions (tons)																				
		VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂	N ₂ O	CH ₄	CO ₂ e	Total HAPs	Benzene	Toluene	Xylenes	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH	
Prospect	Monthly	1.5E-04	3.9E-03	9.8E-04	5.6E-06	2.4E-01	2.4E-02	7.4E-01	7.5E-07	1.2E-05	7.4E-01	2.5E-05	1.2E-06	8.5E-07	8.4E-07	4.2E-07	1.3E-05	5.7E-06	1.0E-06	1.4E-06	2.3E-06	
	-1	1.1E-04	2.7E-02	6.8E-03	3.9E-05	1.7E+00	1.7E-01	5.2E+00	5.3E-06	8.1E-05	5.2E+00	1.8E-04	8.6E-06	6.0E-06	5.9E-06	3.0E-06	9.1E-05	4.0E-05	7.2E-06	9.8E-06	1.6E-05	
	0	1.5E-03	3.8E-02	9.4E-03	5.3E-05	2.3E+00	2.3E-01	7.1E+00	7.2E-06	1.1E-04	7.1E+00	2.4E-04	1.2E-05	8.2E-06	8.1E-06	4.1E-06	1.2E-04	5.4E-05	9.9E-06	1.3E-05	2.2E-05	
	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2	1.6E-03	4.1E-02	1.0E-02	5.9E-05	2.5E+00	2.5E-01	7.9E+00	8.0E-06	1.2E-04	7.9E+00	2.7E-04	1.3E-05	9.0E-06	8.9E-06	4.5E-06	1.4E-04	6.0E-05	1.1E-05	1.5E-05	2.4E-05	
	Rolling Annual	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
	S0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	W0	8.2E-04	2.1E-02	5.3E-03	3.0E-05	1.3E+00	1.3E-01	4.0E+00	4.1E-06	6.2E-05	4.0E+00	1.4E-04	6.6E-06	4.6E-06	4.5E-06	2.3E-06	7.0E-05	3.1E-05	5.6E-06	7.6E-06	1.2E-05	
	S0.5	7.9E-04	2.0E-02	5.1E-03	2.9E-05	1.2E+00	1.2E-01	3.9E+00	3.9E-06	6.0E-05	3.9E+00	1.3E-04	6.4E-06	4.4E-06	4.4E-06	2.2E-06	6.8E-05	2.9E-05	5.4E-06	7.3E-06	1.2E-05	
	W1	8.2E-04	2.1E-02	5.3E-03	3.0E-05	1.3E+00	1.3E-01	4.0E+00	4.1E-06	6.2E-05	4.0E+00	1.4E-04	6.6E-06	4.6E-06	4.5E-06	2.3E-06	7.0E-05	3.1E-05	5.6E-06	7.6E-06	1.2E-05	
	S1.5	1.5E-04	3.9E-03	9.8E-04	5.6E-06	2.4E-01	2.4E-02	7.4E-01	7.5E-07	1.2E-05	7.4E-01	2.5E-05	1.2E-06	8.5E-07	8.4E-07	4.2E-07	1.3E-05	5.7E-06	1.0E-06	1.4E-06	2.3E-06	
	W2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
S2.5	2.5E-03	6.5E-02	1.6E-02	9.2E-05	3.9E+00	4.0E-01	1.2E+01	1.2E-05	1.9E-04	1.2E+01	4.2E-04	2.0E-05	1.4E-05	1.4E-05	7.0E-06	2.2E-04	9.4E-05	1.7E-05	2.3E-05	3.8E-05		
Five Mile	Monthly	3.2E-05	8.3E-04	2.1E-04	1.2E-06	5.0E-02	1.6E-03	1.6E-01	1.6E-07	2.4E-06	1.6E-01	5.4E-06	2.6E-07	1.8E-07	1.8E-07	9.0E-08	2.8E-06	1.2E-06	2.2E-07	3.0E-07	4.8E-07	
	-1	1.7E-04	4.5E-03	1.1E-03	6.4E-06	2.7E-01	2.7E-02	8.5E-01	8.6E-07	1.3E-05	8.5E-01	2.9E-05	1.4E-06	9.8E-07	9.6E-07	4.9E-07	1.5E-05	6.5E-06	1.2E-06	1.6E-06	2.6E-06	
	0	3.4E-04	8.8E-03	2.2E-03	1.3E-05	5.3E-01	5.4E-02	1.7E+00	1.7E-06	2.6E-05	1.7E+00	5.7E-05	2.8E-06	1.9E-06	1.9E-06	9.5E-07	2.9E-05	1.3E-05	2.3E-06	3.2E-06	5.1E-06	
	1	2.8E-04	7.3E-03	1.8E-03	1.0E-05	4.4E-01	4.5E-02	1.4E+00	1.4E-06	2.2E-05	1.4E+00	4.7E-05	2.3E-06	1.6E-06	1.6E-06	7.9E-07	2.4E-05	1.1E-05	1.9E-06	2.6E-06	4.3E-06	
	2	3.4E-04	8.8E-03	2.2E-03	1.3E-05	5.3E-01	5.4E-02	1.7E+00	1.7E-06	2.6E-05	1.7E+00	5.7E-05	2.8E-06	1.9E-06	1.9E-06	9.5E-07	2.9E-05	1.3E-05	2.3E-06	3.2E-06	5.1E-06	
	Rolling Annual	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
	S0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	W0	1.2E-04	3.0E-03	7.5E-04	4.3E-06	1.8E-01	1.8E-02	5.7E-01	5.7E-07	8.8E-06	5.7E-01	1.9E-05	9.4E-07	6.5E-07	6.4E-07	3.2E-07	9.9E-06	4.3E-06	7.9E-07	1.1E-06	1.7E-06	
	S0.5	1.7E-04	4.3E-03	1.1E-03	6.1E-06	2.6E-01	2.6E-02	8.2E-01	8.3E-07	1.3E-05	8.2E-01	2.8E-05	1.4E-06	9.4E-07	9.3E-07	4.7E-07	1.4E-05	6.2E-06	1.1E-06	1.5E-06	2.5E-06	
	W1	1.7E-04	4.5E-03	1.1E-03	6.4E-06	2.7E-01	2.7E-02	8.5E-01	8.6E-07	1.3E-05	8.5E-01	2.9E-05	1.4E-06	9.8E-07	9.6E-07	4.9E-07	1.5E-05	6.5E-06	1.2E-06	1.6E-06	2.6E-06	
	S1.5	1.7E-04	4.3E-03	1.1E-03	6.1E-06	2.6E-01	2.6E-02	8.2E-01	8.3E-07	1.3E-05	8.2E-01	2.8E-05	1.4E-06	9.4E-07	9.3E-07	4.7E-07	1.4E-05	6.2E-06	1.1E-06	1.5E-06	2.5E-06	
	W2	1.7E-04	4.5E-03	1.1E-03	6.4E-06	2.7E-01	2.7E-02	8.5E-01	8.6E-07	1.3E-05	8.5E-01	2.9E-05	1.4E-06	9.8E-07	9.6E-07	4.9E-07	1.5E-05	6.5E-06	1.2E-06	1.6E-06	2.6E-06	
S2.5	7.8E-04	2.0E-02	5.1E-03	2.9E-05	1.2E+00	1.2E-01	3.8E+00	3.9E-06	6.0E-05	3.8E+00	1.3E-04	6.4E-06	4.4E-06	4.4E-06	2.2E-06	6.7E-05	2.9E-05	5.3E-06	7.3E-06	1.2E-05		
Livengood	Monthly	2.4E-04	6.3E-03	1.2E-03	8.9E-06	3.8E-01	3.8E-02	1.2E+00	1.2E-06	1.9E-05	1.2E+00	4.1E-05	2.0E-06	1.4E-06	1.4E-06	6.8E-07	2.1E-05	9.1E-06	1.7E-06	2.3E-06	3.7E-06	
	-1	2.4E-04	6.3E-03	1.2E-03	8.9E-06	3.8E-01	3.8E-02	1.2E+00	1.2E-06	1.9E-05	1.2E+00	4.1E-05	2.0E-06	1.4E-06	1.4E-06	6.8E-07	2.1E-05	9.1E-06	1.7E-06	2.3E-06	3.7E-06	
	0	2.6E-03	6.7E-02	1.7E-02	9.5E-05	4.0E+00	4.1E-01	1.3E+01	1.3E-05	2.0E-04	1.3E+01	4.3E-04	2.1E-05	1.5E-05	1.4E-05	7.2E-06	2.2E-04	9.6E-05	1.8E-05	2.4E-05	3.9E-05	
	1	2.1E-03	5.5E-02	1.4E-02	7.9E-05	3.4E+00	3.4E-01	1.0E+01	1.1E-05	1.6E-04	1.1E+01	3.6E-04	1.7E-05	1.2E-05	1.2E-05	6.0E-06	1.8E-04	8.0E-05	1.5E-05	2.0E-05	3.2E-05	
	2	2.6E-03	6.7E-02	1.7E-02	9.5E-05	4.0E+00	4.1E-01	1.3E+01	1.3E-05	2.0E-04	1.3E+01	4.3E-04	2.1E-05	1.5E-05	1.4E-05	7.2E-06	2.2E-04	9.6E-05	1.8E-05	2.4E-05	3.9E-05	
	Rolling Annual	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
	S0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	W0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S0.5	1.1E-03	2.8E-02	6.9E-03	3.9E-05	1.7E+00	1.7E-01	5.2E+00	5.3E-06	8.1E-05	5.3E+00	1.8E-04	8.7E-06	6.0E-06	5.9E-06	3.0E-06	9.2E-05	4.0E-05	7.3E-06	9.9E-06	1.6E-05	
	W1	1.3E-03	3.4E-02	8.5E-03	4.8E-05	2.1E+00	2.1E-01	6.4E+00	6.5E-06	1.0E-04	6.4E+00	2.2E-04	1.1E-05	7.4E-06	7.3E-06	3.7E-06	1.1E-04	4.9E-05	8.9E-06	1.2E-05	2.0E-05	
	S1.5	1.3E-03	3.3E-02	8.2E-03	4.7E-05	2.0E+00	2.0E-01	6.2E+00	6.3E-06	9.6E-05	6.2E+00	2.1E-04	1.0E-05	7.1E-06	7.0E-06	3.5E-06	1.1E-04	4.7E-05	8.6E-06	1.2E-05	1.9E-05	
	W2	1.3E-03	3.4E-02	8.5E-03	4.8E-05	2.1E+00	2.1E-01	6.4E+00	6.5E-06	1.0E-04	6.4E+00	2.2E-04	1.1E-05	7.4E-06	7.3E-06	3.7E-06	1.1E-04	4.9E-05	8.9E-06	1.2E-05	2.0E-05	
S2.5	4.9E-03	1.3E-01	3.2E-02	1.8E-04	7.7E+00	7.8E-01	2.4E+01	2.4E-05	3.7E-04	2.4E+01	8.2E-04	4.0E-05	2.8E-05	2.7E-05	1.4E-05	4.2E-04	1.8E-04	3.3E-05	4.6E-05	7.4E-05		
Dunbar	Monthly	2.3E-04	6.0E-03	1.5E-03	8.5E-06	3.6E-01	3.6E-02	1.1E+00	1.1E-06	1.7E-05	1.1E+00	3.8E-05	1.9E-06	1.3E-06	1.3E-06	6.4E-07	2.0E-05	8.6E-06	1.6E-06	2.1E-06	3.4E-06	
	-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	0	1.2E-03	3.2E-02	8.0E-03	4.6E-05	1.9E+00	2.0E-01	6.1E+00	6.1E-06	9.4E-05	6.1E+00	2.1E-04	1.0E-05	7.0E-06	6.9E-06	3.5E-06	1.1E-04	4.6E-05	8.4E-06	1.1E-05	1.9E-05	
	1	6.0E-04	1.6E-02	2.9E-03	2.2E-05	9.4E-01	9.4E-02	2.9E+00	3.0E-06	4.5E-05	2.9E+00	1.0E-04	5.1E-06	3.4E-06	3.3E-06	1.7E-06	5.1E-05	2.2E-05	4.1E-06	5.5E-06	9.0E-06	
	2	1.8E-03	4.8E-02	1.2E-02	6.8E-05	2.9E+00	2.9E-01	9.0E+00	9.1E-06	1.4E-04	9.0E+00	3.1E-04	1.5E-05	1.0E-05	1.0E-05	5.1E-06	1.6E-04	6.9E-05	1.2E-05	1.7E-05	2.8E-05	
	Rolling Annual	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
	S0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	W0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W1	8.3E-04	2.1E-02	5.3E-03	3.0E-05	1.3E+00	1.3E-01	4.1E+00	4.1E-06	6.3E-05	4.1E+00	1.4E-04	6.7E-06	4.7E-06	4.6E-06	2.3E-06	7.1E-05	3.1E-05	5.6E-06	7.7E-06	1.2E-05	
	S1.5	1.0E-03	2.6E-02	6.5E-03	3.7E-05	1.6E+00	1.6E-01	5.0E+00	5.0E-06	7.7E-05	5.0E+00	1.7E-04	8.2E-06	5.7E-06	5.6E-06	2.8E-06	8.7E-05	3.8E-05	6.9E-06	9.4E-06	1.5E-05	
	W2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S2.5	1.8E-03	4.8E-02	1.2E-02	6.8E-05	2.9E+00	2.9E-01	9.0E+00	9.1E-06	1.4E-04	9.0E+00	3.1E-04	1.5E-05	1.0E-05	1.0E-05	5.1E-06	1.6E-04	6.9E-05	1.2E-05	1.7E-05	2.8E-05		
Healy	Monthly	1.3E-04	3.5E-03	8.6E-04	4.9E-06	2.1E-01	2.1E-02	6.5E-01	6.6E-07	1.0E-05	6.5E-01	2.2E-05	1.1E-06	7.5E-07	7.4E-07	3.7E-07	1.1E-05	5.0E-06	9.1E-07	1.2E-06	2.0E-06	
	-1	9.3E-04	2.4E-02	6.0E-03	3.4E-05	1.5E+00	1.5E-01	4.5E+00	4.6E-06	7.1E-05	4.5E+00	1.6E-04	7.6E-06	5.2E-06	2.6E-06	8.0E-05	3.5E-05	6.3E-06	8.6E-06	1.4E-05	1.9E-05	
	0	1.3E-03	3.3E-02	8.3E-03	4.7E-05	2.0E+00	2.0E-01	6.2														

AGDC: Alaska Stand Alone Pipeline (ASAP) Project
 Construction Camps and Storage Yards
 Speciated Refuse Truck Trip Emissions Summary for areas outside the PM_{2.5} NAA

Camp Name	Time Period	Emissions (tons)																				
		VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂	N ₂ O	CH ₄	CO ₂ e	Total HAPs	Benzene	Toluene	Xylenes	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH	
Cantwell	Monthly	3.2E-05	8.4E-04	2.1E-04	1.2E-06	5.0E-02	5.1E-03	1.6E-01	1.6E-07	2.4E-06	1.6E-01	5.4E-06	2.6E-07	1.8E-07	1.8E-07	9.0E-08	2.8E-06	1.2E-06	2.2E-07	3.0E-07	4.8E-07	
	-1	1.7E-04	4.5E-03	1.1E-03	6.4E-06	2.7E-01	2.7E-02	8.5E-01	8.6E-07	1.3E-05	8.5E-01	2.9E-05	1.4E-06	9.8E-07	9.6E-07	4.9E-07	1.5E-05	6.5E-06	1.2E-06	1.6E-06	2.6E-06	
	0	3.4E-04	8.9E-03	2.2E-03	1.2E-05	5.3E-01	5.4E-02	1.7E+00	1.7E-06	2.6E-05	1.7E+00	5.7E-05	2.8E-06	1.9E-06	1.9E-06	9.5E-07	2.9E-05	1.3E-05	2.3E-06	3.2E-06	5.1E-06	
	1	2.8E-04	7.4E-03	1.8E-03	1.0E-05	4.4E-01	4.5E-02	1.4E+00	1.4E-06	2.2E-05	1.4E+00	4.7E-05	2.3E-06	1.6E-06	1.6E-06	7.9E-07	2.4E-05	1.1E-05	1.9E-06	2.6E-06	4.3E-06	
	2	3.4E-04	8.9E-03	2.2E-03	1.2E-05	5.3E-01	5.4E-02	1.7E+00	1.7E-06	2.6E-05	1.7E+00	5.7E-05	2.8E-06	1.9E-06	1.9E-06	9.5E-07	2.9E-05	1.3E-05	2.3E-06	3.2E-06	5.1E-06	
	Rolling Annual	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
	SO	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W0	1.2E-04	3.0E-03	7.5E-04	4.2E-06	1.8E-01	1.8E-02	5.6E-01	5.7E-07	8.8E-06	5.6E-01	1.9E-05	9.4E-07	6.5E-07	6.4E-07	3.2E-07	9.9E-06	4.3E-06	7.9E-07	1.1E-06	1.7E-06	
	SO.5	1.7E-04	4.4E-03	1.1E-03	6.1E-06	2.6E-01	2.6E-02	8.2E-01	8.3E-07	1.3E-05	8.2E-01	2.8E-05	1.4E-06	9.4E-07	9.3E-07	4.7E-07	1.4E-05	6.2E-06	1.1E-06	1.5E-06	2.5E-06	
	W1	1.7E-04	4.5E-03	1.1E-03	6.4E-06	2.7E-01	2.7E-02	8.5E-01	8.6E-07	1.3E-05	8.5E-01	2.9E-05	1.4E-06	9.8E-07	9.6E-07	4.9E-07	1.5E-05	6.5E-06	1.2E-06	1.6E-06	2.6E-06	
	S1.5	1.7E-04	4.4E-03	1.1E-03	6.1E-06	2.6E-01	2.6E-02	8.2E-01	8.3E-07	1.3E-05	8.2E-01	2.8E-05	1.4E-06	9.4E-07	9.3E-07	4.7E-07	1.4E-05	6.2E-06	1.1E-06	1.5E-06	2.5E-06	
	W2	1.7E-04	4.5E-03	1.1E-03	6.4E-06	2.7E-01	2.7E-02	8.5E-01	8.6E-07	1.3E-05	8.5E-01	2.9E-05	1.4E-06	9.8E-07	9.6E-07	4.9E-07	1.5E-05	6.5E-06	1.2E-06	1.6E-06	2.6E-06	
	S2.5	7.8E-04	2.0E-02	5.1E-03	2.9E-05	1.2E+00	1.2E-01	3.8E+00	3.9E-06	6.0E-05	3.8E+00	1.3E-04	6.4E-06	4.4E-06	4.4E-06	2.2E-06	6.7E-05	2.9E-05	5.3E-06	7.3E-06	1.2E-05	
	Monthly	4.0E-04	1.0E-02	2.6E-03	1.4E-05	6.2E-01	6.3E-02	1.9E+00	2.0E-06	3.0E-05	1.9E+00	6.6E-05	3.2E-06	2.2E-06	2.2E-06	1.1E-06	3.4E-05	1.5E-05	2.7E-06	3.7E-06	6.0E-06	
	-1	1.7E-03	4.5E-02	1.1E-02	6.4E-05	2.7E+00	2.8E-01	8.5E+00	8.7E-06	1.3E-04	8.5E+00	2.9E-04	1.4E-05	9.8E-06	9.7E-06	4.9E-06	1.5E-04	6.5E-05	1.2E-05	1.6E-05	2.6E-05	
0	3.8E-03	9.9E-02	2.5E-02	1.4E-04	6.0E+00	6.0E-01	1.8E+01	1.9E-05	2.9E-04	1.8E+01	6.4E-04	3.1E-05	2.1E-05	2.1E-05	1.1E-05	3.3E-04	1.4E-04	2.6E-05	3.5E-05	5.7E-05		
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2	4.2E-03	1.1E-01	2.7E-02	1.5E-04	6.6E+00	6.6E-01	2.0E+01	2.1E-05	3.2E-04	2.0E+01	7.0E-04	3.4E-05	2.4E-05	2.3E-05	1.2E-05	3.6E-04	1.6E-04	2.9E-05	3.9E-05	6.3E-05		
Rolling Annual	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	
SO	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
W0	1.1E-03	2.9E-02	7.2E-03	4.0E-05	1.7E+00	1.8E-01	5.4E+00	5.5E-06	8.4E-05	5.4E+00	1.9E-04	9.0E-06	6.3E-06	6.2E-06	3.1E-06	9.5E-05	4.2E-05	7.6E-06	1.0E-05	1.7E-05		
SO.5	2.1E-03	5.3E-02	1.3E-02	7.5E-05	3.2E+00	3.3E-01	1.0E+01	1.0E-05	1.6E-04	1.0E+01	3.4E-04	1.7E-05	1.2E-05	1.1E-05	5.8E-06	1.8E-04	7.7E-05	1.4E-05	1.9E-05	3.1E-05		
W1	2.1E-03	5.5E-02	1.4E-02	7.8E-05	3.4E+00	3.4E-01	1.0E+01	1.1E-05	1.6E-04	1.0E+01	3.6E-04	1.7E-05	1.2E-05	1.2E-05	6.0E-06	1.8E-04	8.0E-05	1.5E-05	2.0E-05	3.2E-05		
S1.5	4.0E-04	1.0E-02	2.6E-03	1.4E-05	6.2E-01	6.3E-02	1.9E+00	2.0E-06	3.0E-05	1.9E+00	6.6E-05	3.2E-06	2.2E-06	2.2E-06	1.1E-06	3.4E-05	1.5E-05	2.7E-06	3.7E-06	6.0E-06		
W2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
S2.5	5.6E-03	1.4E-01	3.6E-02	2.0E-04	8.7E+00	8.8E-01	2.7E+01	2.8E-05	4.2E-04	2.7E+01	9.3E-04	4.5E-05	3.1E-05	3.1E-05	1.6E-05	4.8E-04	2.1E-04	3.8E-05	5.1E-05	8.3E-05		
Swan Lake	Monthly	2.7E-04	6.9E-03	1.7E-03	9.8E-06	4.2E-01	4.2E-02	1.3E+00	1.3E-06	2.0E-05	1.3E+00	4.5E-05	2.2E-06	1.5E-06	1.5E-06	7.5E-07	2.3E-05	1.0E-05	1.8E-06	2.5E-06	4.0E-06	
	-1	1.7E-03	4.3E-02	1.1E-02	6.1E-05	2.6E+00	2.6E-01	8.1E+00	8.2E-06	1.3E-04	8.1E+00	2.8E-04	1.3E-05	9.4E-06	9.2E-06	4.7E-06	1.4E-04	6.2E-05	1.1E-05	1.5E-05	2.5E-05	
	0	2.8E-03	7.4E-02	1.8E-02	1.0E-04	4.5E+00	4.5E-01	1.4E+01	1.4E-05	2.2E-04	1.4E+01	4.7E-04	2.3E-05	1.6E-05	1.6E-05	8.0E-06	2.4E-04	1.1E-04	1.9E-05	2.6E-05	4.3E-05	
	1	1.7E-03	4.3E-02	1.1E-02	6.1E-05	2.6E+00	2.6E-01	8.1E+00	8.2E-06	1.3E-04	8.1E+00	2.8E-04	1.3E-05	9.4E-06	9.2E-06	4.7E-06	1.4E-04	6.2E-05	1.1E-05	1.5E-05	2.5E-05	
	2	2.8E-03	7.4E-02	1.8E-02	1.0E-04	4.5E+00	4.5E-01	1.4E+01	1.4E-05	2.2E-04	1.4E+01	4.7E-04	2.3E-05	1.6E-05	1.6E-05	8.0E-06	2.4E-04	1.1E-04	1.9E-05	2.6E-05	4.3E-05	
	Rolling Annual	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
	SO	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	W0	1.2E-03	3.1E-02	7.6E-03	4.3E-05	1.9E+00	1.9E-01	5.7E+00	5.9E-06	9.0E-05	5.7E+00	2.0E-04	9.6E-06	6.6E-06	6.6E-06	3.3E-06	1.0E-04	4.4E-05	8.0E-06	1.1E-05	1.8E-05	
	SO.5	1.4E-03	3.6E-02	9.0E-03	5.1E-05	2.2E+00	2.2E-01	6.8E+00	6.9E-06	1.1E-04	6.8E+00	2.3E-04	1.1E-05	7.9E-06	7.7E-06	3.9E-06	1.2E-04	5.2E-05	9.5E-06	1.3E-05	2.1E-05	
	W1	1.4E-03	3.8E-02	9.4E-03	5.3E-05	2.3E+00	2.3E-01	7.0E+00	7.2E-06	1.1E-04	7.0E+00	2.4E-04	1.2E-05	8.2E-06	8.0E-06	4.1E-06	1.2E-04	5.4E-05	9.9E-06	1.3E-05	2.2E-05	
	S1.5	1.4E-03	3.6E-02	9.0E-03	5.1E-05	2.2E+00	2.2E-01	6.8E+00	6.9E-06	1.1E-04	6.8E+00	2.3E-04	1.1E-05	7.9E-06	7.7E-06	3.9E-06	1.2E-04	5.2E-05	9.5E-06	1.3E-05	2.1E-05	
	W2	7.5E-04	1.9E-02	4.8E-03	2.7E-05	1.2E+00	1.2E-01	3.6E+00	3.7E-06	5.7E-05	3.6E+00	1.3E-04	6.1E-06	4.2E-06	4.2E-06	2.1E-06	6.4E-05	2.8E-05	5.1E-06	7.0E-06	1.1E-05	
	S2.5	6.1E-03	1.6E-01	3.9E-02	2.2E-04	9.6E+00	9.7E-01	3.0E+01	3.0E-05	4.6E-04	3.0E+01	1.0E-03	5.0E-05	3.4E-05	3.4E-05	1.7E-05	5.2E-04	2.3E-04	4.2E-05	5.7E-05	9.2E-05	
	Rustic Wilderness	Monthly	2.7E-04	6.9E-03	1.7E-03	9.8E-06	4.2E-01	4.2E-02	1.3E+00	1.3E-06	2.0E-05	1.3E+00	4.5E-05	2.2E-06	1.5E-06	1.5E-06	7.5E-07	2.3E-05	1.0E-05	1.8E-06	2.5E-06	4.0E-06
		-1	1.7E-03	4.3E-02	1.1E-02	6.1E-05	2.6E+00	2.6E-01	8.1E+00	8.2E-06	1.3E-04	8.1E+00	2.8E-04	1.3E-05	9.4E-06	9.2E-06	4.7E-06	1.4E-04	6.2E-05	1.1E-05	1.5E-05	2.5E-05
0		2.8E-03	7.4E-02	1.8E-02	1.0E-04	4.5E+00	4.5E-01	1.4E+01	1.4E-05	2.2E-04	1.4E+01	4.7E-04	2.3E-05	1.6E-05	1.6E-05	8.0E-06	2.4E-04	1.1E-04	1.9E-05	2.6E-05	4.3E-05	
1		1.7E-03	4.3E-02	1.1E-02	6.1E-05	2.6E+00	2.6E-01	8.1E+00	8.2E-06	1.3E-04	8.1E+00	2.8E-04	1.3E-05	9.4E-06	9.2E-06	4.7E-06	1.4E-04	6.2E-05	1.1E-05	1.5E-05	2.5E-05	
2		2.8E-03	7.4E-02	1.8E-02	1.0E-04	4.5E+00	4.5E-01	1.4E+01	1.4E-05	2.2E-04	1.4E+01	4.7E-04	2.3E-05	1.6E-05	1.6E-05	8.0E-06	2.4E-04	1.1E-04	1.9E-05	2.6E-05	4.3E-05	
Rolling Annual		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
SO		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W0		1.2E-03	3.1E-02	7.6E-03	4.3E-05	1.9E+00	1.9E-01	5.7E+00	5.9E-06	9.0E-05	5.7E+00	2.0E-04	9.6E-06	6.6E-06	6.6E-06	3.3E-06	1.0E-04	4.4E-05	8.0E-06	1.1E-05	1.8E-05	
SO.5		1.4E-03	3.6E-02	9.0E-03	5.1E-05	2.2E+00	2.2E-01	6.8E+00	6.9E-06	1.1E-04	6.8E+00	2.3E-04	1.1E-05	7.9E-06	7.7E-06	3.9E-06	1.2E-04	5.2E-05	9.5E-06	1.3E-05	2.1E-05	
W1		1.4E-03	3.8E-02	9.4E-03	5.3E-05	2.3E+00	2.3E-01	7.0E+00	7.2E-06	1.1E-04	7.0E+00	2.4E-04	1.2E-05	8.2E-06	8.0E-06	4.1E-06	1.2E-04	5.4E-05	9.9E-06	1.3E-05	2.2E-05	
S1.5		1.4E-03	3.6E-02	9.0E-03	5.1E-05	2.2E+00	2.2E-01	6.8E+00	6.9E-06	1.1E-04	6.8E+00	2.3E-04	1.1E-05	7.9E-06	7.7E-06	3.9E-06	1.2E-04	5.2E-05	9.5E-06	1.3E-05	2.1E-05	
W2		7.5E-04	1.9E-02	4.8E-03	2.7E-05	1.2E+00	1.2E-01	3.6E+00	3.7E-06	5.7E-05	3.6E+00	1.3E-04	6.1E-06	4.2E-06	4.2E-06	2.1E-06	6.4E-05	2.8E-05	5.1E-06	7.0E-06	1.1E-05	
S2.5		6.1E-03	1.6E-01	3.9E-02	2.2E-04	9.6E+00	9.7E-01	3.0E+01	3.0E-05	4.6E-04	3.0E+01	1.0E-03	5.0E-05	3.4E-05								

AGDC: Alaska Stand Alone Pipeline (ASAP) Project
 Construction Camps and Storage Yards
 Speciated Supply Truck Trip Emissions Summary for areas outside the PM_{2.5} NAA

Camp Name	Time Period	Emissions (tons)																				
		VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂	N ₂ O	CH ₄	CO ₂ e	Total HAPs	Benzene	Toluene	Xylenes	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH	
Prudhoe Bay	Monthly	4.2E-03	1.1E-01	2.7E-02	1.5E-04	6.3E+00	6.4E-01	2.0E+01	2.1E-05	3.2E-04	2.0E+01	7.0E-04	3.4E-05	2.4E-05	2.3E-05	1.2E-05	3.6E-04	1.6E-04	2.9E-05	3.9E-05	6.3E-05	
	-1	3.7E-02	9.7E-01	2.4E-01	1.3E-03	5.6E+01	5.6E+00	1.8E+02	1.8E-04	2.8E-03	1.8E+02	6.2E-03	3.0E-04	2.1E-04	2.1E-04	1.0E-04	3.2E-03	1.4E-03	2.5E-04	3.4E-04	5.6E-04	
	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2	3.7E-02	9.7E-01	2.4E-01	1.3E-03	5.6E+01	5.6E+00	1.8E+02	1.8E-04	2.8E-03	1.8E+02	6.2E-03	3.0E-04	2.1E-04	2.1E-04	1.0E-04	3.2E-03	1.4E-03	2.5E-04	3.4E-04	5.6E-04	
	Rolling Annual	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
	S0	7.6E-03	2.0E-01	4.9E-02	2.8E-04	1.1E+01	1.1E+00	3.7E+01	3.8E-05	5.8E-04	3.7E+01	1.3E-03	6.1E-05	4.3E-05	4.2E-05	2.1E-05	6.5E-04	2.8E-04	5.1E-05	7.0E-05	1.1E-04	
	W0	2.3E-02	6.0E-01	1.5E-01	8.3E-04	3.4E+01	3.4E+00	1.1E+02	1.1E-04	1.7E-03	1.1E+02	3.8E-03	1.8E-04	1.3E-04	1.3E-04	6.4E-05	1.9E-03	8.5E-04	1.5E-04	2.1E-04	3.4E-04	
	S0.5	7.6E-03	2.0E-01	4.9E-02	2.8E-04	1.1E+01	1.1E+00	3.7E+01	3.8E-05	5.8E-04	3.7E+01	1.3E-03	6.1E-05	4.3E-05	4.2E-05	2.1E-05	6.5E-04	2.8E-04	5.1E-05	7.0E-05	1.1E-04	
	W1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	S1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	W2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
S2.5	3.7E-02	9.7E-01	2.4E-01	1.3E-03	5.6E+01	5.6E+00	1.8E+02	1.8E-04	2.8E-03	1.8E+02	6.2E-03	3.0E-04	2.1E-04	2.1E-04	1.0E-04	3.2E-03	1.4E-03	2.5E-04	3.4E-04	5.6E-04		
Franklin Bluffs	Monthly	3.8E-03	1.0E-01	2.5E-02	1.4E-04	5.8E+00	5.8E-01	1.9E+01	1.9E-05	2.9E-04	1.9E+01	6.4E-04	3.1E-05	2.2E-05	2.1E-05	1.1E-05	3.3E-04	1.4E-04	2.6E-05	3.5E-05	5.8E-05	
	-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	0	2.1E-02	5.4E-01	1.3E-01	7.5E-04	3.1E+01	3.1E+00	1.0E+02	1.0E-04	1.6E-03	1.0E+02	3.5E-03	1.7E-04	1.2E-04	1.1E-04	5.8E-05	1.8E-03	7.7E-04	1.4E-04	1.9E-04	3.1E-04	
	1	2.4E-02	6.2E-01	1.5E-01	8.6E-04	3.6E+01	3.6E+00	1.2E+02	1.2E-04	1.8E-03	1.2E+02	4.0E-03	1.9E-04	1.3E-04	1.3E-04	6.7E-05	2.0E-03	8.9E-04	1.6E-04	2.2E-04	3.6E-04	
	2	4.1E-02	1.1E+00	2.6E-01	1.5E-03	6.1E+01	6.2E+00	2.0E+02	2.0E-04	3.1E-03	2.0E+02	6.8E-03	3.3E-04	2.3E-04	2.3E-04	1.1E-04	3.5E-03	1.5E-03	2.8E-04	3.8E-04	6.1E-04	
	Rolling Annual	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
	S0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	W0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	S0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	W1	1.4E-02	3.6E-01	8.9E-02	5.0E-04	2.1E+01	2.1E+00	6.7E+01	6.8E-05	1.0E-03	6.7E+01	2.3E-03	1.1E-04	7.8E-05	7.7E-05	3.9E-05	1.2E-03	5.2E-04	9.4E-05	1.3E-04	2.1E-04	
	S1.5	2.0E-02	5.2E-01	1.3E-01	7.2E-04	3.0E+01	3.0E+00	9.7E+01	9.9E-05	1.5E-03	9.7E+01	3.3E-03	1.6E-04	1.1E-04	1.1E-04	5.6E-05	1.7E-03	7.4E-04	1.4E-04	1.8E-04	3.0E-04	
	W2	1.1E-02	2.8E-01	6.9E-02	3.9E-04	1.6E+01	1.6E+00	5.2E+01	5.3E-05	8.2E-04	5.2E+01	1.8E-03	8.7E-05	6.0E-05	6.0E-05	3.0E-05	9.2E-04	4.0E-04	7.3E-05	9.9E-05	1.6E-04	
S2.5	4.4E-02	1.1E+00	2.8E-01	1.6E-03	6.6E+01	6.6E+00	2.1E+02	2.2E-04	3.3E-03	2.1E+02	7.3E-03	3.5E-04	2.5E-04	2.4E-04	1.2E-04	3.7E-03	1.6E-03	3.0E-04	4.0E-04	6.6E-04		
Happy Valley	Monthly	3.4E-03	9.0E-02	2.2E-02	1.2E-04	5.2E+00	5.2E-01	1.7E+01	1.7E-05	2.6E-04	1.7E+01	5.7E-04	2.8E-05	1.9E-05	1.9E-05	9.6E-06	2.9E-04	1.3E-04	2.3E-05	3.2E-05	5.2E-05	
	-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	0	2.7E-02	7.2E-01	1.8E-01	1.0E-03	4.1E+01	4.2E+00	1.3E+02	1.4E-04	2.1E-03	1.3E+02	4.6E-03	2.2E-04	1.5E-04	1.5E-04	7.7E-05	2.4E-03	1.0E-03	1.9E-04	2.5E-04	4.1E-04	
	1	3.0E-02	7.9E-01	2.0E-01	1.1E-03	4.5E+01	4.6E+00	1.5E+02	1.5E-04	2.3E-03	1.5E+02	5.0E-03	2.5E-04	1.7E-04	1.7E-04	8.5E-05	2.6E-03	1.1E-03	2.1E-04	2.8E-04	4.5E-04	
	2	3.6E-02	9.6E-01	2.4E-01	1.3E-03	5.5E+01	5.5E+00	1.8E+02	1.8E-04	2.8E-03	1.8E+02	6.1E-03	3.0E-04	2.0E-04	2.0E-04	1.0E-04	3.1E-03	1.4E-03	2.5E-04	3.4E-04	5.5E-04	
	Rolling Annual	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
	S0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	W0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	S0.5	3.4E-03	9.0E-02	2.2E-02	1.2E-04	5.2E+00	5.2E-01	1.7E+01	1.7E-05	2.6E-04	1.7E+01	5.7E-04	2.8E-05	1.9E-05	1.9E-05	9.6E-06	2.9E-04	1.3E-04	2.3E-05	3.2E-05	5.2E-05	
	W1	1.9E-02	4.9E-01	1.2E-01	6.7E-04	2.8E+01	2.8E+00	9.0E+01	9.2E-05	1.4E-03	9.0E+01	3.1E-03	1.5E-04	1.0E-04	1.0E-04	5.2E-05	1.6E-03	6.9E-04	1.3E-04	1.7E-04	2.8E-04	
	S1.5	1.8E-02	4.7E-01	1.2E-01	6.5E-04	2.7E+01	2.7E+00	8.7E+01	8.9E-05	1.4E-03	8.7E+01	3.0E-03	1.4E-04	1.0E-04	9.9E-05	5.0E-05	1.5E-03	6.7E-04	1.2E-04	1.7E-04	2.7E-04	
	W2	1.9E-02	4.9E-01	1.2E-01	6.7E-04	2.8E+01	2.8E+00	9.0E+01	9.2E-05	1.4E-03	9.0E+01	3.1E-03	1.5E-04	1.0E-04	1.0E-04	5.2E-05	1.6E-03	6.9E-04	1.3E-04	1.7E-04	2.8E-04	
S2.5	5.7E-02	1.5E+00	3.7E-01	2.1E-03	8.6E+01	8.6E+00	2.8E+02	2.8E-04	4.3E-03	2.8E+02	9.5E-03	4.6E-04	3.2E-04	3.2E-04	1.6E-04	4.9E-03	2.1E-03	3.9E-04	5.3E-04	8.6E-04		
Galbraith Lake	Monthly	2.9E-03	7.6E-02	1.9E-02	1.1E-04	4.3E+00	4.4E-01	1.4E+01	1.4E-05	2.2E-04	1.4E+01	4.8E-04	2.3E-05	1.6E-05	1.6E-05	8.1E-06	2.5E-04	1.1E-04	2.0E-05	2.7E-05	4.3E-05	
	-1	2.5E-02	6.7E-01	1.6E-01	9.3E-04	3.8E+01	3.9E+00	1.2E+02	1.3E-04	1.9E-03	1.2E+02	4.3E-03	2.1E-04	1.4E-04	1.4E-04	7.1E-05	2.2E-03	9.5E-04	1.7E-04	2.4E-04	3.8E-04	
	0	2.5E-02	6.7E-01	1.6E-01	9.3E-04	3.8E+01	3.9E+00	1.2E+02	1.3E-04	1.9E-03	1.2E+02	4.3E-03	2.1E-04	1.4E-04	1.4E-04	7.1E-05	2.2E-03	9.5E-04	1.7E-04	2.4E-04	3.8E-04	
	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2	3.1E-02	8.1E-01	2.0E-01	1.1E-03	4.6E+01	4.6E+00	1.5E+02	1.5E-04	2.3E-03	1.5E+02	5.1E-03	2.5E-04	1.7E-04	1.7E-04	8.6E-05	2.6E-03	1.1E-03	2.1E-04	2.8E-04	4.6E-04	
	Rolling Annual	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
	S0	5.2E-03	1.4E-01	3.4E-02	1.9E-04	7.8E+00	7.9E-01	2.5E+01	2.6E-05	4.0E-04	2.5E+01	8.7E-04	4.2E-05	2.9E-05	2.9E-05	1.5E-05	4.5E-04	1.9E-04	3.5E-05	4.8E-05	7.8E-05	
	W0	1.6E-02	4.1E-01	1.0E-01	5.7E-04	2.3E+01	2.4E+00	7.6E+01	7.7E-05	1.2E-03	7.6E+01	2.6E-03	1.3E-04	8.8E-05	8.7E-05	4.4E-05	1.3E-03	5.8E-04	1.1E-04	1.4E-04	2.3E-04	
	S0.5	1.5E-02	4.0E-01	9.7E-02	5.5E-04	2.3E+01	2.3E+00	7.3E+01	7.5E-05	1.1E-03	7.3E+01	2.5E-03	1.2E-04	8.5E-05	8.4E-05	4.2E-05	1.3E-03	5.6E-04	1.0E-04	1.4E-04	2.3E-04	
	W1	1.6E-02	4.1E-01	1.0E-01	5.7E-04	2.3E+01	2.4E+00	7.6E+01	7.7E-05	1.2E-03	7.6E+01	2.6E-03	1.3E-04	8.8E-05	8.7E-05	4.4E-05	1.3E-03	5.8E-04	1.1E-04	1.4E-04	2.3E-04	
	S1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	W2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
S2.5	5.1E-02	1.3E+00	3.3E-01	1.9E-03	7.7E+01	7.7E+00	2.5E+02	2.5E-04	3.9E-03	2.5E+02	8.5E-03	4.1E-04	2.9E-04	2.8E-04	1.4E-04	4.4E-03	1.9E-03	3.5E-04	4.7E-04	7.7E-04		

AGDC: Alaska Stand Alone Pipeline (ASAP) Project
 Construction Camps and Storage Yards
 Speciated Supply Truck Trip Emissions Summary for areas outside the PM_{2.5} NAA

Camp Name	Time Period	Emissions (tons)																				
		VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂	N ₂ O	CH ₄	CO _{2e}	Total HAPs	Benzene	Toluene	Xylenes	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH	
Healy	Monthly	2.2E-03	5.8E-02	1.4E-02	8.1E-05	3.3E+00	3.4E-01	1.1E+01	1.1E-05	1.7E-04	1.1E+01	3.7E-04	1.8E-05	1.3E-05	1.2E-05	6.2E-06	1.9E-04	8.3E-05	1.5E-05	2.1E-05	3.3E-05	
	-1	1.6E-02	4.0E-01	1.0E-01	5.7E-04	2.3E+01	2.4E+00	7.6E+01	7.7E-05	1.2E-03	7.6E+01	2.6E-03	1.3E-04	8.8E-05	8.6E-05	4.4E-05	1.3E-03	5.8E-04	1.1E-04	1.4E-04	2.3E-04	
	0	2.1E-02	5.6E-01	1.4E-01	7.8E-04	3.2E+01	3.2E+00	1.0E+02	1.1E-04	1.6E-03	1.0E+02	3.6E-03	1.7E-04	1.2E-04	1.2E-04	6.0E-05	1.8E-03	8.0E-04	1.5E-04	2.0E-04	3.2E-04	
	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2	2.4E-02	6.1E-01	1.5E-01	8.6E-04	3.5E+01	3.6E+00	1.1E+02	1.2E-04	1.8E-03	1.1E+02	3.9E-03	1.9E-04	1.3E-04	1.3E-04	6.6E-05	2.0E-03	8.8E-04	1.6E-04	2.2E-04	3.5E-04	
	Rolling Annual	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
	S0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	W0	1.2E-02	3.1E-01	7.7E-02	4.4E-04	1.8E+01	1.8E+00	5.9E+01	6.0E-05	9.1E-04	5.9E+01	2.0E-03	9.7E-05	6.8E-05	6.7E-05	3.4E-05	1.0E-03	4.5E-04	8.2E-05	1.1E-04	1.8E-04	
	S0.5	1.2E-02	3.0E-01	7.5E-02	4.2E-04	1.7E+01	1.8E+00	5.6E+01	5.7E-05	8.8E-04	5.6E+01	1.9E-03	9.4E-05	6.5E-05	6.4E-05	3.2E-05	9.9E-04	4.3E-04	7.9E-05	1.1E-04	1.7E-04	
	W1	1.2E-02	3.1E-01	7.7E-02	4.4E-04	1.8E+01	1.8E+00	5.9E+01	6.0E-05	9.1E-04	5.9E+01	2.0E-03	9.7E-05	6.8E-05	6.7E-05	3.4E-05	1.0E-03	4.5E-04	8.2E-05	1.1E-04	1.8E-04	
	S1.5	2.2E-03	5.8E-02	1.4E-02	8.1E-05	3.3E+00	3.4E-01	1.1E+01	1.1E-05	1.7E-04	1.1E+01	3.7E-04	1.8E-05	1.3E-05	1.2E-05	6.2E-06	1.9E-04	8.3E-05	1.5E-05	2.1E-05	3.3E-05	
	W2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
S2.5	3.7E-02	9.6E-01	2.4E-01	1.3E-03	5.5E+01	5.6E+00	1.8E+02	1.8E-04	2.8E-03	1.8E+02	6.2E-03	3.0E-04	2.1E-04	2.0E-04	1.0E-04	3.2E-03	1.4E-03	2.5E-04	3.4E-04	5.5E-04		
Cantwell	Monthly	1.9E-03	4.8E-02	1.2E-02	6.8E-05	2.8E+00	2.8E-01	9.0E+00	9.2E-06	1.4E-04	9.1E+00	3.1E-04	1.5E-05	1.0E-05	1.0E-05	5.2E-06	1.6E-04	6.9E-05	1.3E-05	1.7E-05	2.8E-05	
	-1	1.0E-02	2.6E-01	6.5E-02	3.7E-04	1.5E+01	1.5E+00	4.9E+01	5.0E-05	7.6E-04	4.9E+01	1.7E-03	8.1E-05	5.6E-05	5.6E-05	2.8E-05	8.6E-04	3.7E-04	6.8E-05	9.3E-05	1.5E-04	
	0	2.0E-02	5.1E-01	1.3E-01	7.2E-04	3.0E+01	3.0E+00	9.6E+01	9.8E-05	1.5E-03	9.6E+01	3.3E-03	1.6E-04	1.1E-04	1.1E-04	5.5E-05	1.7E-03	7.3E-04	1.3E-04	1.8E-04	3.0E-04	
	1	1.6E-02	4.2E-01	1.1E-01	6.0E-04	2.5E+01	2.5E+00	8.0E+01	8.1E-05	1.2E-03	8.0E+01	2.7E-03	1.3E-04	9.2E-05	9.1E-05	4.6E-05	1.4E-03	6.1E-04	1.1E-04	1.5E-04	2.5E-04	
	2	2.0E-02	5.1E-01	1.3E-01	7.2E-04	3.0E+01	3.0E+00	9.6E+01	9.8E-05	1.5E-03	9.6E+01	3.3E-03	1.6E-04	1.1E-04	1.1E-04	5.5E-05	1.7E-03	7.3E-04	1.3E-04	1.8E-04	3.0E-04	
	Rolling Annual	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
	S0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	W0	6.7E-03	1.7E-01	4.3E-02	2.4E-04	1.0E+01	1.0E+00	3.3E+01	3.3E-05	5.1E-04	3.3E+01	1.1E-03	5.4E-05	3.8E-05	3.7E-05	1.9E-05	5.7E-04	2.5E-04	4.5E-05	6.2E-05	1.0E-04	
	S0.5	9.6E-03	2.5E-01	6.2E-02	3.5E-04	1.4E+01	1.5E+00	4.7E+01	4.8E-05	7.3E-04	4.7E+01	1.6E-03	7.8E-05	5.4E-05	5.4E-05	2.7E-05	8.3E-04	3.6E-04	6.6E-05	8.9E-05	1.4E-04	
	W1	1.0E-02	2.6E-01	6.5E-02	3.7E-04	1.5E+01	1.5E+00	4.9E+01	5.0E-05	7.6E-04	4.9E+01	1.7E-03	8.1E-05	5.6E-05	5.6E-05	2.8E-05	8.6E-04	3.7E-04	6.8E-05	9.3E-05	1.5E-04	
	S1.5	9.6E-03	2.5E-01	6.2E-02	3.5E-04	1.4E+01	1.5E+00	4.7E+01	4.8E-05	7.3E-04	4.7E+01	1.6E-03	7.8E-05	5.4E-05	5.4E-05	2.7E-05	8.3E-04	3.6E-04	6.6E-05	8.9E-05	1.4E-04	
	W2	1.0E-02	2.6E-01	6.5E-02	3.7E-04	1.5E+01	1.5E+00	4.9E+01	5.0E-05	7.6E-04	4.9E+01	1.7E-03	8.1E-05	5.6E-05	5.6E-05	2.8E-05	8.6E-04	3.7E-04	6.8E-05	9.3E-05	1.5E-04	
S2.5	4.5E-02	1.2E+00	2.9E-01	1.7E-03	6.8E+01	6.9E+00	2.2E+02	2.2E-04	3.4E-03	2.2E+02	7.6E-03	3.7E-04	2.5E-04	2.5E-04	1.3E-04	3.9E-03	1.7E-03	3.1E-04	4.2E-04	6.8E-04		
Swan Lake	Monthly	1.1E-03	2.9E-02	7.2E-03	4.0E-05	1.7E+00	1.7E-01	5.4E+00	5.5E-06	8.4E-05	5.4E+00	1.9E-04	9.0E-06	6.3E-06	6.2E-06	3.1E-06	9.5E-05	4.2E-05	7.6E-06	1.0E-05	1.7E-05	
	-1	4.9E-03	1.3E-01	3.2E-02	1.8E-04	7.3E+00	7.4E-01	2.4E+01	2.4E-05	3.7E-04	2.4E+01	8.2E-04	4.0E-05	2.8E-05	2.7E-05	1.4E-05	4.2E-04	1.8E-04	3.3E-05	4.5E-05	7.3E-05	
	0	1.1E-02	2.8E-01	6.9E-02	3.9E-04	1.6E+01	1.6E+00	5.2E+01	5.3E-05	8.1E-04	5.2E+01	1.8E-03	8.6E-05	6.0E-05	5.9E-05	3.0E-05	9.1E-04	4.0E-04	7.3E-05	9.9E-05	1.6E-04	
	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2	1.2E-02	3.1E-01	7.6E-02	4.3E-04	1.8E+01	1.8E+00	5.7E+01	5.8E-05	9.0E-04	5.7E+01	2.0E-03	9.5E-05	6.6E-05	6.5E-05	3.3E-05	1.0E-03	4.4E-04	8.0E-05	1.1E-04	1.8E-04	
	Rolling Annual	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
	S0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	W0	3.1E-03	8.1E-02	2.0E-02	1.1E-04	4.7E+00	4.7E-01	1.5E+01	1.5E-05	2.4E-04	1.5E+01	5.2E-04	2.5E-05	1.8E-05	1.7E-05	8.7E-06	2.7E-04	1.2E-04	2.1E-05	2.9E-05	4.7E-05	
	S0.5	5.8E-03	1.5E-01	3.7E-02	2.1E-04	8.7E+00	8.8E-01	2.8E+01	2.9E-05	4.4E-04	2.8E+01	9.6E-04	4.7E-05	3.3E-05	3.2E-05	1.6E-05	5.0E-04	2.2E-04	3.9E-05	5.4E-05	8.7E-05	
	W1	6.0E-03	1.6E-01	3.9E-02	2.2E-04	9.0E+00	9.1E-01	2.9E+01	3.0E-05	4.6E-04	2.9E+01	1.0E-03	4.9E-05	3.4E-05	3.3E-05	1.7E-05	5.1E-04	2.2E-04	4.1E-05	5.6E-05	9.0E-05	
	S1.5	1.1E-03	2.9E-02	7.2E-03	4.0E-05	1.7E+00	1.7E-01	5.4E+00	5.5E-06	8.4E-05	5.4E+00	1.9E-04	9.0E-06	6.3E-06	6.2E-06	3.1E-06	9.5E-05	4.2E-05	7.6E-06	1.0E-05	1.7E-05	
	W2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
S2.5	1.6E-02	4.0E-01	1.0E-01	5.7E-04	2.3E+01	2.4E+00	7.5E+01	7.7E-05	1.2E-03	7.6E+01	2.6E-03	1.3E-04	8.8E-05	8.6E-05	4.4E-05	1.3E-03	5.8E-04	1.1E-04	1.4E-04	2.3E-04		
Rustic Wilderness	Monthly	8.5E-04	2.2E-02	5.5E-03	3.1E-05	1.3E+00	1.3E-01	4.1E+00	4.2E-06	6.5E-05	4.1E+00	1.4E-04	6.9E-06	4.8E-06	4.7E-06	2.4E-06	7.3E-05	3.2E-05	5.8E-06	7.9E-06	1.3E-05	
	-1	5.3E-03	1.4E-01	3.4E-02	1.9E-04	8.0E+00	8.0E-01	2.6E+01	2.6E-05	4.0E-04	2.6E+01	8.8E-04	4.3E-05	3.0E-05	2.9E-05	1.5E-05	4.5E-04	2.0E-04	3.6E-05	4.9E-05	8.0E-05	
	0	9.0E-03	2.3E-01	5.8E-02	3.3E-04	1.4E+01	1.4E+00	4.4E+01	4.5E-05	6.9E-04	4.4E+01	1.5E-03	7.3E-05	5.1E-05	5.0E-05	2.5E-05	7.8E-04	3.4E-04	6.2E-05	8.4E-05	1.4E-04	
	1	5.3E-03	1.4E-01	3.4E-02	1.9E-04	8.0E+00	8.0E-01	2.6E+01	2.6E-05	4.0E-04	2.6E+01	8.8E-04	4.3E-05	3.0E-05	2.9E-05	1.5E-05	4.5E-04	2.0E-04	3.6E-05	4.9E-05	8.0E-05	
	2	9.0E-03	2.3E-01	5.8E-02	3.3E-04	1.4E+01	1.4E+00	4.4E+01	4.5E-05	6.9E-04	4.4E+01	1.5E-03	7.3E-05	5.1E-05	5.0E-05	2.5E-05	7.8E-04	3.4E-04	6.2E-05	8.4E-05	1.4E-04	
	Rolling Annual	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
	S0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	W0	3.8E-03	9.7E-02	2.4E-02	1.4E-04	5.6E+00	5.7E-01	1.8E+01	1.9E-05	2.9E-04	1.8E+01	6.3E-04	3.0E-05	2.1E-05	2.1E-05	1.1E-05	3.2E-04	1.4E-04	2.6E-05	3.5E-05	5.6E-05	
	S0.5	4.4E-03	1.2E-01	2.9E-02	1.6E-04	6.7E+00	6.7E-01	2.2E+01	2.2E-05	3.4E-04	2.2E+01	7.4E-04	3.6E-05	2.5E-05	2.5E-05	1.2E-05	3.8E-04	1.7E-04	3.0E-05	4.1E-05	6.7E-05	
	W1	4.6E-03	1.2E-01	3.0E-02	1.7E-04	6.9E+00	7.0E-01	2.2E+01	2.3E-05	3.5E-04	2.2E+01	7.7E-04	3.7E-05	2.6E-05	2.6E-05	1.3E-05	4.0E-04	1.7E-04	3.1E-05	4.3E-05	6.9E-05	
	S1.5	4.4E-03	1.2E-01	2.9E-02	1.6E-04	6.7E+00	6.7E-01	2.2E+01	2.2E-05	3.4E-04	2.2E+01	7.4E-04	3.6E-05	2.5E-05	2.5E-05	1.2E-05	3.8E-04	1.7E-04	3.0E-05	4.1E-05	6.7E-05	
	W2	2.4E-03	6.2E-02	1.5E-02	8.7E-05	3.6E+00	3.6E-01	1.2E+01	1.2E-05	1.8E-04	1.2E+01	4.0E-04	1.9E-05	1.3E-05	1.3E-05	6.7E-06	2.0E-04	8.9E-05	1.6E-05	2.2E-05	3.6E-05	
S2.5	1.9E-02	5.0E-01	1.3E-01	7.1E-04	2.9E+01	3.0E+00	9.4E+01	9.7E-05	1.5E-03	9.5E+01	3.3E-03	1.6E-04	1.1E-04	1.1E-04	5.5E-05	1.7E-03	7.3E-04	1.3E-04	1.8E-04	2.9E-04		

AGDC: Alaska Stand Alone Pipeline (ASAP) Project
GCF Construction
Annual Emissions Summary

Year	Emissions (tons)											
	VOC	Nox	CO	SO2	PM10	PM2.5	CO2	N2O	CH4	CO2e	Total HAPs	
-2												
Onsite Sources	0.01	0.18	0.15	1.06E-03	0.013	0.013	0.105	2.0E-07	2.0E-06	1.1E-01	3.3E-03	
Onroad Equipment	0.13	1.25	3.68	3.68E-03	0.10	0.08	288	2.70E-03	0.007	2.9E+02	0.18	
NONRoad Equipment	4.89	85.5	35.8	0.11	5.16	5.16	11,313	0.09	0.46	1.1E+04	0.45	
ANNUAL TOTAL	5.03	86.9	39.7	0.11	5.27	5.25	11,601	0.09	0.47	11,641	0.63	

Year	Emissions (tons)										
	VOC	Nox	CO	SO2	PM10	PM2.5	CO2	N2O	CH4	CO2e	Total HAPs
-1											
Onsite Sources	0.12	2.12	1.78	0.013	0.16	0.16	1.26	2.4E-06	2.4E-05	1.26	0.040
Onroad Equipment	1.60	15.1	44.1	0.044	1.18	0.94	3,459	0.032	0.088	3,471	2.18
NONRoad Equipment	58.6	1026	430	1.28	61.9	61.9	135,755	1.10	5.51	136,221	5.37
ANNUAL TOTAL	60.4	1043	476	1.34	63.2	63.0	139,215	1.13	5.59	139,693	7.59

Year	Emissions (tons)										
	VOC	Nox	CO	SO2	PM10	PM2.5	CO2	N2O	CH4	CO2e	Total HAPs
0											
Onsite Sources	0.33	6.07	5.10	0.036	0.46	0.46	3.62	6.8E-06	6.8E-05	3.63	0.11
Onroad Equipment	3.48	29.6	102.4	0.10	2.43	1.91	7,429	0.074	0.19	7,456	4.88
NONRoad Equipment	75.2	1268	499	1.58	76.1	76.1	166,648	1.35	6.76	167,220	6.60
ANNUAL TOTAL	79.0	1304	607	1.71	79.0	78.5	174,081	1.43	6.95	174,680	11.6

Year	Emissions (tons)										
	VOC	Nox	CO	SO2	PM10	PM2.5	CO2	N2O	CH4	CO2e	Total HAPs
1											
Onsite Sources	0.16	2.84	2.38	0.017	0.22	0.22	1.69	3.2E-06	3.2E-05	1.69	0.054
Onroad Equipment	1.34	11.9	38.3	0.038	0.96	0.76	2,881	0.028	0.073	2,891	1.82
NONRoad Equipment	29.5	487	185	0.60	29.1	29.1	63,920	0.52	2.59	64,140	2.53
ANNUAL TOTAL	31.0	502	226	0.66	30.3	30.1	66,803	0.55	2.67	67,033	4.41

Year	Emissions (tons)										
	VOC	Nox	CO	SO2	PM10	PM2.5	CO2	N2O	CH4	CO2e	Total HAPs
2											
Onsite Sources	0.23	4.24	3.56	0.025	0.32	0.32	2.53	4.8E-06	4.8E-05	2.53	0.080
Onroad Equipment	1.67	19.8	35.5	0.038	1.38	1.14	3,553	0.029	0.091	3,563	2.32
NONRoad Equipment	19.7	294	88.2	0.35	17.5	17.5	37,554	0.30	1.52	37,683	1.49
ANNUAL TOTAL	21.6	318	127	0.42	19.2	18.9	41,109	0.33	1.61	41,249	3.89

Year	Emissions (tons)										
	VOC	Nox	CO	SO2	PM10	PM2.5	CO2	N2O	CH4	CO2e	Total HAPs
3											
Onsite Sources	0.27	4.97	4.17	0.030	0.38	0.38	2.96	5.6E-06	5.6E-05	2.97	0.094
Onroad Equipment	3.05	36.2	64.3	0.068	2.52	2.09	6,462	0.052	0.17	6,482	4.31
NONRoad Equipment	23.4	346	109	0.42	21.0	21.0	44,052	0.36	1.79	44,204	1.74
ANNUAL TOTAL	26.7	387	177	0.51	23.9	23.5	50,518	0.41	1.95	50,688	6.15

Notes:

(1) Onsite sources include emissions from stationary sources (i.e. boilers)

AGDC: Alaska Stand Alone Pipeline (ASAP) Project
 GCF Construction
 Construction Activity Emissions Summary

Construction Activity	Time Period	Emissions (tons)										Total HAPs	
		VOC	Nox	CO	SO2	PM10	PM2.5	CO2	N2O	CH4	CO2e		
Phase I(a)	Monthly	5.03	86.9	39.7	0.11	5.27	5.25	11,601	0.094	0.47	11,641	0.63	
	-2	5.03	86.9	39.7	0.11	5.27	5.25	11,601	0.094	0.47	11,641	0.63	
	-1	30.2	521	238	0.67	31.6	31.5	69,607	0.57	2.80	69,846	3.80	
	0	30.2	521	238	0.67	31.6	31.5	69,607	0.57	2.80	69,846	3.80	
	1	20.1	348	159	0.45	21.1	21.0	46,405	0.38	1.86	46,564	2.53	
	Rolling Annual	30.2	521	238	0.67	31.6	31.5	69,607	0.57	2.80	69,846	3.80	
	W-0.5	25.2	435	198	0.56	26.4	26.3	58,006	0.47	2.33	58,205	3.16	
	S0	5.03	86.9	39.7	0.11	5.27	5.25	11,601	0.094	0.47	11,641	0.63	
	W0	25.2	435	198	0.56	26.4	26.3	58,006	0.47	2.33	58,205	3.16	
	S0.5	5.03	86.9	39.7	0.11	5.27	5.25	11,601	0.094	0.47	11,641	0.63	
W1	25.2	435	198	0.56	26.4	26.3	58,006	0.47	2.33	58,205	3.16		
Phase I(b)	Monthly	5.03	86.9	39.7	0.11	5.27	5.25	11,601	0.094	0.47	11,641	0.63	
	-1	30.2	521	238	0.67	31.6	31.5	69,607	0.57	2.80	69,846	3.80	
	0	30.2	521	238	0.67	31.6	31.5	69,607	0.57	2.80	69,846	3.80	
	Rolling Annual	30.2	521	238	0.67	31.6	31.5	69,607	0.57	2.80	69,846	3.80	
	S0	25.15	435	198	0.56	26.4	26.3	58,006	0.47	2.33	58,205	3.16	
	W0	5.03	86.9	39.7	0.11	5.27	5.25	11,601	0.094	0.47	11,641	0.63	
	S0.5	25.15	435	198	0.56	26.4	26.3	58,006	0.47	2.33	58,205	3.16	
	W1	5.03	86.9	39.7	0.11	5.27	5.25	11,601	0.094	0.47	11,641	0.63	
	Phase II	Monthly	1.21	16.8	6.34	0.022	1.00	0.99	2,213	0.018	0.09	2,221	0.16
	1	6.04	84.0	31.7	0.11	5.01	4.96	11,065	0.090	0.44	11,103	0.80	
Rolling Annual	6.04	84.0	31.7	0.11	5.01	4.96	11,065	0.090	0.44	11,103	0.80		
W1	4.83	67.2	25.4	0.089	4.01	3.97	8,852	0.072	0.35	8,882	0.64		
S1.5	1.21	16.8	6.34	0.022	1.00	0.99	2,213	0.018	0.09	2,221	0.16		
Phase IV(a)	Monthly	1.27	16.8	8.26	0.023	1.04	1.02	2,284	0.019	0.09	2,292	0.26	
	0	6.34	84.2	41.3	0.12	5.20	5.11	11,420	0.096	0.44	11,460	1.31	
	Rolling Annual	6.34	84.2	41.3	0.12	5.20	5.11	11,420	0.096	0.44	11,460	1.31	
	W0	5.07	67.3	33.1	0.094	4.16	4.09	9,136	0.077	0.35	9,168	1.05	
	S0.5	1.27	16.8	8.26	0.023	1.04	1.02	2,284	0.019	0.09	2,292	0.26	
Phase IV(b)	Monthly	1.22	17.6	8.84	0.025	1.04	1.03	2,333	0.020	0.091	2,341	0.27	
	0	1.22	17.6	8.84	0.025	1.04	1.03	2,333	0.020	0.091	2,341	0.27	
	1	4.88	70.4	35.3	0.10	4.18	4.10	9,333	0.078	0.36	9,365	1.07	
	Rolling Annual	7.32	106	53.0	0.15	6.27	6.15	13,999	0.12	0.54	14,048	1.61	
	W1	7.32	106	53.0	0.15	6.27	6.15	13,999	0.12	0.54	14,048	1.61	
Phase IV(c)	Monthly	1.23	17.68	9.93	0.025	1.06	1.04	2,346	0.020	0.09	2,354	0.27	
	0	11.1	159	80.4	0.23	9.54	9.37	21,113	0.18	0.82	21,186	2.42	
	Rolling Annual	12.3	177	89.3	0.25	10.6	10.4	23,458	0.20	0.91	23,540	2.69	
	W0	2.46	35.4	17.9	0.051	2.12	2.08	4,692	0.039	0.18	4,708	0.54	
	S0.5	7.39	106	53.6	0.15	6.36	6.25	14,075	0.12	0.55	14,124	1.61	
W1	2.46	35.4	17.9	0.051	2.12	2.08	4,692	0.039	0.18	4,708	0.54		
Phase V	Monthly	1.83	26.6	9.32	0.035	1.58	1.57	3,420	0.028	0.14	3,432	0.22	
	2	11.0	160	55.9	0.21	9.46	9.40	20,522	0.17	0.82	20,592	1.33	
	Rolling Annual	11.0	160	55.9	0.21	9.46	9.40	20,522	0.17	0.82	20,592	1.33	
	W2	7.30	106	37.3	0.14	6.31	6.27	13,681	0.11	0.55	13,728	0.89	
	S2.5	3.65	53.2	18.6	0.069	3.15	3.13	6,841	0.056	0.27	6,864	0.44	
Phase VI	Monthly	2.67	39.7	17.8	0.053	2.43	2.39	5,147	0.042	0.20	5,164	0.64	
	2	10.7	159	71.4	0.21	9.72	9.55	20,587	0.17	0.80	20,656	2.56	
	3	21.4	317	143	0.42	19.4	19.1	41,174	0.33	1.59	41,313	5.11	
	Rolling Annual	32.0	476	214	0.63	29.2	28.6	61,761	0.50	2.39	61,969	7.67	
	S2.5	5.34	79.3	35.7	0.11	4.86	4.77	10,293	0.083	0.40	10,328	1.28	
	W3	16.0	238	107	0.32	14.6	14.3	30,880	0.25	1.19	30,984	3.83	
	S3.5	10.7	159	71.4	0.21	9.72	9.55	20,587	0.17	0.80	20,656	2.56	
FCO	Monthly	1.08	13.9	6.92	0.019	0.90	0.88	1,869	0.015	0.072	1,875	0.21	
	3	5.39	69.6	34.6	0.094	4.49	4.41	9,344	0.077	0.36	9,376	1.04	
	Rolling Annual	5.39	69.6	34.6	0.094	4.49	4.41	9,344	0.077	0.36	9,376	1.04	
	W3	4.31	55.7	27.7	0.075	3.59	3.53	7,475	0.061	0.29	7,501	0.83	
	S3.5	1.08	13.9	6.92	0.019	0.90	0.88	1,869	0.015	0.072	1,875	0.21	

AGDC: Alaska Stand Alone Pipeline (ASAP) Project

GCF Construction

Stationary Source Emissions Summary

Equipment	Quantity	Emissions (ton/month) ^a															
		VOC	Nox	CO	SO2	PM10	PM2.5	CO2	N2O	CH4	CO2e	Total HAPs	Benzene	Toluene	Formaldehyde	Napthalene	Total PAH
Phase I(a) - Gravel Placement																	
600 MBTU Boiler	5	5.8E-03	1.1E-01	8.9E-02	6.4E-04	8.0E-03	8.0E-03	6.3E-02	1.2E-07	1.2E-06	6.3E-02	2.0E-03	2.2E-06	3.6E-06	7.9E-05	6.5E-07	7.0E-07
1 MMBTU Boiler	2	3.9E-03	7.1E-02	5.9E-02	4.2E-04	5.4E-03	5.4E-03	4.2E-02	7.9E-08	7.9E-07	4.2E-02	1.3E-03	1.5E-06	2.4E-06	5.3E-05	4.3E-07	4.6E-07
Phase I(b) - Gravel Farming/Compaction																	
600 MBTU Boiler	5	5.8E-03	1.1E-01	8.9E-02	6.4E-04	8.0E-03	8.0E-03	6.3E-02	1.2E-07	1.2E-06	6.3E-02	2.0E-03	2.2E-06	3.6E-06	7.9E-05	6.5E-07	7.0E-07
1 MMBTU Boiler	2	3.9E-03	7.1E-02	5.9E-02	4.2E-04	5.4E-03	5.4E-03	4.2E-02	7.9E-08	7.9E-07	4.2E-02	1.3E-03	1.5E-06	2.4E-06	5.3E-05	4.3E-07	4.6E-07
Phase II - Interconnecting Pipelines and Hydrotesting																	
600 MBTU Boiler	4	4.7E-03	8.5E-02	7.1E-02	5.1E-04	6.4E-03	6.4E-03	5.1E-02	9.5E-08	9.5E-07	5.1E-02	1.6E-03	1.8E-06	2.9E-06	6.4E-05	5.2E-07	5.6E-07
1 MMBTU Boiler	2	3.9E-03	7.1E-02	5.9E-02	4.2E-04	5.4E-03	5.4E-03	4.2E-02	7.9E-08	7.9E-07	4.2E-02	1.3E-03	1.5E-06	2.4E-06	5.3E-05	4.3E-07	4.6E-07
Phase IV(a) - Install Permanent Camp and Office Piles																	
600 MBTU Boiler	2	2.3E-03	4.2E-02	3.6E-02	2.5E-04	3.2E-03	3.2E-03	2.5E-02	4.8E-08	4.8E-07	2.5E-02	8.0E-04	8.9E-07	1.4E-06	3.2E-05	2.6E-07	2.8E-07
1 MMBTU Boiler	2	3.9E-03	7.1E-02	5.9E-02	4.2E-04	5.4E-03	5.4E-03	4.2E-02	7.9E-08	7.9E-07	4.2E-02	1.3E-03	1.5E-06	2.4E-06	5.3E-05	4.3E-07	4.6E-07
Phase IV(b) - Install Permanent Camps, Offices, Shops, and Warehouse																	
600 MBTU Boiler	6	7.0E-03	1.3E-01	1.1E-01	7.6E-04	9.7E-03	9.7E-03	7.6E-02	1.4E-07	1.4E-06	7.6E-02	2.4E-03	2.7E-06	4.3E-06	9.5E-05	7.8E-07	8.3E-07
1 MMBTU Boiler	6	1.2E-02	2.1E-01	1.8E-01	1.3E-03	1.6E-02	1.6E-02	1.3E-01	2.4E-07	2.4E-06	1.3E-01	4.0E-03	4.4E-06	7.2E-06	1.6E-04	1.3E-06	1.4E-06
Phase IV(c) - Install Temporary Construction Camp																	
600 MBTU Boiler	6	7.0E-03	1.3E-01	1.1E-01	7.6E-04	9.7E-03	9.7E-03	7.6E-02	1.4E-07	1.4E-06	7.6E-02	2.4E-03	2.7E-06	4.3E-06	9.5E-05	7.8E-07	8.3E-07
1 MMBTU Boiler	6	1.2E-02	2.1E-01	1.8E-01	1.3E-03	1.6E-02	1.6E-02	1.3E-01	2.4E-07	2.4E-06	1.3E-01	4.0E-03	4.4E-06	7.2E-06	1.6E-04	1.3E-06	1.4E-06
Phase V - Install GCF Module Support Piles																	
600 MBTU Boiler	6	7.0E-03	1.3E-01	1.1E-01	7.6E-04	9.7E-03	9.7E-03	7.6E-02	1.4E-07	1.4E-06	7.6E-02	2.4E-03	2.7E-06	4.3E-06	9.5E-05	7.8E-07	8.3E-07
1 MMBTU Boiler	6	1.2E-02	2.1E-01	1.8E-01	1.3E-03	1.6E-02	1.6E-02	1.3E-01	2.4E-07	2.4E-06	1.3E-01	4.0E-03	4.4E-06	7.2E-06	1.6E-04	1.3E-06	1.4E-06
Phase VI - Install GCF Modules																	
600 MBTU Boiler	6	7.0E-03	1.3E-01	1.1E-01	7.6E-04	9.7E-03	9.7E-03	7.6E-02	1.4E-07	1.4E-06	7.6E-02	2.4E-03	2.7E-06	4.3E-06	9.5E-05	7.8E-07	8.3E-07
1 MMBTU Boiler	12	2.3E-02	4.2E-01	3.6E-01	2.5E-03	3.2E-02	3.2E-02	2.5E-01	4.8E-07	4.8E-06	2.5E-01	8.0E-03	8.9E-06	1.4E-05	3.2E-04	2.6E-06	2.8E-06
FCO																	
600 MBTU Boiler	2	2.3E-03	4.2E-02	3.6E-02	2.5E-04	3.2E-03	3.2E-03	2.5E-02	4.8E-08	4.8E-07	2.5E-02	8.0E-04	8.9E-07	1.4E-06	3.2E-05	2.6E-07	2.8E-07
1 MMBTU Boiler	2	3.9E-03	7.1E-02	5.9E-02	4.2E-04	5.4E-03	5.4E-03	4.2E-02	7.9E-08	7.9E-07	4.2E-02	1.3E-03	1.5E-06	2.4E-06	5.3E-05	4.3E-07	4.6E-07

Notes

^a Emission Rate (tons/month) = Emission Rate (lb/hr) * quantity * hours/month / 2000 (lb/ton)

(1) Onsite sources include all stationary sources. Mobile equipment (i.e. nonroad and onroad equipment) are not included

AGDC: Alaska Stand Alone Pipeline (ASAP) Project

GCF Construction

MOVES Equipment: Emissions Calculations

Equipment	Category	MOVES Vehicle Category	Quantity	Average Speed (mph)	Hours/ Month ^a	Miles/ Month	Emissions Rates (g/mile) ^b																
							VOC	Nox	CO	SO2	PM10	PM2.5	CO2	N2O	CH4	Benzene	Toluene	Xylenes	1,3-Butadiene	Formaldehyde	Acrolein	Napthalene	Total PAH
Phase I(a) - Gravel Placement																							
Pickups, F-350 Crewcab	Pickup Trucks/Buses	Passenger Truck	15	25	720	18000	0.23	0.85	9.01	8.0E-03	1.1E-01	7.8E-02	457	6.1E-03	1.2E-02	1.0E-02	2.0E-02	1.7E-02	7.6E-04	2.8E-03	1.7E-04	5.6E-04	9.1E-04
SUV Excursion	Pickup Trucks/Buses	Passenger Car	3	25	720	18000	0.05	0.27	4.42	5.9E-03	6.7E-02	4.5E-02	336	1.9E-03	5.4E-03	2.5E-03	4.9E-03	4.0E-03	1.8E-04	5.6E-04	3.3E-05	1.2E-04	2.7E-04
9-15 Passanger Van	Pickup Trucks/Buses	Transit Bus	3	25	720	18000	0.53	8.28	6.15	8.0E-03	5.1E-01	4.4E-01	1111	6.5E-03	2.9E-02	4.8E-03	3.9E-03	3.6E-03	1.5E-03	4.3E-02	3.5E-03	4.7E-03	7.7E-03
44 Passenger Bus	Pickup Trucks/Buses	Transit Bus	3	25	720	18000	0.53	8.28	6.15	8.0E-03	5.1E-01	4.4E-01	1111	6.5E-03	2.9E-02	4.8E-03	3.9E-03	3.6E-03	1.5E-03	4.3E-02	3.5E-03	4.7E-03	7.7E-03
Phase I(b) - Gravel Farming/Compaction																							
Pickups, F-350 Crewcab	Pickup Trucks/Buses	Passenger Truck	15	25	720	18000	0.23	0.85	9.01	8.0E-03	1.1E-01	7.8E-02	457	6.1E-03	1.2E-02	1.0E-02	2.0E-02	1.7E-02	7.6E-04	2.8E-03	1.7E-04	5.6E-04	9.1E-04
SUV Excursion	Pickup Trucks/Buses	Passenger Car	3	25	720	18000	0.05	0.27	4.42	5.9E-03	6.7E-02	4.5E-02	336	1.9E-03	5.4E-03	2.5E-03	4.9E-03	4.0E-03	1.8E-04	5.6E-04	3.3E-05	1.2E-04	2.7E-04
9-15 Passanger Van	Pickup Trucks/Buses	Transit Bus	3	25	720	18000	0.53	8.28	6.15	8.0E-03	5.1E-01	4.4E-01	1111	6.5E-03	2.9E-02	4.8E-03	3.9E-03	3.6E-03	1.5E-03	4.3E-02	3.5E-03	4.7E-03	7.7E-03
44 Passenger Bus	Pickup Trucks/Buses	Transit Bus	3	25	720	18000	0.53	8.28	6.15	8.0E-03	5.1E-01	4.4E-01	1111	6.5E-03	2.9E-02	4.8E-03	3.9E-03	3.6E-03	1.5E-03	4.3E-02	3.5E-03	4.7E-03	7.7E-03
Phase II - Interconnecting Pipelines and Hydrotesting																							
Pickups, F-350 Crewcab	Pickup Trucks/Buses	Passenger Truck	6	25	720	18000	0.23	0.85	9.01	8.0E-03	1.1E-01	7.8E-02	457	6.1E-03	1.2E-02	1.0E-02	2.0E-02	1.7E-02	7.6E-04	2.8E-03	1.7E-04	5.6E-04	9.1E-04
SUV Excursion	Pickup Trucks/Buses	Passenger Car	2	25	720	18000	0.05	0.27	4.42	5.9E-03	6.7E-02	4.5E-02	336	1.9E-03	5.4E-03	2.5E-03	4.9E-03	4.0E-03	1.8E-04	5.6E-04	3.3E-05	1.2E-04	2.7E-04
9-15 Passanger Van	Pickup Trucks/Buses	Transit Bus	2	25	720	18000	0.53	8.28	6.15	8.0E-03	5.1E-01	4.4E-01	1111	6.5E-03	2.9E-02	4.8E-03	3.9E-03	3.6E-03	1.5E-03	4.3E-02	3.5E-03	4.7E-03	7.7E-03
44 Passenger Bus	Pickup Trucks/Buses	Transit Bus	1	25	720	18000	0.53	8.28	6.15	8.0E-03	5.1E-01	4.4E-01	1111	6.5E-03	2.9E-02	4.8E-03	3.9E-03	3.6E-03	1.5E-03	4.3E-02	3.5E-03	4.7E-03	7.7E-03
Phase IV(a) - Install Permanent Camp and Office Piles																							
Pickups, F-350 Crewcab	Pickup Trucks/Buses	Passenger Truck	18	25	720	18000	0.23	0.85	9.01	8.0E-03	1.1E-01	7.8E-02	457	6.1E-03	1.2E-02	1.0E-02	2.0E-02	1.7E-02	7.6E-04	2.8E-03	1.7E-04	5.6E-04	9.1E-04
SUV Excursion	Pickup Trucks/Buses	Passenger Car	2	25	720	18000	0.05	0.27	4.42	5.9E-03	6.7E-02	4.5E-02	336	1.9E-03	5.4E-03	2.5E-03	4.9E-03	4.0E-03	1.8E-04	5.6E-04	3.3E-05	1.2E-04	2.7E-04
9-15 Passanger Van	Pickup Trucks/Buses	Transit Bus	2	25	720	18000	0.53	8.28	6.15	8.0E-03	5.1E-01	4.4E-01	1111	6.5E-03	2.9E-02	4.8E-03	3.9E-03	3.6E-03	1.5E-03	4.3E-02	3.5E-03	4.7E-03	7.7E-03
44 Passenger Bus	Pickup Trucks/Buses	Transit Bus	2	25	720	18000	0.53	8.28	6.15	8.0E-03	5.1E-01	4.4E-01	1111	6.5E-03	2.9E-02	4.8E-03	3.9E-03	3.6E-03	1.5E-03	4.3E-02	3.5E-03	4.7E-03	7.7E-03
Phase IV(b) - Install Permanent Camps, Offices, Shops, and Warehouse																							
Pickups, F-350 Crewcab	Pickup Trucks/Buses	Passenger Truck	18	25	720	18000	0.23	0.85	9.01	8.0E-03	1.1E-01	7.8E-02	457	6.1E-03	1.2E-02	1.0E-02	2.0E-02	1.7E-02	7.6E-04	2.8E-03	1.7E-04	5.6E-04	9.1E-04
SUV Excursion	Pickup Trucks/Buses	Passenger Car	2	25	720	18000	0.05	0.27	4.42	5.9E-03	6.7E-02	4.5E-02	336	1.9E-03	5.4E-03	2.5E-03	4.9E-03	4.0E-03	1.8E-04	5.6E-04	3.3E-05	1.2E-04	2.7E-04
9-15 Passanger Van	Pickup Trucks/Buses	Transit Bus	2	25	720	18000	0.53	8.28	6.15	8.0E-03	5.1E-01	4.4E-01	1111	6.5E-03	2.9E-02	4.8E-03	3.9E-03	3.6E-03	1.5E-03	4.3E-02	3.5E-03	4.7E-03	7.7E-03
44 Passenger Bus	Pickup Trucks/Buses	Transit Bus	2	25	720	18000	0.53	8.28	6.15	8.0E-03	5.1E-01	4.4E-01	1111	6.5E-03	2.9E-02	4.8E-03	3.9E-03	3.6E-03	1.5E-03	4.3E-02	3.5E-03	4.7E-03	7.7E-03
Phase IV(c) - Install Temporary Construction Camp																							
Pickups, F-350 Crewcab	Pickup Trucks/Buses	Passenger Truck	18	25	720	18000	0.23	0.85	9.01	8.0E-03	1.1E-01	7.8E-02	457	6.1E-03	1.2E-02	1.0E-02	2.0E-02	1.7E-02	7.6E-04	2.8E-03	1.7E-04	5.6E-04	9.1E-04
SUV Excursion	Pickup Trucks/Buses	Passenger Car	2	25	720	18000	0.05	0.27	4.42	5.9E-03	6.7E-02	4.5E-02	336	1.9E-03	5.4E-03	2.5E-03	4.9E-03	4.0E-03	1.8E-04	5.6E-04	3.3E-05	1.2E-04	2.7E-04
9-15 Passanger Van	Pickup Trucks/Buses	Transit Bus	2	25	720	18000	0.53	8.28	6.15	8.0E-03	5.1E-01	4.4E-01	1111	6.5E-03	2.9E-02	4.8E-03	3.9E-03	3.6E-03	1.5E-03	4.3E-02	3.5E-03	4.7E-03	7.7E-03
44 Passenger Bus	Pickup Trucks/Buses	Transit Bus	2	25	720	18000	0.53	8.28	6.15	8.0E-03	5.1E-01	4.4E-01	1111	6.5E-03	2.9E-02	4.8E-03	3.9E-03	3.6E-03	1.5E-03	4.3E-02	3.5E-03	4.7E-03	7.7E-03
Phase V - Install GCF Module Support Piles																							
Pickups, F-350 Crewcab	Pickup Trucks/Buses	Passenger Truck	6	25	720	18000	0.23	0.85	9.01	8.0E-03	1.1E-01	7.8E-02	457	6.1E-03	1.2E-02	1.0E-02	2.0E-02	1.7E-02	7.6E-04	2.8E-03	1.7E-04	5.6E-04	9.1E-04
SUV Excursion	Pickup Trucks/Buses	Passenger Car	1	25	720	18000	0.05	0.27	4.42	5.9E-03	6.7E-02	4.5E-02	336	1.9E-03	5.4E-03	2.5E-03	4.9E-03	4.0E-03	1.8E-04	5.6E-04	3.3E-05	1.2E-04	2.7E-04
9-15 Passanger Van	Pickup Trucks/Buses	Transit Bus	2	25	720	18000	0.53	8.28	6.15	8.0E-03	5.1E-01	4.4E-01	1111	6.5E-03	2.9E-02	4.8E-03	3.9E-03	3.6E-03	1.5E-03	4.3E-02	3.5E-03	4.7E-03	7.7E-03
44 Passenger Bus	Pickup Trucks/Buses	Transit Bus	2	25	720	18000	0.53	8.28	6.15	8.0E-03	5.1E-01	4.4E-01	1111	6.5E-03	2.9E-02	4.8E-03	3.9E-03	3.6E-03	1.5E-03	4.3E-02	3.5E-03	4.7E-03	7.7E-03
Phase VI - Install GCF Modules																							
Pickups, F-350 Crewcab	Pickup Trucks/Buses	Passenger Truck	20	25	720	18000	0.23	0.85	9.01	8.0E-03	1.1E-01	7.8E-02	457	6.1E-03	1.2E-02	1.0E-02	2.0E-02	1.7E-02	7.6E-04	2.8E-03	1.7E-04	5.6E-04	9.1E-04
SUV Excursion	Pickup Trucks/Buses	Passenger Car	3	25	720	18000	0.05	0.27	4.42	5.9E-03	6.7E-02	4.5E-02	336	1.9E-03	5.4E-03	2.5E-03	4.9E-03	4.0E-03	1.8E-04	5.6E-04	3.3E-05	1.2E-04	2.7E-04
9-15 Passanger Van	Pickup Trucks/Buses	Transit Bus	6	25	720	18000	0.53	8.28	6.15	8.0E-03	5.1E-01	4.4E-01	1111	6.5E-03	2.9E-02	4.8E-03	3.9E-03	3.6E-03	1.5E-03	4.3E-02	3.5E-03	4.7E-03	7.7E-03
44 Passenger Bus	Pickup Trucks/Buses	Transit Bus	15	25	720	18000	0.53	8.28	6.15	8.0E-03	5.1E-01	4.4E-01	1111	6.5E-03	2.9E-02	4.8E-03	3.9E-03	3.6E-03	1.5E-03	4.3E-02	3.5E-03	4.7E-03	7.7E-03
FCO																							
Pickups, F-350 Crewcab	Pickup Trucks/Buses	Passenger Truck	10	25	720	18000	0.23	0.85	9.01	8.0E-03	1.1E-01	7.8E-02	457	6.1E-03	1.2E-02	1.0E-02	2.0E-02	1.7E-02	7.6E-04	2.8E-03	1.7E-04	5.6E-04	9.1E-04
SUV Excursion	Pickup Trucks/Buses	Passenger Car	1	25	720	18000	0.05	0.27	4.42	5.9E-03	6.7E-02	4.5E-02	336	1.9E-03	5.4E-03	2.5E-03	4.9E-03	4.0E-03	1.8E-04	5.6E-04	3.3E-05	1.2E-04	2.7E-04
9-15 Passanger Van	Pickup Trucks/Buses	Transit Bus	2	25	720	18000	0.53	8.28	6.15	8.0E-03	5.1E-01	4.4E-01	1111	6.5E-03	2.9E-02	4.8E-03	3.9E-03	3.6E-03	1.5E-03	4.3E-02	3.5E-03	4.7E-03	7.7E-03
44 Passenger Bus	Pickup Trucks/Buses	Transit Bus	4	25	720	18000	0.53	8.28	6.15	8.0E-03	5.1E-01	4.4E-01	1111	6.5E-03	2.9E-02	4.8E-03	3.9E-03	3.6E-03	1.5E-03	4.3E-02	3.5E-03	4.7E-03	7.7E-03

^a Operating hours assumed to be 720 hours per month, as data was not provided

^b Emission rates are calculated based on an average of winter and summer emissions rates from the EPA MOVES Model for the North Slope Borough, using default fuel formulation, meteorology, fuel type mixture, and age distribution for 2016.

^c Emission Rate (tons/month) = Emission Rate (g/mile) * quantity * Miles/month / 453.6 (lb/g) / 2000 (lb/ton)

^d CO2e = CO2 + CH4 * 25 + N2O * 2.98

2016 Efs conservatively used to estimate emissions for all project years.

All North Slope roads assumed to be Rural Unrestricted road type.

AGDC: Alaska Stand Alone Pipeline (ASAP) Project

GCF Construction

MOVES Equipment: Emissions Calculations

Equipment	Category	MOVES Vehicle Category	Quantity	Average Speed (mph)	Hours/ Month ^a	Miles/ Month	Emissions (tons/month) ^c																				
							VOC	Nox	CO	SO2	PM10	PM2.5	CO2	N2O	CH4	CO2e ^d	Total HAPs	Benzene	Toluene	Xylenes	Propylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH
Phase I(a) - Gravel Placement																											
Pickups, F-350 Crewcab	Pickup Trucks/Buses	Passenger Truck	15	25	720	18000	6.8E-02	2.5E-01	2.7E+00	2.4E-03	3.3E-02	2.3E-02	1.4E+02	1.8E-03	3.6E-03	1.4E+02	1.0E-01	3.1E-03	6.1E-03	4.9E-03	2.3E-04	8.3E-04	6.8E-02	5.2E-05	1.7E-04	2.7E-04	2.0E-02
SUV Excursion	Pickup Trucks/Buses	Passenger Car	3	25	720	18000	3.2E-03	1.6E-02	2.6E-01	3.5E-04	4.0E-03	2.7E-03	2.0E+01	1.1E-04	3.2E-04	2.0E+01	4.1E-03	1.5E-04	2.9E-04	2.4E-04	1.1E-05	3.3E-05	3.2E-03	2.0E-06	7.3E-06	1.6E-05	1.9E-04
9-15 Passanger Van	Pickup Trucks/Buses	Transit Bus	3	25	720	18000	3.1E-02	4.9E-01	3.7E-01	4.8E-04	3.1E-02	2.6E-02	6.6E+01	3.9E-04	1.7E-03	6.6E+01	3.7E-02	2.9E-04	2.3E-04	2.1E-04	8.9E-05	2.5E-03	3.1E-02	2.1E-04	2.8E-04	4.6E-04	1.9E-03
44 Passenger Bus	Pickup Trucks/Buses	Transit Bus	3	25	720	18000	3.1E-02	4.9E-01	3.7E-01	4.8E-04	3.1E-02	2.6E-02	6.6E+01	3.9E-04	1.7E-03	6.6E+01	3.7E-02	2.9E-04	2.3E-04	2.1E-04	8.9E-05	2.5E-03	3.1E-02	2.1E-04	2.8E-04	4.6E-04	1.9E-03
Phase I(b) - Gravel Farming/Compaction																											
Pickups, F-350 Crewcab	Pickup Trucks/Buses	Passenger Truck	15	25	720	18000	6.8E-02	2.5E-01	2.7E+00	2.4E-03	3.3E-02	2.3E-02	1.4E+02	1.8E-03	3.6E-03	1.4E+02	1.0E-01	3.1E-03	6.1E-03	4.9E-03	2.3E-04	8.3E-04	6.8E-02	5.2E-05	1.7E-04	2.7E-04	2.0E-02
SUV Excursion	Pickup Trucks/Buses	Passenger Car	3	25	720	18000	3.2E-03	1.6E-02	2.6E-01	3.5E-04	4.0E-03	2.7E-03	2.0E+01	1.1E-04	3.2E-04	2.0E+01	4.1E-03	1.5E-04	2.9E-04	2.4E-04	1.1E-05	3.3E-05	3.2E-03	2.0E-06	7.3E-06	1.6E-05	1.9E-04
9-15 Passanger Van	Pickup Trucks/Buses	Transit Bus	3	25	720	18000	3.1E-02	4.9E-01	3.7E-01	4.8E-04	3.1E-02	2.6E-02	6.6E+01	3.9E-04	1.7E-03	6.6E+01	3.7E-02	2.9E-04	2.3E-04	2.1E-04	8.9E-05	2.5E-03	3.1E-02	2.1E-04	2.8E-04	4.6E-04	1.9E-03
44 Passenger Bus	Pickup Trucks/Buses	Transit Bus	3	25	720	18000	3.1E-02	4.9E-01	3.7E-01	4.8E-04	3.1E-02	2.6E-02	6.6E+01	3.9E-04	1.7E-03	6.6E+01	3.7E-02	2.9E-04	2.3E-04	2.1E-04	8.9E-05	2.5E-03	3.1E-02	2.1E-04	2.8E-04	4.6E-04	1.9E-03
Phase II - Interconnecting Pipelines and Hydrotesting																											
Pickups, F-350 Crewcab	Pickup Trucks/Buses	Passenger Truck	6	25	720	18000	2.7E-02	1.0E-01	1.1E+00	9.5E-04	1.3E-02	9.3E-03	5.4E+01	7.3E-04	1.4E-03	5.5E+01	3.7E-02	1.2E-03	2.4E-03	2.0E-03	9.0E-05	3.3E-04	2.7E-02	2.1E-05	6.6E-05	1.1E-04	3.2E-03
SUV Excursion	Pickup Trucks/Buses	Passenger Car	2	25	720	18000	2.1E-03	1.1E-02	1.8E-01	2.4E-04	2.7E-03	1.8E-03	1.3E+01	7.6E-05	2.1E-04	1.3E+01	2.7E-03	1.0E-04	1.9E-04	1.6E-04	7.2E-06	2.2E-05	2.1E-03	1.3E-06	4.9E-06	1.1E-05	8.5E-05
9-15 Passanger Van	Pickup Trucks/Buses	Transit Bus	2	25	720	18000	2.1E-02	3.3E-01	2.4E-01	3.2E-04	2.0E-02	1.8E-02	4.4E+01	2.6E-04	1.1E-03	4.4E+01	2.4E-02	1.9E-04	1.6E-04	1.4E-04	6.0E-05	1.7E-03	2.1E-02	1.4E-04	1.9E-04	3.1E-04	8.3E-04
44 Passenger Bus	Pickup Trucks/Buses	Transit Bus	1	25	720	18000	1.0E-02	1.6E-01	1.2E-01	1.6E-04	1.0E-02	8.8E-03	2.2E+01	1.3E-04	5.7E-04	2.2E+01	1.2E-02	9.5E-05	7.8E-05	7.0E-05	3.0E-05	8.5E-04	1.0E-02	6.9E-05	9.3E-05	1.5E-04	2.1E-04
Phase IV(a) - Install Permanent Camp and Office Piles																											
Pickups, F-350 Crewcab	Pickup Trucks/Buses	Passenger Truck	18	25	720	18000	8.1E-02	3.0E-01	3.2E+00	2.8E-03	4.0E-02	2.8E-02	1.6E+02	2.2E-03	4.3E-03	1.6E+02	1.3E-01	3.7E-03	7.3E-03	5.9E-03	2.7E-04	9.9E-04	8.1E-02	6.2E-05	2.0E-04	3.3E-04	2.9E-02
SUV Excursion	Pickup Trucks/Buses	Passenger Car	2	25	720	18000	2.1E-03	1.1E-02	1.8E-01	2.4E-04	2.7E-03	1.8E-03	1.3E+01	7.6E-05	2.1E-04	1.3E+01	2.7E-03	1.0E-04	1.9E-04	1.6E-04	7.2E-06	2.2E-05	2.1E-03	1.3E-06	4.9E-06	1.1E-05	8.5E-05
9-15 Passanger Van	Pickup Trucks/Buses	Transit Bus	2	25	720	18000	2.1E-02	3.3E-01	2.4E-01	3.2E-04	2.0E-02	1.8E-02	4.4E+01	2.6E-04	1.1E-03	4.4E+01	2.4E-02	1.9E-04	1.6E-04	1.4E-04	6.0E-05	1.7E-03	2.1E-02	1.4E-04	1.9E-04	3.1E-04	8.3E-04
44 Passenger Bus	Pickup Trucks/Buses	Transit Bus	2	25	720	18000	2.1E-02	3.3E-01	2.4E-01	3.2E-04	2.0E-02	1.8E-02	4.4E+01	2.6E-04	1.1E-03	4.4E+01	2.4E-02	1.9E-04	1.6E-04	1.4E-04	6.0E-05	1.7E-03	2.1E-02	1.4E-04	1.9E-04	3.1E-04	8.3E-04
Phase IV(b) - Install Permanent Camps, Offices, Shops, and Warehouse																											
Pickups, F-350 Crewcab	Pickup Trucks/Buses	Passenger Truck	18	25	720	18000	8.1E-02	3.0E-01	3.2E+00	2.8E-03	4.0E-02	2.8E-02	1.6E+02	2.2E-03	4.3E-03	1.6E+02	1.3E-01	3.7E-03	7.3E-03	5.9E-03	2.7E-04	9.9E-04	8.1E-02	6.2E-05	2.0E-04	3.3E-04	2.9E-02
SUV Excursion	Pickup Trucks/Buses	Passenger Car	2	25	720	18000	2.1E-03	1.1E-02	1.8E-01	2.4E-04	2.7E-03	1.8E-03	1.3E+01	7.6E-05	2.1E-04	1.3E+01	2.7E-03	1.0E-04	1.9E-04	1.6E-04	7.2E-06	2.2E-05	2.1E-03	1.3E-06	4.9E-06	1.1E-05	8.5E-05
9-15 Passanger Van	Pickup Trucks/Buses	Transit Bus	2	25	720	18000	2.1E-02	3.3E-01	2.4E-01	3.2E-04	2.0E-02	1.8E-02	4.4E+01	2.6E-04	1.1E-03	4.4E+01	2.4E-02	1.9E-04	1.6E-04	1.4E-04	6.0E-05	1.7E-03	2.1E-02	1.4E-04	1.9E-04	3.1E-04	8.3E-04
44 Passenger Bus	Pickup Trucks/Buses	Transit Bus	2	25	720	18000	2.1E-02	3.3E-01	2.4E-01	3.2E-04	2.0E-02	1.8E-02	4.4E+01	2.6E-04	1.1E-03	4.4E+01	2.4E-02	1.9E-04	1.6E-04	1.4E-04	6.0E-05	1.7E-03	2.1E-02	1.4E-04	1.9E-04	3.1E-04	8.3E-04
Phase IV(c) - Install Temporary Construction Camp																											
Pickups, F-350 Crewcab	Pickup Trucks/Buses	Passenger Truck	18	25	720	18000	8.1E-02	3.0E-01	3.2E+00	2.8E-03	4.0E-02	2.8E-02	1.6E+02	2.2E-03	4.3E-03	1.6E+02	1.3E-01	3.7E-03	7.3E-03	5.9E-03	2.7E-04	9.9E-04	8.1E-02	6.2E-05	2.0E-04	3.3E-04	2.9E-02
SUV Excursion	Pickup Trucks/Buses	Passenger Car	2	25	720	18000	2.1E-03	1.1E-02	1.8E-01	2.4E-04	2.7E-03	1.8E-03	1.3E+01	7.6E-05	2.1E-04	1.3E+01	2.7E-03	1.0E-04	1.9E-04	1.6E-04	7.2E-06	2.2E-05	2.1E-03	1.3E-06	4.9E-06	1.1E-05	8.5E-05
9-15 Passanger Van	Pickup Trucks/Buses	Transit Bus	2	25	720	18000	2.1E-02	3.3E-01	2.4E-01	3.2E-04	2.0E-02	1.8E-02	4.4E+01	2.6E-04	1.1E-03	4.4E+01	2.4E-02	1.9E-04	1.6E-04	1.4E-04	6.0E-05	1.7E-03	2.1E-02	1.4E-04	1.9E-04	3.1E-04	8.3E-04
44 Passenger Bus	Pickup Trucks/Buses	Transit Bus	2	25	720	18000	2.1E-02	3.3E-01	2.4E-01	3.2E-04	2.0E-02	1.8E-02	4.4E+01	2.6E-04	1.1E-03	4.4E+01	2.4E-02	1.9E-04	1.6E-04	1.4E-04	6.0E-05	1.7E-03	2.1E-02	1.4E-04	1.9E-04	3.1E-04	8.3E-04
Phase V - Install GCF Module Support Piles																											
Pickups, F-350 Crewcab	Pickup Trucks/Buses	Passenger Truck	6	25	720	18000	2.7E-02	1.0E-01	1.1E+00	9.5E-04	1.3E-02	9.3E-03	5.4E+01	7.3E-04	1.4E-03	5.5E+01	3.7E-02	1.2E-03	2.4E-03	2.0E-03	9.0E-05	3.3E-04	2.7E-02	2.1E-05	6.6E-05	1.1E-04	3.2E-03
SUV Excursion	Pickup Trucks/Buses	Passenger Car	1	25	720	18000	1.1E-03	5.3E-03	8.8E-02	1.2E-04	1.3E-03	8.9E-04	6.7E+00	3.8E-05	1.1E-04	6.7E+00	1.3E-03	5.0E-05	9.7E-05	7.9E-05	3.6E-06	1.1E-05	1.1E-03	6.5E-07	2.4E-06	5.4E-06	2.1E-05
9-15 Passanger Van	Pickup Trucks/Buses	Transit Bus	2	25	720	18000	2.1E-02	3.3E-01	2.4E-01	3.2E-04	2.0E-02	1.8E-02	4.4E+01	2.6E-04	1.1E-03	4.4E+01	2.4E-02	1.9E-04	1.6E-04	1.4E-04	6.0E-05	1.7E-03	2.1E-02	1.4E-04	1.9E-04	3.1E-04	8.3E-04
44 Passenger Bus	Pickup Trucks/Buses	Transit Bus	2	25	720	18000	2.1E-02	3.3E-01	2.4E-01	3.2E-04	2.0E-02	1.8E-02	4.4E+01	2.6E-04	1.1E-03	4.4E+01	2.4E-02	1.9E-04	1.6E-04	1.4E-04	6.0E-05	1.7E-03	2.1E-02	1.4E-04	1.9E-04	3.1E-04	8.3E-04
Phase VI - Install GCF Modules																											
Pickups, F-350 Crewcab	Pickup Trucks/Buses	Passenger Truck	20	25	720	18000	9.1E-02	3.4E-01	3.6E+00	3.2E-03	4.4E-02	3.1E-02	1.8E+02	2.4E-03	4.8E-03	1.8E+02	1.5E-01	4.1E-03	8.1E-03	6.6E-03	3.0E-04	1.1E-03	9.1E-02	6.9E-05	2.2E-04	3.6E-04	3.6E-02
SUV Excursion	Pickup Trucks/Buses	Passenger Car	3	25	720	18000	3.2E-03	1.6E-02	2.6E-01	3.5E-04	4.0E-03	2.7E-03	2.0E+01	1.1E-04	3.2E-04	2.0E+01	4.1E-03	1.5E-04	2.9E-04	2.4E-04	1.1E-05	3.3E-05	3.2E-03	2.0E-06	7.3E-06	1.6E-05	1.9E-04
9-15 Passanger Van	Pickup Trucks/Buses	Transit Bus	6	25	720	18000	6.3E-02	9.9E-01	7.3E-01	9.5E-04	6.1E-02	5.3E-02	1.3E+02	7.7E-04	3.4E-03	1.3E+02	7.8E-02	5.7E-04	4.7E-04	4.2E-04	1.8E-04	5.1E-03	6.3E-02	4.1E-04	5.6E-04	9.2E-04	7.5E-03
44 Passenger Bus	Pickup Trucks/Buses	Transit Bus	15	25	720	18000	1.6E-01	2.5E+00	1.8E+00	2.4E-03	1.5E-01	1.3E-01	3.3E+02	1.9E-03	8.6E-03	3.3E+02	2.2E-01	1.4E-03	1.2E-03	1.1E-03	4.5E-04	1.3E-02	1.6E-01	1.0E-03	1.4E-03	2.3E-03	4.7E-02
FCO																											
Pickups, F-350 Crewcab	Pickup Trucks/Buses	Passenger Truck	10	25	720	18000	4.5E-02	1.7E-01	1.8E+00	1.6E-03	2.2E-02	1.5E-02	9.1E+01	1.2E-03	2.4E-03	9.1E+01	6.4E-02	2.1E-03	4.0E-03	3.3E-03	1.5E-04	5.5E-04	4.5E-02	3.4E-05	1.1E-04	1.8E-04	9.0E-03
SUV Excursion	Pickup Trucks/Buses	Passenger Car	1	25	720	18000	1.1E-03	5.3E-03	8.8E-02	1.2E-04	1.3E-03	8.9E-04	6.7E+00	3.8E-05</													

AGDC: Alaska Stand Alone Pipeline (ASAP) Project

GCF Construction

NonRoad Equipment: Emissions Calculations

Equipment ^a	Category	bhp	bhp Source	Quantity	Tier Level	Load Factor ^b	Transient Adjustment Factor	Operating Hours/ Month ^c	Fuel Consumption (lb/hp-hr)	Emissions Rates (g/bhp-hr)																		
										VOC	Nox	CO	SO2	PM10	PM2.5 ^d	CO2	N2O	CH4	Benzene	Toluene	Xylenes	Propylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH
Phase I(a) - Gravel Placement																												
1 T. Flatbed	Tractors/Trailers	400	Estimate	3	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
40,000#Tractor, Truck Medium Duty	Tractors/Trailers	525	Estimate	2	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Watson Drill (2100)	Tractors/Trailers	150	Estimate	0	2	0.43	Average LF	720	0.37	0.35	4.14	0.95	0.0050	0.27	0.27	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Ice Tractor - Drill/Pump	Tractors/Trailers	200	Estimate	0	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Lube Truck	Tractors/Trailers	260	Estimate	4	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Fuel Truck 2500-4000 gallon	Tractors/Trailers	260	Estimate	4	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Welding Truck	Tractors/Trailers	260	Estimate	2	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Water Truck 2500 gallon	Tractors/Trailers	200	Estimate	6	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Concrete/Slurry Mixer	Tractors/Trailers	250	Estimate	0	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Vacuum Septic Service Truck 2500 gallon	Tractors/Trailers	150	Estimate	2	2	0.43	Average LF	720	0.37	0.35	4.14	0.95	0.0050	0.27	0.27	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Hydrovac	Tractors/Trailers	150	Estimate	0	2	0.43	Average LF	720	0.37	0.35	4.14	0.95	0.0050	0.27	0.27	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
40 CY B70 (Caterpillar 773 puller)	Gravel Haul Equipment	683	Ritchie Specs	24	2	0.59	High LF	720	0.37	0.18	3.93	2.24	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
40 CY Maxi Haul (Kenworth C500/Cat C15 Puller)	Gravel Haul Equipment	595	Ritchie Specs	6	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
20 CY Articulate End Dump (Caterpillar 769)	Gravel Haul Equipment	474	Ritchie Specs	2	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
30 CY Articulate End Dump (Caterpillar 773)	Gravel Haul Equipment	600	Ritchie Specs	4	2	0.59	High LF	720	0.37	0.18	3.93	2.24	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar D7 Dozer	Dozers	200	Ritchie Specs	1	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar D9 Dozer	Dozers	370	Ritchie Specs	3	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar D10 Dozer	Dozers	520	Ritchie Specs	4	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar D11 Dozer	Dozers	770	Ritchie Specs	1	2	0.59	High LF	720	0.37	0.18	3.93	1.29	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar 324 Excavator	Backhoes/Graders	190	Ritchie Specs	2	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar 336 Excavator	Backhoes/Graders	266	Ritchie Specs	6	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar 16M Motor Grader	Backhoes/Graders	312	Ritchie Specs	4	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Skid Steer Loader (Caterpillar 272)	Backhoes/Graders	94	Ritchie Specs	6	2	0.21	Low LF	720	0.48	0.87	5.22	6.69	0.0065	0.70	0.70	692	5.61E-03	2.81E-02	3.96E-03	1.74E-03	1.21E-03	1.10E-02	1.66E-04	5.01E-03	3.26E-03	3.93E-04	3.60E-04	7.13E-04
Trencher (RTX1250)	Backhoes/Graders	120	Vermeer	1	2	0.59	High LF	720	0.37	0.37	3.93	1.46	0.0050	0.33	0.33	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
35 Ton RT (Terex RC35)	Cranes	160	Ritchie Specs	2	2	0.43	Average LF	720	0.37	0.35	4.14	0.95	0.0050	0.27	0.27	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
75 Ton RT (Grove RT875E)	Cranes	275	Ritchie Specs	0	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
135 Ton RT (Grove RT9130E)	Cranes	300	Ritchie Specs	0	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
200 Ton Manitowoc Lattice (14000)	Cranes	340	Manitowoc	0	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
300 Ton Manitowoc 2250 Lattice	Cranes	500	Manitowoc	0	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
M16000 Lattice	Cranes	500	Manitowoc	0	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
3 Ton Forklift (Caterpillar C6000)	Forklifts/Loaders	63	Ritchie Specs	0	2	0.59	High LF	720	0.41	0.40	4.51	3.98	0.0056	0.43	0.43	592	4.81E-03	2.40E-02	3.39E-03	1.49E-03	1.04E-03	9.37E-03	1.42E-04	4.29E-03	2.79E-03	3.36E-04	3.08E-04	6.10E-04
15 Ton Forklift (Caterpillar P30000)	Forklifts/Loaders	148	Ritchie Specs	2	2	0.59	High LF	720	0.37	0.37	3.93	1.46	0.0050	0.33	0.33	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Cat 460 Zoom Boom	Forklifts/Loaders	100	Ritchie Specs	2	2	0.59	High LF	720	0.41	0.40	4.51	3.98	0.0056	0.43	0.43	592	4.81E-03	2.40E-02	3.39E-03	1.49E-03	1.04E-03	9.37E-03	1.42E-04	4.29E-03	2.79E-03	3.36E-04	3.08E-04	6.10E-04
966 Loader w / bucket, forks, stinger (966H)	Forklifts/Loaders	286	Ritchie Specs	2	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
966 Loader w / bucket (966H)	Forklifts/Loaders	286	Ritchie Specs	8	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E						

AGDC: Alaska Stand Alone Pipeline (ASAP) Project

GCF Construction

NonRoad Equipment: Emissions Calculations

Equipment ^a	Category	bhp	bhp Source	Quantity	Tier Level	Load Factor ^b	Transient Adjustment Factor	Operating Hours/ Month ^c	Fuel Consumption (lb/hp-hr)	Emissions Rates (g/bhp-hr)																		
										VOC	Nox	CO	SO2	PM10	PM2.5 ^d	CO2	N2O	CH4	Benzene	Toluene	Xylenes	Propylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH
Phase II(b) - Gravel Farming/Compaction																												
1 T. Flatbed	Tractors/Trailers	400	Estimate	3	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
40,000#Tractor, Truck Medium Duty	Tractors/Trailers	525	Estimate	2	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Watson Drill (2100)	Tractors/Trailers	150	Estimate	0	2	0.43	Average LF	720	0.37	0.35	4.14	0.95	0.0050	0.27	0.27	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Ice Tractor - Drill/Pump	Tractors/Trailers	200	Estimate	0	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Lube Truck	Tractors/Trailers	260	Estimate	4	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Fuel Truck 2500-4000 gallon	Tractors/Trailers	260	Estimate	4	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Welding Truck	Tractors/Trailers	260	Estimate	2	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Water Truck 2500 gallon	Tractors/Trailers	200	Estimate	6	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Concrete/Slurry Mixer	Tractors/Trailers	250	Estimate	0	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Vacuum Septic Service Truck 2500 gallon	Tractors/Trailers	150	Estimate	2	2	0.43	Average LF	720	0.37	0.35	4.14	0.95	0.0050	0.27	0.27	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Hydrovac	Tractors/Trailers	150	Estimate	0	2	0.43	Average LF	720	0.37	0.35	4.14	0.95	0.0050	0.27	0.27	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
40 CY B70 (Caterpillar 773 puller)	Gravel Haul Equipment	683	Ritchie Specs	24	2	0.59	High LF	720	0.37	0.18	3.93	2.24	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
40 CY Maxi Haul (Kenworth C500/Cat C15 Puller)	Gravel Haul Equipment	595	Ritchie Specs	6	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
20 CY Articulate End Dump (Caterpillar 769)	Gravel Haul Equipment	474	Ritchie Specs	2	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
30 CY Articulate End Dump (Caterpillar 773)	Gravel Haul Equipment	600	Ritchie Specs	4	2	0.59	High LF	720	0.37	0.18	3.93	2.24	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar D7 Dozer	Dozers	200	Ritchie Specs	1	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar D9 Dozer	Dozers	370	Ritchie Specs	3	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar D10 Dozer	Dozers	520	Ritchie Specs	4	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar D11 Dozer	Dozers	770	Ritchie Specs	1	2	0.59	High LF	720	0.37	0.18	3.93	1.29	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar 324 Excavator	Backhoes/Graders	190	Ritchie Specs	2	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar 336 Excavator	Backhoes/Graders	266	Ritchie Specs	6	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar 16M Motor Grader	Backhoes/Graders	312	Ritchie Specs	4	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Skid Steer Loader (Caterpillar 272)	Backhoes/Graders	94	Ritchie Specs	6	2	0.21	Low LF	720	0.48	0.87	5.22	6.69	0.0065	0.70	0.70	692	5.61E-03	2.81E-02	3.96E-03	1.74E-03	1.21E-03	1.10E-02	1.66E-04	5.01E-03	3.26E-03	3.93E-04	3.60E-04	7.13E-04
Trencher (RTX1250)	Backhoes/Graders	120	Vermeer	1	2	0.59	High LF	720	0.37	0.37	3.93	1.46	0.0050	0.33	0.33	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
35 Ton RT (Terex RC35)	Cranes	160	Ritchie Specs	2	2	0.43	Average LF	720	0.37	0.35	4.14	0.95	0.0050	0.27	0.27	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
75 Ton RT (Grove RT875E)	Cranes	275	Ritchie Specs	0	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
135 Ton RT (Grove RT9130E)	Cranes	300	Ritchie Specs	0	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
200 Ton Manitowoc Lattice (14000)	Cranes	340	Manitowoc	0	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
300 Ton Manitowoc 2250 Lattice	Cranes	500	Manitowoc	0	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
M16000 Lattice	Cranes	500	Manitowoc	0	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
3 Ton Forklift (Caterpillar C6000)	Forklifts/Loaders	63	Ritchie Specs	0	2	0.59	High LF	720	0.41	0.40	4.51	3.98	0.0056	0.43	0.43	592	4.81E-03	2.40E-02	3.39E-03	1.49E-03	1.04E-03	9.37E-03	1.42E-04	4.29E-03	2.79E-03	3.36E-04	3.08E-04	6.10E-04
15 Ton Forklift (Caterpillar P30000)	Forklifts/Loaders	148	Ritchie Specs	2	2	0.59	High LF	720	0.37	0.37	3.93	1.46	0.0050	0.33	0.33	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Cat 460 Zoom Boom	Forklifts/Loaders	100	Ritchie Specs	2	2	0.59	High LF	720	0.41	0.40	4.51	3.98	0.0056	0.43	0.43	592	4.81E-03	2.40E-02	3.39E-03	1.49E-03	1.04E-03	9.37E-03	1.42E-04	4.29E-03	2.79E-03	3.36E-04	3.08E-04	6.10E-04
966 Loader w / bucket, forks, stinger (966H)	Forklifts/Loaders	286	Ritchie Specs	2	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
966 Loader w / bucket (966H)	Forklifts/Loaders	286	Ritchie Specs	8	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8						

AGDC: Alaska Stand Alone Pipeline (ASAP) Project
 GCF Construction
 NonRoad Equipment: Emissions Calculations

Equipment ^a	Category	bhp	bhp Source	Quantity	Tier Level	Load Factor ^b	Transient Adjustment Factor	Operating Hours/ Month ^c	Fuel Consumption (lb/hp-hr)	Emissions Rates (g/bhp-hr)																		
										VOC	Nox	CO	SO2	PM10	PM2.5 ^d	CO2	N2O	CH4	Benzene	Toluene	Xylenes	Propylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH
Phase II - Interconnecting Pipelines and Hydrotesting																												
1 T. Flatbed	Tractors/Trailers	400	Estimate	2	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
40,000#Tractor, Truck Medium Duty	Tractors/Trailers	525	Estimate	2	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Watson Drill (2100)	Tractors/Trailers	150	Estimate	4	2	0.43	Average LF	720	0.37	0.35	4.14	0.95	0.0050	0.27	0.27	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Ice Tractor - Drill/Pump	Tractors/Trailers	200	Estimate	0	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Lube Truck	Tractors/Trailers	260	Estimate	2	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Fuel Truck 2500-4000 gallon	Tractors/Trailers	260	Estimate	1	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Welding Truck	Tractors/Trailers	260	Estimate	2	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Water Truck 2500 gallon	Tractors/Trailers	200	Estimate	2	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Concrete/Slurry Mixer	Tractors/Trailers	250	Estimate	3	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Vacuum Septic Service Truck 2500 gallon	Tractors/Trailers	150	Estimate	1	2	0.43	Average LF	720	0.37	0.35	4.14	0.95	0.0050	0.27	0.27	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Hydrovac	Tractors/Trailers	150	Estimate	0	2	0.43	Average LF	720	0.37	0.35	4.14	0.95	0.0050	0.27	0.27	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
40 CY B70 (Caterpillar 773 puller)	Gravel Haul Equipment	683	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	3.93	2.24	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
40 CY Maxi Haul (Kenworth C500/Cat C15 Puller)	Gravel Haul Equipment	595	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
20 CY Articulate End Dump (Caterpillar 769)	Gravel Haul Equipment	474	Ritchie Specs	2	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
30 CY Articulate End Dump (Caterpillar 773)	Gravel Haul Equipment	600	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	3.93	2.24	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar D7 Dozer	Dozers	200	Ritchie Specs	1	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar D9 Dozer	Dozers	370	Ritchie Specs	1	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar D10 Dozer	Dozers	520	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar D11 Dozer	Dozers	770	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	3.93	1.29	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar 324 Excavator	Backhoes/Graders	190	Ritchie Specs	2	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar 336 Excavator	Backhoes/Graders	266	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar 16M Motor Grader	Backhoes/Graders	312	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Skid Steer Loader (Caterpillar 272)	Backhoes/Graders	94	Ritchie Specs	2	2	0.21	Low LF	720	0.48	0.87	5.22	6.69	0.0065	0.70	0.70	692	5.61E-03	2.81E-02	3.96E-03	1.74E-03	1.21E-03	1.10E-02	1.66E-04	5.01E-03	3.26E-03	3.93E-04	3.60E-04	7.13E-04
Trencher (RTX1250)	Backhoes/Graders	120	Vermeer	0	2	0.59	High LF	720	0.37	0.37	3.93	1.46	0.0050	0.33	0.33	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
35 Ton RT (Terex RC35)	Cranes	160	Ritchie Specs	1	2	0.43	Average LF	720	0.37	0.35	4.14	0.95	0.0050	0.27	0.27	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
75 Ton RT (Grove RT875E)	Cranes	275	Ritchie Specs	2	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
135 Ton RT (Grove RT9130E)	Cranes	300	Ritchie Specs	0	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
200 Ton Manitowoc Lattice (14000)	Cranes	340	Manitowoc	0	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
300 Ton Manitowoc 2250 Lattice	Cranes	500	Manitowoc	0	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
M16000 Lattice	Cranes	500	Manitowoc	0	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
3 Ton Forklift (Caterpillar C6000)	Forklifts/Loaders	63	Ritchie Specs	0	2	0.59	High LF	720	0.41	0.40	4.51	3.98	0.0056	0.43	0.43	592	4.81E-03	2.40E-02	3.39E-03	1.49E-03	1.04E-03	9.37E-03	1.42E-04	4.29E-03	2.79E-03	3.36E-04	3.08E-04	6.10E-04
15 Ton Forklift (Caterpillar P30000)	Forklifts/Loaders	148	Ritchie Specs	2	2	0.59	High LF	720	0.37	0.37	3.93	1.46	0.0050	0.33	0.33	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Cat 460 Zoom Boom	Forklifts/Loaders	100	Ritchie Specs	0	2	0.59	High LF	720	0.41	0.40	4.51	3.98	0.0056	0.43	0.43	592	4.81E-03	2.40E-02	3.39E-03	1.49E-03	1.04E-03	9.37E-03	1.42E-04	4.29E-03	2.79E-03	3.36E-04	3.08E-04	6.10E-04
966 Loader w / bucket, forks, stinger (966H)	Forklifts/Loaders	286	Ritchie Specs	1	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
966 Loader w / bucket (966H)	Forklifts/Loaders	286	Ritchie Specs	1	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-		

AGDC: Alaska Stand Alone Pipeline (ASAP) Project

GCF Construction

NonRoad Equipment: Emissions Calculations

Equipment ^a	Category	bhp	bhp Source	Quantity	Tier Level	Load Factor ^b	Transient Adjustment Factor	Operating Hours/ Month ^c	Fuel Consumption (lb/hp-hr)	Emissions Rates (g/bhp-hr)																		
										VOC	Nox	CO	SO2	PM10	PM2.5 ^d	CO2	N2O	CH4	Benzene	Toluene	Xylenes	Propylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH
Phase IV(a) - Install Permanent Camp and Office Piles																												
1 T. Flatbed	Tractors/Trailers	400	Estimate	3	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
40,000#Tractor, Truck Medium Duty	Tractors/Trailers	525	Estimate	3	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Watson Drill (2100)	Tractors/Trailers	150	Estimate	5	2	0.43	Average LF	720	0.37	0.35	4.14	0.95	0.0050	0.27	0.27	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Ice Tractor - Drill/Pump	Tractors/Trailers	200	Estimate	0	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Lube Truck	Tractors/Trailers	260	Estimate	2	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Fuel Truck 2500-4000 gallon	Tractors/Trailers	260	Estimate	2	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Welding Truck	Tractors/Trailers	260	Estimate	1	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Water Truck 2500 gallon	Tractors/Trailers	200	Estimate	2	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Concrete/Slurry Mixer	Tractors/Trailers	250	Estimate	2	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Vacuum Septic Service Truck 2500 gallon	Tractors/Trailers	150	Estimate	1	2	0.43	Average LF	720	0.37	0.35	4.14	0.95	0.0050	0.27	0.27	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Hydrovac	Tractors/Trailers	150	Estimate	1	2	0.43	Average LF	720	0.37	0.35	4.14	0.95	0.0050	0.27	0.27	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
40 CY B70 (Caterpillar 773 puller)	Gravel Haul Equipment	683	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	3.93	2.24	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
40 CY Maxi Haul (Kenworth C500/Cat C15 Puller)	Gravel Haul Equipment	595	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
20 CY Articulate End Dump (Caterpillar 769)	Gravel Haul Equipment	474	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
30 CY Articulate End Dump (Caterpillar 773)	Gravel Haul Equipment	600	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	3.93	2.24	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar D7 Dozer	Dozers	200	Ritchie Specs	1	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar D9 Dozer	Dozers	370	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar D10 Dozer	Dozers	520	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar D11 Dozer	Dozers	770	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	3.93	1.29	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar 324 Excavator	Backhoes/Graders	190	Ritchie Specs	1	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar 336 Excavator	Backhoes/Graders	266	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar 16M Motor Grader	Backhoes/Graders	312	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Skid Steer Loader (Caterpillar 272)	Backhoes/Graders	94	Ritchie Specs	2	2	0.21	Low LF	720	0.48	0.87	5.22	6.69	0.0065	0.70	0.70	692	5.61E-03	2.81E-02	3.96E-03	1.74E-03	1.21E-03	1.10E-02	1.66E-04	5.01E-03	3.26E-03	3.93E-04	3.60E-04	7.13E-04
Trencher (RTX1250)	Backhoes/Graders	120	Vermeer	0	2	0.59	High LF	720	0.37	0.37	3.93	1.46	0.0050	0.33	0.33	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
35 Ton RT (Terex RC35)	Cranes	160	Ritchie Specs	1	2	0.43	Average LF	720	0.37	0.35	4.14	0.95	0.0050	0.27	0.27	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
75 Ton RT (Grove RT875E)	Cranes	275	Ritchie Specs	2	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
135 Ton RT (Grove RT9130E)	Cranes	300	Ritchie Specs	1	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
200 Ton Manitowoc Lattice (14000)	Cranes	340	Manitowoc	0	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
300 Ton Manitowoc 2250 Lattice	Cranes	500	Manitowoc	0	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
M16000 Lattice	Cranes	500	Manitowoc	0	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
3 Ton Forklift (Caterpillar C6000)	Forklifts/Loaders	63	Ritchie Specs	0	2	0.59	High LF	720	0.41	0.40	4.51	3.98	0.0056	0.43	0.43	592	4.81E-03	2.40E-02	3.39E-03	1.49E-03	1.04E-03	9.37E-03	1.42E-04	4.29E-03	2.79E-03	3.36E-04	3.08E-04	6.10E-04
15 Ton Forklift (Caterpillar P30000)	Forklifts/Loaders	148	Ritchie Specs	1	2	0.59	High LF	720	0.37	0.37	3.93	1.46	0.0050	0.33	0.33	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Cat 460 Zoom Boom	Forklifts/Loaders	100	Ritchie Specs	0	2	0.59	High LF	720	0.41	0.40	4.51	3.98	0.0056	0.43	0.43	592	4.81E-03	2.40E-02	3.39E-03	1.49E-03	1.04E-03	9.37E-03	1.42E-04	4.29E-03	2.79E-03	3.36E-04	3.08E-04	6.10E-04
966 Loader w / bucket, forks, stinger (966H)	Forklifts/Loaders	286	Ritchie Specs	1	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
966 Loader w / bucket (966H)	Forklifts/Loaders	286	Ritchie Specs	1	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.						

AGDC: Alaska Stand Alone Pipeline (ASAP) Project
GCF Construction
NonRoad Equipment: Emissions Calculations

Equipment ^a	Category	bhp	bhp Source	Quantity	Tier Level	Load Factor ^b	Transient Adjustment Factor	Operating Hours/ Month ^c	Fuel Consumption (lb/hp-hr)	Emissions Rates (g/bhp-hr)																			
										VOC	Nox	CO	SO2	PM10	PM2.5 ^d	CO2	N2O	CH4	Benzene	Toluene	Xylenes	Propylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH	
Phase IV(b) - Install Permanent Camps, Offices, Shops, and Warehouse																													
1 T. Flatbed	Tractors/Trailers	400	Estimate	3	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04	
40,000#Tractor, Truck Medium Duty	Tractors/Trailers	525	Estimate	3	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04	
Watson Drill (2100)	Tractors/Trailers	150	Estimate	0	2	0.43	Average LF	720	0.37	0.35	4.14	0.95	0.0050	0.27	0.27	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04	
Ice Tractor - Drill/Pump	Tractors/Trailers	200	Estimate	0	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04	
Lube Truck	Tractors/Trailers	260	Estimate	2	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04	
Fuel Truck 2500-4000 gallon	Tractors/Trailers	260	Estimate	2	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04	
Welding Truck	Tractors/Trailers	260	Estimate	1	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04	
Water Truck 2500 gallon	Tractors/Trailers	200	Estimate	1	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04	
Concrete/Slurry Mixer	Tractors/Trailers	250	Estimate	0	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04	
Vacuum Septic Service Truck 2500 gallon	Tractors/Trailers	150	Estimate	1	2	0.43	Average LF	720	0.37	0.35	4.14	0.95	0.0050	0.27	0.27	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04	
Hydrovac	Tractors/Trailers	150	Estimate	0	2	0.43	Average LF	720	0.37	0.35	4.14	0.95	0.0050	0.27	0.27	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04	
40 CY B70 (Caterpillar 773 puller)	Gravel Haul Equipment	683	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	3.93	2.24	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04	
40 CY Maxi Haul (Kenworth C500/Cat C15 Puller)	Gravel Haul Equipment	595	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04	
20 CY Articulate End Dump (Caterpillar 769)	Gravel Haul Equipment	474	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04	
30 CY Articulate End Dump (Caterpillar 773)	Gravel Haul Equipment	600	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	3.93	2.24	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04	
Caterpillar D7 Dozer	Dozers	200	Ritchie Specs	1	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04	
Caterpillar D9 Dozer	Dozers	370	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04	
Caterpillar D10 Dozer	Dozers	520	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04	
Caterpillar D11 Dozer	Dozers	770	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	3.93	1.29	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04	
Caterpillar 324 Excavator	Backhoes/Graders	190	Ritchie Specs	1	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04	
Caterpillar 336 Excavator	Backhoes/Graders	266	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04	
Caterpillar 16M Motor Grader	Backhoes/Graders	312	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04	
Skid Steer Loader (Caterpillar 272)	Backhoes/Graders	94	Ritchie Specs	2	2	0.21	Low LF	720	0.48	0.87	5.22	6.69	0.0065	0.70	0.70	692	5.61E-03	2.81E-02	3.96E-03	1.74E-03	1.21E-03	1.10E-02	1.66E-04	5.01E-03	3.26E-03	3.93E-04	3.60E-04	7.13E-04	
Trencher (RTX1250)	Backhoes/Graders	120	Vermeer	0	2	0.59	High LF	720	0.37	0.37	3.93	1.46	0.0050	0.33	0.33	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04	
35 Ton RT (Terex RC35)	Cranes	160	Ritchie Specs	0	2	0.43	Average LF	720	0.37	0.35	4.14	0.95	0.0050	0.27	0.27	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04	
75 Ton RT (Grove RT875E)	Cranes	275	Ritchie Specs	1	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04	
135 Ton RT (Grove RT9130E)	Cranes	300	Ritchie Specs	1	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04	
200 Ton Manitowoc Lattice (14000)	Cranes	340	Manitowoc	0	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04	
300 Ton Manitowoc 2250 Lattice	Cranes	500	Manitowoc	1	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04	
M16000 Lattice	Cranes	500	Manitowoc	0	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04	
3 Ton Forklift (Caterpillar C6000)	Forklifts/Loaders	63	Ritchie Specs	0	2	0.59	High LF	720	0.41	0.40	4.51	3.98	0.0056	0.43	0.43	592	4.81E-03	2.40E-02	3.39E-03	1.49E-03	1.04E-03	9.37E-03	1.42E-04	4.29E-03	2.79E-03	3.36E-04	3.08E-04	6.10E-04	
15 Ton Forklift (Caterpillar P30000)	Forklifts/Loaders	148	Ritchie Specs	1	2	0.59	High LF	720	0.37	0.37	3.93	1.46	0.0050	0.33	0.33	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04	
Cat 460 Zoom Boom	Forklifts/Loaders	100	Ritchie Specs	0	2	0.59	High LF	720	0.41	0.40	4.51	3.98	0.0056	0.43	0.43	592	4.81E-03	2.40E-02	3.39E-03	1.49E-03	1.04E-03	9.37E-03	1.42E-04	4.29E-03	2.79E-03	3.36E-04	3.08E-04	6.10E-04	
966 Loader w / bucket, forks, stinger (966H)	Forklifts/Loaders	286	Ritchie Specs	1	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04	
966 Loader w / bucket (966H)	Forklifts/Loaders	286	Ritchie Specs	2	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.			

AGDC: Alaska Stand Alone Pipeline (ASAP) Project

GCF Construction

NonRoad Equipment: Emissions Calculations

Equipment ^a	Category	bhp	bhp Source	Quantity	Tier Level	Load Factor ^b	Transient Adjustment Factor	Operating Hours/ Month ^c	Fuel Consumption (lb/hp-hr)	Emissions Rates (g/bhp-hr)																			
										VOC	Nox	CO	SO2	PM10	PM2.5 ^d	CO2	N2O	CH4	Benzene	Toluene	Xylenes	Propylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH	
Phase IV(c) - Install Temporary Construction Camp																													
1 T. Flatbed	Tractors/Trailers	400	Estimate	3	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04	
40,000#Tractor, Truck Medium Duty	Tractors/Trailers	525	Estimate	3	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04	
Watson Drill (2100)	Tractors/Trailers	150	Estimate	0	2	0.43	Average LF	720	0.37	0.35	4.14	0.95	0.0050	0.27	0.27	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04	
Ice Tractor - Drill/Pump	Tractors/Trailers	200	Estimate	0	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04	
Lube Truck	Tractors/Trailers	260	Estimate	2	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04	
Fuel Truck 2500-4000 gallon	Tractors/Trailers	260	Estimate	2	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04	
Welding Truck	Tractors/Trailers	260	Estimate	1	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04	
Water Truck 2500 gallon	Tractors/Trailers	200	Estimate	1	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04	
Concrete/Slurry Mixer	Tractors/Trailers	250	Estimate	0	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04	
Vacuum Septic Service Truck 2500 gallon	Tractors/Trailers	150	Estimate	1	2	0.43	Average LF	720	0.37	0.35	4.14	0.95	0.0050	0.27	0.27	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04	
Hydrovac	Tractors/Trailers	150	Estimate	0	2	0.43	Average LF	720	0.37	0.35	4.14	0.95	0.0050	0.27	0.27	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04	
40 CY B70 (Caterpillar 773 puller)	Gravel Haul Equipment	683	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	3.93	2.24	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04	
40 CY Maxi Haul (Kenworth C500/Cat C15 Puller)	Gravel Haul Equipment	595	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04	
20 CY Articulate End Dump (Caterpillar 769)	Gravel Haul Equipment	474	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04	
30 CY Articulate End Dump (Caterpillar 773)	Gravel Haul Equipment	600	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	3.93	2.24	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04	
Caterpillar D7 Dozer	Dozers	200	Ritchie Specs	1	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04	
Caterpillar D9 Dozer	Dozers	370	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04	
Caterpillar D10 Dozer	Dozers	520	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04	
Caterpillar D11 Dozer	Dozers	770	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	3.93	1.29	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04	
Caterpillar 324 Excavator	Backhoes/Graders	190	Ritchie Specs	1	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04	
Caterpillar 336 Excavator	Backhoes/Graders	266	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04	
Caterpillar 16M Motor Grader	Backhoes/Graders	312	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04	
Skid Steer Loader (Caterpillar 272)	Backhoes/Graders	94	Ritchie Specs	2	2	0.21	Low LF	720	0.48	0.87	5.22	6.69	0.0065	0.70	0.70	692	5.61E-03	2.81E-02	3.96E-03	1.74E-03	1.21E-03	1.10E-02	1.66E-04	5.01E-03	3.26E-03	3.93E-04	3.60E-04	7.13E-04	
Trencher (RTX1250)	Backhoes/Graders	120	Vermeer	0	2	0.59	High LF	720	0.37	0.37	3.93	1.46	0.0050	0.33	0.33	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04	
35 Ton RT (Terex RC35)	Cranes	160	Ritchie Specs	0	2	0.43	Average LF	720	0.37	0.35	4.14	0.95	0.0050	0.27	0.27	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04	
75 Ton RT (Grove RT875E)	Cranes	275	Ritchie Specs	1	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04	
135 Ton RT (Grove RT9130E)	Cranes	300	Ritchie Specs	1	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04	
200 Ton Manitowoc Lattice (14000)	Cranes	340	Manitowoc	0	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04	
300 Ton Manitowoc 2250 Lattice	Cranes	500	Manitowoc	1	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04	
M16000 Lattice	Cranes	500	Manitowoc	0	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04	
3 Ton Forklift (Caterpillar C6000)	Forklifts/Loaders	63	Ritchie Specs	0	2	0.59	High LF	720	0.41	0.40	4.51	3.98	0.0056	0.43	0.43	592	4.81E-03	2.40E-02	3.39E-03	1.49E-03	1.04E-03	9.37E-03	1.42E-04	4.29E-03	2.79E-03	3.36E-04	3.08E-04	6.10E-04	
15 Ton Forklift (Caterpillar P30000)	Forklifts/Loaders	148	Ritchie Specs	1	2	0.59	High LF	720	0.37	0.37	3.93	1.46	0.0050	0.33	0.33	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04	
Cat 460 Zoom Boom	Forklifts/Loaders	100	Ritchie Specs	0	2	0.59	High LF	720	0.41	0.40	4.51	3.98	0.0056	0.43	0.43	592	4.81E-03	2.40E-02	3.39E-03	1.49E-03	1.04E-03	9.37E-03	1.42E-04	4.29E-03	2.79E-03	3.36E-04	3.08E-04	6.10E-04	
966 Loader w / bucket, forks, stinger (966H)	Forklifts/Loaders	286	Ritchie Specs	1	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04	
966 Loader w / bucket (966H)	Forklifts/Loaders	286	Ritchie Specs	2	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E							

AGDC: Alaska Stand Alone Pipeline (ASAP) Project

GCF Construction

NonRoad Equipment: Emissions Calculations

Equipment ^a	Category	bhp	bhp Source	Quantity	Tier Level	Load Factor ^b	Transient Adjustment Factor	Operating Hours/ Month ^c	Fuel Consumption (lb/hp-hr)	Emissions Rates (g/bhp-hr)																		
										VOC	Nox	CO	SO2	PM10	PM2.5 ^d	CO2	N2O	CH4	Benzene	Toluene	Xylenes	Propylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH
Phase V - Install GCF Module Support Piles																												
1 T. Flatbed	Tractors/Trailers	400	Estimate	3	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
40,000#Tractor, Truck Medium Duty	Tractors/Trailers	525	Estimate	4	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Watson Drill (2100)	Tractors/Trailers	150	Estimate	8	2	0.43	Average LF	720	0.37	0.35	4.14	0.95	0.0050	0.27	0.27	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Ice Tractor - Drill/Pump	Tractors/Trailers	200	Estimate	0	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Lube Truck	Tractors/Trailers	260	Estimate	3	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Fuel Truck 2500-4000 gallon	Tractors/Trailers	260	Estimate	2	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Welding Truck	Tractors/Trailers	260	Estimate	2	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Water Truck 2500 gallon	Tractors/Trailers	200	Estimate	4	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Concrete/Slurry Mixer	Tractors/Trailers	250	Estimate	6	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Vacuum Septic Service Truck 2500 gallon	Tractors/Trailers	150	Estimate	2	2	0.43	Average LF	720	0.37	0.35	4.14	0.95	0.0050	0.27	0.27	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Hydrovac	Tractors/Trailers	150	Estimate	0	2	0.43	Average LF	720	0.37	0.35	4.14	0.95	0.0050	0.27	0.27	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
40 CY B70 (Caterpillar 773 puller)	Gravel Haul Equipment	683	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	3.93	2.24	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
40 CY Maxi Haul (Kenworth C500/Cat C15 Puller)	Gravel Haul Equipment	595	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
20 CY Articulate End Dump (Caterpillar 769)	Gravel Haul Equipment	474	Ritchie Specs	4	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
30 CY Articulate End Dump (Caterpillar 773)	Gravel Haul Equipment	600	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	3.93	2.24	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar D7 Dozer	Dozers	200	Ritchie Specs	1	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar D9 Dozer	Dozers	370	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar D10 Dozer	Dozers	520	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar D11 Dozer	Dozers	770	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	3.93	1.29	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar 324 Excavator	Backhoes/Graders	190	Ritchie Specs	1	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar 336 Excavator	Backhoes/Graders	266	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar 16M Motor Grader	Backhoes/Graders	312	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Skid Steer Loader (Caterpillar 272)	Backhoes/Graders	94	Ritchie Specs	2	2	0.21	Low LF	720	0.48	0.87	5.22	6.69	0.0065	0.70	0.70	692	5.61E-03	2.81E-02	3.96E-03	1.74E-03	1.21E-03	1.10E-02	1.66E-04	5.01E-03	3.26E-03	3.93E-04	3.60E-04	7.13E-04
Trencher (RTX1250)	Backhoes/Graders	120	Vermeer	0	2	0.59	High LF	720	0.37	0.37	3.93	1.46	0.0050	0.33	0.33	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
35 Ton RT (Terex RC35)	Cranes	160	Ritchie Specs	2	2	0.43	Average LF	720	0.37	0.35	4.14	0.95	0.0050	0.27	0.27	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
75 Ton RT (Grove RT875E)	Cranes	275	Ritchie Specs	4	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
135 Ton RT (Grove RT9130E)	Cranes	300	Ritchie Specs	0	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
200 Ton Manitowoc Lattice (14000)	Cranes	340	Manitowoc	0	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
300 Ton Manitowoc 2250 Lattice	Cranes	500	Manitowoc	0	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
M16000 Lattice	Cranes	500	Manitowoc	0	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
3 Ton Forklift (Caterpillar C6000)	Forklifts/Loaders	63	Ritchie Specs	0	2	0.59	High LF	720	0.41	0.40	4.51	3.98	0.0056	0.43	0.43	592	4.81E-03	2.40E-02	3.39E-03	1.49E-03	1.04E-03	9.37E-03	1.42E-04	4.29E-03	2.79E-03	3.36E-04	3.08E-04	6.10E-04
15 Ton Forklift (Caterpillar P30000)	Forklifts/Loaders	148	Ritchie Specs	1	2	0.59	High LF	720	0.37	0.37	3.93	1.46	0.0050	0.33	0.33	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Cat 460 Zoom Boom	Forklifts/Loaders	100	Ritchie Specs	3	2	0.59	High LF	720	0.41	0.40	4.51	3.98	0.0056	0.43	0.43	592	4.81E-03	2.40E-02	3.39E-03	1.49E-03	1.04E-03	9.37E-03	1.42E-04	4.29E-03	2.79E-03	3.36E-04	3.08E-04	6.10E-04
966 Loader w / bucket, forks, stinger (966H)	Forklifts/Loaders	286	Ritchie Specs	1	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
966 Loader w / bucket (966H)	Forklifts/Loaders	286	Ritchie Specs	1	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43						

AGDC: Alaska Stand Alone Pipeline (ASAP) Project

GCF Construction

NonRoad Equipment: Emissions Calculations

Equipment ^a	Category	bhp	bhp Source	Quantity	Tier Level	Load Factor ^b	Transient Adjustment Factor	Operating Hours/ Month ^c	Fuel Consumption (lb/hp-hr)	Emissions Rates (g/bhp-hr)																		
										VOC	Nox	CO	SO2	PM10	PM2.5 ^d	CO2	N2O	CH4	Benzene	Toluene	Xylenes	Propylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH
Phase VI - Install GCF Modules																												
1 T. Flatbed	Tractors/Trailers	400	Estimate	6	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
40,000#Tractor, Truck Medium Duty	Tractors/Trailers	525	Estimate	6	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Watson Drill (2100)	Tractors/Trailers	150	Estimate	0	2	0.43	Average LF	720	0.37	0.35	4.14	0.95	0.0050	0.27	0.27	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Ice Tractor - Drill/Pump	Tractors/Trailers	200	Estimate	0	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Lube Truck	Tractors/Trailers	260	Estimate	2	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Fuel Truck 2500-4000 gallon	Tractors/Trailers	260	Estimate	2	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Welding Truck	Tractors/Trailers	260	Estimate	6	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Water Truck 2500 gallon	Tractors/Trailers	200	Estimate	2	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Concrete/Slurry Mixer	Tractors/Trailers	250	Estimate	0	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Vacuum Septic Service Truck 2500 gallon	Tractors/Trailers	150	Estimate	2	2	0.43	Average LF	720	0.37	0.35	4.14	0.95	0.0050	0.27	0.27	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Hydrovac	Tractors/Trailers	150	Estimate	0	2	0.43	Average LF	720	0.37	0.35	4.14	0.95	0.0050	0.27	0.27	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
40 CY B70 (Caterpillar 773 puller)	Gravel Haul Equipment	683	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	3.93	2.24	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
40 CY Maxi Haul (Kenworth C500/Cat C15 Puller)	Gravel Haul Equipment	595	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
20 CY Articulate End Dump (Caterpillar 769)	Gravel Haul Equipment	474	Ritchie Specs	2	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
30 CY Articulate End Dump (Caterpillar 773)	Gravel Haul Equipment	600	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	3.93	2.24	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar D7 Dozer	Dozers	200	Ritchie Specs	1	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar D9 Dozer	Dozers	370	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar D10 Dozer	Dozers	520	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar D11 Dozer	Dozers	770	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	3.93	1.29	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar 324 Excavator	Backhoes/Graders	190	Ritchie Specs	1	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar 336 Excavator	Backhoes/Graders	266	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar 16M Motor Grader	Backhoes/Graders	312	Ritchie Specs	1	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Skid Steer Loader (Caterpillar 272)	Backhoes/Graders	94	Ritchie Specs	2	2	0.21	Low LF	720	0.48	0.87	5.22	6.69	0.0065	0.70	0.70	692	5.61E-03	2.81E-02	3.96E-03	1.74E-03	1.21E-03	1.10E-02	1.66E-04	5.01E-03	3.26E-03	3.93E-04	3.60E-04	7.13E-04
Trencher (RTX1250)	Backhoes/Graders	120	Vermeer	0	2	0.59	High LF	720	0.37	0.37	3.93	1.46	0.0050	0.33	0.33	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
35 Ton RT (Terex RC35)	Cranes	160	Ritchie Specs	3	2	0.43	Average LF	720	0.37	0.35	4.14	0.95	0.0050	0.27	0.27	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
75 Ton RT (Grove RT875E)	Cranes	275	Ritchie Specs	1	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
135 Ton RT (Grove RT9130E)	Cranes	300	Ritchie Specs	0	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
200 Ton Manitowoc Lattice (14000)	Cranes	340	Manitowoc	0	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
300 Ton Manitowoc 2250 Lattice	Cranes	500	Manitowoc	1	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
M16000 Lattice	Cranes	500	Manitowoc	1	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
3 Ton Forklift (Caterpillar C6000)	Forklifts/Loaders	63	Ritchie Specs	0	2	0.59	High LF	720	0.41	0.40	4.51	3.98	0.0056	0.43	0.43	592	4.81E-03	2.40E-02	3.39E-03	1.49E-03	1.04E-03	9.37E-03	1.42E-04	4.29E-03	2.79E-03	3.36E-04	3.08E-04	6.10E-04
15 Ton Forklift (Caterpillar P30000)	Forklifts/Loaders	148	Ritchie Specs	1	2	0.59	High LF	720	0.37	0.37	3.93	1.46	0.0050	0.33	0.33	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Cat 460 Zoom Boom	Forklifts/Loaders	100	Ritchie Specs	6	2	0.59	High LF	720	0.41	0.40	4.51	3.98	0.0056	0.43	0.43	592	4.81E-03	2.40E-02	3.39E-03	1.49E-03	1.04E-03	9.37E-03	1.42E-04	4.29E-03	2.79E-03	3.36E-04	3.08E-04	6.10E-04
966 Loader w / bucket, forks, stinger (966H)	Forklifts/Loaders	286	Ritchie Specs	2	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
966 Loader w / bucket (966H)	Forklifts/Loaders	286	Ritchie Specs	2	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-0						

AGDC: Alaska Stand Alone Pipeline (ASAP) Project

GCF Construction

NonRoad Equipment: Emissions Calculations

Equipment ^a	Category	bhp	bhp Source	Quantity	Tier Level	Load Factor ^b	Transient Adjustment Factor	Operating Hours/ Month ^c	Fuel Consumption (lb/hp-hr)	Emissions Rates (g/bhp-hr)																		
										VOC	Nox	CO	SO2	PM10	PM2.5 ^d	CO2	N2O	CH4	Benzene	Toluene	Xylenes	Propylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH
FCO																												
1 T. Flatbed	Tractors/Trailers	400	Estimate	2	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
40,000#Tractor, Truck Medium Duty	Tractors/Trailers	525	Estimate	2	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Watson Drill (2100)	Tractors/Trailers	150	Estimate	0	2	0.43	Average LF	720	0.37	0.35	4.14	0.95	0.0050	0.27	0.27	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Ice Tractor - Drill/Pump	Tractors/Trailers	200	Estimate	0	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Lube Truck	Tractors/Trailers	260	Estimate	1	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Fuel Truck 2500-4000 gallon	Tractors/Trailers	260	Estimate	1	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Welding Truck	Tractors/Trailers	260	Estimate	2	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Water Truck 2500 gallon	Tractors/Trailers	200	Estimate	2	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Concrete/Slurry Mixer	Tractors/Trailers	250	Estimate	0	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Vacuum Septic Service Truck 2500 gallon	Tractors/Trailers	150	Estimate	2	2	0.43	Average LF	720	0.37	0.35	4.14	0.95	0.0050	0.27	0.27	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
Hydrovac	Tractors/Trailers	150	Estimate	0	2	0.43	Average LF	720	0.37	0.35	4.14	0.95	0.0050	0.27	0.27	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
40 CY B70 (Caterpillar 773 puller)	Gravel Haul Equipment	683	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	3.93	2.24	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
40 CY Maxi Haul (Kenworth C500/Cat C15 Puller)	Gravel Haul Equipment	595	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
20 CY Articulate End Dump (Caterpillar 769)	Gravel Haul Equipment	474	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
30 CY Articulate End Dump (Caterpillar 773)	Gravel Haul Equipment	600	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	3.93	2.24	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar D7 Dozer	Dozers	200	Ritchie Specs	1	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar D9 Dozer	Dozers	370	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar D10 Dozer	Dozers	520	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar D11 Dozer	Dozers	770	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.18	3.93	1.29	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar 324 Excavator	Backhoes/Graders	190	Ritchie Specs	1	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar 336 Excavator	Backhoes/Graders	266	Ritchie Specs	0	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Caterpillar 16M Motor Grader	Backhoes/Graders	312	Ritchie Specs	1	2	0.59	High LF	720	0.37	0.18	4.16	1.42	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Skid Steer Loader (Caterpillar 272)	Backhoes/Graders	94	Ritchie Specs	2	2	0.21	Low LF	720	0.48	0.87	5.22	6.69	0.0065	0.70	0.70	692	5.61E-03	2.81E-02	3.96E-03	1.74E-03	1.21E-03	1.10E-02	1.66E-04	5.01E-03	3.26E-03	3.93E-04	3.60E-04	7.13E-04
Trencher (RTX1250)	Backhoes/Graders	120	Vermeer	0	2	0.59	High LF	720	0.37	0.37	3.93	1.46	0.0050	0.33	0.33	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
35 Ton RT (Terex RC35)	Cranes	160	Ritchie Specs	1	2	0.43	Average LF	720	0.37	0.35	4.14	0.95	0.0050	0.27	0.27	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
75 Ton RT (Grove RT875E)	Cranes	275	Ritchie Specs	1	2	0.43	Average LF	720	0.37	0.32	4.04	0.82	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
135 Ton RT (Grove RT9130E)	Cranes	300	Ritchie Specs	0	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
200 Ton Manitowoc Lattice (14000)	Cranes	340	Manitowoc	0	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
300 Ton Manitowoc 2250 Lattice	Cranes	500	Manitowoc	0	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
M16000 Lattice	Cranes	500	Manitowoc	0	2	0.43	Average LF	720	0.37	0.17	4.37	0.93	0.0050	0.19	0.19	528	4.28E-03	2.14E-02	3.02E-03	1.32E-03	9.22E-04	8.35E-03	1.27E-04	3.82E-03	2.48E-03	2.99E-04	2.74E-04	5.44E-04
3 Ton Forklift (Caterpillar C6000)	Forklifts/Loaders	63	Ritchie Specs	0	2	0.59	High LF	720	0.41	0.40	4.51	3.98	0.0056	0.43	0.43	592	4.81E-03	2.40E-02	3.39E-03	1.49E-03	1.04E-03	9.37E-03	1.42E-04	4.29E-03	2.79E-03	3.36E-04	3.08E-04	6.10E-04
15 Ton Forklift (Caterpillar P30000)	Forklifts/Loaders	148	Ritchie Specs	1	2	0.59	High LF	720	0.37	0.37	3.93	1.46	0.0050	0.33	0.33	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
Cat 460 Zoom Boom	Forklifts/Loaders	100	Ritchie Specs	2	2	0.59	High LF	720	0.41	0.40	4.51	3.98	0.0056	0.43	0.43	592	4.81E-03	2.40E-02	3.39E-03	1.49E-03	1.04E-03	9.37E-03	1.42E-04	4.29E-03	2.79E-03	3.36E-04	3.08E-04	6.10E-04
966 Loader w / bucket, forks, stinger (966H)	Forklifts/Loaders	286	Ritchie Specs	1	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.28E-04	3.86E-03	2.51E-03	3.02E-04	2.77E-04	5.49E-04
966 Loader w / bucket (966H)	Forklifts/Loaders	286	Ritchie Specs	1	2	0.59	High LF	720	0.37	0.33	3.83	1.26	0.0050	0.24	0.24	533	4.32E-03	2.16E-02	3.05E-03	1.34E-03	9.31E-04	8.43E-03	1.					

AGDC: Alaska Stand Alone Pipeline (ASAP) Project

GCF Construction

NonRoad Equipment: Emissions Calculations

Equipment ^a	Category	bhp	bhp Source	Quantity	Tier Level	Load Factor ^b	Transient Adjustment Factor	Operating Hours/ Month ^c	Fuel Consumption (lb/hp-hr)	Emissions (tons/month) ^d																				
										VOC	Nox	CO	SO2	PM10	PM2.5	CO2	N2O	CH4	CO2e ^f	Total HAPs	Benzene	Toluene	Xylenes	Propylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH
Phase (a) - Gravel Placement																														
1 T. Flatbed	Tractors/Trailers	400	Estimate	3	2	0.43	Average LF	720	0.37	7.1E-02	1.8E+00	3.8E-01	2.0E-03	7.9E-02	7.9E-02	2.2E+02	1.8E-03	8.8E-03	2.2E+02	8.6E-03	1.2E-03	5.4E-04	3.8E-04	3.4E-03	5.2E-05	1.6E-03	1.0E-03	1.2E-04	1.1E-04	2.2E-04
40,000#Tractor, Truck Medium Duty	Tractors/Trailers	525	Estimate	2	2	0.43	Average LF	720	0.37	6.2E-02	1.6E+00	3.3E-01	1.8E-03	6.9E-02	6.9E-02	1.9E+02	1.5E-03	7.7E-03	1.9E+02	7.5E-03	1.1E-03	4.7E-04	3.3E-04	3.0E-03	4.5E-05	1.4E-03	8.9E-04	1.1E-04	9.8E-05	1.9E-04
Watson Drill (2100)	Tractors/Trailers	150	Estimate	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ice Tractor - Drill/Pump	Tractors/Trailers	200	Estimate	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lube Truck	Tractors/Trailers	260	Estimate	4	2	0.43	Average LF	720	0.37	1.1E-01	1.4E+00	2.9E-01	1.8E-03	6.9E-02	6.9E-02	1.9E+02	1.5E-03	7.6E-03	1.9E+02	7.4E-03	1.1E-03	4.7E-04	3.3E-04	3.0E-03	4.5E-05	1.4E-03	8.8E-04	1.1E-04	9.7E-05	1.9E-04
Fuel Truck 2500-4000 gallon	Tractors/Trailers	260	Estimate	4	2	0.43	Average LF	720	0.37	1.1E-01	1.4E+00	2.9E-01	1.8E-03	6.9E-02	6.9E-02	1.9E+02	1.5E-03	7.6E-03	1.9E+02	7.4E-03	1.1E-03	4.7E-04	3.3E-04	3.0E-03	4.5E-05	1.4E-03	8.8E-04	1.1E-04	9.7E-05	1.9E-04
Welding Truck	Tractors/Trailers	260	Estimate	2	2	0.43	Average LF	720	0.37	5.7E-02	7.2E-01	1.5E-01	8.8E-04	3.4E-02	3.4E-02	9.4E+01	7.6E-04	3.8E-03	9.4E+01	3.7E-03	5.4E-04	2.3E-04	1.6E-04	1.5E-03	2.2E-05	6.8E-04	4.4E-04	5.3E-05	4.9E-05	9.6E-05
Water Truck 2500 gallon	Tractors/Trailers	200	Estimate	6	2	0.43	Average LF	720	0.37	1.3E-01	1.7E+00	3.4E-01	2.0E-03	7.9E-02	7.9E-02	2.2E+02	1.8E-03	8.8E-03	2.2E+02	8.6E-03	1.2E-03	5.4E-04	3.8E-04	3.4E-03	5.2E-05	1.6E-03	1.0E-03	1.2E-04	1.1E-04	2.2E-04
Concrete/Slurry Mixer	Tractors/Trailers	250	Estimate	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vacuum Septic Service Truck 2500 gallon	Tractors/Trailers	150	Estimate	2	2	0.43	Average LF	720	0.37	3.6E-02	4.2E-01	9.8E-02	5.1E-04	2.7E-02	2.7E-02	5.4E+01	4.4E-04	2.2E-03	5.4E+01	2.1E-03	3.1E-04	1.4E-04	9.4E-05	8.5E-04	1.3E-05	3.9E-04	2.5E-04	3.1E-05	2.8E-05	5.6E-05
Hydrovac	Tractors/Trailers	150	Estimate	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40 CY B70 (Caterpillar 773 puller)	Gravel Haul Equipment	683	Ritchie Specs	24	2	0.59	High LF	720	0.37	1.4E+00	3.0E+01	1.7E+01	3.9E-02	1.8E+00	1.8E+00	4.1E+03	3.3E-02	1.7E-01	4.1E+03	1.6E-01	2.3E-02	1.0E-02	7.1E-03	6.5E-02	9.8E-04	3.0E-02	1.9E-02	2.3E-03	2.1E-03	4.2E-03
40 CY Maxi Haul (Kenworth C500/Cat C15 Puller)	Gravel Haul Equipment	595	Ritchie Specs	6	2	0.59	High LF	720	0.37	3.0E-01	6.9E+00	2.4E+00	8.4E-03	4.0E-01	4.0E-01	8.9E+02	7.2E-03	3.6E-02	8.9E+02	3.5E-02	5.1E-03	2.2E-03	1.6E-03	1.4E-02	2.1E-04	6.4E-03	4.2E-03	5.1E-04	4.6E-04	9.2E-04
20 CY Articulate End Dump (Caterpillar 769)	Gravel Haul Equipment	474	Ritchie Specs	2	2	0.59	High LF	720	0.37	8.0E-02	1.8E+00	6.3E-01	2.2E-03	1.1E-01	1.1E-01	2.4E+02	1.9E-03	9.6E-03	2.4E+02	9.4E-03	1.4E-03	5.9E-04	4.1E-04	3.7E-03	5.7E-05	1.7E-03	1.1E-03	1.3E-04	1.2E-04	2.4E-04
30 CY Articulate End Dump (Caterpillar 773)	Gravel Haul Equipment	600	Ritchie Specs	4	2	0.59	High LF	720	0.37	2.0E-01	4.4E+00	2.5E+00	5.7E-03	2.7E-01	2.7E-01	6.0E+02	4.9E-03	2.4E-02	6.0E+02	2.4E-02	3.4E-03	1.5E-03	1.0E-03	9.5E-03	1.4E-04	4.3E-03	2.8E-03	3.4E-04	3.1E-04	6.2E-04
Caterpillar D7 Dozer	Dozers	200	Ritchie Specs	1	2	0.59	High LF	720	0.37	3.1E-02	3.6E-01	1.2E-01	4.7E-04	2.2E-02	2.2E-02	5.0E+01	4.0E-04	2.0E-03	5.0E+01	2.0E-03	2.9E-04	1.3E-04	8.7E-05	7.9E-04	1.2E-05	3.6E-04	2.3E-04	2.8E-05	2.6E-05	5.1E-05
Caterpillar D9 Dozer	Dozers	370	Ritchie Specs	3	2	0.59	High LF	720	0.37	9.4E-02	2.2E+00	7.4E-01	2.6E-03	1.2E-01	1.2E-01	2.2E+02	2.2E-03	1.1E-02	2.8E+02	1.1E-02	1.6E-03	6.9E-04	4.8E-04	4.4E-03	6.6E-05	2.0E-03	1.3E-03	1.6E-04	1.4E-04	2.9E-04
Caterpillar D10 Dozer	Dozers	520	Ritchie Specs	4	2	0.59	High LF	720	0.37	1.8E-01	4.0E+00	1.4E+00	4.9E-03	2.3E-01	2.3E-01	5.2E+02	4.2E-03	2.1E-02	5.2E+02	2.1E-02	3.0E-03	1.3E-03	9.1E-04	8.2E-03	1.2E-04	3.8E-03	2.4E-03	2.9E-04	2.7E-04	5.3E-04
Caterpillar D11 Dozer	Dozers	770	Ritchie Specs	1	2	0.59	High LF	720	0.37	6.5E-02	1.4E+00	4.6E-01	1.8E-03	8.6E-02	8.6E-02	1.9E+02	1.6E-03	7.8E-03	1.9E+02	7.6E-03	1.1E-03	4.8E-04	3.4E-04	3.0E-03	4.6E-05	1.4E-03	9.0E-04	1.1E-04	1.0E-04	2.0E-04
Caterpillar 324 Excavator	Backhoes/Graders	190	Ritchie Specs	2	2	0.59	High LF	720	0.37	6.0E-02	6.8E-01	2.2E-01	9.0E-04	4.2E-02	4.2E-02	9.5E+01	7.7E-04	3.8E-03	9.5E+01	3.8E-03	5.4E-04	2.4E-04	1.7E-04	1.5E-03	2.3E-05	6.9E-04	4.5E-04	5.4E-05	4.9E-05	9.8E-05
Caterpillar 336 Excavator	Backhoes/Graders	266	Ritchie Specs	6	2	0.59	High LF	720	0.37	2.5E-01	2.9E+00	9.4E-01	3.8E-03	1.8E-01	1.8E-01	4.0E+02	3.2E-03	1.6E-02	4.0E+02	1.6E-02	2.3E-03	1.0E-03	7.0E-04	6.3E-03	9.5E-05	2.9E-03	1.9E-03	2.3E-04	2.1E-04	4.1E-04
Caterpillar 16M Motor Grader	Backhoes/Graders	312	Ritchie Specs	4	2	0.59	High LF	720	0.37	1.1E-01	2.4E+00	8.3E-01	2.9E-03	1.4E-01	1.4E-01	3.1E+02	2.5E-03	1.3E-02	3.1E+02	1.2E-02	1.8E-03	7.8E-04	5.4E-04	4.9E-03	7.5E-05	2.3E-03	1.5E-03	1.8E-04	1.6E-04	3.2E-04
Skid Steer Loader (Caterpillar 272)	Backhoes/Graders	94	Ritchie Specs	6	2	0.21	Low LF	720	0.48	8.2E-02	4.9E-01	6.3E-01	6.1E-04	6.5E-02	6.5E-02	6.5E+01	5.3E-04	2.6E-03	6.5E+01	2.6E-03	3.7E-04	1.6E-04	1.1E-04	1.0E-03	1.6E-05	4.7E-04	3.1E-04	3.7E-05	3.4E-05	6.7E-05
Trencher (RTX1250)	Backhoes/Graders	120	Vermeer	1	2	0.59	High LF	720	0.37	2.1E-02	2.2E-01	8.2E-02	2.8E-04	1.8E-02	1.8E-02	3.0E+01	2.4E-04	1.2E-03	3.0E+01	1.2E-03	1.7E-04	7.5E-05	5.2E-05	4.7E-04	7.2E-06	2.2E-04	1.4E-04	1.7E-05	1.6E-05	3.1E-05
35 Ton RT (Terex RC35)	Cranes	160	Ritchie Specs	2	2	0.43	Average LF	720	0.37	3.8E-02	4.5E-01	1.0E-01	5.4E-04	2.9E-02	2.9E-02	5.7E+01	4.7E-04	2.3E-03	5.8E+01	2.3E-03	3.3E-04	1.4E-04	1.0E-04	9.1E-04	1.4E-05	4.2E-04	2.7E-04	3.3E-05	3.0E-05	5.9E-05
75 Ton RT (Grove RT875E)	Cranes	275	Ritchie Specs	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
135 Ton RT (Grove RT9130E)	Cranes	300	Ritchie Specs	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
200 Ton Manitowoc Lattice (14000)	Cranes	340	Manitowoc	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300 Ton Manitowoc 2250 Lattice	Cranes	500	Manitowoc	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M16000 Lattice	Cranes	500	Manitowoc	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3 Ton Forklift (Caterpillar C6000)	Forklifts/Loaders	63	Ritchie Specs	0	2	0.59	High LF	720	0.41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15 Ton Forklift (Caterpillar P30000)	Forklifts/Loaders	148	Ritchie Specs	2	2	0.59	High LF	720	0.37	5.1E-02	5.4E-01	2.0E-01	7.0E-04	4.5E-02	4.5E-02	7.4E+01	6.0E-04	3.0E-03	7.4E+01	2.9E-03	4.2E-04	1.9E-04	1.3E-04	1.2E-03	1.8E-05	5.3E-04	3.5E-04	4.2E-05	3.8E-05	7.6E-05
Cat 460 Zoom Boom	Forklifts/Loaders	100	Ritchie Specs	2	2	0.59	High LF	720	0.41	3.7E-02	4.2E-01	3.7E-01	5.2E-04	4.1E-02	4.1E-02	5.5E+01	4.5E-04	2.2E-03	5.6E+01	2.2E-03	3.2E-04	1.4E-04	9.7E-05	8.8E-04	1.3E-05	4.0E-04	2.6E-04	3.1E-05	2.9E-05	5.7E-05
966 Loader w / bucket, forks, stinger (966H)	Forklifts/Loaders	286	Ritchie Specs	2	2	0.59	High LF	720	0.37	9.0E-02	1.0E+00	3.4E-01	1.3E-03	6.4E-02	6.4E-02	1.4E+02	1.2E-03	5.8E-03	1.4E+02	5.6E-03	8.2E-04	3.6E-04	2.5E-04	2.3E-03	3.4E-05	1.0E-03	6.7E-04	8.1E-05	7.4E-05	1.5E-04
966 Loader w / bucket (966H)	Forklifts/Loaders	286	Ritchie Specs	8	2	0.59	High LF	720	0.37	3.6E-01	4.1E+00	1.3E+00	5.4E-03	2.6E-01	2.6E-01	5.7E+02	4.6E-03	2.3E-02	5.7E+02	2.3E-02	3.3E-03	1.4E-03	1.0E-03	9.0E-03	1.4E-04	4.1E-03	2.7E-03	3.2E-04	3.0E-04	5.9E-04
966 Loader w / snow blower (966H)	Forklifts/Loaders	286	Ritchie Specs	4	2	0.59	High LF	720	0.37	1.8E-01	2.1E+00	6.7E-01	2.7E-03	1.3E-01																

AGDC: Alaska Stand Alone Pipeline (ASAP) Project
 GCF Construction
 NonRoad Equipment: Emissions Calculations

Equipment ^a	Category	bhp	bhp Source	Quantity	Tier Level	Load Factor ^b	Transient Adjustment Factor	Operating Hours/ Month ^c	Fuel Consumption (lb/hp-hr)	Emissions (tons/month) ^d																					
										VOC	Nox	CO	SO2	PM10	PM2.5	CO2	N2O	CH4	CO2e ^f	Total HAPs	Benzene	Toluene	Xylenes	Propylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH	
Phase (b) - Gravel Farming/Compaction																															
1 T. Flatbed	Tractors/Trailers	400	Estimate	3	2	0.43	Average LF	720	0.37	7.1E-02	1.8E+00	3.8E-01	2.0E-03	7.9E-02	7.9E-02	2.2E+02	1.8E-03	8.8E-03	2.2E+02	8.6E-03	1.2E-03	5.4E-04	3.8E-04	3.4E-03	3.0E-03	4.5E-05	1.6E-03	1.0E-03	1.2E-04	1.1E-04	2.2E-04
40,000#Tractor_Truck Medium Duty	Tractors/Trailers	525	Estimate	2	2	0.43	Average LF	720	0.37	6.2E-02	1.6E+00	3.3E-01	1.8E-03	6.9E-02	6.9E-02	1.9E+02	1.5E-03	7.7E-03	1.9E+02	7.5E-03	1.1E-03	4.7E-04	3.3E-04	3.0E-03	3.0E-03	4.5E-05	1.4E-03	8.9E-04	1.1E-04	9.8E-05	1.9E-04
Watson Drill (2100)	Tractors/Trailers	150	Estimate	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ice Tractor - Drill/Pump	Tractors/Trailers	200	Estimate	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lube Truck	Tractors/Trailers	260	Estimate	4	2	0.43	Average LF	720	0.37	1.1E-01	1.4E+00	2.9E-01	1.8E-03	6.9E-02	6.9E-02	1.9E+02	1.5E-03	7.6E-03	1.9E+02	7.4E-03	1.1E-03	4.7E-04	3.3E-04	3.0E-03	3.0E-03	4.5E-05	1.4E-03	8.8E-04	1.1E-04	9.7E-05	1.9E-04
Fuel Truck 2500-4000 gallon	Tractors/Trailers	260	Estimate	4	2	0.43	Average LF	720	0.37	1.1E-01	1.4E+00	2.9E-01	1.8E-03	6.9E-02	6.9E-02	1.9E+02	1.5E-03	7.6E-03	1.9E+02	7.4E-03	1.1E-03	4.7E-04	3.3E-04	3.0E-03	3.0E-03	4.5E-05	1.4E-03	8.8E-04	1.1E-04	9.7E-05	1.9E-04
Welding Truck	Tractors/Trailers	260	Estimate	2	2	0.43	Average LF	720	0.37	5.7E-02	7.2E-01	1.5E-01	8.8E-04	3.4E-02	3.4E-02	9.4E+01	7.6E-04	3.8E-03	9.4E+01	3.7E-03	5.4E-04	2.3E-04	1.6E-04	1.5E-03	2.2E-05	6.8E-04	4.4E-04	5.3E-05	4.9E-05	9.6E-05	
Water Truck 2500 gallon	Tractors/Trailers	200	Estimate	6	2	0.43	Average LF	720	0.37	1.3E-01	1.7E+00	3.4E-01	2.0E-03	7.9E-02	7.9E-02	2.2E+02	1.8E-03	8.8E-03	2.2E+02	8.6E-03	1.2E-03	5.4E-04	3.8E-04	3.4E-03	3.4E-03	5.2E-05	1.6E-03	1.0E-03	1.2E-04	1.1E-04	2.2E-04
Concrete/Slurry Mixer	Tractors/Trailers	250	Estimate	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vacuum Septic Service Truck 2500 gallon	Tractors/Trailers	150	Estimate	2	2	0.43	Average LF	720	0.37	3.6E-02	4.2E-01	9.8E-02	5.1E-04	2.7E-02	2.7E-02	5.4E+01	4.4E-04	2.2E-03	5.4E+01	2.1E-03	3.1E-04	1.4E-04	9.4E-05	8.5E-04	1.3E-05	3.9E-04	2.5E-04	3.1E-05	2.8E-05	5.6E-05	
Hydrovac	Tractors/Trailers	150	Estimate	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40 CY B70 (Caterpillar 773 puller)	Gravel Haul Equipment	683	Ritchie Specs	24	2	0.59	High LF	720	0.37	1.4E+00	3.0E+01	1.7E+01	3.9E-02	1.8E+00	1.8E+00	4.1E+03	3.3E-02	1.7E-01	4.1E+03	1.6E-01	2.3E-02	1.0E-02	7.1E-03	6.5E-02	9.8E-04	3.0E-02	1.9E-02	2.3E-03	2.1E-03	4.2E-03	
40 CY Maxi Haul (Kenworth C500/Cat C15 Puller)	Gravel Haul Equipment	595	Ritchie Specs	6	2	0.59	High LF	720	0.37	3.0E-01	6.9E+00	2.4E+00	8.4E-03	4.0E-01	4.0E-01	8.9E+02	7.2E-03	3.6E-02	8.9E+02	3.5E-02	5.1E-03	2.2E-03	1.6E-03	1.4E-02	2.1E-04	6.4E-03	4.2E-03	5.1E-04	4.6E-04	9.2E-04	
20 CY Articulate End Dump (Caterpillar 769)	Gravel Haul Equipment	474	Ritchie Specs	2	2	0.59	High LF	720	0.37	8.0E-02	1.8E+00	6.3E-01	2.2E-03	1.1E-01	1.1E-01	2.4E+02	1.9E-03	9.6E-03	2.4E+02	9.4E-03	1.4E-03	5.9E-04	4.1E-04	3.7E-03	5.7E-05	1.7E-03	1.1E-03	1.3E-04	1.2E-04	2.4E-04	
30 CY Articulate End Dump (Caterpillar 773)	Gravel Haul Equipment	600	Ritchie Specs	4	2	0.59	High LF	720	0.37	2.0E-01	4.4E+00	2.5E+00	5.7E-03	2.7E-01	2.7E-01	6.0E+02	4.9E-03	2.4E-02	6.0E+02	2.4E-02	3.4E-03	1.5E-03	1.0E-03	9.5E-03	1.4E-04	4.3E-03	2.8E-03	3.4E-04	3.1E-04	6.2E-04	
Caterpillar D7 Dozer	Dozers	200	Ritchie Specs	1	2	0.59	High LF	720	0.37	3.1E-02	3.6E-01	1.2E-01	4.7E-04	2.2E-02	2.2E-02	5.0E+01	4.0E-04	2.0E-03	5.0E+01	2.0E-03	2.9E-04	1.3E-04	8.7E-05	7.9E-04	1.2E-05	3.6E-04	2.3E-04	2.8E-05	2.6E-05	5.1E-05	
Caterpillar D9 Dozer	Dozers	370	Ritchie Specs	3	2	0.59	High LF	720	0.37	9.4E-02	2.2E+00	7.4E-01	2.6E-03	1.2E-01	1.2E-01	2.8E+02	2.2E-03	1.1E-02	2.8E+02	1.1E-02	1.6E-03	6.9E-04	4.8E-04	4.4E-03	6.6E-05	2.0E-03	1.3E-03	1.6E-04	1.4E-04	2.9E-04	
Caterpillar D10 Dozer	Dozers	520	Ritchie Specs	4	2	0.59	High LF	720	0.37	1.8E-01	4.0E+00	1.4E+00	4.9E-03	2.3E-01	2.3E-01	5.2E+02	4.2E-03	2.1E-02	5.2E+02	2.1E-02	3.0E-03	1.3E-03	9.1E-04	8.2E-03	1.2E-04	3.8E-03	2.4E-03	2.9E-04	2.7E-04	5.3E-04	
Caterpillar D11 Dozer	Dozers	770	Ritchie Specs	1	2	0.59	High LF	720	0.37	6.5E-02	1.4E+00	4.6E-01	1.8E-03	8.6E-02	8.6E-02	1.9E+02	1.6E-03	7.8E-03	1.9E+02	7.6E-03	1.1E-03	4.8E-04	3.4E-04	3.0E-03	4.6E-05	1.4E-03	9.0E-04	1.1E-04	1.0E-04	2.0E-04	
Caterpillar 324 Excavator	Backhoes/Graders	190	Ritchie Specs	2	2	0.59	High LF	720	0.37	6.0E-02	6.8E-01	2.2E-01	9.0E-04	4.2E-02	4.2E-02	9.5E+01	7.7E-04	3.8E-03	9.5E+01	3.8E-03	5.4E-04	2.4E-04	1.7E-04	1.5E-03	2.3E-05	6.9E-04	4.5E-04	5.4E-05	4.9E-05	9.8E-05	
Caterpillar 336 Excavator	Backhoes/Graders	266	Ritchie Specs	6	2	0.59	High LF	720	0.37	2.5E-01	2.9E+00	9.4E-01	3.8E-03	1.8E-01	1.8E-01	4.0E+02	3.2E-03	1.6E-02	4.0E+02	1.6E-02	2.3E-03	1.0E-03	7.0E-04	6.3E-03	9.5E-05	2.9E-03	1.9E-03	2.3E-04	2.1E-04	4.1E-04	
Caterpillar 16M Motor Grader	Backhoes/Graders	312	Ritchie Specs	4	2	0.59	High LF	720	0.37	1.1E-01	2.4E+00	8.3E-01	2.9E-03	1.4E-01	1.4E-01	3.1E+02	2.5E-03	1.3E-02	3.1E+02	1.2E-02	1.8E-03	7.8E-04	5.4E-04	4.9E-03	7.5E-05	2.3E-03	1.5E-03	1.8E-04	1.6E-04	3.2E-04	
Skid Steer Loader (Caterpillar 272)	Backhoes/Graders	94	Ritchie Specs	6	2	0.21	Low LF	720	0.48	8.2E-02	4.9E-01	6.3E-01	6.1E-04	6.5E-02	6.5E-02	6.5E+01	5.3E-04	2.6E-03	6.5E+01	2.6E-03	3.7E-04	1.6E-04	1.1E-04	1.0E-03	1.6E-05	4.7E-04	3.1E-04	3.7E-05	3.4E-05	6.7E-05	
Trencher (RTX1250)	Backhoes/Graders	120	Vermeer	1	2	0.59	High LF	720	0.37	2.1E-02	2.2E-01	8.2E-02	2.8E-04	1.8E-02	1.8E-02	3.0E+01	2.4E-04	1.2E-03	3.0E+01	1.2E-03	1.7E-04	7.5E-05	5.2E-05	4.7E-04	7.2E-06	2.2E-04	1.4E-04	1.7E-05	1.6E-05	3.1E-05	
35 Ton RT (Terex RC35)	Cranes	160	Ritchie Specs	2	2	0.43	Average LF	720	0.37	3.8E-02	4.5E-01	1.0E-01	5.4E-04	2.9E-02	2.9E-02	5.7E+01	4.7E-04	2.3E-03	5.8E+01	2.3E-03	3.3E-04	1.4E-04	1.0E-04	9.1E-04	1.4E-05	4.2E-04	2.7E-04	3.3E-05	3.0E-05	5.9E-05	
75 Ton RT (Grove RT875E)	Cranes	275	Ritchie Specs	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
135 Ton RT (Grove RT9130E)	Cranes	300	Ritchie Specs	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
200 Ton Manitowoc Lattice (14000)	Cranes	340	Manitowoc	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300 Ton Manitowoc 2250 Lattice	Cranes	500	Manitowoc	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M16000 Lattice	Cranes	500	Manitowoc	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3 Ton Forklift (Caterpillar C6000)	Forklifts/Loaders	63	Ritchie Specs	0	2	0.59	High LF	720	0.41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15 Ton Forklift (Caterpillar P30000)	Forklifts/Loaders	148	Ritchie Specs	2	2	0.59	High LF	720	0.37	5.1E-02	5.4E-01	2.0E-01	7.0E-04	4.5E-02	4.5E-02	7.4E+01	6.0E-04	3.0E-03	7.4E+01	2.9E-03	4.2E-04	1.9E-04	1.3E-04	1.2E-03	1.8E-05	5.3E-04	3.5E-04	4.2E-05	3.8E-05	7.6E-05	
Cat 460 Zoom Boom	Forklifts/Loaders	100	Ritchie Specs	2	2	0.59	High LF	720	0.41	3.7E-02	4.2E-01	3.7E-01	5.2E-04	4.1E-02	4.1E-02	5.5E+01	4.5E-04	2.2E-03	5.6E+01	2.2E-03	3.2E-04	1.4E-04	9.7E-05	8.8E-04	1.3E-05	4.0E-04	2.6E-04	3.1E-05	2.9E-05	5.7E-05	
966 Loader w / bucket, forks, stinger (966H)	Forklifts/Loaders	286	Ritchie Specs	2	2	0.59	High LF	720	0.37	9.0E-02	1.0E+00	3.4E-01	1.3E-03	6.4E-02	6.4E-02	1.4E+02	1.2E-03	5.8E-03	1.4E+02	5.6E-03	8.2E-04	3.6E-04	2.5E-04	2.3E-03	3.4E-05	1.0E-03	6.7E-04	8.1E-05	7.4E-05	1.5E-04	
966 Loader w / bucket (966H)	Forklifts/Loaders	286	Ritchie Specs	8	2	0.59	High LF	720	0.37	3.6E-01	4.1E+00	1.3E+00	5.4E-03	2.6E-01	2.6E-01	5.7E+02	4.6E-03	2.3E-02	5.7E+02	2.3E-02	3.3E-03	1.4E-03	1.0E-03	9.0E-03	1.4E-04	4.1E-03	2.7E-03	3.2E-04	3.0E-04	5.9E-04	
966 Loader w / snow blower (966H)	Forklifts/Loaders	286	Ritchie Specs	4	2	0.59	High LF	720																							

AGDC: Alaska Stand Alone Pipeline (ASAP) Project

GCF Construction

NonRoad Equipment: Emissions Calculations

Equipment ^a	Category	bhp	bhp Source	Quantity	Tier Level	Load Factor ^b	Transient Adjustment Factor	Operating Hours/ Month ^c	Fuel Consumption (lb/hp-hr)	Emissions (tons/month) ^d																				
										VOC	Nox	CO	SO2	PM10	PM2.5	CO2	N2O	CH4	CO2e ^f	Total HAPs	Benzene	Toluene	Xylenes	Propylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH
Phase II - Interconnecting Pipelines and Hydrotesting																														
1 T. Flatbed	Tractors/Trailers	400	Estimate	2	2	0.43	Average LF	720	0.37	4.7E-02	1.2E+00	2.5E-01	1.4E-03	5.3E-02	5.3E-02	1.4E+02	1.2E-03	5.8E-03	1.4E+02	5.7E-03	8.2E-04	3.6E-04	2.5E-04	2.3E-03	3.5E-05	1.0E-03	6.8E-04	8.2E-05	7.5E-05	1.5E-04
40,000#Tractor, Truck Medium Duty	Tractors/Trailers	525	Estimate	2	2	0.43	Average LF	720	0.37	6.2E-02	1.6E+00	3.3E-01	1.8E-03	6.9E-02	6.9E-02	1.9E+02	1.5E-03	7.7E-03	1.9E+02	7.5E-03	1.1E-03	4.7E-04	3.3E-04	3.0E-03	4.5E-05	1.4E-03	8.9E-04	1.1E-04	9.8E-05	1.9E-04
Watson Drill (2100)	Tractors/Trailers	150	Estimate	4	2	0.43	Average LF	720	0.37	7.2E-02	8.5E-01	2.0E-01	1.0E-03	5.4E-02	5.4E-02	1.1E+02	8.8E-04	4.4E-03	1.1E+02	4.3E-03	6.2E-04	2.7E-04	1.9E-04	1.7E-03	2.6E-05	7.8E-04	5.1E-04	6.1E-05	5.6E-05	1.1E-04
Ice Tractor - Drill/Pump	Tractors/Trailers	200	Estimate	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Lube Truck	Tractors/Trailers	260	Estimate	2	2	0.43	Average LF	720	0.37	5.7E-02	7.2E-01	1.5E-01	8.8E-04	3.4E-02	3.4E-02	9.4E+01	7.6E-04	3.8E-03	9.4E+01	3.7E-03	5.4E-04	2.3E-04	1.6E-04	1.5E-03	2.2E-05	6.8E-04	4.4E-04	5.3E-05	4.9E-05	9.6E-05
Fuel Truck 2500-4000 gallon	Tractors/Trailers	260	Estimate	1	2	0.43	Average LF	720	0.37	2.8E-02	3.6E-01	7.3E-02	4.4E-04	1.7E-02	1.7E-02	4.7E+01	3.8E-04	1.9E-03	4.7E+01	1.9E-03	2.7E-04	1.2E-04	8.2E-05	7.4E-04	1.1E-05	3.4E-04	2.2E-04	2.7E-05	2.4E-05	4.8E-05
Welding Truck	Tractors/Trailers	260	Estimate	2	2	0.43	Average LF	720	0.37	5.7E-02	7.2E-01	1.5E-01	8.8E-04	3.4E-02	3.4E-02	9.4E+01	7.6E-04	3.8E-03	9.4E+01	3.7E-03	5.4E-04	2.3E-04	1.6E-04	1.5E-03	2.2E-05	6.8E-04	4.4E-04	5.3E-05	4.9E-05	9.6E-05
Water Truck 2500 gallon	Tractors/Trailers	200	Estimate	2	2	0.43	Average LF	720	0.37	4.4E-02	5.5E-01	1.1E-01	6.8E-04	2.6E-02	2.6E-02	7.2E+01	5.8E-04	2.9E-03	7.2E+01	2.9E-03	4.1E-04	1.8E-04	1.3E-04	1.1E-03	1.7E-05	5.2E-04	3.4E-04	4.1E-05	3.7E-05	7.4E-05
Concrete/Slurry Mixer	Tractors/Trailers	250	Estimate	3	2	0.43	Average LF	720	0.37	8.2E-02	1.0E+00	2.1E-01	1.3E-03	5.0E-02	5.0E-02	1.4E+02	1.1E-03	5.5E-03	1.4E+02	5.3E-03	7.7E-04	3.4E-04	2.4E-04	2.1E-03	3.2E-05	9.8E-04	6.4E-04	7.7E-05	7.0E-05	1.4E-04
Vacuum Septic Service Truck 2500 gallon	Tractors/Trailers	150	Estimate	1	2	0.43	Average LF	720	0.37	1.8E-02	2.1E-01	4.9E-02	2.6E-04	1.4E-02	1.4E-02	2.7E+01	2.2E-04	1.1E-03	2.7E+01	1.1E-03	1.5E-04	6.8E-05	4.7E-05	4.3E-04	6.5E-06	2.0E-04	1.3E-04	1.5E-05	1.4E-05	2.8E-05
Hydrovac	Tractors/Trailers	150	Estimate	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
40 CY B70 (Caterpillar 773 puller)	Gravel Haul Equipment	683	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
40 CY Maxi Haul (Kenworth C500/Cat C15 Puller)	Gravel Haul Equipment	595	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
20 CY Articulate End Dump (Caterpillar 769)	Gravel Haul Equipment	474	Ritchie Specs	2	2	0.59	High LF	720	0.37	8.0E-02	1.8E+00	6.3E-01	2.2E-03	1.1E-01	1.1E-01	2.4E+02	1.9E-03	9.6E-03	2.4E+02	9.4E-03	1.4E-03	5.9E-04	4.1E-04	3.7E-03	5.7E-05	1.7E-03	1.1E-03	1.3E-04	1.2E-04	2.4E-04
30 CY Articulate End Dump (Caterpillar 773)	Gravel Haul Equipment	600	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Caterpillar D7 Dozer	Dozers	200	Ritchie Specs	1	2	0.59	High LF	720	0.37	3.1E-02	3.6E-01	1.2E-01	4.7E-04	2.2E-02	2.2E-02	5.0E+01	4.0E-04	2.0E-03	5.0E+01	2.0E-03	2.9E-04	1.3E-04	8.7E-05	7.9E-04	1.2E-05	3.6E-04	2.3E-04	2.8E-05	2.6E-05	5.1E-05
Caterpillar D9 Dozer	Dozers	370	Ritchie Specs	1	2	0.59	High LF	720	0.37	3.1E-02	7.2E-01	2.5E-01	8.7E-04	4.1E-02	4.1E-02	9.2E+01	7.5E-04	3.7E-03	9.3E+01	3.7E-03	5.3E-04	2.3E-04	1.6E-04	1.5E-03	2.2E-05	6.7E-04	4.3E-04	5.2E-05	4.8E-05	9.5E-05
Caterpillar D10 Dozer	Dozers	520	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Caterpillar D11 Dozer	Dozers	770	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Caterpillar 324 Excavator	Backhoes/Graders	190	Ritchie Specs	2	2	0.59	High LF	720	0.37	6.0E-02	6.8E-01	2.2E-01	9.0E-04	4.2E-02	4.2E-02	9.5E+01	7.7E-04	3.8E-03	9.5E+01	3.8E-03	5.4E-04	2.4E-04	1.7E-04	1.5E-03	2.3E-05	6.9E-04	4.5E-04	5.4E-05	4.9E-05	9.8E-05
Caterpillar 336 Excavator	Backhoes/Graders	266	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Caterpillar 16M Motor Grader	Backhoes/Graders	312	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Skid Steer Loader (Caterpillar 272)	Backhoes/Graders	94	Ritchie Specs	2	2	0.21	Low LF	720	0.48	2.7E-02	1.6E-01	2.1E-01	2.0E-04	2.2E-02	2.2E-02	2.2E+01	1.8E-04	8.8E-04	2.2E+01	8.6E-04	1.2E-04	5.4E-05	3.8E-05	3.4E-04	5.2E-06	1.6E-04	1.0E-04	1.2E-05	1.1E-05	2.2E-05
Trencher (RTX1250)	Backhoes/Graders	120	Vermeer	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
35 Ton RT (Terex RC35)	Cranes	160	Ritchie Specs	1	2	0.43	Average LF	720	0.37	1.9E-02	2.3E-01	5.2E-02	2.7E-04	1.4E-02	1.4E-02	2.9E+01	2.3E-04	1.2E-03	2.9E+01	1.1E-03	1.6E-04	7.2E-05	5.0E-05	4.5E-04	6.9E-06	2.1E-04	1.4E-04	1.6E-05	1.5E-05	3.0E-05
75 Ton RT (Grove RT875E)	Cranes	275	Ritchie Specs	2	2	0.43	Average LF	720	0.37	6.0E-02	7.6E-01	1.5E-01	9.4E-04	3.6E-02	3.6E-02	9.9E+01	8.0E-04	4.0E-03	9.9E+01	3.9E-03	5.7E-04	2.5E-04	1.7E-04	1.6E-03	2.4E-05	7.2E-04	4.7E-04	5.6E-05	5.1E-05	1.0E-04
135 Ton RT (Grove RT9130E)	Cranes	300	Ritchie Specs	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
200 Ton Manitowoc Lattice (14000)	Cranes	340	Manitowoc	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
300 Ton Manitowoc 2250 Lattice	Cranes	500	Manitowoc	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
M16000 Lattice	Cranes	500	Manitowoc	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3 Ton Forklift (Caterpillar C6000)	Forklifts/Loaders	63	Ritchie Specs	0	2	0.59	High LF	720	0.41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
15 Ton Forklift (Caterpillar P30000)	Forklifts/Loaders	148	Ritchie Specs	2	2	0.59	High LF	720	0.37	5.1E-02	5.4E-01	2.0E-01	7.0E-04	4.5E-02	4.5E-02	7.4E+01	6.0E-04	3.0E-03	7.4E+01	2.9E-03	4.2E-04	1.9E-04	1.3E-04	1.2E-03	1.8E-05	5.3E-04	3.5E-04	4.2E-05	3.8E-05	7.6E-05
Cat 460 Zoom Boom	Forklifts/Loaders	100	Ritchie Specs	0	2	0.59	High LF	720	0.41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
966 Loader w / bucket, forks, stinger (966H)	Forklifts/Loaders	286	Ritchie Specs	1	2	0.59	High LF	720	0.37	4.5E-02	5.1E-01	1.7E-01	6.7E-04	3.2E-02	3.2E-02	7.1E+01	5.8E-04	2.9E-03	7.2E+01	2.8E-03	4.1E-04	1.8E-04	1.2E-04	1.1E-03	1.7E-05	5.2E-04	3.4E-04	4.0E-05	3.7E-05	7.4E-05
966 Loader w / bucket (966H)	Forklifts/Loaders	286	Ritchie Specs	1	2	0.59	High LF	720	0.37	4.5E-02	5.1E-01	1.7E-01	6.7E-04	3.2E-02	3.2E-02	7.1E+01	5.8E-04	2.9E-03	7.2E+01	2.8E-03	4.1E-04	1.8E-04	1.2E-04	1.1E-03	1.7E-05	5.2E-04	3.4E-04	4.0E-05	3.7E-05	7.4E-05
966 Loader w / snow blower (966H)	Forklifts/Loaders	286	Ritchie Specs	1	2	0.59	High LF	720	0.37	4.5E-02	5.1E-01	1.7E-01	6.7E-04	3.2E-02	3.2E-02	7.1E+01	5.8E-04	2.9E-03	7.2E+01	2.8E-03	4.1E-04	1.8E-04	1.2E-04	1.1E-03	1.7E-05	5.2E-04	3.4E-04	4.0E-05	3.7E-05	7.4E-05
185 CFM (IR P135WIR)	Air Compressors/Drills	40	Ingersoll Rand	1	2	0.43	Average LF	720	0.41	3.9E-03	6.5E-02	2.3E-02	7.6E-05	6.8E-03	6.8E-03	8.0E+00	6.5E-05	3.2E-04	8.0E+00	3.2E-04	4.6E-05	2.0E-05	1.4E-05	1.3E-04	1.9E-06	5.8E-05	3.8E-05	4.5E-06	4.2E-06	8.2E-06
375 CFM (Sullair 375HH AF)	Air Compressors/Drills	140	Sullair	2	2	0.43	Average LF	720	0.37	3.3E-02	4.0E-01	9.1E-02	4.8E-04	2.5E-02	2.5E-02	5.0E+01	4.1E-04	2.0E-03	5.1E+01	2.0E-03	2.9E-04	1.3E-04	8.8E-05	8.0E-04	1.2E-05	3.6E-04	2.4E-04	2.9E-05	2.6E-05	5.2E-05

Equipment ^a	Category	bhp	bhp Source	Quantity	Tier Level	Load Factor ^b	Transient Adjustment Factor	Operating Hours/ Month ^c	Fuel Consumption (lb/hp-hr)	Emissions (tons/month) ^d																				
										VOC	Nox	CO	SO2	PM10	PM2.5	CO2	N2O	CH4	CO2e ^f	Total HAPs	Benzene	Toluene	Xylenes	Propylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH
Phase IV(a) - Install Permanent Camp and Office Piles																														
1 T. Flatbed	Tractors/Trailers	400	Estimate	3	2	0.43	Average LF	720	0.37	7.1E-02	1.8E+00	3.8E-01	2.0E-03	7.9E-02	7.9E-02	2.2E+02	1.8E-03	8.8E-03	2.2E+02	8.6E-03	1.2E-03	5.4E-04	3.8E-04	3.4E-03	5.2E-05	1.6E-03	1.0E-03	1.2E-04	1.1E-04	2.2E-04
40,000#Tractor, Truck Medium Duty	Tractors/Trailers	525	Estimate	3	2	0.43	Average LF	720	0.37	9.3E-02	2.4E+00	5.0E-01	2.7E-03	1.0E-01	1.0E-01	2.8E+02	2.3E-03	1.2E-02	2.8E+02	1.1E-02	1.6E-03	7.1E-04	5.0E-04	4.5E-03	6.8E-05	2.1E-03	1.3E-03	1.6E-04	1.5E-04	2.9E-04
Watson Drill (2100)	Tractors/Trailers	150	Estimate	5	2	0.43	Average LF	720	0.37	9.0E-02	1.1E+00	2.4E-01	1.3E-03	6.8E-02	6.8E-02	1.4E+02	1.1E-03	5.5E-03	1.4E+02	5.3E-03	7.7E-04	3.4E-04	2.4E-04	2.1E-03	3.2E-05	9.8E-04	6.4E-04	7.7E-05	7.0E-05	1.4E-04
Ice Tractor - Drill/Pump	Tractors/Trailers	200	Estimate	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lube Truck	Tractors/Trailers	260	Estimate	2	2	0.43	Average LF	720	0.37	5.7E-02	7.2E-01	1.5E-01	8.8E-04	3.4E-02	3.4E-02	9.4E+01	7.6E-04	3.8E-03	9.4E+01	3.7E-03	5.4E-04	2.3E-04	1.6E-04	1.5E-03	2.2E-05	6.8E-04	4.4E-04	5.3E-05	4.9E-05	9.6E-05
Fuel Truck 2500-4000 gallon	Tractors/Trailers	260	Estimate	2	2	0.43	Average LF	720	0.37	5.7E-02	7.2E-01	1.5E-01	8.8E-04	3.4E-02	3.4E-02	9.4E+01	7.6E-04	3.8E-03	9.4E+01	3.7E-03	5.4E-04	2.3E-04	1.6E-04	1.5E-03	2.2E-05	6.8E-04	4.4E-04	5.3E-05	4.9E-05	9.6E-05
Welding Truck	Tractors/Trailers	260	Estimate	1	2	0.43	Average LF	720	0.37	2.8E-02	3.6E-01	7.3E-02	4.4E-04	1.7E-02	1.7E-02	4.7E+01	3.8E-04	1.9E-03	4.7E+01	1.9E-03	2.7E-04	1.2E-04	8.2E-05	7.4E-04	1.1E-05	3.4E-04	2.2E-04	2.7E-05	2.4E-05	4.8E-05
Water Truck 2500 gallon	Tractors/Trailers	200	Estimate	2	2	0.43	Average LF	720	0.37	4.4E-02	5.5E-01	1.1E-01	6.8E-04	2.6E-02	2.6E-02	7.2E+01	5.8E-04	2.9E-03	7.2E+01	2.9E-03	4.1E-04	1.8E-04	7.2E-04	1.1E-03	1.7E-05	5.2E-04	3.4E-04	4.1E-05	3.7E-05	7.4E-05
Concrete/Slurry Mixer	Tractors/Trailers	250	Estimate	2	2	0.43	Average LF	720	0.37	5.4E-02	6.9E-01	1.4E-01	8.5E-04	3.3E-02	3.3E-02	9.0E+01	7.3E-04	3.7E-03	9.0E+01	3.6E-03	5.2E-04	2.3E-04	1.6E-04	1.4E-03	2.2E-05	6.5E-04	4.2E-04	5.1E-05	4.7E-05	9.3E-05
Vacuum Septic Service Truck 2500 gallon	Tractors/Trailers	150	Estimate	1	2	0.43	Average LF	720	0.37	1.8E-02	2.1E-01	4.9E-02	2.6E-04	1.4E-02	1.4E-02	2.7E+01	2.2E-04	1.1E-03	2.7E+01	1.1E-03	1.5E-04	6.8E-05	4.7E-05	4.3E-04	6.5E-06	2.0E-04	1.3E-04	1.5E-05	1.4E-05	2.8E-05
Hydrovac	Tractors/Trailers	150	Estimate	1	2	0.43	Average LF	720	0.37	1.8E-02	2.1E-01	4.9E-02	2.6E-04	1.4E-02	1.4E-02	2.7E+01	2.2E-04	1.1E-03	2.7E+01	1.1E-03	1.5E-04	6.8E-05	4.7E-05	4.3E-04	6.5E-06	2.0E-04	1.3E-04	1.5E-05	1.4E-05	2.8E-05
40 CY B70 (Caterpillar 773 puller)	Gravel Haul Equipment	683	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40 CY Maxi Haul (Kenworth C500/Cat C15 Puller)	Gravel Haul Equipment	595	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20 CY Articulate End Dump (Caterpillar 769)	Gravel Haul Equipment	474	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30 CY Articulate End Dump (Caterpillar 773)	Gravel Haul Equipment	600	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caterpillar D7 Dozer	Dozers	200	Ritchie Specs	1	2	0.59	High LF	720	0.37	3.1E-02	3.6E-01	1.2E-01	4.7E-04	2.2E-02	2.2E-02	5.0E+01	4.0E-04	2.0E-03	5.0E+01	2.0E-03	2.9E-04	1.3E-04	8.7E-05	7.9E-04	1.2E-05	3.6E-04	2.3E-04	2.8E-05	2.6E-05	5.1E-05
Caterpillar D9 Dozer	Dozers	370	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caterpillar D10 Dozer	Dozers	520	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caterpillar D11 Dozer	Dozers	770	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caterpillar 324 Excavator	Backhoes/Graders	190	Ritchie Specs	1	2	0.59	High LF	720	0.37	3.0E-02	3.4E-01	1.1E-01	4.5E-04	2.1E-02	2.1E-02	4.7E+01	3.8E-04	1.9E-03	4.8E+01	1.9E-03	2.7E-04	1.2E-04	8.3E-05	7.5E-04	1.1E-05	3.4E-04	2.2E-04	2.7E-05	2.5E-05	4.9E-05
Caterpillar 336 Excavator	Backhoes/Graders	266	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caterpillar 16M Motor Grader	Backhoes/Graders	312	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Skid Steer Loader (Caterpillar 272)	Backhoes/Graders	94	Ritchie Specs	2	2	0.21	Low LF	720	0.48	2.7E-02	1.6E-01	2.1E-01	2.0E-04	2.2E-02	2.2E-02	2.2E+01	1.8E-04	8.8E-04	2.2E+01	8.6E-04	1.2E-04	5.4E-05	3.8E-05	3.4E-04	5.2E-06	1.6E-04	1.0E-04	1.2E-05	1.1E-05	2.2E-05
Trencher (RTX1250)	Backhoes/Graders	120	Vermeer	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35 Ton RT (Terex RC35)	Cranes	160	Ritchie Specs	1	2	0.43	Average LF	720	0.37	1.9E-02	2.3E-01	5.2E-02	2.7E-04	1.4E-02	1.4E-02	2.9E+01	2.3E-04	1.2E-03	2.9E+01	1.1E-03	1.6E-04	7.2E-05	5.0E-05	4.5E-04	6.9E-06	2.1E-04	1.4E-04	1.6E-05	1.5E-05	3.0E-05
75 Ton RT (Grove RT875E)	Cranes	275	Ritchie Specs	2	2	0.43	Average LF	720	0.37	6.0E-02	7.6E-01	1.5E-01	9.4E-04	3.6E-02	3.6E-02	9.9E+01	8.0E-04	4.0E-03	9.9E+01	3.9E-03	5.7E-04	2.5E-04	1.7E-04	1.6E-03	2.4E-05	7.2E-04	4.7E-04	5.6E-05	5.1E-05	1.0E-04
135 Ton RT (Grove RT9130E)	Cranes	300	Ritchie Specs	1	2	0.43	Average LF	720	0.37	1.8E-02	4.5E-01	9.5E-02	5.1E-04	2.0E-02	2.0E-02	5.4E+01	4.4E-04	2.2E-03	5.4E+01	2.1E-03	3.1E-04	1.4E-04	9.5E-05	8.6E-04	1.3E-05	3.9E-04	2.5E-04	3.1E-05	2.8E-05	5.6E-05
200 Ton Manitowoc Lattice (14000)	Cranes	340	Manitowoc	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300 Ton Manitowoc 2250 Lattice	Cranes	500	Manitowoc	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M16000 Lattice	Cranes	500	Manitowoc	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3 Ton Forklift (Caterpillar C6000)	Forklifts/Loaders	63	Ritchie Specs	0	2	0.59	High LF	720	0.41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15 Ton Forklift (Caterpillar P30000)	Forklifts/Loaders	148	Ritchie Specs	1	2	0.59	High LF	720	0.37	2.5E-02	2.7E-01	1.0E-01	3.5E-04	2.3E-02	2.3E-02	3.7E+01	3.0E-04	1.5E-03	3.7E+01	1.5E-03	2.1E-04	9.3E-05	6.5E-05	5.8E-04	8.9E-06	2.7E-04	1.7E-04	2.1E-05	1.9E-05	3.8E-05
Cat 460 Zoom Boom	Forklifts/Loaders	100	Ritchie Specs	0	2	0.59	High LF	720	0.41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
966 Loader w/ bucket, forks, stinger (966H)	Forklifts/Loaders	286	Ritchie Specs	1	2	0.59	High LF	720	0.37	4.5E-02	5.1E-01	1.7E-01	6.7E-04	3.2E-02	3.2E-02	7.1E+01	5.8E-04	2.9E-03	7.2E+01	2.8E-03	4.1E-04	1.8E-04	1.2E-04	1.1E-03	1.7E-05	5.2E-04	3.4E-04	4.0E-05	3.7E-05	7.4E-05
966 Loader w/ bucket (966H)	Forklifts/Loaders	286	Ritchie Specs	1	2	0.59	High LF	720	0.37	4.5E-02	5.1E-01	1.7E-01	6.7E-04	3.2E-02	3.2E-02	7.1E+01	5.8E-04	2.9E-03	7.2E+01	2.8E-03	4.1E-04	1.8E-04	1.2E-04	1.1E-03	1.7E-05	5.2E-04	3.4E-04	4.0E-05	3.7E-05	7.4E-05
966 Loader w/ snow blower (966H)	Forklifts/Loaders	286	Ritchie Specs	1	2	0.59	High LF	720	0.37	4.5E-02	5.1E-01	1.7E-01	6.7E-04	3.2E-02	3.2E-02	7.1E+01	5.8E-04	2.9E-03	7.2E+01	2.8E-03	4.1E-04	1.8E-04	1.2E-04	1.1E-03	1.7E-05	5.2E-04	3.4E-04	4.0E-05	3.7E-05	7.4E-05
185 CFM (IR P135WIR)	Air Compressors/Drills	40	Ingersoll Rand	1	2	0.43	Average LF	720	0.41	3.9E-03	6.5E-02	2.3E-02	7.6E-05	6.8E-03	6.8E-03	8.0E+00	6.5E-05	3.2E-04	8.0E+00	3.2E-04	4.6E-05	2.0E-05	1.4E-05	1.3E-04	1.9E-06	5.8E-05	3.8E-05	4.5E-06	4.2E-06	8.2E-06
375 CFM (Sullair 375HH AF)	Air Compressors/Drills	140	Sullair	2	2	0.43	Average LF	720	0.37	3.3E-02	4.0E-01	9.1E-02	4.8E-04	2.5E-02	2.5E-02	5.0E+01	4.1E-04	2.0E-03	5.1E+01	2.0E-03	2.9E-04	1.3E-04	8.8E-05	8.0E-04	1.2E-05	3.6E-04	2.4E-04	2.9E-0		

Equipment ^a	Category	bhp	bhp Source	Quantity	Tier Level	Load Factor ^b	Transient Adjustment Factor	Operating Hours/ Month ^c	Fuel Consumption (lb/hp-hr)	Emissions (tons/month) ^d																				
										VOC	Nox	CO	SO2	PM10	PM2.5	CO2	N2O	CH4	CO2e ^f	Total HAPs	Benzene	Toluene	Xylenes	Propylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH
Phase IV(b) - Install Permanent Camps, Offices, Shops, and Warehouse																														
1 T. Flatbed	Tractors/Trailers	400	Estimate	3	2	0.43	Average LF	720	0.37	7.1E-02	1.8E+00	3.8E-01	2.0E-03	7.9E-02	7.9E-02	2.2E+02	1.8E-03	8.8E-03	2.2E+02	8.6E-03	1.2E-03	5.4E-04	3.8E-04	3.4E-03	5.2E-05	1.6E-03	1.0E-03	1.2E-04	1.1E-04	2.2E-04
40,000#Tractor, Truck Medium Duty	Tractors/Trailers	525	Estimate	3	2	0.43	Average LF	720	0.37	9.3E-02	2.4E+00	5.0E-01	2.7E-03	1.0E-01	1.0E-01	2.8E+02	2.3E-03	1.2E-02	2.8E+02	1.1E-02	1.6E-03	7.1E-04	5.0E-04	4.5E-03	6.8E-05	2.1E-03	1.3E-03	1.6E-04	1.5E-04	2.9E-04
Watson Drill (2100)	Tractors/Trailers	150	Estimate	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Ice Tractor - Drill/Pump	Tractors/Trailers	200	Estimate	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Lube Truck	Tractors/Trailers	260	Estimate	2	2	0.43	Average LF	720	0.37	5.7E-02	7.2E-01	1.5E-01	8.8E-04	3.4E-02	3.4E-02	9.4E+01	7.6E-04	3.8E-03	9.4E+01	3.7E-03	5.4E-04	2.3E-04	1.6E-04	1.5E-03	2.2E-05	6.8E-04	4.4E-04	5.3E-05	4.9E-05	9.6E-05
Fuel Truck 2500-4000 gallon	Tractors/Trailers	260	Estimate	2	2	0.43	Average LF	720	0.37	5.7E-02	7.2E-01	1.5E-01	8.8E-04	3.4E-02	3.4E-02	9.4E+01	7.6E-04	3.8E-03	9.4E+01	3.7E-03	5.4E-04	2.3E-04	1.6E-04	1.5E-03	2.2E-05	6.8E-04	4.4E-04	5.3E-05	4.9E-05	9.6E-05
Welding Truck	Tractors/Trailers	260	Estimate	1	2	0.43	Average LF	720	0.37	2.8E-02	3.6E-01	7.3E-02	4.4E-04	1.7E-02	1.7E-02	4.7E+01	3.8E-04	1.9E-03	4.7E+01	1.9E-03	2.7E-04	1.2E-04	8.2E-05	7.4E-04	1.1E-05	3.4E-04	2.2E-04	2.7E-05	2.4E-05	4.8E-05
Water Truck 2500 gallon	Tractors/Trailers	200	Estimate	1	2	0.43	Average LF	720	0.37	2.2E-02	2.8E-01	5.6E-02	3.4E-04	1.3E-02	1.3E-02	3.6E+01	2.9E-04	1.5E-03	3.6E+01	1.4E-03	2.1E-04	9.0E-05	6.3E-05	5.7E-04	8.6E-06	2.6E-04	1.7E-04	2.0E-05	1.9E-05	3.7E-05
Concrete/Slurry Mixer	Tractors/Trailers	250	Estimate	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vacuum Septic Service Truck 2500 gallon	Tractors/Trailers	150	Estimate	1	2	0.43	Average LF	720	0.37	1.8E-02	2.1E-01	4.9E-02	2.6E-04	1.4E-02	1.4E-02	2.7E+01	2.2E-04	1.1E-03	2.7E+01	1.1E-03	1.5E-04	6.8E-05	4.7E-05	4.3E-04	6.5E-06	2.0E-04	1.3E-04	1.5E-05	1.4E-05	2.8E-05
Hydrovac	Tractors/Trailers	150	Estimate	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
40 CY B70 (Caterpillar 773 puller)	Gravel Haul Equipment	683	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
40 CY Maxi Haul (Kenworth C500/Cat C15 Puller)	Gravel Haul Equipment	595	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
20 CY Articulate End Dump (Caterpillar 769)	Gravel Haul Equipment	474	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
30 CY Articulate End Dump (Caterpillar 773)	Gravel Haul Equipment	600	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Caterpillar D7 Dozer	Dozers	200	Ritchie Specs	1	2	0.59	High LF	720	0.37	3.1E-02	3.6E-01	1.2E-01	4.7E-04	2.2E-02	2.2E-02	5.0E+01	4.0E-04	2.0E-03	5.0E+01	2.0E-03	2.9E-04	1.3E-04	8.7E-05	7.9E-04	1.2E-05	3.6E-04	2.3E-04	2.8E-05	2.6E-05	5.1E-05
Caterpillar D9 Dozer	Dozers	370	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Caterpillar D10 Dozer	Dozers	520	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Caterpillar D11 Dozer	Dozers	770	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Caterpillar 324 Excavator	Backhoes/Graders	190	Ritchie Specs	1	2	0.59	High LF	720	0.37	3.0E-02	3.4E-01	1.1E-01	4.5E-04	2.1E-02	2.1E-02	4.7E+01	3.8E-04	1.9E-03	4.8E+01	1.9E-03	2.7E-04	1.2E-04	8.3E-05	7.5E-04	1.1E-05	3.4E-04	2.2E-04	2.7E-05	2.5E-05	4.9E-05
Caterpillar 336 Excavator	Backhoes/Graders	266	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Caterpillar 16M Motor Grader	Backhoes/Graders	312	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Skid Steer Loader (Caterpillar 272)	Backhoes/Graders	94	Ritchie Specs	2	2	0.21	Low LF	720	0.48	2.7E-02	1.6E-01	2.1E-01	2.0E-04	2.2E-02	2.2E-02	2.2E+01	1.8E-04	8.8E-04	2.2E+01	8.6E-04	1.2E-04	5.4E-05	3.8E-05	3.4E-04	5.2E-06	1.6E-04	1.0E-04	1.2E-05	1.1E-05	2.2E-05
Trencher (RTX1250)	Backhoes/Graders	120	Vermeer	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
35 Ton RT (Terex RC35)	Cranes	160	Ritchie Specs	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
75 Ton RT (Grove RT875E)	Cranes	275	Ritchie Specs	1	2	0.43	Average LF	720	0.37	3.0E-02	3.8E-01	7.7E-02	4.7E-04	1.8E-02	1.8E-02	4.9E+01	4.0E-04	2.0E-03	5.0E+01	2.0E-03	2.8E-04	1.2E-04	8.7E-05	7.8E-04	1.2E-05	3.6E-04	2.3E-04	2.8E-05	2.6E-05	5.1E-05
135 Ton RT (Grove RT9130E)	Cranes	300	Ritchie Specs	1	2	0.43	Average LF	720	0.37	1.8E-02	4.5E-01	9.5E-02	5.1E-04	2.0E-02	2.0E-02	5.4E+01	4.4E-04	2.2E-03	5.4E+01	2.1E-03	3.1E-04	1.4E-04	9.5E-05	8.6E-04	1.3E-05	3.9E-04	2.5E-04	3.1E-05	2.8E-05	5.6E-05
200 Ton Manitowoc Lattice (14000)	Cranes	340	Manitowoc	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
300 Ton Manitowoc 2250 Lattice	Cranes	500	Manitowoc	1	2	0.43	Average LF	720	0.37	2.9E-02	7.5E-01	1.6E-01	8.5E-04	3.3E-02	3.3E-02	9.0E+01	7.3E-04	3.7E-03	9.0E+01	3.6E-03	5.2E-04	2.3E-04	1.6E-04	1.4E-03	2.2E-05	6.5E-04	4.2E-04	5.1E-05	4.7E-05	9.3E-05
M16000 Lattice	Cranes	500	Manitowoc	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3 Ton Forklift (Caterpillar C6000)	Forklifts/Loaders	63	Ritchie Specs	0	2	0.59	High LF	720	0.41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
15 Ton Forklift (Caterpillar P30000)	Forklifts/Loaders	148	Ritchie Specs	1	2	0.59	High LF	720	0.37	2.5E-02	2.7E-01	1.0E-01	3.5E-04	2.3E-02	2.3E-02	3.7E+01	3.0E-04	1.5E-03	3.7E+01	1.5E-03	2.1E-04	9.3E-05	6.5E-05	5.8E-04	8.9E-06	2.7E-04	1.7E-04	2.1E-05	1.9E-05	3.8E-05
Cat 460 Zoom Boom	Forklifts/Loaders	100	Ritchie Specs	0	2	0.59	High LF	720	0.41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
966 Loader w / bucket, forks, stinger (966H)	Forklifts/Loaders	286	Ritchie Specs	1	2	0.59	High LF	720	0.37	4.5E-02	5.1E-01	1.7E-01	6.7E-04	3.2E-02	3.2E-02	7.1E+01	5.8E-04	2.9E-03	7.2E+01	2.8E-03	4.1E-04	1.8E-04	1.2E-04	1.1E-03	1.7E-05	5.2E-04	3.4E-04	4.0E-05	3.7E-05	7.4E-05
966 Loader w / bucket (966H)	Forklifts/Loaders	286	Ritchie Specs	2	2	0.59	High LF	720	0.37	9.0E-02	1.0E+00	3.4E-01	1.3E-03	6.4E-02	6.4E-02	1.4E+02	1.2E-03	5.8E-03	1.4E+02	5.6E-03	8.2E-04	3.6E-04	2.5E-04	2.3E-03	3.4E-05	1.0E-03	6.7E-04	8.1E-05	7.4E-05	1.5E-04
966 Loader w / snow blower (966H)	Forklifts/Loaders	286	Ritchie Specs	1	2	0.59	High LF	720	0.37	4.5E-02	5.1E-01	1.7E-01	6.7E-04	3.2E-02	3.2E-02	7.1E+01	5.8E-04	2.9E-03	7.2E+01	2.8E-03	4.1E-04	1.8E-04	1.2E-04	1.1E-03	1.7E-05	5.2E-04	3.4E-04	4.0E-05	3.7E-05	7.4E-05
185 CFM (IR P135WIR)	Air Compressors/Drills	40	Ingersoll Rand	1	2	0.43	Average LF	720	0.41	3.9E-03	6.5E-02	2.3E-02	7.6E-05	6.8E-03	6.8E-03	8.0E+00	6.5E-05	3.2E-04	8.0E+00	3.2E-04	4.6E-05	2.0E-05	1.4E-05	1.3E-04	1.9E-06	5.8E-05	3.8E-05	4.5E-06	4.2E-06	8.2E-06
375 CFM (Sullair 375HH AF)	Air Compressors/Drills	140	Sullair	1	2	0.43	Average LF	720	0.37	1.7E-02	2.0E-01	4.6E-02	2.4E-04	1.3E-02	1.3E-02	2.5E+01	2.0E-04	1.0E-03	2.5E+01	1.0E-03	1.4E-04	6.3E-05	4.4E-05	4.0E-04	6.0E-06	1.8E-04	1.2E-04	1.4E-05	1.3E-05	2.6E-05
600 CFM (Doosan P600)	Air Compressors/Drills	173	Doosan	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Track Drill (Caterpillar MDS150)	Air Compressors/Drills	385	Caterpillar	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Maxlite - 7.5 KW (Magnum MLT4080)	Light Plants	11	Magnum	12	2																									

AGDC: Alaska Stand Alone Pipeline (ASAP) Project
GCF Construction
NonRoad Equipment: Emissions Calculations

Equipment ^a	Category	bhp	bhp Source	Quantity	Tier Level	Load Factor ^b	Transient Adjustment Factor	Operating Hours/ Month ^c	Fuel Consumption (lb/hp-hr)	Emissions (tons/month) ^d																				
										VOC	Nox	CO	SO2	PM10	PM2.5	CO2	N2O	CH4	CO2e ^f	Total HAPs	Benzene	Toluene	Xylenes	Propylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH
Phase V - Install GCF Module Support Piles																														
1 T. Flatbed	Tractors/Trailers	400	Estimate	3	2	0.43	Average LF	720	0.37	7.1E-02	1.8E+00	3.8E-01	2.0E-03	7.9E-02	7.9E-02	2.2E+02	1.8E-03	8.8E-03	2.2E+02	8.6E-03	1.2E-03	5.4E-04	3.8E-04	3.4E-03	5.2E-05	1.6E-03	1.0E-03	1.2E-04	1.1E-04	2.2E-04
40,000#Tractor_Truck Medium Duty	Tractors/Trailers	525	Estimate	4	2	0.43	Average LF	720	0.37	1.2E-01	3.1E+00	6.6E-01	3.6E-03	1.4E-01	1.4E-01	3.8E+02	3.1E-03	1.5E-02	3.8E+02	1.5E-02	2.2E-03	9.5E-04	6.6E-04	6.0E-03	9.1E-05	2.7E-03	1.8E-03	2.1E-04	2.0E-04	3.9E-04
Watson Drill (2100)	Tractors/Trailers	150	Estimate	8	2	0.43	Average LF	720	0.37	1.4E-01	1.7E+00	3.9E-01	2.0E-03	1.1E-01	1.1E-01	2.2E+02	1.8E-03	8.8E-03	2.2E+02	8.6E-03	1.2E-03	5.4E-04	3.8E-04	3.4E-03	5.2E-05	1.6E-03	1.0E-03	1.2E-04	1.1E-04	2.2E-04
Ice Tractor - Drill/Pump	Tractors/Trailers	200	Estimate	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lube Truck	Tractors/Trailers	260	Estimate	3	2	0.43	Average LF	720	0.37	8.5E-02	1.1E+00	2.2E-01	1.3E-03	5.2E-02	5.2E-02	1.4E+02	1.1E-03	5.7E-03	1.4E+02	5.6E-03	8.0E-04	3.5E-04	2.5E-04	2.2E-03	3.4E-05	1.0E-03	6.6E-04	8.0E-05	7.3E-05	1.4E-04
Fuel Truck 2500-4000 gallon	Tractors/Trailers	260	Estimate	2	2	0.43	Average LF	720	0.37	5.7E-02	7.2E-01	1.5E-01	8.8E-04	3.4E-02	3.4E-02	9.4E+01	7.6E-04	3.8E-03	9.4E+01	3.7E-03	5.4E-04	2.3E-04	1.6E-04	1.5E-03	2.2E-05	6.8E-04	4.4E-04	5.3E-05	4.9E-05	9.6E-05
Welding Truck	Tractors/Trailers	260	Estimate	2	2	0.43	Average LF	720	0.37	5.7E-02	7.2E-01	1.5E-01	8.8E-04	3.4E-02	3.4E-02	9.4E+01	7.6E-04	3.8E-03	9.4E+01	3.7E-03	5.4E-04	2.3E-04	1.6E-04	1.5E-03	2.2E-05	6.8E-04	4.4E-04	5.3E-05	4.9E-05	9.6E-05
Water Truck 2500 gallon	Tractors/Trailers	200	Estimate	4	2	0.43	Average LF	720	0.37	8.7E-02	1.1E+00	2.2E-01	1.4E-03	5.3E-02	5.3E-02	1.4E+02	1.2E-03	5.8E-03	1.4E+02	5.7E-03	8.2E-04	3.6E-04	2.5E-04	2.3E-03	3.5E-05	1.0E-03	6.8E-04	8.2E-05	7.5E-05	1.5E-04
Concrete/Slurry Mixer	Tractors/Trailers	250	Estimate	6	2	0.43	Average LF	720	0.37	1.6E-01	2.1E+00	4.2E-01	2.6E-03	9.9E-02	9.9E-02	2.7E+02	2.2E-03	1.1E-02	2.7E+02	1.1E-02	1.5E-03	6.8E-04	4.7E-04	4.3E-03	6.5E-05	2.0E-03	1.3E-03	1.5E-04	1.4E-04	2.8E-04
Vacuum Septic Service Truck 2500 gallon	Tractors/Trailers	150	Estimate	2	2	0.43	Average LF	720	0.37	3.6E-02	4.2E-01	9.8E-02	5.1E-04	2.7E-02	2.7E-02	5.4E+01	4.4E-04	2.2E-03	5.4E+01	2.1E-03	3.1E-04	1.4E-04	9.4E-05	8.5E-04	1.3E-05	3.9E-04	2.5E-04	3.1E-05	2.8E-05	5.6E-05
Hydrovac	Tractors/Trailers	150	Estimate	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40 CY B70 (Caterpillar 773 puller)	Gravel Haul Equipment	683	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40 CY Maxi Haul (Kenworth C500/Cat C15 Puller)	Gravel Haul Equipment	595	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20 CY Articulate End Dump (Caterpillar 769)	Gravel Haul Equipment	474	Ritchie Specs	4	2	0.59	High LF	720	0.37	1.6E-01	3.7E+00	1.3E+00	4.5E-03	2.1E-01	2.1E-01	4.7E+02	3.8E-03	1.9E-02	4.7E+02	1.9E-02	2.7E-03	1.2E-03	8.3E-04	7.5E-03	1.1E-04	3.4E-03	2.2E-03	2.7E-04	2.5E-04	4.9E-04
30 CY Articulate End Dump (Caterpillar 773)	Gravel Haul Equipment	600	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caterpillar D7 Dozer	Dozers	200	Ritchie Specs	1	2	0.59	High LF	720	0.37	3.1E-02	3.6E-01	1.2E-01	4.7E-04	2.2E-02	2.2E-02	5.0E+01	4.0E-04	2.0E-03	5.0E+01	2.0E-03	2.9E-04	1.3E-04	8.7E-05	7.9E-04	1.2E-05	3.6E-04	2.3E-04	2.8E-05	2.6E-05	5.1E-05
Caterpillar D9 Dozer	Dozers	370	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caterpillar D10 Dozer	Dozers	520	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caterpillar D11 Dozer	Dozers	770	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caterpillar 324 Excavator	Backhoes/Graders	190	Ritchie Specs	1	2	0.59	High LF	720	0.37	3.0E-02	3.4E-01	1.1E-01	4.5E-04	2.1E-02	2.1E-02	4.7E+01	3.8E-04	1.9E-03	4.8E+01	1.9E-03	2.7E-04	1.2E-04	8.3E-05	7.5E-04	1.1E-05	3.4E-04	2.2E-04	2.7E-05	2.5E-05	4.9E-05
Caterpillar 336 Excavator	Backhoes/Graders	266	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caterpillar 16M Motor Grader	Backhoes/Graders	312	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Skid Steer Loader (Caterpillar 272)	Backhoes/Graders	94	Ritchie Specs	2	2	0.21	Low LF	720	0.48	2.7E-02	1.6E-01	2.1E-01	2.0E-04	2.2E-02	2.2E-02	2.2E+01	1.8E-04	8.8E-04	2.2E+01	8.6E-04	1.2E-04	5.4E-05	3.8E-05	3.4E-04	5.2E-06	1.6E-04	1.0E-04	1.2E-05	1.1E-05	2.2E-05
Trencher (RTX1250)	Backhoes/Graders	120	Vermeer	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35 Ton RT (Terex RC35)	Cranes	160	Ritchie Specs	2	2	0.43	Average LF	720	0.37	3.8E-02	4.5E-01	1.0E-01	5.4E-04	2.9E-02	2.9E-02	5.7E+01	4.7E-04	2.3E-03	5.8E+01	2.3E-03	3.3E-04	1.4E-04	1.0E-04	9.1E-04	1.4E-05	4.2E-04	2.7E-04	3.3E-05	3.0E-05	5.9E-05
75 Ton RT (Grove RT875E)	Cranes	275	Ritchie Specs	4	2	0.43	Average LF	720	0.37	1.2E-01	1.5E+00	3.1E-01	1.9E-03	7.3E-02	7.3E-02	2.0E+02	1.6E-03	8.0E-03	2.0E+02	7.8E-03	1.1E-03	5.0E-04	3.5E-04	3.1E-03	4.7E-05	1.4E-03	9.3E-04	1.1E-04	1.0E-04	2.0E-04
135 Ton RT (Grove RT9130E)	Cranes	300	Ritchie Specs	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
200 Ton Manitowoc Lattice (14000)	Cranes	340	Manitowoc	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300 Ton Manitowoc 2250 Lattice	Cranes	500	Manitowoc	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M16000 Lattice	Cranes	500	Manitowoc	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3 Ton Forklift (Caterpillar C6000)	Forklifts/Loaders	63	Ritchie Specs	0	2	0.59	High LF	720	0.41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15 Ton Forklift (Caterpillar P30000)	Forklifts/Loaders	148	Ritchie Specs	1	2	0.59	High LF	720	0.37	2.5E-02	2.7E-01	1.0E-01	3.5E-04	2.3E-02	2.3E-02	3.7E+01	3.0E-04	1.5E-03	3.7E+01	1.5E-03	2.1E-04	9.3E-05	6.5E-05	5.8E-04	8.9E-06	2.7E-04	1.7E-04	2.1E-05	1.9E-05	3.8E-05
Cat 460 Zoom Boom	Forklifts/Loaders	100	Ritchie Specs	3	2	0.59	High LF	720	0.41	5.6E-02	6.3E-01	5.6E-01	7.9E-04	6.1E-02	6.1E-02	8.3E+01	6.7E-04	3.4E-03	8.3E+01	3.3E-03	4.8E-04	2.1E-04	1.5E-04	1.3E-03	2.0E-05	6.0E-04	3.9E-04	4.7E-05	4.3E-05	8.6E-05
966 Loader w / bucket, forks, stinger (966H)	Forklifts/Loaders	286	Ritchie Specs	1	2	0.59	High LF	720	0.37	4.5E-02	5.1E-01	1.7E-01	6.7E-04	3.2E-02	3.2E-02	7.1E+01	5.8E-04	2.9E-03	7.2E+01	2.8E-03	4.1E-04	1.8E-04	1.2E-04	1.1E-03	1.7E-05	5.2E-04	3.4E-04	4.0E-05	3.7E-05	7.4E-05
966 Loader w / bucket (966H)	Forklifts/Loaders	286	Ritchie Specs	1	2	0.59	High LF	720	0.37	4.5E-02	5.1E-01	1.7E-01	6.7E-04	3.2E-02	3.2E-02	7.1E+01	5.8E-04	2.9E-03	7.2E+01	2.8E-03	4.1E-04	1.8E-04	1.2E-04	1.1E-03	1.7E-05	5.2E-04	3.4E-04	4.0E-05	3.7E-05	7.4E-05
966 Loader w / snow blower (966H)	Forklifts/Loaders	286	Ritchie Specs	1	2	0.59	High LF	720	0.37	4.5E-02	5.1E-01	1.7E-01	6.7E-04	3.2E-02	3.2E-02	7.1E+01	5.8E-04	2.9E-03	7.2E+01	2.8E-03	4.1E-04	1.8E-04	1.2E-04	1.1E-03	1.7E-05	5.2E-04	3.4E-04	4.0E-05	3.7E-05	7.4E-05
185 CFM (IR P135WIR)	Air Compressors/Drills	40	Ingersoll Rand	1	2	0.43	Average LF	720	0.41	3.9E-03	6.5E-02	2.3E-02	7.6E-05	6.8E-03	6.8E-03	8.0E+00	6.5E-05	3.2E-04	8.0E+00	3.2E-04	4.6E-05	2.0E-05	1.4E-05	1.3E-04	1.9E-06	5.8E-05	3.8E-05	4.5E-06	4.2E-06	8.2E-06
375 CFM (Sullair 375HH AF)	Air Compressors/Drills	140	Sullair	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
600 CFM (Doosan P600)	Air Compressors/Drills	173	Doosan	0	2	0.43	Average LF	720	0.37	-	-																			

AGDC: Alaska Stand Alone Pipeline (ASAP) Project

GCF Construction

NonRoad Equipment: Emissions Calculations

Equipment ^a	Category	bhp	bhp Source	Quantity	Tier Level	Load Factor ^b	Transient Adjustment Factor	Operating Hours/ Month ^c	Fuel Consumption (lb/hp-hr)	Emissions (tons/month) ^d																				
										VOC	Nox	CO	SO2	PM10	PM2.5	CO2	N2O	CH4	CO2e ^f	Total HAPs	Benzene	Toluene	Xylenes	Propylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH
Phase VI - Install GCF Modules																														
1 T. Flatbed	Tractors/Trailers	400	Estimate	6	2	0.43	Average LF	720	0.37	1.4E-01	3.6E+00	7.6E-01	4.1E-03	1.6E-01	1.6E-01	4.3E+02	3.5E-03	1.8E-02	4.3E+02	1.7E-02	2.5E-03	1.1E-03	7.6E-04	6.8E-03	1.0E-04	3.1E-03	2.0E-03	2.5E-04	2.2E-04	4.5E-04
40,000#Tractor_Truck Medium Duty	Tractors/Trailers	525	Estimate	6	2	0.43	Average LF	720	0.37	1.9E-01	4.7E+00	1.0E+00	5.4E-03	2.1E-01	2.1E-01	5.7E+02	4.6E-03	2.3E-02	5.7E+02	2.2E-02	3.2E-03	1.4E-03	9.9E-04	9.0E-03	1.4E-04	4.1E-03	2.7E-03	3.2E-04	2.9E-04	5.8E-04
Watson Drill (2100)	Tractors/Trailers	150	Estimate	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ice Tractor - Drill/Pump	Tractors/Trailers	200	Estimate	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lube Truck	Tractors/Trailers	260	Estimate	2	2	0.43	Average LF	720	0.37	5.7E-02	7.2E-01	1.5E-01	8.8E-04	3.4E-02	3.4E-02	9.4E+01	7.6E-04	3.8E-03	9.4E+01	3.7E-03	5.4E-04	2.3E-04	1.6E-04	1.5E-03	2.2E-05	6.8E-04	4.4E-04	5.3E-05	4.9E-05	9.6E-05
Fuel Truck 2500-4000 gallon	Tractors/Trailers	260	Estimate	2	2	0.43	Average LF	720	0.37	5.7E-02	7.2E-01	1.5E-01	8.8E-04	3.4E-02	3.4E-02	9.4E+01	7.6E-04	3.8E-03	9.4E+01	3.7E-03	5.4E-04	2.3E-04	1.6E-04	1.5E-03	2.2E-05	6.8E-04	4.4E-04	5.3E-05	4.9E-05	9.6E-05
Welding Truck	Tractors/Trailers	260	Estimate	6	2	0.43	Average LF	720	0.37	1.7E-01	2.1E+00	4.4E-01	2.7E-03	1.0E-01	1.0E-01	2.8E+02	2.3E-03	1.1E-02	2.8E+02	1.1E-02	1.6E-03	7.0E-04	4.9E-04	4.4E-03	6.7E-05	2.0E-03	1.3E-03	1.6E-04	1.5E-04	2.9E-04
Water Truck 2500 gallon	Tractors/Trailers	200	Estimate	2	2	0.43	Average LF	720	0.37	4.4E-02	5.5E-01	1.1E-01	6.8E-04	2.6E-02	2.6E-02	7.2E+01	5.8E-04	2.9E-03	7.2E+01	2.9E-03	4.1E-04	1.8E-04	1.3E-04	1.1E-03	1.7E-05	5.2E-04	3.4E-04	4.1E-05	3.7E-05	7.4E-05
Concrete/Siurry Mixer	Tractors/Trailers	250	Estimate	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vacuum Septic Service Truck 2500 gallon	Tractors/Trailers	150	Estimate	2	2	0.43	Average LF	720	0.37	3.6E-02	4.2E-01	9.8E-02	5.1E-04	2.7E-02	2.7E-02	5.4E+01	4.4E-04	2.2E-03	5.4E+01	2.1E-03	3.1E-04	1.4E-04	9.4E-05	8.5E-04	1.3E-05	3.9E-04	2.5E-04	3.1E-05	2.8E-05	5.6E-05
Hydrovac	Tractors/Trailers	150	Estimate	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40 CY B70 (Caterpillar 773 puller)	Gravel Haul Equipment	683	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40 CY Maxi Haul (Kenworth C500/Cat C15 Puller)	Gravel Haul Equipment	595	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20 CY Articulate End Dump (Caterpillar 769)	Gravel Haul Equipment	474	Ritchie Specs	2	2	0.59	High LF	720	0.37	8.0E-02	1.8E+00	6.3E-01	2.2E-03	1.1E-01	1.1E-01	2.4E+02	1.9E-03	9.6E-03	2.4E+02	9.4E-03	1.4E-03	5.9E-04	4.1E-04	3.7E-03	5.7E-05	1.7E-03	1.1E-03	1.3E-04	1.2E-04	2.4E-04
30 CY Articulate End Dump (Caterpillar 773)	Gravel Haul Equipment	600	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caterpillar D7 Dozer	Dozers	200	Ritchie Specs	1	2	0.59	High LF	720	0.37	3.1E-02	3.6E-01	1.2E-01	4.7E-04	2.2E-02	2.2E-02	5.0E+01	4.0E-04	2.0E-03	5.0E+01	2.0E-03	2.9E-04	1.3E-04	8.7E-05	7.9E-04	1.2E-05	3.6E-04	2.3E-04	2.8E-05	2.6E-05	5.1E-05
Caterpillar D9 Dozer	Dozers	370	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caterpillar D10 Dozer	Dozers	520	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caterpillar D11 Dozer	Dozers	770	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caterpillar 324 Excavator	Backhoes/Graders	190	Ritchie Specs	1	2	0.59	High LF	720	0.37	3.0E-02	3.4E-01	1.1E-01	4.5E-04	2.1E-02	2.1E-02	4.7E+01	3.8E-04	1.9E-03	4.8E+01	1.9E-03	2.7E-04	1.2E-04	8.3E-05	7.5E-04	1.1E-05	3.4E-04	2.2E-04	2.7E-05	2.5E-05	4.9E-05
Caterpillar 336 Excavator	Backhoes/Graders	266	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caterpillar 16M Motor Grader	Backhoes/Graders	312	Ritchie Specs	1	2	0.59	High LF	720	0.37	2.6E-02	6.1E-01	2.1E-01	7.4E-04	3.5E-02	3.5E-02	7.8E+01	6.3E-04	3.2E-03	7.8E+01	3.1E-03	4.5E-04	2.0E-04	1.4E-04	1.2E-03	1.9E-05	5.6E-04	3.7E-04	4.4E-05	4.0E-05	8.0E-05
Skid Steer Loader (Caterpillar 272)	Backhoes/Graders	94	Ritchie Specs	2	2	0.21	Low LF	720	0.48	2.7E-02	1.6E-01	2.1E-01	2.0E-04	2.2E-02	2.2E-02	2.2E+01	1.8E-04	8.8E-04	2.2E+01	8.6E-04	1.2E-04	5.4E-05	3.8E-05	3.4E-04	5.2E-06	1.6E-04	1.0E-04	1.2E-05	1.1E-05	2.2E-05
Trencher (RTX1250)	Backhoes/Graders	120	Vermeer	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35 Ton RT (Terex RC35)	Cranes	160	Ritchie Specs	3	2	0.43	Average LF	720	0.37	5.7E-02	6.8E-01	1.6E-01	8.1E-04	4.3E-02	4.3E-02	8.6E+01	7.0E-04	3.5E-03	8.7E+01	3.4E-03	4.9E-04	2.2E-04	1.5E-04	1.4E-03	2.1E-05	6.2E-04	4.1E-04	4.9E-05	4.5E-05	8.9E-05
75 Ton RT (Grove RT875E)	Cranes	275	Ritchie Specs	1	2	0.43	Average LF	720	0.37	3.0E-02	3.8E-01	7.7E-02	4.7E-04	1.8E-02	1.8E-02	4.9E+01	4.0E-04	2.0E-03	5.0E+01	2.0E-03	2.8E-04	1.2E-04	8.7E-05	7.8E-04	1.2E-05	3.6E-04	2.3E-04	2.8E-05	2.6E-05	5.1E-05
135 Ton RT (Grove RT9130E)	Cranes	300	Ritchie Specs	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
200 Ton Manitowoc Lattice (14000)	Cranes	340	Manitowoc	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300 Ton Manitowoc 2250 Lattice	Cranes	500	Manitowoc	1	2	0.43	Average LF	720	0.37	2.9E-02	7.5E-01	1.6E-01	8.5E-04	3.3E-02	3.3E-02	9.0E+01	7.3E-04	3.7E-03	9.0E+01	3.6E-03	5.2E-04	2.3E-04	1.6E-04	1.4E-03	2.2E-05	6.5E-04	4.2E-04	5.1E-05	4.7E-05	9.3E-05
M16000 Lattice	Cranes	500	Manitowoc	1	2	0.43	Average LF	720	0.37	2.9E-02	7.5E-01	1.6E-01	8.5E-04	3.3E-02	3.3E-02	9.0E+01	7.3E-04	3.7E-03	9.0E+01	3.6E-03	5.2E-04	2.3E-04	1.6E-04	1.4E-03	2.2E-05	6.5E-04	4.2E-04	5.1E-05	4.7E-05	9.3E-05
3 Ton Forklift (Caterpillar C6000)	Forklifts/Loaders	63	Ritchie Specs	0	2	0.59	High LF	720	0.41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15 Ton Forklift (Caterpillar P30000)	Forklifts/Loaders	148	Ritchie Specs	1	2	0.59	High LF	720	0.37	2.5E-02	2.7E-01	1.0E-01	3.5E-04	2.3E-02	2.3E-02	3.7E+01	3.0E-04	1.5E-03	3.7E+01	1.5E-03	2.1E-04	9.3E-05	6.5E-05	5.8E-04	8.9E-06	2.7E-04	1.7E-04	2.1E-05	1.9E-05	3.8E-05
Cat 460 Zoom Boom	Forklifts/Loaders	100	Ritchie Specs	6	2	0.59	High LF	720	0.41	1.1E-01	1.3E+00	1.1E+00	1.6E-03	1.2E-01	1.2E-01	1.7E+02	1.3E-03	6.7E-03	1.7E+02	6.6E-03	9.5E-04	4.2E-04	2.9E-04	2.6E-03	4.0E-05	1.2E-03	7.8E-04	9.4E-05	8.6E-05	1.7E-04
966 Loader w / bucket, forks, stinger (966H)	Forklifts/Loaders	286	Ritchie Specs	2	2	0.59	High LF	720	0.37	9.0E-02	1.0E+00	3.4E-01	1.3E-03	6.4E-02	6.4E-02	1.4E+02	1.2E-03	5.8E-03	1.4E+02	5.6E-03	8.2E-04	3.6E-04	2.5E-04	2.3E-03	3.4E-05	1.0E-03	6.7E-04	8.1E-05	7.4E-05	1.5E-04
966 Loader w / bucket (966H)	Forklifts/Loaders	286	Ritchie Specs	2	2	0.59	High LF	720	0.37	9.0E-02	1.0E+00	3.4E-01	1.3E-03	6.4E-02	6.4E-02	1.4E+02	1.2E-03	5.8E-03	1.4E+02	5.6E-03	8.2E-04	3.6E-04	2.5E-04	2.3E-03	3.4E-05	1.0E-03	6.7E-04	8.1E-05	7.4E-05	1.5E-04
966 Loader w / snow blower (966H)	Forklifts/Loaders	286	Ritchie Specs	2	2	0.59	High LF	720	0.37	9.0E-02	1.0E+00	3.4E-01	1.3E-03	6.4E-02	6.4E-02	1.4E+02	1.2E-03	5.8E-03	1.4E+02	5.6E-03	8.2E-04	3.6E-04	2.5E-04	2.3E-03	3.4E-05	1.0E-03	6.7E-04	8.1E-05	7.4E-05	1.5E-04
185 CFM (IR P135WIR)	Air Compressors/Drills	40	Ingersoll Rand	4	2	0.43	Average LF	720	0.41	1.6E-02	2.6E-01	9.2E-02	3.0E-04	2.7E-02	2.7E-02	3.2E+01	2.6E-04	1.3E-03	3.2E+01	1.3E-03	1.8E-04	8.0E-05	5.6E-05	5.1E-04	7.7E-06	2.3E-04	1.5E-04	1.8E-05	1.7E-05	3.3E-05
375 CFM (Sullair 375HH AF)	Air Compressors/Drills	140	Sullair	6	2	0.43	Average LF	720	0.37	1.0E-01	1.2E+00	2.7E-01																		

AGDC: Alaska Stand Alone Pipeline (ASAP) Project
 GCF Construction
 NonRoad Equipment: Emissions Calculations

Equipment ^a	Category	bhp	bhp Source	Quantity	Tier Level	Load Factor ^b	Transient Adjustment Factor	Operating Hours/ Month ^c	Fuel Consumption (lb/hp-hr)	Emissions (tons/month) ^d																				
										VOC	Nox	CO	SO2	PM10	PM2.5	CO2	N2O	CH4	CO2e ^f	Total HAPs	Benzene	Toluene	Xylenes	Propylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Napthalene	Total PAH
FCO																														
1 T. Flatbed	Tractors/Trailers	400	Estimate	2	2	0.43	Average LF	720	0.37	4.7E-02	1.2E+00	2.5E-01	1.4E-03	5.3E-02	5.3E-02	1.4E+02	1.2E-03	5.8E-03	1.4E+02	5.7E-03	8.2E-04	3.6E-04	2.5E-04	2.3E-03	3.5E-05	1.0E-03	6.8E-04	8.2E-05	7.5E-05	1.5E-04
40,000#Tractor, Truck Medium Duty	Tractors/Trailers	525	Estimate	2	2	0.43	Average LF	720	0.37	6.2E-02	1.6E+00	3.3E-01	1.8E-03	6.9E-02	6.9E-02	1.9E+02	1.5E-03	7.7E-03	1.9E+02	7.5E-03	1.1E-03	4.7E-04	3.3E-04	3.0E-03	4.5E-05	1.4E-03	8.9E-04	1.1E-04	9.8E-05	1.9E-04
Watson Drill (2100)	Tractors/Trailers	150	Estimate	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ice Tractor - Drill/Pump	Tractors/Trailers	200	Estimate	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lube Truck	Tractors/Trailers	260	Estimate	1	2	0.43	Average LF	720	0.37	2.8E-02	3.6E-01	7.3E-02	4.4E-04	1.7E-02	1.7E-02	4.7E+01	3.8E-04	1.9E-03	4.7E+01	1.9E-03	2.7E-04	1.2E-04	8.2E-05	7.4E-04	1.1E-05	3.4E-04	2.2E-04	2.7E-05	2.4E-05	4.8E-05
Fuel Truck 2500-4000 gallon	Tractors/Trailers	260	Estimate	1	2	0.43	Average LF	720	0.37	2.8E-02	3.6E-01	7.3E-02	4.4E-04	1.7E-02	1.7E-02	4.7E+01	3.8E-04	1.9E-03	4.7E+01	1.9E-03	2.7E-04	1.2E-04	8.2E-05	7.4E-04	1.1E-05	3.4E-04	2.2E-04	2.7E-05	2.4E-05	4.8E-05
Welding Truck	Tractors/Trailers	260	Estimate	2	2	0.43	Average LF	720	0.37	5.7E-02	7.2E-01	1.5E-01	8.8E-04	3.4E-02	3.4E-02	9.4E+01	7.6E-04	3.8E-03	9.4E+01	3.7E-03	5.4E-04	2.3E-04	1.6E-04	1.5E-03	2.2E-05	6.8E-04	4.4E-04	5.3E-05	4.9E-05	9.6E-05
Water Truck 2500 gallon	Tractors/Trailers	200	Estimate	2	2	0.43	Average LF	720	0.37	4.4E-02	5.5E-01	1.1E-01	6.8E-04	2.6E-02	2.6E-02	7.2E+01	5.8E-04	2.9E-03	7.2E+01	2.9E-03	4.1E-04	1.8E-04	1.3E-04	1.1E-03	1.7E-05	5.2E-04	3.4E-04	4.1E-05	3.7E-05	7.4E-05
Concrete/Slurry Mixer	Tractors/Trailers	250	Estimate	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vacuum Septic Service Truck 2500 gallon	Tractors/Trailers	150	Estimate	2	2	0.43	Average LF	720	0.37	3.6E-02	4.2E-01	9.8E-02	5.1E-04	2.7E-02	2.7E-02	5.4E+01	4.4E-04	2.2E-03	5.4E+01	2.1E-03	3.1E-04	1.4E-04	9.4E-05	8.5E-04	1.3E-05	3.9E-04	2.5E-04	3.1E-05	2.8E-05	5.6E-05
Hydrovac	Tractors/Trailers	150	Estimate	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40 CY B70 (Caterpillar 773 puller)	Gravel Haul Equipment	683	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40 CY Maxi Haul (Kenworth C500/Cat C15 Puller)	Gravel Haul Equipment	595	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20 CY Articulate End Dump (Caterpillar 769)	Gravel Haul Equipment	474	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30 CY Articulate End Dump (Caterpillar 773)	Gravel Haul Equipment	600	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caterpillar D7 Dozer	Dozers	200	Ritchie Specs	1	2	0.59	High LF	720	0.37	3.1E-02	3.6E-01	1.2E-01	4.7E-04	2.2E-02	2.2E-02	5.0E+01	4.0E-04	2.0E-03	5.0E+01	2.0E-03	2.9E-04	1.3E-04	8.7E-05	7.9E-04	1.2E-05	3.6E-04	2.3E-04	2.8E-05	2.6E-05	5.1E-05
Caterpillar D9 Dozer	Dozers	370	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caterpillar D10 Dozer	Dozers	520	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caterpillar D11 Dozer	Dozers	770	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caterpillar 324 Excavator	Backhoes/Graders	190	Ritchie Specs	1	2	0.59	High LF	720	0.37	3.0E-02	3.4E-01	1.1E-01	4.5E-04	2.1E-02	2.1E-02	4.7E+01	3.8E-04	1.9E-03	4.8E+01	1.9E-03	2.7E-04	1.2E-04	8.3E-05	7.5E-04	1.1E-05	3.4E-04	2.2E-04	2.7E-05	2.5E-05	4.9E-05
Caterpillar 336 Excavator	Backhoes/Graders	266	Ritchie Specs	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caterpillar 16M Motor Grader	Backhoes/Graders	312	Ritchie Specs	1	2	0.59	High LF	720	0.37	2.6E-02	6.1E-01	2.1E-01	7.4E-04	3.5E-02	3.5E-02	7.8E+01	6.3E-04	3.2E-03	7.8E+01	3.1E-03	4.5E-04	2.0E-04	1.4E-04	1.2E-03	1.9E-05	5.6E-04	3.7E-04	4.4E-05	4.0E-05	8.0E-05
Skid Steer Loader (Caterpillar 272)	Backhoes/Graders	94	Ritchie Specs	2	2	0.21	Low LF	720	0.48	2.7E-02	1.6E-01	2.1E-01	2.0E-04	2.2E-02	2.2E-02	2.2E+01	1.8E-04	8.8E-04	2.2E+01	8.6E-04	1.2E-04	5.4E-05	3.8E-05	3.4E-04	5.2E-06	1.6E-04	1.0E-04	1.2E-05	1.1E-05	2.2E-05
Trencher (RTX1250)	Backhoes/Graders	120	Vermeer	0	2	0.59	High LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35 Ton RT (Terex RC35)	Cranes	160	Ritchie Specs	1	2	0.43	Average LF	720	0.37	1.9E-02	2.3E-01	5.2E-02	2.7E-04	1.4E-02	1.4E-02	2.9E+01	2.3E-04	1.2E-03	2.9E+01	1.1E-03	1.6E-04	7.2E-05	5.0E-05	4.5E-04	6.9E-06	2.1E-04	1.4E-04	1.6E-05	1.5E-05	3.0E-05
75 Ton RT (Grove RT875E)	Cranes	275	Ritchie Specs	1	2	0.43	Average LF	720	0.37	3.0E-02	3.8E-01	7.7E-02	4.7E-04	1.8E-02	1.8E-02	4.9E+01	4.0E-04	2.0E-03	5.0E+01	2.0E-03	2.8E-04	1.2E-04	8.7E-05	7.8E-04	1.2E-05	3.6E-04	2.3E-04	2.8E-05	2.6E-05	5.1E-05
135 Ton RT (Grove RT9130E)	Cranes	300	Ritchie Specs	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
200 Ton Manitowoc Lattice (14000)	Cranes	340	Manitowoc	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300 Ton Manitowoc 2250 Lattice	Cranes	500	Manitowoc	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M16000 Lattice	Cranes	500	Manitowoc	0	2	0.43	Average LF	720	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3 Ton Forklift (Caterpillar C6000)	Forklifts/Loaders	63	Ritchie Specs	0	2	0.59	High LF	720	0.41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15 Ton Forklift (Caterpillar P30000)	Forklifts/Loaders	148	Ritchie Specs	1	2	0.59	High LF	720	0.37	2.5E-02	2.7E-01	1.0E-01	3.5E-04	2.3E-02	2.3E-02	3.7E+01	3.0E-04	1.5E-03	3.7E+01	1.5E-03	2.1E-04	9.3E-05	6.5E-05	5.8E-04	8.9E-06	2.7E-04	1.7E-04	2.1E-05	1.9E-05	3.8E-05
Cat 460 Zoom Boom	Forklifts/Loaders	100	Ritchie Specs	2	2	0.59	High LF	720	0.41	3.7E-02	4.2E-01	3.7E-01	5.2E-04	4.1E-02	4.1E-02	5.5E+01	4.5E-04	2.2E-03	5.6E+01	2.2E-03	3.2E-04	1.4E-04	9.7E-05	8.8E-04	1.3E-05	4.0E-04	2.6E-04	3.1E-05	2.9E-05	5.7E-05
966 Loader w / bucket, forks, stinger (966H)	Forklifts/Loaders	286	Ritchie Specs	1	2	0.59	High LF	720	0.37	4.5E-02	5.1E-01	1.7E-01	6.7E-04	3.2E-02	3.2E-02	7.1E+01	5.8E-04	2.9E-03	7.2E+01	2.8E-03	4.1E-04	1.8E-04	1.2E-04	1.1E-03	1.7E-05	5.2E-04	3.4E-04	4.0E-05	3.7E-05	7.4E-05
966 Loader w / bucket (966H)	Forklifts/Loaders	286	Ritchie Specs	1	2	0.59	High LF	720	0.37	4.5E-02	5.1E-01	1.7E-01	6.7E-04	3.2E-02	3.2E-02	7.1E+01	5.8E-04	2.9E-03	7.2E+01	2.8E-03	4.1E-04	1.8E-04	1.2E-04	1.1E-03	1.7E-05	5.2E-04	3.4E-04	4.0E-05	3.7E-05	7.4E-05
966 Loader w / snow blower (966H)	Forklifts/Loaders	286	Ritchie Specs	2	2	0.59	High LF	720	0.37	9.0E-02	1.0E+00	3.4E-01	1.3E-03	6.4E-02	6.4E-02	1.4E+02	1.2E-03	5.8E-03	1.4E+02	5.6E-03	8.2E-04	3.6E-04	2.5E-04	2.3E-03	3.4E-05	1.0E-03	6.7E-04	8.1E-05	7.4E-05	1.5E-04
185 CFM (IR P135WIR)	Air Compressors/Drills	40	Ingersoll Rand	4	2	0.43	Average LF	720	0.41	1.6E-02	2.6E-01	9.2E-02	3.0E-04	2.7E-02	2.7E-02	3.2E+01	2.6E-04	1.3E-03	3.2E+01	1.3E-03	1.8E-04	8.0E-05	5.6E-05	5.1E-04	7.7E-06	2.3E-04	1.5E-04	1.8E-05	1.7E-05	3.3E-05
375 CFM (Sullair 375HH AF)	Air Compressors/Drills	140	Sullair	6	2	0.43	Average LF	720	0.37	1.0E-01	1.2E+00	2.7E-01	1.4E-03	7.6E-02	7.6E-02	1.5E+02	1.2E-03	6.1E-03	1.5E+02	6.0E-03	8.7E-04	3.8E-04	2.6E-04	2.4E-03	3.6E-05	1.1E-03	7.1E-04	8.6E-05	7.9E-05	1.6E-04
600 CFM (Doosan P600)	Air Compressors/Drills	173	Doosan	2	2	0.43	Average LF	720	0.37	4.1E-02	4.9E-01	1.1E-01	5.9E-04	3.1E-02	3.1E-02	6.2E+01	5.1E-04	2.5E-03	6.3E+01	2.5E-03	3.6E-04	1.6E-								



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**Department of Environmental
Conservation**

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March 9, 2016

Sandy Gibson, Project Manager
USACE Alaska District Regulatory Division
P.O. Box 6898
JBER, Ak 99506

Dear Ms. Gibson:

This letter is in regards to the Alaska Stand Alone Pipeline/ASAP Project's Fairbanks PM_{2.5} Nonattainment Area Emissions Inventory & General Conformity Applicability Analysis dated November 18, 2015 along with the subsequent response to questions received January 21, 2016 by electronic transmission. After careful review, the department confirms that the project is below the *de minimis* threshold of 100 tons per year and therefore a full general conformity analysis is not required. This determination hinges on the project fulfilling a number of commitments for mitigating emissions, including contracting the use of Tier 4 engines.

Please inform the Air Quality Division if any major changes to the project occur, or if there are major changes to the assumptions that were used for the basis of the applicability analysis. If such changes were to occur, the applicability analysis would likely need to be revisited to ensure that it continues to meet the 100 ton *de minimis* threshold.

Particular attention should be given, during construction activities, to take reasonable precaution per 18 AAC 50.045(d) to prevent fugitive dust. Also, if the preferred method for disposal of debris in the development of any raw land is by open burning, "reasonable procedures to minimize adverse environmental effects and limit the amount of smoke generated" must be used, as well as acquiring any applicable permits. A complete description of the open burn guidance policy can be found at <http://dec.alaska.gov/air/ap/docs/obrguide.pdf>. A general requirement of the Air Quality Control Regulations is that wastes should be burned in a manner that does not cause a public health, safety or welfare threat, an environmental problem or a nuisance.

Thank you for contacting us about your project. If you have further questions or concerns about air quality issues, you may contact me at (907) 269-7579 or by e-mail at cindy.heil@alaska.gov.

Sincerely,

Cindy Heil
Program Manager, ANPMS