APPENDIX G NON-JURISDICTIONAL FACILITIES AIR QUALITY REPORT

Alaska LNG

APPENDIX G
NON-JURISDICTIONAL FACILITIES AIR QUALITY REPORT

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1.0 INTRODUCTION

The Alaska Gasline Development Corporation (Applicant) plans to construct one integrated liquefied natural gas (LNG) Project (Project) with interdependent facilities for the purpose of liquefying supplies of natural gas from Alaska, in particular from the Point Thomson Unit (PTU) and Prudhoe Bay Unit (PBU) production fields on the Alaska North Slope (North Slope), for export in foreign commerce and for in-state deliveries of natural gas.

The Natural Gas Act (NGA), 15 U.S.C. § 717a(11) (2006), and Federal Energy Regulatory Commission (FERC) regulations, 18 Code of Federal Regulations (C.F.R.) § 153.2(d) (2014), define "LNG terminal" to include "all natural gas facilities located onshore or in State waters that are used to receive, unload, load, store, transport, gasify, liquefy, or process natural gas that is ... exported to a foreign country from the United States." With respect to this Project, the "LNG Terminal" includes the following: a liquefaction facility (Liquefaction Facility) in Southcentral Alaska; an approximately 807-mile gas pipeline (Mainline); a gas treatment plant (GTP) within the PBU on the North Slope; an approximately 63-mile gas transmission line connecting the GTP to the PTU gas production facility (PTU Gas Transmission Line or PTTL); and an approximately 1-mile gas transmission line connecting the GTP to the PBU gas production facility (PBU Gas Transmission Line or PBTL). All of these facilities are essential to export natural gas in foreign commerce and will have a nominal design life of 30 years.

Air pollutant emissions will be released to the atmosphere from three non-jurisdictional facilities, PTU Gas Expansion, certain PBU activities associated with major gas sales (MGS), and the relocation of the Kenai Spur Highway to accommodate the proposed location for construction of the Liquefaction Facility. Air pollutant emissions from PTU Gas Expansion and PBU MGS will occur as a result of construction, drilling, and operation activities. Air pollutant emissions from the Kenai Spur Highway relocation will occur only as a result of construction activities.

The purpose of this report is to document the criteria pollutant, greenhouse gas (GHG), and hazardous air pollutant (HAP) emissions expected to result from the non-jurisdictional facilities associated with the Project, as well as the references, emission factors, and assumptions used to calculate non-jurisdictional emissions.

2.0 ANALYTICAL APPROACH

This report documents the criteria pollutant, GHG, and HAPs emissions that would be released from non-jurisdictional facilities associated with the Project. Generally speaking, criteria pollutants are those pollutants (or their precursors) for which the U.S. Environmental Protection Agency (EPA) has established an ambient air quality standard to protect human health and property. For this report, criteria pollutants include volatile organic compounds (VOC), nitrogen oxides (NO_x), carbon monoxide (CO), respirable particulate matter (particulate matter with an effective diameter of 10 microns or less, or PM_{10}), fine particulate matter (particulate matter with an effective diameter of 2.5 microns or less, or $PM_{2.5}$), and sulfur dioxide (SO_2). Lead is not included in this report because of the progress made in reducing ambient lead concentrations, primarily due to the elimination of lead in gasoline. Since 1980, national average ambient lead concentrations have dropped more than 90 percent.

Greenhouse gases (GHGs) are gases that absorb and re-emit infrared radiation. This report focuses on three GHGs commonly emitted by combustion processes: carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). GHG emissions are often expressed as "carbon dioxide equivalent" (CO_2e), which equates a given mixture and amount of greenhouse gas to the quantity of CO_2 that would have the same global warming potential (GWP) when measured over a specified timescale.

HAPs are those air pollutants listed in Section 112 of the Clean Air Act, as subsequently modified by EPA, which are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental effects.

Non-jurisdictional emission calculations were prepared using well-documented analytical approaches, projected activity data provided by the parties that would be responsible for the non-jurisdictional facilities, and publicly available emission factors and calculation techniques. The emission calculations were prepared by three well-qualified contractors:

- PTU Gas Expansion
  - Construction Emissions – SLR International Corporation (SLR)
  - Drilling Emissions – SLR
  - Operations Emissions – SLR
- PBU Major Gas Sales
  - Construction Emissions – Ashworth Leininger Group (ALG)
  - Drilling Emissions – SLR
  - Operations Emissions – AECOM
- Kenai Spur Highway Relocation
  - Construction Emissions – ALG

Annual emissions from the non-jurisdictional facilities are not constant from year-to-year because certain activities would not occur for the life of the project. Specifically, construction and drilling activities would occur during the earlier years of the project, while operations activities would not occur until construction is completed and drilling is underway. Table 1 provides the years during which non-jurisdictional facilities activity would be expected to occur.

Table 1: Summary of Expected Annual Non-Jurisdictional Facilities Activity

Facility	Activity	Year										
		1	2	3	4	5	6	7	8	9	10	11+
PTU Gas Expansion	Construction	N	N	Y	Y	Y	Y	Y	N	N	N	N
	Drilling	N	N	N	N	Y	Y	Y	Y	N	N	N
	Operation	N	N	N	N	N	N	Y	Y	Y	Y	Y
PBU MGS	Construction	N	Y	Y	Y	Y	Y	N	N	N	N	N
	Drilling	N	N	N	N	N	Y	Y	Y	Y	Y	N
	Operation	N	N	N	N	N	N	Y	Y	Y	Y	Y
Kenai Spur Highway Construction		Y	Y	N	N	N	N	N	N	N	N	N

3.0 SUMMARY

Table 2 summarizes criteria pollutant and GHG emissions from non-jurisdictional facilities from the beginning of construction in Year 1 through the end of drilling activities in Year 10 consistent with the schedule in Table 1.

Table 3 summarizes criteria pollutant and GHG emissions from non-jurisdictional facilities from operations for Years 7 to Year 27. The operations emissions are the net change from the baseline, which is build alternative emissions (i.e., PTU GX and PBU MGS) less no action alternative emissions. For PBU MGS, no action alternative emissions are assumed to be total emissions from CCP and CGF in 2025. See Attachment 2-4, Table 1.

Tables 4 and 5 show the HAP emissions from drilling and operations, respectively. HAP emissions have not been estimated for construction. Operations HAP emissions are also net change from the baseline no action alternative.

The emissions calculation documentation for PTU Gas Expansion, PBU MGS, and the Kenai Spur Highway relocation are provided in Attachments 1, 2, and 3, respectively.

Table 2: Criteria Pollutant and GHG Emissions from Construction and Drilling – Non-Jurisdictional Facilities (Years 1 through 10)

Facility	Criteria Pollutants, tons/year						Greenhouse Gases, metric tons/year			
	VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O	CO_2e
Year 1										
PTU Gas Expansion (PTU)										
Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Drilling	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal – PTU	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PBU Major Gas Sales (MGS)										
Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Drilling	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal – MGS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kenai Spur Highway (KSH)										
Construction	0.8	8.9	6.3	7.9	2.0	0.02	1,371.1	0.29	0.02	1,383.8
TOTAL YEAR 1 EMISSIONS	**0.8**	**8.9**	**6.3**	**7.9**	**2.0**	**0.02**	**1,371.1**	**0.29**	**0.02**	**1,383.8**
Year 2										
PTU Gas Expansion (PTU)										
Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Drilling	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal – PTU	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PBU Major Gas Sales (MGS)										
Construction	3.6	17.0	23.4	96.7	10.9	0.3	6,066.6	0.2	0.1	6,105.8
Drilling	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal – MGS	3.6	17.0	23.4	96.7	10.9	0.3	6,066.6	0.2	0.1	6,105.8
Kenai Spur Highway (KSH)										
Construction	0.8	8.8	6.3	7.9	1.9	0.01	1,371.1	0.28	0.02	1,383.7
TOTAL YEAR 2 EMISSIONS	**4.4**	**25.8**	**29.7**	**104.6**	**12.8**	**0.31**	**7,437.7**	**0.48**	**0.12**	**7,489.5**
Year 3										
PTU Gas Expansion (PTU)										
Construction	357.6	884.6	1,415.5	116.1	115.9	1.5	65,332.5	2.7	0.5	65,557.0
Drilling	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal – PTU	357.6	884.6	1,415.5	116.1	115.9	1.5	65,332.5	2.7	0.5	65,557.0
PBU Major Gas Sales (MGS)										
Construction	5.2	26.0	34.7	158.0	18.0	0.3	8,216.4	0.3	0.2	8,269.7
Drilling	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal – MGS	5.2	26.0	34.7	158.0	18.0	0.3	8,216.4	0.3	0.2	8,269.7
Kenai Spur Highway (KSH)										
Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL YEAR 3 EMISSIONS	**362.8**	**910.6**	**1,450.2**	**274.1**	**133.9**	**1.8**	**73,548.9**	**3.0**	**0.7**	**73,826.7**

Facility	Criteria Pollutants, tons/year						Greenhouse Gases, metric tons/year			
	VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O	CO_2e
Year 4										
PTU Gas Expansion (PTU)										
Construction	715.2	1,769.2	2,830.9	400.2	248.7	3.0	130,665.0	5.3	1.1	131,114.0
Drilling	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal – PTU	715.2	1,769.2	2,830.9	400.2	248.7	3.0	130,665.0	5.3	1.1	131,114.0
PBU Major Gas Sales (MGS)										
Construction	5.0	24.0	33.3	157.8	17.8	0.3	8,133.9	0.3	0.2	8,186.7
Drilling	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal – MGS	5.0	24.0	33.3	157.8	17.8	0.3	8,133.4	0.3	0.2	8,186.7
Kenai Spur Highway (KSH)										
Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL YEAR 4 EMISSIONS	**720.2**	**1,732.2**	**2,864.2**	**558.0**	**266.5**	**3.3**	**138,798.4**	**5.6**	**1.3**	**139,300.7**
Year 5										
PTU Gas Expansion (PTU)										
Construction	715.2	1,769.2	2,830.9	232.2	231.8	3.0	130,665.0	5.3	1.1	131,114.0
Drilling	230.2	2,146.8	673.0	66.4	43.7	72.6	173,152.8	7.0	0.9	173,747.0
Subtotal – PTU	945.4	3,196.0	3,503.9	466.6	292.4	75.6	303,817.8	12.3	2.0	304,861.0
PBU Major Gas Sales (MGS)										
Construction	3.4	17.6	21.5	122.5	13.5	0.2	5,843.1	0.2	0.1	5,882.8
Drilling	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal – MGS	3.4	17.6	21.5	122.5	13.5	0.2	5,843.1	0.2	0.1	5,822.8
Kenai Spur Highway (KSH)										
Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL YEAR 5 EMISSIONS	**948.8**	**3,213.6**	**3,525.4**	**589.1**	**305.9**	**75.8**	**309,660.9**	**12.5**	**2.1**	**310,683.8**
Year 6										
PTU Gas Expansion (PTU)										
Construction	715.2	1,769.2	2,830.9	232.2	231.8	3.0	130,665.0	5.3	1.1	131,114.0
Drilling	230.2	2,146.8	673.0	66.4	43.7	72.6	173,152.8	7.0	0.9	173,747.0
Subtotal – PTU	945.4	3,196.0	3,503.9	466.6	292.4	75.6	303,817.8	12.3	2.0	304,861.0
PBU Major Gas Sales (MGS)										
Construction	1.6	8.2	10.3	61.2	6.7	0.1	2,919.0	0.1	0.1	2,938.8
Drilling	60.4	545.2	164.8	13.4	12.9	0.5	50,685.0	2.1	0.4	50,859.0
Subtotal – MGS	62.0	553.4	175.1	74.6	19.6	0.6	53,604.0	2.2	0.5	53,797.8
Kenai Spur Highway (KSH)										
Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL YEAR 6 EMISSIONS	**1,007.4**	**3,749.4**	**3,679.0**	**541.2**	**312.0**	**76.2**	**357,421.8**	**14.5**	**2.5**	**358,658.8**

Facility	Criteria Pollutants, tons/year						Greenhouse Gases, metric tons/year			
	VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O	CO_2e
Year 7										
PTU Gas Expansion (PTU)										
Construction	715.2	1,769.2	2,830.9	232.2	231.8	3.0	130,665.0	5.3	1.1	131,114.0
Drilling	230.2	2,146.8	673.0	66.4	43.7	72.6	173,152.8	7.0	0.9	173,747.0
Subtotal – PTU	945.4	3,916.0	3,503.9	298.6	275.5	75.6	303,817.8	12.3	2.0	304,861.0
PBU Major Gas Sales (MGS)										
Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Drilling	60.4	545.2	164.8	13.4	12.9	0.5	50,685.0	2.1	0.4	50,859.0
Subtotal – MGS	60.4	545.2	164.8	13.4	12.9	0.5	50,685.0	2.1	0.4	50,859.0
Kenai Spur Highway (KSH)										
Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL YEAR 7 EMISSIONS	**1,005.8**	**4,461.2**	**3,668.7**	**312.0**	**288.4**	**76.1**	**354,502.8**	**14.4**	**2.4**	**355,720.0**
Year 8										
PTU Gas Expansion (PTU)										
Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Drilling	115.1	1,073.4	336.5	33.2	21.9	36.3	86,576.6	3.5	0.5	86,873.0
Subtotal – PTU	115.1	1,073.4	336.5	33.2	21.9	36.3	86,576.6	3.5	0.5	86,873.0
PBU Major Gas Sales (MGS)										
Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Drilling	60.4	545.2	164.8	13.4	12.9	0.5	50,685.0	2.1	0.4	50,859.0
Subtotal – MGS	60.4	545.2	164.8	13.4	12.9	0.5	50,685.0	2.1	0.4	50,859.0
Kenai Spur Highway (KSH)										
Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL YEAR 8 EMISSIONS	**175.5**	**1,618.6**	**501.3**	**46.6**	**34.8**	**36.8**	**137,261.6**	**5.6**	**0.9**	**137,732.0**
Year 9										
PTU Gas Expansion (PTU)										
Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Drilling	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal – PTU	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PBU Major Gas Sales (MGS)										
Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Drilling	60.4	545.2	164.8	13.4	12.9	0.5	50,685.0	2.1	0.4	50,859.0
Subtotal – MGS	60.4	545.2	164.8	13.4	12.9	0.5	50,685.0	2.1	0.4	50,859.0
Kenai Spur Highway (KSH)										
Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL YEAR 9 EMISSIONS	**60.4**	**545.2**	**164.8**	**13.4**	**12.9**	**0.5**	**50,685.0**	**2.1**	**0.4**	**50,859.0**

Facility	Criteria Pollutants, tons/year						Greenhouse Gases, metric tons/year			
	VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O	CO_2e
Year 10										
PTU Gas Expansion (PTU)										
Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Drilling	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal – PTU	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PBU Major Gas Sales (MGS)										
Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Drilling	60.4	545.2	164.8	13.4	12.9	0.5	50,685.0	2.1	0.4	50,859.0
Subtotal – MGS	60.4	545.2	164.8	13.4	12.9	0.5	50,685.0	2.1	0.4	50,859.0
Kenai Spur Highway (KSH)										
Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL YEAR 10 EMISSIONS	**60.4**	**545.2**	**164.8**	**13.4**	**12.9**	**0.5**	**50,685.0**	**2.1**	**0.4**	**50,859.0**

Table 3: Criteria Pollutant and GHG Emissions from Operations (Net Change from Baseline) – Non-Jurisdictional Facilities (Years 7 through 27)

Facility	Criteria Pollutants, tons/year						Greenhouse Gases, metric tons/year			
	VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O	CO_2e
Year 7										
PTU Gas Expansion (PTU)										
Operations	0.4	18.1	15.3	1.4	1.4	3.8	19,710.7	0.4	0.0	19,731.0
PBU Major Gas Sales (MGS)										
Operations	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL YEAR 7 EMISSIONS	**0.4**	**18.1**	**15.3**	**1.4**	**1.4**	**3.8**	**19,710.7**	**0.4**	**0.0**	**19,731.0**
Year 8										
PTU Gas Expansion (PTU)										
Operations	0.8	36.3	30.6	2.7	2.7	7.5	39,421.3	0.7	0.1	39,462.0
PBU Major Gas Sales (MGS)										
Operations	-18.0	-3,074.0	-446.0	-54.0	-54.0	-46.0	-822,673	-18.0	0.0	-823,520
TOTAL YEAR 8 EMISSIONS	**-17.2**	**-3,037.7**	**-415.4**	**-51.3**	**-51.3**	**-38.5**	**-783,252**	**-17.3**	**0.1**	**-784,058**
Year 9										
PTU Gas Expansion (PTU)										
Operations	0.8	36.3	30.6	2.7	2.7	7.5	39,421.3	0.7	0.1	39,462.0
PBU Major Gas Sales (MGS)										
Operations	-18.0	-3,074.0	-446.0	-54.0	-54.0	-46.0	-882,673	-18.0	0.0	-823,520
TOTAL YEAR 9 EMISSIONS	**-17.2**	**-3,037.7**	**-415.4**	**-51.3**	**-51.3**	**-38.5**	**-843,252**	**-17.3**	**0.1**	**-784,058**
Year 10										
PTU Gas Expansion (PTU)										
Operations	0.8	36.3	30.6	2.7	2.7	7.5	39,421.3	0.7	0.1	39,462.0
PBU Major Gas Sales (MGS)										
Operations	-18.0	-3,074.0	-446.0	-54.0	-54.0	-46.0	-882,673	-18.0	0.0	-823,520
TOTAL YEAR 10 EMISSIONS	**-17.2**	**-3,037.7**	**-415.4**	**-51.3**	**-51.3**	**-38.5**	**-843,252**	**-17.3**	**0.1**	**-784,058**
Year 11										
PTU Gas Expansion (PTU)										
Operations	0.8	36.3	30.6	2.7	2.7	7.5	39,421.3	0.7	0.1	39,462.0
PBU Major Gas Sales (MGS)										
Operations	-21.0	-3,627.0	-511.0	-63.0	-63.0	-54.0	-969,327	-21.0	0.0	-970,325
TOTAL YEAR 11 EMISSIONS	**-20.2**	**-3,590.7**	**-480.4**	**-60.3**	**-60.3**	**-46.5**	**-929,906**	**-20.3**	**0.1**	**-930,863**
Year 12										

Facility	Criteria Pollutants, tons/year						Greenhouse Gases, metric tons/year			
	VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O	CO_2e
PTU Gas Expansion (PTU)										
Operations	0.8	36.3	30.6	2.7	2.7	7.5	39,421.3	0.7	0.1	39,462.0
PBU Major Gas Sales (MGS)										
Operations	-24.0	-4,268.0	-586.0	-75.0	-75.0	-62.0	-1,133,006	-24.0	0.0	-1,134,174
TOTAL YEAR 12 EMISSIONS	**-23.2**	**-4,231.7**	**-555.4**	**-72.3**	**-72.3**	**-54.5**	**-1,093,585**	**-23.3**	**0.1**	**-1,094,712**
Year 13										
PTU Gas Expansion (PTU)										
Operations	0.8	36.3	30.6	2.7	2.7	7.5	39,421.3	0.7	0.1	39,462.0
PBU Major Gas Sales (MGS)										
Operations	-30.0	-5,372.0	-715.0	-93.0	-93.0	-77.0	-1,420,418	-30.0	0.0	-1,421,833
TOTAL YEAR 13 EMISSIONS	**-29.2**	**-5,335.7**	**-684.4**	**-90.3**	**-90.3**	**-69.5**	**-1,380,997**	**-29.3**	**0.1**	**-1,382,371**
Year 14										
PTU Gas Expansion (PTU)										
Operations	0.8	36.3	30.6	2.7	2.7	7.5	39,421.3	0.7	0.1	39,462.0
PBU Major Gas Sales (MGS)										
Operations	-33.0	-5,793.0	-793.0	-105.0	-105.0	-85.0	-1,611,836	-33.0	0.0	-1,613,499
TOTAL YEAR 14 EMISSIONS	**-32.2**	**-5,756.7**	**-762.4**	**-102.3**	**-102.3**	**-77.5**	**-1,572,415**	**-32.3**	**0.1**	**-1,574,037**
Year 15										
PTU Gas Expansion (PTU)										
Operations	0.8	36.3	30.6	2.7	2.7	7.5	39,421.3	0.7	0.1	39,462.0
PBU Major Gas Sales (MGS)										
Operations	-36.0	-6,056.0	-842.0	-113.0	-113.0	-91.0	-1,778.3	-36.0	0.0	-1,780,127
TOTAL YEAR 15 EMISSIONS	**-35.2**	**-6,019.7**	**-811.4**	**-110.3**	**-110.3**	**-83.5**	**37,643**	**-35.3**	**0.1**	**-1,740,665**
Year 16										
PTU Gas Expansion (PTU)										
Operations	0.8	36.3	30.6	2.7	2.7	7.5	39,421.3	0.7	0.1	39,462.0
PBU Major Gas Sales (MGS)										
Operations	-45.0	-7,797.0	-1,045.0	-143.0	-143.0	-115.0	-2,214,930	-45.0	0.0	-2,217,216

Facility	Criteria Pollutants, tons/year						Greenhouse Gases, metric tons/year			
	VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O	CO_2e
TOTAL YEAR 16 EMISSIONS	**-44.2**	**-7,760.7**	**-1,014.4**	**-140.3**	**-140.3**	**-107.5**	**-2,175,509**	**-44.3**	**0.1**	**-2,177,754**
Year 17										
PTU Gas Expansion (PTU)										
Operations	0.8	36.3	30.6	2.7	2.7	7.5	39,421.3	0.7	0.1	39,462.0
PBU Major Gas Sales (MGS)										
Operations	-48.0	-8,299.0	-1,108.0	-152.0	-152.0	-123.0	-2,363,884	-48.0	0.0	-2,366,325
TOTAL YEAR 17 EMISSIONS	**-47.2**	**-8,262.7**	**-1,077.4**	**-149.3**	**-149.3**	**-115.5**	**-2,324,463**	**-47.3**	**0.1**	**-2,326,863**
Year 18										
PTU Gas Expansion (PTU)										
Operations	0.8	36.3	30.6	2.7	2.7	7.5	39,421.3	0.7	0.1	39,462.0
PBU Major Gas Sales (MGS)										
Operations	-51.0	-8,944.0	-1,188.0	-165.0	-165.0	-131.0	-2,542,214	-51.0	0.0	-2,544,839
TOTAL YEAR 18 EMISSIONS	**-50.2**	**-8,907.7**	**-1,157.4**	**-162.3**	**-162.3**	**-123.5**	**-2,502,793**	**-50.3**	**0.1**	**-2,505,377**
Year 19										
PTU Gas Expansion (PTU)										
Operations	0.8	36.3	30.6	2.7	2.7	7.5	39,421.3	0.7	0.1	39,462.0
PBU Major Gas Sales (MGS)										
Operations	-55.0	-9,772.0	-1,231.0	-178.0	-178.0	-140.0	-2,723,511	-55.0	0.0	-2,726,364
TOTAL YEAR 19 EMISSIONS	**-54.2**	**-9,735.7**	**-1,200.4**	**-175.3**	**-175.3**	**-132.5**	**-2,684,090**	**-54.3**	**0.1**	**-2,686,902**
Year 20										
PTU Gas Expansion (PTU)										
Operations	8.2	161.1	43.3	16.8	16.8	51.3	266,109	5.0	0.5	266,384
PBU Major Gas Sales (MGS)										
Operations	-59.0	-10,588.0	-1,279.0	-191.0	-191.0	-149.0	-2,924,403	-59.0	0.0	-2,927,424
TOTAL YEAR 20 EMISSIONS	**-50.8**	**-10,426.9**	**-1,235.7**	**-174.2**	**-174.2**	**-97.7**	**-2,658,294**	**-54.0**	**0.5**	**-2,661,040**
Year 21										
PTU Gas Expansion (PTU)										
Operations	8.2	161.1	43.3	16.8	16.8	51.3	266,109	5.0	0.5	266,384
PBU Major Gas Sales (MGS)										
Operations	-63.0	-11,422.0	-1,322.0	-204.0	-204.0	-159.0	-3,101,676	-63.0	0.0	-3,104,880
TOTAL YEAR 21 EMISSIONS	**-54.8**	**-11,260.9**	**-1,278.7**	**-187.2**	**-187.2**	**-107.7**	**-2,835,567**	**-58.0**	**0.5**	**-2,838,496**

Facility	Criteria Pollutants, tons/year						Greenhouse Gases, metric tons/year			
	VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O	CO_2e
Year 22										
PTU Gas Expansion (PTU)										
Operations	8.2	161.1	43.3	16.8	16.8	51.3	266,109	5.0	0.5	266,384
PBU Major Gas Sales (MGS)										
Operations	-67.0	-12,489.0	-1,426.0	-217.0	-217.0	-169.0	-3,328,528	-67.0	0.0	-3,331,966
TOTAL YEAR 22 EMISSIONS	**-58.8**	**-12,327.9**	**-1,382.7**	**-200.2**	**-200.2**	**-117.7**	**-3,062,419**	**-62.0**	**0.5**	**-3,065,582**
Year 23										
PTU Gas Expansion (PTU)										
Operations	8.2	161.1	43.3	16.8	16.8	51.3	266,109	5.0	0.5	266,384
PBU Major Gas Sales (MGS)										
Operations	-70.0	-13,132.0	-1,460.0	-227.0	-227.0	-177.0	-3,512,201	-71.0	0.0	-3,515,828
TOTAL YEAR 23 EMISSIONS	**-61.8**	**-12,970.9**	**-1,416.7**	**-210.2**	**-210.2**	**-125.7**	**-3,246,092**	**-66.0**	**0.5**	**-3,249,444**
Year 24										
PTU Gas Expansion (PTU)										
Operations	8.2	161.1	43.3	16.8	16.8	51.3	266,109	5.0	0.5	266,384
PBU Major Gas Sales (MGS)										
Operations	-70.0	-13,182.0	-1,463.0	-228.0	-228.0	-178.0	-3,523,178	-71.0	0.0	-3,526,816
TOTAL YEAR 24 EMISSIONS	**-61.8**	**-13,020.9**	**-1,419.7**	**-211.2**	**-211.2**	**-126.7**	**-3,257,069**	**-66.0**	**0.5**	**-3,260,432**
Year 25										
PTU Gas Expansion (PTU)										
Operations	8.2	161.1	43.3	16.8	16.8	51.3	266,109	5.0	0.5	266,384
PBU Major Gas Sales (MGS)										
Operations	-70.0	-13,182.0	-1,463.0	-228.0	-228.0	-178.0	-3,523,178	-71.0	0.0	-3,526,816
TOTAL YEAR 25 EMISSIONS	**-61.8**	**-13,020.9**	**-1,419.7**	**-211.2**	**-211.2**	**-126.7**	**-3,257,069**	**-66.0**	**0.5**	**-3,260,432**
Year 26										
PTU Gas Expansion (PTU)										
Operations	8.2	161.1	43.3	16.8	16.8	51.3	266,109	5.0	0.5	266,384
PBU Major Gas Sales (MGS)										
Operations	-70.0	-13,228.0	-1,465.0	-229.0	-229.0	-179.0	-3,534,261	-71.0	0.0	-3,537,910
TOTAL YEAR 26 EMISSIONS	**-61.8**	**-13,066.9**	**-1,421.7**	**-212.2**	**-212.2**	**-127.7**	**-3,268,152**	**-66.0**	**0.5**	**-3,271,526**
Year 27										

Facility	Criteria Pollutants, tons/year						Greenhouse Gases, metric tons/year			
	VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O	CO_2e
PTU Gas Expansion (PTU)										
Operations	8.2	161.1	43.3	16.8	16.8	51.3	266,109	5.0	0.5	266,384
PBU Major Gas Sales (MGS)										
Operations	-70.0	-13,228.0	-1,465.0	-229.0	-229.0	-179.0	-3,534,261	-71.0	0.0	-3,537,910
TOTAL YEAR 27 EMISSIONS	**-61.8**	**-13,066.9**	**-1,421.7**	**-212.2**	**-212.2**	**-127.7**	**-3,268,152**	**-66.0**	**0.5**	**-3,271,526**

Table 4: Total HAP Emissions from Drilling – Non-Jurisdictional Facilities (Years 1 through 10)

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
PTU Gas Expansion (PTU)										
Drilling	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.0	0.0
PBU Major Gas Sales (MGS)										
Drilling	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.5
TOTAL HAP EMISSIONS	0.0	0.0	0.0	0.0	0.9	1.4	1.4	1.4	0.5	0.5

Table 5: Total HAP Emissions from Operations (Net Change from Baseline) – Non-Jurisdictional Facilities (Years 7 through 27)

	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16
PTU Gas Expansion (PTU)										
Operations	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
PBU Major Gas Sales (MGS)										
Operations	0.0	-6.0	-6.0	-6.0	-8.0	-9.0	-11.0	-13.0	-15.0	-18.0
TOTAL HAP EMISSIONS	0.1	-5.9	-5.9	-5.9	-7.9	-8.9	-10.9	-12.9	-14.9	-17.9

	Year 17	Year 18	Year 19	Year 20	Year 21	Year 22	Year 23	Year 24	Year 25	Year 26
PTU Gas Expansion (PTU)										
Operations	0.1	0.1	0.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2
PBU Major Gas Sales (MGS)										
Operations	-20.0	-21.0	-23.0	-25.0	-27.0	-29.0	-31.0	-31.0	-31.0	-31.0
TOTAL HAP EMISSIONS	-19.9	-20.9	-22.9	-22.8	-24.8	-26.8	-28.8	-28.8	-28.8	-28.8

	Year 27
PTU Gas Expansion (PTU)	
Operations	2.2
PBU Major Gas Sales (MGS)	
Operations	-31.0
TOTAL HAP EMISSIONS	-28.8

ATTACHMENT 1 - POINT THOMSON UNIT GAS EXPANSION REPORT

Annual Potential Emission Summary

for the:

Point Thomson Unit Gas Expansion Project

prepared for:

ExxonMobil Alaska Production Inc.

prepared by:

September 2016

Point Thomson Unit (PTU) Gas Expansion Project – Potential Emissions Summary

ExxonMobil Alaska Production Inc. (ExxonMobil), as Operator of the Point Thomson Unit (PTU) on behalf of the working interest owners is planning to build the Point Thomson Gas Expansion Project (Project). The Project would be the next phase of Point Thomson development following construction of the Initial Production System (IPS) from 2012-2015 and initiation of natural gas condensate production and gas cycling in 2016. This air emissions summary report corresponds to the Project scope and schedule described in the Point Thomson Gas Expansion Project Preliminary Draft Project Description, and was developed to support an environmental review by federal agencies under the National Environmental Policy Act.

PTU Gas Expansion air pollutant emissions would be released by the construction, drilling, and operations activities associated with the project. The construction emission unit inventory includes camp generator engines, construction and startup generator engines, and portable heaters. The drilling emission unit inventory includes a drill rig, camp generator engines, well stimulation generator engines, portable heaters and drilling fluid tank farm boilers, heaters, and generator engines. The operations emission unit inventory includes the IPS emission unit inventory and two additional gas-fired heaters. The IPS emission unit inventory includes four combustion turbines, two flares, one waste incinerator, two emergency pump engines, various generator engines, a used oil-fired heater, and portable heaters.

Gas Expansion construction emission units are based on the construction emission units permitted for the construction phase of IPS because similar equipment/activities are planned to be used/occur. The construction emissions estimates are conservatively high because the emissions are based on construction equipment operating 8,760 hours per year. Actual construction emissions would likely be less than shown in the "Total" column in Tables 1.a. and 1.b. because the construction equipment would likely not operate at full capacity for 8,760 hours per year. Summaries of the annual potential emissions in tons per year (tpy) from the PTU Gas Expansion construction campaign are provided in Tables 1.a. and 1.b.

Table 1.a. Annual Potential Criteria Pollutant Emissions from PTU – Gas Expansion Construction

Pollutant	Stationary Emission Units Potential Emissions	Nonroad Engines Potential Emissions	Total Potential Emissions
NO_X	426.7 tpy	67.7 tpy	494.4 tpy
CO	494.0 tpy	157.5 tpy	651.5 tpy
PM/PM_{10}	24.2 tpy	2.4 tpy	26.7 tpy
$PM_{2.5}$	23.8 tpy	2.4 tpy	26.2 tpy
VOC	75.9 tpy	16.1 tpy	92.0 tpy
SO_2	0.9 tpy	0.2 tpy	1.1 tpy
Pb	0.001 tpy	0.0 tpy	0.001 tpy

Table 1.b. Annual Potential GHG Emissions from PTU – Gas Expansion Construction

Pollutant	Stationary Emission Units Potential Emissions	Nonroad Engines Potential Emissions	Total Potential Emissions
CO_2	82,015 tonne/year	21,037 tonne/year	103,052 tonne/year
CH_4	3.327 tonne/year	0.853 tonne/year	4.180 tonne/year
N_2O	0.6653 tonne/year	0.1707 tonne/year	0.8360 tonne/year
CO_2e	82,297 tonne/year	21,109 tonne/year	103,406 tonne/year

Summaries of the annual potential emissions from the PTU Gas Expansion drilling campaign are provided in Tables 2.a. through 2.c. Up to six new production wells and one underground injection control Class I disposal well would be drilled on Central Pad and East Pad. Actual number of wells to be drilled would be determined by well and reservoir performance. The annual potential emissions were calculated based on the maximum numbers of wells that would be drilled, specifically drilling three (3) new production wells at East Pad and drilling four (4) new wells at Central Pad (three production wells and one disposal well). Drilling each well requires approximately five months, so annual emissions are based on drilling two wells per year during a drilling campaign with a resulting total duration of 3.5 years.

Table 2.a. Annual Potential Criteria Pollutant Emissions from PTU – Gas Expansion Drilling Campaign

Pollutant	Stationary Emission Units Potential Emissions	Nonroad Engines Potential Emissions	Total Potential Emissions
NO_X	200.8 tpy	1,641.8 tpy	1,842.6 tpy
CO	77.0 tpy	479.9 tpy	556.9 tpy
PM/PM_{10}	7.8 tpy	37.5 tpy	45.4 tpy
$PM_{2.5}$	6.2 tpy	37.5 tpy	43.7 tpy
VOC	17.8 tpy	186.2 tpy	204.0 tpy
SO_2	0.6 tpy	1.2 tpy	1.8 tpy
Pb	0.003 tpy	0.0 tpy	0.003 tpy

Table 2.b. Annual Potential GHG Emissions from PTU – Gas Expansion Drilling Campaign

Pollutant	Stationary Emission Units Potential Emissions	Nonroad Engines Potential Emissions	Total Potential Emissions
CO_2	60,077 tonne/year	111,219 tonne/year	171,296 tonne/year
CH_4	2.437 tonne/year	4.511 tonne/year	6.948 tonne/year
N_2O	0.4874 tonne/year	0.9023 tonne/year	1.3896 tonne/year
CO_2e	60,283 tonne/year	111,600 tonne/year	171,883 tonne/year

Table 2.c. Annual Potential HAP Emissions from PTU – Gas Expansion Drilling Campaign

Pollutant	Stationary Emission Units Potential Emissions	Nonroad Engines Potential Emissions	Total Potential Emissions
Total HAPs	0.3 tpy	1.5 tpy	1.8 tpy
Benzene[2]	0.1 tpy	0.6 tpy	0.7 tpy
Formaldehyde[2]	0.1 tpy	0.3 tpy	0.4 tpy

[2] Benzene and formaldehyde are the individual HAPs with the highest annual potential emissions.

Summaries of the annual potential emissions from PTU Gas Expansion operations are provided in Tables 3.a. through 3.c.

Table 3.a. Annual Potential Criteria Pollutant Emissions from PTU – Gas Expansion Operations

Pollutant	Stationary Emission Units Potential Emissions	Nonroad Engines Potential Emissions	Total Potential Emissions
NO_X	283.6 tpy	69.9 tpy	353.3 tpy
CO	238.2 tpy	46.9 tpy	285.0 tpy
PM_{10}	22.0 tpy	4.2 tpy	26.2 tpy
$PM_{2.5}$	21.6 tpy	4.2 tpy	25.8 tpy
VOC	129.0 tpy	11.8 tpy	141.0 tpy
SO_2	32.5 tpy	0.1 tpy	39.8 tpy
Pb	0.04 tpy	0.00 tpy	0.04 tpy

Table 3.b. Annual Potential Greenhouse Gas (GHG) Emissions from PTU – Gas Expansion Operations

Pollutant	Stationary Emission Units Potential Emissions	Nonroad Engines Potential Emissions	Total Potential Emissions
CO_2	235,644 tonne/year	4,857 tonne/year	240,501 tonne/year
CH_4	5.819 tonne/year	0.197 tonne/year	6.016 tonne/year
N_2O	0.7885 tonne/year	0.0394 tonne/year	0.8279 tonne/year
CO_2e	236,025 tonne/year	4,874 tonne/year	240,898 tonne/year

Table 3.c. Annual Potential Hazardous Air Pollutant (HAP) Emissions from PTU – Gas Expansion Operations

Pollutant	Stationary Emission Units Potential Emissions	Nonroad Engines Potential Emissions	Total Potential Emissions
Total HAPs	5.6 tpy	0.1 tpy	5.8 tpy
Hydrochloric acid[1]	3.5 tpy	0.0 tpy	3.5 tpy
Formaldehyde[1]	1.1 tpy	0.04 tpy	1.1 tpy

[1] Hydrochloric acid and formaldehyde are the individual HAPs with the highest annual potential emissions.

Please note nonroad engines are portable and transportable engines that remain at any single location for 12 months or less and otherwise meet the nonroad engine criteria in 40 CFR 89.2. An engine used to propel a motor vehicle is a motor vehicle engine, not a nonroad engine. A motor vehicle is a self-propelled vehicle designed for transporting persons or property on a street or highway.

All emission unit inventories are subject to change as further engineering design work proceeds.

PTU Gas Expansion – Fugitive Emissions

PTU Gas Expansion fugitive air pollutant emissions would be emitted by the construction and operations activities associated with the project. Fugitive dust emissions would be emitted during the construction phase. Fugitive volatile organic compound (VOC) and GHG emissions would be emitted during the operation of Gas Expansion. No fugitive emissions are anticipated during the drilling campaign.

Dust (particulate matter) fugitive emissions may result from expanding the Central Pad footprint and creating the gravel pad for East Pad. A new gravel mine would supply the gravel for the expansion of Central Pad and the creation of East Pad. The new gravel mine would be located approximately half a mile east of Alaska State C-1 Pad. The area of Central Pad would be expanded to approximately 26 acres. The area of East Pad would be approximately 21 acres. The expansion of Central Pad and the creation of East Pad would occur in 2022.

Summaries of the annual potential fugitive dust emissions from the PTU Gas Expansion are provided in Table 4.a.

Table 4.a. Annual Potential Fugitive Dust Emissions from PTU – Central Pad and East Pad (combined)

Pollutant	Road Travel	Material Handling	Total
$PM_{2.5}$	16.7 tpy	0.1 tpy	16.8 tpy
PM_{10}	167.1 tpy	0.8 tpy	168.0 tpy
PM	627.2 tpy	1.8 tpy	628.9 tpy

VOC and GHG fugitive emissions are a result of equipment leaks related to the operational equipment such as valves, connectors, open ended line, and pressure relief valves. Summaries of the annual potential fugitive VOC and GHG emissions from Gas Expansion operations are provided in Table 4.b.

Table 4.b. Annual Potential Fugitive VOC and GHG Emissions from PTU – Gas Expansion

Pollutant	Total Potential Fugitive Emissions
CO_2	1.4 tonne/year
CH_4	48.4 tonne/year
CO_2e	1,211.8 tonne/year
VOC	4.0 tpy

PTU Gas Expansion – Mobile Sources

PTU Gas Expansion includes various pieces of mobile equipment such as pickup trucks, cranes, forklifts, and other units. The mobile source equipment lists are based on the mobile sources used for construction, drilling, and operation of IPS. Summaries of the annual potential emissions from mobile sources are provided in Tables 5.a. through 5.c.

Table 5.a. Annual Potential Mobile Source Emissions from PTU – Gas Expansion, Construction

Pollutant	Construction Annual Mobile Emissions
NO_X	1,274.8 tpy
CO	2,179.4 tpy
$PM/PM_{10}/PM_{2.5}$	205.6 tpy
VOC	623.2 tpy
SO_2	1.9 tpy
CO_2	27,613 tonne/year
CH_4	1.120 tonne/year
N_2O	0.2240 tonne/year
CO_2e	27,708 tonne/year

Table 5.b. Annual Potential Mobile Source Emissions from PTU – Gas Expansion, Drilling Campaign

Pollutant	Drilling Annual Mobile Emissions
NO_X	304.2 tpy
CO	116.1 tpy
$PM/PM_{10}/PM_{2.5}$	21.1 tpy
VOC	26.2 tpy
SO_2	70.8 tpy
CO_2	1,857 tonne/year
CH_4	0.075 tonne/year
N_2O	0.0151 tonne/year
CO_2e	1,863 tonne/year

Table 5.c. Annual Potential Mobile Source Emissions from PTU – Gas Expansion, Operations

Pollutant	Gas Expansion Annual Mobile Emissions
NO_X	43.9 tpy
CO	15.3 tpy
$PM/PM_{10}/PM_{2.5}$	2.7 tpy
VOC	3.3 tpy
SO_2	0.001 tpy
CO_2	266 tonne/year
CH_4	0.011 tonne/year
N_2O	0.0022 tonne/year
CO_2e	267 tonne/year

Point Thomson Unit (PTU) Gas Expansion Schedule

Point Thomson IPS is currently operating and would continue operating in the early stages of Gas Expansion Project construction. The onsite construction of the Gas Expansion Project is anticipated to begin third quarter 2021, which would include mobilizing equipment, construction camps, and workers to begin construction. The expansion of Central Pad and the creation of East Pad would occur in 2022. The drilling campaign would begin in 2023 and would span approximately 3.5 years. The IPS operation would be shut down during the second half of 2024 to enable startup of the Gas Expansion Project. Production from Gas Expansion Project would begin during the second quarter of 2025.

A summary of the total annual potential emissions from all emission units (stationary emission units, nonroad engines, fugitive emission units, and mobile sources) from 2020 through 2045 are provided in Table 6.a. A summary of total annual potential emissions from all emission units for the construction phase, drilling campaign, and operations of Gas Expansion from 2021 through 2026 are provided in Tables 6.b. through 6.d.

Table 6.a. Total Annual Potential Emissions from PTU – Gas Expansion Project

Year	Project Stage Description	Pollutant									
		NO_X	CO	PM	PM_{10}	$PM_{2.5}$	VOC	SO_2	Pb	GHG	HAPs
2020	IPS	361.0 tpy	269.8 tpy	26.2 tpy	26.2 tpy	25.8 tpy	147.5 tpy	32.3 tpy	0.04 tpy	202,991 tonne/year	5.7 tpy
2021	IPS + Construction (2H only)	1,245.6 tpy	1,685.3 tpy	142.3 tpy	142.3 tpy	141.7 tpy	505.1 tpy	33.8 tpy	0.04 tpy	268,548 tonne/year	5.7 tpy
2022	IPS + Construction	2,130.2 tpy	3,100.7 tpy	887.3 tpy	426.4 tpy	274.4 tpy	862.7 tpy	35.3 tpy	0.04 tpy	334,105 tonne/year	5.7 tpy
2023	IPS + Construction + Drilling	4,277.0 tpy	3,773.8 tpy	324.8 tpy	324.8 tpy	322.4 tpy	1,092.9 tpy	107.9 tpy	0.04 tpy	507,852 tonne/year	7.5 tpy
2024	IPS (1H only) + Construction + Drilling	4,096.5 tpy	3,638.8 tpy	311.7 tpy	311.7 tpy	309.5 tpy	1,019.2 tpy	91.7 tpy	0.02 tpy	406,356 tonne/year	4.6 tpy
2025	Construction + Drilling + Gas Expansion (2H only)	4,114.6 tpy	3,654.1 tpy	313.1 tpy	313.1 tpy	310.9 tpy	1,019.6 tpy	95.5 tpy	0.02 tpy	426,049 tonne/year	4.7 tpy
2026	Drilling + Gas Expansion	1,470.6 tpy	636.9 tpy	62.1 tpy	62.1 tpy	60.9 tpy	263.4 tpy	76.1 tpy	0.04 tpy	329,250 tonne/year	6.6 tpy
2027	Gas Expansion	397.3 tpy	300.4 tpy	28.9 tpy	28.9 tpy	28.5 tpy	148.3 tpy	39.8 tpy	0.04 tpy	242,377 tonne/year	5.8 tpy
2028	Gas Expansion	397.3 tpy	300.4 tpy	28.9 tpy	28.9 tpy	28.5 tpy	148.3 tpy	39.8 tpy	0.04 tpy	242,377 tonne/year	5.8 tpy
2029	Gas Expansion	397.3 tpy	300.4 tpy	28.9 tpy	28.9 tpy	28.5 tpy	148.3 tpy	39.8 tpy	0.04 tpy	242,377 tonne/year	5.8 tpy
2030	Gas Expansion	397.3 tpy	300.4 tpy	28.9 tpy	28.9 tpy	28.5 tpy	148.3 tpy	39.8 tpy	0.04 tpy	242,377 tonne/year	5.8 tpy
2031	Gas Expansion	397.3 tpy	300.4 tpy	28.9 tpy	28.9 tpy	28.5 tpy	148.3 tpy	39.8 tpy	0.04 tpy	242,377 tonne/year	5.8 tpy
2032	Gas Expansion	397.3 tpy	300.4 tpy	28.9 tpy	28.9 tpy	28.5 tpy	148.3 tpy	39.8 tpy	0.04 tpy	242,377 tonne/year	5.8 tpy
2033	Gas Expansion	397.3 tpy	300.4 tpy	28.9 tpy	28.9 tpy	28.5 tpy	148.3 tpy	39.8 tpy	0.04 tpy	242,377 tonne/year	5.8 tpy
2034	Gas Expansion	397.3 tpy	300.4 tpy	28.9 tpy	28.9 tpy	28.5 tpy	148.3 tpy	39.8 tpy	0.04 tpy	242,377 tonne/year	5.8 tpy
2035	Gas Expansion	397.3 tpy	300.4 tpy	28.9 tpy	28.9 tpy	28.5 tpy	148.3 tpy	39.8 tpy	0.04 tpy	242,377 tonne/year	5.8 tpy
2036	Gas Expansion	397.3 tpy	300.4 tpy	28.9 tpy	28.9 tpy	28.5 tpy	148.3 tpy	39.8 tpy	0.04 tpy	242,377 tonne/year	5.8 tpy
2037	Gas Expansion	397.3 tpy	300.4 tpy	28.9 tpy	28.9 tpy	28.5 tpy	148.3 tpy	39.8 tpy	0.04 tpy	242,377 tonne/year	5.8 tpy
2038	Future Development - Booster Compression	522.1 tpy	313.1 tpy	43.0 tpy	43.0 tpy	42.6 tpy	155.7 tpy	83.6 tpy	0.04 tpy	469,299 tonne/year	7.9 tpy
2039	Future Development - Booster Compression	522.1 tpy	313.1 tpy	43.0 tpy	43.0 tpy	42.6 tpy	155.7 tpy	83.6 tpy	0.04 tpy	469,299 tonne/year	7.9 tpy
2040	Future Development - Booster Compression	522.1 tpy	313.1 tpy	43.0 tpy	43.0 tpy	42.6 tpy	155.7 tpy	83.6 tpy	0.04 tpy	469,299 tonne/year	7.9 tpy
2041	Future Development - Booster Compression	522.1 tpy	313.1 tpy	43.0 tpy	43.0 tpy	42.6 tpy	155.7 tpy	83.6 tpy	0.04 tpy	469,299 tonne/year	7.9 tpy
2042	Future Development - Booster Compression	522.1 tpy	313.1 tpy	43.0 tpy	43.0 tpy	42.6 tpy	155.7 tpy	83.6 tpy	0.04 tpy	469,299 tonne/year	7.9 tpy
2043	Future Development - Booster Compression	522.1 tpy	313.1 tpy	43.0 tpy	43.0 tpy	42.6 tpy	155.7 tpy	83.6 tpy	0.04 tpy	469,299 tonne/year	7.9 tpy
2044	Future Development - Booster Compression	522.1 tpy	313.1 tpy	43.0 tpy	43.0 tpy	42.6 tpy	155.7 tpy	83.6 tpy	0.04 tpy	469,299 tonne/year	7.9 tpy
2045	Future Development - Booster Compression	522.1 tpy	313.1 tpy	43.0 tpy	43.0 tpy	42.6 tpy	155.7 tpy	83.6 tpy	0.04 tpy	469,299 tonne/year	7.9 tpy

Table 6.b. Total Annual Potential Emissions from PTU – Gas Expansion Project, Construction Phase

Year	Project Stage Description	Pollutant																	
		NO_X		CO		PM		PM_{10}		$PM_{2.5}$		VOC		SO_2		Pb		GHG	
2021	Construction (2H only)	884.6	tpy	1,415.5	tpy	116.1	tpy	116.1	tpy	115.9	tpy	357.6	tpy	1.5	tpy	0.00	tpy	65,557	tonne/year
2022	Construction	1,769.2	tpy	2,830.9	tpy	861.2	tpy	400.2	tpy	248.7	tpy	715.2	tpy	3.0	tpy	0.00	tpy	131,114	tonne/year
2023	Construction	1,769.2	tpy	2,830.9	tpy	232.2	tpy	232.2	tpy	231.8	tpy	715.2	tpy	3.0	tpy	0.00	tpy	131,114	tonne/year
2024	Construction	1,769.2	tpy	2,830.9	tpy	232.2	tpy	232.2	tpy	231.8	tpy	715.2	tpy	3.0	tpy	0.00	tpy	131,114	tonne/year
2025	Construction	1,769.2	tpy	2,830.9	tpy	232.2	tpy	232.2	tpy	231.8	tpy	715.2	tpy	3.0	tpy	0.00	tpy	131,114	tonne/year
2026	No Construction	0.0	tpy	0.0	tpy	0.0	tpy	0.0	tpy	0.0	tpy	0.0	tpy	0.0	tpy	0.00	tpy	0	tonne/year

Table 6.c. Total Annual Potential Emissions from PTU – Gas Expansion Project, Drilling Campaign

Year	Project Stage Description	Pollutant																			
		NO_X		CO		PM		PM_{10}		$PM_{2.5}$		VOC		SO_2		Pb		GHG		HAPs	
2021	No Drilling	0.0	tpy	0.0	tpy	0.0	tpy	0.0	tpy	0.0	tpy	0.0	tpy	0.0	tpy	0.00	tpy	0	tonne/year	0.0	tpy
2022	No Drilling	0.0	tpy	0.0	tpy	0.0	tpy	0.0	tpy	0.0	tpy	0.0	tpy	0.0	tpy	0.00	tpy	0	tonne/year	0.0	tpy
2023	Drilling	2,146.8	tpy	673.0	tpy	66.4	tpy	66.4	tpy	43.7	tpy	230.2	tpy	72.6	tpy	0.00	tpy	173,747	tonne/year	1.8	tpy
2024	Drilling	2,146.8	tpy	673.0	tpy	66.4	tpy	66.4	tpy	43.7	tpy	230.2	tpy	72.6	tpy	0.00	tpy	173,747	tonne/year	1.8	tpy
2025	Drilling	2,146.8	tpy	673.0	tpy	66.4	tpy	66.4	tpy	43.7	tpy	230.2	tpy	72.6	tpy	0.00	tpy	173,747	tonne/year	1.8	tpy
2026	Drilling	1,073.4	tpy	336.5	tpy	33.2	tpy	33.2	tpy	21.9	tpy	115.1	tpy	36.3	tpy	0.00	tpy	86,873	tonne/year	0.9	tpy

Table 6.d. Total Annual Potential Emissions from PTU – Gas Expansion Project, Operations

Year	Project Stage Description	Pollutant																			
		NO_X		CO		PM		PM_{10}		$PM_{2.5}$		VOC		SO_2		Pb		GHG		HAPs	
2021	No Gas Expansion Operations	0.0	tpy	0.0	tpy	0.0	tpy	0.0	tpy	0.0	tpy	0.0	tpy	0.0	tpy	0.00	tpy	0	tonne/year	0.0	tpy
2022	No Gas Expansion Operations	0.0	tpy	0.0	tpy	0.0	tpy	0.0	tpy	0.0	tpy	0.0	tpy	0.0	tpy	0.00	tpy	0	tonne/year	0.0	tpy
2023	No Gas Expansion Operations	0.0	tpy	0.0	tpy	0.0	tpy	0.0	tpy	0.0	tpy	0.0	tpy	0.0	tpy	0.00	tpy	0	tonne/year	0.0	tpy
2024	No Gas Expansion Operations	0.0	tpy	0.0	tpy	0.0	tpy	0.0	tpy	0.0	tpy	0.0	tpy	0.0	tpy	0.00	tpy	0	tonne/year	0.0	tpy
2025	Gas Expansion Operations (2H only)	198.6	tpy	150.2	tpy	14.5	tpy	14.5	tpy	14.3	tpy	74.2	tpy	19.9	tpy	0.02	tpy	121,189	tonne/year	2.9	tpy
2026	Gas Expansion Operations	397.3	tpy	300.4	tpy	28.9	tpy	28.9	tpy	28.5	tpy	148.3	tpy	39.8	tpy	0.04	tpy	242,377	tonne/year	5.8	tpy

Alternative: No Action. PTU IPS – Annual Potential Emission Summary

Under the No Action Alternative, no construction activities, drilling activities or operations associated with Gas Expansion would occur. East Pad would not be developed for Gas Expansion. IPS would continue to operate on Central Pad. Summaries of the total annual potential emissions associated with IPS are provided in Tables 7.a. through 7.e.

Table 7.a. Annual Potential Criteria Pollutant Emissions from PTU – IPS

Pollutant	Stationary Emission Units Potential Emissions	Nonroad Engines Potential Emissions	Total Potential Emissions
NO_X	247.2 tpy	69.9 tpy	317.1 tpy
CO	207.6 tpy	46.9 tpy	254.5 tpy
PM_{10}	19.3 tpy	4.2 tpy	23.4 tpy
$PM_{2.5}$	18.9 tpy	4.2 tpy	23.0 tpy
VOC	128.0 tpy	11.8 tpy	139.7 tpy
SO_2	32.3 tpy	0.1 tpy	32.3 tpy
Lead	0.04 tpy	0.00 tpy	0.04 tpy

Table 7.b. Annual Potential Greenhouse Gas (GHG) Emissions from PTU – IPS

Pollutant	Stationary Emission Units Potential Emissions	Nonroad Engines Potential Emissions	Total Potential Emissions
CO_2	196,223 tonne/year	4,857 tonne/year	201,080 tonne/year
CH_4	5.076 tonne/year	0.197 tonne/year	5.273 tonne/year
N_2O	0.7142 tonne/year	0.0394 tonne/year	0.7536 tonne/year
CO_2e	196,563 tonne/year	4,874 tonne/year	201,436 tonne/year

Table 7.c. Annual Potential Hazardous Air Pollutant (HAP) Emissions from PTU – IPS

Pollutant	Stationary Emission Units Potential Emissions	Nonroad Engines Potential Emissions	Total Potential Emissions
Total HAPs	5.6 tpy	0.1 tpy	5.7 tpy
Formaldehyde[3]	1.1 tpy	0.04 tpy	1.1 tpy
Hydrochloric acid[3]	3.5 tpy	0.0 tpy	3.5 tpy

[3] Hydrochloric acid and formaldehyde are the individual HAPs with the highest annual potential emissions.

Table 7.d. Annual Potential Fugitive VOC and GHG Emissions from PTU – IPS

Pollutant	Total Potential Fugitive Emissions
CO_2	1.5 tonne/year
CH_4	51.4 tonne/year
CO_2e	1,287.7 tonne/year
VOC	4.4 tpy

Table 7.e. Annual Potential Mobile Source Emissions from PTU – IPS

Pollutant	IPS Annual Mobile Emissions
NO_X	43.9 tpy
CO	15.3 tpy
$PM/PM_{10}/PM_{2.5}$	2.7 tpy
VOC	3.3 tpy
SO_2	0.001 tpy
CO_2	266 tonne/year
CH_4	0.011 tonne/year
N_2O	0.0022 tonne/year
CO_2e	267 tonne/year

Annual Potential Criteria Pollutant and HAP Emissions Methodology

The annual potential emissions were calculated using vendor data, U.S. Environmental Protection Agency (EPA) AP-42 emission factors, mass balances, and New Source Performance Standards (NSPS) for reciprocating internal combustion engines. The annual potential emissions were calculated assuming that each emission unit operates continuously (8,760 hours per year) at maximum load except for those emissions units that would be subject to operating restrictions under any Alaska Department of Environmental Conservation (ADEC)-issued air quality permit. The potential emissions for restricted emission units were calculated assuming those emission units were operated at the maximum permitted load for the maximum allowed hours per year.

The annual potential emissions were calculated assuming a 3.5 year drilling campaign. Drilling each well was assumed to require approximately five months, so annual emissions are based on drilling two wells per year.

The detailed emission calculations for PTU Gas Expansion are provided in Attachment A.

GHG Emission Estimation Methodology

The methods for estimating GHG emissions for fuel combustion emission units are applied consistent with the guidance provided in Subpart W of the Mandatory Reporting of Greenhouse Gases Rule (40 Code of Federal Regulations Part 98). The CO_2, CH_4, and N_2O emission estimates are calculated for all stationary and mobile equipment on an individual basis using Equation C-1 from 40 CFR 98. The default factors from Table C-1 of 40 CFR 98 were used to estimate GHG emissions.

The per-equipment volume of fuel combusted is determined by assuming continuous operation at the maximum capacity of the equipment, or according to any federally enforceable restrictions limiting the annual operation.

The GHG emission calculation assumptions and details are provided in Attachment A.

Fugitive Emission Estimation Methodology

The methods for estimating the fugitive dust emissions are based on emission factors from EPA AP-42.

The methods for estimating the GHG and VOC fugitive emissions associated with operations are based on the default average component counts from 40 CFR 98 Subpart W, GHG emission factors from 40 CFR 98 Subpart W, and VOC emission factors from AP-42.

Default average component counts are based on the following equipment. Existing IPS includes three well heads, three separators, two sets of meters/piping (one for Central Pad and one for West Pad), three compressors, and one dehydrator. Gas Expansion would add equipment on Central Pad which would be integrated with certain existing IPS equipment. Some existing IPS equipment would not be used. The Gas Expansion operations therefore would include nine well heads (one from West Pad, three from East Pad, and five from Central Pad), one flash gas compressor, four separators (first stage separator, second stage separator, third stage separator, low temperature separator), three sets of meter/piping (one set per pad: West Pad, East Pad, Central Pad), and one dehydrator.

The fugitive emission calculation assumptions and details are provided in Attachment A.

Additional Assumptions

No potential emissions from transportation (flights, barges, etc.) are included in the emission summaries.

No changes would be made to the West Pad emission unit inventory.

Attachment A
Emission Unit Inventories and Emission Calculations

Attachment A-1
Gas Expansion Project – Operations
Criteria Pollutant, Greenhouse Gas, and Hazardous Air Pollutant Emissions

Table 1.a. Potential Emissions Summary
Point Thomson Unit (PTU) Gas Expansion - Operations

Pollutant	Stationary Emission Units Potential Emissions	Nonroad Engines Potential Emissions	Total Potential Emissions
NO_x	283.4 tpy	69.9 tpy	353.3 tpy
CO	238.1 tpy	46.9 tpy	285.0 tpy
PM_{10}	22.0 tpy	4.2 tpy	26.2 tpy
$PM_{2.5}$	21.6 tpy	4.2 tpy	25.8 tpy
VOC	129.2 tpy	11.8 tpy	141.0 tpy
SO_2	39.8 tpy	0.1 tpy	39.8 tpy
Pb	0.04 tpy	0.00 tpy	0.04 tpy

Table 1.b. Potential Greenhouse Gas Emissions Summary
Point Thomson Unit (PTU) Gas Expansion - Operations

Pollutant	Stationary Emission Units Potential Emissions	Nonroad Engines Potential Emissions	Total Potential Emissions
CO_2	235,644 tonne/year	4,857 tonne/year	240,501 tonne/year
CH_4	5.819 tonne/year	0.197 tonne/year	6.016 tonne/year
N_2O	0.7885 tonne/year	0.0394 tonne/year	0.8279 tonne/year
CO_2e	236,025 tonne/year	4,874 tonne/year	240,898 tonne/year

Table 1.c. Potential HAPs Emissions Summary
Point Thomson Unit (PTU) Gas Expansion - Operations

Pollutant	Stationary Emission Units Potential Emissions	Nonroad Engines Potential Emissions	Total Potential Emissions
Total HAPs	5.6 tpy	0.1 tpy	5.8 tpy
Hydrochloric acid (HCl)	3.5 tpy	0.0 tpy	3.5 tpy
Formaldehyde	1.1 tpy	0.04 tpy	1.1 tpy

Notes:
[1] Emissions are based on maximum allowable operation and permit operating limits, where applicable.
[2] Regulated air pollutant calculations based on AP-42 emission factors, manufacturer data, and mass balances as shown in accompanying spreadsh
[3] Total VOC emissions are reduced by the amount of VOC HAP emissions.
[4] GHG emissions are defined as CO_2e emissions. CO_2e is the summation of CO_2, CH_4, and N_2O, applying the global warming potential for each poll
[5] See individual emissions unit category HAP emissions calculations for details on methodology and assumptions (electronic copy).

Table 2. Emission Unit Inventory
Point Thomson Unit (PTU) Gas Expansion - Operations

Emission Unit			Fuel	Allowable	Maximum Fuel	Maximum
ID	Description	Make/Model	Type	Operation	Consumption	Capacity
96	Hot Oil Unit Heater	SuperTherm SPD-6	ULSD	8,760 hr/yr	58.4 gal/hr	8.0 MMBtu/hr
101	Fuel Gas-fired Turbine	Solar 70 Taurus Turbine	Fuel Gas	8,760 hr/yr	87.09 MMBtu/hr	7,520 kW
102	Fuel Gas-fired Turbine	Solar 70 Taurus Turbine	Fuel Gas	8,760 hr/yr	87.09 MMBtu/hr	7,520 kW
103	Dual Fuel-fired Turbine	Solar 70 Taurus Turbine	Fuel Gas	8,760 hr/yr	87.09 MMBtu/hr	7,520 kW
	Dual Fuel-fired Turbine	Solar 70 Taurus Turbine	ULSD	2,500 hr/yr	82.52 MMBtu/hr	7,520 kW
104	Dual Fuel-fired Turbine	Solar 70 Taurus Turbine	Fuel Gas	8,760 hr/yr	87.09 MMBtu/hr	7,520 kW
	Dual Fuel-fired Turbine	Solar 70 Taurus Turbine	ULSD	2,500 hr/yr	82.52 MMBtu/hr	7,520 kW
101-104	Fuel Gas and Dual Fuel-fired Turbine (out of SoLoNOx, combined)	Solar 70 Taurus Turbine	Fuel Gas	2,000 hr/yr	42.27 MMBtu/hr	N/A
103-104	Dual Fuel-fired Turbine (out of SoLoNOx mode, combined)	Solar 70 Taurus Turbine	ULSD	350 hr/yr	56.07 MMBtu/hr	N/A
107	Standby Camp Generator Engine No. 1	Caterpillar 3516	ULSD	500 hr/yr	127.0 gal/hr	2,695 hp
108	Standby Camp Generator Engine No. 2	Caterpillar 3516	ULSD	500 hr/yr	127.0 gal/hr	2,695 hp
109	Standby Camp Generator Engine No. 3	Caterpillar 3516	ULSD	500 hr/yr	127.0 gal/hr	2,695 hp
110	Fine Water Mist Pump Engine No. 1	Cummins QSX15	ULSD	500 hr/yr	29.6 gal/hr	610 hp
111	Fine Water Mist Pump Engine No. 2	Cummins QSX15	ULSD	500 hr/yr	29.6 gal/hr	610 hp
112	HP Flare	KMI 12-4-VS HP Flare Tip	Gas	8,760 hr/yr	N/A	130 MMscf/yr
113	LP Flare	AZDAIR AZ-30 LP Flare Tip	Gas	8,760 hr/yr	N/A	20 MMscf/yr
114	Airstrip Generator Engine	Caterpillar C15	ULSD	500 hr/yr	29.0 gal/hr	563 hp
115	ACRV Heater No. 1	Modine POR145	ULSD	8,760 hr/yr	1.25 gal/hr	0.175 MMBtu/hr
116	ACRV Heater No. 2	Modine POR145	ULSD	8,760 hr/yr	1.25 gal/hr	0.175 MMBtu/hr
117	Hot Oil Unit Engine	Caterpillar D353	ULSD	8,760 hr/yr	19.2 gal/hr	375 hp
118	Air Compressor Generator Engine	TBD	ULSD	8,760 hr/yr	3.1 gal/hr	61 hp
119	Light Plant Generator Engine No. 1	TBD	ULSD	8,760 hr/yr	1.4 gal/hr	28 hp
120	Light Plant Generator Engine No. 2	TBD	ULSD	8,760 hr/yr	1.4 gal/hr	28 hp
121	Light Plant Generator Engine No. 3	TBD	ULSD	8,760 hr/yr	1.4 gal/hr	28 hp
122	Light Plant Generator Engine No. 4	TBD	ULSD	8,760 hr/yr	1.4 gal/hr	28 hp
123	Portable Moving Generator Engine No. 1	TBD	ULSD	8,760 hr/yr	1.6 gal/hr	32 hp
124	Portable Moving Generator Engine No. 2	TBD	ULSD	8,760 hr/yr	1.6 gal/hr	32 hp
125	Portable Moving Generator Engine No. 3	TBD	ULSD	8,760 hr/yr	1.6 gal/hr	32 hp
126	Freeze Protection Generator Engine No. 1	TBD	ULSD	8,760 hr/yr	5.1 gal/hr	99 hp
127	Freeze Protection Generator Engine No. 2	TBD	ULSD	8,760 hr/yr	5.1 gal/hr	99 hp
128	Freeze Protection Generator Engine No. 3	TBD	ULSD	8,760 hr/yr	5.1 gal/hr	99 hp
129	Ground Heater Engine	Kubota Z482	ULSD	8,760 hr/yr	0.69 gal/hr	11 hp
130	Ground Heater	Thawzall TCH250	ULSD	8,760 hr/yr	2.0 gal/hr	0.28 MMBtu/hr
131	Portable Heater No. 1	TBD	ULSD	8,760 hr/yr	7.3 gal/hr	1.0 MMBtu/hr
132	Portable Heater No. 2	TBD	ULSD	8,760 hr/yr	7.3 gal/hr	1.0 MMBtu/hr
133	Portable Heater No. 3	TBD	ULSD	8,760 hr/yr	7.3 gal/hr	1.0 MMBtu/hr
134	Portable Heater No. 4	TBD	ULSD	8,760 hr/yr	7.3 gal/hr	1.0 MMBtu/hr
135	Portable Heater No. 5	TBD	ULSD	8,760 hr/yr	7.3 gal/hr	1.0 MMBtu/hr
136	Portable Heater No. 6	TBD	ULSD	8,760 hr/yr	7.3 gal/hr	1.0 MMBtu/hr
137	Portable Heater No. 7	TBD	ULSD	8,760 hr/yr	7.3 gal/hr	1.0 MMBtu/hr
138	Portable Heater No. 8	TBD	ULSD	8,760 hr/yr	7.3 gal/hr	1.0 MMBtu/hr
139	Portable Heater Engine No. 1	TBD	ULSD	8,760 hr/yr	0.7 gal/hr	17 hp
140	Portable Heater Engine No. 2	TBD	ULSD	8,760 hr/yr	0.7 gal/hr	17 hp
141	Portable Heater Engine No. 3	TBD	ULSD	8,760 hr/yr	0.7 gal/hr	17 hp
142	Portable Heater Engine No. 4	TBD	ULSD	8,760 hr/yr	0.7 gal/hr	17 hp
143	Portable Heater Engine No. 5	TBD	ULSD	8,760 hr/yr	0.7 gal/hr	17 hp
144	Portable Heater Engine No. 6	TBD	ULSD	8,760 hr/yr	0.7 gal/hr	17 hp
145	Portable Heater Engine No. 7	TBD	ULSD	8,760 hr/yr	0.7 gal/hr	17 hp
146	Portable Heater Engine No. 8	TBD	ULSD	8,760 hr/yr	0.7 gal/hr	17 hp
147	Used Oil-fired Heater	TBD	Used Oil/ULSD	8,760 hr/yr	3.6 gal/hr	0.5 MMBtu/hr
148	Production Support Engine	TBD	ULSD	8,760 hr/yr	20.4 gal/hr	400 hp
149	Refrigeration Unit (Reefer) Engine	Kubota V2203L	ULSD	8,760 hr/yr	1.3 gal/hr	24.8 hp
150	Fuel Gas-fired Heater	TBD	Fuel Gas	8,760 hr/yr	0.08 MMscf/hr	80.5 MMBtu/hr
151	Gas-fired TEG Regeneration Heater	TBD	Fuel Gas	8,760 hr/yr	0.004 MMscf/hr	4.3 MMBtu/hr
246	Waste Incinerator	Ketek CY100AD	Trash/ULSD	8,760 hr/yr	25.0 gal/hr	250 lb/hr

Notes:
[1] Maximum heat input was calculated using heat output ratings based on 85 percent unit efficiency for EUs 150 and 151
[2] Fuel gas heat content: 1,026 Btu/scf

Table 3. Potential to Emit Calculations - Oxides of Nitrogen (NO_x) Emissions
Point Thomson Unit (PTU) Gas Expansion - Operations

Emission Unit			Fuel	Maximum Fuel	Factor	NO_x Emission	Nonroad	Not-to-Exceed	Maximum Annual	Annual NO_x
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Factor	Operation	Emissions
96	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	5.1 tpy
101	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Vendor Data	5.09 lb/hr	N/A	N/A	8,760 hr/yr	22.3 tpy
102	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Vendor Data	5.09 lb/hr	N/A	N/A	6,760 hr/yr	17.2 tpy
103	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Vendor Data	8.49 lb/hr	N/A	N/A	5,910 hr/yr	25.1 tpy
	Dual Fuel-fired Turbine		ULSD	82.52 MMBtu/hr	Vendor Data	31.5 lb/hr	N/A	N/A	2,500 hr/yr	39.4 tpy
104	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Vendor Data	8.49 lb/hr	N/A	N/A	6,260 hr/yr	26.6 tpy
	Dual Fuel-fired Turbine		ULSD	82.52 MMBtu/hr	Vendor Data	31.5 lb/hr	N/A	N/A	2,500 hr/yr	39.4 tpy
101-104	Fuel Gas and Dual Fuel-fired Turbine (out of SoLoNOx, combined)	N/A	Fuel Gas	42.27 MMBtu/hr	Vendor Data	9.40 lb/hr	N/A	N/A	2,000 hr/yr	9.4 tpy
103-104	Dual Fuel-fired Turbine (out of SoLoNOx mode, combined)	N/A	ULSD	56.07 MMBtu/hr	Vendor Data	26.4 lb/hr	N/A	N/A	350 hr/yr	4.6 tpy
107	Standby Camp Generator Engine No. 1	2,695 hp	ULSD	127.0 gal/hr	Vendor Data	35.43 lb/hr	N/A	N/A	500 hr/yr	8.9 tpy
108	Standby Camp Generator Engine No. 2	2,695 hp	ULSD	127.0 gal/hr	Vendor Data	35.43 lb/hr	N/A	N/A	500 hr/yr	8.9 tpy
109	Standby Camp Generator Engine No. 3	2,695 hp	ULSD	127.0 gal/hr	Vendor Data	35.43 lb/hr	N/A	N/A	500 hr/yr	8.9 tpy
110	Fine Water Mist Pump Engine No. 1	610 hp	ULSD	29.6 gal/hr	Vendor Data	2.565 g/bhp-hr	N/A	N/A	500 hr/yr	0.9 tpy
111	Fine Water Mist Pump Engine No. 2	610 hp	ULSD	29.6 gal/hr	Vendor Data	2.565 g/bhp-hr	N/A	N/A	500 hr/yr	0.9 tpy
112	HP Flare	130 MMscf/yr	Gas	N/A	AP-42 Table 13.5-1	0.068 lb/MMBtu	N/A	N/A	8,760 hr/yr	4.5 tpy
113	LP Flare	20 MMscf/yr	Gas	N/A	AP-42 Table 13.5-1	0.068 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.7 tpy
114	Airstrip Generator Engine	563 hp	ULSD	29.0 gal/hr	Vendor Data	4.86 lb/hr	N/A	N/A	500 hr/yr	1.2 tpy
115	ACRV Heater No. 1	0.175 MMBtu/hr	ULSD	1.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
116	ACRV Heater No. 2	0.175 MMBtu/hr	ULSD	1.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
117	Hot Oil Unit Engine	375 hp	ULSD	19.2 gal/hr	40 CFR Part 89 Tier 2	4.8 g/hp-hr	NRE	1.25	8,760 hr/yr	21.7 tpy
118	Air Compressor Generator Engine	61 hp	ULSD	3.1 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	4.1 tpy
119	Light Plant Generator Engine No. 1	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	1.9 tpy
120	Light Plant Generator Engine No. 2	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	1.9 tpy
121	Light Plant Generator Engine No. 3	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	1.9 tpy
122	Light Plant Generator Engine No. 4	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	1.9 tpy
123	Portable Moving Generator Engine No. 1	32 hp	ULSD	1.6 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	2.2 tpy
124	Portable Moving Generator Engine No. 2	32 hp	ULSD	1.6 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	2.2 tpy
125	Portable Moving Generator Engine No. 3	32 hp	ULSD	1.6 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	2.2 tpy
126	Freeze Protection Generator Engine No. 1	99 hp	ULSD	5.1 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	6.7 tpy
127	Freeze Protection Generator Engine No. 2	99 hp	ULSD	5.1 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	6.7 tpy
128	Freeze Protection Generator Engine No. 3	99 hp	ULSD	5.1 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	6.7 tpy
129	Ground Heater Engine	11 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.7 tpy
130	Ground Heater	0.28 MMBtu/hr	ULSD	2.0 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
131	Portable Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
132	Portable Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
133	Portable Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
134	Portable Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
135	Portable Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
136	Portable Heater No. 6	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
137	Portable Heater No. 7	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
138	Portable Heater No. 8	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
139	Portable Heater Engine No. 1	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	1.1 tpy
140	Portable Heater Engine No. 2	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	1.1 tpy
141	Portable Heater Engine No. 3	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	1.1 tpy
142	Portable Heater Engine No. 4	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	1.1 tpy
143	Portable Heater Engine No. 5	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	1.1 tpy
144	Portable Heater Engine No. 6	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	1.1 tpy
145	Portable Heater Engine No. 7	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	1.1 tpy
146	Portable Heater Engine No. 8	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	1.1 tpy
147	Used Oil-fired Heater	0.5 MMBtu/hr	Used Oil/ULSD	3.6 gal/hr	AP-42, Table 1.11-2	0.016 lb/gal	N/A	N/A	8,760 hr/yr	0.3 tpy
148	Production Support Engine	400 hp	ULSD	20.4 gal/hr	NSPS Subpart IIII Tier 4i	3.0 g/hp-hr	N/A	1.25	8,760 hr/yr	14.5 tpy
149	Refrigeration Unit (Reefer) Engine	24.8 hp	ULSD	1.3 gal/hr	CARB	5.1 g/hp-hr	N/A	1.25	8,760 hr/yr	1.5 tpy
150	Fuel Gas-fired Heater	80.5 MMBtu/hr	Fuel Gas	0.08 MMscf/hr	AP-42, Table 1.4-1	100.0 lb/MMscf	N/A	N/A	8,760 hr/yr	34.4 tpy
151	Gas-fired TEG Regeneration Heater	4.3 MMBtu/hr	Fuel Gas	0.004 MMscf/hr	AP-42, Table 1.4-1	100.0 lb/MMscf	N/A	N/A	8,760 hr/yr	1.8 tpy
246	Waste Incinerator	250 lb/hr	Trash/ULSD	25.0 gal/hr	AP-42, Table 2.1-12	3.0 lb/ton	N/A	N/A	8,760 hr/yr	1.6 tpy
									Total Potential NO_x Emissions Excluding Nonroad Engines	**283.4 tpy**
									Total Potential NO_x Emissions for Nonroad Engines	**69.9 tpy**
									Total Potential NO_x Emissions for All Emission Units	**353.3 tpy**

Notes:
[1] Diesel heating value 137,000 Btu/gal
[2] Fuel factor for crude, residual, and distillate oi 9,190 dscf/MMBtu
[3] Fuel gas heat content: 1,026 Btu/scf
[4] NRE = Nonroad Engine
[5] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.10
[6] NSPS Subpart IIII emission standard for fire water pump engines
[7] NSPS Subpart IIII NO_x + NMOC emission standard for the fire water pump engines, Tier 2 engines, Tier 3 engines, and Tier 4 interim engines less than 750 hp.
[8] Inlet air heating on combustion turbines
[9] Municipal solid waste has a default high heat value of 9.95 MMBtu/to
[10] Fuel factor for waste is 9,570 dscf/MMBtu
[11] 40 CFR Part 89 or 1039 emission factor based on nonroad engine model year and power rati
[12] NTE factor of 1.25 or 1.50 was added to all emission units using a Tier 1 through 4f emission fact

Table 4. Potential to Emit Calculations - Carbon Monoxide (CO) Emissions
Point Thomson Unit (PTU) Gas Expansion - Operations

Emission Unit			Fuel	Maximum Fuel	Factor	CO Emission	Nonroad	Not-to-Exceed	Maximum Annual	Annual CO
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Factor	Operation	Emissions
96	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	1.3 tpy
101	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Vendor Data	0.52 lb/hr	N/A	N/A	8,760 hr/yr	2.3 tpy
102	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Vendor Data	0.52 lb/hr	N/A	N/A	6,760 hr/yr	1.8 tpy
103	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Vendor Data	1.03 lb/hr	N/A	N/A	8,410 hr/yr	4.3 tpy
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	Vendor Data	1.0 lb/hr	N/A	N/A	0 hr/yr	0.0 tpy
104	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Vendor Data	1.03 lb/hr	N/A	N/A	8,760 hr/yr	4.5 tpy
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	Vendor Data	1.0 lb/hr	N/A	N/A	0 hr/yr	0.0 tpy
101-104	Fuel Gas and Dual Fuel-fired Turbine (out of SoLoNOx, combined)	N/A	Fuel Gas	42.27 MMBtu/hr	Vendor Data	129 lb/hr	N/A	N/A	2,000 hr/yr	129.0 tpy
103-104	Dual Fuel-fired Turbine (out of SoLoNOx mode, combined)	N/A	ULSD	56.07 MMBtu/hr	Vendor Data	94.5 lb/hr	N/A	N/A	350 hr/yr	16.5 tpy
107	Standby Camp Generator Engine No. 1	2,695 hp	ULSD	127.0 gal/hr	Vendor Data	3.98 lb/hr	N/A	N/A	500 hr/yr	1.0 tpy
108	Standby Camp Generator Engine No. 2	2,695 hp	ULSD	127.0 gal/hr	Vendor Data	3.98 lb/hr	N/A	N/A	500 hr/yr	1.0 tpy
109	Standby Camp Generator Engine No. 3	2,695 hp	ULSD	127.0 gal/hr	Vendor Data	3.98 lb/hr	N/A	N/A	500 hr/yr	1.0 tpy
110	Fine Water Mist Pump Engine No. 1	610 hp	ULSD	29.6 gal/hr	Vendor Data	0.671 g/hp-hr	N/A	N/A	500 hr/yr	0.2 tpy
111	Fine Water Mist Pump Engine No. 2	610 hp	ULSD	29.6 gal/hr	Vendor Data	0.671 g/hp-hr	N/A	N/A	500 hr/yr	0.2 tpy
112	HP Flare	130 MMscf/yr	Gas	N/A	AP-42 Table 13.5-1	0.31 lb/MMBtu	N/A	N/A	8,760 hr/yr	20.7 tpy
113	LP Flare	20 MMscf/yr	Gas	N/A	AP-42 Table 13.5-1	0.31 lb/MMBtu	N/A	N/A	8,760 hr/yr	3.2 tpy
114	Airstrip Generator Engine	563 hp	ULSD	29.0 gal/hr	Vendor Data	3.34 lb/hr	N/A	N/A	500 hr/yr	0.8 tpy
115	ACRV Heater No. 1	0.175 MMBtu/hr	ULSD	1.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.03 tpy
116	ACRV Heater No. 2	0.175 MMBtu/hr	ULSD	1.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.03 tpy
117	Hot Oil Unit Engine	375 hp	ULSD	19.2 gal/hr	40 CFR Part 89 Tier 2	2.6 g/hp-hr	NRE	1.25	8,760 hr/yr	11.8 tpy
118	Air Compressor Generator Engine	61 hp	ULSD	3.1 gal/hr	40 CFR Part 89 Tier 2	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	2.7 tpy
119	Light Plant Generator Engine No.	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	4.1 g/hp-hr	NRE	1.25	8,760 hr/yr	1.4 tpy
120	Light Plant Generator Engine No. 2	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	4.1 g/hp-hr	NRE	1.25	8,760 hr/yr	1.4 tpy
121	Light Plant Generator Engine No. 3	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	4.1 g/hp-hr	NRE	1.25	8,760 hr/yr	1.4 tpy
122	Light Plant Generator Engine No. 4	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	4.1 g/hp-hr	NRE	1.25	8,760 hr/yr	1.4 tpy
123	Portable Moving Generator Engine No. 1	32 hp	ULSD	1.6 gal/hr	40 CFR Part 89 Tier 2	4.1 g/hp-hr	NRE	1.25	8,760 hr/yr	1.6 tpy
124	Portable Moving Generator Engine No. 2	32 hp	ULSD	1.6 gal/hr	40 CFR Part 89 Tier 2	4.1 g/hp-hr	NRE	1.25	8,760 hr/yr	1.6 tpy
125	Portable Moving Generator Engine No. 3	32 hp	ULSD	1.6 gal/hr	40 CFR Part 89 Tier 2	4.1 g/hp-hr	NRE	1.25	8,760 hr/yr	1.6 tpy
126	Freeze Protection Generator Engine No. 1	99 hp	ULSD	5.1 gal/hr	40 CFR Part 89 Tier 2	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	4.4 tpy
127	Freeze Protection Generator Engine No. 2	99 hp	ULSD	5.1 gal/hr	40 CFR Part 89 Tier 2	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	4.4 tpy
128	Freeze Protection Generator Engine No. 3	99 hp	ULSD	5.1 gal/hr	40 CFR Part 89 Tier 2	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	4.4 tpy
129	Ground Heater Engine	10.9 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	6.0 g/hp-hr	NRE	1.25	8,760 hr/yr	0.8 tpy
130	Ground Heater	0.28 MMBtu/hr	ULSD	2.0 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.04 tpy
131	Portable Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
132	Portable Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
133	Portable Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
134	Portable Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
135	Portable Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
136	Portable Heater No. 6	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
137	Portable Heater No. 7	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
138	Portable Heater No. 8	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
139	Portable Heater Engine No. 1	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	4.9 g/hp-hr	NRE	1.25	8,760 hr/yr	1.0 tpy
140	Portable Heater Engine No. 2	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	4.9 g/hp-hr	NRE	1.25	8,760 hr/yr	1.0 tpy
141	Portable Heater Engine No. 3	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	4.9 g/hp-hr	NRE	1.25	8,760 hr/yr	1.0 tpy
142	Portable Heater Engine No. 4	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	4.9 g/hp-hr	NRE	1.25	8,760 hr/yr	1.0 tpy
143	Portable Heater Engine No. 5	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	4.9 g/hp-hr	NRE	1.25	8,760 hr/yr	1.0 tpy
144	Portable Heater Engine No. 6	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	4.9 g/hp-hr	NRE	1.25	8,760 hr/yr	1.0 tpy
145	Portable Heater Engine No. 7	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	4.9 g/hp-hr	NRE	1.25	8,760 hr/yr	1.0 tpy
146	Portable Heater Engine No. 8	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	4.9 g/hp-hr	NRE	1.25	8,760 hr/yr	1.0 tpy
147	Used Oil-fired Heater	0.5 MMBtu/hr	Used Oil/ULSD	3.6 gal/hr	AP-42, Table 1.11-2	0.0021 lb/gal	N/A	N/A	8,760 hr/yr	0.03 tpy
148	Production Support Engine	400 hp	ULSD	20.4 gal/hr	NSPS Subpart IIII Tier 4i	2.6 g/hp-hr	N/A	1.25	8,760 hr/yr	12.6 tpy
149	Refrigeration Unit (Reefer) Engine	24.8 hp	ULSD	1.3 gal/hr	CARB	1.6 g/hp-hr	N/A	1.25	8,760 hr/yr	0.5 tpy
150	Fuel Gas-fired Heater	80.5 MMBtu/hr	Fuel Gas	0.08 MMscf/hr	AP-42, Table 1.4-1	84.0 lb/MMscf	N/A	N/A	8,760 hr/yr	28.9 tpy
151	Gas-fired TEG Regeneration Heater	4.3 MMBtu/hr	Fuel Gas	0.004 MMscf/hr	AP-42, Table 1.4-1	84.0 lb/MMscf	N/A	N/A	8,760 hr/yr	1.5 tpy
246	Waste Incinerator	250 lb/hr	Trash/ULSD	25.0 gal/hr	AP-42, Table 2.1-12	10 lb/ton	N/A	N/A	8,760 hr/yr	5.5 tpy
									Total Potential CO Emissions Excluding Nonroad Engines	**238.1 tpy**
									Total Potential CO Emissions for Nonroad Engines	**46.9 tpy**
									Total Potential CO Emissions for All Emission Units	**285.0 tpy**

Notes:
[1] Diesel heating value 137,000 Btu/gal
[2] Fuel gas heat content: 1,026 Btu/scf
[3] NRE = Nonroad Engine
[4] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)
[5] Inlet air heating on combustion turbines
[6] Each turbine has catalytic oxidation which controls 90 percent of CO emissions, while in SoLoNOx mo
[7] Catalytic oxidation controls 85 percent of potential out of SoLoNOx mode emissio
[8] Higher potential CO emissions result from dual fired turbines firing fuel gas than ULSD in SoLoNOx mod
[9] Municipal solid waste has a default high heat value of 9.95 MMBtu/to
[10] Fuel factor for waste is 9,570 dscf/MMBtu
[11] 40 CFR Part 89 or 1039 emission factor based on nonroad engine model year and power rati
[12] NTE factor of 1.25 was added to all emission units using a Tier 1 through 4f emission fact

Table 5. Potential to Emit Calculations - Particulate Matter (PM) Emissions
Point Thomson Unit (PTU) Gas Expansion - Operations

Emission Unit ID	Emission Unit Description	Rating/Capacity	Fuel Type	Maximum Fuel Consumption	Factor Reference	PM_{10} Emission Factor	Nonroad Engine	Not-to-Exceed Factor	Maximum Annual Operation	Annual PM_{10} Emissions
96	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	AP-42, Table 1.3-1	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
101	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	N/A	N/A	8,760 hr/yr	2.5 tpy
102	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	N/A	N/A	8,760 hr/yr	2.5 tpy
103	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	N/A	N/A	6,260 hr/yr	1.8 tpy
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	AP-42 Table 3.1-2a	0.012 lb/MMBtu	N/A	N/A	2,500 hr/yr	1.2 tpy
104	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	N/A	N/A	6,260 hr/yr	1.8 tpy
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	AP-42 Table 3.1-2a	0.012 lb/MMBtu	N/A	N/A	2,500 hr/yr	1.2 tpy
101-104	Fuel Gas and Dual Fuel-fired Turbine (out of SoLoNOx, combined)	N/A	Fuel Gas	42.27 MMBtu/hr	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	N/A	N/A	0 hr/yr	0.0 tpy
103-104	Dual Fuel-fired Turbine (out of SoLoNOx mode, combined)	N/A	ULSD	56.07 MMBtu/hr	AP-42 Table 3.1-2a	0.012 lb/MMBtu	N/A	N/A	0 hr/yr	0.0 tpy
107	Standby Camp Generator Engine No. 1	2,695 hp	ULSD	127.0 gal/hr	Vendor Data	0.56 lb/hr	N/A	N/A	500 hr/yr	0.1 tpy
108	Standby Camp Generator Engine No. 2	2,695 hp	ULSD	127.0 gal/hr	Vendor Data	0.56 lb/hr	N/A	N/A	500 hr/yr	0.1 tpy
109	Standby Camp Generator Engine No. 3	2,695 hp	ULSD	127.0 gal/hr	Vendor Data	0.56 lb/hr	N/A	N/A	500 hr/yr	0.1 tpy
110	Fine Water Mist Pump Engine No. 1	610 hp	ULSD	29.6 gal/hr	Vendor Data	0.078 g/bhp-hr	N/A	N/A	500 hr/yr	0.03 tpy
111	Fine Water Mist Pump Engine No. 2	610 hp	ULSD	29.6 gal/hr	Vendor Data	0.078 g/bhp-hr	N/A	N/A	500 hr/yr	0.03 tpy
112	HP Flare	130 MMscf/yr	Gas	N/A	AP-42 Table 13.5-1	0.0264 lb/MMBtu	N/A	N/A	8,760 hr/yr	1.8 tpy
113	LP Flare	20 MMscf/yr	Gas	N/A	AP-42 Table 13.5-1	0.0264 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.3 tpy
114	Airstrip Generator Engine	563 hp	ULSD	29.0 gal/hr	Vendor Data	0.12 lb/hr	N/A	N/A	500 hr/yr	0.03 tpy
115	ACRV Heater No. 1	0.175 MMBtu/hr	ULSD	1.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
116	ACRV Heater No. 2	0.175 MMBtu/hr	ULSD	1.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
117	Hot Oil Unit Engine	375 hp	ULSD	19.2 gal/hr	40 CFR Part 89 Tier 2	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.7 tpy
118	Air Compressor Generator Engine	61 hp	ULSD	3.1 gal/hr	40 CFR Part 89 Tier 2	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
119	Light Plant Generator Engine No. 1	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
120	Light Plant Generator Engine No. 2	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
121	Light Plant Generator Engine No. 3	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
122	Light Plant Generator Engine No. 4	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
123	Portable Moving Generator Engine No. 1	32 hp	ULSD	1.6 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
124	Portable Moving Generator Engine No. 2	32 hp	ULSD	1.6 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
125	Portable Moving Generator Engine No. 3	32 hp	ULSD	1.6 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
126	Freeze Protection Generator Engine No. 1	99 hp	ULSD	5.1 gal/hr	40 CFR Part 89 Tier 2	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.4 tpy
127	Freeze Protection Generator Engine No. 2	99 hp	ULSD	5.1 gal/hr	40 CFR Part 89 Tier 2	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.4 tpy
128	Freeze Protection Generator Engine No. 3	99 hp	ULSD	5.1 gal/hr	40 CFR Part 89 Tier 2	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.4 tpy
129	Ground Heater Engine	10.9 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
130	Ground Heater	0.28 MMBtu/hr	ULSD	2.0 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.02 tpy
131	Portable Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
132	Portable Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
133	Portable Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
134	Portable Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
135	Portable Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
136	Portable Heater No. 6	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
137	Portable Heater No. 7	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
138	Portable Heater No. 8	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
139	Portable Heater Engine No. 1	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
140	Portable Heater Engine No. 2	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
141	Portable Heater Engine No. 3	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
142	Portable Heater Engine No. 4	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
143	Portable Heater Engine No. 5	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
144	Portable Heater Engine No. 6	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
145	Portable Heater Engine No. 7	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
146	Portable Heater Engine No. 8	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
147	Used Oil-fired Heater	0.5 MMBtu/hr	Used Oil/ULSD	3.6 gal/hr	AP-42, Table 1.11-1	0.0283 lb/gal	N/A	N/A	8,760 hr/yr	0.45 tpy
148	Production Support Engine	400 hp	ULSD	20.4 gal/hr	NSPS Subpart IIII Tier 4i	0.015 g/hp-hr	N/A	1.50	8,760 hr/yr	0.1 tpy
149	Refrigeration Unit (Reefer) Engine	24.8 hp	ULSD	1.3 gal/hr	CARB	0.18 g/hp-hr	N/A	1.25	8,760 hr/yr	0.1 tpy
150	Fuel Gas-fired Heater	80.5 MMBtu/hr	Fuel Gas	0.08 MMscf/hr	AP-42, Table 1.4-2	7.6 lb/MMscf	N/A	N/A	8,760 hr/yr	2.6 tpy
151	Gas-fired TEG Regeneration Heater	4.3 MMBtu/hr	Fuel Gas	0.004 MMscf/hr	AP-42, Table 1.4-2	7.6 lb/MMscf	N/A	N/A	8,760 hr/yr	0.1 tpy
246	Waste Incinerator	250 lb/hr	Trash/ULSD	25.0 gal/hr	AP-42, Table 2.1-12	7 lb/ton	N/A	N/A	8,760 hr/yr	3.8 tpy
									Total Potential PM/PM_{10} Emissions Excluding Nonroad Engines	**22.0 tpy**
									Total Potential PM/PM_{10} Emissions for Nonroad Engines	**4.2 tpy**
									Total Potential PM/PM_{10} Emissions for All Emission Units	**26.2 tpy**

Notes:
[1] Diesel heating value 137,000 Btu/gal
[2] Fuel gas heat content: 1,026 Btu/scf
[3] NRE = Nonroad Engine
[4] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)
[5] NSPS Subpart IIII emission standard for fire water pump engine
[6] Potential PM/PM_{10} emissions from the turbines operating in and out of SoLoNOx mode are the same.
[7] Fuel factor for waste is 9,570 dscf/MMBtu
[8] 40 CFR Part 89 or 1039 emission factor based on nonroad engine model year and power rati
[9] NTE factor of 1.25 or 1.50 was added to all emission units using a Tier 1 through 4f emission factor.
[10] AP-42 PM emission factor for EU 147 is 57 lb/10^3 gal multiplied by weight percent ash in fuel. Ash analyses conducted in June 2016 by SGS results were 0.496 percent and 0.498 percent in duplicate samples. Analyses results were averaged for emission factor

Table 6. Potential to Emit Calculations - Particulate Matter ($PM_{2.5}$) Emissions
Point Thomson Unit (PTU) Gas Expansion - Operations

Emission Unit			Fuel	Maximum Fuel	Factor	$PM_{2.5}$ Emission	Nonroad	Not-to-Exceed	Maximum Annual	Annual $PM_{2.5}$
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Factor	Operation	Emissions
96	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.4 tpy
101	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	N/A	N/A	8,760 hr/yr	2.5 tpy
102	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	N/A	N/A	8,760 hr/yr	2.5 tpy
103	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	N/A	N/A	6,260 hr/yr	1.8 tpy
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	AP-42 Table 3.1-2a	0.012 lb/MMBtu	N/A	N/A	2,500 hr/yr	1.2 tpy
104	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	N/A	N/A	6,260 hr/yr	1.8 tpy
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	AP-42 Table 3.1-2a	0.012 lb/MMBtu	N/A	N/A	2,500 hr/yr	1.2 tpy
101-104	Fuel Gas and Dual Fuel-fired Turbine (out of SoLoNOx, combined)	N/A	Fuel Gas	42.27 MMBtu/hr	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	N/A	N/A	0 hr/yr	0.0 tpy
103-104	Dual Fuel-fired Turbine (out of SoLoNOx mode, combined)	N/A	ULSD	56.07 MMBtu/hr	AP-42 Table 3.1-2a	0.012 lb/MMBtu	N/A	N/A	0 hr/yr	0.0 tpy
107	Standby Camp Generator Engine No. 1	2,695 hp	ULSD	127.0 gal/hr	Vendor Data	0.56 lb/hr	N/A	N/A	500 hr/yr	0.1 tpy
108	Standby Camp Generator Engine No. 2	2,695 hp	ULSD	127.0 gal/hr	Vendor Data	0.56 lb/hr	N/A	N/A	500 hr/yr	0.1 tpy
109	Standby Camp Generator Engine No. 3	2,695 hp	ULSD	127.0 gal/hr	Vendor Data	0.56 lb/hr	N/A	N/A	500 hr/yr	0.1 tpy
110	Fine Water Mist Pump Engine No. 1	610 hp	ULSD	29.6 gal/hr	Vendor Data	0.078 g/bhp-hr	N/A	N/A	500 hr/yr	0.03 tpy
111	Fine Water Mist Pump Engine No. 2	610 hp	ULSD	29.6 gal/hr	Vendor Data	0.078 g/bhp-hr	N/A	N/A	500 hr/yr	0.03 tpy
112	HP Flare	130 MMscf/yr	Gas	N/A	AP-42 Table 13.5-1	0.0264 lb/MMBtu	N/A	N/A	8,760 hr/yr	1.8 tpy
113	LP Flare	20 MMscf/yr	Gas	N/A	AP-42 Table 13.5-1	0.0264 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.3 tpy
114	Airstrip Generator Engine	563 hp	ULSD	29.0 gal/hr	Vendor Data	0.12 lb/hr	N/A	N/A	500 hr/yr	0.03 tpy
115	ACRV Heater No. 1	0.175 MMBtu/hr	ULSD	1.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
116	ACRV Heater No. 2	0.175 MMBtu/hr	ULSD	1.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
117	Hot Oil Unit Engine	375 hp	ULSD	19.2 gal/hr	40 CFR Part 89 Tier 2	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.7 tpy
118	Air Compressor Generator Engine	61 hp	ULSD	3.1 gal/hr	40 CFR Part 89 Tier 2	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
119	Light Plant Generator Engine No. 1	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
120	Light Plant Generator Engine No. 2	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
121	Light Plant Generator Engine No. 3	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
122	Light Plant Generator Engine No. 4	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
123	Portable Moving Generator Engine No. 1	32 hp	ULSD	1.6 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
124	Portable Moving Generator Engine No. 2	32 hp	ULSD	1.6 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
125	Portable Moving Generator Engine No. 3	32 hp	ULSD	1.6 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
126	Freeze Protection Generator Engine No. 1	99 hp	ULSD	5.1 gal/hr	40 CFR Part 89 Tier 2	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.4 tpy
127	Freeze Protection Generator Engine No. 2	99 hp	ULSD	5.1 gal/hr	40 CFR Part 89 Tier 2	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.4 tpy
128	Freeze Protection Generator Engine No. 3	99 hp	ULSD	5.1 gal/hr	40 CFR Part 89 Tier 2	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.4 tpy
129	Ground Heater Engine	10.9 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
130	Ground Heater	0.28 MMBtu/hr	ULSD	2.0 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
131	Portable Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
132	Portable Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
133	Portable Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
134	Portable Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
135	Portable Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
136	Portable Heater No. 6	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
137	Portable Heater No. 7	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
138	Portable Heater No. 8	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
139	Portable Heater Engine No. 1	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
140	Portable Heater Engine No. 2	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
141	Portable Heater Engine No. 3	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
142	Portable Heater Engine No. 4	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
143	Portable Heater Engine No. 5	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
144	Portable Heater Engine No. 6	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
145	Portable Heater Engine No. 7	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
146	Portable Heater Engine No. 8	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
147	Used Oil-fired Heater	0.5 MMBtu/hr	Used Oil/ULSD	3.6 gal/hr	AP-42, Table 1.11-1	0.0283 lb/gal	N/A	N/A	8,760 hr/yr	0.45 tpy
148	Production Support Engine	400 hp	ULSD	20.4 gal/hr	NSPS Subpart IIII Tier 4i	0.015 g/hp-hr	N/A	1.50	8,760 hr/yr	0.1 tpy
149	Refrigeration Unit (Reefer) Engine	24.8 hp	ULSD	1.3 gal/hr	CARB	0.18 g/hp-hr	N/A	1.25	8,760 hr/yr	0.1 tpy
150	Fuel Gas-fired Heater	80.5 MMBtu/hr	Fuel Gas	0.08 MMscf/hr	AP-42, Table 1.4-2	7.6 lb/MMscf	N/A	N/A	8,760 hr/yr	2.6 tpy
151	Gas-fired TEG Regeneration Heater	4.3 MMBtu/hr	Fuel Gas	0.004 MMscf/hr	AP-42, Table 1.4-2	7.6 lb/MMscf	N/A	N/A	8,760 hr/yr	0.1 tpy
246	Waste Incinerator	250 lb/hr	Trash/ULSD	25.0 gal/hr	AP-42, Table 2.1-12	7 lb/ton	N/A	N/A	8,760 hr/yr	3.8 tpy
									Total Potential $PM/PM_{2.5}$ Emissions Excluding Nonroad Engines	**21.6 tpy**
									Total Potential $PM/PM_{2.5}$ Emissions for Nonroad Engines	**4.2 tpy**
									Total Potential $PM/PM_{2.5}$ Emissions for All Emission Units	**25.8 tpy**

Notes:
[1] Diesel heating value 137,000 Btu/gal
[2] Fuel gas heat content: 1,026 Btu/scf
[3] NRE = Nonroad Engine
[4] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)
[5] NSPS Subpart IIII emission standard for fire water pump engine
[6] Potential PM/PM_{10} emissions from the turbines operating in and out of SoLoNOx mode are the same.
[7] Fuel factor for waste is 9,570 dscf/MMBtu
[8] 40 CFR Part 89 or 1039 emission factor based on nonroad engine model year and power rati
[9] NTE factor of 1.25 or 1.50 was added to all emission units using a Tier 1 through 4f emission fact
[10] AP-42 PM emission factor for EU 147 is 57 lb/10 gal multiplied by weight percent ash in fuel. Ash analyses conducted in June 2016 by SGS results were 0.496 percent and 0.498 percent in duplicate samples. Analyses results were averaged for emission factor

Table 7. Potential to Emit Calculations - Volatile Organic Compounds (VOCs) Emissions
Point Thomson Unit (PTU) Gas Expansion - Operations

Emission Unit			Fuel	Maximum Fuel	Factor	VOC Emission	Nonroad	Not-to-Exceed	Maximum Annual	Annual VOC
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Factor	Operation	Emissions
96	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
101	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Vendor Data	0.30 lb/hr	N/A	N/A	8,760 hr/yr	1.3 tpy
102	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Vendor Data	0.30 lb/hr	N/A	N/A	6,760 hr/yr	1.0 tpy
103	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Vendor Data	0.30 lb/hr	N/A	N/A	5,910 hr/yr	0.9 tpy
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	Vendor Data	1.49 lb/hr	N/A	N/A	2,500 hr/yr	1.9 tpy
104	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Vendor Data	0.30 lb/hr	N/A	N/A	6,260 hr/yr	0.9 tpy
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	Vendor Data	1.49 lb/hr	N/A	N/A	2,500 hr/yr	1.9 tpy
101-104	Fuel Gas and Dual Fuel-fired Turbine (out of SoLoNOx, combined)	N/A	Fuel Gas	42.27 MMBtu/hr	Vendor Data	46.55 lb/hr	N/A	N/A	2,000 hr/yr	46.6 tpy
103-104	Dual Fuel-fired Turbine (out of SoLoNOx mode, combined)	N/A	ULSD	56.07 MMBtu/hr	Vendor Data	97.85 lb/hr	N/A	N/A	350 hr/yr	17.1 tpy
107	Standby Camp Generator Engine No. 1	2,695 hp	ULSD	127.0 gal/hr	AP-42, Table 3.4-1	0.000705 lb/hp-hr	N/A	N/A	500 hr/yr	0.5 tpy
108	Standby Camp Generator Engine No. 2	2,695 hp	ULSD	127.0 gal/hr	AP-42, Table 3.4-1	0.000705 lb/hp-hr	N/A	N/A	500 hr/yr	0.5 tpy
109	Standby Camp Generator Engine No. 3	2,695 hp	ULSD	127.0 gal/hr	AP-42, Table 3.4-1	0.000705 lb/hp-hr	N/A	N/A	500 hr/yr	0.5 tpy
110	Fine Water Mist Pump Engine No. 1	610 hp	ULSD	29.6 gal/hr	Vendor Data	0.086 g/hp-hr	N/A	N/A	500 hr/yr	0.03 tpy
111	Fine Water Mist Pump Engine No. 2	610 hp	ULSD	29.6 gal/hr	Vendor Data	0.086 g/hp-hr	N/A	N/A	500 hr/yr	0.03 tpy
112	HP Flare	130 MMscf/yr	Gas	N/A	AP-42 Table 13.5-1	0.57 lb/MMBtu	N/A	N/A	8,760 hr/yr	38.0 tpy
113	LP Flare	20 MMscf/yr	Gas	N/A	AP-42 Table 13.5-1	0.57 lb/MMBtu	N/A	N/A	8,760 hr/yr	5.8 tpy
114	Airstrip Generator Engine	563 hp	ULSD	29.0 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	N/A	N/A	500 hr/yr	0.3 tpy
115	ACRV Heater No. 1	0.175 MMBtu/hr	ULSD	1.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.001 tpy
116	ACRV Heater No. 2	0.175 MMBtu/hr	ULSD	1.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.001 tpy
117	Hot Oil Unit Engine	375 hp	ULSD	19.2 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	4.1 tpy
118	Air Compressor Generator Engine	61 hp	ULSD	3.1 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.7 tpy
119	Light Plant Generator Engine No. 1	28 hp	ULSD	1.4 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.3 tpy
120	Light Plant Generator Engine No. 2	28 hp	ULSD	1.4 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.3 tpy
121	Light Plant Generator Engine No. 3	28 hp	ULSD	1.4 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.3 tpy
122	Light Plant Generator Engine No. 4	28 hp	ULSD	1.4 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.3 tpy
123	Portable Moving Generator Engine No. 1	32 hp	ULSD	1.6 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.3 tpy
124	Portable Moving Generator Engine No. 2	32 hp	ULSD	1.6 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.3 tpy
125	Portable Moving Generator Engine No. 3	32 hp	ULSD	1.6 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.3 tpy
126	Freeze Protection Generator Engine No. 1	99 hp	ULSD	5.1 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.1 tpy
127	Freeze Protection Generator Engine No. 2	99 hp	ULSD	5.1 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.1 tpy
128	Freeze Protection Generator Engine No. 3	99 hp	ULSD	5.1 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.1 tpy
129	Ground Heater Engine	10.9 hp	ULSD	0.7 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.1 tpy
130	Ground Heater	0.28 MMBtu/hr	ULSD	2.0 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.002 tpy
131	Portable Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
132	Portable Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
133	Portable Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
134	Portable Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
135	Portable Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
136	Portable Heater No. 6	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
137	Portable Heater No. 7	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
138	Portable Heater No. 8	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
139	Portable Heater Engine No. 1	17 hp	ULSD	0.7 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.2 tpy
140	Portable Heater Engine No. 2	17 hp	ULSD	0.7 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.2 tpy
141	Portable Heater Engine No. 3	17 hp	ULSD	0.7 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.2 tpy
142	Portable Heater Engine No. 4	17 hp	ULSD	0.7 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.2 tpy
143	Portable Heater Engine No. 5	17 hp	ULSD	0.7 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.2 tpy
144	Portable Heater Engine No. 6	17 hp	ULSD	0.7 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.2 tpy
145	Portable Heater Engine No. 7	17 hp	ULSD	0.7 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.2 tpy
146	Portable Heater Engine No. 8	17 hp	ULSD	0.7 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.2 tpy
147	Used Oil-fired Heater	0.5 MMBtu/hr	Used Oil/ULSD	3.6 gal/hr	AP-42, Table 1.11-3	0.001 lb/gal	N/A	N/A	8,760 hr/yr	0.02 tpy
148	Production Support Engine	400 hp	ULSD	20.4 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	N/A	N/A	8,760 hr/yr	4.3 tpy
149	Refrigeration Unit (Reefer) Engine	24.8 hp	ULSD	1.3 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	N/A	N/A	8,760 hr/yr	0.3 tpy
150	Fuel Gas-fired Heater	80.5 MMBtu/hr	Fuel Gas	0.08 MMscf/hr	AP-42, Table 1.4-2	5.5 lb/MMscf	N/A	N/A	8,760 hr/yr	1.9 tpy
151	Gas-fired TEG Regeneration Heater	4.3 MMBtu/hr	Fuel Gas	0.004 MMscf/hr	AP-42, Table 1.4-2	5.5 lb/MMscf	N/A	N/A	8,760 hr/yr	0.1 tpy
246	Waste Incinerator	250 lb/hr	Trash/ULSD	25.0 gal/hr	AP-42, Table 2.1-12	3 lb/ton	N/A	N/A	8,760 hr/yr	1.6 tpy
Other VOC Emissions										
	ULSD Storage Tanks - Production	EPA TANK4.0d							N/A	0.2 tpy
	Gasoline Storage Tank - Production	EPA TANK4.0d							N/A	0.1 tpy
	Fugitive emissions from equipment leaks	EPA's Protocol for Equipment Leak Emission Estimates							N/A	3.4 tpy
									Total Potential VOC Emissions Excluding Nonroad Engines	**129.2 tpy**
									Total Potential VOC Emissions for Nonroad Engines	**11.8 tpy**
									Total Potential VOC Emissions for All Emission Units	**141.0 tpy**

Notes:
[1] Diesel heating value 137,000 Btu/gal
[2] Fuel gas heat content: 1,026 Btu/scf
[3] Inlet air heating on combustion turbines
[4] Each turbine has catalytic oxidation which controls 50 percent of VOC emissions while firing on fuel gas and 48 percent of VOC emissions while firing on UL
[5] VOC emissions are assumed to be 20 percent while firing fuel gas and 100 percent while firing ULS
[6] Catalytic oxidation controls 5 percent of VOC emissions out of SoLoNOx mod
[7] 40 CFR Part 89 or 1039 emission factor based on nonroad engine model year and power rati
[8] NTE factor of 1.25 was added to all emission units using a Tier 1 through 4f emission factc

Table 8. Potential to Emit Calculations - Sulfur Dioxide (SO_2) Emissions
Point Thomson Unit (PTU) Gas Expansion - Operations

Emission Unit			Fuel	Maximum Fuel	Maximum Fuel	Factor	SO_2 Emission	Nonroad	Maximum Annual	Annual SO_2
ID	Description	Rating/Capacity	Type	Consumption	Sulfur Content	Reference	Factor	Engine	Operation	Emissions
96	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.05 tpy
101	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	125 ppmw H_2S	Mass Balance	21.1 lb/MMscf	N/A	8,760 hr/yr	7.0 tpy
102	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	125 ppmw H_2S	Mass Balance	21.1 lb/MMscf	N/A	8,760 hr/yr	7.0 tpy
103	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	125 ppmw H_2S	Mass Balance	21.1 lb/MMscf	N/A	8,760 hr/yr	7.0 tpy
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	15 ppmw H_2S	Mass Balance	0.002 lb/MMBtu	N/A	0 hr/yr	0.0 tpy
104	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	125 ppmw H_2S	Mass Balance	21.1 lb/MMscf	N/A	8,760 hr/yr	7.0 tpy
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	15 ppmw H_2S	Mass Balance	0.002 lb/MMBtu	N/A	0 hr/yr	0.0 tpy
101-104	Fuel Gas and Dual Fuel-fired Turbine (out of SoLoNOx, combined)	N/A	Fuel Gas	42.27 MMBtu/hr	125 ppmw H_2S	Mass Balance	21.1 lb/MMscf	N/A	0 hr/yr	0.0 tpy
103-104	Dual Fuel-fired Turbine (out of SoLoNOx mode, combined)	N/A	ULSD	56.07 MMBtu/hr	15 ppmw H_2S	Mass Balance	0.002 lb/MMBtu	N/A	0 hr/yr	0.0 tpy
107	Standby Camp Generator Engine No. 1	2,695 hp	ULSD	127.0 gal/hr	15 ppmw S	Mass Balance	0.002 lb/MMBtu	N/A	500 hr/yr	0.01 tpy
108	Standby Camp Generator Engine No. 2	2,695 hp	ULSD	127.0 gal/hr	15 ppmw S	Mass Balance	0.002 lb/MMBtu	N/A	500 hr/yr	0.01 tpy
109	Standby Camp Generator Engine No. 3	2,695 hp	ULSD	127.0 gal/hr	15 ppmw S	Mass Balance	0.002 lb/MMBtu	N/A	500 hr/yr	0.01 tpy
110	Fine Water Mist Pump Engine No. 1	610 hp	ULSD	29.6 gal/hr	15 ppmw S	Mass Balance	0.002 lb/MMBtu	N/A	500 hr/yr	0.002 tpy
111	Fine Water Mist Pump Engine No. 2	610 hp	ULSD	29.6 gal/hr	15 ppmw S	Mass Balance	0.002 lb/MMBtu	N/A	500 hr/yr	0.002 tpy
112	HP Flare	95 MMscf/yr	Gas	N/A	125 ppmw H_2S	Mass Balance	21.1 lb/MMscf	N/A	8,760 hr/yr	1.0 tpy
	HP Flare - Pilot/Purge	35 MMscf/yr	Gas	N/A	300 ppmw H_2S	Mass Balance	50.5 lb/MMscf	N/A	8,760 hr/yr	0.9 tpy
113	LP Flare	20 MMscf/yr	Gas	N/A	300 ppmw H_2S	Mass Balance	50.5 lb/MMscf	N/A	8,760 hr/yr	0.5 tpy
114	Airstrip Generator Engine	563 hp	ULSD	29.0 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	500 hr/yr	0.002 tpy
115	ACRV Heater No. 1	0.175 MMBtu/hr	ULSD	1.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.001 tpy
116	ACRV Heater No. 2	0.175 MMBtu/hr	ULSD	1.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.001 tpy
117	Hot Oil Unit Engine	375 hp	ULSD	19.2 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.018 tpy
118	Air Compressor Generator Engine	61 hp	ULSD	3.1 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.003 tpy
119	Light Plant Generator Engine No. 1	28 hp	ULSD	1.4 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.001 tpy
120	Light Plant Generator Engine No. 2	28 hp	ULSD	1.4 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.001 tpy
121	Light Plant Generator Engine No. 3	28 hp	ULSD	1.4 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.001 tpy
122	Light Plant Generator Engine No. 4	28 hp	ULSD	1.4 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.001 tpy
123	Portable Moving Generator Engine No. 1	32 hp	ULSD	1.6 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.002 tpy
124	Portable Moving Generator Engine No. 2	32 hp	ULSD	1.6 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.002 tpy
125	Portable Moving Generator Engine No. 3	32 hp	ULSD	1.6 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.002 tpy
126	Freeze Protection Generator Engine No. 1	99 hp	ULSD	5.1 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.005 tpy
127	Freeze Protection Generator Engine No. 2	99 hp	ULSD	5.1 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.005 tpy
128	Freeze Protection Generator Engine No. 3	99 hp	ULSD	5.1 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.005 tpy
129	Ground Heater Engine	10.9 hp	ULSD	0.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.001 tpy
130	Ground Heater	0.28 MMBtu/hr	ULSD	2.0 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.002 tpy
131	Portable Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.007 tpy
132	Portable Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.007 tpy
133	Portable Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.007 tpy
134	Portable Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.007 tpy
135	Portable Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.007 tpy
136	Portable Heater No. 6	1.0 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.007 tpy
137	Portable Heater No. 7	1.0 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.007 tpy
138	Portable Heater No. 8	1.0 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.007 tpy
139	Portable Heater Engine No. 1	17 hp	ULSD	0.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.001 tpy
140	Portable Heater Engine No. 2	17 hp	ULSD	0.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.001 tpy
141	Portable Heater Engine No. 3	17 hp	ULSD	0.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.001 tpy
142	Portable Heater Engine No. 4	17 hp	ULSD	0.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.001 tpy
143	Portable Heater Engine No. 5	17 hp	ULSD	0.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.001 tpy
144	Portable Heater Engine No. 6	17 hp	ULSD	0.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.001 tpy
145	Portable Heater Engine No. 7	17 hp	ULSD	0.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.001 tpy
146	Portable Heater Engine No. 8	17 hp	ULSD	0.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.001 tpy
147	Used Oil-fired Heater	0.5 MMBtu/hr	Used Oil/ULSD	3.6 gal/hr	2,150 ppmw S	AP-42, Table 1.11-2	0.019 lb/gal	N/A	8,760 hr/yr	0.3 tpy
148	Production Support Engine	400 hp	ULSD	20.4 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.02 tpy
149	Refrigeration Unit (Reefer) Engine	24.8 hp	ULSD	1.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.001 tpy
150	Fuel Gas-fired Heater	80.5 MMBtu/hr	Fuel Gas	0.08 MMscf/hr	125 ppmw H_2S	Mass Balance	21.1 lb/MMscf	N/A	8,760 hr/yr	7.2 tpy
151	Gas-fired TEG Regeneration Heater	4.3 MMBtu/hr	Fuel Gas	0.004 MMscf/hr	125 ppmw H_2S	Mass Balance	21.1 lb/MMscf	N/A	8,760 hr/yr	0.4 tpy
246	Waste Incinerator	250 lb/hr	Trash/ULSD	25.0 gal/hr	15 ppmw S	AP-42, Table 2.1-12	2.50 lb/ton	N/A	8,760 hr/yr	1.4 tpy
									Total Potential SO_2 Emissions Excluding Nonroad Engines	**39.8 tpy**
									Total Potential SO_2 Emissions for Nonroad Engines	**0.05 tpy**
									Total Potential SO_2 Emissions for All Emission Units	**39.8 tpy**

Notes:
[1] Diesel heating value 137,000 Btu/gal
[2] Fuel gas heat content: 1,026 Btu/scf
[3] NRE = Nonroad Engine
[4] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)
[5] Diesel engine heat rate 7,000 Btu/hp-hr AP-42, Table 3.3-1
[6] Diesel sulfur content: 15 ppmw (0.0015 wt. pct.)
[7] High pressure fuel gas has a heat content of 1,020 Btu/scf and H_2S of 125 ppmv.
[8] Low pressure fuel gas has a heat content of 1,020 Btu/scf and H_2S of 300 ppmv.
[9] The Solar Taurus 70 turbine has a heat rate of 10,318 Btu/kW-h
[10] Higher potential SO_2 emissions result from dual fired turbines firing on fuel gas, regardless of operating in or out of SoLoNOx mode.
[11] Municipal solid waste has a default high heat value of 9.95 MMBtu/to
[12] Fuel factor for waste is 9,570 dscf/MMBtu
[13] AP-42 emission factor for EU 147 is 107 lb/10^3 gal multiplied by weight percent sulfur in fuel. Sulfur analyses conducted in June 2016 by SGS results were 0.215 percent and 0.146 percent in duplicate samples. Analyses results were averaged for emission f

Table 9. Potential to Emit Calculations - Lead (Pb) Emissions
Point Thomson Unit (PTU) Gas Expansion - Operations

Emission Unit			Fuel	Maximum Fuel	Factor	Lead Emission	Nonroad	Not-to-Exceed	Maximum Annual	Annual Lead
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Factor	Operation	Emissions
96	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.0 tpy
101	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	AP-42, Table 3.1-2a	0	N/A	N/A	8,760 hr/yr	0.0 tpy
102	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	AP-42, Table 3.1-2a	0	N/A	N/A	6,760 hr/yr	0.0 tpy
103	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	AP-42, Table 3.1-2a	0	N/A	N/A	5,910 hr/yr	0.0 tpy
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	AP-42, Table 3.1-2a	1.4E-05 lb/MMBtu	N/A	N/A	2,500 hr/yr	0.001 tpy
104	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	AP-42, Table 3.1-2a	0	N/A	N/A	6,260 hr/yr	0.0 tpy
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	AP-42, Table 3.1-2a	1.4E-05 lb/MMBtu	N/A	N/A	2,500 hr/yr	0.001 tpy
101-104	Fuel Gas and Dual Fuel-fired Turbine (out of SoLoNOx, combined)	N/A	Fuel Gas	42.27 MMBtu/hr	AP-42, Table 3.1-2a	0	N/A	N/A	2,000 hr/yr	0.0 tpy
103-104	Dual Fuel-fired Turbine (out of SoLoNOx mode, combined)	N/A	ULSD	56.07 MMBtu/hr	AP-42, Table 3.1-2a	1.4E-05 lb/MMBtu	N/A	N/A	350 hr/yr	0.0001 tpy
107	Standby Camp Generator Engine No. 1	2,695 hp	ULSD	127.0 gal/hr	AP-42, Chapter 3	0	N/A	N/A	500 hr/yr	0.0 tpy
108	Standby Camp Generator Engine No. 2	2,695 hp	ULSD	127.0 gal/hr	AP-42, Chapter 3	0	N/A	N/A	500 hr/yr	0.0 tpy
109	Standby Camp Generator Engine No. 3	2,695 hp	ULSD	127.0 gal/hr	AP-42, Chapter 3	0	N/A	N/A	500 hr/yr	0.0 tpy
110	Fine Water Mist Pump Engine No. 1	610 hp	ULSD	29.6 gal/hr	AP-42, Chapter 3	0	N/A	N/A	500 hr/yr	0.0 tpy
111	Fine Water Mist Pump Engine No. 2	610 hp	ULSD	29.6 gal/hr	AP-42, Chapter 3	0	N/A	N/A	500 hr/yr	0.0 tpy
112	HP Flare	130 MMscf/yr	Gas	N/A	AP-42, Chapter 13	0	N/A	N/A	8,760 hr/yr	0.0 tpy
113	LP Flare	20 MMscf/yr	Gas	N/A	AP-42, Chapter 13	0	N/A	N/A	8,760 hr/yr	0.0 tpy
114	Airstrip Generator Engine	563 hp	ULSD	29.0 gal/hr	AP-42, Chapter 3	0	N/A	N/A	500 hr/yr	0.0 tpy
115	ACRV Heater No. 1	0.175 MMBtu/hr	ULSD	1.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00001 tpy
116	ACRV Heater No. 2	0.175 MMBtu/hr	ULSD	1.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00001 tpy
117	Hot Oil Unit Engine	375 hp	ULSD	19.2 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
118	Air Compressor Generator Engine	61 hp	ULSD	3.1 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
119	Light Plant Generator Engine No. 1	28 hp	ULSD	1.4 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
120	Light Plant Generator Engine No. 2	28 hp	ULSD	1.4 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
121	Light Plant Generator Engine No. 3	28 hp	ULSD	1.4 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
122	Light Plant Generator Engine No. 4	28 hp	ULSD	1.4 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
123	Portable Moving Generator Engine No. 1	32 hp	ULSD	1.6 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
124	Portable Moving Generator Engine No. 2	32 hp	ULSD	1.6 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
125	Portable Moving Generator Engine No. 3	32 hp	ULSD	1.6 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
126	Freeze Protection Generator Engine No. 1	99 hp	ULSD	5.1 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
127	Freeze Protection Generator Engine No. 2	99 hp	ULSD	5.1 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
128	Freeze Protection Generator Engine No. 3	99 hp	ULSD	5.1 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
129	Ground Heater Engine	10.9 hp	ULSD	0.7 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
130	Ground Heater	0.28 MMBtu/hr	ULSD	2.0 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00001 tpy
131	Portable Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00004 tpy
132	Portable Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00004 tpy
133	Portable Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00004 tpy
134	Portable Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00004 tpy
135	Portable Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00004 tpy
136	Portable Heater No. 6	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00004 tpy
137	Portable Heater No. 7	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00004 tpy
138	Portable Heater No. 8	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00004 tpy
139	Portable Heater Engine No. 1	17 hp	ULSD	0.7 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
140	Portable Heater Engine No. 2	17 hp	ULSD	0.7 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
141	Portable Heater Engine No. 3	17 hp	ULSD	0.7 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
142	Portable Heater Engine No. 4	17 hp	ULSD	0.7 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
143	Portable Heater Engine No. 5	17 hp	ULSD	0.7 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
144	Portable Heater Engine No. 6	17 hp	ULSD	0.7 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
145	Portable Heater Engine No. 7	17 hp	ULSD	0.7 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
146	Portable Heater Engine No. 8	17 hp	ULSD	0.7 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
147	Used Oil-fired Heater	0.5 MMBtu/hr	Used Oil/ULSD	3.6 gal/hr	AP-42, Table 1.11-1	2.0E-03 lb/gal	N/A	N/A	8,760 hr/yr	0.03 tpy
148	Production Support Engine	400 hp	ULSD	20.4 gal/hr	AP-42, Chapter 3	0	N/A	N/A	8,760 hr/yr	0.0 tpy
149	Refrigeration Unit (Reefer) Engine	24.8 hp	ULSD	1.3 gal/hr	AP-42, Chapter 3	0	N/A	N/A	8,760 hr/yr	0.0 tpy
150	Fuel Gas-fired Heater	80.5 MMBtu/hr	Fuel Gas	0.08 MMscf/hr	AP-42, Table 1.4-2	5.0E-04 lb/MMscf	N/A	N/A	8,760 hr/yr	0.0002 tpy
151	Gas-fired TEG Regeneration Heater	4.3 MMBtu/hr	Fuel Gas	0.004 MMscf/hr	AP-42, Table 1.4-2	5.0E-04 lb/MMscf	N/A	N/A	8,760 hr/yr	0.00001 tpy
246	Waste Incinerator	250 lb/hr	Trash/ULSD	25.0 gal/hr	AP-42, Table 2.1-12	0	N/A	N/A	8,760 hr/yr	0.0 tpy
									Total Potential Lead Emissions Excluding Nonroad Engines	**0.04 tpy**
									Total Potential Lead Emissions for Nonroad Engines	**0.00 tpy**
									Total Potential Lead Emissions for All Emission Units	**0.04 tpy**

Notes:
[1] AP-42 emission factor for EU 147 is 50 lb/10^3 gal multiplied by weight percent lead in fuel. Lead in fuel is assumed to be 0.04 percer
[2] Fuel gas heat content: 1,026 Btu/scf

Table 10. Potential to Emit Calculations - Carbon Dioxide Equivalent (CO_2e) Emissions
Point Thomson Unit (PTU) Gas Expansion - Operations

Emission Unit			Fuel	Nonroad	Potential Greenhouse Gas Emissions (tonne/year)				
ID	Description	Rating/Capacity	Type	Engine	CO_2	CH_4	N_2O	GHG Mass	GHG CO_2e
96	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	N/A	5,219.8	0.212	0.0423	5,220.1	5,237.7
101	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	N/A	40,479.9	0.763	0.0763	40,480.8	40,521.7
102	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	N/A	40,479.9	0.763	0.0763	40,480.8	40,521.7
103	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	N/A	28,927.4	0.545	0.0545	28,928.0	28,957.3
	Dual Fuel-fired Turbine	7,520 kW	ULSD	N/A	15,257.9	0.619	0.1238	15,258.7	15,310.3
104	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	N/A	28,927.4	0.545	0.0545	28,928.0	28,957.3
	Dual Fuel-fired Turbine	7,520 kW	ULSD	N/A	15,257.9	0.619	0.1238	15,258.7	15,310.3
101-104	Fuel Gas and Dual Fuel-fired Turbine (out of SoLoNOx, combined)	N/A	Fuel Gas	N/A	0.0	0.000	0.0000	0.0	0.0
103-104	Dual Fuel-fired Turbine (out of SoLoNOx mode, combined)	N/A	ULSD	N/A	0.0	0.000	0.0000	0.0	0.0
107	Standby Camp Generator Engine No. 1	2,695 hp	ULSD	N/A	648.1	0.026	0.0053	648.1	650.3
108	Standby Camp Generator Engine No. 2	2,695 hp	ULSD	N/A	648.1	0.026	0.0053	648.1	650.3
109	Standby Camp Generator Engine No. 3	2,695 hp	ULSD	N/A	648.1	0.026	0.0053	648.1	650.3
110	Fine Water Mist Pump Engine No. 1	610 hp	ULSD	N/A	151.1	0.006	0.0012	151.1	151.6
111	Fine Water Mist Pump Engine No. 2	610 hp	ULSD	N/A	151.1	0.006	0.0012	151.1	151.6
112	HP Flare	130 MMscf/yr	Gas	N/A	7,077.1	0.133	0.0133	7,077.3	7,084.5
113	LP Flare	20 MMscf/yr	Gas	N/A	1,088.8	0.021	0.0021	1,088.8	1,089.9
114	Airstrip Generator Engine	563 hp	ULSD	N/A	148.0	0.006	0.0012	148.0	148.5
115	ACRV Heater No. 1	0.175 MMBtu/hr	ULSD	N/A	111.8	0.005	0.0009	111.8	112.1
116	ACRV Heater No. 2	0.175 MMBtu/hr	ULSD	N/A	111.8	0.005	0.0009	111.8	112.1
117	Hot Oil Unit Engine	375 hp	ULSD	NRE	1,716.6	0.070	0.0139	1,716.7	1,722.5
118	Air Compressor Generator Engine	61 hp	ULSD	NRE	278.6	0.011	0.0023	278.6	279.6
119	Light Plant Generator Engine No. 1	28 hp	ULSD	NRE	127.9	0.005	0.0010	127.9	128.3
120	Light Plant Generator Engine No. 2	28 hp	ULSD	NRE	127.9	0.005	0.0010	127.9	128.3
121	Light Plant Generator Engine No. 3	28 hp	ULSD	NRE	127.9	0.005	0.0010	127.9	128.3
122	Light Plant Generator Engine No. 4	28 hp	ULSD	NRE	127.9	0.005	0.0010	127.9	128.3
123	Portable Moving Generator Engine No. 1	32 hp	ULSD	NRE	146.2	0.006	0.0012	146.2	146.7
124	Portable Moving Generator Engine No. 2	32 hp	ULSD	NRE	146.2	0.006	0.0012	146.2	146.7
125	Portable Moving Generator Engine No. 3	32 hp	ULSD	NRE	146.2	0.006	0.0012	146.2	146.7
126	Freeze Protection Generator Engine No. 1	99 hp	ULSD	NRE	452.2	0.018	0.0037	452.2	453.7
127	Freeze Protection Generator Engine No. 2	99 hp	ULSD	NRE	452.2	0.018	0.0037	452.2	453.7
128	Freeze Protection Generator Engine No. 3	99 hp	ULSD	NRE	452.2	0.018	0.0037	452.2	453.7
129	Ground Heater Engine	11 hp	ULSD	NRE	61.7	0.003	0.0005	61.7	61.9
130	Ground Heater	0.28 MMBtu/hr	ULSD	N/A	178.8	0.007	0.0015	178.8	179.4
131	Portable Heater No. 1	1.0 MMBtu/hr	ULSD	N/A	652.5	0.026	0.0053	652.5	654.7
132	Portable Heater No. 2	1.0 MMBtu/hr	ULSD	N/A	652.5	0.026	0.0053	652.5	654.7
133	Portable Heater No. 3	1.0 MMBtu/hr	ULSD	N/A	652.5	0.026	0.0053	652.5	654.7
134	Portable Heater No. 4	1.0 MMBtu/hr	ULSD	N/A	652.5	0.026	0.0053	652.5	654.7
135	Portable Heater No. 5	1.0 MMBtu/hr	ULSD	N/A	652.5	0.026	0.0053	652.5	654.7
136	Portable Heater No. 6	1.0 MMBtu/hr	ULSD	N/A	652.5	0.026	0.0053	652.5	654.7
137	Portable Heater No. 7	1.0 MMBtu/hr	ULSD	N/A	652.5	0.026	0.0053	652.5	654.7
138	Portable Heater No. 8	1.0 MMBtu/hr	ULSD	N/A	652.5	0.026	0.0053	652.5	654.7
139	Portable Heater Engine No. 1	17 hp	ULSD	NRE	61.7	0.003	0.0005	61.7	61.9
140	Portable Heater Engine No. 2	17 hp	ULSD	NRE	61.7	0.003	0.0005	61.7	61.9
141	Portable Heater Engine No. 3	17 hp	ULSD	NRE	61.7	0.003	0.0005	61.7	61.9
142	Portable Heater Engine No. 4	17 hp	ULSD	NRE	61.7	0.003	0.0005	61.7	61.9
143	Portable Heater Engine No. 5	17 hp	ULSD	NRE	61.7	0.003	0.0005	61.7	61.9
144	Portable Heater Engine No. 6	17 hp	ULSD	NRE	61.7	0.003	0.0005	61.7	61.9
145	Portable Heater Engine No. 7	17 hp	ULSD	NRE	61.7	0.003	0.0005	61.7	61.9
146	Portable Heater Engine No. 8	17 hp	ULSD	NRE	61.7	0.003	0.0005	61.7	61.9
147	Used Oil-fired Heater	0.5 MMBtu/hr	Used Oil/ULSD	N/A	326.2	0.013	0.0026	326.3	327.4
148	Production Support Engine	400 hp	ULSD	N/A	1,826.9	0.074	0.0148	1,827.0	1,833.2
149	Refrigeration Unit (Reefer) Engine	24.8 hp	ULSD	N/A	113.3	0.005	0.0009	113.3	113.7
150	Fuel Gas-fired Heater	80.5 MMBtu/hr	Fuel Gas	N/A	37,416.9	0.705	0.0705	37,417.6	37,455.5
151	Gas-fired TEG Regeneration Heater	4.3 MMBtu/hr	Fuel Gas	N/A	2,004.5	0.038	0.0038	2,004.5	2,006.5
246	Waste Incinerator	250 lb/hr	Trash	N/A	988.2	0.349	0.0458	988.6	1,010.6
			ULSD	N/A	2,235.2	0.091	0.0181	2,235.3	2,242.9
							Total Potential CO_2e Emissions Excluding Nonroad Engines	**236,025**	**tonne/year**
							Total Potential CO_2e Emissions for Nonroad Engines	**4,874**	**tonne/year**
							Total Potential CO_2e Emissions for All Emission Units	**240,898**	**tonne/year**

Notes:

[1] CO_2e is the CO_2 equivalent emissions applying the global warming potential for each GHG from Table A-1, 40 CFR 98. Global warming potentials are:
Carbon Dioxide: 1
Methane: 25
Nitrous Oxide: 298

[2] The permit applicability threshold is in units of short tons per year (tpy) opposed to metric tons per year (tonnes/yr).

[3] Potential CO_2e, CO_2, CH_4, and N_2O emissions from dual fired turbines in SoLoNOx mode and out of SoLoNOx mode are the same.

Table 11. Potential to Emit Calculations - Carbon Dioxide (CO_2) Emissions
Point Thomson Unit (PTU) Gas Expansion - Operations

Emission Unit			Fuel	Maximum Fuel	Factor	CO_2 Emission	Nonroad	Maximum Annual	Annual CO_2 Emissions
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Operation	
96	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	5,219.8 tonne/year
101	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Table C-1, 40 CFR 98	53.06 kg CO_2/MMBtu	N/A	8,760 hr/yr	40,479.9 tonne/year
102	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Table C-1, 40 CFR 98	53.06 kg CO_2/MMBtu	N/A	8,760 hr/yr	40,479.9 tonne/year
103	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Table C-1, 40 CFR 98	53.06 kg CO_2/MMBtu	N/A	6,260 hr/yr	28,927.4 tonne/year
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	2,500 hr/yr	15,257.9 tonne/year
104	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Table C-1, 40 CFR 98	53.06 kg CO_2/MMBtu	N/A	6,260 hr/yr	28,927.4 tonne/year
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	2,500 hr/yr	15,257.9 tonne/year
101-104	Fuel Gas and Dual Fuel-fired Turbine (out of SoLoNOx, combined)	N/A	Fuel Gas	42.27 MMBtu/hr	Table C-1, 40 CFR 98	53.06 kg CO_2/MMBtu	N/A	0 hr/yr	0.0 tonne/year
103-104	Dual Fuel-fired Turbine (out of SoLoNOx mode, combined)	N/A	ULSD	56.07 MMBtu/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	0 hr/yr	0.0 tonne/year
107	Standby Camp Generator Engine No. 1	2,695 hp	ULSD	127.0 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	500 hr/yr	648.1 tonne/year
108	Standby Camp Generator Engine No. 2	2,695 hp	ULSD	127.0 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	500 hr/yr	648.1 tonne/year
109	Standby Camp Generator Engine No. 3	2,695 hp	ULSD	127.0 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	500 hr/yr	648.1 tonne/year
110	Fine Water Mist Pump Engine No. 1	610 hp	ULSD	29.6 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	500 hr/yr	151.1 tonne/year
111	Fine Water Mist Pump Engine No. 2	610 hp	ULSD	29.6 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	500 hr/yr	151.1 tonne/year
112	HP Flare	130 MMscf/yr	Gas	N/A	Table C-1, 40 CFR 98	53.06 kg CO_2/MMBtu	N/A	8,760 hr/yr	7,077.1 tonne/year
113	LP Flare	20 MMscf/yr	Gas	N/A	Table C-1, 40 CFR 98	53.06 kg CO_2/MMBtu	N/A	8,760 hr/yr	1,088.8 tonne/year
114	Airstrip Generator Engine	563 hp	ULSD	29.0 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	500 hr/yr	148.0 tonne/year
115	ACRV Heater No. 1	0.175 MMBtu/hr	ULSD	1.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	111.8 tonne/year
116	ACRV Heater No. 2	0.175 MMBtu/hr	ULSD	1.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	111.8 tonne/year
117	Hot Oil Unit Engine	375 hp	ULSD	19.2 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	1,716.6 tonne/year
118	Air Compressor Generator Engine	61 hp	ULSD	3.1 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	278.6 tonne/year
119	Light Plant Generator Engine No. 1	28 hp	ULSD	1.4 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	127.9 tonne/year
120	Light Plant Generator Engine No. 2	28 hp	ULSD	1.4 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	127.9 tonne/year
121	Light Plant Generator Engine No. 3	28 hp	ULSD	1.4 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	127.9 tonne/year
122	Light Plant Generator Engine No. 4	28 hp	ULSD	1.4 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	127.9 tonne/year
123	Portable Moving Generator Engine No. 1	32 hp	ULSD	1.6 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	146.2 tonne/year
124	Portable Moving Generator Engine No. 2	32 hp	ULSD	1.6 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	146.2 tonne/year
125	Portable Moving Generator Engine No. 3	32 hp	ULSD	1.6 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	146.2 tonne/year
126	Freeze Protection Generator Engine No. 1	99 hp	ULSD	5.1 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	452.2 tonne/year
127	Freeze Protection Generator Engine No. 2	99 hp	ULSD	5.1 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	452.2 tonne/year
128	Freeze Protection Generator Engine No. 3	99 hp	ULSD	5.1 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	452.2 tonne/year
129	Ground Heater Engine	10.9 hp	ULSD	0.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	61.7 tonne/year
130	Ground Heater	0.28 MMBtu/hr	ULSD	2.0 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	178.8 tonne/year
131	Portable Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	652.5 tonne/year
132	Portable Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	652.5 tonne/year
133	Portable Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	652.5 tonne/year
134	Portable Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	652.5 tonne/year
135	Portable Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	652.5 tonne/year
136	Portable Heater No. 6	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	652.5 tonne/year
137	Portable Heater No. 7	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	652.5 tonne/year
138	Portable Heater No. 8	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	652.5 tonne/year
139	Portable Heater Engine No. 1	17 hp	ULSD	0.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	61.7 tonne/year
140	Portable Heater Engine No. 2	17 hp	ULSD	0.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	61.7 tonne/year
141	Portable Heater Engine No. 3	17 hp	ULSD	0.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	61.7 tonne/year
142	Portable Heater Engine No. 4	17 hp	ULSD	0.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	61.7 tonne/year
143	Portable Heater Engine No. 5	17 hp	ULSD	0.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	61.7 tonne/year
144	Portable Heater Engine No. 6	17 hp	ULSD	0.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	61.7 tonne/year
145	Portable Heater Engine No. 7	17 hp	ULSD	0.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	61.7 tonne/year
146	Portable Heater Engine No. 8	17 hp	ULSD	0.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	61.7 tonne/year
147	Used Oil-fired Heater	0.5 MMBtu/hr	Used Oil/ULSD	3.6 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	326.2 tonne/year
148	Production Support Engine	400 hp	ULSD	20.4 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	1,826.9 tonne/year
149	Refrigeration Unit (Reefer) Engine	24.8 hp	ULSD	1.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	113.3 tonne/year
150	Fuel Gas-fired Heater	80.5 MMBtu/hr	Fuel Gas	0.08 MMscf/hr	Table C-1, 40 CFR 98	53.06 kg CO_2/MMBtu	N/A	8,760 hr/yr	37,416.9 tonne/year
151	Gas-fired TEG Regeneration Heater	4.3 MMBtu/hr	Fuel Gas	0.004 MMscf/hr	Table C-1, 40 CFR 98	53.06 kg CO_2/MMBtu	N/A	8,760 hr/yr	2,004.5 tonne/year
246	Waste Incinerator	250 lb/hr	Trash	250 lb/hr	Table C-1, 40 CFR 98	90.7 kg CO_2/MMBtu	N/A	8,760 hr/yr	988.2 tonne/year
			ULSD	25.0 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	2,235.2 tonne/year
								Total Potential CO_2 Emissions Excluding Nonroad Engines	**235,644 tonne/year**
								Total Potential CO_2 Emissions for Nonroad Engines	**4,857 tonne/year**
								Total Potential CO_2 Emissions for All Emission Units	**240,501 tonne/year**

Notes:
[1] Heat rate for diesel engines 7,000 Btu/hp-hr
[2] NRE = Nonroad Engine
[3] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)
[4] Diesel high heat value: 0.138 MMBtu/gallon
[5] Pipeline natural gas default high heat value 1.026E-03 MMBtu/scf
[6] Municipal solid waste default high heat value 9.95 MMBtu/short ton

Table 12. Potential to Emit Calculations - Methane (CH_4) Emissions
Point Thomson Unit (PTU) Gas Expansion - Operations

Emission Unit			Fuel	Maximum Fuel	Factor	CH_4 Emission	Nonroad	Maximum Annual	Annual CH_4 Emissions
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Operation	
96	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.212 tonne/year
101	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Table C-2, 40 CFR 98	1.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.763 tonne/year
102	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Table C-2, 40 CFR 98	1.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.763 tonne/year
103	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Table C-2, 40 CFR 98	1.00E-03 kg CH_4/MMBtu	N/A	6,260 hr/yr	0.545 tonne/year
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	2,500 hr/yr	0.619 tonne/year
104	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Table C-2, 40 CFR 98	1.00E-03 kg CH_4/MMBtu	N/A	6,260 hr/yr	0.545 tonne/year
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	2,500 hr/yr	0.619 tonne/year
101-104	Fuel Gas and Dual Fuel-fired Turbine (out of SoLoNOx, combined)	N/A	Fuel Gas	42.27 MMBtu/hr	Table C-2, 40 CFR 98	1.00E-03 kg CH_4/MMBtu	N/A	0 hr/yr	0.000 tonne/year
103-104	Dual Fuel-fired Turbine (out of SoLoNOx mode, combined)	N/A	ULSD	56.07 MMBtu/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	0 hr/yr	0.000 tonne/year
107	Standby Camp Generator Engine No. 1	2,695 hp	ULSD	127.0 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	500 hr/yr	0.026 tonne/year
108	Standby Camp Generator Engine No. 2	2,695 hp	ULSD	127.0 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	500 hr/yr	0.026 tonne/year
109	Standby Camp Generator Engine No. 3	2,695 hp	ULSD	127.0 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	500 hr/yr	0.026 tonne/year
110	Fine Water Mist Pump Engine No. 1	610 hp	ULSD	29.6 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	500 hr/yr	0.006 tonne/year
111	Fine Water Mist Pump Engine No. 2	610 hp	ULSD	29.6 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	500 hr/yr	0.006 tonne/year
112	HP Flare	130 MMscf/yr	Gas	N/A	Table C-2, 40 CFR 98	1.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.133 tonne/year
113	LP Flare	20 MMscf/yr	Gas	N/A	Table C-2, 40 CFR 98	1.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.021 tonne/year
114	Airstrip Generator Engine	563 hp	ULSD	29.0 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	500 hr/yr	0.006 tonne/year
115	ACRV Heater No. 1	0.175 MMBtu/hr	ULSD	1.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.005 tonne/year
116	ACRV Heater No. 2	0.175 MMBtu/hr	ULSD	1.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.005 tonne/year
117	Hot Oil Unit Engine	375 hp	ULSD	19.2 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.070 tonne/year
118	Air Compressor Generator Engine	61 hp	ULSD	3.1 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.011 tonne/year
119	Light Plant Generator Engine No. 1	28 hp	ULSD	1.4 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.005 tonne/year
120	Light Plant Generator Engine No. 2	28 hp	ULSD	1.4 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.005 tonne/year
121	Light Plant Generator Engine No. 3	28 hp	ULSD	1.4 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.005 tonne/year
122	Light Plant Generator Engine No. 4	28 hp	ULSD	1.4 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.005 tonne/year
123	Portable Moving Generator Engine No. 1	32 hp	ULSD	1.6 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.006 tonne/year
124	Portable Moving Generator Engine No. 2	32 hp	ULSD	1.6 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.006 tonne/year
125	Portable Moving Generator Engine No. 3	32 hp	ULSD	1.6 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.006 tonne/year
126	Freeze Protection Generator Engine No. 1	99 hp	ULSD	5.1 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.018 tonne/year
127	Freeze Protection Generator Engine No. 2	99 hp	ULSD	5.1 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.018 tonne/year
128	Freeze Protection Generator Engine No. 3	99 hp	ULSD	5.1 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.018 tonne/year
129	Ground Heater Engine	10.9 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.003 tonne/year
130	Ground Heater	0.28 MMBtu/hr	ULSD	2.0 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.007 tonne/year
131	Portable Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
132	Portable Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
133	Portable Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
134	Portable Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
135	Portable Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
136	Portable Heater No. 6	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
137	Portable Heater No. 7	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
138	Portable Heater No. 8	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
139	Portable Heater Engine No. 1	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.003 tonne/year
140	Portable Heater Engine No. 2	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.003 tonne/year
141	Portable Heater Engine No. 3	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.003 tonne/year
142	Portable Heater Engine No. 4	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.003 tonne/year
143	Portable Heater Engine No. 5	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.003 tonne/year
144	Portable Heater Engine No. 6	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.003 tonne/year
145	Portable Heater Engine No. 7	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.003 tonne/year
146	Portable Heater Engine No. 8	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.003 tonne/year
147	Used Oil-fired Heater	0.5 MMBtu/hr	Used Oil/ULSD	3.6 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.013 tonne/year
148	Production Support Engine	400 hp	ULSD	20.4 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.074 tonne/year
149	Refrigeration Unit (Reefer) Engine	24.8 hp	ULSD	1.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.005 tonne/year
150	Fuel Gas-fired Heater	80.5 MMBtu/hr	Fuel Gas	0.08 MMscf/hr	Table C-2, 40 CFR 98	1.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.705 tonne/year
151	Gas-fired TEG Regeneration Heater	4.3 MMBtu/hr	Fuel Gas	0.004 MMscf/hr	Table C-2, 40 CFR 98	1.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.038 tonne/year
246	Waste Incinerator	250 lb/hr	Trash	250 lb/hr	Table C-2, 40 CFR 98	3.20E-02 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.349 tonne/year
			ULSD	25.0 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.091 tonne/year
								Total Potential CH_4 Emissions Excluding Nonroad Engines	**5.819 tonne/year**
								Total Potential CH_4 Emissions for Nonroad Engines	**0.197 tonne/year**
								Total Potential CH_4 Emissions for All Emission Units	**6.016 tonne/year**

Notes:
[1] Heat rate for diesel engines 7,000 Btu/hp-hr
[2] NRE = Nonroad Engine
[3] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.10
[4] Diesel high heat value 0.138 MMBtu/gallon
[5] Pipeline natural gas default high heat value 1.026E-03 MMBtu/scf
[6] Municipal solid waste default high heat value 9.95 MMBtu/short ton

Table 13. Potential to Emit Calculations - Nitrous Oxide (N_2O) Emissions
Point Thomson Unit (PTU) Gas Expansion - Operations

Emission Unit			Fuel	Maximum Fuel	Factor	N_2O Emission	Nonroad	Maximum Annual	Annual N_2O Emissions
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Operation	
96	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0423 tonne/year
101	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Table C-2, 40 CFR 98	1.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0763 tonne/year
102	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Table C-2, 40 CFR 98	1.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0763 tonne/year
103	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Table C-2, 40 CFR 98	1.00E-04 kg N_2O/MMBtu	N/A	6,260 hr/yr	0.0545 tonne/year
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	2,500 hr/yr	0.1238 tonne/year
104	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Table C-2, 40 CFR 98	1.00E-04 kg N_2O/MMBtu	N/A	6,260 hr/yr	0.0545 tonne/year
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	2,500 hr/yr	0.1238 tonne/year
101-104	Fuel Gas and Dual Fuel-fired Turbine (out of SoLoNOx, combined)	N/A	Fuel Gas	42.27 MMBtu/hr	Table C-2, 40 CFR 98	1.00E-04 kg N_2O/MMBtu	N/A	0 hr/yr	0.0000 tonne/year
103-104	Dual Fuel-fired Turbine (out of SoLoNOx mode, combined)	N/A	ULSD	56.07 MMBtu/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	0 hr/yr	0.0000 tonne/year
107	Standby Camp Generator Engine No. 1	2,695 hp	ULSD	127.0 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	500 hr/yr	0.0053 tonne/year
108	Standby Camp Generator Engine No. 2	2,695 hp	ULSD	127.0 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	500 hr/yr	0.0053 tonne/year
109	Standby Camp Generator Engine No. 3	2,695 hp	ULSD	127.0 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	500 hr/yr	0.0053 tonne/year
110	Fine Water Mist Pump Engine No. 1	610 hp	ULSD	29.6 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	500 hr/yr	0.0012 tonne/year
111	Fine Water Mist Pump Engine No. 2	610 hp	ULSD	29.6 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	500 hr/yr	0.0012 tonne/year
112	HP Flare	130 MMscf/yr	Gas	N/A	Table C-2, 40 CFR 98	1.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0133 tonne/year
113	LP Flare	20 MMscf/yr	Gas	N/A	Table C-2, 40 CFR 98	1.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0021 tonne/year
114	Airstrip Generator Engine	563 hp	ULSD	29.0 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	500 hr/yr	0.0012 tonne/year
115	ACRV Heater No. 1	0.175 MMBtu/hr	ULSD	1.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0009 tonne/year
116	ACRV Heater No. 2	0.175 MMBtu/hr	ULSD	1.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0009 tonne/year
117	Hot Oil Unit Engine	375 hp	ULSD	19.2 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0139 tonne/year
118	Air Compressor Generator Engine	61 hp	ULSD	3.1 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0023 tonne/year
119	Light Plant Generator Engine No. 1	28 hp	ULSD	1.4 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0010 tonne/year
120	Light Plant Generator Engine No. 2	28 hp	ULSD	1.4 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0010 tonne/year
121	Light Plant Generator Engine No. 3	28 hp	ULSD	1.4 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0010 tonne/year
122	Light Plant Generator Engine No. 4	28 hp	ULSD	1.4 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0010 tonne/year
123	Portable Moving Generator Engine No. 1	32 hp	ULSD	1.6 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0012 tonne/year
124	Portable Moving Generator Engine No. 2	32 hp	ULSD	1.6 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0012 tonne/year
125	Portable Moving Generator Engine No. 3	32 hp	ULSD	1.6 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0012 tonne/year
126	Freeze Protection Generator Engine No. 1	99 hp	ULSD	5.1 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0037 tonne/year
127	Freeze Protection Generator Engine No. 2	99 hp	ULSD	5.1 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0037 tonne/year
128	Freeze Protection Generator Engine No. 3	99 hp	ULSD	5.1 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0037 tonne/year
129	Ground Heater Engine	10.9 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0005 tonne/year
130	Ground Heater	0.28 MMBtu/hr	ULSD	2.0 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0015 tonne/year
131	Portable Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0053 tonne/year
132	Portable Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0053 tonne/year
133	Portable Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0053 tonne/year
134	Portable Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0053 tonne/year
135	Portable Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0053 tonne/year
136	Portable Heater No. 6	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0053 tonne/year
137	Portable Heater No. 7	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0053 tonne/year
138	Portable Heater No. 8	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0053 tonne/year
139	Portable Heater Engine No. 1	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0005 tonne/year
140	Portable Heater Engine No. 2	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0005 tonne/year
141	Portable Heater Engine No. 3	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0005 tonne/year
142	Portable Heater Engine No. 4	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0005 tonne/year
143	Portable Heater Engine No. 5	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0005 tonne/year
144	Portable Heater Engine No. 6	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0005 tonne/year
145	Portable Heater Engine No. 7	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0005 tonne/year
146	Portable Heater Engine No. 8	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0005 tonne/year
147	Used Oil-fired Heater	0.5 MMBtu/hr	Used Oil/ULSD	3.6 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0026 tonne/year
148	Production Support Engine	400 hp	ULSD	20.4 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0148 tonne/year
149	Refrigeration Unit (Reefer) Engine	24.8 hp	ULSD	1.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0009 tonne/year
150	Fuel Gas-fired Heater	80.5 MMBtu/hr	Fuel Gas	0.08 MMscf/hr	Table C-2, 40 CFR 98	1.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0705 tonne/year
151	Gas-fired TEG Regeneration Heater	4.3 MMBtu/hr	Fuel Gas	0.004 MMscf/hr	Table C-2, 40 CFR 98	1.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0038 tonne/year
246	Waste Incinerator	250 lb/hr	Trash	250 lb/hr	Table C-2, 40 CFR 98	4.20E-03 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0458 tonne/year
			ULSD	25.0 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0181 tonne/year
								Total Potential N_2O Emissions Excluding Nonroad Engines	**0.7885 tonne/year**
								Total Potential N_2O Emissions for Nonroad Engines	**0.0394 tonne/year**
								Total Potential N_2O Emissions for All Emission Units	**0.8279 tonne/year**

Notes:
[1] Heat rate for diesel engines 7,000 Btu/hp-hr
[2] NRE = Nonroad Engine
[3] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.10
[4] Diesel high heat value 0.138 MMBtu/gallon
[5] Pipeline natural gas default high heat value 1.026E-03 MMBtu/scf
[6] Municipal solid waste default high heat value 9.95 MMBtu/short ton

Table 14. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
Point Thomson Unit (PTU) Gas Expansion - Operations

Hazardous Air Pollutant	Fuel Gas-fired Turbines	Dual Fuel-fired Turbines	Flares	Waste Incinerator	Fuel Gas-fired Heaters	ULSD Heaters	Used Oil-fired Heater[1]	ULSD Engines ≤600 hp	ULSD Engines >600 hp	Stationary Emission Unit HAP Emissions[2]	Nonroad Engines ≤600 hp	Nonroad Engines >600 hp	Nonroad Engine HAP Emissions[2]
Acetaldehyde	3.05E-02	2.12E-02	3.23E-03	----	1.12E-03	----	----	1.07E-02	4.10E-04	**0.07**	2.56E-02	----	**0.03**
Acrolein	4.88E-03	3.39E-03	7.50E-04	----	9.78E-04	----	----	1.30E-03	1.28E-04	**0.01**	3.09E-03	----	**0.00**
Benzene	9.15E-03	1.82E-02	1.19E-02	----	2.10E-03	1.14E-04	----	1.31E-02	1.26E-02	**0.07**	3.11E-02	----	**0.03**
1,3-Butadiene	3.28E-04	3.69E-03	----	----	----	----	----	5.48E-04	----	**0.00**	1.30E-03	----	**0.00**
Dibutylphthalate	----	----	----	----	----	----	5.32E-07	----	----	**0.00**	----	----	
Dichlorobenzene	----	----	----	----	----	----	0.00E+00	----	----		----	----	
Ethylbenzene	2.44E-02	1.70E-02	1.08E-01	----	2.50E-03	3.38E-05	----	----	----	**0.15**	----	----	
Formaldehyde	5.42E-01	4.37E-01	8.77E-02	----	4.45E-03	1.75E-02	----	1.65E-02	1.28E-03	**1.11**	3.94E-02	----	**0.04**
Hexane	----	----	2.18E-03	----	1.67E-03	----	----	----	----	**0.00**	----	----	
N-Hexane	----	----	----	----	----	----	----	----	----		----	----	
Hydrochloric acid (HCl)	----	----	----	3.50E+00	----	----	----	----	----	**3.50**	----	----	
Phenol	----	----	----	----	----	----	4.38E-07	----	----	**0.00**	----	----	
Polycyclic Organic Matter (POM)	1.68E-03	9.81E-03	1.05E-03	----	1.45E-04	1.75E-03	----	2.35E-03	3.45E-03	**0.02**	5.60E-03	----	**0.01**
Acenaphthene	----	----	----	----	----	----	----	----	----		----	----	
Acenaphthylene	----	----	----	----	----	----	----	----	----		----	----	
Anthracene	----	----	----	----	----	----	----	----	----		----	----	
Benz(a)anthracene	----	----	----	----	----	----	0.00E+00	----	----		----	----	
Benzo(a)pyrene	----	----	----	----	----	----	0.00E+00	----	----		----	----	
Benzo(b)fluoranthene	----	----	----	----	----	----	----	----	----		----	----	
Benzo(g,h,i)perylene	----	----	----	----	----	----	----	----	----		----	----	
Benzo(k)fluoranthene	----	----	----	----	----	----	----	----	----		----	----	
Dibenz(a,h)anthracene	----	----	----	----	----	----	----	----	----		----	----	
7,12-Dimethylbenz[a]Anthracene	----	----	----	----	----	----	----	----	----		----	----	
Fluorene	----	----	----	----	----	----	----	----	----		----	----	
Fluoranthene	----	----	----	----	----	----	----	----	----		----	----	
Indeno(1,2,3-cd)pyrene	----	----	----	----	----	----	----	----	----		----	----	
2-Methylnaphthalene	----	----	----	----	----	----	----	----	----		----	----	
3-Methylcholanthrene	----	----	----	----	----	----	----	----	----		----	----	
Naphthalene	9.92E-04	8.25E-03	----	----	----	6.01E-04	1.44E-06	----	----	**0.01**	----	----	
Phenanthrene	----	----	----	----	----	----	1.56E-06	----	----	**0.00**	----	----	
Pyrene	----	----	----	----	----	----	1.30E-07	----	----	**0.00**	----	----	
Propylene oxide	2.21E-02	1.54E-02	----	----	----	----	----	----	----	**0.04**	----	----	
Toluene	9.92E-02	6.89E-02	4.35E-03	----	2.10E-02	3.30E-03	----	5.73E-03	4.58E-03	**0.21**	1.36E-02	----	**0.01**
1,1,1-Trichloroethane	----	----	----	----	----	1.25E-04	0.00E+00	----	----	**0.00**	----	----	
Xylenes (isomers and mixture)	4.88E-02	3.39E-02	2.18E-03	----	7.13E-03	5.80E-05	----	3.99E-03	3.14E-03	**0.10**	9.51E-03	----	**0.01**
Antimony Compounds	----	----	----	----	----	----	7.04E-06	----	----	**0.00**	----	----	
Arsenic Compounds	----	2.38E-03	----	2.39E-03	----	2.91E-04	9.39E-04	----	----	**0.01**	----	----	
Beryllium Compounds	----	6.70E-05	----	----	----	2.19E-04	2.82E-05	----	----	**0.00**	----	----	
Cadmium Compounds	----	1.04E-03	----	5.97E-03	----	2.19E-04	1.88E-04	----	----	**0.01**	----	----	
Chromium Compounds	----	2.38E-03	----	4.91E-03	----	2.19E-04	2.82E-03	----	----	**0.01**	----	----	
Cobalt Compounds	----	----	----	----	----	----	8.13E-05	----	----	**0.00**	----	----	
Lead Compounds	----	3.03E-03	----	1.17E-01	----	6.56E-04	----	----	----	**0.12**	----	----	
Manganese Compounds	----	1.71E-01	----	----	----	4.37E-04	7.82E-04	----	----	**0.17**	----	----	
Mercury Compounds	----	2.59E-04	----	3.07E-03	----	2.19E-04	----	----	----	**0.00**	----	----	
Nickel Compounds	----	9.94E-04	----	4.30E-03	----	2.19E-04	2.50E-03	----	----	**0.01**	----	----	
Selenium Compounds	----	5.40E-03	----	----	----	1.09E-03	0.00E+00	----	----	**0.01**	----	----	

Total HAPs - Maximum Individual HAP	**----**	**----**	**----**	**----**	**----**	**----**	----	**----**	**----**	**3.50**	**----**	**----**	**0.04**
Total VOC HAP Emissions	**0.78**	**0.63**	**0.22**	**0.00**	**0.04**	**0.02**	**0.00**	**0.05**	**0.03**	**1.78**	**0.13**	**0.00**	**0.14**
Total HAPs Emissions	**0.78**	**0.82**	**0.22**	**3.64**	**0.04**	**0.03**	**0.01**	**0.05**	**0.03**	**5.62**	**0.13**	**0.00**	**0.13**

Notes:
[1] For used oil-fired heaters, AP-42 lists individual POMs and not a combined POM emission factor.
[2] See individual emissions unit category emissions calculations for details on methodology and assumptions.
[3] AP-42 is unclear if the value for PAH includes naphthalene. The emission factor for PAH is included and listed under polycylic organic matter.

Table 15. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
Fuel Gas-fired Turbines

Maximum Total Heat Input: 1,525,817 MMBtu/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations	
CAS No.	**Chemical Name**	**Emission Factor**	**Estimated Emissions**
106990	1,3-Butadiene	4.30E-07 lb/MMBtu	3.28E-04 tpy
75070	Acetaldehyde	4.00E-05 lb/MMBtu	3.05E-02 tpy
107028	Acrolein	6.40E-06 lb/MMBtu	4.88E-03 tpy
71432	Benzene	1.20E-05 lb/MMBtu	9.15E-03 tpy
100414	Ethylbenzene	3.20E-05 lb/MMBtu	2.44E-02 tpy
5000	Formaldehyde	7.10E-04 lb/MMBtu	5.42E-01 tpy
91203	Naphthalene	1.30E-06 lb/MMBtu	9.92E-04 tpy
N/A	Polycyclic Organic Matter (POM)	2.20E-06 lb/MMBtu	1.68E-03 tpy
75569	Propylene oxide	2.90E-05 lb/MMBtu	2.21E-02 tpy
108883	Toluene	1.30E-04 lb/MMBtu	9.92E-02 tpy
1330207	Xylenes (isomers and mixture)	6.40E-05 lb/MMBtu	4.88E-02 tpy

Total Potential HAP Emissions: 0.78 tpy

Notes/Comments:

[1] Reference: AP-42, Table 3.1-3.

[2] AP-42, Table 3.1-3 is unclear if the value for PAH includes Naphthalene.
The emission factor for PAH is included and listed under Polycylic Organic Matter.

[3] Total heat consumption based on maximum full-time or permit-limited operation as noted below:

(2) 7,520 kW Solar Taurus 70 Turbines 87.09 MMBtu/hr, each

Potential Heat Input: EU 101 762,908 MMBtu/yr, operating 8,760 hr/yr

Potential Heat Input: EU 102 762,908 MMBtu/yr, operating 8,760 hr/yr

Total Potential Heat Input: 1,525,817 MMBtu/yr

[4] Capacity of the turbines is the nominal capacity at ISO conditions.

Table 16. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
Dual Fuel-fired Turbines

Maximum Total Heat Input on Fuel Gas: 1,059,885 MMBtu/yr
Maximum Total Heat Input on Fuel ULSD: 432,225 MMBtu/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations	
CAS No.	**Chemical Name**	**Emission Factor**	**Estimated Emissions**
75070	Acetaldehyde	4.00E-05 lb/MMBtu	2.12E-02 tpy from fuel gas
107028	Acrolein	6.40E-06 lb/MMBtu	3.39E-03 tpy from fuel gas
100414	Ethylbenzene	3.20E-05 lb/MMBtu	1.70E-02 tpy from fuel gas
5000	Formaldehyde	7.10E-04 lb/MMBtu	3.76E-01 tpy from fuel gas
5000	Formaldehyde	2.80E-04 lb/MMBtu	6.05E-02 tpy from ULSD
75569	Propylene oxide	2.90E-05 lb/MMBtu	1.54E-02 tpy from fuel gas
108883	Toluene	1.30E-04 lb/MMBtu	6.89E-02 tpy from fuel gas
1330207	Xylenes (isomers and mixture)	6.40E-05 lb/MMBtu	3.39E-02 tpy from fuel gas
106990	1,3-Butadiene	4.30E-07 lb/MMBtu	2.28E-04 tpy from fuel gas
106990	1,3-Butadiene	1.60E-05 lb/MMBtu	3.46E-03 tpy from ULSD
71432	Benzene	1.20E-05 lb/MMBtu	6.36E-03 tpy from fuel gas
71432	Benzene	5.50E-05 lb/MMBtu	1.19E-02 tpy from ULSD
91203	Naphthalene	1.30E-06 lb/MMBtu	6.89E-04 tpy from fuel gas
91203	Naphthalene	3.50E-05 lb/MMBtu	7.56E-03 tpy from ULSD
N/A	Polycyclic Organic Matter (POM)	2.20E-06 lb/MMBtu	1.17E-03 tpy from fuel gas
N/A	Polycyclic Organic Matter (POM)	4.00E-05 lb/MMBtu	8.64E-03 tpy from ULSD
107028	Arsenic Compounds	1.10E-05 lb/MMBtu	2.38E-03 tpy from ULSD
NA	Beryllium Compounds	3.10E-07 lb/MMBtu	6.70E-05 tpy from ULSD
NA	Cadmium Compounds	4.80E-06 lb/MMBtu	1.04E-03 tpy from ULSD
71432	Chromium Compounds	1.10E-05 lb/MMBtu	2.38E-03 tpy from ULSD
NA	Lead Compounds	1.40E-05 lb/MMBtu	3.03E-03 tpy from ULSD
NA	Manganese Compounds	7.90E-04 lb/MMBtu	1.71E-01 tpy from ULSD
NA	Mercury Compounds	1.20E-06 lb/MMBtu	2.59E-04 tpy from ULSD
NA	Nickel Compounds	4.60E-06 lb/MMBtu	9.94E-04 tpy from ULSD
NA	Selenium Compounds	2.50E-05 lb/MMBtu	5.40E-03 tpy from ULSD

Total Potential HAP Emissions: 0.82 tpy

Notes/Comments:

[1] Reference: AP-42, Tables 3.1-3, 3.1-4, and 3.1-5.

[2] AP-42, Table 3.1-3 is unclear if the value for PAH includes Naphthalene.
The emission factor for PAH is included and listed under Polycylic Organic Matter.

[3] Total heat consumption based on maximum full-time or permit-limited operation as noted below:

(2) 7,520 kW Solar Taurus 70 Turbines
82.52 MMBtu/hr, each maximum heat consumption on ULSD
87.09 MMBtu/hr, each maximum heat consumption on fuel gas
56.07 MMBtu/hr, each maximum heat consumption on ULSD, operating out of SoLoNOx mode

Potential Heat Input:	EU 103	514,702	MMBtu/yr, operating on fuel gas	5,910 hr/yr
		206,300	MMBtu/yr, operating on ULSD	2,500 hr/yr
Potential Heat Input:	EU 104	545,183	MMBtu/yr, operating on fuel gas	6,260 hr/yr
		206,300	MMBtu/yr, operating on ULSD	2,500 hr/yr
Potential Heat Input (Out of SoLoNOx Mode):	EUs 103/104 (combined)	19,625	MMBtu/yr, operating on ULSD	350 hr/yr

Total Potential Heat Input on Fuel Gas: 1,059,885 MMBtu/yr
Total Potential Heat Input on ULSD: 432,225 MMBtu/yr

[4] HAP metal emissions only occur when the turbines fire ULSD.

[5] Higher formaldehyde emissions when the turbines fire fuel gas. Higher 1,3-Butadiene, Benzene, Napthalene, and POM emissions when the turbines fire ULSD.

[6] Formaldehyde, 1,3-Butadiene, Benzene, Napthalene, and POM emissions are conservatively calculated to include turbines operating out of SoLoNOx mode on ULSD.

[7] Capacity of the turbines is the nominal capacity at ISO conditions.

Table 17. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
Flares

Maximum Total Capacity: 150 MMscf/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations	
CAS No.	**Chemical Name**	**Emission Factor**	**Estimated Emissions**
75070	Acetaldehyde	4.30E-02 lb/MMscf	3.23E-03 tpy
107028	Acrolein	1.00E-02 lb/MMscf	7.50E-04 tpy
100414	Ethylbenzene	1.44E+00 lb/MMscf	1.08E-01 tpy
5000	Formaldehyde	1.17E+00 lb/MMscf	8.77E-02 tpy
108883	Toluene	5.80E-02 lb/MMscf	4.35E-03 tpy
1330207	Xylenes (isomers and mixture)	2.90E-02 lb/MMscf	2.18E-03 tpy
71432	Benzene	1.59E-01 lb/MMscf	1.19E-02 tpy
NA	Polycyclic Organic Matter (POM)	1.40E-02 lb/MMscf	1.05E-03 tpy
NA	Hexane	2.90E-02 lb/MMscf	2.18E-03 tpy

Total Potential HAP Emissions: 0.22 tpy

Notes/Comments:
[1] Reference: VCAPCD
[2] Total heat consumption based on maximum full-time or permit-limited operation as noted below:

(2) Flares

Potential Heat Input: EU 112 130 MMscf/yr
EU 113 20 MMscf/yr

Total Capacity: 150 MMscf/yr

Table 18. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
Waste Incinerator

Maximum Total Usage: 2,190,000 lb/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations	
CAS No.	**Chemical Name**	**Emission Factor**	**Estimated Emissions**
N/A	Arsenic Compounds	4.37E-03 lb/ton	2.39E-03 tpy
N/A	Cadmium Compounds	1.09E-02 lb/ton	5.97E-03 tpy
N/A	Chromium Compounds	8.97E-03 lb/ton	4.91E-03 tpy
N/A	Mercury Compounds	5.60E-03 lb/ton	3.07E-03 tpy
N/A	Nickel Compounds	7.85E-03 lb/ton	4.30E-03 tpy
N/A	Lead Compounds	2.13E-01 lb/ton	1.17E-01 tpy
7647	Hydrochloric acid (HCl)	6.40E+00 lb/ton	3.50E+00 tpy

Total Potential HAP Emissions: 3.64 tpy

Notes/Comments:
[1] Reference: AP-42, Table 2.1-2
[2] Total heat consumption based on maximum full-time or permit-limited operation as noted below:

(1) Incinerator 250 lb/hr

Potential Operations: EU 246 2,190,000 lb/yr, operating 8,760 hr/yr

Total Potential Operations: 2,190,000 lb/yr

Table 17. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
Fuel Gas-fired Heater

Maximum Total Capacity: 724 MMscf/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations	
CAS No.	**Chemical Name**	**Emission Factor**	**Estimated Emissions**
75070	Acetaldehyde	3.10E-03 lb/MMscf	1.12E-03 tpy
107028	Acrolein	2.70E-03 lb/MMscf	9.78E-04 tpy
100414	Ethylbenzene	6.90E-03 lb/MMscf	2.50E-03 tpy
5000	Formaldehyde	1.23E-02 lb/MMscf	4.45E-03 tpy
108883	Toluene	5.80E-02 lb/MMscf	2.10E-02 tpy
1330207	Xylenes (isomers and mixture)	1.97E-02 lb/MMscf	7.13E-03 tpy
71432	Benzene	5.80E-03 lb/MMscf	2.10E-03 tpy
NA	Polycyclic Organic Matter (POM)	4.00E-04 lb/MMscf	1.45E-04 tpy
NA	Hexane	4.60E-03 lb/MMscf	1.67E-03 tpy

Total Potential HAP Emissions: 0.04 tpy

Notes/Comments:
[1] Reference: VCAPCD
[2] Total heat consumption based on maximum full-time or permit-limited operation as noted below:

(1) Fuel Gas-fired Heater	80.5 MMBtu/hr				
Potential Heat Input:	EU 150	705,180	MMBtu/yr, operating	8,760	hr/yr
(1) Gas-fired TEG Regeneration Heater	4.3 MMBtu/hr				
Potential Heat Input:	EU 151	37,778	MMBtu/yr, operating	8,760	hr/yr

[3] High pressure fuel gas has a heat content of 1,026 Btu/scf.

Total Capacity: 724 MMscf/yr

Table 20. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
ULSD-fired Heaters

Maximum Total Heat Input: 145,679 MMBtu/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations	
CAS No.	**Chemical Name**	**Emission Factor**	**Estimated Emissions**
NA	Arsenic Compounds	4.00E-06 lb/MMBtu	2.91E-04 tpy
71-43-2	Benzene	1.56E-06 lb/MMBtu	1.14E-04 tpy
NA	Beryllium Compounds	3.00E-06 lb/MMBtu	2.19E-04 tpy
NA	Cadmium Compounds	3.00E-06 lb/MMBtu	2.19E-04 tpy
NA	Chromium Compounds	3.00E-06 lb/MMBtu	2.19E-04 tpy
100-41-4	Ethylbenzene	4.64E-07 lb/MMBtu	3.38E-05 tpy
50-00-0	Formaldehyde	2.41E-04 lb/MMBtu	1.75E-02 tpy
NA	Lead Compounds	9.00E-06 lb/MMBtu	6.56E-04 tpy
NA	Manganese Compounds	6.00E-06 lb/MMBtu	4.37E-04 tpy
NA	Mercury Compounds	3.00E-06 lb/MMBtu	2.19E-04 tpy
91-20-3	Naphthalene	8.25E-06 lb/MMBtu	6.01E-04 tpy
NA	Nickel Compounds	3.00E-06 lb/MMBtu	2.19E-04 tpy
NA	Polycyclic Organic Matter (POM)	2.41E-05 lb/MMBtu	1.75E-03 tpy
NA	Selenium Compounds	1.50E-05 lb/MMBtu	1.09E-03 tpy
108-88-3	Toluene	4.53E-05 lb/MMBtu	3.30E-03 tpy
71-55-6	1,1,1-Trichloroethane	1.72E-06 lb/MMBtu	1.25E-04 tpy
1330-20-7	Xylenes (isomers and mixture)	7.96E-07 lb/MMBtu	5.80E-05 tpy

Total Potential HAP Emissions: 0.03 tpy

Notes/Comments:

[1] Reference: AP-42, Tables 1.3-8, 1.3-9, and 1.3-10.

[2] AP-42, Table 1.3-8 unclear if the value for PAH includes Naphthalene.
The emission factor for PAH is included and listed under Polycyclic Organic Matter.

[3] Total fuel use based on maximum full-time operation or permit-limited operation as noted below:

(1) Hot Oil Unit Heater	8.0 MMBtu/hr			
Potential Heat Input:	EU 96	70,080 MMBtu/yr, operating	8,760 hr/yr	
(2) ACRV Heaters	0.2 MMBtu/hr, each			
Potential Heat Input:	EU 115	1,533 MMBtu/yr, operating	8,760 hr/yr	
Potential Heat Input:	EU 116	1,533 MMBtu/yr, operating	8,760 hr/yr	
(1) Ground Heater	0.3 MMBtu/hr			
Potential Heat Input:	EU 130	2,453 MMBtu/yr, operating	8,760 hr/yr	
(8) Portable Heaters	1.0 MMBtu/hr, each			
Potential Heat Input:	EU 131	8,760 MMBtu/yr, operating	8,760 hr/yr	
Potential Heat Input:	EU 132	8,760 MMBtu/yr, operating	8,760 hr/yr	
Potential Heat Input:	EU 133	8,760 MMBtu/yr, operating	8,760 hr/yr	
Potential Heat Input:	EU 134	8,760 MMBtu/yr, operating	8,760 hr/yr	
Potential Heat Input:	EU 135	8,760 MMBtu/yr, operating	8,760 hr/yr	
Potential Heat Input:	EU 136	8,760 MMBtu/yr, operating	8,760 hr/yr	
Potential Heat Input:	EU 137	8,760 MMBtu/yr, operating	8,760 hr/yr	
Potential Heat Input:	EU 138	8,760 MMBtu/yr, operating	8,760 hr/yr	

Total Potential Heat Input: 145,679 MMBtu/yr

[4] Diesel high heat value: 137,000 Btu/gal

Table 21. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
Used Oil-fired Heater

Maximum Total Heat Input: 4,380 MMBtu/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations	
CAS No.	**Chemical Name**	**Emission Factor**	**Estimated Emissions**
NA	Antimony Compounds	3.21E-06 lb/MMBtu	7.04E-06 tpy
NA	Arsenic Compounds	4.29E-04 lb/MMBtu	9.39E-04 tpy
56-55-3	Benz(a)anthracene	ND	0 tpy
50-32-8	Benzo(a)pyrene	ND	0 tpy
NA	Beryllium Compounds	1.29E-05 lb/MMBtu	2.82E-05 tpy
117-81-7	Bis(2-ethylhexyl)phthalate	ND	0 tpy
NA	Cadmium Compounds	8.57E-05 lb/MMBtu	1.88E-04 tpy
NA	Chromium Compounds	1.29E-03 lb/MMBtu	2.82E-03 tpy
NA	Cobalt Compounds	3.71E-05 lb/MMBtu	8.13E-05 tpy
84-74-2	Dibutylphthalate	2.43E-07 lb/MMBtu	5.32E-07 tpy
95-50-1	Dichlorobenzene	ND	0 tpy
NA	Manganese Compounds	3.57E-04 lb/MMBtu	7.82E-04 tpy
91-20-3	Naphthalene	6.57E-07 lb/MMBtu	1.44E-06 tpy
NA	Nickel Compounds	1.14E-03 lb/MMBtu	2.50E-03 tpy
85-01-8	Phenanthrene	7.14E-07 lb/MMBtu	1.56E-06 tpy
108-95-2	Phenol	2.00E-07 lb/MMBtu	4.38E-07 tpy
7723-14-0	Phosphorus	ND	0 tpy
129-00-0	Pyrene	5.93E-08 lb/MMBtu	1.30E-07 tpy
71-55-6	1,1,1-Trichloroethane	ND	0 tpy
NA	Selenium Compounds	BDL	0 tpy

Total Potential HAP Emissions: 0.01 tpy

Notes/Comments:

[1] Reference: AP-42, Tables 1.11-4 and 1.11-5

[2] Total fuel use based on maximum full-time operation or permit-limited operation as noted below:

(1) Used Oil-fired Heater 0.5 MMBtu/hr

Potential Heat Input: EU 147 4,380 MMBtu/yr, operating 8,760 hr/yr

Total Potential Heat Input: 4,380 MMBtu/yr

[3] AP-42, Chapter 1.11 used oil heating value: 140,000 Btu/gal

[4] For used oil-fired heaters, AP-42 lists individual POMs and not a combined POM emission factor.

[5] ND = No Data

[6] BDL = Below Detection Limit

Table 22. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
ULSD Engines Less Than or Equal to 600 Horsepower

Maximum Total Heat Input: 28,019 MMBtu/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations		
CAS No.	**Chemical Name**	**Emission Factor**		**Estimated Emissions**
75-07-0	Acetaldehyde	7.67E-04	lb/MMBtu	1.07E-02 tpy
107-02-8	Acrolein	9.25E-05	lb/MMBtu	1.30E-03 tpy
71-43-2	Benzene	9.33E-04	lb/MMBtu	1.31E-02 tpy
106-99-0	1,3-Butadiene	3.91E-05	lb/MMBtu	5.48E-04 tpy
50-00-0	Formaldehyde	1.18E-03	lb/MMBtu	1.65E-02 tpy
108-88-3	Toluene	4.09E-04	lb/MMBtu	5.73E-03 tpy
1330-20-7	Xylenes (isomers and mixture)	2.85E-04	lb/MMBtu	3.99E-03 tpy
NA	Polycyclic Organic Matter (POM)	1.68E-04	lb/MMBtu	2.35E-03 tpy

Total Potential HAP Emissions: 0.05 tpy

Notes/Comments:

[1] Reference: AP-42, Table 3.3-2.

[2] The emission factor for PAH is included and listed under Polycyclic Organic Matter.

[3] Total fuel use based on maximum full-time operation or permit-limited operation as noted below:

(1) Airstrip Generator Engine	563 hp				
Potential Heat Input:	EU 114	1,971	MMBtu/yr, operating	500	hr/yr
(1) Production Support Engine	400 hp				
Potential Heat Input:	EU 148	24,528	MMBtu/yr, operating	8,760	hr/yr
(1) Refrigeration Unit (Reefer) Engine	24.8 hp				
Potential Heat Input:	EU 149	1,521	MMBtu/yr, operating	8,760	hr/yr

Total Potential Heat Input: 28,019 MMBtu/yr

[4] Diesel engines heat rate: 7,000 Btu/hp-hr

Table 23. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
ULSD Engines Greater Than 600 Horsepower

Maximum Total Heat Input: 32,568 MMBtu/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations		
CAS No.	**Chemical Name**	**Emission Factor**		**Estimated Emissions**
75-07-0	Acetaldehyde	2.52E-05	lb/MMBtu	4.10E-04 tpy
107-02-8	Acrolein	7.88E-06	lb/MMBtu	1.28E-04 tpy
71-43-2	Benzene	7.76E-04	lb/MMBtu	1.26E-02 tpy
50-00-0	Formaldehyde	7.89E-05	lb/MMBtu	1.28E-03 tpy
108-88-3	Toluene	2.81E-04	lb/MMBtu	4.58E-03 tpy
1330-20-7	Xylenes (isomers and mixture)	1.93E-04	lb/MMBtu	3.14E-03 tpy
NA	Polycyclic Organic Matter (POM)	2.12E-04	lb/MMBtu	3.45E-03 tpy

Total Potential HAP Emissions: 0.03 tpy

Notes/Comments:

[1] Reference: AP-42, Table 3.4-3, 3.4-4.

[2] The emission factor for PAH is included and listed under Polycyclic Organic Matter.

[3] Total fuel use based on maximum full-time operation or permit-limited operation as noted below:

(3) Standby Camp Generator Engines	2695	hp, each			
Potential Heat Input:	EU 107	9,433	MMBtu/yr, operating	500	hr/yr
Potential Heat Input:	EU 108	9,433	MMBtu/yr, operating	500	hr/yr
Potential Heat Input:	EU 109	9,433	MMBtu/yr, operating	500	hr/yr
(2) Fine Water Mist Pump Engines	610	hp, each			
Potential Heat Input:	EU 110	2,135	MMBtu/yr, operating	500	hr/yr
Potential Heat Input:	EU 111	2,135	MMBtu/yr, operating	500	hr/yr

Total Potential Heat Input: 32,568 MMBtu/yr

[4] Diesel engines heat rate: 7,000 Btu/hp-hr

Table 24. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
ULSD Nonroad Engines Less Than or Equal to 600 Horsepower

Maximum Total Heat Input: 66,710 MMBtu/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations	
CAS No.	**Chemical Name**	**Emission Factor**	**Estimated Emissions**
75-07-0	Acetaldehyde	7.67E-04 lb/MMBtu	2.56E-02 tpy
107-02-8	Acrolein	9.25E-05 lb/MMBtu	3.09E-03 tpy
71-43-2	Benzene	9.33E-04 lb/MMBtu	3.11E-02 tpy
106-99-0	1,3-Butadiene	3.91E-05 lb/MMBtu	1.30E-03 tpy
50-00-0	Formaldehyde	1.18E-03 lb/MMBtu	3.94E-02 tpy
108-88-3	Toluene	4.09E-04 lb/MMBtu	1.36E-02 tpy
1330-20-7	Xylenes (isomers and mixture)	2.85E-04 lb/MMBtu	9.51E-03 tpy
NA	Polycyclic Organic Matter (POM)	1.68E-04 lb/MMBtu	5.60E-03 tpy

Total Potential HAP Emissions: 0.13 tpy

Notes/Comments:

[1] Reference: AP-42, Table 3.3-2.

[2] Total fuel use based on maximum full-time operation.

(21) Nonroad Engines ≤ 600 hp 1,088 hp

Potential Heat Input: 66,710 MMBtu/yr, operating 8,760 hr/yr

Total Potential Heat Input: 66,710 MMBtu/yr

[3] Diesel engines heat rate: 7,000 Btu/hp-hr

Table 25. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
ULSD Nonroad Engines Greater Than 600 Horsepower

Maximum Total Heat Input: 0 MMBtu/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations	
CAS No.	**Chemical Name**	**Emission Factor**	**Estimated Emissions**
75-07-0	Acetaldehyde	2.52E-05 lb/MMBtu	0.00E+00 tpy
107-02-8	Acrolein	7.88E-06 lb/MMBtu	0.00E+00 tpy
71-43-2	Benzene	7.76E-04 lb/MMBtu	0.00E+00 tpy
50-00-0	Formaldehyde	7.89E-05 lb/MMBtu	0.00E+00 tpy
108-88-3	Toluene	2.81E-04 lb/MMBtu	0.00E+00 tpy
1330-20-7	Xylenes (isomers and mixture)	1.93E-04 lb/MMBtu	0.00E+00 tpy
NA	Polycyclic Organic Matter (POM)	2.12E-04 lb/MMBtu	0.00E+00 tpy

Total Potential HAP Emissions: 0.00 tpy

Notes/Comments:
[1] Reference: AP-42, Table 3.4-3, 3.4-4.
[2] Total fuel use based on maximum full-time operation.

(0) Nonroad Engines > 600 hp 0 hp
Potential Heat Input: 0 MMBtu/yr, operating 8,760 hr/yr

Total Potential Heat Input: 0 MMBtu/yr

[3] Diesel engines heat rate: 7,000 Btu/hp-hr

Attachment A-2
Gas Expansion Project – Drilling Campaign
Criteria Pollutant, Greenhouse Gas, and Hazardous Air Pollutant Emissions

Table 1.a. Potential Emissions Summary
Point Thomson Unit (PTU) Gas Expansion - Drilling

Pollutant	Stationary Emission Units Potential Emissions	Nonroad Engines Potential Emissions	Total Potential Emissions
NO_X	200.8 tpy	1,641.8 tpy	1,842.6 tpy
CO	77.0 tpy	479.9 tpy	556.9 tpy
PM/PM_{10}	7.8 tpy	37.5 tpy	45.4 tpy
$PM_{2.5}$	6.2 tpy	37.5 tpy	43.7 tpy
VOC	17.8 tpy	186.2 tpy	204.0 tpy
SO_2	0.6 tpy	1.2 tpy	1.8 tpy
Pb	0.003 tpy	0.0 tpy	0.003 tpy

Table 1.b. Potential Greenhouse Gas Emissions Summary
Point Thomson Unit (PTU) Gas Expansion - Drilling

Pollutant	Stationary Emission Units Potential Emissions	Nonroad Engines Potential Emissions	Total Potential Emissions
CO_2	60,077 tonne/year	111,219 tonne/year	171,296 tonne/year
CH_4	2.437 tonne/year	4.511 tonne/year	6.948 tonne/year
N_2O	0.4874 tonne/year	0.9023 tonne/year	1.3896 tonne/year
CO_2e	60,283 tonne/year	111,600 tonne/year	171,883 tonne/year

Table 1.c. Potential HAPs Emissions Summary
Point Thomson Unit (PTU) Gas Expansion - Drilling

Pollutant	Stationary Emission Units Potential Emissions	Nonroad Engines Potential Emissions	Total Potential Emissions
Total HAPs	0.32 tpy	1.47 tpy	1.78 tpy
Benzene	0.09 tpy	0.61 tpy	0.70 tpy
Formaldehyde	0.11 tpy	0.27 tpy	0.39 tpy

Notes:

[1] Potential emissions are based on a 3.5 year drilling campaign. Drilling each well requires approximately five months. Annual emissions are based on drilling two wells per year.

[2] Emission calculations based on AP-42 emission factors, manufacturer data, and mass balances as shown in accompanying spreadsheets.

[3] GHG emissions are defined as CO_2e emissions. CO_2e is the summation of CO_2, CH_4, and N_2O, applying the global warming potential for each pollutant.

Table 2. Significant Emission Unit Inventory
Point Thomson Unit (PTU) Gas Expansion - Drilling

Emission Unit			Fuel	Allowable	Maximum Fuel	Maximum
ID	Description	Make/Model	Type	Operation	Consumption	Capacity
1	Drill Rig Boiler No. 1	TBD	ULSD	8,760 hr/yr	30.0 gal/hr	4.2 MMBtu/hr
2	Drill Rig Boiler No. 2	TBD	ULSD	8,760 hr/yr	45.0 gal/hr	6.3 MMBtu/hr
3	Drill Rig Pipeshed Tioga Air Heater No. 1	TBD	ULSD	8,760 hr/yr	30.0 gal/hr	4.2 MMBtu/hr
4	Drill Rig Pipeshed Tioga Air Heater No. 2	TBD	ULSD	8,760 hr/yr	30.0 gal/hr	4.2 MMBtu/hr
5	Drill Rig Support Boiler No. 1	TBD	ULSD	8,760 hr/yr	45.0 gal/hr	6.3 MMBtu/hr
6	Drill Rig Support Boiler No. 2	TBD	ULSD	8,760 hr/yr	45.0 gal/hr	6.3 MMBtu/hr
7	Bulk Tank Storage Area Boiler No. 1	TBD	ULSD	8,760 hr/yr	35.5 gal/hr	5.16 MMBtu/hr
8	Bulk Tank Storage Area Boiler No. 2	TBD	ULSD	8,760 hr/yr	35.5 gal/hr	5.16 MMBtu/hr
9	Hot Oil Unit Heater	TBD	ULSD	8,760 hr/yr	58.4 gal/hr	8.0 MMBtu/hr
10	Bulk Mud Engine No. 1	TBD	ULSD	8,760 hr/yr	2.8 gal/hr	54 hp
11	Bulk Mud Engine No. 2	TBD	ULSD	8,760 hr/yr	2.8 gal/hr	54 hp
12	Coil Tubing Unit Engine	TBD	ULSD	8,760 hr/yr	3.4 gal/hr	66 hp
13	Bulk Tank Storage Area Generator Engine No. 1	TBD	ULSD	8,760 hr/yr	39.8 gal/hr	779 hp
14	Bulk Tank Storage Area Generator Engine No. 2	TBD	ULSD	8,760 hr/yr	39.8 gal/hr	779 hp
15	Bulk Tank Storage Area Generator Engine No. 3	TBD	ULSD	8,760 hr/yr	8.7 gal/hr	190 hp
16	Bulk Tank Storage Area Generator Engine No. 4	TBD	ULSD	8,760 hr/yr	8.7 gal/hr	190 hp
17	Bulk Tank Storage Area Heater Engine No. 1	TBD	ULSD	8,760 hr/yr	8.6 gal/hr	174 hp
18	Bulk Tank Storage Area Heater Engine No. 2	TBD	ULSD	8,760 hr/yr	8.6 gal/hr	174 hp
19	MOD 201/202 Generator Engine No. 1	TBD	ULSD	8,760 hr/yr	8.8 gal/hr	173 hp
20	Talkeetna Camp Generator Engine No. 1	TBD	ULSD	8,760 hr/yr	25.4 gal/hr	450 hp
21	Talkeetna Camp Generator Engine No. 2	TBD	ULSD	8,760 hr/yr	25.4 gal/hr	450 hp
22	MOD 201/202 Generator Engine No. 2	TBD	ULSD	8,760 hr/yr	8.8 gal/hr	173 hp
23	Well Stimulation Pump Engine No. 1	TBD	ULSD	8,760 hr/yr	111.9 gal/hr	2,250 hp
24	Well Stimulation Pump Engine No. 2	TBD	ULSD	8,760 hr/yr	111.9 gal/hr	2,250 hp
25	Well Stimulation Pump Engine No. 3	TBD	ULSD	8,760 hr/yr	111.9 gal/hr	2,250 hp
26	Well Stimulation Pump Engine No. 4	TBD	ULSD	8,760 hr/yr	42.6 gal/hr	800 hp
27	Well Stimulation Pump Engine No. 5	TBD	ULSD	8,760 hr/yr	42.6 gal/hr	800 hp
28	Well Stimulation Pump Engine No. 6	TBD	ULSD	8,760 hr/yr	42.6 gal/hr	800 hp
29	Well Stimulation Pump Engine No. 7	TBD	ULSD	8,760 hr/yr	42.6 gal/hr	800 hp
30	Well Stimulation Pump Engine No. 8	TBD	ULSD	8,760 hr/yr	42.6 gal/hr	800 hp
31	Well Stimulation Pump Engine No. 9	TBD	ULSD	8,760 hr/yr	42.6 gal/hr	800 hp
32	Well Stimulation Blender Deck Engine	TBD	ULSD	8,760 hr/yr	52.5 gal/hr	1,000 hp
33	Well Stimulation Gel Blender Deck Engine	TBD	ULSD	8,760 hr/yr	26.8 gal/hr	520 hp
34	Well Stimulation Van Engine	TBD	ULSD	8,760 hr/yr	12.8 gal/hr	250 hp
35	Well Stimulation Loads Prop Silo Engine	TBD	ULSD	8,760 hr/yr	2.6 gal/hr	50 hp
36	Drill Rig Generator Engine No. 1	TBD	ULSD	8,760 hr/yr	61.0 gal/hr	1,195 hp
37	Drill Rig Generator Engine No. 2	TBD	ULSD	8,760 hr/yr	61.0 gal/hr	1,195 hp
38	Drill Rig Generator Engine No. 3	TBD	ULSD	8,760 hr/yr	61.0 gal/hr	1,195 hp
39	Drill Rig Generator Engine No. 4	TBD	ULSD	8,760 hr/yr	61.0 gal/hr	1,195 hp
40	Sub-base Cold Start Engine	TBD	ULSD	8,760 hr/yr	15.5 gal/hr	324 hp
41	Mud Module Cold Start Generator Engine	TBD	ULSD	8,760 hr/yr	12.8 gal/hr	250 hp
42	Pump Module Cold Start Generator Engine	TBD	ULSD	8,760 hr/yr	12.8 gal/hr	250 hp
43	Reserve Mud Pit No. 1 Aux Engine	TBD	ULSD	8,760 hr/yr	19.2 gal/hr	399 hp
44	Reserve Mud Pit No. 2 Aux Engine	TBD	ULSD	8,760 hr/yr	19.2 gal/hr	399 hp
45	Drill Rig Generator Engine No. 5	TBD	ULSD	8,760 hr/yr	56.4 gal/hr	1,105 hp
46	Drill Rig Generator Engine No. 6	TBD	ULSD	8,760 hr/yr	56.4 gal/hr	1,104 hp
47	Drill Rig Generator Engine No. 7	TBD	ULSD	8,760 hr/yr	56.6 gal/hr	1,108 hp
48	Drill Rig Generator Engine No. 8	TBD	ULSD	8,760 hr/yr	56.3 gal/hr	1,102 hp
49	Auxiliary Motor Complex Cold Start Generator Engine	TBD	ULSD	8,760 hr/yr	15.5 gal/hr	324 hp
50	Portable Moving Generator Engine No. 1	TBD	ULSD	8,760 hr/yr	5.8 gal/hr	113 hp
51	Portable Moving Generator Engine No. 2	TBD	ULSD	8,760 hr/yr	5.8 gal/hr	113 hp
52	Main Motor Complex Cold Start Generator Engine	TBD	ULSD	8,760 hr/yr	15.5 gal/hr	324 hp
53	Cement Unit Engine No. 1	TBD	ULSD	8,760 hr/yr	17.4 gal/hr	340 hp
54	Cement Unit Engine No. 2	TBD	ULSD	8,760 hr/yr	17.4 gal/hr	340 hp
55	Alaska Camp Generator Engine No. 1	TBD	ULSD	8,760 hr/yr	34.7 gal/hr	732 hp
56	Alaska Camp Generator Engine No. 2	TBD	ULSD	8,760 hr/yr	34.7 gal/hr	732 hp
57	Brine Filtration Generator Engine No. 1	TBD	ULSD	8,760 hr/yr	18.3 gal/hr	374 hp
58	Bulk Tank Storage Area Heater Engine No. 3	TBD	ULSD	8,760 hr/yr	8.6 gal/hr	174 hp
59	Bulk Tank Storage Area Heater Engine No. 4	TBD	ULSD	8,760 hr/yr	8.6 gal/hr	174 hp
60	Bulk Tank Storage Area Heater Engine No. 5	TBD	ULSD	8,760 hr/yr	8.6 gal/hr	174 hp
61	Bulk Tank Storage Area Heater Engine No. 6	TBD	ULSD	8,760 hr/yr	8.6 gal/hr	174 hp
62	Warehouse Generator Engine No. 1	TBD	ULSD	8,760 hr/yr	4.9 gal/hr	96 hp
63	Warehouse Generator Engine No. 2	TBD	ULSD	8,760 hr/yr	4.9 gal/hr	96 hp
64	Drilling Support Engine No. 1	TBD	ULSD	8,760 hr/yr	2.2 gal/hr	43 hp
65	Drilling Support Engine No. 2	TBD	ULSD	8,760 hr/yr	6.1 gal/hr	120 hp
66	Drilling Support Engine No. 3	TBD	ULSD	8,760 hr/yr	6.1 gal/hr	120 hp
67	Drilling Support Engine No. 4	TBD	ULSD	8,760 hr/yr	6.1 gal/hr	120 hp
68	Drilling Support Engine No. 5	TBD	ULSD	8,760 hr/yr	5.9 gal/hr	115 hp
69	Drilling Support Engine No. 6	TBD	ULSD	8,760 hr/yr	5.9 gal/hr	115 hp
70	Brine Filtration Generator Engine No. 2	TBD	ULSD	8,760 hr/yr	18.3 gal/hr	374 hp
71	Cement Unit Engine No. 3	TBD	ULSD	8,760 hr/yr	4.6 gal/hr	91 hp
72	Brine Filtration Support Engine	TBD	ULSD	8,760 hr/yr	3.1 gal/hr	61 hp
73	Bulk Barite Engine	TBD	ULSD	8,760 hr/yr	3.8 gal/hr	75 hp
74	Cement Unit Support Engine	TBD	ULSD	8,760 hr/yr	4.2 gal/hr	83 hp
75	Truck Shop No. 1 Heater No. 1	TBD	ULSD	8,760 hr/yr	1.65 gal/hr	0.229 MMBtu/hr
76	Truck Shop No. 1 Heater No. 2	TBD	ULSD	8,760 hr/yr	1.65 gal/hr	0.229 MMBtu/hr
77	Truck Shop No. 2 Heater No. 1	TBD	ULSD	8,760 hr/yr	1.65 gal/hr	0.229 MMBtu/hr
78	Truck Shop No. 2 Heater No. 2	TBD	ULSD	8,760 hr/yr	1.65 gal/hr	0.229 MMBtu/hr
79	Warehouse Heater No. 1	TBD	ULSD	8,760 hr/yr	18.2 gal/hr	2.5 MMBtu/hr
80	Warehouse Heater No. 2	TBD	ULSD	8,760 hr/yr	18.2 gal/hr	2.5 MMBtu/hr
81	Portable Heater No. 1	TBD	ULSD	8,760 hr/yr	5.1 gal/hr	0.7 MMBtu/hr
82	Portable Heater No. 2	TBD	ULSD	8,760 hr/yr	5.1 gal/hr	0.7 MMBtu/hr
83	Portable Heater No. 3	TBD	ULSD	8,760 hr/yr	5.1 gal/hr	0.7 MMBtu/hr
84	Portable Heater No. 4	TBD	ULSD	8,760 hr/yr	20.1 gal/hr	2.75 MMBtu/hr
85	Portable Heater No. 5	TBD	ULSD	8,760 hr/yr	20.1 gal/hr	2.75 MMBtu/hr
86	Portable Heater No. 6	TBD	ULSD	8,760 hr/yr	20.1 gal/hr	2.75 MMBtu/hr
87	Portable Heater No. 7	TBD	ULSD	8,760 hr/yr	20.1 gal/hr	2.75 MMBtu/hr
88	Portable Heater No. 8	TBD	ULSD	8,760 hr/yr	20.1 gal/hr	2.75 MMBtu/hr
89	Portable Heater No. 9	TBD	ULSD	8,760 hr/yr	20.1 gal/hr	2.75 MMBtu/hr
90	Portable Drill Rig Heater Unit No. 1	TBD	ULSD	8,760 hr/yr	3.6 gal/hr	0.5 MMBtu/hr
91	Portable Drill Rig Heater Unit No. 2	TBD	ULSD	8,760 hr/yr	3.6 gal/hr	0.5 MMBtu/hr
92	Tioga Heater No. 1	TBD	ULSD	8,760 hr/yr	6.6 gal/hr	0.9 MMBtu/hr
93	Tioga Heater No. 2	TBD	ULSD	8,760 hr/yr	6.6 gal/hr	0.9 MMBtu/hr
94	Tioga Heater No. 3	TBD	ULSD	8,760 hr/yr	6.6 gal/hr	0.9 MMBtu/hr
95	Drilling Support Heater No. 1	TBD	ULSD	8,760 hr/yr	7.3 gal/hr	1 MMBtu/hr
96	Drilling Support Heater No. 2	TBD	ULSD	8,760 hr/yr	7.3 gal/hr	1 MMBtu/hr
97	Drilling Support Heater No. 3	TBD	ULSD	8,760 hr/yr	7.3 gal/hr	1 MMBtu/hr
98	Drilling Support Heater No. 4	TBD	ULSD	8,760 hr/yr	7.3 gal/hr	1 MMBtu/hr
99	Drilling Support Heater No. 5	TBD	ULSD	8,760 hr/yr	7.3 gal/hr	1 MMBtu/hr

Table 3. Potential to Emit Calculations - Oxides of Nitrogen (NO_X) Emissions
Point Thomson Unit (PTU) Gas Expansion - Drilling

Emission Unit			Fuel	Maximum Fuel	Factor	NO_X Emission	Nonroad	Not-to-Exceed	Maximum Annual	Annual NO_X
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Factor	Operation	Emissions
1	Drill Rig Boiler No. 1	4.2 MMBtu/hr	ULSD	30.0 gal/hr	Vendor Data	90 ppm	N/A	N/A	8,760 hr/yr	2.1 tpy
2	Drill Rig Boiler No. 2	6.3 MMBtu/hr	ULSD	45.0 gal/hr	Vendor Data	95 ppm	N/A	N/A	8,760 hr/yr	3.4 tpy
3	Drill Rig Pipeshed Tioga Air Heater No. 1	4.2 MMBtu/hr	ULSD	30.0 gal/hr	Vendor Data	90 ppm	N/A	N/A	8,760 hr/yr	2.1 tpy
4	Drill Rig Pipeshed Tioga Air Heater No. 2	4.2 MMBtu/hr	ULSD	30.0 gal/hr	Vendor Data	90 ppm	N/A	N/A	8,760 hr/yr	2.1 tpy
5	Drill Rig Support Boiler No. 1	6.3 MMBtu/hr	ULSD	45.0 gal/hr	Vendor Data	95 ppm	N/A	N/A	8,760 hr/yr	3.4 tpy
6	Drill Rig Support Boiler No. 2	6.3 MMBtu/hr	ULSD	45.0 gal/hr	Vendor Data	95 ppm	N/A	N/A	8,760 hr/yr	3.4 tpy
7	Bulk Tank Storage Area Boiler No. 1	5.16 MMBtu/hr	ULSD	35.5 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	3.1 tpy
8	Bulk Tank Storage Area Boiler No. 2	5.16 MMBtu/hr	ULSD	35.5 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	3.1 tpy
9	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	5.1 tpy
10	Bulk Mud Engine No. 1	54 hp	ULSD	2.8 gal/hr	40 CFR Part 89 Tier 3	3.5 g/hp-hr	NRE	1.25	8,760 hr/yr	2.3 tpy
11	Bulk Mud Engine No. 2	54 hp	ULSD	2.8 gal/hr	40 CFR Part 89 Tier 3	3.5 g/hp-hr	NRE	1.25	8,760 hr/yr	2.3 tpy
12	Coil Tubing Unit Engine	66 hp	ULSD	3.4 gal/hr	Vendor Data	560 g/hr	NRE	N/A	8,760 hr/yr	5.4 tpy
13	Bulk Tank Storage Area Generator Engine No. 1	779 hp	ULSD	39.8 gal/hr	NSPS Subpart IIII Tier 4i	2.6 g/hp-hr	N/A	1.25	8,760 hr/yr	24.4 tpy
14	Bulk Tank Storage Area Generator Engine No. 2	779 hp	ULSD	39.8 gal/hr	NSPS Subpart IIII Tier 4i	2.6 g/hp-hr	N/A	1.25	8,760 hr/yr	24.4 tpy
15	Bulk Tank Storage Area Generator Engine No. 3	190 hp	ULSD	8.7 gal/hr	40 CFR Part 89 Tier 3	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	6.9 tpy
16	Bulk Tank Storage Area Generator Engine No. 4	190 hp	ULSD	8.7 gal/hr	40 CFR Part 89 Tier 3	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	6.9 tpy
17	Bulk Tank Storage Area Heater Engine No. 1	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	6.3 tpy
18	Bulk Tank Storage Area Heater Engine No. 2	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	6.3 tpy
19	MOD 201/202 Generator Engine No. 1	173 hp	ULSD	8.8 gal/hr	40 CFR Part 89 Tier 2	4.9 g/hp-hr	NRE	1.25	8,760 hr/yr	10.2 tpy
20	Talkeetna Camp Generator Engine No. 1	450 hp	ULSD	25.4 gal/hr	Vendor Data	7.58 lb/hr	N/A	N/A	8,760 hr/yr	33.2 tpy
21	Talkeetna Camp Generator Engine No. 2	450 hp	ULSD	25.4 gal/hr	Vendor Data	7.58 lb/hr	N/A	N/A	8,760 hr/yr	33.2 tpy
22	MOD 201/202 Generator Engine No. 2	173 hp	ULSD	8.8 gal/hr	40 CFR Part 89 Tier 2	4.9 g/hp-hr	NRE	1.25	8,760 hr/yr	10.2 tpy
23	Well Stimulation Pump Engine No. 1	2,250 hp	ULSD	111.9 gal/hr	Vendor Data	30.7 lb/hr	NRE	N/A	8,760 hr/yr	134.2 tpy
24	Well Stimulation Pump Engine No. 2	2,250 hp	ULSD	111.9 gal/hr	Vendor Data	30.7 lb/hr	NRE	N/A	8,760 hr/yr	134.2 tpy
25	Well Stimulation Pump Engine No. 3	2,250 hp	ULSD	111.9 gal/hr	Vendor Data	30.7 lb/hr	NRE	N/A	8,760 hr/yr	134.2 tpy
26	Well Stimulation Pump Engine No. 4	800 hp	ULSD	42.6 gal/hr	Vendor Data	13.89 lb/hr	NRE	N/A	8,760 hr/yr	60.8 tpy
27	Well Stimulation Pump Engine No. 5	800 hp	ULSD	42.6 gal/hr	Vendor Data	13.89 lb/hr	NRE	N/A	8,760 hr/yr	60.8 tpy
28	Well Stimulation Pump Engine No. 6	800 hp	ULSD	42.6 gal/hr	Vendor Data	13.89 lb/hr	NRE	N/A	8,760 hr/yr	60.8 tpy
29	Well Stimulation Pump Engine No. 7	800 hp	ULSD	42.6 gal/hr	Vendor Data	13.89 lb/hr	NRE	N/A	8,760 hr/yr	60.8 tpy
30	Well Stimulation Pump Engine No. 8	800 hp	ULSD	42.6 gal/hr	Vendor Data	10.7 lb/hr	NRE	N/A	8,760 hr/yr	46.6 tpy
31	Well Stimulation Pump Engine No. 9	800 hp	ULSD	42.6 gal/hr	Vendor Data	10.7 lb/hr	NRE	N/A	8,760 hr/yr	46.6 tpy
32	Well Stimulation Blender Deck Engine	1,000 hp	ULSD	52.5 gal/hr	Vendor Data	12.3 lb/hr	NRE	N/A	8,760 hr/yr	53.7 tpy
33	Well Stimulation Gel Blender Deck Engine	520 hp	ULSD	26.8 gal/hr	Vendor Data	3.97 lb/hr	NRE	N/A	8,760 hr/yr	17.4 tpy
34	Well Stimulation Van Engine	250 hp	ULSD	12.8 gal/hr	40 CFR Part 89 Tier 3	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	9.1 tpy
35	Well Stimulation Loads Prop Silo Engine	50 hp	ULSD	2.6 gal/hr	40 CFR Part 89 Tier 3	3.5 g/hp-hr	NRE	1.25	8,760 hr/yr	2.1 tpy
36	Drill Rig Generator Engine No. 1	1,195 hp	ULSD	61.0 gal/hr	Vendor Data	24.26 lb/hr	NRE	N/A	8,760 hr/yr	106.3 tpy
37	Drill Rig Generator Engine No. 2	1,195 hp	ULSD	61.0 gal/hr	Vendor Data	24.26 lb/hr	NRE	N/A	8,760 hr/yr	106.3 tpy
38	Drill Rig Generator Engine No. 3	1,195 hp	ULSD	61.0 gal/hr	Vendor Data	24.26 lb/hr	NRE	N/A	8,760 hr/yr	106.3 tpy
39	Drill Rig Generator Engine No. 4	1,195 hp	ULSD	61.0 gal/hr	Vendor Data	24.26 lb/hr	NRE	N/A	8,760 hr/yr	106.3 tpy
40	Sub-base Cold Start Engine	324 hp	ULSD	15.5 gal/hr	40 CFR Part 89 Tier 3	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	11.7 tpy
41	Mud Module Cold Start Generator Engine	250 hp	ULSD	12.8 gal/hr	40 CFR Part 89 Tier 3	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	9.1 tpy
42	Pump Module Cold Start Generator Engine	250 hp	ULSD	12.8 gal/hr	40 CFR Part 89 Tier 3	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	9.1 tpy
43	Reserve Mud Pit No. 1 Aux Engine	399 hp	ULSD	19.2 gal/hr	40 CFR Part 89 Tier 2	4.8 g/hp-hr	NRE	1.25	8,760 hr/yr	23.1 tpy
44	Reserve Mud Pit No. 2 Aux Engine	399 hp	ULSD	19.2 gal/hr	40 CFR Part 89 Tier 2	4.8 g/hp-hr	NRE	1.25	8,760 hr/yr	23.1 tpy
45	Drill Rig Generator Engine No. 5	1,105 hp	ULSD	56.4 gal/hr	Vendor Data	24.26 lb/hr	NRE	N/A	8,760 hr/yr	106.3 tpy
46	Drill Rig Generator Engine No. 6	1,104 hp	ULSD	56.4 gal/hr	Vendor Data	24.26 lb/hr	NRE	N/A	8,760 hr/yr	106.3 tpy
47	Drill Rig Generator Engine No. 7	1,108 hp	ULSD	56.6 gal/hr	Vendor Data	24.26 lb/hr	NRE	N/A	8,760 hr/yr	106.3 tpy
48	Drill Rig Generator Engine No. 8	1,102 hp	ULSD	56.3 gal/hr	Vendor Data	24.26 lb/hr	NRE	N/A	8,760 hr/yr	106.3 tpy
49	Auxiliary Motor Complex Cold Start Generator Engine	324 hp	ULSD	15.5 gal/hr	40 CFR Part 89 Tier 3	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	11.7 tpy
50	Portable Moving Generator Engine No. 1	113 hp	ULSD	5.8 gal/hr	40 CFR Part 89 Tier 2	4.9 g/hp-hr	NRE	1.25	8,760 hr/yr	6.7 tpy
51	Portable Moving Generator Engine No. 2	113 hp	ULSD	5.8 gal/hr	40 CFR Part 89 Tier 2	4.9 g/hp-hr	NRE	1.25	8,760 hr/yr	6.7 tpy
52	Main Motor Complex Cold Start Generator Engine	324 hp	ULSD	15.5 gal/hr	40 CFR Part 89 Tier 3	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	11.7 tpy
53	Cement Unit Engine No. 1	340 hp	ULSD	17.4 gal/hr	40 CFR Part 89 Tier 3	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	12.3 tpy
54	Cement Unit Engine No. 2	340 hp	ULSD	17.4 gal/hr	40 CFR Part 89 Tier 3	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	12.3 tpy
55	Alaska Camp Generator Engine No. 1	732 hp	ULSD	34.7 gal/hr	Vendor Data	4.85 g/hp-hr	N/A	N/A	8,760 hr/yr	34.3 tpy
56	Alaska Camp Generator Engine No. 2	732 hp	ULSD	34.7 gal/hr	Vendor Data	4.85 g/hp-hr	N/A	N/A	8,760 hr/yr	34.3 tpy
57	Brine Filtration Generator Engine No. 1	374 hp	ULSD	18.3 gal/hr	40 CFR Part 89 Tier 3	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	13.5 tpy
58	Bulk Tank Storage Area Heater Engine No. 3	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	6.3 tpy
59	Bulk Tank Storage Area Heater Engine No. 4	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	6.3 tpy
60	Bulk Tank Storage Area Heater Engine No. 5	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	6.3 tpy
61	Bulk Tank Storage Area Heater Engine No. 6	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	6.3 tpy
62	Warehouse Generator Engine No. 1	96 hp	ULSD	4.9 gal/hr	NSPS Subpart IIII Tier 4i	3.5 g/hp-hr	N/A	1.25	8,760 hr/yr	4.1 tpy
63	Warehouse Generator Engine No. 2	96 hp	ULSD	4.9 gal/hr	NSPS Subpart IIII Tier 4i	3.5 g/hp-hr	N/A	1.25	8,760 hr/yr	4.1 tpy
64	Drilling Support Engine No. 1	43 hp	ULSD	2.2 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	2.9 tpy
65	Drilling Support Engine No. 2	120 hp	ULSD	6.1 gal/hr	40 CFR Part 1039 Tier 4i	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	4.3 tpy
66	Drilling Support Engine No. 3	120 hp	ULSD	6.1 gal/hr	40 CFR Part 1039 Tier 4i	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	4.3 tpy
67	Drilling Support Engine No. 4	120 hp	ULSD	6.1 gal/hr	40 CFR Part 1039 Tier 4i	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	4.3 tpy
68	Drilling Support Engine No. 5	115 hp	ULSD	5.9 gal/hr	40 CFR Part 89 Tier 2	4.9 g/hp-hr	NRE	1.25	8,760 hr/yr	6.8 tpy
69	Drilling Support Engine No. 6	115 hp	ULSD	5.9 gal/hr	40 CFR Part 89 Tier 2	4.9 g/hp-hr	NRE	1.25	8,760 hr/yr	6.8 tpy
70	Brine Filtration Generator Engine No. 2	374 hp	ULSD	18.3 gal/hr	40 CFR Part 89 Tier 3	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	13.5 tpy
71	Cement Unit Engine No. 3	91 hp	ULSD	4.6 gal/hr	40 CFR Part 89 Tier 3	3.5 g/hp-hr	NRE	1.25	8,760 hr/yr	3.8 tpy
72	Brine Filtration Support Engine	61 hp	ULSD	3.1 gal/hr	40 CFR Part 1039 Tier 4i	3.5 g/hp-hr	NRE	1.25	8,760 hr/yr	2.6 tpy
73	Bulk Barite Engine	75 hp	ULSD	3.8 gal/hr	AP-42, Table 3.3-1	0.031 lb/hp-hr	NRE	N/A	8,760 hr/yr	10.2 tpy
74	Cement Unit Support Engine	83 hp	ULSD	4.2 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	5.6 tpy
75	Truck Shop No. 1 Heater No. 1	0.229 MMBtu/hr	ULSD	1.65 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
76	Truck Shop No. 1 Heater No. 2	0.229 MMBtu/hr	ULSD	1.65 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
77	Truck Shop No. 2 Heater No. 1	0.229 MMBtu/hr	ULSD	1.65 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
78	Truck Shop No. 2 Heater No. 2	0.229 MMBtu/hr	ULSD	1.65 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
79	Warehouse Heater No. 1	2.5 MMBtu/hr	ULSD	18.2 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	1.6 tpy
80	Warehouse Heater No. 2	2.5 MMBtu/hr	ULSD	18.2 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	1.6 tpy
81	Portable Heater No. 1	0.7 MMBtu/hr	ULSD	5.1 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.4 tpy
82	Portable Heater No. 2	0.7 MMBtu/hr	ULSD	5.1 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.4 tpy
83	Portable Heater No. 3	0.7 MMBtu/hr	ULSD	5.1 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.4 tpy
84	Portable Heater No. 4	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	1.8 tpy
85	Portable Heater No. 5	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	1.8 tpy
86	Portable Heater No. 6	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	1.8 tpy
87	Portable Heater No. 7	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	1.8 tpy
88	Portable Heater No. 8	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	1.8 tpy
89	Portable Heater No. 9	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	1.8 tpy
90	Portable Drill Rig Heater Unit No. 1	0.5 MMBtu/hr	ULSD	3.6 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.3 tpy
91	Portable Drill Rig Heater Unit No. 2	0.5 MMBtu/hr	ULSD	3.6 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.3 tpy
92	Tioga Heater No. 1	0.9 MMBtu/hr	ULSD	6.6 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
93	Tioga Heater No. 2	0.9 MMBtu/hr	ULSD	6.6 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
94	Tioga Heater No. 3	0.9 MMBtu/hr	ULSD	6.6 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
95	Drilling Support Heater No. 1	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
96	Drilling Support Heater No. 2	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
97	Drilling Support Heater No. 3	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
98	Drilling Support Heater No. 4	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
99	Drilling Support Heater No. 5	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
									Total Potential NO_X Emissions Excluding Nonroad Engines	**241.0 tpy**
									Total Potential NO_X Emissions for Nonroad Engines	**1,970.2 tpy**
									Total Potential NO_X Emissions for All Emission Units	**2,211.1 tpy**

Notes:
[1] Diesel heating value 137,000 Btu/gal
[2] Fuel factor for crude, residual, and distillate o 9,190 dscf/MMBtu
[3] NRE = Nonroad Engine
[4] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)

Table 4. Potential to Emit Calculations - Carbon Monoxide (CO) Emissions
Point Thomson Unit (PTU) Gas Expansion - Drilling

Emission Unit			Fuel	Maximum Fuel	Factor	CO Emission	Nonroad	Not-to-Exceed	Maximum Annual	Annual CO
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Factor	Operation	Emissions
1	Drill Rig Boiler No. 1	4.2 MMBtu/hr	ULSD	30.0 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.7 tpy
2	Drill Rig Boiler No. 2	6.3 MMBtu/hr	ULSD	45.0 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	1.0 tpy
3	Drill Rig Pipeshed Tioga Air Heater No. 1	4.2 MMBtu/hr	ULSD	30.0 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.7 tpy
4	Drill Rig Pipeshed Tioga Air Heater No. 2	4.2 MMBtu/hr	ULSD	30.0 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.7 tpy
5	Drill Rig Support Boiler No. 1	6.3 MMBtu/hr	ULSD	45.0 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	1.0 tpy
6	Drill Rig Support Boiler No. 2	6.3 MMBtu/hr	ULSD	45.0 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	1.0 tpy
7	Bulk Tank Storage Area Boiler No. 1	5.16 MMBtu/hr	ULSD	35.5 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.8 tpy
8	Bulk Tank Storage Area Boiler No. 2	5.16 MMBtu/hr	ULSD	35.5 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.8 tpy
9	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	1.3 tpy
10	Bulk Mud Engine No. 1	54 hp	ULSD	2.8 gal/hr	40 CFR Part 89 Tier 3	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	2.4 tpy
11	Bulk Mud Engine No. 2	54 hp	ULSD	2.8 gal/hr	40 CFR Part 89 Tier 3	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	2.4 tpy
12	Coil Tubing Unit Engine	66 hp	ULSD	3.4 gal/hr	Vendor Data	380 g/hr	NRE	N/A	8,760 hr/yr	3.7 tpy
13	Bulk Tank Storage Area Generator Engine No. 1	779 hp	ULSD	39.8 gal/hr	NSPS Subpart IIII Tier 4i	2.6 g/hp-hr	N/A	1.25	8,760 hr/yr	24.4 tpy
14	Bulk Tank Storage Area Generator Engine No. 2	779 hp	ULSD	39.8 gal/hr	NSPS Subpart IIII Tier 4i	2.6 g/hp-hr	N/A	1.25	8,760 hr/yr	24.4 tpy
15	Bulk Tank Storage Area Generator Engine No. 3	190 hp	ULSD	8.7 gal/hr	40 CFR Part 89 Tier 3	2.6 g/hp-hr	NRE	1.25	8,760 hr/yr	6.0 tpy
16	Bulk Tank Storage Area Generator Engine No. 4	190 hp	ULSD	8.7 gal/hr	40 CFR Part 89 Tier 3	2.6 g/hp-hr	NRE	1.25	8,760 hr/yr	6.0 tpy
17	Bulk Tank Storage Area Heater Engine No. 1	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	7.8 tpy
18	Bulk Tank Storage Area Heater Engine No. 2	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	7.8 tpy
19	MOD 201/202 Generator Engine No. 1	173 hp	ULSD	8.8 gal/hr	40 CFR Part 89 Tier 2	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	7.7 tpy
20	Talkeetna Camp Generator Engine No. 1	450 hp	ULSD	25.4 gal/hr	Vendor Data	1.83 lb/hr	N/A	N/A	8,760 hr/yr	8.0 tpy
21	Talkeetna Camp Generator Engine No. 2	450 hp	ULSD	25.4 gal/hr	Vendor Data	1.83 lb/hr	N/A	N/A	8,760 hr/yr	8.0 tpy
22	MOD 201/202 Generator Engine No. 2	173 hp	ULSD	8.8 gal/hr	40 CFR Part 89 Tier 2	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	7.7 tpy
23	Well Stimulation Pump Engine No. 1	2,250 hp	ULSD	111.9 gal/hr	Vendor Data	7.59 lb/hr	NRE	N/A	8,760 hr/yr	33.2 tpy
24	Well Stimulation Pump Engine No. 2	2,250 hp	ULSD	111.9 gal/hr	Vendor Data	7.59 lb/hr	NRE	N/A	8,760 hr/yr	33.2 tpy
25	Well Stimulation Pump Engine No. 3	2,250 hp	ULSD	111.9 gal/hr	Vendor Data	7.59 lb/hr	NRE	N/A	8,760 hr/yr	33.2 tpy
26	Well Stimulation Pump Engine No. 4	800 hp	ULSD	42.6 gal/hr	Vendor Data	2.15 lb/hr	NRE	N/A	8,760 hr/yr	9.4 tpy
27	Well Stimulation Pump Engine No. 5	800 hp	ULSD	42.6 gal/hr	Vendor Data	2.15 lb/hr	NRE	N/A	8,760 hr/yr	9.4 tpy
28	Well Stimulation Pump Engine No. 6	800 hp	ULSD	42.6 gal/hr	Vendor Data	2.15 lb/hr	NRE	N/A	8,760 hr/yr	9.4 tpy
29	Well Stimulation Pump Engine No. 7	800 hp	ULSD	42.6 gal/hr	Vendor Data	2.15 lb/hr	NRE	N/A	8,760 hr/yr	9.4 tpy
30	Well Stimulation Pump Engine No. 8	800 hp	ULSD	42.6 gal/hr	Vendor Data	2.07 lb/hr	NRE	N/A	8,760 hr/yr	9.1 tpy
31	Well Stimulation Pump Engine No. 9	800 hp	ULSD	42.6 gal/hr	Vendor Data	2.07 lb/hr	NRE	N/A	8,760 hr/yr	9.1 tpy
32	Well Stimulation Blender Deck Engine	1,000 hp	ULSD	52.5 gal/hr	Vendor Data	1.6 lb/hr	NRE	N/A	8,760 hr/yr	7.0 tpy
33	Well Stimulation Gel Blender Deck Engine	520 hp	ULSD	26.8 gal/hr	Vendor Data	3.36 lb/hr	NRE	N/A	8,760 hr/yr	14.7 tpy
34	Well Stimulation Van Engine	250 hp	ULSD	12.8 gal/hr	40 CFR Part 89 Tier 3	2.6 g/hp-hr	NRE	1.25	8,760 hr/yr	7.8 tpy
35	Well Stimulation Loads Prop Silo Engine	50 hp	ULSD	2.6 gal/hr	40 CFR Part 89 Tier 3	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	2.2 tpy
36	Drill Rig Generator Engine No. 1	1,195 hp	ULSD	61.0 gal/hr	Vendor Data	3.96 lb/hr	NRE	N/A	8,760 hr/yr	17.3 tpy
37	Drill Rig Generator Engine No. 2	1,195 hp	ULSD	61.0 gal/hr	Vendor Data	3.96 lb/hr	NRE	N/A	8,760 hr/yr	17.3 tpy
38	Drill Rig Generator Engine No. 3	1,195 hp	ULSD	61.0 gal/hr	Vendor Data	3.96 lb/hr	NRE	N/A	8,760 hr/yr	17.3 tpy
39	Drill Rig Generator Engine No. 4	1,195 hp	ULSD	61.0 gal/hr	Vendor Data	3.96 lb/hr	NRE	N/A	8,760 hr/yr	17.3 tpy
40	Sub-base Cold Start Engine	324 hp	ULSD	15.5 gal/hr	40 CFR Part 89 Tier 3	2.6 g/hp-hr	NRE	1.25	8,760 hr/yr	10.2 tpy
41	Mud Module Cold Start Generator Engine	250 hp	ULSD	12.8 gal/hr	40 CFR Part 89 Tier 3	2.6 g/hp-hr	NRE	1.25	8,760 hr/yr	7.8 tpy
42	Pump Module Cold Start Generator Engine	250 hp	ULSD	12.8 gal/hr	40 CFR Part 89 Tier 3	2.6 g/hp-hr	NRE	1.25	8,760 hr/yr	7.8 tpy
43	Reserve Mud Pit No. 1 Aux Engine	399 hp	ULSD	19.2 gal/hr	40 CFR Part 89 Tier 2	2.6 g/hp-hr	NRE	1.25	8,760 hr/yr	12.5 tpy
44	Reserve Mud Pit No. 2 Aux Engine	399 hp	ULSD	19.2 gal/hr	40 CFR Part 89 Tier 2	2.6 g/hp-hr	NRE	1.25	8,760 hr/yr	12.5 tpy
45	Drill Rig Generator Engine No. 5	1,105 hp	ULSD	56.4 gal/hr	Vendor Data	3.96 lb/hr	NRE	N/A	8,760 hr/yr	17.3 tpy
46	Drill Rig Generator Engine No. 6	1,104 hp	ULSD	56.4 gal/hr	Vendor Data	3.96 lb/hr	NRE	N/A	8,760 hr/yr	17.3 tpy
47	Drill Rig Generator Engine No. 7	1,108 hp	ULSD	56.6 gal/hr	Vendor Data	3.96 lb/hr	NRE	N/A	8,760 hr/yr	17.3 tpy
48	Drill Rig Generator Engine No. 8	1,102 hp	ULSD	56.3 gal/hr	Vendor Data	3.96 lb/hr	NRE	N/A	8,760 hr/yr	17.3 tpy
49	Auxiliary Motor Complex Cold Start Generator Engine	324 hp	ULSD	15.5 gal/hr	40 CFR Part 89 Tier 3	2.6 g/hp-hr	NRE	1.25	8,760 hr/yr	10.2 tpy
50	Portable Moving Generator Engine No. 1	113 hp	ULSD	5.8 gal/hr	40 CFR Part 89 Tier 2	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	5.0 tpy
51	Portable Moving Generator Engine No. 2	113 hp	ULSD	5.8 gal/hr	40 CFR Part 89 Tier 2	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	5.0 tpy
52	Main Motor Complex Cold Start Generator Engine	324 hp	ULSD	15.5 gal/hr	40 CFR Part 89 Tier 3	2.6 g/hp-hr	NRE	1.25	8,760 hr/yr	10.2 tpy
53	Cement Unit Engine No. 1	340 hp	ULSD	17.4 gal/hr	40 CFR Part 89 Tier 3	2.6 g/hp-hr	NRE	1.25	8,760 hr/yr	10.7 tpy
54	Cement Unit Engine No. 2	340 hp	ULSD	17.4 gal/hr	40 CFR Part 89 Tier 3	2.6 g/hp-hr	NRE	1.25	8,760 hr/yr	10.7 tpy
55	Alaska Camp Generator Engine No. 1	732 hp	ULSD	34.7 gal/hr	Vendor Data	0.41 g/hp-hr	N/A	N/A	8,760 hr/yr	2.9 tpy
56	Alaska Camp Generator Engine No. 2	732 hp	ULSD	34.7 gal/hr	Vendor Data	0.41 g/hp-hr	N/A	N/A	8,760 hr/yr	2.9 tpy
57	Brine Filtration Generator Engine No. 1	374 hp	ULSD	18.3 gal/hr	40 CFR Part 89 Tier 3	2.6 g/hp-hr	NRE	1.25	8,760 hr/yr	11.7 tpy
58	Bulk Tank Storage Area Heater Engine No. 3	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	7.8 tpy
59	Bulk Tank Storage Area Heater Engine No. 4	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	7.8 tpy
60	Bulk Tank Storage Area Heater Engine No. 5	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	7.8 tpy
61	Bulk Tank Storage Area Heater Engine No. 6	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	7.8 tpy
62	Warehouse Generator Engine No. 1	96 hp	ULSD	4.9 gal/hr	NSPS Subpart IIII Tier 4i	3.7 g/hp-hr	N/A	1.25	8,760 hr/yr	4.3 tpy
63	Warehouse Generator Engine No. 2	96 hp	ULSD	4.9 gal/hr	NSPS Subpart IIII Tier 4i	3.7 g/hp-hr	N/A	1.25	8,760 hr/yr	4.3 tpy
64	Drilling Support Engine No. 1	43 hp	ULSD	2.2 gal/hr	40 CFR Part 89 Tier 2	4.1 g/hp-hr	NRE	1.25	8,760 hr/yr	2.1 tpy
65	Drilling Support Engine No. 2	120 hp	ULSD	6.1 gal/hr	40 CFR Part 1039 Tier 4i	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	5.4 tpy
66	Drilling Support Engine No. 3	120 hp	ULSD	6.1 gal/hr	40 CFR Part 1039 Tier 4i	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	5.4 tpy
67	Drilling Support Engine No. 4	120 hp	ULSD	6.1 gal/hr	40 CFR Part 1039 Tier 4i	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	5.4 tpy
68	Drilling Support Engine No. 5	115 hp	ULSD	5.9 gal/hr	40 CFR Part 89 Tier 2	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	5.1 tpy
69	Drilling Support Engine No. 6	115 hp	ULSD	5.9 gal/hr	40 CFR Part 89 Tier 2	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	5.1 tpy
70	Brine Filtration Generator Engine No. 2	374 hp	ULSD	18.3 gal/hr	40 CFR Part 89 Tier 3	2.6 g/hp-hr	NRE	1.25	8,760 hr/yr	11.7 tpy
71	Cement Unit Engine No. 3	91 hp	ULSD	4.6 gal/hr	40 CFR Part 89 Tier 3	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	4.1 tpy
72	Brine Filtration Support Engine	61 hp	ULSD	3.1 gal/hr	40 CFR Part 1039 Tier 4i	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	2.7 tpy
73	Bulk Barite Engine	75 hp	ULSD	3.8 gal/hr	AP-42, Table 3.3-1	0.00668 lb/hp-hr	NRE	N/A	8,760 hr/yr	2.2 tpy
74	Cement Unit Support Engine	83 hp	ULSD	4.2 gal/hr	40 CFR Part 89 Tier 2	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	3.7 tpy
75	Truck Shop No. 1 Heater No. 1	0.229 MMBtu/hr	ULSD	1.7 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.04 tpy
76	Truck Shop No. 1 Heater No. 2	0.229 MMBtu/hr	ULSD	1.7 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.04 tpy
77	Truck Shop No. 2 Heater No. 1	0.229 MMBtu/hr	ULSD	1.7 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.04 tpy
78	Truck Shop No. 2 Heater No. 2	0.229 MMBtu/hr	ULSD	1.7 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.04 tpy
79	Warehouse Heater No. 1	2.5 MMBtu/hr	ULSD	18.2 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.4 tpy
80	Warehouse Heater No. 2	2.5 MMBtu/hr	ULSD	18.2 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.4 tpy
81	Portable Heater No. 1	0.7 MMBtu/hr	ULSD	5.1 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
82	Portable Heater No. 2	0.7 MMBtu/hr	ULSD	5.1 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
83	Portable Heater No. 3	0.7 MMBtu/hr	ULSD	5.1 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
84	Portable Heater No. 4	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.4 tpy
85	Portable Heater No. 5	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.4 tpy
86	Portable Heater No. 6	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.4 tpy
87	Portable Heater No. 7	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.4 tpy
88	Portable Heater No. 8	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.4 tpy
89	Portable Heater No. 9	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.4 tpy
90	Portable Drill Rig Heater Unit No. 1	0.5 MMBtu/hr	ULSD	3.6 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
91	Portable Drill Rig Heater Unit No. 2	0.5 MMBtu/hr	ULSD	3.6 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
92	Tioga Heater No. 1	0.9 MMBtu/hr	ULSD	6.6 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
93	Tioga Heater No. 2	0.9 MMBtu/hr	ULSD	6.6 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
94	Tioga Heater No. 3	0.9 MMBtu/hr	ULSD	6.6 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
95	Drilling Support Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
96	Drilling Support Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
97	Drilling Support Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
98	Drilling Support Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
99	Drilling Support Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
									Total Potential CO Emissions Excluding Nonroad Engines	**92.4 tpy**
									Total Potential CO Emissions for Nonroad Engines	**575.9 tpy**
									Total Potential CO Emissions for All Emission Units	**668.3 tpy**

Notes:
[1] Diesel heating value 137,000 Btu/gal
[2] NRE = Nonroad Engine
[3] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)

Table 5. Potential to Emit Calculations - Particulate Matter (PM) Emissions
Point Thomson Unit (PTU) Gas Expansion - Drilling

Emission Unit			Fuel	Maximum Fuel	Factor	PM_{10} Emission	Nonroad	Not-to-Exceed	Maximum Annual	Annual PM_{10}
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Factor	Operation	Emissions
1	Drill Rig Boiler No. 1	4.2 MMBtu/hr	ULSD	30.0 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.3 tpy
2	Drill Rig Boiler No. 2	6.3 MMBtu/hr	ULSD	45.0 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.5 tpy
3	Drill Rig Pipeshed Tioga Air Heater No. 1	4.2 MMBtu/hr	ULSD	30.0 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.3 tpy
4	Drill Rig Pipeshed Tioga Air Heater No. 2	4.2 MMBtu/hr	ULSD	30.0 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.3 tpy
5	Drill Rig Support Boiler No. 1	6.3 MMBtu/hr	ULSD	45.0 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.5 tpy
6	Drill Rig Support Boiler No. 2	6.3 MMBtu/hr	ULSD	45.0 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.5 tpy
7	Bulk Tank Storage Area Boiler No. 1	5.16 MMBtu/hr	ULSD	35.5 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.4 tpy
8	Bulk Tank Storage Area Boiler No. 2	5.16 MMBtu/hr	ULSD	35.5 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.4 tpy
9	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
10	Bulk Mud Engine No. 1	54 hp	ULSD	2.8 gal/hr	40 CFR Part 89 Tier 3	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
11	Bulk Mud Engine No. 2	54 hp	ULSD	2.8 gal/hr	40 CFR Part 89 Tier 3	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
12	Coil Tubing Unit Engine	66 hp	ULSD	3.4 gal/hr	AP-42, Table 3.3-1	0.0022 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.6 tpy
13	Bulk Tank Storage Area Generator Engine No. 1	779 hp	ULSD	39.8 gal/hr	NSPS Subpart IIII Tier 4i	0.075 g/hp-hr	N/A	1.25	8,760 hr/yr	0.7 tpy
14	Bulk Tank Storage Area Generator Engine No. 2	779 hp	ULSD	39.8 gal/hr	NSPS Subpart IIII Tier 4i	0.075 g/hp-hr	N/A	1.25	8,760 hr/yr	0.7 tpy
15	Bulk Tank Storage Area Generator Engine No. 3	190 hp	ULSD	8.7 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.3 tpy
16	Bulk Tank Storage Area Generator Engine No. 4	190 hp	ULSD	8.7 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.3 tpy
17	Bulk Tank Storage Area Heater Engine No. 1	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
18	Bulk Tank Storage Area Heater Engine No. 2	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
19	MOD 201/202 Generator Engine No. 1	173 hp	ULSD	8.8 gal/hr	40 CFR Part 89 Tier 2	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
20	Talkeetna Camp Generator Engine No. 1	450 hp	ULSD	25.4 gal/hr	Vendor Data	0.142 lb/hr	N/A	N/A	8,760 hr/yr	0.6 tpy
21	Talkeetna Camp Generator Engine No. 2	450 hp	ULSD	25.4 gal/hr	Vendor Data	0.142 lb/hr	N/A	N/A	8,760 hr/yr	0.6 tpy
22	MOD 201/202 Generator Engine No. 2	173 hp	ULSD	8.8 gal/hr	40 CFR Part 89 Tier 2	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
23	Well Stimulation Pump Engine No. 1	2,250 hp	ULSD	111.9 gal/hr	Vendor Data	0.65 lb/hr	NRE	N/A	8,760 hr/yr	2.8 tpy
24	Well Stimulation Pump Engine No. 2	2,250 hp	ULSD	111.9 gal/hr	Vendor Data	0.65 lb/hr	NRE	N/A	8,760 hr/yr	2.8 tpy
25	Well Stimulation Pump Engine No. 3	2,250 hp	ULSD	111.9 gal/hr	Vendor Data	0.65 lb/hr	NRE	N/A	8,760 hr/yr	2.8 tpy
26	Well Stimulation Pump Engine No. 4	800 hp	ULSD	42.6 gal/hr	Vendor Data	0.33 lb/hr	NRE	N/A	8,760 hr/yr	1.4 tpy
27	Well Stimulation Pump Engine No. 5	800 hp	ULSD	42.6 gal/hr	Vendor Data	0.33 lb/hr	NRE	N/A	8,760 hr/yr	1.4 tpy
28	Well Stimulation Pump Engine No. 6	800 hp	ULSD	42.6 gal/hr	Vendor Data	0.33 lb/hr	NRE	N/A	8,760 hr/yr	1.4 tpy
29	Well Stimulation Pump Engine No. 7	800 hp	ULSD	42.6 gal/hr	Vendor Data	0.33 lb/hr	NRE	N/A	8,760 hr/yr	1.4 tpy
30	Well Stimulation Pump Engine No. 8	800 hp	ULSD	42.6 gal/hr	Vendor Data	0.39 lb/hr	NRE	N/A	8,760 hr/yr	1.7 tpy
31	Well Stimulation Pump Engine No. 9	800 hp	ULSD	42.6 gal/hr	Vendor Data	0.39 lb/hr	NRE	N/A	8,760 hr/yr	1.7 tpy
32	Well Stimulation Blender Deck Engine	1,000 hp	ULSD	52.5 gal/hr	Vendor Data	0.38 lb/hr	NRE	N/A	8,760 hr/yr	1.7 tpy
33	Well Stimulation Gel Blender Deck Engine	520 hp	ULSD	26.8 gal/hr	Vendor Data	0.21 lb/hr	NRE	N/A	8,760 hr/yr	0.9 tpy
34	Well Stimulation Van Engine	250 hp	ULSD	12.8 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
35	Well Stimulation Loads Prop Silo Engine	50 hp	ULSD	2.6 gal/hr	40 CFR Part 89 Tier 3	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
36	Drill Rig Generator Engine No. 1	1,195 hp	ULSD	61.0 gal/hr	Vendor Data	0.255 lb/hr	NRE	N/A	8,760 hr/yr	1.1 tpy
37	Drill Rig Generator Engine No. 2	1,195 hp	ULSD	61.0 gal/hr	Vendor Data	0.255 lb/hr	NRE	N/A	8,760 hr/yr	1.1 tpy
38	Drill Rig Generator Engine No. 3	1,195 hp	ULSD	61.0 gal/hr	Vendor Data	0.255 lb/hr	NRE	N/A	8,760 hr/yr	1.1 tpy
39	Drill Rig Generator Engine No. 4	1,195 hp	ULSD	61.0 gal/hr	Vendor Data	0.255 lb/hr	NRE	N/A	8,760 hr/yr	1.1 tpy
40	Sub-base Cold Start Engine	324 hp	ULSD	15.5 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.6 tpy
41	Mud Module Cold Start Generator Engine	250 hp	ULSD	12.8 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
42	Pump Module Cold Start Generator Engine	250 hp	ULSD	12.8 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
43	Reserve Mud Pit No. 1 Aux Engine	399 hp	ULSD	19.2 gal/hr	40 CFR Part 89 Tier 2	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.7 tpy
44	Reserve Mud Pit No. 2 Aux Engine	399 hp	ULSD	19.2 gal/hr	40 CFR Part 89 Tier 2	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.7 tpy
45	Drill Rig Generator Engine No. 5	1,105 hp	ULSD	56.4 gal/hr	Vendor Data	0.255 lb/hr	NRE	N/A	8,760 hr/yr	1.1 tpy
46	Drill Rig Generator Engine No. 6	1,104 hp	ULSD	56.4 gal/hr	Vendor Data	0.255 lb/hr	NRE	N/A	8,760 hr/yr	1.1 tpy
47	Drill Rig Generator Engine No. 7	1,108 hp	ULSD	56.6 gal/hr	Vendor Data	0.255 lb/hr	NRE	N/A	8,760 hr/yr	1.1 tpy
48	Drill Rig Generator Engine No. 8	1,102 hp	ULSD	56.3 gal/hr	Vendor Data	0.255 lb/hr	NRE	N/A	8,760 hr/yr	1.1 tpy
49	Auxiliary Motor Complex Cold Start Generator Engine	324 hp	ULSD	15.5 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.6 tpy
50	Portable Moving Generator Engine No. 1	113 hp	ULSD	5.8 gal/hr	40 CFR Part 89 Tier 2	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.3 tpy
51	Portable Moving Generator Engine No. 2	113 hp	ULSD	5.8 gal/hr	40 CFR Part 89 Tier 2	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.3 tpy
52	Main Motor Complex Cold Start Generator Engine	324 hp	ULSD	15.5 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.6 tpy
53	Cement Unit Engine No. 1	340 hp	ULSD	17.4 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.6 tpy
54	Cement Unit Engine No. 2	340 hp	ULSD	17.4 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.6 tpy
55	Alaska Camp Generator Engine No. 1	732 hp	ULSD	34.7 gal/hr	Vendor Data	0.05 g/hp-hr	N/A	N/A	8,760 hr/yr	0.4 tpy
56	Alaska Camp Generator Engine No. 2	732 hp	ULSD	34.7 gal/hr	Vendor Data	0.05 g/hp-hr	N/A	N/A	8,760 hr/yr	0.4 tpy
57	Brine Filtration Generator Engine No. 1	374 hp	ULSD	18.3 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.7 tpy
58	Bulk Tank Storage Area Heater Engine No. 3	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
59	Bulk Tank Storage Area Heater Engine No. 4	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
60	Bulk Tank Storage Area Heater Engine No. 5	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
61	Bulk Tank Storage Area Heater Engine No. 6	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
62	Warehouse Generator Engine No. 1	96 hp	ULSD	4.9 gal/hr	NSPS Subpart IIII Tier 4i	0.015 g/hp-hr	N/A	1.50	8,760 hr/yr	0.02 tpy
63	Warehouse Generator Engine No. 2	96 hp	ULSD	4.9 gal/hr	NSPS Subpart IIII Tier 4i	0.015 g/hp-hr	N/A	1.50	8,760 hr/yr	0.02 tpy
64	Drilling Support Engine No. 1	43 hp	ULSD	2.2 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
65	Drilling Support Engine No. 2	120 hp	ULSD	6.1 gal/hr	40 CFR Part 1039 Tier 4i	0.015 g/hp-hr	NRE	1.50	8,760 hr/yr	0.03 tpy
66	Drilling Support Engine No. 3	120 hp	ULSD	6.1 gal/hr	40 CFR Part 1039 Tier 4i	0.015 g/hp-hr	NRE	1.50	8,760 hr/yr	0.03 tpy
67	Drilling Support Engine No. 4	120 hp	ULSD	6.1 gal/hr	40 CFR Part 1039 Tier 4i	0.015 g/hp-hr	NRE	1.50	8,760 hr/yr	0.03 tpy
68	Drilling Support Engine No. 5	115 hp	ULSD	5.9 gal/hr	40 CFR Part 89 Tier 2	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.3 tpy
69	Drilling Support Engine No. 6	115 hp	ULSD	5.9 gal/hr	40 CFR Part 89 Tier 2	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.3 tpy
70	Brine Filtration Generator Engine No. 2	374 hp	ULSD	18.3 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.7 tpy
71	Cement Unit Engine No. 3	91 hp	ULSD	4.6 gal/hr	40 CFR Part 89 Tier 3	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.3 tpy
72	Brine Filtration Support Engine	61 hp	ULSD	3.1 gal/hr	40 CFR Part 1039 Tier 4i	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
73	Bulk Barite Engine	75 hp	ULSD	3.8 gal/hr	AP-42, Table 3.3-1	0.0022 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.7 tpy
74	Cement Unit Support Engine	83 hp	ULSD	4.2 gal/hr	40 CFR Part 89 Tier 2	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.3 tpy
75	Truck Shop No. 1 Heater No. 1	0.229 MMBtu/hr	ULSD	1.7 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.02 tpy
76	Truck Shop No. 1 Heater No. 2	0.229 MMBtu/hr	ULSD	1.7 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.02 tpy
77	Truck Shop No. 2 Heater No. 1	0.229 MMBtu/hr	ULSD	1.7 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.02 tpy
78	Truck Shop No. 2 Heater No. 2	0.229 MMBtu/hr	ULSD	1.7 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.02 tpy
79	Warehouse Heater No. 1	2.5 MMBtu/hr	ULSD	18.2 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
80	Warehouse Heater No. 2	2.5 MMBtu/hr	ULSD	18.2 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
81	Portable Heater No. 1	0.7 MMBtu/hr	ULSD	5.1 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
82	Portable Heater No. 2	0.7 MMBtu/hr	ULSD	5.1 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
83	Portable Heater No. 3	0.7 MMBtu/hr	ULSD	5.1 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
84	Portable Heater No. 4	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
85	Portable Heater No. 5	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
86	Portable Heater No. 6	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
87	Portable Heater No. 7	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
88	Portable Heater No. 8	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
89	Portable Heater No. 9	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
90	Portable Drill Rig Heater Unit No. 1	0.5 MMBtu/hr	ULSD	3.6 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.0 tpy
91	Portable Drill Rig Heater Unit No. 2	0.5 MMBtu/hr	ULSD	3.6 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.0 tpy
92	Tioga Heater No. 1	0.9 MMBtu/hr	ULSD	6.6 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
93	Tioga Heater No. 2	0.9 MMBtu/hr	ULSD	6.6 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
94	Tioga Heater No. 3	0.9 MMBtu/hr	ULSD	6.6 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
95	Drilling Support Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
96	Drilling Support Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
97	Drilling Support Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
98	Drilling Support Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
99	Drilling Support Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
									Total Potential PM/PM_{10} Emissions Excluding Nonroad Engines	**9.4 tpy**
									Total Potential PM/PM_{10} Emissions for Nonroad Engines	**45.0 tpy**
									Total Potential PM/PM_{10} Emissions for All Emission Units	**54.4 tpy**

Notes:
[1] Diesel heating value 137,000 Btu/gal
[2] NRE = Nonroad Engine
[3] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)

Table 6. Potential to Emit Calculations - Particulate Matter ($PM_{2.5}$) Emissions
Point Thomson Unit (PTU) Gas Expansion - Drilling

Emission Unit			Fuel	Maximum Fuel	Factor	$PM_{2.5}$ Emission	Nonroad	Not-to-Exceed	Maximum Annual	Annual $PM_{2.5}$
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Factor	Operation	Emissions
1	Drill Rig Boiler No. 1	4.2 MMBtu/hr	ULSD	30.0 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
2	Drill Rig Boiler No. 2	6.3 MMBtu/hr	ULSD	45.0 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.3 tpy
3	Drill Rig Pipeshed Tioga Air Heater No. 1	4.2 MMBtu/hr	ULSD	30.0 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
4	Drill Rig Pipeshed Tioga Air Heater No. 2	4.2 MMBtu/hr	ULSD	30.0 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
5	Drill Rig Support Boiler No. 1	6.3 MMBtu/hr	ULSD	45.0 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.3 tpy
6	Drill Rig Support Boiler No. 2	6.3 MMBtu/hr	ULSD	45.0 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.3 tpy
7	Bulk Tank Storage Area Boiler No. 1	5.16 MMBtu/hr	ULSD	35.5 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
8	Bulk Tank Storage Area Boiler No. 2	5.16 MMBtu/hr	ULSD	35.5 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
9	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.4 tpy
10	Bulk Mud Engine No. 1	54 hp	ULSD	2.8 gal/hr	40 CFR Part 89 Tier 3	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
11	Bulk Mud Engine No. 2	54 hp	ULSD	2.8 gal/hr	40 CFR Part 89 Tier 3	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
12	Coil Tubing Unit Engine	66 hp	ULSD	3.4 gal/hr	AP-42, Table 3.3-1	0.0022 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.6 tpy
13	Bulk Tank Storage Area Generator Engine No. 1	779 hp	ULSD	39.8 gal/hr	NSPS Subpart IIII Tier 4i	0.075 g/hp-hr	N/A	1.25	8,760 hr/yr	0.7 tpy
14	Bulk Tank Storage Area Generator Engine No. 2	779 hp	ULSD	39.8 gal/hr	NSPS Subpart IIII Tier 4i	0.075 g/hp-hr	N/A	1.25	8,760 hr/yr	0.7 tpy
15	Bulk Tank Storage Area Generator Engine No. 3	190 hp	ULSD	8.7 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.3 tpy
16	Bulk Tank Storage Area Generator Engine No. 4	190 hp	ULSD	8.7 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.3 tpy
17	Bulk Tank Storage Area Heater Engine No. 1	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
18	Bulk Tank Storage Area Heater Engine No. 2	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
19	MOD 201/202 Generator Engine No. 1	173 hp	ULSD	8.8 gal/hr	40 CFR Part 89 Tier 2	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
20	Talkeetna Camp Generator Engine No. 1	450 hp	ULSD	25.4 gal/hr	Vendor Data	0.142 lb/hr	N/A	N/A	8,760 hr/yr	0.6 tpy
21	Talkeetna Camp Generator Engine No. 2	450 hp	ULSD	25.4 gal/hr	Vendor Data	0.142 lb/hr	N/A	N/A	8,760 hr/yr	0.6 tpy
22	MOD 201/202 Generator Engine No. 2	173 hp	ULSD	8.8 gal/hr	40 CFR Part 89 Tier 2	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
23	Well Stimulation Pump Engine No. 1	2,250 hp	ULSD	111.9 gal/hr	Vendor Data	0.65 lb/hr	NRE	N/A	8,760 hr/yr	2.8 tpy
24	Well Stimulation Pump Engine No. 2	2,250 hp	ULSD	111.9 gal/hr	Vendor Data	0.65 lb/hr	NRE	N/A	8,760 hr/yr	2.8 tpy
25	Well Stimulation Pump Engine No. 3	2,250 hp	ULSD	111.9 gal/hr	Vendor Data	0.65 lb/hr	NRE	N/A	8,760 hr/yr	2.8 tpy
26	Well Stimulation Pump Engine No. 4	800 hp	ULSD	42.6 gal/hr	Vendor Data	0.33 lb/hr	NRE	N/A	8,760 hr/yr	1.4 tpy
27	Well Stimulation Pump Engine No. 5	800 hp	ULSD	42.6 gal/hr	Vendor Data	0.33 lb/hr	NRE	N/A	8,760 hr/yr	1.4 tpy
28	Well Stimulation Pump Engine No. 6	800 hp	ULSD	42.6 gal/hr	Vendor Data	0.33 lb/hr	NRE	N/A	8,760 hr/yr	1.4 tpy
29	Well Stimulation Pump Engine No. 7	800 hp	ULSD	42.6 gal/hr	Vendor Data	0.33 lb/hr	NRE	N/A	8,760 hr/yr	1.4 tpy
30	Well Stimulation Pump Engine No. 8	800 hp	ULSD	42.6 gal/hr	Vendor Data	0.39 lb/hr	NRE	N/A	8,760 hr/yr	1.7 tpy
31	Well Stimulation Pump Engine No. 9	800 hp	ULSD	42.6 gal/hr	Vendor Data	0.39 lb/hr	NRE	N/A	8,760 hr/yr	1.7 tpy
32	Well Stimulation Blender Deck Engine	1,000 hp	ULSD	52.5 gal/hr	Vendor Data	0.38 lb/hr	NRE	N/A	8,760 hr/yr	1.7 tpy
33	Well Stimulation Gel Blender Deck Engine	520 hp	ULSD	26.8 gal/hr	Vendor Data	0.21 lb/hr	NRE	N/A	8,760 hr/yr	0.9 tpy
34	Well Stimulation Van Engine	250 hp	ULSD	12.8 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
35	Well Stimulation Loads Prop Silo Engine	50 hp	ULSD	2.6 gal/hr	40 CFR Part 89 Tier 3	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
36	Drill Rig Generator Engine No. 1	1,195 hp	ULSD	61.0 gal/hr	Vendor Data	0.255 lb/hr	NRE	N/A	8,760 hr/yr	1.1 tpy
37	Drill Rig Generator Engine No. 2	1,195 hp	ULSD	61.0 gal/hr	Vendor Data	0.255 lb/hr	NRE	N/A	8,760 hr/yr	1.1 tpy
38	Drill Rig Generator Engine No. 3	1,195 hp	ULSD	61.0 gal/hr	Vendor Data	0.255 lb/hr	NRE	N/A	8,760 hr/yr	1.1 tpy
39	Drill Rig Generator Engine No. 4	1,195 hp	ULSD	61.0 gal/hr	Vendor Data	0.255 lb/hr	NRE	N/A	8,760 hr/yr	1.1 tpy
40	Sub-base Cold Start Engine	324 hp	ULSD	15.5 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.6 tpy
41	Mud Module Cold Start Generator Engine	250 hp	ULSD	12.8 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
42	Pump Module Cold Start Generator Engine	250 hp	ULSD	12.8 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
43	Reserve Mud Pit No. 1 Aux Engine	399 hp	ULSD	19.2 gal/hr	40 CFR Part 89 Tier 2	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.7 tpy
44	Reserve Mud Pit No. 2 Aux Engine	399 hp	ULSD	19.2 gal/hr	40 CFR Part 89 Tier 2	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.7 tpy
45	Drill Rig Generator Engine No. 5	1,105 hp	ULSD	56.4 gal/hr	Vendor Data	0.255 lb/hr	NRE	N/A	8,760 hr/yr	1.1 tpy
46	Drill Rig Generator Engine No. 6	1,104 hp	ULSD	56.4 gal/hr	Vendor Data	0.255 lb/hr	NRE	N/A	8,760 hr/yr	1.1 tpy
47	Drill Rig Generator Engine No. 7	1,108 hp	ULSD	56.6 gal/hr	Vendor Data	0.255 lb/hr	NRE	N/A	8,760 hr/yr	1.1 tpy
48	Drill Rig Generator Engine No. 8	1,102 hp	ULSD	56.3 gal/hr	Vendor Data	0.255 lb/hr	NRE	N/A	8,760 hr/yr	1.1 tpy
49	Auxiliary Motor Complex Cold Start Generator Engine	324 hp	ULSD	15.5 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.6 tpy
50	Portable Moving Generator Engine No. 1	113 hp	ULSD	5.8 gal/hr	40 CFR Part 89 Tier 2	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.3 tpy
51	Portable Moving Generator Engine No. 2	113 hp	ULSD	5.8 gal/hr	40 CFR Part 89 Tier 2	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.3 tpy
52	Main Motor Complex Cold Start Generator Engine	324 hp	ULSD	15.5 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.6 tpy
53	Cement Unit Engine No. 1	340 hp	ULSD	17.4 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.6 tpy
54	Cement Unit Engine No. 2	340 hp	ULSD	17.4 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.6 tpy
55	Alaska Camp Generator Engine No. 1	732 hp	ULSD	34.7 gal/hr	Vendor Data	0.05 g/hp-hr	N/A	N/A	8,760 hr/yr	0.4 tpy
56	Alaska Camp Generator Engine No. 2	732 hp	ULSD	34.7 gal/hr	Vendor Data	0.05 g/hp-hr	N/A	N/A	8,760 hr/yr	0.4 tpy
57	Brine Filtration Generator Engine No. 1	374 hp	ULSD	18.3 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.7 tpy
58	Bulk Tank Storage Area Heater Engine No. 3	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
59	Bulk Tank Storage Area Heater Engine No. 4	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
60	Bulk Tank Storage Area Heater Engine No. 5	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
61	Bulk Tank Storage Area Heater Engine No. 6	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
62	Warehouse Generator Engine No. 1	96 hp	ULSD	4.9 gal/hr	NSPS Subpart IIII Tier 4i	0.015 g/hp-hr	N/A	1.50	8,760 hr/yr	0.02 tpy
63	Warehouse Generator Engine No. 2	96 hp	ULSD	4.9 gal/hr	NSPS Subpart IIII Tier 4i	0.015 g/hp-hr	N/A	1.50	8,760 hr/yr	0.02 tpy
64	Drilling Support Engine No. 1	43 hp	ULSD	2.2 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
65	Drilling Support Engine No. 2	120 hp	ULSD	6.1 gal/hr	40 CFR Part 1039 Tier 4i	0.015 g/hp-hr	NRE	1.50	8,760 hr/yr	0.03 tpy
66	Drilling Support Engine No. 3	120 hp	ULSD	6.1 gal/hr	40 CFR Part 1039 Tier 4i	0.015 g/hp-hr	NRE	1.50	8,760 hr/yr	0.03 tpy
67	Drilling Support Engine No. 4	120 hp	ULSD	6.1 gal/hr	40 CFR Part 1039 Tier 4i	0.015 g/hp-hr	NRE	1.50	8,760 hr/yr	0.03 tpy
68	Drilling Support Engine No. 5	115 hp	ULSD	5.9 gal/hr	40 CFR Part 89 Tier 2	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.3 tpy
69	Drilling Support Engine No. 6	115 hp	ULSD	5.9 gal/hr	40 CFR Part 89 Tier 2	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.3 tpy
70	Brine Filtration Generator Engine No. 2	374 hp	ULSD	18.3 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.7 tpy
71	Cement Unit Engine No. 3	91 hp	ULSD	4.6 gal/hr	40 CFR Part 89 Tier 3	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.3 tpy
72	Brine Filtration Support Engine	61 hp	ULSD	3.1 gal/hr	40 CFR Part 1039 Tier 4i	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
73	Bulk Barite Engine	75 hp	ULSD	3.8 gal/hr	AP-42, Table 3.3-1	0.0022 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.7 tpy
74	Cement Unit Support Engine	83 hp	ULSD	4.2 gal/hr	40 CFR Part 89 Tier 2	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.3 tpy
75	Truck Shop No. 1 Heater No. 1	0.229 MMBtu/hr	ULSD	1.7 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
76	Truck Shop No. 1 Heater No. 2	0.229 MMBtu/hr	ULSD	1.7 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
77	Truck Shop No. 2 Heater No. 1	0.229 MMBtu/hr	ULSD	1.7 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
78	Truck Shop No. 2 Heater No. 2	0.229 MMBtu/hr	ULSD	1.7 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
79	Warehouse Heater No. 1	2.5 MMBtu/hr	ULSD	18.2 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
80	Warehouse Heater No. 2	2.5 MMBtu/hr	ULSD	18.2 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
81	Portable Heater No. 1	0.7 MMBtu/hr	ULSD	5.1 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.03 tpy
82	Portable Heater No. 2	0.7 MMBtu/hr	ULSD	5.1 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.03 tpy
83	Portable Heater No. 3	0.7 MMBtu/hr	ULSD	5.1 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.03 tpy
84	Portable Heater No. 4	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
85	Portable Heater No. 5	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
86	Portable Heater No. 6	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
87	Portable Heater No. 7	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
88	Portable Heater No. 8	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
89	Portable Heater No. 9	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
90	Portable Drill Rig Heater Unit No. 1	0.5 MMBtu/hr	ULSD	3.6 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.02 tpy
91	Portable Drill Rig Heater Unit No. 2	0.5 MMBtu/hr	ULSD	3.6 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.02 tpy
92	Tioga Heater No. 1	0.9 MMBtu/hr	ULSD	6.6 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.04 tpy
93	Tioga Heater No. 2	0.9 MMBtu/hr	ULSD	6.6 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.04 tpy
94	Tioga Heater No. 3	0.9 MMBtu/hr	ULSD	6.6 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.04 tpy
95	Drilling Support Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
96	Drilling Support Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
97	Drilling Support Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
98	Drilling Support Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
99	Drilling Support Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
									Total Potential $PM_{2.5}$ Emissions Excluding Nonroad Engines	**7.5 tpy**
									Total Potential $PM_{2.5}$ Emissions for Nonroad Engines	**45.0 tpy**
									Total Potential $PM_{2.5}$ Emissions for All Emission Units	**52.5 tpy**

Notes:
[1] Diesel heating value 137,000 Btu/gal
[2] NRE = Nonroad Engine
[3] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)

Table 7. Potential to Emit Calculations - Volatile Organic Compounds (VOCs) Emissions
Point Thomson Unit (PTU) Gas Expansion - Drilling

Emission Unit			Fuel	Maximum Fuel	Factor	VOC Emission	Nonroad	Not-to-Exceed	Maximum Annual	Annual VOC
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Factor	Operation	Emissions
1	Drill Rig Boiler No. 1	4.2 MMBtu/hr	ULSD	30.0 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.03 tpy
2	Drill Rig Boiler No. 2	6.3 MMBtu/hr	ULSD	45.0 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
3	Drill Rig Pipeshed Tioga Air Heater No. 1	4.2 MMBtu/hr	ULSD	30.0 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.03 tpy
4	Drill Rig Pipeshed Tioga Air Heater No. 2	4.2 MMBtu/hr	ULSD	30.0 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.03 tpy
5	Drill Rig Support Boiler No. 1	6.3 MMBtu/hr	ULSD	45.0 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
6	Drill Rig Support Boiler No. 2	6.3 MMBtu/hr	ULSD	45.0 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
7	Bulk Tank Storage Area Boiler No. 1	5.16 MMBtu/hr	ULSD	35.5 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.04 tpy
8	Bulk Tank Storage Area Boiler No. 2	5.16 MMBtu/hr	ULSD	35.5 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.04 tpy
9	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.06 tpy
10	Bulk Mud Engine No. 1	54 hp	ULSD	2.8 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.6 tpy
11	Bulk Mud Engine No. 2	54 hp	ULSD	2.8 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.6 tpy
12	Coil Tubing Unit Engine	66 hp	ULSD	3.4 gal/hr	Vendor Data	23.0 g/hr	NRE	N/A	8,760 hr/yr	0.2 tpy
13	Bulk Tank Storage Area Generator Engine No. 1	779 hp	ULSD	39.8 gal/hr	NSPS Subpart IIII Tier 4i	0.3 g/hp-hr	N/A	1.25	8,760 hr/yr	2.8 tpy
14	Bulk Tank Storage Area Generator Engine No. 2	779 hp	ULSD	39.8 gal/hr	NSPS Subpart IIII Tier 4i	0.3 g/hp-hr	N/A	1.25	8,760 hr/yr	2.8 tpy
15	Bulk Tank Storage Area Generator Engine No. 3	190 hp	ULSD	8.7 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	2.1 tpy
16	Bulk Tank Storage Area Generator Engine No. 4	190 hp	ULSD	8.7 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	2.1 tpy
17	Bulk Tank Storage Area Heater Engine No. 1	174 hp	ULSD	8.6 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.9 tpy
18	Bulk Tank Storage Area Heater Engine No. 2	174 hp	ULSD	8.6 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.9 tpy
19	MOD 201/202 Generator Engine No. 1	173 hp	ULSD	8.8 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.9 tpy
20	Talkeetna Camp Generator Engine No. 1	450 hp	ULSD	25.4 gal/hr	Vendor Data	1.31 lb/hr	N/A	N/A	8,760 hr/yr	5.7 tpy
21	Talkeetna Camp Generator Engine No. 2	450 hp	ULSD	25.4 gal/hr	Vendor Data	1.31 lb/hr	N/A	N/A	8,760 hr/yr	5.7 tpy
22	MOD 201/202 Generator Engine No. 2	173 hp	ULSD	8.8 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.9 tpy
23	Well Stimulation Pump Engine No. 1	2,250 hp	ULSD	111.9 gal/hr	AP-42, Table 3.4-1	0.000705 lb/hp-hr	NRE	N/A	8,760 hr/yr	6.9 tpy
24	Well Stimulation Pump Engine No. 2	2,250 hp	ULSD	111.9 gal/hr	AP-42, Table 3.4-1	0.000705 lb/hp-hr	NRE	N/A	8,760 hr/yr	6.9 tpy
25	Well Stimulation Pump Engine No. 3	2,250 hp	ULSD	111.9 gal/hr	AP-42, Table 3.4-1	0.000705 lb/hp-hr	NRE	N/A	8,760 hr/yr	6.9 tpy
26	Well Stimulation Pump Engine No. 4	800 hp	ULSD	42.6 gal/hr	40 CFR Part 89 Tier 1	1.0 g/hp-hr	NRE	1.25	8,760 hr/yr	9.7 tpy
27	Well Stimulation Pump Engine No. 5	800 hp	ULSD	42.6 gal/hr	40 CFR Part 89 Tier 1	1.0 g/hp-hr	NRE	1.25	8,760 hr/yr	9.7 tpy
28	Well Stimulation Pump Engine No. 6	800 hp	ULSD	42.6 gal/hr	40 CFR Part 89 Tier 1	1.0 g/hp-hr	NRE	1.25	8,760 hr/yr	9.7 tpy
29	Well Stimulation Pump Engine No. 7	800 hp	ULSD	42.6 gal/hr	40 CFR Part 89 Tier 1	1.0 g/hp-hr	NRE	1.25	8,760 hr/yr	9.7 tpy
30	Well Stimulation Pump Engine No. 8	800 hp	ULSD	42.6 gal/hr	Vendor Data	0.35 lb/hr	NRE	N/A	8,760 hr/yr	1.5 tpy
31	Well Stimulation Pump Engine No. 9	800 hp	ULSD	42.6 gal/hr	Vendor Data	0.35 lb/hr	NRE	N/A	8,760 hr/yr	1.5 tpy
32	Well Stimulation Blender Deck Engine	1,000 hp	ULSD	52.5 gal/hr	AP-42, Table 3.4-1	0.000705 lb/hp-hr	NRE	N/A	8,760 hr/yr	3.1 tpy
33	Well Stimulation Gel Blender Deck Engine	520 hp	ULSD	26.8 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	5.6 tpy
34	Well Stimulation Van Engine	250 hp	ULSD	12.8 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	2.7 tpy
35	Well Stimulation Loads Prop Silo Engine	50 hp	ULSD	2.6 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.5 tpy
36	Drill Rig Generator Engine No. 1	1,195 hp	ULSD	61.0 gal/hr	Vendor Data	2.16 lb/hr	NRE	N/A	8,760 hr/yr	9.5 tpy
37	Drill Rig Generator Engine No. 2	1,195 hp	ULSD	61.0 gal/hr	Vendor Data	2.16 lb/hr	NRE	N/A	8,760 hr/yr	9.5 tpy
38	Drill Rig Generator Engine No. 3	1,195 hp	ULSD	61.0 gal/hr	Vendor Data	2.16 lb/hr	NRE	N/A	8,760 hr/yr	9.5 tpy
39	Drill Rig Generator Engine No. 4	1,195 hp	ULSD	61.0 gal/hr	Vendor Data	2.16 lb/hr	NRE	N/A	8,760 hr/yr	9.5 tpy
40	Sub-base Cold Start Engine	324 hp	ULSD	15.5 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	3.5 tpy
41	Mud Module Cold Start Generator Engine	250 hp	ULSD	12.8 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	2.7 tpy
42	Pump Module Cold Start Generator Engine	250 hp	ULSD	12.8 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	2.7 tpy
43	Reserve Mud Pit No. 1 Aux Engine	399 hp	ULSD	19.2 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	4.3 tpy
44	Reserve Mud Pit No. 2 Aux Engine	399 hp	ULSD	19.2 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	4.3 tpy
45	Drill Rig Generator Engine No. 5	1,105 hp	ULSD	56.4 gal/hr	Vendor Data	2.16 lb/hr	NRE	N/A	8,760 hr/yr	9.5 tpy
46	Drill Rig Generator Engine No. 6	1,104 hp	ULSD	56.4 gal/hr	Vendor Data	2.16 lb/hr	NRE	N/A	8,760 hr/yr	9.5 tpy
47	Drill Rig Generator Engine No. 7	1,108 hp	ULSD	56.6 gal/hr	Vendor Data	2.16 lb/hr	NRE	N/A	8,760 hr/yr	9.5 tpy
48	Drill Rig Generator Engine No. 8	1,102 hp	ULSD	56.3 gal/hr	Vendor Data	2.16 lb/hr	NRE	N/A	8,760 hr/yr	9.5 tpy
49	Auxiliary Motor Complex Cold Start Generator Engine	324 hp	ULSD	15.5 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	3.5 tpy
50	Portable Moving Generator Engine No. 1	113 hp	ULSD	5.8 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.2 tpy
51	Portable Moving Generator Engine No. 2	113 hp	ULSD	5.8 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.2 tpy
52	Main Motor Complex Cold Start Generator Engine	324 hp	ULSD	15.5 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	3.5 tpy
53	Cement Unit Engine No. 1	340 hp	ULSD	17.4 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	3.7 tpy
54	Cement Unit Engine No. 2	340 hp	ULSD	17.4 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	3.7 tpy
55	Alaska Camp Generator Engine No. 1	732 hp	ULSD	34.7 gal/hr	Vendor Data	0.11 g/hp-hr	N/A	N/A	8,760 hr/yr	0.8 tpy
56	Alaska Camp Generator Engine No. 2	732 hp	ULSD	34.7 gal/hr	Vendor Data	0.11 g/hp-hr	N/A	N/A	8,760 hr/yr	0.8 tpy
57	Brine Filtration Generator Engine No. 1	374 hp	ULSD	18.3 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	4.0 tpy
58	Bulk Tank Storage Area Heater Engine No. 3	174 hp	ULSD	8.6 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.9 tpy
59	Bulk Tank Storage Area Heater Engine No. 4	174 hp	ULSD	8.6 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.9 tpy
60	Bulk Tank Storage Area Heater Engine No. 5	174 hp	ULSD	8.6 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.9 tpy
61	Bulk Tank Storage Area Heater Engine No. 6	174 hp	ULSD	8.6 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.9 tpy
62	Warehouse Generator Engine No. 1	96 hp	ULSD	4.9 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	N/A	N/A	8,760 hr/yr	1.0 tpy
63	Warehouse Generator Engine No. 2	96 hp	ULSD	4.9 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	N/A	N/A	8,760 hr/yr	1.0 tpy
64	Drilling Support Engine No. 1	43 hp	ULSD	2.2 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.5 tpy
65	Drilling Support Engine No. 2	120 hp	ULSD	6.1 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.3 tpy
66	Drilling Support Engine No. 3	120 hp	ULSD	6.1 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.3 tpy
67	Drilling Support Engine No. 4	120 hp	ULSD	6.1 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.3 tpy
68	Drilling Support Engine No. 5	115 hp	ULSD	5.9 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.2 tpy
69	Drilling Support Engine No. 6	115 hp	ULSD	5.9 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.2 tpy
70	Brine Filtration Generator Engine No. 2	374 hp	ULSD	18.3 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	4.0 tpy
71	Cement Unit Engine No. 3	91 hp	ULSD	4.6 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.0 tpy
72	Brine Filtration Support Engine	61 hp	ULSD	3.1 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.7 tpy
73	Bulk Barite Engine	75 hp	ULSD	3.8 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.8 tpy
74	Cement Unit Support Engine	83 hp	ULSD	4.2 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.9 tpy
75	Truck Shop No. 1 Heater No. 1	0.229 MMBtu/hr	ULSD	1.7 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.002 tpy
76	Truck Shop No. 1 Heater No. 2	0.229 MMBtu/hr	ULSD	1.7 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.002 tpy
77	Truck Shop No. 2 Heater No. 1	0.229 MMBtu/hr	ULSD	1.7 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.002 tpy
78	Truck Shop No. 2 Heater No. 2	0.229 MMBtu/hr	ULSD	1.7 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.002 tpy
79	Warehouse Heater No. 1	2.5 MMBtu/hr	ULSD	18.2 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.02 tpy
80	Warehouse Heater No. 2	2.5 MMBtu/hr	ULSD	18.2 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.02 tpy
81	Portable Heater No. 1	0.7 MMBtu/hr	ULSD	5.1 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
82	Portable Heater No. 2	0.7 MMBtu/hr	ULSD	5.1 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
83	Portable Heater No. 3	0.7 MMBtu/hr	ULSD	5.1 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
84	Portable Heater No. 4	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.02 tpy
85	Portable Heater No. 5	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.02 tpy
86	Portable Heater No. 6	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.02 tpy
87	Portable Heater No. 7	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.02 tpy
88	Portable Heater No. 8	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.02 tpy
89	Portable Heater No. 9	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.02 tpy
90	Portable Drill Rig Heater Unit No. 1	0.5 MMBtu/hr	ULSD	3.6 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.004 tpy
91	Portable Drill Rig Heater Unit No. 2	0.5 MMBtu/hr	ULSD	3.6 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.004 tpy
92	Tioga Heater No. 1	0.9 MMBtu/hr	ULSD	6.6 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
93	Tioga Heater No. 2	0.9 MMBtu/hr	ULSD	6.6 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
94	Tioga Heater No. 3	0.9 MMBtu/hr	ULSD	6.6 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
95	Drilling Support Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
96	Drilling Support Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
97	Drilling Support Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
98	Drilling Support Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
99	Drilling Support Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
									Total Potential VOC Emissions Excluding Nonroad Engines	**21.4 tpy**
									Total Potential VOC Emissions for Nonroad Engines	**223.4 tpy**
									Total Potential VOC Emissions for All Emission Units	**244.8 tpy**

Notes:
[1] Diesel heating value 137,000 Btu/gal

Table 8. Potential to Emit Calculations - Sulfur Dioxide (SO_2) Emissions
Point Thomson Unit (PTU) Gas Expansion - Drilling

Emission Unit			Fuel	Maximum Fuel	Maximum Fuel	Factor	SO_2 Emission	Nonroad	Maximum Annual	Annual SO_2
ID	Description	Rating/Capacity	Type	Consumption	Sulfur Content	Reference	Factor	Engine	Operation	Emissions
1	Drill Rig Boiler No. 1	4.2 MMBtu/hr	ULSD	30.0 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.03 tpy
2	Drill Rig Boiler No. 2	6.3 MMBtu/hr	ULSD	45.0 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.04 tpy
3	Drill Rig Pipeshed Tioga Air Heater No. 1	4.2 MMBtu/hr	ULSD	30.0 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.03 tpy
4	Drill Rig Pipeshed Tioga Air Heater No. 2	4.2 MMBtu/hr	ULSD	30.0 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.03 tpy
5	Drill Rig Support Boiler No. 1	6.3 MMBtu/hr	ULSD	45.0 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.04 tpy
6	Drill Rig Support Boiler No. 2	6.3 MMBtu/hr	ULSD	45.0 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.04 tpy
7	Bulk Tank Storage Area Boiler No. 1	5.16 MMBtu/hr	ULSD	35.5 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.03 tpy
8	Bulk Tank Storage Area Boiler No. 2	5.16 MMBtu/hr	ULSD	35.5 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.03 tpy
9	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.05 tpy
10	Bulk Mud Engine No. 1	54 hp	ULSD	2.8 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.003 tpy
11	Bulk Mud Engine No. 2	54 hp	ULSD	2.8 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.003 tpy
12	Coil Tubing Unit Engine	66 hp	ULSD	3.4 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.003 tpy
13	Bulk Tank Storage Area Generator Engine No. 1	779 hp	ULSD	39.8 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.04 tpy
14	Bulk Tank Storage Area Generator Engine No. 2	779 hp	ULSD	39.8 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.04 tpy
15	Bulk Tank Storage Area Generator Engine No. 3	190 hp	ULSD	8.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.01 tpy
16	Bulk Tank Storage Area Generator Engine No. 4	190 hp	ULSD	8.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.01 tpy
17	Bulk Tank Storage Area Heater Engine No. 1	174 hp	ULSD	8.6 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.01 tpy
18	Bulk Tank Storage Area Heater Engine No. 2	174 hp	ULSD	8.6 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.01 tpy
19	MOD 201/202 Generator Engine No. 1	173 hp	ULSD	8.8 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.01 tpy
20	Talkeetna Camp Generator Engine No. 1	450 hp	ULSD	25.4 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.02 tpy
21	Talkeetna Camp Generator Engine No. 2	450 hp	ULSD	25.4 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.02 tpy
22	MOD 201/202 Generator Engine No. 2	173 hp	ULSD	8.8 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.01 tpy
23	Well Stimulation Pump Engine No. 1	2,250 hp	ULSD	111.9 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.1 tpy
24	Well Stimulation Pump Engine No. 2	2,250 hp	ULSD	111.9 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.1 tpy
25	Well Stimulation Pump Engine No. 3	2,250 hp	ULSD	111.9 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.1 tpy
26	Well Stimulation Pump Engine No. 4	800 hp	ULSD	42.6 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.04 tpy
27	Well Stimulation Pump Engine No. 5	800 hp	ULSD	42.6 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.04 tpy
28	Well Stimulation Pump Engine No. 6	800 hp	ULSD	42.6 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.04 tpy
29	Well Stimulation Pump Engine No. 7	800 hp	ULSD	42.6 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.04 tpy
30	Well Stimulation Pump Engine No. 8	800 hp	ULSD	42.6 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.04 tpy
31	Well Stimulation Pump Engine No. 9	800 hp	ULSD	42.6 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.04 tpy
32	Well Stimulation Blender Deck Engine	1,000 hp	ULSD	52.5 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.05 tpy
33	Well Stimulation Gel Blender Deck Engine	520 hp	ULSD	26.8 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.03 tpy
34	Well Stimulation Van Engine	250 hp	ULSD	12.8 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.01 tpy
35	Well Stimulation Loads Prop Silo Engine	50 hp	ULSD	2.6 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.002 tpy
36	Drill Rig Generator Engine No. 1	1,195 hp	ULSD	61.0 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.1 tpy
37	Drill Rig Generator Engine No. 2	1,195 hp	ULSD	61.0 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.1 tpy
38	Drill Rig Generator Engine No. 3	1,195 hp	ULSD	61.0 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.1 tpy
39	Drill Rig Generator Engine No. 4	1,195 hp	ULSD	61.0 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.1 tpy
40	Sub-base Cold Start Engine	324 hp	ULSD	15.5 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.01 tpy
41	Mud Module Cold Start Generator Engine	250 hp	ULSD	12.8 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.01 tpy
42	Pump Module Cold Start Generator Engine	250 hp	ULSD	12.8 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.01 tpy
43	Reserve Mud Pit No. 1 Aux Engine	399 hp	ULSD	19.2 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.02 tpy
44	Reserve Mud Pit No. 2 Aux Engine	399 hp	ULSD	19.2 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.02 tpy
45	Drill Rig Generator Engine No. 5	1,105 hp	ULSD	56.4 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.1 tpy
46	Drill Rig Generator Engine No. 6	1,104 hp	ULSD	56.4 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.1 tpy
47	Drill Rig Generator Engine No. 7	1,108 hp	ULSD	56.6 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.1 tpy
48	Drill Rig Generator Engine No. 8	1,102 hp	ULSD	56.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.1 tpy
49	Auxiliary Motor Complex Cold Start Generator Engine	324 hp	ULSD	15.5 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.01 tpy
50	Portable Moving Generator Engine No. 1	113 hp	ULSD	5.8 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.01 tpy
51	Portable Moving Generator Engine No. 2	113 hp	ULSD	5.8 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.01 tpy
52	Main Motor Complex Cold Start Generator Engine	324 hp	ULSD	15.5 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.01 tpy
53	Cement Unit Engine No. 1	340 hp	ULSD	17.4 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.02 tpy
54	Cement Unit Engine No. 2	340 hp	ULSD	17.4 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.02 tpy
55	Alaska Camp Generator Engine No. 1	732 hp	ULSD	34.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.03 tpy
56	Alaska Camp Generator Engine No. 2	732 hp	ULSD	34.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.03 tpy
57	Brine Filtration Generator Engine No. 1	374 hp	ULSD	18.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.02 tpy
58	Bulk Tank Storage Area Heater Engine No. 3	174 hp	ULSD	8.6 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.01 tpy
59	Bulk Tank Storage Area Heater Engine No. 4	174 hp	ULSD	8.6 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.01 tpy
60	Bulk Tank Storage Area Heater Engine No. 5	174 hp	ULSD	8.6 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.01 tpy
61	Bulk Tank Storage Area Heater Engine No. 6	174 hp	ULSD	8.6 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.01 tpy
62	Warehouse Generator Engine No. 1	96 hp	ULSD	4.9 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.005 tpy
63	Warehouse Generator Engine No. 2	96 hp	ULSD	4.9 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.005 tpy
64	Drilling Support Engine No. 1	43 hp	ULSD	2.2 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.002 tpy
65	Drilling Support Engine No. 2	120 hp	ULSD	6.1 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.01 tpy
66	Drilling Support Engine No. 3	120 hp	ULSD	6.1 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.01 tpy
67	Drilling Support Engine No. 4	120 hp	ULSD	6.1 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.01 tpy
68	Drilling Support Engine No. 5	115 hp	ULSD	5.9 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.01 tpy
69	Drilling Support Engine No. 6	115 hp	ULSD	5.9 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.01 tpy
70	Brine Filtration Generator Engine No. 2	374 hp	ULSD	18.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.02 tpy
71	Cement Unit Engine No. 3	91 hp	ULSD	4.6 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.004 tpy
72	Brine Filtration Support Engine	61 hp	ULSD	3.1 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.003 tpy
73	Bulk Barite Engine	75 hp	ULSD	3.8 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.004 tpy
74	Cement Unit Support Engine	83 hp	ULSD	4.2 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.004 tpy
75	Truck Shop No. 1 Heater No. 1	0.229 MMBtu/hr	ULSD	1.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.002 tpy
76	Truck Shop No. 1 Heater No. 2	0.229 MMBtu/hr	ULSD	1.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.002 tpy
77	Truck Shop No. 2 Heater No. 1	0.229 MMBtu/hr	ULSD	1.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.002 tpy
78	Truck Shop No. 2 Heater No. 2	0.229 MMBtu/hr	ULSD	1.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.002 tpy
79	Warehouse Heater No. 1	2.5 MMBtu/hr	ULSD	18.2 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.02 tpy
80	Warehouse Heater No. 2	2.5 MMBtu/hr	ULSD	18.2 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.02 tpy
81	Portable Heater No. 1	0.7 MMBtu/hr	ULSD	5.1 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.005 tpy
82	Portable Heater No. 2	0.7 MMBtu/hr	ULSD	5.1 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.005 tpy
83	Portable Heater No. 3	0.7 MMBtu/hr	ULSD	5.1 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.005 tpy
84	Portable Heater No. 4	2.75 MMBtu/hr	ULSD	20.1 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.02 tpy
85	Portable Heater No. 5	2.75 MMBtu/hr	ULSD	20.1 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.02 tpy
86	Portable Heater No. 6	2.75 MMBtu/hr	ULSD	20.1 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.02 tpy
87	Portable Heater No. 7	2.75 MMBtu/hr	ULSD	20.1 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.02 tpy
88	Portable Heater No. 8	2.75 MMBtu/hr	ULSD	20.1 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.02 tpy
89	Portable Heater No. 9	2.75 MMBtu/hr	ULSD	20.1 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.02 tpy
90	Portable Drill Rig Heater Unit No. 1	0.5 MMBtu/hr	ULSD	3.6 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.003 tpy
91	Portable Drill Rig Heater Unit No. 2	0.5 MMBtu/hr	ULSD	3.6 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.003 tpy
92	Tioga Heater No. 1	0.9 MMBtu/hr	ULSD	6.6 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.01 tpy
93	Tioga Heater No. 2	0.9 MMBtu/hr	ULSD	6.6 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.01 tpy
94	Tioga Heater No. 3	0.9 MMBtu/hr	ULSD	6.6 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.01 tpy
95	Drilling Support Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.01 tpy
96	Drilling Support Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.01 tpy
97	Drilling Support Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.01 tpy
98	Drilling Support Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.01 tpy
99	Drilling Support Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.01 tpy
									Total Potential SO_2 Emissions Excluding Nonroad Engines	**0.8 tpy**
									Total Potential SO_2 Emissions for Nonroad Engines	**1.4 tpy**
									Total Potential SO_2 Emissions for All Emission Units	**2.1 tpy**

Notes:
[1] Diesel heating value 137,000 Btu/gal
[2] NRE = Nonroad Engine
[3] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)
[4] Diesel engine heat rate 7,000 Btu/hp-hr AP-42, Table 3.3-1
[5] Diesel sulfur content: 15 ppmw (0.0015 wt. pct.)

Table 9. Potential to Emit Calculations - Lead Emission
Point Thomson Unit (PTU) Gas Expansion - Drillin

Emission Unit			Fuel	Maximum Fuel	Factor	Lead Emission	Nonroad	Maximum Annual	Annual Lead
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Operation	Emissions
1	Drill Rig Boiler No. 1	4.2 MMBtu/hr	ULSD	30.0 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	8,760 hr/yr	0.0002 tpy
2	Drill Rig Boiler No. 2	6.3 MMBtu/hr	ULSD	45.0 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	8,760 hr/yr	0.0002 tpy
3	Drill Rig Pipeshed Tioga Air Heater No. 1	4.2 MMBtu/hr	ULSD	30.0 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	8,760 hr/yr	0.0002 tpy
4	Drill Rig Pipeshed Tioga Air Heater No. 2	4.2 MMBtu/hr	ULSD	30.0 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	8,760 hr/yr	0.0002 tpy
5	Drill Rig Support Boiler No. 1	6.3 MMBtu/hr	ULSD	45.0 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	8,760 hr/yr	0.0002 tpy
6	Drill Rig Support Boiler No. 2	6.3 MMBtu/hr	ULSD	45.0 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	8,760 hr/yr	0.0002 tpy
7	Bulk Tank Storage Area Boiler No. 1	5.16 MMBtu/hr	ULSD	35.5 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	8,760 hr/yr	0.0002 tpy
8	Bulk Tank Storage Area Boiler No. 2	5.16 MMBtu/hr	ULSD	35.5 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	8,760 hr/yr	0.0002 tpy
9	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	8,760 hr/yr	0.0003 tpy
10	Bulk Mud Engine No. 1	54 hp	ULSD	2.8 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
11	Bulk Mud Engine No. 2	54 hp	ULSD	2.8 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
12	Coil Tubing Unit Engine	66 hp	ULSD	3.4 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
13	Bulk Tank Storage Area Generator Engine No. 1	779 hp	ULSD	39.8 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
14	Bulk Tank Storage Area Generator Engine No. 2	779 hp	ULSD	39.8 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
15	Bulk Tank Storage Area Generator Engine No. 3	190 hp	ULSD	8.7 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
16	Bulk Tank Storage Area Generator Engine No. 4	190 hp	ULSD	8.7 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
17	Bulk Tank Storage Area Heater Engine No. 1	174 hp	ULSD	8.6 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
18	Bulk Tank Storage Area Heater Engine No. 2	174 hp	ULSD	8.6 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
19	MOD 201/202 Generator Engine No. 1	173 hp	ULSD	8.8 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
20	Talkeetna Camp Generator Engine No. 1	450 hp	ULSD	25.4 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
21	Talkeetna Camp Generator Engine No. 2	450 hp	ULSD	25.4 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
22	MOD 201/202 Generator Engine No. 2	173 hp	ULSD	8.8 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
23	Well Stimulation Pump Engine No. 1	2,250 hp	ULSD	111.9 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
24	Well Stimulation Pump Engine No. 2	2,250 hp	ULSD	111.9 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
25	Well Stimulation Pump Engine No. 3	2,250 hp	ULSD	111.9 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
26	Well Stimulation Pump Engine No. 4	800 hp	ULSD	42.6 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
27	Well Stimulation Pump Engine No. 5	800 hp	ULSD	42.6 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
28	Well Stimulation Pump Engine No. 6	800 hp	ULSD	42.6 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
29	Well Stimulation Pump Engine No. 7	800 hp	ULSD	42.6 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
30	Well Stimulation Pump Engine No. 8	800 hp	ULSD	42.6 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
31	Well Stimulation Pump Engine No. 9	800 hp	ULSD	42.6 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
32	Well Stimulation Blender Deck Engine	1,000 hp	ULSD	52.5 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
33	Well Stimulation Gel Blender Deck Engine	520 hp	ULSD	26.8 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
34	Well Stimulation Van Engine	250 hp	ULSD	12.8 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
35	Well Stimulation Loads Prop Silo Engine	50 hp	ULSD	2.6 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
36	Drill Rig Generator Engine No. 1	1,195 hp	ULSD	61.0 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
37	Drill Rig Generator Engine No. 2	1,195 hp	ULSD	61.0 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
38	Drill Rig Generator Engine No. 3	1,195 hp	ULSD	61.0 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
39	Drill Rig Generator Engine No. 4	1,195 hp	ULSD	61.0 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
40	Sub-base Cold Start Engine	324 hp	ULSD	15.5 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
41	Mud Module Cold Start Generator Engine	250 hp	ULSD	12.8 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
42	Pump Module Cold Start Generator Engine	250 hp	ULSD	12.8 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
43	Reserve Mud Pit No. 1 Aux Engine	399 hp	ULSD	19.2 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
44	Reserve Mud Pit No. 2 Aux Engine	399 hp	ULSD	19.2 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
45	Drill Rig Generator Engine No. 5	1,105 hp	ULSD	56.4 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
46	Drill Rig Generator Engine No. 6	1,104 hp	ULSD	56.4 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
47	Drill Rig Generator Engine No. 7	1,108 hp	ULSD	56.6 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
48	Drill Rig Generator Engine No. 8	1,102 hp	ULSD	56.3 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
49	Auxiliary Motor Complex Cold Start Generator Engine	324 hp	ULSD	15.5 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
50	Portable Moving Generator Engine No. 1	113 hp	ULSD	5.8 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
51	Portable Moving Generator Engine No. 2	113 hp	ULSD	5.8 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
52	Main Motor Complex Cold Start Generator Engine	324 hp	ULSD	15.5 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
53	Cement Unit Engine No. 1	340 hp	ULSD	17.4 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
54	Cement Unit Engine No. 2	340 hp	ULSD	17.4 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
55	Alaska Camp Generator Engine No. 1	732 hp	ULSD	34.7 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
56	Alaska Camp Generator Engine No. 2	732 hp	ULSD	34.7 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
57	Brine Filtration Generator Engine No. 1	374 hp	ULSD	18.3 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
58	Bulk Tank Storage Area Heater Engine No. 3	174 hp	ULSD	8.6 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
59	Bulk Tank Storage Area Heater Engine No. 4	174 hp	ULSD	8.6 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
60	Bulk Tank Storage Area Heater Engine No. 5	174 hp	ULSD	8.6 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
61	Bulk Tank Storage Area Heater Engine No. 6	174 hp	ULSD	8.6 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
62	Warehouse Generator Engine No. 1	96 hp	ULSD	4.9 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
63	Warehouse Generator Engine No. 2	96 hp	ULSD	4.9 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
64	Drilling Support Engine No. 1	43 hp	ULSD	2.2 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
65	Drilling Support Engine No. 2	120 hp	ULSD	6.1 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
66	Drilling Support Engine No. 3	120 hp	ULSD	6.1 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
67	Drilling Support Engine No. 4	120 hp	ULSD	6.1 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
68	Drilling Support Engine No. 5	115 hp	ULSD	5.9 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
69	Drilling Support Engine No. 6	115 hp	ULSD	5.9 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
70	Brine Filtration Generator Engine No. 2	374 hp	ULSD	18.3 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
71	Cement Unit Engine No. 3	91 hp	ULSD	4.6 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
72	Brine Filtration Support Engine	61 hp	ULSD	3.1 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
73	Bulk Barite Engine	75 hp	ULSD	3.8 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
74	Cement Unit Support Engine	83 hp	ULSD	4.2 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
75	Truck Shop No. 1 Heater No. 1	0.229 MMBtu/hr	ULSD	1.65 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	8,760 hr/yr	0.00001 tpy
76	Truck Shop No. 1 Heater No. 2	0.229 MMBtu/hr	ULSD	1.65 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	8,760 hr/yr	0.00001 tpy
77	Truck Shop No. 2 Heater No. 1	0.229 MMBtu/hr	ULSD	1.65 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	8,760 hr/yr	0.00001 tpy
78	Truck Shop No. 2 Heater No. 2	0.229 MMBtu/hr	ULSD	1.65 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	8,760 hr/yr	0.00001 tpy
79	Warehouse Heater No. 1	2.5 MMBtu/hr	ULSD	18.2 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	8,760 hr/yr	0.0001 tpy
80	Warehouse Heater No. 2	2.5 MMBtu/hr	ULSD	18.2 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	8,760 hr/yr	0.0001 tpy
81	Portable Heater No. 1	0.7 MMBtu/hr	ULSD	5.1 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	8,760 hr/yr	0.00003 tpy
82	Portable Heater No. 2	0.7 MMBtu/hr	ULSD	5.1 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	8,760 hr/yr	0.00003 tpy
83	Portable Heater No. 3	0.7 MMBtu/hr	ULSD	5.1 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	8,760 hr/yr	0.00003 tpy
84	Portable Heater No. 4	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	8,760 hr/yr	0.0001 tpy
85	Portable Heater No. 5	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	8,760 hr/yr	0.0001 tpy
86	Portable Heater No. 6	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	8,760 hr/yr	0.0001 tpy
87	Portable Heater No. 7	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	8,760 hr/yr	0.0001 tpy
88	Portable Heater No. 8	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	8,760 hr/yr	0.0001 tpy
89	Portable Heater No. 9	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	8,760 hr/yr	0.0001 tpy
90	Portable Drill Rig Heater Unit No. 1	0.5 MMBtu/hr	ULSD	3.6 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	8,760 hr/yr	0.00002 tpy
91	Portable Drill Rig Heater Unit No. 2	0.5 MMBtu/hr	ULSD	3.6 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	8,760 hr/yr	0.00002 tpy
92	Tioga Heater No. 1	0.9 MMBtu/hr	ULSD	6.6 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	8,760 hr/yr	0.00004 tpy
93	Tioga Heater No. 2	0.9 MMBtu/hr	ULSD	6.6 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	8,760 hr/yr	0.00004 tpy
94	Tioga Heater No. 3	0.9 MMBtu/hr	ULSD	6.6 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	8,760 hr/yr	0.00004 tpy
95	Drilling Support Heater No. 1	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	8,760 hr/yr	0.00004 tpy
96	Drilling Support Heater No. 2	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	8,760 hr/yr	0.00004 tpy
97	Drilling Support Heater No. 3	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	8,760 hr/yr	0.00004 tpy
98	Drilling Support Heater No. 4	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	8,760 hr/yr	0.00004 tpy
99	Drilling Support Heater No. 5	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	8,760 hr/yr	0.00004 tpy
								Total Potential Lead Emissions Excluding Nonroad Engine	**0.003 tpy**
								Total Potential Lead Emissions for Nonroad Engine	**0.0 tpy**
								Total Potential Lead Emissions for All Emission Units	**0.003 tpy**

Notes:
[1] Diesel heating value 137,000 Btu/gal
[2] Fuel factor for crude, residual, and distillate oi 9,190 dscf/MMBtu
[3] NRE = Nonroad Engine
[4] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)

Table 10. Potential to Emit Calculations - Carbon Dioxide Equivalent (CO2e) Emissions
Point Thomson Unit (PTU) Gas Expansion - Drilling

Emission Unit			Fuel	Nonroad	Potential Greenhouse Gas Emissions (tonne/year)				
ID	Description	Rating/Capacity	Type	Engine	CO_2	CH_4	N_2O	GHG Mass	GHG CO_2e
1	Drill Rig Boiler No. 1	4.2 MMBtu/hr	ULSD	N/A	2,682	0.11	0.022	2,682	2,691
2	Drill Rig Boiler No. 2	6.3 MMBtu/hr	ULSD	N/A	4,023	0.16	0.033	4,024	4,037
3	Drill Rig Pipeshed Tioga Air Heater No. 1	4.2 MMBtu/hr	ULSD	N/A	2,682	0.11	0.022	2,682	2,691
4	Drill Rig Pipeshed Tioga Air Heater No. 2	4.2 MMBtu/hr	ULSD	N/A	2,682	0.11	0.022	2,682	2,691
5	Drill Rig Support Boiler No. 1	6.3 MMBtu/hr	ULSD	N/A	4,023	0.16	0.033	4,024	4,037
6	Drill Rig Support Boiler No. 2	6.3 MMBtu/hr	ULSD	N/A	4,023	0.16	0.033	4,024	4,037
7	Bulk Tank Storage Area Boiler No. 1	5.16 MMBtu/hr	ULSD	N/A	3,174	0.13	0.026	3,174	3,185
8	Bulk Tank Storage Area Boiler No. 2	5.16 MMBtu/hr	ULSD	N/A	3,174	0.13	0.026	3,174	3,185
9	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	N/A	5,220	0.21	0.042	5,220	5,238
10	Bulk Mud Engine No. 1	54 hp	ULSD	NRE	247	0.01	0.002	247	247
11	Bulk Mud Engine No. 2	54 hp	ULSD	NRE	247	0.01	0.002	247	247
12	Coil Tubing Unit Engine	66 hp	ULSD	NRE	301	0.01	0.002	301	302
13	Bulk Tank Storage Area Generator Engine No. 1	779 hp	ULSD	N/A	3,558	0.14	0.029	3,558	3,570
14	Bulk Tank Storage Area Generator Engine No. 2	779 hp	ULSD	N/A	3,558	0.14	0.029	3,558	3,570
15	Bulk Tank Storage Area Generator Engine No. 3	190 hp	ULSD	NRE	778	0.03	0.006	778	781
16	Bulk Tank Storage Area Generator Engine No. 4	190 hp	ULSD	NRE	778	0.03	0.006	778	781
17	Bulk Tank Storage Area Heater Engine No. 1	174 hp	ULSD	NRE	769	0.03	0.006	769	772
18	Bulk Tank Storage Area Heater Engine No. 2	174 hp	ULSD	NRE	769	0.03	0.006	769	772
19	MOD 201/202 Generator Engine No. 1	173 hp	ULSD	NRE	790	0.03	0.006	790	793
20	Talkeetna Camp Generator Engine No. 1	450 hp	ULSD	N/A	2,272	0.09	0.018	2,272	2,280
21	Talkeetna Camp Generator Engine No. 2	450 hp	ULSD	N/A	2,272	0.09	0.018	2,272	2,280
22	MOD 201/202 Generator Engine No. 2	173 hp	ULSD	NRE	790	0.03	0.006	790	793
23	Well Stimulation Pump Engine No. 1	2,250 hp	ULSD	NRE	10,005	0.41	0.081	10,005	10,039
24	Well Stimulation Pump Engine No. 2	2,250 hp	ULSD	NRE	10,005	0.41	0.081	10,005	10,039
25	Well Stimulation Pump Engine No. 3	2,250 hp	ULSD	NRE	10,005	0.41	0.081	10,005	10,039
26	Well Stimulation Pump Engine No. 4	800 hp	ULSD	NRE	3,805	0.15	0.031	3,805	3,818
27	Well Stimulation Pump Engine No. 5	800 hp	ULSD	NRE	3,805	0.15	0.031	3,805	3,818
28	Well Stimulation Pump Engine No. 6	800 hp	ULSD	NRE	3,805	0.15	0.031	3,805	3,818
29	Well Stimulation Pump Engine No. 7	800 hp	ULSD	NRE	3,805	0.15	0.031	3,805	3,818
30	Well Stimulation Pump Engine No. 8	800 hp	ULSD	NRE	3,805	0.15	0.031	3,805	3,818
31	Well Stimulation Pump Engine No. 9	800 hp	ULSD	NRE	3,805	0.15	0.031	3,805	3,818
32	Well Stimulation Blender Deck Engine	1,000 hp	ULSD	NRE	4,694	0.19	0.038	4,694	4,710
33	Well Stimulation Gel Blender Deck Engine	520 hp	ULSD	NRE	2,396	0.10	0.019	2,396	2,404
34	Well Stimulation Van Engine	250 hp	ULSD	NRE	1,142	0.05	0.009	1,142	1,146
35	Well Stimulation Loads Prop Silo Engine	50 hp	ULSD	NRE	228	0.01	0.002	228	229
36	Drill Rig Generator Engine No. 1	1,195 hp	ULSD	NRE	5,458	0.22	0.044	5,458	5,477
37	Drill Rig Generator Engine No. 2	1,195 hp	ULSD	NRE	5,458	0.22	0.044	5,458	5,477
38	Drill Rig Generator Engine No. 3	1,195 hp	ULSD	NRE	5,458	0.22	0.044	5,458	5,477
39	Drill Rig Generator Engine No. 4	1,195 hp	ULSD	NRE	5,458	0.22	0.044	5,458	5,477
40	Sub-base Cold Start Engine	324 hp	ULSD	NRE	1,386	0.06	0.011	1,386	1,391
41	Mud Module Cold Start Generator Engine	250 hp	ULSD	NRE	1,144	0.05	0.009	1,144	1,148
42	Pump Module Cold Start Generator Engine	250 hp	ULSD	NRE	1,144	0.05	0.009	1,144	1,148
43	Reserve Mud Pit No. 1 Aux Engine	399 hp	ULSD	NRE	1,717	0.07	0.014	1,717	1,723
44	Reserve Mud Pit No. 2 Aux Engine	399 hp	ULSD	NRE	1,717	0.07	0.014	1,717	1,723
45	Drill Rig Generator Engine No. 5	1,105 hp	ULSD	NRE	5,047	0.20	0.041	5,047	5,064
46	Drill Rig Generator Engine No. 6	1,104 hp	ULSD	NRE	5,042	0.20	0.041	5,043	5,060
47	Drill Rig Generator Engine No. 7	1,108 hp	ULSD	NRE	5,061	0.21	0.041	5,061	5,078
48	Drill Rig Generator Engine No. 8	1,102 hp	ULSD	NRE	5,033	0.20	0.041	5,033	5,050
49	Auxiliary Motor Complex Cold Start Generator Engine	324 hp	ULSD	NRE	1,386	0.06	0.011	1,386	1,391
50	Portable Moving Generator Engine No. 1	113 hp	ULSD	NRE	516	0.02	0.004	516	518
51	Portable Moving Generator Engine No. 2	113 hp	ULSD	NRE	516	0.02	0.004	516	518
52	Main Motor Complex Cold Start Generator Engine	324 hp	ULSD	NRE	1,386	0.06	0.011	1,386	1,391
53	Cement Unit Engine No. 1	340 hp	ULSD	NRE	1,553	0.06	0.013	1,553	1,558
54	Cement Unit Engine No. 2	340 hp	ULSD	NRE	1,553	0.06	0.013	1,553	1,558
55	Alaska Camp Generator Engine No. 1	732 hp	ULSD	N/A	3,102	0.13	0.025	3,103	3,113
56	Alaska Camp Generator Engine No. 2	732 hp	ULSD	N/A	3,102	0.13	0.025	3,103	3,113
57	Brine Filtration Generator Engine No. 1	374 hp	ULSD	NRE	1,636	0.07	0.013	1,636	1,642
58	Bulk Tank Storage Area Heater Engine No. 3	174 hp	ULSD	NRE	769	0.03	0.006	769	772
59	Bulk Tank Storage Area Heater Engine No. 4	174 hp	ULSD	NRE	769	0.03	0.006	769	772
60	Bulk Tank Storage Area Heater Engine No. 5	174 hp	ULSD	NRE	769	0.03	0.006	769	772
61	Bulk Tank Storage Area Heater Engine No. 6	174 hp	ULSD	NRE	769	0.03	0.006	769	772
62	Warehouse Generator Engine No. 1	96 hp	ULSD	N/A	438	0.02	0.004	438	440
63	Warehouse Generator Engine No. 2	96 hp	ULSD	N/A	438	0.02	0.004	438	440
64	Drilling Support Engine No. 1	43 hp	ULSD	NRE	196	0.01	0.002	196	197
65	Drilling Support Engine No. 2	120 hp	ULSD	NRE	548	0.02	0.004	548	550
66	Drilling Support Engine No. 3	120 hp	ULSD	NRE	548	0.02	0.004	548	550
67	Drilling Support Engine No. 4	120 hp	ULSD	NRE	548	0.02	0.004	548	550
68	Drilling Support Engine No. 5	115 hp	ULSD	NRE	525	0.02	0.004	525	527
69	Drilling Support Engine No. 6	115 hp	ULSD	NRE	525	0.02	0.004	525	527
70	Brine Filtration Generator Engine No. 2	374 hp	ULSD	NRE	1,636	0.07	0.013	1,636	1,642
71	Cement Unit Engine No. 3	91 hp	ULSD	NRE	416	0.02	0.003	416	417
72	Brine Filtration Support Engine	61 hp	ULSD	NRE	279	0.01	0.002	279	280
73	Bulk Barite Engine	75 hp	ULSD	NRE	343	0.01	0.003	343	344
74	Cement Unit Support Engine	83 hp	ULSD	NRE	379	0.02	0.003	379	380
75	Truck Shop No. 1 Heater No. 1	0.229 MMBtu/hr	ULSD	N/A	148	0.01	0.001	148	148
76	Truck Shop No. 1 Heater No. 2	0.229 MMBtu/hr	ULSD	N/A	148	0.01	0.001	148	148
77	Truck Shop No. 2 Heater No. 1	0.229 MMBtu/hr	ULSD	N/A	148	0.01	0.001	148	148
78	Truck Shop No. 2 Heater No. 2	0.229 MMBtu/hr	ULSD	N/A	148	0.01	0.001	148	148
79	Warehouse Heater No. 1	2.5 MMBtu/hr	ULSD	N/A	1,631	0.07	0.013	1,631	1,637
80	Warehouse Heater No. 2	2.5 MMBtu/hr	ULSD	N/A	1,631	0.07	0.013	1,631	1,637
81	Portable Heater No. 1	0.7 MMBtu/hr	ULSD	N/A	457	0.02	0.004	457	458
82	Portable Heater No. 2	0.7 MMBtu/hr	ULSD	N/A	457	0.02	0.004	457	458
83	Portable Heater No. 3	0.7 MMBtu/hr	ULSD	N/A	457	0.02	0.004	457	458
84	Portable Heater No. 4	2.75 MMBtu/hr	ULSD	N/A	1,794	0.07	0.015	1,794	1,800
85	Portable Heater No. 5	2.75 MMBtu/hr	ULSD	N/A	1,794	0.07	0.015	1,794	1,800
86	Portable Heater No. 6	2.75 MMBtu/hr	ULSD	N/A	1,794	0.07	0.015	1,794	1,800
87	Portable Heater No. 7	2.75 MMBtu/hr	ULSD	N/A	1,794	0.07	0.015	1,794	1,800
88	Portable Heater No. 8	2.75 MMBtu/hr	ULSD	N/A	1,794	0.07	0.015	1,794	1,800
89	Portable Heater No. 9	2.75 MMBtu/hr	ULSD	N/A	1,794	0.07	0.015	1,794	1,800
90	Portable Drill Rig Heater Unit No. 1	0.5 MMBtu/hr	ULSD	N/A	326	0.01	0.003	326	327
91	Portable Drill Rig Heater Unit No. 2	0.5 MMBtu/hr	ULSD	N/A	326	0.01	0.003	326	327
92	Tioga Heater No. 1	0.9 MMBtu/hr	ULSD	N/A	587	0.02	0.005	587	589
93	Tioga Heater No. 2	0.9 MMBtu/hr	ULSD	N/A	587	0.02	0.005	587	589
94	Tioga Heater No. 3	0.9 MMBtu/hr	ULSD	N/A	587	0.02	0.005	587	589
95	Drilling Support Heater No. 1	1.0 MMBtu/hr	ULSD	N/A	652	0.03	0.005	653	655
96	Drilling Support Heater No. 2	1.0 MMBtu/hr	ULSD	N/A	652	0.03	0.005	653	655
97	Drilling Support Heater No. 3	1.0 MMBtu/hr	ULSD	N/A	652	0.03	0.005	653	655
98	Drilling Support Heater No. 4	1.0 MMBtu/hr	ULSD	N/A	652	0.03	0.005	653	655
99	Drilling Support Heater No. 5	1.0 MMBtu/hr	ULSD	N/A	652	0.03	0.005	653	655
								Total Potential CO_2e Emissions Excluding Nonroad Engines	**72,340 tonne/year**
								Total Potential CO_2e Emissions for Nonroad Engines	**133,920 tonne/year**
								Total Potential CO_2e Emissions for All Emission Units	**206,260 tonne/year**

Table 11. Potential to Emit Calculations - Carbon Dioxide (CO_2) Emissions
Point Thomson Unit (PTU) Gas Expansion - Drillin

Emission Unit			Fuel	Maximum Fuel	Factor	CO_2 Emission	Nonroad	Maximum Annual	Annual CO_2 Emissions
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Operation	
1	Drill Rig Boiler No. 1	4.2 MMBtu/hr	ULSD	30.0 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	2,682.3 tonne/yea
2	Drill Rig Boiler No. 2	6.3 MMBtu/hr	ULSD	45.0 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	4,023.4 tonne/yea
3	Drill Rig Pipeshed Tioga Air Heater No. 1	4.2 MMBtu/hr	ULSD	30.0 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	2,682.3 tonne/year
4	Drill Rig Pipeshed Tioga Air Heater No. 2	4.2 MMBtu/hr	ULSD	30.0 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	2,682.3 tonne/year
5	Drill Rig Support Boiler No. 1	6.3 MMBtu/hr	ULSD	45.0 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	4,023.4 tonne/year
6	Drill Rig Support Boiler No. 2	6.3 MMBtu/hr	ULSD	45.0 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	4,023.4 tonne/year
7	Bulk Tank Storage Area Boiler No. 1	5.16 MMBtu/hr	ULSD	35.5 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	3,174.0 tonne/year
8	Bulk Tank Storage Area Boiler No. 2	5.16 MMBtu/hr	ULSD	35.5 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	3,174.0 tonne/year
9	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	5,219.8 tonne/year
10	Bulk Mud Engine No. 1	54 hp	ULSD	2.8 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	246.6 tonne/year
11	Bulk Mud Engine No. 2	54 hp	ULSD	2.8 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	246.6 tonne/year
12	Coil Tubing Unit Engine	66 hp	ULSD	3.4 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	301.4 tonne/year
13	Bulk Tank Storage Area Generator Engine No. 1	779 hp	ULSD	39.8 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	3,558.0 tonne/year
14	Bulk Tank Storage Area Generator Engine No. 2	779 hp	ULSD	39.8 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	3,558.0 tonne/year
15	Bulk Tank Storage Area Generator Engine No. 3	190 hp	ULSD	8.7 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	777.9 tonne/year
16	Bulk Tank Storage Area Generator Engine No. 4	190 hp	ULSD	8.7 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	777.9 tonne/year
17	Bulk Tank Storage Area Heater Engine No. 1	174 hp	ULSD	8.6 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	768.9 tonne/year
18	Bulk Tank Storage Area Heater Engine No. 2	174 hp	ULSD	8.6 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	768.9 tonne/year
19	MOD 201/202 Generator Engine No. 1	173 hp	ULSD	8.8 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	790.1 tonne/year
20	Talkeetna Camp Generator Engine No. 1	450 hp	ULSD	25.4 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	2,272.4 tonne/year
21	Talkeetna Camp Generator Engine No. 2	450 hp	ULSD	25.4 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	2,272.4 tonne/year
22	MOD 201/202 Generator Engine No. 2	173 hp	ULSD	8.8 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	790.1 tonne/year
23	Well Stimulation Pump Engine No. 1	2,250 hp	ULSD	111.9 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	10,004.8 tonne/year
24	Well Stimulation Pump Engine No. 2	2,250 hp	ULSD	111.9 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	10,004.8 tonne/year
25	Well Stimulation Pump Engine No. 3	2,250 hp	ULSD	111.9 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	10,004.8 tonne/year
26	Well Stimulation Pump Engine No. 4	800 hp	ULSD	42.6 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	3,805.2 tonne/year
27	Well Stimulation Pump Engine No. 5	800 hp	ULSD	42.6 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	3,805.2 tonne/year
28	Well Stimulation Pump Engine No. 6	800 hp	ULSD	42.6 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	3,805.2 tonne/year
29	Well Stimulation Pump Engine No. 7	800 hp	ULSD	42.6 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	3,805.2 tonne/year
30	Well Stimulation Pump Engine No. 8	800 hp	ULSD	42.6 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	3,805.2 tonne/year
31	Well Stimulation Pump Engine No. 9	800 hp	ULSD	42.6 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	3,805.2 tonne/year
32	Well Stimulation Blender Deck Engine	1,000 hp	ULSD	52.5 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	4,694.0 tonne/year
33	Well Stimulation Gel Blender Deck Engine	520 hp	ULSD	26.8 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	2,396.2 tonne/year
34	Well Stimulation Van Engine	250 hp	ULSD	12.8 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	1,141.8 tonne/year
35	Well Stimulation Loads Prop Silo Engine	50 hp	ULSD	2.6 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	228.4 tonne/year
36	Drill Rig Generator Engine No. 1	1,195 hp	ULSD	61.0 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	5,458.0 tonne/year
37	Drill Rig Generator Engine No. 2	1,195 hp	ULSD	61.0 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	5,458.0 tonne/year
38	Drill Rig Generator Engine No. 3	1,195 hp	ULSD	61.0 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	5,458.0 tonne/year
39	Drill Rig Generator Engine No. 4	1,195 hp	ULSD	61.0 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	5,458.0 tonne/year
40	Sub-base Cold Start Engine	324 hp	ULSD	15.5 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	1,385.8 tonne/year
41	Mud Module Cold Start Generator Engine	250 hp	ULSD	12.8 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	1,144.4 tonne/year
42	Pump Module Cold Start Generator Engine	250 hp	ULSD	12.8 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	1,144.4 tonne/year
43	Reserve Mud Pit No. 1 Aux Engine	399 hp	ULSD	19.2 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	1,716.6 tonne/year
44	Reserve Mud Pit No. 2 Aux Engine	399 hp	ULSD	19.2 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	1,716.6 tonne/year
45	Drill Rig Generator Engine No. 5	1,105 hp	ULSD	56.4 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	5,046.9 tonne/year
46	Drill Rig Generator Engine No. 6	1,104 hp	ULSD	56.4 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	5,042.3 tonne/year
47	Drill Rig Generator Engine No. 7	1,108 hp	ULSD	56.6 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	5,060.6 tonne/year
48	Drill Rig Generator Engine No. 8	1,102 hp	ULSD	56.3 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	5,033.2 tonne/year
49	Auxiliary Motor Complex Cold Start Generator Engine	324 hp	ULSD	15.5 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	1,385.8 tonne/year
50	Portable Moving Generator Engine No. 1	113 hp	ULSD	5.8 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	516.1 tonne/year
51	Portable Moving Generator Engine No. 2	113 hp	ULSD	5.8 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	516.1 tonne/year
52	Main Motor Complex Cold Start Generator Engine	324 hp	ULSD	15.5 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	1,385.8 tonne/year
53	Cement Unit Engine No. 1	340 hp	ULSD	17.4 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	1,552.9 tonne/year
54	Cement Unit Engine No. 2	340 hp	ULSD	17.4 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	1,552.9 tonne/year
55	Alaska Camp Generator Engine No. 1	732 hp	ULSD	34.7 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	3,102.5 tonne/year
56	Alaska Camp Generator Engine No. 2	732 hp	ULSD	34.7 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	3,102.5 tonne/year
57	Brine Filtration Generator Engine No. 1	374 hp	ULSD	18.3 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	1,636.2 tonne/year
58	Bulk Tank Storage Area Heater Engine No. 3	174 hp	ULSD	8.6 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	768.9 tonne/year
59	Bulk Tank Storage Area Heater Engine No. 4	174 hp	ULSD	8.6 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	768.9 tonne/year
60	Bulk Tank Storage Area Heater Engine No. 5	174 hp	ULSD	8.6 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	768.9 tonne/year
61	Bulk Tank Storage Area Heater Engine No. 6	174 hp	ULSD	8.6 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	768.9 tonne/year
62	Warehouse Generator Engine No. 1	96 hp	ULSD	4.9 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	438.5 tonne/year
63	Warehouse Generator Engine No. 2	96 hp	ULSD	4.9 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	438.5 tonne/year
64	Drilling Support Engine No. 1	43 hp	ULSD	2.2 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	196.4 tonne/year
65	Drilling Support Engine No. 2	120 hp	ULSD	6.1 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	548.1 tonne/year
66	Drilling Support Engine No. 3	120 hp	ULSD	6.1 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	548.1 tonne/year
67	Drilling Support Engine No. 4	120 hp	ULSD	6.1 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	548.1 tonne/year
68	Drilling Support Engine No. 5	115 hp	ULSD	5.9 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	525.2 tonne/year
69	Drilling Support Engine No. 6	115 hp	ULSD	5.9 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	525.2 tonne/year
70	Brine Filtration Generator Engine No. 2	374 hp	ULSD	18.3 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	1,636.2 tonne/year
71	Cement Unit Engine No. 3	91 hp	ULSD	4.6 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	415.6 tonne/year
72	Brine Filtration Support Engine	61 hp	ULSD	3.1 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	278.6 tonne/year
73	Bulk Barite Engine	75 hp	ULSD	3.8 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	342.5 tonne/year
74	Cement Unit Support Engine	83 hp	ULSD	4.2 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	379.1 tonne/year
75	Truck Shop No. 1 Heater No. 1	0.229 MMBtu/hr	ULSD	1.7 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	147.5 tonne/year
76	Truck Shop No. 1 Heater No. 2	0.229 MMBtu/hr	ULSD	1.7 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	147.5 tonne/yea
77	Truck Shop No. 2 Heater No. 1	0.229 MMBtu/hr	ULSD	1.7 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	147.5 tonne/year
78	Truck Shop No. 2 Heater No. 2	0.229 MMBtu/hr	ULSD	1.7 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	147.5 tonne/year
79	Warehouse Heater No. 1	2.5 MMBtu/hr	ULSD	18.2 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	1,631.2 tonne/yea
80	Warehouse Heater No. 2	2.5 MMBtu/hr	ULSD	18.2 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	1,631.2 tonne/yea
81	Portable Heater No. 1	0.7 MMBtu/hr	ULSD	5.1 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	456.7 tonne/year
82	Portable Heater No. 2	0.7 MMBtu/hr	ULSD	5.1 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	456.7 tonne/year
83	Portable Heater No. 3	0.7 MMBtu/hr	ULSD	5.1 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	456.7 tonne/year
84	Portable Heater No. 4	2.75 MMBtu/hr	ULSD	20.1 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	1,794.3 tonne/year
85	Portable Heater No. 5	2.75 MMBtu/hr	ULSD	20.1 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	1,794.3 tonne/yea
86	Portable Heater No. 6	2.75 MMBtu/hr	ULSD	20.1 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	1,794.3 tonne/yea
87	Portable Heater No. 7	2.75 MMBtu/hr	ULSD	20.1 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	1,794.3 tonne/yea
88	Portable Heater No. 8	2.75 MMBtu/hr	ULSD	20.1 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	1,794.3 tonne/yea
89	Portable Heater No. 9	2.75 MMBtu/hr	ULSD	20.1 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	1,794.3 tonne/yea
90	Portable Drill Rig Heater Unit No. 1	0.5 MMBtu/hr	ULSD	3.6 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	326.2 tonne/yea
91	Portable Drill Rig Heater Unit No. 2	0.5 MMBtu/hr	ULSD	3.6 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	326.2 tonne/yea
92	Tioga Heater No. 1	0.9 MMBtu/hr	ULSD	6.6 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	587.2 tonne/yea
93	Tioga Heater No. 2	0.9 MMBtu/hr	ULSD	6.6 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	587.2 tonne/yea
94	Tioga Heater No. 3	0.9 MMBtu/hr	ULSD	6.6 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	587.2 tonne/yea
95	Drilling Support Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	652.5 tonne/yea
96	Drilling Support Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	652.5 tonne/yea
97	Drilling Support Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	652.5 tonne/yea
98	Drilling Support Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	652.5 tonne/yea
99	Drilling Support Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	652.5 tonne/yea
								Total Potential CO_2 Emissions Excluding Nonroad Engines	**72,092 tonne/year**
								Total Potential CO_2 Emissions for Nonroad Engines	**133,462 tonne/year**
								Total Potential CO_2 Emissions for All Emission Units	**205,555 tonne/year**

Notes:
[1] Heat rate for diesel engines 7,000 Btu/hp-hr
[2] NRE = Nonroad Engine
[3] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)
[4] Diesel high heat value: 0.138 MMBtu/gallon

Table 12. Potential to Emit Calculations - Methane (CH_4) Emissions
Point Thomson Unit (PTU) Gas Expansion - Drillin

Emission Unit			Fuel	Maximum Fuel	Factor	CH_4 Emission	Nonroad	Maximum Annual	Annual CH_4 Emissions
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Operation	
1	Drill Rig Boiler No. 1	4.2 MMBtu/hr	ULSD	30.0 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.109 tonne/yea
2	Drill Rig Boiler No. 2	6.3 MMBtu/hr	ULSD	45.0 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.163 tonne/yea
3	Drill Rig Pipeshed Tioga Air Heater No. 1	4.2 MMBtu/hr	ULSD	30.0 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.109 tonne/year
4	Drill Rig Pipeshed Tioga Air Heater No. 2	4.2 MMBtu/hr	ULSD	30.0 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.109 tonne/year
5	Drill Rig Support Boiler No. 1	6.3 MMBtu/hr	ULSD	45.0 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.163 tonne/year
6	Drill Rig Support Boiler No. 2	6.3 MMBtu/hr	ULSD	45.0 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.163 tonne/year
7	Bulk Tank Storage Area Boiler No. 1	5.16 MMBtu/hr	ULSD	35.5 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.129 tonne/year
8	Bulk Tank Storage Area Boiler No. 2	5.16 MMBtu/hr	ULSD	35.5 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.129 tonne/year
9	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.212 tonne/year
10	Bulk Mud Engine No. 1	54 hp	ULSD	2.8 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.010 tonne/year
11	Bulk Mud Engine No. 2	54 hp	ULSD	2.8 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.010 tonne/year
12	Coil Tubing Unit Engine	66 hp	ULSD	3.4 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.012 tonne/year
13	Bulk Tank Storage Area Generator Engine No. 1	779 hp	ULSD	39.8 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.144 tonne/year
14	Bulk Tank Storage Area Generator Engine No. 2	779 hp	ULSD	39.8 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.144 tonne/year
15	Bulk Tank Storage Area Generator Engine No. 3	190 hp	ULSD	8.7 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.032 tonne/year
16	Bulk Tank Storage Area Generator Engine No. 4	190 hp	ULSD	8.7 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.032 tonne/year
17	Bulk Tank Storage Area Heater Engine No. 1	174 hp	ULSD	8.6 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.031 tonne/year
18	Bulk Tank Storage Area Heater Engine No. 2	174 hp	ULSD	8.6 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.031 tonne/year
19	MOD 201/202 Generator Engine No. 1	173 hp	ULSD	8.8 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.032 tonne/year
20	Talkeetna Camp Generator Engine No. 1	450 hp	ULSD	25.4 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.092 tonne/year
21	Talkeetna Camp Generator Engine No. 2	450 hp	ULSD	25.4 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.092 tonne/year
22	MOD 201/202 Generator Engine No. 2	173 hp	ULSD	8.8 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.032 tonne/year
23	Well Stimulation Pump Engine No. 1	2,250 hp	ULSD	111.9 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.406 tonne/year
24	Well Stimulation Pump Engine No. 2	2,250 hp	ULSD	111.9 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.406 tonne/year
25	Well Stimulation Pump Engine No. 3	2,250 hp	ULSD	111.9 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.406 tonne/year
26	Well Stimulation Pump Engine No. 4	800 hp	ULSD	42.6 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.154 tonne/year
27	Well Stimulation Pump Engine No. 5	800 hp	ULSD	42.6 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.154 tonne/year
28	Well Stimulation Pump Engine No. 6	800 hp	ULSD	42.6 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.154 tonne/year
29	Well Stimulation Pump Engine No. 7	800 hp	ULSD	42.6 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.154 tonne/year
30	Well Stimulation Pump Engine No. 8	800 hp	ULSD	42.6 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.154 tonne/year
31	Well Stimulation Pump Engine No. 9	800 hp	ULSD	42.6 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.154 tonne/year
32	Well Stimulation Blender Deck Engine	1,000 hp	ULSD	52.5 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.190 tonne/year
33	Well Stimulation Gel Blender Deck Engine	520 hp	ULSD	26.8 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.097 tonne/year
34	Well Stimulation Van Engine	250 hp	ULSD	12.8 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.046 tonne/year
35	Well Stimulation Loads Prop Silo Engine	50 hp	ULSD	2.6 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.009 tonne/year
36	Drill Rig Generator Engine No. 1	1,195 hp	ULSD	61.0 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.221 tonne/year
37	Drill Rig Generator Engine No. 2	1,195 hp	ULSD	61.0 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.221 tonne/year
38	Drill Rig Generator Engine No. 3	1,195 hp	ULSD	61.0 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.221 tonne/year
39	Drill Rig Generator Engine No. 4	1,195 hp	ULSD	61.0 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.221 tonne/year
40	Sub-base Cold Start Engine	324 hp	ULSD	15.5 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.056 tonne/year
41	Mud Module Cold Start Generator Engine	250 hp	ULSD	12.8 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.046 tonne/year
42	Pump Module Cold Start Generator Engine	250 hp	ULSD	12.8 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.046 tonne/year
43	Reserve Mud Pit No. 1 Aux Engine	399 hp	ULSD	19.2 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.070 tonne/year
44	Reserve Mud Pit No. 2 Aux Engine	399 hp	ULSD	19.2 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.070 tonne/year
45	Drill Rig Generator Engine No. 5	1,105 hp	ULSD	56.4 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.205 tonne/year
46	Drill Rig Generator Engine No. 6	1,104 hp	ULSD	56.4 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.205 tonne/year
47	Drill Rig Generator Engine No. 7	1,108 hp	ULSD	56.6 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.205 tonne/year
48	Drill Rig Generator Engine No. 8	1,102 hp	ULSD	56.3 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.204 tonne/year
49	Auxiliary Motor Complex Cold Start Generator Engine	324 hp	ULSD	15.5 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.056 tonne/year
50	Portable Moving Generator Engine No. 1	113 hp	ULSD	5.8 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.021 tonne/year
51	Portable Moving Generator Engine No. 2	113 hp	ULSD	5.8 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.021 tonne/year
52	Main Motor Complex Cold Start Generator Engine	324 hp	ULSD	15.5 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.056 tonne/year
53	Cement Unit Engine No. 1	340 hp	ULSD	17.4 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.063 tonne/year
54	Cement Unit Engine No. 2	340 hp	ULSD	17.4 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.063 tonne/year
55	Alaska Camp Generator Engine No. 1	732 hp	ULSD	34.7 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.126 tonne/year
56	Alaska Camp Generator Engine No. 2	732 hp	ULSD	34.7 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.126 tonne/year
57	Brine Filtration Generator Engine No. 1	374 hp	ULSD	18.3 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.066 tonne/year
58	Bulk Tank Storage Area Heater Engine No. 3	174 hp	ULSD	8.6 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.031 tonne/year
59	Bulk Tank Storage Area Heater Engine No. 4	174 hp	ULSD	8.6 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.031 tonne/year
60	Bulk Tank Storage Area Heater Engine No. 5	174 hp	ULSD	8.6 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.031 tonne/year
61	Bulk Tank Storage Area Heater Engine No. 6	174 hp	ULSD	8.6 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.031 tonne/year
62	Warehouse Generator Engine No. 1	96 hp	ULSD	4.9 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.018 tonne/year
63	Warehouse Generator Engine No. 2	96 hp	ULSD	4.9 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.018 tonne/year
64	Drilling Support Engine No. 1	43 hp	ULSD	2.2 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.008 tonne/year
65	Drilling Support Engine No. 2	120 hp	ULSD	6.1 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.022 tonne/year
66	Drilling Support Engine No. 3	120 hp	ULSD	6.1 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.022 tonne/year
67	Drilling Support Engine No. 4	120 hp	ULSD	6.1 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.022 tonne/year
68	Drilling Support Engine No. 5	115 hp	ULSD	5.9 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.021 tonne/year
69	Drilling Support Engine No. 6	115 hp	ULSD	5.9 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.021 tonne/year
70	Brine Filtration Generator Engine No. 2	374 hp	ULSD	18.3 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.066 tonne/year
71	Cement Unit Engine No. 3	91 hp	ULSD	4.6 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.017 tonne/year
72	Brine Filtration Support Engine	61 hp	ULSD	3.1 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.011 tonne/year
73	Bulk Barite Engine	75 hp	ULSD	3.8 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.014 tonne/year
74	Cement Unit Support Engine	83 hp	ULSD	4.2 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.015 tonne/year
75	Truck Shop No. 1 Heater No. 1	0.229 MMBtu/hr	ULSD	1.7 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.006 tonne/year
76	Truck Shop No. 1 Heater No. 2	0.229 MMBtu/hr	ULSD	1.7 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.006 tonne/yea
77	Truck Shop No. 2 Heater No. 1	0.229 MMBtu/hr	ULSD	1.7 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.006 tonne/yea
78	Truck Shop No. 2 Heater No. 2	0.229 MMBtu/hr	ULSD	1.7 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.006 tonne/year
79	Warehouse Heater No. 1	2.5 MMBtu/hr	ULSD	18.2 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.066 tonne/yea
80	Warehouse Heater No. 2	2.5 MMBtu/hr	ULSD	18.2 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.066 tonne/yea
81	Portable Heater No. 1	0.7 MMBtu/hr	ULSD	5.1 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.019 tonne/yea
82	Portable Heater No. 2	0.7 MMBtu/hr	ULSD	5.1 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.019 tonne/year
83	Portable Heater No. 3	0.7 MMBtu/hr	ULSD	5.1 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.019 tonne/year
84	Portable Heater No. 4	2.75 MMBtu/hr	ULSD	20.1 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.073 tonne/yea
85	Portable Heater No. 5	2.75 MMBtu/hr	ULSD	20.1 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.073 tonne/yea
86	Portable Heater No. 6	2.75 MMBtu/hr	ULSD	20.1 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.073 tonne/yea
87	Portable Heater No. 7	2.75 MMBtu/hr	ULSD	20.1 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.073 tonne/yea
88	Portable Heater No. 8	2.75 MMBtu/hr	ULSD	20.1 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.073 tonne/yea
89	Portable Heater No. 9	2.75 MMBtu/hr	ULSD	20.1 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.073 tonne/yea
90	Portable Drill Rig Heater Unit No. 1	0.5 MMBtu/hr	ULSD	3.6 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.013 tonne/yea
91	Portable Drill Rig Heater Unit No. 2	0.5 MMBtu/hr	ULSD	3.6 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.013 tonne/yea
92	Tioga Heater No. 1	0.9 MMBtu/hr	ULSD	6.6 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.024 tonne/yea
93	Tioga Heater No. 2	0.9 MMBtu/hr	ULSD	6.6 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.024 tonne/yea
94	Tioga Heater No. 3	0.9 MMBtu/hr	ULSD	6.6 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.024 tonne/yea
95	Drilling Support Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.026 tonne/yea
96	Drilling Support Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.026 tonne/yea
97	Drilling Support Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.026 tonne/yea
98	Drilling Support Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.026 tonne/yea
99	Drilling Support Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.026 tonne/yea
								Total Potential CH_4 Emissions Excluding Nonroad Engines	**2.924 tonne/year**
								Total Potential CH_4 Emissions for Nonroad Engines	**5.414 tonne/year**
								Total Potential CH_4 Emissions for All Emission Units	**8.338 tonne/year**

Notes:
[1] Heat rate for diesel engines 7,000 Btu/hp-hr
[2] NRE = Nonroad Engine
[3] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)
[4] Diesel high heat value: 0.138 MMBtu/gallon

Table 13. Potential to Emit Calculations - Nitrous Oxide (N_2O) Emissions
Point Thomson Unit (PTU) Gas Expansion - Drillin

Emission Unit			Fuel	Maximum Fuel	Factor	N_2O Emission	Nonroad	Maximum Annual	Annual N_2O Emissions
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Operation	
1	Drill Rig Boiler No. 1	4.2 MMBtu/hr	ULSD	30.0 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0218 tonne/yea
2	Drill Rig Boiler No. 2	6.3 MMBtu/hr	ULSD	45.0 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0326 tonne/yea
3	Drill Rig Pipeshed Tioga Air Heater No. 1	4.2 MMBtu/hr	ULSD	30.0 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0218 tonne/year
4	Drill Rig Pipeshed Tioga Air Heater No. 2	4.2 MMBtu/hr	ULSD	30.0 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0218 tonne/year
5	Drill Rig Support Boiler No. 1	6.3 MMBtu/hr	ULSD	45.0 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0326 tonne/year
6	Drill Rig Support Boiler No. 2	6.3 MMBtu/hr	ULSD	45.0 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0326 tonne/year
7	Bulk Tank Storage Area Boiler No. 1	5.16 MMBtu/hr	ULSD	35.5 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0257 tonne/year
8	Bulk Tank Storage Area Boiler No. 2	5.16 MMBtu/hr	ULSD	35.5 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0257 tonne/year
9	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0423 tonne/year
10	Bulk Mud Engine No. 1	54 hp	ULSD	2.8 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0020 tonne/year
11	Bulk Mud Engine No. 2	54 hp	ULSD	2.8 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0020 tonne/year
12	Coil Tubing Unit Engine	66 hp	ULSD	3.4 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0024 tonne/year
13	Bulk Tank Storage Area Generator Engine No. 1	779 hp	ULSD	39.8 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0289 tonne/year
14	Bulk Tank Storage Area Generator Engine No. 2	779 hp	ULSD	39.8 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0289 tonne/year
15	Bulk Tank Storage Area Generator Engine No. 3	190 hp	ULSD	8.7 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0063 tonne/year
16	Bulk Tank Storage Area Generator Engine No. 4	190 hp	ULSD	8.7 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0063 tonne/year
17	Bulk Tank Storage Area Heater Engine No. 1	174 hp	ULSD	8.6 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0062 tonne/year
18	Bulk Tank Storage Area Heater Engine No. 2	174 hp	ULSD	8.6 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0062 tonne/year
19	MOD 201/202 Generator Engine No. 1	173 hp	ULSD	8.8 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0064 tonne/year
20	Talkeetna Camp Generator Engine No. 1	450 hp	ULSD	25.4 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0184 tonne/year
21	Talkeetna Camp Generator Engine No. 2	450 hp	ULSD	25.4 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0184 tonne/year
22	MOD 201/202 Generator Engine No. 2	173 hp	ULSD	8.8 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0064 tonne/year
23	Well Stimulation Pump Engine No. 1	2,250 hp	ULSD	111.9 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0812 tonne/year
24	Well Stimulation Pump Engine No. 2	2,250 hp	ULSD	111.9 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0812 tonne/year
25	Well Stimulation Pump Engine No. 3	2,250 hp	ULSD	111.9 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0812 tonne/year
26	Well Stimulation Pump Engine No. 4	800 hp	ULSD	42.6 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0309 tonne/year
27	Well Stimulation Pump Engine No. 5	800 hp	ULSD	42.6 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0309 tonne/year
28	Well Stimulation Pump Engine No. 6	800 hp	ULSD	42.6 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0309 tonne/year
29	Well Stimulation Pump Engine No. 7	800 hp	ULSD	42.6 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0309 tonne/year
30	Well Stimulation Pump Engine No. 8	800 hp	ULSD	42.6 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0309 tonne/year
31	Well Stimulation Pump Engine No. 9	800 hp	ULSD	42.6 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0309 tonne/year
32	Well Stimulation Blender Deck Engine	1,000 hp	ULSD	52.5 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0381 tonne/year
33	Well Stimulation Gel Blender Deck Engine	520 hp	ULSD	26.8 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0194 tonne/year
34	Well Stimulation Van Engine	250 hp	ULSD	12.8 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0093 tonne/year
35	Well Stimulation Loads Prop Silo Engine	50 hp	ULSD	2.6 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0019 tonne/year
36	Drill Rig Generator Engine No. 1	1,195 hp	ULSD	61.0 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0443 tonne/year
37	Drill Rig Generator Engine No. 2	1,195 hp	ULSD	61.0 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0443 tonne/year
38	Drill Rig Generator Engine No. 3	1,195 hp	ULSD	61.0 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0443 tonne/year
39	Drill Rig Generator Engine No. 4	1,195 hp	ULSD	61.0 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0443 tonne/year
40	Sub-base Cold Start Engine	324 hp	ULSD	15.5 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0112 tonne/year
41	Mud Module Cold Start Generator Engine	250 hp	ULSD	12.8 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0093 tonne/year
42	Pump Module Cold Start Generator Engine	250 hp	ULSD	12.8 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0093 tonne/year
43	Reserve Mud Pit No. 1 Aux Engine	399 hp	ULSD	19.2 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0139 tonne/year
44	Reserve Mud Pit No. 2 Aux Engine	399 hp	ULSD	19.2 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0139 tonne/year
45	Drill Rig Generator Engine No. 5	1,105 hp	ULSD	56.4 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0409 tonne/year
46	Drill Rig Generator Engine No. 6	1,104 hp	ULSD	56.4 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0409 tonne/year
47	Drill Rig Generator Engine No. 7	1,108 hp	ULSD	56.6 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0411 tonne/year
48	Drill Rig Generator Engine No. 8	1,102 hp	ULSD	56.3 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0408 tonne/year
49	Auxiliary Motor Complex Cold Start Generator Engine	324 hp	ULSD	15.5 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0112 tonne/year
50	Portable Moving Generator Engine No. 1	113 hp	ULSD	5.8 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0042 tonne/year
51	Portable Moving Generator Engine No. 2	113 hp	ULSD	5.8 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0042 tonne/year
52	Main Motor Complex Cold Start Generator Engine	324 hp	ULSD	15.5 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0112 tonne/year
53	Cement Unit Engine No. 1	340 hp	ULSD	17.4 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0126 tonne/year
54	Cement Unit Engine No. 2	340 hp	ULSD	17.4 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0126 tonne/year
55	Alaska Camp Generator Engine No. 1	732 hp	ULSD	34.7 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0252 tonne/year
56	Alaska Camp Generator Engine No. 2	732 hp	ULSD	34.7 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0252 tonne/year
57	Brine Filtration Generator Engine No. 1	374 hp	ULSD	18.3 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0133 tonne/year
58	Bulk Tank Storage Area Heater Engine No. 3	174 hp	ULSD	8.6 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0062 tonne/year
59	Bulk Tank Storage Area Heater Engine No. 4	174 hp	ULSD	8.6 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0062 tonne/year
60	Bulk Tank Storage Area Heater Engine No. 5	174 hp	ULSD	8.6 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0062 tonne/year
61	Bulk Tank Storage Area Heater Engine No. 6	174 hp	ULSD	8.6 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0062 tonne/year
62	Warehouse Generator Engine No. 1	96 hp	ULSD	4.9 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0036 tonne/year
63	Warehouse Generator Engine No. 2	96 hp	ULSD	4.9 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0036 tonne/year
64	Drilling Support Engine No. 1	43 hp	ULSD	2.2 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0016 tonne/year
65	Drilling Support Engine No. 2	120 hp	ULSD	6.1 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0044 tonne/year
66	Drilling Support Engine No. 3	120 hp	ULSD	6.1 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0044 tonne/year
67	Drilling Support Engine No. 4	120 hp	ULSD	6.1 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0044 tonne/year
68	Drilling Support Engine No. 5	115 hp	ULSD	5.9 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0043 tonne/year
69	Drilling Support Engine No. 6	115 hp	ULSD	5.9 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0043 tonne/year
70	Brine Filtration Generator Engine No. 2	374 hp	ULSD	18.3 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0133 tonne/year
71	Cement Unit Engine No. 3	91 hp	ULSD	4.6 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0034 tonne/year
72	Brine Filtration Support Engine	61 hp	ULSD	3.1 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0023 tonne/year
73	Bulk Barite Engine	75 hp	ULSD	3.8 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0028 tonne/year
74	Cement Unit Support Engine	83 hp	ULSD	4.2 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0031 tonne/year
75	Truck Shop No. 1 Heater No. 1	0.229 MMBtu/hr	ULSD	1.7 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0012 tonne/year
76	Truck Shop No. 1 Heater No. 2	0.229 MMBtu/hr	ULSD	1.7 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0012 tonne/yea
77	Truck Shop No. 2 Heater No. 1	0.229 MMBtu/hr	ULSD	1.7 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0012 tonne/yea
78	Truck Shop No. 2 Heater No. 2	0.229 MMBtu/hr	ULSD	1.7 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0012 tonne/year
79	Warehouse Heater No. 1	2.5 MMBtu/hr	ULSD	18.2 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0132 tonne/yea
80	Warehouse Heater No. 2	2.5 MMBtu/hr	ULSD	18.2 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0132 tonne/yea
81	Portable Heater No. 1	0.7 MMBtu/hr	ULSD	5.1 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0037 tonne/yea
82	Portable Heater No. 2	0.7 MMBtu/hr	ULSD	5.1 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0037 tonne/yea
83	Portable Heater No. 3	0.7 MMBtu/hr	ULSD	5.1 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0037 tonne/yea
84	Portable Heater No. 4	2.75 MMBtu/hr	ULSD	20.1 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0146 tonne/yea
85	Portable Heater No. 5	2.75 MMBtu/hr	ULSD	20.1 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0146 tonne/yea
86	Portable Heater No. 6	2.75 MMBtu/hr	ULSD	20.1 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0146 tonne/yea
87	Portable Heater No. 7	2.75 MMBtu/hr	ULSD	20.1 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0146 tonne/yea
88	Portable Heater No. 8	2.75 MMBtu/hr	ULSD	20.1 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0146 tonne/yea
89	Portable Heater No. 9	2.75 MMBtu/hr	ULSD	20.1 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0146 tonne/yea
90	Portable Drill Rig Heater Unit No. 1	0.5 MMBtu/hr	ULSD	3.6 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0026 tonne/yea
91	Portable Drill Rig Heater Unit No. 2	0.5 MMBtu/hr	ULSD	3.6 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0026 tonne/yea
92	Tioga Heater No. 1	0.9 MMBtu/hr	ULSD	6.6 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0048 tonne/yea
93	Tioga Heater No. 2	0.9 MMBtu/hr	ULSD	6.6 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0048 tonne/yea
94	Tioga Heater No. 3	0.9 MMBtu/hr	ULSD	6.6 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0048 tonne/yea
95	Drilling Support Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0053 tonne/yea
96	Drilling Support Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0053 tonne/yea
97	Drilling Support Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0053 tonne/yea
98	Drilling Support Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0053 tonne/yea
99	Drilling Support Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0053 tonne/yea
								Total Potential N_2O Emissions Excluding Nonroad Engines	**0.5848 tonne/year**
								Total Potential N_2O Emissions for Nonroad Engines	**1.0827 tonne/year**
								Total Potential N_2O Emissions for All Emission Units	**1.6676 tonne/year**

Notes:
[1] Heat rate for diesel engines 7,000 Btu/hp-hr
[2] NRE = Nonroad Engine
[3] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)
[4] Diesel high heat value: 0.138 MMBtu/gallon

Table 14. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
Point Thomson Unit (PTU) Gas Expansion - Drilling

Hazardous Air Pollutant	ULSD Heaters	ULSD Engines ≤600 hp	ULSD Engines >600 hp	Stationary Emission Unit HAP Emissions[1]	Nonroad Engines ≤600 hp	Nonroad Engines >600 hp	Nonroad Engine HAP Emissions[1]
Acetaldehyde	----	2.57E-02	2.33E-03	**0.03**	1.79E-01	1.68E-02	**0.20**
Acrolein	----	3.10E-03	7.30E-04	**0.00**	2.16E-02	5.25E-03	**0.03**
Benzene	5.68E-04	3.12E-02	7.19E-02	**0.10**	2.18E-01	5.17E-01	**0.74**
1,3-Butadiene	----	1.31E-03	----	**0.00**	9.15E-03	----	**0.01**
Ethylbenzene	1.69E-04	----	----	**0.00**	----	----	----
Formaldehyde	8.76E-02	3.95E-02	7.31E-03	**0.13**	2.76E-01	5.26E-02	**0.33**
Polycyclic Organic Matter (POM)	8.76E-03	5.62E-03	1.96E-02	**0.03**	3.93E-02	1.41E-01	**0.18**
Naphthalene	3.00E-03	----	----	**0.00**	----	----	----
Toluene	1.65E-02	1.37E-02	2.60E-02	**0.06**	9.57E-02	1.87E-01	**0.28**
1,1,1-Trichloroethane	6.27E-04	----	----	**0.00**	----	----	----
Xylenes	2.89E-04	----	----	**0.00**	----	----	----
Arsenic Compounds	1.45E-03	----	----	**0.00**	----	----	----
Beryllium Compounds	1.09E-03	----	----	**0.00**	----	----	----
Cadmium Compounds	1.09E-03	----	----	**0.00**	----	----	----
Chromium Compounds	1.09E-03	----	----	**0.00**	----	----	----
Lead Compounds	3.27E-03	----	----	**0.00**	----	----	----
Manganese Compounds	2.18E-03	----	----	**0.00**	----	----	----
Mercury Compounds	1.09E-03	----	----	**0.00**	----	----	----
Nickel Compounds	1.09E-03	----	----	**0.00**	----	----	----
Selenium Compounds	5.46E-03	----	----	**0.01**	----	----	----
Total HAPs - Maximum Individual HAP	**----**	**----**	**----**	**0.13**	**----**	**----**	**----**
Total VOC HAP Emissions	**0.11**	**0.12**	**0.13**	**0.36**	**0.84**	**0.92**	**1.76**
Total HAPs Emissions	**0.13**	**0.12**	**0.13**	**0.38**	**0.84**	**0.92**	**1.76**

Notes:
[1] See individual emissions unit category emissions calculations for details on methodology and assumptions.

Table 15. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
ULSD-fired Heaters

Maximum Total Heat Input: 727,395 MMBtu/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations	
CAS No.	**Chemical Name**	**Emission Factor**	**Estimated Emissions**
NA	Arsenic Compounds	4.00E-06 lb/MMBtu	1.45E-03 tpy
71-43-2	Benzene	1.56E-06 lb/MMBtu	5.68E-04 tpy
NA	Beryllium Compounds	3.00E-06 lb/MMBtu	1.09E-03 tpy
NA	Cadmium Compounds	3.00E-06 lb/MMBtu	1.09E-03 tpy
NA	Chromium Compounds	3.00E-06 lb/MMBtu	1.09E-03 tpy
100-41-4	Ethylbenzene	4.64E-07 lb/MMBtu	1.69E-04 tpy
50-00-0	Formaldehyde	2.41E-04 lb/MMBtu	8.76E-02 tpy
NA	Lead Compounds	9.00E-06 lb/MMBtu	3.27E-03 tpy
NA	Manganese Compounds	6.00E-06 lb/MMBtu	2.18E-03 tpy
NA	Mercury Compounds	3.00E-06 lb/MMBtu	1.09E-03 tpy
91-20-3	Naphthalene	8.25E-06 lb/MMBtu	3.00E-03 tpy
NA	Nickel Compounds	3.00E-06 lb/MMBtu	1.09E-03 tpy
NA	Polycyclic Organic Matter (POM)	2.41E-05 lb/MMBtu	8.76E-03 tpy
NA	Selenium Compounds	1.50E-05 lb/MMBtu	5.46E-03 tpy
108-88-3	Toluene	4.53E-05 lb/MMBtu	1.65E-02 tpy
71-55-6	1,1,1-Trichloroethane	1.72E-06 lb/MMBtu	6.27E-04 tpy
1330-20-7	Xylenes	7.96E-07 lb/MMBtu	2.89E-04 tpy

Total Potential HAP Emissions: 0.14 tpy

Notes/Comments:

[1] Reference: AP-42, Tables 1.3-8, 1.3-9, and 1.3-10.

[2] AP-42, Table 1.3-9 unclear if the value for PAH includes Naphthalene.
The emission factor for PAH is included and listed under Polycyclic Organic Matter.

[3] Total fuel use based on maximum full-time operation.

(3) 4.2 MMBtu/hr Rig Heaters and Boilers	4.2 MMBtu/hr, each			
	Potential Heat Input: EU 1	36,792 MMBtu/yr, operating	8,760 hr/yr	
	Potential Heat Input: EU 3	36,792 MMBtu/yr, operating	8,760 hr/yr	
	Potential Heat Input: EU 4	36,792 MMBtu/yr, operating	8,760 hr/yr	
(3) 6.3 MMBtu/hr Rig Heaters and Boilers	6.3 MMBtu/hr, each			
	Potential Heat Input: EU 2	55,188 MMBtu/yr, operating	8,760 hr/yr	
	Potential Heat Input: EU 5	55,188 MMBtu/yr, operating	8,760 hr/yr	
	Potential Heat Input: EU 6	55,188 MMBtu/yr, operating	8,760 hr/yr	
(2) 5.16 MMBtu/hr Bulk Tank Storage Area Boilers	5.16 MMBtu/hr, each			
	Potential Heat Input: EU 7	45,202 MMBtu/yr, operating	8,760 hr/yr	
	Potential Heat Input: EU 8	45,202 MMBtu/yr, operating	8,760 hr/yr	
(1) 8.0 MMBtu/hr Hot Oil Unit Heater	8.0 MMBtu/hr			
	Potential Heat Input: EU 9	70,080 MMBtu/yr, operating	8,760 hr/yr	
Misc. Small Heaters	33.2 MMBtu/hr			
	Potential Heat Input: EUs 75 through 99	290,972 MMBtu/yr, operating	8,760 hr/yr	

Total Potential Heat Input: 727,395 MMBtu/yr

[4] Diesel high heat value: 137,000 Btu/gal

Table 16. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
ULSD Engines Less Than or Equal to 600 Horsepower

Maximum Total Heat Input: 66,961 MMBtu/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations	
CAS No.	**Chemical Name**	**Emission Factor**	**Estimated Emissions**
75-07-0	Acetaldehyde	7.67E-04 lb/MMBtu	2.57E-02 tpy
107-02-8	Acrolein	9.25E-05 lb/MMBtu	3.10E-03 tpy
71-43-2	Benzene	9.33E-04 lb/MMBtu	3.12E-02 tpy
106-99-0	1,3-Butadiene	3.91E-05 lb/MMBtu	1.31E-03 tpy
50-00-0	Formaldehyde	1.18E-03 lb/MMBtu	3.95E-02 tpy
108-88-3	Toluene	4.09E-04 lb/MMBtu	1.37E-02 tpy
1330-20-7	Xylenes (isomers and mixture)	2.85E-04 lb/MMBtu	9.54E-03 tpy
NA	Polycyclic Organic Matter (POM)	1.68E-04 lb/MMBtu	5.62E-03 tpy

Total Potential HAP Emissions: 0.13 tpy

Notes/Comments:

[1] Reference: AP-42, Table 3.3-2.

[2] Total fuel use based on maximum full-time operation.

(2) 450 hp Talkeetna Camp Engines	450 hp			
Potential Heat Input:	EU 20	27,594 MMBtu/yr, operating	8,760 hr/yr	
Potential Heat Input:	EU 21	27,594 MMBtu/yr, operating	8,760 hr/yr	
(2) 96 hp Warehouse Generator Engines	96 hp			
Potential Heat Input:	EU 62	5,887 MMBtu/yr, operating	8,760 hr/yr	
Potential Heat Input:	EU 63	5,887 MMBtu/yr, operating	8,760 hr/yr	

Total Potential Heat Input: 66,961 MMBtu/yr

[3] Diesel engines heat rate: 7,000 Btu/hp-hr

Table 17. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
ULSD Engines Greater Than 600 Horsepower

Maximum Total Heat Input: 185,309 MMBtu/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations		
CAS No.	**Chemical Name**	**Emission Factor**		**Estimated Emissions**
75-07-0	Acetaldehyde	2.52E-05	lb/MMBtu	2.33E-03 tpy
107-02-8	Acrolein	7.88E-06	lb/MMBtu	7.30E-04 tpy
71-43-2	Benzene	7.76E-04	lb/MMBtu	7.19E-02 tpy
50-00-0	Formaldehyde	7.89E-05	lb/MMBtu	7.31E-03 tpy
108-88-3	Toluene	2.81E-04	lb/MMBtu	2.60E-02 tpy
1330-20-7	Xylenes (isomers and mixture)	1.93E-04	lb/MMBtu	1.79E-02 tpy
NA	Polycyclic Organic Matter (POM)	2.12E-04	lb/MMBtu	1.96E-02 tpy

Total Potential HAP Emissions: 0.15 tpy

Notes/Comments:

[1] Reference: AP-42, Table 3.4-3, 3.4-4.

[2] Total fuel use based on maximum full-time operation

(2) 779 hp Bulk Tank Storage Area Generator Engines	779	hp, each			
Potential Heat Input:	EU 13	47,768	MMBtu/yr, operating	8,760	hr/yr
Potential Heat Input:	EU 14	47,768	MMBtu/yr, operating	8,760	hr/yr
(2) 732 hp Alaska Camp Generator Engines	732	hp, each			
Potential Heat Input:	EU 55	44,886	MMBtu/yr, operating	8,760	hr/yr
Potential Heat Input:	EU 56	44,886	MMBtu/yr, operating	8,760	hr/yr

Total Potential Heat Input: 185,309 MMBtu/yr

[3] Diesel engines heat rate: 7,000 Btu/hp-hr

Table 18. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
ULSD Nonroad Engines Less Than or Equal to 600 Horsepower

Maximum Total Heat Input: 467,982 MMBtu/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations	
CAS No.	**Chemical Name**	**Emission Factor**	**Estimated Emissions**
75-07-0	Acetaldehyde	7.67E-04 lb/MMBtu	1.79E-01 tpy
107-02-8	Acrolein	9.25E-05 lb/MMBtu	2.16E-02 tpy
71-43-2	Benzene	9.33E-04 lb/MMBtu	2.18E-01 tpy
106-99-0	1,3-Butadiene	3.91E-05 lb/MMBtu	9.15E-03 tpy
50-00-0	Formaldehyde	1.18E-03 lb/MMBtu	2.76E-01 tpy
108-88-3	Toluene	4.09E-04 lb/MMBtu	9.57E-02 tpy
1330-20-7	Xylenes (isomers and mixture)	2.85E-04 lb/MMBtu	6.67E-02 tpy
NA	Polycyclic Organic Matter (POM)	1.68E-04 lb/MMBtu	3.93E-02 tpy

Total Potential HAP Emissions: 0.91 tpy

Notes/Comments:
[1] Reference: AP-42, Table 3.3-2.
[2] Total fuel use based on maximum full-time operation.

(39) Nonroad Engines < 600 hp 7,632 hp
Potential Heat Input: 467,982 MMBtu/yr, operating 8,760 hr/yr

Total Potential Heat Input: 467,982 MMBtu/yr

[3] Diesel engines heat rate: 7,000 Btu/hp-hr

Table 19. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
ULSD Nonroad Engines Greater Than 600 Horsepower

Maximum Total Heat Input: 1,333,649 MMBtu/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations	
CAS No.	**Chemical Name**	**Emission Factor**	**Estimated Emissions**
75-07-0	Acetaldehyde	2.52E-05 lb/MMBtu	1.68E-02 tpy
107-02-8	Acrolein	7.88E-06 lb/MMBtu	5.25E-03 tpy
71-43-2	Benzene	7.76E-04 lb/MMBtu	5.17E-01 tpy
50-00-0	Formaldehyde	7.89E-05 lb/MMBtu	5.26E-02 tpy
108-88-3	Toluene	2.81E-04 lb/MMBtu	1.87E-01 tpy
1330-20-7	Xylenes (isomers and mixture)	1.93E-04 lb/MMBtu	1.29E-01 tpy
NA	Polycyclic Organic Matter (POM)	2.12E-04 lb/MMBtu	1.41E-01 tpy

Total Potential HAP Emissions: 1.05 tpy

Notes/Comments:
[1] Reference: AP-42, Table 3.4-3, 3.4-4.
[2] Total fuel use based on maximum full-time operation.

(18) Nonroad Engines > 600 hp 21,749 hp
Potential Heat Input: 1,333,649 MMBtu/yr, operating 8,760 hr/yr

Total Potential Heat Input: 1,333,649 MMBtu/yr

[3] Diesel engines heat rate: 7,000 Btu/hp-hr

Attachment A-3
Gas Expansion Project – Construction
Criteria Pollutant and Greenhouse Gas Emissions

Table 1.a. Potential Emissions Summary
Point Thomson Unit (PTU) Gas Expansion - Construction

Pollutant	Stationary Emission Units Potential Emissions	Nonroad Engines Potential Emissions	Total Potential Emissions
NO_X	426.7 tpy	67.7 tpy	494.4 tpy
CO	494.0 tpy	157.5 tpy	651.5 tpy
PM/PM_{10}	24.2 tpy	2.4 tpy	26.7 tpy
$PM_{2.5}$	23.8 tpy	2.4 tpy	26.2 tpy
VOC	75.9 tpy	16.1 tpy	92.0 tpy
SO_2	0.9 tpy	0.2 tpy	1.1 tpy
Pb	0.001 tpy	0.0 tpy	0.001 tpy

Table 1.b. Potential Greenhouse Gas Emissions Summary
Point Thomson Unit (PTU) Gas Expansion - Construction

Pollutant	Stationary Emission Units Potential Emissions	Nonroad Engines Potential Emissions	Total Potential Emissions
CO_2	82,015 tonne/year	21,037 tonne/year	103,052 tonne/year
CH_4	3.327 tonne/year	0.853 tonne/year	4.180 tonne/year
N_2O	0.6653 tonne/year	0.1707 tonne/year	0.8360 tonne/year
CO_2e	82,297 tonne/year	21,109 tonne/year	103,406 tonne/year

Table 2. Significant Emission Unit Inventory
Point Thomson Unit (PTU) Gas Expansion - Construction

Emission Unit			Fuel Type	Maximum Fuel Consumption	Maximum Capacity	Maximum Operation
No.	Description	Make/Model				
203	340 Man Camp Generator Engine No. 1	TBD	ULSD	49.7 gal/hr	972 hp	8,760 hr/yr
204	340 Man Camp Generator Engine No. 2	TBD	ULSD	49.7 gal/hr	972 hp	8,760 hr/yr
205	340 Man Camp Generator Engine No. 3	TBD	ULSD	49.7 gal/hr	972 hp	8,760 hr/yr
203A	340 Man Camp Generator Engine No. 4	TBD	ULSD	49.7 gal/hr	972 hp	8,760 hr/yr
204A	340 Man Camp Generator Engine No. 5	TBD	ULSD	49.7 gal/hr	972 hp	8,760 hr/yr
206	Permanent Camp Generator Engine No. 1	TBD	ULSD	49.7 gal/hr	972 hp	8,760 hr/yr
207	Permanent Camp Generator Engine No. 2	TBD	ULSD	49.7 gal/hr	972 hp	8,760 hr/yr
208	Permanent Camp Generator Engine No. 3	TBD	ULSD	49.7 gal/hr	972 hp	8,760 hr/yr
206A	Permanent Camp Generator Engine No. 4	TBD	ULSD	49.7 gal/hr	972 hp	8,760 hr/yr
207A	Permanent Camp Generator Engine No. 5	TBD	ULSD	49.7 gal/hr	972 hp	8,760 hr/yr
209	Raw Water Skid Pump Engine No. 1	TBD	ULSD	3.8 gal/hr	75 hp	8,760 hr/yr
210	Raw Water Skid Pump Engine No. 2	TBD	ULSD	3.8 gal/hr	75 hp	8,760 hr/yr
213	Fuel Tank Farm Generator Engine No. 1	TBD	ULSD	14.0 gal/hr	275 hp	8,760 hr/yr
214	Fuel Tank Farm Generator Engine No. 2	TBD	ULSD	14.0 gal/hr	275 hp	8,760 hr/yr
217	Airstrip Generator No. 1	TBD	ULSD	16.9 gal/hr	374 hp	8,760 hr/yr
218	Airstrip Generator No. 2	TBD	ULSD	16.9 gal/hr	374 hp	8,760 hr/yr
223	Module 110 Generator Engine No. 1	TBD	ULSD	25.0 gal/hr	490 hp	8,760 hr/yr
223A	Module 110 Generator Engine No. 2	TBD	ULSD	19.1 gal/hr	374 hp	8,760 hr/yr
224	System Completion Generator Engine No. 1	TBD	ULSD	47.2 gal/hr	923 hp	8,760 hr/yr
225	System Completion Generator Engine No. 2	TBD	ULSD	47.2 gal/hr	923 hp	8,760 hr/yr
226	System Completion Generator Engine No. 3	TBD	ULSD	47.2 gal/hr	923 hp	8,760 hr/yr
227	System Completion Generator Engine No. 4	TBD	ULSD	47.2 gal/hr	923 hp	8,760 hr/yr
228	Raw Water Tank Heater	TBD	ULSD	36.3 gal/hr	4.97 MMBtu/hr	8,760 hr/yr
240	Incinerator Generator Engine No. 1	TBD	ULSD	5.2 gal/hr	102 hp	8,760 hr/yr
248	Ice Road Inspection Office Generator Engine No. 1	TBD	ULSD	4.1 gal/hr	80 hp	8,760 hr/yr
249	32 Man Camp Generator Engine No. 1	TBD	ULSD	12.7 gal/hr	248 hp	8,760 hr/yr
250	32 Man Camp Generator Engine No. 2	TBD	ULSD	12.7 gal/hr	248 hp	8,760 hr/yr
251	Temporary Fuel Tank Farm Generator Engine No. 1	TBD	ULSD	4.1 gal/hr	80 hp	8,760 hr/yr
252	Temporary Fuel Tank Farm Generator Engine No. 2	TBD	ULSD	4.1 gal/hr	80 hp	8,760 hr/yr
255	NOSI Office Generator Engine	TBD	ULSD	4.1 gal/hr	80 hp	8,760 hr/yr
256	Bell Surveyor Office Trailer Generator Engine	TBD	ULSD	3.1 gal/hr	60 hp	8,760 hr/yr
257	Office Spare Generator Engine	TBD	ULSD	3.1 gal/hr	60 hp	8,760 hr/yr
258	50 Man Camp Generator Engine No. 1	TBD	ULSD	12.0 gal/hr	235 hp	8,760 hr/yr
259	50 Man Camp Generator Engine No. 2	TBD	ULSD	12.0 gal/hr	235 hp	8,760 hr/yr
260	Alaska State C-1 Pad Camp Generator Engine No. 1	TBD	ULSD	19.7 gal/hr	385 hp	8,760 hr/yr
261	Alaska State C-1 Pad Camp Generator Engine No. 2	TBD	ULSD	19.7 gal/hr	385 hp	8,760 hr/yr
262	Alaska State C-1 Pad Camp Generator Engine No. 3	TBD	ULSD	19.7 gal/hr	385 hp	8,760 hr/yr
263	Alaska State C-1 Pad Camp Generator Engine No. 4	TBD	ULSD	19.7 gal/hr	385 hp	8,760 hr/yr
264	Subcontractor Management Office Generator Engine No. 1	TBD	ULSD	14.9 gal/hr	292 hp	8,760 hr/yr
265	Subcontractor Management Office Generator Engine No. 2	TBD	ULSD	14.9 gal/hr	292 hp	8,760 hr/yr
269	Construction Generation, Engine No. 4	TBD	ULSD	2.2 gal/hr	43 hp	8,760 hr/yr
270	Construction Generation, Engine No. 5	TBD	ULSD	6.1 gal/hr	120 hp	8,760 hr/yr
271	Construction Generation, Engine No. 6	TBD	ULSD	6.1 gal/hr	120 hp	8,760 hr/yr
272	Construction Generation, Engine No. 7	TBD	ULSD	6.1 gal/hr	120 hp	8,760 hr/yr
274	Construction Generation, Engine No. 9	TBD	ULSD	7.7 gal/hr	151 hp	8,760 hr/yr
275	Construction Generation, Engine No. 10	TBD	ULSD	7.7 gal/hr	151 hp	8,760 hr/yr
278	Construction Generation, Engine No. 13	TBD	ULSD	2.2 gal/hr	43 hp	8,760 hr/yr
279	Construction Generation, Engine No. 14	TBD	ULSD	2.2 gal/hr	43 hp	8,760 hr/yr
280	Construction Generation, Engine No. 15	TBD	ULSD	2.2 gal/hr	43 hp	8,760 hr/yr
284	Field Wide Support Engine No. 2	TBD	ULSD	1.8 gal/hr	35 hp	8,760 hr/yr
285	Construction Portable Heater No. 1	TBD	ULSD	7.3 gal/hr	1 MMBtu/hr	8,760 hr/yr
286	Construction Portable Heater No. 2	TBD	ULSD	7.3 gal/hr	1 MMBtu/hr	8,760 hr/yr
287	Construction Portable Heater No. 3	TBD	ULSD	7.3 gal/hr	1 MMBtu/hr	8,760 hr/yr
288	Construction Portable Heater No. 4	TBD	ULSD	7.3 gal/hr	1 MMBtu/hr	8,760 hr/yr
289	Construction Portable Heater No. 5	TBD	ULSD	7.3 gal/hr	1 MMBtu/hr	8,760 hr/yr
290	Construction Portable Heater No. 6	TBD	ULSD	7.3 gal/hr	1 MMBtu/hr	8,760 hr/yr
291	Field Wide Portable Heater No. 1	TBD	ULSD	7.3 gal/hr	1 MMBtu/hr	8,760 hr/yr
292	Field Wide Portable Heater No. 2	TBD	ULSD	7.3 gal/hr	1 MMBtu/hr	8,760 hr/yr
293	Field Wide Portable Heater No. 3	TBD	ULSD	7.3 gal/hr	1 MMBtu/hr	8,760 hr/yr
294	Field Wide Portable Heater No. 4	TBD	ULSD	7.3 gal/hr	1 MMBtu/hr	8,760 hr/yr
295	Field Wide Portable Heater No. 5	TBD	ULSD	7.3 gal/hr	1 MMBtu/hr	8,760 hr/yr
296	Field Wide Portable Heater No. 6	TBD	ULSD	7.3 gal/hr	1 MMBtu/hr	8,760 hr/yr

Notes:
3. ULSD = Ultra Low Sulfur Diesel
6. Calculations used conversions of 19,300 Btu/lb liquid fuel, 7.1 lb liquid fuel/gal, and 7,000 Btu/hp-hr.

Table 3. Potential to Emit Calculations - Oxides of Nitrogen (NO_X) Emissions
Point Thomson Unit (PTU) Gas Expansion - Construction

Emission Unit			Fuel Type	Maximum Fuel Consumption	Factor Reference	NO_X Emission Factor	Nonroad Engine	Not-to-Exceed Factor	Maximum Annual Operation	Annual NO_X Emissions
No.	Identification	Rating/Capacity								
203	340 Man Camp Generator Engine No. 1	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	0.50 g/hp-hr	N/A	1.50	8,760 hr/yr	7.0 tpy
204	340 Man Camp Generator Engine No. 2	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	0.50 g/hp-hr	N/A	1.50	8,760 hr/yr	7.0 tpy
205	340 Man Camp Generator Engine No. 3	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	0.50 g/hp-hr	N/A	1.50	8,760 hr/yr	7.0 tpy
203A	340 Man Camp Generator Engine No. 4	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	0.50 g/hp-hr	N/A	1.50	8,760 hr/yr	7.0 tpy
204A	340 Man Camp Generator Engine No. 5	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	0.50 g/hp-hr	N/A	1.50	8,760 hr/yr	7.0 tpy
206	Permanent Camp Generator Engine No. 1	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	0.50 g/hp-hr	N/A	1.50	8,760 hr/yr	7.0 tpy
207	Permanent Camp Generator Engine No. 2	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	0.50 g/hp-hr	N/A	1.50	8,760 hr/yr	7.0 tpy
208	Permanent Camp Generator Engine No. 3	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	0.50 g/hp-hr	N/A	1.50	8,760 hr/yr	7.0 tpy
206A	Permanent Camp Generator Engine No. 4	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	0.50 g/hp-hr	N/A	1.50	8,760 hr/yr	7.0 tpy
207A	Permanent Camp Generator Engine No. 5	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	0.50 g/hp-hr	N/A	1.50	8,760 hr/yr	7.0 tpy
209	Raw Water Skid Pump Engine No. 1	75 hp	ULSD	3.8 gal/hr	NSPS Subpart IIII Tier 4i	3.5 g/hp-hr	N/A	1.25	8,760 hr/yr	3.2 tpy
210	Raw Water Skid Pump Engine No. 2	75 hp	ULSD	3.8 gal/hr	NSPS Subpart IIII Tier 4i	3.5 g/hp-hr	N/A	1.25	8,760 hr/yr	3.2 tpy
213	Fuel Tank Farm Generator Engine No. 1	275 hp	ULSD	14.0 gal/hr	NSPS Subpart IIII Tier 3	3.0 g/hp-hr	N/A	1.25	8,760 hr/yr	10.0 tpy
214	Fuel Tank Farm Generator Engine No. 2	275 hp	ULSD	14.0 gal/hr	NSPS Subpart IIII Tier 3	3.0 g/hp-hr	N/A	1.25	8,760 hr/yr	10.0 tpy
217	Airstrip Generator No. 1	374 hp	ULSD	16.9 gal/hr	NSPS Subpart IIII Tier 3	3.0 g/hp-hr	N/A	1.25	8,760 hr/yr	13.5 tpy
218	Airstrip Generator No. 2	374 hp	ULSD	16.9 gal/hr	NSPS Subpart IIII Tier 3	3.0 g/hp-hr	N/A	1.25	8,760 hr/yr	13.5 tpy
223	Module 110 Generator Engine No. 1	490 hp	ULSD	25.0 gal/hr	NSPS Subpart IIII Tier 4f	0.3 g/hp-hr	N/A	1.50	8,760 hr/yr	2.1 tpy
223A	Module 110 Generator Engine No. 2	374 hp	ULSD	19.1 gal/hr	NSPS Subpart IIII Tier 3	3.0 g/hp-hr	N/A	1.25	8,760 hr/yr	13.5 tpy
224	System Completion Generator Engine No. 1	923 hp	ULSD	47.2 gal/hr	40 CFR Part 1039 Tier 4f	0.50 g/hp-hr	NRE	1.50	8,760 hr/yr	6.7 tpy
225	System Completion Generator Engine No. 2	923 hp	ULSD	47.2 gal/hr	40 CFR Part 1039 Tier 4f	0.50 g/hp-hr	NRE	1.50	8,760 hr/yr	6.7 tpy
226	System Completion Generator Engine No. 3	923 hp	ULSD	47.2 gal/hr	40 CFR Part 1039 Tier 4f	0.50 g/hp-hr	NRE	1.50	8,760 hr/yr	6.7 tpy
227	System Completion Generator Engine No. 4	923 hp	ULSD	47.2 gal/hr	40 CFR Part 1039 Tier 4f	0.50 g/hp-hr	NRE	1.50	8,760 hr/yr	6.7 tpy
228	Raw Water Tank Heater	4.97 MMBtu/hr	ULSD	36.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	3.2 tpy
240	Incinerator Generator Engine No. 1	102 hp	ULSD	5.2 gal/hr	NSPS Subpart IIII Tier 3	3.0 g/hp-hr	N/A	1.25	8,760 hr/yr	3.7 tpy
248	Ice Road Inspection Office Generator Engine No. 1	80 hp	ULSD	4.1 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	5.4 tpy
249	32 Man Camp Generator Engine No. 1	248 hp	ULSD	12.7 gal/hr	AP-42, Table 3.3-1	0.031 lb/hp-hr	N/A	N/A	8,760 hr/yr	33.7 tpy
250	32 Man Camp Generator Engine No. 2	248 hp	ULSD	12.7 gal/hr	AP-42, Table 3.3-1	0.031 lb/hp-hr	N/A	N/A	8,760 hr/yr	33.7 tpy
251	Temporary Fuel Tank Farm Generator Engine No. 1	80 hp	ULSD	4.1 gal/hr	AP-42, Table 3.3-1	0.031 lb/hp-hr	N/A	N/A	8,760 hr/yr	10.9 tpy
252	Temporary Fuel Tank Farm Generator Engine No. 2	80 hp	ULSD	4.1 gal/hr	AP-42, Table 3.3-1	0.031 lb/hp-hr	N/A	N/A	8,760 hr/yr	10.9 tpy
255	NOSI Office Generator Engine	80 hp	ULSD	4.1 gal/hr	AP-42, Table 3.3-1	0.031 lb/hp-hr	N/A	N/A	8,760 hr/yr	10.9 tpy
256	Bell Surveyor Office Trailer Generator Engine	60 hp	ULSD	3.1 gal/hr	AP-42, Table 3.3-1	0.031 lb/hp-hr	N/A	N/A	8,760 hr/yr	8.1 tpy
257	Office Spare Generator Engine	60 hp	ULSD	3.1 gal/hr	AP-42, Table 3.3-1	0.031 lb/hp-hr	N/A	N/A	8,760 hr/yr	8.1 tpy
258	50 Man Camp Generator Engine No. 1	235 hp	ULSD	12.0 gal/hr	AP-42, Table 3.3-1	0.031 lb/hp-hr	N/A	N/A	8,760 hr/yr	31.9 tpy
259	50 Man Camp Generator Engine No. 2	235 hp	ULSD	12.0 gal/hr	AP-42, Table 3.3-1	0.031 lb/hp-hr	N/A	N/A	8,760 hr/yr	31.9 tpy
260	Alaska State C-1 Pad Camp Generator Engine No. 1	385 hp	ULSD	19.7 gal/hr	NSPS Subpart IIII Tier 3	3.0 g/hp-hr	N/A	1.25	8,760 hr/yr	13.9 tpy
261	Alaska State C-1 Pad Camp Generator Engine No. 2	385 hp	ULSD	19.7 gal/hr	NSPS Subpart IIII Tier 3	3.0 g/hp-hr	N/A	1.25	8,760 hr/yr	13.9 tpy
262	Alaska State C-1 Pad Camp Generator Engine No. 3	385 hp	ULSD	19.7 gal/hr	NSPS Subpart IIII Tier 3	3.0 g/hp-hr	N/A	1.25	8,760 hr/yr	13.9 tpy
263	Alaska State C-1 Pad Camp Generator Engine No. 4	385 hp	ULSD	19.7 gal/hr	NSPS Subpart IIII Tier 3	3.0 g/hp-hr	N/A	1.25	8,760 hr/yr	13.9 tpy
264	Subcontractor Management Office Generator Engine No. 1	292 hp	ULSD	14.9 gal/hr	NSPS Subpart IIII Tier 2	4.9 g/hp-hr	N/A	1.25	8,760 hr/yr	17.3 tpy
265	Subcontractor Management Office Generator Engine No. 2	292 hp	ULSD	14.9 gal/hr	NSPS Subpart IIII Tier 2	4.9 g/hp-hr	N/A	1.25	8,760 hr/yr	17.3 tpy
269	Construction Generation, Engine No. 4	43 hp	ULSD	2.2 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	2.9 tpy
270	Construction Generation, Engine No. 5	120 hp	ULSD	6.1 gal/hr	40 CFR Part 1039 Tier 4i	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	4.3 tpy
271	Construction Generation, Engine No. 6	120 hp	ULSD	6.1 gal/hr	40 CFR Part 1039 Tier 4i	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	4.3 tpy
272	Construction Generation, Engine No. 7	120 hp	ULSD	6.1 gal/hr	40 CFR Part 1039 Tier 4i	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	4.3 tpy
274	Construction Generation, Engine No. 9	151 hp	ULSD	7.7 gal/hr	40 CFR Part 1039 Tier 4i	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	5.5 tpy
275	Construction Generation, Engine No. 10	151 hp	ULSD	7.7 gal/hr	40 CFR Part 1039 Tier 4i	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	5.5 tpy
278	Construction Generation, Engine No. 13	43 hp	ULSD	2.2 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	2.9 tpy
279	Construction Generation, Engine No. 14	43 hp	ULSD	2.2 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	2.9 tpy
280	Construction Generation, Engine No. 15	43 hp	ULSD	2.2 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	2.9 tpy
284	Field Wide Support Engine No. 2	35 hp	ULSD	1.8 gal/hr	NSPS Subpart IIII Tier 4i	5.6 g/hp-hr	N/A	1.25	8,760 hr/yr	2.4 tpy
285	Construction Portable Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
286	Construction Portable Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
287	Construction Portable Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
288	Construction Portable Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
289	Construction Portable Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
290	Construction Portable Heater No. 6	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
291	Field Wide Portable Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
292	Field Wide Portable Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
293	Field Wide Portable Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
294	Field Wide Portable Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
295	Field Wide Portable Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
296	Field Wide Portable Heater No. 6	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
									Total Potential NO_X Emissions Excluding Nonroad Engines	**426.7 tpy**
									Total Potential NO_X Emissions for Nonroad Engines	**67.7 tpy**
									Total Potential NO_X Emissions for All Emission Units	**494.4 tpy**

Notes:

1. NSPS Subpart IIII NO_X + NMOC emission standard for Tier 2 engines, Tier 3 engines, and Tier 4 interim engines less than 750 hp.
2. Fuel factor for crude, residual, and distillate oil: 9,190 dscf/MMBtu
3. Diesel heating value: 137,000 Btu/gal
4. 40 CFR Part 89 or 1039 emission factor based on nonroad engine model year and power rating.
5. NTE factor of 1.25 or 1.50 was added to all emission units using a Tier 1 through 4f emission factor.
6. NRE = Nonroad Engine
7. Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)

Table 4. Potential to Emit Calculations - Carbon Monoxide (CO) Emission
Point Thomson Unit (PTU) Gas Expansion - Construction

Emission Unit			Fuel	Maximum Fuel	Factor	CO Emission	Nonroad	Not-to-Exceed	Maximum Annual	Annual CO Emissions
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Factor	Operation	
203	340 Man Camp Generator Engine No. 1	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	2.6 g/hp-hr	N/A	1.25	8,760 hr/yr	30.5 tpy
204	340 Man Camp Generator Engine No. 2	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	2.6 g/hp-hr	N/A	1.25	8,760 hr/yr	30.5 tpy
205	340 Man Camp Generator Engine No. 3	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	2.6 g/hp-hr	N/A	1.25	8,760 hr/yr	30.5 tpy
203A	340 Man Camp Generator Engine No. 4	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	2.6 g/hp-hr	N/A	1.25	8,760 hr/yr	30.5 tpy
204A	340 Man Camp Generator Engine No. 5	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	2.6 g/hp-hr	N/A	1.25	8,760 hr/yr	30.5 tpy
206	Permanent Camp Generator Engine No. 1	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	2.6 g/hp-hr	N/A	1.25	8,760 hr/yr	30.5 tpy
207	Permanent Camp Generator Engine No. 2	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	2.6 g/hp-hr	N/A	1.25	8,760 hr/yr	30.5 tpy
208	Permanent Camp Generator Engine No. 3	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	2.6 g/hp-hr	N/A	1.25	8,760 hr/yr	30.5 tpy
206A	Permanent Camp Generator Engine No. 4	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	2.6 g/hp-hr	N/A	1.25	8,760 hr/yr	30.5 tpy
207A	Permanent Camp Generator Engine No. 5	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	2.6 g/hp-hr	N/A	1.25	8,760 hr/yr	30.5 tpy
209	Raw Water Skid Pump Engine No. 1	75 hp	ULSD	3.8 gal/hr	NSPS Subpart IIII Tier 4i	3.7 g/hp-hr	N/A	1.25	8,760 hr/yr	3.3 tpy
210	Raw Water Skid Pump Engine No. 2	75 hp	ULSD	3.8 gal/hr	NSPS Subpart IIII Tier 4i	3.7 g/hp-hr	N/A	1.25	8,760 hr/yr	3.3 tpy
213	Fuel Tank Farm Generator Engine No. 1	275 hp	ULSD	14.0 gal/hr	NSPS Subpart IIII Tier 3	2.6 g/hp-hr	N/A	1.25	8,760 hr/yr	8.6 tpy
214	Fuel Tank Farm Generator Engine No. 2	275 hp	ULSD	14.0 gal/hr	NSPS Subpart IIII Tier 3	2.6 g/hp-hr	N/A	1.25	8,760 hr/yr	8.6 tpy
217	Airstrip Generator No. 1	374 hp	ULSD	16.9 gal/hr	NSPS Subpart IIII Tier 3	2.6 g/hp-hr	N/A	1.25	8,760 hr/yr	11.7 tpy
218	Airstrip Generator No. 2	374 hp	ULSD	16.9 gal/hr	NSPS Subpart IIII Tier 3	2.6 g/hp-hr	N/A	1.25	8,760 hr/yr	11.7 tpy
223	Module 110 Generator Engine No. 1	490 hp	ULSD	25.0 gal/hr	NSPS Subpart IIII Tier 4f	2.6 g/hp-hr	N/A	1.25	8,760 hr/yr	15.4 tpy
223A	Module 110 Generator Engine No. 2	374 hp	ULSD	19.1 gal/hr	NSPS Subpart IIII Tier 3	2.6 g/hp-hr	N/A	1.25	8,760 hr/yr	11.7 tpy
224	System Completion Generator Engine No. 1	923 hp	ULSD	47.2 gal/hr	40 CFR Part 1039 Tier 4f	2.6 g/hp-hr	NRE	1.25	8,760 hr/yr	29.0 tpy
225	System Completion Generator Engine No. 2	923 hp	ULSD	47.2 gal/hr	40 CFR Part 1039 Tier 4f	2.6 g/hp-hr	NRE	1.25	8,760 hr/yr	29.0 tpy
226	System Completion Generator Engine No. 3	923 hp	ULSD	47.2 gal/hr	40 CFR Part 1039 Tier 4f	2.6 g/hp-hr	NRE	1.25	8,760 hr/yr	29.0 tpy
227	System Completion Generator Engine No. 4	923 hp	ULSD	47.2 gal/hr	40 CFR Part 1039 Tier 4f	2.6 g/hp-hr	NRE	1.25	8,760 hr/yr	29.0 tpy
228	Raw Water Tank Heater	4.97 MMBtu/hr	ULSD	36.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.8 tpy
240	Incinerator Generator Engine No. 1	102 hp	ULSD	5.2 gal/hr	NSPS Subpart IIII Tier 3	3.7 g/hp-hr	N/A	1.25	8,760 hr/yr	4.6 tpy
248	Ice Road Inspection Office Generator Engine No. 1	80 hp	ULSD	4.1 gal/hr	40 CFR Part 89 Tier 2	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	3.6 tpy
249	32 Man Camp Generator Engine No. 1	248 hp	ULSD	12.7 gal/hr	AP-42, Table 3.3-1	0.00668 lb/hp-hr	N/A	N/A	8,760 hr/yr	7.3 tpy
250	32 Man Camp Generator Engine No. 2	248 hp	ULSD	12.7 gal/hr	AP-42, Table 3.3-1	0.00668 lb/hp-hr	N/A	N/A	8,760 hr/yr	7.3 tpy
251	Temporary Fuel Tank Farm Generator Engine No. 1	80 hp	ULSD	4.1 gal/hr	AP-42, Table 3.3-1	0.00668 lb/hp-hr	N/A	N/A	8,760 hr/yr	2.3 tpy
252	Temporary Fuel Tank Farm Generator Engine No. 2	80 hp	ULSD	4.1 gal/hr	AP-42, Table 3.3-1	0.00668 lb/hp-hr	N/A	N/A	8,760 hr/yr	2.3 tpy
255	NOSI Office Generator Engine	80 hp	ULSD	4.1 gal/hr	AP-42, Table 3.3-1	0.00668 lb/hp-hr	N/A	N/A	8,760 hr/yr	2.3 tpy
256	Bell Surveyor Office Trailer Generator Engine	60 hp	ULSD	3.1 gal/hr	AP-42, Table 3.3-1	0.00668 lb/hp-hr	N/A	N/A	8,760 hr/yr	1.8 tpy
257	Office Spare Generator Engine	60 hp	ULSD	3.1 gal/hr	AP-42, Table 3.3-1	0.00668 lb/hp-hr	N/A	N/A	8,760 hr/yr	1.8 tpy
258	50 Man Camp Generator Engine No. 1	235 hp	ULSD	12.0 gal/hr	AP-42, Table 3.3-1	0.00668 lb/hp-hr	N/A	N/A	8,760 hr/yr	6.9 tpy
259	50 Man Camp Generator Engine No. 2	235 hp	ULSD	12.0 gal/hr	AP-42, Table 3.3-1	0.00668 lb/hp-hr	N/A	N/A	8,760 hr/yr	6.9 tpy
260	Alaska State C-1 Pad Camp Generator Engine No. 1	385 hp	ULSD	19.7 gal/hr	NSPS Subpart IIII Tier 3	2.6 g/hp-hr	N/A	1.25	8,760 hr/yr	12.1 tpy
261	Alaska State C-1 Pad Camp Generator Engine No. 2	385 hp	ULSD	19.7 gal/hr	NSPS Subpart IIII Tier 3	2.6 g/hp-hr	N/A	1.25	8,760 hr/yr	12.1 tpy
262	Alaska State C-1 Pad Camp Generator Engine No. 3	385 hp	ULSD	19.7 gal/hr	NSPS Subpart IIII Tier 3	2.6 g/hp-hr	N/A	1.25	8,760 hr/yr	12.1 tpy
263	Alaska State C-1 Pad Camp Generator Engine No. 4	385 hp	ULSD	19.7 gal/hr	NSPS Subpart IIII Tier 3	2.6 g/hp-hr	N/A	1.25	8,760 hr/yr	12.1 tpy
264	Subcontractor Management Office Generator Engine No. 1	292 hp	ULSD	14.9 gal/hr	NSPS Subpart IIII Tier 2	2.6 g/hp-hr	N/A	1.25	8,760 hr/yr	9.2 tpy
265	Subcontractor Management Office Generator Engine No. 2	292 hp	ULSD	14.9 gal/hr	NSPS Subpart IIII Tier 2	2.6 g/hp-hr	N/A	1.25	8,760 hr/yr	9.2 tpy
269	Construction Generation, Engine No. 4	43 hp	ULSD	2.2 gal/hr	40 CFR Part 89 Tier 2	4.1 g/hp-hr	NRE	1.25	8,760 hr/yr	2.1 tpy
270	Construction Generation, Engine No. 5	120 hp	ULSD	6.1 gal/hr	40 CFR Part 1039 Tier 4i	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	5.4 tpy
271	Construction Generation, Engine No. 6	120 hp	ULSD	6.1 gal/hr	40 CFR Part 1039 Tier 4i	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	5.4 tpy
272	Construction Generation, Engine No. 7	120 hp	ULSD	6.1 gal/hr	40 CFR Part 1039 Tier 4i	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	5.4 tpy
274	Construction Generation, Engine No. 9	151 hp	ULSD	7.7 gal/hr	40 CFR Part 1039 Tier 4i	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	6.7 tpy
275	Construction Generation, Engine No. 10	151 hp	ULSD	7.7 gal/hr	40 CFR Part 1039 Tier 4i	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	6.7 tpy
278	Construction Generation, Engine No. 13	43 hp	ULSD	2.2 gal/hr	40 CFR Part 89 Tier 2	4.1 g/hp-hr	NRE	1.25	8,760 hr/yr	2.1 tpy
279	Construction Generation, Engine No. 14	43 hp	ULSD	2.2 gal/hr	40 CFR Part 89 Tier 2	4.1 g/hp-hr	NRE	1.25	8,760 hr/yr	2.1 tpy
280	Construction Generation, Engine No. 15	43 hp	ULSD	2.2 gal/hr	40 CFR Part 89 Tier 2	4.1 g/hp-hr	NRE	1.25	8,760 hr/yr	2.1 tpy
284	Field Wide Support Engine No. 2	35 hp	ULSD	1.8 gal/hr	NSPS Subpart IIII Tier 4i	4.1 g/hp-hr	N/A	1.25	8,760 hr/yr	1.7 tpy
285	Construction Portable Heater No. 1	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
286	Construction Portable Heater No. 2	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
287	Construction Portable Heater No. 3	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
288	Construction Portable Heater No. 4	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
289	Construction Portable Heater No. 5	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
290	Construction Portable Heater No. 6	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
291	Field Wide Portable Heater No. 1	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
292	Field Wide Portable Heater No. 2	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
293	Field Wide Portable Heater No. 3	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
294	Field Wide Portable Heater No. 4	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
295	Field Wide Portable Heater No. 5	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
296	Field Wide Portable Heater No. 6	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
									Total Potential CO Emissions Excluding Nonroad Engines	**494.0 tpy**
									Total Potential CO Emissions for Nonroad Engines	**157.5 tpy**
									Total Potential CO Emissions for All Emission Units	**651.5 tpy**

Notes:
1. 40 CFR Part 89 or 1039 emission factor based on nonroad engine model year and power rating.
2. NTE factor of 1.25 was added to all emission units using a Tier 1 through 4f emission factor.
3. Diesel heating value: 137,000 Btu/gal
4. NRE = Nonroad Engine
5. Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)

Table 5. Potential to Emit Calculations - Particulate Matter (PM) Emission
Point Thomson Unit (PTU) Gas Expansion - Construction

Emission Unit			Fuel Type	Maximum Fuel Consumption	Factor Reference	PM_{10} Emission Factor	Nonroad Engine	Not-to-Exceed Factor	Maximum Annual Operation	Annual PM_{10} Emissions
ID	Description	Rating/Capacity								
203	340 Man Camp Generator Engine No. 1	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	0.02 g/hp-hr	N/A	1.50	8,760 hr/yr	0.3 tpy
204	340 Man Camp Generator Engine No. 2	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	0.02 g/hp-hr	N/A	1.50	8,760 hr/yr	0.3 tpy
205	340 Man Camp Generator Engine No. 3	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	0.02 g/hp-hr	N/A	1.50	8,760 hr/yr	0.3 tpy
203A	340 Man Camp Generator Engine No. 4	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	0.02 g/hp-hr	N/A	1.50	8,760 hr/yr	0.3 tpy
204A	340 Man Camp Generator Engine No. 5	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	0.02 g/hp-hr	N/A	1.50	8,760 hr/yr	0.3 tpy
206	Permanent Camp Generator Engine No. 1	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	0.02 g/hp-hr	N/A	1.50	8,760 hr/yr	0.3 tpy
207	Permanent Camp Generator Engine No. 2	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	0.02 g/hp-hr	N/A	1.50	8,760 hr/yr	0.3 tpy
208	Permanent Camp Generator Engine No. 3	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	0.02 g/hp-hr	N/A	1.50	8,760 hr/yr	0.3 tpy
206A	Permanent Camp Generator Engine No. 4	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	0.02 g/hp-hr	N/A	1.50	8,760 hr/yr	0.3 tpy
207A	Permanent Camp Generator Engine No. 5	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	0.02 g/hp-hr	N/A	1.50	8,760 hr/yr	0.3 tpy
209	Raw Water Skid Pump Engine No. 1	75 hp	ULSD	3.8 gal/hr	NSPS Subpart IIII Tier 4i	0.015 g/hp-hr	N/A	1.50	8,760 hr/yr	0.02 tpy
210	Raw Water Skid Pump Engine No. 2	75 hp	ULSD	3.8 gal/hr	NSPS Subpart IIII Tier 4i	0.015 g/hp-hr	N/A	1.50	8,760 hr/yr	0.02 tpy
213	Fuel Tank Farm Generator Engine No. 1	275 hp	ULSD	14.0 gal/hr	NSPS Subpart IIII Tier 3	0.15 g/hp-hr	N/A	1.25	8,760 hr/yr	0.5 tpy
214	Fuel Tank Farm Generator Engine No. 2	275 hp	ULSD	14.0 gal/hr	NSPS Subpart IIII Tier 3	0.15 g/hp-hr	N/A	1.25	8,760 hr/yr	0.5 tpy
217	Airstrip Generator No. 1	374 hp	ULSD	16.9 gal/hr	NSPS Subpart IIII Tier 3	0.15 g/hp-hr	N/A	1.25	8,760 hr/yr	0.7 tpy
218	Airstrip Generator No. 2	374 hp	ULSD	16.9 gal/hr	NSPS Subpart IIII Tier 3	0.15 g/hp-hr	N/A	1.25	8,760 hr/yr	0.7 tpy
223	Module 110 Generator Engine No. 1	490 hp	ULSD	25.0 gal/hr	NSPS Subpart IIII Tier 4f	0.015 g/hp-hr	N/A	1.50	8,760 hr/yr	0.1 tpy
223A	Module 110 Generator Engine No. 2	374 hp	ULSD	19.1 gal/hr	NSPS Subpart IIII Tier 3	0.15 g/hp-hr	N/A	1.25	8,760 hr/yr	0.7 tpy
224	System Completion Generator Engine No. 1	923 hp	ULSD	47.2 gal/hr	40 CFR Part 1039 Tier 4f	0.02 g/hp-hr	NRE	1.50	8,760 hr/yr	0.3 tpy
225	System Completion Generator Engine No. 2	923 hp	ULSD	47.2 gal/hr	40 CFR Part 1039 Tier 4f	0.02 g/hp-hr	NRE	1.50	8,760 hr/yr	0.3 tpy
226	System Completion Generator Engine No. 3	923 hp	ULSD	47.2 gal/hr	40 CFR Part 1039 Tier 4f	0.02 g/hp-hr	NRE	1.50	8,760 hr/yr	0.3 tpy
227	System Completion Generator Engine No. 4	923 hp	ULSD	47.2 gal/hr	40 CFR Part 1039 Tier 4f	0.02 g/hp-hr	NRE	1.50	8,760 hr/yr	0.3 tpy
228	Raw Water Tank Heater	4.97 MMBtu/hr	ULSD	36.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.4 tpy
240	Incinerator Generator Engine No. 1	102 hp	ULSD	5.2 gal/hr	NSPS Subpart IIII Tier 3	0.22 g/hp-hr	N/A	1.25	8,760 hr/yr	0.3 tpy
248	Ice Road Inspection Office Generator Engine No. 1	80 hp	ULSD	4.1 gal/hr	40 CFR Part 89 Tier 2	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.3 tpy
249	32 Man Camp Generator Engine No. 1	248 hp	ULSD	12.7 gal/hr	AP-42, Table 3.3-1	0.0022 lb/hp-hr	N/A	N/A	8,760 hr/yr	2.4 tpy
250	32 Man Camp Generator Engine No. 2	248 hp	ULSD	12.7 gal/hr	AP-42, Table 3.3-1	0.0022 lb/hp-hr	N/A	N/A	8,760 hr/yr	2.4 tpy
251	Temporary Fuel Tank Farm Generator Engine No. 1	80 hp	ULSD	4.1 gal/hr	AP-42, Table 3.3-1	0.0022 lb/hp-hr	N/A	N/A	8,760 hr/yr	0.8 tpy
252	Temporary Fuel Tank Farm Generator Engine No. 2	80 hp	ULSD	4.1 gal/hr	AP-42, Table 3.3-1	0.0022 lb/hp-hr	N/A	N/A	8,760 hr/yr	0.8 tpy
255	NOSI Office Generator Engine	80 hp	ULSD	4.1 gal/hr	AP-42, Table 3.3-1	0.0022 lb/hp-hr	N/A	N/A	8,760 hr/yr	0.8 tpy
256	Bell Surveyor Office Trailer Generator Engine	60 hp	ULSD	3.1 gal/hr	AP-42, Table 3.3-1	0.0022 lb/hp-hr	N/A	N/A	8,760 hr/yr	0.6 tpy
257	Office Spare Generator Engine	60 hp	ULSD	3.1 gal/hr	AP-42, Table 3.3-1	0.0022 lb/hp-hr	N/A	N/A	8,760 hr/yr	0.6 tpy
258	50 Man Camp Generator Engine No. 1	235 hp	ULSD	12.0 gal/hr	AP-42, Table 3.3-1	0.0022 lb/hp-hr	N/A	N/A	8,760 hr/yr	2.3 tpy
259	50 Man Camp Generator Engine No. 2	235 hp	ULSD	12.0 gal/hr	AP-42, Table 3.3-1	0.0022 lb/hp-hr	N/A	N/A	8,760 hr/yr	2.3 tpy
260	Alaska State C-1 Pad Camp Generator Engine No. 1	385 hp	ULSD	19.7 gal/hr	NSPS Subpart IIII Tier 3	0.15 g/hp-hr	N/A	1.25	8,760 hr/yr	0.7 tpy
261	Alaska State C-1 Pad Camp Generator Engine No. 2	385 hp	ULSD	19.7 gal/hr	NSPS Subpart IIII Tier 3	0.15 g/hp-hr	N/A	1.25	8,760 hr/yr	0.7 tpy
262	Alaska State C-1 Pad Camp Generator Engine No. 3	385 hp	ULSD	19.7 gal/hr	NSPS Subpart IIII Tier 3	0.15 g/hp-hr	N/A	1.25	8,760 hr/yr	0.7 tpy
263	Alaska State C-1 Pad Camp Generator Engine No. 4	385 hp	ULSD	19.7 gal/hr	NSPS Subpart IIII Tier 3	0.15 g/hp-hr	N/A	1.25	8,760 hr/yr	0.7 tpy
264	Subcontractor Management Office Generator Engine No. 1	292 hp	ULSD	14.9 gal/hr	NSPS Subpart IIII Tier 2	0.15 g/hp-hr	N/A	1.25	8,760 hr/yr	0.5 tpy
265	Subcontractor Management Office Generator Engine No. 2	292 hp	ULSD	14.9 gal/hr	NSPS Subpart IIII Tier 2	0.15 g/hp-hr	N/A	1.25	8,760 hr/yr	0.5 tpy
269	Construction Generation, Engine No. 4	43 hp	ULSD	2.2 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
270	Construction Generation, Engine No. 5	120 hp	ULSD	6.1 gal/hr	40 CFR Part 1039 Tier 4i	0.015 g/hp-hr	NRE	1.50	8,760 hr/yr	0.03 tpy
271	Construction Generation, Engine No. 6	120 hp	ULSD	6.1 gal/hr	40 CFR Part 1039 Tier 4i	0.015 g/hp-hr	NRE	1.50	8,760 hr/yr	0.03 tpy
272	Construction Generation, Engine No. 7	120 hp	ULSD	6.1 gal/hr	40 CFR Part 1039 Tier 4i	0.015 g/hp-hr	NRE	1.50	8,760 hr/yr	0.03 tpy
274	Construction Generation, Engine No. 9	151 hp	ULSD	7.7 gal/hr	40 CFR Part 1039 Tier 4i	0.015 g/hp-hr	NRE	1.50	8,760 hr/yr	0.03 tpy
275	Construction Generation, Engine No. 10	151 hp	ULSD	7.7 gal/hr	40 CFR Part 1039 Tier 4i	0.015 g/hp-hr	NRE	1.50	8,760 hr/yr	0.03 tpy
278	Construction Generation, Engine No. 13	43 hp	ULSD	2.2 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
279	Construction Generation, Engine No. 14	43 hp	ULSD	2.2 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
280	Construction Generation, Engine No. 15	43 hp	ULSD	2.2 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
284	Field Wide Support Engine No. 2	35 hp	ULSD	1.8 gal/hr	NSPS Subpart IIII Tier 4i	0.22 g/hp-hr	N/A	1.25	8,760 hr/yr	0.09 tpy
285	Construction Portable Heater No. 1	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.07 tpy
286	Construction Portable Heater No. 2	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.07 tpy
287	Construction Portable Heater No. 3	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.07 tpy
288	Construction Portable Heater No. 4	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.07 tpy
289	Construction Portable Heater No. 5	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.07 tpy
290	Construction Portable Heater No. 6	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.07 tpy
291	Field Wide Portable Heater No. 1	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.07 tpy
292	Field Wide Portable Heater No. 2	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.07 tpy
293	Field Wide Portable Heater No. 3	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.07 tpy
294	Field Wide Portable Heater No. 4	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.07 tpy
295	Field Wide Portable Heater No. 5	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.07 tpy
296	Field Wide Portable Heater No. 6	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.07 tpy
									Total Potential PM/PM_{10} Emissions Excluding Nonroad Engines	**24.2 tpy**
									Total Potential PM/PM_{10} Emissions for Nonroad Engines	**2.4 tpy**
									Total Potential PM/PM_{10} Emissions for All Emission Units	**26.7 tpy**

Notes:
1. 40 CFR Part 89 or 1039 emission factor based on nonroad engine model year and power rating.
2. NTE factor of 1.25 or 1.50 was added to all emission units using a Tier 1 through 4f emission factor.
3. Diesel heating value: 137,000 Btu/gal
4. NRE = Nonroad Engine
5. Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)

Table 6. Potential to Emit Calculations - Particulate Matter ($PM_{2.5}$) Emissions
Point Thomson Unit (PTU) Gas Expansion - Construction

Emission Unit			Fuel Type	Maximum Fuel Consumption	Factor Reference	$PM_{2.5}$ Emission Factor	Nonroad Engine	Not-to-Exceed Factor	Maximum Annual Operation	Annual $PM_{2.5}$ Emissions
ID	Description	Rating/Capacity								
203	340 Man Camp Generator Engine No. 1	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	0.02 g/hp-hr	N/A	1.50	8,760 hr/yr	0.3 tpy
204	340 Man Camp Generator Engine No. 2	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	0.02 g/hp-hr	N/A	1.50	8,760 hr/yr	0.3 tpy
205	340 Man Camp Generator Engine No. 3	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	0.02 g/hp-hr	N/A	1.50	8,760 hr/yr	0.3 tpy
203A	340 Man Camp Generator Engine No. 4	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	0.02 g/hp-hr	N/A	1.50	8,760 hr/yr	0.3 tpy
204A	340 Man Camp Generator Engine No. 5	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	0.02 g/hp-hr	N/A	1.50	8,760 hr/yr	0.3 tpy
206	Permanent Camp Generator Engine No. 1	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	0.02 g/hp-hr	N/A	1.50	8,760 hr/yr	0.3 tpy
207	Permanent Camp Generator Engine No. 2	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	0.02 g/hp-hr	N/A	1.50	8,760 hr/yr	0.3 tpy
208	Permanent Camp Generator Engine No. 3	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	0.02 g/hp-hr	N/A	1.50	8,760 hr/yr	0.3 tpy
206A	Permanent Camp Generator Engine No. 4	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	0.02 g/hp-hr	N/A	1.50	8,760 hr/yr	0.3 tpy
207A	Permanent Camp Generator Engine No. 5	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	0.02 g/hp-hr	N/A	1.50	8,760 hr/yr	0.3 tpy
209	Raw Water Skid Pump Engine No. 1	75 hp	ULSD	3.8 gal/hr	NSPS Subpart IIII Tier 4i	0.015 g/hp-hr	N/A	1.50	8,760 hr/yr	0.02 tpy
210	Raw Water Skid Pump Engine No. 2	75 hp	ULSD	3.8 gal/hr	NSPS Subpart IIII Tier 4i	0.015 g/hp-hr	N/A	1.50	8,760 hr/yr	0.02 tpy
213	Fuel Tank Farm Generator Engine No. 1	275 hp	ULSD	14.0 gal/hr	NSPS Subpart IIII Tier 3	0.15 g/hp-hr	N/A	1.25	8,760 hr/yr	0.5 tpy
214	Fuel Tank Farm Generator Engine No. 2	275 hp	ULSD	14.0 gal/hr	NSPS Subpart IIII Tier 3	0.15 g/hp-hr	N/A	1.25	8,760 hr/yr	0.5 tpy
217	Airstrip Generator No. 1	374 hp	ULSD	16.9 gal/hr	NSPS Subpart IIII Tier 3	0.15 g/hp-hr	N/A	1.25	8,760 hr/yr	0.7 tpy
218	Airstrip Generator No. 2	374 hp	ULSD	16.9 gal/hr	NSPS Subpart IIII Tier 3	0.15 g/hp-hr	N/A	1.25	8,760 hr/yr	0.7 tpy
223	Module 110 Generator Engine No. 1	490 hp	ULSD	25.0 gal/hr	NSPS Subpart IIII Tier 4f	0.015 g/hp-hr	N/A	1.50	8,760 hr/yr	0.1 tpy
223A	Module 110 Generator Engine No. 2	374 hp	ULSD	19.1 gal/hr	NSPS Subpart IIII Tier 3	0.15 g/hp-hr	N/A	1.25	8,760 hr/yr	0.7 tpy
224	System Completion Generator Engine No. 1	923 hp	ULSD	47.2 gal/hr	40 CFR Part 1039 Tier 4f	0.02 g/hp-hr	NRE	1.50	8,760 hr/yr	0.3 tpy
225	System Completion Generator Engine No. 2	923 hp	ULSD	47.2 gal/hr	40 CFR Part 1039 Tier 4f	0.02 g/hp-hr	NRE	1.50	8,760 hr/yr	0.3 tpy
226	System Completion Generator Engine No. 3	923 hp	ULSD	47.2 gal/hr	40 CFR Part 1039 Tier 4f	0.02 g/hp-hr	NRE	1.50	8,760 hr/yr	0.3 tpy
227	System Completion Generator Engine No. 4	923 hp	ULSD	47.2 gal/hr	40 CFR Part 1039 Tier 4f	0.02 g/hp-hr	NRE	1.50	8,760 hr/yr	0.3 tpy
228	Raw Water Tank Heater	4.97 MMBtu/hr	ULSD	36.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
240	Incinerator Generator Engine No. 1	102 hp	ULSD	5.2 gal/hr	NSPS Subpart IIII Tier 3	0.22 g/hp-hr	N/A	1.25	8,760 hr/yr	0.3 tpy
248	Ice Road Inspection Office Generator Engine No. 1	80 hp	ULSD	4.1 gal/hr	40 CFR Part 89 Tier 2	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.3 tpy
249	32 Man Camp Generator Engine No. 1	248 hp	ULSD	12.7 gal/hr	AP-42, Table 3.3-1	0.0022 lb/hp-hr	N/A	N/A	8,760 hr/yr	2.4 tpy
250	32 Man Camp Generator Engine No. 2	248 hp	ULSD	12.7 gal/hr	AP-42, Table 3.3-1	0.0022 lb/hp-hr	N/A	N/A	8,760 hr/yr	2.4 tpy
251	Temporary Fuel Tank Farm Generator Engine No. 1	80 hp	ULSD	4.1 gal/hr	AP-42, Table 3.3-1	0.0022 lb/hp-hr	N/A	N/A	8,760 hr/yr	0.8 tpy
252	Temporary Fuel Tank Farm Generator Engine No. 2	80 hp	ULSD	4.1 gal/hr	AP-42, Table 3.3-1	0.0022 lb/hp-hr	N/A	N/A	8,760 hr/yr	0.8 tpy
255	NOSI Office Generator Engine	80 hp	ULSD	4.1 gal/hr	AP-42, Table 3.3-1	0.0022 lb/hp-hr	N/A	N/A	8,760 hr/yr	0.8 tpy
256	Bell Surveyor Office Trailer Generator Engine	60 hp	ULSD	3.1 gal/hr	AP-42, Table 3.3-1	0.0022 lb/hp-hr	N/A	N/A	8,760 hr/yr	0.6 tpy
257	Office Spare Generator Engine	60 hp	ULSD	3.1 gal/hr	AP-42, Table 3.3-1	0.0022 lb/hp-hr	N/A	N/A	8,760 hr/yr	0.6 tpy
258	50 Man Camp Generator Engine No. 1	235 hp	ULSD	12.0 gal/hr	AP-42, Table 3.3-1	0.0022 lb/hp-hr	N/A	N/A	8,760 hr/yr	2.3 tpy
259	50 Man Camp Generator Engine No. 2	235 hp	ULSD	12.0 gal/hr	AP-42, Table 3.3-1	0.0022 lb/hp-hr	N/A	N/A	8,760 hr/yr	2.3 tpy
260	Alaska State C-1 Pad Camp Generator Engine No. 1	385 hp	ULSD	19.7 gal/hr	NSPS Subpart IIII Tier 3	0.15 g/hp-hr	N/A	1.25	8,760 hr/yr	0.7 tpy
261	Alaska State C-1 Pad Camp Generator Engine No. 2	385 hp	ULSD	19.7 gal/hr	NSPS Subpart IIII Tier 3	0.15 g/hp-hr	N/A	1.25	8,760 hr/yr	0.7 tpy
262	Alaska State C-1 Pad Camp Generator Engine No. 3	385 hp	ULSD	19.7 gal/hr	NSPS Subpart IIII Tier 3	0.15 g/hp-hr	N/A	1.25	8,760 hr/yr	0.7 tpy
263	Alaska State C-1 Pad Camp Generator Engine No. 4	385 hp	ULSD	19.7 gal/hr	NSPS Subpart IIII Tier 3	0.15 g/hp-hr	N/A	1.25	8,760 hr/yr	0.7 tpy
264	Subcontractor Management Office Generator Engine No. 1	292 hp	ULSD	14.9 gal/hr	NSPS Subpart IIII Tier 2	0.15 g/hp-hr	N/A	1.25	8,760 hr/yr	0.5 tpy
265	Subcontractor Management Office Generator Engine No. 2	292 hp	ULSD	14.9 gal/hr	NSPS Subpart IIII Tier 2	0.15 g/hp-hr	N/A	1.25	8,760 hr/yr	0.5 tpy
269	Construction Generation, Engine No. 4	43 hp	ULSD	2.2 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
270	Construction Generation, Engine No. 5	120 hp	ULSD	6.1 gal/hr	40 CFR Part 1039 Tier 4i	0.015 g/hp-hr	NRE	1.50	8,760 hr/yr	0.03 tpy
271	Construction Generation, Engine No. 6	120 hp	ULSD	6.1 gal/hr	40 CFR Part 1039 Tier 4i	0.015 g/hp-hr	NRE	1.50	8,760 hr/yr	0.03 tpy
272	Construction Generation, Engine No. 7	120 hp	ULSD	6.1 gal/hr	40 CFR Part 1039 Tier 4i	0.015 g/hp-hr	NRE	1.50	8,760 hr/yr	0.03 tpy
274	Construction Generation, Engine No. 9	151 hp	ULSD	7.7 gal/hr	40 CFR Part 1039 Tier 4i	0.015 g/hp-hr	NRE	1.50	8,760 hr/yr	0.03 tpy
275	Construction Generation, Engine No. 10	151 hp	ULSD	7.7 gal/hr	40 CFR Part 1039 Tier 4i	0.015 g/hp-hr	NRE	1.50	8,760 hr/yr	0.03 tpy
278	Construction Generation, Engine No. 13	43 hp	ULSD	2.2 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
279	Construction Generation, Engine No. 14	43 hp	ULSD	2.2 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
280	Construction Generation, Engine No. 15	43 hp	ULSD	2.2 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
284	Field Wide Support Engine No. 2	35 hp	ULSD	1.8 gal/hr	NSPS Subpart IIII Tier 4i	0.22 g/hp-hr	N/A	1.25	8,760 hr/yr	0.1 tpy
285	Construction Portable Heater No. 1	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
286	Construction Portable Heater No. 2	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
287	Construction Portable Heater No. 3	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
288	Construction Portable Heater No. 4	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
289	Construction Portable Heater No. 5	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
290	Construction Portable Heater No. 6	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
291	Field Wide Portable Heater No. 1	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
292	Field Wide Portable Heater No. 2	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
293	Field Wide Portable Heater No. 3	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
294	Field Wide Portable Heater No. 4	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
295	Field Wide Portable Heater No. 5	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
296	Field Wide Portable Heater No. 6	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
									Total Potential PM/PM_{10} Emissions Excluding Nonroad Engines	**23.8 tpy**
									Total Potential PM/PM_{10} Emissions for Nonroad Engines	**2.4 tpy**
									Total Potential PM/PM_{10} Emissions for All Emission Units	**26.2 tpy**

Notes:
1. 40 CFR Part 89 or 1039 emission factor based on nonroad engine model year and power rating.
2. NTE factor of 1.25 or 1.50 was added to all emission units using a Tier 1 through 4f emission factor.
3. Diesel heating value: 137,000 Btu/gal
4. NRE = Nonroad Engine
5. Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)

Table 7. Potential to Emit Calculations - Volatile Organic Compounds (VOCs) Emissions
Point Thomson Unit (PTU) Gas Expansion - Construction

Emission Unit			Fuel	Maximum Fuel	Factor	VOC Emission	Nonroad	Not-to-Exceed	Maximum Annual	Annual VOC Emissions
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Factor	Operation	
203	340 Man Camp Generator Engine No. 1	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	0.14 g/hp-hr	N/A	1.25	8,760 hr/yr	1.6 tpy
204	340 Man Camp Generator Engine No. 2	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	0.14 g/hp-hr	N/A	1.25	8,760 hr/yr	1.6 tpy
205	340 Man Camp Generator Engine No. 3	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	0.14 g/hp-hr	N/A	1.25	8,760 hr/yr	1.6 tpy
203A	340 Man Camp Generator Engine No. 4	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	0.14 g/hp-hr	N/A	1.25	8,760 hr/yr	1.6 tpy
204A	340 Man Camp Generator Engine No. 5	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	0.14 g/hp-hr	N/A	1.25	8,760 hr/yr	1.6 tpy
206	Permanent Camp Generator Engine No. 1	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	0.14 g/hp-hr	N/A	1.25	8,760 hr/yr	1.6 tpy
207	Permanent Camp Generator Engine No. 2	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	0.14 g/hp-hr	N/A	1.25	8,760 hr/yr	1.6 tpy
208	Permanent Camp Generator Engine No. 3	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	0.14 g/hp-hr	N/A	1.25	8,760 hr/yr	1.6 tpy
206A	Permanent Camp Generator Engine No. 4	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	0.14 g/hp-hr	N/A	1.25	8,760 hr/yr	1.6 tpy
207A	Permanent Camp Generator Engine No. 5	972 hp	ULSD	49.7 gal/hr	NSPS Subpart IIII Tier 4f	0.14 g/hp-hr	N/A	1.25	8,760 hr/yr	1.6 tpy
209	Raw Water Skid Pump Engine No. 1	75 hp	ULSD	3.8 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	N/A	N/A	8,760 hr/yr	0.8 tpy
210	Raw Water Skid Pump Engine No. 2	75 hp	ULSD	3.8 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	N/A	N/A	8,760 hr/yr	0.8 tpy
213	Fuel Tank Farm Generator Engine No. 1	275 hp	ULSD	14.0 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	N/A	N/A	8,760 hr/yr	3.0 tpy
214	Fuel Tank Farm Generator Engine No. 2	275 hp	ULSD	14.0 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	N/A	N/A	8,760 hr/yr	3.0 tpy
217	Airstrip Generator No. 1	374 hp	ULSD	16.9 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	N/A	N/A	8,760 hr/yr	4.0 tpy
218	Airstrip Generator No. 2	374 hp	ULSD	16.9 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	N/A	N/A	8,760 hr/yr	4.0 tpy
223	Module 110 Generator Engine No. 1	490 hp	ULSD	25.0 gal/hr	NSPS Subpart IIII Tier 4f	0.14 g/hp-hr	N/A	1.25	8,760 hr/yr	0.8 tpy
223A	Module 110 Generator Engine No. 2	374 hp	ULSD	19.1 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	N/A	N/A	8,760 hr/yr	4.0 tpy
224	System Completion Generator Engine No. 1	923 hp	ULSD	47.2 gal/hr	40 CFR Part 1039 Tier 4f	0.14 g/hp-hr	NRE	1.25	8,760 hr/yr	1.6 tpy
225	System Completion Generator Engine No. 2	923 hp	ULSD	47.2 gal/hr	40 CFR Part 1039 Tier 4f	0.14 g/hp-hr	NRE	1.25	8,760 hr/yr	1.6 tpy
226	System Completion Generator Engine No. 3	923 hp	ULSD	47.2 gal/hr	40 CFR Part 1039 Tier 4f	0.14 g/hp-hr	NRE	1.25	8,760 hr/yr	1.6 tpy
227	System Completion Generator Engine No. 4	923 hp	ULSD	47.2 gal/hr	40 CFR Part 1039 Tier 4f	0.14 g/hp-hr	NRE	1.25	8,760 hr/yr	1.6 tpy
228	Raw Water Tank Heater	4.97 MMBtu/hr	ULSD	36.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.04 tpy
240	Incinerator Generator Engine No. 1	102 hp	ULSD	5.2 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	N/A	N/A	8,760 hr/yr	1.1 tpy
248	Ice Road Inspection Office Generator Engine No. 1	80 hp	ULSD	4.1 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.9 tpy
249	32 Man Camp Generator Engine No. 1	248 hp	ULSD	12.7 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	N/A	N/A	8,760 hr/yr	2.7 tpy
250	32 Man Camp Generator Engine No. 2	248 hp	ULSD	12.7 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	N/A	N/A	8,760 hr/yr	2.7 tpy
251	Temporary Fuel Tank Farm Generator Engine No. 1	80 hp	ULSD	4.1 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	N/A	N/A	8,760 hr/yr	0.9 tpy
252	Temporary Fuel Tank Farm Generator Engine No. 2	80 hp	ULSD	4.1 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	N/A	N/A	8,760 hr/yr	0.9 tpy
255	NOSI Office Generator Engine	80 hp	ULSD	4.1 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	N/A	N/A	8,760 hr/yr	0.9 tpy
256	Bell Surveyor Office Trailer Generator Engine	60 hp	ULSD	3.1 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	N/A	N/A	8,760 hr/yr	0.6 tpy
257	Office Spare Generator Engine	60 hp	ULSD	3.1 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	N/A	N/A	8,760 hr/yr	0.6 tpy
258	50 Man Camp Generator Engine No. 1	235 hp	ULSD	12.0 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	N/A	N/A	8,760 hr/yr	2.5 tpy
259	50 Man Camp Generator Engine No. 2	235 hp	ULSD	12.0 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	N/A	N/A	8,760 hr/yr	2.5 tpy
260	Alaska State C-1 Pad Camp Generator Engine No. 1	385 hp	ULSD	19.7 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	N/A	N/A	8,760 hr/yr	4.2 tpy
261	Alaska State C-1 Pad Camp Generator Engine No. 2	385 hp	ULSD	19.7 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	N/A	N/A	8,760 hr/yr	4.2 tpy
262	Alaska State C-1 Pad Camp Generator Engine No. 3	385 hp	ULSD	19.7 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	N/A	N/A	8,760 hr/yr	4.2 tpy
263	Alaska State C-1 Pad Camp Generator Engine No. 4	385 hp	ULSD	19.7 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	N/A	N/A	8,760 hr/yr	4.2 tpy
264	Subcontractor Management Office Generator Engine No. 1	292 hp	ULSD	14.9 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	N/A	N/A	8,760 hr/yr	3.2 tpy
265	Subcontractor Management Office Generator Engine No. 2	292 hp	ULSD	14.9 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	N/A	N/A	8,760 hr/yr	3.2 tpy
269	Construction Generation, Engine No. 4	43 hp	ULSD	2.2 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.5 tpy
270	Construction Generation, Engine No. 5	120 hp	ULSD	6.1 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.3 tpy
271	Construction Generation, Engine No. 6	120 hp	ULSD	6.1 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.3 tpy
272	Construction Generation, Engine No. 7	120 hp	ULSD	6.1 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.3 tpy
274	Construction Generation, Engine No. 9	151 hp	ULSD	7.7 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.6 tpy
275	Construction Generation, Engine No. 10	151 hp	ULSD	7.7 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.6 tpy
278	Construction Generation, Engine No. 13	43 hp	ULSD	2.2 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.5 tpy
279	Construction Generation, Engine No. 14	43 hp	ULSD	2.2 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.5 tpy
280	Construction Generation, Engine No. 15	43 hp	ULSD	2.2 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.5 tpy
284	Field Wide Support Engine No. 2	35 hp	ULSD	1.8 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	N/A	N/A	8,760 hr/yr	0.4 tpy
285	Construction Portable Heater No. 1	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
286	Construction Portable Heater No. 2	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
287	Construction Portable Heater No. 3	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
288	Construction Portable Heater No. 4	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
289	Construction Portable Heater No. 5	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
290	Construction Portable Heater No. 6	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
291	Field Wide Portable Heater No. 1	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
292	Field Wide Portable Heater No. 2	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
293	Field Wide Portable Heater No. 3	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
294	Field Wide Portable Heater No. 4	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
295	Field Wide Portable Heater No. 5	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
296	Field Wide Portable Heater No. 6	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
									Total Potential VOC Emissions Excluding Nonroad Engine	**75.9 tpy**
									Total Potential VOC Emissions for Nonroad Engines	**16.1 tpy**
									Total Potential VOC Emissions for All Emission Units	**92.0 tpy**

Notes:
1. 40 CFR Part 89 or 1039 emission factor based on nonroad engine model year and power rating.
2. NTE factor of 1.25 was added to all emission units using a Tier 1 through 4f emission factor.
3. Diesel heating value: 137,000 Btu/gal
4. NRE = Nonroad Engine

Table 8. Potential to Emit Calculations - Sulfur Dioxide (SO_2) Emissions
Point Thomson Unit (PTU) Gas Expansion - Construction

Emission Unit			Fuel	Maximum Fuel	Maximum Fuel	Factor	SO_2 Emission	Nonroad	Maximum Annual	Annual SO_2 Emissions
ID	Description	Rating/Capacity	Type	Consumption	Sulfur Content	Reference	Factor	Engine	Operation	
203	340 Man Camp Generator Engine No. 1	972 hp	ULSD	49.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.05 tpy
204	340 Man Camp Generator Engine No. 2	972 hp	ULSD	49.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.05 tpy
205	340 Man Camp Generator Engine No. 3	972 hp	ULSD	49.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.05 tpy
203A	340 Man Camp Generator Engine No. 4	972 hp	ULSD	49.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.05 tpy
204A	340 Man Camp Generator Engine No. 5	972 hp	ULSD	49.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.05 tpy
206	Permanent Camp Generator Engine No. 1	972 hp	ULSD	49.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.05 tpy
207	Permanent Camp Generator Engine No. 2	972 hp	ULSD	49.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.05 tpy
208	Permanent Camp Generator Engine No. 3	972 hp	ULSD	49.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.05 tpy
206A	Permanent Camp Generator Engine No. 4	972 hp	ULSD	49.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.05 tpy
207A	Permanent Camp Generator Engine No. 5	972 hp	ULSD	49.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.05 tpy
209	Raw Water Skid Pump Engine No. 1	75 hp	ULSD	3.8 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.00 tpy
210	Raw Water Skid Pump Engine No. 2	75 hp	ULSD	3.8 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.00 tpy
213	Fuel Tank Farm Generator Engine No. 1	275 hp	ULSD	14.0 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.01 tpy
214	Fuel Tank Farm Generator Engine No. 2	275 hp	ULSD	14.0 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.01 tpy
217	Airstrip Generator No. 1	374 hp	ULSD	16.9 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.02 tpy
218	Airstrip Generator No. 2	374 hp	ULSD	16.9 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.02 tpy
223	Module 110 Generator Engine No. 1	490 hp	ULSD	25.0 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.02 tpy
223A	Module 110 Generator Engine No. 2	374 hp	ULSD	19.1 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.02 tpy
224	System Completion Generator Engine No. 1	923 hp	ULSD	47.2 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.04 tpy
225	System Completion Generator Engine No. 2	923 hp	ULSD	47.2 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.04 tpy
226	System Completion Generator Engine No. 3	923 hp	ULSD	47.2 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.04 tpy
227	System Completion Generator Engine No. 4	923 hp	ULSD	47.2 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.04 tpy
228	Raw Water Tank Heater	4.97 MMBtu/hr	ULSD	36.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.03 tpy
240	Incinerator Generator Engine No. 1	102 hp	ULSD	5.2 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.00 tpy
248	Ice Road Inspection Office Generator Engine No. 1	80 hp	ULSD	4.1 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.00 tpy
249	32 Man Camp Generator Engine No. 1	248 hp	ULSD	12.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.01 tpy
250	32 Man Camp Generator Engine No. 2	248 hp	ULSD	12.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.01 tpy
251	Temporary Fuel Tank Farm Generator Engine No. 1	80 hp	ULSD	4.1 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.00 tpy
252	Temporary Fuel Tank Farm Generator Engine No. 2	80 hp	ULSD	4.1 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.00 tpy
255	NOSI Office Generator Engine	80 hp	ULSD	4.1 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.00 tpy
256	Bell Surveyor Office Trailer Generator Engine	60 hp	ULSD	3.1 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.00 tpy
257	Office Spare Generator Engine	60 hp	ULSD	3.1 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.00 tpy
258	50 Man Camp Generator Engine No. 1	235 hp	ULSD	12.0 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.01 tpy
259	50 Man Camp Generator Engine No. 2	235 hp	ULSD	12.0 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.01 tpy
260	Alaska State C-1 Pad Camp Generator Engine No. 1	385 hp	ULSD	19.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.02 tpy
261	Alaska State C-1 Pad Camp Generator Engine No. 2	385 hp	ULSD	19.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.02 tpy
262	Alaska State C-1 Pad Camp Generator Engine No. 3	385 hp	ULSD	19.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.02 tpy
263	Alaska State C-1 Pad Camp Generator Engine No. 4	385 hp	ULSD	19.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.02 tpy
264	Subcontractor Management Office Generator Engine No. 1	292 hp	ULSD	14.9 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.01 tpy
265	Subcontractor Management Office Generator Engine No. 2	292 hp	ULSD	14.9 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.01 tpy
269	Construction Generation, Engine No. 4	43 hp	ULSD	2.2 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.00 tpy
270	Construction Generation, Engine No. 5	120 hp	ULSD	6.1 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.01 tpy
271	Construction Generation, Engine No. 6	120 hp	ULSD	6.1 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.01 tpy
272	Construction Generation, Engine No. 7	120 hp	ULSD	6.1 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.01 tpy
274	Construction Generation, Engine No. 9	151 hp	ULSD	7.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.01 tpy
275	Construction Generation, Engine No. 10	151 hp	ULSD	7.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.01 tpy
278	Construction Generation, Engine No. 13	43 hp	ULSD	2.2 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.00 tpy
279	Construction Generation, Engine No. 14	43 hp	ULSD	2.2 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.00 tpy
280	Construction Generation, Engine No. 15	43 hp	ULSD	2.2 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.00 tpy
284	Field Wide Support Engine No. 2	35 hp	ULSD	1.8 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.00 tpy
285	Construction Portable Heater No. 1	1 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.01 tpy
286	Construction Portable Heater No. 2	1 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.01 tpy
287	Construction Portable Heater No. 3	1 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.01 tpy
288	Construction Portable Heater No. 4	1 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.01 tpy
289	Construction Portable Heater No. 5	1 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.01 tpy
290	Construction Portable Heater No. 6	1 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.01 tpy
291	Field Wide Portable Heater No. 1	1 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.01 tpy
292	Field Wide Portable Heater No. 2	1 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.01 tpy
293	Field Wide Portable Heater No. 3	1 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.01 tpy
294	Field Wide Portable Heater No. 4	1 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.01 tpy
295	Field Wide Portable Heater No. 5	1 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.01 tpy
296	Field Wide Portable Heater No. 6	1 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.01 tpy
									Total Potential SO_2 Emissions Excluding Nonroad Engines	**0.9 tpy**
									Total Potential SO_2 Emissions for Nonroad Engines	**0.2 tpy**
									Total Potential SO_2 Emissions for All Emission Units	**1.1 tpy**

Notes:
1. Diesel fuel is assumed to have a sulfur content of 15 ppmw (0.0015 wt. pct.) and a heat content of 137,000 Btu/gal.
2. Diesel engine heat rate assumed to be 7,000 Btu/hp-hr.
3. NRE = Nonroad Engine
4. Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)

Table 9. Potential to Emit Calculations - Lead Emissions
Point Thomson Unit (PTU) Gas Expansion - Construction

Emission Unit			Fuel	Maximum Fuel	Factor	Lead Emission	Nonroad	Maximum Annual	Annual Lead Emissions
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Operation	
203	340 Man Camp Generator Engine No. 1	972 hp	ULSD	49.7 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
204	340 Man Camp Generator Engine No. 2	972 hp	ULSD	49.7 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
205	340 Man Camp Generator Engine No. 3	972 hp	ULSD	49.7 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
203A	340 Man Camp Generator Engine No. 4	972 hp	ULSD	49.7 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
204A	340 Man Camp Generator Engine No. 5	972 hp	ULSD	49.7 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
206	Permanent Camp Generator Engine No. 1	972 hp	ULSD	49.7 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
207	Permanent Camp Generator Engine No. 2	972 hp	ULSD	49.7 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
208	Permanent Camp Generator Engine No. 3	972 hp	ULSD	49.7 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
206A	Permanent Camp Generator Engine No. 4	972 hp	ULSD	49.7 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
207A	Permanent Camp Generator Engine No. 5	972 hp	ULSD	49.7 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
209	Raw Water Skid Pump Engine No. 1	75 hp	ULSD	3.8 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
210	Raw Water Skid Pump Engine No. 2	75 hp	ULSD	3.8 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
213	Fuel Tank Farm Generator Engine No. 1	275 hp	ULSD	14.0 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
214	Fuel Tank Farm Generator Engine No. 2	275 hp	ULSD	14.0 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
217	Airstrip Generator No. 1	374 hp	ULSD	16.9 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
218	Airstrip Generator No. 2	374 hp	ULSD	16.9 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
223	Module 110 Generator Engine No. 1	490 hp	ULSD	25.0 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
223A	Module 110 Generator Engine No. 2	374 hp	ULSD	19.1 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
224	System Completion Generator Engine No. 1	923 hp	ULSD	47.2 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
225	System Completion Generator Engine No. 2	923 hp	ULSD	47.2 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
226	System Completion Generator Engine No. 3	923 hp	ULSD	47.2 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
227	System Completion Generator Engine No. 4	923 hp	ULSD	47.2 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
228	Raw Water Tank Heater	4.97 MMBtu/hr	ULSD	36.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	8,760 hr/yr	0.0002 tpy
240	Incinerator Generator Engine No. 1	102 hp	ULSD	5.2 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
248	Ice Road Inspection Office Generator Engine No. 1	80 hp	ULSD	4.1 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
249	32 Man Camp Generator Engine No. 1	248 hp	ULSD	12.7 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
250	32 Man Camp Generator Engine No. 2	248 hp	ULSD	12.7 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
251	Temporary Fuel Tank Farm Generator Engine No. 1	80 hp	ULSD	4.1 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
252	Temporary Fuel Tank Farm Generator Engine No. 2	80 hp	ULSD	4.1 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
255	NOSI Office Generator Engine	80 hp	ULSD	4.1 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
256	Bell Surveyor Office Trailer Generator Engine	60 hp	ULSD	3.1 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
257	Office Spare Generator Engine	60 hp	ULSD	3.1 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
258	50 Man Camp Generator Engine No. 1	235 hp	ULSD	12.0 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
259	50 Man Camp Generator Engine No. 2	235 hp	ULSD	12.0 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
260	Alaska State C-1 Pad Camp Generator Engine No. 1	385 hp	ULSD	19.7 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
261	Alaska State C-1 Pad Camp Generator Engine No. 2	385 hp	ULSD	19.7 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
262	Alaska State C-1 Pad Camp Generator Engine No. 3	385 hp	ULSD	19.7 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
263	Alaska State C-1 Pad Camp Generator Engine No. 4	385 hp	ULSD	19.7 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
264	Subcontractor Management Office Generator Engine No. 1	292 hp	ULSD	14.9 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
265	Subcontractor Management Office Generator Engine No. 2	292 hp	ULSD	14.9 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
269	Construction Generation, Engine No. 4	43 hp	ULSD	2.2 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
270	Construction Generation, Engine No. 5	120 hp	ULSD	6.1 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
271	Construction Generation, Engine No. 6	120 hp	ULSD	6.1 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
272	Construction Generation, Engine No. 7	120 hp	ULSD	6.1 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
274	Construction Generation, Engine No. 9	151 hp	ULSD	7.7 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
275	Construction Generation, Engine No. 10	151 hp	ULSD	7.7 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
278	Construction Generation, Engine No. 13	43 hp	ULSD	2.2 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
279	Construction Generation, Engine No. 14	43 hp	ULSD	2.2 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
280	Construction Generation, Engine No. 15	43 hp	ULSD	2.2 gal/hr	AP-42, Chapter 3	0	NRE	8,760 hr/yr	0.0 tpy
284	Field Wide Support Engine No. 2	35 hp	ULSD	1.8 gal/hr	AP-42, Chapter 3	0	N/A	8,760 hr/yr	0.0 tpy
285	Construction Portable Heater No. 1	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	8,760 hr/yr	0.00004 tpy
286	Construction Portable Heater No. 2	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	8,760 hr/yr	0.00004 tpy
287	Construction Portable Heater No. 3	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	8,760 hr/yr	0.00004 tpy
288	Construction Portable Heater No. 4	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	8,760 hr/yr	0.00004 tpy
289	Construction Portable Heater No. 5	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	8,760 hr/yr	0.00004 tpy
290	Construction Portable Heater No. 6	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	8,760 hr/yr	0.00004 tpy
291	Field Wide Portable Heater No. 1	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	8,760 hr/yr	0.00004 tpy
292	Field Wide Portable Heater No. 2	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	8,760 hr/yr	0.00004 tpy
293	Field Wide Portable Heater No. 3	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	8,760 hr/yr	0.00004 tpy
294	Field Wide Portable Heater No. 4	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	8,760 hr/yr	0.00004 tpy
295	Field Wide Portable Heater No. 5	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	8,760 hr/yr	0.00004 tpy
296	Field Wide Portable Heater No. 6	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	8,760 hr/yr	0.00004 tpy

Total Potential Lead Emissions Excluding Nonroad Engines	**0.001 tpy**
Total Potential Lead Emissions for Nonroad Engines	**0.000 tpy**
Total Potential Lead Emissions for All Emission Units	**0.001 tpy**

Notes:
1. Diesel heating value: 137,000 Btu/gal
2. Fuel factor for crude, residual, and distillate oil: 9,190 dscf/MMBtu
3. NRE = Nonroad Engine
4. Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)

Table 10. Potential to Emit Calculations - Carbon Dioxide Equivalent (CO2e) Emissions
Point Thomson Unit (PTU) Gas Expansion - Construction

Emission Unit			Fuel	Nonroad	Potential Greenhouse Gas Emissions (tonne/year)				
ID	Description	Rating/Capacity	Type	Engine	CO_2	CH_4	N_2O	GHG Mass	GHG CO_2e
203	340 Man Camp Generator Engine No. 1	972 hp	ULSD	N/A	4,439.4	0.180	0.0360	4,440	4,455
204	340 Man Camp Generator Engine No. 2	972 hp	ULSD	N/A	4,439.4	0.180	0.0360	4,440	4,455
205	340 Man Camp Generator Engine No. 3	972 hp	ULSD	N/A	4,439.4	0.180	0.0360	4,440	4,455
203A	340 Man Camp Generator Engine No. 4	972 hp	ULSD	N/A	4,439.4	0.180	0.0360	4,440	4,455
204A	340 Man Camp Generator Engine No. 5	972 hp	ULSD	N/A	4,439.4	0.180	0.0360	4,440	4,455
206	Permanent Camp Generator Engine No. 1	972 hp	ULSD	N/A	4,439.4	0.180	0.0360	4,440	4,455
207	Permanent Camp Generator Engine No. 2	972 hp	ULSD	N/A	4,439.4	0.180	0.0360	4,440	4,455
208	Permanent Camp Generator Engine No. 3	972 hp	ULSD	N/A	4,439.4	0.180	0.0360	4,440	4,455
206A	Permanent Camp Generator Engine No. 4	972 hp	ULSD	N/A	4,439.4	0.180	0.0360	4,440	4,455
207A	Permanent Camp Generator Engine No. 5	972 hp	ULSD	N/A	4,439.4	0.180	0.0360	4,440	4,455
209	Raw Water Skid Pump Engine No. 1	75 hp	ULSD	N/A	342.5	0.014	0.0028	343	344
210	Raw Water Skid Pump Engine No. 2	75 hp	ULSD	N/A	342.5	0.014	0.0028	343	344
213	Fuel Tank Farm Generator Engine No. 1	275 hp	ULSD	N/A	1,256.0	0.051	0.0102	1,256	1,260
214	Fuel Tank Farm Generator Engine No. 2	275 hp	ULSD	N/A	1,256.0	0.051	0.0102	1,256	1,260
217	Airstrip Generator No. 1	374 hp	ULSD	N/A	1,511.0	0.061	0.0123	1,511	1,516
218	Airstrip Generator No. 2	374 hp	ULSD	N/A	1,511.0	0.061	0.0123	1,511	1,516
223	Module 110 Generator Engine No. 1	490 hp	ULSD	N/A	2,238.0	0.091	0.0182	2,238	2,246
223A	Module 110 Generator Engine No. 2	374 hp	ULSD	N/A	1,708.2	0.069	0.0139	1,708	1,714
224	System Completion Generator Engine No. 1	923 hp	ULSD	NRE	4,215.6	0.171	0.0342	4,216	4,230
225	System Completion Generator Engine No. 2	923 hp	ULSD	NRE	4,215.6	0.171	0.0342	4,216	4,230
226	System Completion Generator Engine No. 3	923 hp	ULSD	NRE	4,215.6	0.171	0.0342	4,216	4,230
227	System Completion Generator Engine No. 4	923 hp	ULSD	NRE	4,215.6	0.171	0.0342	4,216	4,230
228	Raw Water Tank Heater	4.97 MMBtu/hr	ULSD	N/A	3,242.8	0.132	0.0263	3,243	3,254
240	Incinerator Generator Engine No. 1	102 hp	ULSD	N/A	465.9	0.019	0.0038	466	467
248	Ice Road Inspection Office Generator Engine No. 1	80 hp	ULSD	NRE	365.4	0.015	0.0030	365	367
249	32 Man Camp Generator Engine No. 1	248 hp	ULSD	N/A	1,132.7	0.046	0.0092	1,133	1,137
250	32 Man Camp Generator Engine No. 2	248 hp	ULSD	N/A	1,132.7	0.046	0.0092	1,133	1,137
251	Temporary Fuel Tank Farm Generator Engine No. 1	80 hp	ULSD	N/A	365.4	0.015	0.0030	365	367
252	Temporary Fuel Tank Farm Generator Engine No. 2	80 hp	ULSD	N/A	365.4	0.015	0.0030	365	367
255	NOSI Office Generator Engine	80 hp	ULSD	N/A	365.4	0.015	0.0030	365	367
256	Bell Surveyor Office Trailer Generator Engine	60 hp	ULSD	N/A	274.0	0.011	0.0022	274	275
257	Office Spare Generator Engine	60 hp	ULSD	N/A	274.0	0.011	0.0022	274	275
258	50 Man Camp Generator Engine No. 1	235 hp	ULSD	N/A	1,073.3	0.044	0.0087	1,073	1,077
259	50 Man Camp Generator Engine No. 2	235 hp	ULSD	N/A	1,073.3	0.044	0.0087	1,073	1,077
260	Alaska State C-1 Pad Camp Generator Engine No. 1	385 hp	ULSD	N/A	1,758.4	0.071	0.0143	1,759	1,764
261	Alaska State C-1 Pad Camp Generator Engine No. 2	385 hp	ULSD	N/A	1,758.4	0.071	0.0143	1,759	1,764
262	Alaska State C-1 Pad Camp Generator Engine No. 3	385 hp	ULSD	N/A	1,758.4	0.071	0.0143	1,759	1,764
263	Alaska State C-1 Pad Camp Generator Engine No. 4	385 hp	ULSD	N/A	1,758.4	0.071	0.0143	1,759	1,764
264	Subcontractor Management Office Generator Engine No. 1	292 hp	ULSD	N/A	1,333.7	0.054	0.0108	1,334	1,338
265	Subcontractor Management Office Generator Engine No. 2	292 hp	ULSD	N/A	1,333.7	0.054	0.0108	1,334	1,338
269	Construction Generation, Engine No. 4	43 hp	ULSD	NRE	196.4	0.008	0.0016	196	197
270	Construction Generation, Engine No. 5	120 hp	ULSD	NRE	548.1	0.022	0.0044	548	550
271	Construction Generation, Engine No. 6	120 hp	ULSD	NRE	548.1	0.022	0.0044	548	550
272	Construction Generation, Engine No. 7	120 hp	ULSD	NRE	548.1	0.022	0.0044	548	550
274	Construction Generation, Engine No. 9	151 hp	ULSD	NRE	689.7	0.028	0.0056	690	692
275	Construction Generation, Engine No. 10	151 hp	ULSD	NRE	689.7	0.028	0.0056	690	692
278	Construction Generation, Engine No. 13	43 hp	ULSD	NRE	196.4	0.008	0.0016	196	197
279	Construction Generation, Engine No. 14	43 hp	ULSD	NRE	196.4	0.008	0.0016	196	197
280	Construction Generation, Engine No. 15	43 hp	ULSD	NRE	196.4	0.008	0.0016	196	197
284	Field Wide Support Engine No. 2	35 hp	ULSD	N/A	159.9	0.006	0.0013	160	160
285	Construction Portable Heater No. 1	1 MMBtu/hr	ULSD	N/A	652.5	0.026	0.0053	653	655
286	Construction Portable Heater No. 2	1 MMBtu/hr	ULSD	N/A	652.5	0.026	0.0053	653	655
287	Construction Portable Heater No. 3	1 MMBtu/hr	ULSD	N/A	652.5	0.026	0.0053	653	655
288	Construction Portable Heater No. 4	1 MMBtu/hr	ULSD	N/A	652.5	0.026	0.0053	653	655
289	Construction Portable Heater No. 5	1 MMBtu/hr	ULSD	N/A	652.5	0.026	0.0053	653	655
290	Construction Portable Heater No. 6	1 MMBtu/hr	ULSD	N/A	652.5	0.026	0.0053	653	655
291	Field Wide Portable Heater No. 1	1 MMBtu/hr	ULSD	N/A	652.5	0.026	0.0053	653	655
292	Field Wide Portable Heater No. 2	1 MMBtu/hr	ULSD	N/A	652.5	0.026	0.0053	653	655
293	Field Wide Portable Heater No. 3	1 MMBtu/hr	ULSD	N/A	652.5	0.026	0.0053	653	655
294	Field Wide Portable Heater No. 4	1 MMBtu/hr	ULSD	N/A	652.5	0.026	0.0053	653	655
295	Field Wide Portable Heater No. 5	1 MMBtu/hr	ULSD	N/A	652.5	0.026	0.0053	653	655
296	Field Wide Portable Heater No. 6	1 MMBtu/hr	ULSD	N/A	652.5	0.026	0.0053	653	655
								Total Potential CO_2e Emissions Excluding Nonroad Engines	**82,297 tonne/year**
								Total Potential CO_2e Emissions for Nonroad Engines	**21,109 tonne/year**
								Total Potential CO_2e Emissions for All Emission Units	**103,406 tonne/year**

Notes:

1. CO_2e is the CO_2 equivalent emissions applying the global warming potential for each GHG from Table A-1, 40 CFR 98. Global warming potentials are:
   Carbon Dioxide: 1
   Methane: 25
   Nitrous Oxide: 298

137,000 Btu/gal
9,190 dscf/MMBtu

Table 11. Potential to Emit Calculations - Carbon Dioxide (CO_2) Emissions
Point Thomson Unit (PTU) Gas Expansion - Construction

Emission Unit			Fuel	Maximum Fuel Consumption	Factor	CO_2 Emission	Nonroad	Maximum Annual	Annual CO_2 Emissions
ID	Description	Rating/Capacity	Type		Reference	Factor	Engine	Operation	
203	340 Man Camp Generator Engine No. 1	972 hp	ULSD	49.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	4,439.4 tonne/year
204	340 Man Camp Generator Engine No. 2	972 hp	ULSD	49.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	4,439.4 tonne/year
205	340 Man Camp Generator Engine No. 3	972 hp	ULSD	49.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	4,439.4 tonne/year
203A	340 Man Camp Generator Engine No. 4	972 hp	ULSD	49.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	4,439.4 tonne/year
204A	340 Man Camp Generator Engine No. 5	972 hp	ULSD	49.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	4,439.4 tonne/year
206	Permanent Camp Generator Engine No. 1	972 hp	ULSD	49.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	4,439.4 tonne/year
207	Permanent Camp Generator Engine No. 2	972 hp	ULSD	49.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	4,439.4 tonne/year
208	Permanent Camp Generator Engine No. 3	972 hp	ULSD	49.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	4,439.4 tonne/year
206A	Permanent Camp Generator Engine No. 4	972 hp	ULSD	49.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	4,439.4 tonne/year
207A	Permanent Camp Generator Engine No. 5	972 hp	ULSD	49.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	4,439.4 tonne/year
209	Raw Water Skid Pump Engine No. 1	75 hp	ULSD	3.8 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	342.5 tonne/year
210	Raw Water Skid Pump Engine No. 2	75 hp	ULSD	3.8 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	342.5 tonne/year
213	Fuel Tank Farm Generator Engine No. 1	275 hp	ULSD	14.0 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	1,256.0 tonne/year
214	Fuel Tank Farm Generator Engine No. 2	275 hp	ULSD	14.0 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	1,256.0 tonne/year
217	Airstrip Generator No. 1	374 hp	ULSD	16.9 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	1,511.0 tonne/year
218	Airstrip Generator No. 2	374 hp	ULSD	16.9 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	1,511.0 tonne/year
223	Module 110 Generator Engine No. 1	490 hp	ULSD	25.0 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	2,238.0 tonne/year
223A	Module 110 Generator Engine No. 2	374 hp	ULSD	19.1 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	1,708.2 tonne/year
224	System Completion Generator Engine No. 1	923 hp	ULSD	47.2 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	4,215.6 tonne/year
225	System Completion Generator Engine No. 2	923 hp	ULSD	47.2 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	4,215.6 tonne/year
226	System Completion Generator Engine No. 3	923 hp	ULSD	47.2 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	4,215.6 tonne/year
227	System Completion Generator Engine No. 4	923 hp	ULSD	47.2 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	4,215.6 tonne/year
228	Raw Water Tank Heater	4.97 MMBtu/hr	ULSD	36.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	3,242.8 tonne/year
240	Incinerator Generator Engine No. 1	102 hp	ULSD	5.2 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	465.9 tonne/year
248	Ice Road Inspection Office Generator Engine No. 1	80 hp	ULSD	4.1 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	365.4 tonne/year
249	32 Man Camp Generator Engine No. 1	248 hp	ULSD	12.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	1,132.7 tonne/year
250	32 Man Camp Generator Engine No. 2	248 hp	ULSD	12.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	1,132.7 tonne/year
251	Temporary Fuel Tank Farm Generator Engine No. 1	80 hp	ULSD	4.1 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	365.4 tonne/year
252	Temporary Fuel Tank Farm Generator Engine No. 2	80 hp	ULSD	4.1 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	365.4 tonne/year
255	NOSI Office Generator Engine	80 hp	ULSD	4.1 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	365.4 tonne/year
256	Bell Surveyor Office Trailer Generator Engine	60 hp	ULSD	3.1 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	274.0 tonne/year
257	Office Spare Generator Engine	60 hp	ULSD	3.1 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	274.0 tonne/year
258	50 Man Camp Generator Engine No. 1	235 hp	ULSD	12.0 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	1,073.3 tonne/year
259	50 Man Camp Generator Engine No. 2	235 hp	ULSD	12.0 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	1,073.3 tonne/year
260	Alaska State C-1 Pad Camp Generator Engine No. 1	385 hp	ULSD	19.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	1,758.4 tonne/year
261	Alaska State C-1 Pad Camp Generator Engine No. 2	385 hp	ULSD	19.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	1,758.4 tonne/year
262	Alaska State C-1 Pad Camp Generator Engine No. 3	385 hp	ULSD	19.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	1,758.4 tonne/year
263	Alaska State C-1 Pad Camp Generator Engine No. 4	385 hp	ULSD	19.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	1,758.4 tonne/year
264	Subcontractor Management Office Generator Engine No. 1	292 hp	ULSD	14.9 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	1,333.7 tonne/year
265	Subcontractor Management Office Generator Engine No. 2	292 hp	ULSD	14.9 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	1,333.7 tonne/year
269	Construction Generation, Engine No. 4	43 hp	ULSD	2.2 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	196.4 tonne/year
270	Construction Generation, Engine No. 5	120 hp	ULSD	6.1 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	548.1 tonne/year
271	Construction Generation, Engine No. 6	120 hp	ULSD	6.1 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	548.1 tonne/year
272	Construction Generation, Engine No. 7	120 hp	ULSD	6.1 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	548.1 tonne/year
274	Construction Generation, Engine No. 9	151 hp	ULSD	7.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	689.7 tonne/year
275	Construction Generation, Engine No. 10	151 hp	ULSD	7.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	689.7 tonne/year
278	Construction Generation, Engine No. 13	43 hp	ULSD	2.2 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	196.4 tonne/year
279	Construction Generation, Engine No. 14	43 hp	ULSD	2.2 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	196.4 tonne/year
280	Construction Generation, Engine No. 15	43 hp	ULSD	2.2 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	196.4 tonne/year
284	Field Wide Support Engine No. 2	35 hp	ULSD	1.8 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	159.9 tonne/year
285	Construction Portable Heater No. 1	1 MMBtu/hr	ULSD	7.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	652.5 tonne/year
286	Construction Portable Heater No. 2	1 MMBtu/hr	ULSD	7.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	652.5 tonne/year
287	Construction Portable Heater No. 3	1 MMBtu/hr	ULSD	7.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	652.5 tonne/year
288	Construction Portable Heater No. 4	1 MMBtu/hr	ULSD	7.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	652.5 tonne/year
289	Construction Portable Heater No. 5	1 MMBtu/hr	ULSD	7.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	652.5 tonne/year
290	Construction Portable Heater No. 6	1 MMBtu/hr	ULSD	7.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	652.5 tonne/year
291	Field Wide Portable Heater No. 1	1 MMBtu/hr	ULSD	7.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	652.5 tonne/year
292	Field Wide Portable Heater No. 2	1 MMBtu/hr	ULSD	7.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	652.5 tonne/year
293	Field Wide Portable Heater No. 3	1 MMBtu/hr	ULSD	7.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	652.5 tonne/year
294	Field Wide Portable Heater No. 4	1 MMBtu/hr	ULSD	7.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	652.5 tonne/year
295	Field Wide Portable Heater No. 5	1 MMBtu/hr	ULSD	7.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	652.5 tonne/year
296	Field Wide Portable Heater No. 6	1 MMBtu/hr	ULSD	7.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	652.5 tonne/year
								Total Potential CO_2 Emissions Excluding Nonroad Engines	**82,015 tonne/year**
								Total Potential CO_2 Emissions for Nonroad Engines	**21,037 tonne/year**
								Total Potential CO_2 Emissions for All Emission Units	**103,052 tonne/year**

Notes:
1. Distillate No. 2 default high heat value: 0.138 MMBtu/gallon
2. NRE = Nonroad Engine
3. Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)

Table 12. Potential to Emit Calculations - Methane (CH_4) Emissions
Point Thomson Unit (PTU) Gas Expansion - Construction

Emission Unit			Fuel	Maximum Fuel	Factor	CH_4 Emission	Nonroad	Maximum Annual	Annual CH_4 Emissions
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Operation	
203	340 Man Camp Generator Engine No. 1	972 hp	ULSD	49.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.180 tonne/year
204	340 Man Camp Generator Engine No. 2	972 hp	ULSD	49.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.180 tonne/year
205	340 Man Camp Generator Engine No. 3	972 hp	ULSD	49.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.180 tonne/year
203A	340 Man Camp Generator Engine No. 4	972 hp	ULSD	49.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.180 tonne/year
204A	340 Man Camp Generator Engine No. 5	972 hp	ULSD	49.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.180 tonne/year
206	Permanent Camp Generator Engine No. 1	972 hp	ULSD	49.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.180 tonne/year
207	Permanent Camp Generator Engine No. 2	972 hp	ULSD	49.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.180 tonne/year
208	Permanent Camp Generator Engine No. 3	972 hp	ULSD	49.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.180 tonne/year
206A	Permanent Camp Generator Engine No. 4	972 hp	ULSD	49.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.180 tonne/year
207A	Permanent Camp Generator Engine No. 5	972 hp	ULSD	49.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.180 tonne/year
209	Raw Water Skid Pump Engine No. 1	75 hp	ULSD	3.8 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.014 tonne/year
210	Raw Water Skid Pump Engine No. 2	75 hp	ULSD	3.8 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.014 tonne/year
213	Fuel Tank Farm Generator Engine No. 1	275 hp	ULSD	14.0 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.051 tonne/year
214	Fuel Tank Farm Generator Engine No. 2	275 hp	ULSD	14.0 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.051 tonne/year
217	Airstrip Generator No. 1	374 hp	ULSD	16.9 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.061 tonne/year
218	Airstrip Generator No. 2	374 hp	ULSD	16.9 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.061 tonne/year
223	Module 110 Generator Engine No. 1	490 hp	ULSD	25.0 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.091 tonne/year
223A	Module 110 Generator Engine No. 2	374 hp	ULSD	19.1 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.069 tonne/year
224	System Completion Generator Engine No. 1	923 hp	ULSD	47.2 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.171 tonne/year
225	System Completion Generator Engine No. 2	923 hp	ULSD	47.2 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.171 tonne/year
226	System Completion Generator Engine No. 3	923 hp	ULSD	47.2 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.171 tonne/year
227	System Completion Generator Engine No. 4	923 hp	ULSD	47.2 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.171 tonne/year
228	Raw Water Tank Heater	4.97 MMBtu/hr	ULSD	36.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.132 tonne/year
240	Incinerator Generator Engine No. 1	102 hp	ULSD	5.2 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.019 tonne/year
248	Ice Road Inspection Office Generator Engine No. 1	80 hp	ULSD	4.1 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.015 tonne/year
249	32 Man Camp Generator Engine No. 1	248 hp	ULSD	12.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.046 tonne/year
250	32 Man Camp Generator Engine No. 2	248 hp	ULSD	12.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.046 tonne/year
251	Temporary Fuel Tank Farm Generator Engine No. 1	80 hp	ULSD	4.1 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.015 tonne/year
252	Temporary Fuel Tank Farm Generator Engine No. 2	80 hp	ULSD	4.1 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.015 tonne/year
255	NOSI Office Generator Engine	80 hp	ULSD	4.1 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.015 tonne/year
256	Bell Surveyor Office Trailer Generator Engine	60 hp	ULSD	3.1 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.011 tonne/year
257	Office Spare Generator Engine	60 hp	ULSD	3.1 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.011 tonne/year
258	50 Man Camp Generator Engine No. 1	235 hp	ULSD	12.0 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.044 tonne/year
259	50 Man Camp Generator Engine No. 2	235 hp	ULSD	12.0 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.044 tonne/year
260	Alaska State C-1 Pad Camp Generator Engine No. 1	385 hp	ULSD	19.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.071 tonne/year
261	Alaska State C-1 Pad Camp Generator Engine No. 2	385 hp	ULSD	19.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.071 tonne/year
262	Alaska State C-1 Pad Camp Generator Engine No. 3	385 hp	ULSD	19.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.071 tonne/year
263	Alaska State C-1 Pad Camp Generator Engine No. 4	385 hp	ULSD	19.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.071 tonne/year
264	Subcontractor Management Office Generator Engine No. 1	292 hp	ULSD	14.9 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.054 tonne/year
265	Subcontractor Management Office Generator Engine No. 2	292 hp	ULSD	14.9 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.054 tonne/year
269	Construction Generation, Engine No. 4	43 hp	ULSD	2.2 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.008 tonne/year
270	Construction Generation, Engine No. 5	120 hp	ULSD	6.1 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.022 tonne/year
271	Construction Generation, Engine No. 6	120 hp	ULSD	6.1 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.022 tonne/year
272	Construction Generation, Engine No. 7	120 hp	ULSD	6.1 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.022 tonne/year
274	Construction Generation, Engine No. 9	151 hp	ULSD	7.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.028 tonne/year
275	Construction Generation, Engine No. 10	151 hp	ULSD	7.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.028 tonne/year
278	Construction Generation, Engine No. 13	43 hp	ULSD	2.2 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.008 tonne/year
279	Construction Generation, Engine No. 14	43 hp	ULSD	2.2 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.008 tonne/year
280	Construction Generation, Engine No. 15	43 hp	ULSD	2.2 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.008 tonne/year
284	Field Wide Support Engine No. 2	35 hp	ULSD	1.8 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.006 tonne/year
285	Construction Portable Heater No. 1	1 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
286	Construction Portable Heater No. 2	1 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
287	Construction Portable Heater No. 3	1 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
288	Construction Portable Heater No. 4	1 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
289	Construction Portable Heater No. 5	1 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
290	Construction Portable Heater No. 6	1 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
291	Field Wide Portable Heater No. 1	1 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
292	Field Wide Portable Heater No. 2	1 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
293	Field Wide Portable Heater No. 3	1 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
294	Field Wide Portable Heater No. 4	1 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
295	Field Wide Portable Heater No. 5	1 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
296	Field Wide Portable Heater No. 6	1 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
								Total Potential CH_4 Emissions Excluding Nonroad Engines	**3.327 tonne/year**
								Total Potential CH_4 Emissions for Nonroad Engines	**0.853 tonne/year**
								Total Potential CH_4 Emissions for All Emission Units	**4.180 tonne/year**

Notes:
1. Diesel high heat value: 0.138 MMBtu/gallon
2. NRE = Nonroad Engine
3. Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)
4. Heat rate for diesel engines: 7,000 Btu/hp-hr

Table 13. Potential to Emit Calculations - Nitrous Oxide (N_2O) Emissions
Point Thomson Unit (PTU) Gas Expansion - Constructior

Emission Unit			Fuel	Maximum Fuel	Factor	N_2O Emission	Nonroad	Maximum Annual	Annual N_2O Emissions
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Operation	
203	340 Man Camp Generator Engine No. 1	972 hp	ULSD	49.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.036 tonne/year
204	340 Man Camp Generator Engine No. 2	972 hp	ULSD	49.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.036 tonne/year
205	340 Man Camp Generator Engine No. 3	972 hp	ULSD	49.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.036 tonne/year
203A	340 Man Camp Generator Engine No. 4	972 hp	ULSD	49.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.036 tonne/year
204A	340 Man Camp Generator Engine No. 5	972 hp	ULSD	49.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.036 tonne/year
206	Permanent Camp Generator Engine No. 1	972 hp	ULSD	49.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.036 tonne/year
207	Permanent Camp Generator Engine No. 2	972 hp	ULSD	49.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.036 tonne/year
208	Permanent Camp Generator Engine No. 3	972 hp	ULSD	49.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.036 tonne/year
206A	Permanent Camp Generator Engine No. 4	972 hp	ULSD	49.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.036 tonne/year
207A	Permanent Camp Generator Engine No. 5	972 hp	ULSD	49.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.036 tonne/year
209	Raw Water Skid Pump Engine No. 1	75 hp	ULSD	3.8 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.003 tonne/year
210	Raw Water Skid Pump Engine No. 2	75 hp	ULSD	3.8 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.003 tonne/year
213	Fuel Tank Farm Generator Engine No. 1	275 hp	ULSD	14.0 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.010 tonne/year
214	Fuel Tank Farm Generator Engine No. 2	275 hp	ULSD	14.0 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.010 tonne/year
217	Airstrip Generator No. 1	374 hp	ULSD	16.9 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.012 tonne/year
218	Airstrip Generator No. 2	374 hp	ULSD	16.9 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.012 tonne/year
223	Module 110 Generator Engine No. 1	490 hp	ULSD	25.0 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.018 tonne/year
223A	Module 110 Generator Engine No. 2	374 hp	ULSD	19.1 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.014 tonne/year
224	System Completion Generator Engine No. 1	923 hp	ULSD	47.2 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.034 tonne/year
225	System Completion Generator Engine No. 2	923 hp	ULSD	47.2 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.034 tonne/year
226	System Completion Generator Engine No. 3	923 hp	ULSD	47.2 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.034 tonne/year
227	System Completion Generator Engine No. 4	923 hp	ULSD	47.2 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.034 tonne/year
228	Raw Water Tank Heater	4.97 MMBtu/hr	ULSD	36.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
240	Incinerator Generator Engine No. 1	102 hp	ULSD	5.2 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.004 tonne/year
248	Ice Road Inspection Office Generator Engine No. 1	80 hp	ULSD	4.1 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.003 tonne/year
249	32 Man Camp Generator Engine No. 1	248 hp	ULSD	12.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.009 tonne/year
250	32 Man Camp Generator Engine No. 2	248 hp	ULSD	12.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.009 tonne/year
251	Temporary Fuel Tank Farm Generator Engine No. 1	80 hp	ULSD	4.1 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.003 tonne/year
252	Temporary Fuel Tank Farm Generator Engine No. 2	80 hp	ULSD	4.1 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.003 tonne/year
255	NOSI Office Generator Engine	80 hp	ULSD	4.1 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.003 tonne/year
256	Bell Surveyor Office Trailer Generator Engine	60 hp	ULSD	3.1 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.002 tonne/year
257	Office Spare Generator Engine	60 hp	ULSD	3.1 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.002 tonne/year
258	50 Man Camp Generator Engine No. 1	235 hp	ULSD	12.0 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.009 tonne/year
259	50 Man Camp Generator Engine No. 2	235 hp	ULSD	12.0 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.009 tonne/year
260	Alaska State C-1 Pad Camp Generator Engine No. 1	385 hp	ULSD	19.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.014 tonne/year
261	Alaska State C-1 Pad Camp Generator Engine No. 2	385 hp	ULSD	19.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.014 tonne/year
262	Alaska State C-1 Pad Camp Generator Engine No. 3	385 hp	ULSD	19.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.014 tonne/year
263	Alaska State C-1 Pad Camp Generator Engine No. 4	385 hp	ULSD	19.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.014 tonne/year
264	Subcontractor Management Office Generator Engine No. 1	292 hp	ULSD	14.9 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.011 tonne/year
265	Subcontractor Management Office Generator Engine No. 2	292 hp	ULSD	14.9 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.011 tonne/year
269	Construction Generation, Engine No. 4	43 hp	ULSD	2.2 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.002 tonne/year
270	Construction Generation, Engine No. 5	120 hp	ULSD	6.1 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.004 tonne/year
271	Construction Generation, Engine No. 6	120 hp	ULSD	6.1 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.004 tonne/year
272	Construction Generation, Engine No. 7	120 hp	ULSD	6.1 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.004 tonne/year
274	Construction Generation, Engine No. 9	151 hp	ULSD	7.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.006 tonne/year
275	Construction Generation, Engine No. 10	151 hp	ULSD	7.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.006 tonne/year
278	Construction Generation, Engine No. 13	43 hp	ULSD	2.2 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.002 tonne/year
279	Construction Generation, Engine No. 14	43 hp	ULSD	2.2 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.002 tonne/year
280	Construction Generation, Engine No. 15	43 hp	ULSD	2.2 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.002 tonne/year
284	Field Wide Support Engine No. 2	35 hp	ULSD	1.8 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.001 tonne/year
285	Construction Portable Heater No. 1	1 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.005 tonne/year
286	Construction Portable Heater No. 2	1 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.005 tonne/year
287	Construction Portable Heater No. 3	1 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.005 tonne/year
288	Construction Portable Heater No. 4	1 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.005 tonne/year
289	Construction Portable Heater No. 5	1 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.005 tonne/year
290	Construction Portable Heater No. 6	1 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.005 tonne/year
291	Field Wide Portable Heater No. 1	1 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.005 tonne/year
292	Field Wide Portable Heater No. 2	1 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.005 tonne/year
293	Field Wide Portable Heater No. 3	1 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.005 tonne/year
294	Field Wide Portable Heater No. 4	1 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.005 tonne/year
295	Field Wide Portable Heater No. 5	1 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.005 tonne/year
296	Field Wide Portable Heater No. 6	1 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.005 tonne/year
								Total Potential N_2O Emissions Excluding Nonroad Engines	**0.6653 tonne/year**
								Total Potential N_2O Emissions for Nonroad Engines	**0.1707 tonne/year**
								Total Potential N_2O Emissions for All Emission Units	**0.8360 tonne/year**

Notes:
1. Distillate No. 2 default high heat value: 0.138 MMBtu/gallon
2. NRE = Nonroad Engine
3. Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)

Attachment A-4
Gas Expansion Project
Fugitive Dust Emissions

Table 1. Point Thomson Fugitive Dust Emission Factors

Emission Unit	Particulate Matter Emission Factor		
	PM-2.5	PM-10	PM
Road Travel Emission Factor	0.36 lb/VMT	3.62 lb/VMT	13.58 lb/VMT
Material Handling Emission Factor	0.0001 lb/ton material	0.0005 lb/ton material	0.001 lb/ton material

Notes:

1. $E(\text{road travel})=k(s/12)^{a}(W/3)^{b}$ From AP-42 13.2.2-4 Equation 1a
2. $E(\text{Material handling})=k(0.0032)*((U/5)^{1.3})/((M/2)^{1.4})$ From AP-42 13.2.4-4 Equation 1
3. VMT = Vehicle mile traveled
   s = surface material silt content (%) (Project: 6%)
   W = mean vehicle weight (tons) (B-70 Hauler: 50 tons unloaded, 120 tons loaded)
   a, b, k: constants from AP-42 Table 13.2.2-2
   U = mean wind speed (Point Thomson Air Station: 14.79 mph)
   M = material moisture content (Source material: 10%)

Table 2a. Point Thomson Unit Fugitive Dust Totals

Particulate Matter	Emissions		
	PM-2.5	PM-10	PM
Road Travel	16.7 tpy	167.1 tpy	627.2 tpy
Material Handling	0.1 tpy	0.8 tpy	1.8 tpy
Total	**16.8 tpy**	**168.0 tpy**	**628.9 tpy**

Table 2b. Point Thomson Central Pad Fugitive Dust Totals

Truck Hauling Capacity	48	cu yd per trip
Total Volume Transported	0.36	Million cu yd of gravel
Number of Trips	7,500	trips
Length of Each Trip	3	miles
Density of Gravel	2	ton/cu yd
Total Weight of Gravel	0.72	Million tons of material

Table 2c. Point Thomson East Pad Fugitive Dust Totals

Truck Hauling Capacity	48	cu yd per trip
Total Volume Transported	0.505	Million cu yd of gravel
Number of Trips	10,521	trips
Length of Each Trip	2.25	miles
Density of Gravel	2	ton/cu yd
Total Weight of Gravel	1.0	Million tons of material

Notes:

1. Road travel for Central Pad assumes 48 cu yd per trip to transport 0.36 Million cu yd of gravel totaling 7,500 trips of approximately 3 miles each way.
2. Road travel for East Pad assumes 48 cu yd per trip to transport 0.505 Million cu yd of gravel totaling 10,521 trips of approximately 2.25 miles each way.
3. Total volume transport for East Pad include gravel quantities for East Pad and East Pad road.
4. The volume of gravel for the Gravel Mine Access Road is not included in the fugitive dust totals.
5. Material handling value accounts for particulate matter from loading material at mine site and unloading material at pad.
6. Total fugitive dust emissions in Table 2a include Central Pad and East Pad emissions.

Attachment A-5
Gas Expansion Project
GHG and VOC Fugitive Emissions

Table 1.a. Potential Fugitive Emissions Summary
Initial Production System (IPS)

Pollutant	Total Potential Fugitive Emissions
CO_2	1.5 tonne/year
CH_4	51.4 tonne/year
CO_2e	1,287.7 tonne/year
VOC	4.4 tpy

Table 1.b. Potential Fugitive Emissions Summary
Gas Expansion Project

Pollutant	Total Potential Fugitive Emissions
CO_2	1.4 tonne/year
CH_4	48.4 tonne/year
CO_2e	1,211.8 tonne/year
VOC	4.0 tpy

Notes:

[1] Emission calculations based on default average component counts, AP-42 emission factors for VOC fugitive emissions and Greenhouse Gas Mandatory Reporting Rule for GHG emission factors.

[2] GHG emissions are defined as CO_2e emissions. CO_2e is the summation of CO_2 and CH_4, applying the global warming potential for each pollutant.

[3] IPS includes three (3) well heads, three (3) separators, two (2) sets of meters/piping, three (3) compressors, and one (1) dehydrator.

[4] Gas Expansion includes eleven (11) well heads, four (4) separators, three (3) set of meters/piping, one (1) compressor, and one (1) dehydrator.

Attachment A-6
Gas Expansion Project – Mobile Sources
Criteria Pollutant and Greenhouse Gas Emissions

Table 1a. Potential Emissions Summary

Point Thomson Unit (PTU) Gas Expansion

Pollutant	IPS Annual Mobile Emissions	Gas Expansion Annual Mobile Emissions	Construction Annual Mobile Emissions	Drilling Annual Mobile Emissions
NO_X	43.9 tpy	43.9 tpy	1274.8 tpy	304.2 tpy
CO	15.3 tpy	15.3 tpy	2179.4 tpy	116.1 tpy
PM	2.7 tpy	2.7 tpy	205.6 tpy	21.1 tpy
PM_{10}	2.7 tpy	2.7 tpy	205.6 tpy	21.1 tpy
$PM_{2.5}$	2.7 tpy	2.7 tpy	205.6 tpy	21.1 tpy
VOC	3.3 tpy	3.3 tpy	623.2 tpy	26.2 tpy
SO_2	0.0 tpy	0.0 tpy	1.9 tpy	70.8 tpy

Table 1b. Potential Greenhouse Gas Emissions Summary

Point Thomson Unit (PTU) Gas Expansion

Pollutant	IPS Annual Mobile Emissions	Gas Expansion Annual Mobile Emissions	Construction Annual Mobile Emissions	Drilling Annual Mobile Emissions
CO_2	266 tonne/year	266 tonne/year	27,613 tonne/year	1,857 tonne/year
CH_4	0.011 tonne/year	0.011 tonne/year	1.120 tonne/year	0.075 tonne/year
N_2O	0.0022 tonne/year	0.0022 tonne/year	0.2240 tonne/year	0.0151 tonne/year
CO_2e	267 tonne/year	267 tonne/year	27,708 tonne/year	1,863 tonne/year

Table 2a. Point Thomson Unit - Operations Mobile Source Emission Unit Inventory

Emission Unit Type			Average Daily	Average Daily	Equipment Usage	Total Annual
No.	Identification	Number of Units	Run Hour	Mileage		Run Hours
1	Pickup trucks	8	10 hrs/day	12 miles/day	4380 miles/yr	29,200 hrs/yr
2	Passenger van	2	4 hrs/day	8 miles/day	2920 miles/yr	2,920 hrs/yr
3	Fire truck	1	6 hrs/day	4 miles/day	1460 miles/yr	2,190 hrs/yr
4	Ambulance	1	6 hrs/day	4 miles/day	1460 miles/yr	2,190 hrs/yr
5	Water truck	2	8 hrs/day	24 miles/day	8760 miles/yr	5,840 hrs/yr
6	High pressure injection Tank Truck	1	8 hrs/day	24 miles/day	8760 miles/yr	2,920 hrs/yr
7	Vacuum truck	2	8 hrs/day	24 miles/day	8760 miles/yr	5,840 hrs/yr
8	Crane	1	8 hrs/day	4 miles/day	1460 miles/yr	2,920 hrs/yr
9	Forklift	1	10 hrs/day	2 miles/day	730 miles/yr	3,650 hrs/yr
10	Gravel grader	1	8 hrs/day	24 miles/day	8760 miles/yr	2,920 hrs/yr
11	Snow blower	1	8 hrs/day	24 miles/day	8760 miles/yr	2,920 hrs/yr
12	Front end loader	1	8 hrs/day	4 miles/day	1460 miles/yr	2,920 hrs/yr
13	Bobcat (skid steer)	1	6 hrs/day	2 miles/day	730 miles/yr	2,190 hrs/yr
14	Heavy truck/tractor trailer	1	6 hrs/day	8 miles/day	2920 miles/yr	2,190 hrs/yr

Table 2b. Point Thomson Unit - Drilling Mobile Source Emission Unit Inventory

Emission Unit Type			Average Daily	Average Daily	Equipment Usage	Total Annual
No.	Identification	Number of Units	Run Hour (all units)	Mileage		Run Hours
Central Pad						
1	Pickup/Light Truck	11	264 hrs/day	N A	N A	96,360 hrs/yr
2	Bus	4	116 hrs/day	N A	N A	42,384 hrs/yr
3	Suburban/Van	1	24 hrs/day	N A	N A	8,760 hrs/yr
4	Loaders	2	84 hrs/day	N A	N A	30,816 hrs/yr
5	Tractor Trailer/Lowboy	1	24 hrs/day	N A	N A	8,760 hrs/yr
6	Crane	1	24 hrs/day	N A	N A	8,760 hrs/yr
7	Generator 40kW	0	- hrs/day	N A	N A	0 hrs/yr
8	Small Units	3	56 hrs/day	N A	N A	20,424 hrs/yr
9	Fuel Truck/Tankers	2	54 hrs/day	N A	N A	19,728 hrs/yr
10	Compressor 185	1	24 hrs/day	N A	N A	8,760 hrs/yr
11	Dozers	1	24 hrs/day	N A	N A	8,760 hrs/yr
12	Graders	5	160 hrs/day	N A	N A	58,488 hrs/yr
13	Snow Blower	1	18 hrs/day	N A	N A	6,552 hrs/yr
Deadhorse						
14	Pickup/Light Truck	17	408 hrs/day	N A	N A	148,920 hrs/yr
15	Loaders	1	24 hrs/day	N A	N A	8,760 hrs/yr
16	Bus	1	24 hrs/day	N A	N A	8,760 hrs/yr
17	Suburban/Van	1	24 hrs/day	N A	N A	8,760 hrs/yr

Table 2c. Point Thomson Unit - Construction Mobile Source Emission Unit Inventory

Emission Unit Type			Fuel Usage	Fuel Usage	Equipment Usage	Total Fuel Use
No.	Identification	Number of Units	(per unit per shift)	(per shift per type)	(shifts per year)	
Winter Season						
1	Pickup	16	8 gal/shift	128 gal/shift	240 shift/year	491,520 gal/yr
2	Heaters	10	75 gal/shift	750 gal/shift	240 shift/year	1,800,000 gal/yr
3	Light Plants	20	6 gal/shift	120 gal/shift	240 shift/year	576,000 gal/yr
4	Office	1	15 gal/shift	15 gal/shift	240 shift/year	3,600 gal/yr
5	Envirovac	3	15 gal/shift	45 gal/shift	240 shift/year	32,400 gal/yr
6	Break Shack	2	15 gal/shift	30 gal/shift	240 shift/year	14,400 gal/yr
7	Fuel Truck	2	25 gal/shift	50 gal/shift	240 shift/year	24,000 gal/yr
8	Mechanic Truck	2	25 gal/shift	50 gal/shift	240 shift/year	24,000 gal/yr
9	Service Truck	2	25 gal/shift	50 gal/shift	240 shift/year	24,000 gal/yr
10	Tire Truck	1	10 gal/shift	10 gal/shift	240 shift/year	2,400 gal/yr
11	Bus	4	5 gal/shift	20 gal/shift	240 shift/year	19,200 gal/yr
12	Tractor & Lowboy	2	50 gal/shift	100 gal/shift	240 shift/year	48,000 gal/yr
13	Generator	3	40 gal/shift	120 gal/shift	240 shift/year	86,400 gal/yr
14	Trimmer	5	150 gal/shift	750 gal/shift	16 shift/year	60,000 gal/yr
15	345 Excavator	3	100 gal/shift	300 gal/shift	240 shift/year	216,000 gal/yr
16	966 Loader	2	35 gal/shift	70 gal/shift	240 shift/year	33,600 gal/yr
17	988 Loader	4	190 gal/shift	760 gal/shift	240 shift/year	729,600 gal/yr
18	D10 Dozer	4	150 gal/shift	600 gal/shift	240 shift/year	576,000 gal/yr
19	D-9 Dozer	2	130 gal/shift	260 gal/shift	240 shift/year	124,800 gal/yr
20	B-70	20	100 gal/shift	2000 gal/shift	240 shift/year	9,600,000 gal/yr
21	16G Motor Grader	2	75 gal/shift	150 gal/shift	240 shift/year	72,000 gal/yr
22	Hitachi 1600 Shovel Loader	1	250 gal/shift	250 gal/shift	240 shift/year	60,000 gal/yr
23	Compactor	2	45 gal/shift	90 gal/shift	240 shift/year	43,200 gal/yr
24	Powder Truck	1	14 gal/shift	14 gal/shift	240 shift/year	3,360 gal/yr
25	Drill & Compressor	4	100 gal/shift	400 gal/shift	240 shift/year	384,000 gal/yr
26	Zoom Boom	2	15 gal/shift	30 gal/shift	240 shift/year	14,400 gal/yr
27	Ape 200-6 Vibratory Hammer	2	200 gal/shift	400 gal/shift	240 shift/year	192,000 gal/yr
28	D62-42 Impact Hammer	2	50 gal/shift	100 gal/shift	240 shift/year	48,000 gal/yr
29	Steam Unit	2	560 gal/shift	1120 gal/shift	240 shift/year	537,600 gal/yr
30	Trench	2	70 gal/shift	140 gal/shift	240 shift/year	67,200 gal/yr
31	Pump House	4	36 gal/shift	144 gal/shift	240 shift/year	138,240 gal/yr
32	300 bbl Tanker & Tractor	3	100 gal/shift	300 gal/shift	240 shift/year	216,000 gal/yr
33	Cat 740 Haul Unit	4	80 gal/shift	320 gal/shift	240 shift/year	307,200 gal/yr
34	185 Compressor	3	36 gal/shift	108 gal/shift	240 shift/year	77,760 gal/yr
35	Welder	4	18 gal/shift	72 gal/shift	240 shift/year	69,120 gal/yr
36	75 Ton Crane	2	50 gal/shift	100 gal/shift	240 shift/year	48,000 gal/yr
37	130 Ton Crane	1	60 gal/shift	60 gal/shift	240 shift/year	14,400 gal/yr
38	220 Ton Crane	2	80 gal/shift	160 gal/shift	240 shift/year	76,800 gal/yr
Summer Season						
39	Pickup	6	5 gal/shift	30 gal/shift	180 shift/year	32,400 gal/yr
40	Heaters	2	50 gal/shift	100 gal/shift	180 shift/year	36,000 gal/yr
41	Light Plants	8	6 gal/shift	48 gal/shift	90 shift/year	34,560 gal/yr
42	Office	1	15 gal/shift	15 gal/shift	180 shift/year	2,700 gal/yr
43	Envirovac	2	15 gal/shift	30 gal/shift	180 shift/year	10,800 gal/yr
44	Break Shack	2	15 gal/shift	30 gal/shift	180 shift/year	10,800 gal/yr
45	Fuel Truck	1	25 gal/shift	25 gal/shift	180 shift/year	4,500 gal/yr
46	Mechanic Truck	1	25 gal/shift	25 gal/shift	180 shift/year	4,500 gal/yr
47	Service Truck	1	25 gal/shift	25 gal/shift	180 shift/year	4,500 gal/yr
48	Tire Truck	1	10 gal/shift	10 gal/shift	180 shift/year	1,800 gal/yr
49	Bus	1	5 gal/shift	5 gal/shift	180 shift/year	900 gal/yr
50	Tractor & Lowboy	1	50 gal/shift	50 gal/shift	90 shift/year	4,500 gal/yr
51	Generator	3	40 gal/shift	120 gal/shift	180 shift/year	64,800 gal/yr
52	Water Truck	3	50 gal/shift	150 gal/shift	180 shift/year	81,000 gal/yr
53	345 Excavator	2	100 gal/shift	200 gal/shift	180 shift/year	72,000 gal/yr
54	966 Loader	4	35 gal/shift	140 gal/shift	180 shift/year	100,800 gal/yr
55	Trencher	1	30 gal/shift	30 gal/shift	180 shift/year	5,400 gal/yr
56	D-9 Dozer	3	130 gal/shift	390 gal/shift	180 shift/year	210,600 gal/yr
57	Cat 740 Haul Unit	4	30 gal/shift	120 gal/shift	180 shift/year	86,400 gal/yr
58	16G Motor Grader	3	75 gal/shift	225 gal/shift	180 shift/year	121,500 gal/yr
59	Compactor	4	45 gal/shift	180 gal/shift	180 shift/year	129,600 gal/yr
60	Zoom Boom	2	15 gal/shift	30 gal/shift	180 shift/year	10,800 gal/yr
61	185 Compressor	3	36 gal/shift	108 gal/shift	240 shift/year	77,760 gal/yr
62	Welder	4	18 gal/shift	72 gal/shift	240 shift/year	69,120 gal/yr
63	75 Ton Crane	2	50 gal/shift	100 gal/shift	240 shift/year	48,000 gal/yr
64	130 Ton Crane	1	60 gal/shift	60 gal/shift	240 shift/year	14,400 gal/yr

Table 3a. Point Thomson Unit - Operations Mobile Source Potential NO_X Emissions

Emission Unit No.	Emission Unit Identification	NO_X Emission Factor Reference	NO_X Emission Factor	Maximum Rating/Capacity	Total Annual Run Hours	Potential NO_X Emissions During Construction
1	Pickup trucks	See Note 1	1.20 lb/hr/unit	300 hp	29,200 hrs/yr	17.5 tpy
2	Passenger van	See Note 1	1.20 lb/hr/unit	300 hp	2,920 hrs/yr	1.8 tpy
3	Fire truck	See Note 1	2.29 lb/hr/unit	600 hp	2,190 hrs/yr	2.5 tpy
4	Ambulance	See Note 1	1.20 lb/hr/unit	300 hp	2,190 hrs/yr	1.3 tpy
5	Water truck	See Note 1	2.29 lb/hr/unit	600 hp	5,840 hrs/yr	6.7 tpy
6	High pressure injection Tank Truck	Table 7.1.1, AP-42, Vol. 2	6.49 g/mile	N A	8,760 miles/yr	0.1 tpy
7	Vacuum truck	See Note 1	1.75 lb/hr/unit	400 hp	5,840 hrs/yr	5.1 tpy
8	Crane	See Note 1	0.47 lb/hr/unit	300 hp	2,920 hrs/yr	0.7 tpy
9	Forklift	Table 7.1.1, AP-42, Vol. 2	6.49 g/mile	N A	730 miles/yr	0.0 tpy
10	Gravel grader	See Note 1	0.64 lb/hr/unit	300 hp	2,920 hrs/yr	0.9 tpy
11	Snow blower	See Note 1	2.25 lb/hr/unit	300 hp	2,920 hrs/yr	3.3 tpy
12	Front end loader	See Note 1	0.64 lb/hr/unit	300 hp	2,920 hrs/yr	0.9 tpy
13	Bobcat (skid steer)	Table 7.1.1, AP-42, Vol. 2	6.49 g/mile	N A	730 miles/yr	0.0 tpy
14	Heavy truck/tractor trailer	See Note 1	2.84 lb/hr/unit	600 hp	2,190 hrs/yr	3.1 tpy
					Total Production NO_X Emissions	43.9 tpy

Table 3b. Point Thomson Unit - Drilling Mobile Source Potential NO_X Emissions

Emission Unit No.	Emission Unit Identification	NO_X Emission Factor Reference	NO_X Emission Factor	Maximum Rating/Capacity	Total Annual Run Hours	Potential NO_X Emissions During Construction
Central Pad						
1	Pickup/Light Truck	See Note 1	1.20 lb/hr/unit	325 hp	96,360 hrs/yr	57.8 tpy
2	Bus	See Note 1	1.75 lb/hr/unit	400 hp	42,384 hrs/yr	37.1 tpy
3	Suburban/Van	See Note 1	1.20 lb/hr/unit	300 hp	8,760 hrs/yr	5.3 tpy
4	Loaders	See Note 1	0.64 lb/hr/unit	220-475 hp	30,816 hrs/yr	9.9 tpy
5	Tractor Trailer/Lowboy	See Note 1	2.84 lb/hr/unit	600 hp	8,760 hrs/yr	12.4 tpy
6	Crane	See Note 1	0.47 lb/hr/unit	300 hp	8,760 hrs/yr	2.1 tpy
7	Generator 40kW	Table 3.3-1, AP-42, Vol. 1	0.03 lb/hp-hr	54 hp	0 hrs/yr	0.0 tpy
8	Small Units	See Note 1	0.27 lb/hr/unit	21 hp	20,424 hrs/yr	2.8 tpy
9	Fuel Truck/Tankers	See Note 1	2.29 lb/hr/unit	600 hp	19,728 hrs/yr	22.6 tpy
10	Compressor 185	Table 3.3-1, AP-42, Vol. 1	0.03 lb/hp-hr	80 hp	8,760 hrs/yr	10.9 tpy
11	Dozers	See Note 1	2.81 lb/hr/unit	250-580 hp	8,760 hrs/yr	12.3 tpy
12	Graders	See Note 1	0.64 lb/hr/unit	300 hp	58,488 hrs/yr	18.7 tpy
13	Snow Blower	See Note 1	2.25 lb/hr/unit	300 hp	6,552 hrs/yr	7.4 tpy
Deadhorse						
14	Pickup/Light Truck	See Note 1	1.20 lb/hr/unit	325 hp	148,920 hrs/yr	89.4 tpy
15	Loaders	See Note 1	0.64 lb/hr/unit	300 hp	8,760 hrs/yr	2.8 tpy
16	Bus	See Note 1	1.75 lb/hr/unit	400 hp	8,760 hrs/yr	7.7 tpy
17	Suburban/Van	See Note 1	1.20 lb/hr/unit	300 hp	8,760 hrs/yr	5.3 tpy
					Total Drilling NO_X Emissions	304.2 tpy

Table 3c. Point Thomson Unit - Construction Mobile Source Potential NO_X Emissions

Emission Unit No.	Emission Unit Identification	NO_X Emission Factor Reference	NO_X Emission Factor	Maximum Rating/Capacity	Total Fuel Use	Potential NO_X Emissions During Construction
Winter Season						
1	Pickup	See Note 1	1.20 lb/hr/unit	325 hp	491,520 gal/yr	17.8 tpy
2	Heaters	Table 1.3-1, AP-42, Vol. 1	0.02 lb/gal	N A	1,800,000 gal/yr	1.5 tpy
3	Light Plants	See Note 1	0.27 lb/hr/unit	21 hp	576,000 gal/yr	72.5 tpy
4	Office	Table 3.3-1, AP-42, Vol. 1	4.41 lb/MMBtu	N A	3,600 gal/yr	1.1 tpy
5	Envirovac	Table 3.3-1, AP-42, Vol. 1	4.41 lb/MMBtu	N A	32,400 gal/yr	9.8 tpy
6	Break Shack	Table 3.3-1, AP-42, Vol. 1	4.41 lb/MMBtu	N A	14,400 gal/yr	4.4 tpy
7	Fuel Truck	See Note 1	1.75 lb/hr/unit	425 hp	24,000 gal/yr	1.0 tpy
8	Mechanic Truck	See Note 1	1.20 lb/hr/unit	250 hp	24,000 gal/yr	1.1 tpy
9	Service Truck	See Note 1	1.75 lb/hr/unit	240 hp	24,000 gal/yr	1.7 tpy
10	Tire Truck	See Note 1	1.75 lb/hr/unit	250 hp	2,400 gal/yr	0.2 tpy
11	Bus	See Note 1	1.75 lb/hr/unit	400 hp	19,200 gal/yr	0.8 tpy
12	Tractor & Lowboy	See Note 1	2.84 lb/hr/unit	600 hp	48,000 gal/yr	2.2 tpy
13	Generator	Table 3.3-1, AP-42, Vol. 1	4.41 lb/MMBtu	N A	86,400 gal/yr	26.1 tpy
14	Trimmer	Table 7.1.1, AP-42, Vol. 2	6.49 g/mile	10 mile/gal	60,000 gal/yr	4.2 tpy
15	345 Excavator	Table 7.1.1, AP-42, Vol. 2	6.49 g/mile	10 mile/gal	216,000 gal/yr	15.1 tpy
16	966 Loader	See Note 1	0.64 lb/hr/unit	220 hp	33,600 gal/yr	1.0 tpy
17	988 Loader	See Note 1	0.64 lb/hr/unit	475 hp	729,600 gal/yr	9.6 tpy
18	D10 Dozer	See Note 1	2.81 lb/hr/unit	580 hp	576,000 gal/yr	27.3 tpy
19	D-9 Dozer	See Note 1	2.81 lb/hr/unit	410 hp	124,800 gal/yr	8.4 tpy
20	B-70	Table 7.1.1, AP-42, Vol. 2	6.49 g/mile	10 mile/gal	9,600,000 gal/yr	672.0 tpy
21	16G Motor Grader	See Note 1	0.64 lb/hr/unit	280 hp	72,000 gal/yr	1.6 tpy
22	Hitachi 1600 Shovel Loader	See Note 1	0.64 lb/hr/unit	800 hp	60,000 gal/yr	0.5 tpy
23	Compactor	See Note 1	0.12 lb/hr/unit	25 hp	43,200 gal/yr	2.0 tpy
24	Powder Truck	See Note 1	1.20 lb/hr/unit	300 hp	3,360 gal/yr	0.1 tpy
25	Drill & Compressor	Table 3.3-1, AP-42, Vol. 1	4.41 lb/MMBtu	N A	384,000 gal/yr	116.0 tpy
26	Zoom Boom	Table 7.1.1, AP-42, Vol. 2	6.49 g/mile	10 mile/gal	14,400 gal/yr	1.0 tpy
27	Ape 200-6 Vibratory Hammer	Table 7.1.1, AP-42, Vol. 2	6.49 g/mile	10 mile/gal	192,000 gal/yr	13.4 tpy
28	D62-42 Impact Hammer	Table 7.1.1, AP-42, Vol. 2	6.49 g/mile	10 mile/gal	48,000 gal/yr	3.4 tpy
29	Steam Unit	Table 7.1.1, AP-42, Vol. 2	6.49 g/mile	10 mile/gal	537,600 gal/yr	37.6 tpy
30	Trench	Table 7.1.1, AP-42, Vol. 2	6.49 g/mile	10 mile/gal	67,200 gal/yr	4.7 tpy
31	Pump House	Table 3.3-1, AP-42, Vol. 1	4.41 lb/MMBtu	N A	138,240 gal/yr	41.8 tpy
32	300 bbl Tanker & Tractor	See Note 1	2.84 lb/hr/unit	600 hp	216,000 gal/yr	10.0 tpy
33	Cat 740 Haul Unit	See Note 1	2.84 lb/hr/unit	600 hp	307,200 gal/yr	14.2 tpy
34	185 Compressor	Table 3.3-1, AP-42, Vol. 1	4.41 lb/MMBtu	N A	77,760 gal/yr	23.5 tpy
35	Welder	See Note 1	0.27 lb/hr/unit	33 hp	69,120 gal/yr	5.6 tpy
36	75 Ton Crane	See Note 1	2.32 lb/hr/unit	400 hp	48,000 gal/yr	2.7 tpy
37	130 Ton Crane	See Note 1	6.04 lb/hr/unit	480 hp	14,400 gal/yr	1.8 tpy
38	220 Ton Crane	See Note 1	6.04 lb/hr/unit	480 hp	76,800 gal/yr	9.5 tpy
Summer Season						
39	Pickup	See Note 1	1.20 lb/hr/unit	300 hp	32,400 gal/yr	1.3 tpy
40	Heaters	Table 1.3-1, AP-42, Vol. 1	0.02 lb/gal	N A	36,000 gal/yr	1.4 tpy
41	Light Plants	See Note 1	0.27 lb/hr/unit	21 hp	34,560 gal/yr	4.3 tpy
42	Office	Table 3.3-1, AP-42, Vol. 1	4.41 lb/MMBtu	N A	2,700 gal/yr	0.8 tpy
43	Envirovac	Table 3.3-1, AP-42, Vol. 1	4.41 lb/MMBtu	N A	10,800 gal/yr	3.3 tpy
44	Break Shack	Table 3.3-1, AP-42, Vol. 1	4.41 lb/MMBtu	N A	10,800 gal/yr	3.3 tpy
45	Fuel Truck	See Note 1	1.75 lb/hr/unit	425 hp	4,500 gal/yr	0.2 tpy
46	Mechanic Truck	See Note 1	1.20 lb/hr/unit	250 hp	4,500 gal/yr	0.2 tpy
47	Service Truck	See Note 1	1.75 lb/hr/unit	240 hp	4,500 gal/yr	0.3 tpy
48	Tire Truck	See Note 1	1.75 lb/hr/unit	250 hp	1,800 gal/yr	0.1 tpy
49	Bus	See Note 1	1.75 lb/hr/unit	400 hp	900 gal/yr	0.0 tpy
50	Tractor & Lowboy	See Note 1	2.84 lb/hr/unit	600 hp	4,500 gal/yr	0.2 tpy
51	Generator	Table 3.3-1, AP-42, Vol. 1	4.41 lb/MMBtu	N A	64,800 gal/yr	19.6 tpy
52	Water Truck	See Note 1	1.75 lb/hr/unit	425 hp	81,000 gal/yr	3.3 tpy
53	345 Excavator	Table 7.1.1, AP-42, Vol. 2	6.49 g/mile	10 mile/gal	72,000 gal/yr	5.0 tpy
54	966 Loader	See Note 1	0.64 lb/hr/unit	220 hp	100,800 gal/yr	2.9 tpy
55	Trencher	Table 7.1.1, AP-42, Vol. 2	6.49 g/mile	10 mile/gal	5,400 gal/yr	0.4 tpy
56	D-9 Dozer	See Note 1	2.81 lb/hr/unit	410 hp	210,600 gal/yr	14.1 tpy
57	Cat 740 Haul Unit	See Note 1	2.84 lb/hr/unit	600 hp	86,400 gal/yr	4.0 tpy
58	16G Motor Grader	See Note 1	0.64 lb/hr/unit	280 hp	121,500 gal/yr	2.7 tpy
59	Compactor	See Note 1	0.12 lb/hr/unit	25 hp	129,600 gal/yr	6.1 tpy
60	Zoom Boom	Table 7.1.1, AP-42, Vol. 2	6.49 g/mile	10 mile/gal	10,800 gal/yr	0.8 tpy
61	185 Compressor	Table 3.3-1, AP-42, Vol. 1	4.41 lb/MMBtu	N A	77,760 gal/yr	23.5 tpy
62	Welder	See Note 1	0.27 lb/hr/unit	33 hp	69,120 gal/yr	5.5 tpy
63	75 Ton Crane	See Note 1	2.32 lb/hr/unit	400 hp	48,000 gal/yr	2.7 tpy
64	130 Ton Crane	See Note 1	6.04 lb/hr/unit	480 hp	14,400 gal/yr	1.8 tpy
					Total Construction NO_X Emissions	1,274.8 tpy

Notes:
1. Emission rates from Worley Parsons Air Emissions Summary June 2010.
2. Diesel fuel is assumed to have a sulfur content of 15 ppmw (0.15 wt. pct.) and a heat content of 137,000 Btu/gal.
3. Diesel engine heat rate assumed to be 7,000 Btu/hp-hr.

Table 4a. Point Thomson Unit - Operations Mobile Source Potential CO Emissions

Emission Unit No.	Identification	CO Emission Factor Reference		Maximum Rating/Capacity	Total Annual Run Hours	Potential CO Emissions During Construction
1	Pickup trucks	See Note 1	0.39 lb/hr/unit	300 hp	29,200 hrs/yr	5.7 tpy
2	Passenger van	See Note 1	0.39 lb/hr/unit	300 hp	2,920 hrs/yr	0.6 tpy
3	Fire truck	See Note 1	0.63 lb/hr/unit	600 hp	2,190 hrs/yr	0.7 tpy
4	Ambulance	See Note 1	0.39 lb/hr/unit	300 hp	2,190 hrs/yr	0.4 tpy
5	Water truck	See Note 1	0.63 lb/hr/unit	600 hp	5,840 hrs/yr	1.8 tpy
6	High pressure injection Tank Truck	Table 7.1.1, AP-42, Vol. 2	16.60 g/mile	N A	8,760 miles/yr	0.2 tpy
7	Vacuum truck	See Note 1	0.63 lb/hr/unit	400 hp	5,840 hrs/yr	1.8 tpy
8	Crane	See Note 1	0.23 lb/hr/unit	300 hp	2,920 hrs/yr	0.3 tpy
9	Forklift	Table 7.1.1, AP-42, Vol. 2	16.60 g/mile	N A	730 miles/yr	0.0 tpy
10	Gravel grader	See Note 1	0.40 lb/hr/unit	300 hp	2,920 hrs/yr	0.6 tpy
11	Snow blower	See Note 1	0.79 lb/hr/unit	300 hp	2,920 hrs/yr	1.2 tpy
12	Front end loader	See Note 1	0.40 lb/hr/unit	300 hp	2,920 hrs/yr	0.6 tpy
13	Bobcat (skid steer)	Table 7.1.1, AP-42, Vol. 2	16.60 g/mile	N A	730 miles/yr	0.0 tpy
14	Heavy truck/tractor trailer	See Note 1	1.32 lb/hr/unit	600 hp	2,190 hrs/yr	1.4 tpy
					Total Production CO Emissions	15.3 tpy

Table 4b. Point Thomson Unit - Drilling Mobile Source Potential CO Emissions

Emission Unit No.	Identification	CO Emission Factor Reference		Maximum Rating/Capacity	Total Annual Run Hours	Potential CO Emissions During Construction
Central Pad						
1	Pickup/Light Truck	See Note 1	0.39 lb/hr/unit	325 hp	96,360 hrs/yr	18.8 tpy
2	Bus	See Note 1	0.63 lb/hr/unit	400 hp	42,384 hrs/yr	13.4 tpy
3	Suburban/Van	See Note 1	0.39 lb/hr/unit	300 hp	8,760 hrs/yr	1.7 tpy
4	Loaders	See Note 1	0.40 lb/hr/unit	220-475 hp	30,816 hrs/yr	6.2 tpy
5	Tractor Trailer/Lowboy	See Note 1	1.32 lb/hr/unit	600 hp	8,760 hrs/yr	5.8 tpy
6	Crane	See Note 1	0.23 lb/hr/unit	300 hp	8,760 hrs/yr	1.0 tpy
7	Generator 40kW	Table 3.3-1, AP-42, Vol. 1	0.00668 lb/hp-hr	54 hp	0 hrs/yr	0.0 tpy
8	Small Units	See Note 1	0.35 lb/hr/unit	21 hp	20,424 hrs/yr	3.6 tpy
9	Fuel Truck/Tankers	See Note 1	0.88 lb/hr/unit	600 hp	19,728 hrs/yr	8.7 tpy
10	Compressor 185	Table 3.3-1, AP-42, Vol. 1	0.00668 lb/hp-hr	80 hp	8,760 hrs/yr	2.3 tpy
11	Dozers	See Note 1	1.18 lb/hr/unit	250-580 hp	8,760 hrs/yr	5.2 tpy
12	Graders	See Note 1	0.40 lb/hr/unit	300 hp	58,488 hrs/yr	11.7 tpy
13	Snow Blower	See Note 1	0.79 lb/hr/unit	300 hp	6,552 hrs/yr	2.6 tpy
Deadhorse						
14	Pickup/Light Truck	See Note 1	0.39 lb/hr/unit	325 hp	148,920 hrs/yr	29.0 tpy
15	Loaders	See Note 1	0.40 lb/hr/unit	300 hp	8,760 hrs/yr	1.8 tpy
16	Bus	See Note 1	0.63 lb/hr/unit	400 hp	8,760 hrs/yr	2.8 tpy
17	Suburban/Van	See Note 1	0.39 lb/hr/unit	300 hp	8,760 hrs/yr	1.7 tpy
					Total Drilling CO Emissions	116.11 tpy

Table 4c. Point Thomson Unit - Construction Mobile Source Potential CO Emissions

Emission Unit No.	Identification	CO Emission Factor Reference		Maximum Rating/Capacity	Total Fuel Use	Potential CO Emissions During Construction
Winter Season						
1	Pickup	See Note 1	0.39 lb/hr/unit	325 hp	491,520 gal/yr	5.8 tpy
2	Heaters	Table 1.3-1, AP-42, Vol. 1	0.01 lb/gal	N A	1,800,000 gal/yr	0.4 tpy
3	Light Plants	See Note 1	0.35 lb/hr/unit	21 hp	576,000 gal/yr	93.9 tpy
4	Office	Table 3.3-1, AP-42, Vol. 1	0.99 lb/MMBtu	N A	3,600 gal/yr	0.2 tpy
5	Envirovac	Table 3.3-1, AP-42, Vol. 1	0.99 lb/MMBtu	N A	32,400 gal/yr	2.2 tpy
6	Break Shack	Table 3.3-1, AP-42, Vol. 1	0.99 lb/MMBtu	N A	14,400 gal/yr	1.0 tpy
7	Fuel Truck	See Note 1	0.63 lb/hr/unit	425 hp	24,000 gal/yr	0.3 tpy
8	Mechanic Truck	See Note 1	0.39 lb/hr/unit	250 hp	24,000 gal/yr	0.4 tpy
9	Service Truck	See Note 1	0.63 lb/hr/unit	240 hp	24,000 gal/yr	0.6 tpy
10	Tire Truck	See Note 1	0.63 lb/hr/unit	250 hp	2,400 gal/yr	0.1 tpy
11	Bus	See Note 1	0.63 lb/hr/unit	400 hp	19,200 gal/yr	0.3 tpy
12	Tractor & Lowboy	See Note 1	1.32 lb/hr/unit	600 hp	48,000 gal/yr	1.0 tpy
13	Generator	Table 3.3-1, AP-42, Vol. 1	0.99 lb/MMBtu	N A	86,400 gal/yr	5.9 tpy
14	Trimmer	Table 7.1.1, AP-42, Vol. 2	16.60 g/mile	10 mile/gal	60,000 gal/yr	10.7 tpy
15	345 Excavator	Table 7.1.1, AP-42, Vol. 2	16.60 g/mile	10 mile/gal	216,000 gal/yr	38.7 tpy
16	966 Loader	See Note 1	0.40 lb/hr/unit	220 hp	33,600 gal/yr	0.6 tpy
17	988 Loader	See Note 1	0.40 lb/hr/unit	475 hp	729,600 gal/yr	6.0 tpy
18	D10 Dozer	See Note 1	1.18 lb/hr/unit	580 hp	576,000 gal/yr	11.5 tpy
19	D-9 Dozer	See Note 1	1.18 lb/hr/unit	410 hp	124,800 gal/yr	3.5 tpy
20	B-70	Table 7.1.1, AP-42, Vol. 2	16.60 g/mile	10 mile/gal	9,600,000 gal/yr	1,718.8 tpy
21	16G Motor Grader	See Note 1	0.40 lb/hr/unit	280 hp	72,000 gal/yr	1.0 tpy
22	Hitachi 1600 Shovel Loader	See Note 1	0.40 lb/hr/unit	800 hp	60,000 gal/yr	0.3 tpy
23	Compactor	See Note 1	0.07 lb/hr/unit	25 hp	43,200 gal/yr	1.2 tpy
24	Powder Truck	See Note 1	0.39 lb/hr/unit	300 hp	3,360 gal/yr	0.0 tpy
25	Drill & Compressor	Table 3.3-1, AP-42, Vol. 1	0.99 lb/MMBtu	N A	384,000 gal/yr	26.0 tpy
26	Zoom Boom	Table 7.1.1, AP-42, Vol. 2	16.60 g/mile	10 mile/gal	14,400 gal/yr	2.6 tpy
27	Ape 200-6 Vibratory Hammer	Table 7.1.1, AP-42, Vol. 2	16.60 g/mile	10 mile/gal	192,000 gal/yr	34.4 tpy
28	D62-42 Impact Hammer	Table 7.1.1, AP-42, Vol. 2	16.60 g/mile	10 mile/gal	48,000 gal/yr	8.6 tpy
29	Steam Unit	Table 7.1.1, AP-42, Vol. 2	16.60 g/mile	10 mile/gal	537,600 gal/yr	96.3 tpy
30	Trench	Table 7.1.1, AP-42, Vol. 2	16.60 g/mile	10 mile/gal	67,200 gal/yr	12.0 tpy
31	Pump House	Table 3.3-1, AP-42, Vol. 1	0.99 lb/MMBtu	N A	138,240 gal/yr	9.4 tpy
32	300 bbl Tanker & Tractor	See Note 1	1.32 lb/hr/unit	600 hp	216,000 gal/yr	4.7 tpy
33	Cat 740 Haul Unit	See Note 1	1.32 lb/hr/unit	600 hp	307,200 gal/yr	6.6 tpy
34	185 Compressor	Table 3.3-1, AP-42, Vol. 1	0.99 lb/MMBtu	N A	77,760 gal/yr	5.3 tpy
35	Welder	See Note 1	0.35 lb/hr/unit	33 hp	69,120 gal/yr	7.2 tpy
36	75 Ton Crane	See Note 1	0.64 lb/hr/unit	400 hp	48,000 gal/yr	0.8 tpy
37	130 Ton Crane	See Note 1	1.57 lb/hr/unit	480 hp	14,400 gal/yr	0.5 tpy
38	220 Ton Crane	See Note 1	1.57 lb/hr/unit	480 hp	76,800 gal/yr	2.5 tpy
Summer Season						
39	Pickup	See Note 1	0.39 lb/hr/unit	300 hp	32,400 gal/yr	0.4 tpy
40	Heaters	Table 1.3-1, AP-42, Vol. 1	0.01 lb/gal	N A	36,000 gal/yr	0.3 tpy
41	Light Plants	See Note 1	0.35 lb/hr/unit	21 hp	34,560 gal/yr	5.6 tpy
42	Office	Table 3.3-1, AP-42, Vol. 1	0.99 lb/MMBtu	N A	2,700 gal/yr	0.2 tpy
43	Envirovac	Table 3.3-1, AP-42, Vol. 1	0.99 lb/MMBtu	N A	10,800 gal/yr	0.7 tpy
44	Break Shack	Table 3.3-1, AP-42, Vol. 1	0.99 lb/MMBtu	N A	10,800 gal/yr	0.7 tpy
45	Fuel Truck	See Note 1	0.63 lb/hr/unit	425 hp	4,500 gal/yr	0.1 tpy
46	Mechanic Truck	See Note 1	0.39 lb/hr/unit	250 hp	4,500 gal/yr	0.1 tpy
47	Service Truck	See Note 1	0.63 lb/hr/unit	240 hp	4,500 gal/yr	0.1 tpy
48	Tire Truck	See Note 1	0.63 lb/hr/unit	250 hp	1,800 gal/yr	0.0 tpy
49	Bus	See Note 1	0.63 lb/hr/unit	400 hp	900 gal/yr	0.0 tpy
50	Tractor & Lowboy	See Note 1	1.32 lb/hr/unit	600 hp	4,500 gal/yr	0.1 tpy
51	Generator	Table 3.3-1, AP-42, Vol. 1	0.99 lb/MMBtu	N A	64,800 gal/yr	4.4 tpy
52	Water Truck	See Note 1	0.63 lb/hr/unit	425 hp	81,000 gal/yr	1.2 tpy
53	345 Excavator	Table 7.1.1, AP-42, Vol. 2	16.60 g/mile	10 mile/gal	72,000 gal/yr	12.9 tpy
54	966 Loader	See Note 1	0.40 lb/hr/unit	220 hp	100,800 gal/yr	1.8 tpy
55	Trencher	Table 7.1.1, AP-42, Vol. 2	16.60 g/mile	10 mile/gal	5,400 gal/yr	1.0 tpy
56	D-9 Dozer	See Note 1	1.18 lb/hr/unit	410 hp	210,600 gal/yr	5.9 tpy
57	Cat 740 Haul Unit	See Note 1	1.32 lb/hr/unit	600 hp	86,400 gal/yr	1.9 tpy
58	16G Motor Grader	See Note 1	0.40 lb/hr/unit	280 hp	121,500 gal/yr	1.7 tpy
59	Compactor	See Note 1	0.07 lb/hr/unit	25 hp	129,600 gal/yr	3.6 tpy
60	Zoom Boom	Table 7.1.1, AP-42, Vol. 2	16.60 g/mile	10 mile/gal	10,800 gal/yr	1.9 tpy
61	185 Compressor	Table 3.3-1, AP-42, Vol. 1	0.99 lb/MMBtu	N A	77,760 gal/yr	5.3 tpy
62	Welder	See Note 1	0.35 lb/hr/unit	33 hp	69,120 gal/yr	7.2 tpy
63	75 Ton Crane	See Note 1	0.64 lb/hr/unit	400 hp	48,000 gal/yr	0.8 tpy
64	130 Ton Crane	See Note 1	1.57 lb/hr/unit	480 hp	14,400 gal/yr	0.5 tpy
					Total Construction CO Emissions	2,179.4 tpy

Notes:
1. Emission rates from Worley Parsons Air Emissions Summary June 2010.
2. Diesel fuel is assumed to have a sulfur content of 15 ppmw (0.15 wt. pct.) and a heat content of 137,000 Btu/gal.
3. Diesel engine heat rate assumed to be 7,000 Btu/hp-hr.

Table 5a. Point Thomson Unit - Operations Mobile Source Potential PM Emissions

Emission Unit No.	Emission Unit Identification	PM Emission Factor Reference	PM Emission Factor	Maximum Rating/Capacity	Total Annual Run Hours	Potential PM Emissions During Construction
1	Pickup trucks	See Note 1	0.08 lb/hr/unit	300 hp	29,200 hrs/yr	1.2 tpy
2	Passenger van	See Note 1	0.08 lb/hr/unit	300 hp	2,920 hrs/yr	0.1 tpy
3	Fire truck	See Note 1	0.10 lb/hr/unit	600 hp	2,190 hrs/yr	0.1 tpy
4	Ambulance	See Note 1	0.08 lb/hr/unit	300 hp	2,190 hrs/yr	0.1 tpy
5	Water truck	See Note 1	0.10 lb/hr/unit	600 hp	5,840 hrs/yr	0.3 tpy
6	High pressure injection Tank Truck	AP-42 Supplement A Table 2-1	0.70 g/hp-hr	N A	2,920 hrs/yr	N A
7	Vacuum truck	See Note 1	0.10 lb/hr/unit	400 hp	5,840 hrs/yr	0.3 tpy
8	Crane	See Note 1	0.04 lb/hr/unit	300 hp	2,920 hrs/yr	0.1 tpy
9	Forklift	AP-42 Supplement A Table 2-1	0.70 g/hp-hr	N A	3,650 hrs/yr	N A
10	Gravel grader	See Note 1	0.07 lb/hr/unit	300 hp	2,920 hrs/yr	0.1 tpy
11	Snow blower	See Note 1	0.13 lb/hr/unit	300 hp	2,920 hrs/yr	0.2 tpy
12	Front end loader	See Note 1	0.07 lb/hr/unit	300 hp	2,920 hrs/yr	0.1 tpy
13	Bobcat (skid steer)	AP-42 Supplement A Table 2-1	0.70 g/hp-hr	N A	2,190 hrs/yr	N A
14	Heavy truck/tractor trailer	See Note 1	0.18 lb/hr/unit	600 hp	2,190 hrs/yr	0.2 tpy
					Total Production PM Emissions	2.7 tpy

Table 5b. Point Thomson Unit - Drilling Mobile Source Potential PM Emissions

Emission Unit No.	Emission Unit Identification	PM Emission Factor Reference	PM Emission Factor	Maximum Rating/Capacity	Total Annual Run Hours	Potential PM Emissions During Construction
Central Pad						
1	Pickup/Light Truck	See Note 1	0.08 lb/hr/unit	325 hp	96,360 hrs/yr	3.9 tpy
2	Bus	See Note 1	0.10 lb/hr/unit	400 hp	42,384 hrs/yr	2.1 tpy
3	Suburban/Van	See Note 1	0.08 lb/hr/unit	300 hp	8,760 hrs/yr	0.4 tpy
4	Loaders	See Note 1	0.07 lb/hr/unit	220-475 hp	30,816 hrs/yr	1.1 tpy
5	Tractor Trailer/Lowboy	See Note 1	0.18 lb/hr/unit	600 hp	8,760 hrs/yr	0.8 tpy
6	Crane	See Note 1	0.04 lb/hr/unit	300 hp	8,760 hrs/yr	0.2 tpy
7	Generator 40kW	Table 3.3-1, AP-42, Vol. 1	0.0022 lb/hp-hr	54 hp	0 hrs/yr	0.0 tpy
8	Small Units	See Note 1	0.05 lb/hr/unit	21 hp	20,424 hrs/yr	0.5 tpy
9	Fuel Truck/Tankers	See Note 1	0.12 lb/hr/unit	600 hp	19,728 hrs/yr	1.2 tpy
10	Compressor 185	Table 3.3-1, AP-42, Vol. 1	0.0022 lb/hp-hr	80 hp	8,760 hrs/yr	0.8 tpy
11	Dozers	See Note 1	0.16 lb/hr/unit	250-580 hp	8,760 hrs/yr	0.7 tpy
12	Graders	See Note 1	0.07 lb/hr/unit	300 hp	58,488 hrs/yr	2.0 tpy
13	Snow Blower	See Note 1	0.13 lb/hr/unit	300 hp	6,552 hrs/yr	0.4 tpy
Deadhorse						
14	Pickup/Light Truck	See Note 1	0.08 lb/hr/unit	325 hp	148,920 hrs/yr	6.0 tpy
15	Loaders	See Note 1	0.07 lb/hr/unit	300 hp	8,760 hrs/yr	0.3 tpy
16	Bus	See Note 1	0.10 lb/hr/unit	400 hp	8,760 hrs/yr	0.4 tpy
17	Suburban/Van	See Note 1	0.08 lb/hr/unit	300 hp	8,760 hrs/yr	0.4 tpy
					Total Drilling PM Emissions	21.1 tpy

Table 5c. Point Thomson Unit - Construction Mobile Source Potential PM Emissions

Emission Unit No.	Emission Unit Identification	PM Emission Factor Reference	PM Emission Factor	Maximum Rating/Capacity	Total Fuel Use	Potential PM Emissions During Construction
Winter Season						
1	Pickup	See Note 1	0.08 lb/hr/unit	325 hp	491,520 gal/yr	1.2 tpy
2	Heaters	Table 1.3-1, AP-42, Vol. 1	0.00 lb/gal	N A	1,800,000 gal/yr	0.0 tpy
3	Light Plants	See Note 1	0.05 lb/hr/unit	21 hp	576,000 gal/yr	13.4 tpy
4	Office	Table 3.3-1, AP-42, Vol. 1	0.31 lb/MMBtu	N A	3,600 gal/yr	0.1 tpy
5	Envirovac	Table 3.3-1, AP-42, Vol. 1	0.31 lb/MMBtu	N A	32,400 gal/yr	0.7 tpy
6	Break Shack	Table 3.3-1, AP-42, Vol. 1	0.31 lb/MMBtu	N A	14,400 gal/yr	0.3 tpy
7	Fuel Truck	See Note 1	0.10 lb/hr/unit	425 hp	24,000 gal/yr	0.1 tpy
8	Mechanic Truck	See Note 1	0.08 lb/hr/unit	250 hp	24,000 gal/yr	0.1 tpy
9	Service Truck	See Note 1	0.10 lb/hr/unit	240 hp	24,000 gal/yr	0.1 tpy
10	Tire Truck	See Note 1	0.10 lb/hr/unit	250 hp	2,400 gal/yr	0.0 tpy
11	Bus	See Note 1	0.10 lb/hr/unit	400 hp	19,200 gal/yr	0.0 tpy
12	Tractor & Lowboy	See Note 1	0.18 lb/hr/unit	600 hp	48,000 gal/yr	0.1 tpy
13	Generator	Table 3.3-1, AP-42, Vol. 1	0.31 lb/MMBtu	N A	86,400 gal/yr	1.8 tpy
14	Trimmer	AP-42 Supplement A Table 2-1	0.70 g/hp-hr	10 mile/gal	60,000 gal/yr	0.9 tpy
15	345 Excavator	AP-42 Supplement A Table 2-1	0.70 g/hp-hr	10 mile/gal	216,000 gal/yr	3.2 tpy
16	966 Loader	See Note 1	0.07 lb/hr/unit	220 hp	33,600 gal/yr	0.1 tpy
17	988 Loader	See Note 1	0.07 lb/hr/unit	475 hp	729,600 gal/yr	1.1 tpy
18	D10 Dozer	See Note 1	0.16 lb/hr/unit	580 hp	576,000 gal/yr	1.6 tpy
19	D-9 Dozer	See Note 1	0.16 lb/hr/unit	410 hp	124,800 gal/yr	0.5 tpy
20	B-70	AP-42 Supplement A Table 2-1	0.70 g/hp-hr	10 mile/gal	9,600,000 gal/yr	141.8 tpy
21	16G Motor Grader	See Note 1	0.07 lb/hr/unit	280 hp	72,000 gal/yr	0.2 tpy
22	Hitachi 1600 Shovel Loader	See Note 1	0.07 lb/hr/unit	800 hp	60,000 gal/yr	0.1 tpy
23	Compactor	See Note 1	0.01 lb/hr/unit	25 hp	43,200 gal/yr	0.2 tpy
24	Powder Truck	See Note 1	0.08 lb/hr/unit	300 hp	3,360 gal/yr	0.0 tpy
25	Drill & Compressor	AP-42 Table 3.3-1	0.31 lb/MMBtu	N A	384,000 gal/yr	8.2 tpy
26	Zoom Boom	AP-42 Supplement A Table 2-1	0.70 g/hp-hr	10 mile/gal	14,400 gal/yr	0.2 tpy
27	Ape 200-6 Vibratory Hammer	AP-42 Supplement A Table 2-1	0.70 g/hp-hr	10 mile/gal	192,000 gal/yr	2.8 tpy
28	D62-42 Impact Hammer	AP-42 Supplement A Table 2-1	0.70 g/hp-hr	10 mile/gal	48,000 gal/yr	0.7 tpy
29	Steam Unit	AP-42 Supplement A Table 2-1	0.70 g/hp-hr	10 mile/gal	537,600 gal/yr	7.9 tpy
30	Trench	AP-42 Supplement A Table 2-1	0.70 g/hp-hr	10 mile/gal	67,200 gal/yr	1.0 tpy
31	Pump House	Table 3.3-1, AP-42, Vol. 1	0.31 lb/MMBtu	N A	138,240 gal/yr	2.9 tpy
32	300 bbl Tanker & Tractor	See Note 1	0.18 lb/hr/unit	600 hp	216,000 gal/yr	0.6 tpy
33	Cat 740 Haul Unit	See Note 1	0.18 lb/hr/unit	600 hp	307,200 gal/yr	0.9 tpy
34	185 Compressor	Table 3.3-1, AP-42, Vol. 1	0.31 lb/MMBtu	N A	77,760 gal/yr	1.7 tpy
35	Welder	See Note 1	0.05 lb/hr/unit	33 hp	69,120 gal/yr	1.0 tpy
36	75 Ton Crane	See Note 1	0.11 lb/hr/unit	400 hp	48,000 gal/yr	0.1 tpy
37	130 Ton Crane	See Note 1	0.30 lb/hr/unit	480 hp	14,400 gal/yr	0.1 tpy
38	220 Ton Crane	See Note 1	0.30 lb/hr/unit	480 hp	76,800 gal/yr	0.5 tpy
Summer Season						
39	Pickup	See Note 1	0.08 lb/hr/unit	300 hp	32,400 gal/yr	0.1 tpy
40	Heaters	Table 1.3-1, AP-42, Vol. 1	0.00 lb/gal	N A	36,000 gal/yr	0.0 tpy
41	Light Plants	See Note 1	0.05 lb/hr/unit	21 hp	34,560 gal/yr	0.8 tpy
42	Office	Table 3.3-1, AP-42, Vol. 1	0.31 lb/MMBtu	N A	2,700 gal/yr	0.1 tpy
43	Envirovac	Table 3.3-1, AP-42, Vol. 1	0.31 lb/MMBtu	N A	10,800 gal/yr	0.2 tpy
44	Break Shack	Table 3.3-1, AP-42, Vol. 1	0.31 lb/MMBtu	N A	10,800 gal/yr	0.2 tpy
45	Fuel Truck	See Note 1	0.10 lb/hr/unit	425 hp	4,500 gal/yr	0.0 tpy
46	Mechanic Truck	See Note 1	0.08 lb/hr/unit	250 hp	4,500 gal/yr	0.0 tpy
47	Service Truck	See Note 1	0.10 lb/hr/unit	240 hp	4,500 gal/yr	0.0 tpy
48	Tire Truck	See Note 1	0.10 lb/hr/unit	250 hp	1,800 gal/yr	0.0 tpy
49	Bus	See Note 1	0.10 lb/hr/unit	400 hp	900 gal/yr	0.0 tpy
50	Tractor & Lowboy	See Note 1	0.18 lb/hr/unit	600 hp	4,500 gal/yr	0.0 tpy
51	Generator	Table 3.3-1, AP-42, Vol. 1	0.31 lb/MMBtu	N A	64,800 gal/yr	1.4 tpy
52	Water Truck	See Note 1	0.10 lb/hr/unit	425 hp	81,000 gal/yr	0.2 tpy
53	345 Excavator	AP-42 Supplement A Table 2-1	0.70 g/hp-hr	10 mile/gal	72,000 gal/yr	1.1 tpy
54	966 Loader	See Note 1	0.07 lb/hr/unit	220 hp	100,800 gal/yr	0.3 tpy
55	Trencher	AP-42 Supplement A Table 2-1	0.70 g/hp-hr	10 mile/gal	5,400 gal/yr	0.1 tpy
56	D-9 Dozer	See Note 1	0.16 lb/hr/unit	410 hp	210,600 gal/yr	0.8 tpy
57	Cat 740 Haul Unit	See Note 1	0.18 lb/hr/unit	600 hp	86,400 gal/yr	0.3 tpy
58	16G Motor Grader	See Note 1	0.07 lb/hr/unit	280 hp	121,500 gal/yr	0.3 tpy
59	Compactor	See Note 1	0.01 lb/hr/unit	25 hp	129,600 gal/yr	0.5 tpy
60	Zoom Boom	AP-42 Supplement A Table 2-1	0.70 g/hp-hr	10 mile/gal	10,800 gal/yr	0.2 tpy
61	185 Compressor	Table 3.3-1, AP-42, Vol. 1	0.31 lb/MMBtu	N A	77,760 gal/yr	1.7 tpy
62	Welder	See Note 1	0.05 lb/hr/unit	33 hp	69,120 gal/yr	1.0 tpy
63	75 Ton Crane	See Note 1	0.11 lb/hr/unit	400 hp	48,000 gal/yr	0.1 tpy
64	130 Ton Crane	See Note 1	0.30 lb/hr/unit	480 hp	14,400 gal/yr	0.1 tpy
					Total Construction PM Emissions	205.6 tpy

Notes:
1. Emission rates from Worley Parsons Air Emissions Summary June 2010.
2. Diesel fuel is assumed to have a sulfur content of 15 ppmw (0.15 wt. pct.) and a heat content of 137,000 Btu/gal.
3. Diesel engine heat rate assumed to be 7,000 Btu/hp-hr.

Table 6a. Point Thomson Unit - Operations Mobile Source Potential VOC Emissions

Emission Unit No.	Emission Unit Identification	VOC Emission Factor Reference	VOC Emission Factor	Maximum Rating/Capacity	Total Annual Run Hours	Potential VOC Emissions During Construction
1	Pickup trucks	See Note 1	0.10 lb/hr/unit	300 hp	29,200 hrs/yr	1.5 tpy
2	Passenger van	See Note 1	0.10 lb/hr/unit	300 hp	2,920 hrs/yr	0.1 tpy
3	Fire truck	See Note 1	0.10 lb/hr/unit	600 hp	2,190 hrs/yr	0.1 tpy
4	Ambulance	See Note 1	0.10 lb/hr/unit	300 hp	2,190 hrs/yr	0.1 tpy
5	Water truck	See Note 1	0.10 lb/hr/unit	600 hp	5,840 hrs/yr	0.3 tpy
6	High pressure injection Tank Truck	Table 7.1.1, AP-42, Vol. 2	4.82 g/mile	N A	8,760 miles/yr	0.0 tpy
7	Vacuum truck	See Note 1	0.10 lb/hr/unit	400 hp	5,840 hrs/yr	0.3 tpy
8	Crane	See Note 1	0.05 lb/hr/unit	300 hp	2,920 hrs/yr	0.1 tpy
9	Forklift	Table 7.1.1, AP-42, Vol. 2	4.82 g/mile	N A	730 miles/yr	0.0 tpy
10	Gravel grader	See Note 1	0.11 lb/hr/unit	300 hp	2,920 hrs/yr	0.2 tpy
11	Snow blower	See Note 1	0.18 lb/hr/unit	300 hp	2,920 hrs/yr	0.3 tpy
12	Front end loader	See Note 1	0.11 lb/hr/unit	300 hp	2,920 hrs/yr	0.2 tpy
13	Bobcat (skid steer)	Table 7.1.1, AP-42, Vol. 2	4.82 g/mile	N A	730 miles/yr	0.0 tpy
14	Heavy truck/tractor trailer	See Note 1	0.19 lb/hr/unit	600 hp	2,190 hrs/yr	0.2 tpy
					Total Production VOC Emissions	3.3 tpy

Table 6b. Point Thomson Unit - Drilling Mobile Source Potential VOC Emissions

Emission Unit No.	Emission Unit Identification	VOC Emission Factor Reference	VOC Emission Factor	Maximum Rating/Capacity	Total Annual Run Hours	Potential VOC Emissions During Construction
Central Pad						
1	Pickup/Light Truck	See Note 1	0.10 lb/hr/unit	325 hp	96,360 hrs/yr	4.8 tpy
2	Bus	See Note 1	0.10 lb/hr/unit	400 hp	42,384 hrs/yr	2.1 tpy
3	Suburban/Van	See Note 1	0.10 lb/hr/unit	300 hp	8,760 hrs/yr	0.4 tpy
4	Loaders	See Note 1	0.11 lb/hr/unit	220-475 hp	30,816 hrs/yr	1.7 tpy
5	Tractor Trailer/Lowboy	See Note 1	0.19 lb/hr/unit	600 hp	8,760 hrs/yr	0.8 tpy
6	Crane	See Note 1	0.05 lb/hr/unit	300 hp	8,760 hrs/yr	0.2 tpy
7	Generator 40kW	Table 3.3-1, AP-42, Vol. 1	0.00247 lb/hp-hr	54 hp	0 hrs/yr	0.0 tpy
8	Small Units	See Note 1	0.08 lb/hr/unit	21 hp	20,424 hrs/yr	0.8 tpy
9	Fuel Truck/Tankers	See Note 1	0.11 lb/hr/unit	600 hp	19,728 hrs/yr	1.1 tpy
10	Compressor 185	Table 3.3-1, AP-42, Vol. 1	0.00247 lb/hp-hr	80 hp	8,760 hrs/yr	0.9 tpy
11	Dozers	See Note 1	0.16 lb/hr/unit	250-580 hp	8,760 hrs/yr	0.7 tpy
12	Graders	See Note 1	0.11 lb/hr/unit	300 hp	58,488 hrs/yr	3.2 tpy
13	Snow Blower	See Note 1	0.18 lb/hr/unit	300 hp	6,552 hrs/yr	0.6 tpy
Deadhorse						
14	Pickup/Light Truck	See Note 1	0.10 lb/hr/unit	325 hp	148,920 hrs/yr	7.4 tpy
15	Loaders	See Note 1	0.11 lb/hr/unit	300 hp	8,760 hrs/yr	0.5 tpy
16	Bus	See Note 1	0.10 lb/hr/unit	400 hp	8,760 hrs/yr	0.4 tpy
17	Suburban/Van	See Note 1	0.10 lb/hr/unit	300 hp	8,760 hrs/yr	0.4 tpy
					Total Drilling VOC Emissions	**26.2 tpy**

Table 6c. Point Thomson Unit - Drilling Mobile Source Potential VOC Emissions

Emission Unit No.	Emission Unit Identification	VOC Emission Factor Reference	VOC Emission Factor	Maximum Rating/Capacity	Total Fuel Usage	Potential VOC Emissions During Construction
Winter Season						
1	Pickup	See Note 1	0.10 lb/hr/unit	325 hp	491,520 gal/yr	1.5 tpy
2	Heaters	Table 1.3-1, AP-42, Vol. 1	0.00 lb/gal	N A	1,800,000 gal/yr	0.0 tpy
3	Light Plants	See Note 1	0.08 lb/hr/unit	21 hp	576,000 gal/yr	21.5 tpy
4	Office	Table 3.3-1, AP-42, Vol. 1	0.35 lb/MMBtu	N A	3,600 gal/yr	0.1 tpy
5	Envirovac	Table 3.3-1, AP-42, Vol. 1	0.35 lb/MMBtu	N A	32,400 gal/yr	0.8 tpy
6	Break Shack	Table 3.3-1, AP-42, Vol. 1	0.35 lb/MMBtu	N A	14,400 gal/yr	0.3 tpy
7	Fuel Truck	See Note 1	0.10 lb/hr/unit	425 hp	24,000 gal/yr	0.1 tpy
8	Mechanic Truck	See Note 1	0.10 lb/hr/unit	250 hp	24,000 gal/yr	0.1 tpy
9	Service Truck	See Note 1	0.10 lb/hr/unit	240 hp	24,000 gal/yr	0.1 tpy
10	Tire Truck	See Note 1	0.10 lb/hr/unit	250 hp	2,400 gal/yr	0.0 tpy
11	Bus	See Note 1	0.10 lb/hr/unit	400 hp	19,200 gal/yr	0.0 tpy
12	Tractor & Lowboy	See Note 1	0.19 lb/hr/unit	600 hp	48,000 gal/yr	0.1 tpy
13	Generator	Table 3.3-1, AP-42, Vol. 1	0.35 lb/MMBtu	N A	86,400 gal/yr	2.1 tpy
14	Trimmer	Table 7.1.1, AP-42, Vol. 2	4.82 g/mile	10 mile/gal	60,000 gal/yr	3.1 tpy
15	345 Excavator	Table 7.1.1, AP-42, Vol. 2	4.82 g/mile	10 mile/gal	216,000 gal/yr	11.2 tpy
16	966 Loader	See Note 1	0.11 lb/hr/unit	220 hp	33,600 gal/yr	0.2 tpy
17	988 Loader	See Note 1	0.11 lb/hr/unit	475 hp	729,600 gal/yr	1.7 tpy
18	D10 Dozer	See Note 1	0.16 lb/hr/unit	580 hp	576,000 gal/yr	1.6 tpy
19	D-9 Dozer	See Note 1	0.16 lb/hr/unit	410 hp	124,800 gal/yr	0.5 tpy
20	B-70	Table 7.1.1, AP-42, Vol. 2	4.82 g/mile	10 mile/gal	9,600,000 gal/yr	499.1 tpy
21	16G Motor Grader	See Note 1	0.11 lb/hr/unit	280 hp	72,000 gal/yr	0.3 tpy
22	Hitachi 1600 Shovel Loader	See Note 1	0.11 lb/hr/unit	800 hp	60,000 gal/yr	0.1 tpy
23	Compactor	See Note 1	0.02 lb/hr/unit	25 hp	43,200 gal/yr	0.3 tpy
24	Powder Truck	See Note 1	0.10 lb/hr/unit	300 hp	3,360 gal/yr	0.0 tpy
25	Drill & Compressor	Table 3.3-1, AP-42, Vol. 1	0.35 lb/MMBtu	N A	384,000 gal/yr	9.2 tpy
26	Zoom Boom	Table 7.1.1, AP-42, Vol. 2	4.82 g/mile	10 mile/gal	14,400 gal/yr	0.7 tpy
27	Ape 200-6 Vibratory Hammer	Table 7.1.1, AP-42, Vol. 2	4.82 g/mile	10 mile/gal	192,000 gal/yr	10.0 tpy
28	D62-42 Impact Hammer	Table 7.1.1, AP-42, Vol. 2	4.82 g/mile	10 mile/gal	48,000 gal/yr	2.5 tpy
29	Steam Unit	Table 7.1.1, AP-42, Vol. 2	4.82 g/mile	10 mile/gal	537,600 gal/yr	27.9 tpy
30	Trench	Table 7.1.1, AP-42, Vol. 2	4.82 g/mile	10 mile/gal	67,200 gal/yr	3.5 tpy
31	Pump House	Table 3.3-1, AP-42, Vol. 1	0.35 lb/MMBtu	N A	138,240 gal/yr	3.3 tpy
32	300 bbl Tanker & Tractor	See Note 1	0.19 lb/hr/unit	600 hp	216,000 gal/yr	0.7 tpy
33	Cat 740 Haul Unit	See Note 1	0.19 lb/hr/unit	600 hp	307,200 gal/yr	1.0 tpy
34	185 Compressor	Table 3.3-1, AP-42, Vol. 1	0.35 lb/MMBtu	N A	77,760 gal/yr	1.9 tpy
35	Welder	See Note 1	0.08 lb/hr/unit	33 hp	69,120 gal/yr	1.7 tpy
36	75 Ton Crane	See Note 1	0.14 lb/hr/unit	400 hp	48,000 gal/yr	0.2 tpy
37	130 Ton Crane	See Note 1	0.44 lb/hr/unit	480 hp	14,400 gal/yr	0.1 tpy
38	220 Ton Crane	See Note 1	0.44 lb/hr/unit	480 hp	76,800 gal/yr	0.7 tpy
Summer Season						
39	Pickup	See Note 1	0.10 lb/hr/unit	300 hp	32,400 gal/yr	0.1 tpy
40	Heaters	Table 1.3-1, AP-42, Vol. 1	0.00 lb/gal	N A	36,000 gal/yr	0.0 tpy
41	Light Plants	See Note 1	0.08 lb/hr/unit	21 hp	34,560 gal/yr	1.3 tpy
42	Office	Table 3.3-1, AP-42, Vol. 1	0.35 lb/MMBtu	N A	2,700 gal/yr	0.1 tpy
43	Envirovac	Table 3.3-1, AP-42, Vol. 1	0.35 lb/MMBtu	N A	10,800 gal/yr	0.3 tpy
44	Break Shack	Table 3.3-1, AP-42, Vol. 1	0.35 lb/MMBtu	N A	10,800 gal/yr	0.3 tpy
45	Fuel Truck	See Note 1	0.10 lb/hr/unit	425 hp	4,500 gal/yr	0.0 tpy
46	Mechanic Truck	See Note 1	0.10 lb/hr/unit	250 hp	4,500 gal/yr	0.0 tpy
47	Service Truck	See Note 1	0.10 lb/hr/unit	240 hp	4,500 gal/yr	0.0 tpy
48	Tire Truck	See Note 1	0.10 lb/hr/unit	250 hp	1,800 gal/yr	0.0 tpy
49	Bus	See Note 1	0.10 lb/hr/unit	400 hp	900 gal/yr	0.0 tpy
50	Tractor & Lowboy	See Note 1	0.19 lb/hr/unit	600 hp	4,500 gal/yr	0.0 tpy
51	Generator	Table 3.3-1, AP-42, Vol. 1	0.35 lb/MMBtu	N A	64,800 gal/yr	1.6 tpy
52	Water Truck	See Note 1	0.10 lb/hr/unit	425 hp	81,000 gal/yr	0.2 tpy
53	345 Excavator	Table 7.1.1, AP-42, Vol. 2	4.82 g/mile	10 mile/gal	72,000 gal/yr	3.7 tpy
54	966 Loader	See Note 1	0.11 lb/hr/unit	220 hp	100,800 gal/yr	0.5 tpy
55	Trencher	Table 7.1.1, AP-42, Vol. 2	4.82 g/mile	10 mile/gal	5,400 gal/yr	0.3 tpy
56	D-9 Dozer	See Note 1	0.16 lb/hr/unit	410 hp	210,600 gal/yr	0.8 tpy
57	Cat 740 Haul Unit	See Note 1	0.19 lb/hr/unit	600 hp	86,400 gal/yr	0.3 tpy
58	16G Motor Grader	See Note 1	0.11 lb/hr/unit	280 hp	121,500 gal/yr	0.5 tpy
59	Compactor	See Note 1	0.02 lb/hr/unit	25 hp	129,600 gal/yr	1.0 tpy
60	Zoom Boom	Table 7.1.1, AP-42, Vol. 2	4.82 g/mile	10 mile/gal	10,800 gal/yr	0.6 tpy
61	185 Compressor	Table 3.3-1, AP-42, Vol. 1	0.35 lb/MMBtu	N A	77,760 gal/yr	1.9 tpy
62	Welder	See Note 1	0.08 lb/hr/unit	33 hp	69,120 gal/yr	1.6 tpy
63	75 Ton Crane	See Note 1	0.14 lb/hr/unit	400 hp	48,000 gal/yr	0.2 tpy
64	130 Ton Crane	See Note 1	0.44 lb/hr/unit	480 hp	14,400 gal/yr	0.1 tpy
					Total Construction VOC Emissions	623.2 tpy

Notes:
1. Emission rates from Worley Parsons Air Emissions Summary June 2010.
2. Diesel fuel is assumed to have a sulfur content of 15 ppmw (0.15 wt. pct.) and a heat content of 137,000 Btu/gal.
3. Diesel engine heat rate assumed to be 7,000 Btu/hp-hr.

Table 7a. Point Thomson Unit - Operations Mobile Source Potential SO_2 Emissions

Emission Unit No.	Emission Unit Identification	SO_2 Emission Factor Reference	SO_2 Emission Factor	Assumed Fuel Economy	Total Annual Run Hours	Potential SO_2 Emissions During Construction
1	Pickup trucks	Mass Balance	0.00021 lb/gal	10 miles/gal	4,380 miles/yr	4.66E-05 tpy
2	Passenger van	Mass Balance	0.00021 lb/gal	10 miles/gal	2,920 miles/yr	3.11E-05 tpy
3	Fire truck	Mass Balance	0.00021 lb/gal	10 miles/gal	1,460 miles/yr	1.55E-05 tpy
4	Ambulance	Mass Balance	0.00021 lb/gal	10 miles/gal	1,460 miles/yr	1.55E-05 tpy
5	Water truck	Mass Balance	0.00021 lb/gal	10 miles/gal	8,760 miles/yr	9.33E-05 tpy
6	High pressure injection Tank Truck	Mass Balance	0.00021 lb/gal	10 miles/gal	8,760 miles/yr	9.33E-05 tpy
7	Vacuum truck	Mass Balance	0.00021 lb/gal	10 miles/gal	8,760 miles/yr	9.33E-05 tpy
8	Crane	Mass Balance	0.00021 lb/gal	10 miles/gal	1,460 miles/yr	1.55E-05 tpy
9	Forklift	Mass Balance	0.00021 lb/gal	10 miles/gal	730 miles/yr	7.77E-06 tpy
10	Gravel grader	Mass Balance	0.00021 lb/gal	10 miles/gal	8,760 miles/yr	9.33E-05 tpy
11	Snow blower	Mass Balance	0.00021 lb/gal	10 miles/gal	8,760 miles/yr	9.33E-05 tpy
12	Front end loader	Mass Balance	0.00021 lb/gal	10 miles/gal	1,460 miles/yr	1.55E-05 tpy
13	Bobcat (skid steer)	Mass Balance	0.00021 lb/gal	10 miles/gal	730 miles/yr	7.77E-06 tpy
14	Heavy truck/tractor trailer	Mass Balance	0.00021 lb/gal	10 miles/gal	2,920 miles/yr	3.11E-05 tpy
					Total Production SO_2 Emissions	6.53E-04 tpy

Table 7b. Point Thomson Unit - Drilling Mobile Source Potential SO_2 Emissions

Emission Unit No.	Emission Unit Identification	SO_2 Emission Factor Reference	SO_2 Emission Factor	Maximum Capacity	Total Annual Run Hours	Potential SO_2 Emissions During Construction
Central Pad						
1	Pickup/Light Truck	See Note 1	0.12 lb/hr/unit	325 hp	96,360 hrs/yr	5.78E+00 tpy
2	Bus	See Note 1	0.16 lb/hr/unit	400 hp	42,384 hrs/yr	3.39E+00 tpy
3	Suburban/Van	See Note 1	0.12 lb/hr/unit	300 hp	8,760 hrs/yr	5.26E-01 tpy
4	Loaders	See Note 1	0.04 lb/hr/unit	220-475 hp	30,816 hrs/yr	6.16E-01 tpy
5	Tractor Trailer/Lowboy	See Note 1	0.20 lb/hr/unit	600 hp	8,760 hrs/yr	8.76E-01 tpy
6	Crane	See Note 1	0.03 lb/hr/unit	300 hp	8,760 hrs/yr	1.31E-01 tpy
7	Generator 40kW	AP-42 Table 3.3-1	0.00205 lb/hp-hr	54 hp	0 hrs/yr	0.00E+00 tpy
8	Small Units	See Note 1	0.02 lb/hr/unit	21 hp	20,424 hrs/yr	2.04E-01 tpy
9	Fuel Truck/Tankers	See Note 1	0.20 lb/hr/unit	600 hp	19,728 hrs/yr	1.97E+00 tpy
10	Compressor 185	AP-42 Table 3.3-1	0.00205 lb/hp-hr	80 hp	8,760 hrs/yr	7.18E-01 tpy
11	Dozers	See Note 1	0.21 lb/hr/unit	250-580 hp	8,760 hrs/yr	9.20E-01 tpy
12	Graders	See Note 1	0.04 lb/hr/unit	300 hp	58,488 hrs/yr	1.17E+00 tpy
13	Snow Blower	See Note 1	13.47 lb/hr/unit	300 hp	6,552 hrs/yr	4.41E+01 tpy
Deadhorse						
14	Pickup/Light Truck	See Note 1	0.12 lb/hr/unit	325 hp	148,920 hrs/yr	8.94E+00 tpy
15	Loaders	See Note 1	0.04 lb/hr/unit	300 hp	8,760 hrs/yr	1.75E-01 tpy
16	Bus	See Note 1	0.16 lb/hr/unit	400 hp	8,760 hrs/yr	7.01E-01 tpy
17	Suburban/Van	See Note 1	0.12 lb/hr/unit	300 hp	8,760 hrs/yr	5.26E-01 tpy
					Total Drilling SO_2 Emissions	70.77 tpy

Table 7c. Point Thomson Unit - Construction Mobile Source Potential SO_2 Emissions

Emission Unit No.	Emission Unit Identification	SO_2 Emission Factor Reference	SO_2 Emission Factor	Maximum Capacity	Total Fuel Use	Potential SO_2 Emissions During Construction
Winter Season						
1	Pickup	Mass Balance	0.00021 lb/gal	325 hp	491,520 gal/yr	5.23E-02 tpy
2	Heaters	Mass Balance	0.00021 lb/gal	N A	1,800,000 gal/yr	1.92E-01 tpy
3	Light Plants	Mass Balance	0.00021 lb/gal	21 hp	576,000 gal/yr	6.13E-02 tpy
4	Office	Mass Balance	0.00021 lb/gal	N A	3,600 gal/yr	3.83E-04 tpy
5	Envirovac	Mass Balance	0.00021 lb/gal	N A	32,400 gal/yr	3.45E-03 tpy
6	Break Shack	Mass Balance	0.00021 lb/gal	N A	14,400 gal/yr	1.53E-03 tpy
7	Fuel Truck	Mass Balance	0.00021 lb/gal	425 hp	24,000 gal/yr	2.56E-03 tpy
8	Mechanic Truck	Mass Balance	0.00021 lb/gal	250 hp	24,000 gal/yr	2.56E-03 tpy
9	Service Truck	Mass Balance	0.00021 lb/gal	240 hp	24,000 gal/yr	2.56E-03 tpy
10	Tire Truck	Mass Balance	0.00021 lb/gal	250 hp	2,400 gal/yr	2.56E-04 tpy
11	Bus	Mass Balance	0.00021 lb/gal	400 hp	19,200 gal/yr	2.04E-03 tpy
12	Tractor & Lowboy	Mass Balance	0.00021 lb/gal	600 hp	48,000 gal/yr	5.11E-03 tpy
13	Generator	Mass Balance	0.00021 lb/gal	N A	86,400 gal/yr	9.20E-03 tpy
14	Trimmer	Mass Balance	0.00021 lb/gal	10 mile/gal	60,000 gal/yr	6.39E-03 tpy
15	345 Excavator	Mass Balance	0.00021 lb/gal	10 mile/gal	216,000 gal/yr	2.30E-02 tpy
16	966 Loader	Mass Balance	0.00021 lb/gal	220 hp	33,600 gal/yr	3.58E-03 tpy
17	988 Loader	Mass Balance	0.00021 lb/gal	475 hp	729,600 gal/yr	7.77E-02 tpy
18	D10 Dozer	Mass Balance	0.00021 lb/gal	580 hp	576,000 gal/yr	6.13E-02 tpy
19	D-9 Dozer	Mass Balance	0.00021 lb/gal	410 hp	124,800 gal/yr	1.33E-02 tpy
20	B-70	Mass Balance	0.00021 lb/gal	10 mile/gal	9,600,000 gal/yr	1.02E+00 tpy
21	16G Motor Grader	Mass Balance	0.00021 lb/gal	280 hp	72,000 gal/yr	7.67E-03 tpy
22	Hitachi 1600 Shovel Loader	Mass Balance	0.00021 lb/gal	800 hp	60,000 gal/yr	6.39E-03 tpy
23	Compactor	Mass Balance	0.00021 lb/gal	25 hp	43,200 gal/yr	4.60E-03 tpy
24	Powder Truck	Mass Balance	0.00021 lb/gal	300 hp	3,360 gal/yr	3.58E-04 tpy
25	Drill & Compressor	Mass Balance	0.00021 lb/gal	N A	384,000 gal/yr	4.09E-02 tpy
26	Zoom Boom	Mass Balance	0.00021 lb/gal	10 mile/gal	14,400 gal/yr	1.53E-03 tpy
27	Ape 200-6 Vibratory Hammer	Mass Balance	0.00021 lb/gal	10 mile/gal	192,000 gal/yr	2.04E-02 tpy
28	D62-42 Impact Hammer	Mass Balance	0.00021 lb/gal	10 mile/gal	48,000 gal/yr	5.11E-03 tpy
29	Steam Unit	Mass Balance	0.00021 lb/gal	10 mile/gal	537,600 gal/yr	5.73E-02 tpy
30	Trench	Mass Balance	0.00021 lb/gal	10 mile/gal	67,200 gal/yr	7.16E-03 tpy
31	Pump House	Mass Balance	0.00021 lb/gal	N A	138,240 gal/yr	1.47E-02 tpy
32	300 bbl Tanker & Tractor	Mass Balance	0.00021 lb/gal	600 hp	216,000 gal/yr	2.30E-02 tpy
33	Cat 740 Haul Unit	Mass Balance	0.00021 lb/gal	600 hp	307,200 gal/yr	3.27E-02 tpy
34	185 Compressor	Mass Balance	0.00021 lb/gal	N A	77,760 gal/yr	8.28E-03 tpy
35	Welder	Mass Balance	0.00021 lb/gal	33 hp	69,120 gal/yr	7.36E-03 tpy
36	75 Ton Crane	Mass Balance	0.00021 lb/gal	400 hp	48,000 gal/yr	5.11E-03 tpy
37	130 Ton Crane	Mass Balance	0.00021 lb/gal	480 hp	14,400 gal/yr	1.53E-03 tpy
38	220 Ton Crane	Mass Balance	0.00021 lb/gal	480 hp	76,800 gal/yr	8.18E-03 tpy
Summer Season						
39	Pickup	Mass Balance	0.00021 lb/gal	300 hp	32,400 gal/yr	3.45E-03 tpy
40	Heaters	Mass Balance	0.00021 lb/gal	N A	36,000 gal/yr	3.83E-03 tpy
41	Light Plants	Mass Balance	0.00021 lb/gal	21 hp	34,560 gal/yr	3.68E-03 tpy
42	Office	Mass Balance	0.00021 lb/gal	N A	2,700 gal/yr	2.88E-04 tpy
43	Envirovac	Mass Balance	0.00021 lb/gal	N A	10,800 gal/yr	1.15E-03 tpy
44	Break Shack	Mass Balance	0.00021 lb/gal	N A	10,800 gal/yr	1.15E-03 tpy
45	Fuel Truck	Mass Balance	0.00021 lb/gal	425 hp	4,500 gal/yr	4.79E-04 tpy
46	Mechanic Truck	Mass Balance	0.00021 lb/gal	250 hp	4,500 gal/yr	4.79E-04 tpy
47	Service Truck	Mass Balance	0.00021 lb/gal	240 hp	4,500 gal/yr	4.79E-04 tpy
48	Tire Truck	Mass Balance	0.00021 lb/gal	250 hp	1,800 gal/yr	1.92E-04 tpy
49	Bus	Mass Balance	0.00021 lb/gal	400 hp	900 gal/yr	9.59E-05 tpy
50	Tractor & Lowboy	Mass Balance	0.00021 lb/gal	600 hp	4,500 gal/yr	4.79E-04 tpy
51	Generator	Mass Balance	0.00021 lb/gal	N A	64,800 gal/yr	6.90E-03 tpy
52	Water Truck	Mass Balance	0.00021 lb/gal	425 hp	81,000 gal/yr	8.63E-03 tpy
53	345 Excavator	Mass Balance	0.00021 lb/gal	10 mile/gal	72,000 gal/yr	7.67E-03 tpy
54	966 Loader	Mass Balance	0.00021 lb/gal	220 hp	100,800 gal/yr	1.07E-02 tpy
55	Trencher	Mass Balance	0.00021 lb/gal	10 mile/gal	5,400 gal/yr	5.75E-04 tpy
56	D-9 Dozer	Mass Balance	0.00021 lb/gal	410 hp	210,600 gal/yr	2.24E-02 tpy
57	Cat 740 Haul Unit	Mass Balance	0.00021 lb/gal	600 hp	86,400 gal/yr	9.20E-03 tpy
58	16G Motor Grader	Mass Balance	0.00021 lb/gal	280 hp	121,500 gal/yr	1.29E-02 tpy
59	Compactor	Mass Balance	0.00021 lb/gal	25 hp	129,600 gal/yr	1.38E-02 tpy
60	Zoom Boom	Mass Balance	0.00021 lb/gal	10 mile/gal	10,800 gal/yr	1.15E-03 tpy
61	185 Compressor	Mass Balance	0.00021 lb/gal	N A	77,760 gal/yr	8.28E-03 tpy
62	Welder	Mass Balance	0.00021 lb/gal	33 hp	69,120 gal/yr	7.36E-03 tpy
63	75 Ton Crane	Mass Balance	0.00021 lb/gal	400 hp	48,000 gal/yr	5.11E-03 tpy
64	130 Ton Crane	Mass Balance	0.00021 lb/gal	480 hp	14,400 gal/yr	1.53E-03 tpy
					Total Construction SO_2 Emissions	1.9 tpy

Notes:
1. Emission rates from Worley Parsons Air Emissions Summary June 2010.
2. Diesel fuel is assumed to have a sulfur content of 15 ppmw (0.15 wt. pct.) and a heat content of 137,000 Btu/gal.
3. Diesel engine heat rate assumed to be 7,000 Btu/hp-hr.
4. Production mobile source fuel economy assumed to be 10 miles per gallon.

Table 8a. Point Thomson Unit - Construction Mobile Source Emission Unit Inventory

Emission Unit Type			Fuel Usage	Fuel Usage	Equipment Usage	Total Fuel Usage
No.	Identification	Number of Units	(per unit per shift)	(per shift per type)	(shifts per year)	
Winter Season						
1	Pickup	16	8 gal/shift	128 gal/shift	240 shift/year	30,720 gal/yr
2	Heaters	10	75 gal/shift	750 gal/shift	240 shift/year	180,000 gal/yr
3	Light Plants	20	6 gal/shift	120 gal/shift	240 shift/year	28,800 gal/yr
4	Office	1	15 gal/shift	15 gal/shift	240 shift/year	3,600 gal/yr
5	Envirovac	3	15 gal/shift	45 gal/shift	240 shift/year	10,800 gal/yr
6	Break Shack	2	15 gal/shift	30 gal/shift	240 shift/year	7,200 gal/yr
7	Fuel Truck	2	25 gal/shift	50 gal/shift	240 shift/year	12,000 gal/yr
8	Mechanic Truck	2	25 gal/shift	50 gal/shift	240 shift/year	12,000 gal/yr
9	Service Truck	2	25 gal/shift	50 gal/shift	240 shift/year	12,000 gal/yr
10	Tire Truck	1	10 gal/shift	10 gal/shift	240 shift/year	2,400 gal/yr
11	Bus	4	5 gal/shift	20 gal/shift	240 shift/year	4,800 gal/yr
12	Tractor & Lowboy	2	50 gal/shift	100 gal/shift	240 shift/year	24,000 gal/yr
13	Generator	3	40 gal/shift	120 gal/shift	240 shift/year	28,800 gal/yr
14	Trimmer	5	150 gal/shift	750 gal/shift	16 shift/year	12,000 gal/yr
15	345 Excavator	3	100 gal/shift	300 gal/shift	240 shift/year	72,000 gal/yr
16	966 Loader	2	35 gal/shift	70 gal/shift	240 shift/year	16,800 gal/yr
17	988 Loader	4	190 gal/shift	760 gal/shift	240 shift/year	182,400 gal/yr
18	D10 Dozer	4	150 gal/shift	600 gal/shift	240 shift/year	144,000 gal/yr
19	D-9 Dozer	2	130 gal/shift	260 gal/shift	240 shift/year	62,400 gal/yr
20	B-70	20	100 gal/shift	2000 gal/shift	240 shift/year	480,000 gal/yr
21	16G Motor Grader	2	75 gal/shift	150 gal/shift	240 shift/year	36,000 gal/yr
22	Hitachi 1600 Shovel Loader	1	250 gal/shift	250 gal/shift	240 shift/year	60,000 gal/yr
23	Compactor	2	45 gal/shift	90 gal/shift	240 shift/year	21,600 gal/yr
24	Powder Truck	1	14 gal/shift	14 gal/shift	240 shift/year	3,360 gal/yr
25	Drill & Compressor	4	100 gal/shift	400 gal/shift	240 shift/year	96,000 gal/yr
26	Zoom Boom	2	15 gal/shift	30 gal/shift	240 shift/year	7,200 gal/yr
27	Ape 200-6 Vibratory Hammer	2	200 gal/shift	400 gal/shift	240 shift/year	96,000 gal/yr
28	D62-42 Impact Hammer	2	50 gal/shift	100 gal/shift	240 shift/year	24,000 gal/yr
29	Steam Unit	2	560 gal/shift	1120 gal/shift	240 shift/year	268,800 gal/yr
30	Trench	2	70 gal/shift	140 gal/shift	240 shift/year	33,600 gal/yr
31	Pump House	4	36 gal/shift	144 gal/shift	240 shift/year	34,560 gal/yr
32	300 bbl Tanker & Tractor	3	100 gal/shift	300 gal/shift	240 shift/year	72,000 gal/yr
33	Cat 740 Haul Unit	4	80 gal/shift	320 gal/shift	240 shift/year	76,800 gal/yr
34	185 Compressor	3	36 gal/shift	108 gal/shift	240 shift/year	25,920 gal/yr
35	Welder	4	18 gal/shift	72 gal/shift	240 shift/year	17,280 gal/yr
36	75 Ton Crane	2	50 gal/shift	100 gal/shift	240 shift/year	24,000 gal/yr
37	130 Ton Crane	1	60 gal/shift	60 gal/shift	240 shift/year	14,400 gal/yr
38	220 Ton Crane	2	80 gal/shift	160 gal/shift	240 shift/year	38,400 gal/yr
Summer Season						
39	Pickup	6	5 gal/shift	30 gal/shift	180 shift/year	5,400 gal/yr
40	Heaters	2	50 gal/shift	100 gal/shift	180 shift/year	18,000 gal/yr
41	Light Plants	8	6 gal/shift	48 gal/shift	90 shift/year	4,320 gal/yr
42	Office	1	15 gal/shift	15 gal/shift	180 shift/year	2,700 gal/yr
43	Envirovac	2	15 gal/shift	30 gal/shift	180 shift/year	5,400 gal/yr
44	Break Shack	2	15 gal/shift	30 gal/shift	180 shift/year	5,400 gal/yr
45	Fuel Truck	1	25 gal/shift	25 gal/shift	180 shift/year	4,500 gal/yr
46	Mechanic Truck	1	25 gal/shift	25 gal/shift	180 shift/year	4,500 gal/yr
47	Service Truck	1	25 gal/shift	25 gal/shift	180 shift/year	4,500 gal/yr
48	Tire Truck	1	10 gal/shift	10 gal/shift	180 shift/year	1,800 gal/yr
49	Bus	1	5 gal/shift	5 gal/shift	180 shift/year	900 gal/yr
50	Tractor & Lowboy	1	50 gal/shift	50 gal/shift	90 shift/year	4,500 gal/yr
51	Generator	3	40 gal/shift	120 gal/shift	180 shift/year	21,600 gal/yr
52	Water Truck	3	50 gal/shift	150 gal/shift	180 shift/year	27,000 gal/yr
53	345 Excavator	2	100 gal/shift	200 gal/shift	180 shift/year	36,000 gal/yr
54	966 Loader	4	35 gal/shift	140 gal/shift	180 shift/year	25,200 gal/yr
55	Trencher	1	30 gal/shift	30 gal/shift	180 shift/year	5,400 gal/yr
56	D-9 Dozer	3	130 gal/shift	390 gal/shift	180 shift/year	70,200 gal/yr
57	Cat 740 Haul Unit	4	30 gal/shift	120 gal/shift	180 shift/year	21,600 gal/yr
58	16G Motor Grader	3	75 gal/shift	225 gal/shift	180 shift/year	40,500 gal/yr
59	Compactor	4	45 gal/shift	180 gal/shift	180 shift/year	32,400 gal/yr
60	Zoom Boom	2	15 gal/shift	30 gal/shift	180 shift/year	5,400 gal/yr
61	185 Compressor	3	36 gal/shift	108 gal/shift	240 shift/year	25,920 gal/yr
62	Welder	4	18 gal/shift	72 gal/shift	240 shift/year	17,280 gal/yr
63	75 Ton Crane	2	50 gal/shift	100 gal/shift	240 shift/year	24,000 gal/yr
64	130 Ton Crane	1	60 gal/shift	60 gal/shift	240 shift/year	14,400 gal/yr

Table 8b. Point Thomson Unit - Operations Mobile Source Emission Unit Inventory

Emission Unit Type			Average Daily	Fuel Usage	Fuel Usage	Total Fuel Usage
No.	Identification	Number of Units	Run Hour	Hourly	Daily (Per Unit)	
1	Pickup trucks	8	10 hrs/day	0.37 gal/hr	3.68 gal/day	10,758 gal/yr
2	Passenger van	2	4 hrs/day	0.37 gal/hr	1.47 gal/day	1,076 gal/yr
3	Fire truck	1	6 hrs/day	0.37 gal/hr	2.21 gal/day	807 gal/yr
4	Ambulance	1	6 hrs/day	0.37 gal/hr	2.21 gal/day	807 gal/yr
5	Water truck	2	8 hrs/day	0.37 gal/hr	2.95 gal/day	2,152 gal/yr
6	High pressure injection Tank Truck	1	8 hrs/day	0.37 gal/hr	2.95 gal/day	1,076 gal/yr
7	Vacuum truck	2	8 hrs/day	0.37 gal/hr	2.95 gal/day	2,152 gal/yr
8	Crane	1	8 hrs/day	0.37 gal/hr	2.95 gal/day	1,076 gal/yr
9	Forklift	1	10 hrs/day	0.37 gal/hr	3.68 gal/day	1,345 gal/yr
10	Gravel grader	1	8 hrs/day	0.37 gal/hr	2.95 gal/day	1,076 gal/yr
11	Snow blower	1	8 hrs/day	0.37 gal/hr	2.95 gal/day	1,076 gal/yr
12	Front end loader	1	8 hrs/day	0.37 gal/hr	2.95 gal/day	1,076 gal/yr
13	Bobcat (skid steer)	1	6 hrs/day	0.37 gal/hr	2.21 gal/day	807 gal/yr
14	Heavy truck/tractor trailer	1	6 hrs/day	0.37 gal/hr	2.21 gal/day	807 gal/yr

Table 8c. Point Thomson Unit - Drilling Mobile Source Emission Unit Inventory

Emission Unit Type			Total Annual	Fuel Usage	Equipment Usage	Total Annual
No.	Identification	Number of Units	Run Hours	Hourly		Run Hours
Central Pad						
1	Pickup/Light Truck	NA	96,360 hrs/yr	0.37 gal/hr	N A	35,502 gal/yr
2	Bus	NA	42,384 hrs/yr	0.37 gal/hr	N A	15,615 gal/yr
3	Suburban/Van	NA	8,760 hrs/yr	0.37 gal/hr	N A	3,227 gal/yr
4	Loaders	NA	30,816 hrs/yr	0.37 gal/hr	N A	11,353 gal/yr
5	Tractor Trailer/Lowboy	NA	8,760 hrs/yr	0.37 gal/hr	N A	3,227 gal/yr
6	Crane	NA	8,760 hrs/yr	0.37 gal/hr	N A	3,227 gal/yr
7	Generator 40kW	NA	- hrs/yr	0.37 gal/hr	N A	- gal/yr
8	Small Units	NA	20,424 hrs/yr	0.37 gal/hr	N A	7,525 gal/yr
9	Fuel Truck/Tankers	NA	19,728 hrs/yr	0.37 gal/hr	N A	7,268 gal/yr
10	Compressor 185	NA	8,760 hrs/yr	0.37 gal/hr	N A	3,227 gal/yr
11	Dozers	NA	8,760 hrs/yr	0.37 gal/hr	N A	3,227 gal/yr
12	Graders	NA	58,488 hrs/yr	0.37 gal/hr	N A	21,549 gal/yr
13	Snow Blower	NA	6,552 hrs/yr	0.37 gal/hr	N A	2,414 gal/yr
Deadhorse						
14	Pickup/Light Truck	NA	148,920 hrs/yr	0.37 gal/hr	N A	54,866 gal/yr
15	Loaders	NA	8,760 hrs/yr	0.37 gal/hr	N A	3,227 gal/yr
16	Bus	NA	8,760 hrs/yr	0.37 gal/hr	N A	3,227 gal/yr
17	Suburban/Van	NA	8,760 hrs/yr	0.37 gal/hr	N A	3,227 gal/yr

Table 9a. Point Thomson Unit - Construction Mobile Source Potential CO_2 Emissions

Emission Unit		CO_2 Emission Factor		Total Fuel Usage	Potential CO_2 Emission
No.	Identification	Reference			
Winter Season					
1	Pickup	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	30,720 gal/yr	313.5 tonne/year
2	Heaters	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	180,000 gal/yr	1,837.2 tonne/year
3	Light Plants	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	28,800 gal/yr	293.9 tonne/year
4	Office	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	3,600 gal/yr	36.7 tonne/year
5	Envirovac	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	10,800 gal/yr	110.2 tonne/year
6	Break Shack	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	7,200 gal/yr	73.5 tonne/year
7	Fuel Truck	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	12,000 gal/yr	122.5 tonne/year
8	Mechanic Truck	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	12,000 gal/yr	122.5 tonne/year
9	Service Truck	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	12,000 gal/yr	122.5 tonne/year
10	Tire Truck	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	2,400 gal/yr	24.5 tonne/year
11	Bus	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	4,800 gal/yr	49.0 tonne/year
12	Tractor & Lowboy	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	24,000 gal/yr	245.0 tonne/year
13	Generator	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	28,800 gal/yr	293.9 tonne/year
14	Trimmer	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	12,000 gal/yr	122.5 tonne/year
15	345 Excavator	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	72,000 gal/yr	734.9 tonne/year
16	966 Loader	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	16,800 gal/yr	171.5 tonne/year
17	988 Loader	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	182,400 gal/yr	1,861.7 tonne/year
18	D10 Dozer	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	144,000 gal/yr	1,469.7 tonne/year
19	D-9 Dozer	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	62,400 gal/yr	636.9 tonne/year
20	B-70	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	480,000 gal/yr	4,899.1 tonne/year
21	16G Motor Grader	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	36,000 gal/yr	367.4 tonne/year
22	Hitachi 1600 Shovel Loader	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	60,000 gal/yr	612.4 tonne/year
23	Compactor	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	21,600 gal/yr	220.5 tonne/year
24	Powder Truck	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	3,360 gal/yr	34.3 tonne/year
25	Drill & Compressor	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	96,000 gal/yr	979.8 tonne/year
26	Zoom Boom	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	7,200 gal/yr	73.5 tonne/year
27	Ape 200-6 Vibratory Hammer	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	96,000 gal/yr	979.8 tonne/year
28	D62-42 Impact Hammer	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	24,000 gal/yr	245.0 tonne/year
29	Steam Unit	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	268,800 gal/yr	2,743.5 tonne/year
30	Trench	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	33,600 gal/yr	342.9 tonne/year
31	Pump House	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	34,560 gal/yr	352.7 tonne/year
32	300 bbl Tanker & Tractor	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	72,000 gal/yr	734.9 tonne/year
33	Cat 740 Haul Unit	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	76,800 gal/yr	783.9 tonne/year
34	185 Compressor	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	25,920 gal/yr	264.6 tonne/year
35	Welder	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	17,280 gal/yr	176.4 tonne/year
36	75 Ton Crane	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	24,000 gal/yr	245.0 tonne/year
37	130 Ton Crane	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	14,400 gal/yr	147.0 tonne/year
38	220 Ton Crane	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	38,400 gal/yr	391.9 tonne/year
Summer Season					
39	Pickup	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	5,400 gal/yr	55.1 tonne/year
40	Heaters	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	18,000 gal/yr	183.7 tonne/year
41	Light Plants	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	4,320 gal/yr	44.1 tonne/year
42	Office	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	2,700 gal/yr	27.6 tonne/year
43	Envirovac	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	5,400 gal/yr	55.1 tonne/year
44	Break Shack	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	5,400 gal/yr	55.1 tonne/year
45	Fuel Truck	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	4,500 gal/yr	45.9 tonne/year
46	Mechanic Truck	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	4,500 gal/yr	45.9 tonne/year
47	Service Truck	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	4,500 gal/yr	45.9 tonne/year
48	Tire Truck	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	1,800 gal/yr	18.4 tonne/year
49	Bus	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	900 gal/yr	9.2 tonne/year
50	Tractor & Lowboy	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	4,500 gal/yr	45.9 tonne/year
51	Generator	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	21,600 gal/yr	220.5 tonne/year
52	Water Truck	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	27,000 gal/yr	275.6 tonne/year
53	345 Excavator	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	36,000 gal/yr	367.4 tonne/year
54	966 Loader	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	25,200 gal/yr	257.2 tonne/year
55	Trencher	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	5,400 gal/yr	55.1 tonne/year
56	D-9 Dozer	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	70,200 gal/yr	716.5 tonne/year
57	Cat 740 Haul Unit	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	21,600 gal/yr	220.5 tonne/year
58	16G Motor Grader	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	40,500 gal/yr	413.4 tonne/year
59	Compactor	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	32,400 gal/yr	330.7 tonne/year
60	Zoom Boom	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	5,400 gal/yr	55.1 tonne/year
61	185 Compressor	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	25,920 gal/yr	264.6 tonne/year
62	Welder	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	17,280 gal/yr	176.4 tonne/year
63	75 Ton Crane	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	24,000 gal/yr	245.0 tonne/year
64	130 Ton Crane	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	14,400 gal/yr	147.0 tonne/year
				Total Construction CO_2 Emissions	27,613.2 tonne/year

Table 9b. Point Thomson Unit - Operations Mobile Source Potential CO_2 Emissions

Emission Unit		CO_2 Emission Factor		Total Fuel Usage	Potential CO_2 Emission
No.	Identification	Reference			
1	Pickup trucks	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	10,758 gal/yr	109.8 tonne/year
2	Passenger van	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	1,076 gal/yr	11.0 tonne/year
3	Fire truck	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	807 gal/yr	8.2 tonne/year
4	Ambulance	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	807 gal/yr	8.2 tonne/year
5	Water truck	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	2,152 gal/yr	22.0 tonne/year
6	High pressure injection Tank Truck	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	1,076 gal/yr	11.0 tonne/year
7	Vacuum truck	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	2,152 gal/yr	22.0 tonne/year
8	Crane	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	1,076 gal/yr	11.0 tonne/year
9	Forklift	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	1,345 gal/yr	13.7 tonne/year
10	Gravel grader	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	1,076 gal/yr	11.0 tonne/year
11	Snow blower	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	1,076 gal/yr	11.0 tonne/year
12	Front end loader	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	1,076 gal/yr	11.0 tonne/year
13	Bobcat (skid steer)	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	807 gal/yr	8.2 tonne/year
14	Heavy truck/tractor trailer	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	807 gal/yr	8.2 tonne/year
				Total Operations CO_2 Emissions	266.3 tonne/year

Table 9c. Point Thomson Unit - Drilling Mobile Source Potential CO_2 Emissions

Emission Unit		CO_2 Emission Factor		Total Fuel Usage	Potential CO_2 Emission
No.	Identification	Reference			
Central Pad					
1	Pickup/Light Truck	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	35,502 gal/yr	362.3 tonne/year
2	Bus	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	15,615 gal/yr	159.4 tonne/year
3	Suburban/Van	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	3,227 gal/yr	32.9 tonne/year
4	Loaders	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	11,353 gal/yr	115.9 tonne/year
5	Tractor Trailer/Lowboy	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	3,227 gal/yr	32.9 tonne/year
6	Crane	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	3,227 gal/yr	32.9 tonne/year
7	Generator 40kW	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	0 gal/yr	0.0 tonne/year
8	Small Units	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	7,525 gal/yr	76.8 tonne/year
9	Fuel Truck/Tankers	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	7,268 gal/yr	74.2 tonne/year
10	Compressor 185	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	3,227 gal/yr	32.9 tonne/year
11	Dozers	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	3,227 gal/yr	32.9 tonne/year
12	Graders	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	21,549 gal/yr	219.9 tonne/year
13	Snow Blower	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	2,414 gal/yr	24.6 tonne/year
Deadhorse					
14	Pickup/Light Truck	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	54,866 gal/yr	560.0 tonne/year
15	Loaders	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	3,227 gal/yr	32.9 tonne/year
16	Bus	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	3,227 gal/yr	32.9 tonne/year
17	Suburban/Van	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	3,227 gal/yr	32.9 tonne/year
				Total Drilling CO_2 Emissions	1,856.7 tonne/year

Notes:

1. Distillate No. 2 default high heat value: 0.138 MMBtu/gallon

Table 10a. Point Thomson Unit - Construction Mobile Source Potential CH_4 Emissions

Emission Unit		CH_4 Emission Factor		Total Fuel Usage	Potential CH_4 Emission
No.	Identification	Reference			
Winter Season					
1	Pickup	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	30,720 gal/yr	0.013 tonne/year
2	Heaters	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	180,000 gal/yr	0.075 tonne/year
3	Light Plants	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	28,800 gal/yr	0.012 tonne/year
4	Office	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	3,600 gal/yr	0.001 tonne/year
5	Envirovac	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	10,800 gal/yr	0.004 tonne/year
6	Break Shack	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	7,200 gal/yr	0.003 tonne/year
7	Fuel Truck	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	12,000 gal/yr	0.005 tonne/year
8	Mechanic Truck	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	12,000 gal/yr	0.005 tonne/year
9	Service Truck	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	12,000 gal/yr	0.005 tonne/year
10	Tire Truck	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	2,400 gal/yr	0.001 tonne/year
11	Bus	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	4,800 gal/yr	0.002 tonne/year
12	Tractor & Lowboy	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	24,000 gal/yr	0.010 tonne/year
13	Generator	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	28,800 gal/yr	0.012 tonne/year
14	Trimmer	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	12,000 gal/yr	0.005 tonne/year
15	345 Excavator	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	72,000 gal/yr	0.030 tonne/year
16	966 Loader	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	16,800 gal/yr	0.007 tonne/year
17	988 Loader	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	182,400 gal/yr	0.076 tonne/year
18	D10 Dozer	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	144,000 gal/yr	0.060 tonne/year
19	D-9 Dozer	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	62,400 gal/yr	0.026 tonne/year
20	B-70	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	480,000 gal/yr	0.199 tonne/year
21	16G Motor Grader	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	36,000 gal/yr	0.015 tonne/year
22	Hitachi 1600 Shovel Loader	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	60,000 gal/yr	0.025 tonne/year
23	Compactor	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	21,600 gal/yr	0.009 tonne/year
24	Powder Truck	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	3,360 gal/yr	0.001 tonne/year
25	Drill & Compressor	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	96,000 gal/yr	0.040 tonne/year
26	Zoom Boom	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	7,200 gal/yr	0.003 tonne/year
27	Ape 200-6 Vibratory Hammer	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	96,000 gal/yr	0.040 tonne/year
28	D62-42 Impact Hammer	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	24,000 gal/yr	0.010 tonne/year
29	Steam Unit	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	268,800 gal/yr	0.111 tonne/year
30	Trench	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	33,600 gal/yr	0.014 tonne/year
31	Pump House	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	34,560 gal/yr	0.014 tonne/year
32	300 bbl Tanker & Tractor	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	72,000 gal/yr	0.030 tonne/year
33	Cat 740 Haul Unit	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	76,800 gal/yr	0.032 tonne/year
34	185 Compressor	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	25,920 gal/yr	0.011 tonne/year
35	Welder	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	17,280 gal/yr	0.007 tonne/year
36	75 Ton Crane	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	24,000 gal/yr	0.010 tonne/year
37	130 Ton Crane	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	14,400 gal/yr	0.006 tonne/year
38	220 Ton Crane	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	38,400 gal/yr	0.016 tonne/year
Summer Season					
39	Pickup	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	5,400 gal/yr	0.002 tonne/year
40	Heaters	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	18,000 gal/yr	0.007 tonne/year
41	Light Plants	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	4,320 gal/yr	0.002 tonne/year
42	Office	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	2,700 gal/yr	0.001 tonne/year
43	Envirovac	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	5,400 gal/yr	0.002 tonne/year
44	Break Shack	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	5,400 gal/yr	0.002 tonne/year
45	Fuel Truck	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	4,500 gal/yr	0.002 tonne/year
46	Mechanic Truck	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	4,500 gal/yr	0.002 tonne/year
47	Service Truck	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	4,500 gal/yr	0.002 tonne/year
48	Tire Truck	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	1,800 gal/yr	0.001 tonne/year
49	Bus	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	900 gal/yr	0.000 tonne/year
50	Tractor & Lowboy	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	4,500 gal/yr	0.002 tonne/year
51	Generator	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	21,600 gal/yr	0.009 tonne/year
52	Water Truck	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	27,000 gal/yr	0.011 tonne/year
53	345 Excavator	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	36,000 gal/yr	0.015 tonne/year
54	966 Loader	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	25,200 gal/yr	0.010 tonne/year
55	Trencher	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	5,400 gal/yr	0.002 tonne/year
56	D-9 Dozer	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	70,200 gal/yr	0.029 tonne/year
57	Cat 740 Haul Unit	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	21,600 gal/yr	0.009 tonne/year
58	16G Motor Grader	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	40,500 gal/yr	0.017 tonne/year
59	Compactor	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	32,400 gal/yr	0.013 tonne/year
60	Zoom Boom	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	5,400 gal/yr	0.002 tonne/year
61	185 Compressor	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	25,920 gal/yr	0.011 tonne/year
62	Welder	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	17,280 gal/yr	0.007 tonne/year
63	75 Ton Crane	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	24,000 gal/yr	0.010 tonne/year
64	130 Ton Crane	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	14,400 gal/yr	0.006 tonne/year
			Total Construction CH_4 Emissions		1.120 tonne/year

Table 10b. Point Thomson Unit - Operations Mobile Source Potential CH_4 Emissions

Emission Unit		CH_4 Emission Factor		Total Fuel Usage	Potential CH_4 Emission
No.	Identification	Reference			
1	Pickup trucks	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	10,758 gal/yr	0.004 tonne/year
2	Passenger van	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	1,076 gal/yr	0.000 tonne/year
3	Fire truck	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	807 gal/yr	0.000 tonne/year
4	Ambulance	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	807 gal/yr	0.000 tonne/year
5	Water truck	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	2,152 gal/yr	0.001 tonne/year
6	High pressure injection Tank Truck	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	1,076 gal/yr	0.000 tonne/year
7	Vacuum truck	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	2,152 gal/yr	0.001 tonne/year
8	Crane	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	1,076 gal/yr	0.000 tonne/year
9	Forklift	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	1,345 gal/yr	0.001 tonne/year
10	Gravel grader	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	1,076 gal/yr	0.000 tonne/year
11	Snow blower	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	1,076 gal/yr	0.000 tonne/year
12	Front end loader	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	1,076 gal/yr	0.000 tonne/year
13	Bobcat (skid steer)	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	807 gal/yr	0.000 tonne/year
14	Heavy truck/tractor trailer	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	807 gal/yr	0.000 tonne/year
			Total Operations CH_4 Emissions		0.011 tonne/year

Table 10c. Point Thomson Unit - Drilling Mobile Source Potential CH_4 Emissions

Emission Unit		CH_4 Emission Factor		Total Fuel Usage	Potential CH_4 Emission
No.	Identification	Reference			
Central Pad					
1	Pickup/Light Truck	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	35,502 gal/yr	0.015 tonne/year
2	Bus	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	15,615 gal/yr	0.006 tonne/year
3	Suburban/Van	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	3,227 gal/yr	0.001 tonne/year
4	Loaders	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	11,353 gal/yr	0.005 tonne/year
5	Tractor Trailer/Lowboy	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	3,227 gal/yr	0.001 tonne/year
6	Crane	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	3,227 gal/yr	0.001 tonne/year
7	Generator 40kW	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	0 gal/yr	0.000 tonne/year
8	Small Units	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	7,525 gal/yr	0.003 tonne/year
9	Fuel Truck/Tankers	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	7,268 gal/yr	0.003 tonne/year
10	Compressor 185	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	3,227 gal/yr	0.001 tonne/year
11	Dozers	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	3,227 gal/yr	0.001 tonne/year
12	Graders	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	21,549 gal/yr	0.009 tonne/year
13	Snow Blower	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	2,414 gal/yr	0.001 tonne/year
Deadhorse					
14	Pickup/Light Truck	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	54,866 gal/yr	0.023 tonne/year
15	Loaders	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	3,227 gal/yr	0.001 tonne/year
16	Bus	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	3,227 gal/yr	0.001 tonne/year
17	Suburban/Van	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	3,227 gal/yr	0.001 tonne/year
			Total Drilling CH_4 Emissions		0.075 tonne/year

Notes:

1. Distillate No. 2 default high heat value: 0.138 MMBtu/gallon

Table 11a. Point Thomson Unit - Construction Mobile Source Potential N_2O Emissions

Emission Unit		N_2O Emission Factor		Total Fuel Usage	Potential N_2O Emission
No.	Identification	Reference			
Winter Season					
1	Pickup	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	30,720 gal/yr	0.0025 tonne/year
2	Heaters	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	180,000 gal/yr	0.0149 tonne/year
3	Light Plants	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	28,800 gal/yr	0.0024 tonne/year
4	Office	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	3,600 gal/yr	0.0003 tonne/year
5	Envirovac	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	10,800 gal/yr	0.0009 tonne/year
6	Break Shack	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	7,200 gal/yr	0.0006 tonne/year
7	Fuel Truck	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	12,000 gal/yr	0.0010 tonne/year
8	Mechanic Truck	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	12,000 gal/yr	0.0010 tonne/year
9	Service Truck	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	12,000 gal/yr	0.0010 tonne/year
10	Tire Truck	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	2,400 gal/yr	0.0002 tonne/year
11	Bus	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	4,800 gal/yr	0.0004 tonne/year
12	Tractor & Lowboy	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	24,000 gal/yr	0.0020 tonne/year
13	Generator	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	28,800 gal/yr	0.0024 tonne/year
14	Trimmer	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	12,000 gal/yr	0.0010 tonne/year
15	345 Excavator	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	72,000 gal/yr	0.0060 tonne/year
16	966 Loader	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	16,800 gal/yr	0.0014 tonne/year
17	988 Loader	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	182,400 gal/yr	0.0151 tonne/year
18	D10 Dozer	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	144,000 gal/yr	0.0119 tonne/year
19	D-9 Dozer	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	62,400 gal/yr	0.0052 tonne/year
20	B-70	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	480,000 gal/yr	0.0397 tonne/year
21	16G Motor Grader	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	36,000 gal/yr	0.0030 tonne/year
22	Hitachi 1600 Shovel Loader	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	60,000 gal/yr	0.0050 tonne/year
23	Compactor	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	21,600 gal/yr	0.0018 tonne/year
24	Powder Truck	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	3,360 gal/yr	0.0003 tonne/year
25	Drill & Compressor	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	96,000 gal/yr	0.0079 tonne/year
26	Zoom Boom	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	7,200 gal/yr	0.0006 tonne/year
27	Ape 200-6 Vibratory Hammer	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	96,000 gal/yr	0.0079 tonne/year
28	D62-42 Impact Hammer	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	24,000 gal/yr	0.0020 tonne/year
29	Steam Unit	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	268,800 gal/yr	0.0223 tonne/year
30	Trench	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	33,600 gal/yr	0.0028 tonne/year
31	Pump House	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	34,560 gal/yr	0.0029 tonne/year
32	300 bbl Tanker & Tractor	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	72,000 gal/yr	0.0060 tonne/year
33	Cat 740 Haul Unit	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	76,800 gal/yr	0.0064 tonne/year
34	185 Compressor	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	25,920 gal/yr	0.0021 tonne/year
35	Welder	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	17,280 gal/yr	0.0014 tonne/year
36	75 Ton Crane	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	24,000 gal/yr	0.0020 tonne/year
37	130 Ton Crane	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	14,400 gal/yr	0.0012 tonne/year
38	220 Ton Crane	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	38,400 gal/yr	0.0032 tonne/year
Summer Season					
39	Pickup	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	5,400 gal/yr	0.0004 tonne/year
40	Heaters	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	18,000 gal/yr	0.0015 tonne/year
41	Light Plants	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	4,320 gal/yr	0.0004 tonne/year
42	Office	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	2,700 gal/yr	0.0002 tonne/year
43	Envirovac	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	5,400 gal/yr	0.0004 tonne/year
44	Break Shack	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	5,400 gal/yr	0.0004 tonne/year
45	Fuel Truck	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	4,500 gal/yr	0.0004 tonne/year
46	Mechanic Truck	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	4,500 gal/yr	0.0004 tonne/year
47	Service Truck	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	4,500 gal/yr	0.0004 tonne/year
48	Tire Truck	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	1,800 gal/yr	0.0001 tonne/year
49	Bus	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	900 gal/yr	0.0001 tonne/year
50	Tractor & Lowboy	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	4,500 gal/yr	0.0004 tonne/year
51	Generator	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	21,600 gal/yr	0.0018 tonne/year
52	Water Truck	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	27,000 gal/yr	0.0022 tonne/year
53	345 Excavator	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	36,000 gal/yr	0.0030 tonne/year
54	966 Loader	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	25,200 gal/yr	0.0021 tonne/year
55	Trencher	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	5,400 gal/yr	0.0004 tonne/year
56	D-9 Dozer	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	70,200 gal/yr	0.0058 tonne/year
57	Cat 740 Haul Unit	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	21,600 gal/yr	0.0018 tonne/year
58	16G Motor Grader	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	40,500 gal/yr	0.0034 tonne/year
59	Compactor	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	32,400 gal/yr	0.0027 tonne/year
60	Zoom Boom	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	5,400 gal/yr	0.0004 tonne/year
61	185 Compressor	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	25,920 gal/yr	0.0021 tonne/year
62	Welder	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	17,280 gal/yr	0.0014 tonne/year
63	75 Ton Crane	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	24,000 gal/yr	0.0020 tonne/year
64	130 Ton Crane	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	14,400 gal/yr	0.0012 tonne/year
				Total Construction N_2O Emissions	0.2240 tonne/year

Table 11b. Point Thomson Unit - Operations Mobile Source Potential N_2O Emissions

Emission Unit		N_2O Emission Factor		Total Fuel Usage	Potential N_2O Emission
No.	Identification	Reference			
1	Pickup trucks	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	10,758 gal/yr	0.0009 tonne/year
2	Passenger van	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	1,076 gal/yr	0.0001 tonne/year
3	Fire truck	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	807 gal/yr	0.0001 tonne/year
4	Ambulance	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	807 gal/yr	0.0001 tonne/year
5	Water truck	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	2,152 gal/yr	0.0002 tonne/year
6	High pressure injection Tank Truck	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	1,076 gal/yr	0.0001 tonne/year
7	Vacuum truck	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	2,152 gal/yr	0.0002 tonne/year
8	Crane	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	1,076 gal/yr	0.0001 tonne/year
9	Forklift	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	1,345 gal/yr	0.0001 tonne/year
10	Gravel grader	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	1,076 gal/yr	0.0001 tonne/year
11	Snow blower	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	1,076 gal/yr	0.0001 tonne/year
12	Front end loader	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	1,076 gal/yr	0.0001 tonne/year
13	Bobcat (skid steer)	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	807 gal/yr	0.0001 tonne/year
14	Heavy truck/tractor trailer	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	807 gal/yr	0.0001 tonne/year
				Total Operations N_2O Emissions	0.0022 tonne/year

Table 11c. Point Thomson Unit - Drilling Mobile Source Potential N_2O Emissions

Emission Unit		N_2O Emission Factor		Total Fuel Usage	Potential N_2O Emission
No.	Identification	Reference			
Central Pad					
1	Pickup/Light Truck	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	35,502 gal/yr	0.0029 tonne/year
2	Bus	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	15,615 gal/yr	0.0013 tonne/year
3	Suburban/Van	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	3,227 gal/yr	0.0003 tonne/year
4	Loaders	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	11,353 gal/yr	0.0009 tonne/year
5	Tractor Trailer/Lowboy	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	3,227 gal/yr	0.0003 tonne/year
6	Crane	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	3,227 gal/yr	0.0003 tonne/year
7	Generator 40kW	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	0 gal/yr	0.0000 tonne/year
8	Small Units	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	7,525 gal/yr	0.0006 tonne/year
9	Fuel Truck/Tankers	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	7,268 gal/yr	0.0006 tonne/year
10	Compressor 185	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	3,227 gal/yr	0.0003 tonne/year
11	Dozers	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	3,227 gal/yr	0.0003 tonne/year
12	Graders	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	21,549 gal/yr	0.0018 tonne/year
13	Snow Blower	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	2,414 gal/yr	0.0002 tonne/year
Deadhorse					
14	Pickup/Light Truck	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	54,866 gal/yr	0.0045 tonne/year
15	Loaders	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	3,227 gal/yr	0.0003 tonne/year
16	Bus	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	3,227 gal/yr	0.0003 tonne/year
17	Suburban/Van	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	3,227 gal/yr	0.0003 tonne/year
				Total Drilling N_2O Emissions	0.0151 tonne/year

Notes:

1. Distillate No. 2 default high heat value: 0.138 MMBtu/gallon

Attachment A-7
Gas Expansion Project – Future Development
Criteria Pollutant, Greenhouse Gas, and Hazardous Air Pollutant Emissions

Table 1.a. Potential Emissions Summary
Point Thomson Unit (PTU) Gas Expansion - Future Development

Pollutant	Stationary Emission Units Potential Emissions	Nonroad Engines Potential Emissions	Total Potential Emissions
NO_x	408.3 tpy	69.9 tpy	478.2 tpy
CO	250.9 tpy	46.9 tpy	297.8 tpy
PM_{10}	36.1 tpy	4.2 tpy	40.3 tpy
$PM_{2.5}$	35.7 tpy	4.2 tpy	39.9 tpy
VOC	136.6 tpy	11.8 tpy	148.4 tpy
SO_2	83.6 tpy	0.1 tpy	83.6 tpy
Pb	0.04 tpy	0.00 tpy	0.04 tpy

Table 1.b. Potential Greenhouse Gas Emissions Summary
Point Thomson Unit (PTU) Gas Expansion - Future Development

Pollutant	Stationary Emission Units Potential Emissions	Nonroad Engines Potential Emissions	Total Potential Emissions
CO_2	462,332 tonne/year	4,857 tonne/year	467,189 tonne/year
CH_4	10.091 tonne/year	0.197 tonne/year	10.288 tonne/year
N_2O	1.2158 tonne/year	0.0394 tonne/year	1.2552 tonne/year
CO_2e	462,946 tonne/year	4,874 tonne/year	467,820 tonne/year

Table 1.c. Potential HAPs Emissions Summary
Point Thomson Unit (PTU) Gas Expansion - Future Development

Pollutant	Stationary Emission Units Potential Emissions	Nonroad Engines Potential Emissions	Total Potential Emissions
Total HAPs	7.8 tpy	0.1 tpy	7.9 tpy
Hydrochloric acid (HCl)	3.5 tpy	0.0 tpy	3.5 tpy
Formaldehyde	2.6 tpy	0.04 tpy	2.7 tpy

Notes:
[1] Emissions are based on maximum allowable operation and permit operating limits, where applicable.
[2] Regulated air pollutant calculations based on AP-42 emission factors, manufacturer data, and mass balances as shown in accompanying spreadsh
[3] Total VOC emissions are reduced by the amount of VOC HAP emissions.
[4] GHG emissions are defined as CO_2e emissions. CO_2e is the summation of CO_2, CH_4, and N_2O, applying the global warming potential for each poll
[5] See individual emissions unit category HAP emissions calculations for details on methodology and assumptions (electronic copy).

Table 2. Emission Unit Inventory
Point Thomson Unit (PTU) Gas Expansion - Future Development

Emission Unit			Fuel	Allowable	Maximum Fuel	Maximum
ID	Description	Make/Model	Type	Operation	Consumption	Capacity
96	Hot Oil Unit Heater	SuperTherm SPD-6	ULSD	8,760 hr/yr	58.4 gal/hr	8.0 MMBtu/hr
101	Fuel Gas-fired Turbine	Solar 70 Taurus Turbine	Fuel Gas	8,760 hr/yr	87.09 MMBtu/hr	7,520 kW
102	Fuel Gas-fired Turbine	Solar 70 Taurus Turbine	Fuel Gas	8,760 hr/yr	87.09 MMBtu/hr	7,520 kW
103	Dual Fuel-fired Turbine	Solar 70 Taurus Turbine	Fuel Gas	8,760 hr/yr	87.09 MMBtu/hr	7,520 kW
	Dual Fuel-fired Turbine	Solar 70 Taurus Turbine	ULSD	2,500 hr/yr	82.52 MMBtu/hr	7,520 kW
104	Dual Fuel-fired Turbine	Solar 70 Taurus Turbine	Fuel Gas	8,760 hr/yr	87.09 MMBtu/hr	7,520 kW
	Dual Fuel-fired Turbine	Solar 70 Taurus Turbine	ULSD	2,500 hr/yr	82.52 MMBtu/hr	7,520 kW
101-104	Fuel Gas and Dual Fuel-fired Turbine (out of SoLoNOx, combined)	Solar 70 Taurus Turbine	Fuel Gas	2,000 hr/yr	42.27 MMBtu/hr	N/A
103-104	Dual Fuel-fired Turbine (out of SoLoNOx mode, combined)	Solar 70 Taurus Turbine	ULSD	350 hr/yr	56.07 MMBtu/hr	N/A
107	Standby Camp Generator Engine No. 1	Caterpillar 3516	ULSD	500 hr/yr	127.0 gal/hr	2,695 hp
108	Standby Camp Generator Engine No. 2	Caterpillar 3516	ULSD	500 hr/yr	127.0 gal/hr	2,695 hp
109	Standby Camp Generator Engine No. 3	Caterpillar 3516	ULSD	500 hr/yr	127.0 gal/hr	2,695 hp
110	Fine Water Mist Pump Engine No. 1	Cummins QSX15	ULSD	500 hr/yr	29.6 gal/hr	610 hp
111	Fine Water Mist Pump Engine No. 2	Cummins QSX15	ULSD	500 hr/yr	29.6 gal/hr	610 hp
112	HP Flare	KMI 12-4-VS HP Flare Tip	Gas	8,760 hr/yr	N/A	130 MMscf/yr
113	LP Flare	AZDAIR AZ-30 LP Flare Tip	Gas	8,760 hr/yr	N/A	20 MMscf/yr
114	Airstrip Generator Engine	Caterpillar C15	ULSD	500 hr/yr	29.0 gal/hr	563 hp
115	ACRV Heater No. 1	Modine POR145	ULSD	8,760 hr/yr	1.25 gal/hr	0.175 MMBtu/hr
116	ACRV Heater No. 2	Modine POR145	ULSD	8,760 hr/yr	1.25 gal/hr	0.175 MMBtu/hr
117	Hot Oil Unit Engine	Caterpillar D353	ULSD	8,760 hr/yr	19.2 gal/hr	375 hp
118	Air Compressor Generator Engine	TBD	ULSD	8,760 hr/yr	3.1 gal/hr	61 hp
119	Light Plant Generator Engine No. 1	TBD	ULSD	8,760 hr/yr	1.4 gal/hr	28 hp
120	Light Plant Generator Engine No. 2	TBD	ULSD	8,760 hr/yr	1.4 gal/hr	28 hp
121	Light Plant Generator Engine No. 3	TBD	ULSD	8,760 hr/yr	1.4 gal/hr	28 hp
122	Light Plant Generator Engine No. 4	TBD	ULSD	8,760 hr/yr	1.4 gal/hr	28 hp
123	Portable Moving Generator Engine No. 1	TBD	ULSD	8,760 hr/yr	1.6 gal/hr	32 hp
124	Portable Moving Generator Engine No. 2	TBD	ULSD	8,760 hr/yr	1.6 gal/hr	32 hp
125	Portable Moving Generator Engine No. 3	TBD	ULSD	8,760 hr/yr	1.6 gal/hr	32 hp
126	Freeze Protection Generator Engine No. 1	TBD	ULSD	8,760 hr/yr	5.1 gal/hr	99 hp
127	Freeze Protection Generator Engine No. 2	TBD	ULSD	8,760 hr/yr	5.1 gal/hr	99 hp
128	Freeze Protection Generator Engine No. 3	TBD	ULSD	8,760 hr/yr	5.1 gal/hr	99 hp
129	Ground Heater Engine	Kubota Z482	ULSD	8,760 hr/yr	0.69 gal/hr	11 hp
130	Ground Heater	Thawzall TCH250	ULSD	8,760 hr/yr	2.0 gal/hr	0.28 MMBtu/hr
131	Portable Heater No. 1	TBD	ULSD	8,760 hr/yr	7.3 gal/hr	1.0 MMBtu/hr
132	Portable Heater No. 2	TBD	ULSD	8,760 hr/yr	7.3 gal/hr	1.0 MMBtu/hr
133	Portable Heater No. 3	TBD	ULSD	8,760 hr/yr	7.3 gal/hr	1.0 MMBtu/hr
134	Portable Heater No. 4	TBD	ULSD	8,760 hr/yr	7.3 gal/hr	1.0 MMBtu/hr
135	Portable Heater No. 5	TBD	ULSD	8,760 hr/yr	7.3 gal/hr	1.0 MMBtu/hr
136	Portable Heater No. 6	TBD	ULSD	8,760 hr/yr	7.3 gal/hr	1.0 MMBtu/hr
137	Portable Heater No. 7	TBD	ULSD	8,760 hr/yr	7.3 gal/hr	1.0 MMBtu/hr
138	Portable Heater No. 8	TBD	ULSD	8,760 hr/yr	7.3 gal/hr	1.0 MMBtu/hr
139	Portable Heater Engine No. 1	TBD	ULSD	8,760 hr/yr	0.7 gal/hr	17 hp
140	Portable Heater Engine No. 2	TBD	ULSD	8,760 hr/yr	0.7 gal/hr	17 hp
141	Portable Heater Engine No. 3	TBD	ULSD	8,760 hr/yr	0.7 gal/hr	17 hp
142	Portable Heater Engine No. 4	TBD	ULSD	8,760 hr/yr	0.7 gal/hr	17 hp
143	Portable Heater Engine No. 5	TBD	ULSD	8,760 hr/yr	0.7 gal/hr	17 hp
144	Portable Heater Engine No. 6	TBD	ULSD	8,760 hr/yr	0.7 gal/hr	17 hp
145	Portable Heater Engine No. 7	TBD	ULSD	8,760 hr/yr	0.7 gal/hr	17 hp
146	Portable Heater Engine No. 8	TBD	ULSD	8,760 hr/yr	0.7 gal/hr	17 hp
147	Used Oil-fired Heater	TBD	Used Oil/ULSD	8,760 hr/yr	3.6 gal/hr	0.5 MMBtu/hr
148	Production Support Engine	TBD	ULSD	8,760 hr/yr	20.4 gal/hr	400 hp
149	Refrigeration Unit (Reefer) Engine	Kubota V2203L	ULSD	8,760 hr/yr	1.3 gal/hr	24.8 hp
150	Fuel Gas-fired Heater	TBD	Fuel Gas	8,760 hr/yr	0.08 MMscf/hr	80.5 MMBtu/hr
151	Gas-fired TEG Regeneration Heater	TBD	Fuel Gas	8,760 hr/yr	0.004 MMscf/hr	4.3 MMBtu/hr
152	Booster Compressor Gas Turbine Drive No. 1	TBD (Solar Titan 250)	Fuel Gas	8,760 hr/yr	243.9 MMBtu/hr	28,110 hp
153	Booster Compressor Gas Turbine Drive No. 2	TBD (Solar Titan 250)	Fuel Gas	8,760 hr/yr	243.9 MMBtu/hr	28,110 hp
246	Waste Incinerator	Ketek CY100AD	Trash/ULSD	8,760 hr/yr	25.0 gal/hr	250 lb/hr

Notes:
[1] Maximum heat input was calculated using heat output ratings based on 85 percent unit efficiency for EUs 150 and 151

Table 3. Potential to Emit Calculations - Oxides of Nitrogen (NO_x) Emissions
Point Thomson Unit (PTU) Gas Expansion - Future Developmen

Emission Unit			Fuel	Maximum Fuel	Factor	NO_x Emission	Nonroad	Not-to-Exceed	Maximum Annual	Annual NO_x
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Factor	Operation	Emissions
96	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	5.1 tpy
101	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Vendor Data	5.09 lb/hr	N/A	N/A	8,760 hr/yr	22.3 tpy
102	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Vendor Data	5.09 lb/hr	N/A	N/A	6,760 hr/yr	17.2 tpy
103	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Vendor Data	8.49 lb/hr	N/A	N/A	5,910 hr/yr	25.1 tpy
	Dual Fuel-fired Turbine		ULSD	82.52 MMBtu/hr	Vendor Data	31.5 lb/hr	N/A	N/A	2,500 hr/yr	39.4 tpy
104	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Vendor Data	8.49 lb/hr	N/A	N/A	6,260 hr/yr	26.6 tpy
	Dual Fuel-fired Turbine		ULSD	82.52 MMBtu/hr	Vendor Data	31.5 lb/hr	N/A	N/A	2,500 hr/yr	39.4 tpy
101-104	Fuel Gas and Dual Fuel-fired Turbine (out of SoLoNOx, combined)	N/A	Fuel Gas	42.27 MMBtu/hr	Vendor Data	9.40 lb/hr	N/A	N/A	2,000 hr/yr	9.4 tpy
103-104	Dual Fuel-fired Turbine (out of SoLoNOx mode, combined)	N/A	ULSD	56.07 MMBtu/hr	Vendor Data	26.4 lb/hr	N/A	N/A	350 hr/yr	4.6 tpy
107	Standby Camp Generator Engine No. 1	2,695 hp	ULSD	127.0 gal/hr	Vendor Data	35.43 lb/hr	N/A	N/A	500 hr/yr	8.9 tpy
108	Standby Camp Generator Engine No. 2	2,695 hp	ULSD	127.0 gal/hr	Vendor Data	35.43 lb/hr	N/A	N/A	500 hr/yr	8.9 tpy
109	Standby Camp Generator Engine No. 3	2,695 hp	ULSD	127.0 gal/hr	Vendor Data	35.43 lb/hr	N/A	N/A	500 hr/yr	8.9 tpy
110	Fine Water Mist Pump Engine No. 1	610 hp	ULSD	29.6 gal/hr	Vendor Data	2.565 g/bhp-hr	N/A	N/A	500 hr/yr	0.9 tpy
111	Fine Water Mist Pump Engine No. 2	610 hp	ULSD	29.6 gal/hr	Vendor Data	2.565 g/bhp-hr	N/A	N/A	500 hr/yr	0.9 tpy
112	HP Flare	130 MMscf/yr	Gas	N/A	AP-42 Table 13.5-1	0.068 lb/MMBtu	N/A	N/A	8,760 hr/yr	4.5 tpy
113	LP Flare	20 MMscf/yr	Gas	N/A	AP-42 Table 13.5-1	0.068 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.7 tpy
114	Airstrip Generator Engine	563 hp	ULSD	29.0 gal/hr	Vendor Data	4.86 lb/hr	N/A	N/A	500 hr/yr	1.2 tpy
115	ACRV Heater No. 1	0.175 MMBtu/hr	ULSD	1.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
116	ACRV Heater No. 2	0.175 MMBtu/hr	ULSD	1.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
117	Hot Oil Unit Engine	375 hp	ULSD	19.2 gal/hr	40 CFR Part 89 Tier 2	4.8 g/hp-hr	NRE	1.25	8,760 hr/yr	21.7 tpy
118	Air Compressor Generator Engine	61 hp	ULSD	3.1 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	4.1 tpy
119	Light Plant Generator Engine No. 1	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	1.9 tpy
120	Light Plant Generator Engine No. 2	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	1.9 tpy
121	Light Plant Generator Engine No. 3	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	1.9 tpy
122	Light Plant Generator Engine No. 4	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	1.9 tpy
123	Portable Moving Generator Engine No. 1	32 hp	ULSD	1.6 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	2.2 tpy
124	Portable Moving Generator Engine No. 2	32 hp	ULSD	1.6 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	2.2 tpy
125	Portable Moving Generator Engine No. 3	32 hp	ULSD	1.6 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	2.2 tpy
126	Freeze Protection Generator Engine No. 1	99 hp	ULSD	5.1 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	6.7 tpy
127	Freeze Protection Generator Engine No. 2	99 hp	ULSD	5.1 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	6.7 tpy
128	Freeze Protection Generator Engine No. 3	99 hp	ULSD	5.1 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	6.7 tpy
129	Ground Heater Engine	11 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.7 tpy
130	Ground Heater	0.28 MMBtu/hr	ULSD	2.0 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
131	Portable Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
132	Portable Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
133	Portable Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
134	Portable Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
135	Portable Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
136	Portable Heater No. 6	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
137	Portable Heater No. 7	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
138	Portable Heater No. 8	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
139	Portable Heater Engine No. 1	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	1.1 tpy
140	Portable Heater Engine No. 2	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	1.1 tpy
141	Portable Heater Engine No. 3	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	1.1 tpy
142	Portable Heater Engine No. 4	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	1.1 tpy
143	Portable Heater Engine No. 5	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	1.1 tpy
144	Portable Heater Engine No. 6	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	1.1 tpy
145	Portable Heater Engine No. 7	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	1.1 tpy
146	Portable Heater Engine No. 8	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	1.1 tpy
147	Used Oil-fired Heater	0.5 MMBtu/hr	Used Oil/ULSD	3.6 gal/hr	AP-42, Table 1.11-2	0.016 lb/gal	N/A	N/A	8,760 hr/yr	0.3 tpy
148	Production Support Engine	400 hp	ULSD	20.4 gal/hr	NSPS Subpart IIII Tier 4i	3.0 g/hp-hr	N/A	1.25	8,760 hr/yr	14.5 tpy
149	Refrigeration Unit (Reefer) Engine	24.8 hp	ULSD	1.3 gal/hr	CARB	5.1 g/hp-hr	N/A	1.25	8,760 hr/yr	1.5 tpy
150	Fuel Gas-fired Heater	80.5 MMBtu/hr	Fuel Gas	0.08 MMscf/hr	AP-42, Table 1.4-1	100.0 lb/MMscf	N/A	N/A	8,760 hr/yr	34.4 tpy
151	Gas-fired TEG Regeneration Heater	4.3 MMBtu/hr	Fuel Gas	0.004 MMscf/hr	AP-42, Table 1.4-1	100.0 lb/MMscf	N/A	N/A	8,760 hr/yr	1.8 tpy
152	Booster Compressor Gas Turbine Drive No. 1	28,110 hp	Fuel Gas	243.9 MMBtu/hr	Vendor Data	5.09 lb/hr	N/A	N/A	8,760 hr/yr	62.4 tpy
153	Booster Compressor Gas Turbine Drive No. 2	28,110 hp	Fuel Gas	243.9 MMBtu/hr	Vendor Data	5.09 lb/hr	N/A	N/A	8,760 hr/yr	62.4 tpy
246	Waste Incinerator	250 lb/hr	Trash/ULSD	25.0 gal/hr	AP-42, Table 2.1-12	3.0 lb/ton	N/A	N/A	8,760 hr/yr	1.6 tpy
									Total Potential NO_x Emissions Excluding Nonroad Engines	**408.3 tpy**
									Total Potential NO_x Emissions for Nonroad Engines	**69.9 tpy**
									Total Potential NO_x Emissions for All Emission Units	**478.2 tpy**

Notes:
[1] Diesel heating value 137,000 Btu/gal
[2] Fuel factor for crude, residual, and distillate oi 9,190 dscf/MMBtu
[3] Fuel gas heat content: 1,026 Btu/scf
[4] NRE = Nonroad Engine
[5] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.10
[6] NSPS Subpart IIII emission standard for fire water pump engines
[7] NSPS Subpart IIII NO_x + NMOC emission standard for the fire water pump engines, Tier 2 engines, Tier 3 engines, and Tier 4 interim engines less than 750 hp.
[8] Inlet air heating on combustion turbines
[9] Municipal solid waste has a default high heat value of 9.95 MMBtu/to
[10] Fuel factor for waste is 9,570 dscf/MMBtu
[11] 40 CFR Part 89 or 1039 emission factor based on nonroad engine model year and power rati
[12] NTE factor of 1.25 or 1.50 was added to all emission units using a Tier 1 through 4f emission fact

Table 4. Potential to Emit Calculations - Carbon Monoxide (CO) Emissions
Point Thomson Unit (PTU) Gas Expansion - Future Developmen

Emission Unit			Fuel	Maximum Fuel	Factor	CO Emission	Nonroad	Not-to-Exceed	Maximum Annual	Annual CO
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Factor	Operation	Emissions
96	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	1.3 tpy
101	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Vendor Data	0.52 lb/hr	N/A	N/A	8,760 hr/yr	2.3 tpy
102	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Vendor Data	0.52 lb/hr	N/A	N/A	6,760 hr/yr	1.8 tpy
103	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Vendor Data	1.03 lb/hr	N/A	N/A	8,410 hr/yr	4.3 tpy
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	Vendor Data	1.0 lb/hr	N/A	N/A	0 hr/yr	0.0 tpy
104	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Vendor Data	1.03 lb/hr	N/A	N/A	8,760 hr/yr	4.5 tpy
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	Vendor Data	1.0 lb/hr	N/A	N/A	0 hr/yr	0.0 tpy
101-104	Fuel Gas and Dual Fuel-fired Turbine (out of SoLoNOx, combined)	N/A	Fuel Gas	42.27 MMBtu/hr	Vendor Data	129 lb/hr	N/A	N/A	2,000 hr/yr	129.0 tpy
103-104	Dual Fuel-fired Turbine (out of SoLoNOx mode, combined)	N/A	ULSD	56.07 MMBtu/hr	Vendor Data	94.5 lb/hr	N/A	N/A	350 hr/yr	16.5 tpy
107	Standby Camp Generator Engine No. 1	2,695 hp	ULSD	127.0 gal/hr	Vendor Data	3.98 lb/hr	N/A	N/A	500 hr/yr	1.0 tpy
108	Standby Camp Generator Engine No. 2	2,695 hp	ULSD	127.0 gal/hr	Vendor Data	3.98 lb/hr	N/A	N/A	500 hr/yr	1.0 tpy
109	Standby Camp Generator Engine No. 3	2,695 hp	ULSD	127.0 gal/hr	Vendor Data	3.98 lb/hr	N/A	N/A	500 hr/yr	1.0 tpy
110	Fine Water Mist Pump Engine No. 1	610 hp	ULSD	29.6 gal/hr	Vendor Data	0.671 g/hp-hr	N/A	N/A	500 hr/yr	0.2 tpy
111	Fine Water Mist Pump Engine No. 2	610 hp	ULSD	29.6 gal/hr	Vendor Data	0.671 g/hp-hr	N/A	N/A	500 hr/yr	0.2 tpy
112	HP Flare	130 MMscf/yr	Gas	N/A	AP-42 Table 13.5-1	0.31 lb/MMBtu	N/A	N/A	8,760 hr/yr	20.7 tpy
113	LP Flare	20 MMscf/yr	Gas	N/A	AP-42 Table 13.5-1	0.31 lb/MMBtu	N/A	N/A	8,760 hr/yr	3.2 tpy
114	Airstrip Generator Engine	563 hp	ULSD	29.0 gal/hr	Vendor Data	3.34 lb/hr	N/A	N/A	500 hr/yr	0.8 tpy
115	ACRV Heater No. 1	0.175 MMBtu/hr	ULSD	1.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.03 tpy
116	ACRV Heater No. 2	0.175 MMBtu/hr	ULSD	1.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.03 tpy
117	Hot Oil Unit Engine	375 hp	ULSD	19.2 gal/hr	40 CFR Part 89 Tier 2	2.6 g/hp-hr	NRE	1.25	8,760 hr/yr	11.8 tpy
118	Air Compressor Generator Engine	61 hp	ULSD	3.1 gal/hr	40 CFR Part 89 Tier 2	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	2.7 tpy
119	Light Plant Generator Engine No.	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	4.1 g/hp-hr	NRE	1.25	8,760 hr/yr	1.4 tpy
120	Light Plant Generator Engine No. 2	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	4.1 g/hp-hr	NRE	1.25	8,760 hr/yr	1.4 tpy
121	Light Plant Generator Engine No. 3	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	4.1 g/hp-hr	NRE	1.25	8,760 hr/yr	1.4 tpy
122	Light Plant Generator Engine No. 4	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	4.1 g/hp-hr	NRE	1.25	8,760 hr/yr	1.4 tpy
123	Portable Moving Generator Engine No. 1	32 hp	ULSD	1.6 gal/hr	40 CFR Part 89 Tier 2	4.1 g/hp-hr	NRE	1.25	8,760 hr/yr	1.6 tpy
124	Portable Moving Generator Engine No. 2	32 hp	ULSD	1.6 gal/hr	40 CFR Part 89 Tier 2	4.1 g/hp-hr	NRE	1.25	8,760 hr/yr	1.6 tpy
125	Portable Moving Generator Engine No. 3	32 hp	ULSD	1.6 gal/hr	40 CFR Part 89 Tier 2	4.1 g/hp-hr	NRE	1.25	8,760 hr/yr	1.6 tpy
126	Freeze Protection Generator Engine No. 1	99 hp	ULSD	5.1 gal/hr	40 CFR Part 89 Tier 2	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	4.4 tpy
127	Freeze Protection Generator Engine No. 2	99 hp	ULSD	5.1 gal/hr	40 CFR Part 89 Tier 2	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	4.4 tpy
128	Freeze Protection Generator Engine No. 3	99 hp	ULSD	5.1 gal/hr	40 CFR Part 89 Tier 2	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	4.4 tpy
129	Ground Heater Engine	10.9 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	6.0 g/hp-hr	NRE	1.25	8,760 hr/yr	0.8 tpy
130	Ground Heater	0.28 MMBtu/hr	ULSD	2.0 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.04 tpy
131	Portable Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
132	Portable Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
133	Portable Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
134	Portable Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
135	Portable Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
136	Portable Heater No. 6	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
137	Portable Heater No. 7	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
138	Portable Heater No. 8	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
139	Portable Heater Engine No. 1	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	4.9 g/hp-hr	NRE	1.25	8,760 hr/yr	1.0 tpy
140	Portable Heater Engine No. 2	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	4.9 g/hp-hr	NRE	1.25	8,760 hr/yr	1.0 tpy
141	Portable Heater Engine No. 3	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	4.9 g/hp-hr	NRE	1.25	8,760 hr/yr	1.0 tpy
142	Portable Heater Engine No. 4	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	4.9 g/hp-hr	NRE	1.25	8,760 hr/yr	1.0 tpy
143	Portable Heater Engine No. 5	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	4.9 g/hp-hr	NRE	1.25	8,760 hr/yr	1.0 tpy
144	Portable Heater Engine No. 6	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	4.9 g/hp-hr	NRE	1.25	8,760 hr/yr	1.0 tpy
145	Portable Heater Engine No. 7	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	4.9 g/hp-hr	NRE	1.25	8,760 hr/yr	1.0 tpy
146	Portable Heater Engine No. 8	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	4.9 g/hp-hr	NRE	1.25	8,760 hr/yr	1.0 tpy
147	Used Oil-fired Heater	0.5 MMBtu/hr	Used Oil/ULSD	3.6 gal/hr	AP-42, Table 1.11-2	0.0021 lb/gal	N/A	N/A	8,760 hr/yr	0.03 tpy
148	Production Support Engine	400 hp	ULSD	20.4 gal/hr	NSPS Subpart IIII Tier 4i	2.6 g/hp-hr	N/A	1.25	8,760 hr/yr	12.6 tpy
149	Refrigeration Unit (Reefer) Engine	24.8 hp	ULSD	1.3 gal/hr	CARB	1.6 g/hp-hr	N/A	1.25	8,760 hr/yr	0.5 tpy
150	Fuel Gas-fired Heater	80.5 MMBtu/hr	Fuel Gas	0.08 MMscf/hr	AP-42, Table 1.4-1	84.0 lb/MMscf	N/A	N/A	8,760 hr/yr	28.9 tpy
151	Gas-fired TEG Regeneration Heater	4.3 MMBtu/hr	Fuel Gas	0.004 MMscf/hr	AP-42, Table 1.4-1	84.0 lb/MMscf	N/A	N/A	8,760 hr/yr	1.5 tpy
152	Booster Compressor Gas Turbine Drive No. 1	28,110 hp	Fuel Gas	243.9 MMBtu/hr	Vendor Data	0.52 lb/hr	N/A	N/A	8,760 hr/yr	6.4 tpy
153	Booster Compressor Gas Turbine Drive No. 2	28,110 hp	Fuel Gas	243.9 MMBtu/hr	Vendor Data	0.52 lb/hr	N/A	N/A	8,760 hr/yr	6.4 tpy
246	Waste Incinerator	250 lb/hr	Trash/ULSD	25.0 gal/hr	AP-42, Table 2.1-12	10 lb/ton	N/A	N/A	8,760 hr/yr	5.5 tpy
									Total Potential CO Emissions Excluding Nonroad Engines	**250.9 tpy**
									Total Potential CO Emissions for Nonroad Engines	**46.9 tpy**
									Total Potential CO Emissions for All Emission Units	**297.8 tpy**

Notes:
[1] Diesel heating value 137,000 Btu/gal
[2] Fuel gas heat content: 1,026 Btu/scf
[3] NRE = Nonroad Engine
[4] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)
[5] Inlet air heating on combustion turbines
[6] Each turbine has catalytic oxidation which controls 90 percent of CO emissions, while in SoLoNOx mo
[7] Catalytic oxidation controls 85 percent of potential out of SoLoNOx mode emissio
[8] Higher potential CO emissions result from dual fired turbines firing fuel gas than ULSD in SoLoNOx mod
[9] Municipal solid waste has a default high heat value of 9.95 MMBtu/to
[10] Fuel factor for waste is 9,570 dscf/MMBtu
[11] 40 CFR Part 89 or 1039 emission factor based on nonroad engine model year and power rati
[12] NTE factor of 1.25 was added to all emission units using a Tier 1 through 4f emission fact

Table 5. Potential to Emit Calculations - Particulate Matter (PM) Emissions
Point Thomson Unit (PTU) Gas Expansion - Future Development

Emission Unit ID	Description	Rating/Capacity	Fuel Type	Maximum Fuel Consumption	Factor Reference	PM_{10} Emission Factor	Nonroad Engine	Not-to-Exceed Factor	Maximum Annual Operation	Annual PM_{10} Emissions
96	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	AP-42, Table 1.3-1	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
101	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	N/A	N/A	8,760 hr/yr	2.5 tpy
102	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	N/A	N/A	8,760 hr/yr	2.5 tpy
103	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	N/A	N/A	6,260 hr/yr	1.8 tpy
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	AP-42 Table 3.1-2a	0.012 lb/MMBtu	N/A	N/A	2,500 hr/yr	1.2 tpy
104	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	N/A	N/A	6,260 hr/yr	1.8 tpy
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	AP-42 Table 3.1-2a	0.012 lb/MMBtu	N/A	N/A	2,500 hr/yr	1.2 tpy
101-104	Fuel Gas and Dual Fuel-fired Turbine (out of SoLoNOx, combined)	N/A	Fuel Gas	42.27 MMBtu/hr	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	N/A	N/A	0 hr/yr	0.0 tpy
103-104	Dual Fuel-fired Turbine (out of SoLoNOx mode, combined)	N/A	ULSD	56.07 MMBtu/hr	AP-42 Table 3.1-2a	0.012 lb/MMBtu	N/A	N/A	0 hr/yr	0.0 tpy
107	Standby Camp Generator Engine No. 1	2,695 hp	ULSD	127.0 gal/hr	Vendor Data	0.56 lb/hr	N/A	N/A	500 hr/yr	0.1 tpy
108	Standby Camp Generator Engine No. 2	2,695 hp	ULSD	127.0 gal/hr	Vendor Data	0.56 lb/hr	N/A	N/A	500 hr/yr	0.1 tpy
109	Standby Camp Generator Engine No. 3	2,695 hp	ULSD	127.0 gal/hr	Vendor Data	0.56 lb/hr	N/A	N/A	500 hr/yr	0.1 tpy
110	Fine Water Mist Pump Engine No. 1	610 hp	ULSD	29.6 gal/hr	Vendor Data	0.078 g/bhp-hr	N/A	N/A	500 hr/yr	0.03 tpy
111	Fine Water Mist Pump Engine No. 2	610 hp	ULSD	29.6 gal/hr	Vendor Data	0.078 g/bhp-hr	N/A	N/A	500 hr/yr	0.03 tpy
112	HP Flare	130 MMscf/yr	Gas	N/A	AP-42 Table 13.5-1	0.0264 lb/MMBtu	N/A	N/A	8,760 hr/yr	1.8 tpy
113	LP Flare	20 MMscf/yr	Gas	N/A	AP-42 Table 13.5-1	0.0264 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.3 tpy
114	Airstrip Generator Engine	563 hp	ULSD	29.0 gal/hr	Vendor Data	0.12 lb/hr	N/A	N/A	500 hr/yr	0.03 tpy
115	ACRV Heater No. 1	0.175 MMBtu/hr	ULSD	1.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
116	ACRV Heater No. 2	0.175 MMBtu/hr	ULSD	1.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
117	Hot Oil Unit Engine	375 hp	ULSD	19.2 gal/hr	40 CFR Part 89 Tier 2	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.7 tpy
118	Air Compressor Generator Engine	61 hp	ULSD	3.1 gal/hr	40 CFR Part 89 Tier 2	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
119	Light Plant Generator Engine No. 1	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
120	Light Plant Generator Engine No. 2	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
121	Light Plant Generator Engine No. 3	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
122	Light Plant Generator Engine No. 4	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
123	Portable Moving Generator Engine No. 1	32 hp	ULSD	1.6 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
124	Portable Moving Generator Engine No. 2	32 hp	ULSD	1.6 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
125	Portable Moving Generator Engine No. 3	32 hp	ULSD	1.6 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
126	Freeze Protection Generator Engine No. 1	99 hp	ULSD	5.1 gal/hr	40 CFR Part 89 Tier 2	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.4 tpy
127	Freeze Protection Generator Engine No. 2	99 hp	ULSD	5.1 gal/hr	40 CFR Part 89 Tier 2	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.4 tpy
128	Freeze Protection Generator Engine No. 3	99 hp	ULSD	5.1 gal/hr	40 CFR Part 89 Tier 2	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.4 tpy
129	Ground Heater Engine	10.9 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
130	Ground Heater	0.28 MMBtu/hr	ULSD	2.0 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.02 tpy
131	Portable Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
132	Portable Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
133	Portable Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
134	Portable Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
135	Portable Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
136	Portable Heater No. 6	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
137	Portable Heater No. 7	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
138	Portable Heater No. 8	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
139	Portable Heater Engine No. 1	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
140	Portable Heater Engine No. 2	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
141	Portable Heater Engine No. 3	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
142	Portable Heater Engine No. 4	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
143	Portable Heater Engine No. 5	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
144	Portable Heater Engine No. 6	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
145	Portable Heater Engine No. 7	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
146	Portable Heater Engine No. 8	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
147	Used Oil-fired Heater	0.5 MMBtu/hr	Used Oil/ULSD	3.6 gal/hr	AP-42, Table 1.11-1	0.0283 lb/gal	N/A	N/A	8,760 hr/yr	0.45 tpy
148	Production Support Engine	400 hp	ULSD	20.4 gal/hr	NSPS Subpart IIII Tier 4i	0.015 g/hp-hr	N/A	1.50	8,760 hr/yr	0.1 tpy
149	Refrigeration Unit (Reefer) Engine	24.8 hp	ULSD	1.3 gal/hr	CARB	0.18 g/hp-hr	N/A	1.25	8,760 hr/yr	0.1 tpy
150	Fuel Gas-fired Heater	80.5 MMBtu/hr	Fuel Gas	0.08 MMscf/hr	AP-42, Table 1.4-2	7.6 lb/MMscf	N/A	N/A	8,760 hr/yr	2.6 tpy
151	Gas-fired TEG Regeneration Heater	4.3 MMBtu/hr	Fuel Gas	0.004 MMscf/hr	AP-42, Table 1.4-2	7.6 lb/MMscf	N/A	N/A	8,760 hr/yr	0.1 tpy
152	Booster Compressor Gas Turbine Drive No. 1	28,110 hp	Fuel Gas	243.9 MMBtu/hr	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	N/A	N/A	8,760 hr/yr	7.0 tpy
153	Booster Compressor Gas Turbine Drive No. 2	28,110 hp	Fuel Gas	243.9 MMBtu/hr	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	N/A	N/A	8,760 hr/yr	7.0 tpy
246	Waste Incinerator	250 lb/hr	Trash/ULSD	25.0 gal/hr	AP-42, Table 2.1-12	7 lb/ton	N/A	N/A	8,760 hr/yr	3.8 tpy
									Total Potential PM/PM_{10} Emissions Excluding Nonroad Engines	**36.1 tpy**
									Total Potential PM/PM_{10} Emissions for Nonroad Engines	**4.2 tpy**
									Total Potential PM/PM_{10} Emissions for All Emission Units	**40.3 tpy**

Notes:
[1] Diesel heating value 137,000 Btu/gal
[2] Fuel gas heat content: 1,026 Btu/scf
[3] NRE = Nonroad Engine
[4] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)
[5] NSPS Subpart IIII emission standard for fire water pump engine
[6] Potential PM/PM_{10} emissions from the turbines operating in and out of SoLoNOx mode are the same.
[7] Fuel factor for waste is 9,570 dscf/MMBtu
[8] 40 CFR Part 89 or 1039 emission factor based on nonroad engine model year and power ratii
[9] NTE factor of 1.25 or 1.50 was added to all emission units using a Tier 1 through 4f emission fact
[10] AP-42 PM emission factor for EU 147 is 57 lb/10^3 gal multiplied by weight percent ash in fuel. Ash analyses conducted in June 2016 by SGS results were 0.496 percent and 0.498 percent in duplicate samples. Analyses results were averaged for emission factor

Table 6. Potential to Emit Calculations - Particulate Matter ($PM_{2.5}$) Emissions
Point Thomson Unit (PTU) Gas Expansion - Future Development

Emission Unit			Fuel	Maximum Fuel	Factor	$PM_{2.5}$ Emission	Nonroad	Not-to-Exceed	Maximum Annual	Annual $PM_{2.5}$
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Factor	Operation	Emissions
96	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.4 tpy
101	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	N/A	N/A	8,760 hr/yr	2.5 tpy
102	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	N/A	N/A	8,760 hr/yr	2.5 tpy
103	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	N/A	N/A	6,260 hr/yr	1.8 tpy
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	AP-42 Table 3.1-2a	0.012 lb/MMBtu	N/A	N/A	2,500 hr/yr	1.2 tpy
104	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	N/A	N/A	6,260 hr/yr	1.8 tpy
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	AP-42 Table 3.1-2a	0.012 lb/MMBtu	N/A	N/A	2,500 hr/yr	1.2 tpy
101-104	Fuel Gas and Dual Fuel-fired Turbine (out of SoLoNOx, combined)	N/A	Fuel Gas	42.27 MMBtu/hr	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	N/A	N/A	0 hr/yr	0.0 tpy
103-104	Dual Fuel-fired Turbine (out of SoLoNOx mode, combined)	N/A	ULSD	56.07 MMBtu/hr	AP-42 Table 3.1-2a	0.012 lb/MMBtu	N/A	N/A	0 hr/yr	0.0 tpy
107	Standby Camp Generator Engine No. 1	2,695 hp	ULSD	127.0 gal/hr	Vendor Data	0.56 lb/hr	N/A	N/A	500 hr/yr	0.1 tpy
108	Standby Camp Generator Engine No. 2	2,695 hp	ULSD	127.0 gal/hr	Vendor Data	0.56 lb/hr	N/A	N/A	500 hr/yr	0.1 tpy
109	Standby Camp Generator Engine No. 3	2,695 hp	ULSD	127.0 gal/hr	Vendor Data	0.56 lb/hr	N/A	N/A	500 hr/yr	0.1 tpy
110	Fine Water Mist Pump Engine No. 1	610 hp	ULSD	29.6 gal/hr	Vendor Data	0.078 g/bhp-hr	N/A	N/A	500 hr/yr	0.03 tpy
111	Fine Water Mist Pump Engine No. 2	610 hp	ULSD	29.6 gal/hr	Vendor Data	0.078 g/bhp-hr	N/A	N/A	500 hr/yr	0.03 tpy
112	HP Flare	130 MMscf/yr	Gas	N/A	AP-42 Table 13.5-1	0.0264 lb/MMBtu	N/A	N/A	8,760 hr/yr	1.8 tpy
113	LP Flare	20 MMscf/yr	Gas	N/A	AP-42 Table 13.5-1	0.0264 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.3 tpy
114	Airstrip Generator Engine	563 hp	ULSD	29.0 gal/hr	Vendor Data	0.12 lb/hr	N/A	N/A	500 hr/yr	0.03 tpy
115	ACRV Heater No. 1	0.175 MMBtu/hr	ULSD	1.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
116	ACRV Heater No. 2	0.175 MMBtu/hr	ULSD	1.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
117	Hot Oil Unit Engine	375 hp	ULSD	19.2 gal/hr	40 CFR Part 89 Tier 2	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.7 tpy
118	Air Compressor Generator Engine	61 hp	ULSD	3.1 gal/hr	40 CFR Part 89 Tier 2	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
119	Light Plant Generator Engine No. 1	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
120	Light Plant Generator Engine No. 2	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
121	Light Plant Generator Engine No. 3	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
122	Light Plant Generator Engine No. 4	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
123	Portable Moving Generator Engine No. 1	32 hp	ULSD	1.6 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
124	Portable Moving Generator Engine No. 2	32 hp	ULSD	1.6 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
125	Portable Moving Generator Engine No. 3	32 hp	ULSD	1.6 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
126	Freeze Protection Generator Engine No. 1	99 hp	ULSD	5.1 gal/hr	40 CFR Part 89 Tier 2	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.4 tpy
127	Freeze Protection Generator Engine No. 2	99 hp	ULSD	5.1 gal/hr	40 CFR Part 89 Tier 2	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.4 tpy
128	Freeze Protection Generator Engine No. 3	99 hp	ULSD	5.1 gal/hr	40 CFR Part 89 Tier 2	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.4 tpy
129	Ground Heater Engine	10.9 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
130	Ground Heater	0.28 MMBtu/hr	ULSD	2.0 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
131	Portable Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
132	Portable Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
133	Portable Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
134	Portable Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
135	Portable Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
136	Portable Heater No. 6	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
137	Portable Heater No. 7	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
138	Portable Heater No. 8	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
139	Portable Heater Engine No. 1	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
140	Portable Heater Engine No. 2	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
141	Portable Heater Engine No. 3	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
142	Portable Heater Engine No. 4	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
143	Portable Heater Engine No. 5	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
144	Portable Heater Engine No. 6	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
145	Portable Heater Engine No. 7	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
146	Portable Heater Engine No. 8	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
147	Used Oil-fired Heater	0.5 MMBtu/hr	Used Oil/ULSD	3.6 gal/hr	AP-42, Table 1.11-1	0.0283 lb/gal	N/A	N/A	8,760 hr/yr	0.45 tpy
148	Production Support Engine	400 hp	ULSD	20.4 gal/hr	NSPS Subpart IIII Tier 4i	0.015 g/hp-hr	N/A	1.50	8,760 hr/yr	0.1 tpy
149	Refrigeration Unit (Reefer) Engine	24.8 hp	ULSD	1.3 gal/hr	CARB	0.18 g/hp-hr	N/A	1.25	8,760 hr/yr	0.1 tpy
150	Fuel Gas-fired Heater	80.5 MMBtu/hr	Fuel Gas	0.08 MMscf/hr	AP-42, Table 1.4-2	7.6 lb/MMscf	N/A	N/A	8,760 hr/yr	2.6 tpy
151	Gas-fired TEG Regeneration Heater	4.3 MMBtu/hr	Fuel Gas	0.004 MMscf/hr	AP-42, Table 1.4-2	7.6 lb/MMscf	N/A	N/A	8,760 hr/yr	0.1 tpy
152	Booster Compressor Gas Turbine Drive No. 1	28,110 hp	Fuel Gas	243.9 MMBtu/hr	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	N/A	N/A	8,760 hr/yr	7.0 tpy
153	Booster Compressor Gas Turbine Drive No. 2	28,110 hp	Fuel Gas	243.9 MMBtu/hr	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	N/A	N/A	8,760 hr/yr	7.0 tpy
246	Waste Incinerator	250 lb/hr	Trash/ULSD	25.0 gal/hr	AP-42, Table 2.1-12	7 lb/ton	N/A	N/A	8,760 hr/yr	3.8 tpy
									Total Potential PM/$PM_{2.5}$ Emissions Excluding Nonroad Engines	**35.7 tpy**
									Total Potential PM/$PM_{2.5}$ Emissions for Nonroad Engines	**4.2 tpy**
									Total Potential PM/$PM_{2.5}$ Emissions for All Emission Units	**39.9 tpy**

Notes:
[1] Diesel heating value 137,000 Btu/gal
[2] Fuel gas heat content: 1,026 Btu/scf
[3] NRE = Nonroad Engine
[4] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)
[5] NSPS Subpart IIII emission standard for fire water pump engine
[6] Potential PM/PM_{10} emissions from the turbines operating in and out of SoLoNOx mode are the same.
[7] Fuel factor for waste is 9,570 dscf/MMBtu
[8] 40 CFR Part 89 or 1039 emission factor based on nonroad engine model year and power ratii
[9] NTE factor of 1.25 or 1.50 was added to all emission units using a Tier 1 through 4f emission fact
[10] AP-42 PM emission factor for EU 147 is 57 lb/10^3 gal multiplied by weight percent ash in fuel. Ash analyses conducted in June 2016 by SGS results were 0.496 percent and 0.498 percent in duplicate samples. Analyses results were averaged for emission factor

Table 7. Potential to Emit Calculations - Volatile Organic Compounds (VOCs) Emissions
Point Thomson Unit (PTU) Gas Expansion - Future Developmen

Emission Unit			Fuel	Maximum Fuel	Factor	VOC Emission	Nonroad	Not-to-Exceed	Maximum Annual	Annual VOC
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Factor	Operation	Emissions
96	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
101	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Vendor Data	0.30 lb/hr	N/A	N/A	8,760 hr/yr	1.3 tpy
102	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Vendor Data	0.30 lb/hr	N/A	N/A	6,760 hr/yr	1.0 tpy
103	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Vendor Data	0.30 lb/hr	N/A	N/A	5,910 hr/yr	0.9 tpy
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	Vendor Data	1.49 lb/hr	N/A	N/A	2,500 hr/yr	1.9 tpy
104	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Vendor Data	0.30 lb/hr	N/A	N/A	6,260 hr/yr	0.9 tpy
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	Vendor Data	1.49 lb/hr	N/A	N/A	2,500 hr/yr	1.9 tpy
101-104	Fuel Gas and Dual Fuel-fired Turbine (out of SoLoNOx, combined)	N/A	Fuel Gas	42.27 MMBtu/hr	Vendor Data	46.55 lb/hr	N/A	N/A	2,000 hr/yr	46.6 tpy
103-104	Dual Fuel-fired Turbine (out of SoLoNOx mode, combined)	N/A	ULSD	56.07 MMBtu/hr	Vendor Data	97.85 lb/hr	N/A	N/A	350 hr/yr	17.1 tpy
107	Standby Camp Generator Engine No. 1	2,695 hp	ULSD	127.0 gal/hr	AP-42, Table 3.4-1	0.000705 lb/hp-hr	N/A	N/A	500 hr/yr	0.5 tpy
108	Standby Camp Generator Engine No. 2	2,695 hp	ULSD	127.0 gal/hr	AP-42, Table 3.4-1	0.000705 lb/hp-hr	N/A	N/A	500 hr/yr	0.5 tpy
109	Standby Camp Generator Engine No. 3	2,695 hp	ULSD	127.0 gal/hr	AP-42, Table 3.4-1	0.000705 lb/hp-hr	N/A	N/A	500 hr/yr	0.5 tpy
110	Fine Water Mist Pump Engine No. 1	610 hp	ULSD	29.6 gal/hr	Vendor Data	0.086 g/hp-hr	N/A	N/A	500 hr/yr	0.03 tpy
111	Fine Water Mist Pump Engine No. 2	610 hp	ULSD	29.6 gal/hr	Vendor Data	0.086 g/hp-hr	N/A	N/A	500 hr/yr	0.03 tpy
112	HP Flare	130 MMscf/yr	Gas	N/A	AP-42 Table 13.5-1	0.57 lb/MMBtu	N/A	N/A	8,760 hr/yr	38.0 tpy
113	LP Flare	20 MMscf/yr	Gas	N/A	AP-42 Table 13.5-1	0.57 lb/MMBtu	N/A	N/A	8,760 hr/yr	5.8 tpy
114	Airstrip Generator Engine	563 hp	ULSD	29.0 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	N/A	N/A	500 hr/yr	0.3 tpy
115	ACRV Heater No. 1	0.175 MMBtu/hr	ULSD	1.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.001 tpy
116	ACRV Heater No. 2	0.175 MMBtu/hr	ULSD	1.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.001 tpy
117	Hot Oil Unit Engine	375 hp	ULSD	19.2 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	4.1 tpy
118	Air Compressor Generator Engine	61 hp	ULSD	3.1 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.7 tpy
119	Light Plant Generator Engine No. 1	28 hp	ULSD	1.4 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.3 tpy
120	Light Plant Generator Engine No. 2	28 hp	ULSD	1.4 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.3 tpy
121	Light Plant Generator Engine No. 3	28 hp	ULSD	1.4 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.3 tpy
122	Light Plant Generator Engine No. 4	28 hp	ULSD	1.4 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.3 tpy
123	Portable Moving Generator Engine No. 1	32 hp	ULSD	1.6 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.3 tpy
124	Portable Moving Generator Engine No. 2	32 hp	ULSD	1.6 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.3 tpy
125	Portable Moving Generator Engine No. 3	32 hp	ULSD	1.6 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.3 tpy
126	Freeze Protection Generator Engine No. 1	99 hp	ULSD	5.1 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.1 tpy
127	Freeze Protection Generator Engine No. 2	99 hp	ULSD	5.1 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.1 tpy
128	Freeze Protection Generator Engine No. 3	99 hp	ULSD	5.1 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.1 tpy
129	Ground Heater Engine	10.9 hp	ULSD	0.7 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.1 tpy
130	Ground Heater	0.28 MMBtu/hr	ULSD	2.0 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.002 tpy
131	Portable Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
132	Portable Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
133	Portable Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
134	Portable Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
135	Portable Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
136	Portable Heater No. 6	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
137	Portable Heater No. 7	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
138	Portable Heater No. 8	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
139	Portable Heater Engine No. 1	17 hp	ULSD	0.7 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.2 tpy
140	Portable Heater Engine No. 2	17 hp	ULSD	0.7 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.2 tpy
141	Portable Heater Engine No. 3	17 hp	ULSD	0.7 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.2 tpy
142	Portable Heater Engine No. 4	17 hp	ULSD	0.7 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.2 tpy
143	Portable Heater Engine No. 5	17 hp	ULSD	0.7 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.2 tpy
144	Portable Heater Engine No. 6	17 hp	ULSD	0.7 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.2 tpy
145	Portable Heater Engine No. 7	17 hp	ULSD	0.7 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.2 tpy
146	Portable Heater Engine No. 8	17 hp	ULSD	0.7 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.2 tpy
147	Used Oil-fired Heater	0.5 MMBtu/hr	Used Oil/ULSD	3.6 gal/hr	AP-42, Table 1.11-3	0.001 lb/gal	N/A	N/A	8,760 hr/yr	0.02 tpy
148	Production Support Engine	400 hp	ULSD	20.4 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	N/A	N/A	8,760 hr/yr	4.3 tpy
149	Refrigeration Unit (Reefer) Engine	24.8 hp	ULSD	1.3 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	N/A	N/A	8,760 hr/yr	0.3 tpy
150	Fuel Gas-fired Heater	80.5 MMBtu/hr	Fuel Gas	0.08 MMscf/hr	AP-42, Table 1.4-2	5.5 lb/MMscf	N/A	N/A	8,760 hr/yr	1.9 tpy
151	Gas-fired TEG Regeneration Heater	4.3 MMBtu/hr	Fuel Gas	0.004 MMscf/hr	AP-42, Table 1.4-2	5.5 lb/MMscf	N/A	N/A	8,760 hr/yr	0.1 tpy
152	Booster Compressor Gas Turbine Drive No. 1	28,110 hp	Fuel Gas	243.9 MMBtu/hr	Vendor Data	0.30 lb/hr	N/A	N/A	8,760 hr/yr	3.7 tpy
153	Booster Compressor Gas Turbine Drive No. 2	28,110 hp	Fuel Gas	243.9 MMBtu/hr	Vendor Data	0.30 lb/hr	N/A	N/A	8,760 hr/yr	3.7 tpy
246	Waste Incinerator	250 lb/hr	Trash/ULSD	25.0 gal/hr	AP-42, Table 2.1-12	3 lb/ton	N/A	N/A	8,760 hr/yr	1.6 tpy
Other VOC Emissions										
	ULSD Storage Tanks - Production	EPA TANK4.0d							N/A	0.2 tpy
	Gasoline Storage Tank - Production	EPA TANK4.0d							N/A	0.1 tpy
	Fugitive emissions from equipment leaks	EPA's Protocol for Equipment Leak Emission Estimates							N/A	3.4 tpy
									Total Potential VOC Emissions Excluding Nonroad Engines	**136.6 tpy**
									Total Potential VOC Emissions for Nonroad Engines	**11.8 tpy**
									Total Potential VOC Emissions for All Emission Units	**148.4 tpy**

Notes:
[1] Diesel heating value 137,000 Btu/gal
[2] Fuel gas heat content: 1,026 Btu/scf
[3] Inlet air heating on combustion turbines
[4] Each turbine has catalytic oxidation which controls 50 percent of VOC emissions while firing on fuel gas and 48 percent of VOC emissions while firing on UL
[5] VOC emissions are assumed to be 20 percent while firing fuel gas and 100 percent while firing ULS
[6] Catalytic oxidation controls 5 percent of VOC emissions out of SoLoNOx mod
[7] 40 CFR Part 89 or 1039 emission factor based on nonroad engine model year and power rati
[8] NTE factor of 1.25 was added to all emission units using a Tier 1 through 4f emission factc

Table 8. Potential to Emit Calculations - Sulfur Dioxide (SO_2) Emissions
Point Thomson Unit (PTU) Gas Expansion - Future Developmen

Emission Unit			Fuel	Maximum Fuel	Maximum Fuel	Factor	SO_2 Emission	Nonroad	Maximum Annual	Annual SO_2
ID	Description	Rating/Capacity	Type	Consumption	Sulfur Content	Reference	Factor	Engine	Operation	Emissions
96	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.05 tpy
101	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	125 ppmw H_2S	Mass Balance	21.1 lb/MMscf	N/A	8,760 hr/yr	7.0 tpy
102	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	125 ppmw H_2S	Mass Balance	21.1 lb/MMscf	N/A	8,760 hr/yr	7.0 tpy
103	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	125 ppmw H_2S	Mass Balance	21.1 lb/MMscf	N/A	8,760 hr/yr	7.0 tpy
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	15 ppmw H_2S	Mass Balance	0.002 lb/MMBtu	N/A	0 hr/yr	0.0 tpy
104	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	125 ppmw H_2S	Mass Balance	21.1 lb/MMscf	N/A	8,760 hr/yr	7.0 tpy
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	15 ppmw H_2S	Mass Balance	0.002 lb/MMBtu	N/A	0 hr/yr	0.0 tpy
101-104	Fuel Gas and Dual Fuel-fired Turbine (out of SoLoNOx, combined)	N/A	Fuel Gas	42.27 MMBtu/hr	125 ppmw H_2S	Mass Balance	21.1 lb/MMscf	N/A	0 hr/yr	0.0 tpy
103-104	Dual Fuel-fired Turbine (out of SoLoNOx mode, combined)	N/A	ULSD	56.07 MMBtu/hr	15 ppmw H_2S	Mass Balance	0.002 lb/MMBtu	N/A	0 hr/yr	0.0 tpy
107	Standby Camp Generator Engine No. 1	2,695 hp	ULSD	127.0 gal/hr	15 ppmw S	Mass Balance	0.002 lb/MMBtu	N/A	500 hr/yr	0.01 tpy
108	Standby Camp Generator Engine No. 2	2,695 hp	ULSD	127.0 gal/hr	15 ppmw S	Mass Balance	0.002 lb/MMBtu	N/A	500 hr/yr	0.01 tpy
109	Standby Camp Generator Engine No. 3	2,695 hp	ULSD	127.0 gal/hr	15 ppmw S	Mass Balance	0.002 lb/MMBtu	N/A	500 hr/yr	0.01 tpy
110	Fine Water Mist Pump Engine No. 1	610 hp	ULSD	29.6 gal/hr	15 ppmw S	Mass Balance	0.002 lb/MMBtu	N/A	500 hr/yr	0.002 tpy
111	Fine Water Mist Pump Engine No. 2	610 hp	ULSD	29.6 gal/hr	15 ppmw S	Mass Balance	0.002 lb/MMBtu	N/A	500 hr/yr	0.002 tpy
112	HP Flare	95 MMscf/yr	Gas	N/A	125 ppmw H_2S	Mass Balance	21.1 lb/MMscf	N/A	8,760 hr/yr	1.0 tpy
	HP Flare - Pilot/Purge	35 MMscf/yr	Gas	N/A	300 ppmw H_2S	Mass Balance	50.5 lb/MMscf	N/A	8,760 hr/yr	0.9 tpy
113	LP Flare	20 MMscf/yr	Gas	N/A	300 ppmw H_2S	Mass Balance	50.5 lb/MMscf	N/A	8,760 hr/yr	0.5 tpy
114	Airstrip Generator Engine	563 hp	ULSD	29.0 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	500 hr/yr	0.002 tpy
115	ACRV Heater No. 1	0.175 MMBtu/hr	ULSD	1.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.001 tpy
116	ACRV Heater No. 2	0.175 MMBtu/hr	ULSD	1.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.001 tpy
117	Hot Oil Unit Engine	375 hp	ULSD	19.2 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.018 tpy
118	Air Compressor Generator Engine	61 hp	ULSD	3.1 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.003 tpy
119	Light Plant Generator Engine No. 1	28 hp	ULSD	1.4 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.001 tpy
120	Light Plant Generator Engine No. 2	28 hp	ULSD	1.4 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.001 tpy
121	Light Plant Generator Engine No. 3	28 hp	ULSD	1.4 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.001 tpy
122	Light Plant Generator Engine No. 4	28 hp	ULSD	1.4 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.001 tpy
123	Portable Moving Generator Engine No. 1	32 hp	ULSD	1.6 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.002 tpy
124	Portable Moving Generator Engine No. 2	32 hp	ULSD	1.6 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.002 tpy
125	Portable Moving Generator Engine No. 3	32 hp	ULSD	1.6 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.002 tpy
126	Freeze Protection Generator Engine No. 1	99 hp	ULSD	5.1 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.005 tpy
127	Freeze Protection Generator Engine No. 2	99 hp	ULSD	5.1 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.005 tpy
128	Freeze Protection Generator Engine No. 3	99 hp	ULSD	5.1 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.005 tpy
129	Ground Heater Engine	10.9 hp	ULSD	0.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.001 tpy
130	Ground Heater	0.28 MMBtu/hr	ULSD	2.0 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.002 tpy
131	Portable Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.007 tpy
132	Portable Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.007 tpy
133	Portable Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.007 tpy
134	Portable Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.007 tpy
135	Portable Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.007 tpy
136	Portable Heater No. 6	1.0 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.007 tpy
137	Portable Heater No. 7	1.0 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.007 tpy
138	Portable Heater No. 8	1.0 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.007 tpy
139	Portable Heater Engine No. 1	17 hp	ULSD	0.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.001 tpy
140	Portable Heater Engine No. 2	17 hp	ULSD	0.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.001 tpy
141	Portable Heater Engine No. 3	17 hp	ULSD	0.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.001 tpy
142	Portable Heater Engine No. 4	17 hp	ULSD	0.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.001 tpy
143	Portable Heater Engine No. 5	17 hp	ULSD	0.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.001 tpy
144	Portable Heater Engine No. 6	17 hp	ULSD	0.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.001 tpy
145	Portable Heater Engine No. 7	17 hp	ULSD	0.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.001 tpy
146	Portable Heater Engine No. 8	17 hp	ULSD	0.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.001 tpy
147	Used Oil-fired Heater	0.5 MMBtu/hr	Used Oil/ULSD	3.6 gal/hr	2,150 ppmw S	AP-42, Table 1.11-2	0.019 lb/gal	N/A	8,760 hr/yr	0.3 tpy
148	Production Support Engine	400 hp	ULSD	20.4 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.02 tpy
149	Refrigeration Unit (Reefer) Engine	24.8 hp	ULSD	1.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.001 tpy
150	Fuel Gas-fired Heater	80.5 MMBtu/hr	Fuel Gas	0.08 MMscf/hr	125 ppmw H_2S	Mass Balance	21.1 lb/MMscf	N/A	8,760 hr/yr	7.2 tpy
151	Gas-fired TEG Regeneration Heater	4.3 MMBtu/hr	Fuel Gas	0.004 MMscf/hr	125 ppmw H_2S	Mass Balance	21.1 lb/MMscf	N/A	8,760 hr/yr	0.39 tpy
152	Booster Compressor Gas Turbine Drive No. 1	28,110 hp	Fuel Gas	243.9 MMBtu/hr	125 ppmw H_2S	Mass Balance	21.1 lb/MMscf	N/A	8,760 hr/yr	21.92 tpy
153	Booster Compressor Gas Turbine Drive No. 2	28,110 hp	Fuel Gas	243.9 MMBtu/hr	125 ppmw H_2S	Mass Balance	21.1 lb/MMscf	N/A	8,760 hr/yr	21.92 tpy
246	Waste Incinerator	250 lb/hr	Trash/ULSD	25.0 gal/hr	15 ppmw S	AP-42, Table 2.1-12	2.50 lb/ton	N/A	8,760 hr/yr	1.4 tpy
									Total Potential SO_2 Emissions Excluding Nonroad Engines	**83.6 tpy**
									Total Potential SO_2 Emissions for Nonroad Engines	**0.05 tpy**
									Total Potential SO_2 Emissions for All Emission Units	**83.6 tpy**

Notes:
[1] Diesel heating value 137,000 Btu/gal
[2] Fuel gas heat content: 1,026 Btu/scf
[3] NRE = Nonroad Engine
[4] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)
[5] Diesel engine heat rate 7,000 Btu/hp-hr AP-42, Table 3.3-1
[6] Diesel sulfur content: 15 ppmw (0.0015 wt. pct.)
[7] High pressure fuel gas has a heat content of 1,020 Btu/scf and H_2S of 125 ppmv.
[8] Low pressure fuel gas has a heat content of 1,020 Btu/scf and H_2S of 300 ppmv.
[9] The Solar Taurus 70 turbine has a heat rate of 10,318 Btu/kW-h
[10] Higher potential SO_2 emissions result from dual fired turbines firing on fuel gas, regardless of operating in or out of SoLoNOx mode.
[11] Municipal solid waste has a default high heat value of 9.95 MMBtu/to
[12] Fuel factor for waste is 9,570 dscf/MMBtu
[13] AP-42 emission factor for EU 147 is 107 lb/10^3 gal multiplied by weight percent sulfur in fuel. Sulfur analyses conducted in June 2016 by SGS results were 0.215 percent and 0.146 percent in duplicate samples. Analyses results were averaged for emission f

Table 9. Potential to Emit Calculations - Lead (Pb) Emissions
Point Thomson Unit (PTU) Gas Expansion - Future Developmen

Emission Unit			Fuel	Maximum Fuel	Factor	Lead Emission	Nonroad	Not-to-Exceed	Maximum Annual	Annual Lead
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Factor	Operation	Emissions
96	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.0 tpy
101	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	AP-42, Table 3.1-2a	0	N/A	N/A	8,760 hr/yr	0.0 tpy
102	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	AP-42, Table 3.1-2a	0	N/A	N/A	6,760 hr/yr	0.0 tpy
103	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	AP-42, Table 3.1-2a	0	N/A	N/A	5,910 hr/yr	0.0 tpy
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	AP-42, Table 3.1-2a	1.4E-05 lb/MMBtu	N/A	N/A	2,500 hr/yr	0.001 tpy
104	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	AP-42, Table 3.1-2a	0	N/A	N/A	6,260 hr/yr	0.0 tpy
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	AP-42, Table 3.1-2a	1.4E-05 lb/MMBtu	N/A	N/A	2,500 hr/yr	0.001 tpy
101-104	Fuel Gas and Dual Fuel-fired Turbine (out of SoLoNOx, combined)	N/A	Fuel Gas	42.27 MMBtu/hr	AP-42, Table 3.1-2a	0	N/A	N/A	2,000 hr/yr	0.0 tpy
103-104	Dual Fuel-fired Turbine (out of SoLoNOx mode, combined)	N/A	ULSD	56.07 MMBtu/hr	AP-42, Table 3.1-2a	1.4E-05 lb/MMBtu	N/A	N/A	350 hr/yr	0.0001 tpy
107	Standby Camp Generator Engine No. 1	2,695 hp	ULSD	127.0 gal/hr	AP-42, Chapter 3	0	N/A	N/A	500 hr/yr	0.0 tpy
108	Standby Camp Generator Engine No. 2	2,695 hp	ULSD	127.0 gal/hr	AP-42, Chapter 3	0	N/A	N/A	500 hr/yr	0.0 tpy
109	Standby Camp Generator Engine No. 3	2,695 hp	ULSD	127.0 gal/hr	AP-42, Chapter 3	0	N/A	N/A	500 hr/yr	0.0 tpy
110	Fine Water Mist Pump Engine No. 1	610 hp	ULSD	29.6 gal/hr	AP-42, Chapter 3	0	N/A	N/A	500 hr/yr	0.0 tpy
111	Fine Water Mist Pump Engine No. 2	610 hp	ULSD	29.6 gal/hr	AP-42, Chapter 3	0	N/A	N/A	500 hr/yr	0.0 tpy
112	HP Flare	130 MMscf/yr	Gas	N/A	AP-42, Chapter 13	0	N/A	N/A	8,760 hr/yr	0.0 tpy
113	LP Flare	20 MMscf/yr	Gas	N/A	AP-42, Chapter 13	0	N/A	N/A	8,760 hr/yr	0.0 tpy
114	Airstrip Generator Engine	563 hp	ULSD	29.0 gal/hr	AP-42, Chapter 3	0	N/A	N/A	500 hr/yr	0.0 tpy
115	ACRV Heater No. 1	0.175 MMBtu/hr	ULSD	1.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00001 tpy
116	ACRV Heater No. 2	0.175 MMBtu/hr	ULSD	1.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00001 tpy
117	Hot Oil Unit Engine	375 hp	ULSD	19.2 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
118	Air Compressor Generator Engine	61 hp	ULSD	3.1 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
119	Light Plant Generator Engine No. 1	28 hp	ULSD	1.4 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
120	Light Plant Generator Engine No. 2	28 hp	ULSD	1.4 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
121	Light Plant Generator Engine No. 3	28 hp	ULSD	1.4 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
122	Light Plant Generator Engine No. 4	28 hp	ULSD	1.4 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
123	Portable Moving Generator Engine No. 1	32 hp	ULSD	1.6 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
124	Portable Moving Generator Engine No. 2	32 hp	ULSD	1.6 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
125	Portable Moving Generator Engine No. 3	32 hp	ULSD	1.6 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
126	Freeze Protection Generator Engine No. 1	99 hp	ULSD	5.1 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
127	Freeze Protection Generator Engine No. 2	99 hp	ULSD	5.1 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
128	Freeze Protection Generator Engine No. 3	99 hp	ULSD	5.1 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
129	Ground Heater Engine	10.9 hp	ULSD	0.7 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
130	Ground Heater	0.28 MMBtu/hr	ULSD	2.0 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00001 tpy
131	Portable Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00004 tpy
132	Portable Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00004 tpy
133	Portable Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00004 tpy
134	Portable Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00004 tpy
135	Portable Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00004 tpy
136	Portable Heater No. 6	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00004 tpy
137	Portable Heater No. 7	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00004 tpy
138	Portable Heater No. 8	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00004 tpy
139	Portable Heater Engine No. 1	17 hp	ULSD	0.7 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
140	Portable Heater Engine No. 2	17 hp	ULSD	0.7 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
141	Portable Heater Engine No. 3	17 hp	ULSD	0.7 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
142	Portable Heater Engine No. 4	17 hp	ULSD	0.7 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
143	Portable Heater Engine No. 5	17 hp	ULSD	0.7 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
144	Portable Heater Engine No. 6	17 hp	ULSD	0.7 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
145	Portable Heater Engine No. 7	17 hp	ULSD	0.7 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
146	Portable Heater Engine No. 8	17 hp	ULSD	0.7 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
147	Used Oil-fired Heater	0.5 MMBtu/hr	Used Oil/ULSD	3.6 gal/hr	AP-42, Table 1.11-1	2.0E-03 lb/gal	N/A	N/A	8,760 hr/yr	0.03 tpy
148	Production Support Engine	400 hp	ULSD	20.4 gal/hr	AP-42, Chapter 3	0	N/A	N/A	8,760 hr/yr	0.0 tpy
149	Refrigeration Unit (Reefer) Engine	25 hp	ULSD	1.3 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
150	Fuel Gas-fired Heater	80.5 MMBtu/hr	Fuel Gas	0.08 MMscf/hr	AP-42, Table 1.4-2	5.0E-04 lb/MMscf	N/A	N/A	8,760 hr/yr	0.0002 tpy
151	Gas-fired TEG Regeneration Heater	4.3 MMBtu/hr	Fuel Gas	0.004 MMscf/hr	AP-42, Table 1.4-2	5.0E-04 lb/MMscf	N/A	N/A	8,760 hr/yr	0.00001 tpy
152	Booster Compressor Gas Turbine Drive No. 1	28,110 hp	Fuel Gas	243.9 MMBtu/hr	AP-42, Table 3.1-2a	0	N/A	N/A	8,760 hr/yr	0.0 tpy
153	Booster Compressor Gas Turbine Drive No. 2	28,110 hp	Fuel Gas	243.9 MMBtu/hr	AP-42, Table 3.1-2a	0	N/A	N/A	8,760 hr/yr	0.0 tpy
246	Waste Incinerator	250 lb/hr	Trash/ULSD	25.0 gal/hr	AP-42, Table 2.1-12	0	N/A	N/A	8,760 hr/yr	0.0 tpy
									Total Potential Lead Emissions Excluding Nonroad Engines	**0.04 tpy**
									Total Potential Lead Emissions for Nonroad Engines	**0.00 tpy**
									Total Potential Lead Emissions for All Emission Units	**0.04 tpy**

Notes:
[1] AP-42 emission factor for EU 147 is 50 lb/1$0^3$ gal multiplied by weight percent lead in fuel. Lead in fuel is assumed to be 0.04 percer
[2] Fuel gas heat content: 1,026 Btu/scf

Table 10. Potential to Emit Calculations - Carbon Dioxide Equivalent (CO_2e) Emissions
Point Thomson Unit (PTU) Gas Expansion - Future Development

Emission Unit			Fuel	Nonroad	Potential Greenhouse Gas Emissions (tonne/year)				
ID	Description	Rating/Capacity	Type	Engine	CO_2	CH_4	N_2O	GHG Mass	GHG CO_2e
96	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	N/A	5,219.8	0.212	0.0423	5,220.1	5,237.7
101	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	N/A	40,479.9	0.763	0.0763	40,480.8	40,521.7
102	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	N/A	40,479.9	0.763	0.0763	40,480.8	40,521.7
103	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	N/A	28,927.4	0.545	0.0545	28,928.0	28,957.3
	Dual Fuel-fired Turbine	7,520 kW	ULSD	N/A	15,257.9	0.619	0.1238	15,258.7	15,310.3
104	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	N/A	28,927.4	0.545	0.0545	28,928.0	28,957.3
	Dual Fuel-fired Turbine	7,520 kW	ULSD	N/A	15,257.9	0.619	0.1238	15,258.7	15,310.3
101-104	Fuel Gas and Dual Fuel-fired Turbine (out of SoLoNOx, combined)	N/A	Fuel Gas	N/A	0.0	0.000	0.0000	0.0	0.0
103-104	Dual Fuel-fired Turbine (out of SoLoNOx mode, combined)	N/A	ULSD	N/A	0.0	0.000	0.0000	0.0	0.0
107	Standby Camp Generator Engine No. 1	2,695 hp	ULSD	N/A	648.1	0.026	0.0053	648.1	650.3
108	Standby Camp Generator Engine No. 2	2,695 hp	ULSD	N/A	648.1	0.026	0.0053	648.1	650.3
109	Standby Camp Generator Engine No. 3	2,695 hp	ULSD	N/A	648.1	0.026	0.0053	648.1	650.3
110	Fine Water Mist Pump Engine No. 1	610 hp	ULSD	N/A	151.1	0.006	0.0012	151.1	151.6
111	Fine Water Mist Pump Engine No. 2	610 hp	ULSD	N/A	151.1	0.006	0.0012	151.1	151.6
112	HP Flare	130 MMscf/yr	Gas	N/A	7,077.1	0.133	0.0133	7,077.3	7,084.5
113	LP Flare	20 MMscf/yr	Gas	N/A	1,088.8	0.021	0.0021	1,088.8	1,089.9
114	Airstrip Generator Engine	563 hp	ULSD	N/A	148.0	0.006	0.0012	148.0	148.5
115	ACRV Heater No. 1	0.175 MMBtu/hr	ULSD	N/A	111.8	0.005	0.0009	111.8	112.1
116	ACRV Heater No. 2	0.175 MMBtu/hr	ULSD	N/A	111.8	0.005	0.0009	111.8	112.1
117	Hot Oil Unit Engine	375 hp	ULSD	NRE	1,716.6	0.070	0.0139	1,716.7	1,722.5
118	Air Compressor Generator Engine	61 hp	ULSD	NRE	278.6	0.011	0.0023	278.6	279.6
119	Light Plant Generator Engine No. 1	28 hp	ULSD	NRE	127.9	0.005	0.0010	127.9	128.3
120	Light Plant Generator Engine No. 2	28 hp	ULSD	NRE	127.9	0.005	0.0010	127.9	128.3
121	Light Plant Generator Engine No. 3	28 hp	ULSD	NRE	127.9	0.005	0.0010	127.9	128.3
122	Light Plant Generator Engine No. 4	28 hp	ULSD	NRE	127.9	0.005	0.0010	127.9	128.3
123	Portable Moving Generator Engine No. 1	32 hp	ULSD	NRE	146.2	0.006	0.0012	146.2	146.7
124	Portable Moving Generator Engine No. 2	32 hp	ULSD	NRE	146.2	0.006	0.0012	146.2	146.7
125	Portable Moving Generator Engine No. 3	32 hp	ULSD	NRE	146.2	0.006	0.0012	146.2	146.7
126	Freeze Protection Generator Engine No. 1	99 hp	ULSD	NRE	452.2	0.018	0.0037	452.2	453.7
127	Freeze Protection Generator Engine No. 2	99 hp	ULSD	NRE	452.2	0.018	0.0037	452.2	453.7
128	Freeze Protection Generator Engine No. 3	99 hp	ULSD	NRE	452.2	0.018	0.0037	452.2	453.7
129	Ground Heater Engine	11 hp	ULSD	NRE	61.7	0.003	0.0005	61.7	61.9
130	Ground Heater	0.28 MMBtu/hr	ULSD	N/A	178.8	0.007	0.0015	178.8	179.4
131	Portable Heater No. 1	1.0 MMBtu/hr	ULSD	N/A	652.5	0.026	0.0053	652.5	654.7
132	Portable Heater No. 2	1.0 MMBtu/hr	ULSD	N/A	652.5	0.026	0.0053	652.5	654.7
133	Portable Heater No. 3	1.0 MMBtu/hr	ULSD	N/A	652.5	0.026	0.0053	652.5	654.7
134	Portable Heater No. 4	1.0 MMBtu/hr	ULSD	N/A	652.5	0.026	0.0053	652.5	654.7
135	Portable Heater No. 5	1.0 MMBtu/hr	ULSD	N/A	652.5	0.026	0.0053	652.5	654.7
136	Portable Heater No. 6	1.0 MMBtu/hr	ULSD	N/A	652.5	0.026	0.0053	652.5	654.7
137	Portable Heater No. 7	1.0 MMBtu/hr	ULSD	N/A	652.5	0.026	0.0053	652.5	654.7
138	Portable Heater No. 8	1.0 MMBtu/hr	ULSD	N/A	652.5	0.026	0.0053	652.5	654.7
139	Portable Heater Engine No. 1	17 hp	ULSD	NRE	61.7	0.003	0.0005	61.7	61.9
140	Portable Heater Engine No. 2	17 hp	ULSD	NRE	61.7	0.003	0.0005	61.7	61.9
141	Portable Heater Engine No. 3	17 hp	ULSD	NRE	61.7	0.003	0.0005	61.7	61.9
142	Portable Heater Engine No. 4	17 hp	ULSD	NRE	61.7	0.003	0.0005	61.7	61.9
143	Portable Heater Engine No. 5	17 hp	ULSD	NRE	61.7	0.003	0.0005	61.7	61.9
144	Portable Heater Engine No. 6	17 hp	ULSD	NRE	61.7	0.003	0.0005	61.7	61.9
145	Portable Heater Engine No. 7	17 hp	ULSD	NRE	61.7	0.003	0.0005	61.7	61.9
146	Portable Heater Engine No. 8	17 hp	ULSD	NRE	61.7	0.003	0.0005	61.7	61.9
147	Used Oil-fired Heater	0.5 MMBtu/hr	Used Oil/ULSD	N/A	326.2	0.013	0.0026	326.3	327.4
148	Production Support Engine	400 hp	ULSD	N/A	1,826.9	0.074	0.0148	1,827.0	1,833.2
149	Refrigeration Unit (Reefer) Engine	24.8 hp	ULSD	N/A	113.3	0.005	0.0009	113.3	113.7
150	Fuel Gas-fired Heater	80.5 MMBtu/hr	Fuel Gas	N/A	37,416.9	0.705	0.0705	37,417.6	37,455.5
151	Gas-fired TEG Regeneration Heater	4.3 MMBtu/hr	Fuel Gas	N/A	2,004.5	0.038	0.0038	2,004.5	2,006.5
152	Booster Compressor Gas Turbine Drive No. 1	28,110 hp	Fuel Gas	N/A	113,343.8	2.136	0.2136	113,346.1	113,460.8
153	Booster Compressor Gas Turbine Drive No. 2	28,110 hp	Fuel Gas	N/A	113,343.8	2.136	0.2136	113,346.1	113,460.8
246	Waste Incinerator	250 lb/hr	Trash	N/A	988.2	0.349	0.0458	988.6	1,010.6
			ULSD	N/A	2,235.2	0.091	0.0181	2,235.3	2,242.9
							Total Potential CO_2e Emissions Excluding Nonroad Engines		**462,946 tonne/year**
							Total Potential CO_2e Emissions for Nonroad Engines		**4,874 tonne/year**
							Total Potential CO_2e Emissions for All Emission Units		**467,820 tonne/year**

Notes:

[1] CO_2e is the CO_2 equivalent emissions applying the global warming potential for each GHG from Table A-1, 40 CFR 98. Global warming potentials are:
Carbon Dioxide: 1
Methane: 25
Nitrous Oxide: 298

[2] The permit applicability threshold is in units of short tons per year (tpy) opposed to metric tons per year (tonnes/yr).

[3] Potential CO_2e, CO_2, CH_4, and N_2O emissions from dual fired turbines in SoLoNOx mode and out of SoLoNOx mode are the same.

Table 11. Potential to Emit Calculations - Carbon Dioxide (CO_2) Emissions
Point Thomson Unit (PTU) Gas Expansion - Future Development

Emission Unit			Fuel	Maximum Fuel	Factor	CO_2 Emission	Nonroad	Maximum Annual	Annual CO_2 Emissions
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Operation	
96	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	5,219.8 tonne/year
101	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Table C-1, 40 CFR 98	53.06 kg CO_2/MMBtu	N/A	8,760 hr/yr	40,479.9 tonne/year
102	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Table C-1, 40 CFR 98	53.06 kg CO_2/MMBtu	N/A	8,760 hr/yr	40,479.9 tonne/year
103	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Table C-1, 40 CFR 98	53.06 kg CO_2/MMBtu	N/A	6,260 hr/yr	28,927.4 tonne/year
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	2,500 hr/yr	15,257.9 tonne/year
104	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Table C-1, 40 CFR 98	53.06 kg CO_2/MMBtu	N/A	6,260 hr/yr	28,927.4 tonne/year
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	2,500 hr/yr	15,257.9 tonne/year
101-104	Fuel Gas and Dual Fuel-fired Turbine (out of SoLoNOx, combined)	N/A	Fuel Gas	42.27 MMBtu/hr	Table C-1, 40 CFR 98	53.06 kg CO_2/MMBtu	N/A	0 hr/yr	0.0 tonne/year
103-104	Dual Fuel-fired Turbine (out of SoLoNOx mode, combined)	N/A	ULSD	56.07 MMBtu/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	0 hr/yr	0.0 tonne/year
107	Standby Camp Generator Engine No. 1	2,695 hp	ULSD	127.0 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	500 hr/yr	648.1 tonne/year
108	Standby Camp Generator Engine No. 2	2,695 hp	ULSD	127.0 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	500 hr/yr	648.1 tonne/year
109	Standby Camp Generator Engine No. 3	2,695 hp	ULSD	127.0 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	500 hr/yr	648.1 tonne/year
110	Fine Water Mist Pump Engine No. 1	610 hp	ULSD	29.6 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	500 hr/yr	151.1 tonne/year
111	Fine Water Mist Pump Engine No. 2	610 hp	ULSD	29.6 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	500 hr/yr	151.1 tonne/year
112	HP Flare	130 MMscf/yr	Gas	N/A	Table C-1, 40 CFR 98	53.06 kg CO_2/MMBtu	N/A	8,760 hr/yr	7,077.1 tonne/year
113	LP Flare	20 MMscf/yr	Gas	N/A	Table C-1, 40 CFR 98	53.06 kg CO_2/MMBtu	N/A	8,760 hr/yr	1,088.8 tonne/year
114	Airstrip Generator Engine	563 hp	ULSD	29.0 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	500 hr/yr	148.0 tonne/year
115	ACRV Heater No. 1	0.175 MMBtu/hr	ULSD	1.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	111.8 tonne/year
116	ACRV Heater No. 2	0.175 MMBtu/hr	ULSD	1.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	111.8 tonne/year
117	Hot Oil Unit Engine	375 hp	ULSD	19.2 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	1,716.6 tonne/year
118	Air Compressor Generator Engine	61 hp	ULSD	3.1 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	278.6 tonne/year
119	Light Plant Generator Engine No. 1	28 hp	ULSD	1.4 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	127.9 tonne/year
120	Light Plant Generator Engine No. 2	28 hp	ULSD	1.4 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	127.9 tonne/year
121	Light Plant Generator Engine No. 3	28 hp	ULSD	1.4 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	127.9 tonne/year
122	Light Plant Generator Engine No. 4	28 hp	ULSD	1.4 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	127.9 tonne/year
123	Portable Moving Generator Engine No. 1	32 hp	ULSD	1.6 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	146.2 tonne/year
124	Portable Moving Generator Engine No. 2	32 hp	ULSD	1.6 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	146.2 tonne/year
125	Portable Moving Generator Engine No. 3	32 hp	ULSD	1.6 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	146.2 tonne/year
126	Freeze Protection Generator Engine No. 1	99 hp	ULSD	5.1 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	452.2 tonne/year
127	Freeze Protection Generator Engine No. 2	99 hp	ULSD	5.1 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	452.2 tonne/year
128	Freeze Protection Generator Engine No. 3	99 hp	ULSD	5.1 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	452.2 tonne/year
129	Ground Heater Engine	10.9 hp	ULSD	0.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	61.7 tonne/year
130	Ground Heater	0.28 MMBtu/hr	ULSD	2.0 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	178.8 tonne/year
131	Portable Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	652.5 tonne/year
132	Portable Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	652.5 tonne/year
133	Portable Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	652.5 tonne/year
134	Portable Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	652.5 tonne/year
135	Portable Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	652.5 tonne/year
136	Portable Heater No. 6	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	652.5 tonne/year
137	Portable Heater No. 7	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	652.5 tonne/year
138	Portable Heater No. 8	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	652.5 tonne/year
139	Portable Heater Engine No. 1	17 hp	ULSD	0.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	61.7 tonne/year
140	Portable Heater Engine No. 2	17 hp	ULSD	0.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	61.7 tonne/year
141	Portable Heater Engine No. 3	17 hp	ULSD	0.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	61.7 tonne/year
142	Portable Heater Engine No. 4	17 hp	ULSD	0.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	61.7 tonne/year
143	Portable Heater Engine No. 5	17 hp	ULSD	0.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	61.7 tonne/year
144	Portable Heater Engine No. 6	17 hp	ULSD	0.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	61.7 tonne/year
145	Portable Heater Engine No. 7	17 hp	ULSD	0.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	61.7 tonne/year
146	Portable Heater Engine No. 8	17 hp	ULSD	0.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	61.7 tonne/year
147	Used Oil-fired Heater	0.5 MMBtu/hr	Used Oil/ULSD	3.6 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	326.2 tonne/year
148	Production Support Engine	400 hp	ULSD	20.4 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	1,826.9 tonne/year
149	Refrigeration Unit (Reefer) Engine	24.8 hp	ULSD	1.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	113.3 tonne/year
150	Fuel Gas-fired Heater	80.5 MMBtu/hr	Fuel Gas	0.08 MMscf/hr	Table C-1, 40 CFR 98	53.06 kg CO_2/MMBtu	N/A	8,760 hr/yr	37,416.9 tonne/year
151	Gas-fired TEG Regeneration Heater	4.3 MMBtu/hr	Fuel Gas	0.0 MMscf/hr	Table C-1, 40 CFR 98	53.06 kg CO_2/MMBtu	N/A	8,760 hr/yr	2,004.5 tonne/year
152	Booster Compressor Gas Turbine Drive No. 1	28,110 hp	Fuel Gas	243.9 MMBtu/hr	Table C-1, 40 CFR 98	53.06 kg CO_2/MMBtu	N/A	8,760 hr/yr	113,343.8 tonne/year
153	Booster Compressor Gas Turbine Drive No. 2	28,110 hp	Fuel Gas	243.9 MMBtu/hr	Table C-1, 40 CFR 98	53.06 kg CO_2/MMBtu	N/A	8,760 hr/yr	113,343.8 tonne/year
246	Waste Incinerator	250 lb/hr	Trash	250 lb/hr	Table C-1, 40 CFR 98	90.7 kg CO_2/MMBtu	N/A	8,760 hr/yr	988.2 tonne/year
			ULSD	25.0 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	2,235.2 tonne/year
								Total Potential CO_2 Emissions Excluding Nonroad Engines	**462,332 tonne/year**
								Total Potential CO_2 Emissions for Nonroad Engines	**4,857 tonne/year**
								Total Potential CO_2 Emissions for All Emission Units	**467,189 tonne/year**

Notes:
[1] Heat rate for diesel engines 7,000 Btu/hp-hr
[2] NRE = Nonroad Engine
[3] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)
[4] Diesel high heat value: 0.138 MMBtu/gallon
[5] Pipeline natural gas default high heat value 1.026E-03 MMBtu/scf
[6] Municipal solid waste default high heat value 9.95 MMBtu/short ton

Table 12. Potential to Emit Calculations - Methane (CH_4) Emissions
Point Thomson Unit (PTU) Gas Expansion - Future Development

Emission Unit			Fuel	Maximum Fuel	Factor	CH_4 Emission	Nonroad	Maximum Annual	Annual CH_4 Emissions
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Operation	
96	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.212 tonne/year
101	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Table C-2, 40 CFR 98	1.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.763 tonne/year
102	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Table C-2, 40 CFR 98	1.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.763 tonne/year
103	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Table C-2, 40 CFR 98	1.00E-03 kg CH_4/MMBtu	N/A	6,260 hr/yr	0.545 tonne/year
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	2,500 hr/yr	0.619 tonne/year
104	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Table C-2, 40 CFR 98	1.00E-03 kg CH_4/MMBtu	N/A	6,260 hr/yr	0.545 tonne/year
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	2,500 hr/yr	0.619 tonne/year
101-104	Fuel Gas and Dual Fuel-fired Turbine (out of SoLoNOx, combined)	N/A	Fuel Gas	42.27 MMBtu/hr	Table C-2, 40 CFR 98	1.00E-03 kg CH_4/MMBtu	N/A	0 hr/yr	0.000 tonne/year
103-104	Dual Fuel-fired Turbine (out of SoLoNOx mode, combined)	N/A	ULSD	56.07 MMBtu/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	0 hr/yr	0.000 tonne/year
107	Standby Camp Generator Engine No. 1	2,695 hp	ULSD	127.0 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	500 hr/yr	0.026 tonne/year
108	Standby Camp Generator Engine No. 2	2,695 hp	ULSD	127.0 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	500 hr/yr	0.026 tonne/year
109	Standby Camp Generator Engine No. 3	2,695 hp	ULSD	127.0 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	500 hr/yr	0.026 tonne/year
110	Fine Water Mist Pump Engine No. 1	610 hp	ULSD	29.6 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	500 hr/yr	0.006 tonne/year
111	Fine Water Mist Pump Engine No. 2	610 hp	ULSD	29.6 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	500 hr/yr	0.006 tonne/year
112	HP Flare	130 MMscf/yr	Gas	N/A	Table C-2, 40 CFR 98	1.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.133 tonne/year
113	LP Flare	20 MMscf/yr	Gas	N/A	Table C-2, 40 CFR 98	1.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.021 tonne/year
114	Airstrip Generator Engine	563 hp	ULSD	29.0 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	500 hr/yr	0.006 tonne/year
115	ACRV Heater No. 1	0.175 MMBtu/hr	ULSD	1.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.005 tonne/year
116	ACRV Heater No. 2	0.175 MMBtu/hr	ULSD	1.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.005 tonne/year
117	Hot Oil Unit Engine	375 hp	ULSD	19.2 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.070 tonne/year
118	Air Compressor Generator Engine	61 hp	ULSD	3.1 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.011 tonne/year
119	Light Plant Generator Engine No. 1	28 hp	ULSD	1.4 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.005 tonne/year
120	Light Plant Generator Engine No. 2	28 hp	ULSD	1.4 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.005 tonne/year
121	Light Plant Generator Engine No. 3	28 hp	ULSD	1.4 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.005 tonne/year
122	Light Plant Generator Engine No. 4	28 hp	ULSD	1.4 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.005 tonne/year
123	Portable Moving Generator Engine No. 1	32 hp	ULSD	1.6 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.006 tonne/year
124	Portable Moving Generator Engine No. 2	32 hp	ULSD	1.6 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.006 tonne/year
125	Portable Moving Generator Engine No. 3	32 hp	ULSD	1.6 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.006 tonne/year
126	Freeze Protection Generator Engine No. 1	99 hp	ULSD	5.1 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.018 tonne/year
127	Freeze Protection Generator Engine No. 2	99 hp	ULSD	5.1 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.018 tonne/year
128	Freeze Protection Generator Engine No. 3	99 hp	ULSD	5.1 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.018 tonne/year
129	Ground Heater Engine	10.9 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.003 tonne/year
130	Ground Heater	0.28 MMBtu/hr	ULSD	2.0 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.007 tonne/year
131	Portable Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
132	Portable Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
133	Portable Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
134	Portable Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
135	Portable Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
136	Portable Heater No. 6	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
137	Portable Heater No. 7	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
138	Portable Heater No. 8	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
139	Portable Heater Engine No. 1	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.003 tonne/year
140	Portable Heater Engine No. 2	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.003 tonne/year
141	Portable Heater Engine No. 3	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.003 tonne/year
142	Portable Heater Engine No. 4	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.003 tonne/year
143	Portable Heater Engine No. 5	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.003 tonne/year
144	Portable Heater Engine No. 6	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.003 tonne/year
145	Portable Heater Engine No. 7	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.003 tonne/year
146	Portable Heater Engine No. 8	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.003 tonne/year
147	Used Oil-fired Heater	0.5 MMBtu/hr	Used Oil/ULSD	3.6 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.013 tonne/year
148	Production Support Engine	400 hp	ULSD	20.4 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.074 tonne/year
149	Refrigeration Unit (Reefer) Engine	24.8 hp	ULSD	1.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.005 tonne/year
150	Fuel Gas-fired Heater	80.5 MMBtu/hr	Fuel Gas	0.08 MMscf/hr	Table C-2, 40 CFR 98	1.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.705 tonne/year
151	Gas-fired TEG Regeneration Heater	4.3 MMBtu/hr	Fuel Gas	0.0 MMscf/hr	Table C-2, 40 CFR 98	1.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.038 tonne/year
152	Booster Compressor Gas Turbine Drive No. 1	28,110 hp	Fuel Gas	243.9 MMBtu/hr	Table C-2, 40 CFR 98	1.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	2.136 tonne/year
153	Booster Compressor Gas Turbine Drive No. 2	28,110 hp	Fuel Gas	243.9 MMBtu/hr	Table C-2, 40 CFR 98	1.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	2.136 tonne/year
246	Waste Incinerator	250 lb/hr	Trash	250 lb/hr	Table C-2, 40 CFR 98	3.20E-02 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.349 tonne/year
			ULSD	25.0 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.091 tonne/year
								Total Potential CH_4 Emissions Excluding Nonroad Engines	**10.091 tonne/year**
								Total Potential CH_4 Emissions for Nonroad Engines	**0.197 tonne/year**
								Total Potential CH_4 Emissions for All Emission Units	**10.288 tonne/year**

Notes:
[1] Heat rate for diesel engines 7,000 Btu/hp-hr
[2] NRE = Nonroad Engine
[3] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.1(
[4] Diesel high heat value 0.138 MMBtu/gallon
[5] Pipeline natural gas default high heat value 1.026E-03 MMBtu/scf
[6] Municipal solid waste default high heat value 9.95 MMBtu/short ton

Table 13. Potential to Emit Calculations - Nitrous Oxide (N_2O) Emissions
Point Thomson Unit (PTU) Gas Expansion - Future Development

Emission Unit ID	Description	Rating/Capacity	Fuel Type	Maximum Fuel Consumption	Factor Reference	N_2O Emission Factor	Nonroad Engine	Maximum Annual Operation	Annual N_2O Emissions
96	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0423 tonne/year
101	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Table C-2, 40 CFR 98	1.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0763 tonne/year
102	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Table C-2, 40 CFR 98	1.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0763 tonne/year
103	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Table C-2, 40 CFR 98	1.00E-04 kg N_2O/MMBtu	N/A	6,260 hr/yr	0.0545 tonne/year
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	2,500 hr/yr	0.1238 tonne/year
104	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Table C-2, 40 CFR 98	1.00E-04 kg N_2O/MMBtu	N/A	6,260 hr/yr	0.0545 tonne/year
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	2,500 hr/yr	0.1238 tonne/year
101-104	Fuel Gas and Dual Fuel-fired Turbine (out of SoLoNOx, combined)	N/A	Fuel Gas	42.27 MMBtu/hr	Table C-2, 40 CFR 98	1.00E-04 kg N_2O/MMBtu	N/A	0 hr/yr	0.0000 tonne/year
103-104	Dual Fuel-fired Turbine (out of SoLoNOx mode, combined)	N/A	ULSD	56.07 MMBtu/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	0 hr/yr	0.0000 tonne/year
107	Standby Camp Generator Engine No. 1	2,695 hp	ULSD	127.0 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	500 hr/yr	0.0053 tonne/year
108	Standby Camp Generator Engine No. 2	2,695 hp	ULSD	127.0 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	500 hr/yr	0.0053 tonne/year
109	Standby Camp Generator Engine No. 3	2,695 hp	ULSD	127.0 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	500 hr/yr	0.0053 tonne/year
110	Fine Water Mist Pump Engine No. 1	610 hp	ULSD	29.6 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	500 hr/yr	0.0012 tonne/year
111	Fine Water Mist Pump Engine No. 2	610 hp	ULSD	29.6 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	500 hr/yr	0.0012 tonne/year
112	HP Flare	130 MMscf/yr	Gas	N/A	Table C-2, 40 CFR 98	1.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0133 tonne/year
113	LP Flare	20 MMscf/yr	Gas	N/A	Table C-2, 40 CFR 98	1.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0021 tonne/year
114	Airstrip Generator Engine	563 hp	ULSD	29.0 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	500 hr/yr	0.0012 tonne/year
115	ACRV Heater No. 1	0.175 MMBtu/hr	ULSD	1.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0009 tonne/year
116	ACRV Heater No. 2	0.175 MMBtu/hr	ULSD	1.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0009 tonne/year
117	Hot Oil Unit Engine	375 hp	ULSD	19.2 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0139 tonne/year
118	Air Compressor Generator Engine	61 hp	ULSD	3.1 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0023 tonne/year
119	Light Plant Generator Engine No. 1	28 hp	ULSD	1.4 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0010 tonne/year
120	Light Plant Generator Engine No. 2	28 hp	ULSD	1.4 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0010 tonne/year
121	Light Plant Generator Engine No. 3	28 hp	ULSD	1.4 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0010 tonne/year
122	Light Plant Generator Engine No. 4	28 hp	ULSD	1.4 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0010 tonne/year
123	Portable Moving Generator Engine No. 1	32 hp	ULSD	1.6 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0012 tonne/year
124	Portable Moving Generator Engine No. 2	32 hp	ULSD	1.6 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0012 tonne/year
125	Portable Moving Generator Engine No. 3	32 hp	ULSD	1.6 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0012 tonne/year
126	Freeze Protection Generator Engine No. 1	99 hp	ULSD	5.1 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0037 tonne/year
127	Freeze Protection Generator Engine No. 2	99 hp	ULSD	5.1 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0037 tonne/year
128	Freeze Protection Generator Engine No. 3	99 hp	ULSD	5.1 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0037 tonne/year
129	Ground Heater Engine	10.9 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0005 tonne/year
130	Ground Heater	0.28 MMBtu/hr	ULSD	2.0 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0015 tonne/year
131	Portable Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0053 tonne/year
132	Portable Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0053 tonne/year
133	Portable Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0053 tonne/year
134	Portable Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0053 tonne/year
135	Portable Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0053 tonne/year
136	Portable Heater No. 6	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0053 tonne/year
137	Portable Heater No. 7	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0053 tonne/year
138	Portable Heater No. 8	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0053 tonne/year
139	Portable Heater Engine No. 1	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0005 tonne/year
140	Portable Heater Engine No. 2	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0005 tonne/year
141	Portable Heater Engine No. 3	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0005 tonne/year
142	Portable Heater Engine No. 4	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0005 tonne/year
143	Portable Heater Engine No. 5	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0005 tonne/year
144	Portable Heater Engine No. 6	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0005 tonne/year
145	Portable Heater Engine No. 7	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0005 tonne/year
146	Portable Heater Engine No. 8	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0005 tonne/year
147	Used Oil-fired Heater	0.5 MMBtu/hr	Used Oil/ULSD	3.6 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0026 tonne/year
148	Production Support Engine	400 hp	ULSD	20.4 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0148 tonne/year
149	Refrigeration Unit (Reefer) Engine	24.8 hp	ULSD	1.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0009 tonne/year
150	Fuel Gas-fired Heater	80.5 MMBtu/hr	Fuel Gas	0.08 MMscf/hr	Table C-2, 40 CFR 98	1.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0705 tonne/year
151	Gas-fired TEG Regeneration Heater	4.3 MMBtu/hr	Fuel Gas	0.0 MMscf/hr	Table C-2, 40 CFR 98	1.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0038 tonne/year
152	Booster Compressor Gas Turbine Drive No. 1	28,110 hp	Fuel Gas	243.9 MMBtu/hr	Table C-2, 40 CFR 98	1.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.2136 tonne/year
153	Booster Compressor Gas Turbine Drive No. 2	28,110 hp	Fuel Gas	243.9 MMBtu/hr	Table C-2, 40 CFR 98	1.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.2136 tonne/year
246	Waste Incinerator	250 lb/hr	Trash	250 lb/hr	Table C-2, 40 CFR 98	4.20E-03 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0458 tonne/year
			ULSD	25.0 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0181 tonne/year
								Total Potential N_2O Emissions Excluding Nonroad Engines	**1.2158 tonne/year**
								Total Potential N_2O Emissions for Nonroad Engines	**0.0394 tonne/year**
								Total Potential N_2O Emissions for All Emission Units	**1.2552 tonne/year**

Notes:
[1] Heat rate for diesel engines 7,000 Btu/hp-hr
[2] NRE = Nonroad Engine
[3] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.10
[4] Diesel high heat value 0.138 MMBtu/gallon
[5] Pipeline natural gas default high heat value 1.026E-03 MMBtu/scf
[6] Municipal solid waste default high heat value 9.95 MMBtu/short ton

Table 14. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
Point Thomson Unit (PTU) Gas Expansion - Future Development

Hazardous Air Pollutant	Fuel Gas-fired Turbines	Dual Fuel-fired Turbines	Flares	Waste Incinerator	Fuel Gas-fired Heaters	ULSD Heaters	Used Oil-fired Heater[1]	ULSD Engines ≤600 hp	ULSD Engines >600 hp	Stationary Emission Unit HAP Emissions[2]	Nonroad Engines ≤600 hp	Nonroad Engines >600 hp	Nonroad Engine HAP Emissions[2]
Acetaldehyde	1.16E-01	2.12E-02	3.23E-03	----	1.12E-03	----	----	1.07E-02	4.10E-04	**0.15**	2.56E-02	----	**0.03**
Acrolein	1.86E-02	3.39E-03	7.50E-04	----	9.78E-04	----	----	1.30E-03	1.28E-04	**0.03**	3.09E-03	----	**0.00**
Benzene	3.48E-02	1.82E-02	1.19E-02	----	2.10E-03	1.14E-04	----	1.31E-02	1.26E-02	**0.09**	3.11E-02	----	**0.03**
1,3-Butadiene	1.25E-03	3.69E-03	----	----	----	----	----	5.48E-04	----	**0.01**	1.30E-03	----	**0.00**
Dibutylphthalate	----	----	----	----	----	----	5.32E-07	----	----	**0.00**	----	----	
Dichlorobenzene	----	----	----	----	----	----	0.00E+00	----	----		----	----	
Ethylbenzene	9.28E-02	1.70E-02	1.08E-01	----	2.50E-03	3.38E-05	----	----	----	**0.22**	----	----	
Formaldehyde	2.06E+00	4.37E-01	8.77E-02	----	4.45E-03	1.75E-02	----	1.65E-02	1.28E-03	**2.62**	3.94E-02	----	**0.04**
Hexane	----	----	2.18E-03	----	1.67E-03	----	----	----	----	**0.00**	----	----	
N-Hexane	----	----	----	----	----	----	----	----	----		----	----	
Hydrochloric acid (HCl)	----	----	----	3.50E+00	----	----	----	----	----	**3.50**	----	----	
Phenol	----	----	----	----	----	----	4.38E-07	----	----	**0.00**	----	----	
Polycyclic Organic Matter (POM)	6.38E-03	9.81E-03	1.05E-03	----	1.45E-04	1.75E-03	----	2.35E-03	3.45E-03	**0.02**	5.60E-03	----	**0.01**
Acenaphthene	----	----	----	----	----	----	----	----	----		----	----	
Acenaphthylene	----	----	----	----	----	----	----	----	----		----	----	
Anthracene	----	----	----	----	----	----	----	----	----		----	----	
Benz(a)anthracene	----	----	----	----	----	----	0.00E+00	----	----		----	----	
Benzo(a)pyrene	----	----	----	----	----	----	0.00E+00	----	----		----	----	
Benzo(b)fluoranthene	----	----	----	----	----	----	----	----	----		----	----	
Benzo(g,h,i)perylene	----	----	----	----	----	----	----	----	----		----	----	
Benzo(k)fluoranthene	----	----	----	----	----	----	----	----	----		----	----	
Dibenz(a,h)anthracene	----	----	----	----	----	----	----	----	----		----	----	
7,12-Dimethylbenz[a]Anthracene	----	----	----	----	----	----	----	----	----		----	----	
Fluorene	----	----	----	----	----	----	----	----	----		----	----	
Fluoranthene	----	----	----	----	----	----	----	----	----		----	----	
Indeno(1,2,3-cd)pyrene	----	----	----	----	----	----	----	----	----		----	----	
2-Methylnaphthalene	----	----	----	----	----	----	----	----	----		----	----	
3-Methylcholanthrene	----	----	----	----	----	----	----	----	----		----	----	
Naphthalene	3.77E-03	8.25E-03	----	----	----	6.01E-04	1.44E-06	----	----	**0.01**	----	----	
Phenanthrene	----	----	----	----	----	----	1.56E-06	----	----	**0.00**	----	----	
Pyrene	----	----	----	----	----	----	1.30E-07	----	----	**0.00**	----	----	
Propylene oxide	8.41E-02	1.54E-02	----	----	----	----	----	----	----	**0.10**	----	----	
Toluene	3.77E-01	6.89E-02	4.35E-03	----	2.10E-02	3.30E-03	----	5.73E-03	4.58E-03	**0.48**	1.36E-02	----	**0.01**
1,1,1-Trichloroethane	----	----	----	----	----	1.25E-04	0.00E+00	----	----	**0.00**	----	----	
Xylenes (isomers and mixture)	1.86E-01	3.39E-02	2.18E-03	----	7.13E-03	5.80E-05	----	3.99E-03	3.14E-03	**0.24**	9.51E-03	----	**0.01**
Antimony Compounds	----	----	----	----	----	----	7.04E-06	----	----	**0.00**	----	----	
Arsenic Compounds	----	2.38E-03	----	2.39E-03	----	2.91E-04	9.39E-04	----	----	**0.01**	----	----	
Beryllium Compounds	----	6.70E-05	----	----	----	2.19E-04	2.82E-05	----	----	**0.00**	----	----	
Cadmium Compounds	----	1.04E-03	----	5.97E-03	----	2.19E-04	1.88E-04	----	----	**0.01**	----	----	
Chromium Compounds	----	2.38E-03	----	4.91E-03	----	2.19E-04	2.82E-03	----	----	**0.01**	----	----	
Cobalt Compounds	----	----	----	----	----	----	8.13E-05	----	----	**0.00**	----	----	
Lead Compounds	----	3.03E-03	----	1.17E-01	----	6.56E-04	----	----	----	**0.12**	----	----	
Manganese Compounds	----	1.71E-01	----	----	----	4.37E-04	7.82E-04	----	----	**0.17**	----	----	
Mercury Compounds	----	2.59E-04	----	3.07E-03	----	2.19E-04	----	----	----	**0.00**	----	----	
Nickel Compounds	----	9.94E-04	----	4.30E-03	----	2.19E-04	2.50E-03	----	----	**0.01**	----	----	
Selenium Compounds	----	5.40E-03	----	----	----	1.09E-03	0.00E+00	----	----	**0.01**	----	----	

Total HAPs - Maximum Individual HAP	**----**	**----**	**----**	**----**	**----**	**----**	----	**----**	**----**	**3.50**	**----**	**----**	**0.04**
Total VOC HAP Emissions	**2.97**	**0.63**	**0.22**	**0.00**	**0.04**	**0.02**	**0.00**	**0.05**	**0.03**	**3.97**	**0.13**	**0.00**	**0.14**
Total HAPs Emissions	**2.98**	**0.82**	**0.22**	**3.64**	**0.04**	**0.03**	**0.01**	**0.05**	**0.03**	**7.82**	**0.13**	**0.00**	**0.13**

Notes:
[1] For used oil-fired heaters, AP-42 lists individual POMs and not a combined POM emission factor.
[2] See individual emissions unit category emissions calculations for details on methodology and assumptions.
[3] AP-42 is unclear if the value for PAH includes naphthalene. The emission factor for PAH is included and listed under polycylic organic matter.

Table 15. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
Fuel Gas-fired Turbines

Maximum Total Heat Input: 5,798,104 MMBtu/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations	
CAS No.	**Chemical Name**	**Emission Factor**	**Estimated Emissions**
106990	1,3-Butadiene	4.30E-07 lb/MMBtu	1.25E-03 tpy
75070	Acetaldehyde	4.00E-05 lb/MMBtu	1.16E-01 tpy
107028	Acrolein	6.40E-06 lb/MMBtu	1.86E-02 tpy
71432	Benzene	1.20E-05 lb/MMBtu	3.48E-02 tpy
100414	Ethylbenzene	3.20E-05 lb/MMBtu	9.28E-02 tpy
5000	Formaldehyde	7.10E-04 lb/MMBtu	2.06E+00 tpy
91203	Naphthalene	1.30E-06 lb/MMBtu	3.77E-03 tpy
N/A	Polycyclic Organic Matter (POM)	2.20E-06 lb/MMBtu	6.38E-03 tpy
75569	Propylene oxide	2.90E-05 lb/MMBtu	8.41E-02 tpy
108883	Toluene	1.30E-04 lb/MMBtu	3.77E-01 tpy
1330207	Xylenes (isomers and mixture)	6.40E-05 lb/MMBtu	1.86E-01 tpy

Total Potential HAP Emissions: 2.98 tpy

Notes/Comments:

[1] Reference: AP-42, Table 3.1-3.

[2] AP-42, Table 3.1-3 is unclear if the value for PAH includes Naphthalene.
The emission factor for PAH is included and listed under Polycylic Organic Matter.

[3] Total heat consumption based on maximum full-time or permit-limited operation as noted below:

(2) 7,520 kW Solar Taurus 70 Turbines	87.09 MMBtu/hr, each			
	Potential Heat Input: EU 101	762,908 MMBtu/yr, operating	8,760 hr/yr	
	Potential Heat Input: EU 102	762,908 MMBtu/yr, operating	8,760 hr/yr	
(2) 28,110 hp Booster Compressor Gas Turbines	243.85 MMBtu/hr, each			
	Potential Heat Input: EU 152	2,136,144 MMBtu/yr, operating	8,760 hr/yr	
	Potential Heat Input: EU 153	2,136,144 MMBtu/yr, operating	8,760 hr/yr	

Total Potential Heat Input: 5,798,104 MMBtu/yr

[4] Capacity of the turbines is the nominal capacity at ISO conditions

Table 16. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
Dual Fuel-fired Turbines

Maximum Total Heat Input on Fuel Gas: 1,059,885 MMBtu/yr
Maximum Total Heat Input on Fuel ULSD: 432,225 MMBtu/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations	
CAS No.	**Chemical Name**	**Emission Factor**	**Estimated Emissions**
75070	Acetaldehyde	4.00E-05 lb/MMBtu	2.12E-02 tpy from fuel gas
107028	Acrolein	6.40E-06 lb/MMBtu	3.39E-03 tpy from fuel gas
100414	Ethylbenzene	3.20E-05 lb/MMBtu	1.70E-02 tpy from fuel gas
5000	Formaldehyde	7.10E-04 lb/MMBtu	3.76E-01 tpy from fuel gas
5000	Formaldehyde	2.80E-04 lb/MMBtu	6.05E-02 tpy from ULSD
75569	Propylene oxide	2.90E-05 lb/MMBtu	1.54E-02 tpy from fuel gas
108883	Toluene	1.30E-04 lb/MMBtu	6.89E-02 tpy from fuel gas
1330207	Xylenes (isomers and mixture)	6.40E-05 lb/MMBtu	3.39E-02 tpy from fuel gas
106990	1,3-Butadiene	4.30E-07 lb/MMBtu	2.28E-04 tpy from fuel gas
106990	1,3-Butadiene	1.60E-05 lb/MMBtu	3.46E-03 tpy from ULSD
71432	Benzene	1.20E-05 lb/MMBtu	6.36E-03 tpy from fuel gas
71432	Benzene	5.50E-05 lb/MMBtu	1.19E-02 tpy from ULSD
91203	Naphthalene	1.30E-06 lb/MMBtu	6.89E-04 tpy from fuel gas
91203	Naphthalene	3.50E-05 lb/MMBtu	7.56E-03 tpy from ULSD
N/A	Polycyclic Organic Matter (POM)	2.20E-06 lb/MMBtu	1.17E-03 tpy from fuel gas
N/A	Polycyclic Organic Matter (POM)	4.00E-05 lb/MMBtu	8.64E-03 tpy from ULSD
107028	Arsenic Compounds	1.10E-05 lb/MMBtu	2.38E-03 tpy from ULSD
NA	Beryllium Compounds	3.10E-07 lb/MMBtu	6.70E-05 tpy from ULSD
NA	Cadmium Compounds	4.80E-06 lb/MMBtu	1.04E-03 tpy from ULSD
71432	Chromium Compounds	1.10E-05 lb/MMBtu	2.38E-03 tpy from ULSD
NA	Lead Compounds	1.40E-05 lb/MMBtu	3.03E-03 tpy from ULSD
NA	Manganese Compounds	7.90E-04 lb/MMBtu	1.71E-01 tpy from ULSD
NA	Mercury Compounds	1.20E-06 lb/MMBtu	2.59E-04 tpy from ULSD
NA	Nickel Compounds	4.60E-06 lb/MMBtu	9.94E-04 tpy from ULSD
NA	Selenium Compounds	2.50E-05 lb/MMBtu	5.40E-03 tpy from ULSD

Total Potential HAP Emissions: 0.82 tpy

Notes/Comments:

[1] Reference: AP-42, Tables 3.1-3, 3.1-4, and 3.1-5.

[2] AP-42, Table 3.1-3 is unclear if the value for PAH includes Naphthalene.
The emission factor for PAH is included and listed under Polycylic Organic Matter.

[3] Total heat consumption based on maximum full-time or permit-limited operation as noted below:

(2) 7,520 kW Solar Taurus 70 Turbines
82.52 MMBtu/hr, each maximum heat consumption on ULSD
87.09 MMBtu/hr, each maximum heat consumption on fuel gas
56.07 MMBtu/hr, each maximum heat consumption on ULSD, operating out of SoLoNOx mode

Potential Heat Input:	EU 103	514,702	MMBtu/yr, operating on fuel gas	5,910 hr/yr
		206,300	MMBtu/yr, operating on ULSD	2,500 hr/yr
Potential Heat Input:	EU 104	545,183	MMBtu/yr, operating on fuel gas	6,260 hr/yr
		206,300	MMBtu/yr, operating on ULSD	2,500 hr/yr
Potential Heat Input (Out of SoLoNOx Mode):	EUs 103/104 (combined)	19,625	MMBtu/yr, operating on ULSD	350 hr/yr

Total Potential Heat Input on Fuel Gas: 1,059,885 MMBtu/yr
Total Potential Heat Input on ULSD: 432,225 MMBtu/yr

[4] HAP metal emissions only occur when the turbines fire ULSD.

[5] Higher formaldehyde emissions when the turbines fire fuel gas. Higher 1,3-Butadiene, Benzene, Napthalene, and POM emissions when the turbines fire ULSD.

[6] Formaldehyde, 1,3-Butadiene, Benzene, Napthalene, and POM emissions are conservatively calculated to include turbines operating out of SoLoNOx mode on ULSD.

[7] Capacity of the turbines is the nominal capacity at ISO conditions.

Table 17. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
Flares

Maximum Total Capacity: 150 MMscf/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations	
CAS No.	**Chemical Name**	**Emission Factor**	**Estimated Emissions**
75070	Acetaldehyde	4.30E-02 lb/MMscf	3.23E-03 tpy
107028	Acrolein	1.00E-02 lb/MMscf	7.50E-04 tpy
100414	Ethylbenzene	1.44E+00 lb/MMscf	1.08E-01 tpy
5000	Formaldehyde	1.17E+00 lb/MMscf	8.77E-02 tpy
108883	Toluene	5.80E-02 lb/MMscf	4.35E-03 tpy
1330207	Xylenes (isomers and mixture)	2.90E-02 lb/MMscf	2.18E-03 tpy
71432	Benzene	1.59E-01 lb/MMscf	1.19E-02 tpy
NA	Polycyclic Organic Matter (POM)	1.40E-02 lb/MMscf	1.05E-03 tpy
NA	Hexane	2.90E-02 lb/MMscf	2.18E-03 tpy

Total Potential HAP Emissions: 0.22 tpy

Notes/Comments:
[1] Reference: VCAPCD
[2] Total heat consumption based on maximum full-time or permit-limited operation as noted below:

(2) Flares

Potential Heat Input: EU 112 130 MMscf/yr
EU 113 20 MMscf/yr

Total Capacity: 150 MMscf/yr

Table 18. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
Waste Incinerator

Maximum Total Usage: 2,190,000 lb/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations	
CAS No.	**Chemical Name**	**Emission Factor**	**Estimated Emissions**
N/A	Arsenic Compounds	4.37E-03 lb/ton	2.39E-03 tpy
N/A	Cadmium Compounds	1.09E-02 lb/ton	5.97E-03 tpy
N/A	Chromium Compounds	8.97E-03 lb/ton	4.91E-03 tpy
N/A	Mercury Compounds	5.60E-03 lb/ton	3.07E-03 tpy
N/A	Nickel Compounds	7.85E-03 lb/ton	4.30E-03 tpy
N/A	Lead Compounds	2.13E-01 lb/ton	1.17E-01 tpy
7647	Hydrochloric acid (HCl)	6.40E+00 lb/ton	3.50E+00 tpy

Total Potential HAP Emissions: 3.64 tpy

Notes/Comments:
[1] Reference: AP-42, Table 2.1-2
[2] Total heat consumption based on maximum full-time or permit-limited operation as noted below:

(1) Incinerator 250 lb/hr

Potential Operations: EU 246 2,190,000 lb/yr, operating 8,760 hr/yr

Total Potential Operations: 2,190,000 lb/yr

Table 17. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
Fuel Gas-fired Heater

Maximum Total Capacity: 724 MMscf/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations	
CAS No.	**Chemical Name**	**Emission Factor**	**Estimated Emissions**
75070	Acetaldehyde	3.10E-03 lb/MMscf	1.12E-03 tpy
107028	Acrolein	2.70E-03 lb/MMscf	9.78E-04 tpy
100414	Ethylbenzene	6.90E-03 lb/MMscf	2.50E-03 tpy
5000	Formaldehyde	1.23E-02 lb/MMscf	4.45E-03 tpy
108883	Toluene	5.80E-02 lb/MMscf	2.10E-02 tpy
1330207	Xylenes (isomers and mixture)	1.97E-02 lb/MMscf	7.13E-03 tpy
71432	Benzene	5.80E-03 lb/MMscf	2.10E-03 tpy
NA	Polycyclic Organic Matter (POM)	4.00E-04 lb/MMscf	1.45E-04 tpy
NA	Hexane	4.60E-03 lb/MMscf	1.67E-03 tpy

Total Potential HAP Emissions: 0.04 tpy

Notes/Comments:
[1] Reference: VCAPCD
[2] Total heat consumption based on maximum full-time or permit-limited operation as noted below:

(1) Fuel Gas-fired Heater	80.5 MMBtu/hr				
Potential Heat Input:	EU 150	705,180	MMBtu/yr, operating	8,760	hr/yr
(1) Gas-fired TEG Regeneration Heater	4.3 MMBtu/hr				
Potential Heat Input:	EU 151	37,778	MMBtu/yr, operating	8,760	hr/yr

[3] High pressure fuel gas has a heat content of 1,026 Btu/scf.

Total Capacity: 724 MMscf/yr

Table 20. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
ULSD-fired Heaters

Maximum Total Heat Input: 145,679 MMBtu/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations	
CAS No.	**Chemical Name**	**Emission Factor**	**Estimated Emissions**
NA	Arsenic Compounds	4.00E-06 lb/MMBtu	2.91E-04 tpy
71-43-2	Benzene	1.56E-06 lb/MMBtu	1.14E-04 tpy
NA	Beryllium Compounds	3.00E-06 lb/MMBtu	2.19E-04 tpy
NA	Cadmium Compounds	3.00E-06 lb/MMBtu	2.19E-04 tpy
NA	Chromium Compounds	3.00E-06 lb/MMBtu	2.19E-04 tpy
100-41-4	Ethylbenzene	4.64E-07 lb/MMBtu	3.38E-05 tpy
50-00-0	Formaldehyde	2.41E-04 lb/MMBtu	1.75E-02 tpy
NA	Lead Compounds	9.00E-06 lb/MMBtu	6.56E-04 tpy
NA	Manganese Compounds	6.00E-06 lb/MMBtu	4.37E-04 tpy
NA	Mercury Compounds	3.00E-06 lb/MMBtu	2.19E-04 tpy
91-20-3	Naphthalene	8.25E-06 lb/MMBtu	6.01E-04 tpy
NA	Nickel Compounds	3.00E-06 lb/MMBtu	2.19E-04 tpy
NA	Polycyclic Organic Matter (POM)	2.41E-05 lb/MMBtu	1.75E-03 tpy
NA	Selenium Compounds	1.50E-05 lb/MMBtu	1.09E-03 tpy
108-88-3	Toluene	4.53E-05 lb/MMBtu	3.30E-03 tpy
71-55-6	1,1,1-Trichloroethane	1.72E-06 lb/MMBtu	1.25E-04 tpy
1330-20-7	Xylenes (isomers and mixture)	7.96E-07 lb/MMBtu	5.80E-05 tpy

Total Potential HAP Emissions: 0.03 tpy

Notes/Comments:
[1] Reference: AP-42, Tables 1.3-8, 1.3-9, and 1.3-10.
[2] AP-42, Table 1.3-8 unclear if the value for PAH includes Naphthalene.
The emission factor for PAH is included and listed under Polycyclic Organic Matter.
[3] Total fuel use based on maximum full-time operation or permit-limited operation as noted below:

(1) Hot Oil Unit Heater	8.0 MMBtu/hr			
Potential Heat Input:	EU 96	70,080 MMBtu/yr, operating	8,760 hr/yr	
(2) ACRV Heaters	0.2 MMBtu/hr, each			
Potential Heat Input:	EU 115	1,533 MMBtu/yr, operating	8,760 hr/yr	
Potential Heat Input:	EU 116	1,533 MMBtu/yr, operating	8,760 hr/yr	
(1) Ground Heater	0.3 MMBtu/hr			
Potential Heat Input:	EU 130	2,453 MMBtu/yr, operating	8,760 hr/yr	
(8) Portable Heaters	1.0 MMBtu/hr, each			
Potential Heat Input:	EU 131	8,760 MMBtu/yr, operating	8,760 hr/yr	
Potential Heat Input:	EU 132	8,760 MMBtu/yr, operating	8,760 hr/yr	
Potential Heat Input:	EU 133	8,760 MMBtu/yr, operating	8,760 hr/yr	
Potential Heat Input:	EU 134	8,760 MMBtu/yr, operating	8,760 hr/yr	
Potential Heat Input:	EU 135	8,760 MMBtu/yr, operating	8,760 hr/yr	
Potential Heat Input:	EU 136	8,760 MMBtu/yr, operating	8,760 hr/yr	
Potential Heat Input:	EU 137	8,760 MMBtu/yr, operating	8,760 hr/yr	
Potential Heat Input:	EU 138	8,760 MMBtu/yr, operating	8,760 hr/yr	

Total Potential Heat Input: 145,679 MMBtu/yr

[4] Diesel high heat value: 137,000 Btu/gal

Table 21. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
Used Oil-fired Heater

Maximum Total Heat Input: 4,380 MMBtu/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations	
CAS No.	**Chemical Name**	**Emission Factor**	**Estimated Emissions**
NA	Antimony Compounds	3.21E-06 lb/MMBtu	7.04E-06 tpy
NA	Arsenic Compounds	4.29E-04 lb/MMBtu	9.39E-04 tpy
56-55-3	Benz(a)anthracene	ND	0 tpy
50-32-8	Benzo(a)pyrene	ND	0 tpy
NA	Beryllium Compounds	1.29E-05 lb/MMBtu	2.82E-05 tpy
117-81-7	Bis(2-ethylhexyl)phthalate	ND	0 tpy
NA	Cadmium Compounds	8.57E-05 lb/MMBtu	1.88E-04 tpy
NA	Chromium Compounds	1.29E-03 lb/MMBtu	2.82E-03 tpy
NA	Cobalt Compounds	3.71E-05 lb/MMBtu	8.13E-05 tpy
84-74-2	Dibutylphthalate	2.43E-07 lb/MMBtu	5.32E-07 tpy
95-50-1	Dichlorobenzene	ND	0 tpy
NA	Manganese Compounds	3.57E-04 lb/MMBtu	7.82E-04 tpy
91-20-3	Naphthalene	6.57E-07 lb/MMBtu	1.44E-06 tpy
NA	Nickel Compounds	1.14E-03 lb/MMBtu	2.50E-03 tpy
85-01-8	Phenanthrene	7.14E-07 lb/MMBtu	1.56E-06 tpy
108-95-2	Phenol	2.00E-07 lb/MMBtu	4.38E-07 tpy
7723-14-0	Phosphorus	ND	0 tpy
129-00-0	Pyrene	5.93E-08 lb/MMBtu	1.30E-07 tpy
71-55-6	1,1,1-Trichloroethane	ND	0 tpy
NA	Selenium Compounds	BDL	0 tpy

Total Potential HAP Emissions: 0.01 tpy

Notes/Comments:

[1] Reference: AP-42, Tables 1.11-4 and 1.11-5

[2] Total fuel use based on maximum full-time operation or permit-limited operation as noted below:

(1) Used Oil-fired Heater 0.5 MMBtu/hr

Potential Heat Input: EU 147 4,380 MMBtu/yr, operating 8,760 hr/yr

Total Potential Heat Input: 4,380 MMBtu/yr

[3] AP-42, Chapter 1.11 used oil heating value: 140,000 Btu/gal

[4] For used oil-fired heaters, AP-42 lists individual POMs and not a combined POM emission factor.

[5] ND = No Data

[6] BDL = Below Detection Limit

Table 22. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
ULSD Engines Less Than or Equal to 600 Horsepower

Maximum Total Heat Input: 28,019 MMBtu/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations		
CAS No.	**Chemical Name**	**Emission Factor**		**Estimated Emissions**
75-07-0	Acetaldehyde	7.67E-04	lb/MMBtu	1.07E-02 tpy
107-02-8	Acrolein	9.25E-05	lb/MMBtu	1.30E-03 tpy
71-43-2	Benzene	9.33E-04	lb/MMBtu	1.31E-02 tpy
106-99-0	1,3-Butadiene	3.91E-05	lb/MMBtu	5.48E-04 tpy
50-00-0	Formaldehyde	1.18E-03	lb/MMBtu	1.65E-02 tpy
108-88-3	Toluene	4.09E-04	lb/MMBtu	5.73E-03 tpy
1330-20-7	Xylenes (isomers and mixture)	2.85E-04	lb/MMBtu	3.99E-03 tpy
NA	Polycyclic Organic Matter (POM)	1.68E-04	lb/MMBtu	2.35E-03 tpy

Total Potential HAP Emissions: 0.05 tpy

Notes/Comments:

[1] Reference: AP-42, Table 3.3-2.

[2] The emission factor for PAH is included and listed under Polycyclic Organic Matter.

[3] Total fuel use based on maximum full-time operation or permit-limited operation as noted below:

(1) Airstrip Generator Engine	563 hp				
Potential Heat Input:	EU 114	1,971	MMBtu/yr, operating	500	hr/yr
(1) Production Support Engine	400 hp				
Potential Heat Input:	EU 148	24,528	MMBtu/yr, operating	8,760	hr/yr
(1) Refrigeration Unit (Reefer) Engine	24.8 hp				
Potential Heat Input:	EU 149	1,521	MMBtu/yr, operating	8,760	hr/yr

Total Potential Heat Input: 28,019 MMBtu/yr

[4] Diesel engines heat rate: 7,000 Btu/hp-hr

Table 23. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
ULSD Engines Greater Than 600 Horsepower

Maximum Total Heat Input: 32,568 MMBtu/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations		
CAS No.	**Chemical Name**	**Emission Factor**		**Estimated Emissions**
75-07-0	Acetaldehyde	2.52E-05	lb/MMBtu	4.10E-04 tpy
107-02-8	Acrolein	7.88E-06	lb/MMBtu	1.28E-04 tpy
71-43-2	Benzene	7.76E-04	lb/MMBtu	1.26E-02 tpy
50-00-0	Formaldehyde	7.89E-05	lb/MMBtu	1.28E-03 tpy
108-88-3	Toluene	2.81E-04	lb/MMBtu	4.58E-03 tpy
1330-20-7	Xylenes (isomers and mixture)	1.93E-04	lb/MMBtu	3.14E-03 tpy
NA	Polycyclic Organic Matter (POM)	2.12E-04	lb/MMBtu	3.45E-03 tpy

Total Potential HAP Emissions: 0.03 tpy

Notes/Comments:

[1] Reference: AP-42, Table 3.4-3, 3.4-4.

[2] The emission factor for PAH is included and listed under Polycyclic Organic Matter.

[3] Total fuel use based on maximum full-time operation or permit-limited operation as noted below:

(3) Standby Camp Generator Engines	2,695	hp, each			
Potential Heat Input:	EU 107	9,433	MMBtu/yr, operating	500	hr/yr
Potential Heat Input:	EU 108	9,433	MMBtu/yr, operating	500	hr/yr
Potential Heat Input:	EU 109	9,433	MMBtu/yr, operating	500	hr/yr
(2) Fine Water Mist Pump Engines	610	hp, each			
Potential Heat Input:	EU 110	2,135	MMBtu/yr, operating	500	hr/yr
Potential Heat Input:	EU 111	2,135	MMBtu/yr, operating	500	hr/yr

Total Potential Heat Input: 32,568 MMBtu/yr

[4] Diesel engines heat rate: 7,000 Btu/hp-hr

Table 24. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
ULSD Nonroad Engines Less Than or Equal to 600 Horsepower

Maximum Total Heat Input: 66,710 MMBtu/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations	
CAS No.	**Chemical Name**	**Emission Factor**	**Estimated Emissions**
75-07-0	Acetaldehyde	7.67E-04 lb/MMBtu	2.56E-02 tpy
107-02-8	Acrolein	9.25E-05 lb/MMBtu	3.09E-03 tpy
71-43-2	Benzene	9.33E-04 lb/MMBtu	3.11E-02 tpy
106-99-0	1,3-Butadiene	3.91E-05 lb/MMBtu	1.30E-03 tpy
50-00-0	Formaldehyde	1.18E-03 lb/MMBtu	3.94E-02 tpy
108-88-3	Toluene	4.09E-04 lb/MMBtu	1.36E-02 tpy
1330-20-7	Xylenes (isomers and mixture)	2.85E-04 lb/MMBtu	9.51E-03 tpy
NA	Polycyclic Organic Matter (POM)	1.68E-04 lb/MMBtu	5.60E-03 tpy

Total Potential HAP Emissions: 0.13 tpy

Notes/Comments:
[1] Reference: AP-42, Table 3.3-2.
[2] Total fuel use based on maximum full-time operation.

(21) Nonroad Engines ≤ 600 hp 1,088 hp
Potential Heat Input: 66,710 MMBtu/yr, operating 8,760 hr/yr

Total Potential Heat Input: 66,710 MMBtu/yr

[3] Diesel engines heat rate: 7,000 Btu/hp-hr

Table 25. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
ULSD Nonroad Engines Greater Than 600 Horsepower

Maximum Total Heat Input: 0 MMBtu/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations	
CAS No.	**Chemical Name**	**Emission Factor**	**Estimated Emissions**
75-07-0	Acetaldehyde	2.52E-05 lb/MMBtu	0.00E+00 tpy
107-02-8	Acrolein	7.88E-06 lb/MMBtu	0.00E+00 tpy
71-43-2	Benzene	7.76E-04 lb/MMBtu	0.00E+00 tpy
50-00-0	Formaldehyde	7.89E-05 lb/MMBtu	0.00E+00 tpy
108-88-3	Toluene	2.81E-04 lb/MMBtu	0.00E+00 tpy
1330-20-7	Xylenes (isomers and mixture)	1.93E-04 lb/MMBtu	0.00E+00 tpy
NA	Polycyclic Organic Matter (POM)	2.12E-04 lb/MMBtu	0.00E+00 tpy

Total Potential HAP Emissions: 0.00 tpy

Notes/Comments:
[1] Reference: AP-42, Table 3.4-3, 3.4-4.
[2] Total fuel use based on maximum full-time operation.

(0) Nonroad Engines > 600 hp 0 hp
Potential Heat Input: 0 MMBtu/yr, operating 8,760 hr/yr

Total Potential Heat Input: 0 MMBtu/yr

[3] Diesel engines heat rate: 7,000 Btu/hp-hr

Attachment A-8
Gas Expansion Project – No Action Alternative
Initial Production System
Criteria Pollutant, Greenhouse Gas, and Hazardous Air Pollutant Emissions

Table 1. Potential Emissions Summary
Point Thomson Unit (PTU) Initial Production System (IPS)

Pollutant	Stationary Emission Units Potential Emissions	Nonroad Engines Potential Emissions	Total Potential Emissions
NO_x	247.2 tpy	69.9 tpy	317.1 tpy
CO	207.6 tpy	46.9 tpy	254.5 tpy
PM_{10}	19.3 tpy	4.2 tpy	23.4 tpy
$PM_{2.5}$	18.9 tpy	4.2 tpy	23.0 tpy
VOC	128.0 tpy	11.8 tpy	139.7 tpy
SO_2	32.3 tpy	0.1 tpy	32.3 tpy
Lead	0.04 tpy	0.00 tpy	0.04 tpy

Table 1.b. Potential Greenhouse Gas Emissions Summary
Point Thomson Unit (PTU) Initial Production System (IPS)

Pollutant	Stationary Emission Units Potential Emissions	Nonroad Engines Potential Emissions	Total Potential Emissions
CO_2	196,223 tonne/year	4,857 tonne/year	201,080 tonne/year
CH_4	5.076 tonne/year	0.197 tonne/year	5.273 tonne/year
N_2O	0.7142 tonne/year	0.0394 tonne/year	0.7536 tonne/year
CO_2e	196,563 tonne/year	4,874 tonne/year	201,436 tonne/year

Table 1.c. Potential HAPs Emissions Summary
Point Thomson Unit (PTU) Initial Production System (IPS)

Pollutant	Stationary Emission Units Potential Emissions	Nonroad Engines Potential Emissions	Total Potential Emissions
Total HAPs	5.6 tpy	0.1 tpy	5.7 tpy
Formaldehyde	1.1 tpy	0.04 tpy	1.1 tpy
Hydrochloric acid (HCl)	3.5 tpy	0.0 tpy	3.5 tpy

Notes:
[1] Emissions are based on maximum allowable operation and permit operating limits, where applicable.
[2] Regulated air pollutant calculations based on AP-42 emission factors, manufacturer data, and mass balances as shown in accompanying spreadshe
[3] Total VOC emissions are reduced by the amount of VOC HAP emissions.
[4] GHG emissions are defined as CO_2e emissions. CO_2e is the summation of CO_2, CH_4, and N_2O, applying the global warming potential for each poll
[5] See individual emissions unit category HAP emissions calculations for details on methodology and assumptions (electronic copy).

Table 2. Emission Unit Inventory
Point Thomson Unit (PTU) Initial Production System (IPS)

Emission Unit			Fuel	Allowable	Maximum Fuel	Maximum
ID	Description	Make/Model	Type	Operation	Consumption	Capacity
96	Hot Oil Unit Heater	SuperTherm SPD-6	ULSD	8,760 hr/yr	58.4 gal/hr	8.0 MMBtu/hr
101	Fuel Gas-fired Turbine	Solar 70 Taurus Turbine	Fuel Gas	8,760 hr/yr	87.09 MMBtu/hr	7,520 kW
102	Fuel Gas-fired Turbine	Solar 70 Taurus Turbine	Fuel Gas	8,760 hr/yr	87.09 MMBtu/hr	7,520 kW
103	Dual Fuel-fired Turbine	Solar 70 Taurus Turbine	Fuel Gas	8,760 hr/yr	87.09 MMBtu/hr	7,520 kW
	Dual Fuel-fired Turbine	Solar 70 Taurus Turbine	ULSD	2,500 hr/yr	82.52 MMBtu/hr	7,520 kW
104	Dual Fuel-fired Turbine	Solar 70 Taurus Turbine	Fuel Gas	8,760 hr/yr	87.09 MMBtu/hr	7,520 kW
	Dual Fuel-fired Turbine	Solar 70 Taurus Turbine	ULSD	2,500 hr/yr	82.52 MMBtu/hr	7,520 kW
101-104	Fuel Gas and Dual Fuel-fired Turbine (out of SoLoNOx, combined)	Solar 70 Taurus Turbine	Fuel Gas	2,000 hr/yr	42.27 MMBtu/hr	N/A
103-104	Dual Fuel-fired Turbine (out of SoLoNOx mode, combined)	Solar 70 Taurus Turbine	ULSD	350 hr/yr	56.07 MMBtu/hr	N/A
107	Standby Camp Generator Engine No. 1	Caterpillar 3516	ULSD	500 hr/yr	127.0 gal/hr	2,695 hp
108	Standby Camp Generator Engine No. 2	Caterpillar 3516	ULSD	500 hr/yr	127.0 gal/hr	2,695 hp
109	Standby Camp Generator Engine No. 3	Caterpillar 3516	ULSD	500 hr/yr	127.0 gal/hr	2,695 hp
110	Fine Water Mist Pump Engine No. 1	Cummins QSX15	ULSD	500 hr/yr	29.6 gal/hr	610 hp
111	Fine Water Mist Pump Engine No. 2	Cummins QSX15	ULSD	500 hr/yr	29.6 gal/hr	610 hp
112	HP Flare	KMI 12-4-VS HP Flare Tip	Gas	8,760 hr/yr	N/A	130 MMscf/yr
113	LP Flare	AZDAIR AZ-30 LP Flare Tip	Gas	8,760 hr/yr	N/A	20 MMscf/yr
114	Airstrip Generator Engine	Caterpillar C15	ULSD	500 hr/yr	29.0 gal/hr	563 hp
115	ACRV Heater No. 1	Modine POR145	ULSD	8,760 hr/yr	1.25 gal/hr	0.175 MMBtu/hr
116	ACRV Heater No. 2	Modine POR145	ULSD	8,760 hr/yr	1.25 gal/hr	0.175 MMBtu/hr
117	Hot Oil Unit Engine	Caterpillar D353	ULSD	8,760 hr/yr	19.2 gal/hr	375 hp
118	Air Compressor Generator Engine	TBD	ULSD	8,760 hr/yr	3.1 gal/hr	61 hp
119	Light Plant Generator Engine No. 1	TBD	ULSD	8,760 hr/yr	1.4 gal/hr	28 hp
120	Light Plant Generator Engine No. 2	TBD	ULSD	8,760 hr/yr	1.4 gal/hr	28 hp
121	Light Plant Generator Engine No. 3	TBD	ULSD	8,760 hr/yr	1.4 gal/hr	28 hp
122	Light Plant Generator Engine No. 4	TBD	ULSD	8,760 hr/yr	1.4 gal/hr	28 hp
123	Portable Moving Generator Engine No. 1	TBD	ULSD	8,760 hr/yr	1.6 gal/hr	32 hp
124	Portable Moving Generator Engine No. 2	TBD	ULSD	8,760 hr/yr	1.6 gal/hr	32 hp
125	Portable Moving Generator Engine No. 3	TBD	ULSD	8,760 hr/yr	1.6 gal/hr	32 hp
126	Freeze Protection Generator Engine No. 1	TBD	ULSD	8,760 hr/yr	5.1 gal/hr	99 hp
127	Freeze Protection Generator Engine No. 2	TBD	ULSD	8,760 hr/yr	5.1 gal/hr	99 hp
128	Freeze Protection Generator Engine No. 3	TBD	ULSD	8,760 hr/yr	5.1 gal/hr	99 hp
129	Ground Heater Engine	Kubota Z482	ULSD	8,760 hr/yr	0.69 gal/hr	11 hp
130	Ground Heater	Thawzall TCH250	ULSD	8,760 hr/yr	2.0 gal/hr	0.28 MMBtu/hr
131	Portable Heater No. 1	TBD	ULSD	8,760 hr/yr	7.3 gal/hr	1.0 MMBtu/hr
132	Portable Heater No. 2	TBD	ULSD	8,760 hr/yr	7.3 gal/hr	1.0 MMBtu/hr
133	Portable Heater No. 3	TBD	ULSD	8,760 hr/yr	7.3 gal/hr	1.0 MMBtu/hr
134	Portable Heater No. 4	TBD	ULSD	8,760 hr/yr	7.3 gal/hr	1.0 MMBtu/hr
135	Portable Heater No. 5	TBD	ULSD	8,760 hr/yr	7.3 gal/hr	1.0 MMBtu/hr
136	Portable Heater No. 6	TBD	ULSD	8,760 hr/yr	7.3 gal/hr	1.0 MMBtu/hr
137	Portable Heater No. 7	TBD	ULSD	8,760 hr/yr	7.3 gal/hr	1.0 MMBtu/hr
138	Portable Heater No. 8	TBD	ULSD	8,760 hr/yr	7.3 gal/hr	1.0 MMBtu/hr
139	Portable Heater Engine No. 1	TBD	ULSD	8,760 hr/yr	0.7 gal/hr	17 hp
140	Portable Heater Engine No. 2	TBD	ULSD	8,760 hr/yr	0.7 gal/hr	17 hp
141	Portable Heater Engine No. 3	TBD	ULSD	8,760 hr/yr	0.7 gal/hr	17 hp
142	Portable Heater Engine No. 4	TBD	ULSD	8,760 hr/yr	0.7 gal/hr	17 hp
143	Portable Heater Engine No. 5	TBD	ULSD	8,760 hr/yr	0.7 gal/hr	17 hp
144	Portable Heater Engine No. 6	TBD	ULSD	8,760 hr/yr	0.7 gal/hr	17 hp
145	Portable Heater Engine No. 7	TBD	ULSD	8,760 hr/yr	0.7 gal/hr	17 hp
146	Portable Heater Engine No. 8	TBD	ULSD	8,760 hr/yr	0.7 gal/hr	17 hp
147	Used Oil-fired Heater	TBD	Used Oil/ULSD	8,760 hr/yr	3.6 gal/hr	0.5 MMBtu/hr
148	Production Support Engine	TBD	ULSD	8,760 hr/yr	20.4 gal/hr	400 hp
149	Refrigeration Unit (Reefer) Engine	Kubota V2203L	ULSD	8,760 hr/yr	1.3 gal/hr	24.8 hp
246	Waste Incinerator	Ketek CY100AD	Trash/ULSD	8,760 hr/yr	25.0 gal/hr	250 lb/hr

Table 3. Potential to Emit Calculations - Oxides of Nitrogen (NO_x) Emissions
Point Thomson Unit (PTU) Initial Production System (IPS)

Emission Unit			Fuel	Maximum Fuel	Factor	NO_X Emission	Nonroad	Not-to-Exceed	Maximum Annual	Annual NO_x
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Factor	Operation	Emissions
96	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	5.1 tpy
101	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Vendor Data	5.09 lb/hr	N/A	N/A	8,760 hr/yr	22.3 tpy
102	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Vendor Data	5.09 lb/hr	N/A	N/A	6,760 hr/yr	17.2 tpy
103	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Vendor Data	8.49 lb/hr	N/A	N/A	5,910 hr/yr	25.1 tpy
	Dual Fuel-fired Turbine		ULSD	82.52 MMBtu/hr	Vendor Data	31.5 lb/hr	N/A	N/A	2,500 hr/yr	39.4 tpy
104	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Vendor Data	8.49 lb/hr	N/A	N/A	6,260 hr/yr	26.6 tpy
	Dual Fuel-fired Turbine		ULSD	82.52 MMBtu/hr	Vendor Data	31.5 lb/hr	N/A	N/A	2,500 hr/yr	39.4 tpy
101-104	Fuel Gas and Dual Fuel-fired Turbine (out of SoLoNOx, combined)	N/A	Fuel Gas	42.27 MMBtu/hr	Vendor Data	9.40 lb/hr	N/A	N/A	2,000 hr/yr	9.4 tpy
103-104	Dual Fuel-fired Turbine (out of SoLoNOx mode, combined)	N/A	ULSD	56.07 MMBtu/hr	Vendor Data	26.4 lb/hr	N/A	N/A	350 hr/yr	4.6 tpy
107	Standby Camp Generator Engine No. 1	2,695 hp	ULSD	127.0 gal/hr	Vendor Data	35.43 lb/hr	N/A	N/A	500 hr/yr	8.9 tpy
108	Standby Camp Generator Engine No. 2	2,695 hp	ULSD	127.0 gal/hr	Vendor Data	35.43 lb/hr	N/A	N/A	500 hr/yr	8.9 tpy
109	Standby Camp Generator Engine No. 3	2,695 hp	ULSD	127.0 gal/hr	Vendor Data	35.43 lb/hr	N/A	N/A	500 hr/yr	8.9 tpy
110	Fine Water Mist Pump Engine No. 1	610 hp	ULSD	29.6 gal/hr	Vendor Data	2.565 g/bhp-hr	N/A	N/A	500 hr/yr	0.9 tpy
111	Fine Water Mist Pump Engine No. 2	610 hp	ULSD	29.6 gal/hr	Vendor Data	2.565 g/bhp-hr	N/A	N/A	500 hr/yr	0.9 tpy
112	HP Flare	130 MMscf/yr	Gas	N/A	AP-42 Table 13.5-1	0.068 lb/MMBtu	N/A	N/A	8,760 hr/yr	4.5 tpy
113	LP Flare	20 MMscf/yr	Gas	N/A	AP-42 Table 13.5-1	0.068 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.7 tpy
114	Airstrip Generator Engine	563 hp	ULSD	29.0 gal/hr	Vendor Data	4.86 lb/hr	N/A	N/A	500 hr/yr	1.2 tpy
115	ACRV Heater No. 1	0.175 MMBtu/hr	ULSD	1.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
116	ACRV Heater No. 2	0.175 MMBtu/hr	ULSD	1.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
117	Hot Oil Unit Engine	375 hp	ULSD	19.2 gal/hr	40 CFR Part 89 Tier 2	4.8 g/hp-hr	NRE	1.25	8,760 hr/yr	21.7 tpy
118	Air Compressor Generator Engine	61 hp	ULSD	3.1 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	4.1 tpy
119	Light Plant Generator Engine No. 1	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	1.9 tpy
120	Light Plant Generator Engine No. 2	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	1.9 tpy
121	Light Plant Generator Engine No. 3	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	1.9 tpy
122	Light Plant Generator Engine No. 4	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	1.9 tpy
123	Portable Moving Generator Engine No. 1	32 hp	ULSD	1.6 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	2.2 tpy
124	Portable Moving Generator Engine No. 2	32 hp	ULSD	1.6 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	2.2 tpy
125	Portable Moving Generator Engine No. 3	32 hp	ULSD	1.6 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	2.2 tpy
126	Freeze Protection Generator Engine No. 1	99 hp	ULSD	5.1 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	6.7 tpy
127	Freeze Protection Generator Engine No. 2	99 hp	ULSD	5.1 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	6.7 tpy
128	Freeze Protection Generator Engine No. 3	99 hp	ULSD	5.1 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	6.7 tpy
129	Ground Heater Engine	11 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.7 tpy
130	Ground Heater	0.28 MMBtu/hr	ULSD	2.0 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
131	Portable Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
132	Portable Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
133	Portable Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
134	Portable Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
135	Portable Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
136	Portable Heater No. 6	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
137	Portable Heater No. 7	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
138	Portable Heater No. 8	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
139	Portable Heater Engine No. 1	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	1.1 tpy
140	Portable Heater Engine No. 2	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	1.1 tpy
141	Portable Heater Engine No. 3	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	1.1 tpy
142	Portable Heater Engine No. 4	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	1.1 tpy
143	Portable Heater Engine No. 5	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	1.1 tpy
144	Portable Heater Engine No. 6	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	1.1 tpy
145	Portable Heater Engine No. 7	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	1.1 tpy
146	Portable Heater Engine No. 8	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	1.1 tpy
147	Used Oil-fired Heater	0.5 MMBtu/hr	Used Oil/ULSD	3.6 gal/hr	AP-42, Table 1.11-2	0.016 lb/gal	N/A	N/A	8,760 hr/yr	0.3 tpy
148	Production Support Engine	400 hp	ULSD	20.4 gal/hr	NSPS Subpart IIII Tier 4i	3.0 g/hp-hr	N/A	1.25	8,760 hr/yr	14.5 tpy
149	Refrigeration Unit (Reefer) Engine	24.8 hp	ULSD	1.3 gal/hr	CARB	5.1 g/hp-hr	N/A	1.25	8,760 hr/yr	1.5 tpy
246	Waste Incinerator	250 lb/hr	Trash/ULSD	25.0 gal/hr	AP-42, Table 2.1-12	3.0 lb/ton	N/A	N/A	8,760 hr/yr	1.6 tpy
									Total Potential NO_X Emissions Excluding Nonroad Engines	**247.2 tpy**
									Total Potential NO_X Emissions for Nonroad Engines	**69.9 tpy**
									Total Potential NO_X Emissions for All Emission Units	**317.1 tpy**

Notes:
[1] Diesel heating value: 137,000 Btu/gal
[2] Fuel factor for crude, residual, and distillate oil: 9,190 dscf/MMBtu
[3] NRE = Nonroad Engine
[4] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)
[5] NSPS Subpart IIII emission standard for fire water pump engines.
[6] NSPS Subpart IIII NO_X + NMOC emission standard for the fire water pump engines, Tier 2 engines, Tier 3 engines, and Tier 4 interim engines less than 750 hp.
[7] Inlet air heating on combustion turbines.
[8] Municipal solid waste has a default high heat value of 9.95 MMBtu/ton.
[9] Fuel factor for waste is 9,570 dscf/MMBtu.
[10] 40 CFR Part 89 or 1039 emission factor based on nonroad engine model year and power rating.
[11] NTE factor of 1.25 or 1.50 was added to all emission units using a Tier 1 through 4f emission factor.

Table 4. Potential to Emit Calculations - Carbon Monoxide (CO) Emissions
Point Thomson Unit (PTU) Initial Production System (IPS)

Emission Unit			Fuel	Maximum Fuel	Factor	CO Emission	Nonroad	Not-to-Exceed	Maximum Annual	Annual CO
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Factor	Operation	Emissions
96	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	1.3 tpy
101	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Vendor Data	0.52 lb/hr	N/A	N/A	8,760 hr/yr	2.3 tpy
102	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Vendor Data	0.52 lb/hr	N/A	N/A	6,760 hr/yr	1.8 tpy
103	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Vendor Data	1.03 lb/hr	N/A	N/A	8,410 hr/yr	4.3 tpy
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	Vendor Data	1.0 lb/hr	N/A	N/A	0 hr/yr	0.0 tpy
104	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Vendor Data	1.03 lb/hr	N/A	N/A	8,760 hr/yr	4.5 tpy
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	Vendor Data	1.0 lb/hr	N/A	N/A	0 hr/yr	0.0 tpy
101-104	Fuel Gas and Dual Fuel-fired Turbine (out of SoLoNOx, combined)	N/A	Fuel Gas	42.27 MMBtu/hr	Vendor Data	129 lb/hr	N/A	N/A	2,000 hr/yr	129.0 tpy
103-104	Dual Fuel-fired Turbine (out of SoLoNOx mode, combined)	N/A	ULSD	56.07 MMBtu/hr	Vendor Data	94.5 lb/hr	N/A	N/A	350 hr/yr	16.5 tpy
107	Standby Camp Generator Engine No. 1	2,695 hp	ULSD	127.0 gal/hr	Vendor Data	3.98 lb/hr	N/A	N/A	500 hr/yr	1.0 tpy
108	Standby Camp Generator Engine No. 2	2,695 hp	ULSD	127.0 gal/hr	Vendor Data	3.98 lb/hr	N/A	N/A	500 hr/yr	1.0 tpy
109	Standby Camp Generator Engine No. 3	2,695 hp	ULSD	127.0 gal/hr	Vendor Data	3.98 lb/hr	N/A	N/A	500 hr/yr	1.0 tpy
110	Fine Water Mist Pump Engine No. 1	610 hp	ULSD	29.6 gal/hr	Vendor Data	0.671 g/hp-hr	N/A	N/A	500 hr/yr	0.2 tpy
111	Fine Water Mist Pump Engine No. 2	610 hp	ULSD	29.6 gal/hr	Vendor Data	0.671 g/hp-hr	N/A	N/A	500 hr/yr	0.2 tpy
112	HP Flare	130 MMscf/yr	Gas	N/A	AP-42 Table 13.5-1	0.31 lb/MMBtu	N/A	N/A	8,760 hr/yr	20.6 tpy
113	LP Flare	20 MMscf/yr	Gas	N/A	AP-42 Table 13.5-1	0.31 lb/MMBtu	N/A	N/A	8,760 hr/yr	3.2 tpy
114	Airstrip Generator Engine	563 hp	ULSD	29.0 gal/hr	Vendor Data	3.34 lb/hr	N/A	N/A	500 hr/yr	0.8 tpy
115	ACRV Heater No. 1	0.175 MMBtu/hr	ULSD	1.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.03 tpy
116	ACRV Heater No. 2	0.175 MMBtu/hr	ULSD	1.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.03 tpy
117	Hot Oil Unit Engine	375 hp	ULSD	19.2 gal/hr	40 CFR Part 89 Tier 2	2.6 g/hp-hr	NRE	1.25	8,760 hr/yr	11.8 tpy
118	Air Compressor Generator Engine	61 hp	ULSD	3.1 gal/hr	40 CFR Part 89 Tier 2	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	2.7 tpy
119	Light Plant Generator Engine No. 1	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	4.1 g/hp-hr	NRE	1.25	8,760 hr/yr	1.4 tpy
120	Light Plant Generator Engine No. 2	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	4.1 g/hp-hr	NRE	1.25	8,760 hr/yr	1.4 tpy
121	Light Plant Generator Engine No. 3	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	4.1 g/hp-hr	NRE	1.25	8,760 hr/yr	1.4 tpy
122	Light Plant Generator Engine No. 4	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	4.1 g/hp-hr	NRE	1.25	8,760 hr/yr	1.4 tpy
123	Portable Moving Generator Engine No. 1	32 hp	ULSD	1.6 gal/hr	40 CFR Part 89 Tier 2	4.1 g/hp-hr	NRE	1.25	8,760 hr/yr	1.6 tpy
124	Portable Moving Generator Engine No. 2	32 hp	ULSD	1.6 gal/hr	40 CFR Part 89 Tier 2	4.1 g/hp-hr	NRE	1.25	8,760 hr/yr	1.6 tpy
125	Portable Moving Generator Engine No. 3	32 hp	ULSD	1.6 gal/hr	40 CFR Part 89 Tier 2	4.1 g/hp-hr	NRE	1.25	8,760 hr/yr	1.6 tpy
126	Freeze Protection Generator Engine No. 1	99 hp	ULSD	5.1 gal/hr	40 CFR Part 89 Tier 2	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	4.4 tpy
127	Freeze Protection Generator Engine No. 2	99 hp	ULSD	5.1 gal/hr	40 CFR Part 89 Tier 2	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	4.4 tpy
128	Freeze Protection Generator Engine No. 3	99 hp	ULSD	5.1 gal/hr	40 CFR Part 89 Tier 2	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	4.4 tpy
129	Ground Heater Engine	10.9 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	6.0 g/hp-hr	NRE	1.25	8,760 hr/yr	0.8 tpy
130	Ground Heater	0.28 MMBtu/hr	ULSD	2.0 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.04 tpy
131	Portable Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
132	Portable Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
133	Portable Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
134	Portable Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
135	Portable Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
136	Portable Heater No. 6	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
137	Portable Heater No. 7	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
138	Portable Heater No. 8	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
139	Portable Heater Engine No. 1	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	4.9 g/hp-hr	NRE	1.25	8,760 hr/yr	1.0 tpy
140	Portable Heater Engine No. 2	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	4.9 g/hp-hr	NRE	1.25	8,760 hr/yr	1.0 tpy
141	Portable Heater Engine No. 3	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	4.9 g/hp-hr	NRE	1.25	8,760 hr/yr	1.0 tpy
142	Portable Heater Engine No. 4	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	4.9 g/hp-hr	NRE	1.25	8,760 hr/yr	1.0 tpy
143	Portable Heater Engine No. 5	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	4.9 g/hp-hr	NRE	1.25	8,760 hr/yr	1.0 tpy
144	Portable Heater Engine No. 6	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	4.9 g/hp-hr	NRE	1.25	8,760 hr/yr	1.0 tpy
145	Portable Heater Engine No. 7	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	4.9 g/hp-hr	NRE	1.25	8,760 hr/yr	1.0 tpy
146	Portable Heater Engine No. 8	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	4.9 g/hp-hr	NRE	1.25	8,760 hr/yr	1.0 tpy
147	Used Oil-fired Heater	0.5 MMBtu/hr	Used Oil/ULSD	3.6 gal/hr	AP-42, Table 1.11-2	0.0021 lb/gal	N/A	N/A	8,760 hr/yr	0.03 tpy
148	Production Support Engine	400 hp	ULSD	20.4 gal/hr	NSPS Subpart IIII Tier 4i	2.6 g/hp-hr	N/A	1.25	8,760 hr/yr	12.6 tpy
149	Refrigeration Unit (Reefer) Engine	24.8 hp	ULSD	1.3 gal/hr	CARB	1.6 g/hp-hr	N/A	1.25	8,760 hr/yr	0.5 tpy
246	Waste Incinerator	250 lb/hr	Trash/ULSD	25.0 gal/hr	AP-42, Table 2.1-12	10 lb/ton	N/A	N/A	8,760 hr/yr	5.5 tpy
									Total Potential CO Emissions Excluding Nonroad Engines	**207.6 tpy**
									Total Potential CO Emissions for Nonroad Engines	**46.9 tpy**
									Total Potential CO Emissions for All Emission Units	**254.5 tpy**

Notes:
[1] Diesel heating value: 137,000 Btu/gal
[2] NRE = Nonroad Engine
[3] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)
[4] Inlet air heating on combustion turbines.
[5] Each turbine has catalytic oxidation which controls 90 percent of CO emissions, while in SoLoNOx mode.
[6] Catalytic oxidation controls 85 percent of potential out of SoLoNOx mode emissions.
[7] Higher potential CO emissions result from dual fired turbines firing fuel gas than ULSD in SoLoNOx mode.
[8] Municipal solid waste has a default high heat value of 9.95 MMBtu/ton.
[9] Fuel factor for waste is 9,570 dscf/MMBtu.
[10] 40 CFR Part 89 or 1039 emission factor based on nonroad engine model year and power rating.
[11] NTE factor of 1.25 was added to all emission units using a Tier 1 through 4f emission factor.

Table 5. Potential to Emit Calculations - Particulate Matter (PM) Emissions
Point Thomson Unit (PTU) Initial Production System (IPS)

Emission Unit			Fuel	Maximum Fuel	Factor	PM_{10} Emission	Nonroad	Not-to-Exceed	Maximum Annual	Annual PM_{10}
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Factor	Operation	Emissions
96	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	AP-42, Table 1.3-1	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
101	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	N/A	N/A	8,760 hr/yr	2.5 tpy
102	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	N/A	N/A	8,760 hr/yr	2.5 tpy
103	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	N/A	N/A	6,260 hr/yr	1.8 tpy
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	AP-42 Table 3.1-2a	0.012 lb/MMBtu	N/A	N/A	2,500 hr/yr	1.2 tpy
104	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	N/A	N/A	6,260 hr/yr	1.8 tpy
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	AP-42 Table 3.1-2a	0.012 lb/MMBtu	N/A	N/A	2,500 hr/yr	1.2 tpy
101-104	Fuel Gas and Dual Fuel-fired Turbine (out of SoLoNOx, combined)	N/A	Fuel Gas	42.27 MMBtu/hr	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	N/A	N/A	0 hr/yr	0.0 tpy
103-104	Dual Fuel-fired Turbine (out of SoLoNOx mode, combined)	N/A	ULSD	56.07 MMBtu/hr	AP-42 Table 3.1-2a	0.012 lb/MMBtu	N/A	N/A	0 hr/yr	0.0 tpy
107	Standby Camp Generator Engine No. 1	2,695 hp	ULSD	127.0 gal/hr	Vendor Data	0.56 lb/hr	N/A	N/A	500 hr/yr	0.1 tpy
108	Standby Camp Generator Engine No. 2	2,695 hp	ULSD	127.0 gal/hr	Vendor Data	0.56 lb/hr	N/A	N/A	500 hr/yr	0.1 tpy
109	Standby Camp Generator Engine No. 3	2,695 hp	ULSD	127.0 gal/hr	Vendor Data	0.56 lb/hr	N/A	N/A	500 hr/yr	0.1 tpy
110	Fine Water Mist Pump Engine No. 1	610 hp	ULSD	29.6 gal/hr	Vendor Data	0.078 g/bhp-hr	N/A	N/A	500 hr/yr	0.03 tpy
111	Fine Water Mist Pump Engine No. 2	610 hp	ULSD	29.6 gal/hr	Vendor Data	0.078 g/bhp-hr	N/A	N/A	500 hr/yr	0.03 tpy
112	HP Flare	130 MMscf/yr	Gas	N/A	AP-42 Table 13.5-1	0.0264 lb/MMBtu	N/A	N/A	8,760 hr/yr	1.8 tpy
113	LP Flare	20 MMscf/yr	Gas	N/A	AP-42 Table 13.5-1	0.0264 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.3 tpy
114	Airstrip Generator Engine	563 hp	ULSD	29.0 gal/hr	Vendor Data	0.12 lb/hr	N/A	N/A	500 hr/yr	0.03 tpy
115	ACRV Heater No. 1	0.175 MMBtu/hr	ULSD	1.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
116	ACRV Heater No. 2	0.175 MMBtu/hr	ULSD	1.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
117	Hot Oil Unit Engine	375 hp	ULSD	19.2 gal/hr	40 CFR Part 89 Tier 2	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.7 tpy
118	Air Compressor Generator Engine	61 hp	ULSD	3.1 gal/hr	40 CFR Part 89 Tier 2	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
119	Light Plant Generator Engine No. 1	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
120	Light Plant Generator Engine No. 2	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
121	Light Plant Generator Engine No. 3	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
122	Light Plant Generator Engine No. 4	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
123	Portable Moving Generator Engine No. 1	32 hp	ULSD	1.6 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
124	Portable Moving Generator Engine No. 2	32 hp	ULSD	1.6 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
125	Portable Moving Generator Engine No. 3	32 hp	ULSD	1.6 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
126	Freeze Protection Generator Engine No. 1	99 hp	ULSD	5.1 gal/hr	40 CFR Part 89 Tier 2	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.4 tpy
127	Freeze Protection Generator Engine No. 2	99 hp	ULSD	5.1 gal/hr	40 CFR Part 89 Tier 2	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.4 tpy
128	Freeze Protection Generator Engine No. 3	99 hp	ULSD	5.1 gal/hr	40 CFR Part 89 Tier 2	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.4 tpy
129	Ground Heater Engine	10.9 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
130	Ground Heater	0.28 MMBtu/hr	ULSD	2.0 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.02 tpy
131	Portable Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
132	Portable Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
133	Portable Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
134	Portable Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
135	Portable Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
136	Portable Heater No. 6	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
137	Portable Heater No. 7	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
138	Portable Heater No. 8	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
139	Portable Heater Engine No. 1	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
140	Portable Heater Engine No. 2	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
141	Portable Heater Engine No. 3	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
142	Portable Heater Engine No. 4	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
143	Portable Heater Engine No. 5	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
144	Portable Heater Engine No. 6	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
145	Portable Heater Engine No. 7	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
146	Portable Heater Engine No. 8	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
147	Used Oil-fired Heater	0.5 MMBtu/hr	Used Oil/ULSD	3.6 gal/hr	AP-42, Table 1.11-1	0.0283 lb/gal	N/A	N/A	8,760 hr/yr	0.45 tpy
148	Production Support Engine	400 hp	ULSD	20.4 gal/hr	NSPS Subpart IIII Tier 4i	0.015 g/hp-hr	N/A	1.50	8,760 hr/yr	0.1 tpy
149	Refrigeration Unit (Reefer) Engine	24.8 hp	ULSD	1.3 gal/hr	CARB	0.18 g/hp-hr	N/A	1.25	8,760 hr/yr	0.1 tpy
246	Waste Incinerator	250 lb/hr	Trash/ULSD	25.0 gal/hr	AP-42, Table 2.1-12	7 lb/ton	N/A	N/A	8,760 hr/yr	3.8 tpy
									Total Potential PM/PM_{10} Emissions Excluding Nonroad Engines	**19.3 tpy**
									Total Potential PM/PM_{10} Emissions for Nonroad Engines	**4.2 tpy**
									Total Potential PM/PM_{10} Emissions for All Emission Units	**23.4 tpy**

Notes:
[1] Diesel heating value: 137,000 Btu/gal
[2] NRE = Nonroad Engine
[3] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)
[4] NSPS Subpart IIII emission standard for fire water pump engines.
[5] Potential PM/PM_{10} emissions from the turbines operating in and out of SoLoNOx mode are the same.
[6] Fuel factor for waste is 9,570 dscf/MMBtu.
[7] 40 CFR Part 89 or 1039 emission factor based on nonroad engine model year and power rating.
[8] NTE factor of 1.25 or 1.50 was added to all emission units using a Tier 1 through 4f emission factor.
[9] AP-42 PM emission factor for EU 147 is 57 $lb/10^3$ gal multiplied by weight percent ash in fuel. Ash analyses conducted in June 2016 by SGS results were 0.496 percent and 0.498 percent in duplicate samples. Analyses results were averaged for emission factor.

Table 6. Potential to Emit Calculations - Particulate Matter ($PM_{2.5}$) Emissions
Point Thomson Unit (PTU) Initial Production System (IPS)

Emission Unit			Fuel	Maximum Fuel	Factor	$PM_{2.5}$ Emission	Nonroad	Not-to-Exceed	Maximum Annual	Annual $PM_{2.5}$
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Factor	Operation	Emissions
96	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.4 tpy
101	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	N/A	N/A	8,760 hr/yr	2.5 tpy
102	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	N/A	N/A	8,760 hr/yr	2.5 tpy
103	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	N/A	N/A	6,260 hr/yr	1.8 tpy
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	AP-42 Table 3.1-2a	0.012 lb/MMBtu	N/A	N/A	2,500 hr/yr	1.2 tpy
104	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	N/A	N/A	6,260 hr/yr	1.8 tpy
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	AP-42 Table 3.1-2a	0.012 lb/MMBtu	N/A	N/A	2,500 hr/yr	1.2 tpy
101-104	Fuel Gas and Dual Fuel-fired Turbine (out of SoLoNOx, combined)	N/A	Fuel Gas	42.27 MMBtu/hr	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	N/A	N/A	0 hr/yr	0.0 tpy
103-104	Dual Fuel-fired Turbine (out of SoLoNOx mode, combined)	N/A	ULSD	56.07 MMBtu/hr	AP-42 Table 3.1-2a	0.012 lb/MMBtu	N/A	N/A	0 hr/yr	0.0 tpy
107	Standby Camp Generator Engine No. 1	2,695 hp	ULSD	127.0 gal/hr	Vendor Data	0.56 lb/hr	N/A	N/A	500 hr/yr	0.1 tpy
108	Standby Camp Generator Engine No. 2	2,695 hp	ULSD	127.0 gal/hr	Vendor Data	0.56 lb/hr	N/A	N/A	500 hr/yr	0.1 tpy
109	Standby Camp Generator Engine No. 3	2,695 hp	ULSD	127.0 gal/hr	Vendor Data	0.56 lb/hr	N/A	N/A	500 hr/yr	0.1 tpy
110	Fine Water Mist Pump Engine No. 1	610 hp	ULSD	29.6 gal/hr	Vendor Data	0.078 g/bhp-hr	N/A	N/A	500 hr/yr	0.03 tpy
111	Fine Water Mist Pump Engine No. 2	610 hp	ULSD	29.6 gal/hr	Vendor Data	0.078 g/bhp-hr	N/A	N/A	500 hr/yr	0.03 tpy
112	HP Flare	130 MMscf/yr	Gas	N/A	AP-42 Table 13.5-1	0.0264 lb/MMBtu	N/A	N/A	8,760 hr/yr	1.8 tpy
113	LP Flare	20 MMscf/yr	Gas	N/A	AP-42 Table 13.5-1	0.0264 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.3 tpy
114	Airstrip Generator Engine	563 hp	ULSD	29.0 gal/hr	Vendor Data	0.12 lb/hr	N/A	N/A	500 hr/yr	0.03 tpy
115	ACRV Heater No. 1	0.175 MMBtu/hr	ULSD	1.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
116	ACRV Heater No. 2	0.175 MMBtu/hr	ULSD	1.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
117	Hot Oil Unit Engine	375 hp	ULSD	19.2 gal/hr	40 CFR Part 89 Tier 2	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.7 tpy
118	Air Compressor Generator Engine	61 hp	ULSD	3.1 gal/hr	40 CFR Part 89 Tier 2	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
119	Light Plant Generator Engine No. 1	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
120	Light Plant Generator Engine No. 2	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
121	Light Plant Generator Engine No. 3	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
122	Light Plant Generator Engine No. 4	28 hp	ULSD	1.4 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
123	Portable Moving Generator Engine No. 1	32 hp	ULSD	1.6 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
124	Portable Moving Generator Engine No. 2	32 hp	ULSD	1.6 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
125	Portable Moving Generator Engine No. 3	32 hp	ULSD	1.6 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
126	Freeze Protection Generator Engine No. 1	99 hp	ULSD	5.1 gal/hr	40 CFR Part 89 Tier 2	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.4 tpy
127	Freeze Protection Generator Engine No. 2	99 hp	ULSD	5.1 gal/hr	40 CFR Part 89 Tier 2	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.4 tpy
128	Freeze Protection Generator Engine No. 3	99 hp	ULSD	5.1 gal/hr	40 CFR Part 89 Tier 2	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.4 tpy
129	Ground Heater Engine	10.9 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
130	Ground Heater	0.28 MMBtu/hr	ULSD	2.0 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
131	Portable Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
132	Portable Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
133	Portable Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
134	Portable Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
135	Portable Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
136	Portable Heater No. 6	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
137	Portable Heater No. 7	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
138	Portable Heater No. 8	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
139	Portable Heater Engine No. 1	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
140	Portable Heater Engine No. 2	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
141	Portable Heater Engine No. 3	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
142	Portable Heater Engine No. 4	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
143	Portable Heater Engine No. 5	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
144	Portable Heater Engine No. 6	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
145	Portable Heater Engine No. 7	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
146	Portable Heater Engine No. 8	17 hp	ULSD	0.7 gal/hr	40 CFR Part 89 Tier 2	0.6 g/hp-hr	NRE	1.25	8,760 hr/yr	0.1 tpy
147	Used Oil-fired Heater	0.5 MMBtu/hr	Used Oil/ULSD	3.6 gal/hr	AP-42, Table 1.11-1	0.0283 lb/gal	N/A	N/A	8,760 hr/yr	0.45 tpy
148	Production Support Engine	400 hp	ULSD	20.4 gal/hr	NSPS Subpart IIII Tier 4i	0.015 g/hp-hr	N/A	1.50	8,760 hr/yr	0.1 tpy
149	Refrigeration Unit (Reefer) Engine	24.8 hp	ULSD	1.3 gal/hr	CARB	0.18 g/hp-hr	N/A	1.25	8,760 hr/yr	0.1 tpy
246	Waste Incinerator	250 lb/hr	Trash/ULSD	25.0 gal/hr	AP-42, Table 2.1-12	7 lb/ton	N/A	N/A	8,760 hr/yr	3.8 tpy
									Total Potential $PM/PM_{2.5}$ Emissions Excluding Nonroad Engines	**18.9 tpy**
									Total Potential $PM/PM_{2.5}$ Emissions for Nonroad Engines	**4.2 tpy**
									Total Potential $PM/PM_{2.5}$ Emissions for All Emission Units	**23.0 tpy**

Notes:
[1] Diesel heating value: 137,000 Btu/gal
[2] NRE = Nonroad Engine
[3] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)
[4] NSPS Subpart IIII emission standard for fire water pump engines.
[5] Potential PM/PM_{10} emissions from the turbines operating in and out of SoLoNOx mode are the same.
[6] Fuel factor for waste is 9,570 dscf/MMBtu.
[7] 40 CFR Part 89 or 1039 emission factor based on nonroad engine model year and power rating.
[8] NTE factor of 1.25 or 1.50 was added to all emission units using a Tier 1 through 4f emission factor.
[9] AP-42 PM emission factor for EU 147 is 57 $lb/10^3$ gal multiplied by weight percent ash in fuel. Ash analyses conducted in June 2016 by SGS results were 0.496 percent and 0.498 percent in duplicate samples. Analyses results were averaged for emission factor.

Table 7. Potential to Emit Calculations - Volatile Organic Compounds (VOCs) Emissions
Point Thomson Unit (PTU) Initial Production System (IPS)

Emission Unit			Fuel	Maximum Fuel	Factor	VOC Emission	Nonroad	Not-to-Exceed	Maximum Annual	Annual VOC
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Factor	Operation	Emissions
96	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
101	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Vendor Data	0.30 lb/hr	N/A	N/A	8,760 hr/yr	1.3 tpy
102	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Vendor Data	0.30 lb/hr	N/A	N/A	6,760 hr/yr	1.0 tpy
103	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Vendor Data	0.30 lb/hr	N/A	N/A	5,910 hr/yr	0.9 tpy
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	Vendor Data	1.49 lb/hr	N/A	N/A	2,500 hr/yr	1.9 tpy
104	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Vendor Data	0.30 lb/hr	N/A	N/A	6,260 hr/yr	0.9 tpy
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	Vendor Data	1.49 lb/hr	N/A	N/A	2,500 hr/yr	1.9 tpy
101-104	Fuel Gas and Dual Fuel-fired Turbine (out of SoLoNOx, combined)	N/A	Fuel Gas	42.27 MMBtu/hr	Vendor Data	46.55 lb/hr	N/A	N/A	2,000 hr/yr	46.6 tpy
103-104	Dual Fuel-fired Turbine (out of SoLoNOx mode, combined)	N/A	ULSD	56.07 MMBtu/hr	Vendor Data	97.85 lb/hr	N/A	N/A	350 hr/yr	17.1 tpy
107	Standby Camp Generator Engine No. 1	2,695 hp	ULSD	127.0 gal/hr	AP-42, Table 3.4-1	0.000705 lb/hp-hr	N/A	N/A	500 hr/yr	0.5 tpy
108	Standby Camp Generator Engine No. 2	2,695 hp	ULSD	127.0 gal/hr	AP-42, Table 3.4-1	0.000705 lb/hp-hr	N/A	N/A	500 hr/yr	0.5 tpy
109	Standby Camp Generator Engine No. 3	2,695 hp	ULSD	127.0 gal/hr	AP-42, Table 3.4-1	0.000705 lb/hp-hr	N/A	N/A	500 hr/yr	0.5 tpy
110	Fine Water Mist Pump Engine No. 1	610 hp	ULSD	29.6 gal/hr	Vendor Data	0.086 g/hp-hr	N/A	N/A	500 hr/yr	0.03 tpy
111	Fine Water Mist Pump Engine No. 2	610 hp	ULSD	29.6 gal/hr	Vendor Data	0.086 g/hp-hr	N/A	N/A	500 hr/yr	0.03 tpy
112	HP Flare	130 MMscf/yr	Gas	N/A	AP-42 Table 13.5-1	0.57 lb/MMBtu	N/A	N/A	8,760 hr/yr	37.8 tpy
113	LP Flare	20 MMscf/yr	Gas	N/A	AP-42 Table 13.5-1	0.57 lb/MMBtu	N/A	N/A	8,760 hr/yr	5.8 tpy
114	Airstrip Generator Engine	563 hp	ULSD	29.0 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	N/A	N/A	500 hr/yr	0.3 tpy
115	ACRV Heater No. 1	0.175 MMBtu/hr	ULSD	1.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.001 tpy
116	ACRV Heater No. 2	0.175 MMBtu/hr	ULSD	1.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.001 tpy
117	Hot Oil Unit Engine	375 hp	ULSD	19.2 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	4.1 tpy
118	Air Compressor Generator Engine	61 hp	ULSD	3.1 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.7 tpy
119	Light Plant Generator Engine No. 1	28 hp	ULSD	1.4 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.3 tpy
120	Light Plant Generator Engine No. 2	28 hp	ULSD	1.4 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.3 tpy
121	Light Plant Generator Engine No. 3	28 hp	ULSD	1.4 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.3 tpy
122	Light Plant Generator Engine No. 4	28 hp	ULSD	1.4 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.3 tpy
123	Portable Moving Generator Engine No. 1	32 hp	ULSD	1.6 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.3 tpy
124	Portable Moving Generator Engine No. 2	32 hp	ULSD	1.6 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.3 tpy
125	Portable Moving Generator Engine No. 3	32 hp	ULSD	1.6 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.3 tpy
126	Freeze Protection Generator Engine No. 1	99 hp	ULSD	5.1 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.1 tpy
127	Freeze Protection Generator Engine No. 2	99 hp	ULSD	5.1 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.1 tpy
128	Freeze Protection Generator Engine No. 3	99 hp	ULSD	5.1 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.1 tpy
129	Ground Heater Engine	10.9 hp	ULSD	0.7 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.1 tpy
130	Ground Heater	0.28 MMBtu/hr	ULSD	2.0 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.002 tpy
131	Portable Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
132	Portable Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
133	Portable Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
134	Portable Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
135	Portable Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
136	Portable Heater No. 6	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
137	Portable Heater No. 7	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
138	Portable Heater No. 8	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
139	Portable Heater Engine No. 1	17 hp	ULSD	0.7 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.2 tpy
140	Portable Heater Engine No. 2	17 hp	ULSD	0.7 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.2 tpy
141	Portable Heater Engine No. 3	17 hp	ULSD	0.7 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.2 tpy
142	Portable Heater Engine No. 4	17 hp	ULSD	0.7 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.2 tpy
143	Portable Heater Engine No. 5	17 hp	ULSD	0.7 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.2 tpy
144	Portable Heater Engine No. 6	17 hp	ULSD	0.7 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.2 tpy
145	Portable Heater Engine No. 7	17 hp	ULSD	0.7 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.2 tpy
146	Portable Heater Engine No. 8	17 hp	ULSD	0.7 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.2 tpy
147	Used Oil-fired Heater	0.5 MMBtu/hr	Used Oil/ULSD	3.6 gal/hr	AP-42, Table 1.11-3	0.001 lb/gal	N/A	N/A	8,760 hr/yr	0.02 tpy
148	Production Support Engine	400 hp	ULSD	20.4 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	N/A	N/A	8,760 hr/yr	4.3 tpy
149	Refrigeration Unit (Reefer) Engine	24.8 hp	ULSD	1.3 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	N/A	N/A	8,760 hr/yr	0.3 tpy
246	Waste Incinerator	250 lb/hr	Trash/ULSD	25.0 gal/hr	AP-42, Table 2.1-12	3 lb/ton	N/A	N/A	8,760 hr/yr	1.6 tpy
Other VOC Emissions										
	ULSD Storage Tanks - Production	EPA TANK4.0d							N/A	0.2 tpy
	Gasoline Storage Tank - Production	EPA TANK4.0d							N/A	0.1 tpy
	Fugitive emissions from equipment leaks	EPA's Protocol for Equipment Leak Emission Estimates							N/A	4.4 tpy
									Total Potential VOC Emissions Excluding Nonroad Engines	**128.0 tpy**
									Total Potential VOC Emissions for Nonroad Engines	**11.8 tpy**
									Total Potential VOC Emissions for All Emission Units	**139.7 tpy**

Notes:
[1] Diesel heating value: 137,000 Btu/gal
[2] Inlet air heating on combustion turbines.
[3] Each turbine has catalytic oxidation which controls 50 percent of VOC emissions while firing on fuel gas and 48 percent of VOC emissions while firing on ULSD.
[4] VOC emissions are assumed to be 20 percent while firing fuel gas and 100 percent while firing ULSD.
[5] Catalytic oxidation controls 5 percent of VOC emissions out of SoLoNOx mode.
[6] 40 CFR Part 89 or 1039 emission factor based on nonroad engine model year and power rating.
[7] NTE factor of 1.25 was added to all emission units using a Tier 1 through 4f emission factor.

Table 8. Potential to Emit Calculations - Sulfur Dioxide (SO_2) Emissions
Point Thomson Unit (PTU) Initial Production System (IPS)

Emission Unit ID	Description	Rating/Capacity	Fuel Type	Maximum Fuel Consumption	Maximum Fuel Sulfur Content	Factor Reference	SO_2 Emission Factor	Nonroad Engine	Maximum Annual Operation	Annual SO_2 Emissions
96	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.05 tpy
101	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	125 ppmw H_2S	Mass Balance	21.1 lb/MMscf	N/A	8,760 hr/yr	7.0 tpy
102	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	125 ppmw H_2S	Mass Balance	21.1 lb/MMscf	N/A	8,760 hr/yr	7.0 tpy
103	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	125 ppmw H_2S	Mass Balance	21.1 lb/MMscf	N/A	8,760 hr/yr	7.0 tpy
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	15 ppmw H_2S	Mass Balance	0.002 lb/MMBtu	N/A	0 hr/yr	0.0 tpy
104	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	125 ppmw H_2S	Mass Balance	21.1 lb/MMscf	N/A	8,760 hr/yr	7.0 tpy
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	15 ppmw H_2S	Mass Balance	0.002 lb/MMBtu	N/A	0 hr/yr	0.0 tpy
101-104	Fuel Gas and Dual Fuel-fired Turbine (out of SoLoNOx, combined)	N/A	Fuel Gas	42.27 MMBtu/hr	125 ppmw H_2S	Mass Balance	21.1 lb/MMscf	N/A	0 hr/yr	0.0 tpy
103-104	Dual Fuel-fired Turbine (out of SoLoNOx mode, combined)	N/A	ULSD	56.07 MMBtu/hr	15 ppmw H_2S	Mass Balance	0.002 lb/MMBtu	N/A	0 hr/yr	0.0 tpy
107	Standby Camp Generator Engine No. 1	2,695 hp	ULSD	127.0 gal/hr	15 ppmw S	Mass Balance	0.002 lb/MMBtu	N/A	500 hr/yr	0.01 tpy
108	Standby Camp Generator Engine No. 2	2,695 hp	ULSD	127.0 gal/hr	15 ppmw S	Mass Balance	0.002 lb/MMBtu	N/A	500 hr/yr	0.01 tpy
109	Standby Camp Generator Engine No. 3	2,695 hp	ULSD	127.0 gal/hr	15 ppmw S	Mass Balance	0.002 lb/MMBtu	N/A	500 hr/yr	0.01 tpy
110	Fine Water Mist Pump Engine No. 1	610 hp	ULSD	29.6 gal/hr	15 ppmw S	Mass Balance	0.002 lb/MMBtu	N/A	500 hr/yr	0.002 tpy
111	Fine Water Mist Pump Engine No. 2	610 hp	ULSD	29.6 gal/hr	15 ppmw S	Mass Balance	0.002 lb/MMBtu	N/A	500 hr/yr	0.002 tpy
112	HP Flare	95 MMscf/yr	Gas	N/A	125 ppmw H_2S	Mass Balance	21.1 lb/MMscf	N/A	8,760 hr/yr	1.0 tpy
	HP Flare - Pilot/Purge	35 MMscf/yr	Gas	N/A	300 ppmw H_2S	Mass Balance	50.5 lb/MMscf	N/A	8,760 hr/yr	0.9 tpy
113	LP Flare	20 MMscf/yr	Gas	N/A	300 ppmw H_2S	Mass Balance	50.5 lb/MMscf	N/A	8,760 hr/yr	0.5 tpy
114	Airstrip Generator Engine	563 hp	ULSD	29.0 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	500 hr/yr	0.002 tpy
115	ACRV Heater No. 1	0.175 MMBtu/hr	ULSD	1.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.001 tpy
116	ACRV Heater No. 2	0.175 MMBtu/hr	ULSD	1.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.001 tpy
117	Hot Oil Unit Engine	375 hp	ULSD	19.2 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.018 tpy
118	Air Compressor Generator Engine	61 hp	ULSD	3.1 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.003 tpy
119	Light Plant Generator Engine No. 1	28 hp	ULSD	1.4 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.001 tpy
120	Light Plant Generator Engine No. 2	28 hp	ULSD	1.4 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.001 tpy
121	Light Plant Generator Engine No. 3	28 hp	ULSD	1.4 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.001 tpy
122	Light Plant Generator Engine No. 4	28 hp	ULSD	1.4 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.001 tpy
123	Portable Moving Generator Engine No. 1	32 hp	ULSD	1.6 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.002 tpy
124	Portable Moving Generator Engine No. 2	32 hp	ULSD	1.6 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.002 tpy
125	Portable Moving Generator Engine No. 3	32 hp	ULSD	1.6 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.002 tpy
126	Freeze Protection Generator Engine No. 1	99 hp	ULSD	5.1 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.005 tpy
127	Freeze Protection Generator Engine No. 2	99 hp	ULSD	5.1 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.005 tpy
128	Freeze Protection Generator Engine No. 3	99 hp	ULSD	5.1 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.005 tpy
129	Ground Heater Engine	10.9 hp	ULSD	0.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.001 tpy
130	Ground Heater	0.28 MMBtu/hr	ULSD	2.0 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.002 tpy
131	Portable Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.007 tpy
132	Portable Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.007 tpy
133	Portable Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.007 tpy
134	Portable Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.007 tpy
135	Portable Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.007 tpy
136	Portable Heater No. 6	1.0 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.007 tpy
137	Portable Heater No. 7	1.0 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.007 tpy
138	Portable Heater No. 8	1.0 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.007 tpy
139	Portable Heater Engine No. 1	17 hp	ULSD	0.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.001 tpy
140	Portable Heater Engine No. 2	17 hp	ULSD	0.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.001 tpy
141	Portable Heater Engine No. 3	17 hp	ULSD	0.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.001 tpy
142	Portable Heater Engine No. 4	17 hp	ULSD	0.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.001 tpy
143	Portable Heater Engine No. 5	17 hp	ULSD	0.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.001 tpy
144	Portable Heater Engine No. 6	17 hp	ULSD	0.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.001 tpy
145	Portable Heater Engine No. 7	17 hp	ULSD	0.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.001 tpy
146	Portable Heater Engine No. 8	17 hp	ULSD	0.7 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	NRE	8,760 hr/yr	0.001 tpy
147	Used Oil-fired Heater	0.5 MMBtu/hr	Used Oil/ULSD	3.6 gal/hr	2,150 ppmw S	AP-42, Table 1.11-2	0.019 lb/gal	N/A	8,760 hr/yr	0.3 tpy
148	Production Support Engine	400 hp	ULSD	20.4 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.02 tpy
149	Refrigeration Unit (Reefer) Engine	24.8 hp	ULSD	1.3 gal/hr	15 ppmw S	Mass Balance	0.0002 lb/gal	N/A	8,760 hr/yr	0.001 tpy
246	Waste Incinerator	250 lb/hr	Trash/ULSD	25.0 gal/hr	15 ppmw S	AP-42, Table 2.1-12	2.50 lb/ton	N/A	8,760 hr/yr	1.4 tpy
									Total Potential SO_2 Emissions Excluding Nonroad Engines	**32.3 tpy**
									Total Potential SO_2 Emissions for Nonroad Engines	**0.05 tpy**
									Total Potential SO_2 Emissions for All Emission Units	**32.3 tpy**

Notes:
[1] Diesel heating value 137,000 Btu/gal
[2] NRE = Nonroad Engine
[3] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)
[4] Diesel engine heat rate 7,000 Btu/hp-hr AP-42, Table 3.3-1
[5] Diesel sulfur content: 15 ppmw (0.0015 wt. pct.)
[6] High pressure fuel gas has a heat content of 1,020 Btu/scf and H_2S of 125 ppmv.
[7] Low pressure fuel gas has a heat content of 1,020 Btu/scf and H_2S of 300 ppmv.
[8] The Solar Taurus 70 turbine has a heat rate of 10,318 Btu/kW-hr.
[9] Higher potential SO_2 emissions result from dual fired turbines firing on fuel gas, regardless of operating in or out of SoLoNOx mode.
[10] Municipal solid waste has a default high heat value of 9.95 MMBtu/ton
[11] Fuel factor for waste is 9,570 dscf/MMBtu.
[12] AP-42

Table 9. Potential to Emit Calculations - Lead Emissions
Point Thomson Unit (PTU) Initial Production System (IPS)

Emission Unit			Fuel	Maximum Fuel	Factor	Lead Emission	Nonroad	Not-to-Exceed	Maximum Annual	Annual Lead
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Factor	Operation	Emissions
96	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.0 tpy
101	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	AP-42, Table 3.1-2a	0	N/A	N/A	8,760 hr/yr	0.0 tpy
102	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	AP-42, Table 3.1-2a	0	N/A	N/A	6,760 hr/yr	0.0 tpy
103	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	AP-42, Table 3.1-2a	0	N/A	N/A	5,910 hr/yr	0.0 tpy
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	AP-42, Table 3.1-2a	1.4E-05 lb/MMBtu	N/A	N/A	2,500 hr/yr	0.001 tpy
104	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	AP-42, Table 3.1-2a	0	N/A	N/A	6,260 hr/yr	0.0 tpy
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	AP-42, Table 3.1-2a	1.4E-05 lb/MMBtu	N/A	N/A	2,500 hr/yr	0.001 tpy
101-104	Fuel Gas and Dual Fuel-fired Turbine (out of SoLoNOx, combined)	N/A	Fuel Gas	42.27 MMBtu/hr	AP-42, Table 3.1-2a	0	N/A	N/A	2,000 hr/yr	0.0 tpy
103-104	Dual Fuel-fired Turbine (out of SoLoNOx mode, combined)	N/A	ULSD	56.07 MMBtu/hr	AP-42, Table 3.1-2a	1.4E-05 lb/MMBtu	N/A	N/A	350 hr/yr	0.0001 tpy
107	Standby Camp Generator Engine No. 1	2,695 hp	ULSD	127.0 gal/hr	AP-42, Chapter 3	0	N/A	N/A	500 hr/yr	0.0 tpy
108	Standby Camp Generator Engine No. 2	2,695 hp	ULSD	127.0 gal/hr	AP-42, Chapter 3	0	N/A	N/A	500 hr/yr	0.0 tpy
109	Standby Camp Generator Engine No. 3	2,695 hp	ULSD	127.0 gal/hr	AP-42, Chapter 3	0	N/A	N/A	500 hr/yr	0.0 tpy
110	Fine Water Mist Pump Engine No. 1	610 hp	ULSD	29.6 gal/hr	AP-42, Chapter 3	0	N/A	N/A	500 hr/yr	0.0 tpy
111	Fine Water Mist Pump Engine No. 2	610 hp	ULSD	29.6 gal/hr	AP-42, Chapter 3	0	N/A	N/A	500 hr/yr	0.0 tpy
112	HP Flare	130 MMscf/yr	Gas	N/A	AP-42, Chapter 13	0	N/A	N/A	8,760 hr/yr	0.0 tpy
113	LP Flare	20 MMscf/yr	Gas	N/A	AP-42, Chapter 13	0	N/A	N/A	8,760 hr/yr	0.0 tpy
114	Airstrip Generator Engine	563 hp	ULSD	29.0 gal/hr	AP-42, Chapter 3	0	N/A	N/A	500 hr/yr	0.0 tpy
115	ACRV Heater No. 1	0.175 MMBtu/hr	ULSD	1.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00001 tpy
116	ACRV Heater No. 2	0.175 MMBtu/hr	ULSD	1.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00001 tpy
117	Hot Oil Unit Engine	375 hp	ULSD	19.2 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
118	Air Compressor Generator Engine	61 hp	ULSD	3.1 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
119	Light Plant Generator Engine No. 1	28 hp	ULSD	1.4 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
120	Light Plant Generator Engine No. 2	28 hp	ULSD	1.4 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
121	Light Plant Generator Engine No. 3	28 hp	ULSD	1.4 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
122	Light Plant Generator Engine No. 4	28 hp	ULSD	1.4 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
123	Portable Moving Generator Engine No. 1	32 hp	ULSD	1.6 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
124	Portable Moving Generator Engine No. 2	32 hp	ULSD	1.6 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
125	Portable Moving Generator Engine No. 3	32 hp	ULSD	1.6 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
126	Freeze Protection Generator Engine No. 1	99 hp	ULSD	5.1 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
127	Freeze Protection Generator Engine No. 2	99 hp	ULSD	5.1 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
128	Freeze Protection Generator Engine No. 3	99 hp	ULSD	5.1 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
129	Ground Heater Engine	10.9 hp	ULSD	0.7 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
130	Ground Heater	0.28 MMBtu/hr	ULSD	2.0 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00001 tpy
131	Portable Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00004 tpy
132	Portable Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00004 tpy
133	Portable Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00004 tpy
134	Portable Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00004 tpy
135	Portable Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00004 tpy
136	Portable Heater No. 6	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00004 tpy
137	Portable Heater No. 7	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00004 tpy
138	Portable Heater No. 8	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.0E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00004 tpy
139	Portable Heater Engine No. 1	17 hp	ULSD	0.7 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
140	Portable Heater Engine No. 2	17 hp	ULSD	0.7 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
141	Portable Heater Engine No. 3	17 hp	ULSD	0.7 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
142	Portable Heater Engine No. 4	17 hp	ULSD	0.7 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
143	Portable Heater Engine No. 5	17 hp	ULSD	0.7 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
144	Portable Heater Engine No. 6	17 hp	ULSD	0.7 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
145	Portable Heater Engine No. 7	17 hp	ULSD	0.7 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
146	Portable Heater Engine No. 8	17 hp	ULSD	0.7 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
147	Used Oil-fired Heater	0.5 MMBtu/hr	Used Oil/ULSD	3.6 gal/hr	AP-42, Table 1.11-1	2.0E-03 lb/gal	N/A	N/A	8,760 hr/yr	0.03 tpy
148	Production Support Engine	400 hp	ULSD	20.4 gal/hr	AP-42, Chapter 3	0	N/A	N/A	8,760 hr/yr	0.0 tpy
149	Refrigeration Unit (Reefer) Engine	24.8 hp	ULSD	1.3 gal/hr	AP-42, Chapter 3	0	N/A	N/A	8,760 hr/yr	0.0 tpy
246	Waste Incinerator	250 lb/hr	Trash/ULSD	25.0 gal/hr	AP-42, Table 2.1-12	0	N/A	N/A	8,760 hr/yr	0.0 tpy
									Total Potential Lead Emissions Excluding Nonroad Engines	**0.04 tpy**
									Total Potential Lead Emissions for Nonroad Engines	**0.00 tpy**
									Total Potential Lead Emissions for All Emission Units	**0.04 tpy**

Notes:
[1] AP-42 emission factor for EU 147 is 50 lb/10^3 gal multiplied by weight percent lead in fuel. Lead in fuel is assumed to be 0.04 percent.

Table 10. Potential to Emit Calculations - Carbon Dioxide Equivalent (CO_2e) Emissions
Point Thomson Unit (PTU) Initial Production System (IPS)

Emission Unit			Fuel	Nonroad	Potential Greenhouse Gas Emissions (tonne/year)				
ID	Description	Rating/Capacity	Type	Engine	CO_2	CH_4	N_2O	GHG Mass	GHG CO_2e
96	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	N/A	5,219.8	0.212	0.0423	5,220.1	5,237.7
101	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	N/A	40,479.9	0.763	0.0763	40,480.8	40,521.7
102	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	N/A	40,479.9	0.763	0.0763	40,480.8	40,521.7
103	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	N/A	28,927.4	0.545	0.0545	28,928.0	28,957.3
	Dual Fuel-fired Turbine	7,520 kW	ULSD	N/A	15,257.9	0.619	0.1238	15,258.7	15,310.3
104	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	N/A	28,927.4	0.545	0.0545	28,928.0	28,957.3
	Dual Fuel-fired Turbine	7,520 kW	ULSD	N/A	15,257.9	0.619	0.1238	15,258.7	15,310.3
101-104	Fuel Gas and Dual Fuel-fired Turbine (out of SoLoNOx, combined)	N/A	Fuel Gas	N/A	0.0	0.000	0.0000	0.0	0.0
103-104	Dual Fuel-fired Turbine (out of SoLoNOx mode, combined)	N/A	ULSD	N/A	0.0	0.000	0.0000	0.0	0.0
107	Standby Camp Generator Engine No. 1	2,695 hp	ULSD	N/A	648.1	0.026	0.0053	648.1	650.3
108	Standby Camp Generator Engine No. 2	2,695 hp	ULSD	N/A	648.1	0.026	0.0053	648.1	650.3
109	Standby Camp Generator Engine No. 3	2,695 hp	ULSD	N/A	648.1	0.026	0.0053	648.1	650.3
110	Fine Water Mist Pump Engine No. 1	610 hp	ULSD	N/A	151.1	0.006	0.0012	151.1	151.6
111	Fine Water Mist Pump Engine No. 2	610 hp	ULSD	N/A	151.1	0.006	0.0012	151.1	151.6
112	HP Flare	130 MMscf/yr	Gas	N/A	7,077.1	0.133	0.0133	7,077.3	7,084.5
113	LP Flare	20 MMscf/yr	Gas	N/A	1,088.8	0.021	0.0021	1,088.8	1,089.9
114	Airstrip Generator Engine	563 hp	ULSD	N/A	148.0	0.006	0.0012	148.0	148.5
115	ACRV Heater No. 1	0.175 MMBtu/hr	ULSD	N/A	111.8	0.005	0.0009	111.8	112.1
116	ACRV Heater No. 2	0.175 MMBtu/hr	ULSD	N/A	111.8	0.005	0.0009	111.8	112.1
117	Hot Oil Unit Engine	375 hp	ULSD	NRE	1,716.6	0.070	0.0139	1,716.7	1,722.5
118	Air Compressor Generator Engine	61 hp	ULSD	NRE	278.6	0.011	0.0023	278.6	279.6
119	Light Plant Generator Engine No. 1	28 hp	ULSD	NRE	127.9	0.005	0.0010	127.9	128.3
120	Light Plant Generator Engine No. 2	28 hp	ULSD	NRE	127.9	0.005	0.0010	127.9	128.3
121	Light Plant Generator Engine No. 3	28 hp	ULSD	NRE	127.9	0.005	0.0010	127.9	128.3
122	Light Plant Generator Engine No. 4	28 hp	ULSD	NRE	127.9	0.005	0.0010	127.9	128.3
123	Portable Moving Generator Engine No. 1	32 hp	ULSD	NRE	146.2	0.006	0.0012	146.2	146.7
124	Portable Moving Generator Engine No. 2	32 hp	ULSD	NRE	146.2	0.006	0.0012	146.2	146.7
125	Portable Moving Generator Engine No. 3	32 hp	ULSD	NRE	146.2	0.006	0.0012	146.2	146.7
126	Freeze Protection Generator Engine No. 1	99 hp	ULSD	NRE	452.2	0.018	0.0037	452.2	453.7
127	Freeze Protection Generator Engine No. 2	99 hp	ULSD	NRE	452.2	0.018	0.0037	452.2	453.7
128	Freeze Protection Generator Engine No. 3	99 hp	ULSD	NRE	452.2	0.018	0.0037	452.2	453.7
129	Ground Heater Engine	11 hp	ULSD	NRE	61.7	0.003	0.0005	61.7	61.9
130	Ground Heater	0.28 MMBtu/hr	ULSD	N/A	178.8	0.007	0.0015	178.8	179.4
131	Portable Heater No. 1	1.0 MMBtu/hr	ULSD	N/A	652.5	0.026	0.0053	652.5	654.7
132	Portable Heater No. 2	1.0 MMBtu/hr	ULSD	N/A	652.5	0.026	0.0053	652.5	654.7
133	Portable Heater No. 3	1.0 MMBtu/hr	ULSD	N/A	652.5	0.026	0.0053	652.5	654.7
134	Portable Heater No. 4	1.0 MMBtu/hr	ULSD	N/A	652.5	0.026	0.0053	652.5	654.7
135	Portable Heater No. 5	1.0 MMBtu/hr	ULSD	N/A	652.5	0.026	0.0053	652.5	654.7
136	Portable Heater No. 6	1.0 MMBtu/hr	ULSD	N/A	652.5	0.026	0.0053	652.5	654.7
137	Portable Heater No. 7	1.0 MMBtu/hr	ULSD	N/A	652.5	0.026	0.0053	652.5	654.7
138	Portable Heater No. 8	1.0 MMBtu/hr	ULSD	N/A	652.5	0.026	0.0053	652.5	654.7
139	Portable Heater Engine No. 1	17 hp	ULSD	NRE	61.7	0.003	0.0005	61.7	61.9
140	Portable Heater Engine No. 2	17 hp	ULSD	NRE	61.7	0.003	0.0005	61.7	61.9
141	Portable Heater Engine No. 3	17 hp	ULSD	NRE	61.7	0.003	0.0005	61.7	61.9
142	Portable Heater Engine No. 4	17 hp	ULSD	NRE	61.7	0.003	0.0005	61.7	61.9
143	Portable Heater Engine No. 5	17 hp	ULSD	NRE	61.7	0.003	0.0005	61.7	61.9
144	Portable Heater Engine No. 6	17 hp	ULSD	NRE	61.7	0.003	0.0005	61.7	61.9
145	Portable Heater Engine No. 7	17 hp	ULSD	NRE	61.7	0.003	0.0005	61.7	61.9
146	Portable Heater Engine No. 8	17 hp	ULSD	NRE	61.7	0.003	0.0005	61.7	61.9
147	Used Oil-fired Heater	0.5 MMBtu/hr	Used Oil/ULSD	N/A	326.2	0.013	0.0026	326.3	327.4
148	Production Support Engine	400 hp	ULSD	N/A	1,826.9	0.074	0.0148	1,827.0	1,833.2
149	Refrigeration Unit (Reefer) Engine	24.8 hp	ULSD	N/A	113.3	0.005	0.0009	113.3	113.7
246	Waste Incinerator	250 lb/hr	Trash	N/A	988.2	0.349	0.0458	988.6	1,010.6
			ULSD	N/A	2,235.2	0.091	0.0181	2,235.3	2,242.9
							Total Potential CO_2e Emissions Excluding Nonroad Engines		**196,563 tonne/year**
							Total Potential CO_2e Emissions for Nonroad Engines		**4,874 tonne/year**
							Total Potential CO_2e Emissions for All Emission Units		**201,436 tonne/year**

Notes:

[1] CO_2e is the CO_2 equivalent emissions applying the global warming potential for each GHG from Table A-1, 40 CFR 98. Global warming potentials are:
Carbon Dioxide: 1
Methane: 25
Nitrous Oxide: 298

[2] The permit applicability threshold is in units of short tons per year (tpy) opposed to metric tons per year (tonnes/yr).

[3] Potential CO_2e, CO_2, CH_4, and N_2O emissions from dual fired turbines in SoLoNOx mode and out of SoLoNOx mode are the same.

Table 11. Potential to Emit Calculations - Carbon Dioxide (CO_2) Emissions
Point Thomson Unit (PTU) Initial Production System (IPS)

Emission Unit			Fuel	Maximum Fuel	Factor	CO_2 Emission	Nonroad	Maximum Annual	Annual CO_2 Emissions
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Operation	
96	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	5,219.8 tonne/year
101	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Table C-1, 40 CFR 98	53.06 kg CO_2/MMBtu	N/A	8,760 hr/yr	40,479.9 tonne/year
102	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Table C-1, 40 CFR 98	53.06 kg CO_2/MMBtu	N/A	8,760 hr/yr	40,479.9 tonne/year
103	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Table C-1, 40 CFR 98	53.06 kg CO_2/MMBtu	N/A	6,260 hr/yr	28,927.4 tonne/year
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	2,500 hr/yr	15,257.9 tonne/year
104	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Table C-1, 40 CFR 98	53.06 kg CO_2/MMBtu	N/A	6,260 hr/yr	28,927.4 tonne/year
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	2,500 hr/yr	15,257.9 tonne/year
101-104	Fuel Gas and Dual Fuel-fired Turbine (out of SoLoNOx, combined)	N/A	Fuel Gas	42.27 MMBtu/hr	Table C-1, 40 CFR 98	53.06 kg CO_2/MMBtu	N/A	0 hr/yr	0.0 tonne/year
103-104	Dual Fuel-fired Turbine (out of SoLoNOx mode, combined)	N/A	ULSD	56.07 MMBtu/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	0 hr/yr	0.0 tonne/year
107	Standby Camp Generator Engine No. 1	2,695 hp	ULSD	127.0 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	500 hr/yr	648.1 tonne/year
108	Standby Camp Generator Engine No. 2	2,695 hp	ULSD	127.0 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	500 hr/yr	648.1 tonne/year
109	Standby Camp Generator Engine No. 3	2,695 hp	ULSD	127.0 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	500 hr/yr	648.1 tonne/year
110	Fine Water Mist Pump Engine No. 1	610 hp	ULSD	29.6 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	500 hr/yr	151.1 tonne/year
111	Fine Water Mist Pump Engine No. 2	610 hp	ULSD	29.6 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	500 hr/yr	151.1 tonne/year
112	HP Flare	130 MMscf/yr	Gas	N/A	Table C-1, 40 CFR 98	53.06 kg CO_2/MMBtu	N/A	8,760 hr/yr	7,077.1 tonne/year
113	LP Flare	20 MMscf/yr	Gas	N/A	Table C-1, 40 CFR 98	53.06 kg CO_2/MMBtu	N/A	8,760 hr/yr	1,088.8 tonne/year
114	Airstrip Generator Engine	563 hp	ULSD	29.0 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	500 hr/yr	148.0 tonne/year
115	ACRV Heater No. 1	0.175 MMBtu/hr	ULSD	1.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	111.8 tonne/year
116	ACRV Heater No. 2	0.175 MMBtu/hr	ULSD	1.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	111.8 tonne/year
117	Hot Oil Unit Engine	375 hp	ULSD	19.2 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	1,716.6 tonne/year
118	Air Compressor Generator Engine	61 hp	ULSD	3.1 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	278.6 tonne/year
119	Light Plant Generator Engine No. 1	28 hp	ULSD	1.4 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	127.9 tonne/year
120	Light Plant Generator Engine No. 2	28 hp	ULSD	1.4 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	127.9 tonne/year
121	Light Plant Generator Engine No. 3	28 hp	ULSD	1.4 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	127.9 tonne/year
122	Light Plant Generator Engine No. 4	28 hp	ULSD	1.4 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	127.9 tonne/year
123	Portable Moving Generator Engine No. 1	32 hp	ULSD	1.6 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	146.2 tonne/year
124	Portable Moving Generator Engine No. 2	32 hp	ULSD	1.6 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	146.2 tonne/year
125	Portable Moving Generator Engine No. 3	32 hp	ULSD	1.6 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	146.2 tonne/year
126	Freeze Protection Generator Engine No. 1	99 hp	ULSD	5.1 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	452.2 tonne/year
127	Freeze Protection Generator Engine No. 2	99 hp	ULSD	5.1 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	452.2 tonne/year
128	Freeze Protection Generator Engine No. 3	99 hp	ULSD	5.1 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	452.2 tonne/year
129	Ground Heater Engine	10.9 hp	ULSD	0.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	61.7 tonne/year
130	Ground Heater	0.28 MMBtu/hr	ULSD	2.0 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	178.8 tonne/year
131	Portable Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	652.5 tonne/year
132	Portable Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	652.5 tonne/year
133	Portable Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	652.5 tonne/year
134	Portable Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	652.5 tonne/year
135	Portable Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	652.5 tonne/year
136	Portable Heater No. 6	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	652.5 tonne/year
137	Portable Heater No. 7	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	652.5 tonne/year
138	Portable Heater No. 8	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	652.5 tonne/year
139	Portable Heater Engine No. 1	17 hp	ULSD	0.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	61.7 tonne/year
140	Portable Heater Engine No. 2	17 hp	ULSD	0.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	61.7 tonne/year
141	Portable Heater Engine No. 3	17 hp	ULSD	0.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	61.7 tonne/year
142	Portable Heater Engine No. 4	17 hp	ULSD	0.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	61.7 tonne/year
143	Portable Heater Engine No. 5	17 hp	ULSD	0.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	61.7 tonne/year
144	Portable Heater Engine No. 6	17 hp	ULSD	0.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	61.7 tonne/year
145	Portable Heater Engine No. 7	17 hp	ULSD	0.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	61.7 tonne/year
146	Portable Heater Engine No. 8	17 hp	ULSD	0.7 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	NRE	8,760 hr/yr	61.7 tonne/year
147	Used Oil-fired Heater	0.5 MMBtu/hr	Used Oil/ULSD	3.6 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	326.2 tonne/year
148	Production Support Engine	400 hp	ULSD	20.4 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	1,826.9 tonne/year
149	Refrigeration Unit (Reefer) Engine	24.8 hp	ULSD	1.3 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	113.3 tonne/year
246	Waste Incinerator	250 lb/hr	Trash	250 lb/hr	Table C-1, 40 CFR 98	90.7 kg CO_2/MMBtu	N/A	8,760 hr/yr	988.2 tonne/year
			ULSD	25.0 gal/hr	Table C-1, 40 CFR 98	73.96 kg CO_2/MMBtu	N/A	8,760 hr/yr	2,235.2 tonne/year
								Total Potential CO_2 Emissions Excluding Nonroad Engines	**196,223 tonne/year**
								Total Potential CO_2 Emissions for Nonroad Engines	**4,857 tonne/year**
								Total Potential CO_2 Emissions for All Emission Units	**201,080 tonne/year**

Notes:
[1] Heat rate for diesel engines: 7,000 Btu/hp-hr
[2] NRE = Nonroad Engine
[3] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)
[4] Diesel high heat value: 0.138 MMBtu/gallon
[5] Pipeline natural gas default high heat value: 1.026E-03 MMBtu/scf
[6] Municipal solid waste default high heat value: 9.95 MMBtu/short ton

Table 12. Potential to Emit Calculations - Methane (CH_4) Emissions
Point Thomson Unit (PTU) Initial Production System (IPS)

Emission Unit			Fuel	Maximum Fuel	Factor	CH_4 Emission	Nonroad	Maximum Annual	Annual CH_4 Emissions
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Operation	
96	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.212 tonne/year
101	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Table C-2, 40 CFR 98	1.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.763 tonne/year
102	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Table C-2, 40 CFR 98	1.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.763 tonne/year
103	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Table C-2, 40 CFR 98	1.00E-03 kg CH_4/MMBtu	N/A	6,260 hr/yr	0.545 tonne/year
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	2,500 hr/yr	0.619 tonne/year
104	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Table C-2, 40 CFR 98	1.00E-03 kg CH_4/MMBtu	N/A	6,260 hr/yr	0.545 tonne/year
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	2,500 hr/yr	0.619 tonne/year
101-104	Fuel Gas and Dual Fuel-fired Turbine (out of SoLoNOx, combined)	N/A	Fuel Gas	42.27 MMBtu/hr	Table C-2, 40 CFR 98	1.00E-03 kg CH_4/MMBtu	N/A	0 hr/yr	0.000 tonne/year
103-104	Dual Fuel-fired Turbine (out of SoLoNOx mode, combined)	N/A	ULSD	56.07 MMBtu/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	0 hr/yr	0.000 tonne/year
107	Standby Camp Generator Engine No. 1	2,695 hp	ULSD	127.0 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	500 hr/yr	0.026 tonne/year
108	Standby Camp Generator Engine No. 2	2,695 hp	ULSD	127.0 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	500 hr/yr	0.026 tonne/year
109	Standby Camp Generator Engine No. 3	2,695 hp	ULSD	127.0 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	500 hr/yr	0.026 tonne/year
110	Fine Water Mist Pump Engine No. 1	610 hp	ULSD	29.6 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	500 hr/yr	0.006 tonne/year
111	Fine Water Mist Pump Engine No. 2	610 hp	ULSD	29.6 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	500 hr/yr	0.006 tonne/year
112	HP Flare	130 MMscf/yr	Gas	N/A	Table C-2, 40 CFR 98	1.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.133 tonne/year
113	LP Flare	20 MMscf/yr	Gas	N/A	Table C-2, 40 CFR 98	1.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.021 tonne/year
114	Airstrip Generator Engine	563 hp	ULSD	29.0 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	500 hr/yr	0.006 tonne/year
115	ACRV Heater No. 1	0.175 MMBtu/hr	ULSD	1.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.005 tonne/year
116	ACRV Heater No. 2	0.175 MMBtu/hr	ULSD	1.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.005 tonne/year
117	Hot Oil Unit Engine	375 hp	ULSD	19.2 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.070 tonne/year
118	Air Compressor Generator Engine	61 hp	ULSD	3.1 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.011 tonne/year
119	Light Plant Generator Engine No. 1	28 hp	ULSD	1.4 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.005 tonne/year
120	Light Plant Generator Engine No. 2	28 hp	ULSD	1.4 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.005 tonne/year
121	Light Plant Generator Engine No. 3	28 hp	ULSD	1.4 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.005 tonne/year
122	Light Plant Generator Engine No. 4	28 hp	ULSD	1.4 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.005 tonne/year
123	Portable Moving Generator Engine No. 1	32 hp	ULSD	1.6 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.006 tonne/year
124	Portable Moving Generator Engine No. 2	32 hp	ULSD	1.6 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.006 tonne/year
125	Portable Moving Generator Engine No. 3	32 hp	ULSD	1.6 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.006 tonne/year
126	Freeze Protection Generator Engine No. 1	99 hp	ULSD	5.1 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.018 tonne/year
127	Freeze Protection Generator Engine No. 2	99 hp	ULSD	5.1 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.018 tonne/year
128	Freeze Protection Generator Engine No. 3	99 hp	ULSD	5.1 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.018 tonne/year
129	Ground Heater Engine	10.9 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.003 tonne/year
130	Ground Heater	0.28 MMBtu/hr	ULSD	2.0 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.007 tonne/year
131	Portable Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
132	Portable Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
133	Portable Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
134	Portable Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
135	Portable Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
136	Portable Heater No. 6	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
137	Portable Heater No. 7	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
138	Portable Heater No. 8	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
139	Portable Heater Engine No. 1	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.003 tonne/year
140	Portable Heater Engine No. 2	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.003 tonne/year
141	Portable Heater Engine No. 3	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.003 tonne/year
142	Portable Heater Engine No. 4	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.003 tonne/year
143	Portable Heater Engine No. 5	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.003 tonne/year
144	Portable Heater Engine No. 6	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.003 tonne/year
145	Portable Heater Engine No. 7	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.003 tonne/year
146	Portable Heater Engine No. 8	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	NRE	8,760 hr/yr	0.003 tonne/year
147	Used Oil-fired Heater	0.5 MMBtu/hr	Used Oil/ULSD	3.6 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.013 tonne/year
148	Production Support Engine	400 hp	ULSD	20.4 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.074 tonne/year
149	Refrigeration Unit (Reefer) Engine	24.8 hp	ULSD	1.3 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.005 tonne/year
246	Waste Incinerator	250 lb/hr	Trash	250 lb/hr	Table C-2, 40 CFR 98	3.20E-02 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.349 tonne/year
			ULSD	25.0 gal/hr	Table C-2, 40 CFR 98	3.00E-03 kg CH_4/MMBtu	N/A	8,760 hr/yr	0.091 tonne/year
								Total Potential CH_4 Emissions Excluding Nonroad Engines	**5.076 tonne/year**
								Total Potential CH_4 Emissions for Nonroad Engines	**0.197 tonne/year**
								Total Potential CH_4 Emissions for All Emission Units	**5.273 tonne/year**

Notes:
[1] Heat rate for diesel engines: 7,000 Btu/hp-hr
[2] NRE = Nonroad Engine
[3] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)
[4] Diesel high heat value: 0.138 MMBtu/gallon
[5] Pipeline natural gas default high heat value: 1.026E-03 MMBtu/scf
[6] Municipal solid waste default high heat value: 9.95 MMBtu/short ton

Table 13. Potential to Emit Calculations - Nitrous Oxide (N_2O) Emissions
Point Thomson Unit (PTU) Initial Production System (IPS)

Emission Unit			Fuel	Maximum Fuel	Factor	N_2O Emission	Nonroad	Maximum Annual	Annual N_2O Emissions
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Operation	
96	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0423 tonne/year
101	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Table C-2, 40 CFR 98	1.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0763 tonne/year
102	Fuel Gas-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Table C-2, 40 CFR 98	1.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0763 tonne/year
103	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Table C-2, 40 CFR 98	1.00E-04 kg N_2O/MMBtu	N/A	6,260 hr/yr	0.0545 tonne/year
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	2,500 hr/yr	0.1238 tonne/year
104	Dual Fuel-fired Turbine	7,520 kW	Fuel Gas	87.09 MMBtu/hr	Table C-2, 40 CFR 98	1.00E-04 kg N_2O/MMBtu	N/A	6,260 hr/yr	0.0545 tonne/year
	Dual Fuel-fired Turbine	7,520 kW	ULSD	82.52 MMBtu/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	2,500 hr/yr	0.1238 tonne/year
101-104	Fuel Gas and Dual Fuel-fired Turbine (out of SoLoNOx, combined)	N/A	Fuel Gas	42.27 MMBtu/hr	Table C-2, 40 CFR 98	1.00E-04 kg N_2O/MMBtu	N/A	0 hr/yr	0.0000 tonne/year
103-104	Dual Fuel-fired Turbine (out of SoLoNOx mode, combined)	N/A	ULSD	56.07 MMBtu/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	0 hr/yr	0.0000 tonne/year
107	Standby Camp Generator Engine No. 1	2,695 hp	ULSD	127.0 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	500 hr/yr	0.0053 tonne/year
108	Standby Camp Generator Engine No. 2	2,695 hp	ULSD	127.0 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	500 hr/yr	0.0053 tonne/year
109	Standby Camp Generator Engine No. 3	2,695 hp	ULSD	127.0 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	500 hr/yr	0.0053 tonne/year
110	Fine Water Mist Pump Engine No. 1	610 hp	ULSD	29.6 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	500 hr/yr	0.0012 tonne/year
111	Fine Water Mist Pump Engine No. 2	610 hp	ULSD	29.6 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	500 hr/yr	0.0012 tonne/year
112	HP Flare	130 MMscf/yr	Gas	N/A	Table C-2, 40 CFR 98	1.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0133 tonne/year
113	LP Flare	20 MMscf/yr	Gas	N/A	Table C-2, 40 CFR 98	1.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0021 tonne/year
114	Airstrip Generator Engine	563 hp	ULSD	29.0 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	500 hr/yr	0.0012 tonne/year
115	ACRV Heater No. 1	0.175 MMBtu/hr	ULSD	1.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0009 tonne/year
116	ACRV Heater No. 2	0.175 MMBtu/hr	ULSD	1.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0009 tonne/year
117	Hot Oil Unit Engine	375 hp	ULSD	19.2 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0139 tonne/year
118	Air Compressor Generator Engine	61 hp	ULSD	3.1 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0023 tonne/year
119	Light Plant Generator Engine No. 1	28 hp	ULSD	1.4 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0010 tonne/year
120	Light Plant Generator Engine No. 2	28 hp	ULSD	1.4 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0010 tonne/year
121	Light Plant Generator Engine No. 3	28 hp	ULSD	1.4 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0010 tonne/year
122	Light Plant Generator Engine No. 4	28 hp	ULSD	1.4 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0010 tonne/year
123	Portable Moving Generator Engine No. 1	32 hp	ULSD	1.6 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0012 tonne/year
124	Portable Moving Generator Engine No. 2	32 hp	ULSD	1.6 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0012 tonne/year
125	Portable Moving Generator Engine No. 3	32 hp	ULSD	1.6 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0012 tonne/year
126	Freeze Protection Generator Engine No. 1	99 hp	ULSD	5.1 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0037 tonne/year
127	Freeze Protection Generator Engine No. 2	99 hp	ULSD	5.1 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0037 tonne/year
128	Freeze Protection Generator Engine No. 3	99 hp	ULSD	5.1 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0037 tonne/year
129	Ground Heater Engine	10.9 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0005 tonne/year
130	Ground Heater	0.28 MMBtu/hr	ULSD	2.0 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0015 tonne/year
131	Portable Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0053 tonne/year
132	Portable Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0053 tonne/year
133	Portable Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0053 tonne/year
134	Portable Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0053 tonne/year
135	Portable Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0053 tonne/year
136	Portable Heater No. 6	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0053 tonne/year
137	Portable Heater No. 7	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0053 tonne/year
138	Portable Heater No. 8	1.0 MMBtu/hr	ULSD	7.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0053 tonne/year
139	Portable Heater Engine No. 1	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0005 tonne/year
140	Portable Heater Engine No. 2	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0005 tonne/year
141	Portable Heater Engine No. 3	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0005 tonne/year
142	Portable Heater Engine No. 4	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0005 tonne/year
143	Portable Heater Engine No. 5	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0005 tonne/year
144	Portable Heater Engine No. 6	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0005 tonne/year
145	Portable Heater Engine No. 7	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0005 tonne/year
146	Portable Heater Engine No. 8	17 hp	ULSD	0.7 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	NRE	8,760 hr/yr	0.0005 tonne/year
147	Used Oil-fired Heater	0.5 MMBtu/hr	Used Oil/ULSD	3.6 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0026 tonne/year
148	Production Support Engine	400 hp	ULSD	20.4 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0148 tonne/year
149	Refrigeration Unit (Reefer) Engine	24.8 hp	ULSD	1.3 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0009 tonne/year
246	Waste Incinerator	250 lb/hr	Trash	250 lb/hr	Table C-2, 40 CFR 98	4.20E-03 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0458 tonne/year
			ULSD	25.0 gal/hr	Table C-2, 40 CFR 98	6.00E-04 kg N_2O/MMBtu	N/A	8,760 hr/yr	0.0181 tonne/year
								Total Potential N_2O Emissions Excluding Nonroad Engines	**0.7142 tonne/year**
								Total Potential N_2O Emissions for Nonroad Engines	**0.0394 tonne/year**
								Total Potential N_2O Emissions for All Emission Units	**0.7536 tonne/year**

Notes:
[1] Heat rate for diesel engines: 7,000 Btu/hp-hr
[2] NRE = Nonroad Engine
[3] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)
[4] Diesel high heat value: 0.138 MMBtu/gallon
[5] Pipeline natural gas default high heat value: 1.026E-03 MMBtu/scf
[6] Municipal solid waste default high heat value: 9.95 MMBtu/short ton

Table 14. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
Point Thomson Unit (PTU) Initial Production System (IPS)

Hazardous Air Pollutant	Fuel Gas-fired Turbines	Dual Fuel-fired Turbines	Flares	Waste Incinerator	ULSD Heaters	Used Oil-fired Heater[1]	ULSD Engines ≤600 hp	ULSD Engines >600 hp	Stationary Emission Unit HAP Emissions[2]	Nonroad Engines ≤600 hp	Nonroad Engines >600 hp	Nonroad Engine HAP Emissions[2]
Acetaldehyde	3.05E-02	2.12E-02	3.23E-03	----	----	----	1.07E-02	4.10E-04	**0.07**	2.56E-02	----	**0.03**
Acrolein	4.88E-03	3.39E-03	7.50E-04	----	----	----	1.30E-03	1.28E-04	**0.01**	3.09E-03	----	**0.00**
Benzene	9.15E-03	1.82E-02	1.19E-02	----	1.14E-04	----	1.31E-02	1.26E-02	**0.07**	3.11E-02	----	**0.03**
1,3-Butadiene	3.28E-04	3.69E-03	----	----	----	----	5.48E-04	----	**0.00**	1.30E-03	----	**0.00**
Dibutylphthalate	----	----	----	----	----	5.32E-07	----	----	**0.00**	----	----	
Ethylbenzene	2.44E-02	1.70E-02	1.08E-01	----	3.38E-05	----	----	----	**0.15**	----	----	
Formaldehyde	5.42E-01	4.37E-01	8.77E-02	----	1.75E-02	----	1.65E-02	1.28E-03	**1.10**	3.94E-02	----	**0.04**
N-Hexane	----	----	2.18E-03	----	----	----	----	----	**0.00**	----	----	
Hydrochloric acid (HCl)	----	----	----	3.50E+00	----	----	----	----	**3.50**	----	----	
Phenol	----	----	----	----	----	4.38E-07	----	----	**0.00**	----	----	
Polycyclic Organic Matter (POM)	1.68E-03	9.81E-03	1.05E-03	----	1.75E-03	----	2.35E-03	3.45E-03	**0.02**	5.60E-03	----	**0.01**
Naphthalene[3]	9.92E-04	8.25E-03	----	----	----	----	----	----	**0.01**	----	----	
Phenanthrene	----	----	----	----	----	1.56E-06	----	----	**0.00**	----	----	
Pyrene	----	----	----	----	----	1.30E-07	----	----	**0.00**	----	----	
Propylene oxide	2.21E-02	1.54E-02	----	----	----	----	----	----	**0.04**	----	----	
Toluene	9.92E-02	6.89E-02	4.35E-03	----	3.30E-03	----	5.73E-03	4.58E-03	**0.19**	1.36E-02	----	**0.01**
1,1,1-Trichloroethane	----	----	----	----	1.25E-04	0.00E+00	----	----	**0.00**	----	----	
Xylenes (isomers and mixture)	4.88E-02	3.39E-02	2.18E-03	----	5.80E-05	----	3.99E-03	3.14E-03	**0.09**	9.51E-03	----	**0.01**
Antimony Compounds	----	----	----	----	----	7.04E-06	----	----	**0.00**	----	----	
Arsenic Compounds	----	2.38E-03	----	2.39E-03	2.91E-04	9.39E-04	----	----	**0.01**	----	----	
Beryllium Compounds	----	6.70E-05	----	----	2.19E-04	2.82E-05	----	----	**0.00**	----	----	
Cadmium Compounds	----	1.04E-03	----	5.97E-03	2.19E-04	1.88E-04	----	----	**0.01**	----	----	
Chromium Compounds	----	2.38E-03	----	4.91E-03	2.19E-04	2.82E-03	----	----	**0.01**	----	----	
Cobalt Compounds	----	----	----	----	----	8.13E-05	----	----	**0.00**	----	----	
Lead Compounds	----	3.03E-03	----	1.17E-01	6.56E-04	----	----	----	**0.12**	----	----	
Manganese Compounds	----	1.71E-01	----	----	4.37E-04	7.82E-04	----	----	**0.17**	----	----	
Mercury Compounds	----	2.59E-04	----	3.07E-03	2.19E-04	----	----	----	**0.00**	----	----	
Nickel Compounds	----	9.94E-04	----	4.30E-03	2.19E-04	2.50E-03	----	----	**0.01**	----	----	
Phosphorus	----	----	----	----	----	0.00E+00	----	----		----	----	
Selenium Compounds	----	5.40E-03	----	----	1.09E-03	0.00E+00	----	----	**0.01**	----	----	

Total HAPs - Maximum Individual HAP	**----**	**----**	**----**	**----**	**----**	----	**----**	**----**	**3.50**	**----**	**----**	**0.04**
Total VOC HAP Emissions	**0.78**	**0.63**	**0.22**	**0.00**	**0.02**	**0.00**	**0.05**	**0.03**	**1.74**	**0.13**	**0.00**	**0.14**
Total HAPs Emissions	**0.78**	**0.82**	**0.22**	**3.64**	**0.03**	**0.01**	**0.05**	**0.03**	**5.58**	**0.13**	**0.00**	**0.13**

Notes:
[1] For used oil-fired heaters, AP-42 lists individual POMs and not a combined POM emission factor.
[2] See individual emissions unit category emissions calculations for details on methodology and assumptions.
[3] AP-42 is unclear if the value for PAH includes naphthalene. The emission factor for PAH is included and listed under polycylic organic matter.

Table 15. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
Fuel Gas-fired Turbines

Maximum Total Heat Input: 1,525,817 MMBtu/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations	
CAS No.	**Chemical Name**	**Emission Factor**	**Estimated Emissions**
106990	1,3-Butadiene	4.30E-07 lb/MMBtu	3.28E-04 tpy
75070	Acetaldehyde	4.00E-05 lb/MMBtu	3.05E-02 tpy
107028	Acrolein	6.40E-06 lb/MMBtu	4.88E-03 tpy
71432	Benzene	1.20E-05 lb/MMBtu	9.15E-03 tpy
100414	Ethylbenzene	3.20E-05 lb/MMBtu	2.44E-02 tpy
5000	Formaldehyde	7.10E-04 lb/MMBtu	5.42E-01 tpy
91203	Naphthalene	1.30E-06 lb/MMBtu	9.92E-04 tpy
N/A	Polycyclic Organic Matter (POM)	2.20E-06 lb/MMBtu	1.68E-03 tpy
75569	Propylene oxide	2.90E-05 lb/MMBtu	2.21E-02 tpy
108883	Toluene	1.30E-04 lb/MMBtu	9.92E-02 tpy
1330207	Xylenes (isomers and mixture)	6.40E-05 lb/MMBtu	4.88E-02 tpy

Total Potential HAP Emissions: 0.78 tpy

Notes/Comments:

[1] Reference: AP-42, Table 3.1-3.

[2] AP-42, Table 3.1-3 is unclear if the value for PAH includes Naphthalene.
The emission factor for PAH is included and listed under Polycylic Organic Matter.

[3] Total heat consumption based on maximum full-time or permit-limited operation as noted below:

(2) 7,520 kW Solar Taurus 70 Turbines 87.09 MMBtu/hr, each

Potential Heat Input: EU 101 762,908 MMBtu/yr, operating 8,760 hr/yr

Potential Heat Input: EU 102 762,908 MMBtu/yr, operating 8,760 hr/yr

Total Potential Heat Input: 1,525,817 MMBtu/yr

[4] Capacity of the turbines is the nominal capacity at ISO conditions.

Table 16. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
Dual Fuel-fired Turbines

Maximum Total Heat Input on Fuel Gas: 1,059,885 MMBtu/yr
Maximum Total Heat Input on Fuel ULSD: 432,225 MMBtu/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations	
CAS No.	**Chemical Name**	**Emission Factor**	**Estimated Emissions**
75070	Acetaldehyde	4.00E-05 lb/MMBtu	2.12E-02 tpy from fuel gas
107028	Acrolein	6.40E-06 lb/MMBtu	3.39E-03 tpy from fuel gas
100414	Ethylbenzene	3.20E-05 lb/MMBtu	1.70E-02 tpy from fuel gas
5000	Formaldehyde	7.10E-04 lb/MMBtu	3.76E-01 tpy from fuel gas
5000	Formaldehyde	2.80E-04 lb/MMBtu	6.05E-02 tpy from ULSD
75569	Propylene oxide	2.90E-05 lb/MMBtu	1.54E-02 tpy from fuel gas
108883	Toluene	1.30E-04 lb/MMBtu	6.89E-02 tpy from fuel gas
1330207	Xylenes (isomers and mixture)	6.40E-05 lb/MMBtu	3.39E-02 tpy from fuel gas
106990	1,3-Butadiene	4.30E-07 lb/MMBtu	2.28E-04 tpy from fuel gas
106990	1,3-Butadiene	1.60E-05 lb/MMBtu	3.46E-03 tpy from ULSD
71432	Benzene	1.20E-05 lb/MMBtu	6.36E-03 tpy from fuel gas
71432	Benzene	5.50E-05 lb/MMBtu	1.19E-02 tpy from ULSD
91203	Naphthalene	1.30E-06 lb/MMBtu	6.89E-04 tpy from fuel gas
91203	Naphthalene	3.50E-05 lb/MMBtu	7.56E-03 tpy from ULSD
N/A	Polycyclic Organic Matter (POM)	2.20E-06 lb/MMBtu	1.17E-03 tpy from fuel gas
N/A	Polycyclic Organic Matter (POM)	4.00E-05 lb/MMBtu	8.64E-03 tpy from ULSD
107028	Arsenic Compounds	1.10E-05 lb/MMBtu	2.38E-03 tpy from ULSD
NA	Beryllium Compounds	3.10E-07 lb/MMBtu	6.70E-05 tpy from ULSD
NA	Cadmium Compounds	4.80E-06 lb/MMBtu	1.04E-03 tpy from ULSD
71432	Chromium Compounds	1.10E-05 lb/MMBtu	2.38E-03 tpy from ULSD
NA	Lead Compounds	1.40E-05 lb/MMBtu	3.03E-03 tpy from ULSD
NA	Manganese Compounds	7.90E-04 lb/MMBtu	1.71E-01 tpy from ULSD
NA	Mercury Compounds	1.20E-06 lb/MMBtu	2.59E-04 tpy from ULSD
NA	Nickel Compounds	4.60E-06 lb/MMBtu	9.94E-04 tpy from ULSD
NA	Selenium Compounds	2.50E-05 lb/MMBtu	5.40E-03 tpy from ULSD

Total Potential HAP Emissions: 0.82 tpy

Notes/Comments:

[1] Reference: AP-42, Tables 3.1-3, 3.1-4, and 3.1-5.

[2] AP-42, Table 3.1-3 is unclear if the value for PAH includes Naphthalene.
The emission factor for PAH is included and listed under Polycylic Organic Matter.

[3] Total heat consumption based on maximum full-time or permit-limited operation as noted below:

(2) 7,520 kW Solar Taurus 70 Turbines
82.52 MMBtu/hr, each maximum heat consumption on ULSD
87.09 MMBtu/hr, each maximum heat consumption on fuel gas
56.07 MMBtu/hr, each maximum heat consumption on ULSD, operating out of SoLoNOx mode

Potential Heat Input:	EU 103	514,702	MMBtu/yr, operating on fuel gas	5,910 hr/yr
		206,300	MMBtu/yr, operating on ULSD	2,500 hr/yr
Potential Heat Input:	EU 104	545,183	MMBtu/yr, operating on fuel gas	6,260 hr/yr
		206,300	MMBtu/yr, operating on ULSD	2,500 hr/yr
Potential Heat Input (Out of SoLoNOx Mode):	EUs 103/104 (combined)	19,625	MMBtu/yr, operating on ULSD	350 hr/yr

Total Potential Heat Input on Fuel Gas: 1,059,885 MMBtu/yr
Total Potential Heat Input on ULSD: 432,225 MMBtu/yr

[4] HAP metal emissions only occur when the turbines fire ULSD.

[5] Higher formaldehyde emissions when the turbines fire fuel gas. Higher 1,3-Butadiene, Benzene, Napthalene, and POM emissions when the turbines fire ULSD.

[6] Formaldehyde, 1,3-Butadiene, Benzene, Napthalene, and POM emissions are conservatively calculated to include turbines operating out of SoLoNOx mode on ULSD.

[7] Capacity of the turbines is the nominal capacity at ISO conditions.

Table 17. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
Flares

Maximum Total Capacity: 150 MMscf/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations	
CAS No.	**Chemical Name**	**Emission Factor**	**Estimated Emissions**
75070	Acetaldehyde	4.30E-02 lb/MMscf	3.23E-03 tpy
107028	Acrolein	1.00E-02 lb/MMscf	7.50E-04 tpy
100414	Ethylbenzene	1.44E+00 lb/MMscf	1.08E-01 tpy
5000	Formaldehyde	1.17E+00 lb/MMscf	8.77E-02 tpy
108883	Toluene	5.80E-02 lb/MMscf	4.35E-03 tpy
1330207	Xylenes (isomers and mixture)	2.90E-02 lb/MMscf	2.18E-03 tpy
71432	Benzene	1.59E-01 lb/MMscf	1.19E-02 tpy
NA	Polycyclic Organic Matter (POM)	1.40E-02 lb/MMscf	1.05E-03 tpy
NA	N-Hexane	2.90E-02 lb/MMscf	2.18E-03 tpy

Total Potential HAP Emissions: 0.22 tpy

Notes/Comments:
[1] Reference: VCAPCD
[2] Total heat consumption based on maximum full-time or permit-limited operation as noted below:

(2) Flares

Potential Heat Input: EU 112 130 MMscf/yr
EU 113 20 MMscf/yr

Total Capacity: 150 MMscf/yr

Table 18. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
Waste Incinerator

Maximum Total Usage: 2,190,000 lb/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations	
CAS No.	**Chemical Name**	**Emission Factor**	**Estimated Emissions**
N/A	Arsenic Compounds	4.37E-03 lb/ton	2.39E-03 tpy
N/A	Cadmium Compounds	1.09E-02 lb/ton	5.97E-03 tpy
N/A	Chromium Compounds	8.97E-03 lb/ton	4.91E-03 tpy
N/A	Mercury Compounds	5.60E-03 lb/ton	3.07E-03 tpy
N/A	Nickel Compounds	7.85E-03 lb/ton	4.30E-03 tpy
N/A	Lead Compounds	2.13E-01 lb/ton	1.17E-01 tpy
7647	Hydrochloric acid (HCl)	6.40E+00 lb/ton	3.50E+00 tpy

Total Potential HAP Emissions: 3.64 tpy

Notes/Comments:
[1] Reference: AP-42, Table 2.1-2
[2] Total heat consumption based on maximum full-time or permit-limited operation as noted below:

(1) Incinerator 250 lb/hr

Potential Operations: EU 246 2,190,000 lb/yr, operating 8,760 hr/yr

Total Potential Operations: 2,190,000 lb/yr

Table 19. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
ULSD-fired Heaters

Maximum Total Heat Input: 145,679 MMBtu/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations	
CAS No.	**Chemical Name**	**Emission Factor**	**Estimated Emissions**
NA	Arsenic Compounds	4.00E-06 lb/MMBtu	2.91E-04 tpy
71-43-2	Benzene	1.56E-06 lb/MMBtu	1.14E-04 tpy
NA	Beryllium Compounds	3.00E-06 lb/MMBtu	2.19E-04 tpy
NA	Cadmium Compounds	3.00E-06 lb/MMBtu	2.19E-04 tpy
NA	Chromium Compounds	3.00E-06 lb/MMBtu	2.19E-04 tpy
100-41-4	Ethylbenzene	4.64E-07 lb/MMBtu	3.38E-05 tpy
50-00-0	Formaldehyde	2.41E-04 lb/MMBtu	1.75E-02 tpy
NA	Lead Compounds	9.00E-06 lb/MMBtu	6.56E-04 tpy
NA	Manganese Compounds	6.00E-06 lb/MMBtu	4.37E-04 tpy
NA	Mercury Compounds	3.00E-06 lb/MMBtu	2.19E-04 tpy
91-20-3	Naphthalene	8.25E-06 lb/MMBtu	6.01E-04 tpy
NA	Nickel Compounds	3.00E-06 lb/MMBtu	2.19E-04 tpy
NA	Polycyclic Organic Matter (POM)	2.41E-05 lb/MMBtu	1.75E-03 tpy
NA	Selenium Compounds	1.50E-05 lb/MMBtu	1.09E-03 tpy
108-88-3	Toluene	4.53E-05 lb/MMBtu	3.30E-03 tpy
71-55-6	1,1,1-Trichloroethane	1.72E-06 lb/MMBtu	1.25E-04 tpy
1330-20-7	Xylenes (isomers and mixture)	7.96E-07 lb/MMBtu	5.80E-05 tpy

Total Potential HAP Emissions: 0.03 tpy

Notes/Comments:

[1] Reference: AP-42, Tables 1.3-8, 1.3-9, and 1.3-10.

[2] AP-42, Table 1.3-8 unclear if the value for PAH includes Naphthalene.
The emission factor for PAH is included and listed under Polycyclic Organic Matter.

[3] Total fuel use based on maximum full-time operation or permit-limited operation as noted below:

(1) Hot Oil Unit Heater	8.0	MMBtu/hr			
Potential Heat Input:		EU 96	70,080	MMBtu/yr, operating	8,760 hr/yr
(2) ACRV Heaters	0.2	MMBtu/hr, each			
Potential Heat Input:		EU 115	1,533	MMBtu/yr, operating	8,760 hr/yr
Potential Heat Input:		EU 116	1,533	MMBtu/yr, operating	8,760 hr/yr
(1) Ground Heater	0.3	MMBtu/hr			
Potential Heat Input:		EU 130	2,453	MMBtu/yr, operating	8,760 hr/yr
(8) Portable Heaters	1.0	MMBtu/hr, each			
Potential Heat Input:		EU 131	8,760	MMBtu/yr, operating	8,760 hr/yr
Potential Heat Input:		EU 132	8,760	MMBtu/yr, operating	8,760 hr/yr
Potential Heat Input:		EU 133	8,760	MMBtu/yr, operating	8,760 hr/yr
Potential Heat Input:		EU 134	8,760	MMBtu/yr, operating	8,760 hr/yr
Potential Heat Input:		EU 135	8,760	MMBtu/yr, operating	8,760 hr/yr
Potential Heat Input:		EU 136	8,760	MMBtu/yr, operating	8,760 hr/yr
Potential Heat Input:		EU 137	8,760	MMBtu/yr, operating	8,760 hr/yr
Potential Heat Input:		EU 138	8,760	MMBtu/yr, operating	8,760 hr/yr

Total Potential Heat Input: 145,679 MMBtu/yr

[4] Diesel high heat value: 137,000 Btu/gal

Table 20. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
Used Oil-fired Heater

Maximum Total Heat Input: 4,380 MMBtu/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations	
CAS No.	**Chemical Name**	**Emission Factor**	**Estimated Emissions**
NA	Antimony Compounds	3.21E-06 lb/MMBtu	7.04E-06 tpy
NA	Arsenic Compounds	4.29E-04 lb/MMBtu	9.39E-04 tpy
56-55-3	Benzo(a)anthracene	ND	0 tpy
50-32-8	Benzo(a)pyrene	ND	0 tpy
NA	Beryllium Compounds	1.29E-05 lb/MMBtu	2.82E-05 tpy
117-81-7	Bis(2-ethylhexyl)phthalate	ND	0 tpy
NA	Cadmium Compounds	8.57E-05 lb/MMBtu	1.88E-04 tpy
NA	Chromium Compounds	1.29E-03 lb/MMBtu	2.82E-03 tpy
NA	Cobalt Compounds	3.71E-05 lb/MMBtu	8.13E-05 tpy
84-74-2	Dibutylphthalate	2.43E-07 lb/MMBtu	5.32E-07 tpy
95-50-1	Dichlorobenzene	ND	0 tpy
NA	Manganese Compounds	3.57E-04 lb/MMBtu	7.82E-04 tpy
91-20-3	Naphthalene	6.57E-07 lb/MMBtu	1.44E-06 tpy
NA	Nickel Compounds	1.14E-03 lb/MMBtu	2.50E-03 tpy
85-01-8	Phenanthrene	7.14E-07 lb/MMBtu	1.56E-06 tpy
108-95-2	Phenol	2.00E-07 lb/MMBtu	4.38E-07 tpy
7723-14-0	Phosphorus	ND	0 tpy
129-00-0	Pyrene	5.93E-08 lb/MMBtu	1.30E-07 tpy
71-55-6	1,1,1-Trichloroethane	ND	0 tpy
NA	Selenium Compounds	BDL	0 tpy

Total Potential HAP Emissions: 0.01 tpy

Notes/Comments:
[1] Reference: AP-42, Tables 1.11-4 and 1.11-5
[2] Total fuel use based on maximum full-time operation or permit-limited operation as noted below:

(1) Used Oil-fired Heater 0.5 MMBtu/hr
Potential Heat Input: EU 147 4,380 MMBtu/yr, operating 8,760 hr/yr

Total Potential Heat Input: 4,380 MMBtu/yr

[3] AP-42, Chapter 1.11 used oil heating value: 140,000 Btu/gal
[4] For used oil-fired heaters, AP-42 lists individual POMs and not a combined POM emission factor.
[5] ND = No Data
[6] BDL = Below Detection Limit

Table 21. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
ULSD Engines Less Than or Equal to 600 Horsepower

Maximum Total Heat Input: 28,019 MMBtu/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations		
CAS No.	**Chemical Name**	**Emission Factor**		**Estimated Emissions**
75-07-0	Acetaldehyde	7.67E-04	lb/MMBtu	1.07E-02 tpy
107-02-8	Acrolein	9.25E-05	lb/MMBtu	1.30E-03 tpy
71-43-2	Benzene	9.33E-04	lb/MMBtu	1.31E-02 tpy
106-99-0	1,3-Butadiene	3.91E-05	lb/MMBtu	5.48E-04 tpy
50-00-0	Formaldehyde	1.18E-03	lb/MMBtu	1.65E-02 tpy
108-88-3	Toluene	4.09E-04	lb/MMBtu	5.73E-03 tpy
1330-20-7	Xylenes (isomers and mixture)	2.85E-04	lb/MMBtu	3.99E-03 tpy
NA	Polycyclic Organic Matter (POM)	1.68E-04	lb/MMBtu	2.35E-03 tpy

Total Potential HAP Emissions: 0.05 tpy

Notes/Comments:

[1] Reference: AP-42, Table 3.3-2.

[2] The emission factor for PAH is included and listed under Polycyclic Organic Matter.

[3] Total fuel use based on maximum full-time operation or permit-limited operation as noted below:

(1) Airstrip Generator Engine	563 hp				
Potential Heat Input:	EU 114	1,971	MMBtu/yr, operating	500	hr/yr
(1) Production Support Engine	400 hp				
Potential Heat Input:	EU 148	24,528	MMBtu/yr, operating	8,760	hr/yr
(1) Refrigeration Unit (Reefer) Engine	24.8 hp				
Potential Heat Input:	EU 149	1,521	MMBtu/yr, operating	8,760	hr/yr

Total Potential Heat Input: 28,019 MMBtu/yr

[4] Diesel engines heat rate: 7,000 Btu/hp-hr

Table 22. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
ULSD Engines Greater Than 600 Horsepower

Maximum Total Heat Input: 32,568 MMBtu/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations		
CAS No.	**Chemical Name**	**Emission Factor**		**Estimated Emissions**
75-07-0	Acetaldehyde	2.52E-05	lb/MMBtu	4.10E-04 tpy
107-02-8	Acrolein	7.88E-06	lb/MMBtu	1.28E-04 tpy
71-43-2	Benzene	7.76E-04	lb/MMBtu	1.26E-02 tpy
50-00-0	Formaldehyde	7.89E-05	lb/MMBtu	1.28E-03 tpy
108-88-3	Toluene	2.81E-04	lb/MMBtu	4.58E-03 tpy
1330-20-7	Xylenes (isomers and mixture)	1.93E-04	lb/MMBtu	3.14E-03 tpy
NA	Polycyclic Organic Matter (POM)	2.12E-04	lb/MMBtu	3.45E-03 tpy

Total Potential HAP Emissions: 0.03 tpy

Notes/Comments:

[1] Reference: AP-42, Table 3.4-3, 3.4-4.

[2] The emission factor for PAH is included and listed under Polycyclic Organic Matter.

[3] Total fuel use based on maximum full-time operation or permit-limited operation as noted below:

(3) Standby Camp Generator Engines	2695	hp, each			
Potential Heat Input:	EU 107	9,433	MMBtu/yr, operating	500	hr/yr
Potential Heat Input:	EU 108	9,433	MMBtu/yr, operating	500	hr/yr
Potential Heat Input:	EU 109	9,433	MMBtu/yr, operating	500	hr/yr
(2) Fine Water Mist Pump Engines	610	hp, each			
Potential Heat Input:	EU 110	2,135	MMBtu/yr, operating	500	hr/yr
Potential Heat Input:	EU 111	2,135	MMBtu/yr, operating	500	hr/yr

Total Potential Heat Input: 32,568 MMBtu/yr

[4] Diesel engines heat rate: 7,000 Btu/hp-hr

Table 23. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
ULSD Nonroad Engines Less Than or Equal to 600 Horsepower

Maximum Total Heat Input: 66,710 MMBtu/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations	
CAS No.	**Chemical Name**	**Emission Factor**	**Estimated Emissions**
75-07-0	Acetaldehyde	7.67E-04 lb/MMBtu	2.56E-02 tpy
107-02-8	Acrolein	9.25E-05 lb/MMBtu	3.09E-03 tpy
71-43-2	Benzene	9.33E-04 lb/MMBtu	3.11E-02 tpy
106-99-0	1,3-Butadiene	3.91E-05 lb/MMBtu	1.30E-03 tpy
50-00-0	Formaldehyde	1.18E-03 lb/MMBtu	3.94E-02 tpy
108-88-3	Toluene	4.09E-04 lb/MMBtu	1.36E-02 tpy
1330-20-7	Xylenes (isomers and mixture)	2.85E-04 lb/MMBtu	9.51E-03 tpy
NA	Polycyclic Organic Matter (POM)	1.68E-04 lb/MMBtu	5.60E-03 tpy

Total Potential HAP Emissions: 0.13 tpy

Notes/Comments:

[1] Reference: AP-42, Table 3.3-2.

[2] Total fuel use based on maximum full-time operation.

(21) Nonroad Engines ≤ 600 hp 1,088 hp

Potential Heat Input: 66,710 MMBtu/yr, operating 8,760 hr/yr

Total Potential Heat Input: 66,710 MMBtu/yr

[3] Diesel engines heat rate: 7,000 Btu/hp-hr

Table 24. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
ULSD Nonroad Engines Greater Than 600 Horsepower

Maximum Total Heat Input: 0 MMBtu/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations	
CAS No.	**Chemical Name**	**Emission Factor**	**Estimated Emissions**
75-07-0	Acetaldehyde	2.52E-05 lb/MMBtu	0.00E+00 tpy
107-02-8	Acrolein	7.88E-06 lb/MMBtu	0.00E+00 tpy
71-43-2	Benzene	7.76E-04 lb/MMBtu	0.00E+00 tpy
50-00-0	Formaldehyde	7.89E-05 lb/MMBtu	0.00E+00 tpy
108-88-3	Toluene	2.81E-04 lb/MMBtu	0.00E+00 tpy
1330-20-7	Xylenes (isomers and mixture)	1.93E-04 lb/MMBtu	0.00E+00 tpy
NA	Polycyclic Organic Matter (POM)	2.12E-04 lb/MMBtu	0.00E+00 tpy

Total Potential HAP Emissions: 0.00 tpy

Notes/Comments:
[1] Reference: AP-42, Table 3.4-3, 3.4-4.
[2] Total fuel use based on maximum full-time operation.

(0) Nonroad Engines > 600 hp 0 hp
Potential Heat Input: 0 MMBtu/yr, operating 8,760 hr/yr

Total Potential Heat Input: 0 MMBtu/yr

[3] Diesel engines heat rate: 7,000 Btu/hp-hr

ATTACHMENT 2-1 - PBU MGS PROJECT CONSTRUCTION EMISSIONS

PRUDHOE BAY UNIT MAJOR GAS SALES PROJECT CONSTRUCTION EMISSIONS

As discussed in Resource Report No. 1, the purpose of the Prudhoe Bay Unit Major Gas Sales (PBU MGS) Project is to allow natural gas currently being reinjected within the PBU to be transported to the proposed Gas Treatment Plant (GTP) for processing in order to transport the gas to the Liquefaction Facility via the Mainline. Much of the existing infrastructure in the PBU supports gas handling, but would require modification and addition of new modules. The PBU MGS Project also would support injection of byproduct from the GTP into the PBU itself.

The following activities associated with PBU MGS Project construction could result in emissions of criteria air pollutants and greenhouse gases, and have been quantified in this analysis:

- Expansion of a five acre pad to accommodate installation of a valve module and a metering module for feed gas, requiring 150,000 cubic yards of granular fill material.

- Construction of pipelines from the PBU Central Gas Facility (CGF) low temperature separation (LTS) system to the valve module.

- Construction of a pipeline between the valve module and the metering module.

- Construction of a new gas pipeline between the Lisburne Production Center and the PBU CGF. (5 miles)

- Construction of new pipelines to deliver GTP byproduct to wells for PBU formation injection, including:

    - New pipeline and tie-ins from the PBU CGF to the Eileen West End (EWE) junction, with connections to Well Pad W (W Pad) and Well Pad Z (Z Pad). (25 miles)

    - New pipeline from the PBU CGF to the Apex Gas Injection (AGI) Pad. (3 miles)

    - New pipeline from the PBU CGF to Flow Station 2 (FS2) and Drill Sites 9 and 16. (8 miles)

    - New pipeline from the PBU CGF to Pt. Mclntyre Drill Sites PM-1 and PM-2 (PM1/2). (8 miles)

Quantification of PBU MGS Project emission assumes that PBU MGS Project construction would occur over a five year construction period, from 2020 to 2024. (If project construction occurs later, emissions from onroad vehicles and nonroad equipment would likely decline.) Emission calculations also assume that a 200-person construction camp would be operated during the construction period.

The following activity is not expected to increase above current levels, and therefore is not included in the analysis:

- Well workover of existing wells is not anticipated to increase above existing levels.

Prudhoe Bay Unit Major Gas Sales Project
Construction Emissions

PBU MGS Project construction emissions were calculated using well-documented analytical procedures and publicly available emission factors and calculation techniques, as described in Resource Report 9, Appendix C ("Emissions Associated with Project Construction"). Projected activity for the PBU MGS Project is scaled from projected activity for the Alaska LNG Project, as described below.

- Activity associated with constructing the 50 miles of MGS pipelines was assumed to involve similar construction techniques and levels of effort as the Point Thomson Transmission Line (PTTL – 62 miles). However, it was assumed that PBU MGS Project construction would occur over four winter seasons: 2020/21, 2021/22, 2022/23, and 2023/24.

- Construction activity at the CGF was assumed to be similar to certain portions of the GTP construction effort. Infrastructure activities at the CGF were scaled from GTP activities, assuming that CGF construction would occur largely during the first three summer seasons: 2020, 2021, and 2022. In addition, it was assumed construction of the module pad expansion would occur during Summer 2020, and that construction related to the valve and metering modules would occur during Summer 2021 and Summer 2022. (Pipeline construction activity at the CGF is addressed under the pipeline construction effort.)

- Operation of the construction camp assumes 200 camp residents during the above described construction periods.

The following tables summarize emissions associated with project construction for each year of the PBU MGS Project construction period. Additional details are provided in Attachment B.

Table 1. Summary of Prudhoe Bay Unit Major Gas Sales Project Construction Emissions – 2020

	Criteria Pollutants (tons/year)						Greenhouse Gases (metric tons/year)			
Component	VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O	CO_2e
Pipelines										
Onroad	0.1	1.1	0.6	0.1	0.0	0.0	262.0	0.0	0.0	263.2
Nonroad	1.2	9.1	7.3	0.6	0.5	0.0	2,022.4	0.0	0.1	2,038.1
Fugitives	0.0	N/A	N/A	60.7	6.2	N/A	N/A	N/A	N/A	N/A
Subtotal – Pipelines:	1.3	10.2	8.0	61.3	6.8	0.0	2,284.4	0.1	0.1	2,301.4
Central Gas Facility										
Onroad	0.1	0.5	0.4	0.0	0.0	0.0	116.4	0.0	0.0	116.9
Nonroad	0.5	3.6	1.4	0.2	0.2	0.0	1,727.6	0.0	0.0	1,740.6
Fugitives	N/A	N/A	N/A	34.8	3.5	N/A	N/A	N/A	N/A	N/A
Subtotal – CGF:	0.6	4.0	1.8	35.1	3.7	0.0	1,844.0	0.0	0.0	1,857.6
Construction Camp	1.6	2.8	13.7	0.3	0.3	0.2	1,938.1	0.1	0.0	1,946.9
2020 Total Emissions	**3.6**	**17.0**	**23.4**	**96.7**	**10.9**	**0.3**	**6,066.6**	**0.2**	**0.1**	**6,105.8**

Table 2. Summary of Prudhoe Bay Unit Major Gas Sales Project Construction Emissions – 2021

	Criteria Pollutants (tons/year)						Greenhouse Gases (metric tons/year)			
Component	VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O	CO_2e
Pipelines										
Onroad	0.2	2.0	1.2	0.1	0.1	0.0	517.9	0.1	0.0	520.4
Nonroad	2.3	16.7	13.5	1.0	1.0	0.0	4,044.6	0.1	0.1	4,076.0
Fugitives	0.0	N/A	N/A	121.4	12.5	N/A	N/A	N/A	N/A	N/A
Subtotal – Pipelines:	2.5	18.7	14.7	122.5	13.5	0.0	4,562.4	0.1	0.1	4,596.4
Central Gas Facility										
Onroad	0.1	0.4	0.5	0.0	0.0	0.0	123.7	0.0	0.0	124.3
Nonroad	0.4	3.2	1.4	0.2	0.2	0.0	946.0	0.0	0.0	953.2
Fugitives	N/A	N/A	N/A	34.8	3.8	N/A	N/A	N/A	N/A	N/A
Subtotal – CGF:	0.5	3.6	1.8	35.1	4.0	0.0	1,069.7	0.0	0.0	1,077.5
Construction Camp	2.2	3.7	18.2	0.4	0.4	0.3	2,584.2	0.2	0.0	2,595.8
2021 Total Emissions	**5.2**	**26.0**	**34.7**	**158.0**	**18.0**	**0.3**	**8,216.4**	**0.3**	**0.2**	**8,269.7**

Table 3. Summary of Prudhoe Bay Unit Major Gas Sales Project Construction Emissions – 2022

	Criteria Pollutants (tons/year)						Greenhouse Gases (metric tons/year)			
Component	VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O	CO_2e
Pipelines										
Onroad	0.2	1.8	1.1	0.1	0.1	0.0	512.2	0.1	0.0	514.7
Nonroad	2.2	15.3	12.4	0.9	0.9	0.0	4,044.3	0.1	0.1	4,075.7
Fugitives	0.0	N/A	N/A	121.4	12.5	N/A	N/A	N/A	N/A	N/A
Subtotal – Pipelines:	2.4	17.1	13.5	122.3	13.4	0.0	4,556.5	0.1	0.1	4,590.4
Central Gas Facility										
Onroad	0.1	0.4	0.5	0.0	0.0	0.0	121.6	0.0	0.0	122.2
Nonroad	0.4	2.8	1.2	0.2	0.2	0.0	871.7	0.0	0.0	878.3
Fugitives	N/A	N/A	N/A	34.8	3.8	N/A	N/A	N/A	N/A	N/A
Subtotal – CGF:	0.5	3.2	1.6	35.0	4.0	0.0	993.2	0.0	0.0	1,000.5
Construction Camp	2.2	3.7	18.2	0.4	0.4	0.3	2,584.2	0.2	0.0	2,595.8
2022 Total Emissions	**5.0**	**24.0**	**33.3**	**157.8**	**17.8**	**0.3**	**8,133.9**	**0.3**	**0.2**	**8,186.7**

Table 4. Summary of Prudhoe Bay Unit Major Gas Sales Project Construction Emissions – 2023

	Criteria Pollutants (tons/year)						Greenhouse Gases (metric tons/year)			
Component	VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O	CO_2e
Pipelines										
Onroad	0.2	1.7	1.1	0.1	0.0	0.0	506.9	0.1	0.0	509.5
Nonroad	2.1	14.0	11.3	0.8	0.8	0.0	4,044.1	0.0	0.1	4,075.4
Fugitives	0.0	N/A	N/A	121.4	12.5	N/A	N/A	N/A	N/A	N/A
Subtotal – Pipelines:	2.3	15.7	12.4	122.2	13.3	0.0	4,551.1	0.1	0.1	4,584.9
Central Gas Facility										
Onroad	--	--	--	--	--	--	--	--	--	--
Nonroad	--	--	--	--	--	--	--	--	--	--
Fugitives	N/A	N/A	N/A	--	--	N/A	N/A	N/A	N/A	N/A
Subtotal – CGF:	--	--	--	--	--	--	--	--	--	--
Construction Camp	1.1	1.9	9.1	0.2	0.2	0.1	1,292.1	0.1	0.0	1,297.9
2023 Total Emissions	**3.4**	**17.6**	**21.5**	**122.5**	**13.5**	**0.2**	**5,843.1**	**0.2**	**0.1**	**5,882.8**

Table 5. Summary of Prudhoe Bay Unit Major Gas Sales Project Construction Emissions – 2024

	Criteria Pollutants (tons/year)						Greenhouse Gases (metric tons/year)			
Component	VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O	CO_2e
Pipelines										
Onroad	0.1	0.8	0.5	0.0	0.0	0.0	251.0	0.0	0.0	252.4
Nonroad	1.0	6.5	5.2	0.4	0.4	0.0	2,021.9	0.0	0.1	2,037.5
Fugitives	0.0	N/A	N/A	60.7	6.2	N/A	N/A	N/A	N/A	N/A
Subtotal – Pipelines:	1.1	7.2	5.7	61.1	6.6	0.0	2,273.0	0.1	0.1	2,289.9
Central Gas Facility										
Onroad	--	--	--	--	--	--	--	--	--	--
Nonroad	--	--	--	--	--	--	--	--	--	--
Fugitives	N/A	N/A	N/A	--	--	N/A	N/A	N/A	N/A	N/A
Subtotal – CGF:	--	--	--	--	--	--	--	--	--	--
Construction Camp	0.5	0.9	4.6	0.1	0.1	0.1	646.0	0.0	0.0	649.0
2024 Total Emissions	**1.6**	**8.2**	**10.3**	**61.2**	**6.7**	**0.1**	**2,919.0**	**0.1**	**0.1**	**2,938.8**

Alaska LNG Project - Air Quality Analysis of Non-Jurisdictional Projects
Attachment B: Construction Emissions - Prudhoe Bay Unit Major Gas Sales Project

Table B-1. Summary of Prudhoe Bay Unit Major Gas Sales Project Construction Emissions

Year: 2020

	Criteria Pollutants, tons/year						Greenhouse Gases, metric tons/year			
Equipment Category	VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O	CO_2e
Pipelines										
Onroad	0.12	1.07	0.64	0.05	0.03	0.003	262.04	0.043	0.000	263.25
Nonroad	1.21	9.13	7.32	0.56	0.54	0.017	2,022.37	0.029	0.050	2,038.14
Fugitives	0.01	N/A	N/A	60.68	6.23	N/A	N/A	N/A	N/A	N/A
Subtotal - Pipelines	1.34	10.20	7.97	61.29	6.80	0.019	2,284.42	0.072	0.051	2,301.39
Central Gas Facility										
Onroad	0.06	0.46	0.43	0.02	0.01	0.001	116.39	0.019	0.000	116.91
Nonroad	0.54	3.56	1.40	0.23	0.22	0.013	1,727.62	0.007	0.043	1,740.65
Fugitives	N/A	N/A	N/A	34.83	3.50	N/A	N/A	N/A	N/A	N/A
Subtotal - Central Gas Facility	0.60	4.02	1.82	35.08	3.74	0.015	1,844.01	0.026	0.043	1,857.56
Construction Camp	1.64	2.80	13.65	0.32	0.32	0.216	1,938.13	0.113	0.020	1,946.87
2020 Total Emissions	**3.59**	**17.02**	**23.44**	**96.70**	**10.87**	**0.250**	**6,066.56**	**0.211**	**0.114**	**6,105.81**

Year: 2021

	Criteria Pollutants, tons/year						Greenhouse Gases, metric tons/year			
Equipment Category	VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O	CO_2e
Pipelines										
Onroad	0.23	1.96	1.21	0.10	0.06	0.005	517.89	0.090	0.001	520.36
Nonroad	2.28	16.70	13.47	1.01	0.98	0.033	4,044.55	0.054	0.101	4,075.99
Fugitives	0.03	N/A	N/A	121.36	12.45	N/A	N/A	N/A	N/A	N/A
Subtotal - Pipelines	2.54	18.66	14.68	122.46	13.49	0.038	4,562.44	0.144	0.102	4,596.35
Central Gas Facility										
Onroad	0.06	0.43	0.49	0.02	0.01	0.001	123.71	0.022	0.000	124.32
Nonroad	0.44	3.21	1.36	0.24	0.24	0.008	946.02	0.006	0.024	953.20
Fugitives	N/A	N/A	N/A	34.80	3.79	N/A	N/A	N/A	N/A	N/A
Subtotal - Central Gas Facility	0.50	3.63	1.84	35.07	4.04	0.009	1,069.73	0.028	0.024	1,077.52
Construction Camp	2.19	3.73	18.20	0.43	0.43	0.288	2,584.18	0.150	0.026	2,595.83
2021 Total Emissions	**5.23**	**26.03**	**34.72**	**157.96**	**17.96**	**0.335**	**8,216.35**	**0.322**	**0.152**	**8,269.70**

Alaska LNG Project - Air Quality Analysis of Non-Jurisdictional Projects
Attachment B: Construction Emissions - Prudhoe Bay Unit Major Gas Sales Project

Table B-1. Summary of Prudhoe Bay Unit Major Gas Sales Project Construction Emissions

Year: 2022

	Criteria Pollutants, tons/year						Greenhouse Gases, metric tons/year			
Equipment Category	VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O	CO_2e
Pipelines										
Onroad	0.21	1.81	1.14	0.09	0.05	0.005	512.16	0.092	0.001	514.69
Nonroad	2.16	15.28	12.36	0.90	0.87	0.033	4,044.35	0.051	0.101	4,075.69
Fugitives	0.03	N/A	N/A	121.36	12.45	N/A	N/A	N/A	N/A	N/A
Subtotal - Pipelines	2.40	17.09	13.50	122.35	13.38	0.038	4,556.51	0.143	0.102	4,590.39
Central Gas Facility										
Onroad	0.06	0.39	0.46	0.02	0.01	0.001	121.58	0.022	0.000	122.20
Nonroad	0.40	2.81	1.18	0.20	0.20	0.007	871.67	0.005	0.022	878.29
Fugitives	N/A	N/A	N/A	34.80	3.79	N/A	N/A	N/A	N/A	N/A
Subtotal - Central Gas Facility	0.45	3.20	1.63	35.02	4.00	0.008	993.25	0.028	0.022	1,000.48
Construction Camp	2.19	3.73	18.20	0.43	0.43	0.288	2,584.18	0.150	0.026	2,595.83
2022 Total Emissions	**5.05**	**24.02**	**33.33**	**157.80**	**17.81**	**0.334**	**8,133.94**	**0.321**	**0.150**	**8,186.69**

Year: 2023

	Criteria Pollutants, tons/year						Greenhouse Gases, metric tons/year			
Equipment Category	VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O	CO_2e
Pipelines										
Onroad	0.20	1.68	1.07	0.09	0.05	0.005	506.92	0.094	0.001	509.50
Nonroad	2.05	14.03	11.32	0.80	0.78	0.032	4,044.13	0.047	0.101	4,075.39
Fugitives	0.03	N/A	N/A	121.36	12.45	N/A	N/A	N/A	N/A	N/A
Subtotal - Pipelines	2.28	15.70	12.40	122.25	13.28	0.037	4,551.05	0.141	0.102	4,584.88
Central Gas Facility										
Onroad	--	--	--	--	--	--	--	--	--	--
Nonroad	--	--	--	--	--	--	--	--	--	--
Fugitives	N/A	N/A	N/A	--	--	N/A	N/A	N/A	N/A	N/A
Subtotal - Central Gas Facility	--	--	--	--	--	--	--	--	--	--
Construction Camp	1.10	1.87	9.10	0.22	0.22	0.144	1,292.09	0.075	0.013	1,297.91
2023 Total Emissions	**3.38**	**17.57**	**21.50**	**122.46**	**13.49**	**0.181**	**5,843.14**	**0.216**	**0.115**	**5,882.80**

Alaska LNG Project - Air Quality Analysis of Non-Jurisdictional Projects
Attachment B: Construction Emissions - Prudhoe Bay Unit Major Gas Sales Project

Table B-1. Summary of Prudhoe Bay Unit Major Gas Sales Project Construction Emissions

Year: 2024

Equipment Category	Criteria Pollutants, tons/year						Greenhouse Gases, metric tons/year			
	VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O	CO_2e
Pipelines										
Onroad	0.10	0.78	0.51	0.04	0.02	0.002	251.05	0.048	0.000	252.35
Nonroad	0.98	6.46	5.20	0.36	0.35	0.016	2,021.95	0.022	0.050	2,037.54
Fugitives	0.01	N/A	N/A	60.68	6.23	N/A	N/A	N/A	N/A	N/A
Subtotal - Pipelines	1.09	7.24	5.70	61.08	6.60	0.018	2,273.00	0.070	0.051	2,289.89
Central Gas Facility										
Onroad	--	--	--	--	--	--	--	--	--	--
Nonroad	--	--	--	--	--	--	--	--	--	--
Fugitives	N/A	N/A	N/A	--	--	N/A	N/A	N/A	N/A	N/A
Subtotal - Central Gas Facility	--	--	--	--	--	--	--	--	--	--
Construction Camp	0.55	0.93	4.55	0.11	0.11	0.072	646.04	0.038	0.007	648.96
2024 Total Emissions	**1.63**	**8.17**	**10.25**	**61.19**	**6.71**	**0.090**	**2,919.04**	**0.107**	**0.057**	**2,938.85**

Table B-2. Combustion Emissions Associated with Pipeline Construction - 2020

Year: 2020

Description	HP	Equipment Type	Equipment Category	Representative Equipment Model	U.S. EPA Source Classification Code (SCC)	Fuel	Operating Hours	Criteria Pollutants, tons/year						Greenhouse Gases, metric tons/year			
								VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O	CO_2e
Equipment Group:		Rolling Stock															
Passenger Bus	N/A	Rolling Stock	Onroad	Urban Buses;Diesel	N/A	Diesel	2,696	0.01	0.09	0.03	0.01	0.00	0.000	18.26	0.001	0.000	18.29
Heavy Duty Diesel Truck-8	N/A	Rolling Stock	Onroad	Class 8a and 8b Heavy-Duty Vehicles (>33,000 lbs. GVWR);Diesel	N/A	Diesel	20,499	0.08	0.88	0.27	0.04	0.02	0.002	179.51	0.032	0.000	180.38
Medium Duty Dsl Truck-4/5	N/A	Rolling Stock	Onroad	Class 4 and 5 Heavy-Duty Vehicles (14,001-19,500 lbs. GVWR);Diesel	N/A	Diesel	403	0.00	0.00	0.00	0.00	0.00	0.000	1.89	0.000	0.000	1.90
Medium Duty Dsl Truck-3	N/A	Rolling Stock	Onroad	Class 3 Heavy-Duty Vehicles (10,001-14,000 lbs. GVWR);Diesel	N/A	Diesel	6,558	0.01	0.07	0.03	0.00	0.00	0.000	30.92	0.002	0.000	31.01
Diesel Pickup Truck	N/A	Rolling Stock	Onroad	Light Duty Trucks;Diesel	N/A	Diesel	14,424	0.02	0.03	0.31	0.00	0.00	0.000	31.46	0.008	0.000	31.68
Equipment Group:		Dozer															
Dozer, D10T	580	Dozer	Nonroad	Crawler Tractor/Dozers;Diesel	2270002069	Diesel	251	0.01	0.12	0.05	0.01	0.01	0.000	45.98	0.000	0.001	46.33
Dozer, D8T	305	Dozer	Nonroad	Crawler Tractor/Dozers;Diesel	2270002069	Diesel	1,749	0.05	0.43	0.18	0.03	0.03	0.001	168.84	0.001	0.004	170.11
Dozer, D6T	185	Dozer	Nonroad	Crawler Tractor/Dozers;Diesel	2270002069	Diesel	1,009	0.02	0.08	0.02	0.00	0.00	0.000	59.07	0.000	0.001	59.52
Equipment Group:		Crane															
Crane, Mobile 200 Ton	248	Crane	Nonroad	Cranes;Diesel	2270002045	Diesel	125	0.00	0.01	0.00	0.00	0.00	0.000	7.09	0.000	0.000	7.14
Equipment Group:		Backhoe															
Backhoe, 385CL	513	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	550	0.03	0.17	0.09	0.02	0.02	0.000	37.05	0.000	0.001	37.33
Backhoe, 365CL	411	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	1,305	0.05	0.32	0.17	0.03	0.03	0.001	70.43	0.001	0.002	70.97
Backhoe, 345CL	345	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	1,547	0.05	0.32	0.17	0.03	0.03	0.001	70.06	0.001	0.002	70.60
Backhoe, 330DL	270	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	835	0.02	0.13	0.07	0.01	0.01	0.000	29.60	0.000	0.001	29.83
Backhoe, 225	135	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	74	0.00	0.01	0.00	0.00	0.00	0.000	1.32	0.000	0.000	1.33
Equipment Group:		Ditcher															
Ditcher, Tesmec TRS 1575	630	Ditcher	Nonroad	Trenchers;Diesel	2270002030	Diesel	175	0.01	0.17	0.09	0.01	0.01	0.000	34.88	0.000	0.001	35.15
Equipment Group:		Sideboom															
Sideboom, 594	366	Sideboom	Nonroad	Cranes;Diesel	2270002045	Diesel	577	0.02	0.18	0.05	0.01	0.01	0.000	48.14	0.000	0.001	48.50
Sideboom, 583T	310	Sideboom	Nonroad	Cranes;Diesel	2270002045	Diesel	2,129	0.05	0.57	0.15	0.02	0.02	0.001	150.55	0.001	0.004	151.68
Sideboom, 572R	230	Sideboom	Nonroad	Cranes;Diesel	2270002045	Diesel	1,323	0.02	0.15	0.03	0.01	0.01	0.001	69.41	0.000	0.002	69.93
Equipment Group:		Welding															
Welder Quad D6	140	Welding	Nonroad	Welders;Diesel	2270006025	Diesel	166	0.00	0.02	0.01	0.00	0.00	0.000	3.04	0.000	0.000	3.06
Equipment Group:		Clam															
Sauerman, 5 Yd.	150	Clam	Nonroad	Cranes;Diesel	2270002045	Diesel	275	0.00	0.02	0.01	0.00	0.00	0.000	9.41	0.000	0.000	9.48
Equipment Group:		Off Highway															
Haul Truck	511	Off Highway	Nonroad	Off-highway Trucks;Diesel	2270002051	Diesel	202	0.01	0.04	0.01	0.00	0.00	0.000	32.67	0.000	0.001	32.91
Snow Cat	46	Off Highway	Nonroad	Specialty Vehicles/Carts;Gasoline	2265001060	Gasoline	1,380	0.19	0.22	3.18	0.00	0.00	0.000	27.72	0.013	0.001	28.25
Quad/Skidoo	40	Off Highway	Nonroad	Specialty Vehicles/Carts;Gasoline	2265001060	Gasoline	373	0.05	0.05	0.75	0.00	0.00	0.000	6.51	0.003	0.000	6.63
Equipment Group:		Loader															
Iron Wolf, 700B	700	Loader	Nonroad	Crawler Tractor/Dozers;Diesel	2270002069	Diesel	673	0.05	0.38	0.23	0.02	0.02	0.001	149.11	0.001	0.004	150.24
F.E. Loader, 966K	235	Loader	Nonroad	Rubber Tire Loaders;Diesel	2270002060	Diesel	508	0.01	0.07	0.02	0.00	0.00	0.000	37.76	0.000	0.001	38.04
F.E. Loader, 988H	520	Loader	Nonroad	Rubber Tire Loaders;Diesel	2270002060	Diesel	281	0.02	0.16	0.07	0.01	0.01	0.000	46.28	0.000	0.001	46.63
F.E. Loader, IT38H	125	Loader	Nonroad	Rubber Tire Loaders;Diesel	2270002060	Diesel	308	0.00	0.03	0.01	0.00	0.00	0.000	12.17	0.000	0.000	12.27
Loader, Snow Blower	125	Loader	Nonroad	Rubber Tire Loaders;Diesel	2270002060	Diesel	504	0.01	0.04	0.02	0.00	0.00	0.000	19.93	0.000	0.000	20.08
Equipment Group:		Forestry Clearing															
Skid Stacker	600	Forestry Clearing	Nonroad	Other Construction Equipment;Diesel	2270002081	Diesel	74	0.01	0.07	0.03	0.00	0.00	0.000	14.10	0.000	0.000	14.20
Equipment Group:		Grader															
Grader 16M	275	Grader	Nonroad	Graders;Diesel	2270002048	Diesel	1,020	0.03	0.12	0.04	0.01	0.01	0.001	88.78	0.000	0.002	89.45
Grader 14M	215	Grader	Nonroad	Graders;Diesel	2270002048	Diesel	76	0.00	0.01	0.00	0.00	0.00	0.000	5.14	0.000	0.000	5.18
Equipment Group:		Bending															
Bending Machine, 32-42	350	Bending	Nonroad	Other General Industrial Eqp;Diesel	2270003040	Diesel	74	0.00	0.03	0.01	0.00	0.00	0.000	5.93	0.000	0.000	5.97
Equipment Group:		Boring															
Boring Machine, Tr., 12-42"	350	Boring	Nonroad	Bore/Drill Rigs;Diesel	2270002033	Diesel	29	0.00	0.01	0.00	0.00	0.00	0.000	2.33	0.000	0.000	2.35
Equipment Group:		Tractor															
Farm Tractor, 4x4	105	Tractor	Nonroad	Off-Highway Tractors;Diesel	2270002075	Diesel	339	0.00	0.02	0.01	0.00	0.00	0.000	11.25	0.000	0.000	11.33
Equipment Group:		Pumps															
Pump, 6-10"	125	Pumps	Nonroad	Pumps;Diesel	2270006010	Diesel	4,581	0.08	0.83	0.24	0.05	0.05	0.001	130.55	0.001	0.003	131.55

Table B-2. Combustion Emissions Associated with Pipeline Construction - 2020

Description	HP	Equipment Type	Equipment Category	Representative Equipment Model	U.S. EPA Source Classification Code (SCC)	Fuel	Onroad: Speed (mph) Nonroad: Load Factor	Emission Factor (Onroad: grams/mile, Nonroad: grams/horsepower-hour) VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O
Pump, 4"	75	Pumps	Nonroad	Pumps;Diesel	2270006010	Diesel	239	0.00	0.04	0.02	0.00	0.00	0.000	4.53	0.000	0.000	4.57
Pump, 3"	8	Pumps	Nonroad	Pumps;Diesel	2270006010	Diesel	4,555	0.01	0.08	0.08	0.01	0.01	0.000	9.22	0.000	0.000	9.29
Equipment Group:		Compressor															
Compressor, Booster	560	Compressor	Nonroad	Air Compressors;Diesel	2270006015	Diesel	360	0.02	0.22	0.06	0.01	0.01	0.000	45.99	0.000	0.001	46.33
Compressor, 900-1500 CFM	450	Compressor	Nonroad	Air Compressors;Diesel	2270006015	Diesel	540	0.02	0.26	0.07	0.01	0.01	0.000	55.43	0.000	0.001	55.85
Compressor, 450 CFM	175	Compressor	Nonroad	Air Compressors;Diesel	2270006015	Diesel	169	0.00	0.02	0.01	0.00	0.00	0.000	6.76	0.000	0.000	6.81
Equipment Group:		Generator															
Gen Set, 600 kW	1100	Generator	Nonroad	Generator Sets;Diesel	2270006005	Diesel	403	0.07	0.83	0.22	0.03	0.03	0.001	101.04	0.001	0.003	101.81
Gen Set, 400 kW	537	Generator	Nonroad	Generator Sets;Diesel	2270006005	Diesel	151	0.01	0.11	0.03	0.00	0.00	0.000	18.49	0.000	0.000	18.63
Gen Set, 200 kW	295	Generator	Nonroad	Generator Sets;Diesel	2270006005	Diesel	275	0.01	0.11	0.03	0.01	0.01	0.000	18.50	0.000	0.000	18.64
Gen Set, 75 KW	125	Generator	Nonroad	Generator Sets;Diesel	2270006005	Diesel	400	0.01	0.07	0.02	0.00	0.00	0.000	11.41	0.000	0.000	11.49
Equipment Group:		Rock Equipment															
Drill	300	Rock Equipment	Nonroad	Bore/Drill Rigs;Diesel	2270002033	Diesel	456	0.02	0.19	0.04	0.01	0.01	0.000	31.16	0.000	0.001	31.40
Equipment Group:		Compaction															
Drum/Vibrator	340	Compaction	Nonroad	Rollers;Diesel	2270002015	Diesel	168	0.01	0.06	0.03	0.00	0.00	0.000	18.07	0.000	0.000	18.21
Equipment Group:		Other															
Sand Blast Unit	400	Other	Nonroad	Other General Industrial Eqp;Diesel	2270003040	Diesel	276	0.01	0.11	0.03	0.00	0.00	0.000	25.21	0.000	0.001	25.40
Light Tower	75	Other	Nonroad	Generator Sets;Diesel	2270006005	Diesel	14,814	0.21	2.24	1.00	0.16	0.16	0.003	281.50	0.003	0.007	283.66
TOTALS:							89,896	1.33	10.20	7.97	0.61	0.58	0.019	2,284.42	0.072	0.051	2,301.39
Equipment Group:		Rolling Stock															
Passenger Bus	N/A	Rolling Stock	Onroad	Urban Buses;Diesel	N/A	Diesel	5.00	0.4245	6.1079	2.1803	0.3381	0.2499	0.0119	1,354.74	0.0423	0.0023	
Heavy Duty Diesel Truck-8	N/A	Rolling Stock	Onroad	Class 8a and 8b Heavy-Duty Vehicles (>33,000 lbs. GVWR);Diesel	N/A	Diesel	5.00	0.7479	7.7575	2.4163	0.3455	0.2130	0.0153	1,751.39	0.3148	0.0020	
Medium Duty Dsl Truck-4/5	N/A	Rolling Stock	Onroad	Class 4 and 5 Heavy-Duty Vehicles (14,001-19,500 lbs. GVWR);Diesel	N/A	Diesel	5.00	0.2771	2.0482	0.7632	0.1496	0.0848	0.0082	939.74	0.0776	0.0026	
Medium Duty Dsl Truck-3	N/A	Rolling Stock	Onroad	Class 3 Heavy-Duty Vehicles (10,001-14,000 lbs. GVWR);Diesel	N/A	Diesel	5.00	0.2580	1.8494	0.7127	0.1214	0.0772	0.0082	943.04	0.0753	0.0025	
Diesel Pickup Truck	N/A	Rolling Stock	Onroad	Light Duty Trucks;Diesel	N/A	Diesel	5.00	0.2953	0.3889	3.9104	0.0475	0.0116	0.0038	436.20	0.1111	0.0009	
Equipment Group:		Dozer															
Dozer, D10T	580	Dozer	Nonroad	Crawler Tractor/Dozers;Diesel	2270002069	Diesel	0.59	0.1525	1.2528	0.5049	0.0769	0.0746	0.0039	536.37	0.0023	0.0134	
Dozer, D8T	305	Dozer	Nonroad	Crawler Tractor/Dozers;Diesel	2270002069	Diesel	0.59	0.1525	1.2528	0.5049	0.0769	0.0746	0.0039	536.37	0.0023	0.0134	
Dozer, D6T	185	Dozer	Nonroad	Crawler Tractor/Dozers;Diesel	2270002069	Diesel	0.59	0.1453	0.6734	0.2045	0.0304	0.0295	0.0036	536.39	0.0022	0.0134	
Equipment Group:		Crane															
Crane, Mobile 200 Ton	248	Crane	Nonroad	Cranes;Diesel	2270002045	Diesel	0.43	0.1556	1.0155	0.2156	0.0423	0.0410	0.0037	530.57	0.0024	0.0132	
Equipment Group:		Backhoe															
Backhoe, 385CL	513	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	0.21	0.4201	2.5867	1.3442	0.2536	0.2460	0.0049	625.29	0.0064	0.0156	
Backhoe, 365CL	411	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	0.21	0.4201	2.5867	1.3442	0.2536	0.2460	0.0049	625.29	0.0064	0.0156	
Backhoe, 345CL	345	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	0.21	0.4201	2.5867	1.3442	0.2536	0.2460	0.0049	625.29	0.0064	0.0156	
Backhoe, 330DL	270	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	0.21	0.4201	2.5867	1.3442	0.2536	0.2460	0.0049	625.29	0.0064	0.0156	
Backhoe, 225	135	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	0.21	0.4736	2.7626	1.6484	0.3417	0.3314	0.0050	625.13	0.0072	0.0156	
Equipment Group:		Ditcher															
Ditcher, Tesmec TRS 1575	630	Ditcher	Nonroad	Trenchers;Diesel	2270002030	Diesel	0.59	0.1890	2.3183	1.3132	0.1482	0.1438	0.0042	536.27	0.0029	0.0134	
Equipment Group:		Sideboom															
Sideboom, 594	366	Sideboom	Nonroad	Cranes;Diesel	2270002045	Diesel	0.43	0.1690	1.8260	0.4846	0.0786	0.0762	0.0040	530.54	0.0026	0.0132	
Sideboom, 583T	310	Sideboom	Nonroad	Cranes;Diesel	2270002045	Diesel	0.43	0.1690	1.8260	0.4846	0.0786	0.0762	0.0040	530.54	0.0026	0.0132	
Sideboom, 572R	230	Sideboom	Nonroad	Cranes;Diesel	2270002045	Diesel	0.43	0.1556	1.0155	0.2156	0.0423	0.0410	0.0037	530.57	0.0024	0.0132	
Equipment Group:		Welding															
Welder Quad D6	140	Welding	Nonroad	Welders;Diesel	2270006025	Diesel	0.21	0.6067	3.4104	2.2229	0.4088	0.3966	0.0051	624.74	0.0092	0.0156	
Equipment Group:		Clam															
Sauerman, 5 Yd.	150	Clam	Nonroad	Cranes;Diesel	2270002045	Diesel	0.43	0.1628	1.1107	0.3149	0.0751	0.0729	0.0038	530.55	0.0025	0.0132	
Equipment Group:		Off Highway															
Haul Truck	511	Off Highway	Nonroad	Off-highway Trucks;Diesel	2270002051	Diesel	0.59	0.1410	0.5244	0.1953	0.0221	0.0215	0.0036	536.40	0.0021	0.0134	
Snow Cat	46	Off Highway	Nonroad	Specialty Vehicles/Carts;Gasoline	2265001060	Gasoline	0.58	4.7743	5.5299	78.2940	0.0684	0.0629	0.0046	752.91	0.3457	0.0191	
Quad/Skidoo	40	Off Highway	Nonroad	Specialty Vehicles/Carts;Gasoline	2265001060	Gasoline	0.58	5.4305	5.5299	78.2940	0.0684	0.0629	0.0046	752.91	0.3457	0.0191	

Table B-2. Combustion Emissions Associated with Pipeline Construction - 2020

Equipment Group:		Loader														
Iron Wolf, 700B	700	Loader	Nonroad	Crawler Tractor/Dozers;Diesel	2270002069	Diesel	0.59	0.1508	1.2562	0.7621	0.0781	0.0758	0.0039	536.38	0.0023	0.0134
F.E. Loader, 966K	235	Loader	Nonroad	Rubber Tire Loaders;Diesel	2270002060	Diesel	0.59	0.1546	0.9453	0.3019	0.0524	0.0509	0.0037	536.36	0.0023	0.0134
F.E. Loader, 988H	520	Loader	Nonroad	Rubber Tire Loaders;Diesel	2270002060	Diesel	0.59	0.1655	1.6727	0.6945	0.1038	0.1007	0.0040	536.33	0.0025	0.0134
F.E. Loader, IT38H	125	Loader	Nonroad	Rubber Tire Loaders;Diesel	2270002060	Diesel	0.59	0.1620	1.0416	0.4425	0.0977	0.0947	0.0038	536.34	0.0025	0.0134
Loader, Snow Blower	125	Loader	Nonroad	Rubber Tire Loaders;Diesel	2270002060	Diesel	0.59	0.1620	1.0416	0.4425	0.0977	0.0947	0.0038	536.34	0.0025	0.0134
Equipment Group:		Forestry Clearing														
Skid Stacker	600	Forestry Clearing	Nonroad	Other Construction Equipment;Diesel	2270002081	Diesel	0.59	0.1909	2.2442	0.9545	0.1382	0.1341	0.0042	536.26	0.0029	0.0134
Equipment Group:		Grader														
Grader 16M	275	Grader	Nonroad	Graders;Diesel	2270002048	Diesel	0.59	0.1445	0.6489	0.1965	0.0287	0.0278	0.0036	536.39	0.0022	0.0134
Grader 14M	215	Grader	Nonroad	Graders;Diesel	2270002048	Diesel	0.59	0.1445	0.6489	0.1965	0.0287	0.0278	0.0036	536.39	0.0022	0.0134
Equipment Group:		Bending														
Bending Machine, 32-42	350	Bending	Nonroad	Other General Industrial Eqp;Diesel	2270003040	Diesel	0.43	0.1809	2.1352	0.5617	0.0927	0.0899	0.0041	530.50	0.0027	0.0132
Equipment Group:		Boring														
Boring Machine, Tr., 12-42"	350	Boring	Nonroad	Bore/Drill Rigs;Diesel	2270002033	Diesel	0.43	0.2327	3.0764	0.8759	0.1383	0.1342	0.0043	530.35	0.0035	0.0132
Equipment Group:		Tractor														
Farm Tractor, 4x4	105	Tractor	Nonroad	Off-Highway Tractors;Diesel	2270002075	Diesel	0.59	0.1542	0.8609	0.3557	0.0731	0.0709	0.0037	536.37	0.0023	0.0134
Equipment Group:		Pumps														
Pump, 6-10"	125	Pumps	Nonroad	Pumps;Diesel	2270006010	Diesel	0.43	0.2974	3.0725	0.8816	0.1957	0.1899	0.0043	530.16	0.0045	0.0132
Pump, 4"	75	Pumps	Nonroad	Pumps;Diesel	2270006010	Diesel	0.43	0.3920	4.2656	1.9128	0.3187	0.3091	0.0048	589.20	0.0060	0.0147
Pump, 3"	8	Pumps	Nonroad	Pumps;Diesel	2270006010	Diesel	0.43	0.6337	4.5446	4.4530	0.4109	0.3986	0.0054	588.46	0.0096	0.0147
Equipment Group:		Compressor														
Compressor, Booster	560	Compressor	Nonroad	Air Compressors;Diesel	2270006015	Diesel	0.43	0.1894	2.2646	0.6185	0.1013	0.0983	0.0041	530.48	0.0029	0.0132
Compressor, 900-1500 CFM	450	Compressor	Nonroad	Air Compressors;Diesel	2270006015	Diesel	0.43	0.1894	2.2646	0.6185	0.1013	0.0983	0.0041	530.48	0.0029	0.0132
Compressor, 450 CFM	175	Compressor	Nonroad	Air Compressors;Diesel	2270006015	Diesel	0.43	0.1780	1.4463	0.4062	0.1002	0.0971	0.0040	530.51	0.0027	0.0132
Equipment Group:		Generator														
Gen Set, 600 kW	1,100	Generator	Nonroad	Generator Sets;Diesel	2270006005	Diesel	0.43	0.3309	3.9706	1.0324	0.1625	0.1576	0.0042	530.05	0.0050	0.0132
Gen Set, 400 kW	537	Generator	Nonroad	Generator Sets;Diesel	2270006005	Diesel	0.43	0.2291	2.8826	0.8257	0.1239	0.1201	0.0042	530.36	0.0035	0.0132
Gen Set, 200 kW	295	Generator	Nonroad	Generator Sets;Diesel	2270006005	Diesel	0.43	0.2715	2.8917	0.7274	0.1502	0.1457	0.0042	530.23	0.0041	0.0132
Gen Set, 75 KW	125	Generator	Nonroad	Generator Sets;Diesel	2270006005	Diesel	0.43	0.2966	3.0669	0.8721	0.1886	0.1830	0.0043	530.16	0.0045	0.0132
Equipment Group:		Rock Equipment														
Drill	300	Rock Equipment	Nonroad	Bore/Drill Rigs;Diesel	2270002033	Diesel	0.43	0.2584	2.8602	0.6835	0.1477	0.1433	0.0042	530.27	0.0039	0.0132
Equipment Group:		Compaction														
Drum/Vibrator	340	Compaction	Nonroad	Rollers;Diesel	2270002015	Diesel	0.59	0.1655	1.6738	0.6949	0.1039	0.1007	0.0040	536.33	0.0025	0.0134
Equipment Group:		Other														
Sand Blast Unit	400	Other	Nonroad	Other General Industrial Eqp;Diesel	2270003040	Diesel	0.43	0.1809	2.1352	0.5617	0.0927	0.0899	0.0041	530.50	0.0027	0.0132
Light Tower	75	Other	Nonroad	Generator Sets;Diesel	2270006005	Diesel	0.43	0.3907	4.2595	1.8921	0.3069	0.2977	0.0048	589.20	0.0059	0.0147

Notes:

1. Construction vehicle and equipment operating hours and fuel use information is based on information provided by the Alaska LNG Project team for Point Thomson Transmission Line (PTTL) construction activities.
2. Documentation of methodologies, sources, and references used to derive onroad vehicle and nonroad equipment emission factors for the Alaska Pipeline Project is provided elsewhere.
3. Onroad vehicle use information is provided in hours of vehicle use, rather than vehicle miles traveled. To derive vehicle miles traveled, it is assumed that average vehicle speed will be 5 miles per hour.
4. Conversion factors:
   907,184.74 grams/ton
   1,000,000 grams/metric ton
5. Global warming potentials used to convert CO_2, CH_4, and N_2O to CO_2 equivalents (CO_2e) are based on the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (AR4) (IPCC 2007), as reported in *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2013* (EPA 430-R-15-004), Table 1-2: "Global Warming Potentials and Atmospheric Lifetimes (Years) Used in this Report", U.S. Environmental Protection Agency, April 15, 2015, available at www.epa.gov/climatechange/ghgemissions/usinventoryreport.html (accessed August 14, 2015). The relevant values for these calculations:
   1 GWP CO_2
   25 GWP CH_4
   298 GWP N_2O

Table B-3. Combustion Emissions Associated with Pipeline Construction - 2021

Year: 2021

Description	HP	Equipment Type	Equipment Category	Representative Equipment Model	U.S. EPA Source Classification Code (SCC)	Fuel	Operating Hours	Criteria Pollutants, tons/year						Greenhouse Gases, metric tons/year			
								VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O	CO_2e
Equipment Group:		Rolling Stock															
Passenger Bus	N/A	Rolling Stock	Onroad	Urban Buses;Diesel	N/A	Diesel	5,393	0.01	0.16	0.06	0.01	0.01	0.000	36.32	0.001	0.000	36.37
Heavy Duty Diesel Truck-8	N/A	Rolling Stock	Onroad	Class 8a and 8b Heavy-Duty Vehicles (>33,000 lbs. GVWR);Diesel	N/A	Diesel	40,998	0.16	1.62	0.52	0.07	0.04	0.003	356.14	0.066	0.000	357.92
Medium Duty Dsl Truck-4/5	N/A	Rolling Stock	Onroad	Class 4 and 5 Heavy-Duty Vehicles (14,001-19,500 lbs. GVWR);Diesel	N/A	Diesel	805	0.00	0.01	0.00	0.00	0.00	0.000	3.76	0.000	0.000	3.77
Medium Duty Dsl Truck-3	N/A	Rolling Stock	Onroad	Class 3 Heavy-Duty Vehicles (10,001-14,000 lbs. GVWR);Diesel	N/A	Diesel	13,115	0.02	0.12	0.05	0.01	0.00	0.001	61.44	0.005	0.000	61.62
Diesel Pickup Truck	N/A	Rolling Stock	Onroad	Light Duty Trucks;Diesel	N/A	Diesel	28,849	0.04	0.05	0.58	0.01	0.00	0.001	60.23	0.017	0.000	60.69
Equipment Group:		Dozer															
Dozer, D10T	580	Dozer	Nonroad	Crawler Tractor/Dozers;Diesel	2270002069	Diesel	501	0.03	0.20	0.08	0.01	0.01	0.001	91.96	0.000	0.002	92.65
Dozer, D8T	305	Dozer	Nonroad	Crawler Tractor/Dozers;Diesel	2270002069	Diesel	3,499	0.10	0.75	0.30	0.04	0.04	0.003	337.68	0.001	0.008	340.23
Dozer, D6T	185	Dozer	Nonroad	Crawler Tractor/Dozers;Diesel	2270002069	Diesel	2,018	0.03	0.13	0.04	0.01	0.01	0.001	118.15	0.000	0.003	119.04
Equipment Group:		Crane															
Crane, Mobile 200 Ton	248	Crane	Nonroad	Cranes;Diesel	2270002045	Diesel	251	0.00	0.02	0.01	0.00	0.00	0.000	14.17	0.000	0.000	14.28
Equipment Group:		Backhoe															
Backhoe, 385CL	513	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	1,100	0.05	0.30	0.16	0.03	0.03	0.001	74.11	0.001	0.002	74.68
Backhoe, 365CL	411	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	2,610	0.10	0.58	0.30	0.06	0.05	0.001	140.88	0.001	0.004	141.96
Backhoe, 345CL	345	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	3,093	0.10	0.57	0.30	0.06	0.05	0.001	140.14	0.001	0.003	141.22
Backhoe, 330DL	270	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	1,670	0.04	0.24	0.13	0.02	0.02	0.001	59.22	0.001	0.001	59.67
Backhoe, 225	135	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	149	0.00	0.01	0.01	0.00	0.00	0.000	2.63	0.000	0.000	2.65
Equipment Group:		Ditcher															
Ditcher, Tesmec TRS 1575	630	Ditcher	Nonroad	Trenchers;Diesel	2270002030	Diesel	350	0.03	0.30	0.17	0.02	0.02	0.001	69.77	0.000	0.002	70.30
Equipment Group:		Sideboom															
Sideboom, 594	366	Sideboom	Nonroad	Cranes;Diesel	2270002045	Diesel	1,153	0.03	0.32	0.09	0.01	0.01	0.001	96.27	0.000	0.002	97.00
Sideboom, 583T	310	Sideboom	Nonroad	Cranes;Diesel	2270002045	Diesel	4,258	0.10	1.01	0.27	0.04	0.04	0.002	301.10	0.001	0.008	303.37
Sideboom, 572R	230	Sideboom	Nonroad	Cranes;Diesel	2270002045	Diesel	2,646	0.04	0.24	0.05	0.01	0.01	0.001	138.82	0.001	0.003	139.87
Equipment Group:		Welding															
Welder Quad D6	140	Welding	Nonroad	Welders;Diesel	2270006025	Diesel	331	0.01	0.03	0.02	0.00	0.00	0.000	6.08	0.000	0.000	6.13
Equipment Group:		Clam															
Sauerman, 5 Yd.	150	Clam	Nonroad	Cranes;Diesel	2270002045	Diesel	550	0.01	0.04	0.01	0.00	0.00	0.000	18.82	0.000	0.000	18.96
Equipment Group:		Off Highway															
Haul Truck	511	Off Highway	Nonroad	Off-highway Trucks;Diesel	2270002051	Diesel	404	0.02	0.06	0.02	0.00	0.00	0.000	65.34	0.000	0.002	65.83
Snow Cat	46	Off Highway	Nonroad	Specialty Vehicles/Carts;Gasoline	2265001060	Gasoline	2,760	0.36	0.42	5.93	0.01	0.01	0.000	55.07	0.024	0.001	56.08
Quad/Skidoo	40	Off Highway	Nonroad	Specialty Vehicles/Carts;Gasoline	2265001060	Gasoline	745	0.10	0.10	1.39	0.00	0.00	0.000	12.93	0.006	0.000	13.16
Equipment Group:		Loader															
Iron Wolf, 700B	700	Loader	Nonroad	Crawler Tractor/Dozers;Diesel	2270002069	Diesel	1,346	0.09	0.66	0.40	0.04	0.04	0.002	298.23	0.001	0.007	300.48
F.E. Loader, 966K	235	Loader	Nonroad	Rubber Tire Loaders;Diesel	2270002060	Diesel	1,016	0.02	0.12	0.04	0.01	0.01	0.001	75.52	0.000	0.002	76.09
F.E. Loader, 988H	520	Loader	Nonroad	Rubber Tire Loaders;Diesel	2270002060	Diesel	563	0.03	0.28	0.12	0.02	0.02	0.001	92.56	0.000	0.002	93.26
F.E. Loader, IT38H	125	Loader	Nonroad	Rubber Tire Loaders;Diesel	2270002060	Diesel	616	0.01	0.04	0.02	0.00	0.00	0.000	24.35	0.000	0.001	24.53
Loader, Snow Blower	125	Loader	Nonroad	Rubber Tire Loaders;Diesel	2270002060	Diesel	1,008	0.01	0.07	0.03	0.01	0.01	0.000	39.86	0.000	0.001	40.16
Equipment Group:		Forestry Clearing															
Skid Stacker	600	Forestry Clearing	Nonroad	Other Construction Equipment;Diesel	2270002081	Diesel	149	0.01	0.12	0.05	0.01	0.01	0.000	28.19	0.000	0.001	28.40
Equipment Group:		Grader															
Grader 16M	275	Grader	Nonroad	Graders;Diesel	2270002048	Diesel	2,040	0.05	0.19	0.06	0.01	0.01	0.001	177.56	0.001	0.004	178.90
Grader 14M	215	Grader	Nonroad	Graders;Diesel	2270002048	Diesel	151	0.00	0.01	0.00	0.00	0.00	0.000	10.27	0.000	0.000	10.35
Equipment Group:		Bending															
Bending Machine, 32-42	350	Bending	Nonroad	Other General Industrial Eqp;Diesel	2270003040	Diesel	149	0.00	0.05	0.01	0.00	0.00	0.000	11.86	0.000	0.000	11.95
Equipment Group:		Boring															
Boring Machine, Tr., 12-42"	350	Boring	Nonroad	Bore/Drill Rigs;Diesel	2270002033	Diesel	59	0.00	0.03	0.01	0.00	0.00	0.000	4.67	0.000	0.000	4.71
Equipment Group:		Tractor															
Farm Tractor, 4x4	105	Tractor	Nonroad	Off-Highway Tractors;Diesel	2270002075	Diesel	677	0.01	0.03	0.01	0.00	0.00	0.000	22.50	0.000	0.001	22.67
Equipment Group:		Pumps															
Pump, 6-10"	125	Pumps	Nonroad	Pumps;Diesel	2270006010	Diesel	9,163	0.15	1.54	0.43	0.10	0.10	0.002	261.12	0.002	0.007	263.11

Table B-3. Combustion Emissions Associated with Pipeline Construction - 2021

Description	HP	Equipment Type	Equipment Category	Representative Equipment Model	U.S. EPA Source Classification Code (SCC)	Fuel	Onroad: Speed (mph) Nonroad: Load Factor	Emission Factor (Onroad: grams/mile, Nonroad: grams/horsepower-hour) VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O
Pump, 4"	75	Pumps	Nonroad	Pumps;Diesel	2270006010	Diesel	477	0.01	0.07	0.03	0.00	0.00	0.000	9.07	0.000	0.000	9.13
Pump, 3"	8	Pumps	Nonroad	Pumps;Diesel	2270006010	Diesel	9,111	0.02	0.16	0.15	0.01	0.01	0.000	18.44	0.000	0.000	18.59
Equipment Group:		Compressor															
Compressor, Booster	560	Compressor	Nonroad	Air Compressors;Diesel	2270006015	Diesel	720	0.03	0.39	0.11	0.02	0.02	0.001	91.98	0.000	0.002	92.67
Compressor, 900-1500 CFM	450	Compressor	Nonroad	Air Compressors;Diesel	2270006015	Diesel	1,080	0.04	0.47	0.13	0.02	0.02	0.001	110.86	0.001	0.003	111.70
Compressor, 450 CFM	175	Compressor	Nonroad	Air Compressors;Diesel	2270006015	Diesel	339	0.00	0.04	0.01	0.00	0.00	0.000	13.51	0.000	0.000	13.62
Equipment Group:		Generator															
Gen Set, 600 kW	1100	Generator	Nonroad	Generator Sets;Diesel	2270006005	Diesel	806	0.13	1.56	0.40	0.06	0.06	0.002	202.10	0.002	0.005	203.65
Gen Set, 400 kW	537	Generator	Nonroad	Generator Sets;Diesel	2270006005	Diesel	302	0.02	0.20	0.06	0.01	0.01	0.000	36.99	0.000	0.001	37.27
Gen Set, 200 kW	295	Generator	Nonroad	Generator Sets;Diesel	2270006005	Diesel	550	0.02	0.21	0.05	0.01	0.01	0.000	37.00	0.000	0.001	37.28
Gen Set, 75 KW	125	Generator	Nonroad	Generator Sets;Diesel	2270006005	Diesel	801	0.01	0.13	0.04	0.01	0.01	0.000	22.81	0.000	0.001	22.99
Equipment Group:		Rock Equipment															
Drill	300	Rock Equipment	Nonroad	Bore/Drill Rigs;Diesel	2270002033	Diesel	911	0.03	0.34	0.08	0.02	0.02	0.001	62.32	0.000	0.002	62.80
Equipment Group:		Compaction															
Drum/Vibrator	340	Compaction	Nonroad	Rollers;Diesel	2270002015	Diesel	336	0.01	0.11	0.05	0.01	0.01	0.000	36.15	0.000	0.001	36.42
Equipment Group:		Other															
Sand Blast Unit	400	Other	Nonroad	Other General Industrial Eqp;Diesel	2270003040	Diesel	553	0.02	0.20	0.05	0.01	0.01	0.000	50.42	0.000	0.001	50.80
Light Tower	75	Other	Nonroad	Generator Sets;Diesel	2270006005	Diesel	29,628	0.38	4.36	1.86	0.30	0.29	0.005	563.07	0.005	0.014	567.39
TOTALS:							179,791	2.51	18.66	14.68	1.10	1.03	0.038	4,562.44	0.144	0.102	4,596.35
Equipment Group:		Rolling Stock															
Passenger Bus	N/A	Rolling Stock	Onroad	Urban Buses;Diesel	N/A	Diesel	5.00	0.3826	5.4352	1.9611	0.3096	0.2236	0.0118	1,347.05	0.0440	0.0023	
Heavy Duty Diesel Truck-8	N/A	Rolling Stock	Onroad	Class 8a and 8b Heavy-Duty Vehicles (>33,000 lbs. GVWR);Diesel	N/A	Diesel	5.00	0.7030	7.1732	2.2873	0.3197	0.1892	0.0152	1,737.36	0.3230	0.0020	
Medium Duty Dsl Truck-4/5	N/A	Rolling Stock	Onroad	Class 4 and 5 Heavy-Duty Vehicles (14,001-19,500 lbs. GVWR);Diesel	N/A	Diesel	5.00	0.2480	1.8498	0.6882	0.1363	0.0726	0.0081	933.45	0.0802	0.0026	
Medium Duty Dsl Truck-3	N/A	Rolling Stock	Onroad	Class 3 Heavy-Duty Vehicles (10,001-14,000 lbs. GVWR);Diesel	N/A	Diesel	5.00	0.2302	1.6314	0.6435	0.1084	0.0652	0.0081	936.89	0.0780	0.0025	
Diesel Pickup Truck	N/A	Rolling Stock	Onroad	Light Duty Trucks;Diesel	N/A	Diesel	5.00	0.2660	0.3443	3.6555	0.0473	0.0114	0.0036	417.57	0.1157	0.0009	
Equipment Group:		Dozer															
Dozer, D10T	580	Dozer	Nonroad	Crawler Tractor/Dozers;Diesel	2270002069	Diesel	0.59	0.1494	1.0761	0.4258	0.0632	0.0613	0.0038	536.38	0.0023	0.0134	
Dozer, D8T	305	Dozer	Nonroad	Crawler Tractor/Dozers;Diesel	2270002069	Diesel	0.59	0.1494	1.0761	0.4258	0.0632	0.0613	0.0038	536.38	0.0023	0.0134	
Dozer, D6T	185	Dozer	Nonroad	Crawler Tractor/Dozers;Diesel	2270002069	Diesel	0.59	0.1431	0.5462	0.1788	0.0248	0.0241	0.0036	536.40	0.0022	0.0134	
Equipment Group:		Crane															
Crane, Mobile 200 Ton	248	Crane	Nonroad	Cranes;Diesel	2270002045	Diesel	0.43	0.1505	0.8398	0.1704	0.0324	0.0315	0.0037	530.59	0.0023	0.0132	
Equipment Group:		Backhoe															
Backhoe, 385CL	513	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	0.21	0.3867	2.3266	1.2230	0.2280	0.2211	0.0048	625.39	0.0059	0.0156	
Backhoe, 365CL	411	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	0.21	0.3867	2.3266	1.2230	0.2280	0.2211	0.0048	625.39	0.0059	0.0156	
Backhoe, 345CL	345	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	0.21	0.3867	2.3266	1.2230	0.2280	0.2211	0.0048	625.39	0.0059	0.0156	
Backhoe, 330DL	270	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	0.21	0.3867	2.3266	1.2230	0.2280	0.2211	0.0048	625.39	0.0059	0.0156	
Backhoe, 225	135	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	0.21	0.4359	2.4916	1.5074	0.3122	0.3029	0.0049	625.25	0.0066	0.0156	
Equipment Group:		Ditcher															
Ditcher, Tesmec TRS 1575	630	Ditcher	Nonroad	Trenchers;Diesel	2270002030	Diesel	0.59	0.1825	2.0949	1.2059	0.1341	0.1301	0.0041	536.28	0.0028	0.0134	
Equipment Group:		Sideboom															
Sideboom, 594	366	Sideboom	Nonroad	Cranes;Diesel	2270002045	Diesel	0.43	0.1640	1.6065	0.4310	0.0700	0.0679	0.0040	530.55	0.0025	0.0132	
Sideboom, 583T	310	Sideboom	Nonroad	Cranes;Diesel	2270002045	Diesel	0.43	0.1640	1.6065	0.4310	0.0700	0.0679	0.0040	530.55	0.0025	0.0132	
Sideboom, 572R	230	Sideboom	Nonroad	Cranes;Diesel	2270002045	Diesel	0.43	0.1505	0.8398	0.1704	0.0324	0.0315	0.0037	530.59	0.0023	0.0132	
Equipment Group:		Welding															
Welder Quad D6	140	Welding	Nonroad	Welders;Diesel	2270006025	Diesel	0.21	0.5602	3.1418	2.0146	0.3777	0.3663	0.0050	624.88	0.0085	0.0156	
Equipment Group:		Clam															
Sauerman, 5 Yd.	150	Clam	Nonroad	Cranes;Diesel	2270002045	Diesel	0.43	0.1566	0.9238	0.2584	0.0588	0.0570	0.0037	530.57	0.0024	0.0132	
Equipment Group:		Off Highway															
Haul Truck	511	Off Highway	Nonroad	Off-highway Trucks;Diesel	2270002051	Diesel	0.59	0.1403	0.4156	0.1740	0.0180	0.0175	0.0036	536.41	0.0021	0.0134	
Snow Cat	46	Off Highway	Nonroad	Specialty Vehicles/Carts;Gasoline	2265001060	Gasoline	0.58	4.4510	5.1504	73.0245	0.0684	0.0629	0.0045	747.97	0.3200	0.0189	
Quad/Skidoo	40	Off Highway	Nonroad	Specialty Vehicles/Carts;Gasoline	2265001060	Gasoline	0.58	5.0657	5.1504	73.0245	0.0684	0.0629	0.0045	747.97	0.3200	0.0189	

Table B-3. Combustion Emissions Associated with Pipeline Construction - 2021

Equipment Group:		Loader														
Iron Wolf, 700B	700	Loader	Nonroad	Crawler Tractor/Dozers;Diesel	2270002069	Diesel	0.59	0.1482	1.0785	0.6456	0.0642	0.0622	0.0038	536.38	0.0023	0.0134
F.E. Loader, 966K	235	Loader	Nonroad	Rubber Tire Loaders;Diesel	2270002060	Diesel	0.59	0.1492	0.7727	0.2361	0.0377	0.0365	0.0037	536.38	0.0023	0.0134
F.E. Loader, 988H	520	Loader	Nonroad	Rubber Tire Loaders;Diesel	2270002060	Diesel	0.59	0.1607	1.4624	0.6128	0.0919	0.0892	0.0040	536.35	0.0024	0.0134
F.E. Loader, IT38H	125	Loader	Nonroad	Rubber Tire Loaders;Diesel	2270002060	Diesel	0.59	0.1554	0.8546	0.3544	0.0726	0.0704	0.0037	536.36	0.0024	0.0134
Loader, Snow Blower	125	Loader	Nonroad	Rubber Tire Loaders;Diesel	2270002060	Diesel	0.59	0.1554	0.8546	0.3544	0.0726	0.0704	0.0037	536.36	0.0024	0.0134
Equipment Group:		Forestry Clearing														
Skid Stacker	600	Forestry Clearing	Nonroad	Other Construction Equipment;Diesel	2270002081	Diesel	0.59	0.1839	2.0308	0.8640	0.1256	0.1218	0.0041	536.28	0.0028	0.0134
Equipment Group:		Grader														
Grader 16M	275	Grader	Nonroad	Graders;Diesel	2270002048	Diesel	0.59	0.1425	0.5251	0.1727	0.0235	0.0227	0.0036	536.40	0.0022	0.0134
Grader 14M	215	Grader	Nonroad	Graders;Diesel	2270002048	Diesel	0.59	0.1425	0.5251	0.1727	0.0235	0.0227	0.0036	536.40	0.0022	0.0134
Equipment Group:		Bending														
Bending Machine, 32-42	350	Bending	Nonroad	Other General Industrial Eqp;Diesel	2270003040	Diesel	0.43	0.1748	1.9120	0.5074	0.0834	0.0809	0.0040	530.52	0.0027	0.0132
Equipment Group:		Boring														
Boring Machine, Tr., 12-42"	350	Boring	Nonroad	Bore/Drill Rigs;Diesel	2270002033	Diesel	0.43	0.2206	2.8360	0.7999	0.1266	0.1228	0.0042	530.38	0.0034	0.0132
Equipment Group:		Tractor														
Farm Tractor, 4x4	105	Tractor	Nonroad	Off-Highway Tractors;Diesel	2270002075	Diesel	0.59	0.1484	0.6808	0.2713	0.0489	0.0474	0.0037	536.38	0.0023	0.0134
Equipment Group:		Pumps														
Pump, 6-10"	125	Pumps	Nonroad	Pumps;Diesel	2270006010	Diesel	0.43	0.2801	2.8306	0.7988	0.1808	0.1753	0.0042	530.21	0.0043	0.0132
Pump, 4"	75	Pumps	Nonroad	Pumps;Diesel	2270006010	Diesel	0.43	0.3656	4.1467	1.7886	0.2939	0.2851	0.0048	589.28	0.0056	0.0147
Pump, 3"	8	Pumps	Nonroad	Pumps;Diesel	2270006010	Diesel	0.43	0.6237	4.4954	4.4523	0.3943	0.3825	0.0054	588.49	0.0095	0.0147
Equipment Group:		Compressor														
Compressor, Booster	560	Compressor	Nonroad	Air Compressors;Diesel	2270006015	Diesel	0.43	0.1826	2.0477	0.5589	0.0917	0.0889	0.0041	530.50	0.0028	0.0132
Compressor, 900-1500 CFM	450	Compressor	Nonroad	Air Compressors;Diesel	2270006015	Diesel	0.43	0.1826	2.0477	0.5589	0.0917	0.0889	0.0041	530.50	0.0028	0.0132
Compressor, 450 CFM	175	Compressor	Nonroad	Air Compressors;Diesel	2270006015	Diesel	0.43	0.1701	1.2506	0.3530	0.0859	0.0833	0.0039	530.53	0.0026	0.0132
Equipment Group:		Generator														
Gen Set, 600 kW	1,100	Generator	Nonroad	Generator Sets;Diesel	2270006005	Diesel	0.43	0.3120	3.7030	0.9434	0.1496	0.1452	0.0042	530.11	0.0047	0.0132
Gen Set, 400 kW	537	Generator	Nonroad	Generator Sets;Diesel	2270006005	Diesel	0.43	0.2174	2.6594	0.7537	0.1133	0.1099	0.0042	530.39	0.0033	0.0132
Gen Set, 200 kW	295	Generator	Nonroad	Generator Sets;Diesel	2270006005	Diesel	0.43	0.2573	2.6707	0.6610	0.1377	0.1336	0.0042	530.27	0.0039	0.0132
Gen Set, 75 KW	125	Generator	Nonroad	Generator Sets;Diesel	2270006005	Diesel	0.43	0.2793	2.8255	0.7907	0.1742	0.1689	0.0042	530.21	0.0042	0.0132
Equipment Group:		Rock Equipment														
Drill	300	Rock Equipment	Nonroad	Bore/Drill Rigs;Diesel	2270002033	Diesel	0.43	0.2463	2.6327	0.6270	0.1355	0.1314	0.0042	530.31	0.0037	0.0132
Equipment Group:		Compaction														
Drum/Vibrator	340	Compaction	Nonroad	Rollers;Diesel	2270002015	Diesel	0.59	0.1607	1.4634	0.6132	0.0920	0.0892	0.0040	536.35	0.0024	0.0134
Equipment Group:		Other														
Sand Blast Unit	400	Other	Nonroad	Other General Industrial Eqp;Diesel	2270003040	Diesel	0.43	0.1748	1.9120	0.5074	0.0834	0.0809	0.0040	530.52	0.0027	0.0132
Light Tower	75	Other	Nonroad	Generator Sets;Diesel	2270006005	Diesel	0.43	0.3644	4.1410	1.7694	0.2831	0.2746	0.0048	589.28	0.0055	0.0147

Notes:

1. Construction vehicle and equipment operating hours and fuel use information is based on information provided by the Alaska LNG Project team for Point Thomson Transmission Line (PTTL) construction activities.
2. Documentation of methodologies, sources, and references used to derive onroad vehicle and nonroad equipment emission factors for the Alaska Pipeline Project is provided elsewhere.
3. Onroad vehicle use information is provided in hours of vehicle use, rather than vehicle miles traveled. To derive vehicle miles traveled, it is assumed that average vehicle speed will be 5 miles per hour.
4. Conversion factors:
   907,184.74 grams/ton
   1,000,000 grams/metric ton
5. Global warming potentials used to convert CO_2, CH_4, and N_2O to CO_2 equivalents (CO_2e) are based on the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (AR4) (IPCC 2007), as reported in *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2013* (EPA 430-R-15-004), Table 1-2: "Global Warming Potentials and Atmospheric Lifetimes (Years) Used in this Report", U.S. Environmental Protection Agency, April 15, 2015, available at www.epa.gov/climatechange/ghgemissions/usinventoryreport.html (accessed August 14, 2015). The relevant values for these calculations:
   1 GWP CO_2
   25 GWP CH_4
   298 GWP N_2O

Table B-4. Combustion Emissions Associated with Pipeline Construction - 2022

Year: 2022

Description	HP	Equipment Type	Equipment Category	Representative Equipment Model	U.S. EPA Source Classification Code (SCC)	Fuel	Operating Hours	Criteria Pollutants, tons/year						Greenhouse Gases, metric tons/year			
								VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O	CO_2e
Equipment Group:		Rolling Stock															
Passenger Bus	N/A	Rolling Stock	Onroad	Urban Buses;Diesel	N/A	Diesel	5,393	0.01	0.14	0.05	0.01	0.01	0.000	36.13	0.001	0.000	36.18
Heavy Duty Diesel Truck-8	N/A	Rolling Stock	Onroad	Class 8a and 8b Heavy-Duty Vehicles (>33,000 lbs. GVWR);Diesel	N/A	Diesel	40,998	0.15	1.50	0.49	0.07	0.04	0.003	353.53	0.068	0.000	355.35
Medium Duty Dsl Truck-4/5	N/A	Rolling Stock	Onroad	Class 4 and 5 Heavy-Duty Vehicles (14,001-19,500 lbs. GVWR);Diesel	N/A	Diesel	805	0.00	0.01	0.00	0.00	0.00	0.000	3.73	0.000	0.000	3.75
Medium Duty Dsl Truck-3	N/A	Rolling Stock	Onroad	Class 3 Heavy-Duty Vehicles (10,001-14,000 lbs. GVWR);Diesel	N/A	Diesel	13,115	0.02	0.10	0.04	0.01	0.00	0.001	61.09	0.005	0.000	61.27
Diesel Pickup Truck	N/A	Rolling Stock	Onroad	Light Duty Trucks;Diesel	N/A	Diesel	28,849	0.04	0.05	0.55	0.01	0.00	0.001	57.68	0.017	0.000	58.15
Equipment Group:		Dozer															
Dozer, D10T	580	Dozer	Nonroad	Crawler Tractor/Dozers;Diesel	2270002069	Diesel	501	0.03	0.17	0.07	0.01	0.01	0.001	91.96	0.000	0.002	92.65
Dozer, D8T	305	Dozer	Nonroad	Crawler Tractor/Dozers;Diesel	2270002069	Diesel	3,499	0.10	0.63	0.24	0.03	0.03	0.003	337.69	0.001	0.008	340.23
Dozer, D6T	185	Dozer	Nonroad	Crawler Tractor/Dozers;Diesel	2270002069	Diesel	2,018	0.03	0.11	0.04	0.01	0.00	0.001	118.15	0.000	0.003	119.04
Equipment Group:		Crane															
Crane, Mobile 200 Ton	248	Crane	Nonroad	Cranes;Diesel	2270002045	Diesel	251	0.00	0.02	0.00	0.00	0.00	0.000	14.17	0.000	0.000	14.28
Equipment Group:		Backhoe															
Backhoe, 385CL	513	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	1,100	0.05	0.27	0.14	0.03	0.03	0.001	74.12	0.001	0.002	74.69
Backhoe, 365CL	411	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	2,610	0.09	0.52	0.28	0.05	0.05	0.001	140.90	0.001	0.004	141.98
Backhoe, 345CL	345	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	3,093	0.09	0.51	0.27	0.05	0.05	0.001	140.16	0.001	0.003	141.24
Backhoe, 330DL	270	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	1,670	0.04	0.22	0.12	0.02	0.02	0.000	59.23	0.001	0.001	59.68
Backhoe, 225	135	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	149	0.00	0.01	0.01	0.00	0.00	0.000	2.63	0.000	0.000	2.65
Equipment Group:		Ditcher															
Ditcher, Tesmec TRS 1575	630	Ditcher	Nonroad	Trenchers;Diesel	2270002030	Diesel	350	0.03	0.27	0.16	0.02	0.02	0.001	69.77	0.000	0.002	70.30
Equipment Group:		Sideboom															
Sideboom, 594	366	Sideboom	Nonroad	Cranes;Diesel	2270002045	Diesel	1,153	0.03	0.28	0.08	0.01	0.01	0.001	96.28	0.000	0.002	97.00
Sideboom, 583T	310	Sideboom	Nonroad	Cranes;Diesel	2270002045	Diesel	4,258	0.10	0.88	0.24	0.04	0.04	0.002	301.11	0.001	0.008	303.38
Sideboom, 572R	230	Sideboom	Nonroad	Cranes;Diesel	2270002045	Diesel	2,646	0.04	0.20	0.04	0.01	0.01	0.001	138.83	0.001	0.003	139.87
Equipment Group:		Welding															
Welder Quad D6	140	Welding	Nonroad	Welders;Diesel	2270006025	Diesel	331	0.01	0.03	0.02	0.00	0.00	0.000	6.08	0.000	0.000	6.13
Equipment Group:		Clam															
Sauerman, 5 Yd.	150	Clam	Nonroad	Cranes;Diesel	2270002045	Diesel	550	0.01	0.03	0.01	0.00	0.00	0.000	18.82	0.000	0.000	18.96
Equipment Group:		Off Highway															
Haul Truck	511	Off Highway	Nonroad	Off-highway Trucks;Diesel	2270002051	Diesel	404	0.02	0.05	0.02	0.00	0.00	0.000	65.34	0.000	0.002	65.83
Snow Cat	46	Off Highway	Nonroad	Specialty Vehicles/Carts;Gasoline	2265001060	Gasoline	2,760	0.34	0.39	5.51	0.01	0.01	0.000	54.72	0.022	0.001	55.68
Quad/Skidoo	40	Off Highway	Nonroad	Specialty Vehicles/Carts;Gasoline	2265001060	Gasoline	745	0.09	0.09	1.29	0.00	0.00	0.000	12.84	0.005	0.000	13.07
Equipment Group:		Loader															
Iron Wolf, 700B	700	Loader	Nonroad	Crawler Tractor/Dozers;Diesel	2270002069	Diesel	1,346	0.09	0.56	0.33	0.03	0.03	0.002	298.23	0.001	0.007	300.48
F.E. Loader, 966K	235	Loader	Nonroad	Rubber Tire Loaders;Diesel	2270002060	Diesel	1,016	0.02	0.10	0.03	0.00	0.00	0.001	75.52	0.000	0.002	76.09
F.E. Loader, 988H	520	Loader	Nonroad	Rubber Tire Loaders;Diesel	2270002060	Diesel	563	0.03	0.24	0.10	0.02	0.01	0.001	92.56	0.000	0.002	93.26
F.E. Loader, IT38H	125	Loader	Nonroad	Rubber Tire Loaders;Diesel	2270002060	Diesel	616	0.01	0.03	0.01	0.00	0.00	0.000	24.35	0.000	0.001	24.53
Loader, Snow Blower	125	Loader	Nonroad	Rubber Tire Loaders;Diesel	2270002060	Diesel	1,008	0.01	0.06	0.02	0.00	0.00	0.000	39.86	0.000	0.001	40.16
Equipment Group:		Forestry Clearing															
Skid Stacker	600	Forestry Clearing	Nonroad	Other Construction Equipment;Diesel	2270002081	Diesel	149	0.01	0.11	0.05	0.01	0.01	0.000	28.19	0.000	0.001	28.41
Equipment Group:		Grader															
Grader 16M	275	Grader	Nonroad	Graders;Diesel	2270002048	Diesel	2,040	0.05	0.16	0.06	0.01	0.01	0.001	177.57	0.001	0.004	178.90
Grader 14M	215	Grader	Nonroad	Graders;Diesel	2270002048	Diesel	151	0.00	0.01	0.00	0.00	0.00	0.000	10.27	0.000	0.000	10.35
Equipment Group:		Bending															
Bending Machine, 32-42	350	Bending	Nonroad	Other General Industrial Eqp;Diesel	2270003040	Diesel	149	0.00	0.04	0.01	0.00	0.00	0.000	11.86	0.000	0.000	11.95
Equipment Group:		Boring															
Boring Machine, Tr., 12-42"	350	Boring	Nonroad	Bore/Drill Rigs;Diesel	2270002033	Diesel	59	0.00	0.03	0.01	0.00	0.00	0.000	4.67	0.000	0.000	4.71
Equipment Group:		Tractor															
Farm Tractor, 4x4	105	Tractor	Nonroad	Off-Highway Tractors;Diesel	2270002075	Diesel	677	0.01	0.03	0.01	0.00	0.00	0.000	22.50	0.000	0.001	22.67
Equipment Group:		Pumps															
Pump, 6-10"	125	Pumps	Nonroad	Pumps;Diesel	2270006010	Diesel	9,163	0.14	1.42	0.40	0.09	0.09	0.002	261.14	0.002	0.007	263.13

Table B-4. Combustion Emissions Associated with Pipeline Construction - 2022

Description	HP	Equipment Type	Equipment Category	Representative Equipment Model	U.S. EPA Source Classification Code (SCC)	Fuel	Onroad: Speed (mph) Nonroad: Load Factor	Emission Factor (Onroad: grams/mile, Nonroad: grams/horsepower-hour) VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O
Pump, 4"	75	Pumps	Nonroad	Pumps;Diesel	2270006010	Diesel	477	0.01	0.07	0.03	0.00	0.00	0.000	9.07	0.000	0.000	9.14
Pump, 3"	8	Pumps	Nonroad	Pumps;Diesel	2270006010	Diesel	9,111	0.02	0.15	0.15	0.01	0.01	0.000	18.44	0.000	0.000	18.59
Equipment Group:		Compressor															
Compressor, Booster	560	Compressor	Nonroad	Air Compressors;Diesel	2270006015	Diesel	720	0.03	0.35	0.10	0.02	0.02	0.001	91.98	0.000	0.002	92.67
Compressor, 900-1500 CFM	450	Compressor	Nonroad	Air Compressors;Diesel	2270006015	Diesel	1,080	0.04	0.43	0.12	0.02	0.02	0.001	110.87	0.001	0.003	111.70
Compressor, 450 CFM	175	Compressor	Nonroad	Air Compressors;Diesel	2270006015	Diesel	339	0.00	0.03	0.01	0.00	0.00	0.000	13.51	0.000	0.000	13.62
Equipment Group:		Generator															
Gen Set, 600 kW	1100	Generator	Nonroad	Generator Sets;Diesel	2270006005	Diesel	806	0.12	1.45	0.36	0.06	0.06	0.002	202.12	0.002	0.005	203.66
Gen Set, 400 kW	537	Generator	Nonroad	Generator Sets;Diesel	2270006005	Diesel	302	0.02	0.19	0.05	0.01	0.01	0.000	36.99	0.000	0.001	37.27
Gen Set, 200 kW	295	Generator	Nonroad	Generator Sets;Diesel	2270006005	Diesel	550	0.02	0.19	0.05	0.01	0.01	0.000	37.00	0.000	0.001	37.28
Gen Set, 75 KW	125	Generator	Nonroad	Generator Sets;Diesel	2270006005	Diesel	801	0.01	0.12	0.03	0.01	0.01	0.000	22.82	0.000	0.001	22.99
Equipment Group:		Rock Equipment															
Drill	300	Rock Equipment	Nonroad	Bore/Drill Rigs;Diesel	2270002033	Diesel	911	0.03	0.31	0.07	0.02	0.02	0.001	62.33	0.000	0.002	62.80
Equipment Group:		Compaction															
Drum/Vibrator	340	Compaction	Nonroad	Rollers;Diesel	2270002015	Diesel	336	0.01	0.10	0.04	0.01	0.01	0.000	36.15	0.000	0.001	36.42
Equipment Group:		Other															
Sand Blast Unit	400	Other	Nonroad	Other General Industrial Eqp;Diesel	2270003040	Diesel	553	0.02	0.18	0.05	0.01	0.01	0.000	50.42	0.000	0.001	50.80
Light Tower	75	Other	Nonroad	Generator Sets;Diesel	2270006005	Diesel	29,628	0.36	4.24	1.74	0.27	0.27	0.005	563.14	0.005	0.014	567.45
TOTALS:							179,791	2.38	17.09	13.50	0.99	0.92	0.038	4,556.51	0.143	0.102	4,590.39
Equipment Group:		Rolling Stock															
Passenger Bus	N/A	Rolling Stock	Onroad	Urban Buses;Diesel	N/A	Diesel	5.00	0.3454	4.8663	1.7678	0.2822	0.1985	0.0117	1,339.95	0.0455	0.0023	
Heavy Duty Diesel Truck-8	N/A	Rolling Stock	Onroad	Class 8a and 8b Heavy-Duty Vehicles (>33,000 lbs. GVWR);Diesel	N/A	Diesel	5.00	0.6644	6.6598	2.1745	0.2976	0.1688	0.0150	1,724.61	0.3301	0.0020	
Medium Duty Dsl Truck-4/5	N/A	Rolling Stock	Onroad	Class 4 and 5 Heavy-Duty Vehicles (14,001-19,500 lbs. GVWR);Diesel	N/A	Diesel	5.00	0.2242	1.6892	0.6276	0.1259	0.0630	0.0080	927.94	0.0825	0.0026	
Medium Duty Dsl Truck-3	N/A	Rolling Stock	Onroad	Class 3 Heavy-Duty Vehicles (10,001-14,000 lbs. GVWR);Diesel	N/A	Diesel	5.00	0.2080	1.4331	0.5888	0.0985	0.0562	0.0081	931.62	0.0804	0.0025	
Diesel Pickup Truck	N/A	Rolling Stock	Onroad	Light Duty Trucks;Diesel	N/A	Diesel	5.00	0.2422	0.3079	3.4408	0.0471	0.0113	0.0035	399.86	0.1199	0.0009	
Equipment Group:		Dozer															
Dozer, D10T	580	Dozer	Nonroad	Crawler Tractor/Dozers;Diesel	2270002069	Diesel	0.59	0.1467	0.9146	0.3528	0.0502	0.0487	0.0037	536.39	0.0022	0.0134	
Dozer, D8T	305	Dozer	Nonroad	Crawler Tractor/Dozers;Diesel	2270002069	Diesel	0.59	0.1467	0.9146	0.3528	0.0502	0.0487	0.0037	536.39	0.0022	0.0134	
Dozer, D6T	185	Dozer	Nonroad	Crawler Tractor/Dozers;Diesel	2270002069	Diesel	0.59	0.1416	0.4417	0.1599	0.0206	0.0200	0.0036	536.40	0.0022	0.0134	
Equipment Group:		Crane															
Crane, Mobile 200 Ton	248	Crane	Nonroad	Cranes;Diesel	2270002045	Diesel	0.43	0.1472	0.7029	0.1442	0.0265	0.0257	0.0036	530.60	0.0022	0.0132	
Equipment Group:		Backhoe															
Backhoe, 385CL	513	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	0.21	0.3552	2.0808	1.1084	0.2035	0.1974	0.0047	625.48	0.0054	0.0156	
Backhoe, 365CL	411	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	0.21	0.3552	2.0808	1.1084	0.2035	0.1974	0.0047	625.48	0.0054	0.0156	
Backhoe, 345CL	345	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	0.21	0.3552	2.0808	1.1084	0.2035	0.1974	0.0047	625.48	0.0054	0.0156	
Backhoe, 330DL	270	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	0.21	0.3552	2.0808	1.1084	0.2035	0.1974	0.0047	625.48	0.0054	0.0156	
Backhoe, 225	135	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	0.21	0.4003	2.2359	1.3756	0.2840	0.2755	0.0048	625.35	0.0061	0.0156	
Equipment Group:		Ditcher															
Ditcher, Tesmec TRS 1575	630	Ditcher	Nonroad	Trenchers;Diesel	2270002030	Diesel	0.59	0.1766	1.8884	1.1040	0.1211	0.1174	0.0041	536.30	0.0027	0.0134	
Equipment Group:		Sideboom															
Sideboom, 594	366	Sideboom	Nonroad	Cranes;Diesel	2270002045	Diesel	0.43	0.1596	1.4035	0.3807	0.0617	0.0599	0.0039	530.56	0.0024	0.0132	
Sideboom, 583T	310	Sideboom	Nonroad	Cranes;Diesel	2270002045	Diesel	0.43	0.1596	1.4035	0.3807	0.0617	0.0599	0.0039	530.56	0.0024	0.0132	
Sideboom, 572R	230	Sideboom	Nonroad	Cranes;Diesel	2270002045	Diesel	0.43	0.1472	0.7029	0.1442	0.0265	0.0257	0.0036	530.60	0.0022	0.0132	
Equipment Group:		Welding															
Welder Quad D6	140	Welding	Nonroad	Welders;Diesel	2270006025	Diesel	0.21	0.5198	2.8971	1.8409	0.3491	0.3387	0.0049	625.00	0.0079	0.0156	
Equipment Group:		Clam															
Sauerman, 5 Yd.	150	Clam	Nonroad	Cranes;Diesel	2270002045	Diesel	0.43	0.1513	0.7552	0.2064	0.0435	0.0422	0.0037	530.59	0.0023	0.0132	
Equipment Group:		Off Highway															
Haul Truck	511	Off Highway	Nonroad	Off-highway Trucks;Diesel	2270002051	Diesel	0.59	0.1397	0.3670	0.1592	0.0152	0.0147	0.0035	536.41	0.0021	0.0134	
Snow Cat	46	Off Highway	Nonroad	Specialty Vehicles/Carts;Gasoline	2265001060	Gasoline	0.58	4.1323	4.7808	67.8407	0.0684	0.0630	0.0045	743.17	0.2948	0.0188	
Quad/Skidoo	40	Off Highway	Nonroad	Specialty Vehicles/Carts;Gasoline	2265001060	Gasoline	0.58	4.7058	4.7808	67.8407	0.0684	0.0630	0.0045	743.17	0.2948	0.0188	

Table B-4. Combustion Emissions Associated with Pipeline Construction - 2022

Equipment Group:		Loader														
Iron Wolf, 700B	700	Loader	Nonroad	Crawler Tractor/Dozers;Diesel	2270002069	Diesel	0.59	0.1459	0.9168	0.5369	0.0509	0.0493	0.0037	536.39	0.0022	0.0134
F.E. Loader, 966K	235	Loader	Nonroad	Rubber Tire Loaders;Diesel	2270002060	Diesel	0.59	0.1464	0.6475	0.2065	0.0309	0.0300	0.0036	536.39	0.0022	0.0134
F.E. Loader, 988H	520	Loader	Nonroad	Rubber Tire Loaders;Diesel	2270002060	Diesel	0.59	0.1563	1.2862	0.5355	0.0799	0.0775	0.0039	536.36	0.0024	0.0134
F.E. Loader, IT38H	125	Loader	Nonroad	Rubber Tire Loaders;Diesel	2270002060	Diesel	0.59	0.1498	0.6885	0.2776	0.0504	0.0489	0.0037	536.38	0.0023	0.0134
Loader, Snow Blower	125	Loader	Nonroad	Rubber Tire Loaders;Diesel	2270002060	Diesel	0.59	0.1498	0.6885	0.2776	0.0504	0.0489	0.0037	536.38	0.0023	0.0134
Equipment Group:		Forestry Clearing														
Skid Stacker	600	Forestry Clearing	Nonroad	Other Construction Equipment;Diesel	2270002081	Diesel	0.59	0.1775	1.8305	0.7800	0.1136	0.1102	0.0041	536.30	0.0027	0.0134
Equipment Group:		Grader														
Grader 16M	275	Grader	Nonroad	Graders;Diesel	2270002048	Diesel	0.59	0.1412	0.4253	0.1545	0.0194	0.0189	0.0036	536.40	0.0021	0.0134
Grader 14M	215	Grader	Nonroad	Graders;Diesel	2270002048	Diesel	0.59	0.1412	0.4253	0.1545	0.0194	0.0189	0.0036	536.40	0.0021	0.0134
Equipment Group:		Bending														
Bending Machine, 32-42	350	Bending	Nonroad	Other General Industrial Eqp;Diesel	2270003040	Diesel	0.43	0.1694	1.7043	0.4568	0.0746	0.0724	0.0040	530.53	0.0026	0.0132
Equipment Group:		Boring														
Boring Machine, Tr., 12-42"	350	Boring	Nonroad	Bore/Drill Rigs;Diesel	2270002033	Diesel	0.43	0.2117	2.6158	0.7349	0.1166	0.1131	0.0042	530.41	0.0032	0.0132
Equipment Group:		Tractor														
Farm Tractor, 4x4	105	Tractor	Nonroad	Off-Highway Tractors;Diesel	2270002075	Diesel	0.59	0.1454	0.5563	0.2356	0.0389	0.0377	0.0036	536.39	0.0022	0.0134
Equipment Group:		Pumps														
Pump, 6-10"	125	Pumps	Nonroad	Pumps;Diesel	2270006010	Diesel	0.43	0.2653	2.6103	0.7298	0.1671	0.1621	0.0042	530.25	0.0040	0.0132
Pump, 4"	75	Pumps	Nonroad	Pumps;Diesel	2270006010	Diesel	0.43	0.3406	4.0331	1.6692	0.2699	0.2618	0.0047	589.35	0.0052	0.0147
Pump, 3"	8	Pumps	Nonroad	Pumps;Diesel	2270006010	Diesel	0.43	0.6155	4.4554	4.4525	0.3799	0.3685	0.0054	588.51	0.0094	0.0147
Equipment Group:		Compressor														
Compressor, Booster	560	Compressor	Nonroad	Air Compressors;Diesel	2270006015	Diesel	0.43	0.1765	1.8472	0.5047	0.0827	0.0802	0.0040	530.51	0.0027	0.0132
Compressor, 900-1500 CFM	450	Compressor	Nonroad	Air Compressors;Diesel	2270006015	Diesel	0.43	0.1765	1.8472	0.5047	0.0827	0.0802	0.0040	530.51	0.0027	0.0132
Compressor, 450 CFM	175	Compressor	Nonroad	Air Compressors;Diesel	2270006015	Diesel	0.43	0.1634	1.0741	0.3036	0.0721	0.0699	0.0038	530.55	0.0025	0.0132
Equipment Group:		Generator														
Gen Set, 600 kW	1,100	Generator	Nonroad	Generator Sets;Diesel	2270006005	Diesel	0.43	0.2939	3.4449	0.8586	0.1374	0.1333	0.0041	530.16	0.0045	0.0132
Gen Set, 400 kW	537	Generator	Nonroad	Generator Sets;Diesel	2270006005	Diesel	0.43	0.2086	2.4549	0.6921	0.1043	0.1011	0.0041	530.42	0.0032	0.0132
Gen Set, 200 kW	295	Generator	Nonroad	Generator Sets;Diesel	2270006005	Diesel	0.43	0.2456	2.4703	0.6080	0.1267	0.1229	0.0041	530.31	0.0037	0.0132
Gen Set, 75 KW	125	Generator	Nonroad	Generator Sets;Diesel	2270006005	Diesel	0.43	0.2646	2.6058	0.7229	0.1610	0.1562	0.0042	530.25	0.0040	0.0132
Equipment Group:		Rock Equipment														
Drill	300	Rock Equipment	Nonroad	Bore/Drill Rigs;Diesel	2270002033	Diesel	0.43	0.2351	2.4161	0.5751	0.1239	0.1202	0.0041	530.34	0.0036	0.0132
Equipment Group:		Compaction														
Drum/Vibrator	340	Compaction	Nonroad	Rollers;Diesel	2270002015	Diesel	0.59	0.1564	1.2873	0.5360	0.0799	0.0775	0.0039	536.36	0.0024	0.0134
Equipment Group:		Other														
Sand Blast Unit	400	Other	Nonroad	Other General Industrial Eqp;Diesel	2270003040	Diesel	0.43	0.1694	1.7043	0.4568	0.0746	0.0724	0.0040	530.53	0.0026	0.0132
Light Tower	75	Other	Nonroad	Generator Sets;Diesel	2270006005	Diesel	0.43	0.3395	4.0279	1.6517	0.2601	0.2523	0.0047	589.36	0.0052	0.0147

Notes:

1. Construction vehicle and equipment operating hours and fuel use information is based on information provided by the Alaska LNG Project team for Point Thomson Transmission Line (PTTL) construction activities.
2. Documentation of methodologies, sources, and references used to derive onroad vehicle and nonroad equipment emission factors for the Alaska Pipeline Project is provided elsewhere.
3. Onroad vehicle use information is provided in hours of vehicle use, rather than vehicle miles traveled. To derive vehicle miles traveled, it is assumed that average vehicle speed will be 5 miles per hour.
4. Conversion factors:
   907,184.74 grams/ton
   1,000,000 grams/metric ton
5. Global warming potentials used to convert CO_2, CH_4, and N_2O to CO_2 equivalents (CO_2e) are based on the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (AR4) (IPCC 2007), as reported in *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2013* (EPA 430-R-15-004), Table 1-2: "Global Warming Potentials and Atmospheric Lifetimes (Years) Used in this Report", U.S. Environmental Protection Agency, April 15, 2015, available at www.epa.gov/climatechange/ghgemissions/usinventoryreport.html (accessed August 14, 2015). The relevant values for these calculations:
   1 GWP CO_2
   25 GWP CH_4
   298 GWP N_2O

Table B-5. Combustion Emissions Associated with Pipeline Construction - 2023

Year: 2023

Description	HP	Equipment Type	Equipment Category	Representative Equipment Model	U.S. EPA Source Classification Code (SCC)	Fuel	Operating Hours	Criteria Pollutants, tons/year						Greenhouse Gases, metric tons/year			
								VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O	CO_2e
Equipment Group:		Rolling Stock															
Passenger Bus	N/A	Rolling Stock	Onroad	Urban Buses;Diesel	N/A	Diesel	5,393	0.01	0.13	0.05	0.01	0.01	0.000	35.95	0.001	0.000	36.00
Heavy Duty Diesel Truck-8	N/A	Rolling Stock	Onroad	Class 8a and 8b Heavy-Duty Vehicles (>33,000 lbs. GVWR);Diesel	N/A	Diesel	40,998	0.14	1.40	0.47	0.06	0.03	0.003	351.20	0.069	0.000	353.05
Medium Duty Dsl Truck-4/5	N/A	Rolling Stock	Onroad	Class 4 and 5 Heavy-Duty Vehicles (14,001-19,500 lbs. GVWR);Diesel	N/A	Diesel	805	0.00	0.01	0.00	0.00	0.00	0.000	3.72	0.000	0.000	3.73
Medium Duty Dsl Truck-3	N/A	Rolling Stock	Onroad	Class 3 Heavy-Duty Vehicles (10,001-14,000 lbs. GVWR);Diesel	N/A	Diesel	13,115	0.01	0.09	0.04	0.01	0.00	0.001	60.80	0.005	0.000	60.98
Diesel Pickup Truck	N/A	Rolling Stock	Onroad	Light Duty Trucks;Diesel	N/A	Diesel	28,849	0.04	0.04	0.51	0.01	0.00	0.001	55.26	0.018	0.000	55.74
Equipment Group:		Dozer															
Dozer, D10T	580	Dozer	Nonroad	Crawler Tractor/Dozers;Diesel	2270002069	Diesel	501	0.03	0.15	0.05	0.01	0.01	0.001	91.96	0.000	0.002	92.65
Dozer, D8T	305	Dozer	Nonroad	Crawler Tractor/Dozers;Diesel	2270002069	Diesel	3,499	0.10	0.53	0.20	0.03	0.03	0.003	337.69	0.001	0.008	340.23
Dozer, D6T	185	Dozer	Nonroad	Crawler Tractor/Dozers;Diesel	2270002069	Diesel	2,018	0.03	0.09	0.04	0.00	0.00	0.001	118.15	0.000	0.003	119.04
Equipment Group:		Crane															
Crane, Mobile 200 Ton	248	Crane	Nonroad	Cranes;Diesel	2270002045	Diesel	251	0.00	0.02	0.00	0.00	0.00	0.000	14.17	0.000	0.000	14.28
Equipment Group:		Backhoe															
Backhoe, 385CL	513	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	1,100	0.04	0.24	0.13	0.02	0.02	0.001	74.13	0.001	0.002	74.70
Backhoe, 365CL	411	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	2,610	0.08	0.46	0.25	0.05	0.04	0.001	140.92	0.001	0.004	142.00
Backhoe, 345CL	345	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	3,093	0.08	0.46	0.25	0.05	0.04	0.001	140.18	0.001	0.003	141.25
Backhoe, 330DL	270	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	1,670	0.03	0.19	0.10	0.02	0.02	0.000	59.23	0.000	0.001	59.69
Backhoe, 225	135	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	149	0.00	0.01	0.01	0.00	0.00	0.000	2.63	0.000	0.000	2.65
Equipment Group:		Ditcher															
Ditcher, Tesmec TRS 1575	630	Ditcher	Nonroad	Trenchers;Diesel	2270002030	Diesel	350	0.02	0.24	0.14	0.02	0.02	0.001	69.77	0.000	0.002	70.30
Equipment Group:		Sideboom															
Sideboom, 594	366	Sideboom	Nonroad	Cranes;Diesel	2270002045	Diesel	1,153	0.03	0.25	0.07	0.01	0.01	0.001	96.28	0.000	0.002	97.00
Sideboom, 583T	310	Sideboom	Nonroad	Cranes;Diesel	2270002045	Diesel	4,258	0.10	0.77	0.21	0.03	0.03	0.002	301.11	0.001	0.008	303.39
Sideboom, 572R	230	Sideboom	Nonroad	Cranes;Diesel	2270002045	Diesel	2,646	0.04	0.17	0.04	0.01	0.01	0.001	138.83	0.001	0.003	139.87
Equipment Group:		Welding															
Welder Quad D6	140	Welding	Nonroad	Welders;Diesel	2270006025	Diesel	331	0.01	0.03	0.02	0.00	0.00	0.000	6.08	0.000	0.000	6.13
Equipment Group:		Clam															
Sauerman, 5 Yd.	150	Clam	Nonroad	Cranes;Diesel	2270002045	Diesel	550	0.01	0.02	0.01	0.00	0.00	0.000	18.82	0.000	0.000	18.96
Equipment Group:		Off Highway															
Haul Truck	511	Off Highway	Nonroad	Off-highway Trucks;Diesel	2270002051	Diesel	404	0.02	0.04	0.02	0.00	0.00	0.000	65.34	0.000	0.002	65.83
Snow Cat	46	Off Highway	Nonroad	Specialty Vehicles/Carts;Gasoline	2265001060	Gasoline	2,760	0.31	0.36	5.09	0.01	0.01	0.000	54.38	0.020	0.001	55.28
Quad/Skidoo	40	Off Highway	Nonroad	Specialty Vehicles/Carts;Gasoline	2265001060	Gasoline	745	0.08	0.08	1.20	0.00	0.00	0.000	12.76	0.005	0.000	12.98
Equipment Group:		Loader															
Iron Wolf, 700B	700	Loader	Nonroad	Crawler Tractor/Dozers;Diesel	2270002069	Diesel	1,346	0.09	0.47	0.27	0.02	0.02	0.002	298.24	0.001	0.007	300.48
F.E. Loader, 966K	235	Loader	Nonroad	Rubber Tire Loaders;Diesel	2270002060	Diesel	1,016	0.02	0.08	0.03	0.00	0.00	0.001	75.52	0.000	0.002	76.09
F.E. Loader, 988H	520	Loader	Nonroad	Rubber Tire Loaders;Diesel	2270002060	Diesel	563	0.03	0.21	0.09	0.01	0.01	0.001	92.56	0.000	0.002	93.26
F.E. Loader, IT38H	125	Loader	Nonroad	Rubber Tire Loaders;Diesel	2270002060	Diesel	616	0.01	0.03	0.01	0.00	0.00	0.000	24.35	0.000	0.001	24.53
Loader, Snow Blower	125	Loader	Nonroad	Rubber Tire Loaders;Diesel	2270002060	Diesel	1,008	0.01	0.05	0.02	0.00	0.00	0.000	39.87	0.000	0.001	40.17
Equipment Group:		Forestry Clearing															
Skid Stacker	600	Forestry Clearing	Nonroad	Other Construction Equipment;Diesel	2270002081	Diesel	149	0.01	0.10	0.04	0.01	0.01	0.000	28.19	0.000	0.001	28.41
Equipment Group:		Grader															
Grader 16M	275	Grader	Nonroad	Graders;Diesel	2270002048	Diesel	2,040	0.05	0.14	0.05	0.01	0.01	0.001	177.57	0.001	0.004	178.90
Grader 14M	215	Grader	Nonroad	Graders;Diesel	2270002048	Diesel	151	0.00	0.01	0.00	0.00	0.00	0.000	10.27	0.000	0.000	10.35
Equipment Group:		Bending															
Bending Machine, 32-42	350	Bending	Nonroad	Other General Industrial Eqp;Diesel	2270003040	Diesel	149	0.00	0.04	0.01	0.00	0.00	0.000	11.86	0.000	0.000	11.95
Equipment Group:		Boring															
Boring Machine, Tr., 12-42"	350	Boring	Nonroad	Bore/Drill Rigs;Diesel	2270002033	Diesel	59	0.00	0.02	0.01	0.00	0.00	0.000	4.67	0.000	0.000	4.71
Equipment Group:		Tractor															
Farm Tractor, 4x4	105	Tractor	Nonroad	Off-Highway Tractors;Diesel	2270002075	Diesel	677	0.01	0.02	0.01	0.00	0.00	0.000	22.50	0.000	0.001	22.67
Equipment Group:		Pumps															
Pump, 6-10"	125	Pumps	Nonroad	Pumps;Diesel	2270006010	Diesel	9,163	0.14	1.31	0.37	0.08	0.08	0.002	261.16	0.002	0.007	263.15

Table B-5. Combustion Emissions Associated with Pipeline Construction - 2023

Description	HP	Equipment Type	Equipment Category	Representative Equipment Model	U.S. EPA Source Classification Code (SCC)	Fuel	Onroad: Speed (mph) Nonroad: Load Factor	Emission Factor (Onroad: grams/mile, Nonroad: grams/horsepower-hour) VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O
Pump, 4"	75	Pumps	Nonroad	Pumps;Diesel	2270006010	Diesel	477	0.01	0.07	0.03	0.00	0.00	0.000	9.07	0.000	0.000	9.14
Pump, 3"	8	Pumps	Nonroad	Pumps;Diesel	2270006010	Diesel	9,111	0.02	0.15	0.15	0.01	0.01	0.000	18.44	0.000	0.000	18.59
Equipment Group:		Compressor															
Compressor, Booster	560	Compressor	Nonroad	Air Compressors;Diesel	2270006015	Diesel	720	0.03	0.32	0.09	0.01	0.01	0.001	91.98	0.000	0.002	92.68
Compressor, 900-1500 CFM	450	Compressor	Nonroad	Air Compressors;Diesel	2270006015	Diesel	1,080	0.04	0.38	0.10	0.02	0.02	0.001	110.87	0.001	0.003	111.71
Compressor, 450 CFM	175	Compressor	Nonroad	Air Compressors;Diesel	2270006015	Diesel	339	0.00	0.03	0.01	0.00	0.00	0.000	13.51	0.000	0.000	13.62
Equipment Group:		Generator															
Gen Set, 600 kW	1100	Generator	Nonroad	Generator Sets;Diesel	2270006005	Diesel	806	0.12	1.34	0.33	0.05	0.05	0.002	202.14	0.002	0.005	203.68
Gen Set, 400 kW	537	Generator	Nonroad	Generator Sets;Diesel	2270006005	Diesel	302	0.02	0.17	0.05	0.01	0.01	0.000	36.99	0.000	0.001	37.27
Gen Set, 200 kW	295	Generator	Nonroad	Generator Sets;Diesel	2270006005	Diesel	550	0.02	0.18	0.04	0.01	0.01	0.000	37.00	0.000	0.001	37.28
Gen Set, 75 KW	125	Generator	Nonroad	Generator Sets;Diesel	2270006005	Diesel	801	0.01	0.11	0.03	0.01	0.01	0.000	22.82	0.000	0.001	22.99
Equipment Group:		Rock Equipment															
Drill	300	Rock Equipment	Nonroad	Bore/Drill Rigs;Diesel	2270002033	Diesel	911	0.03	0.29	0.07	0.01	0.01	0.001	62.33	0.000	0.002	62.80
Equipment Group:		Compaction															
Drum/Vibrator	340	Compaction	Nonroad	Rollers;Diesel	2270002015	Diesel	336	0.01	0.08	0.03	0.01	0.00	0.000	36.15	0.000	0.001	36.42
Equipment Group:		Other															
Sand Blast Unit	400	Other	Nonroad	Other General Industrial Eqp;Diesel	2270003040	Diesel	553	0.02	0.16	0.04	0.01	0.01	0.000	50.42	0.000	0.001	50.80
Light Tower	75	Other	Nonroad	Generator Sets;Diesel	2270006005	Diesel	29,628	0.34	4.13	1.63	0.25	0.24	0.005	563.20	0.005	0.014	567.50
TOTALS:							179,791	2.26	15.70	12.40	0.89	0.83	0.037	4,551.05	0.141	0.102	4,584.88
Equipment Group:		Rolling Stock															
Passenger Bus	N/A	Rolling Stock	Onroad	Urban Buses;Diesel	N/A	Diesel	5.00	0.3120	4.3600	1.5954	0.2577	0.1759	0.0116	1,333.35	0.0469	0.0023	
Heavy Duty Diesel Truck-8	N/A	Rolling Stock	Onroad	Class 8a and 8b Heavy-Duty Vehicles (>33,000 lbs. GVWR);Diesel	N/A	Diesel	5.00	0.6318	6.2168	2.0786	0.2791	0.1519	0.0149	1,713.25	0.3359	0.0020	
Medium Duty Dsl Truck-4/5	N/A	Rolling Stock	Onroad	Class 4 and 5 Heavy-Duty Vehicles (14,001-19,500 lbs. GVWR);Diesel	N/A	Diesel	5.00	0.2049	1.5596	0.5802	0.1177	0.0556	0.0080	923.13	0.0845	0.0026	
Medium Duty Dsl Truck-3	N/A	Rolling Stock	Onroad	Class 3 Heavy-Duty Vehicles (10,001-14,000 lbs. GVWR);Diesel	N/A	Diesel	5.00	0.1907	1.2679	0.5470	0.0910	0.0493	0.0080	927.09	0.0824	0.0026	
Diesel Pickup Truck	N/A	Rolling Stock	Onroad	Light Duty Trucks;Diesel	N/A	Diesel	5.00	0.2217	0.2755	3.2252	0.0470	0.0111	0.0033	383.10	0.1225	0.0009	
Equipment Group:		Dozer															
Dozer, D10T	580	Dozer	Nonroad	Crawler Tractor/Dozers;Diesel	2270002069	Diesel	0.59	0.1443	0.7678	0.2873	0.0382	0.0370	0.0037	536.39	0.0022	0.0134	
Dozer, D8T	305	Dozer	Nonroad	Crawler Tractor/Dozers;Diesel	2270002069	Diesel	0.59	0.1443	0.7678	0.2873	0.0382	0.0370	0.0037	536.39	0.0022	0.0134	
Dozer, D6T	185	Dozer	Nonroad	Crawler Tractor/Dozers;Diesel	2270002069	Diesel	0.59	0.1406	0.3904	0.1451	0.0173	0.0168	0.0036	536.41	0.0021	0.0134	
Equipment Group:		Crane															
Crane, Mobile 200 Ton	248	Crane	Nonroad	Cranes;Diesel	2270002045	Diesel	0.43	0.1449	0.5897	0.1279	0.0228	0.0221	0.0036	530.60	0.0022	0.0132	
Equipment Group:		Backhoe															
Backhoe, 385CL	513	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	0.21	0.3256	1.8635	1.0013	0.1825	0.1770	0.0047	625.57	0.0049	0.0156	
Backhoe, 365CL	411	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	0.21	0.3256	1.8635	1.0013	0.1825	0.1770	0.0047	625.57	0.0049	0.0156	
Backhoe, 345CL	345	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	0.21	0.3256	1.8635	1.0013	0.1825	0.1770	0.0047	625.57	0.0049	0.0156	
Backhoe, 330DL	270	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	0.21	0.3256	1.8635	1.0013	0.1825	0.1770	0.0047	625.57	0.0049	0.0156	
Backhoe, 225	135	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	0.21	0.3667	2.0082	1.2506	0.2584	0.2507	0.0047	625.45	0.0056	0.0156	
Equipment Group:		Ditcher															
Ditcher, Tesmec TRS 1575	630	Ditcher	Nonroad	Trenchers;Diesel	2270002030	Diesel	0.59	0.1712	1.7031	1.0073	0.1092	0.1059	0.0040	536.32	0.0026	0.0134	
Equipment Group:		Sideboom															
Sideboom, 594	366	Sideboom	Nonroad	Cranes;Diesel	2270002045	Diesel	0.43	0.1556	1.2374	0.3330	0.0540	0.0524	0.0038	530.57	0.0024	0.0132	
Sideboom, 583T	310	Sideboom	Nonroad	Cranes;Diesel	2270002045	Diesel	0.43	0.1556	1.2374	0.3330	0.0540	0.0524	0.0038	530.57	0.0024	0.0132	
Sideboom, 572R	230	Sideboom	Nonroad	Cranes;Diesel	2270002045	Diesel	0.43	0.1449	0.5897	0.1279	0.0228	0.0221	0.0036	530.60	0.0022	0.0132	
Equipment Group:		Welding															
Welder Quad D6	140	Welding	Nonroad	Welders;Diesel	2270006025	Diesel	0.21	0.4850	2.6747	1.6993	0.3230	0.3133	0.0049	625.10	0.0074	0.0156	
Equipment Group:		Clam															
Sauerman, 5 Yd.	150	Clam	Nonroad	Cranes;Diesel	2270002045	Diesel	0.43	0.1477	0.6249	0.1763	0.0346	0.0336	0.0036	530.60	0.0022	0.0132	
Equipment Group:		Off Highway															
Haul Truck	511	Off Highway	Nonroad	Off-highway Trucks;Diesel	2270002051	Diesel	0.59	0.1394	0.3337	0.1497	0.0134	0.0130	0.0035	536.41	0.0021	0.0134	
Snow Cat	46	Off Highway	Nonroad	Specialty Vehicles/Carts;Gasoline	2265001060	Gasoline	0.58	3.8216	4.4202	62.7298	0.0684	0.0630	0.0045	738.50	0.2701	0.0187	
Quad/Skidoo	40	Off Highway	Nonroad	Specialty Vehicles/Carts;Gasoline	2265001060	Gasoline	0.58	4.3557	4.4202	62.7298	0.0684	0.0630	0.0045	738.50	0.2701	0.0187	

Table B-5. Combustion Emissions Associated with Pipeline Construction - 2023

Equipment Group:		Loader														
Iron Wolf, 700B	700	Loader	Nonroad	Crawler Tractor/Dozers;Diesel	2270002069	Diesel	0.59	0.1437	0.7693	0.4383	0.0387	0.0375	0.0037	536.40	0.0022	0.0134
F.E. Loader, 966K	235	Loader	Nonroad	Rubber Tire Loaders;Diesel	2270002060	Diesel	0.59	0.1442	0.5408	0.1846	0.0260	0.0252	0.0036	536.40	0.0022	0.0134
F.E. Loader, 988H	520	Loader	Nonroad	Rubber Tire Loaders;Diesel	2270002060	Diesel	0.59	0.1527	1.1294	0.4643	0.0682	0.0661	0.0038	536.37	0.0023	0.0134
F.E. Loader, IT38H	125	Loader	Nonroad	Rubber Tire Loaders;Diesel	2270002060	Diesel	0.59	0.1467	0.5714	0.2431	0.0407	0.0395	0.0036	536.39	0.0022	0.0134
Loader, Snow Blower	125	Loader	Nonroad	Rubber Tire Loaders;Diesel	2270002060	Diesel	0.59	0.1467	0.5714	0.2431	0.0407	0.0395	0.0036	536.39	0.0022	0.0134
Equipment Group:		Forestry Clearing														
Skid Stacker	600	Forestry Clearing	Nonroad	Other Construction Equipment;Diesel	2270002081	Diesel	0.59	0.1718	1.6435	0.7027	0.1024	0.0993	0.0040	536.32	0.0026	0.0134
Equipment Group:		Grader														
Grader 16M	275	Grader	Nonroad	Graders;Diesel	2270002048	Diesel	0.59	0.1404	0.3780	0.1412	0.0165	0.0160	0.0036	536.41	0.0021	0.0134
Grader 14M	215	Grader	Nonroad	Graders;Diesel	2270002048	Diesel	0.59	0.1404	0.3780	0.1412	0.0165	0.0160	0.0036	536.41	0.0021	0.0134
Equipment Group:		Bending														
Bending Machine, 32-42	350	Bending	Nonroad	Other General Industrial Eqp;Diesel	2270003040	Diesel	0.43	0.1645	1.5103	0.4093	0.0665	0.0645	0.0039	530.55	0.0025	0.0132
Equipment Group:		Boring														
Boring Machine, Tr., 12-42"	350	Boring	Nonroad	Bore/Drill Rigs;Diesel	2270002033	Diesel	0.43	0.2038	2.4058	0.6742	0.1072	0.1040	0.0041	530.43	0.0031	0.0132
Equipment Group:		Tractor														
Farm Tractor, 4x4	105	Tractor	Nonroad	Off-Highway Tractors;Diesel	2270002075	Diesel	0.59	0.1432	0.4561	0.2092	0.0314	0.0304	0.0036	536.40	0.0022	0.0134
Equipment Group:		Pumps														
Pump, 6-10"	125	Pumps	Nonroad	Pumps;Diesel	2270006010	Diesel	0.43	0.2529	2.4102	0.6737	0.1547	0.1501	0.0041	530.29	0.0038	0.0132
Pump, 4"	75	Pumps	Nonroad	Pumps;Diesel	2270006010	Diesel	0.43	0.3190	3.9300	1.5608	0.2483	0.2409	0.0047	589.42	0.0048	0.0147
Pump, 3"	8	Pumps	Nonroad	Pumps;Diesel	2270006010	Diesel	0.43	0.6091	4.4230	4.4503	0.3725	0.3613	0.0054	588.53	0.0093	0.0147
Equipment Group:		Compressor														
Compressor, Booster	560	Compressor	Nonroad	Air Compressors;Diesel	2270006015	Diesel	0.43	0.1710	1.6597	0.4546	0.0743	0.0720	0.0040	530.53	0.0026	0.0132
Compressor, 900-1500 CFM	450	Compressor	Nonroad	Air Compressors;Diesel	2270006015	Diesel	0.43	0.1710	1.6597	0.4546	0.0743	0.0720	0.0040	530.53	0.0026	0.0132
Compressor, 450 CFM	175	Compressor	Nonroad	Air Compressors;Diesel	2270006015	Diesel	0.43	0.1580	0.9190	0.2579	0.0590	0.0573	0.0037	530.57	0.0024	0.0132
Equipment Group:		Generator														
Gen Set, 600 kW	1,100	Generator	Nonroad	Generator Sets;Diesel	2270006005	Diesel	0.43	0.2768	3.1964	0.7778	0.1257	0.1219	0.0041	530.21	0.0042	0.0132
Gen Set, 400 kW	537	Generator	Nonroad	Generator Sets;Diesel	2270006005	Diesel	0.43	0.2008	2.2601	0.6345	0.0958	0.0930	0.0041	530.44	0.0031	0.0132
Gen Set, 200 kW	295	Generator	Nonroad	Generator Sets;Diesel	2270006005	Diesel	0.43	0.2348	2.2796	0.5593	0.1162	0.1128	0.0041	530.34	0.0036	0.0132
Gen Set, 75 KW	125	Generator	Nonroad	Generator Sets;Diesel	2270006005	Diesel	0.43	0.2523	2.4062	0.6676	0.1490	0.1446	0.0041	530.29	0.0038	0.0132
Equipment Group:		Rock Equipment														
Drill	300	Rock Equipment	Nonroad	Bore/Drill Rigs;Diesel	2270002033	Diesel	0.43	0.2247	2.2092	0.5270	0.1128	0.1094	0.0041	530.37	0.0034	0.0132
Equipment Group:		Compaction														
Drum/Vibrator	340	Compaction	Nonroad	Rollers;Diesel	2270002015	Diesel	0.59	0.1527	1.1307	0.4648	0.0682	0.0662	0.0038	536.37	0.0023	0.0134
Equipment Group:		Other														
Sand Blast Unit	400	Other	Nonroad	Other General Industrial Eqp;Diesel	2270003040	Diesel	0.43	0.1645	1.5103	0.4093	0.0665	0.0645	0.0039	530.55	0.0025	0.0132
Light Tower	75	Other	Nonroad	Generator Sets;Diesel	2270006005	Diesel	0.43	0.3181	3.9252	1.5447	0.2394	0.2322	0.0047	589.42	0.0048	0.0147

Notes:

1. Construction vehicle and equipment operating hours and fuel use information is based on information provided by the Alaska LNG Project team for Point Thomson Transmission Line (PTTL) construction activities.
2. Documentation of methodologies, sources, and references used to derive onroad vehicle and nonroad equipment emission factors for the Alaska Pipeline Project is provided elsewhere.
3. Onroad vehicle use information is provided in hours of vehicle use, rather than vehicle miles traveled. To derive vehicle miles traveled, it is assumed that average vehicle speed will be 5 miles per hour.
4. Conversion factors:
   907,184.74 grams/ton
   1,000,000 grams/metric ton
5. Global warming potentials used to convert CO_2, CH_4, and N_2O to CO_2 equivalents (CO_2e) are based on the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (AR4) (IPCC 2007), as reported in *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2013* (EPA 430-R-15-004), Table 1-2: "Global Warming Potentials and Atmospheric Lifetimes (Years) Used in this Report", U.S. Environmental Protection Agency, April 15, 2015, available at www.epa.gov/climatechange/ghgemissions/usinventoryreport.html (accessed August 14, 2015). The relevant values for these calculations:
   1 GWP CO_2
   25 GWP CH_4
   298 GWP N_2O

Table B-6. Combustion Emissions Associated with Pipeline Construction - 2024

Year: 2024

Description	HP	Equipment Type	Equipment Category	Representative Equipment Model	U.S. EPA Source Classification Code (SCC)	Fuel	Operating Hours	Criteria Pollutants, tons/year						Greenhouse Gases, metric tons/year			
								VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O	CO_2e
Equipment Group:		Rolling Stock															
Passenger Bus	N/A	Rolling Stock	Onroad	Urban Buses;Diesel	N/A	Diesel	2,696	0.00	0.06	0.02	0.00	0.00	0.000	17.89	0.001	0.000	17.92
Heavy Duty Diesel Truck-8	N/A	Rolling Stock	Onroad	Class 8a and 8b Heavy-Duty Vehicles (>33,000 lbs. GVWR);Diesel	N/A	Diesel	20,499	0.07	0.66	0.22	0.03	0.02	0.002	174.56	0.035	0.000	175.50
Medium Duty Dsl Truck-4/5	N/A	Rolling Stock	Onroad	Class 4 and 5 Heavy-Duty Vehicles (14,001-19,500 lbs. GVWR);Diesel	N/A	Diesel	403	0.00	0.00	0.00	0.00	0.00	0.000	1.85	0.000	0.000	1.86
Medium Duty Dsl Truck-3	N/A	Rolling Stock	Onroad	Class 3 Heavy-Duty Vehicles (10,001-14,000 lbs. GVWR);Diesel	N/A	Diesel	6,558	0.01	0.04	0.02	0.00	0.00	0.000	30.27	0.003	0.000	30.36
Diesel Pickup Truck	N/A	Rolling Stock	Onroad	Light Duty Trucks;Diesel	N/A	Diesel	14,424	0.02	0.02	0.24	0.00	0.00	0.000	26.48	0.009	0.000	26.73
Equipment Group:		Dozer															
Dozer, D10T	580	Dozer	Nonroad	Crawler Tractor/Dozers;Diesel	2270002069	Diesel	251	0.01	0.06	0.02	0.00	0.00	0.000	45.98	0.000	0.001	46.33
Dozer, D8T	305	Dozer	Nonroad	Crawler Tractor/Dozers;Diesel	2270002069	Diesel	1,749	0.05	0.23	0.09	0.01	0.01	0.001	168.85	0.001	0.004	170.12
Dozer, D6T	185	Dozer	Nonroad	Crawler Tractor/Dozers;Diesel	2270002069	Diesel	1,009	0.02	0.04	0.02	0.00	0.00	0.000	59.08	0.000	0.001	59.52
Equipment Group:		Crane															
Crane, Mobile 200 Ton	248	Crane	Nonroad	Cranes;Diesel	2270002045	Diesel	125	0.00	0.01	0.00	0.00	0.00	0.000	7.09	0.000	0.000	7.14
Equipment Group:		Backhoe															
Backhoe, 385CL	513	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	550	0.02	0.11	0.06	0.01	0.01	0.000	37.07	0.000	0.001	37.35
Backhoe, 365CL	411	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	1,305	0.04	0.21	0.11	0.02	0.02	0.001	70.47	0.001	0.002	71.01
Backhoe, 345CL	345	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	1,547	0.04	0.21	0.11	0.02	0.02	0.001	70.10	0.001	0.002	70.63
Backhoe, 330DL	270	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	835	0.02	0.09	0.05	0.01	0.01	0.000	29.62	0.000	0.001	29.85
Backhoe, 225	135	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	74	0.00	0.00	0.00	0.00	0.00	0.000	1.32	0.000	0.000	1.33
Equipment Group:		Ditcher															
Ditcher, Tesmec TRS 1575	630	Ditcher	Nonroad	Trenchers;Diesel	2270002030	Diesel	175	0.01	0.11	0.07	0.01	0.01	0.000	34.89	0.000	0.001	35.15
Equipment Group:		Sideboom															
Sideboom, 594	366	Sideboom	Nonroad	Cranes;Diesel	2270002045	Diesel	577	0.02	0.11	0.03	0.00	0.00	0.000	48.14	0.000	0.001	48.50
Sideboom, 583T	310	Sideboom	Nonroad	Cranes;Diesel	2270002045	Diesel	2,129	0.05	0.34	0.09	0.01	0.01	0.001	150.56	0.001	0.004	151.70
Sideboom, 572R	230	Sideboom	Nonroad	Cranes;Diesel	2270002045	Diesel	1,323	0.02	0.07	0.02	0.00	0.00	0.001	69.41	0.000	0.002	69.94
Equipment Group:		Welding															
Welder Quad D6	140	Welding	Nonroad	Welders;Diesel	2270006025	Diesel	166	0.00	0.01	0.01	0.00	0.00	0.000	3.04	0.000	0.000	3.07
Equipment Group:		Clam															
Sauerman, 5 Yd.	150	Clam	Nonroad	Cranes;Diesel	2270002045	Diesel	275	0.00	0.01	0.00	0.00	0.00	0.000	9.41	0.000	0.000	9.48
Equipment Group:		Off Highway															
Haul Truck	511	Off Highway	Nonroad	Off-highway Trucks;Diesel	2270002051	Diesel	202	0.01	0.02	0.01	0.00	0.00	0.000	32.67	0.000	0.001	32.91
Snow Cat	46	Off Highway	Nonroad	Specialty Vehicles/Carts;Gasoline	2265001060	Gasoline	1,380	0.14	0.17	2.34	0.00	0.00	0.000	27.02	0.009	0.001	27.45
Quad/Skidoo	40	Off Highway	Nonroad	Specialty Vehicles/Carts;Gasoline	2265001060	Gasoline	373	0.04	0.04	0.55	0.00	0.00	0.000	6.34	0.002	0.000	6.44
Equipment Group:		Loader															
Iron Wolf, 700B	700	Loader	Nonroad	Crawler Tractor/Dozers;Diesel	2270002069	Diesel	673	0.04	0.20	0.12	0.01	0.01	0.001	149.12	0.001	0.004	150.24
F.E. Loader, 966K	235	Loader	Nonroad	Rubber Tire Loaders;Diesel	2270002060	Diesel	508	0.01	0.04	0.01	0.00	0.00	0.000	37.76	0.000	0.001	38.05
F.E. Loader, 988H	520	Loader	Nonroad	Rubber Tire Loaders;Diesel	2270002060	Diesel	281	0.01	0.09	0.04	0.01	0.01	0.000	46.28	0.000	0.001	46.63
F.E. Loader, IT38H	125	Loader	Nonroad	Rubber Tire Loaders;Diesel	2270002060	Diesel	308	0.00	0.01	0.01	0.00	0.00	0.000	12.17	0.000	0.000	12.27
Loader, Snow Blower	125	Loader	Nonroad	Rubber Tire Loaders;Diesel	2270002060	Diesel	504	0.01	0.02	0.01	0.00	0.00	0.000	19.93	0.000	0.000	20.08
Equipment Group:		Forestry Clearing															
Skid Stacker	600	Forestry Clearing	Nonroad	Other Construction Equipment;Diesel	2270002081	Diesel	74	0.00	0.04	0.02	0.00	0.00	0.000	14.10	0.000	0.000	14.20
Equipment Group:		Grader															
Grader 16M	275	Grader	Nonroad	Graders;Diesel	2270002048	Diesel	1,020	0.03	0.06	0.02	0.00	0.00	0.001	88.78	0.000	0.002	89.45
Grader 14M	215	Grader	Nonroad	Graders;Diesel	2270002048	Diesel	76	0.00	0.00	0.00	0.00	0.00	0.000	5.14	0.000	0.000	5.18
Equipment Group:		Bending															
Bending Machine, 32-42	350	Bending	Nonroad	Other General Industrial Eqp;Diesel	2270003040	Diesel	74	0.00	0.02	0.00	0.00	0.00	0.000	5.93	0.000	0.000	5.97
Equipment Group:		Boring															
Boring Machine, Tr., 12-42"	350	Boring	Nonroad	Bore/Drill Rigs;Diesel	2270002033	Diesel	29	0.00	0.01	0.00	0.00	0.00	0.000	2.34	0.000	0.000	2.35
Equipment Group:		Tractor															
Farm Tractor, 4x4	105	Tractor	Nonroad	Off-Highway Tractors;Diesel	2270002075	Diesel	339	0.00	0.01	0.00	0.00	0.00	0.000	11.25	0.000	0.000	11.33
Equipment Group:		Pumps															
Pump, 6-10"	125	Pumps	Nonroad	Pumps;Diesel	2270006010	Diesel	4,581	0.07	0.60	0.17	0.04	0.04	0.001	130.59	0.001	0.003	131.58

Table B-6. Combustion Emissions Associated with Pipeline Construction - 2024

Description	HP	Equipment Type	Equipment Category	Representative Equipment Model	U.S. EPA Source Classification Code (SCC)	Fuel	Onroad: Speed (mph) Nonroad: Load Factor	Emission Factor (Onroad: grams/mile, Nonroad: grams/horsepower-hour) VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O
Pump, 4"	75	Pumps	Nonroad	Pumps;Diesel	2270006010	Diesel	239	0.00	0.03	0.01	0.00	0.00	0.000	4.53	0.000	0.000	4.57
Pump, 3"	8	Pumps	Nonroad	Pumps;Diesel	2270006010	Diesel	4,555	0.01	0.08	0.08	0.01	0.01	0.000	9.22	0.000	0.000	9.29
Equipment Group:		Compressor															
Compressor, Booster	560	Compressor	Nonroad	Air Compressors;Diesel	2270006015	Diesel	360	0.02	0.14	0.04	0.01	0.01	0.000	45.99	0.000	0.001	46.34
Compressor, 900-1500 CFM	450	Compressor	Nonroad	Air Compressors;Diesel	2270006015	Diesel	540	0.02	0.17	0.05	0.01	0.01	0.000	55.44	0.000	0.001	55.86
Compressor, 450 CFM	175	Compressor	Nonroad	Air Compressors;Diesel	2270006015	Diesel	169	0.00	0.01	0.00	0.00	0.00	0.000	6.76	0.000	0.000	6.81
Equipment Group:		Generator															
Gen Set, 600 kW	1100	Generator	Nonroad	Generator Sets;Diesel	2270006005	Diesel	403	0.05	0.62	0.15	0.02	0.02	0.001	101.08	0.001	0.003	101.85
Gen Set, 400 kW	537	Generator	Nonroad	Generator Sets;Diesel	2270006005	Diesel	151	0.01	0.08	0.02	0.00	0.00	0.000	18.50	0.000	0.000	18.64
Gen Set, 200 kW	295	Generator	Nonroad	Generator Sets;Diesel	2270006005	Diesel	275	0.01	0.08	0.02	0.00	0.00	0.000	18.50	0.000	0.000	18.64
Gen Set, 75 KW	125	Generator	Nonroad	Generator Sets;Diesel	2270006005	Diesel	400	0.01	0.05	0.01	0.00	0.00	0.000	11.41	0.000	0.000	11.50
Equipment Group:		Rock Equipment															
Drill	300	Rock Equipment	Nonroad	Bore/Drill Rigs;Diesel	2270002033	Diesel	456	0.01	0.13	0.03	0.01	0.01	0.000	31.17	0.000	0.001	31.40
Equipment Group:		Compaction															
Drum/Vibrator	340	Compaction	Nonroad	Rollers;Diesel	2270002015	Diesel	168	0.01	0.04	0.01	0.00	0.00	0.000	18.08	0.000	0.000	18.21
Equipment Group:		Other															
Sand Blast Unit	400	Other	Nonroad	Other General Industrial Eqp;Diesel	2270003040	Diesel	276	0.01	0.07	0.02	0.00	0.00	0.000	25.21	0.000	0.001	25.40
Light Tower	75	Other	Nonroad	Generator Sets;Diesel	2270006005	Diesel	14,814	0.16	2.02	0.76	0.12	0.11	0.002	281.62	0.002	0.007	283.77
TOTALS:							89,896	1.07	7.24	5.70	0.40	0.37	0.018	2,273.00	0.070	0.051	2,289.89
Equipment Group:		Rolling Stock															
Passenger Bus	N/A	Rolling Stock	Onroad	Urban Buses;Diesel	N/A	Diesel	5.00	0.2809	3.8917	1.4354	0.2352	0.1552	0.0116	1,327.03	0.0482	0.0023	
Heavy Duty Diesel Truck-8	N/A	Rolling Stock	Onroad	Class 8a and 8b Heavy-Duty Vehicles (>33,000 lbs. GVWR);Diesel	N/A	Diesel	5.00	0.6017	5.8249	1.9912	0.2620	0.1361	0.0148	1,703.08	0.3419	0.0020	
Medium Duty Dsl Truck-4/5	N/A	Rolling Stock	Onroad	Class 4 and 5 Heavy-Duty Vehicles (14,001-19,500 lbs. GVWR);Diesel	N/A	Diesel	5.00	0.1877	1.4481	0.5383	0.1106	0.0490	0.0079	918.86	0.0864	0.0026	
Medium Duty Dsl Truck-3	N/A	Rolling Stock	Onroad	Class 3 Heavy-Duty Vehicles (10,001-14,000 lbs. GVWR);Diesel	N/A	Diesel	5.00	0.1753	1.1224	0.5101	0.0845	0.0432	0.0080	923.09	0.0844	0.0026	
Diesel Pickup Truck	N/A	Rolling Stock	Onroad	Light Duty Trucks;Diesel	N/A	Diesel	5.00	0.2038	0.2462	3.0134	0.0468	0.0110	0.0032	367.18	0.1240	0.0009	
Equipment Group:		Dozer															
Dozer, D10T	580	Dozer	Nonroad	Crawler Tractor/Dozers;Diesel	2270002069	Diesel	0.59	0.1431	0.6578	0.2538	0.0323	0.0313	0.0036	536.40	0.0022	0.0134	
Dozer, D8T	305	Dozer	Nonroad	Crawler Tractor/Dozers;Diesel	2270002069	Diesel	0.59	0.1431	0.6578	0.2538	0.0323	0.0313	0.0036	536.40	0.0022	0.0134	
Dozer, D6T	185	Dozer	Nonroad	Crawler Tractor/Dozers;Diesel	2270002069	Diesel	0.59	0.1400	0.3536	0.1345	0.0150	0.0145	0.0035	536.41	0.0021	0.0134	
Equipment Group:		Crane															
Crane, Mobile 200 Ton	248	Crane	Nonroad	Cranes;Diesel	2270002045	Diesel	0.43	0.1432	0.4940	0.1153	0.0200	0.0194	0.0036	530.61	0.0022	0.0132	
Equipment Group:		Backhoe															
Backhoe, 385CL	513	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	0.21	0.2979	1.6606	0.9004	0.1627	0.1578	0.0046	625.65	0.0045	0.0156	
Backhoe, 365CL	411	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	0.21	0.2979	1.6606	0.9004	0.1627	0.1578	0.0046	625.65	0.0045	0.0156	
Backhoe, 345CL	345	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	0.21	0.2979	1.6606	0.9004	0.1627	0.1578	0.0046	625.65	0.0045	0.0156	
Backhoe, 330DL	270	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	0.21	0.2979	1.6606	0.9004	0.1627	0.1578	0.0046	625.65	0.0045	0.0156	
Backhoe, 225	135	Backhoe	Nonroad	Tractors/Loaders/Backhoes;Diesel	2270002066	Diesel	0.21	0.3352	1.7955	1.1333	0.2340	0.2270	0.0047	625.54	0.0051	0.0156	
Equipment Group:		Ditcher															
Ditcher, Tesmec TRS 1575	630	Ditcher	Nonroad	Trenchers;Diesel	2270002030	Diesel	0.59	0.1663	1.5294	0.9154	0.0981	0.0951	0.0040	536.33	0.0025	0.0134	
Equipment Group:		Sideboom															
Sideboom, 594	366	Sideboom	Nonroad	Cranes;Diesel	2270002045	Diesel	0.43	0.1520	1.0898	0.2887	0.0467	0.0453	0.0038	530.58	0.0023	0.0132	
Sideboom, 583T	310	Sideboom	Nonroad	Cranes;Diesel	2270002045	Diesel	0.43	0.1520	1.0898	0.2887	0.0467	0.0453	0.0038	530.58	0.0023	0.0132	
Sideboom, 572R	230	Sideboom	Nonroad	Cranes;Diesel	2270002045	Diesel	0.43	0.1432	0.4940	0.1153	0.0200	0.0194	0.0036	530.61	0.0022	0.0132	
Equipment Group:		Welding															
Welder Quad D6	140	Welding	Nonroad	Welders;Diesel	2270006025	Diesel	0.21	0.4526	2.4632	1.5695	0.2983	0.2893	0.0048	625.20	0.0069	0.0156	
Equipment Group:		Clam															
Sauerman, 5 Yd.	150	Clam	Nonroad	Cranes;Diesel	2270002045	Diesel	0.43	0.1452	0.5204	0.1574	0.0290	0.0282	0.0036	530.60	0.0022	0.0132	
Equipment Group:		Off Highway															
Haul Truck	511	Off Highway	Nonroad	Off-highway Trucks;Diesel	2270002051	Diesel	0.59	0.1392	0.3105	0.1440	0.0122	0.0119	0.0035	536.41	0.0021	0.0134	
Snow Cat	46	Off Highway	Nonroad	Specialty Vehicles/Carts;Gasoline	2265001060	Gasoline	0.58	3.5163	4.0701	57.7170	0.0685	0.0630	0.0045	733.98	0.2459	0.0186	
Quad/Skidoo	40	Off Highway	Nonroad	Specialty Vehicles/Carts;Gasoline	2265001060	Gasoline	0.58	4.0112	4.0701	57.7170	0.0685	0.0630	0.0045	733.98	0.2459	0.0186	

Table B-6. Combustion Emissions Associated with Pipeline Construction - 2024

Equipment Group:		Loader														
Iron Wolf, 700B	700	Loader	Nonroad	Crawler Tractor/Dozers;Diesel	2270002069	Diesel	0.59	0.1427	0.6592	0.3890	0.0326	0.0316	0.0036	536.40	0.0022	0.0134
F.E. Loader, 966K	235	Loader	Nonroad	Rubber Tire Loaders;Diesel	2270002060	Diesel	0.59	0.1426	0.4531	0.1675	0.0223	0.0216	0.0036	536.40	0.0022	0.0134
F.E. Loader, 988H	520	Loader	Nonroad	Rubber Tire Loaders;Diesel	2270002060	Diesel	0.59	0.1494	0.9856	0.3981	0.0569	0.0552	0.0038	536.38	0.0023	0.0134
F.E. Loader, IT38H	125	Loader	Nonroad	Rubber Tire Loaders;Diesel	2270002060	Diesel	0.59	0.1443	0.4759	0.2174	0.0335	0.0325	0.0036	536.39	0.0022	0.0134
Loader, Snow Blower	125	Loader	Nonroad	Rubber Tire Loaders;Diesel	2270002060	Diesel	0.59	0.1443	0.4759	0.2174	0.0335	0.0325	0.0036	536.39	0.0022	0.0134
Equipment Group:		Forestry Clearing														
Skid Stacker	600	Forestry Clearing	Nonroad	Other Construction Equipment;Diesel	2270002081	Diesel	0.59	0.1667	1.4675	0.6305	0.0918	0.0890	0.0040	536.33	0.0025	0.0134
Equipment Group:		Grader														
Grader 16M	275	Grader	Nonroad	Graders;Diesel	2270002048	Diesel	0.59	0.1398	0.3442	0.1316	0.0143	0.0139	0.0035	536.41	0.0021	0.0134
Grader 14M	215	Grader	Nonroad	Graders;Diesel	2270002048	Diesel	0.59	0.1398	0.3442	0.1316	0.0143	0.0139	0.0035	536.41	0.0021	0.0134
Equipment Group:		Bending														
Bending Machine, 32-42	350	Bending	Nonroad	Other General Industrial Eqp;Diesel	2270003040	Diesel	0.43	0.1602	1.3312	0.3646	0.0589	0.0571	0.0039	530.56	0.0024	0.0132
Equipment Group:		Boring														
Boring Machine, Tr., 12-42"	350	Boring	Nonroad	Bore/Drill Rigs;Diesel	2270002033	Diesel	0.43	0.1966	2.2054	0.6172	0.0985	0.0955	0.0041	530.45	0.0030	0.0132
Equipment Group:		Tractor														
Farm Tractor, 4x4	105	Tractor	Nonroad	Off-Highway Tractors;Diesel	2270002075	Diesel	0.59	0.1417	0.4036	0.1885	0.0255	0.0247	0.0036	536.40	0.0022	0.0134
Equipment Group:		Pumps														
Pump, 6-10"	125	Pumps	Nonroad	Pumps;Diesel	2270006010	Diesel	0.43	0.2415	2.2200	0.6224	0.1430	0.1387	0.0041	530.32	0.0037	0.0132
Pump, 4"	75	Pumps	Nonroad	Pumps;Diesel	2270006010	Diesel	0.43	0.3008	3.8369	1.4631	0.2290	0.2221	0.0046	589.47	0.0046	0.0147
Pump, 3"	8	Pumps	Nonroad	Pumps;Diesel	2270006010	Diesel	0.43	0.6038	4.3965	4.4485	0.3668	0.3558	0.0054	588.54	0.0092	0.0147
Equipment Group:		Compressor														
Compressor, Booster	560	Compressor	Nonroad	Air Compressors;Diesel	2270006015	Diesel	0.43	0.1661	1.4831	0.4081	0.0663	0.0643	0.0039	530.54	0.0025	0.0132
Compressor, 900-1500 CFM	450	Compressor	Nonroad	Air Compressors;Diesel	2270006015	Diesel	0.43	0.1661	1.4831	0.4081	0.0663	0.0643	0.0039	530.54	0.0025	0.0132
Compressor, 450 CFM	175	Compressor	Nonroad	Air Compressors;Diesel	2270006015	Diesel	0.43	0.1534	0.7791	0.2161	0.0467	0.0453	0.0037	530.58	0.0023	0.0132
Equipment Group:		Generator														
Gen Set, 600 kW	1,100	Generator	Nonroad	Generator Sets;Diesel	2270006005	Diesel	0.43	0.2607	2.9578	0.7020	0.1146	0.1112	0.0040	530.26	0.0040	0.0132
Gen Set, 400 kW	537	Generator	Nonroad	Generator Sets;Diesel	2270006005	Diesel	0.43	0.1938	2.0740	0.5806	0.0880	0.0853	0.0040	530.46	0.0029	0.0132
Gen Set, 200 kW	295	Generator	Nonroad	Generator Sets;Diesel	2270006005	Diesel	0.43	0.2247	2.0972	0.5143	0.1064	0.1032	0.0040	530.37	0.0034	0.0132
Gen Set, 75 KW	125	Generator	Nonroad	Generator Sets;Diesel	2270006005	Diesel	0.43	0.2409	2.2165	0.6169	0.1377	0.1336	0.0041	530.32	0.0037	0.0132
Equipment Group:		Rock Equipment														
Drill	300	Rock Equipment	Nonroad	Bore/Drill Rigs;Diesel	2270002033	Diesel	0.43	0.2148	2.0111	0.4816	0.1022	0.0991	0.0040	530.40	0.0033	0.0132
Equipment Group:		Compaction														
Drum/Vibrator	340	Compaction	Nonroad	Rollers;Diesel	2270002015	Diesel	0.59	0.1494	0.9864	0.3982	0.0570	0.0552	0.0038	536.38	0.0023	0.0134
Equipment Group:		Other														
Sand Blast Unit	400	Other	Nonroad	Other General Industrial Eqp;Diesel	2270003040	Diesel	0.43	0.1602	1.3312	0.3646	0.0589	0.0571	0.0039	530.56	0.0024	0.0132
Light Tower	75	Other	Nonroad	Generator Sets;Diesel	2270006005	Diesel	0.43	0.3000	3.8325	1.4480	0.2208	0.2142	0.0046	589.47	0.0046	0.0147

Notes:

1. Construction vehicle and equipment operating hours and fuel use information is based on information provided by the Alaska LNG Project team for Point Thomson Transmission Line (PTTL) construction activities.
2. Documentation of methodologies, sources, and references used to derive onroad vehicle and nonroad equipment emission factors for the Alaska Pipeline Project is provided elsewhere.
3. Onroad vehicle use information is provided in hours of vehicle use, rather than vehicle miles traveled. To derive vehicle miles traveled, it is assumed that average vehicle speed will be 5 miles per hour.
4. Conversion factors:
   907,184.74 grams/ton
   1,000,000 grams/metric ton
5. Global warming potentials used to convert CO_2, CH_4, and N_2O to CO_2 equivalents (CO_2e) are based on the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (AR4) (IPCC 2007), as reported in *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2013* (EPA 430-R-15-004), Table 1-2: "Global Warming Potentials and Atmospheric Lifetimes (Years) Used in this Report", U.S. Environmental Protection Agency, April 15, 2015, available at www.epa.gov/climatechange/ghgemissions/usinventoryreport.html (accessed August 14, 2015). The relevant values for these calculations:
   1 GWP CO_2
   25 GWP CH_4
   298 GWP N_2O

Table B-7. Combustion Emissions Associated with Central Gas Facility Construction - 2020

Year: 2020

Description	HP	Equipment Type	Equipment Category	Representative Equipment Model	U.S. EPA Source Classification Code (SCC)	Fuel	Operating Hours	Criteria Pollutants, tons/year						Greenhouse Gases, metric tons/year			
								VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O	CO_2e
Equipment Group:		Infrastructure															
Passenger Bus	NA	Infrastructure	Onroad	Urban Buses;Diesel	N/A	Diesel	4,400	0.01	0.15	0.05	0.01	0.01	0.000	29.80	0.001	0.000	29.84
Heavy Duty Diesel Truck-8	NA	Infrastructure	Onroad	Class 8a and 8b Heavy-Duty Vehicles (>33,000 lbs. GVWR);Diesel	N/A	Diesel	6,600	0.03	0.28	0.09	0.01	0.01	0.001	57.80	0.010	0.000	58.08
Diesel Pickup Truck	NA	Infrastructure	Onroad	Light Duty Trucks;Diesel	N/A	Diesel	13,200	0.02	0.03	0.28	0.00	0.00	0.000	28.79	0.007	0.000	28.99
Crane	156	Infrastructure	Nonroad	Grove RT535E Rough Terrain Crane (35 tons)	2270002045	Diesel	2,200	0.03	0.18	0.05	0.01	0.01	0.001	78.30	0.000	0.002	78.89
Telehandler	110	Infrastructure	Nonroad	JLG 642 Telehandler (6,600 lbs)	2270002057	Diesel	2,200	0.03	0.20	0.08	0.02	0.02	0.001	76.57	0.000	0.002	77.15
Wheel Loader	172	Infrastructure	Nonroad	Volvo L90F Wheel Loader	2270002060	Diesel	4,400	0.08	0.51	0.22	0.05	0.05	0.002	239.48	0.001	0.006	241.29
Equipment Group:		Module Pad															
Compactor	340	Module Pad	Nonroad	Volvo SD160 Single Drum Compactor	2270002015	Diesel	2,200	0.08	0.81	0.34	0.05	0.05	0.002	236.69	0.001	0.006	238.48
Grader 16M	265	Module Pad	Nonroad	Volvo G976 Grader	2270002048	Diesel	2,200	0.05	0.25	0.07	0.01	0.01	0.001	184.50	0.001	0.005	185.89
Haul Truck	355	Module Pad	Nonroad	Volvo A30F Articulated Hauler (25.9 tons)	2270002051	Diesel	4,400	0.14	0.53	0.20	0.02	0.02	0.004	494.34	0.002	0.012	498.06
Dozer, D10T	600	Module Pad	Nonroad	Cat D-10T2 Tractor/Dozer	2270002069	Diesel	2,200	0.13	1.08	0.43	0.07	0.06	0.003	417.73	0.002	0.010	420.88
Equipment Group:		Modules															
Crane	156	Modules	Nonroad	Grove RT535E Rough Terrain Crane (35 tons)	2270002045	Diesel	--	--	--	--	--	--	--	--	--	--	--
Skid Steer	73	Modules	Nonroad	Cat 262D 2,700 lb Skid Steer Loader	2270002072	Diesel	--	--	--	--	--	--	--	--	--	--	--
Light Tower	14	Modules	Nonroad	Terex AL5 4 X 1000 W Light Tower	2270006005	Diesel	--	--	--	--	--	--	--	--	--	--	--
Generator	215	Modules	Nonroad	Post Weld Heat Treatment Crew: 150 kW Generator	2270006005	Diesel	--	--	--	--	--	--	--	--	--	--	--
Air Compressor	142	Modules	Nonroad	Sullair 375HH Compressor (375 cfm @ 200 psig)	2270006015	Diesel	--	--	--	--	--	--	--	--	--	--	--
Welder	63	Modules	Nonroad	Miller Big Blue Air-Pak (for Miller Air-Pak Special 400)	2270006025	Diesel	--	--	--	--	--	--	--	--	--	--	--
TOTALS:							44,000	0.60	4.02	1.82	0.25	0.24	0.015	1,844.01	0.026	0.043	1,857.56

Description	HP	Equipment Type	Equipment Category	Representative Equipment Model	U.S. EPA Source Classification Code (SCC)	Fuel	Onroad: Speed (mph) Nonroad: Load Factor	Emission Factor (Onroad: grams/mile, Nonroad: grams/horsepower-hour)								
								VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O
Equipment Group:		Infrastructure														
Passenger Bus	NA	Infrastructure	Onroad	Urban Buses;Diesel	N/A	Diesel	5.00	0.4245	6.1079	2.1803	0.3381	0.2499	0.0119	1,354.74	0.0423	0.0023
Heavy Duty Diesel Truck-8	NA	Infrastructure	Onroad	Class 8a and 8b Heavy-Duty Vehicles (>33,000 lbs. GVWR);Diesel	N/A	Diesel	5.00	0.7479	7.7575	2.4163	0.3455	0.2130	0.0153	1,751.39	0.3148	0.0020
Diesel Pickup Truck	NA	Infrastructure	Onroad	Light Duty Trucks;Diesel	N/A	Diesel	5.00	0.2953	0.3889	3.9104	0.0475	0.0116	0.0038	436.20	0.1111	0.0009
Crane	156	Infrastructure	Nonroad	Grove RT535E Rough Terrain Crane (35 tons)	2270002045	Diesel	0.43	0.1628	1.1107	0.3149	0.0751	0.0729	0.0038	530.55	0.0025	0.0132
Telehandler	110	Infrastructure	Nonroad	JLG 642 Telehandler (6,600 lbs)	2270002057	Diesel	0.59	0.1721	1.2634	0.5364	0.1234	0.1197	0.0039	536.31	0.0026	0.0134
Wheel Loader	172	Infrastructure	Nonroad	Volvo L90F Wheel Loader	2270002060	Diesel	0.59	0.1620	1.0416	0.4425	0.0977	0.0947	0.0038	536.34	0.0025	0.0134
Equipment Group:		Module Pad														
Compactor	340	Module Pad	Nonroad	Volvo SD160 Single Drum Compactor	2270002015	Diesel	0.59	0.1655	1.6738	0.6949	0.1039	0.1007	0.0040	536.33	0.0025	0.0134
Grader 16M	265	Module Pad	Nonroad	Volvo G976 Grader	2270002048	Diesel	0.59	0.1445	0.6489	0.1965	0.0287	0.0278	0.0036	536.39	0.0022	0.0134
Haul Truck	355	Module Pad	Nonroad	Volvo A30F Articulated Hauler (25.9 tons)	2270002051	Diesel	0.59	0.1410	0.5244	0.1953	0.0221	0.0215	0.0036	536.40	0.0021	0.0134
Dozer, D10T	600	Module Pad	Nonroad	Cat D-10T2 Tractor/Dozer	2270002069	Diesel	0.59	0.1525	1.2528	0.5049	0.0769	0.0746	0.0039	536.37	0.0023	0.0134
Equipment Group:		Modules														
Crane	156	Modules	Nonroad	Grove RT535E Rough Terrain Crane (35 tons)	2270002045	Diesel	0.43	0.1628	1.1107	0.3149	0.0751	0.0729	0.0038	530.55	0.0025	0.0132
Skid Steer	73	Modules	Nonroad	Cat 262D 2,700 lb Skid Steer Loader	2270002072	Diesel	0.21	0.8403	4.6520	4.2641	0.6237	0.6050	0.0057	693.50	0.0128	0.0173
Light Tower	14	Modules	Nonroad	Terex AL5 4 X 1000 W Light Tower	2270006005	Diesel	0.43	0.5623	4.7297	2.5268	0.3817	0.3702	0.0054	588.68	0.0085	0.0147
Generator	215	Modules	Nonroad	Post Weld Heat Treatment Crew: 150 kW Generator	2270006005	Diesel	0.43	0.2715	2.8917	0.7274	0.1502	0.1457	0.0042	530.23	0.0041	0.0132
Air Compressor	142	Modules	Nonroad	Sullair 375HH Compressor (375 cfm @ 200 psig)	2270006015	Diesel	0.43	0.1780	1.4463	0.4062	0.1002	0.0971	0.0040	530.51	0.0027	0.0132
Welder	63	Modules	Nonroad	Miller Big Blue Air-Pak (for Miller Air-Pak Special 400)	2270006025	Diesel	0.21	0.7816	4.5222	4.0987	0.5735	0.5563	0.0057	693.67	0.0119	0.0173

Notes:

1. Construction vehicle and equipment operating hours and fuel use information is based on information provided by the Alaska LNG Project team for Gas Treatment Plant (GTP) construction activities.
2. Documentation of methodologies, sources, and references used to derive onroad vehicle and nonroad equipment emission factors for the Alaska Pipeline Project is provided elsewhere.
3. Onroad vehicle use information is provided in hours of vehicle use, rather than vehicle miles traveled. To derive vehicle miles traveled, it is assumed that average vehicle speed will be 5 miles per hour.
4. Conversion factors:
   907,184.74 grams/ton
   1,000,000 grams/metric ton
5. Global warming potentials used to convert CO_2, CH_4, and N_2O to CO_2 equivalents (CO_2e) are based on the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (AR4) (IPCC 2007), as reported in *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2013* (EPA 430-R-15-004), Table 1-2: "Global Warming Potentials and Atmospheric Lifetimes (Years) Used in this Report", U.S. Environmental Protection Agency, April 15, 2015, available at www.epa.gov/climatechange/ghgemissions/usinventoryreport.html (accessed August 14, 2015). The relevant values for these calculations:
   1 GWP CO_2
   25 GWP CH_4
   298 GWP N_2O

Table B-8. Combustion Emissions Associated with Central Gas Facility Construction - 2021

Year: 2021

Description	HP	Equipment Type	Equipment Category	Representative Equipment Model	U.S. EPA Source Classification Code (SCC)	Fuel	Operating Hours	Criteria Pollutants, tons/year						Greenhouse Gases, metric tons/year			
								VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O	CO_2e
Equipment Group:		Infrastructure															
Passenger Bus	NA	Infrastructure	Onroad	Urban Buses;Diesel	N/A	Diesel	4,400	0.01	0.13	0.05	0.01	0.01	0.000	29.64	0.001	0.000	29.67
Heavy Duty Diesel Truck-8	NA	Infrastructure	Onroad	Class 8a and 8b Heavy-Duty Vehicles (>33,000 lbs. GVWR);Diesel	N/A	Diesel	6,600	0.03	0.26	0.08	0.01	0.01	0.001	57.33	0.011	0.000	57.62
Diesel Pickup Truck	NA	Infrastructure	Onroad	Light Duty Trucks;Diesel	N/A	Diesel	17,600	0.03	0.03	0.35	0.00	0.00	0.000	36.75	0.010	0.000	37.02
Crane	156	Infrastructure	Nonroad	Grove RT535E Rough Terrain Crane (35 tons)	2270002045	Diesel	2,200	0.03	0.15	0.04	0.01	0.01	0.001	78.30	0.000	0.002	78.89
Telehandler	110	Infrastructure	Nonroad	JLG 642 Telehandler (6,600 lbs)	2270002057	Diesel	2,200	0.03	0.17	0.07	0.02	0.02	0.001	76.58	0.000	0.002	77.16
Wheel Loader	172	Infrastructure	Nonroad	Volvo L90F Wheel Loader	2270002060	Diesel	4,400	0.08	0.42	0.17	0.04	0.03	0.002	239.49	0.001	0.006	241.30
Equipment Group:		Module Pad															
Compactor	340	Module Pad	Nonroad	Volvo SD160 Single Drum Compactor	2270002015	Diesel	--	--	--	--	--	--	--	--	--	--	--
Grader 16M	265	Module Pad	Nonroad	Volvo G976 Grader	2270002048	Diesel	--	--	--	--	--	--	--	--	--	--	--
Haul Truck	355	Module Pad	Nonroad	Volvo A30F Articulated Hauler (25.9 tons)	2270002051	Diesel	--	--	--	--	--	--	--	--	--	--	--
Dozer, D10T	600	Module Pad	Nonroad	Cat D-10T2 Tractor/Dozer	2270002069	Diesel	--	--	--	--	--	--	--	--	--	--	--
Equipment Group:		Modules															
Crane	156	Modules	Nonroad	Grove RT535E Rough Terrain Crane (35 tons)	2270002045	Diesel	4,400	0.05	0.30	0.08	0.02	0.02	0.001	156.60	0.001	0.004	157.78
Skid Steer	73	Modules	Nonroad	Cat 262D 2,700 lb Skid Steer Loader	2270002072	Diesel	1,100	0.01	0.08	0.07	0.01	0.01	0.000	11.70	0.000	0.000	11.79
Light Tower	14	Modules	Nonroad	Terex AL5 4 X 1000 W Light Tower	2270006005	Diesel	4,400	0.02	0.14	0.07	0.01	0.01	0.000	15.59	0.000	0.000	15.72
Generator	215	Modules	Nonroad	Post Weld Heat Treatment Crew: 150 kW Generator	2270006005	Diesel	4,400	0.12	1.20	0.30	0.06	0.06	0.002	215.71	0.002	0.005	217.35
Air Compressor	142	Modules	Nonroad	Sullair 375HH Compressor (375 cfm @ 200 psig)	2270006015	Diesel	2,200	0.03	0.19	0.05	0.01	0.01	0.001	71.27	0.000	0.002	71.81
Welder	63	Modules	Nonroad	Miller Big Blue Air-Pak (for Miller Air-Pak Special 400)	2270006025	Diesel	8,800	0.09	0.56	0.49	0.07	0.07	0.001	80.78	0.001	0.002	81.42
TOTALS:							62,700	0.50	3.63	1.84	0.27	0.25	0.009	1,069.73	0.028	0.024	1,077.52

Description	HP	Equipment Type	Equipment Category	Representative Equipment Model	U.S. EPA Source Classification Code (SCC)	Fuel	Onroad: Speed (mph) Nonroad: Load Factor	Emission Factor (Onroad: grams/mile, Nonroad: grams/horsepower-hour)								
								VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O
Equipment Group:		Infrastructure														
Passenger Bus	NA	Infrastructure	Onroad	Urban Buses;Diesel	N/A	Diesel	5.00	0.3826	5.4352	1.9611	0.3096	0.2236	0.0118	1,347.05	0.0440	0.0023
Heavy Duty Diesel Truck-8	NA	Infrastructure	Onroad	Class 8a and 8b Heavy-Duty Vehicles (>33,000 lbs. GVWR);Diesel	N/A	Diesel	5.00	0.7030	7.1732	2.2873	0.3197	0.1892	0.0152	1,737.36	0.3230	0.0020
Diesel Pickup Truck	NA	Infrastructure	Onroad	Light Duty Trucks;Diesel	N/A	Diesel	5.00	0.2660	0.3443	3.6555	0.0473	0.0114	0.0036	417.57	0.1157	0.0009
Crane	156	Infrastructure	Nonroad	Grove RT535E Rough Terrain Crane (35 tons)	2270002045	Diesel	0.43	0.1566	0.9238	0.2584	0.0588	0.0570	0.0037	530.57	0.0024	0.0132
Telehandler	110	Infrastructure	Nonroad	JLG 642 Telehandler (6,600 lbs)	2270002057	Diesel	0.59	0.1648	1.0739	0.4538	0.1006	0.0976	0.0039	536.34	0.0025	0.0134
Wheel Loader	172	Infrastructure	Nonroad	Volvo L90F Wheel Loader	2270002060	Diesel	0.59	0.1554	0.8546	0.3544	0.0726	0.0704	0.0037	536.36	0.0024	0.0134
Equipment Group:		Module Pad														
Compactor	340	Module Pad	Nonroad	Volvo SD160 Single Drum Compactor	2270002015	Diesel	0.59	0.1607	1.4634	0.6132	0.0920	0.0892	0.0040	536.35	0.0024	0.0134
Grader 16M	265	Module Pad	Nonroad	Volvo G976 Grader	2270002048	Diesel	0.59	0.1425	0.5251	0.1727	0.0235	0.0227	0.0036	536.40	0.0022	0.0134
Haul Truck	355	Module Pad	Nonroad	Volvo A30F Articulated Hauler (25.9 tons)	2270002051	Diesel	0.59	0.1403	0.4156	0.1740	0.0180	0.0175	0.0036	536.41	0.0021	0.0134
Dozer, D10T	600	Module Pad	Nonroad	Cat D-10T2 Tractor/Dozer	2270002069	Diesel	0.59	0.1494	1.0761	0.4258	0.0632	0.0613	0.0038	536.38	0.0023	0.0134
Equipment Group:		Modules														
Crane	156	Modules	Nonroad	Grove RT535E Rough Terrain Crane (35 tons)	2270002045	Diesel	0.43	0.1566	0.9238	0.2584	0.0588	0.0570	0.0037	530.57	0.0024	0.0132
Skid Steer	73	Modules	Nonroad	Cat 262D 2,700 lb Skid Steer Loader	2270002072	Diesel	0.21	0.7686	4.4990	3.9610	0.5716	0.5544	0.0056	693.71	0.0117	0.0173
Light Tower	14	Modules	Nonroad	Terex AL5 4 X 1000 W Light Tower	2270006005	Diesel	0.43	0.5460	4.6811	2.4914	0.3753	0.3640	0.0054	588.73	0.0083	0.0147
Generator	215	Modules	Nonroad	Post Weld Heat Treatment Crew: 150 kW Generator	2270006005	Diesel	0.43	0.2573	2.6707	0.6610	0.1377	0.1336	0.0042	530.27	0.0039	0.0132
Air Compressor	142	Modules	Nonroad	Sullair 375HH Compressor (375 cfm @ 200 psig)	2270006015	Diesel	0.43	0.1701	1.2506	0.3530	0.0859	0.0833	0.0039	530.53	0.0026	0.0132
Welder	63	Modules	Nonroad	Miller Big Blue Air-Pak (for Miller Air-Pak Special 400)	2270006025	Diesel	0.21	0.7158	4.3811	3.8047	0.5248	0.5090	0.0056	693.87	0.0109	0.0173

Notes:

1. Construction vehicle and equipment operating hours and fuel use information is based on information provided by the Alaska LNG Project team for Gas Treatment Plant (GTP) construction activities.
2. Documentation of methodologies, sources, and references used to derive onroad vehicle and nonroad equipment emission factors for the Alaska Pipeline Project is provided elsewhere.
3. Onroad vehicle use information is provided in hours of vehicle use, rather than vehicle miles traveled. To derive vehicle miles traveled, it is assumed that average vehicle speed will be 5 miles per hour.
4. Conversion factors:
   907,184.74 grams/ton
   1,000,000 grams/metric ton
5. Global warming potentials used to convert CO_2, CH_4, and N_2O to CO_2 equivalents (CO_2e) are based on the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (AR4) (IPCC 2007), as reported in *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2013* (EPA 430-R-15-004), Table 1-2: "Global Warming Potentials and Atmospheric Lifetimes (Years) Used in this Report", U.S. Environmental Protection Agency, April 15, 2015, available at www.epa.gov/climatechange/ghgemissions/usinventoryreport.html (accessed August 14, 2015). The relevant values for these calculations:
   1 GWP CO_2
   25 GWP CH_4
   298 GWP N_2O

Table B-9. Combustion Emissions Associated with Central Gas Facility Construction - 2022

Year: 2022

Description	HP	Equipment Type	Equipment Category	Representative Equipment Model	U.S. EPA Source Classification Code (SCC)	Fuel	Operating Hours	Criteria Pollutants, tons/year						Greenhouse Gases, metric tons/year			
								VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O	CO_2e
Equipment Group:		Infrastructure															
Passenger Bus	NA	Infrastructure	Onroad	Urban Buses;Diesel	N/A	Diesel	4,400	0.01	0.12	0.04	0.01	0.00	0.000	29.48	0.001	0.000	29.52
Heavy Duty Diesel Truck-8	NA	Infrastructure	Onroad	Class 8a and 8b Heavy-Duty Vehicles (>33,000 lbs. GVWR);Diesel	N/A	Diesel	6,600	0.02	0.24	0.08	0.01	0.01	0.001	56.91	0.011	0.000	57.20
Diesel Pickup Truck	NA	Infrastructure	Onroad	Light Duty Trucks;Diesel	N/A	Diesel	17,600	0.02	0.03	0.33	0.00	0.00	0.000	35.19	0.011	0.000	35.48
Crane	156	Infrastructure	Nonroad	Grove RT535E Rough Terrain Crane (35 tons)	2270002045	Diesel	2,200	0.02	0.12	0.03	0.01	0.01	0.001	78.30	0.000	0.002	78.89
Telehandler	110	Infrastructure	Nonroad	JLG 642 Telehandler (6,600 lbs)	2270002057	Diesel	2,200	0.02	0.14	0.06	0.01	0.01	0.001	76.58	0.000	0.002	77.16
Wheel Loader	172	Infrastructure	Nonroad	Volvo L90F Wheel Loader	2270002060	Diesel	4,400	0.07	0.34	0.14	0.02	0.02	0.002	239.50	0.001	0.006	241.30
Equipment Group:		Module Pad															
Compactor	340	Module Pad	Nonroad	Volvo SD160 Single Drum Compactor	2270002015	Diesel	--	--	--	--	--	--	--	--	--	--	--
Grader 16M	265	Module Pad	Nonroad	Volvo G976 Grader	2270002048	Diesel	--	--	--	--	--	--	--	--	--	--	--
Haul Truck	355	Module Pad	Nonroad	Volvo A30F Articulated Hauler (25.9 tons)	2270002051	Diesel	--	--	--	--	--	--	--	--	--	--	--
Dozer, D10T	600	Module Pad	Nonroad	Cat D-10T2 Tractor/Dozer	2270002069	Diesel	--	--	--	--	--	--	--	--	--	--	--
Equipment Group:		Modules															
Crane	156	Modules	Nonroad	Grove RT535E Rough Terrain Crane (35 tons)	2270002045	Diesel	2,200	0.02	0.12	0.03	0.01	0.01	0.001	78.30	0.000	0.002	78.89
Skid Steer	73	Modules	Nonroad	Cat 262D 2,700 lb Skid Steer Loader	2270002072	Diesel	--	--	--	--	--	--	--	--	--	--	--
Light Tower	14	Modules	Nonroad	Terex AL5 4 X 1000 W Light Tower	2270006005	Diesel	8,800	0.03	0.27	0.14	0.02	0.02	0.000	31.19	0.000	0.001	31.43
Generator	215	Modules	Nonroad	Post Weld Heat Treatment Crew: 150 kW Generator	2270006005	Diesel	4,400	0.11	1.11	0.27	0.06	0.06	0.002	215.72	0.002	0.005	217.36
Air Compressor	142	Modules	Nonroad	Sullair 375HH Compressor (375 cfm @ 200 psig)	2270006015	Diesel	2,200	0.02	0.16	0.04	0.01	0.01	0.001	71.27	0.000	0.002	71.81
Welder	63	Modules	Nonroad	Miller Big Blue Air-Pak (for Miller Air-Pak Special 400)	2270006025	Diesel	8,800	0.08	0.54	0.45	0.06	0.06	0.001	80.80	0.001	0.002	81.44
TOTALS:							63,800	0.45	3.20	1.63	0.22	0.21	0.008	993.25	0.028	0.022	1,000.48

Description	HP	Equipment Type	Equipment Category	Representative Equipment Model	U.S. EPA Source Classification Code (SCC)	Fuel	Onroad: Speed (mph) Nonroad: Load Factor	Emission Factor (Onroad: grams/mile, Nonroad: grams/horsepower-hour)								
								VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O
Equipment Group:		Infrastructure														
Passenger Bus	NA	Infrastructure	Onroad	Urban Buses;Diesel	N/A	Diesel	5.00	0.3454	4.8663	1.7678	0.2822	0.1985	0.0117	1,339.95	0.0455	0.0023
Heavy Duty Diesel Truck-8	NA	Infrastructure	Onroad	Class 8a and 8b Heavy-Duty Vehicles (>33,000 lbs. GVWR);Diesel	N/A	Diesel	5.00	0.6644	6.6598	2.1745	0.2976	0.1688	0.0150	1,724.61	0.3301	0.0020
Diesel Pickup Truck	NA	Infrastructure	Onroad	Light Duty Trucks;Diesel	N/A	Diesel	5.00	0.2422	0.3079	3.4408	0.0471	0.0113	0.0035	399.86	0.1199	0.0009
Crane	156	Infrastructure	Nonroad	Grove RT535E Rough Terrain Crane (35 tons)	2270002045	Diesel	0.43	0.1513	0.7552	0.2064	0.0435	0.0422	0.0037	530.59	0.0023	0.0132
Telehandler	110	Infrastructure	Nonroad	JLG 642 Telehandler (6,600 lbs)	2270002057	Diesel	0.59	0.1585	0.9012	0.3754	0.0784	0.0761	0.0038	536.35	0.0024	0.0134
Wheel Loader	172	Infrastructure	Nonroad	Volvo L90F Wheel Loader	2270002060	Diesel	0.59	0.1498	0.6885	0.2776	0.0504	0.0489	0.0037	536.38	0.0023	0.0134
Equipment Group:		Module Pad														
Compactor	340	Module Pad	Nonroad	Volvo SD160 Single Drum Compactor	2270002015	Diesel	0.59	0.1564	1.2873	0.5360	0.0799	0.0775	0.0039	536.36	0.0024	0.0134
Grader 16M	265	Module Pad	Nonroad	Volvo G976 Grader	2270002048	Diesel	0.59	0.1412	0.4253	0.1545	0.0194	0.0189	0.0036	536.40	0.0021	0.0134
Haul Truck	355	Module Pad	Nonroad	Volvo A30F Articulated Hauler (25.9 tons)	2270002051	Diesel	0.59	0.1397	0.3670	0.1592	0.0152	0.0147	0.0035	536.41	0.0021	0.0134
Dozer, D10T	600	Module Pad	Nonroad	Cat D-10T2 Tractor/Dozer	2270002069	Diesel	0.59	0.1467	0.9146	0.3528	0.0502	0.0487	0.0037	536.39	0.0022	0.0134
Equipment Group:		Modules														
Crane	156	Modules	Nonroad	Grove RT535E Rough Terrain Crane (35 tons)	2270002045	Diesel	0.43	0.1513	0.7552	0.2064	0.0435	0.0422	0.0037	530.59	0.0023	0.0132
Skid Steer	73	Modules	Nonroad	Cat 262D 2,700 lb Skid Steer Loader	2270002072	Diesel	0.21	0.7006	4.3529	3.6697	0.5211	0.5055	0.0056	693.91	0.0106	0.0173
Light Tower	14	Modules	Nonroad	Terex AL5 4 X 1000 W Light Tower	2270006005	Diesel	0.43	0.5316	4.6384	2.4607	0.3697	0.3586	0.0054	588.77	0.0081	0.0147
Generator	215	Modules	Nonroad	Post Weld Heat Treatment Crew: 150 kW Generator	2270006005	Diesel	0.43	0.2456	2.4703	0.6080	0.1267	0.1229	0.0041	530.31	0.0037	0.0132
Air Compressor	142	Modules	Nonroad	Sullair 375HH Compressor (375 cfm @ 200 psig)	2270006015	Diesel	0.43	0.1634	1.0741	0.3036	0.0721	0.0699	0.0038	530.55	0.0025	0.0132
Welder	63	Modules	Nonroad	Miller Big Blue Air-Pak (for Miller Air-Pak Special 400)	2270006025	Diesel	0.21	0.6533	4.2461	3.5233	0.4779	0.4636	0.0056	694.05	0.0099	0.0173

Notes:

1. Construction vehicle and equipment operating hours and fuel use information is based on information provided by the Alaska LNG Project team for Gas Treatment Plant (GTP) construction activities.
2. Documentation of methodologies, sources, and references used to derive onroad vehicle and nonroad equipment emission factors for the Alaska Pipeline Project is provided elsewhere.
3. Onroad vehicle use information is provided in hours of vehicle use, rather than vehicle miles traveled. To derive vehicle miles traveled, it is assumed that average vehicle speed will be 5 miles per hour.
4. Conversion factors:
   907,184.74 grams/ton
   1,000,000 grams/metric ton
5. Global warming potentials used to convert CO_2, CH_4, and N_2O to CO_2 equivalents (CO_2e) are based on the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (AR4) (IPCC 2007), as reported in *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2013* (EPA 430-R-15-004), Table 1-2: "Global Warming Potentials and Atmospheric Lifetimes (Years) Used in this Report", U.S. Environmental Protection Agency, April 15, 2015, available at www.epa.gov/climatechange/ghgemissions/usinventoryreport.html (accessed August 14, 2015). The relevant values for these calculations:
   1 GWP CO_2
   25 GWP CH_4
   298 GWP N_2O

Table B-10. Construction Camp Emissions (Stationary)

Summary of Construction Camp Emissions (Waste Incineration and Electrical Generation)

	Criteria Pollutant Emissions, tons/year						Greenhouse Gas Emissions, metric tons/year			
Year	VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O	CO_2e
2020	1.64	2.80	13.65	0.32	0.32	0.216	1,938.13	0.113	0.020	1,946.87
2021	2.19	3.73	18.20	0.43	0.43	0.288	2,584.18	0.150	0.026	2,595.83
2022	2.19	3.73	18.20	0.43	0.43	0.288	2,584.18	0.150	0.026	2,595.83
2023	1.10	1.87	9.10	0.22	0.22	0.144	1,292.09	0.075	0.013	1,297.91
2024	0.55	0.93	4.55	0.11	0.11	0.072	646.04	0.038	0.007	648.96

Construction Camp Waste Incineration Emissions.

	Max	Operating	Criteria Pollutant Emissions, tons/year						Greenhouse Gas Emissions, metric tons/year			
Year	Residents	Months/Yr	VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O	CO_2e
2020	200	9	0.90	0.19	0.02	0.21	0.21	0.195	108.70	0.038	0.005	111.16
2021	200	12	1.20	0.25	0.02	0.28	0.28	0.259	144.94	0.051	0.007	148.21
2022	200	12	1.20	0.25	0.02	0.28	0.28	0.259	144.94	0.051	0.007	148.21
2023	200	6	0.60	0.13	0.01	0.14	0.14	0.130	72.47	0.026	0.003	74.11
2024	200	3	0.30	0.06	0.01	0.07	0.07	0.065	36.23	0.013	0.002	37.05

Waste Incinerator Emission Factors.

Burn Rate	Emission Factor, pounds/ton waste								
(kg/hr)	VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O
450	15.0	3.16	0.299	3.43	3.43	3.23	1,990	0.702	0.0921

Construction Camp Electrical Generation Emissions.

	Max	Number of	Operating	Criteria Pollutant Emissions, tons/year						Greenhouse Gas Emissions, metric tons/year			
Year	Residents	Generators	Months/Yr	VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O	CO_2e
2020	200	1	9	0.74	2.61	13.63	0.12	0.12	0.021	1,829.43	0.074	0.015	1,835.71
2021	200	1	12	0.99	3.48	18.18	0.16	0.16	0.029	2,439.24	0.099	0.020	2,447.61
2022	200	1	12	0.99	3.48	18.18	0.16	0.16	0.029	2,439.24	0.099	0.020	2,447.61
2023	200	1	6	0.49	1.74	9.09	0.08	0.08	0.014	1,219.62	0.049	0.010	1,223.81
2024	200	1	3	0.25	0.87	4.54	0.04	0.04	0.007	609.81	0.025	0.005	611.90

Diesel Electrical Generator Emission Factors.

		Load	Emission Factor, grams/horsepower-hour								
Equipment Type	Fuel Type	Factor	VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O
Generator Sets 130 ≤ kW ≤ 560	Diesel	0.75	0.19	0.67	3.5	0.03	0.03	0.0055	517.7	0.021	0.0042

Table B-10. Construction Camp Emissions (Stationary)

Diesel Electrical Generator Emission Factor and Load Factor Sources.

Parameter	Value	Units	Source
Load Factor	0.75	--	Reasonable worst-case estimate.
NMHC emission factor	0.19	g/bhp-hr	Values for Tier 4 diesel engine taken from 40 CFR 1039.101, Table 1: Tier 4 Exhaust Emission Standards
NOx emission factor	0.67	g/bhp-hr	After the 2014 Model Year, Amended July 13, 2005 (generator sets - 130 ≤ kW ≤ 560)
CO emission factor	3.5	g/bhp-hr	
PM emission factor	0.03	g/bhp-hr	$PM_{2.5}$ emissions are assumed to equal PM.
SO_2 emission factor	0.000012	lb/hp-hr	Value for diesel fuel taken from EPA AP-42 Table 3.4-1: Gaseous Emission Factors for Large Stationary Diesel and All Stationary Duel-Fuel Engines (October 1996), assuming 0.0015% sulfur diesel; (0.00809 x 0.0015).
CO_2 emission factor, g/bhp-hr	517.7	g/bhp-hr	Calculated from kg/MMBtu emission factor and BSFC; (kg/MMBtu EF) / (1,000,000 Btu/MMBtu) x
CH_4 emission factor, g/bhp-hr	0.021	g/bhp-hr	(7,000 Btu/hp-hr BSFC) x (1,000 g/kg).
N_2O emission factor, g/bhp-hr	0.0042	g/bhp-hr	
CO_2 emission factor, kg/MMBtu	73.96	kg/MMBtu	Value for Distillate Fuel Oil No. 2 taken from The Climate Registry General Reporting Protocol, Version 2.0, Table 12.1: U.S. Default Factors for Calculating CO2 Emissions from Fossil Fuel and Biomass Combustion, Released April 2015.
CH_4 emission factor, kg/MMBtu	0.003	kg/MMBtu	Value for petroleum products taken from *The Climate Registry General Reporting Protocol* , Version 2.0,
N_2O emission factor, kg/MMBtu	0.0006	kg/MMBtu	Table 12.9.1: Default CH_4 and N_2O Emission Factors by Fuel Type Industrial and Energy Sectors, Released April 2015.
Brake-specific fuel consumption	7,000	Btu/hp-hr	Brake-specific fuel consumption (BSFC) value taken from EPA AP-42 Table 3.4-1: Gaseous Emission Factors for Large Stationary Diesel and All Stationary Duel-Fuel Engines, footnote e (October 1996).

Notes:

1. Construction Camp waste incinerator estimates based on estimated waste/resident generated, as estimated by EPA (see *Advancing Sustainable Materials Management 2013 Fact Sheet* at http://www2.epa.gov/sites/production/files/2015-09/documents/2013_advncng_smm_fs.pdf; accessed 11/12/2015).
   4.4 lbs waste/person/day
2. Waste incinerator criteria pollutant emissions factors are derived from the following sources:
   - VOC: *Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources* (U.S. EPA Document No. AP-42), U.S. Environmental Protection Agency, Chapter 2 (Soild Waste Disposal), Section 2.1 (Refuse Combustion) Table 2.1-12 (Industrial/Commercial - Single Chamber), Final Section October 1996, available at www.epa.gov/ttnchie1/ap42/ (accessed September 10, 2015).
   - NOx, SOx, CO, PM: *Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources* (U.S. EPA Document No. AP-42), U.S. Environmental Protection Agency, Chapter 2 (Soild Waste Disposal), Section 2.1 (Refuse Combustion) Table 2.1-9 (Modular Starved Air Combustors), Final Section October 1996, available at www.epa.gov/ttnchie1/ap42/ (accessed September 10, 2015).

Table B-10. Construction Camp Emissions (Stationary)

3. Waste incinerator greenhouse gas emission factors are based on 40 CFR 98 Subpart C Tables C-1 and C-2. The relevant values for these calculations are as follows:

9.95	Heat Content (mmbtu/short ton) - Municipal Solid Waste
90.7	CO_2 emission factor (kg CO_2/mmbtu) - Municipal Solid Waste
3.20E-02	CH_4 emission factor (kg CH_4/mmbtu) - Municipal Solid Waste
4.20E-03	N_2O emission factor (kg N_2O/mmbtu) - Municipal Solid Waste

4. Electrical generator emissions assume:
   a. 1.5 kW required per resident per day.
   b. Each generator has 500 kW generating capacity, with an energy conversion efficiency of 93.5% (1,434 bhp).
5. Conversion factors:

907,184.74	grams/ton
1,000,000	grams/metric ton
453.592	grams/pound
0.75	kilowatts/horsepower
2,000	pounds/ton
2,204.62	pounds/metric ton
2.20462	pounds/kilogram

6. Global warming potentials used to convert CO2, CH4, and N2O to CO2 equivalents (CO2e) are based on the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (AR4) (IPCC 2007), as reported in Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2013 (EPA 430-R-15-004), Table 1-2: "Global Warming Potentials and Atmospheric Lifetimes (Years) Used in this Report", U.S. Environmental Protection Agency, April 15, 2015, available at www.epa.gov/climatechange/ghgemissions/usinventoryreport.html (accessed August 14, 2015). The relevant values for these calculations:

1	GWP CO_2
25	GWP CH_4
298	GWP N_2O

7. On November 6, 2015, the U.S. EPA proposed amending the New Source Performance Standards for stationary compression ignition internal combustion engines (40 CFR Part 60, Subpart IIII) requirements for remote areas of Alaska. Since the proposed amendments have not been formally adopted, the above emission estimates for stationary electrical generators reflect use of Tier 4 compression ignition engines.

Table B-11. Summary of Prudhoe Bay Unit Major Gas Sales Project Construction Fugitive Emissions

2020 Emissions

Location	VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2
	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(tonne/yr)
Pipelines							
VSM Drilling	NA	NA	NA	0.08	0.01	NA	NA
Unpaved Roads	NA	NA	NA	60.43	6.04	NA	NA
Field Welding	NA	NA	NA	0.17	0.17	NA	NA
Field Weld Coating	0.01	NA	NA	NA	NA	NA	NA
Material Handling - Soil	NA	NA	NA	0.00	0.00	NA	NA
Subtotal - Pipelines:	0.01	NA	NA	60.68	6.23	NA	NA
Central Gas Facility							
Unpaved Roads	NA	NA	NA	34.45	3.45	NA	NA
Field Welding	NA	NA	NA	--	--	NA	NA
Material Handling - Gravel	NA	NA	NA	0.38	0.06	NA	NA
Subtotal - Central Gas Facility:	NA	NA	NA	34.83	3.50	NA	NA
Total Emissions:	**0.01**	**NA**	**NA**	**95.51**	**9.73**	**NA**	**NA**

2021 Emissions

Location	VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2
	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(tonne/yr)
Pipelines							
VSM Drilling	NA	NA	NA	0.16	0.02	NA	NA
Unpaved Roads	NA	NA	NA	120.85	12.09	NA	NA
Field Welding	NA	NA	NA	0.34	0.34	NA	NA
Field Weld Coating	0.03	NA	NA	NA	NA	NA	NA
Material Handling - Soil	NA	NA	NA	0.00	0.00	NA	NA
Subtotal - Pipelines:	0.03	NA	NA	121.36	12.45	NA	NA
Central Gas Facility							
Unpaved Roads	NA	NA	NA	34.45	3.45	NA	NA
Field Welding	NA	NA	NA	0.35	0.35	NA	NA
Material Handling - Gravel	NA	NA	NA	--	--	NA	NA
Subtotal - Central Gas Facility:	NA	NA	NA	34.80	3.79	NA	NA
Total Emissions:	**0.03**	**NA**	**NA**	**156.16**	**16.24**	**NA**	**NA**

2022 Emissions

Location	VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2
	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(tonne/yr)
Pipelines							
VSM Drilling	NA	NA	NA	0.16	0.02	NA	NA
Unpaved Roads	NA	NA	NA	120.85	12.09	NA	NA
Field Welding	NA	NA	NA	0.34	0.34	NA	NA
Field Weld Coating	0.03	NA	NA	NA	NA	NA	NA
Material Handling - Soil	NA	NA	NA	0.00	0.00	NA	NA
Subtotal - Pipelines:	0.03	NA	NA	121.36	12.45	NA	NA
Central Gas Facility							
Unpaved Roads	NA	NA	NA	34.45	3.45	NA	NA
Field Welding	NA	NA	NA	0.35	0.35	NA	NA
Material Handling - Gravel	NA	NA	NA	--	--	NA	NA
Subtotal - Central Gas Facility:	NA	NA	NA	34.80	3.79	NA	NA
Total Emissions:	**0.03**	**NA**	**NA**	**156.16**	**16.24**	**NA**	**NA**

Table B-11. Summary of Prudhoe Bay Unit Major Gas Sales Project Construction Fugitive Emissions

2023 Emissions

Location	VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2
	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(tonne/yr)
Pipelines							
VSM Drilling	NA	NA	NA	0.16	0.02	NA	NA
Unpaved Roads	NA	NA	NA	120.85	12.09	NA	NA
Field Welding	NA	NA	NA	0.34	0.34	NA	NA
Field Weld Coating	0.03	NA	NA	NA	NA	NA	NA
Material Handling - Soil	NA	NA	NA	0.00	0.00	NA	NA
Subtotal - Pipelines:	0.03	NA	NA	121.36	12.45	NA	NA
Central Gas Facility							
Unpaved Roads	NA	NA	NA	--	--	NA	NA
Field Welding	NA	NA	NA	--	--	NA	NA
Material Handling - Gravel	NA	NA	NA	--	--	NA	NA
Subtotal - Central Gas Facility:	NA	NA	NA	--	--	NA	NA
Total Emissions:	**0.03**	**NA**	**NA**	**121.36**	**12.45**	**NA**	**NA**

2024 Emissions

Location	VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2
	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(tonne/yr)
Pipelines							
VSM Drilling	NA	NA	NA	0.08	0.01	NA	NA
Unpaved Roads	NA	NA	NA	60.43	6.04	NA	NA
Field Welding	NA	NA	NA	0.17	0.17	NA	NA
Field Weld Coating	0.01	NA	NA	NA	NA	NA	NA
Material Handling - Soil	NA	NA	NA	0.00	0.00	NA	NA
Subtotal - Pipelines:	0.01	NA	NA	60.68	6.23	NA	NA
Central Gas Facility							
Unpaved Roads	NA	NA	NA	--	--	NA	NA
Field Welding	NA	NA	NA	--	--	NA	NA
Material Handling - Gravel	NA	NA	NA	--	--	NA	NA
Subtotal - Central Gas Facility:	NA	NA	NA	--	--	NA	NA
Total Emissions:	**0.01**	**NA**	**NA**	**60.68**	**6.23**	**NA**	**NA**
Grand Total:	**0.11**	**NA**	**NA**	**589.86**	**60.90**	**NA**	**NA**

Table B-12. Particulate Emissions from Pipeline Construction Unpaved Roads (Fugitives)

Year	Emission Factor Reference	Emission Factors PM_{10}	Emission Factors $PM_{2.5}$	Annual Activity[1]	Control Efficiency[2]	PM_{10} (ton/yr)	$PM_{2.5}$ (ton/yr)
2020				223,909 miles/yr		60.43	6.04
2021				447,819 miles/yr		120.85	12.09
2022	AP-42 13.2.2, Eqn 1a	2.16E+00 lb/mile	2.16E-01 lb/mile	447,819 miles/yr	75%	120.85	12.09
2023				447,819 miles/yr		120.85	12.09
2024				223,909 miles/yr		60.43	6.04

	Vehicle Speed (mph)[3]
On-Road	5
Non-Road	5

Annual Activity.

Representative Equipment Model	GVW[4] (lbs)	Type	Annual Hours of Operation per Year 2020	2021	2022	2023	2024	Total
Light Duty Trucks;Diesel	8,500	Onroad	14,424	28,849	28,849	28,849	14,424	115,394
Class 3 Heavy-Duty Vehicles (10,001-14,000 lbs. GVWR);Diesel	14,000	Onroad	6,558	13,115	13,115	13,115	6,558	52,461
Class 4 and 5 Heavy-Duty Vehicles (14,001-19,500 lbs. GVWR);Diesel	19,500	Onroad	403	805	805	805	403	3,220
Class 8a and 8b Heavy-Duty Vehicles (>33,000 lbs. GVWR);Diesel	80,000	Onroad	20,499	40,998	40,998	40,998	20,499	163,993
Urban Buses;Diesel	40,000	Onroad	2,696	5,393	5,393	5,393	2,696	21,571
Off-highway Trucks;Diesel	100,000	Nonroad	202	404	404	404	202	1,616
Estimated Total Miles Traveled:[5]			223,909	447,819	447,819	447,819	223,909	1,791,275

Unpaved Road Dust Entrainment Emission Factor.

Data Input	Data Reference	Symbol	Value	Unit
Surface Material Silt Content (All Spreads)	AP-42 13.2.2 Table 13.2.2-1 (Construction Sites)	s	8.5	%
Average Vehicle Weight[6]	Avg based on estimated construction activity	W	22.2	tons
PM_{10} Size Multiplier	AP-42 13.2.2-2	k	1.5	--
$PM_{2.5}$ Size Multiplier	AP-42 13.2.2-2	k	0.15	--
Empirical Constant	AP-42 13.2.2-2	a	0.9	--
Empirical Constant	AP-42 13.2.2-2	b	0.45	--
Dust Entrainment Emission Factor	*AP-42 13.2.2, Eqn 1a*	*Ef*	*Calculated*	*lb/mile*

$$Ef = k * (s/12)^{a} * (W/3)^{b} * (1-(P/N))$$

Precipitation Factor.

Data Input	Data Reference	Symbol	Value	Units
Number of Wet Days	NOAA[7] - representative station: Barrow	P	74	Wet Days
Number of Days in Averaging Period		N	365	Days/Period

Notes:

1. Annual activity estimated based on vehicle use by year.
2. On an annual basis, it is assumed that fugitive dust emissions are controlled 75%. During the winter construction season, fugitive dust emissions are reduced by 100% when temperatures are below freezing and dirt/dust is either frozen or covered by snow, resulting in negligible fugitive dust emissions. During the summer construction season, fugitive dust emissions are reduced by 50% based or use of wet suppression techniques in accordance with a dust control plan.
3. Average vehicle speed estimated.
4. GVW estimated based on vehicle type.
5. Calculated based on the operating hours and the average vehicle speed by vehicle type.
6. Average vehicle weight estimated based on the hours of operation for each weight class of vehicle.
7. Estimated number of days with precipitation greater than or equal to 0.01 inch. Source:*Comparative Climatic Data for the United States Through 2012* , National Oceanic and Atmospheric Administration, February 2014, available at http://docs.lib.noaa.gov/noaa_documents/NESDIS/NCDC/comparative_climatic_data/CCD_2012.pdf (accessed November 12, 2015).
8. Emission factor is estimated using a portion of AP-42 13.2.1 Eqn 2 that is associated with "wet days." The factor of 4 applied to paved roads is removed as unpaved roads are expected to dry slower

Table B-13. Particulate Emissions from Pipeline Field Welding (Fugitives)

Pipeline	Pipeline Miles	Pipe Length	Pipe Diameter	Weld Count	Electrode Consumed (lbs)	$PM_{2.5}/PM_{10}$ (tons)	$PM_{2.5}/PM_{10}$ Emissions per Year (tons/year)				
							2020	2021	2022	2023	2024
CGF to EWE, W-Pad, Z-Pad	25										
CGF to AGI Pad	3										
CGF to FS2, DS-9, DS-16	8										
CGF to PM-1, PM-2	8										
Lisburne PC to CGF	5										
Pipelines Within CGF	1										
Total Pipelines:	50	40 ft	38 in	6,600	161,040	1.38	0.17	0.34	0.34	0.34	0.17

Notes:

1. PM_{10} emissions from field welding are calculated as follows:

   PM_{10} = [Consumed Electrode per Welded Joint (pounds/joint)] / 1,000 pounds * [17.1 pounds PM10/1,000 pounds of electrode consumed] * [Number of welded joints] / [2,000 pounds/ton]
2. Weld Count = [Pipe Length (miles) * (5,280 feet/mile)] / [Pipe Length (feet)]
3. Emission calculation parameters:

   5,280 feet/mile — 24.4 pounds of electrode consumed/welded joint (38-in diameter, 0.75-in wall)

   12 inches/foot — 17.1 pounds PM10/1,000 pounds electrode consumed (E8018 electrode)
4. Assume the PBU MGS Project pipeline, on average, is equivalent to the average dimensions for Alaska LNG Project compressor and heater station pipeline: 38 inch diameter (OD) and 0.75 inch wall thickness.
4. The weight of the consumed electrode per welded joint is from *Welding Pressure Pipelines & Piping Systems: Procedures and Techniques,* Lincoln Electric, October 2002, "Cross Country Pipeline - Vertical Down Welding," pages 14 to 15 (Cross Country Pipe Vertical Down Electrode Consumption), available at http://www.lincolnelectric.com/assets/global/Products/Consumable_PipelinerConsumables-Pipeliner-PipelinerLH-D90/c2420.pdf (accessed June 22, 2016).
5. The PM fume emission factor (in pounds PM per thousand pounds of electrode used) is from Compilation of Air Pollutant Emission Factors (EPA Document No. AP-42), Volume 1: Stationary Point and Area Sources, Section 12.19 (Electric Arc Welding), Table 12.19-1 (PM-10 Emission Factors for Welding Operations, January 1995. The reported emission factor of 17.1 lb/thousand pounds electrode is based on use of the E8018 electrode, which is appropriate for up to X-80 pipeline. Since no data for $PM_{2.5}$ is available, assume $PM_{2.5} = PM_{10}$.

Table B-14. Surface Coating Emissions from Pipeline Field Weld Coating (Fugitives)

Pipeline	Pipeline Miles	Pipe Length	Pipe Diameter	Weld Count	Total Surface Area (sq ft)	Total VOC Emissions	VOC Emissions per Year (tons/year)				
							2020	2021	2022	2023	2024
CGF to EWE, W-Pad, Z-Pad	25										
CGF to AGI Pad	3										
CGF to FS2, DS-9, DS-16	8										
CGF to PM-1, PM-2	8										
Lisburne PC to CGF	5										
Pipelines Within CGF	1										
Total Pipelines:	50	40 ft	38 in	6,600	65,659	0.11	0.01	0.03	0.03	0.03	0.01

Notes:

1. VOC emissions from field weld coating solvent evaporation are calculated as follows:
   VOC = [VOC Content (grams/liter)] * [1 pound/453.59 grams] * [3.785 liters/gallon] * [Coating Coverage (gallons/square feet)] * [1/(Transfer Efficiency)] * [Surface Area (square feet)]
2. Weld Count = [Pipe Length (miles) * (5,280 feet/mile)] / [Pipe Length (feet)]
3. Surface Area (to be coated, square feet) = Weld Count * [Pipe Diameter (inches)/(12 inches/foot)] * π * 1 Foot Coating Width/Weld
4. Emission calculation parameters:
   - 5,280 feet/mile
   - 12 inches/foot
   - 1 foot exposed area to be coated
   - 12 grams VOC/liter of coating
   - 453.59 grams/pound
   - 3.785 liters/gallon
   - 47.70 square feet/gallon coverage @ 25 mils thickness
   - 0.65 coating transfer efficiency (3M Scotchkote HSS-450)
   - 2,000 pounds/ton
5. VOC content of 12 grams VOC/liter and coating coverage of 47.70 square feet/gallon are based on use of 3M Scotchkote Liquid Epoxy Coating 323, coating data sheet available at http://multimedia.3m.com/mws/media/193283O/3mtm-scotchkotetm-323-liquid-epoxy-coatings.pdf (accessed August 2, 2016).
6. Assume 3M Scotchkote HSS-450 (high solids spray system) achieves a coating transfer efficiency equivalent to high volume-low pressure (HVLP) coating transfer efficiency (65 to 80 percent efficiency).

Table B-15. Particulate Emissions from Pipeline Vertical Support Member Hole Drilling (Fugitives)

Project Year	Emission Factor Reference	Emission Factors		Annual Activity[1]	Control Efficiency[2]	PM_{10} (ton/yr)	$PM_{2.5}$ (ton/yr)
		PM_{10}	$PM_{2.5}$				
2020	AP-42 Chapter 11.9 (Table 11.9-4) and WRAP Guidance	0.65 lb/hole	0.10 lb/hole	493 holes/yr	50%	0.08	0.01
2021				986 holes/yr		0.16	0.02
2022				986 holes/yr		0.16	0.02
2023				986 holes/yr		0.16	0.02
2024				493 holes/yr		0.08	0.01

Drilling Emission Factor.

Data Input	Data Reference	Symbol	Value	Unit
PM_{10}/TSPsize multiplier	WRAP Guidance[3]	k	0.50	--
$PM_{2.5}/PM_{10}$ size multiplier	WRAP Guidance	k1	0.15	--
Drilling EF(TSP)	*AP-42 Chapter 11.9 (Table 11.9-4)*	*E(TSP)*	*1.3*	*lb/hole*
Drilling EF(PM10)	*WRAP Guidance*	*E(PM10)*	*Calculated*	*lb/hole*
Drilling EF(PM2.5)	*WRAP Guidance*	*E(PM2.5)*	*Calculated*	*lb/hole*

Notes:

1. Estimated number of VSM holes to be drilled over the pipeline construction period:
   3,945 VSM holes
2. Control efficiency estimated at 50% based on the use of wet suppression techniques in accordance with a dust control plan.
3. WRAP Guidance provided in *WRAP Fugitive Dust Handbook* , Western Governors' Association (prepared by Countess Environmental), September 7, 2006, available at http://www.wrapair.org/forums/dejf/fdh/ (accessed October 2, 2015).

Table B-16. Particulate Emissions from Pipeline Soil Material Handling (Fugitives - VSM Drill Hole Spoil)

Project Year	Emission Factor Reference	Emission Factors PM_{10}	Emission Factors $PM_{2.5}$	Annual Process Rate[4]	Transfer Points[1]	Control Efficiency[2]	PM_{10} (ton/yr)	$PM_{2.5}$ (ton/yr)
2020	AP-42 13.2.4.3, Eqn 1	1.75E-04 lb/ton	2.65E-05 lb/ton	252 tons/yr	4	50%	0.00	0.00
2021				503 tons/yr	4		0.00	0.00
2022				503 tons/yr	4		0.00	0.00
2023				503 tons/yr	4		0.00	0.00
2024				252 tons/yr	4		0.00	0.00

Material Handling Emission Factor.

Data Input	Data Reference	Symbol	Value	Unit
Moisture Content	See note 5 below	M	17	%
Typical Soil Density	Provided by Alaska LNG Project team, June 2016		1.755	tons/cu yd
Mean wind speed	NOAA[3] - representative station: Barrow	U	12	mph
PM_{10} size multiplier	AP42 13.2.4	k	0.35	--
$PM_{2.5}$ size multiplier	AP42 13.2.4	k	0.053	--
Material Handling Emission Factor	*AP-42 13.2.4.3, Eqn 1*	*Ef*	*Calculated*	*lb/ton*

$$Ef = k \times 0.0032 \times \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

Notes:

1. Transfer points for soil assumed to be 1) from VSM drill area to truck, 2) from truck to onsite storage pile, 3) from onsite storage pile to truck, and 4) from truck to final location.
2. Control efficiency estimated at 50% based on the use of wet suppression techniques in accordance with a dust control plan.
3. Average annual wind speed (mph). Source: *Comparative Climatic Data for the United States Through 2012* , National Oceanic and Atmospheric Administration, February 2014, available at http://docs.lib.noaa.gov/noaa_documents/NESDIS/NCDC/comparative_climatic_data/CCD_2012.pdf (accessed November 12, 2015).
4. Activity is due to VSM drilling. Mass is calculated assuming holes that are 10 feet deep and have a diameter of 1 foot. Total soil to be excavated from VSM holes (spoil) is calculated:
   2,014 tons of soil excavated
5. 17% moisture content for soil is based on *Monthly Summaries of Soil Temperature and Soil Moisture at Sites in Alaska* , National Snow and Ice Data Center, 2003, available at http://nsidc.org/data/docs/fgdc/ggd624_soiltemp_alaska/ (accessed June 20, 2016), reporting data collected at 17 monitoring sites from September 1995 to August 2001. The moisture content for aggregate/gravel assumes that it is 25% of the soil moisture content.

Table B-17. Particulate Emissions from Central Gas Facility Construction Unpaved Roads (Fugitives)

Year	Emission Factor Reference	Emission Factors PM_{10}	Emission Factors $PM_{2.5}$	Annual Activity[1]	Control Efficiency[2]	PM_{10} (ton/yr)	$PM_{2.5}$ (ton/yr)
2020	AP-42 13.2.2, Eqn 1a	1.93E+00 lb/mile	1.93E-01 lb/mile	143,000 miles/yr	75%	34.45	3.45
2021				143,000 miles/yr		34.45	3.45
2022				143,000 miles/yr		34.45	3.45
2023				--		--	--
2024				--		--	--

	Vehicle Speed (mph)[3]
On-Road	5
Non-Road	5

Annual Activity.

Representative Equipment Model	GVW[4] (lbs)	Type	Annual Hours of Operation per Year 2020	2021	2022	2023	2024	Total
Light Duty Trucks;Diesel	8,500	Onroad	13,200	17,600	17,600	--	--	48,400
Class 8a and 8b Heavy-Duty Vehicles (>33,000 lbs. GVWR);Diesel	80,000	Onroad	6,600	6,600	6,600	--	--	19,800
Urban Buses;Diesel	40,000	Onroad	4,400	4,400	4,400	--	--	13,200
Volvo A30F Articulated Hauler (25.9 tons)	100,000	Nonroad	4,400	--	--	--	--	4,400
Estimated Total Miles Traveled:[5]			143,000	143,000	143,000	--	--	429,000

Unpaved Road Dust Entrainment Emission Factor.

Data Input	Data Reference	Symbol	Value	Unit
Surface Material Silt Content (All Spreads)	AP-42 13.2.2 Table 13.2.2-1 (Construction Sites)	s	8.5	%
Average Vehicle Weight[6]	Avg based on estimated construction activity	W	17.3	tons
PM_{10} Size Multiplier	AP-42 13.2.2-2	k	1.5	--
$PM_{2.5}$ Size Multiplier	AP-42 13.2.2-2	k	0.15	--
Empirical Constant	AP-42 13.2.2-2	a	0.9	--
Empirical Constant	AP-42 13.2.2-2	b	0.45	--
Dust Entrainment Emission Factor	*AP-42 13.2.2, Eqn 1a*	*Ef*	*Calculated*	*lb/mile*

$$Ef = k * (s/12)^{a} * (W/3)^{b} * (1-(P/N))$$

Precipitation Factor.

Data Input	Data Reference	Symbol	Value	Units
Number of Wet Days	NOAA[7] - representative station: Barrow	P	74	Wet Days
Number of Days in Averaging Period		N	365	Days/Period

Notes:

1. Annual activity estimated based on vehicle use by year.
2. On an annual basis, it is assumed that fugitive dust emissions are controlled 75%. During the winter construction season, fugitive dust emissions are reduced by 100% when temperatures are below freezing and dirt/dust is either frozen or covered by snow, resulting in negligible fugitive dust emissions. During the summer construction season, fugitive dust emissions are reduced by 50% based on on use of wet suppression techniques in accordance with a dust control plan.
3. Average vehicle speed estimated.
4. GVW estimated based on vehicle type.
5. Calculated based on the operating hours and the average vehicle speed by vehicle type.
6. Average vehicle weight estimated based on the hours of operation for each weight class of vehicle.
7. Estimated number of days with precipitation greater than or equal to 0.01 inch. Source: *Comparative Climatic Data for the United States Through 2012*, National Oceanic and Atmospheric Administration, February 2014, available at http://docs.lib.noaa.gov/noaa_documents/NESDIS/NCDC/comparative_climatic_data/CCD_2012.pdf (accessed November 12, 2015).
8. Emission factor is estimated using a portion of AP-42 13.2.1 Eqn 2 that is associated with "wet days." The factor of 4 applied to paved roads is removed as unpaved roads are expected to dry slower.

Table B-18. Particulate Emissions from Central Gas Facility Field Welding (Fugitives)

Project Year	Emission Factors[1] PM_{10}	Emission Factors[1] $PM_{2.5}$	Annual Activity[2]	Control Efficiency[3]	PM_{10} (ton/yr)	$PM_{2.5}$ (ton/yr)
2020			--		0.00	0.00
2021			40.39 thousand lb/yr		0.35	0.35
2022	17.1 lb/1,000 lb electrode	17.1 lb/1,000 lb electrode	40.39 thousand lb/yr	0%	0.35	0.35
2023			--		0.00	0.00
2024			--		0.00	0.00

Annual Activity - Thousand Pounds of Welding Electrode Consumed per Year[2]

Category	Category	2020	2021	2022	2023	2024	Total
Central Gas Facility	Welding Operating Hours	--	8,800	8,800	--	--	17,600
	Electrode Consumption (10^3 pounds/year)	--	40.39	40.39	--	--	80.78

Notes:

1. The PM fume emission factor (in pounds PM_{10} per thousand pounds of electrode used) is from *Compilation of Air Pollutant Emission Factors* (EPA Document No. AP-42), Volume 1: Stationary Point and Area Sources, Section 12.19 (Electric Arc Welding), Table 12.19-1 (PM-10 Emission Factors for Welding Operations), January 1995. The 17.1 lb PM_{10}/thousand pounds electrode consumed emission factor assumes use of E8018 electrode, which is appropriate for up to X-80 pipeline. Assume $PM_{2.5} = PM_{10}$.
2. Based on *Stick Electrode Welding Guide* , Lincoln Electric, November 2014, available at http://www.lincolnelectric.com/assets/US/EN/literature/c2410.pdf (accessed August 1, 2016), estimated welding low hydrogen E7018electrode use for 0.5-inch and thicker material can range from 4.1 to 5.4 pounds of welding electrode per hour (pages 24 to 28, also applicable to E8018 electrodes). For purposes of this analysis, the following values are used:
   5.4 pounds of welding electrode used per hour
   0.85 average operating factor
3. No control assumed.

Table B-19. Particulate Emissions from Central Gas Facility Gravel Material Handling (Fugitives - Valve/Metering Modules Pad)

Project Year	Emission Factor Reference	Emission Factors		Annual Process Rate[4]	Transfer Points[1]	Control Efficiency[2]	PM_{10} (ton/yr)	$PM_{2.5}$ (ton/yr)
		PM_{10}	$PM_{2.5}$					
2020	AP-42 13.2.4.3, Eqn 1	1.32E-03 lb/ton	2.01E-04 lb/ton	283,500 tons/yr	4	50%	0.38	0.06
2021				--	4		--	--
2022				--	4		--	--
2023				--	4		--	--
2024				--	4		--	--

Material Handling Emission Factor.

Data Input	Data Reference	Symbol	Value	Unit
Moisture Content	See note 5 below	M	4	%
Typical Soil Density	Provided by Alaska LNG Project team, June 2016		1.890	tons/cu yd
Mean wind speed	NOAA[3] - representative station: Barrow	U	12	mph
PM_{10} size multiplier	AP42 13.2.4	k	0.35	--
$PM_{2.5}$ size multiplier	AP42 13.2.4	k	0.053	--
Material Handling Emission Factor	*AP-42 13.2.4.3, Eqn 1*	*Ef*	*Calculated*	*lb/ton*

$$Ef = k \times 0.0032 \times \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

Notes:

1. Transfer points for gravel assumed to be 1) from material site to truck, 2) from truck to onsite storage pile, 3) from onsite storage pile to truck, and 4) from truck to pad.
2. Control efficiency estimated at 50% based on the use of wet suppression techniques in accordance with a dust control plan.
3. Average annual wind speed (mph). Source: *Comparative Climatic Data for the United States Through 2012* , National Oceanic and Atmospheric Administration, February 2014, available at http://docs.lib.noaa.gov/noaa_documents/NESDIS/NCDC/comparative_climatic_data/CCD_2012.pdf (accessed November 12, 2015).
4. Activity is due to expansion of a 5-acre pad for the new valve module and feed gas metering module at the PBU Central Gas Facility (CGF). (If needed, a construction camp would be constructed on existing pads.) Total amount of granular fill material required is calculated:
   150,000 cubic yards of granular fill material
   283,500 tons of granular fill material (gravel)
5. 17% moisture content for soil is based on *Monthly Summaries of Soil Temperature and Soil Moisture at Sites in Alaska* , National Snow and Ice Data Center, 2003, available at http://nsidc.org/data/docs/fgdc/ggd624_soiltemp_alaska/ (accessed June 20, 2016), reporting data collected at 17 monitoring sites from September 1995 to August 2001. The moisture content for aggregate/gravel assumes that it is 25% of the soil moisture content.

ATTACHMENT 2-2 - PBU MGS PROJECT DRILLING CAMPAIGN – ANNUAL POTENTIAL EMISSION SUMMARY

Prudhoe Bay Unit (PBU) Major Gas Sales (MGS) Project
Drilling Campaign – Annual Potential Emission Summary

PBU MGS project air emissions are emitted by the drilling emission unit inventory associated with the drilling of ten new wells. The drilling emission unit inventory includes a drill rig, camp generator engines, well stimulation generator engines, various nonroad engines, portable heaters and drilling fluid tank farm boilers, heaters, and generator engines.

Summaries of the annual potential emissions from the PBU MGS drilling campaign are provided in Tables 1a through 1c.

Table 1.a. Annual Potential Criteria Pollutant Emissions from PBU MGS – Drilling[1]

Pollutant	Stationary Emission Units Potential Emissions	Non-road Engines Potential Emissions[2]	Total Potential Emissions
NO_X	59.4 tpy	485.8 tpy	545.2 tpy
CO	22.8 tpy	142.0 tpy	164.8 tpy
PM/PM_{10}	2.3 tpy	11.1 tpy	13.4 tpy
$PM_{2.5}$	1.8 tpy	11.1 tpy	12.9 tpy
VOC	5.3 tpy	55.1 tpy	60.4 tpy
SO_2	0.2 tpy	0.3 tpy	0.5 tpy
Pb	0.001 tpy	0.0 tpy	0.001 tpy

Table 1.b. Annual Potential Greenhouse Gas (GHG) Emissions from PBU MGS – Drilling[1]

Pollutant	Stationary Emission Units Potential Emissions	Nonroad Engines Potential Emissions[2]	Total Potential Emissions
CO_2	17,776 tonnes/year	32,909 tonnes/year	50,685 tonnes/year
CH_4	0.721 tonnes/year	1.335 tonnes/year	2.056 tonnes/year
N_2O	0.1442 tonnes/year	0.2670 tonnes/year	0.4112 tonnes/year
CO_2e	17,837 tonnes/year	33,021 tonnes/year	50,859 tonnes/year

Table 1.c. Annual Potential Hazardous Air Pollutant (HAP) Emissions from PBU MGS – Drilling[1]

Pollutant	Stationary Emission Units Potential Emissions	Non-road Engines Potential Emissions[2]	Total Potential Emissions
Total HAPs	0.09 tpy	0.43 tpy	0.53 tpy
Benzene	0.03 tpy	0.18 tpy	0.21 tpy
Formaldehyde	0.03 tpy	0.08 tpy	0.11 tpy

[1]Information subject to change as design progresses.
[2]Non-road engines are portable and transportable engines that remain at any single location for 12 months or less and otherwise meet the non-road engine criteria in 40 CFR 89.2. An engine used to propel a motor vehicle is a motor vehicle engine, not a non-road engine. A motor vehicle is a self-propelled vehicle designed for transporting persons or property on a street or highway.

All emission unit inventories are subject to change as detail design work proceeds.

Annual Potential Emissions Methodology

The annual potential emissions were calculated assuming a five year drilling campaign. Drilling each well was assumed to require approximately 45 days, so annual emissions are based on drilling two wells per year.

The annual potential emissions for criteria pollutants and HAPs were calculated using vendor data, Environmental Protection Agency (EPA) AP-42 emission factors, mass balances, and New Source Performance Standards (NSPS) for reciprocating internal combustion engines.

Potential GHG emissions for fuel combustion sources were estimate consistent with Subpart C of the Mandatory Reporting of Greenhouse Gases Rule (40 Code of Federal Regulations Part 98) for Tier 1 units. The CO_2, CH_4, and N_2O emission estimates are calculated for all emission units on an individual basis using Equation C-1 from 40 CFR 98. The default factors from Tables C-1 and C-2 of 40 CFR 98 were used to estimate GHG emissions from the PBU MGS project.

The detailed emission calculations for PBU MGS drilling campaign are provided in Tables 2 through 19.

ATTACHMENT 2-3 - PBU MGS DRILLING EMISSION UNIT INVENTORY

Table 1.a. Potential Emissions Summary
Prudhoe Bay Unit (PBU) Major Gas Sales - Drilling Emission Unit Inventory

Pollutant	Stationary Emission Units Potential Emissions	Nonroad Engines Potential Emissions	Total Potential Emissions
NO_X	59.4 tpy	485.8 tpy	545.2 tpy
CO	22.8 tpy	142.0 tpy	164.8 tpy
PM/PM_{10}	2.3 tpy	11.1 tpy	13.4 tpy
$PM_{2.5}$	1.8 tpy	11.1 tpy	12.9 tpy
VOC	5.3 tpy	55.1 tpy	60.4 tpy
SO_2	0.2 tpy	0.3 tpy	0.5 tpy
Pb	0.001 tpy	0.0 tpy	0.001 tpy

Table 1.b. Potential Greenhouse Gas Emissions Summary
Prudhoe Bay Unit (PBU) Major Gas Sales - Drilling Emission Unit Inventory

Pollutant	Stationary Emission Units Potential Emissions	Nonroad Engines Potential Emissions	Total Potential Emissions
CO_2	17,776 tonnes/year	32,909 tonnes/year	50,685 tonnes/year
CH_4	0.721 tonnes/year	1.335 tonnes/year	2.056 tonnes/year
N_2O	0.1442 tonnes/year	0.2670 tonnes/year	0.4112 tonnes/year
CO_2e	17,837 tonnes/year	33,021 tonnes/year	50,859 tonnes/year

Table 1.c. Potential HAPs Emissions Summary
Prudhoe Bay Unit (PBU) Major Gas Sales - Drilling Emission Unit Inventory

Pollutant	Stationary Emission Units Potential Emissions	Nonroad Engines Potential Emissions	Total Potential Emissions
Total HAPs	0.09 tpy	0.43 tpy	0.53 tpy
Benzene	0.03 tpy	0.18 tpy	0.21 tpy
Formaldehyde	0.03 tpy	0.08 tpy	0.11 tpy

Notes:

[1] Potential emissions are based on a five year drilling campaign. Drilling each well requires approximately 45 days. Annual emissions are based on drilling two wells per year.

[2] Emission calculations based on AP-42 emission factors, manufacturer data, and mass balances as shown in accompanying spreadsheets.

[3] $PM_{2.5}$ emissions are assumed to be equal to PM_{10} emissions.

[4] GHG emissions are defined as CO_2e emissions. CO_2e is the summation of CO_2, CH_4, and N_2O, applying the global warming potential for each pollutant.

Table 2. Significant Emission Unit Inventory
Prudhoe Bay Unit (PBU) Major Gas Sales - Drilling Emission Unit Inventory

Emission Unit			Fuel	Allowable	Maximum Fuel	Maximum
ID	Description	Make/Model	Type	Operation	Consumption	Capacity
1	Drill Rig Boiler No. 1	TBD	ULSD	8,760 hr/yr	30.0 gal/hr	4.2 MMBtu/hr
2	Drill Rig Boiler No. 2	TBD	ULSD	8,760 hr/yr	45.0 gal/hr	6.3 MMBtu/hr
3	Drill Rig Pipeshed Tioga Air Heater No. 1	TBD	ULSD	8,760 hr/yr	30.0 gal/hr	4.2 MMBtu/hr
4	Drill Rig Pipeshed Tioga Air Heater No. 2	TBD	ULSD	8,760 hr/yr	30.0 gal/hr	4.2 MMBtu/hr
5	Drill Rig Support Boiler No. 1	TBD	ULSD	8,760 hr/yr	45.0 gal/hr	6.3 MMBtu/hr
6	Drill Rig Support Boiler No. 2	TBD	ULSD	8,760 hr/yr	45.0 gal/hr	6.3 MMBtu/hr
7	Bulk Tank Storage Area Boiler No. 1	TBD	ULSD	8,760 hr/yr	35.5 gal/hr	5.16 MMBtu/hr
8	Bulk Tank Storage Area Boiler No. 2	TBD	ULSD	8,760 hr/yr	35.5 gal/hr	5.16 MMBtu/hr
9	Hot Oil Unit Heater	TBD	ULSD	8,760 hr/yr	58.4 gal/hr	8.0 MMBtu/hr
10	Bulk Mud Engine No. 1	TBD	ULSD	8,760 hr/yr	2.8 gal/hr	54 hp
11	Bulk Mud Engine No. 2	TBD	ULSD	8,760 hr/yr	2.8 gal/hr	54 hp
12	Coil Tubing Unit Engine	TBD	ULSD	8,760 hr/yr	3.4 gal/hr	66 hp
13	Bulk Tank Storage Area Generator Engine No. 1	TBD	ULSD	8,760 hr/yr	39.8 gal/hr	779 hp
14	Bulk Tank Storage Area Generator Engine No. 2	TBD	ULSD	8,760 hr/yr	39.8 gal/hr	779 hp
15	Bulk Tank Storage Area Generator Engine No. 3	TBD	ULSD	8,760 hr/yr	8.7 gal/hr	190 hp
16	Bulk Tank Storage Area Generator Engine No. 4	TBD	ULSD	8,760 hr/yr	8.7 gal/hr	190 hp
17	Bulk Tank Storage Area Heater Engine No. 1	TBD	ULSD	8,760 hr/yr	8.6 gal/hr	174 hp
18	Bulk Tank Storage Area Heater Engine No. 2	TBD	ULSD	8,760 hr/yr	8.6 gal/hr	174 hp
19	MOD 201/202 Generator Engine No. 1	TBD	ULSD	8,760 hr/yr	8.8 gal/hr	173 hp
20	Talkeetna Camp Generator Engine No. 1	TBD	ULSD	8,760 hr/yr	25.4 gal/hr	450 hp
21	Talkeetna Camp Generator Engine No. 2	TBD	ULSD	8,760 hr/yr	25.4 gal/hr	450 hp
22	MOD 201/202 Generator Engine No. 2	TBD	ULSD	8,760 hr/yr	8.8 gal/hr	173 hp
23	Well Stimulation Pump Engine No. 1	TBD	ULSD	8,760 hr/yr	111.9 gal/hr	2,250 hp
24	Well Stimulation Pump Engine No. 2	TBD	ULSD	8,760 hr/yr	111.9 gal/hr	2,250 hp
25	Well Stimulation Pump Engine No. 3	TBD	ULSD	8,760 hr/yr	111.9 gal/hr	2,250 hp
26	Well Stimulation Pump Engine No. 4	TBD	ULSD	8,760 hr/yr	42.6 gal/hr	800 hp
27	Well Stimulation Pump Engine No. 5	TBD	ULSD	8,760 hr/yr	42.6 gal/hr	800 hp
28	Well Stimulation Pump Engine No. 6	TBD	ULSD	8,760 hr/yr	42.6 gal/hr	800 hp
29	Well Stimulation Pump Engine No. 7	TBD	ULSD	8,760 hr/yr	42.6 gal/hr	800 hp
30	Well Stimulation Pump Engine No. 8	TBD	ULSD	8,760 hr/yr	42.6 gal/hr	800 hp
31	Well Stimulation Pump Engine No. 9	TBD	ULSD	8,760 hr/yr	42.6 gal/hr	800 hp
32	Well Stimulation Blender Deck Engine	TBD	ULSD	8,760 hr/yr	52.5 gal/hr	1,000 hp
33	Well Stimulation Gel Blender Deck Engine	TBD	ULSD	8,760 hr/yr	26.8 gal/hr	520 hp
34	Well Stimulation Van Engine	TBD	ULSD	8,760 hr/yr	12.8 gal/hr	250 hp
35	Well Stimulation Loads Prop Silo Engine	TBD	ULSD	8,760 hr/yr	2.6 gal/hr	50 hp
36	Drill Rig Generator Engine No. 1	TBD	ULSD	8,760 hr/yr	61.0 gal/hr	1,195 hp
37	Drill Rig Generator Engine No. 2	TBD	ULSD	8,760 hr/yr	61.0 gal/hr	1,195 hp
38	Drill Rig Generator Engine No. 3	TBD	ULSD	8,760 hr/yr	61.0 gal/hr	1,195 hp
39	Drill Rig Generator Engine No. 4	TBD	ULSD	8,760 hr/yr	61.0 gal/hr	1,195 hp
40	Sub-base Cold Start Engine	TBD	ULSD	8,760 hr/yr	15.5 gal/hr	324 hp
41	Mud Module Cold Start Generator Engine	TBD	ULSD	8,760 hr/yr	12.8 gal/hr	250 hp
42	Pump Module Cold Start Generator Engine	TBD	ULSD	8,760 hr/yr	12.8 gal/hr	250 hp
43	Reserve Mud Pit No. 1 Aux Engine	TBD	ULSD	8,760 hr/yr	19.2 gal/hr	399 hp
44	Reserve Mud Pit No. 2 Aux Engine	TBD	ULSD	8,760 hr/yr	19.2 gal/hr	399 hp
45	Drill Rig Generator Engine No. 5	TBD	ULSD	8,760 hr/yr	56.4 gal/hr	1,105 hp
46	Drill Rig Generator Engine No. 6	TBD	ULSD	8,760 hr/yr	56.4 gal/hr	1,104 hp
47	Drill Rig Generator Engine No. 7	TBD	ULSD	8,760 hr/yr	56.6 gal/hr	1,108 hp
48	Drill Rig Generator Engine No. 8	TBD	ULSD	8,760 hr/yr	56.3 gal/hr	1,102 hp
49	Auxiliary Motor Complex Cold Start Generator Engine	TBD	ULSD	8,760 hr/yr	15.5 gal/hr	324 hp
50	Portable Moving Generator Engine No. 1	TBD	ULSD	8,760 hr/yr	5.8 gal/hr	113 hp
51	Portable Moving Generator Engine No. 2	TBD	ULSD	8,760 hr/yr	5.8 gal/hr	113 hp
52	Main Motor Complex Cold Start Generator Engine	TBD	ULSD	8,760 hr/yr	15.5 gal/hr	324 hp
53	Cement Unit Engine No. 1	TBD	ULSD	8,760 hr/yr	17.4 gal/hr	340 hp
54	Cement Unit Engine No. 2	TBD	ULSD	8,760 hr/yr	17.4 gal/hr	340 hp
55	Alaska Camp Generator Engine No. 1	TBD	ULSD	8,760 hr/yr	34.7 gal/hr	732 hp
56	Alaska Camp Generator Engine No. 2	TBD	ULSD	8,760 hr/yr	34.7 gal/hr	732 hp
57	Brine Filtration Generator Engine No. 1	TBD	ULSD	8,760 hr/yr	18.3 gal/hr	374 hp
58	Bulk Tank Storage Area Heater Engine No. 3	TBD	ULSD	8,760 hr/yr	8.6 gal/hr	174 hp
59	Bulk Tank Storage Area Heater Engine No. 4	TBD	ULSD	8,760 hr/yr	8.6 gal/hr	174 hp
60	Bulk Tank Storage Area Heater Engine No. 5	TBD	ULSD	8,760 hr/yr	8.6 gal/hr	174 hp
61	Bulk Tank Storage Area Heater Engine No. 6	TBD	ULSD	8,760 hr/yr	8.6 gal/hr	174 hp
62	Warehouse Generator Engine No. 1	TBD	ULSD	8,760 hr/yr	4.9 gal/hr	96 hp
63	Warehouse Generator Engine No. 2	TBD	ULSD	8,760 hr/yr	4.9 gal/hr	96 hp
64	Drilling Support Engine No. 1	TBD	ULSD	8,760 hr/yr	2.2 gal/hr	43 hp
65	Drilling Support Engine No. 2	TBD	ULSD	8,760 hr/yr	6.1 gal/hr	120 hp
66	Drilling Support Engine No. 3	TBD	ULSD	8,760 hr/yr	6.1 gal/hr	120 hp
67	Drilling Support Engine No. 4	TBD	ULSD	8,760 hr/yr	6.1 gal/hr	120 hp
68	Drilling Support Engine No. 5	TBD	ULSD	8,760 hr/yr	5.9 gal/hr	115 hp
69	Drilling Support Engine No. 6	TBD	ULSD	8,760 hr/yr	5.9 gal/hr	115 hp
70	Brine Filtration Generator Engine No. 2	TBD	ULSD	8,760 hr/yr	18.3 gal/hr	374 hp
71	Cement Unit Engine No. 3	TBD	ULSD	8,760 hr/yr	4.6 gal/hr	91 hp
72	Brine Filtration Support Engine	TBD	ULSD	8,760 hr/yr	3.1 gal/hr	61 hp
73	Bulk Barite Engine	TBD	ULSD	8,760 hr/yr	3.8 gal/hr	75 hp
74	Cement Unit Support Engine	TBD	ULSD	8,760 hr/yr	4.2 gal/hr	83 hp
75	Truck Shop No. 1 Heater No. 1	TBD	ULSD	8,760 hr/yr	1.65 gal/hr	0.229 MMBtu/hr
76	Truck Shop No. 1 Heater No. 2	TBD	ULSD	8,760 hr/yr	1.65 gal/hr	0.229 MMBtu/hr
77	Truck Shop No. 2 Heater No. 1	TBD	ULSD	8,760 hr/yr	1.65 gal/hr	0.229 MMBtu/hr
78	Truck Shop No. 2 Heater No. 2	TBD	ULSD	8,760 hr/yr	1.65 gal/hr	0.229 MMBtu/hr
79	Warehouse Heater No. 1	TBD	ULSD	8,760 hr/yr	18.2 gal/hr	2.5 MMBtu/hr
80	Warehouse Heater No. 2	TBD	ULSD	8,760 hr/yr	18.2 gal/hr	2.5 MMBtu/hr
81	Portable Heater No. 1	TBD	ULSD	8,760 hr/yr	5.1 gal/hr	0.7 MMBtu/hr
82	Portable Heater No. 2	TBD	ULSD	8,760 hr/yr	5.1 gal/hr	0.7 MMBtu/hr
83	Portable Heater No. 3	TBD	ULSD	8,760 hr/yr	5.1 gal/hr	0.7 MMBtu/hr
84	Portable Heater No. 4	TBD	ULSD	8,760 hr/yr	20.1 gal/hr	2.75 MMBtu/hr
85	Portable Heater No. 5	TBD	ULSD	8,760 hr/yr	20.1 gal/hr	2.75 MMBtu/hr
86	Portable Heater No. 6	TBD	ULSD	8,760 hr/yr	20.1 gal/hr	2.75 MMBtu/hr
87	Portable Heater No. 7	TBD	ULSD	8,760 hr/yr	20.1 gal/hr	2.75 MMBtu/hr
88	Portable Heater No. 8	TBD	ULSD	8,760 hr/yr	20.1 gal/hr	2.75 MMBtu/hr
89	Portable Heater No. 9	TBD	ULSD	8,760 hr/yr	20.1 gal/hr	2.75 MMBtu/hr
90	Portable Drill Rig Heater Unit No. 1	TBD	ULSD	8,760 hr/yr	3.6 gal/hr	0.5 MMBtu/hr
91	Portable Drill Rig Heater Unit No. 2	TBD	ULSD	8,760 hr/yr	3.6 gal/hr	0.5 MMBtu/hr
92	Tioga Heater No. 1	TBD	ULSD	8,760 hr/yr	6.6 gal/hr	0.9 MMBtu/hr
93	Tioga Heater No. 2	TBD	ULSD	8,760 hr/yr	6.6 gal/hr	0.9 MMBtu/hr
94	Tioga Heater No. 3	TBD	ULSD	8,760 hr/yr	6.6 gal/hr	0.9 MMBtu/hr
95	Drilling Support Heater No. 1	TBD	ULSD	8,760 hr/yr	7.3 gal/hr	1 MMBtu/hr
96	Drilling Support Heater No. 2	TBD	ULSD	8,760 hr/yr	7.3 gal/hr	1 MMBtu/hr
97	Drilling Support Heater No. 3	TBD	ULSD	8,760 hr/yr	7.3 gal/hr	1 MMBtu/hr
98	Drilling Support Heater No. 4	TBD	ULSD	8,760 hr/yr	7.3 gal/hr	1 MMBtu/hr
99	Drilling Support Heater No. 5	TBD	ULSD	8,760 hr/yr	7.3 gal/hr	1 MMBtu/hr

Table 3. Potential to Emit Calculations - Oxides of Nitrogen (NOX) Emissions
Prudhoe Bay Unit (PBU) Major Gas Sales - Drilling Emission Unit Inventory

Emission Unit			Fuel	Maximum Fuel	Factor	NO_X Emission	Nonroad	Not-to-Exceed	Maximum Annual	Annual NO_X
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Factor	Operation	Emissions
1	Drill Rig Boiler No. 1	4.2 MMBtu/hr	ULSD	30.0 gal/hr	Vendor Data	90 ppm	N/A	N/A	8,760 hr/yr	2.1 tpy
2	Drill Rig Boiler No. 2	6.3 MMBtu/hr	ULSD	45.0 gal/hr	Vendor Data	95 ppm	N/A	N/A	8,760 hr/yr	3.4 tpy
3	Drill Rig Pipeshed Tioga Air Heater No. 1	4.2 MMBtu/hr	ULSD	30.0 gal/hr	Vendor Data	90 ppm	N/A	N/A	8,760 hr/yr	2.1 tpy
4	Drill Rig Pipeshed Tioga Air Heater No. 2	4.2 MMBtu/hr	ULSD	30.0 gal/hr	Vendor Data	90 ppm	N/A	N/A	8,760 hr/yr	2.1 tpy
5	Drill Rig Support Boiler No. 1	6.3 MMBtu/hr	ULSD	45.0 gal/hr	Vendor Data	95 ppm	N/A	N/A	8,760 hr/yr	3.4 tpy
6	Drill Rig Support Boiler No. 2	6.3 MMBtu/hr	ULSD	45.0 gal/hr	Vendor Data	95 ppm	N/A	N/A	8,760 hr/yr	3.4 tpy
7	Bulk Tank Storage Area Boiler No. 1	5.16 MMBtu/hr	ULSD	35.5 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	3.1 tpy
8	Bulk Tank Storage Area Boiler No. 2	5.16 MMBtu/hr	ULSD	35.5 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	3.1 tpy
9	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	5.1 tpy
10	Bulk Mud Engine No. 1	54 hp	ULSD	2.8 gal/hr	40 CFR Part 89 Tier 3	3.5 g/hp-hr	NRE	1.25	8,760 hr/yr	2.3 tpy
11	Bulk Mud Engine No. 2	54 hp	ULSD	2.8 gal/hr	40 CFR Part 89 Tier 3	3.5 g/hp-hr	NRE	1.25	8,760 hr/yr	2.3 tpy
12	Coil Tubing Unit Engine	66 hp	ULSD	3.4 gal/hr	Vendor Data	560 g/hr	NRE	N/A	8,760 hr/yr	5.4 tpy
13	Bulk Tank Storage Area Generator Engine No. 1	779 hp	ULSD	39.8 gal/hr	NSPS Subpart IIII Tier 4i	2.6 g/hp-hr	N/A	1.25	8,760 hr/yr	24.4 tpy
14	Bulk Tank Storage Area Generator Engine No. 2	779 hp	ULSD	39.8 gal/hr	NSPS Subpart IIII Tier 4i	2.6 g/hp-hr	N/A	1.25	8,760 hr/yr	24.4 tpy
15	Bulk Tank Storage Area Generator Engine No. 3	190 hp	ULSD	8.7 gal/hr	40 CFR Part 89 Tier 3	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	6.9 tpy
16	Bulk Tank Storage Area Generator Engine No. 4	190 hp	ULSD	8.7 gal/hr	40 CFR Part 89 Tier 3	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	6.9 tpy
17	Bulk Tank Storage Area Heater Engine No. 1	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	6.3 tpy
18	Bulk Tank Storage Area Heater Engine No. 2	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	6.3 tpy
19	MOD 201/202 Generator Engine No. 1	173 hp	ULSD	8.8 gal/hr	40 CFR Part 89 Tier 2	4.9 g/hp-hr	NRE	1.25	8,760 hr/yr	10.2 tpy
20	Talkeetna Camp Generator Engine No. 1	450 hp	ULSD	25.4 gal/hr	Vendor Data	7.58 lb/hr	N/A	N/A	8,760 hr/yr	33.2 tpy
21	Talkeetna Camp Generator Engine No. 2	450 hp	ULSD	25.4 gal/hr	Vendor Data	7.58 lb/hr	N/A	N/A	8,760 hr/yr	33.2 tpy
22	MOD 201/202 Generator Engine No. 2	173 hp	ULSD	8.8 gal/hr	40 CFR Part 89 Tier 2	4.9 g/hp-hr	NRE	1.25	8,760 hr/yr	10.2 tpy
23	Well Stimulation Pump Engine No. 1	2,250 hp	ULSD	111.9 gal/hr	Vendor Data	30.7 lb/hr	NRE	N/A	8,760 hr/yr	134.2 tpy
24	Well Stimulation Pump Engine No. 2	2,250 hp	ULSD	111.9 gal/hr	Vendor Data	30.7 lb/hr	NRE	N/A	8,760 hr/yr	134.2 tpy
25	Well Stimulation Pump Engine No. 3	2,250 hp	ULSD	111.9 gal/hr	Vendor Data	30.7 lb/hr	NRE	N/A	8,760 hr/yr	134.2 tpy
26	Well Stimulation Pump Engine No. 4	800 hp	ULSD	42.6 gal/hr	Vendor Data	13.89 lb/hr	NRE	N/A	8,760 hr/yr	60.8 tpy
27	Well Stimulation Pump Engine No. 5	800 hp	ULSD	42.6 gal/hr	Vendor Data	13.89 lb/hr	NRE	N/A	8,760 hr/yr	60.8 tpy
28	Well Stimulation Pump Engine No. 6	800 hp	ULSD	42.6 gal/hr	Vendor Data	13.89 lb/hr	NRE	N/A	8,760 hr/yr	60.8 tpy
29	Well Stimulation Pump Engine No. 7	800 hp	ULSD	42.6 gal/hr	Vendor Data	13.89 lb/hr	NRE	N/A	8,760 hr/yr	60.8 tpy
30	Well Stimulation Pump Engine No. 8	800 hp	ULSD	42.6 gal/hr	Vendor Data	10.7 lb/hr	NRE	N/A	8,760 hr/yr	46.6 tpy
31	Well Stimulation Pump Engine No. 9	800 hp	ULSD	42.6 gal/hr	Vendor Data	10.7 lb/hr	NRE	N/A	8,760 hr/yr	46.6 tpy
32	Well Stimulation Blender Deck Engine	1,000 hp	ULSD	52.5 gal/hr	Vendor Data	12.3 lb/hr	NRE	N/A	8,760 hr/yr	53.7 tpy
33	Well Stimulation Gel Blender Deck Engine	520 hp	ULSD	26.8 gal/hr	Vendor Data	3.97 lb/hr	NRE	N/A	8,760 hr/yr	17.4 tpy
34	Well Stimulation Van Engine	250 hp	ULSD	12.8 gal/hr	40 CFR Part 89 Tier 3	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	9.1 tpy
35	Well Stimulation Loads Prop Silo Engine	50 hp	ULSD	2.6 gal/hr	40 CFR Part 89 Tier 3	3.5 g/hp-hr	NRE	1.25	8,760 hr/yr	2.1 tpy
36	Drill Rig Generator Engine No. 1	1,195 hp	ULSD	61.0 gal/hr	Vendor Data	24.26 lb/hr	NRE	N/A	8,760 hr/yr	106.3 tpy
37	Drill Rig Generator Engine No. 2	1,195 hp	ULSD	61.0 gal/hr	Vendor Data	24.26 lb/hr	NRE	N/A	8,760 hr/yr	106.3 tpy
38	Drill Rig Generator Engine No. 3	1,195 hp	ULSD	61.0 gal/hr	Vendor Data	24.26 lb/hr	NRE	N/A	8,760 hr/yr	106.3 tpy
39	Drill Rig Generator Engine No. 4	1,195 hp	ULSD	61.0 gal/hr	Vendor Data	24.26 lb/hr	NRE	N/A	8,760 hr/yr	106.3 tpy
40	Sub-base Cold Start Engine	324 hp	ULSD	15.5 gal/hr	40 CFR Part 89 Tier 3	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	11.7 tpy
41	Mud Module Cold Start Generator Engine	250 hp	ULSD	12.8 gal/hr	40 CFR Part 89 Tier 3	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	9.1 tpy
42	Pump Module Cold Start Generator Engine	250 hp	ULSD	12.8 gal/hr	40 CFR Part 89 Tier 3	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	9.1 tpy
43	Reserve Mud Pit No. 1 Aux Engine	399 hp	ULSD	19.2 gal/hr	40 CFR Part 89 Tier 2	4.8 g/hp-hr	NRE	1.25	8,760 hr/yr	23.1 tpy
44	Reserve Mud Pit No. 2 Aux Engine	399 hp	ULSD	19.2 gal/hr	40 CFR Part 89 Tier 2	4.8 g/hp-hr	NRE	1.25	8,760 hr/yr	23.1 tpy
45	Drill Rig Generator Engine No. 5	1,105 hp	ULSD	56.4 gal/hr	Vendor Data	24.26 lb/hr	NRE	N/A	8,760 hr/yr	106.3 tpy
46	Drill Rig Generator Engine No. 6	1,104 hp	ULSD	56.4 gal/hr	Vendor Data	24.26 lb/hr	NRE	N/A	8,760 hr/yr	106.3 tpy
47	Drill Rig Generator Engine No. 7	1,108 hp	ULSD	56.6 gal/hr	Vendor Data	24.26 lb/hr	NRE	N/A	8,760 hr/yr	106.3 tpy
48	Drill Rig Generator Engine No. 8	1,102 hp	ULSD	56.3 gal/hr	Vendor Data	24.26 lb/hr	NRE	N/A	8,760 hr/yr	106.3 tpy
49	Auxiliary Motor Complex Cold Start Generator Engine	324 hp	ULSD	15.5 gal/hr	40 CFR Part 89 Tier 3	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	11.7 tpy
50	Portable Moving Generator Engine No. 1	113 hp	ULSD	5.8 gal/hr	40 CFR Part 89 Tier 2	4.9 g/hp-hr	NRE	1.25	8,760 hr/yr	6.7 tpy
51	Portable Moving Generator Engine No. 2	113 hp	ULSD	5.8 gal/hr	40 CFR Part 89 Tier 2	4.9 g/hp-hr	NRE	1.25	8,760 hr/yr	6.7 tpy

Table 3. Potential to Emit Calculations - Oxides of Nitrogen (NOX) Emissions
Prudhoe Bay Unit (PBU) Major Gas Sales - Drilling Emission Unit Inventory

Emission Unit			Fuel	Maximum Fuel	Factor	NO_X Emission	Nonroad	Not-to-Exceed	Maximum Annual	Annual NO_X
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Factor	Operation	Emissions
52	Main Motor Complex Cold Start Generator Engine	324 hp	ULSD	15.5 gal/hr	40 CFR Part 89 Tier 3	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	11.7 tpy
53	Cement Unit Engine No. 1	340 hp	ULSD	17.4 gal/hr	40 CFR Part 89 Tier 3	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	12.3 tpy
54	Cement Unit Engine No. 2	340 hp	ULSD	17.4 gal/hr	40 CFR Part 89 Tier 3	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	12.3 tpy
55	Alaska Camp Generator Engine No. 1	732 hp	ULSD	34.7 gal/hr	Vendor Data	4.85 g/hp-hr	N/A	N/A	8,760 hr/yr	34.3 tpy
56	Alaska Camp Generator Engine No. 2	732 hp	ULSD	34.7 gal/hr	Vendor Data	4.85 g/hp-hr	N/A	N/A	8,760 hr/yr	34.3 tpy
57	Brine Filtration Generator Engine No. 1	374 hp	ULSD	18.3 gal/hr	40 CFR Part 89 Tier 3	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	13.5 tpy
58	Bulk Tank Storage Area Heater Engine No. 3	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	6.3 tpy
59	Bulk Tank Storage Area Heater Engine No. 4	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	6.3 tpy
60	Bulk Tank Storage Area Heater Engine No. 5	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	6.3 tpy
61	Bulk Tank Storage Area Heater Engine No. 6	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	6.3 tpy
62	Warehouse Generator Engine No. 1	96 hp	ULSD	4.9 gal/hr	NSPS Subpart IIII Tier 4i	3.5 g/hp-hr	N/A	1.25	8,760 hr/yr	4.1 tpy
63	Warehouse Generator Engine No. 2	96 hp	ULSD	4.9 gal/hr	NSPS Subpart IIII Tier 4i	3.5 g/hp-hr	N/A	1.25	8,760 hr/yr	4.1 tpy
64	Drilling Support Engine No. 1	43 hp	ULSD	2.2 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	2.9 tpy
65	Drilling Support Engine No. 2	120 hp	ULSD	6.1 gal/hr	40 CFR Part 1039 Tier 4i	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	4.3 tpy
66	Drilling Support Engine No. 3	120 hp	ULSD	6.1 gal/hr	40 CFR Part 1039 Tier 4i	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	4.3 tpy
67	Drilling Support Engine No. 4	120 hp	ULSD	6.1 gal/hr	40 CFR Part 1039 Tier 4i	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	4.3 tpy
68	Drilling Support Engine No. 5	115 hp	ULSD	5.9 gal/hr	40 CFR Part 89 Tier 2	4.9 g/hp-hr	NRE	1.25	8,760 hr/yr	6.8 tpy
69	Drilling Support Engine No. 6	115 hp	ULSD	5.9 gal/hr	40 CFR Part 89 Tier 2	4.9 g/hp-hr	NRE	1.25	8,760 hr/yr	6.8 tpy
70	Brine Filtration Generator Engine No. 2	374 hp	ULSD	18.3 gal/hr	40 CFR Part 89 Tier 3	3.0 g/hp-hr	NRE	1.25	8,760 hr/yr	13.5 tpy
71	Cement Unit Engine No. 3	91 hp	ULSD	4.6 gal/hr	40 CFR Part 89 Tier 3	3.5 g/hp-hr	NRE	1.25	8,760 hr/yr	3.8 tpy
72	Brine Filtration Support Engine	61 hp	ULSD	3.1 gal/hr	40 CFR Part 1039 Tier 4i	3.5 g/hp-hr	NRE	1.25	8,760 hr/yr	2.6 tpy
73	Bulk Barite Engine	75 hp	ULSD	3.8 gal/hr	AP-42, Table 3.3-1	0.031 lb/hp-hr	NRE	N/A	8,760 hr/yr	10.2 tpy
74	Cement Unit Support Engine	83 hp	ULSD	4.2 gal/hr	40 CFR Part 89 Tier 2	5.6 g/hp-hr	NRE	1.25	8,760 hr/yr	5.6 tpy
75	Truck Shop No. 1 Heater No. 1	0.229 MMBtu/hr	ULSD	1.65 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
76	Truck Shop No. 1 Heater No. 2	0.229 MMBtu/hr	ULSD	1.65 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
77	Truck Shop No. 2 Heater No. 1	0.229 MMBtu/hr	ULSD	1.65 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
78	Truck Shop No. 2 Heater No. 2	0.229 MMBtu/hr	ULSD	1.65 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
79	Warehouse Heater No. 1	2.5 MMBtu/hr	ULSD	18.2 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	1.6 tpy
80	Warehouse Heater No. 2	2.5 MMBtu/hr	ULSD	18.2 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	1.6 tpy
81	Portable Heater No. 1	0.7 MMBtu/hr	ULSD	5.1 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.4 tpy
82	Portable Heater No. 2	0.7 MMBtu/hr	ULSD	5.1 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.4 tpy
83	Portable Heater No. 3	0.7 MMBtu/hr	ULSD	5.1 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.4 tpy
84	Portable Heater No. 4	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	1.8 tpy
85	Portable Heater No. 5	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	1.8 tpy
86	Portable Heater No. 6	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	1.8 tpy
87	Portable Heater No. 7	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	1.8 tpy
88	Portable Heater No. 8	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	1.8 tpy
89	Portable Heater No. 9	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	1.8 tpy
90	Portable Drill Rig Heater Unit No. 1	0.5 MMBtu/hr	ULSD	3.6 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.3 tpy
91	Portable Drill Rig Heater Unit No. 2	0.5 MMBtu/hr	ULSD	3.6 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.3 tpy
92	Tioga Heater No. 1	0.9 MMBtu/hr	ULSD	6.6 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
93	Tioga Heater No. 2	0.9 MMBtu/hr	ULSD	6.6 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
94	Tioga Heater No. 3	0.9 MMBtu/hr	ULSD	6.6 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
95	Drilling Support Heater No. 1	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
96	Drilling Support Heater No. 2	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
97	Drilling Support Heater No. 3	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
98	Drilling Support Heater No. 4	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
99	Drilling Support Heater No. 5	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.02 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
									Total Potential NO_X Emissions Excluding Non-road Engines	**241.0 tpy**
									Total Potential NO_X Emissions for Non-road Engines	**1,970.2 tpy**
									Total Potential NO_X Emissions for All Emission Units	**2,211.1 tpy**

Notes:
[1] Diesel heating value: 137,000 Btu/gal
[2] Fuel factor for crude, residual, and distillate oil: 9,190 dscf/MMBtu
[3] NRE = Nonroad Engine
[4] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)

Table 4. Potential to Emit Calculations - Carbon Monoxide (CO) Emissions
Prudhoe Bay Unit (PBU) Major Gas Sales - Drilling Emission Unit Inventory

Emission Unit			Fuel	Maximum Fuel	Factor	CO Emission	Nonroad	Not-to-Exceed	Maximum Annual	Annual CO
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Factor	Operation	Emissions
1	Drill Rig Boiler No. 1	4.2 MMBtu/hr	ULSD	30.0 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.7 tpy
2	Drill Rig Boiler No. 2	6.3 MMBtu/hr	ULSD	45.0 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	1.0 tpy
3	Drill Rig Pipeshed Tioga Air Heater No. 1	4.2 MMBtu/hr	ULSD	30.0 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.7 tpy
4	Drill Rig Pipeshed Tioga Air Heater No. 2	4.2 MMBtu/hr	ULSD	30.0 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.7 tpy
5	Drill Rig Support Boiler No. 1	6.3 MMBtu/hr	ULSD	45.0 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	1.0 tpy
6	Drill Rig Support Boiler No. 2	6.3 MMBtu/hr	ULSD	45.0 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	1.0 tpy
7	Bulk Tank Storage Area Boiler No. 1	5.16 MMBtu/hr	ULSD	35.5 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.8 tpy
8	Bulk Tank Storage Area Boiler No. 2	5.16 MMBtu/hr	ULSD	35.5 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.8 tpy
9	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	1.3 tpy
10	Bulk Mud Engine No. 1	54 hp	ULSD	2.8 gal/hr	40 CFR Part 89 Tier 3	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	2.4 tpy
11	Bulk Mud Engine No. 2	54 hp	ULSD	2.8 gal/hr	40 CFR Part 89 Tier 3	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	2.4 tpy
12	Coil Tubing Unit Engine	66 hp	ULSD	3.4 gal/hr	Vendor Data	380 g/hr	NRE	N/A	8,760 hr/yr	3.7 tpy
13	Bulk Tank Storage Area Generator Engine No. 1	779 hp	ULSD	39.8 gal/hr	NSPS Subpart IIII Tier 4i	2.6 g/hp-hr	N/A	1.25	8,760 hr/yr	24.4 tpy
14	Bulk Tank Storage Area Generator Engine No. 2	779 hp	ULSD	39.8 gal/hr	NSPS Subpart IIII Tier 4i	2.6 g/hp-hr	N/A	1.25	8,760 hr/yr	24.4 tpy
15	Bulk Tank Storage Area Generator Engine No. 3	190 hp	ULSD	8.7 gal/hr	40 CFR Part 89 Tier 3	2.6 g/hp-hr	NRE	1.25	8,760 hr/yr	6.0 tpy
16	Bulk Tank Storage Area Generator Engine No. 4	190 hp	ULSD	8.7 gal/hr	40 CFR Part 89 Tier 3	2.6 g/hp-hr	NRE	1.25	8,760 hr/yr	6.0 tpy
17	Bulk Tank Storage Area Heater Engine No. 1	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	7.8 tpy
18	Bulk Tank Storage Area Heater Engine No. 2	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	7.8 tpy
19	MOD 201/202 Generator Engine No. 1	173 hp	ULSD	8.8 gal/hr	40 CFR Part 89 Tier 2	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	7.7 tpy
20	Talkeetna Camp Generator Engine No. 1	450 hp	ULSD	25.4 gal/hr	Vendor Data	1.83 lb/hr	N/A	N/A	8,760 hr/yr	8.0 tpy
21	Talkeetna Camp Generator Engine No. 2	450 hp	ULSD	25.4 gal/hr	Vendor Data	1.83 lb/hr	N/A	N/A	8,760 hr/yr	8.0 tpy
22	MOD 201/202 Generator Engine No. 2	173 hp	ULSD	8.8 gal/hr	40 CFR Part 89 Tier 2	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	7.7 tpy
23	Well Stimulation Pump Engine No. 1	2,250 hp	ULSD	111.9 gal/hr	Vendor Data	7.59 lb/hr	NRE	N/A	8,760 hr/yr	33.2 tpy
24	Well Stimulation Pump Engine No. 2	2,250 hp	ULSD	111.9 gal/hr	Vendor Data	7.59 lb/hr	NRE	N/A	8,760 hr/yr	33.2 tpy
25	Well Stimulation Pump Engine No. 3	2,250 hp	ULSD	111.9 gal/hr	Vendor Data	7.59 lb/hr	NRE	N/A	8,760 hr/yr	33.2 tpy
26	Well Stimulation Pump Engine No. 4	800 hp	ULSD	42.6 gal/hr	Vendor Data	2.15 lb/hr	NRE	N/A	8,760 hr/yr	9.4 tpy
27	Well Stimulation Pump Engine No. 5	800 hp	ULSD	42.6 gal/hr	Vendor Data	2.15 lb/hr	NRE	N/A	8,760 hr/yr	9.4 tpy
28	Well Stimulation Pump Engine No. 6	800 hp	ULSD	42.6 gal/hr	Vendor Data	2.15 lb/hr	NRE	N/A	8,760 hr/yr	9.4 tpy
29	Well Stimulation Pump Engine No. 7	800 hp	ULSD	42.6 gal/hr	Vendor Data	2.15 lb/hr	NRE	N/A	8,760 hr/yr	9.4 tpy
30	Well Stimulation Pump Engine No. 8	800 hp	ULSD	42.6 gal/hr	Vendor Data	2.07 lb/hr	NRE	N/A	8,760 hr/yr	9.1 tpy
31	Well Stimulation Pump Engine No. 9	800 hp	ULSD	42.6 gal/hr	Vendor Data	2.07 lb/hr	NRE	N/A	8,760 hr/yr	9.1 tpy
32	Well Stimulation Blender Deck Engine	1,000 hp	ULSD	52.5 gal/hr	Vendor Data	1.6 lb/hr	NRE	N/A	8,760 hr/yr	7.0 tpy
33	Well Stimulation Gel Blender Deck Engine	520 hp	ULSD	26.8 gal/hr	Vendor Data	3.36 lb/hr	NRE	N/A	8,760 hr/yr	14.7 tpy
34	Well Stimulation Van Engine	250 hp	ULSD	12.8 gal/hr	40 CFR Part 89 Tier 3	2.6 g/hp-hr	NRE	1.25	8,760 hr/yr	7.8 tpy
35	Well Stimulation Loads Prop Silo Engine	50 hp	ULSD	2.6 gal/hr	40 CFR Part 89 Tier 3	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	2.2 tpy
36	Drill Rig Generator Engine No. 1	1,195 hp	ULSD	61.0 gal/hr	Vendor Data	3.96 lb/hr	NRE	N/A	8,760 hr/yr	17.3 tpy
37	Drill Rig Generator Engine No. 2	1,195 hp	ULSD	61.0 gal/hr	Vendor Data	3.96 lb/hr	NRE	N/A	8,760 hr/yr	17.3 tpy
38	Drill Rig Generator Engine No. 3	1,195 hp	ULSD	61.0 gal/hr	Vendor Data	3.96 lb/hr	NRE	N/A	8,760 hr/yr	17.3 tpy
39	Drill Rig Generator Engine No. 4	1,195 hp	ULSD	61.0 gal/hr	Vendor Data	3.96 lb/hr	NRE	N/A	8,760 hr/yr	17.3 tpy
40	Sub-base Cold Start Engine	324 hp	ULSD	15.5 gal/hr	40 CFR Part 89 Tier 3	2.6 g/hp-hr	NRE	1.25	8,760 hr/yr	10.2 tpy
41	Mud Module Cold Start Generator Engine	250 hp	ULSD	12.8 gal/hr	40 CFR Part 89 Tier 3	2.6 g/hp-hr	NRE	1.25	8,760 hr/yr	7.8 tpy
42	Pump Module Cold Start Generator Engine	250 hp	ULSD	12.8 gal/hr	40 CFR Part 89 Tier 3	2.6 g/hp-hr	NRE	1.25	8,760 hr/yr	7.8 tpy
43	Reserve Mud Pit No. 1 Aux Engine	399 hp	ULSD	19.2 gal/hr	40 CFR Part 89 Tier 2	2.6 g/hp-hr	NRE	1.25	8,760 hr/yr	12.5 tpy
44	Reserve Mud Pit No. 2 Aux Engine	399 hp	ULSD	19.2 gal/hr	40 CFR Part 89 Tier 2	2.6 g/hp-hr	NRE	1.25	8,760 hr/yr	12.5 tpy
45	Drill Rig Generator Engine No. 5	1,105 hp	ULSD	56.4 gal/hr	Vendor Data	3.96 lb/hr	NRE	N/A	8,760 hr/yr	17.3 tpy
46	Drill Rig Generator Engine No. 6	1,104 hp	ULSD	56.4 gal/hr	Vendor Data	3.96 lb/hr	NRE	N/A	8,760 hr/yr	17.3 tpy
47	Drill Rig Generator Engine No. 7	1,108 hp	ULSD	56.6 gal/hr	Vendor Data	3.96 lb/hr	NRE	N/A	8,760 hr/yr	17.3 tpy
48	Drill Rig Generator Engine No. 8	1,102 hp	ULSD	56.3 gal/hr	Vendor Data	3.96 lb/hr	NRE	N/A	8,760 hr/yr	17.3 tpy
49	Auxiliary Motor Complex Cold Start Generator Engine	324 hp	ULSD	15.5 gal/hr	40 CFR Part 89 Tier 3	2.6 g/hp-hr	NRE	1.25	8,760 hr/yr	10.2 tpy
50	Portable Moving Generator Engine No. 1	113 hp	ULSD	5.8 gal/hr	40 CFR Part 89 Tier 2	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	5.0 tpy
51	Portable Moving Generator Engine No. 2	113 hp	ULSD	5.8 gal/hr	40 CFR Part 89 Tier 2	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	5.0 tpy
52	Main Motor Complex Cold Start Generator Engine	324 hp	ULSD	15.5 gal/hr	40 CFR Part 89 Tier 3	2.6 g/hp-hr	NRE	1.25	8,760 hr/yr	10.2 tpy

Table 4. Potential to Emit Calculations - Carbon Monoxide (CO) Emissions
Prudhoe Bay Unit (PBU) Major Gas Sales - Drilling Emission Unit Inventory

Emission Unit			Fuel	Maximum Fuel	Factor	CO Emission	Nonroad	Not-to-Exceed	Maximum Annual	Annual CO
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Factor	Operation	Emissions
53	Cement Unit Engine No. 1	340 hp	ULSD	17.4 gal/hr	40 CFR Part 89 Tier 3	2.6 g/hp-hr	NRE	1.25	8,760 hr/yr	10.7 tpy
54	Cement Unit Engine No. 2	340 hp	ULSD	17.4 gal/hr	40 CFR Part 89 Tier 3	2.6 g/hp-hr	NRE	1.25	8,760 hr/yr	10.7 tpy
55	Alaska Camp Generator Engine No. 1	732 hp	ULSD	34.7 gal/hr	Vendor Data	0.41 g/hp-hr	N/A	N/A	8,760 hr/yr	2.9 tpy
56	Alaska Camp Generator Engine No. 2	732 hp	ULSD	34.7 gal/hr	Vendor Data	0.41 g/hp-hr	N/A	N/A	8,760 hr/yr	2.9 tpy
57	Brine Filtration Generator Engine No. 1	374 hp	ULSD	18.3 gal/hr	40 CFR Part 89 Tier 3	2.6 g/hp-hr	NRE	1.25	8,760 hr/yr	11.7 tpy
58	Bulk Tank Storage Area Heater Engine No. 3	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	7.8 tpy
59	Bulk Tank Storage Area Heater Engine No. 4	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	7.8 tpy
60	Bulk Tank Storage Area Heater Engine No. 5	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	7.8 tpy
61	Bulk Tank Storage Area Heater Engine No. 6	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	7.8 tpy
62	Warehouse Generator Engine No. 1	96 hp	ULSD	4.9 gal/hr	NSPS Subpart IIII Tier 4i	3.7 g/hp-hr	N/A	1.25	8,760 hr/yr	4.3 tpy
63	Warehouse Generator Engine No. 2	96 hp	ULSD	4.9 gal/hr	NSPS Subpart IIII Tier 4i	3.7 g/hp-hr	N/A	1.25	8,760 hr/yr	4.3 tpy
64	Drilling Support Engine No. 1	43 hp	ULSD	2.2 gal/hr	40 CFR Part 89 Tier 2	4.1 g/hp-hr	NRE	1.25	8,760 hr/yr	2.1 tpy
65	Drilling Support Engine No. 2	120 hp	ULSD	6.1 gal/hr	40 CFR Part 1039 Tier 4i	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	5.4 tpy
66	Drilling Support Engine No. 3	120 hp	ULSD	6.1 gal/hr	40 CFR Part 1039 Tier 4i	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	5.4 tpy
67	Drilling Support Engine No. 4	120 hp	ULSD	6.1 gal/hr	40 CFR Part 1039 Tier 4i	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	5.4 tpy
68	Drilling Support Engine No. 5	115 hp	ULSD	5.9 gal/hr	40 CFR Part 89 Tier 2	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	5.1 tpy
69	Drilling Support Engine No. 6	115 hp	ULSD	5.9 gal/hr	40 CFR Part 89 Tier 2	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	5.1 tpy
70	Brine Filtration Generator Engine No. 2	374 hp	ULSD	18.3 gal/hr	40 CFR Part 89 Tier 3	2.6 g/hp-hr	NRE	1.25	8,760 hr/yr	11.7 tpy
71	Cement Unit Engine No. 3	91 hp	ULSD	4.6 gal/hr	40 CFR Part 89 Tier 3	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	4.1 tpy
72	Brine Filtration Support Engine	61 hp	ULSD	3.1 gal/hr	40 CFR Part 1039 Tier 4i	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	2.7 tpy
73	Bulk Barite Engine	75 hp	ULSD	3.8 gal/hr	AP-42, Table 3.3-1	0.00668 lb/hp-hr	NRE	N/A	8,760 hr/yr	2.2 tpy
74	Cement Unit Support Engine	83 hp	ULSD	4.2 gal/hr	40 CFR Part 89 Tier 2	3.7 g/hp-hr	NRE	1.25	8,760 hr/yr	3.7 tpy
75	Truck Shop No. 1 Heater No. 1	0.229 MMBtu/hr	ULSD	1.7 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.04 tpy
76	Truck Shop No. 1 Heater No. 2	0.229 MMBtu/hr	ULSD	1.7 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.04 tpy
77	Truck Shop No. 2 Heater No. 1	0.229 MMBtu/hr	ULSD	1.7 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.04 tpy
78	Truck Shop No. 2 Heater No. 2	0.229 MMBtu/hr	ULSD	1.7 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.04 tpy
79	Warehouse Heater No. 1	2.5 MMBtu/hr	ULSD	18.2 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.4 tpy
80	Warehouse Heater No. 2	2.5 MMBtu/hr	ULSD	18.2 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.4 tpy
81	Portable Heater No. 1	0.7 MMBtu/hr	ULSD	5.1 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
82	Portable Heater No. 2	0.7 MMBtu/hr	ULSD	5.1 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
83	Portable Heater No. 3	0.7 MMBtu/hr	ULSD	5.1 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
84	Portable Heater No. 4	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.4 tpy
85	Portable Heater No. 5	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.4 tpy
86	Portable Heater No. 6	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.4 tpy
87	Portable Heater No. 7	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.4 tpy
88	Portable Heater No. 8	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.4 tpy
89	Portable Heater No. 9	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.4 tpy
90	Portable Drill Rig Heater Unit No. 1	0.5 MMBtu/hr	ULSD	3.6 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
91	Portable Drill Rig Heater Unit No. 2	0.5 MMBtu/hr	ULSD	3.6 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
92	Tioga Heater No. 1	0.9 MMBtu/hr	ULSD	6.6 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
93	Tioga Heater No. 2	0.9 MMBtu/hr	ULSD	6.6 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
94	Tioga Heater No. 3	0.9 MMBtu/hr	ULSD	6.6 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
95	Drilling Support Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
96	Drilling Support Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
97	Drilling Support Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
98	Drilling Support Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
99	Drilling Support Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-1	0.005 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
									Total Potential CO Emissions Excluding Non-road Engines	**92.4 tpy**
									Total Potential CO Emissions for Non-road Engines	**575.9 tpy**
									Total Potential CO Emissions for All Emission Units	**668.3 tpy**

Notes:
[1] Diesel heating value: 137,000 Btu/gal
[2] NRE = Nonroad Engine
[3] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)

Table 5. Potential to Emit Calculations - Particulate Matter (PM) Emissions
Prudhoe Bay Unit (PBU) Major Gas Sales - Drilling Emission Unit Inventory

Emission Unit			Fuel	Maximum Fuel	Factor	PM_{10} Emission	Nonroad	Not-to-Exceed	Maximum Annual	Annual PM_{10}
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Factor	Operation	Emissions
1	Drill Rig Boiler No. 1	4.2 MMBtu/hr	ULSD	30.0 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.3 tpy
2	Drill Rig Boiler No. 2	6.3 MMBtu/hr	ULSD	45.0 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.5 tpy
3	Drill Rig Pipeshed Tioga Air Heater No. 1	4.2 MMBtu/hr	ULSD	30.0 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.3 tpy
4	Drill Rig Pipeshed Tioga Air Heater No. 2	4.2 MMBtu/hr	ULSD	30.0 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.3 tpy
5	Drill Rig Support Boiler No. 1	6.3 MMBtu/hr	ULSD	45.0 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.5 tpy
6	Drill Rig Support Boiler No. 2	6.3 MMBtu/hr	ULSD	45.0 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.5 tpy
7	Bulk Tank Storage Area Boiler No. 1	5.16 MMBtu/hr	ULSD	35.5 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.4 tpy
8	Bulk Tank Storage Area Boiler No. 2	5.16 MMBtu/hr	ULSD	35.5 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.4 tpy
9	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.6 tpy
10	Bulk Mud Engine No. 1	54 hp	ULSD	2.8 gal/hr	40 CFR Part 89 Tier 3	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
11	Bulk Mud Engine No. 2	54 hp	ULSD	2.8 gal/hr	40 CFR Part 89 Tier 3	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
12	Coil Tubing Unit Engine	66 hp	ULSD	3.4 gal/hr	AP-42, Table 3.3-1	0.0022 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.6 tpy
13	Bulk Tank Storage Area Generator Engine No. 1	779 hp	ULSD	39.8 gal/hr	NSPS Subpart IIII Tier 4i	0.075 g/hp-hr	N/A	1.25	8,760 hr/yr	0.7 tpy
14	Bulk Tank Storage Area Generator Engine No. 2	779 hp	ULSD	39.8 gal/hr	NSPS Subpart IIII Tier 4i	0.075 g/hp-hr	N/A	1.25	8,760 hr/yr	0.7 tpy
15	Bulk Tank Storage Area Generator Engine No. 3	190 hp	ULSD	8.7 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.3 tpy
16	Bulk Tank Storage Area Generator Engine No. 4	190 hp	ULSD	8.7 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.3 tpy
17	Bulk Tank Storage Area Heater Engine No. 1	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
18	Bulk Tank Storage Area Heater Engine No. 2	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
19	MOD 201/202 Generator Engine No. 1	173 hp	ULSD	8.8 gal/hr	40 CFR Part 89 Tier 2	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
20	Talkeetna Camp Generator Engine No. 1	450 hp	ULSD	25.4 gal/hr	Vendor Data	0.142 lb/hr	N/A	N/A	8,760 hr/yr	0.6 tpy
21	Talkeetna Camp Generator Engine No. 2	450 hp	ULSD	25.4 gal/hr	Vendor Data	0.142 lb/hr	N/A	N/A	8,760 hr/yr	0.6 tpy
22	MOD 201/202 Generator Engine No. 2	173 hp	ULSD	8.8 gal/hr	40 CFR Part 89 Tier 2	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
23	Well Stimulation Pump Engine No. 1	2,250 hp	ULSD	111.9 gal/hr	Vendor Data	0.65 lb/hr	NRE	N/A	8,760 hr/yr	2.8 tpy
24	Well Stimulation Pump Engine No. 2	2,250 hp	ULSD	111.9 gal/hr	Vendor Data	0.65 lb/hr	NRE	N/A	8,760 hr/yr	2.8 tpy
25	Well Stimulation Pump Engine No. 3	2,250 hp	ULSD	111.9 gal/hr	Vendor Data	0.65 lb/hr	NRE	N/A	8,760 hr/yr	2.8 tpy
26	Well Stimulation Pump Engine No. 4	800 hp	ULSD	42.6 gal/hr	Vendor Data	0.33 lb/hr	NRE	N/A	8,760 hr/yr	1.4 tpy
27	Well Stimulation Pump Engine No. 5	800 hp	ULSD	42.6 gal/hr	Vendor Data	0.33 lb/hr	NRE	N/A	8,760 hr/yr	1.4 tpy
28	Well Stimulation Pump Engine No. 6	800 hp	ULSD	42.6 gal/hr	Vendor Data	0.33 lb/hr	NRE	N/A	8,760 hr/yr	1.4 tpy
29	Well Stimulation Pump Engine No. 7	800 hp	ULSD	42.6 gal/hr	Vendor Data	0.33 lb/hr	NRE	N/A	8,760 hr/yr	1.4 tpy
30	Well Stimulation Pump Engine No. 8	800 hp	ULSD	42.6 gal/hr	Vendor Data	0.39 lb/hr	NRE	N/A	8,760 hr/yr	1.7 tpy
31	Well Stimulation Pump Engine No. 9	800 hp	ULSD	42.6 gal/hr	Vendor Data	0.39 lb/hr	NRE	N/A	8,760 hr/yr	1.7 tpy
32	Well Stimulation Blender Deck Engine	1,000 hp	ULSD	52.5 gal/hr	Vendor Data	0.38 lb/hr	NRE	N/A	8,760 hr/yr	1.7 tpy
33	Well Stimulation Gel Blender Deck Engine	520 hp	ULSD	26.8 gal/hr	Vendor Data	0.21 lb/hr	NRE	N/A	8,760 hr/yr	0.9 tpy
34	Well Stimulation Van Engine	250 hp	ULSD	12.8 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
35	Well Stimulation Loads Prop Silo Engine	50 hp	ULSD	2.6 gal/hr	40 CFR Part 89 Tier 3	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
36	Drill Rig Generator Engine No. 1	1,195 hp	ULSD	61.0 gal/hr	Vendor Data	0.255 lb/hr	NRE	N/A	8,760 hr/yr	1.1 tpy
37	Drill Rig Generator Engine No. 2	1,195 hp	ULSD	61.0 gal/hr	Vendor Data	0.255 lb/hr	NRE	N/A	8,760 hr/yr	1.1 tpy
38	Drill Rig Generator Engine No. 3	1,195 hp	ULSD	61.0 gal/hr	Vendor Data	0.255 lb/hr	NRE	N/A	8,760 hr/yr	1.1 tpy
39	Drill Rig Generator Engine No. 4	1,195 hp	ULSD	61.0 gal/hr	Vendor Data	0.255 lb/hr	NRE	N/A	8,760 hr/yr	1.1 tpy
40	Sub-base Cold Start Engine	324 hp	ULSD	15.5 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.6 tpy
41	Mud Module Cold Start Generator Engine	250 hp	ULSD	12.8 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
42	Pump Module Cold Start Generator Engine	250 hp	ULSD	12.8 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
43	Reserve Mud Pit No. 1 Aux Engine	399 hp	ULSD	19.2 gal/hr	40 CFR Part 89 Tier 2	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.7 tpy
44	Reserve Mud Pit No. 2 Aux Engine	399 hp	ULSD	19.2 gal/hr	40 CFR Part 89 Tier 2	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.7 tpy
45	Drill Rig Generator Engine No. 5	1,105 hp	ULSD	56.4 gal/hr	Vendor Data	0.255 lb/hr	NRE	N/A	8,760 hr/yr	1.1 tpy
46	Drill Rig Generator Engine No. 6	1,104 hp	ULSD	56.4 gal/hr	Vendor Data	0.255 lb/hr	NRE	N/A	8,760 hr/yr	1.1 tpy
47	Drill Rig Generator Engine No. 7	1,108 hp	ULSD	56.6 gal/hr	Vendor Data	0.255 lb/hr	NRE	N/A	8,760 hr/yr	1.1 tpy
48	Drill Rig Generator Engine No. 8	1,102 hp	ULSD	56.3 gal/hr	Vendor Data	0.255 lb/hr	NRE	N/A	8,760 hr/yr	1.1 tpy
49	Auxiliary Motor Complex Cold Start Generator Engine	324 hp	ULSD	15.5 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.6 tpy

Table 5. Potential to Emit Calculations - Particulate Matter (PM) Emissions
Prudhoe Bay Unit (PBU) Major Gas Sales - Drilling Emission Unit Inventory

Emission Unit			Fuel	Maximum Fuel	Factor	PM_{10} Emission	Nonroad	Not-to-Exceed	Maximum Annual	Annual PM_{10}
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Factor	Operation	Emissions
50	Portable Moving Generator Engine No. 1	113 hp	ULSD	5.8 gal/hr	40 CFR Part 89 Tier 2	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.3 tpy
51	Portable Moving Generator Engine No. 2	113 hp	ULSD	5.8 gal/hr	40 CFR Part 89 Tier 2	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.3 tpy
52	Main Motor Complex Cold Start Generator Engine	324 hp	ULSD	15.5 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.6 tpy
53	Cement Unit Engine No. 1	340 hp	ULSD	17.4 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.6 tpy
54	Cement Unit Engine No. 2	340 hp	ULSD	17.4 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.6 tpy
55	Alaska Camp Generator Engine No. 1	732 hp	ULSD	34.7 gal/hr	Vendor Data	0.05 g/hp-hr	N/A	N/A	8,760 hr/yr	0.4 tpy
56	Alaska Camp Generator Engine No. 2	732 hp	ULSD	34.7 gal/hr	Vendor Data	0.05 g/hp-hr	N/A	N/A	8,760 hr/yr	0.4 tpy
57	Brine Filtration Generator Engine No. 1	374 hp	ULSD	18.3 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.7 tpy
58	Bulk Tank Storage Area Heater Engine No. 3	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
59	Bulk Tank Storage Area Heater Engine No. 4	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
60	Bulk Tank Storage Area Heater Engine No. 5	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
61	Bulk Tank Storage Area Heater Engine No. 6	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
62	Warehouse Generator Engine No. 1	96 hp	ULSD	4.9 gal/hr	NSPS Subpart IIII Tier 4i	0.015 g/hp-hr	N/A	1.50	8,760 hr/yr	0.02 tpy
63	Warehouse Generator Engine No. 2	96 hp	ULSD	4.9 gal/hr	NSPS Subpart IIII Tier 4i	0.015 g/hp-hr	N/A	1.50	8,760 hr/yr	0.02 tpy
64	Drilling Support Engine No. 1	43 hp	ULSD	2.2 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
65	Drilling Support Engine No. 2	120 hp	ULSD	6.1 gal/hr	40 CFR Part 1039 Tier 4i	0.015 g/hp-hr	NRE	1.50	8,760 hr/yr	0.03 tpy
66	Drilling Support Engine No. 3	120 hp	ULSD	6.1 gal/hr	40 CFR Part 1039 Tier 4i	0.015 g/hp-hr	NRE	1.50	8,760 hr/yr	0.03 tpy
67	Drilling Support Engine No. 4	120 hp	ULSD	6.1 gal/hr	40 CFR Part 1039 Tier 4i	0.015 g/hp-hr	NRE	1.50	8,760 hr/yr	0.03 tpy
68	Drilling Support Engine No. 5	115 hp	ULSD	5.9 gal/hr	40 CFR Part 89 Tier 2	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.3 tpy
69	Drilling Support Engine No. 6	115 hp	ULSD	5.9 gal/hr	40 CFR Part 89 Tier 2	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.3 tpy
70	Brine Filtration Generator Engine No. 2	374 hp	ULSD	18.3 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.7 tpy
71	Cement Unit Engine No. 3	91 hp	ULSD	4.6 gal/hr	40 CFR Part 89 Tier 3	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.3 tpy
72	Brine Filtration Support Engine	61 hp	ULSD	3.1 gal/hr	40 CFR Part 1039 Tier 4i	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
73	Bulk Barite Engine	75 hp	ULSD	3.8 gal/hr	AP-42, Table 3.3-1	0.0022 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.7 tpy
74	Cement Unit Support Engine	83 hp	ULSD	4.2 gal/hr	40 CFR Part 89 Tier 2	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.3 tpy
75	Truck Shop No. 1 Heater No. 1	0.229 MMBtu/hr	ULSD	1.7 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.02 tpy
76	Truck Shop No. 1 Heater No. 2	0.229 MMBtu/hr	ULSD	1.7 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.02 tpy
77	Truck Shop No. 2 Heater No. 1	0.229 MMBtu/hr	ULSD	1.7 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.02 tpy
78	Truck Shop No. 2 Heater No. 2	0.229 MMBtu/hr	ULSD	1.7 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.02 tpy
79	Warehouse Heater No. 1	2.5 MMBtu/hr	ULSD	18.2 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
80	Warehouse Heater No. 2	2.5 MMBtu/hr	ULSD	18.2 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
81	Portable Heater No. 1	0.7 MMBtu/hr	ULSD	5.1 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
82	Portable Heater No. 2	0.7 MMBtu/hr	ULSD	5.1 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
83	Portable Heater No. 3	0.7 MMBtu/hr	ULSD	5.1 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
84	Portable Heater No. 4	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
85	Portable Heater No. 5	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
86	Portable Heater No. 6	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
87	Portable Heater No. 7	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
88	Portable Heater No. 8	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
89	Portable Heater No. 9	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
90	Portable Drill Rig Heater Unit No. 1	0.5 MMBtu/hr	ULSD	3.6 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.0 tpy
91	Portable Drill Rig Heater Unit No. 2	0.5 MMBtu/hr	ULSD	3.6 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.0 tpy
92	Tioga Heater No. 1	0.9 MMBtu/hr	ULSD	6.6 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
93	Tioga Heater No. 2	0.9 MMBtu/hr	ULSD	6.6 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
94	Tioga Heater No. 3	0.9 MMBtu/hr	ULSD	6.6 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
95	Drilling Support Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
96	Drilling Support Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
97	Drilling Support Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
98	Drilling Support Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
99	Drilling Support Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.0023 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
									Total Potential PM/PM_{10} Emissions Excluding Non-road Engines	**9.4 tpy**
									Total Potential PM/PM_{10} Emissions for Non-road Engines	**45.0 tpy**
									Total Potential PM/PM_{10} Emissions for All Emission Units	**54.4 tpy**

Notes:
[1] Diesel heating value: 137,000 Btu/gal
[2] NRE = Nonroad Engine
[3] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)

Table 6. Potential to Emit Calculations - Particulate Matter (PM2.5) Emissions
Prudhoe Bay Unit (PBU) Major Gas Sales - Drilling Emission Unit Inventory

Emission Unit			Fuel	Maximum Fuel	Factor	$PM_{2.5}$ Emission	Nonroad	Not-to-Exceed	Maximum Annual	Annual PM_{10}
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Factor	Operation	Emissions
1	Drill Rig Boiler No. 1	4.2 MMBtu/hr	ULSD	30.0 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
2	Drill Rig Boiler No. 2	6.3 MMBtu/hr	ULSD	45.0 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.3 tpy
3	Drill Rig Pipeshed Tioga Air Heater No. 1	4.2 MMBtu/hr	ULSD	30.0 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
4	Drill Rig Pipeshed Tioga Air Heater No. 2	4.2 MMBtu/hr	ULSD	30.0 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
5	Drill Rig Support Boiler No. 1	6.3 MMBtu/hr	ULSD	45.0 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.3 tpy
6	Drill Rig Support Boiler No. 2	6.3 MMBtu/hr	ULSD	45.0 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.3 tpy
7	Bulk Tank Storage Area Boiler No. 1	5.16 MMBtu/hr	ULSD	35.5 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
8	Bulk Tank Storage Area Boiler No. 2	5.16 MMBtu/hr	ULSD	35.5 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.2 tpy
9	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.4 tpy
10	Bulk Mud Engine No. 1	54 hp	ULSD	2.8 gal/hr	40 CFR Part 89 Tier 3	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
11	Bulk Mud Engine No. 2	54 hp	ULSD	2.8 gal/hr	40 CFR Part 89 Tier 3	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
12	Coil Tubing Unit Engine	66 hp	ULSD	3.4 gal/hr	AP-42, Table 3.3-1	0.0022 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.6 tpy
13	Bulk Tank Storage Area Generator Engine No. 1	779 hp	ULSD	39.8 gal/hr	NSPS Subpart IIII Tier 4i	0.075 g/hp-hr	N/A	1.25	8,760 hr/yr	0.7 tpy
14	Bulk Tank Storage Area Generator Engine No. 2	779 hp	ULSD	39.8 gal/hr	NSPS Subpart IIII Tier 4i	0.075 g/hp-hr	N/A	1.25	8,760 hr/yr	0.7 tpy
15	Bulk Tank Storage Area Generator Engine No. 3	190 hp	ULSD	8.7 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.3 tpy
16	Bulk Tank Storage Area Generator Engine No. 4	190 hp	ULSD	8.7 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.3 tpy
17	Bulk Tank Storage Area Heater Engine No. 1	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
18	Bulk Tank Storage Area Heater Engine No. 2	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
19	MOD 201/202 Generator Engine No. 1	173 hp	ULSD	8.8 gal/hr	40 CFR Part 89 Tier 2	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
20	Talkeetna Camp Generator Engine No. 1	450 hp	ULSD	25.4 gal/hr	Vendor Data	0.142 lb/hr	N/A	N/A	8,760 hr/yr	0.6 tpy
21	Talkeetna Camp Generator Engine No. 2	450 hp	ULSD	25.4 gal/hr	Vendor Data	0.142 lb/hr	N/A	N/A	8,760 hr/yr	0.6 tpy
22	MOD 201/202 Generator Engine No. 2	173 hp	ULSD	8.8 gal/hr	40 CFR Part 89 Tier 2	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
23	Well Stimulation Pump Engine No. 1	2,250 hp	ULSD	111.9 gal/hr	Vendor Data	0.65 lb/hr	NRE	N/A	8,760 hr/yr	2.8 tpy
24	Well Stimulation Pump Engine No. 2	2,250 hp	ULSD	111.9 gal/hr	Vendor Data	0.65 lb/hr	NRE	N/A	8,760 hr/yr	2.8 tpy
25	Well Stimulation Pump Engine No. 3	2,250 hp	ULSD	111.9 gal/hr	Vendor Data	0.65 lb/hr	NRE	N/A	8,760 hr/yr	2.8 tpy
26	Well Stimulation Pump Engine No. 4	800 hp	ULSD	42.6 gal/hr	Vendor Data	0.33 lb/hr	NRE	N/A	8,760 hr/yr	1.4 tpy
27	Well Stimulation Pump Engine No. 5	800 hp	ULSD	42.6 gal/hr	Vendor Data	0.33 lb/hr	NRE	N/A	8,760 hr/yr	1.4 tpy
28	Well Stimulation Pump Engine No. 6	800 hp	ULSD	42.6 gal/hr	Vendor Data	0.33 lb/hr	NRE	N/A	8,760 hr/yr	1.4 tpy
29	Well Stimulation Pump Engine No. 7	800 hp	ULSD	42.6 gal/hr	Vendor Data	0.33 lb/hr	NRE	N/A	8,760 hr/yr	1.4 tpy
30	Well Stimulation Pump Engine No. 8	800 hp	ULSD	42.6 gal/hr	Vendor Data	0.39 lb/hr	NRE	N/A	8,760 hr/yr	1.7 tpy
31	Well Stimulation Pump Engine No. 9	800 hp	ULSD	42.6 gal/hr	Vendor Data	0.39 lb/hr	NRE	N/A	8,760 hr/yr	1.7 tpy
32	Well Stimulation Blender Deck Engine	1,000 hp	ULSD	52.5 gal/hr	Vendor Data	0.38 lb/hr	NRE	N/A	8,760 hr/yr	1.7 tpy
33	Well Stimulation Gel Blender Deck Engine	520 hp	ULSD	26.8 gal/hr	Vendor Data	0.21 lb/hr	NRE	N/A	8,760 hr/yr	0.9 tpy
34	Well Stimulation Van Engine	250 hp	ULSD	12.8 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
35	Well Stimulation Loads Prop Silo Engine	50 hp	ULSD	2.6 gal/hr	40 CFR Part 89 Tier 3	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
36	Drill Rig Generator Engine No. 1	1,195 hp	ULSD	61.0 gal/hr	Vendor Data	0.255 lb/hr	NRE	N/A	8,760 hr/yr	1.1 tpy
37	Drill Rig Generator Engine No. 2	1,195 hp	ULSD	61.0 gal/hr	Vendor Data	0.255 lb/hr	NRE	N/A	8,760 hr/yr	1.1 tpy
38	Drill Rig Generator Engine No. 3	1,195 hp	ULSD	61.0 gal/hr	Vendor Data	0.255 lb/hr	NRE	N/A	8,760 hr/yr	1.1 tpy
39	Drill Rig Generator Engine No. 4	1,195 hp	ULSD	61.0 gal/hr	Vendor Data	0.255 lb/hr	NRE	N/A	8,760 hr/yr	1.1 tpy
40	Sub-base Cold Start Engine	324 hp	ULSD	15.5 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.6 tpy
41	Mud Module Cold Start Generator Engine	250 hp	ULSD	12.8 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
42	Pump Module Cold Start Generator Engine	250 hp	ULSD	12.8 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
43	Reserve Mud Pit No. 1 Aux Engine	399 hp	ULSD	19.2 gal/hr	40 CFR Part 89 Tier 2	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.7 tpy
44	Reserve Mud Pit No. 2 Aux Engine	399 hp	ULSD	19.2 gal/hr	40 CFR Part 89 Tier 2	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.7 tpy
45	Drill Rig Generator Engine No. 5	1,105 hp	ULSD	56.4 gal/hr	Vendor Data	0.255 lb/hr	NRE	N/A	8,760 hr/yr	1.1 tpy
46	Drill Rig Generator Engine No. 6	1,104 hp	ULSD	56.4 gal/hr	Vendor Data	0.255 lb/hr	NRE	N/A	8,760 hr/yr	1.1 tpy
47	Drill Rig Generator Engine No. 7	1,108 hp	ULSD	56.6 gal/hr	Vendor Data	0.255 lb/hr	NRE	N/A	8,760 hr/yr	1.1 tpy
48	Drill Rig Generator Engine No. 8	1,102 hp	ULSD	56.3 gal/hr	Vendor Data	0.255 lb/hr	NRE	N/A	8,760 hr/yr	1.1 tpy
49	Auxiliary Motor Complex Cold Start Generator Engine	324 hp	ULSD	15.5 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.6 tpy

Table 6. Potential to Emit Calculations - Particulate Matter (PM2.5) Emissions
Prudhoe Bay Unit (PBU) Major Gas Sales - Drilling Emission Unit Inventory

Emission Unit			Fuel	Maximum Fuel	Factor	$PM_{2.5}$ Emission	Nonroad	Not-to-Exceed	Maximum Annual	Annual PM_{10}
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Factor	Operation	Emissions
50	Portable Moving Generator Engine No. 1	113 hp	ULSD	5.8 gal/hr	40 CFR Part 89 Tier 2	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.3 tpy
51	Portable Moving Generator Engine No. 2	113 hp	ULSD	5.8 gal/hr	40 CFR Part 89 Tier 2	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.3 tpy
52	Main Motor Complex Cold Start Generator Engine	324 hp	ULSD	15.5 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.6 tpy
53	Cement Unit Engine No. 1	340 hp	ULSD	17.4 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.6 tpy
54	Cement Unit Engine No. 2	340 hp	ULSD	17.4 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.6 tpy
55	Alaska Camp Generator Engine No. 1	732 hp	ULSD	34.7 gal/hr	Vendor Data	0.05 g/hp-hr	N/A	N/A	8,760 hr/yr	0.4 tpy
56	Alaska Camp Generator Engine No. 2	732 hp	ULSD	34.7 gal/hr	Vendor Data	0.05 g/hp-hr	N/A	N/A	8,760 hr/yr	0.4 tpy
57	Brine Filtration Generator Engine No. 1	374 hp	ULSD	18.3 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.7 tpy
58	Bulk Tank Storage Area Heater Engine No. 3	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
59	Bulk Tank Storage Area Heater Engine No. 4	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
60	Bulk Tank Storage Area Heater Engine No. 5	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
61	Bulk Tank Storage Area Heater Engine No. 6	174 hp	ULSD	8.6 gal/hr	40 CFR Part 89 Tier 3	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.5 tpy
62	Warehouse Generator Engine No. 1	96 hp	ULSD	4.9 gal/hr	NSPS Subpart IIII Tier 4i	0.015 g/hp-hr	N/A	1.50	8,760 hr/yr	0.02 tpy
63	Warehouse Generator Engine No. 2	96 hp	ULSD	4.9 gal/hr	NSPS Subpart IIII Tier 4i	0.015 g/hp-hr	N/A	1.50	8,760 hr/yr	0.02 tpy
64	Drilling Support Engine No. 1	43 hp	ULSD	2.2 gal/hr	40 CFR Part 89 Tier 2	0.45 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
65	Drilling Support Engine No. 2	120 hp	ULSD	6.1 gal/hr	40 CFR Part 1039 Tier 4i	0.015 g/hp-hr	NRE	1.50	8,760 hr/yr	0.03 tpy
66	Drilling Support Engine No. 3	120 hp	ULSD	6.1 gal/hr	40 CFR Part 1039 Tier 4i	0.015 g/hp-hr	NRE	1.50	8,760 hr/yr	0.03 tpy
67	Drilling Support Engine No. 4	120 hp	ULSD	6.1 gal/hr	40 CFR Part 1039 Tier 4i	0.015 g/hp-hr	NRE	1.50	8,760 hr/yr	0.03 tpy
68	Drilling Support Engine No. 5	115 hp	ULSD	5.9 gal/hr	40 CFR Part 89 Tier 2	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.3 tpy
69	Drilling Support Engine No. 6	115 hp	ULSD	5.9 gal/hr	40 CFR Part 89 Tier 2	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.3 tpy
70	Brine Filtration Generator Engine No. 2	374 hp	ULSD	18.3 gal/hr	40 CFR Part 89 Tier 3	0.15 g/hp-hr	NRE	1.25	8,760 hr/yr	0.7 tpy
71	Cement Unit Engine No. 3	91 hp	ULSD	4.6 gal/hr	40 CFR Part 89 Tier 3	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.3 tpy
72	Brine Filtration Support Engine	61 hp	ULSD	3.1 gal/hr	40 CFR Part 1039 Tier 4i	0.22 g/hp-hr	NRE	1.25	8,760 hr/yr	0.2 tpy
73	Bulk Barite Engine	75 hp	ULSD	3.8 gal/hr	AP-42, Table 3.3-1	0.0022 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.7 tpy
74	Cement Unit Support Engine	83 hp	ULSD	4.2 gal/hr	40 CFR Part 89 Tier 2	0.3 g/hp-hr	NRE	1.25	8,760 hr/yr	0.3 tpy
75	Truck Shop No. 1 Heater No. 1	0.229 MMBtu/hr	ULSD	1.7 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
76	Truck Shop No. 1 Heater No. 2	0.229 MMBtu/hr	ULSD	1.7 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
77	Truck Shop No. 2 Heater No. 1	0.229 MMBtu/hr	ULSD	1.7 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
78	Truck Shop No. 2 Heater No. 2	0.229 MMBtu/hr	ULSD	1.7 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
79	Warehouse Heater No. 1	2.5 MMBtu/hr	ULSD	18.2 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
80	Warehouse Heater No. 2	2.5 MMBtu/hr	ULSD	18.2 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
81	Portable Heater No. 1	0.7 MMBtu/hr	ULSD	5.1 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.03 tpy
82	Portable Heater No. 2	0.7 MMBtu/hr	ULSD	5.1 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.03 tpy
83	Portable Heater No. 3	0.7 MMBtu/hr	ULSD	5.1 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.03 tpy
84	Portable Heater No. 4	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
85	Portable Heater No. 5	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
86	Portable Heater No. 6	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
87	Portable Heater No. 7	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
88	Portable Heater No. 8	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
89	Portable Heater No. 9	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.1 tpy
90	Portable Drill Rig Heater Unit No. 1	0.5 MMBtu/hr	ULSD	3.6 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.02 tpy
91	Portable Drill Rig Heater Unit No. 2	0.5 MMBtu/hr	ULSD	3.6 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.02 tpy
92	Tioga Heater No. 1	0.9 MMBtu/hr	ULSD	6.6 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.04 tpy
93	Tioga Heater No. 2	0.9 MMBtu/hr	ULSD	6.6 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.04 tpy
94	Tioga Heater No. 3	0.9 MMBtu/hr	ULSD	6.6 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.04 tpy
95	Drilling Support Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
96	Drilling Support Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
97	Drilling Support Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
98	Drilling Support Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
99	Drilling Support Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-2 & 1.3-6	0.00155 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
									Total Potential $PM_{2.5}$ Emissions Excluding Non-road Engines	**7.5 tpy**
									Total Potential $PM_{2.5}$ Emissions for Non-road Engines	**45.0 tpy**
									Total Potential $PM_{2.5}$ Emissions for All Emission Units	**52.5 tpy**

Notes:
[1] Diesel heating value: 137,000 Btu/gal
[2] NRE = Nonroad Engine
[3] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)

Table 7. Potential to Emit Calculations - Volatile Organic Compounds (VOCs) Emissions
Prudhoe Bay Unit (PBU) Major Gas Sales - Drilling Emission Unit Inventory

Emission Unit			Fuel	Maximum Fuel	Factor	VOC Emission	Nonroad	Not-to-Exceed	Maximum Annual	Annual VOC
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Factor	Operation	Emissions
1	Drill Rig Boiler No. 1	4.2 MMBtu/hr	ULSD	30.0 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.03 tpy
2	Drill Rig Boiler No. 2	6.3 MMBtu/hr	ULSD	45.0 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
3	Drill Rig Pipeshed Tioga Air Heater No. 1	4.2 MMBtu/hr	ULSD	30.0 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.03 tpy
4	Drill Rig Pipeshed Tioga Air Heater No. 2	4.2 MMBtu/hr	ULSD	30.0 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.03 tpy
5	Drill Rig Support Boiler No. 1	6.3 MMBtu/hr	ULSD	45.0 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
6	Drill Rig Support Boiler No. 2	6.3 MMBtu/hr	ULSD	45.0 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.05 tpy
7	Bulk Tank Storage Area Boiler No. 1	5.16 MMBtu/hr	ULSD	35.5 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.04 tpy
8	Bulk Tank Storage Area Boiler No. 2	5.16 MMBtu/hr	ULSD	35.5 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.04 tpy
9	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.06 tpy
10	Bulk Mud Engine No. 1	54 hp	ULSD	2.8 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.6 tpy
11	Bulk Mud Engine No. 2	54 hp	ULSD	2.8 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.6 tpy
12	Coil Tubing Unit Engine	66 hp	ULSD	3.4 gal/hr	Vendor Data	23.0 g/hr	NRE	N/A	8,760 hr/yr	0.2 tpy
13	Bulk Tank Storage Area Generator Engine No. 1	779 hp	ULSD	39.8 gal/hr	NSPS Subpart IIII Tier 4i	0.3 g/hp-hr	N/A	1.25	8,760 hr/yr	2.8 tpy
14	Bulk Tank Storage Area Generator Engine No. 2	779 hp	ULSD	39.8 gal/hr	NSPS Subpart IIII Tier 4i	0.3 g/hp-hr	N/A	1.25	8,760 hr/yr	2.8 tpy
15	Bulk Tank Storage Area Generator Engine No. 3	190 hp	ULSD	8.7 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	2.1 tpy
16	Bulk Tank Storage Area Generator Engine No. 4	190 hp	ULSD	8.7 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	2.1 tpy
17	Bulk Tank Storage Area Heater Engine No. 1	174 hp	ULSD	8.6 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.9 tpy
18	Bulk Tank Storage Area Heater Engine No. 2	174 hp	ULSD	8.6 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.9 tpy
19	MOD 201/202 Generator Engine No. 1	173 hp	ULSD	8.8 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.9 tpy
20	Talkeetna Camp Generator Engine No. 1	450 hp	ULSD	25.4 gal/hr	Vendor Data	1.31 lb/hr	N/A	N/A	8,760 hr/yr	5.7 tpy
21	Talkeetna Camp Generator Engine No. 2	450 hp	ULSD	25.4 gal/hr	Vendor Data	1.31 lb/hr	N/A	N/A	8,760 hr/yr	5.7 tpy
22	MOD 201/202 Generator Engine No. 2	173 hp	ULSD	8.8 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.9 tpy
23	Well Stimulation Pump Engine No. 1	2,250 hp	ULSD	111.9 gal/hr	AP-42, Table 3.4-1	0.000705 lb/hp-hr	NRE	N/A	8,760 hr/yr	6.9 tpy
24	Well Stimulation Pump Engine No. 2	2,250 hp	ULSD	111.9 gal/hr	AP-42, Table 3.4-1	0.000705 lb/hp-hr	NRE	N/A	8,760 hr/yr	6.9 tpy
25	Well Stimulation Pump Engine No. 3	2,250 hp	ULSD	111.9 gal/hr	AP-42, Table 3.4-1	0.000705 lb/hp-hr	NRE	N/A	8,760 hr/yr	6.9 tpy
26	Well Stimulation Pump Engine No. 4	800 hp	ULSD	42.6 gal/hr	40 CFR Part 89 Tier 1	1.0 g/hp-hr	NRE	1.25	8,760 hr/yr	9.7 tpy
27	Well Stimulation Pump Engine No. 5	800 hp	ULSD	42.6 gal/hr	40 CFR Part 89 Tier 1	1.0 g/hp-hr	NRE	1.25	8,760 hr/yr	9.7 tpy
28	Well Stimulation Pump Engine No. 6	800 hp	ULSD	42.6 gal/hr	40 CFR Part 89 Tier 1	1.0 g/hp-hr	NRE	1.25	8,760 hr/yr	9.7 tpy
29	Well Stimulation Pump Engine No. 7	800 hp	ULSD	42.6 gal/hr	40 CFR Part 89 Tier 1	1.0 g/hp-hr	NRE	1.25	8,760 hr/yr	9.7 tpy
30	Well Stimulation Pump Engine No. 8	800 hp	ULSD	42.6 gal/hr	Vendor Data	0.35 lb/hr	NRE	N/A	8,760 hr/yr	1.5 tpy
31	Well Stimulation Pump Engine No. 9	800 hp	ULSD	42.6 gal/hr	Vendor Data	0.35 lb/hr	NRE	N/A	8,760 hr/yr	1.5 tpy
32	Well Stimulation Blender Deck Engine	1,000 hp	ULSD	52.5 gal/hr	AP-42, Table 3.4-1	0.000705 lb/hp-hr	NRE	N/A	8,760 hr/yr	3.1 tpy
33	Well Stimulation Gel Blender Deck Engine	520 hp	ULSD	26.8 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	5.6 tpy
34	Well Stimulation Van Engine	250 hp	ULSD	12.8 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	2.7 tpy
35	Well Stimulation Loads Prop Silo Engine	50 hp	ULSD	2.6 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.5 tpy
36	Drill Rig Generator Engine No. 1	1,195 hp	ULSD	61.0 gal/hr	Vendor Data	2.16 lb/hr	NRE	N/A	8,760 hr/yr	9.5 tpy
37	Drill Rig Generator Engine No. 2	1,195 hp	ULSD	61.0 gal/hr	Vendor Data	2.16 lb/hr	NRE	N/A	8,760 hr/yr	9.5 tpy
38	Drill Rig Generator Engine No. 3	1,195 hp	ULSD	61.0 gal/hr	Vendor Data	2.16 lb/hr	NRE	N/A	8,760 hr/yr	9.5 tpy
39	Drill Rig Generator Engine No. 4	1,195 hp	ULSD	61.0 gal/hr	Vendor Data	2.16 lb/hr	NRE	N/A	8,760 hr/yr	9.5 tpy
40	Sub-base Cold Start Engine	324 hp	ULSD	15.5 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	3.5 tpy
41	Mud Module Cold Start Generator Engine	250 hp	ULSD	12.8 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	2.7 tpy
42	Pump Module Cold Start Generator Engine	250 hp	ULSD	12.8 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	2.7 tpy
43	Reserve Mud Pit No. 1 Aux Engine	399 hp	ULSD	19.2 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	4.3 tpy
44	Reserve Mud Pit No. 2 Aux Engine	399 hp	ULSD	19.2 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	4.3 tpy
45	Drill Rig Generator Engine No. 5	1,105 hp	ULSD	56.4 gal/hr	Vendor Data	2.16 lb/hr	NRE	N/A	8,760 hr/yr	9.5 tpy
46	Drill Rig Generator Engine No. 6	1,104 hp	ULSD	56.4 gal/hr	Vendor Data	2.16 lb/hr	NRE	N/A	8,760 hr/yr	9.5 tpy
47	Drill Rig Generator Engine No. 7	1,108 hp	ULSD	56.6 gal/hr	Vendor Data	2.16 lb/hr	NRE	N/A	8,760 hr/yr	9.5 tpy
48	Drill Rig Generator Engine No. 8	1,102 hp	ULSD	56.3 gal/hr	Vendor Data	2.16 lb/hr	NRE	N/A	8,760 hr/yr	9.5 tpy
49	Auxiliary Motor Complex Cold Start Generator Engine	324 hp	ULSD	15.5 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	3.5 tpy
50	Portable Moving Generator Engine No. 1	113 hp	ULSD	5.8 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.2 tpy
51	Portable Moving Generator Engine No. 2	113 hp	ULSD	5.8 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.2 tpy
52	Main Motor Complex Cold Start Generator Engine	324 hp	ULSD	15.5 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	3.5 tpy

Table 7. Potential to Emit Calculations - Volatile Organic Compounds (VOCs) Emissions
Prudhoe Bay Unit (PBU) Major Gas Sales - Drilling Emission Unit Inventory

Emission Unit			Fuel	Maximum Fuel	Factor	VOC Emission	Nonroad	Not-to-Exceed	Maximum Annual	Annual VOC
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Factor	Operation	Emissions
53	Cement Unit Engine No. 1	340 hp	ULSD	17.4 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	3.7 tpy
54	Cement Unit Engine No. 2	340 hp	ULSD	17.4 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	3.7 tpy
55	Alaska Camp Generator Engine No. 1	732 hp	ULSD	34.7 gal/hr	Vendor Data	0.11 g/hp-hr	N/A	N/A	8,760 hr/yr	0.8 tpy
56	Alaska Camp Generator Engine No. 2	732 hp	ULSD	34.7 gal/hr	Vendor Data	0.11 g/hp-hr	N/A	N/A	8,760 hr/yr	0.8 tpy
57	Brine Filtration Generator Engine No. 1	374 hp	ULSD	18.3 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	4.0 tpy
58	Bulk Tank Storage Area Heater Engine No. 3	174 hp	ULSD	8.6 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.9 tpy
59	Bulk Tank Storage Area Heater Engine No. 4	174 hp	ULSD	8.6 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.9 tpy
60	Bulk Tank Storage Area Heater Engine No. 5	174 hp	ULSD	8.6 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.9 tpy
61	Bulk Tank Storage Area Heater Engine No. 6	174 hp	ULSD	8.6 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.9 tpy
62	Warehouse Generator Engine No. 1	96 hp	ULSD	4.9 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	N/A	N/A	8,760 hr/yr	1.0 tpy
63	Warehouse Generator Engine No. 2	96 hp	ULSD	4.9 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	N/A	N/A	8,760 hr/yr	1.0 tpy
64	Drilling Support Engine No. 1	43 hp	ULSD	2.2 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.5 tpy
65	Drilling Support Engine No. 2	120 hp	ULSD	6.1 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.3 tpy
66	Drilling Support Engine No. 3	120 hp	ULSD	6.1 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.3 tpy
67	Drilling Support Engine No. 4	120 hp	ULSD	6.1 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.3 tpy
68	Drilling Support Engine No. 5	115 hp	ULSD	5.9 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.2 tpy
69	Drilling Support Engine No. 6	115 hp	ULSD	5.9 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.2 tpy
70	Brine Filtration Generator Engine No. 2	374 hp	ULSD	18.3 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	4.0 tpy
71	Cement Unit Engine No. 3	91 hp	ULSD	4.6 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	1.0 tpy
72	Brine Filtration Support Engine	61 hp	ULSD	3.1 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.7 tpy
73	Bulk Barite Engine	75 hp	ULSD	3.8 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.8 tpy
74	Cement Unit Support Engine	83 hp	ULSD	4.2 gal/hr	AP-42, Table 3.3-1	0.00247 lb/hp-hr	NRE	N/A	8,760 hr/yr	0.9 tpy
75	Truck Shop No. 1 Heater No. 1	0.229 MMBtu/hr	ULSD	1.7 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.002 tpy
76	Truck Shop No. 1 Heater No. 2	0.229 MMBtu/hr	ULSD	1.7 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.002 tpy
77	Truck Shop No. 2 Heater No. 1	0.229 MMBtu/hr	ULSD	1.7 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.002 tpy
78	Truck Shop No. 2 Heater No. 2	0.229 MMBtu/hr	ULSD	1.7 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.002 tpy
79	Warehouse Heater No. 1	2.5 MMBtu/hr	ULSD	18.2 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.02 tpy
80	Warehouse Heater No. 2	2.5 MMBtu/hr	ULSD	18.2 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.02 tpy
81	Portable Heater No. 1	0.7 MMBtu/hr	ULSD	5.1 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
82	Portable Heater No. 2	0.7 MMBtu/hr	ULSD	5.1 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
83	Portable Heater No. 3	0.7 MMBtu/hr	ULSD	5.1 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
84	Portable Heater No. 4	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.02 tpy
85	Portable Heater No. 5	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.02 tpy
86	Portable Heater No. 6	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.02 tpy
87	Portable Heater No. 7	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.02 tpy
88	Portable Heater No. 8	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.02 tpy
89	Portable Heater No. 9	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.02 tpy
90	Portable Drill Rig Heater Unit No. 1	0.5 MMBtu/hr	ULSD	3.6 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.004 tpy
91	Portable Drill Rig Heater Unit No. 2	0.5 MMBtu/hr	ULSD	3.6 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.004 tpy
92	Tioga Heater No. 1	0.9 MMBtu/hr	ULSD	6.6 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
93	Tioga Heater No. 2	0.9 MMBtu/hr	ULSD	6.6 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
94	Tioga Heater No. 3	0.9 MMBtu/hr	ULSD	6.6 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
95	Drilling Support Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
96	Drilling Support Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
97	Drilling Support Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
98	Drilling Support Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
99	Drilling Support Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-3	0.000252 lb/gal	N/A	N/A	8,760 hr/yr	0.01 tpy
									Total Potential VOC Emissions Excluding Non-road Engines	**21.4 tpy**
									Total Potential VOC Emissions for Non-road Engines	**223.4 tpy**
									Total Potential VOC Emissions for All Emission Units	**244.8 tpy**

Notes:
[1] Diesel heating value: 137,000 Btu/gal

Table 8. Potential to Emit Calculations - Sulfur Dioxide (SO2) Emissions
Prudhoe Bay Unit (PBU) Major Gas Sales - Drilling Emission Unit Inventory

Emission Unit			Fuel	Maximum Fuel	Maximum Fuel	Factor	Nonroad	SO_2 Emission	Maximum Annual	Annual SO_2
ID	Description	Rating/Capacity	Type	Consumption	Sulfur Content	Reference	Engine	Factor	Operation	Emissions
1	Drill Rig Boiler No. 1	4.2 MMBtu/hr	ULSD	30.0 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.03 tpy
2	Drill Rig Boiler No. 2	6.3 MMBtu/hr	ULSD	45.0 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.04 tpy
3	Drill Rig Pipeshed Tioga Air Heater No. 1	4.2 MMBtu/hr	ULSD	30.0 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.03 tpy
4	Drill Rig Pipeshed Tioga Air Heater No. 2	4.2 MMBtu/hr	ULSD	30.0 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.03 tpy
5	Drill Rig Support Boiler No. 1	6.3 MMBtu/hr	ULSD	45.0 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.04 tpy
6	Drill Rig Support Boiler No. 2	6.3 MMBtu/hr	ULSD	45.0 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.04 tpy
7	Bulk Tank Storage Area Boiler No. 1	5.16 MMBtu/hr	ULSD	35.5 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.03 tpy
8	Bulk Tank Storage Area Boiler No. 2	5.16 MMBtu/hr	ULSD	35.5 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.03 tpy
9	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.05 tpy
10	Bulk Mud Engine No. 1	54 hp	ULSD	2.8 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.003 tpy
11	Bulk Mud Engine No. 2	54 hp	ULSD	2.8 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.003 tpy
12	Coil Tubing Unit Engine	66 hp	ULSD	3.4 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.003 tpy
13	Bulk Tank Storage Area Generator Engine No. 1	779 hp	ULSD	39.8 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.04 tpy
14	Bulk Tank Storage Area Generator Engine No. 2	779 hp	ULSD	39.8 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.04 tpy
15	Bulk Tank Storage Area Generator Engine No. 3	190 hp	ULSD	8.7 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.01 tpy
16	Bulk Tank Storage Area Generator Engine No. 4	190 hp	ULSD	8.7 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.01 tpy
17	Bulk Tank Storage Area Heater Engine No. 1	174 hp	ULSD	8.6 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.01 tpy
18	Bulk Tank Storage Area Heater Engine No. 2	174 hp	ULSD	8.6 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.01 tpy
19	MOD 201/202 Generator Engine No. 1	173 hp	ULSD	8.8 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.01 tpy
20	Talkeetna Camp Generator Engine No. 1	450 hp	ULSD	25.4 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.02 tpy
21	Talkeetna Camp Generator Engine No. 2	450 hp	ULSD	25.4 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.02 tpy
22	MOD 201/202 Generator Engine No. 2	173 hp	ULSD	8.8 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.01 tpy
23	Well Stimulation Pump Engine No. 1	2,250 hp	ULSD	111.9 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.1 tpy
24	Well Stimulation Pump Engine No. 2	2,250 hp	ULSD	111.9 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.1 tpy
25	Well Stimulation Pump Engine No. 3	2,250 hp	ULSD	111.9 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.1 tpy
26	Well Stimulation Pump Engine No. 4	800 hp	ULSD	42.6 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.04 tpy
27	Well Stimulation Pump Engine No. 5	800 hp	ULSD	42.6 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.04 tpy
28	Well Stimulation Pump Engine No. 6	800 hp	ULSD	42.6 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.04 tpy
29	Well Stimulation Pump Engine No. 7	800 hp	ULSD	42.6 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.04 tpy
30	Well Stimulation Pump Engine No. 8	800 hp	ULSD	42.6 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.04 tpy
31	Well Stimulation Pump Engine No. 9	800 hp	ULSD	42.6 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.04 tpy
32	Well Stimulation Blender Deck Engine	1,000 hp	ULSD	52.5 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.05 tpy
33	Well Stimulation Gel Blender Deck Engine	520 hp	ULSD	26.8 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.03 tpy
34	Well Stimulation Van Engine	250 hp	ULSD	12.8 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.01 tpy
35	Well Stimulation Loads Prop Silo Engine	50 hp	ULSD	2.6 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.002 tpy
36	Drill Rig Generator Engine No. 1	1,195 hp	ULSD	61.0 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.1 tpy
37	Drill Rig Generator Engine No. 2	1,195 hp	ULSD	61.0 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.1 tpy
38	Drill Rig Generator Engine No. 3	1,195 hp	ULSD	61.0 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.1 tpy
39	Drill Rig Generator Engine No. 4	1,195 hp	ULSD	61.0 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.1 tpy
40	Sub-base Cold Start Engine	324 hp	ULSD	15.5 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.01 tpy
41	Mud Module Cold Start Generator Engine	250 hp	ULSD	12.8 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.01 tpy
42	Pump Module Cold Start Generator Engine	250 hp	ULSD	12.8 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.01 tpy
43	Reserve Mud Pit No. 1 Aux Engine	399 hp	ULSD	19.2 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.02 tpy
44	Reserve Mud Pit No. 2 Aux Engine	399 hp	ULSD	19.2 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.02 tpy
45	Drill Rig Generator Engine No. 5	1,105 hp	ULSD	56.4 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.1 tpy
46	Drill Rig Generator Engine No. 6	1,104 hp	ULSD	56.4 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.1 tpy
47	Drill Rig Generator Engine No. 7	1,108 hp	ULSD	56.6 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.1 tpy
48	Drill Rig Generator Engine No. 8	1,102 hp	ULSD	56.3 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.1 tpy
49	Auxiliary Motor Complex Cold Start Generator Engine	324 hp	ULSD	15.5 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.01 tpy
50	Portable Moving Generator Engine No. 1	113 hp	ULSD	5.8 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.01 tpy
51	Portable Moving Generator Engine No. 2	113 hp	ULSD	5.8 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.01 tpy
52	Main Motor Complex Cold Start Generator Engine	324 hp	ULSD	15.5 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.01 tpy

Table 8. Potential to Emit Calculations - Sulfur Dioxide (SO2) Emissions
Prudhoe Bay Unit (PBU) Major Gas Sales - Drilling Emission Unit Inventory

Emission Unit			Fuel	Maximum Fuel	Maximum Fuel	Factor	Nonroad	SO_2 Emission	Maximum Annual	Annual SO_2
ID	Description	Rating/Capacity	Type	Consumption	Sulfur Content	Reference	Engine	Factor	Operation	Emissions
53	Cement Unit Engine No. 1	340 hp	ULSD	17.4 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.02 tpy
54	Cement Unit Engine No. 2	340 hp	ULSD	17.4 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.02 tpy
55	Alaska Camp Generator Engine No. 1	732 hp	ULSD	34.7 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.03 tpy
56	Alaska Camp Generator Engine No. 2	732 hp	ULSD	34.7 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.03 tpy
57	Brine Filtration Generator Engine No. 1	374 hp	ULSD	18.3 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.02 tpy
58	Bulk Tank Storage Area Heater Engine No. 3	174 hp	ULSD	8.6 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.01 tpy
59	Bulk Tank Storage Area Heater Engine No. 4	174 hp	ULSD	8.6 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.01 tpy
60	Bulk Tank Storage Area Heater Engine No. 5	174 hp	ULSD	8.6 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.01 tpy
61	Bulk Tank Storage Area Heater Engine No. 6	174 hp	ULSD	8.6 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.01 tpy
62	Warehouse Generator Engine No. 1	96 hp	ULSD	4.9 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.005 tpy
63	Warehouse Generator Engine No. 2	96 hp	ULSD	4.9 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.005 tpy
64	Drilling Support Engine No. 1	43 hp	ULSD	2.2 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.002 tpy
65	Drilling Support Engine No. 2	120 hp	ULSD	6.1 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.01 tpy
66	Drilling Support Engine No. 3	120 hp	ULSD	6.1 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.01 tpy
67	Drilling Support Engine No. 4	120 hp	ULSD	6.1 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.01 tpy
68	Drilling Support Engine No. 5	115 hp	ULSD	5.9 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.01 tpy
69	Drilling Support Engine No. 6	115 hp	ULSD	5.9 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.01 tpy
70	Brine Filtration Generator Engine No. 2	374 hp	ULSD	18.3 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.02 tpy
71	Cement Unit Engine No. 3	91 hp	ULSD	4.6 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.004 tpy
72	Brine Filtration Support Engine	61 hp	ULSD	3.1 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.003 tpy
73	Bulk Barite Engine	75 hp	ULSD	3.8 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.004 tpy
74	Cement Unit Support Engine	83 hp	ULSD	4.2 gal/hr	15 ppmw S	Mass Balance	NRE	0.0002 lb/gal	8,760 hr/yr	0.004 tpy
75	Truck Shop No. 1 Heater No. 1	0.229 MMBtu/hr	ULSD	1.7 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.002 tpy
76	Truck Shop No. 1 Heater No. 2	0.229 MMBtu/hr	ULSD	1.7 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.002 tpy
77	Truck Shop No. 2 Heater No. 1	0.229 MMBtu/hr	ULSD	1.7 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.002 tpy
78	Truck Shop No. 2 Heater No. 2	0.229 MMBtu/hr	ULSD	1.7 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.002 tpy
79	Warehouse Heater No. 1	2.5 MMBtu/hr	ULSD	18.2 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.02 tpy
80	Warehouse Heater No. 2	2.5 MMBtu/hr	ULSD	18.2 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.02 tpy
81	Portable Heater No. 1	0.7 MMBtu/hr	ULSD	5.1 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.005 tpy
82	Portable Heater No. 2	0.7 MMBtu/hr	ULSD	5.1 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.005 tpy
83	Portable Heater No. 3	0.7 MMBtu/hr	ULSD	5.1 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.005 tpy
84	Portable Heater No. 4	2.75 MMBtu/hr	ULSD	20.1 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.02 tpy
85	Portable Heater No. 5	2.75 MMBtu/hr	ULSD	20.1 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.02 tpy
86	Portable Heater No. 6	2.75 MMBtu/hr	ULSD	20.1 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.02 tpy
87	Portable Heater No. 7	2.75 MMBtu/hr	ULSD	20.1 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.02 tpy
88	Portable Heater No. 8	2.75 MMBtu/hr	ULSD	20.1 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.02 tpy
89	Portable Heater No. 9	2.75 MMBtu/hr	ULSD	20.1 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.02 tpy
90	Portable Drill Rig Heater Unit No. 1	0.5 MMBtu/hr	ULSD	3.6 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.003 tpy
91	Portable Drill Rig Heater Unit No. 2	0.5 MMBtu/hr	ULSD	3.6 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.003 tpy
92	Tioga Heater No. 1	0.9 MMBtu/hr	ULSD	6.6 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.01 tpy
93	Tioga Heater No. 2	0.9 MMBtu/hr	ULSD	6.6 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.01 tpy
94	Tioga Heater No. 3	0.9 MMBtu/hr	ULSD	6.6 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.01 tpy
95	Drilling Support Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.01 tpy
96	Drilling Support Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.01 tpy
97	Drilling Support Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.01 tpy
98	Drilling Support Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.01 tpy
99	Drilling Support Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	15 ppmw S	Mass Balance	N/A	0.0002 lb/gal	8,760 hr/yr	0.01 tpy
									Total Potential SO_2 Emissions Excluding Non-road Engines	**0.8 tpy**
									Total Potential SO_2 Emissions for Non-road Engines	**1.4 tpy**
									Total Potential SO_2 Emissions for All Emission Units	**2.1 tpy**

Notes:
[1] Diesel heating value: 137,000 Btu/gal
[2] NRE = Nonroad Engine
[3] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)
[4] Diesel engine heat rate: 7,000 Btu/hp-hr AP-42, Table 3.3-1
[5] Diesel sulfur content: 15 ppmw (0.0015 wt. pct.)

Table 9. Potential to Emit Calculations - Lead Emissions
Prudhoe Bay Unit (PBU) Major Gas Sales - Drilling Emission Unit Inventory

Emission Unit			Fuel	Maximum Fuel	Factor	NO_x Emission	Nonroad	Not-to-Exceed	Maximum Annual	Annual NO_x
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Factor	Operation	Emissions
1	Drill Rig Boiler No. 1	4.2 MMBtu/hr	ULSD	30.0 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.0002 tpy
2	Drill Rig Boiler No. 2	6.3 MMBtu/hr	ULSD	45.0 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.0002 tpy
3	Drill Rig Pipeshed Tioga Air Heater No. 1	4.2 MMBtu/hr	ULSD	30.0 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.0002 tpy
4	Drill Rig Pipeshed Tioga Air Heater No. 2	4.2 MMBtu/hr	ULSD	30.0 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.0002 tpy
5	Drill Rig Support Boiler No. 1	6.3 MMBtu/hr	ULSD	45.0 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.0002 tpy
6	Drill Rig Support Boiler No. 2	6.3 MMBtu/hr	ULSD	45.0 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.0002 tpy
7	Bulk Tank Storage Area Boiler No. 1	5.16 MMBtu/hr	ULSD	35.5 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.0002 tpy
8	Bulk Tank Storage Area Boiler No. 2	5.16 MMBtu/hr	ULSD	35.5 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.0002 tpy
9	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.0003 tpy
10	Bulk Mud Engine No. 1	54 hp	ULSD	2.8 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
11	Bulk Mud Engine No. 2	54 hp	ULSD	2.8 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
12	Coil Tubing Unit Engine	66 hp	ULSD	3.4 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
13	Bulk Tank Storage Area Generator Engine No. 1	779 hp	ULSD	39.8 gal/hr	AP-42, Chapter 3	0	N/A	N/A	8,760 hr/yr	0.0 tpy
14	Bulk Tank Storage Area Generator Engine No. 2	779 hp	ULSD	39.8 gal/hr	AP-42, Chapter 3	0	N/A	N/A	8,760 hr/yr	0.0 tpy
15	Bulk Tank Storage Area Generator Engine No. 3	190 hp	ULSD	8.7 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
16	Bulk Tank Storage Area Generator Engine No. 4	190 hp	ULSD	8.7 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
17	Bulk Tank Storage Area Heater Engine No. 1	174 hp	ULSD	8.6 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
18	Bulk Tank Storage Area Heater Engine No. 2	174 hp	ULSD	8.6 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
19	MOD 201/202 Generator Engine No. 1	173 hp	ULSD	8.8 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
20	Talkeetna Camp Generator Engine No. 1	450 hp	ULSD	25.4 gal/hr	AP-42, Chapter 3	0	N/A	N/A	8,760 hr/yr	0.0 tpy
21	Talkeetna Camp Generator Engine No. 2	450 hp	ULSD	25.4 gal/hr	AP-42, Chapter 3	0	N/A	N/A	8,760 hr/yr	0.0 tpy
22	MOD 201/202 Generator Engine No. 2	173 hp	ULSD	8.8 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
23	Well Stimulation Pump Engine No. 1	2,250 hp	ULSD	111.9 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
24	Well Stimulation Pump Engine No. 2	2,250 hp	ULSD	111.9 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
25	Well Stimulation Pump Engine No. 3	2,250 hp	ULSD	111.9 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
26	Well Stimulation Pump Engine No. 4	800 hp	ULSD	42.6 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
27	Well Stimulation Pump Engine No. 5	800 hp	ULSD	42.6 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
28	Well Stimulation Pump Engine No. 6	800 hp	ULSD	42.6 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
29	Well Stimulation Pump Engine No. 7	800 hp	ULSD	42.6 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
30	Well Stimulation Pump Engine No. 8	800 hp	ULSD	42.6 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
31	Well Stimulation Pump Engine No. 9	800 hp	ULSD	42.6 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
32	Well Stimulation Blender Deck Engine	1,000 hp	ULSD	52.5 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
33	Well Stimulation Gel Blender Deck Engine	520 hp	ULSD	26.8 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
34	Well Stimulation Van Engine	250 hp	ULSD	12.8 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
35	Well Stimulation Loads Prop Silo Engine	50 hp	ULSD	2.6 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
36	Drill Rig Generator Engine No. 1	1,195 hp	ULSD	61.0 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
37	Drill Rig Generator Engine No. 2	1,195 hp	ULSD	61.0 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
38	Drill Rig Generator Engine No. 3	1,195 hp	ULSD	61.0 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
39	Drill Rig Generator Engine No. 4	1,195 hp	ULSD	61.0 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
40	Sub-base Cold Start Engine	324 hp	ULSD	15.5 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
41	Mud Module Cold Start Generator Engine	250 hp	ULSD	12.8 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
42	Pump Module Cold Start Generator Engine	250 hp	ULSD	12.8 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
43	Reserve Mud Pit No. 1 Aux Engine	399 hp	ULSD	19.2 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
44	Reserve Mud Pit No. 2 Aux Engine	399 hp	ULSD	19.2 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
45	Drill Rig Generator Engine No. 5	1,105 hp	ULSD	56.4 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
46	Drill Rig Generator Engine No. 6	1,104 hp	ULSD	56.4 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
47	Drill Rig Generator Engine No. 7	1,108 hp	ULSD	56.6 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
48	Drill Rig Generator Engine No. 8	1,102 hp	ULSD	56.3 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
49	Auxiliary Motor Complex Cold Start Generator Engine	324 hp	ULSD	15.5 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
50	Portable Moving Generator Engine No. 1	113 hp	ULSD	5.8 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
51	Portable Moving Generator Engine No. 2	113 hp	ULSD	5.8 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy

Table 9. Potential to Emit Calculations - Lead Emissions
Prudhoe Bay Unit (PBU) Major Gas Sales - Drilling Emission Unit Inventory

Emission Unit			Fuel	Maximum Fuel	Factor	NO_X Emission	Nonroad	Not-to-Exceed	Maximum Annual	Annual NO_X
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Factor	Operation	Emissions
52	Main Motor Complex Cold Start Generator Engine	324 hp	ULSD	15.5 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
53	Cement Unit Engine No. 1	340 hp	ULSD	17.4 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
54	Cement Unit Engine No. 2	340 hp	ULSD	17.4 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
55	Alaska Camp Generator Engine No. 1	732 hp	ULSD	34.7 gal/hr	AP-42, Chapter 3	0	N/A	N/A	8,760 hr/yr	0.0 tpy
56	Alaska Camp Generator Engine No. 2	732 hp	ULSD	34.7 gal/hr	AP-42, Chapter 3	0	N/A	N/A	8,760 hr/yr	0.0 tpy
57	Brine Filtration Generator Engine No. 1	374 hp	ULSD	18.3 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
58	Bulk Tank Storage Area Heater Engine No. 3	174 hp	ULSD	8.6 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
59	Bulk Tank Storage Area Heater Engine No. 4	174 hp	ULSD	8.6 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
60	Bulk Tank Storage Area Heater Engine No. 5	174 hp	ULSD	8.6 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
61	Bulk Tank Storage Area Heater Engine No. 6	174 hp	ULSD	8.6 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
62	Warehouse Generator Engine No. 1	96 hp	ULSD	4.9 gal/hr	AP-42, Chapter 3	0	N/A	N/A	8,760 hr/yr	0.0 tpy
63	Warehouse Generator Engine No. 2	96 hp	ULSD	4.9 gal/hr	AP-42, Chapter 3	0	N/A	N/A	8,760 hr/yr	0.0 tpy
64	Drilling Support Engine No. 1	43 hp	ULSD	2.2 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
65	Drilling Support Engine No. 2	120 hp	ULSD	6.1 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
66	Drilling Support Engine No. 3	120 hp	ULSD	6.1 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
67	Drilling Support Engine No. 4	120 hp	ULSD	6.1 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
68	Drilling Support Engine No. 5	115 hp	ULSD	5.9 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
69	Drilling Support Engine No. 6	115 hp	ULSD	5.9 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
70	Brine Filtration Generator Engine No. 2	374 hp	ULSD	18.3 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
71	Cement Unit Engine No. 3	91 hp	ULSD	4.6 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
72	Brine Filtration Support Engine	61 hp	ULSD	3.1 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
73	Bulk Barite Engine	75 hp	ULSD	3.8 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
74	Cement Unit Support Engine	83 hp	ULSD	4.2 gal/hr	AP-42, Chapter 3	0	NRE	N/A	8,760 hr/yr	0.0 tpy
75	Truck Shop No. 1 Heater No. 1	0.229 MMBtu/hr	ULSD	1.65 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00001 tpy
76	Truck Shop No. 1 Heater No. 2	0.229 MMBtu/hr	ULSD	1.65 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00001 tpy
77	Truck Shop No. 2 Heater No. 1	0.229 MMBtu/hr	ULSD	1.65 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00001 tpy
78	Truck Shop No. 2 Heater No. 2	0.229 MMBtu/hr	ULSD	1.65 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00001 tpy
79	Warehouse Heater No. 1	2.5 MMBtu/hr	ULSD	18.2 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.0001 tpy
80	Warehouse Heater No. 2	2.5 MMBtu/hr	ULSD	18.2 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.0001 tpy
81	Portable Heater No. 1	0.7 MMBtu/hr	ULSD	5.1 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00003 tpy
82	Portable Heater No. 2	0.7 MMBtu/hr	ULSD	5.1 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00003 tpy
83	Portable Heater No. 3	0.7 MMBtu/hr	ULSD	5.1 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00003 tpy
84	Portable Heater No. 4	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.0001 tpy
85	Portable Heater No. 5	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.0001 tpy
86	Portable Heater No. 6	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.0001 tpy
87	Portable Heater No. 7	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.0001 tpy
88	Portable Heater No. 8	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.0001 tpy
89	Portable Heater No. 9	2.75 MMBtu/hr	ULSD	20.1 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.0001 tpy
90	Portable Drill Rig Heater Unit No. 1	0.5 MMBtu/hr	ULSD	3.6 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00002 tpy
91	Portable Drill Rig Heater Unit No. 2	0.5 MMBtu/hr	ULSD	3.6 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00002 tpy
92	Tioga Heater No. 1	0.9 MMBtu/hr	ULSD	6.6 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00004 tpy
93	Tioga Heater No. 2	0.9 MMBtu/hr	ULSD	6.6 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00004 tpy
94	Tioga Heater No. 3	0.9 MMBtu/hr	ULSD	6.6 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00004 tpy
95	Drilling Support Heater No. 1	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00004 tpy
96	Drilling Support Heater No. 2	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00004 tpy
97	Drilling Support Heater No. 3	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00004 tpy
98	Drilling Support Heater No. 4	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00004 tpy
99	Drilling Support Heater No. 5	1 MMBtu/hr	ULSD	7.3 gal/hr	AP-42, Table 1.3-10	9.E-06 lb/MMBtu	N/A	N/A	8,760 hr/yr	0.00004 tpy
									Total Potential Lead Emissions Excluding Non-road Engines	**0.003 tpy**
									Total Potential Lead Emissions for Non-road Engines	**0.0 tpy**
									Total Potential Lead Emissions for All Emission Units	**0.003 tpy**

Notes:
[1] Diesel heating value: 137,000 Btu/gal
[2] Fuel factor for crude, residual, and distillate oil: 9,190 dscf/MMBtu
[3] NRE = Nonroad Engine
[4] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)

Table 10. Potential to Emit Calculations - Carbon Dioxide Equivalent (CO2e) Emissions
Prudhoe Bay Unit (PBU) Major Gas Sales - Drilling Emission Unit Inventory

Emission Unit			Fuel	Nonroad	Potential Greenhouse Gas Emissions (tonnes/year)				
ID	Description	Rating/Capacity	Type	Engine	CO_2	CH_4	N_2O	GHG Mass	GHG CO_2e
1	Drill Rig Boiler No. 1	4.2 MMBtu/hr	ULSD	N/A	2,682	0.11	0.022	2,682	2,691
2	Drill Rig Boiler No. 2	6.3 MMBtu/hr	ULSD	N/A	4,023	0.16	0.033	4,024	4,037
3	Drill Rig Pipeshed Tioga Air Heater No. 1	4.2 MMBtu/hr	ULSD	N/A	2,682	0.11	0.022	2,682	2,691
4	Drill Rig Pipeshed Tioga Air Heater No. 2	4.2 MMBtu/hr	ULSD	N/A	2,682	0.11	0.022	2,682	2,691
5	Drill Rig Support Boiler No. 1	6.3 MMBtu/hr	ULSD	N/A	4,023	0.16	0.033	4,024	4,037
6	Drill Rig Support Boiler No. 2	6.3 MMBtu/hr	ULSD	N/A	4,023	0.16	0.033	4,024	4,037
7	Bulk Tank Storage Area Boiler No. 1	5.16 MMBtu/hr	ULSD	N/A	3,174	0.13	0.026	3,174	3,185
8	Bulk Tank Storage Area Boiler No. 2	5.16 MMBtu/hr	ULSD	N/A	3,174	0.13	0.026	3,174	3,185
9	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	N/A	5,220	0.21	0.042	5,220	5,238
10	Bulk Mud Engine No. 1	54 hp	ULSD	NRE	247	0.01	0.002	247	247
11	Bulk Mud Engine No. 2	54 hp	ULSD	NRE	247	0.01	0.002	247	247
12	Coil Tubing Unit Engine	66 hp	ULSD	NRE	301	0.01	0.002	301	302
13	Bulk Tank Storage Area Generator Engine No. 1	779 hp	ULSD	N/A	3,558	0.14	0.029	3,558	3,570
14	Bulk Tank Storage Area Generator Engine No. 2	779 hp	ULSD	N/A	3,558	0.14	0.029	3,558	3,570
15	Bulk Tank Storage Area Generator Engine No. 3	190 hp	ULSD	NRE	778	0.03	0.006	778	781
16	Bulk Tank Storage Area Generator Engine No. 4	190 hp	ULSD	NRE	778	0.03	0.006	778	781
17	Bulk Tank Storage Area Heater Engine No. 1	174 hp	ULSD	NRE	769	0.03	0.006	769	772
18	Bulk Tank Storage Area Heater Engine No. 2	174 hp	ULSD	NRE	769	0.03	0.006	769	772
19	MOD 201/202 Generator Engine No. 1	173 hp	ULSD	NRE	790	0.03	0.006	790	793
20	Talkeetna Camp Generator Engine No. 1	450 hp	ULSD	N/A	2,272	0.09	0.018	2,272	2,280
21	Talkeetna Camp Generator Engine No. 2	450 hp	ULSD	N/A	2,272	0.09	0.018	2,272	2,280
22	MOD 201/202 Generator Engine No. 2	173 hp	ULSD	NRE	790	0.03	0.006	790	793
23	Well Stimulation Pump Engine No. 1	2,250 hp	ULSD	NRE	10,005	0.41	0.081	10,005	10,039
24	Well Stimulation Pump Engine No. 2	2,250 hp	ULSD	NRE	10,005	0.41	0.081	10,005	10,039
25	Well Stimulation Pump Engine No. 3	2,250 hp	ULSD	NRE	10,005	0.41	0.081	10,005	10,039
26	Well Stimulation Pump Engine No. 4	800 hp	ULSD	NRE	3,805	0.15	0.031	3,805	3,818
27	Well Stimulation Pump Engine No. 5	800 hp	ULSD	NRE	3,805	0.15	0.031	3,805	3,818
28	Well Stimulation Pump Engine No. 6	800 hp	ULSD	NRE	3,805	0.15	0.031	3,805	3,818
29	Well Stimulation Pump Engine No. 7	800 hp	ULSD	NRE	3,805	0.15	0.031	3,805	3,818
30	Well Stimulation Pump Engine No. 8	800 hp	ULSD	NRE	3,805	0.15	0.031	3,805	3,818
31	Well Stimulation Pump Engine No. 9	800 hp	ULSD	NRE	3,805	0.15	0.031	3,805	3,818
32	Well Stimulation Blender Deck Engine	1,000 hp	ULSD	NRE	4,694	0.19	0.038	4,694	4,710
33	Well Stimulation Gel Blender Deck Engine	520 hp	ULSD	NRE	2,396	0.10	0.019	2,396	2,404
34	Well Stimulation Van Engine	250 hp	ULSD	NRE	1,142	0.05	0.009	1,142	1,146
35	Well Stimulation Loads Prop Silo Engine	50 hp	ULSD	NRE	228	0.01	0.002	228	229
36	Drill Rig Generator Engine No. 1	1,195 hp	ULSD	NRE	5,458	0.22	0.044	5,458	5,477
37	Drill Rig Generator Engine No. 2	1,195 hp	ULSD	NRE	5,458	0.22	0.044	5,458	5,477
38	Drill Rig Generator Engine No. 3	1,195 hp	ULSD	NRE	5,458	0.22	0.044	5,458	5,477
39	Drill Rig Generator Engine No. 4	1,195 hp	ULSD	NRE	5,458	0.22	0.044	5,458	5,477
40	Sub-base Cold Start Engine	324 hp	ULSD	NRE	1,386	0.06	0.011	1,386	1,391
41	Mud Module Cold Start Generator Engine	250 hp	ULSD	NRE	1,144	0.05	0.009	1,144	1,148
42	Pump Module Cold Start Generator Engine	250 hp	ULSD	NRE	1,144	0.05	0.009	1,144	1,148
43	Reserve Mud Pit No. 1 Aux Engine	399 hp	ULSD	NRE	1,717	0.07	0.014	1,717	1,723
44	Reserve Mud Pit No. 2 Aux Engine	399 hp	ULSD	NRE	1,717	0.07	0.014	1,717	1,723
45	Drill Rig Generator Engine No. 5	1,105 hp	ULSD	NRE	5,047	0.20	0.041	5,047	5,064
46	Drill Rig Generator Engine No. 6	1,104 hp	ULSD	NRE	5,042	0.20	0.041	5,043	5,060
47	Drill Rig Generator Engine No. 7	1,108 hp	ULSD	NRE	5,061	0.21	0.041	5,061	5,078
48	Drill Rig Generator Engine No. 8	1,102 hp	ULSD	NRE	5,033	0.20	0.041	5,033	5,050
49	Auxiliary Motor Complex Cold Start Generator Engine	324 hp	ULSD	NRE	1,386	0.06	0.011	1,386	1,391
50	Portable Moving Generator Engine No. 1	113 hp	ULSD	NRE	516	0.02	0.004	516	518
51	Portable Moving Generator Engine No. 2	113 hp	ULSD	NRE	516	0.02	0.004	516	518
52	Main Motor Complex Cold Start Generator Engine	324 hp	ULSD	NRE	1,386	0.06	0.011	1,386	1,391
53	Cement Unit Engine No. 1	340 hp	ULSD	NRE	1,553	0.06	0.013	1,553	1,558
54	Cement Unit Engine No. 2	340 hp	ULSD	NRE	1,553	0.06	0.013	1,553	1,558
55	Alaska Camp Generator Engine No. 1	732 hp	ULSD	N/A	3,102	0.13	0.025	3,103	3,113
56	Alaska Camp Generator Engine No. 2	732 hp	ULSD	N/A	3,102	0.13	0.025	3,103	3,113
57	Brine Filtration Generator Engine No. 1	374 hp	ULSD	NRE	1,636	0.07	0.013	1,636	1,642
58	Bulk Tank Storage Area Heater Engine No. 3	174 hp	ULSD	NRE	769	0.03	0.006	769	772
59	Bulk Tank Storage Area Heater Engine No. 4	174 hp	ULSD	NRE	769	0.03	0.006	769	772
60	Bulk Tank Storage Area Heater Engine No. 5	174 hp	ULSD	NRE	769	0.03	0.006	769	772
61	Bulk Tank Storage Area Heater Engine No. 6	174 hp	ULSD	NRE	769	0.03	0.006	769	772
62	Warehouse Generator Engine No. 1	96 hp	ULSD	N/A	438	0.02	0.004	438	440
63	Warehouse Generator Engine No. 2	96 hp	ULSD	N/A	438	0.02	0.004	438	440
64	Drilling Support Engine No. 1	43 hp	ULSD	NRE	196	0.01	0.002	196	197
65	Drilling Support Engine No. 2	120 hp	ULSD	NRE	548	0.02	0.004	548	550
66	Drilling Support Engine No. 3	120 hp	ULSD	NRE	548	0.02	0.004	548	550
67	Drilling Support Engine No. 4	120 hp	ULSD	NRE	548	0.02	0.004	548	550
68	Drilling Support Engine No. 5	115 hp	ULSD	NRE	525	0.02	0.004	525	527
69	Drilling Support Engine No. 6	115 hp	ULSD	NRE	525	0.02	0.004	525	527
70	Brine Filtration Generator Engine No. 2	374 hp	ULSD	NRE	1,636	0.07	0.013	1,636	1,642
71	Cement Unit Engine No. 3	91 hp	ULSD	NRE	416	0.02	0.003	416	417
72	Brine Filtration Support Engine	61 hp	ULSD	NRE	279	0.01	0.002	279	280
73	Bulk Barite Engine	75 hp	ULSD	NRE	343	0.01	0.003	343	344
74	Cement Unit Support Engine	83 hp	ULSD	NRE	379	0.02	0.003	379	380
75	Truck Shop No. 1 Heater No. 1	0.229 MMBtu/hr	ULSD	N/A	148	0.01	0.001	148	148
76	Truck Shop No. 1 Heater No. 2	0.229 MMBtu/hr	ULSD	N/A	148	0.01	0.001	148	148
77	Truck Shop No. 2 Heater No. 1	0.229 MMBtu/hr	ULSD	N/A	148	0.01	0.001	148	148
78	Truck Shop No. 2 Heater No. 2	0.229 MMBtu/hr	ULSD	N/A	148	0.01	0.001	148	148
79	Warehouse Heater No. 1	2.5 MMBtu/hr	ULSD	N/A	1,631	0.07	0.013	1,631	1,637
80	Warehouse Heater No. 2	2.5 MMBtu/hr	ULSD	N/A	1,631	0.07	0.013	1,631	1,637
81	Portable Heater No. 1	0.7 MMBtu/hr	ULSD	N/A	457	0.02	0.004	457	458
82	Portable Heater No. 2	0.7 MMBtu/hr	ULSD	N/A	457	0.02	0.004	457	458
83	Portable Heater No. 3	0.7 MMBtu/hr	ULSD	N/A	457	0.02	0.004	457	458
84	Portable Heater No. 4	2.75 MMBtu/hr	ULSD	N/A	1,794	0.07	0.015	1,794	1,800
85	Portable Heater No. 5	2.75 MMBtu/hr	ULSD	N/A	1,794	0.07	0.015	1,794	1,800
86	Portable Heater No. 6	2.75 MMBtu/hr	ULSD	N/A	1,794	0.07	0.015	1,794	1,800
87	Portable Heater No. 7	2.75 MMBtu/hr	ULSD	N/A	1,794	0.07	0.015	1,794	1,800
88	Portable Heater No. 8	2.75 MMBtu/hr	ULSD	N/A	1,794	0.07	0.015	1,794	1,800
89	Portable Heater No. 9	2.75 MMBtu/hr	ULSD	N/A	1,794	0.07	0.015	1,794	1,800
90	Portable Drill Rig Heater Unit No. 1	0.5 MMBtu/hr	ULSD	N/A	326	0.01	0.003	326	327
91	Portable Drill Rig Heater Unit No. 2	0.5 MMBtu/hr	ULSD	N/A	326	0.01	0.003	326	327
92	Tioga Heater No. 1	0.9 MMBtu/hr	ULSD	N/A	587	0.02	0.005	587	589
93	Tioga Heater No. 2	0.9 MMBtu/hr	ULSD	N/A	587	0.02	0.005	587	589
94	Tioga Heater No. 3	0.9 MMBtu/hr	ULSD	N/A	587	0.02	0.005	587	589
95	Drilling Support Heater No. 1	1.0 MMBtu/hr	ULSD	N/A	652	0.03	0.005	653	655
96	Drilling Support Heater No. 2	1.0 MMBtu/hr	ULSD	N/A	652	0.03	0.005	653	655
97	Drilling Support Heater No. 3	1.0 MMBtu/hr	ULSD	N/A	652	0.03	0.005	653	655
98	Drilling Support Heater No. 4	1.0 MMBtu/hr	ULSD	N/A	652	0.03	0.005	653	655
99	Drilling Support Heater No. 5	1.0 MMBtu/hr	ULSD	N/A	652	0.03	0.005	653	655
							Total Potential CO_2e Emissions Excluding Non-road Engines		72,340 tonne/year
							Total Potential CO_2e Emissions for Non-road Engines		133,920 tonne/year
							Total Potential CO_2e Emissions for All Emission Units		206,260 tonne/year

Table 11. Potential to Emit Calculations - Carbon Dioxide (CO2) Emissions
Prudhoe Bay Unit (PBU) Major Gas Sales - Drilling Emission Unit Inventory

Emission Unit			Fuel	Maximum Fuel	Factor	CO_2 Emission	Nonroad	Maximum Annual	Annual CO_2 Emissions
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Operation	
1	Drill Rig Boiler No. 1	4.2 MMBtu/hr	ULSD	30.0 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	2,682.3 tonne/year
2	Drill Rig Boiler No. 2	6.3 MMBtu/hr	ULSD	45.0 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	4,023.4 tonne/year
3	Drill Rig Pipeshed Tioga Air Heater No. 1	4.2 MMBtu/hr	ULSD	30.0 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	2,682.3 tonne/year
4	Drill Rig Pipeshed Tioga Air Heater No. 2	4.2 MMBtu/hr	ULSD	30.0 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	2,682.3 tonne/year
5	Drill Rig Support Boiler No. 1	6.3 MMBtu/hr	ULSD	45.0 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	4,023.4 tonne/year
6	Drill Rig Support Boiler No. 2	6.3 MMBtu/hr	ULSD	45.0 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	4,023.4 tonne/year
7	Bulk Tank Storage Area Boiler No. 1	5.16 MMBtu/hr	ULSD	35.5 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	3,174.0 tonne/year
8	Bulk Tank Storage Area Boiler No. 2	5.16 MMBtu/hr	ULSD	35.5 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	3,174.0 tonne/year
9	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	5,219.8 tonne/year
10	Bulk Mud Engine No. 1	54 hp	ULSD	2.8 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	246.6 tonne/year
11	Bulk Mud Engine No. 2	54 hp	ULSD	2.8 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	246.6 tonne/year
12	Coil Tubing Unit Engine	66 hp	ULSD	3.4 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	301.4 tonne/year
13	Bulk Tank Storage Area Generator Engine No. 1	779 hp	ULSD	39.8 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	3,558.0 tonne/year
14	Bulk Tank Storage Area Generator Engine No. 2	779 hp	ULSD	39.8 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	3,558.0 tonne/year
15	Bulk Tank Storage Area Generator Engine No. 3	190 hp	ULSD	8.7 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	777.9 tonne/year
16	Bulk Tank Storage Area Generator Engine No. 4	190 hp	ULSD	8.7 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	777.9 tonne/year
17	Bulk Tank Storage Area Heater Engine No. 1	174 hp	ULSD	8.6 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	768.9 tonne/year
18	Bulk Tank Storage Area Heater Engine No. 2	174 hp	ULSD	8.6 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	768.9 tonne/year
19	MOD 201/202 Generator Engine No. 1	173 hp	ULSD	8.8 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	790.1 tonne/year
20	Talkeetna Camp Generator Engine No. 1	450 hp	ULSD	25.4 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	2,272.4 tonne/year
21	Talkeetna Camp Generator Engine No. 2	450 hp	ULSD	25.4 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	2,272.4 tonne/year
22	MOD 201/202 Generator Engine No. 2	173 hp	ULSD	8.8 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	790.1 tonne/year
23	Well Stimulation Pump Engine No. 1	2,250 hp	ULSD	111.9 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	10,004.8 tonne/year
24	Well Stimulation Pump Engine No. 2	2,250 hp	ULSD	111.9 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	10,004.8 tonne/year
25	Well Stimulation Pump Engine No. 3	2,250 hp	ULSD	111.9 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	10,004.8 tonne/year
26	Well Stimulation Pump Engine No. 4	800 hp	ULSD	42.6 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	3,805.2 tonne/year
27	Well Stimulation Pump Engine No. 5	800 hp	ULSD	42.6 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	3,805.2 tonne/year
28	Well Stimulation Pump Engine No. 6	800 hp	ULSD	42.6 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	3,805.2 tonne/year
29	Well Stimulation Pump Engine No. 7	800 hp	ULSD	42.6 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	3,805.2 tonne/year
30	Well Stimulation Pump Engine No. 8	800 hp	ULSD	42.6 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	3,805.2 tonne/year
31	Well Stimulation Pump Engine No. 9	800 hp	ULSD	42.6 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	3,805.2 tonne/year
32	Well Stimulation Blender Deck Engine	1,000 hp	ULSD	52.5 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	4,694.0 tonne/year
33	Well Stimulation Gel Blender Deck Engine	520 hp	ULSD	26.8 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	2,396.2 tonne/year
34	Well Stimulation Van Engine	250 hp	ULSD	12.8 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	1,141.8 tonne/year
35	Well Stimulation Loads Prop Silo Engine	50 hp	ULSD	2.6 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	228.4 tonne/year
36	Drill Rig Generator Engine No. 1	1,195 hp	ULSD	61.0 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	5,458.0 tonne/year
37	Drill Rig Generator Engine No. 2	1,195 hp	ULSD	61.0 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	5,458.0 tonne/year
38	Drill Rig Generator Engine No. 3	1,195 hp	ULSD	61.0 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	5,458.0 tonne/year
39	Drill Rig Generator Engine No. 4	1,195 hp	ULSD	61.0 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	5,458.0 tonne/year
40	Sub-base Cold Start Engine	324 hp	ULSD	15.5 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	1,385.8 tonne/year
41	Mud Module Cold Start Generator Engine	250 hp	ULSD	12.8 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	1,144.4 tonne/year
42	Pump Module Cold Start Generator Engine	250 hp	ULSD	12.8 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	1,144.4 tonne/year
43	Reserve Mud Pit No. 1 Aux Engine	399 hp	ULSD	19.2 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	1,716.6 tonne/year
44	Reserve Mud Pit No. 2 Aux Engine	399 hp	ULSD	19.2 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	1,716.6 tonne/year
45	Drill Rig Generator Engine No. 5	1,105 hp	ULSD	56.4 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	5,046.9 tonne/year
46	Drill Rig Generator Engine No. 6	1,104 hp	ULSD	56.4 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	5,042.3 tonne/year
47	Drill Rig Generator Engine No. 7	1,108 hp	ULSD	56.6 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	5,060.6 tonne/year
48	Drill Rig Generator Engine No. 8	1,102 hp	ULSD	56.3 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	5,033.2 tonne/year
49	Auxiliary Motor Complex Cold Start Generator Engine	324 hp	ULSD	15.5 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	1,385.8 tonne/year
50	Portable Moving Generator Engine No. 1	113 hp	ULSD	5.8 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	516.1 tonne/year
51	Portable Moving Generator Engine No. 2	113 hp	ULSD	5.8 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	516.1 tonne/year
52	Main Motor Complex Cold Start Generator Engine	324 hp	ULSD	15.5 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	1,385.8 tonne/year

Table 11. Potential to Emit Calculations - Carbon Dioxide (CO2) Emissions
Prudhoe Bay Unit (PBU) Major Gas Sales - Drilling Emission Unit Inventory

Emission Unit			Fuel	Maximum Fuel	Factor	CO_2 Emission	Nonroad	Maximum Annual	Annual CO_2 Emissions
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Operation	
53	Cement Unit Engine No. 1	340 hp	ULSD	17.4 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	1,552.9 tonne/year
54	Cement Unit Engine No. 2	340 hp	ULSD	17.4 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	1,552.9 tonne/year
55	Alaska Camp Generator Engine No. 1	732 hp	ULSD	34.7 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	3,102.5 tonne/year
56	Alaska Camp Generator Engine No. 2	732 hp	ULSD	34.7 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	3,102.5 tonne/year
57	Brine Filtration Generator Engine No. 1	374 hp	ULSD	18.3 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	1,636.2 tonne/year
58	Bulk Tank Storage Area Heater Engine No. 3	174 hp	ULSD	8.6 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	768.9 tonne/year
59	Bulk Tank Storage Area Heater Engine No. 4	174 hp	ULSD	8.6 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	768.9 tonne/year
60	Bulk Tank Storage Area Heater Engine No. 5	174 hp	ULSD	8.6 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	768.9 tonne/year
61	Bulk Tank Storage Area Heater Engine No. 6	174 hp	ULSD	8.6 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	768.9 tonne/year
62	Warehouse Generator Engine No. 1	96 hp	ULSD	4.9 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	438.5 tonne/year
63	Warehouse Generator Engine No. 2	96 hp	ULSD	4.9 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	438.5 tonne/year
64	Drilling Support Engine No. 1	43 hp	ULSD	2.2 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	196.4 tonne/year
65	Drilling Support Engine No. 2	120 hp	ULSD	6.1 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	548.1 tonne/year
66	Drilling Support Engine No. 3	120 hp	ULSD	6.1 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	548.1 tonne/year
67	Drilling Support Engine No. 4	120 hp	ULSD	6.1 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	548.1 tonne/year
68	Drilling Support Engine No. 5	115 hp	ULSD	5.9 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	525.2 tonne/year
69	Drilling Support Engine No. 6	115 hp	ULSD	5.9 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	525.2 tonne/year
70	Brine Filtration Generator Engine No. 2	374 hp	ULSD	18.3 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	1,636.2 tonne/year
71	Cement Unit Engine No. 3	91 hp	ULSD	4.6 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	415.6 tonne/year
72	Brine Filtration Support Engine	61 hp	ULSD	3.1 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	278.6 tonne/year
73	Bulk Barite Engine	75 hp	ULSD	3.8 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	342.5 tonne/year
74	Cement Unit Support Engine	83 hp	ULSD	4.2 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	NRE	8,760 hr/yr	379.1 tonne/year
75	Truck Shop No. 1 Heater No. 1	0.229 MMBtu/hr	ULSD	1.7 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	147.5 tonne/year
76	Truck Shop No. 1 Heater No. 2	0.229 MMBtu/hr	ULSD	1.7 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	147.5 tonne/year
77	Truck Shop No. 2 Heater No. 1	0.229 MMBtu/hr	ULSD	1.7 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	147.5 tonne/year
78	Truck Shop No. 2 Heater No. 2	0.229 MMBtu/hr	ULSD	1.7 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	147.5 tonne/year
79	Warehouse Heater No. 1	2.5 MMBtu/hr	ULSD	18.2 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	1,631.2 tonne/year
80	Warehouse Heater No. 2	2.5 MMBtu/hr	ULSD	18.2 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	1,631.2 tonne/year
81	Portable Heater No. 1	0.7 MMBtu/hr	ULSD	5.1 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	456.7 tonne/year
82	Portable Heater No. 2	0.7 MMBtu/hr	ULSD	5.1 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	456.7 tonne/year
83	Portable Heater No. 3	0.7 MMBtu/hr	ULSD	5.1 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	456.7 tonne/year
84	Portable Heater No. 4	2.75 MMBtu/hr	ULSD	20.1 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	1,794.3 tonne/year
85	Portable Heater No. 5	2.75 MMBtu/hr	ULSD	20.1 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	1,794.3 tonne/year
86	Portable Heater No. 6	2.75 MMBtu/hr	ULSD	20.1 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	1,794.3 tonne/year
87	Portable Heater No. 7	2.75 MMBtu/hr	ULSD	20.1 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	1,794.3 tonne/year
88	Portable Heater No. 8	2.75 MMBtu/hr	ULSD	20.1 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	1,794.3 tonne/year
89	Portable Heater No. 9	2.75 MMBtu/hr	ULSD	20.1 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	1,794.3 tonne/year
90	Portable Drill Rig Heater Unit No. 1	0.5 MMBtu/hr	ULSD	3.6 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	326.2 tonne/year
91	Portable Drill Rig Heater Unit No. 2	0.5 MMBtu/hr	ULSD	3.6 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	326.2 tonne/year
92	Tioga Heater No. 1	0.9 MMBtu/hr	ULSD	6.6 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	587.2 tonne/year
93	Tioga Heater No. 2	0.9 MMBtu/hr	ULSD	6.6 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	587.2 tonne/year
94	Tioga Heater No. 3	0.9 MMBtu/hr	ULSD	6.6 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	587.2 tonne/year
95	Drilling Support Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	652.5 tonne/year
96	Drilling Support Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	652.5 tonne/year
97	Drilling Support Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	652.5 tonne/year
98	Drilling Support Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	652.5 tonne/year
99	Drilling Support Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	40 CFR 98, Table C-1	73.96 kg/MMBtu	N/A	8,760 hr/yr	652.5 tonne/year
								Total Potential CO_2 Emissions Excluding Non-road Engines	**72,092 tonne/year**
								Total Potential CO_2 Emissions for Non-road Engines	**133,462 tonne/year**
								Total Potential CO_2 Emissions for All Emission Units	**205,555 tonne/year**

Notes:
[1] Heat rate for diesel engines: 7,000 Btu/hp-hr
[2] NRE = Nonroad Engine
[3] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)
[4] Diesel high heat value: 0.138 MMBtu/gallon

Table 12. Potential to Emit Calculations - Methane (CH4) Emissions
Prudhoe Bay Unit (PBU) Major Gas Sales - Drilling Emission Unit Inventory

Emission Unit			Fuel	Maximum Fuel	Factor	CH_4 Emission	Nonroad	Maximum Annual	Annual CH_4 Emissions
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Operation	
1	Drill Rig Boiler No. 1	4.2 MMBtu/hr	ULSD	30.0 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.109 tonne/year
2	Drill Rig Boiler No. 2	6.3 MMBtu/hr	ULSD	45.0 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.163 tonne/year
3	Drill Rig Pipeshed Tioga Air Heater No. 1	4.2 MMBtu/hr	ULSD	30.0 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.109 tonne/year
4	Drill Rig Pipeshed Tioga Air Heater No. 2	4.2 MMBtu/hr	ULSD	30.0 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.109 tonne/year
5	Drill Rig Support Boiler No. 1	6.3 MMBtu/hr	ULSD	45.0 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.163 tonne/year
6	Drill Rig Support Boiler No. 2	6.3 MMBtu/hr	ULSD	45.0 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.163 tonne/year
7	Bulk Tank Storage Area Boiler No. 1	5.16 MMBtu/hr	ULSD	35.5 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.129 tonne/year
8	Bulk Tank Storage Area Boiler No. 2	5.16 MMBtu/hr	ULSD	35.5 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.129 tonne/year
9	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.212 tonne/year
10	Bulk Mud Engine No. 1	54 hp	ULSD	2.8 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.010 tonne/year
11	Bulk Mud Engine No. 2	54 hp	ULSD	2.8 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.010 tonne/year
12	Coil Tubing Unit Engine	66 hp	ULSD	3.4 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.012 tonne/year
13	Bulk Tank Storage Area Generator Engine No. 1	779 hp	ULSD	39.8 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.144 tonne/year
14	Bulk Tank Storage Area Generator Engine No. 2	779 hp	ULSD	39.8 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.144 tonne/year
15	Bulk Tank Storage Area Generator Engine No. 3	190 hp	ULSD	8.7 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.032 tonne/year
16	Bulk Tank Storage Area Generator Engine No. 4	190 hp	ULSD	8.7 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.032 tonne/year
17	Bulk Tank Storage Area Heater Engine No. 1	174 hp	ULSD	8.6 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.031 tonne/year
18	Bulk Tank Storage Area Heater Engine No. 2	174 hp	ULSD	8.6 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.031 tonne/year
19	MOD 201/202 Generator Engine No. 1	173 hp	ULSD	8.8 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.032 tonne/year
20	Talkeetna Camp Generator Engine No. 1	450 hp	ULSD	25.4 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.092 tonne/year
21	Talkeetna Camp Generator Engine No. 2	450 hp	ULSD	25.4 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.092 tonne/year
22	MOD 201/202 Generator Engine No. 2	173 hp	ULSD	8.8 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.032 tonne/year
23	Well Stimulation Pump Engine No. 1	2,250 hp	ULSD	111.9 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.406 tonne/year
24	Well Stimulation Pump Engine No. 2	2,250 hp	ULSD	111.9 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.406 tonne/year
25	Well Stimulation Pump Engine No. 3	2,250 hp	ULSD	111.9 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.406 tonne/year
26	Well Stimulation Pump Engine No. 4	800 hp	ULSD	42.6 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.154 tonne/year
27	Well Stimulation Pump Engine No. 5	800 hp	ULSD	42.6 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.154 tonne/year
28	Well Stimulation Pump Engine No. 6	800 hp	ULSD	42.6 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.154 tonne/year
29	Well Stimulation Pump Engine No. 7	800 hp	ULSD	42.6 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.154 tonne/year
30	Well Stimulation Pump Engine No. 8	800 hp	ULSD	42.6 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.154 tonne/year
31	Well Stimulation Pump Engine No. 9	800 hp	ULSD	42.6 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.154 tonne/year
32	Well Stimulation Blender Deck Engine	1,000 hp	ULSD	52.5 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.190 tonne/year
33	Well Stimulation Gel Blender Deck Engine	520 hp	ULSD	26.8 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.097 tonne/year
34	Well Stimulation Van Engine	250 hp	ULSD	12.8 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.046 tonne/year
35	Well Stimulation Loads Prop Silo Engine	50 hp	ULSD	2.6 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.009 tonne/year
36	Drill Rig Generator Engine No. 1	1,195 hp	ULSD	61.0 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.221 tonne/year
37	Drill Rig Generator Engine No. 2	1,195 hp	ULSD	61.0 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.221 tonne/year
38	Drill Rig Generator Engine No. 3	1,195 hp	ULSD	61.0 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.221 tonne/year
39	Drill Rig Generator Engine No. 4	1,195 hp	ULSD	61.0 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.221 tonne/year
40	Sub-base Cold Start Engine	324 hp	ULSD	15.5 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.056 tonne/year
41	Mud Module Cold Start Generator Engine	250 hp	ULSD	12.8 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.046 tonne/year
42	Pump Module Cold Start Generator Engine	250 hp	ULSD	12.8 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.046 tonne/year
43	Reserve Mud Pit No. 1 Aux Engine	399 hp	ULSD	19.2 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.070 tonne/year
44	Reserve Mud Pit No. 2 Aux Engine	399 hp	ULSD	19.2 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.070 tonne/year
45	Drill Rig Generator Engine No. 5	1,105 hp	ULSD	56.4 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.205 tonne/year
46	Drill Rig Generator Engine No. 6	1,104 hp	ULSD	56.4 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.205 tonne/year
47	Drill Rig Generator Engine No. 7	1,108 hp	ULSD	56.6 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.205 tonne/year
48	Drill Rig Generator Engine No. 8	1,102 hp	ULSD	56.3 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.204 tonne/year
49	Auxiliary Motor Complex Cold Start Generator Engine	324 hp	ULSD	15.5 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.056 tonne/year

Table 12. Potential to Emit Calculations - Methane (CH4) Emissions
Prudhoe Bay Unit (PBU) Major Gas Sales - Drilling Emission Unit Inventory

Emission Unit			Fuel	Maximum Fuel	Factor	CH_4 Emission	Nonroad	Maximum Annual	Annual CH_4 Emissions
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Operation	
50	Portable Moving Generator Engine No. 1	113 hp	ULSD	5.8 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.021 tonne/year
51	Portable Moving Generator Engine No. 2	113 hp	ULSD	5.8 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.021 tonne/year
52	Main Motor Complex Cold Start Generator Engine	324 hp	ULSD	15.5 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.056 tonne/year
53	Cement Unit Engine No. 1	340 hp	ULSD	17.4 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.063 tonne/year
54	Cement Unit Engine No. 2	340 hp	ULSD	17.4 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.063 tonne/year
55	Alaska Camp Generator Engine No. 1	732 hp	ULSD	34.7 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.126 tonne/year
56	Alaska Camp Generator Engine No. 2	732 hp	ULSD	34.7 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.126 tonne/year
57	Brine Filtration Generator Engine No. 1	374 hp	ULSD	18.3 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.066 tonne/year
58	Bulk Tank Storage Area Heater Engine No. 3	174 hp	ULSD	8.6 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.031 tonne/year
59	Bulk Tank Storage Area Heater Engine No. 4	174 hp	ULSD	8.6 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.031 tonne/year
60	Bulk Tank Storage Area Heater Engine No. 5	174 hp	ULSD	8.6 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.031 tonne/year
61	Bulk Tank Storage Area Heater Engine No. 6	174 hp	ULSD	8.6 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.031 tonne/year
62	Warehouse Generator Engine No. 1	96 hp	ULSD	4.9 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.018 tonne/year
63	Warehouse Generator Engine No. 2	96 hp	ULSD	4.9 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.018 tonne/year
64	Drilling Support Engine No. 1	43 hp	ULSD	2.2 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.008 tonne/year
65	Drilling Support Engine No. 2	120 hp	ULSD	6.1 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.022 tonne/year
66	Drilling Support Engine No. 3	120 hp	ULSD	6.1 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.022 tonne/year
67	Drilling Support Engine No. 4	120 hp	ULSD	6.1 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.022 tonne/year
68	Drilling Support Engine No. 5	115 hp	ULSD	5.9 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.021 tonne/year
69	Drilling Support Engine No. 6	115 hp	ULSD	5.9 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.021 tonne/year
70	Brine Filtration Generator Engine No. 2	374 hp	ULSD	18.3 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.066 tonne/year
71	Cement Unit Engine No. 3	91 hp	ULSD	4.6 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.017 tonne/year
72	Brine Filtration Support Engine	61 hp	ULSD	3.1 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.011 tonne/year
73	Bulk Barite Engine	75 hp	ULSD	3.8 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.014 tonne/year
74	Cement Unit Support Engine	83 hp	ULSD	4.2 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	NRE	8,760 hr/yr	0.015 tonne/year
75	Truck Shop No. 1 Heater No. 1	0.229 MMBtu/hr	ULSD	1.7 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.006 tonne/year
76	Truck Shop No. 1 Heater No. 2	0.229 MMBtu/hr	ULSD	1.7 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.006 tonne/year
77	Truck Shop No. 2 Heater No. 1	0.229 MMBtu/hr	ULSD	1.7 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.006 tonne/year
78	Truck Shop No. 2 Heater No. 2	0.229 MMBtu/hr	ULSD	1.7 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.006 tonne/year
79	Warehouse Heater No. 1	2.5 MMBtu/hr	ULSD	18.2 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.066 tonne/year
80	Warehouse Heater No. 2	2.5 MMBtu/hr	ULSD	18.2 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.066 tonne/year
81	Portable Heater No. 1	0.7 MMBtu/hr	ULSD	5.1 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.019 tonne/year
82	Portable Heater No. 2	0.7 MMBtu/hr	ULSD	5.1 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.019 tonne/year
83	Portable Heater No. 3	0.7 MMBtu/hr	ULSD	5.1 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.019 tonne/year
84	Portable Heater No. 4	2.75 MMBtu/hr	ULSD	20.1 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.073 tonne/year
85	Portable Heater No. 5	2.75 MMBtu/hr	ULSD	20.1 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.073 tonne/year
86	Portable Heater No. 6	2.75 MMBtu/hr	ULSD	20.1 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.073 tonne/year
87	Portable Heater No. 7	2.75 MMBtu/hr	ULSD	20.1 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.073 tonne/year
88	Portable Heater No. 8	2.75 MMBtu/hr	ULSD	20.1 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.073 tonne/year
89	Portable Heater No. 9	2.75 MMBtu/hr	ULSD	20.1 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.073 tonne/year
90	Portable Drill Rig Heater Unit No. 1	0.5 MMBtu/hr	ULSD	3.6 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.013 tonne/year
91	Portable Drill Rig Heater Unit No. 2	0.5 MMBtu/hr	ULSD	3.6 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.013 tonne/year
92	Tioga Heater No. 1	0.9 MMBtu/hr	ULSD	6.6 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.024 tonne/year
93	Tioga Heater No. 2	0.9 MMBtu/hr	ULSD	6.6 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.024 tonne/year
94	Tioga Heater No. 3	0.9 MMBtu/hr	ULSD	6.6 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.024 tonne/year
95	Drilling Support Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
96	Drilling Support Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
97	Drilling Support Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
98	Drilling Support Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
99	Drilling Support Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	40 CFR 98, Table C-2	3.0E-03 kg/MMBtu	N/A	8,760 hr/yr	0.026 tonne/year
								Total Potential CH_4 Emissions Excluding Non-road Engines	**2.924 tonne/year**
								Total Potential CH_4 Emissions for Non-road Engines	**5.414 tonne/year**
								Total Potential CH_4 Emissions for All Emission Units	**8.338 tonne/year**

Notes:
[1] Heat rate for diesel engines: 7,000 Btu/hp-hr
[2] NRE = Nonroad Engine
[3] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)
[4] Diesel high heat value: 0.138 MMBtu/gallon

Table 13. Potential to Emit Calculations - Nitrous Oxide (N2O) Emissions
Prudhoe Bay Unit (PBU) Major Gas Sales - Drilling Emission Unit Inventory

Emission Unit			Fuel	Maximum Fuel	Factor	N_2O Emission	Nonroad	Maximum Annual	Annual N_2O Emissions
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Operation	
1	Drill Rig Boiler No. 1	4.2 MMBtu/hr	ULSD	30.0 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0218 tonne/year
2	Drill Rig Boiler No. 2	6.3 MMBtu/hr	ULSD	45.0 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0326 tonne/year
3	Drill Rig Pipeshed Tioga Air Heater No. 1	4.2 MMBtu/hr	ULSD	30.0 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0218 tonne/year
4	Drill Rig Pipeshed Tioga Air Heater No. 2	4.2 MMBtu/hr	ULSD	30.0 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0218 tonne/year
5	Drill Rig Support Boiler No. 1	6.3 MMBtu/hr	ULSD	45.0 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0326 tonne/year
6	Drill Rig Support Boiler No. 2	6.3 MMBtu/hr	ULSD	45.0 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0326 tonne/year
7	Bulk Tank Storage Area Boiler No. 1	5.16 MMBtu/hr	ULSD	35.5 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0257 tonne/year
8	Bulk Tank Storage Area Boiler No. 2	5.16 MMBtu/hr	ULSD	35.5 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0257 tonne/year
9	Hot Oil Unit Heater	8.0 MMBtu/hr	ULSD	58.4 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0423 tonne/year
10	Bulk Mud Engine No. 1	54 hp	ULSD	2.8 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0020 tonne/year
11	Bulk Mud Engine No. 2	54 hp	ULSD	2.8 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0020 tonne/year
12	Coil Tubing Unit Engine	66 hp	ULSD	3.4 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0024 tonne/year
13	Bulk Tank Storage Area Generator Engine No. 1	779 hp	ULSD	39.8 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0289 tonne/year
14	Bulk Tank Storage Area Generator Engine No. 2	779 hp	ULSD	39.8 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0289 tonne/year
15	Bulk Tank Storage Area Generator Engine No. 3	190 hp	ULSD	8.7 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0063 tonne/year
16	Bulk Tank Storage Area Generator Engine No. 4	190 hp	ULSD	8.7 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0063 tonne/year
17	Bulk Tank Storage Area Heater Engine No. 1	174 hp	ULSD	8.6 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0062 tonne/year
18	Bulk Tank Storage Area Heater Engine No. 2	174 hp	ULSD	8.6 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0062 tonne/year
19	MOD 201/202 Generator Engine No. 1	173 hp	ULSD	8.8 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0064 tonne/year
20	Talkeetna Camp Generator Engine No. 1	450 hp	ULSD	25.4 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0184 tonne/year
21	Talkeetna Camp Generator Engine No. 2	450 hp	ULSD	25.4 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0184 tonne/year
22	MOD 201/202 Generator Engine No. 2	173 hp	ULSD	8.8 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0064 tonne/year
23	Well Stimulation Pump Engine No. 1	2,250 hp	ULSD	111.9 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0812 tonne/year
24	Well Stimulation Pump Engine No. 2	2,250 hp	ULSD	111.9 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0812 tonne/year
25	Well Stimulation Pump Engine No. 3	2,250 hp	ULSD	111.9 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0812 tonne/year
26	Well Stimulation Pump Engine No. 4	800 hp	ULSD	42.6 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0309 tonne/year
27	Well Stimulation Pump Engine No. 5	800 hp	ULSD	42.6 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0309 tonne/year
28	Well Stimulation Pump Engine No. 6	800 hp	ULSD	42.6 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0309 tonne/year
29	Well Stimulation Pump Engine No. 7	800 hp	ULSD	42.6 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0309 tonne/year
30	Well Stimulation Pump Engine No. 8	800 hp	ULSD	42.6 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0309 tonne/year
31	Well Stimulation Pump Engine No. 9	800 hp	ULSD	42.6 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0309 tonne/year
32	Well Stimulation Blender Deck Engine	1,000 hp	ULSD	52.5 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0381 tonne/year
33	Well Stimulation Gel Blender Deck Engine	520 hp	ULSD	26.8 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0194 tonne/year
34	Well Stimulation Van Engine	250 hp	ULSD	12.8 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0093 tonne/year
35	Well Stimulation Loads Prop Silo Engine	50 hp	ULSD	2.6 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0019 tonne/year
36	Drill Rig Generator Engine No. 1	1,195 hp	ULSD	61.0 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0443 tonne/year
37	Drill Rig Generator Engine No. 2	1,195 hp	ULSD	61.0 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0443 tonne/year
38	Drill Rig Generator Engine No. 3	1,195 hp	ULSD	61.0 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0443 tonne/year
39	Drill Rig Generator Engine No. 4	1,195 hp	ULSD	61.0 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0443 tonne/year
40	Sub-base Cold Start Engine	324 hp	ULSD	15.5 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0112 tonne/year
41	Mud Module Cold Start Generator Engine	250 hp	ULSD	12.8 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0093 tonne/year
42	Pump Module Cold Start Generator Engine	250 hp	ULSD	12.8 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0093 tonne/year
43	Reserve Mud Pit No. 1 Aux Engine	399 hp	ULSD	19.2 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0139 tonne/year
44	Reserve Mud Pit No. 2 Aux Engine	399 hp	ULSD	19.2 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0139 tonne/year
45	Drill Rig Generator Engine No. 5	1,105 hp	ULSD	56.4 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0409 tonne/year
46	Drill Rig Generator Engine No. 6	1,104 hp	ULSD	56.4 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0409 tonne/year
47	Drill Rig Generator Engine No. 7	1,108 hp	ULSD	56.6 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0411 tonne/year
48	Drill Rig Generator Engine No. 8	1,102 hp	ULSD	56.3 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0408 tonne/year
49	Auxiliary Motor Complex Cold Start Generator Engine	324 hp	ULSD	15.5 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0112 tonne/year
50	Portable Moving Generator Engine No. 1	113 hp	ULSD	5.8 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0042 tonne/year

Table 13. Potential to Emit Calculations - Nitrous Oxide (N2O) Emissions
Prudhoe Bay Unit (PBU) Major Gas Sales - Drilling Emission Unit Inventory

Emission Unit			Fuel	Maximum Fuel	Factor	N_2O Emission	Nonroad	Maximum Annual	Annual N_2O Emissions
ID	Description	Rating/Capacity	Type	Consumption	Reference	Factor	Engine	Operation	
51	Portable Moving Generator Engine No. 2	113 hp	ULSD	5.8 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0042 tonne/year
52	Main Motor Complex Cold Start Generator Engine	324 hp	ULSD	15.5 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0112 tonne/year
53	Cement Unit Engine No. 1	340 hp	ULSD	17.4 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0126 tonne/year
54	Cement Unit Engine No. 2	340 hp	ULSD	17.4 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0126 tonne/year
55	Alaska Camp Generator Engine No. 1	732 hp	ULSD	34.7 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0252 tonne/year
56	Alaska Camp Generator Engine No. 2	732 hp	ULSD	34.7 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0252 tonne/year
57	Brine Filtration Generator Engine No. 1	374 hp	ULSD	18.3 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0133 tonne/year
58	Bulk Tank Storage Area Heater Engine No. 3	174 hp	ULSD	8.6 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0062 tonne/year
59	Bulk Tank Storage Area Heater Engine No. 4	174 hp	ULSD	8.6 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0062 tonne/year
60	Bulk Tank Storage Area Heater Engine No. 5	174 hp	ULSD	8.6 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0062 tonne/year
61	Bulk Tank Storage Area Heater Engine No. 6	174 hp	ULSD	8.6 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0062 tonne/year
62	Warehouse Generator Engine No. 1	96 hp	ULSD	4.9 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0036 tonne/year
63	Warehouse Generator Engine No. 2	96 hp	ULSD	4.9 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0036 tonne/year
64	Drilling Support Engine No. 1	43 hp	ULSD	2.2 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0016 tonne/year
65	Drilling Support Engine No. 2	120 hp	ULSD	6.1 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0044 tonne/year
66	Drilling Support Engine No. 3	120 hp	ULSD	6.1 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0044 tonne/year
67	Drilling Support Engine No. 4	120 hp	ULSD	6.1 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0044 tonne/year
68	Drilling Support Engine No. 5	115 hp	ULSD	5.9 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0043 tonne/year
69	Drilling Support Engine No. 6	115 hp	ULSD	5.9 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0043 tonne/year
70	Brine Filtration Generator Engine No. 2	374 hp	ULSD	18.3 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0133 tonne/year
71	Cement Unit Engine No. 3	91 hp	ULSD	4.6 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0034 tonne/year
72	Brine Filtration Support Engine	61 hp	ULSD	3.1 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0023 tonne/year
73	Bulk Barite Engine	75 hp	ULSD	3.8 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0028 tonne/year
74	Cement Unit Support Engine	83 hp	ULSD	4.2 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	NRE	8,760 hr/yr	0.0031 tonne/year
75	Truck Shop No. 1 Heater No. 1	0.229 MMBtu/hr	ULSD	1.7 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0012 tonne/year
76	Truck Shop No. 1 Heater No. 2	0.229 MMBtu/hr	ULSD	1.7 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0012 tonne/year
77	Truck Shop No. 2 Heater No. 1	0.229 MMBtu/hr	ULSD	1.7 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0012 tonne/year
78	Truck Shop No. 2 Heater No. 2	0.229 MMBtu/hr	ULSD	1.7 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0012 tonne/year
79	Warehouse Heater No. 1	2.5 MMBtu/hr	ULSD	18.2 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0132 tonne/year
80	Warehouse Heater No. 2	2.5 MMBtu/hr	ULSD	18.2 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0132 tonne/year
81	Portable Heater No. 1	0.7 MMBtu/hr	ULSD	5.1 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0037 tonne/year
82	Portable Heater No. 2	0.7 MMBtu/hr	ULSD	5.1 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0037 tonne/year
83	Portable Heater No. 3	0.7 MMBtu/hr	ULSD	5.1 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0037 tonne/year
84	Portable Heater No. 4	2.75 MMBtu/hr	ULSD	20.1 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0146 tonne/year
85	Portable Heater No. 5	2.75 MMBtu/hr	ULSD	20.1 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0146 tonne/year
86	Portable Heater No. 6	2.75 MMBtu/hr	ULSD	20.1 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0146 tonne/year
87	Portable Heater No. 7	2.75 MMBtu/hr	ULSD	20.1 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0146 tonne/year
88	Portable Heater No. 8	2.75 MMBtu/hr	ULSD	20.1 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0146 tonne/year
89	Portable Heater No. 9	2.75 MMBtu/hr	ULSD	20.1 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0146 tonne/year
90	Portable Drill Rig Heater Unit No. 1	0.5 MMBtu/hr	ULSD	3.6 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0026 tonne/year
91	Portable Drill Rig Heater Unit No. 2	0.5 MMBtu/hr	ULSD	3.6 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0026 tonne/year
92	Tioga Heater No. 1	0.9 MMBtu/hr	ULSD	6.6 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0048 tonne/year
93	Tioga Heater No. 2	0.9 MMBtu/hr	ULSD	6.6 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0048 tonne/year
94	Tioga Heater No. 3	0.9 MMBtu/hr	ULSD	6.6 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0048 tonne/year
95	Drilling Support Heater No. 1	1.0 MMBtu/hr	ULSD	7.3 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0053 tonne/year
96	Drilling Support Heater No. 2	1.0 MMBtu/hr	ULSD	7.3 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0053 tonne/year
97	Drilling Support Heater No. 3	1.0 MMBtu/hr	ULSD	7.3 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0053 tonne/year
98	Drilling Support Heater No. 4	1.0 MMBtu/hr	ULSD	7.3 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0053 tonne/year
99	Drilling Support Heater No. 5	1.0 MMBtu/hr	ULSD	7.3 gal/hr	40 CFR 98, Table C-2	6.0E-04 kg/MMBtu	N/A	8,760 hr/yr	0.0053 tonne/year
								Total Potential N_2O Emissions Excluding Non-road Engines	**0.5848 tonne/year**
								Total Potential N_2O Emissions for Non-road Engines	**1.0827 tonne/year**
								Total Potential N_2O Emissions for All Emission Units	**1.6676 tonne/year**

Notes:
[1] Heat rate for diesel engines: 7,000 Btu/hp-hr
[2] NRE = Nonroad Engine
[3] Emissions from nonroad engines are not included in the potential emissions (18 AAC 50.100)
[4] Diesel high heat value: 0.138 MMBtu/gallon

Table 14. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
Prudhoe Bay Unit (PBU) Major Gas Sales - Drilling Emission Unit Inventory

Hazardous Air Pollutant	ULSD Heaters	ULSD Engines ≤600 hp	ULSD Engines >600 hp	Stationary Emission Unit HAP Emissions[1]	Nonroad Engines ≤600 hp	Nonroad Engines >600 hp	Nonroad Engine HAP Emissions[1]
Acetaldehyde	----	2.57E-02	2.33E-03	**0.03**	1.79E-01	1.68E-02	**0.20**
Acrolein	----	3.10E-03	7.30E-04	**0.00**	2.16E-02	5.25E-03	**0.03**
Benzene	5.68E-04	3.12E-02	7.19E-02	**0.10**	2.18E-01	5.17E-01	**0.74**
1,3-Butadiene	----	1.31E-03	----	**0.00**	9.15E-03	----	**0.01**
Ethylbenzene	1.69E-04	----	----	**0.00**	----	----	----
Formaldehyde	8.76E-02	3.95E-02	7.31E-03	**0.13**	2.76E-01	5.26E-02	**0.33**
Polycyclic Organic Matter (POM)	8.76E-03	5.62E-03	1.96E-02	**0.03**	3.93E-02	1.41E-01	**0.18**
Naphthalene	3.00E-03	----	----	**0.00**	----	----	----
Toluene	1.65E-02	1.37E-02	2.60E-02	**0.06**	9.57E-02	1.87E-01	**0.28**
1,1,1-Trichloroethane	6.27E-04	----	----	**0.00**	----	----	----
Xylenes	2.89E-04	----	----	**0.00**	----	----	----
Arsenic Compounds	1.45E-03	----	----	**0.00**	----	----	----
Beryllium Compounds	1.09E-03	----	----	**0.00**	----	----	----
Cadmium Compounds	1.09E-03	----	----	**0.00**	----	----	----
Chromium Compounds	1.09E-03	----	----	**0.00**	----	----	----
Lead Compounds	3.27E-03	----	----	**0.00**	----	----	----
Manganese Compounds	2.18E-03	----	----	**0.00**	----	----	----
Mercury Compounds	1.09E-03	----	----	**0.00**	----	----	----
Nickel Compounds	1.09E-03	----	----	**0.00**	----	----	----
Selenium Compounds	5.46E-03	----	----	**0.01**	----	----	----
Total HAPs - Maximum Individual HAP	**----**	**----**	**----**	**0.13**	**----**	**----**	**----**
Total VOC HAP Emissions	**0.11**	**0.12**	**0.13**	**0.36**	**0.84**	**0.92**	**1.76**
Total HAPs Emissions	**0.13**	**0.12**	**0.13**	**0.38**	**0.84**	**0.92**	**1.76**

Notes:
[1] See individual emissions unit category emissions calculations for details on methodology and assumptions.

Table 15. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
ULSD Fired Heaters

Maximum Total Heat Input: 727,395 MMBtu/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations	
CAS No.	**Chemical Name**	**Emission Factor**	**Estimated Emissions**
NA	Arsenic Compounds	4.00E-06 lb/MMBtu	1.45E-03 tpy
71-43-2	Benzene	1.56E-06 lb/MMBtu	5.68E-04 tpy
NA	Beryllium Compounds	3.00E-06 lb/MMBtu	1.09E-03 tpy
NA	Cadmium Compounds	3.00E-06 lb/MMBtu	1.09E-03 tpy
NA	Chromium Compounds	3.00E-06 lb/MMBtu	1.09E-03 tpy
100-41-4	Ethylbenzene	4.64E-07 lb/MMBtu	1.69E-04 tpy
50-00-0	Formaldehyde	2.41E-04 lb/MMBtu	8.76E-02 tpy
NA	Lead Compounds	9.00E-06 lb/MMBtu	3.27E-03 tpy
NA	Manganese Compounds	6.00E-06 lb/MMBtu	2.18E-03 tpy
NA	Mercury Compounds	3.00E-06 lb/MMBtu	1.09E-03 tpy
91-20-3	Naphthalene	8.25E-06 lb/MMBtu	3.00E-03 tpy
NA	Nickel Compounds	3.00E-06 lb/MMBtu	1.09E-03 tpy
NA	Polycyclic Organic Matter (POM)	2.41E-05 lb/MMBtu	8.76E-03 tpy
NA	Selenium Compounds	1.50E-05 lb/MMBtu	5.46E-03 tpy
108-88-3	Toluene	4.53E-05 lb/MMBtu	1.65E-02 tpy
71-55-6	1,1,1-Trichloroethane	1.72E-06 lb/MMBtu	6.27E-04 tpy
1330-20-7	Xylenes	7.96E-07 lb/MMBtu	2.89E-04 tpy

Total Potential HAP Emissions: 0.14 tpy

Notes/Comments:

[1] Reference: AP-42, Tables 1.3-8, 1.3-9, and 1.3-10.

[2] AP-42, Table 1.3-9 unclear if the value for PAH includes Naphthalene.
The emission factor for PAH is included and listed under Polycyclic Organic Matter.

[3] Total fuel use based on maximum full-time operation.

(3) 4.2 MMBtu/hr Rig Heaters and Boilers	4.2 MMBtu/hr, each		
	Potential Heat Input: EU 1	36,792 MMBtu/yr, operating	8,760 hr/yr
	Potential Heat Input: EU 3	36,792 MMBtu/yr, operating	8,760 hr/yr
	Potential Heat Input: EU 4	36,792 MMBtu/yr, operating	8,760 hr/yr
(3) 6.3 MMBtu/hr Rig Heaters and Boilers	6.3 MMBtu/hr, each		
	Potential Heat Input: EU 2	55,188 MMBtu/yr, operating	8,760 hr/yr
	Potential Heat Input: EU 5	55,188 MMBtu/yr, operating	8,760 hr/yr
	Potential Heat Input: EU 6	55,188 MMBtu/yr, operating	8,760 hr/yr
(2) 5.16 MMBtu/hr Bulk Tank Storage Area Boilers	5.16 MMBtu/hr, each		
	Potential Heat Input: EU 7	45,202 MMBtu/yr, operating	8,760 hr/yr
	Potential Heat Input: EU 8	45,202 MMBtu/yr, operating	8,760 hr/yr
(1) 8.0 MMBtu/hr Hot Oil Unit Heater	8.0 MMBtu/hr		
	Potential Heat Input: EU 9	70,080 MMBtu/yr, operating	8,760 hr/yr
Misc. Small Heaters	33.2 MMBtu/hr		
	Potential Heat Input: EUs 75 through 99	290,972 MMBtu/yr, operating	8,760 hr/yr

Total Potential Heat Input: 727,395 MMBtu/yr

[4] Diesel high heat value: 137,000 Btu/gal

Table 16. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
ULSD Engines Less Than or Equal to 600 Horsepower

Maximum Total Heat Input: 66,961 MMBtu/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations		
CAS No.	**Chemical Name**	**Emission Factor**		**Estimated Emissions**
75-07-0	Acetaldehyde	7.67E-04	lb/MMBtu	2.57E-02 tpy
107-02-8	Acrolein	9.25E-05	lb/MMBtu	3.10E-03 tpy
71-43-2	Benzene	9.33E-04	lb/MMBtu	3.12E-02 tpy
106-99-0	1,3-Butadiene	3.91E-05	lb/MMBtu	1.31E-03 tpy
50-00-0	Formaldehyde	1.18E-03	lb/MMBtu	3.95E-02 tpy
108-88-3	Toluene	4.09E-04	lb/MMBtu	1.37E-02 tpy
1330-20-7	Xylenes (isomers and mixture)	2.85E-04	lb/MMBtu	9.54E-03 tpy
NA	Polycyclic Organic Matter (POM)	1.68E-04	lb/MMBtu	5.62E-03 tpy

Total Potential HAP Emissions: 0.13 tpy

Notes/Comments:

[1] Reference: AP-42, Table 3.3-2.

[2] Total fuel use based on maximum full-time operation.

(2) 450 hp Talkeetna Camp Engines	450	hp			
Potential Heat Input:		EU 20	27,594	MMBtu/yr, operating	8,760 hr/yr
Potential Heat Input:		EU 21	27,594	MMBtu/yr, operating	8,760 hr/yr
(2) 96 hp Warehouse Generator Engines	96	hp			
Potential Heat Input:		EU 62	5,887	MMBtu/yr, operating	8,760 hr/yr
Potential Heat Input:		EU 63	5,887	MMBtu/yr, operating	8,760 hr/yr

Total Potential Heat Input: 66,961 MMBtu/yr

[3] Diesel engines heat rate: 7,000 Btu/hp-hr

Table 17. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
ULSD Engines Greater Than 600 Horsepower

Maximum Total Heat Input: 185,309 MMBtu/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations		
CAS No.	**Chemical Name**	**Emission Factor**		**Estimated Emissions**
75-07-0	Acetaldehyde	2.52E-05	lb/MMBtu	2.33E-03 tpy
107-02-8	Acrolein	7.88E-06	lb/MMBtu	7.30E-04 tpy
71-43-2	Benzene	7.76E-04	lb/MMBtu	7.19E-02 tpy
50-00-0	Formaldehyde	7.89E-05	lb/MMBtu	7.31E-03 tpy
108-88-3	Toluene	2.81E-04	lb/MMBtu	2.60E-02 tpy
1330-20-7	Xylenes (isomers and mixture)	1.93E-04	lb/MMBtu	1.79E-02 tpy
NA	Polycyclic Organic Matter (POM)	2.12E-04	lb/MMBtu	1.96E-02 tpy

Total Potential HAP Emissions: 0.15 tpy

Notes/Comments:

[1] Reference: AP-42, Table 3.4-3, 3.4-4.

[2] Total fuel use based on maximum full-time operation

(2) 779 hp Bulk Tank Storage Area Generator Engines	779	hp, each			
Potential Heat Input:	EU 13	47,768	MMBtu/yr, operating	8,760	hr/yr
Potential Heat Input:	EU 14	47,768	MMBtu/yr, operating	8,760	hr/yr
(2) 732 hp Alaska Camp Generator Engines	732	hp, each			
Potential Heat Input:	EU 55	44,886	MMBtu/yr, operating	8,760	hr/yr
Potential Heat Input:	EU 56	44,886	MMBtu/yr, operating	8,760	hr/yr

Total Potential Heat Input: 185,309 MMBtu/yr

[3] Diesel engines heat rate: 7,000 Btu/hp-hr

Table 18. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
ULSD Nonroad Engines Less Than or Equal to 600 Horsepower

Maximum Total Heat Input: 467,982 MMBtu/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations	
CAS No.	**Chemical Name**	**Emission Factor**	**Estimated Emissions**
75-07-0	Acetaldehyde	7.67E-04 lb/MMBtu	1.79E-01 tpy
107-02-8	Acrolein	9.25E-05 lb/MMBtu	2.16E-02 tpy
71-43-2	Benzene	9.33E-04 lb/MMBtu	2.18E-01 tpy
106-99-0	1,3-Butadiene	3.91E-05 lb/MMBtu	9.15E-03 tpy
50-00-0	Formaldehyde	1.18E-03 lb/MMBtu	2.76E-01 tpy
108-88-3	Toluene	4.09E-04 lb/MMBtu	9.57E-02 tpy
1330-20-7	Xylenes (isomers and mixture)	2.85E-04 lb/MMBtu	6.67E-02 tpy
NA	Polycyclic Organic Matter (POM)	1.68E-04 lb/MMBtu	3.93E-02 tpy

Total Potential HAP Emissions: 0.91 tpy

Notes/Comments:
[1] Reference: AP-42, Table 3.3-2.
[2] Total fuel use based on maximum full-time operation.

(39) Nonroad Engines < 600 hp 7,632 hp
Potential Heat Input: 467,982 MMBtu/yr, operating 8,760 hr/yr

Total Potential Heat Input: 467,982 MMBtu/yr

[3] Diesel engines heat rate: 7,000 Btu/hp-hr

Table 19. Potential to Emit Calculations - Hazardous Air Pollutant (HAP) Emissions
ULSD Nonroad Engines Greater Than 600 Horsepower

Maximum Total Heat Input: 1,333,649 MMBtu/yr

Section 112 Hazardous Air Pollutants		Source Category Emission Calculations	
CAS No.	**Chemical Name**	**Emission Factor**	**Estimated Emissions**
75-07-0	Acetaldehyde	2.52E-05 lb/MMBtu	1.68E-02 tpy
107-02-8	Acrolein	7.88E-06 lb/MMBtu	5.25E-03 tpy
71-43-2	Benzene	7.76E-04 lb/MMBtu	5.17E-01 tpy
50-00-0	Formaldehyde	7.89E-05 lb/MMBtu	5.26E-02 tpy
108-88-3	Toluene	2.81E-04 lb/MMBtu	1.87E-01 tpy
1330-20-7	Xylenes (isomers and mixture)	1.93E-04 lb/MMBtu	1.29E-01 tpy
NA	Polycyclic Organic Matter (POM)	2.12E-04 lb/MMBtu	1.41E-01 tpy

Total Potential HAP Emissions: 1.05 tpy

Notes/Comments:
[1] Reference: AP-42, Table 3.4-3, 3.4-4.
[2] Total fuel use based on maximum full-time operation.

(18) Nonroad Engines > 600 hp 21,749 hp

Potential Heat Input: 1,333,649 MMBtu/yr, operating 8,760 hr/yr

Total Potential Heat Input: 1,333,649 MMBtu/yr

[3] Diesel engines heat rate: 7,000 Btu/hp-hr

ATTACHMENT 2-4 - PBU MGS OPERATING EMISSIONS SUMMARY

Table 1. PBU MGS Operating Emissions Summary

Facility	Pollutant	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
CCP	NOx (tpy)	8,442	5,368	5,368	5,368	4,815	4,174	3,070	2,981	2,981	1,240	738	93	93	32	32	32	32	32	32	32	32
	SO2 (tpy)	117	71	71	71	63	55	40	40	40	16	8	0	0	0	0	0	0	0	0	0	0
	PM10 (tpy)	156	102	102	102	93	81	63	60	60	30	21	8	8	6	6	6	6	6	6	6	6
	PM2.5 (tpy)	156	102	102	102	93	81	63	60	60	30	21	8	8	6	6	6	6	6	6	6	6
	CO (tpy)	1,173	727	727	727	662	587	458	442	442	239	176	96	96	88	88	88	88	88	88	88	88
	VOC (tpy)	45	27	27	27	24	21	15	15	15	6	3	0	0	0	0	0	0	0	0	0	0
	HAPs (tpy)	17	11	11	11	9	8	6	6	6	3	1	0	0	0	0	0	0	0	0	0	0
	CO2 (tonnes/yr)	2,320,425	1,497,752	1,497,752	1,497,752	1,351,098	1,187,419	900,007	875,046	875,046	438,409	289,455	111,125	111,125	93,356	93,356	93,356	93,356	93,356	93,356	93,356	93,356
	CH4 (tonnes/yr)	45	27	27	27	24	21	15	15	15	6	3	0	0	0	0	0	0	0	0	0	0
	N2O (tonnes/yr)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CO2e (tonnes/yr)	2,322,823	1,499,303	1,499,303	1,499,303	1,352,498	1,188,649	900,940	875,952	875,952	438,863	289,754	111,240	111,240	93,453	93,453	93,453	93,453	93,453	93,453	93,453	93,453
CGF	NOx (tpy)	5,962	5,962	5,962	5,962	5,962	5,962	5,962	5,630	5,367	5,367	5,367	5,367	4,539	3,784	2,950	1,883	1,240	1,190	1,190	1,144	1,144
	SO2 (tpy)	81	81	81	81	81	81	81	73	67	67	67	67	58	49	39	29	21	20	20	19	19
	PM10 (tpy)	123	123	123	123	123	123	123	114	106	106	106	106	93	82	69	56	46	45	45	44	44
	PM2.5 (tpy)	123	123	123	123	123	123	123	114	106	106	106	106	93	82	69	56	46	45	45	44	44
	CO (tpy)	835	835	835	835	835	835	835	773	724	724	724	724	681	641	598	494	460	457	457	455	455
	VOC (tpy)	37	37	37	37	37	37	37	34	31	31	31	31	27	23	19	15	12	12	12	12	12
	HAPs (tpy)	26	26	26	26	26	26	26	24	22	22	22	22	20	18	16	14	12	12	12	12	12
	CO2 (tonnes/yr)	2,132,467	2,132,467	2,132,467	2,132,467	2,132,467	2,132,467	2,132,467	1,966,010	1,799,553	1,799,553	1,799,553	1,799,553	1,618,216	1,435,133	1,257,860	1,031,008	847,335	836,358	836,358	825,275	825,275
	CH4 (tonnes/yr)	39	39	39	39	39	39	39	36	33	33	33	33	29	25	21	17	13	13	13	13	13
	N2O (tonnes/yr)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CO2e (tonnes/yr)	2,134,675	2,134,675	2,134,675	2,134,675	2,134,675	2,134,675	2,134,675	1,968,047	1,801,419	1,801,419	1,801,419	1,801,419	1,619,894	1,436,621	1,259,165	1,032,079	848,217	837,229	837,229	826,135	826,135
Total	NOx (tpy)	14,404	11,330	11,330	11,330	10,777	10,136	9,032	8,611	8,348	6,607	6,105	5,460	4,632	3,816	2,982	1,915	1,272	1,222	1,222	1,176	1,176
	SO2 (tpy)	198	152	152	152	144	136	121	113	107	83	75	67	58	49	39	29	21	20	20	19	19
	PM10 (tpy)	279	225	225	225	216	204	186	174	166	136	127	114	101	88	75	62	52	51	51	50	50
	PM2.5 (tpy)	279	225	225	225	216	204	186	174	166	136	127	114	101	88	75	62	52	51	51	50	50
	CO (tpy)	2,008	1,562	1,562	1,562	1,497	1,422	1,293	1,215	1,166	963	900	820	777	729	686	582	548	545	545	543	543
	VOC (tpy)	82	64	64	64	61	58	52	49	46	37	34	31	27	23	19	15	12	12	12	12	12
	HAPs (tpy)	43	37	37	37	35	34	32	30	28	25	23	22	20	18	16	14	12	12	12	12	12
	CO2 (tonnes/yr)	4,452,892	3,630,219	3,630,219	3,630,219	3,483,565	3,319,886	3,032,474	2,841,056	2,674,599	2,237,962	2,089,008	1,910,678	1,729,341	1,528,489	1,351,216	1,124,364	940,691	929,714	929,714	918,631	918,631
	CH4 (tonnes/yr)	84	66	66	66	63	60	54	51	48	39	36	33	29	25	21	17	13	13	13	13	13
	N2O (tonnes/yr)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CO2e (tonnes/yr)	4,457,498	3,633,978	3,633,978	3,633,978	3,487,173	3,323,324	3,035,615	2,843,999	2,677,371	2,240,282	2,091,173	1,912,659	1,731,134	1,530,074	1,352,618	1,125,532	941,670	930,682	930,682	919,588	919,588

Table 2. PBU MGS Operating NO_x Emissions (lb/hr)

Modeled ID	Equipment ID	Equipment Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
801	18-1801	GE M5371PATP Turbine - LS	139	139	139	139	139	139	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0
802	18-1802	GE M5371PATP w/LHE Turbine - LS	80	5	5	5	5	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
803	18-1803	GE M5371PATP Turbine - LS	133	133	133	133	133	133	133	133	133	8	8	0	0	0	0	0	0	0	0	0	0
804	18-1804	GE M5371PATP Turbine - LS	134	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
805	18-1805	GE M5371PATP Turbine - LS	132	8	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
806	18-1806	GE M5371PATP Turbine - LS	136	136	136	136	136	136	136	136	136	8	8	0	0	0	0	0	0	0	0	0	0
807	18-1807	GE M5371PATP Turbine - LS	132	132	132	132	132	8	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0
808	18-1808	GE M5371PATP Turbine - LS	131	7	7	7	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
809	18-1809	GE M5371PATP Turbine - HS	140	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
810	18-1810	GE M5371PATP Turbine - HS	128	128	128	128	128	128	7	7	7	0	0	0	0	0	0	0	0	0	0	0	0
811	18-1811	GE M5371PATP Turbine - HS	128	7	7	7	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
812	18-1812	GE M5371PATP Turbine - HS	128	128	128	128	128	128	128	128	128	7	7	0	0	0	0	0	0	0	0	0	0
813	18-1813	GE M5371PATP Turbine - LS	134	134	134	134	8	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0
833	18-1876	GE MS5382C Turbine	121	121	121	121	121	121	121	121	121	121	7	7	7	0	0	0	0	0	0	0	0
834	18-1878	GE MS5382C Turbine	124	124	124	124	124	124	124	124	124	124	124	7	7	0	0	0	0	0	0	0	0
832	18-1410	Broach Heater	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
814	18-1491	Broach Heater	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
815	18-1492	Broach Heater	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
701	18-1501	Eclipse Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
702	18-1502	Eclipse Heater	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
703	18-1503	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
704	18-1504	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
816	18-2897	Solar Centaur Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
817	18-2897-01	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
818	18-1522	Cummins FWP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
819A-J	18-1403	HP/IP Flare Arm 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
820A-J	18-1403	HP/IP Flare Arm 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
821A-J	18-1403	HP/IP Flare Arm 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
822A-I	18-1403	HP/IP Flare Arm 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
823A-E	18-1494	STV Flare	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
824	18-1496	Line Back-up Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
825	18-1497	Line Back-up Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1117	19-1883	GE Frame 6 Turbine	156	156	156	156	156	156	156	156	156	156	156	156	156	156	156	156	9	9	9	9	9
1119	19-1884	GE Frame 6 Turbine	202	202	202	202	202	202	202	202	202	202	202	202	202	202	12	12	12	12	12	12	12
1116	19-1885	GE Frame 6 Turbine	183	183	183	183	183	183	183	183	183	183	183	183	183	10	10	10	10	10	10	0	0
1118	19-1886	GE Frame 6 Turbine	201	201	201	201	201	201	201	201	201	201	201	201	11	11	11	11	11	0	0	0	0
1101	19-1801	RB211-24C Turbine	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	7	7	7	7	7	7
1102	19-1802	RB211-24C Turbine	131	131	131	131	131	131	131	131	131	131	131	131	131	131	131	7	7	7	7	7	7
1103	19-1805	RB211-24C Turbine	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64
1104	19-1855	RB211-24C Turbine	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73
1105	19-1806	GE MS5382C w/LHE Turbine	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44
1106	19-1856	GE MS5382C w/LHE Turbine	64	64	64	64	64	64	64	64	4	4	4	4	4	4	4	4	4	4	4	4	4
1115	19-1857	GE MS5382C w/LHE Turbine	80	80	80	80	80	80	80	5	5	5	5	5	5	5	5	5	5	5	5	5	5
1107	19-1401	Chiyoda Heater	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
1108	19-1402	Chiyoda Heater	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
1109	19-1403	Chiyoda Heater	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
1121	19-2890	GM Engine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1110	19-2802	GM Engine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1111	19-2819	GM Engine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1122	19-1529	Cat Fire Water Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11130	19-1408	LP Flare	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
11131	19-1409	HP Flare	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
NGL	19-1412	NGL Pit	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
CCP Total (lb/hr)			1,925	1,223	1,223	1,223	1,097	951	699	678	678	281	167	19	19	5	5	5	5	5	5	5	5
CGF Total (lb/hr)			1,363	1,363	1,363	1,363	1,363	1,363	1,363	1,288	1,228	1,228	1,228	1,228	1,038	865	675	430	283	272	272	262	262
Total (lb/hr)			3,288	2,586	2,586	2,586	2,460	2,314	2,062	1,966	1,906	1,509	1,395	1,247	1,057	870	680	435	288	277	277	267	267

	F	Fully Operational
	S	Standby, Off, but still connected to system
	A	Abandoned, disconnected

Table 3. PBU MGS Operating NO_X Emissions (tpy)

Modeled ID	Equipment ID	Equipment Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
801	18-1801	GE M5371PATP Turbine - LS	609	609	609	609	609	609	35	35	35	0	0	0	0	0	0	0	0	0	0	0	0
802	18-1802	GE M5371PATP w/LHE Turbine - LS	351	20	20	20	20	20	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
803	18-1803	GE M5371PATP Turbine - LS	584	584	584	584	584	584	584	584	584	33	33	0	0	0	0	0	0	0	0	0	0
804	18-1804	GE M5371PATP Turbine - LS	587	34	34	34	34	34	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
805	18-1805	GE M5371PATP Turbine - LS	578	33	33	33	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
806	18-1806	GE M5371PATP Turbine - LS	594	594	594	594	594	594	594	594	594	34	34	0	0	0	0	0	0	0	0	0	0
807	18-1807	GE M5371PATP Turbine - LS	576	576	576	576	576	33	33	33	33	0	0	0	0	0	0	0	0	0	0	0	0
808	18-1808	GE M5371PATP Turbine - LS	573	33	33	33	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
809	18-1809	GE M5371PATP Turbine - HS	613	35	35	35	35	35	35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
810	18-1810	GE M5371PATP Turbine - HS	562	562	562	562	562	562	32	32	32	0	0	0	0	0	0	0	0	0	0	0	0
811	18-1811	GE M5371PATP Turbine - HS	559	32	32	32	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
812	18-1812	GE M5371PATP Turbine - HS	562	562	562	562	562	562	562	562	562	32	32	0	0	0	0	0	0	0	0	0	0
813	18-1813	GE M5371PATP Turbine - LS	586	586	586	586	33	33	33	33	33	33	33	0	0	0	0	0	0	0	0	0	0
833	18-1876	GE MS5382C Turbine	532	532	532	532	532	532	532	532	532	532	30	30	30	0	0	0	0	0	0	0	0
834	18-1878	GE MS5382C Turbine	544	544	544	544	544	544	544	544	544	544	544	31	31	0	0	0	0	0	0	0	0
832	18-1410	Broach Heater	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
814	18-1491	Broach Heater	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
815	18-1492	Broach Heater	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
701	18-1501	Eclipse Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
702	18-1502	Eclipse Heater	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
703	18-1503	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
704	18-1504	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
816	18-2897	Solar Centaur Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
817	18-2897-01	GM Engine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
818	18-1522	Cummins FWP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
819A-J	18-1403	HP/IP Flare Arm 1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
820A-J	18-1403	HP/IP Flare Arm 2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
821A-J	18-1403	HP/IP Flare Arm 3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
822A-I	18-1403	HP/IP Flare Arm 4	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
823A-E	18-1494	STV Flare	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
824	18-1496	Line Back-up Flare	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
825	18-1497	Line Back-up Flare	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1117	19-1883	GE Frame 6 Turbine	682	682	682	682	682	682	682	682	682	682	682	682	682	682	682	682	39	39	39	39	39
1119	19-1884	GE Frame 6 Turbine	884	884	884	884	884	884	884	884	884	884	884	884	884	884	50	50	50	50	50	50	50
1116	19-1885	GE Frame 6 Turbine	801	801	801	801	801	801	801	801	801	801	801	801	801	46	46	46	46	46	46	0	0
1118	19-1886	GE Frame 6 Turbine	878	878	878	878	878	878	878	878	878	878	878	878	50	50	50	50	50	0	0	0	0
1101	19-1801	RB211-24C Turbine	559	559	559	559	559	559	559	559	559	559	559	559	559	559	559	32	32	32	32	32	32
1102	19-1802	RB211-24C Turbine	573	573	573	573	573	573	573	573	573	573	573	573	573	573	573	33	33	33	33	33	33
1103	19-1805	RB211-24C Turbine	281	281	281	281	281	281	281	281	281	281	281	281	281	281	281	281	281	281	281	281	281
1104	19-1855	RB211-24C Turbine	322	322	322	322	322	322	322	322	322	322	322	322	322	322	322	322	322	322	322	322	322
1105	19-1806	GE MS5382C w/LHE Turbine	192	192	192	192	192	192	192	192	192	192	192	192	192	192	192	192	192	192	192	192	192
1106	19-1856	GE MS5382C w/LHE Turbine	279	279	279	279	279	279	279	279	16	16	16	16	16	16	16	16	16	16	16	16	16
1115	19-1857	GE MS5382C w/LHE Turbine	352	352	352	352	352	352	352	20	20	20	20	20	20	20	20	20	20	20	20	20	20
1107	19-1401	Chiyoda Heater	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33
1108	19-1402	Chiyoda Heater	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37
1109	19-1403	Chiyoda Heater	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
1121	19-2890	GM Engine	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
1110	19-2802	GM Engine	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
1111	19-2819	GM Engine	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
1122	19-1529	Cat Fire Water Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11130	19-1408	LP Flare	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
11131	19-1409	HP Flare	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
NGL	19-1412	NGL Pit	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
CCP Total (tpy)			8,442	5,368	5,368	5,368	4,815	4,174	3,070	2,981	2,981	1,240	738	93	93	32	32	32	32	32	32	32	32
CGF Total (tpy)			5,962	5,962	5,962	5,962	5,962	5,962	5,962	5,630	5,367	5,367	5,367	5,367	4,539	3,784	2,950	1,883	1,240	1,190	1,190	1,144	1,144
Total (tpy)			14,404	11,330	11,330	11,330	10,777	10,136	9,032	8,611	8,348	6,607	6,105	5,460	4,632	3,816	2,982	1,915	1,272	1,222	1,222	1,176	1,176

	F	Fully Operational
	S	Standby, Off, but still connected to system
	A	Abandoned, disconnected

Table 4. PBU MGS Operating SO_2 Emissions (lb/hr)

Modeled ID	Equipment ID	Equipment Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
801	18-1801	GE M5371PATP Turbine - LS	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
802	18-1802	GE M5371PATP w/LHE Turbine - LS	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
803	18-1803	GE M5371PATP Turbine - LS	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0
804	18-1804	GE M5371PATP Turbine - LS	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
805	18-1805	GE M5371PATP Turbine - LS	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
806	18-1806	GE M5371PATP Turbine - LS	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0
807	18-1807	GE M5371PATP Turbine - LS	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
808	18-1808	GE M5371PATP Turbine - LS	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
809	18-1809	GE M5371PATP Turbine - HS	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
810	18-1810	GE M5371PATP Turbine - HS	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
811	18-1811	GE M5371PATP Turbine - HS	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
812	18-1812	GE M5371PATP Turbine - HS	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0
813	18-1813	GE M5371PATP Turbine - LS	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
833	18-1876	GE MS5382C Turbine	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0
834	18-1878	GE MS5382C Turbine	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0
832	18-1410	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
814	18-1491	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
815	18-1492	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
701	18-1501	Eclipse Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
702	18-1502	Eclipse Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
703	18-1503	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
704	18-1504	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
816	18-2897	Solar Centaur Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
817	18-2897-01	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
818	18-1522	Cummins FWP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
819A-J	18-1403	HP/IP Flare Arm 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
820A-J	18-1403	HP/IP Flare Arm 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
821A-J	18-1403	HP/IP Flare Arm 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
822A-I	18-1403	HP/IP Flare Arm 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
823A-E	18-1494	STV Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
824	18-1496	Line Back-up Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
825	18-1497	Line Back-up Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1117	19-1883	GE Frame 6 Turbine	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0
1119	19-1884	GE Frame 6 Turbine	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0
1116	19-1885	GE Frame 6 Turbine	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0
1118	19-1886	GE Frame 6 Turbine	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0
1101	19-1801	RB211-24C Turbine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0
1102	19-1802	RB211-24C Turbine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0
1103	19-1805	RB211-24C Turbine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1104	19-1855	RB211-24C Turbine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1105	19-1806	GE MS5382C w/LHE Turbine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1106	19-1856	GE MS5382C w/LHE Turbine	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
1115	19-1857	GE MS5382C w/LHE Turbine	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1107	19-1401	Chiyoda Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1108	19-1402	Chiyoda Heater	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1109	19-1403	Chiyoda Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1121	19-2890	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1110	19-2802	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1111	19-2819	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1122	19-1529	Cat Fire Water Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11130	19-1408	LP Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11131	19-1409	HP Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NGL	19-1412	NGL Pit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CCP Total (lb/hr)			30	18	18	18	16	14	10	10	10	4	2	0	0	0	0	0	0	0	0	0	0
CGF Total (lb/hr)			17	17	17	17	17	17	17	15	14	14	14	14	12	10	8	6	4	4	4	4	4
Total (lb/hr)			47	35	35	35	33	31	27	25	24	18	16	14	12	10	8	6	4	4	4	4	4

	F	Fully Operational
	S	Standby, Off, but still connected to system
	A	Abandoned, disconnected

Table 5. PBU MGS Operating SO_2 Emissions (tpy)

Modeled ID	Equipment ID	Equipment Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
801	18-1801	GE M5371PATP Turbine - LS	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
802	18-1802	GE M5371PATP w/LHE Turbine - LS	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
803	18-1803	GE M5371PATP Turbine - LS	8	8	8	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0
804	18-1804	GE M5371PATP Turbine - LS	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
805	18-1805	GE M5371PATP Turbine - LS	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
806	18-1806	GE M5371PATP Turbine - LS	8	8	8	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0
807	18-1807	GE M5371PATP Turbine - LS	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
808	18-1808	GE M5371PATP Turbine - LS	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
809	18-1809	GE M5371PATP Turbine - HS	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
810	18-1810	GE M5371PATP Turbine - HS	7	7	7	7	7	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
811	18-1811	GE M5371PATP Turbine - HS	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
812	18-1812	GE M5371PATP Turbine - HS	8	8	8	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0
813	18-1813	GE M5371PATP Turbine - LS	8	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
833	18-1876	GE MS5382C Turbine	8	8	8	8	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	0
834	18-1878	GE MS5382C Turbine	8	8	8	8	8	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0
832	18-1410	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
814	18-1491	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
815	18-1492	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
701	18-1501	Eclipse Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
702	18-1502	Eclipse Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
703	18-1503	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
704	18-1504	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
816	18-2897	Solar Centaur Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
817	18-2897-01	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
818	18-1522	Cummins FWP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
819A-J	18-1403	HP/IP Flare Arm 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
820A-J	18-1403	HP/IP Flare Arm 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
821A-J	18-1403	HP/IP Flare Arm 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
822A-I	18-1403	HP/IP Flare Arm 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
823A-E	18-1494	STV Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
824	18-1496	Line Back-up Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
825	18-1497	Line Back-up Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1117	19-1883	GE Frame 6 Turbine	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	0	0	0	0	0
1119	19-1884	GE Frame 6 Turbine	11	11	11	11	11	11	11	11	11	11	11	11	11	11	1	1	1	1	1	1	1
1116	19-1885	GE Frame 6 Turbine	10	10	10	10	10	10	10	10	10	10	10	10	10	1	1	1	1	1	1	0	0
1118	19-1886	GE Frame 6 Turbine	10	10	10	10	10	10	10	10	10	10	10	10	1	1	1	1	1	0	0	0	0
1101	19-1801	RB211-24C Turbine	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	0	0	0	0	0	0
1102	19-1802	RB211-24C Turbine	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	0	0	0	0	0	0
1103	19-1805	RB211-24C Turbine	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1104	19-1855	RB211-24C Turbine	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
1105	19-1806	GE MS5382C w/LHE Turbine	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
1106	19-1856	GE MS5382C w/LHE Turbine	6	6	6	6	6	6	6	6	0	0	0	0	0	0	0	0	0	0	0	0	0
1115	19-1857	GE MS5382C w/LHE Turbine	8	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1107	19-1401	Chiyoda Heater	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1108	19-1402	Chiyoda Heater	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1109	19-1403	Chiyoda Heater	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1121	19-2890	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1110	19-2802	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1111	19-2819	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1122	19-1529	Cat Fire Water Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11130	19-1408	LP Flare	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
11131	19-1409	HP Flare	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
NGL	19-1412	NGL Pit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CCP Total (tpy)			117	71	71	71	63	55	40	40	40	16	8	0	0	0	0	0	0	0	0	0	0
CGF Total (tpy)			81	81	81	81	81	81	81	73	67	67	67	67	58	49	39	29	21	20	20	19	19
Total (tpy)			198	152	152	152	144	136	121	113	107	83	75	67	58	49	39	29	21	20	20	19	19

	F	Fully Operational
	S	Standby, Off, but still connected to system
	A	Abandoned, disconnected

Table 6. PBU MGS Operating PM_{10} Emissions (lb/hr)

Modeled ID	Equipment ID	Equipment Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
801	18-1801	GE M5371PATP Turbine - LS	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
802	18-1802	GE M5371PATP w/LHE Turbine - LS	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
803	18-1803	GE M5371PATP Turbine - LS	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0
804	18-1804	GE M5371PATP Turbine - LS	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
805	18-1805	GE M5371PATP Turbine - LS	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
806	18-1806	GE M5371PATP Turbine - LS	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0
807	18-1807	GE M5371PATP Turbine - LS	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
808	18-1808	GE M5371PATP Turbine - LS	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
809	18-1809	GE M5371PATP Turbine - HS	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
810	18-1810	GE M5371PATP Turbine - HS	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
811	18-1811	GE M5371PATP Turbine - HS	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
812	18-1812	GE M5371PATP Turbine - HS	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0
813	18-1813	GE M5371PATP Turbine - LS	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
833	18-1876	GE MS5382C Turbine	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0
834	18-1878	GE MS5382C Turbine	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0
832	18-1410	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
814	18-1491	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
815	18-1492	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
701	18-1501	Eclipse Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
702	18-1502	Eclipse Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
703	18-1503	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
704	18-1504	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
816	18-2897	Solar Centaur Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
817	18-2897-01	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
818	18-1522	Cummins FWP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
819A-J	18-1403	HP/IP Flare Arm 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
820A-J	18-1403	HP/IP Flare Arm 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
821A-J	18-1403	HP/IP Flare Arm 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
822A-I	18-1403	HP/IP Flare Arm 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
823A-E	18-1494	STV Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
824	18-1496	Line Back-up Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
825	18-1497	Line Back-up Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1117	19-1883	GE Frame 6 Turbine	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0
1119	19-1884	GE Frame 6 Turbine	3	3	3	3	3	3	3	3	3	3	3	3	3	3	0	0	0	0	0	0	0
1116	19-1885	GE Frame 6 Turbine	3	3	3	3	3	3	3	3	3	3	3	3	3	0	0	0	0	0	0	0	0
1118	19-1886	GE Frame 6 Turbine	3	3	3	3	3	3	3	3	3	3	3	3	0	0	0	0	0	0	0	0	0
1101	19-1801	RB211-24C Turbine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0
1102	19-1802	RB211-24C Turbine	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0
1103	19-1805	RB211-24C Turbine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1104	19-1855	RB211-24C Turbine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1105	19-1806	GE MS5382C w/LHE Turbine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1106	19-1856	GE MS5382C w/LHE Turbine	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
1115	19-1857	GE MS5382C w/LHE Turbine	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1107	19-1401	Chiyoda Heater	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1108	19-1402	Chiyoda Heater	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1109	19-1403	Chiyoda Heater	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1121	19-2890	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1110	19-2802	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1111	19-2819	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1122	19-1529	Cat Fire Water Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11130	19-1408	LP Flare	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
11131	19-1409	HP Flare	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
NGL	19-1412	NGL Pit	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
CCP Total (lb/hr)			30	18	18	18	16	14	10	10	10	4	2	0	0	0	0	0	0	0	0	0	0
CGF Total (lb/hr)			29	29	29	29	29	29	29	27	25	25	25	25	22	19	16	13	11	11	11	11	11
Total (lb/hr)			59	47	47	47	45	43	39	37	35	29	27	25	22	19	16	13	11	11	11	11	11

	F	Fully Operational
	S	Standby, Off, but still connected to system
	A	Abandoned, disconnected

Table 7. PBU MGS Operating PM_{10} Emissions (tpy)

Modeled ID	Equipment ID	Equipment Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
801	18-1801	GE M5371PATP Turbine - LS	10	10	10	10	10	10	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
802	18-1802	GE M5371PATP w/LHE Turbine - LS	9	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
803	18-1803	GE M5371PATP Turbine - LS	10	10	10	10	10	10	10	10	10	1	1	0	0	0	0	0	0	0	0	0	0
804	18-1804	GE M5371PATP Turbine - LS	10	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
805	18-1805	GE M5371PATP Turbine - LS	10	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
806	18-1806	GE M5371PATP Turbine - LS	10	10	10	10	10	10	10	10	10	1	1	0	0	0	0	0	0	0	0	0	0
807	18-1807	GE M5371PATP Turbine - LS	10	10	10	10	10	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
808	18-1808	GE M5371PATP Turbine - LS	10	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
809	18-1809	GE M5371PATP Turbine - HS	11	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
810	18-1810	GE M5371PATP Turbine - HS	10	10	10	10	10	10	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
811	18-1811	GE M5371PATP Turbine - HS	10	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
812	18-1812	GE M5371PATP Turbine - HS	10	10	10	10	10	10	10	10	10	1	1	0	0	0	0	0	0	0	0	0	0
813	18-1813	GE M5371PATP Turbine - LS	10	10	10	10	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
833	18-1876	GE MS5382C Turbine	10	10	10	10	10	10	10	10	10	10	1	1	1	0	0	0	0	0	0	0	0
834	18-1878	GE MS5382C Turbine	10	10	10	10	10	10	10	10	10	10	10	1	1	0	0	0	0	0	0	0	0
832	18-1410	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
814	18-1491	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
815	18-1492	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
701	18-1501	Eclipse Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
702	18-1502	Eclipse Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
703	18-1503	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
704	18-1504	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
816	18-2897	Solar Centaur Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
817	18-2897-01	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
818	18-1522	Cummins FWP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
819A-J	18-1403	HP/IP Flare Arm 1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
820A-J	18-1403	HP/IP Flare Arm 2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
821A-J	18-1403	HP/IP Flare Arm 3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
822A-I	18-1403	HP/IP Flare Arm 4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
823A-E	18-1494	STV Flare	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
824	18-1496	Line Back-up Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
825	18-1497	Line Back-up Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1117	19-1883	GE Frame 6 Turbine	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	1	1	1	1	1	1
1119	19-1884	GE Frame 6 Turbine	14	14	14	14	14	14	14	14	14	14	14	14	14	14	1	1	1	1	1	1	1
1116	19-1885	GE Frame 6 Turbine	12	12	12	12	12	12	12	12	12	12	12	12	12	1	1	1	1	1	1	0	0
1118	19-1886	GE Frame 6 Turbine	14	14	14	14	14	14	14	14	14	14	14	14	1	1	1	1	1	0	0	0	0
1101	19-1801	RB211-24C Turbine	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	0	0	0	0	0	0
1102	19-1802	RB211-24C Turbine	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	0	0	0	0	0	0
1103	19-1805	RB211-24C Turbine	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
1104	19-1855	RB211-24C Turbine	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
1105	19-1806	GE MS5382C w/LHE Turbine	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
1106	19-1856	GE MS5382C w/LHE Turbine	8	8	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0
1115	19-1857	GE MS5382C w/LHE Turbine	10	10	10	10	10	10	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1107	19-1401	Chiyoda Heater	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
1108	19-1402	Chiyoda Heater	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
1109	19-1403	Chiyoda Heater	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
1121	19-2890	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1110	19-2802	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1111	19-2819	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1122	19-1529	Cat Fire Water Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11130	19-1408	LP Flare	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
11131	19-1409	HP Flare	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
NGL	19-1412	NGL Pit	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
CCP Total (tpy)			156	102	102	102	93	81	63	60	60	30	21	8	8	6	6	6	6	6	6	6	6
CGF Total (tpy)			123	123	123	123	123	123	123	114	106	106	106	106	93	82	69	56	46	45	45	44	44
Total (tpy)			279	225	225	225	216	204	186	174	166	136	127	114	101	88	75	62	52	51	51	50	50

	F	Fully Operational
	S	Standby, Off, but still connected to system
	A	Abandoned, disconnected

Table 8. PBU MGS Operating $PM_{2.5}$ Emissions (lb/hr)

Modeled ID	Equipment ID	Equipment Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
801	18-1801	GE M5371PATP Turbine - LS	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
802	18-1802	GE M5371PATP w/LHE Turbine - LS	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
803	18-1803	GE M5371PATP Turbine - LS	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0
804	18-1804	GE M5371PATP Turbine - LS	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
805	18-1805	GE M5371PATP Turbine - LS	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
806	18-1806	GE M5371PATP Turbine - LS	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0
807	18-1807	GE M5371PATP Turbine - LS	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
808	18-1808	GE M5371PATP Turbine - LS	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
809	18-1809	GE M5371PATP Turbine - HS	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
810	18-1810	GE M5371PATP Turbine - HS	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
811	18-1811	GE M5371PATP Turbine - HS	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
812	18-1812	GE M5371PATP Turbine - HS	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0
813	18-1813	GE M5371PATP Turbine - LS	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
833	18-1876	GE MS5382C Turbine	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0
834	18-1878	GE MS5382C Turbine	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0
832	18-1410	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
814	18-1491	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
815	18-1492	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
701	18-1501	Eclipse Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
702	18-1502	Eclipse Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
703	18-1503	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
704	18-1504	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
816	18-2897	Solar Centaur Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
817	18-2897-01	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
818	18-1522	Cummins FWP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
819A-J	18-1403	HP/IP Flare Arm 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
820A-J	18-1403	HP/IP Flare Arm 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
821A-J	18-1403	HP/IP Flare Arm 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
822A-I	18-1403	HP/IP Flare Arm 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
823A-E	18-1494	STV Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
824	18-1496	Line Back-up Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
825	18-1497	Line Back-up Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1117	19-1883	GE Frame 6 Turbine	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0
1119	19-1884	GE Frame 6 Turbine	3	3	3	3	3	3	3	3	3	3	3	3	3	3	0	0	0	0	0	0	0
1116	19-1885	GE Frame 6 Turbine	3	3	3	3	3	3	3	3	3	3	3	3	3	0	0	0	0	0	0	0	0
1118	19-1886	GE Frame 6 Turbine	3	3	3	3	3	3	3	3	3	3	3	3	0	0	0	0	0	0	0	0	0
1101	19-1801	RB211-24C Turbine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0
1102	19-1802	RB211-24C Turbine	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0
1103	19-1805	RB211-24C Turbine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1104	19-1855	RB211-24C Turbine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1105	19-1806	GE MS5382C w/LHE Turbine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1106	19-1856	GE MS5382C w/LHE Turbine	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
1115	19-1857	GE MS5382C w/LHE Turbine	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1107	19-1401	Chiyoda Heater	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1108	19-1402	Chiyoda Heater	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1109	19-1403	Chiyoda Heater	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1121	19-2890	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1110	19-2802	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1111	19-2819	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1122	19-1529	Cat Fire Water Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11130	19-1408	LP Flare	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
11131	19-1409	HP Flare	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
NGL	19-1412	NGL Pit	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
CCP Total (lb/hr)			30	18	18	18	16	14	10	10	10	4	2	0	0	0	0	0	0	0	0	0	0
CGF Total (lb/hr)			29	29	29	29	29	29	29	27	25	25	25	25	22	19	16	13	11	11	11	11	11
Total (lb/hr)			59	47	47	47	45	43	39	37	35	29	27	25	22	19	16	13	11	11	11	11	11

	F	Fully Operational
	S	Standby, Off, but still connected to system
	A	Abandoned, disconnected

Table 9. PBU MGS Operating $PM_{2.5}$ Emissions (tpy)

Modeled ID	Equipment ID	Equipment Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
801	18-1801	GE M5371PATP Turbine - LS	10	10	10	10	10	10	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
802	18-1802	GE M5371PATP w/LHE Turbine - LS	9	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
803	18-1803	GE M5371PATP Turbine - LS	10	10	10	10	10	10	10	10	10	1	1	0	0	0	0	0	0	0	0	0	0
804	18-1804	GE M5371PATP Turbine - LS	10	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
805	18-1805	GE M5371PATP Turbine - LS	10	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
806	18-1806	GE M5371PATP Turbine - LS	10	10	10	10	10	10	10	10	10	1	1	0	0	0	0	0	0	0	0	0	0
807	18-1807	GE M5371PATP Turbine - LS	10	10	10	10	10	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
808	18-1808	GE M5371PATP Turbine - LS	10	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
809	18-1809	GE M5371PATP Turbine - HS	11	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
810	18-1810	GE M5371PATP Turbine - HS	10	10	10	10	10	10	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
811	18-1811	GE M5371PATP Turbine - HS	10	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
812	18-1812	GE M5371PATP Turbine - HS	10	10	10	10	10	10	10	10	10	1	1	0	0	0	0	0	0	0	0	0	0
813	18-1813	GE M5371PATP Turbine - LS	10	10	10	10	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
833	18-1876	GE MS5382C Turbine	10	10	10	10	10	10	10	10	10	10	1	1	1	0	0	0	0	0	0	0	0
834	18-1878	GE MS5382C Turbine	10	10	10	10	10	10	10	10	10	10	10	1	1	0	0	0	0	0	0	0	0
832	18-1410	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
814	18-1491	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
815	18-1492	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
701	18-1501	Eclipse Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
702	18-1502	Eclipse Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
703	18-1503	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
704	18-1504	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
816	18-2897	Solar Centaur Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
817	18-2897-01	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
818	18-1522	Cummins FWP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
819A-J	18-1403	HP/IP Flare Arm 1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
820A-J	18-1403	HP/IP Flare Arm 2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
821A-J	18-1403	HP/IP Flare Arm 3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
822A-I	18-1403	HP/IP Flare Arm 4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
823A-E	18-1494	STV Flare	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
824	18-1496	Line Back-up Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
825	18-1497	Line Back-up Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1117	19-1883	GE Frame 6 Turbine	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	1	1	1	1	1	1
1119	19-1884	GE Frame 6 Turbine	14	14	14	14	14	14	14	14	14	14	14	14	14	14	1	1	1	1	1	1	1
1116	19-1885	GE Frame 6 Turbine	12	12	12	12	12	12	12	12	12	12	12	12	12	1	1	1	1	1	1	0	0
1118	19-1886	GE Frame 6 Turbine	14	14	14	14	14	14	14	14	14	14	14	14	1	1	1	1	1	0	0	0	0
1101	19-1801	RB211-24C Turbine	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	0	0	0	0	0	0
1102	19-1802	RB211-24C Turbine	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	0	0	0	0	0	0
1103	19-1805	RB211-24C Turbine	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
1104	19-1855	RB211-24C Turbine	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
1105	19-1806	GE MS5382C w/LHE Turbine	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
1106	19-1856	GE MS5382C w/LHE Turbine	8	8	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0
1115	19-1857	GE MS5382C w/LHE Turbine	10	10	10	10	10	10	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1107	19-1401	Chiyoda Heater	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
1108	19-1402	Chiyoda Heater	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
1109	19-1403	Chiyoda Heater	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
1121	19-2890	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1110	19-2802	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1111	19-2819	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1122	19-1529	Cat Fire Water Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11130	19-1408	LP Flare	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
11131	19-1409	HP Flare	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
NGL	19-1412	NGL Pit	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
CCP Total (tpy)			156	102	102	102	93	81	63	60	60	30	21	8	8	6	6	6	6	6	6	6	6
CGF Total (tpy)			123	123	123	123	123	123	123	114	106	106	106	106	93	82	69	56	46	45	45	44	44
Total (tpy)			279	225	225	225	216	204	186	174	166	136	127	114	101	88	75	62	52	51	51	50	50

	F	Fully Operational
	S	Standby, Off, but still connected to system
	A	Abandoned, disconnected

Table 10. PBU MGS Operating CO Emissions (lb/hr)

Modeled ID	Equipment ID	Equipment Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
801	18-1801	GE M5371PATP Turbine - LS	16	16	16	16	16	16	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
802	18-1802	GE M5371PATP w/LHE Turbine - LS	30	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
803	18-1803	GE M5371PATP Turbine - LS	16	16	16	16	16	16	16	16	16	1	1	0	0	0	0	0	0	0	0	0	0
804	18-1804	GE M5371PATP Turbine - LS	16	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
805	18-1805	GE M5371PATP Turbine - LS	15	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
806	18-1806	GE M5371PATP Turbine - LS	16	16	16	16	16	16	16	16	16	1	1	0	0	0	0	0	0	0	0	0	0
807	18-1807	GE M5371PATP Turbine - LS	15	15	15	15	15	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
808	18-1808	GE M5371PATP Turbine - LS	15	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
809	18-1809	GE M5371PATP Turbine - HS	16	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
810	18-1810	GE M5371PATP Turbine - HS	15	15	15	15	15	15	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
811	18-1811	GE M5371PATP Turbine - HS	15	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
812	18-1812	GE M5371PATP Turbine - HS	15	15	15	15	15	15	15	15	15	1	1	0	0	0	0	0	0	0	0	0	0
813	18-1813	GE M5371PATP Turbine - LS	16	16	16	16	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
833	18-1876	GE MS5382C Turbine	15	15	15	15	15	15	15	15	15	15	1	1	1	0	0	0	0	0	0	0	0
834	18-1878	GE MS5382C Turbine	16	16	16	16	16	16	16	16	16	16	16	1	1	0	0	0	0	0	0	0	0
832	18-1410	Broach Heater	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
814	18-1491	Broach Heater	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
815	18-1492	Broach Heater	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
701	18-1501	Eclipse Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
702	18-1502	Eclipse Heater	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
703	18-1503	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
704	18-1504	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
816	18-2897	Solar Centaur Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
817	18-2897-01	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
818	18-1522	Cummins FWP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
819A-J	18-1403	HP/IP Flare Arm 1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
820A-J	18-1403	HP/IP Flare Arm 2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
821A-J	18-1403	HP/IP Flare Arm 3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
822A-I	18-1403	HP/IP Flare Arm 4	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
823A-E	18-1494	STV Flare	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
824	18-1496	Line Back-up Flare	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
825	18-1497	Line Back-up Flare	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1117	19-1883	GE Frame 6 Turbine	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	0	0	0	0	0
1119	19-1884	GE Frame 6 Turbine	11	11	11	11	11	11	11	11	11	11	11	11	11	11	1	1	1	1	1	1	1
1116	19-1885	GE Frame 6 Turbine	10	10	10	10	10	10	10	10	10	10	10	10	10	1	1	1	1	1	1	0	0
1118	19-1886	GE Frame 6 Turbine	11	11	11	11	11	11	11	11	11	11	11	11	1	1	1	1	1	0	0	0	0
1101	19-1801	RB211-24C Turbine	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	1	1	1	1	1	1
1102	19-1802	RB211-24C Turbine	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	1	1	1	1	1	1
1103	19-1805	RB211-24C Turbine	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
1104	19-1855	RB211-24C Turbine	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
1105	19-1806	GE MS5382C w/LHE Turbine	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
1106	19-1856	GE MS5382C w/LHE Turbine	12	12	12	12	12	12	12	12	1	1	1	1	1	1	1	1	1	1	1	1	1
1115	19-1857	GE MS5382C w/LHE Turbine	15	15	15	15	15	15	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1107	19-1401	Chiyoda Heater	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
1108	19-1402	Chiyoda Heater	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
1109	19-1403	Chiyoda Heater	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
1121	19-2890	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1110	19-2802	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1111	19-2819	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1122	19-1529	Cat Fire Water Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11130	19-1408	LP Flare	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
11131	19-1409	HP Flare	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
NGL	19-1412	NGL Pit	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
CCP Total (lb/hr)			267	167	167	167	152	135	106	102	102	55	41	22	22	20	20	20	20	20	20	20	20
CGF Total (lb/hr)			191	191	191	191	191	191	191	177	166	166	166	166	156	147	137	114	106	105	105	104	104
Total (lb/hr)			458	358	358	358	343	326	297	279	268	221	207	188	178	167	157	134	126	125	125	124	124

	F	Fully Operational
	S	Standby, Off, but still connected to system
	A	Abandoned, disconnected

Table 11. PBU MGS Operating CO Emissions (tpy)

Modeled ID	Equipment ID	Equipment Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
801	18-1801	GE M5371PATP Turbine - LS	71	71	71	71	71	71	4	4	4	0	0	0	0	0	0	0	0	0	0	0	0
802	18-1802	GE M5371PATP w/LHE Turbine - LS	133	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
803	18-1803	GE M5371PATP Turbine - LS	68	68	68	68	68	68	68	68	68	4	4	0	0	0	0	0	0	0	0	0	0
804	18-1804	GE M5371PATP Turbine - LS	69	4	4	4	4	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
805	18-1805	GE M5371PATP Turbine - LS	68	4	4	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
806	18-1806	GE M5371PATP Turbine - LS	69	69	69	69	69	69	69	69	69	4	4	0	0	0	0	0	0	0	0	0	0
807	18-1807	GE M5371PATP Turbine - LS	67	67	67	67	67	4	4	4	4	0	0	0	0	0	0	0	0	0	0	0	0
808	18-1808	GE M5371PATP Turbine - LS	67	4	4	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
809	18-1809	GE M5371PATP Turbine - HS	72	4	4	4	4	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
810	18-1810	GE M5371PATP Turbine - HS	66	66	66	66	66	66	4	4	4	0	0	0	0	0	0	0	0	0	0	0	0
811	18-1811	GE M5371PATP Turbine - HS	65	4	4	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
812	18-1812	GE M5371PATP Turbine - HS	66	66	66	66	66	66	66	66	66	4	4	0	0	0	0	0	0	0	0	0	0
813	18-1813	GE M5371PATP Turbine - LS	69	69	69	69	4	4	4	4	4	4	4	0	0	0	0	0	0	0	0	0	0
833	18-1876	GE MS5382C Turbine	67	67	67	67	67	67	67	67	67	67	4	4	4	0	0	0	0	0	0	0	0
834	18-1878	GE MS5382C Turbine	68	68	68	68	68	68	68	68	68	68	68	4	4	0	0	0	0	0	0	0	0
832	18-1410	Broach Heater	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
814	18-1491	Broach Heater	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
815	18-1492	Broach Heater	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
701	18-1501	Eclipse Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
702	18-1502	Eclipse Heater	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
703	18-1503	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
704	18-1504	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
816	18-2897	Solar Centaur Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
817	18-2897-01	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
818	18-1522	Cummins FWP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
819A-J	18-1403	HP/IP Flare Arm 1	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
820A-J	18-1403	HP/IP Flare Arm 2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
821A-J	18-1403	HP/IP Flare Arm 3	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
822A-I	18-1403	HP/IP Flare Arm 4	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
823A-E	18-1494	STV Flare	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26
824	18-1496	Line Back-up Flare	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
825	18-1497	Line Back-up Flare	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
1117	19-1883	GE Frame 6 Turbine	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	2	2	2	2	2	2
1119	19-1884	GE Frame 6 Turbine	46	46	46	46	46	46	46	46	46	46	46	46	46	46	3	3	3	3	3	3	3
1116	19-1885	GE Frame 6 Turbine	42	42	42	42	42	42	42	42	42	42	42	42	42	2	2	2	2	2	2	0	0
1118	19-1886	GE Frame 6 Turbine	46	46	46	46	46	46	46	46	46	46	46	46	3	3	3	3	3	0	0	0	0
1101	19-1801	RB211-24C Turbine	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	3	3	3	3	3	3
1102	19-1802	RB211-24C Turbine	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	3	3	3	3	3	3
1103	19-1805	RB211-24C Turbine	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27
1104	19-1855	RB211-24C Turbine	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
1105	19-1806	GE MS5382C w/LHE Turbine	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36
1106	19-1856	GE MS5382C w/LHE Turbine	52	52	52	52	52	52	52	52	3	3	3	3	3	3	3	3	3	3	3	3	3
1115	19-1857	GE MS5382C w/LHE Turbine	66	66	66	66	66	66	66	4	4	4	4	4	4	4	4	4	4	4	4	4	4
1107	19-1401	Chiyoda Heater	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
1108	19-1402	Chiyoda Heater	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28
1109	19-1403	Chiyoda Heater	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
1121	19-2890	GM Engine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1110	19-2802	GM Engine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1111	19-2819	GM Engine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1122	19-1529	Cat Fire Water Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11130	19-1408	LP Flare	134	134	134	134	134	134	134	134	134	134	134	134	134	134	134	134	134	134	134	134	134
11131	19-1409	HP Flare	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
NGL	19-1412	NGL Pit	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29
CCP Total (tpy)			1,173	727	727	727	662	587	458	442	442	239	176	96	96	88	88	88	88	88	88	88	88
CGF Total (tpy)			835	835	835	835	835	835	835	773	724	724	724	724	681	641	598	494	460	457	457	455	455
Total (tpy)			2,008	1,562	1,562	1,562	1,497	1,422	1,293	1,215	1,166	963	900	820	777	729	686	582	548	545	545	543	543

	F	Fully Operational
	S	Standby, Off, but still connected to system
	A	Abandoned, disconnected

Table 12. PBU MGS Operating VOC Emissions (lb/hr)

Modeled ID	Equipment ID	Equipment Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
801	18-1801	GE M5371PATP Turbine - LS	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
802	18-1802	GE M5371PATP w/LHE Turbine - LS	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
803	18-1803	GE M5371PATP Turbine - LS	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
804	18-1804	GE M5371PATP Turbine - LS	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
805	18-1805	GE M5371PATP Turbine - LS	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
806	18-1806	GE M5371PATP Turbine - LS	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
807	18-1807	GE M5371PATP Turbine - LS	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
808	18-1808	GE M5371PATP Turbine - LS	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
809	18-1809	GE M5371PATP Turbine - HS	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
810	18-1810	GE M5371PATP Turbine - HS	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
811	18-1811	GE M5371PATP Turbine - HS	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
812	18-1812	GE M5371PATP Turbine - HS	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
813	18-1813	GE M5371PATP Turbine - LS	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
833	18-1876	GE MS5382C Turbine	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0
834	18-1878	GE MS5382C Turbine	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
832	18-1410	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
814	18-1491	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
815	18-1492	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
701	18-1501	Eclipse Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
702	18-1502	Eclipse Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
703	18-1503	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
704	18-1504	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
816	18-2897	Solar Centaur Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
817	18-2897-01	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
818	18-1522	Cummins FWP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
819A-J	18-1403	HP/IP Flare Arm 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
820A-J	18-1403	HP/IP Flare Arm 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
821A-J	18-1403	HP/IP Flare Arm 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
822A-I	18-1403	HP/IP Flare Arm 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
823A-E	18-1494	STV Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
824	18-1496	Line Back-up Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
825	18-1497	Line Back-up Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1117	19-1883	GE Frame 6 Turbine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0
1119	19-1884	GE Frame 6 Turbine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
1116	19-1885	GE Frame 6 Turbine	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0
1118	19-1886	GE Frame 6 Turbine	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0
1101	19-1801	RB211-24C Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1102	19-1802	RB211-24C Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1103	19-1805	RB211-24C Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1104	19-1855	RB211-24C Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1105	19-1806	GE MS5382C w/LHE Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1106	19-1856	GE MS5382C w/LHE Turbine	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
1115	19-1857	GE MS5382C w/LHE Turbine	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1107	19-1401	Chiyoda Heater	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1108	19-1402	Chiyoda Heater	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1109	19-1403	Chiyoda Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1121	19-2890	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1110	19-2802	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1111	19-2819	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1122	19-1529	Cat Fire Water Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11130	19-1408	LP Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11131	19-1409	HP Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NGL	19-1412	NGL Pit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CCP Total (lb/hr)			15	9	9	9	8	7	5	5	5	2	1	0	0	0	0	0	0	0	0	0	0
CGF Total (lb/hr)			8	8	8	8	8	8	8	7	6	6	6	6	5	4	3	3	2	2	2	2	2
Total (lb/hr)			23	17	17	17	16	15	13	12	11	8	7	6	5	4	3	3	2	2	2	2	2

	F	Fully Operational
	S	Standby, Off, but still connected to system
	A	Abandoned, disconnected

Table 13. PBU MGS Operating VOC Emissions (tpy)

Modeled ID	Equipment ID	Equipment Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
801	18-1801	GE M5371PATP Turbine - LS	3	3	3	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
802	18-1802	GE M5371PATP w/LHE Turbine - LS	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
803	18-1803	GE M5371PATP Turbine - LS	3	3	3	3	3	3	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0
804	18-1804	GE M5371PATP Turbine - LS	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
805	18-1805	GE M5371PATP Turbine - LS	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
806	18-1806	GE M5371PATP Turbine - LS	3	3	3	3	3	3	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0
807	18-1807	GE M5371PATP Turbine - LS	3	3	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
808	18-1808	GE M5371PATP Turbine - LS	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
809	18-1809	GE M5371PATP Turbine - HS	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
810	18-1810	GE M5371PATP Turbine - HS	3	3	3	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
811	18-1811	GE M5371PATP Turbine - HS	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
812	18-1812	GE M5371PATP Turbine - HS	3	3	3	3	3	3	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0
813	18-1813	GE M5371PATP Turbine - LS	3	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
833	18-1876	GE MS5382C Turbine	3	3	3	3	3	3	3	3	3	3	0	0	0	0	0	0	0	0	0	0	0
834	18-1878	GE MS5382C Turbine	3	3	3	3	3	3	3	3	3	3	3	0	0	0	0	0	0	0	0	0	0
832	18-1410	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
814	18-1491	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
815	18-1492	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
701	18-1501	Eclipse Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
702	18-1502	Eclipse Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
703	18-1503	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
704	18-1504	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
816	18-2897	Solar Centaur Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
817	18-2897-01	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
818	18-1522	Cummins FWP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
819A-J	18-1403	HP/IP Flare Arm 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
820A-J	18-1403	HP/IP Flare Arm 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
821A-J	18-1403	HP/IP Flare Arm 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
822A-I	18-1403	HP/IP Flare Arm 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
823A-E	18-1494	STV Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
824	18-1496	Line Back-up Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
825	18-1497	Line Back-up Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1117	19-1883	GE Frame 6 Turbine	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	0	0	0	0	0	0
1119	19-1884	GE Frame 6 Turbine	4	4	4	4	4	4	4	4	4	4	4	4	4	4	0	0	0	0	0	0	0
1116	19-1885	GE Frame 6 Turbine	4	4	4	4	4	4	4	4	4	4	4	4	4	0	0	0	0	0	0	0	0
1118	19-1886	GE Frame 6 Turbine	4	4	4	4	4	4	4	4	4	4	4	4	0	0	0	0	0	0	0	0	0
1101	19-1801	RB211-24C Turbine	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0
1102	19-1802	RB211-24C Turbine	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0
1103	19-1805	RB211-24C Turbine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1104	19-1855	RB211-24C Turbine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1105	19-1806	GE MS5382C w/LHE Turbine	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1106	19-1856	GE MS5382C w/LHE Turbine	3	3	3	3	3	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0
1115	19-1857	GE MS5382C w/LHE Turbine	3	3	3	3	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1107	19-1401	Chiyoda Heater	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1108	19-1402	Chiyoda Heater	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1109	19-1403	Chiyoda Heater	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1121	19-2890	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1110	19-2802	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1111	19-2819	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1122	19-1529	Cat Fire Water Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11130	19-1408	LP Flare	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
11131	19-1409	HP Flare	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
NGL	19-1412	NGL Pit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CCP Total (tpy)			45	27	27	27	24	21	15	15	15	6	3	0	0	0	0	0	0	0	0	0	0
CGF Total (tpy)			37	37	37	37	37	37	37	34	31	31	31	31	27	23	19	15	12	12	12	12	12
Total (tpy)			82	64	64	64	61	58	52	49	46	37	34	31	27	23	19	15	12	12	12	12	12

	F	Fully Operational
	S	Standby, Off, but still connected to system
	A	Abandoned, disconnected

Table 14. PBU MGS Operating HAP Emissions (lb/hr)

Modeled ID	Equipment ID	Equipment Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
801	18-1801	GE M5371PATP Turbine - LS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
802	18-1802	GE M5371PATP w/LHE Turbine - LS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
803	18-1803	GE M5371PATP Turbine - LS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
804	18-1804	GE M5371PATP Turbine - LS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
805	18-1805	GE M5371PATP Turbine - LS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
806	18-1806	GE M5371PATP Turbine - LS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
807	18-1807	GE M5371PATP Turbine - LS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
808	18-1808	GE M5371PATP Turbine - LS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
809	18-1809	GE M5371PATP Turbine - HS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
810	18-1810	GE M5371PATP Turbine - HS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
811	18-1811	GE M5371PATP Turbine - HS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
812	18-1812	GE M5371PATP Turbine - HS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
813	18-1813	GE M5371PATP Turbine - LS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
833	18-1876	GE MS5382C Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
834	18-1878	GE MS5382C Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
832	18-1410	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
814	18-1491	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
815	18-1492	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
701	18-1501	Eclipse Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
702	18-1502	Eclipse Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
703	18-1503	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
704	18-1504	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
816	18-2897	Solar Centaur Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
817	18-2897-01	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
818	18-1522	Cummins FWP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
819A-J	18-1403	HP/IP Flare Arm 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
820A-J	18-1403	HP/IP Flare Arm 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
821A-J	18-1403	HP/IP Flare Arm 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
822A-I	18-1403	HP/IP Flare Arm 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
823A-E	18-1494	STV Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
824	18-1496	Line Back-up Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
825	18-1497	Line Back-up Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1117	19-1883	GE Frame 6 Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1119	19-1884	GE Frame 6 Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1116	19-1885	GE Frame 6 Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1118	19-1886	GE Frame 6 Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1101	19-1801	RB211-24C Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1102	19-1802	RB211-24C Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1103	19-1805	RB211-24C Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1104	19-1855	RB211-24C Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1105	19-1806	GE MS5382C w/LHE Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1106	19-1856	GE MS5382C w/LHE Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1115	19-1857	GE MS5382C w/LHE Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1107	19-1401	Chiyoda Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1108	19-1402	Chiyoda Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1109	19-1403	Chiyoda Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1121	19-2890	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1110	19-2802	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1111	19-2819	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1122	19-1529	Cat Fire Water Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11130	19-1408	LP Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11131	19-1409	HP Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NGL	19-1412	NGL Pit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CCP Total (lb/hr)			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CGF Total (lb/hr)			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total (lb/hr)			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	F	Fully Operational
	S	Standby, Off, but still connected to system
	A	Abandoned, disconnected

Table 15. PBU MGS Operating HAP Emissions (tpy)

Modeled ID	Equipment ID	Equipment Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
801	18-1801	GE M5371PATP Turbine - LS	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
802	18-1802	GE M5371PATP w/LHE Turbine - LS	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
803	18-1803	GE M5371PATP Turbine - LS	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
804	18-1804	GE M5371PATP Turbine - LS	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
805	18-1805	GE M5371PATP Turbine - LS	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
806	18-1806	GE M5371PATP Turbine - LS	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
807	18-1807	GE M5371PATP Turbine - LS	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
808	18-1808	GE M5371PATP Turbine - LS	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
809	18-1809	GE M5371PATP Turbine - HS	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
810	18-1810	GE M5371PATP Turbine - HS	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
811	18-1811	GE M5371PATP Turbine - HS	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
812	18-1812	GE M5371PATP Turbine - HS	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
813	18-1813	GE M5371PATP Turbine - LS	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
833	18-1876	GE MS5382C Turbine	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0
834	18-1878	GE MS5382C Turbine	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
832	18-1410	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
814	18-1491	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
815	18-1492	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
701	18-1501	Eclipse Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
702	18-1502	Eclipse Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
703	18-1503	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
704	18-1504	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
816	18-2897	Solar Centaur Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
817	18-2897-01	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
818	18-1522	Cummins FWP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
819A-J	18-1403	HP/IP Flare Arm 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
820A-J	18-1403	HP/IP Flare Arm 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
821A-J	18-1403	HP/IP Flare Arm 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
822A-I	18-1403	HP/IP Flare Arm 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
823A-E	18-1494	STV Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
824	18-1496	Line Back-up Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
825	18-1497	Line Back-up Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1117	19-1883	GE Frame 6 Turbine	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0
1119	19-1884	GE Frame 6 Turbine	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0
1116	19-1885	GE Frame 6 Turbine	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0
1118	19-1886	GE Frame 6 Turbine	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0
1101	19-1801	RB211-24C Turbine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0
1102	19-1802	RB211-24C Turbine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0
1103	19-1805	RB211-24C Turbine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1104	19-1855	RB211-24C Turbine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1105	19-1806	GE MS5382C w/LHE Turbine	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1106	19-1856	GE MS5382C w/LHE Turbine	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
1115	19-1857	GE MS5382C w/LHE Turbine	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1107	19-1401	Chiyoda Heater	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1108	19-1402	Chiyoda Heater	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1109	19-1403	Chiyoda Heater	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1121	19-2890	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1110	19-2802	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1111	19-2819	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1122	19-1529	Cat Fire Water Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11130	19-1408	LP Flare	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
11131	19-1409	HP Flare	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
NGL	19-1412	NGL Pit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CCP Total (tpy)			17	11	11	11	9	8	6	6	6	3	1	0	0	0	0	0	0	0	0	0	0
CGF Total (tpy)			26	26	26	26	26	26	26	24	22	22	22	22	20	18	16	14	12	12	12	12	12
Total (tpy)			43	37	37	37	35	34	32	30	28	25	23	22	20	18	16	14	12	12	12	12	12

	F	Fully Operational
	S	Standby, Off, but still connected to system
	A	Abandoned, disconnected

Table 16. PBU MGS Operating CO_2 Emissions (lb/hr)

Modeled ID	Equipment ID	Equipment Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
801	18-1801	GE M5371PATP Turbine - LS	38,626	38,626	38,626	38,626	38,626	38,626	2,205	2,205	2,205	0	0	0	0	0	0	0	0	0	0	0	0
802	18-1802	GE M5371PATP w/LHE Turbine - LS	36,043	2,057	2,057	2,057	2,057	2,057	2,057	0	0	0	0	0	0	0	0	0	0	0	0	0	0
803	18-1803	GE M5371PATP Turbine - LS	35,065	35,065	35,065	35,065	35,065	35,065	35,065	35,065	35,065	2,001	2,001	0	0	0	0	0	0	0	0	0	0
804	18-1804	GE M5371PATP Turbine - LS	36,589	2,088	2,088	2,088	2,088	2,088	2,088	0	0	0	0	0	0	0	0	0	0	0	0	0	0
805	18-1805	GE M5371PATP Turbine - LS	37,047	2,115	2,115	2,115	2,115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
806	18-1806	GE M5371PATP Turbine - LS	37,376	37,376	37,376	37,376	37,376	37,376	37,376	37,376	37,376	2,133	2,133	0	0	0	0	0	0	0	0	0	0
807	18-1807	GE M5371PATP Turbine - LS	37,057	37,057	37,057	37,057	37,057	2,115	2,115	2,115	2,115	0	0	0	0	0	0	0	0	0	0	0	0
808	18-1808	GE M5371PATP Turbine - LS	36,451	2,081	2,081	2,081	2,081	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
809	18-1809	GE M5371PATP Turbine - HS	37,432	2,137	2,137	2,137	2,137	2,137	2,137	0	0	0	0	0	0	0	0	0	0	0	0	0	0
810	18-1810	GE M5371PATP Turbine - HS	38,084	38,084	38,084	38,084	38,084	38,084	2,174	2,174	2,174	0	0	0	0	0	0	0	0	0	0	0	0
811	18-1811	GE M5371PATP Turbine - HS	36,011	2,055	2,055	2,055	2,055	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
812	18-1812	GE M5371PATP Turbine - HS	37,212	37,212	37,212	37,212	37,212	37,212	37,212	37,212	37,212	2,124	2,124	0	0	0	0	0	0	0	0	0	0
813	18-1813	GE M5371PATP Turbine - LS	39,142	39,142	39,142	39,142	2,234	2,234	2,234	2,234	2,234	2,234	2,234	0	0	0	0	0	0	0	0	0	0
833	18-1876	GE MS5382C Turbine	39,756	39,756	39,756	39,756	39,756	39,756	39,756	39,756	39,756	39,756	2,269	2,269	2,269	0	0	0	0	0	0	0	0
834	18-1878	GE MS5382C Turbine	38,589	38,589	38,589	38,589	38,589	38,589	38,589	38,589	38,589	38,589	38,589	2,203	2,203	0	0	0	0	0	0	0	0
832	18-1410	Broach Heater	3,334	3,334	3,334	3,334	3,334	3,334	3,334	3,334	3,334	3,334	3,334	3,334	3,334	3,334	3,334	3,334	3,334	3,334	3,334	3,334	3,334
814	18-1491	Broach Heater	4,387	4,387	4,387	4,387	4,387	4,387	4,387	4,387	4,387	4,387	4,387	4,387	4,387	4,387	4,387	4,387	4,387	4,387	4,387	4,387	4,387
815	18-1492	Broach Heater	4,387	4,387	4,387	4,387	4,387	4,387	4,387	4,387	4,387	4,387	4,387	4,387	4,387	4,387	4,387	4,387	4,387	4,387	4,387	4,387	4,387
701	18-1501	Eclipse Heater	1,252	1,252	1,252	1,252	1,252	1,252	1,252	1,252	1,252	1,252	1,252	1,252	1,252	1,252	1,252	1,252	1,252	1,252	1,252	1,252	1,252
702	18-1502	Eclipse Heater	1,444	1,444	1,444	1,444	1,444	1,444	1,444	1,444	1,444	1,444	1,444	1,444	1,444	1,444	1,444	1,444	1,444	1,444	1,444	1,444	1,444
703	18-1503	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
704	18-1504	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
816	18-2897	Solar Centaur Turbine	6,587	6,587	6,587	6,587	6,587	6,587	6,587	6,587	6,587	6,587	6,587	6,587	6,587	6,587	6,587	6,587	6,587	6,587	6,587	6,587	6,587
817	18-2897-01	GM Engine	4,109	4,109	4,109	4,109	4,109	4,109	4,109	4,109	4,109	4,109	4,109	4,109	4,109	4,109	4,109	4,109	4,109	4,109	4,109	4,109	4,109
818	18-1522	Cummins FWP	291	291	291	291	291	291	291	291	291	291	291	291	291	291	291	291	291	291	291	291	291
819A-J	18-1403	HP/IP Flare Arm 1	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081
820A-J	18-1403	HP/IP Flare Arm 2	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081
821A-J	18-1403	HP/IP Flare Arm 3	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081
822A-I	18-1403	HP/IP Flare Arm 4	975	975	975	975	975	975	975	975	975	975	975	975	975	975	975	975	975	975	975	975	975
823A-E	18-1494	STV Flare	2,955	2,955	2,955	2,955	2,955	2,955	2,955	2,955	2,955	2,955	2,955	2,955	2,955	2,955	2,955	2,955	2,955	2,955	2,955	2,955	2,955
824	18-1496	Line Back-up Flare	633	633	633	633	633	633	633	633	633	633	633	633	633	633	633	633	633	633	633	633	633
825	18-1497	Line Back-up Flare	633	633	633	633	633	633	633	633	633	633	633	633	633	633	633	633	633	633	633	633	633
1117	19-1883	GE Frame 6 Turbine	49,022	49,022	49,022	49,022	49,022	49,022	49,022	49,022	49,022	49,022	49,022	49,022	49,022	49,022	49,022	49,022	2,798	2,798	2,798	2,798	2,798
1119	19-1884	GE Frame 6 Turbine	47,314	47,314	47,314	47,314	47,314	47,314	47,314	47,314	47,314	47,314	47,314	47,314	47,314	47,314	2,701	2,701	2,701	2,701	2,701	2,701	2,701
1116	19-1885	GE Frame 6 Turbine	48,865	48,865	48,865	48,865	48,865	48,865	48,865	48,865	48,865	48,865	48,865	48,865	48,865	2,789	2,789	2,789	2,789	2,789	2,789	0	0
1118	19-1886	GE Frame 6 Turbine	48,399	48,399	48,399	48,399	48,399	48,399	48,399	48,399	48,399	48,399	48,399	48,399	2,763	2,763	2,763	2,763	2,763	0	0	0	0
1101	19-1801	RB211-24C Turbine	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	1,728	1,728	1,728	1,728	1,728	1,728
1102	19-1802	RB211-24C Turbine	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	1,728	1,728	1,728	1,728	1,728	1,728
1103	19-1805	RB211-24C Turbine	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273
1104	19-1855	RB211-24C Turbine	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273	30,273
1105	19-1806	GE MS5382C w/LHE Turbine	44,428	44,428	44,428	44,428	44,428	44,428	44,428	44,428	44,428	44,428	44,428	44,428	44,428	44,428	44,428	44,428	44,428	44,428	44,428	44,428	44,428
1106	19-1856	GE MS5382C w/LHE Turbine	44,428	44,428	44,428	44,428	44,428	44,428	44,428	44,428	2,536	2,536	2,536	2,536	2,536	2,536	2,536	2,536	2,536	2,536	2,536	2,536	2,536
1115	19-1857	GE MS5382C w/LHE Turbine	44,428	44,428	44,428	44,428	44,428	44,428	44,428	2,536	2,536	2,536	2,536	2,536	2,536	2,536	2,536	2,536	2,536	2,536	2,536	2,536	2,536
1107	19-1401	Chiyoda Heater	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267
1108	19-1402	Chiyoda Heater	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267
1109	19-1403	Chiyoda Heater	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267	25,267
1121	19-2890	GM Engine	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275
1110	19-2802	GM Engine	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275
1111	19-2819	GM Engine	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275	3,275
1122	19-1529	Cat Fire Water Engine	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270
11130	19-1408	LP Flare	6,428	6,428	6,428	6,428	6,428	6,428	6,428	6,428	6,428	6,428	6,428	6,428	6,428	6,428	6,428	6,428	6,428	6,428	6,428	6,428	6,428
11131	19-1409	HP Flare	4,824	4,824	4,824	4,824	4,824	4,824	4,824	4,824	4,824	4,824	4,824	4,824	4,824	4,824	4,824	4,824	4,824	4,824	4,824	4,824	4,824
NGL	19-1412	NGL Pit	1,410	1,410	1,410	1,410	1,410	1,410	1,410	1,410	1,410	1,410	1,410	1,410	1,410	1,410	1,410	1,410	1,410	1,410	1,410	1,410	1,410
CCP Total (lb/hr)			594,710	387,670	387,670	387,670	350,762	309,569	237,238	230,956	230,956	121,067	83,580	38,702	38,702	34,230	34,230	34,230	34,230	34,230	34,230	34,230	34,230
CGF Total (lb/hr)			546,534	546,534	546,534	546,534	546,534	546,534	546,534	504,642	462,750	462,750	462,750	462,750	417,114	371,038	326,425	269,335	223,111	220,348	220,348	217,559	217,559
Total (lb/hr)			1,141,244	934,204	934,204	934,204	897,296	856,103	783,772	735,598	693,706	583,817	546,330	501,452	455,816	405,268	360,655	303,565	257,341	254,578	254,578	251,789	251,789

	F	Fully Operational
	S	Standby, Off, but still connected to system
	A	Abandoned, disconnected

Table 17. PBU MGS Operating CO_2 Emissions (tonne/yr)

Modeled ID	Equipment ID	Equipment Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
801	18-1801	GE M5371PATP Turbine - LS	153,482	153,482	153,482	153,482	153,482	153,482	8,760	8,760	8,760	0	0	0	0	0	0	0	0	0	0	0	0
802	18-1802	GE M5371PATP w/LHE Turbine - LS	143,217	8,174	8,174	8,174	8,174	8,174	8,174	0	0	0	0	0	0	0	0	0	0	0	0	0	0
803	18-1803	GE M5371PATP Turbine - LS	139,329	139,329	139,329	139,329	139,329	139,329	139,329	139,329	139,329	7,953	7,953	0	0	0	0	0	0	0	0	0	0
804	18-1804	GE M5371PATP Turbine - LS	145,386	8,298	8,298	8,298	8,298	8,298	8,298	0	0	0	0	0	0	0	0	0	0	0	0	0	0
805	18-1805	GE M5371PATP Turbine - LS	147,205	8,402	8,402	8,402	8,402	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
806	18-1806	GE M5371PATP Turbine - LS	148,515	148,515	148,515	148,515	148,515	148,515	148,515	148,515	148,515	8,477	8,477	0	0	0	0	0	0	0	0	0	0
807	18-1807	GE M5371PATP Turbine - LS	147,247	147,247	147,247	147,247	147,247	8,404	8,404	8,404	8,404	0	0	0	0	0	0	0	0	0	0	0	0
808	18-1808	GE M5371PATP Turbine - LS	144,839	8,267	8,267	8,267	8,267	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
809	18-1809	GE M5371PATP Turbine - HS	148,735	8,489	8,489	8,489	8,489	8,489	8,489	0	0	0	0	0	0	0	0	0	0	0	0	0	0
810	18-1810	GE M5371PATP Turbine - HS	151,327	151,327	151,327	151,327	151,327	151,327	8,637	8,637	8,637	0	0	0	0	0	0	0	0	0	0	0	0
811	18-1811	GE M5371PATP Turbine - HS	143,088	8,167	8,167	8,167	8,167	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
812	18-1812	GE M5371PATP Turbine - HS	147,862	147,862	147,862	147,862	147,862	147,862	147,862	147,862	147,862	8,440	8,440	0	0	0	0	0	0	0	0	0	0
813	18-1813	GE M5371PATP Turbine - LS	155,531	155,531	155,531	155,531	8,877	8,877	8,877	8,877	8,877	8,877	8,877	0	0	0	0	0	0	0	0	0	0
833	18-1876	GE MS5382C Turbine	157,971	157,971	157,971	157,971	157,971	157,971	157,971	157,971	157,971	157,971	9,017	9,017	9,017	0	0	0	0	0	0	0	0
834	18-1878	GE MS5382C Turbine	153,335	153,335	153,335	153,335	153,335	153,335	153,335	153,335	153,335	153,335	153,335	8,752	8,752	0	0	0	0	0	0	0	0
832	18-1410	Broach Heater	13,247	13,247	13,247	13,247	13,247	13,247	13,247	13,247	13,247	13,247	13,247	13,247	13,247	13,247	13,247	13,247	13,247	13,247	13,247	13,247	13,247
814	18-1491	Broach Heater	17,430	17,430	17,430	17,430	17,430	17,430	17,430	17,430	17,430	17,430	17,430	17,430	17,430	17,430	17,430	17,430	17,430	17,430	17,430	17,430	17,430
815	18-1492	Broach Heater	17,430	17,430	17,430	17,430	17,430	17,430	17,430	17,430	17,430	17,430	17,430	17,430	17,430	17,430	17,430	17,430	17,430	17,430	17,430	17,430	17,430
701	18-1501	Eclipse Heater	4,973	4,973	4,973	4,973	4,973	4,973	4,973	4,973	4,973	4,973	4,973	4,973	4,973	4,973	4,973	4,973	4,973	4,973	4,973	4,973	4,973
702	18-1502	Eclipse Heater	5,738	5,738	5,738	5,738	5,738	5,738	5,738	5,738	5,738	5,738	5,738	5,738	5,738	5,738	5,738	5,738	5,738	5,738	5,738	5,738	5,738
703	18-1503	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
704	18-1504	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
816	18-2897	Solar Centaur Turbine	598	598	598	598	598	598	598	598	598	598	598	598	598	598	598	598	598	598	598	598	598
817	18-2897-01	GM Engine	373	373	373	373	373	373	373	373	373	373	373	373	373	373	373	373	373	373	373	373	373
818	18-1522	Cummins FWP	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39
819A-J	18-1403	HP/IP Flare Arm 1	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294
820A-J	18-1403	HP/IP Flare Arm 2	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294
821A-J	18-1403	HP/IP Flare Arm 3	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294	4,294
822A-I	18-1403	HP/IP Flare Arm 4	3,874	3,874	3,874	3,874	3,874	3,874	3,874	3,874	3,874	3,874	3,874	3,874	3,874	3,874	3,874	3,874	3,874	3,874	3,874	3,874	3,874
823A-E	18-1494	STV Flare	11,740	11,740	11,740	11,740	11,740	11,740	11,740	11,740	11,740	11,740	11,740	11,740	11,740	11,740	11,740	11,740	11,740	11,740	11,740	11,740	11,740
824	18-1496	Line Back-up Flare	2,516	2,516	2,516	2,516	2,516	2,516	2,516	2,516	2,516	2,516	2,516	2,516	2,516	2,516	2,516	2,516	2,516	2,516	2,516	2,516	2,516
825	18-1497	Line Back-up Flare	2,516	2,516	2,516	2,516	2,516	2,516	2,516	2,516	2,516	2,516	2,516	2,516	2,516	2,516	2,516	2,516	2,516	2,516	2,516	2,516	2,516
1117	19-1883	GE Frame 6 Turbine	194,791	194,791	194,791	194,791	194,791	194,791	194,791	194,791	194,791	194,791	194,791	194,791	194,791	194,791	194,791	11,118	11,118	11,118	11,118	11,118	11,118
1119	19-1884	GE Frame 6 Turbine	188,004	188,004	188,004	188,004	188,004	188,004	188,004	188,004	188,004	188,004	188,004	188,004	188,004	188,004	10,731	10,731	10,731	10,731	10,731	10,731	10,731
1116	19-1885	GE Frame 6 Turbine	194,166	194,166	194,166	194,166	194,166	194,166	194,166	194,166	194,166	194,166	194,166	194,166	194,166	11,083	11,083	11,083	11,083	11,083	11,083	0	0
1118	19-1886	GE Frame 6 Turbine	192,314	192,314	192,314	192,314	192,314	192,314	192,314	192,314	192,314	192,314	192,314	192,314	10,977	10,977	10,977	10,977	10,977	0	0	0	0
1101	19-1801	RB211-24C Turbine	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	6,866	6,866	6,866	6,866	6,866	6,866
1102	19-1802	RB211-24C Turbine	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	6,866	6,866	6,866	6,866	6,866	6,866
1103	19-1805	RB211-24C Turbine	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292
1104	19-1855	RB211-24C Turbine	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292	120,292
1105	19-1806	GE MS5382C w/LHE Turbine	176,533	176,533	176,533	176,533	176,533	176,533	176,533	176,533	176,533	176,533	176,533	176,533	176,533	176,533	176,533	176,533	176,533	176,533	176,533	176,533	176,533
1106	19-1856	GE MS5382C w/LHE Turbine	176,533	176,533	176,533	176,533	176,533	176,533	176,533	176,533	10,076	10,076	10,076	10,076	10,076	10,076	10,076	10,076	10,076	10,076	10,076	10,076	10,076
1115	19-1857	GE MS5382C w/LHE Turbine	176,533	176,533	176,533	176,533	176,533	176,533	176,533	10,076	10,076	10,076	10,076	10,076	10,076	10,076	10,076	10,076	10,076	10,076	10,076	10,076	10,076
1107	19-1401	Chiyoda Heater	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398
1108	19-1402	Chiyoda Heater	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398
1109	19-1403	Chiyoda Heater	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398	100,398
1121	19-2890	GM Engine	297	297	297	297	297	297	297	297	297	297	297	297	297	297	297	297	297	297	297	297	297
1110	19-2802	GM Engine	297	297	297	297	297	297	297	297	297	297	297	297	297	297	297	297	297	297	297	297	297
1111	19-2819	GM Engine	297	297	297	297	297	297	297	297	297	297	297	297	297	297	297	297	297	297	297	297	297
1122	19-1529	Cat Fire Water Engine	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
11130	19-1408	LP Flare	25,543	25,543	25,543	25,543	25,543	25,543	25,543	25,543	25,543	25,543	25,543	25,543	25,543	25,543	25,543	25,543	25,543	25,543	25,543	25,543	25,543
11131	19-1409	HP Flare	19,170	19,170	19,170	19,170	19,170	19,170	19,170	19,170	19,170	19,170	19,170	19,170	19,170	19,170	19,170	19,170	19,170	19,170	19,170	19,170	19,170
NGL	19-1412	NGL Pit	5,602	5,602	5,602	5,602	5,602	5,602	5,602	5,602	5,602	5,602	5,602	5,602	5,602	5,602	5,602	5,602	5,602	5,602	5,602	5,602	5,602
		CCP Total (tpy)	2,320,425	1,497,752	1,497,752	1,497,752	1,351,098	1,187,419	900,007	875,046	875,046	438,409	289,455	111,125	111,125	93,356	93,356	93,356	93,356	93,356	93,356	93,356	93,356
		CGF Total (tpy)	2,132,467	2,132,467	2,132,467	2,132,467	2,132,467	2,132,467	2,132,467	1,966,010	1,799,553	1,799,553	1,799,553	1,799,553	1,618,216	1,435,133	1,257,860	1,031,008	847,335	836,358	836,358	825,275	825,275
		Total (tpy)	4,452,892	3,630,219	3,630,219	3,630,219	3,483,565	3,319,886	3,032,474	2,841,056	2,674,599	2,237,962	2,089,008	1,910,678	1,729,341	1,528,489	1,351,216	1,124,364	940,691	929,714	929,714	918,631	918,631

	F	Fully Operational
	S	Standby, Off, but still connected to system
	A	Abandoned, disconnected

Table 18. PBU MGS Operating CH_4 Emissions (lb/hr)

Modeled ID	Equipment ID	Equipment Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
801	18-1801	GE M5371PATP Turbine - LS	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
802	18-1802	GE M5371PATP w/LHE Turbine - LS	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
803	18-1803	GE M5371PATP Turbine - LS	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
804	18-1804	GE M5371PATP Turbine - LS	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
805	18-1805	GE M5371PATP Turbine - LS	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
806	18-1806	GE M5371PATP Turbine - LS	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
807	18-1807	GE M5371PATP Turbine - LS	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
808	18-1808	GE M5371PATP Turbine - LS	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
809	18-1809	GE M5371PATP Turbine - HS	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
810	18-1810	GE M5371PATP Turbine - HS	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
811	18-1811	GE M5371PATP Turbine - HS	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
812	18-1812	GE M5371PATP Turbine - HS	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
813	18-1813	GE M5371PATP Turbine - LS	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
833	18-1876	GE MS5382C Turbine	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0
834	18-1878	GE MS5382C Turbine	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
832	18-1410	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
814	18-1491	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
815	18-1492	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
701	18-1501	Eclipse Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
702	18-1502	Eclipse Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
703	18-1503	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
704	18-1504	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
816	18-2897	Solar Centaur Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
817	18-2897-01	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
818	18-1522	Cummins FWP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
819A-J	18-1403	HP/IP Flare Arm 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
820A-J	18-1403	HP/IP Flare Arm 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
821A-J	18-1403	HP/IP Flare Arm 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
822A-I	18-1403	HP/IP Flare Arm 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
823A-E	18-1494	STV Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
824	18-1496	Line Back-up Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
825	18-1497	Line Back-up Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1117	19-1883	GE Frame 6 Turbine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0
1119	19-1884	GE Frame 6 Turbine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
1116	19-1885	GE Frame 6 Turbine	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0
1118	19-1886	GE Frame 6 Turbine	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0
1101	19-1801	RB211-24C Turbine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0
1102	19-1802	RB211-24C Turbine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0
1103	19-1805	RB211-24C Turbine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1104	19-1855	RB211-24C Turbine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1105	19-1806	GE MS5382C w/LHE Turbine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1106	19-1856	GE MS5382C w/LHE Turbine	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
1115	19-1857	GE MS5382C w/LHE Turbine	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1107	19-1401	Chiyoda Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1108	19-1402	Chiyoda Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1109	19-1403	Chiyoda Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1121	19-2890	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1110	19-2802	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1111	19-2819	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1122	19-1529	Cat Fire Water Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11130	19-1408	LP Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11131	19-1409	HP Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NGL	19-1412	NGL Pit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CCP Total (lb/hr)			15	9	9	9	8	7	5	5	5	2	1	0	0	0	0	0	0	0	0	0	0
CGF Total (lb/hr)			11	11	11	11	11	11	11	10	9	9	9	9	8	7	6	4	3	3	3	3	3
Total (lb/hr)			26	20	20	20	19	18	16	15	14	11	10	9	8	7	6	4	3	3	3	3	3

	F	Fully Operational
	S	Standby, Off, but still connected to system
	A	Abandoned, disconnected

CO2e tpy

Modeled ID	Equipment ID	Equipment Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
801	18-1801	GE M5371PATP Turbine - LS	3	3	3	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
802	18-1802	GE M5371PATP w/LHE Turbine - LS	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
803	18-1803	GE M5371PATP Turbine - LS	3	3	3	3	3	3	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0
804	18-1804	GE M5371PATP Turbine - LS	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
805	18-1805	GE M5371PATP Turbine - LS	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
806	18-1806	GE M5371PATP Turbine - LS	3	3	3	3	3	3	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0
807	18-1807	GE M5371PATP Turbine - LS	3	3	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
808	18-1808	GE M5371PATP Turbine - LS	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
809	18-1809	GE M5371PATP Turbine - HS	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
810	18-1810	GE M5371PATP Turbine - HS	3	3	3	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
811	18-1811	GE M5371PATP Turbine - HS	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
812	18-1812	GE M5371PATP Turbine - HS	3	3	3	3	3	3	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0
813	18-1813	GE M5371PATP Turbine - LS	3	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
833	18-1876	GE MS5382C Turbine	3	3	3	3	3	3	3	3	3	3	0	0	0	0	0	0	0	0	0	0	0
834	18-1878	GE MS5382C Turbine	3	3	3	3	3	3	3	3	3	3	3	0	0	0	0	0	0	0	0	0	0
832	18-1410	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
814	18-1491	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
815	18-1492	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
701	18-1501	Eclipse Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
702	18-1502	Eclipse Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
703	18-1503	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
704	18-1504	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
816	18-2897	Solar Centaur Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
817	18-2897-01	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
818	18-1522	Cummins FWP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
819A-J	18-1403	HP/IP Flare Arm 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
820A-J	18-1403	HP/IP Flare Arm 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
821A-J	18-1403	HP/IP Flare Arm 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
822A-I	18-1403	HP/IP Flare Arm 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
823A-E	18-1494	STV Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
824	18-1496	Line Back-up Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
825	18-1497	Line Back-up Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1117	19-1883	GE Frame 6 Turbine	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	0	0	0	0	0
1119	19-1884	GE Frame 6 Turbine	4	4	4	4	4	4	4	4	4	4	4	4	4	4	0	0	0	0	0	0	0
1116	19-1885	GE Frame 6 Turbine	4	4	4	4	4	4	4	4	4	4	4	4	4	0	0	0	0	0	0	0	0
1118	19-1886	GE Frame 6 Turbine	4	4	4	4	4	4	4	4	4	4	4	4	0	0	0	0	0	0	0	0	0
1101	19-1801	RB211-24C Turbine	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0
1102	19-1802	RB211-24C Turbine	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0
1103	19-1805	RB211-24C Turbine	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1104	19-1855	RB211-24C Turbine	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1105	19-1806	GE MS5382C w/LHE Turbine	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
1106	19-1856	GE MS5382C w/LHE Turbine	3	3	3	3	3	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0
1115	19-1857	GE MS5382C w/LHE Turbine	3	3	3	3	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1107	19-1401	Chiyoda Heater	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1108	19-1402	Chiyoda Heater	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1109	19-1403	Chiyoda Heater	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1121	19-2890	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1110	19-2802	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1111	19-2819	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1122	19-1529	Cat Fire Water Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11130	19-1408	LP Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11131	19-1409	HP Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NGL	19-1412	NGL Pit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CCP Total (tpy)			45	27	27	27	24	21	15	15	15	6	3	0	0	0	0	0	0	0	0	0	0
CGF Total (tpy)			39	39	39	39	39	39	39	36	33	33	33	33	29	25	21	17	13	13	13	13	13
Total (tpy)			84	66	66	66	63	60	54	51	48	39	36	33	29	25	21	17	13	13	13	13	13

	F	Fully Operational
	S	Standby, Off, but still connected to system
	A	Abandoned, disconnected

Table 20. PBU MGS Operating N_2O Emissions (lb/hr)

Modeled ID	Equipment ID	Equipment Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
801	18-1801	GE M5371PATP Turbine - LS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
802	18-1802	GE M5371PATP w/LHE Turbine - LS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
803	18-1803	GE M5371PATP Turbine - LS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
804	18-1804	GE M5371PATP Turbine - LS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
805	18-1805	GE M5371PATP Turbine - LS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
806	18-1806	GE M5371PATP Turbine - LS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
807	18-1807	GE M5371PATP Turbine - LS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
808	18-1808	GE M5371PATP Turbine - LS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
809	18-1809	GE M5371PATP Turbine - HS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
810	18-1810	GE M5371PATP Turbine - HS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
811	18-1811	GE M5371PATP Turbine - HS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
812	18-1812	GE M5371PATP Turbine - HS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
813	18-1813	GE M5371PATP Turbine - LS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
833	18-1876	GE MS5382C Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
834	18-1878	GE MS5382C Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
832	18-1410	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
814	18-1491	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
815	18-1492	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
701	18-1501	Eclipse Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
702	18-1502	Eclipse Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
703	18-1503	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
704	18-1504	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
816	18-2897	Solar Centaur Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
817	18-2897-01	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
818	18-1522	Cummins FWP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
819A-J	18-1403	HP/IP Flare Arm 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
820A-J	18-1403	HP/IP Flare Arm 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
821A-J	18-1403	HP/IP Flare Arm 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
822A-I	18-1403	HP/IP Flare Arm 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
823A-E	18-1494	STV Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
824	18-1496	Line Back-up Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
825	18-1497	Line Back-up Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1117	19-1883	GE Frame 6 Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1119	19-1884	GE Frame 6 Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1116	19-1885	GE Frame 6 Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1118	19-1886	GE Frame 6 Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1101	19-1801	RB211-24C Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1102	19-1802	RB211-24C Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1103	19-1805	RB211-24C Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1104	19-1855	RB211-24C Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1105	19-1806	GE MS5382C w/LHE Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1106	19-1856	GE MS5382C w/LHE Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1115	19-1857	GE MS5382C w/LHE Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1107	19-1401	Chiyoda Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1108	19-1402	Chiyoda Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1109	19-1403	Chiyoda Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1121	19-2890	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1110	19-2802	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1111	19-2819	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1122	19-1529	Cat Fire Water Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11130	19-1408	LP Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11131	19-1409	HP Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NGL	19-1412	NGL Pit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CCP Total (lb/hr)			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CGF Total (lb/hr)			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total (lb/hr)			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	F	Fully Operational
	S	Standby, Off, but still connected to system
	A	Abandoned, disconnected

Table 21. PBU MGS Operating N_2O Emissions (tonne/yr)

Modeled ID	Equipment ID	Equipment Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
801	18-1801	GE M5371PATP Turbine - LS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
802	18-1802	GE M5371PATP w/LHE Turbine - LS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
803	18-1803	GE M5371PATP Turbine - LS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
804	18-1804	GE M5371PATP Turbine - LS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
805	18-1805	GE M5371PATP Turbine - LS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
806	18-1806	GE M5371PATP Turbine - LS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
807	18-1807	GE M5371PATP Turbine - LS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
808	18-1808	GE M5371PATP Turbine - LS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
809	18-1809	GE M5371PATP Turbine - HS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
810	18-1810	GE M5371PATP Turbine - HS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
811	18-1811	GE M5371PATP Turbine - HS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
812	18-1812	GE M5371PATP Turbine - HS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
813	18-1813	GE M5371PATP Turbine - LS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
833	18-1876	GE MS5382C Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
834	18-1878	GE MS5382C Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
832	18-1410	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
814	18-1491	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
815	18-1492	Broach Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
701	18-1501	Eclipse Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
702	18-1502	Eclipse Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
703	18-1503	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
704	18-1504	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
816	18-2897	Solar Centaur Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
817	18-2897-01	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
818	18-1522	Cummins FWP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
819A-J	18-1403	HP/IP Flare Arm 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
820A-J	18-1403	HP/IP Flare Arm 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
821A-J	18-1403	HP/IP Flare Arm 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
822A-I	18-1403	HP/IP Flare Arm 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
823A-E	18-1494	STV Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
824	18-1496	Line Back-up Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
825	18-1497	Line Back-up Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1117	19-1883	GE Frame 6 Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1119	19-1884	GE Frame 6 Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1116	19-1885	GE Frame 6 Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1118	19-1886	GE Frame 6 Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1101	19-1801	RB211-24C Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1102	19-1802	RB211-24C Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1103	19-1805	RB211-24C Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1104	19-1855	RB211-24C Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1105	19-1806	GE MS5382C w/LHE Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1106	19-1856	GE MS5382C w/LHE Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1115	19-1857	GE MS5382C w/LHE Turbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1107	19-1401	Chiyoda Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1108	19-1402	Chiyoda Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1109	19-1403	Chiyoda Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1121	19-2890	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1110	19-2802	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1111	19-2819	GM Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1122	19-1529	Cat Fire Water Engine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11130	19-1408	LP Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11131	19-1409	HP Flare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NGL	19-1412	NGL Pit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CCP Total (tpy)			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CGF Total (tpy)			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total (tpy)			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	F	Fully Operational
	S	Standby, Off, but still connected to system
	A	Abandoned, disconnected

Modeled ID	Equipment ID	Equipment Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
801	18-1801	GE M5371PATP Turbine - LS	38,666	38,666	38,666	38,666	38,666	38,666	2,207	2,207	2,207	0	0	0	0	0	0	0	0	0	0	0	0
802	18-1802	GE M5371PATP w/LHE Turbine - LS	36,080	2,059	2,059	2,059	2,059	2,059	2,059	0	0	0	0	0	0	0	0	0	0	0	0	0	0
803	18-1803	GE M5371PATP Turbine - LS	35,101	35,101	35,101	35,101	35,101	35,101	35,101	35,101	35,101	2,003	2,003	0	0	0	0	0	0	0	0	0	0
804	18-1804	GE M5371PATP Turbine - LS	36,627	2,091	2,091	2,091	2,091	2,091	2,091	0	0	0	0	0	0	0	0	0	0	0	0	0	0
805	18-1805	GE M5371PATP Turbine - LS	37,085	2,117	2,117	2,117	2,117	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
806	18-1806	GE M5371PATP Turbine - LS	37,415	37,415	37,415	37,415	37,415	37,415	37,415	37,415	37,415	2,136	2,136	0	0	0	0	0	0	0	0	0	0
807	18-1807	GE M5371PATP Turbine - LS	37,095	37,095	37,095	37,095	37,095	2,117	2,117	2,117	2,117	0	0	0	0	0	0	0	0	0	0	0	0
808	18-1808	GE M5371PATP Turbine - LS	36,489	2,083	2,083	2,083	2,083	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
809	18-1809	GE M5371PATP Turbine - HS	37,470	2,139	2,139	2,139	2,139	2,139	2,139	0	0	0	0	0	0	0	0	0	0	0	0	0	0
810	18-1810	GE M5371PATP Turbine - HS	38,123	38,123	38,123	38,123	38,123	38,123	2,176	2,176	2,176	0	0	0	0	0	0	0	0	0	0	0	0
811	18-1811	GE M5371PATP Turbine - HS	36,048	2,058	2,058	2,058	2,058	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
812	18-1812	GE M5371PATP Turbine - HS	37,250	37,250	37,250	37,250	37,250	37,250	37,250	37,250	37,250	2,126	2,126	0	0	0	0	0	0	0	0	0	0
813	18-1813	GE M5371PATP Turbine - LS	39,183	39,183	39,183	39,183	2,236	2,236	2,236	2,236	2,236	2,236	2,236	0	0	0	0	0	0	0	0	0	0
833	18-1876	GE MS5382C Turbine	39,797	39,797	39,797	39,797	39,797	39,797	39,797	39,797	39,797	39,797	2,272	2,272	2,272	0	0	0	0	0	0	0	0
834	18-1878	GE MS5382C Turbine	38,629	38,629	38,629	38,629	38,629	38,629	38,629	38,629	38,629	38,629	38,629	2,205	2,205	0	0	0	0	0	0	0	0
832	18-1410	Broach Heater	3,337	3,337	3,337	3,337	3,337	3,337	3,337	3,337	3,337	3,337	3,337	3,337	3,337	3,337	3,337	3,337	3,337	3,337	3,337	3,337	3,337
814	18-1491	Broach Heater	4,391	4,391	4,391	4,391	4,391	4,391	4,391	4,391	4,391	4,391	4,391	4,391	4,391	4,391	4,391	4,391	4,391	4,391	4,391	4,391	4,391
815	18-1492	Broach Heater	4,391	4,391	4,391	4,391	4,391	4,391	4,391	4,391	4,391	4,391	4,391	4,391	4,391	4,391	4,391	4,391	4,391	4,391	4,391	4,391	4,391
701	18-1501	Eclipse Heater	1,253	1,253	1,253	1,253	1,253	1,253	1,253	1,253	1,253	1,253	1,253	1,253	1,253	1,253	1,253	1,253	1,253	1,253	1,253	1,253	1,253
702	18-1502	Eclipse Heater	1,446	1,446	1,446	1,446	1,446	1,446	1,446	1,446	1,446	1,446	1,446	1,446	1,446	1,446	1,446	1,446	1,446	1,446	1,446	1,446	1,446
703	18-1503	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
704	18-1504	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
816	18-2897	Solar Centaur Turbine	6,610	6,610	6,610	6,610	6,610	6,610	6,610	6,610	6,610	6,610	6,610	6,610	6,610	6,610	6,610	6,610	6,610	6,610	6,610	6,610	6,610
817	18-2897-01	GM Engine	4,123	4,123	4,123	4,123	4,123	4,123	4,123	4,123	4,123	4,123	4,123	4,123	4,123	4,123	4,123	4,123	4,123	4,123	4,123	4,123	4,123
818	18-1522	Cummins FWP	292	292	292	292	292	292	292	292	292	292	292	292	292	292	292	292	292	292	292	292	292
819A-J	18-1403	HP/IP Flare Arm 1	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082
820A-J	18-1403	HP/IP Flare Arm 2	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082
821A-J	18-1403	HP/IP Flare Arm 3	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082
822A-I	18-1403	HP/IP Flare Arm 4	976	976	976	976	976	976	976	976	976	976	976	976	976	976	976	976	976	976	976	976	976
823A-E	18-1494	STV Flare	2,958	2,958	2,958	2,958	2,958	2,958	2,958	2,958	2,958	2,958	2,958	2,958	2,958	2,958	2,958	2,958	2,958	2,958	2,958	2,958	2,958
824	18-1496	Line Back-up Flare	634	634	634	634	634	634	634	634	634	634	634	634	634	634	634	634	634	634	634	634	634
825	18-1497	Line Back-up Flare	634	634	634	634	634	634	634	634	634	634	634	634	634	634	634	634	634	634	634	634	634
1117	19-1883	GE Frame 6 Turbine	49,073	49,073	49,073	49,073	49,073	49,073	49,073	49,073	49,073	49,073	49,073	49,073	49,073	49,073	49,073	2,801	2,801	2,801	2,801	2,801	
1119	19-1884	GE Frame 6 Turbine	47,363	47,363	47,363	47,363	47,363	47,363	47,363	47,363	47,363	47,363	47,363	47,363	47,363	47,363	2,703	2,703	2,703	2,703	2,703	2,703	
1116	19-1885	GE Frame 6 Turbine	48,916	48,916	48,916	48,916	48,916	48,916	48,916	48,916	48,916	48,916	48,916	48,916	48,916	2,792	2,792	2,792	2,792	2,792	0	0	
1118	19-1886	GE Frame 6 Turbine	48,449	48,449	48,449	48,449	48,449	48,449	48,449	48,449	48,449	48,449	48,449	48,449	2,765	2,765	2,765	2,765	2,765	0	0	0	
1101	19-1801	RB211-24C Turbine	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	1,730	1,730	1,730	1,730	1,730	
1102	19-1802	RB211-24C Turbine	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	1,730	1,730	1,730	1,730	1,730	
1103	19-1805	RB211-24C Turbine	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	
1104	19-1855	RB211-24C Turbine	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	30,305	
1105	19-1806	GE MS5382C w/LHE Turbine	44,473	44,473	44,473	44,473	44,473	44,473	44,473	44,473	44,473	44,473	44,473	44,473	44,473	44,473	44,473	44,473	44,473	44,473	44,473	44,473	
1106	19-1856	GE MS5382C w/LHE Turbine	44,473	44,473	44,473	44,473	44,473	44,473	44,473	44,473	2,538	2,538	2,538	2,538	2,538	2,538	2,538	2,538	2,538	2,538	2,538	2,538	
1115	19-1857	GE MS5382C w/LHE Turbine	44,473	44,473	44,473	44,473	44,473	44,473	44,473	2,538	2,538	2,538	2,538	2,538	2,538	2,538	2,538	2,538	2,538	2,538	2,538	2,538	
1107	19-1401	Chiyoda Heater	25,293	25,293	25,293	25,293	25,293	25,293	25,293	25,293	25,293	25,293	25,293	25,293	25,293	25,293	25,293	25,293	25,293	25,293	25,293	25,293	
1108	19-1402	Chiyoda Heater	25,293	25,293	25,293	25,293	25,293	25,293	25,293	25,293	25,293	25,293	25,293	25,293	25,293	25,293	25,293	25,293	25,293	25,293	25,293	25,293	
1109	19-1403	Chiyoda Heater	25,293	25,293	25,293	25,293	25,293	25,293	25,293	25,293	25,293	25,293	25,293	25,293	25,293	25,293	25,293	25,293	25,293	25,293	25,293	25,293	
1121	19-2890	GM Engine	3,291	3,291	3,291	3,291	3,291	3,291	3,291	3,291	3,291	3,291	3,291	3,291	3,291	3,291	3,291	3,291	3,291	3,291	3,291	3,291	
1110	19-2802	GM Engine	3,291	3,291	3,291	3,291	3,291	3,291	3,291	3,291	3,291	3,291	3,291	3,291	3,291	3,291	3,291	3,291	3,291	3,291	3,291	3,291	
1111	19-2819	GM Engine	3,291	3,291	3,291	3,291	3,291	3,291	3,291	3,291	3,291	3,291	3,291	3,291	3,291	3,291	3,291	3,291	3,291	3,291	3,291	3,291	
1122	19-1529	Cat Fire Water Engine	272	272	272	272	272	272	272	272	272	272	272	272	272	272	272	272	272	272	272	272	
11130	19-1408	LP Flare	6,435	6,435	6,435	6,435	6,435	6,435	6,435	6,435	6,435	6,435	6,435	6,435	6,435	6,435	6,435	6,435	6,435	6,435	6,435	6,435	
11131	19-1409	HP Flare	4,829	4,829	4,829	4,829	4,829	4,829	4,829	4,829	4,829	4,829	4,829	4,829	4,829	4,829	4,829	4,829	4,829	4,829	4,829	4,829	
NGL	19-1412	NGL Pit	1,411	1,411	1,411	1,411	1,411	1,411	1,411	1,411	1,411	1,411	1,411	1,411	1,411	1,411	1,411	1,411	1,411	1,411	1,411	1,411	
CCP Total (lb/hr)			595,349	388,097	388,097	388,097	351,150	309,914	237,508	231,219	231,219	121,218	83,693	38,768	38,768	34,291	34,291	34,291	34,291	34,291	34,291	34,291	34,291
CGF Total (lb/hr)			547,139	547,139	547,139	547,139	547,139	547,139	547,139	505,204	463,269	463,269	463,269	463,269	417,585	371,461	326,801	269,651	223,379	220,614	220,614	217,822	217,822
Total (lb/hr)			1,142,488	935,236	935,236	935,236	898,289	857,053	784,647	736,423	694,488	584,487	546,962	502,037	456,353	405,752	361,092	303,942	257,670	254,905	254,905	252,113	252,113

	F	Fully Operational
	S	Standby, Off, but still connected to system
	A	Abandoned, disconnected

Table 23. PBU MGS Operating CO_2e Emissions (tonne/yr)

Modeled ID	Equipment ID	Equipment Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
801	18-1801	GE M5371PATP Turbine - LS	153,641	153,641	153,641	153,641	153,641	153,641	8,769	8,769	8,769	0	0	0	0	0	0	0	0	0	0	0	0
802	18-1802	GE M5371PATP w/LHE Turbine - LS	143,365	8,183	8,183	8,183	8,183	8,183	8,183	0	0	0	0	0	0	0	0	0	0	0	0	0	0
803	18-1803	GE M5371PATP Turbine - LS	139,473	139,473	139,473	139,473	139,473	139,473	139,473	139,473	139,473	7,961	7,961	0	0	0	0	0	0	0	0	0	0
804	18-1804	GE M5371PATP Turbine - LS	145,536	8,307	8,307	8,307	8,307	8,307	8,307	0	0	0	0	0	0	0	0	0	0	0	0	0	0
805	18-1805	GE M5371PATP Turbine - LS	147,357	8,411	8,411	8,411	8,411	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
806	18-1806	GE M5371PATP Turbine - LS	148,668	148,668	148,668	148,668	148,668	148,668	148,668	148,668	148,668	8,486	8,486	0	0	0	0	0	0	0	0	0	0
807	18-1807	GE M5371PATP Turbine - LS	147,399	147,399	147,399	147,399	147,399	8,413	8,413	8,413	8,413	0	0	0	0	0	0	0	0	0	0	0	0
808	18-1808	GE M5371PATP Turbine - LS	144,988	8,276	8,276	8,276	8,276	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
809	18-1809	GE M5371PATP Turbine - HS	148,889	8,498	8,498	8,498	8,498	8,498	8,498	0	0	0	0	0	0	0	0	0	0	0	0	0	0
810	18-1810	GE M5371PATP Turbine - HS	151,483	151,483	151,483	151,483	151,483	151,483	8,646	8,646	8,646	0	0	0	0	0	0	0	0	0	0	0	0
811	18-1811	GE M5371PATP Turbine - HS	143,236	8,176	8,176	8,176	8,176	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
812	18-1812	GE M5371PATP Turbine - HS	148,015	148,015	148,015	148,015	148,015	148,015	148,015	148,015	148,015	8,448	8,448	0	0	0	0	0	0	0	0	0	0
813	18-1813	GE M5371PATP Turbine - LS	155,692	155,692	155,692	155,692	8,887	8,887	8,887	8,887	8,887	8,887	8,887	0	0	0	0	0	0	0	0	0	0
833	18-1876	GE MS5382C Turbine	158,135	158,135	158,135	158,135	158,135	158,135	158,135	158,135	158,135	158,135	9,026	9,026	9,026	0	0	0	0	0	0	0	0
834	18-1878	GE MS5382C Turbine	153,493	153,493	153,493	153,493	153,493	153,493	153,493	153,493	153,493	153,493	153,493	8,761	8,761	0	0	0	0	0	0	0	0
832	18-1410	Broach Heater	13,261	13,261	13,261	13,261	13,261	13,261	13,261	13,261	13,261	13,261	13,261	13,261	13,261	13,261	13,261	13,261	13,261	13,261	13,261	13,261	13,261
814	18-1491	Broach Heater	17,448	17,448	17,448	17,448	17,448	17,448	17,448	17,448	17,448	17,448	17,448	17,448	17,448	17,448	17,448	17,448	17,448	17,448	17,448	17,448	17,448
815	18-1492	Broach Heater	17,448	17,448	17,448	17,448	17,448	17,448	17,448	17,448	17,448	17,448	17,448	17,448	17,448	17,448	17,448	17,448	17,448	17,448	17,448	17,448	17,448
701	18-1501	Eclipse Heater	4,979	4,979	4,979	4,979	4,979	4,979	4,979	4,979	4,979	4,979	4,979	4,979	4,979	4,979	4,979	4,979	4,979	4,979	4,979	4,979	4,979
702	18-1502	Eclipse Heater	5,744	5,744	5,744	5,744	5,744	5,744	5,744	5,744	5,744	5,744	5,744	5,744	5,744	5,744	5,744	5,744	5,744	5,744	5,744	5,744	5,744
703	18-1503	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
704	18-1504	BS&B Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
816	18-2897	Solar Centaur Turbine	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600
817	18-2897-01	GM Engine	374	374	374	374	374	374	374	374	374	374	374	374	374	374	374	374	374	374	374	374	374
818	18-1522	Cummins FWP	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39
819A-J	18-1403	HP/IP Flare Arm 1	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298
820A-J	18-1403	HP/IP Flare Arm 2	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298
821A-J	18-1403	HP/IP Flare Arm 3	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298
822A-I	18-1403	HP/IP Flare Arm 4	3,878	3,878	3,878	3,878	3,878	3,878	3,878	3,878	3,878	3,878	3,878	3,878	3,878	3,878	3,878	3,878	3,878	3,878	3,878	3,878	3,878
823A-E	18-1494	STV Flare	11,752	11,752	11,752	11,752	11,752	11,752	11,752	11,752	11,752	11,752	11,752	11,752	11,752	11,752	11,752	11,752	11,752	11,752	11,752	11,752	11,752
824	18-1496	Line Back-up Flare	2,518	2,518	2,518	2,518	2,518	2,518	2,518	2,518	2,518	2,518	2,518	2,518	2,518	2,518	2,518	2,518	2,518	2,518	2,518	2,518	2,518
825	18-1497	Line Back-up Flare	2,518	2,518	2,518	2,518	2,518	2,518	2,518	2,518	2,518	2,518	2,518	2,518	2,518	2,518	2,518	2,518	2,518	2,518	2,518	2,518	2,518
1117	19-1883	GE Frame 6 Turbine	194,992	194,992	194,992	194,992	194,992	194,992	194,992	194,992	194,992	194,992	194,992	194,992	194,992	194,992	194,992	194,992	11,130	11,130	11,130	11,130	11,130
1119	19-1884	GE Frame 6 Turbine	188,198	188,198	188,198	188,198	188,198	188,198	188,198	188,198	188,198	188,198	188,198	188,198	188,198	188,198	10,742	10,742	10,742	10,742	10,742	10,742	10,742
1116	19-1885	GE Frame 6 Turbine	194,367	194,367	194,367	194,367	194,367	194,367	194,367	194,367	194,367	194,367	194,367	194,367	194,367	11,094	11,094	11,094	11,094	11,094	11,094	0	0
1118	19-1886	GE Frame 6 Turbine	192,513	192,513	192,513	192,513	192,513	192,513	192,513	192,513	192,513	192,513	192,513	192,513	10,988	10,988	10,988	10,988	10,988	0	0	0	0
1101	19-1801	RB211-24C Turbine	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	6,873	6,873	6,873	6,873	6,873	6,873
1102	19-1802	RB211-24C Turbine	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	6,873	6,873	6,873	6,873	6,873	6,873
1103	19-1805	RB211-24C Turbine	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416
1104	19-1855	RB211-24C Turbine	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416	120,416
1105	19-1806	GE MS5382C w/LHE Turbine	176,715	176,715	176,715	176,715	176,715	176,715	176,715	176,715	176,715	176,715	176,715	176,715	176,715	176,715	176,715	176,715	176,715	176,715	176,715	176,715	176,715
1106	19-1856	GE MS5382C w/LHE Turbine	176,715	176,715	176,715	176,715	176,715	176,715	176,715	176,715	10,087	10,087	10,087	10,087	10,087	10,087	10,087	10,087	10,087	10,087	10,087	10,087	10,087
1115	19-1857	GE MS5382C w/LHE Turbine	176,715	176,715	176,715	176,715	176,715	176,715	176,715	10,087	10,087	10,087	10,087	10,087	10,087	10,087	10,087	10,087	10,087	10,087	10,087	10,087	10,087
1107	19-1401	Chiyoda Heater	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502
1108	19-1402	Chiyoda Heater	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502
1109	19-1403	Chiyoda Heater	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502	100,502
1121	19-2890	GM Engine	299	299	299	299	299	299	299	299	299	299	299	299	299	299	299	299	299	299	299	299	299
1110	19-2802	GM Engine	299	299	299	299	299	299	299	299	299	299	299	299	299	299	299	299	299	299	299	299	299
1111	19-2819	GM Engine	299	299	299	299	299	299	299	299	299	299	299	299	299	299	299	299	299	299	299	299	299
1122	19-1529	Cat Fire Water Engine	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
11130	19-1408	LP Flare	25,570	25,570	25,570	25,570	25,570	25,570	25,570	25,570	25,570	25,570	25,570	25,570	25,570	25,570	25,570	25,570	25,570	25,570	25,570	25,570	25,570
11131	19-1409	HP Flare	19,190	19,190	19,190	19,190	19,190	19,190	19,190	19,190	19,190	19,190	19,190	19,190	19,190	19,190	19,190	19,190	19,190	19,190	19,190	19,190	19,190
NGL	19-1412	NGL Pit	5,608	5,608	5,608	5,608	5,608	5,608	5,608	5,608	5,608	5,608	5,608	5,608	5,608	5,608	5,608	5,608	5,608	5,608	5,608	5,608	5,608
		CCP Total (tpy)	2,322,823	1,499,303	1,499,303	1,499,303	1,352,498	1,188,649	900,940	875,952	875,952	438,863	289,754	111,240	111,240	93,453	93,453	93,453	93,453	93,453	93,453	93,453	93,453
		CGF Total (tpy)	2,134,675	2,134,675	2,134,675	2,134,675	2,134,675	2,134,675	2,134,675	1,968,047	1,801,419	1,801,419	1,801,419	1,801,419	1,619,894	1,436,621	1,259,165	1,032,079	848,217	837,229	837,229	826,135	826,135
		Total (tpy)	4,457,498	3,633,978	3,633,978	3,633,978	3,487,173	3,323,324	3,035,615	2,843,999	2,677,371	2,240,282	2,091,173	1,912,659	1,731,134	1,530,074	1,352,618	1,125,532	941,670	930,682	930,682	919,588	919,588

	F	Fully Operational
	S	Standby, Off, but still connected to system
	A	Abandoned, disconnected

Table 24. PBU MGS Operating CCP Schedule

Modeled ID	Equipment ID	Equipment Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
801	18-1801	GE M5371PATP Turbine - LS	F	F	F	F	F	F	S	S	S	A	A	A	A	A	A	A	A	A	A	A	A
802	18-1802	GE M5371PATP w/LHE Turbine - LS	F	S	S	S	S	S	S	A	A	A	A	A	A	A	A	A	A	A	A	A	A
803	18-1803	GE M5371PATP Turbine - LS	F	F	F	F	F	F	F	F	F	S	S	A	A	A	A	A	A	A	A	A	A
804	18-1804	GE M5371PATP Turbine - LS	F	S	S	S	S	S	S	A	A	A	A	A	A	A	A	A	A	A	A	A	A
805	18-1805	GE M5371PATP Turbine - LS	F	S	S	S	S	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
806	18-1806	GE M5371PATP Turbine - LS	F	F	F	F	F	F	F	F	F	S	S	A	A	A	A	A	A	A	A	A	A
807	18-1807	GE M5371PATP Turbine - LS	F	F	F	F	F	S	S	S	S	A	A	A	A	A	A	A	A	A	A	A	A
808	18-1808	GE M5371PATP Turbine - LS	F	S	S	S	S	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
809	18-1809	GE M5371PATP Turbine - HS	F	S	S	S	S	S	S	A	A	A	A	A	A	A	A	A	A	A	A	A	A
810	18-1810	GE M5371PATP Turbine - HS	F	F	F	F	F	F	S	S	S	A	A	A	A	A	A	A	A	A	A	A	A
811	18-1811	GE M5371PATP Turbine - HS	F	S	S	S	S	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
812	18-1812	GE M5371PATP Turbine - HS	F	F	F	F	F	F	F	F	F	S	S	A	A	A	A	A	A	A	A	A	A
813	18-1813	GE M5371PATP Turbine - LS	F	F	F	F	S	S	S	S	S	S	S	A	A	A	A	A	A	A	A	A	A
833	18-1876	GE MS5382C Turbine	F	F	F	F	F	F	F	F	F	F	S	S	S	A	A	A	A	A	A	A	A
834	18-1878	GE MS5382C Turbine	F	F	F	F	F	F	F	F	F	F	F	S	S	A	A	A	A	A	A	A	A
832	18-1410	Broach Heater	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
814	18-1491	Broach Heater	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
815	18-1492	Broach Heater	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
701	18-1501	Eclipse Heater	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
702	18-1502	Eclipse Heater	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
703	18-1503	BS&B Heater	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
704	18-1504	BS&B Heater	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
816	18-2897	Solar Centaur Turbine	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
817	18-2897-01	GM Engine	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
818	18-1522	Cummins FWP	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
819A-J	18-1403	HP/IP Flare Arm 1	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
820A-J	18-1403	HP/IP Flare Arm 2	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
821A-J	18-1403	HP/IP Flare Arm 3	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
822A-I	18-1403	HP/IP Flare Arm 4	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
823A-E	18-1494	STV Flare	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
824	18-1496	Line Back-up Flare	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
825	18-1497	Line Back-up Flare	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F

	F	Fully Operational
	S	Standby, Off, but still connected to system
	A	Abandoned, disconnected

Table 25. PBU MGS Operating CGF Schedule

Modeled ID	Equipment ID	Equipment Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
1117	19-1883	GE Frame 6 Turbine	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	S	S	S	S	S
1119	19-1884	GE Frame 6 Turbine	F	F	F	F	F	F	F	F	F	F	F	F	F	F	S	S	S	S	S	S	S
1116	19-1885	GE Frame 6 Turbine	F	F	F	F	F	F	F	F	F	F	F	F	F	S	S	S	S	S	S	A	A
1118	19-1886	GE Frame 6 Turbine	F	F	F	F	F	F	F	F	F	F	F	F	S	S	S	S	S	A	A	A	A
1101	19-1801	RB211-24C Turbine	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	S	S	S	S	S	S
1102	19-1802	RB211-24C Turbine	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	S	S	S	S	S	S
1103	19-1805	RB211-24C Turbine	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
1104	19-1855	RB211-24C Turbine	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
1105	19-1806	GE MS5382C w/LHE Turbine	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
1106	19-1856	GE MS5382C w/LHE Turbine	F	F	F	F	F	F	F	F	S	S	S	S	S	S	S	S	S	S	S	S	S
1115	19-1857	GE MS5382C w/LHE Turbine	F	F	F	F	F	F	F	S	S	S	S	S	S	S	S	S	S	S	S	S	S
1107	19-1401	Chiyoda Heater	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
1108	19-1402	Chiyoda Heater	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
1109	19-1403	Chiyoda Heater	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
1121	19-2890	GM Engine	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
1110	19-2802	GM Engine	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
1111	19-2819	GM Engine	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
1122	19-1529	Cat Fire Water Engine	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
11130	19-1408	LP Flare	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
11131	19-1409	HP Flare	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
NGL	19-1412	NGL Pit	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F

F Fully Operational
S Standby, Off, but still connected to system
A Abandoned, disconnected

Table 26. PBU MGS Operating Emission Unit Inventory

Emission Unit ID	Emission Unit Tag No.	Description	Source Category	Turbine 0° F MMBtu/hr (HHV)	Load Basis for CT EF	Fuel/Service	Operation (hr/yr)	Load Basis for Calc
801	18-1801	GE M5371PATP Turbine - LS	CT	330.21	>80%	NG	8,760	100% load
802	18-1802	GE M5371PATP w/LHE Turbine - LS	CT	308.12	>80%	NG	8,760	100% load
803	18-1803	GE M5371PATP Turbine - LS	CT	299.76	>80%	NG	8,760	100% load
804	18-1804	GE M5371PATP Turbine - LS	CT	312.79	>80%	NG	8,760	100% load
805	18-1805	GE M5371PATP Turbine - LS	CT	316.70	>80%	NG	8,760	100% load
806	18-1806	GE M5371PATP Turbine - LS	CT	319.52	>80%	NG	8,760	100% load
807	18-1807	GE M5371PATP Turbine - LS	CT	316.79	>80%	NG	8,760	100% load
808	18-1808	GE M5371PATP Turbine - LS	CT	311.61	>80%	NG	8,760	100% load
809	18-1809	GE M5371PATP Turbine - HS	CT	319.99	>80%	NG	8,760	100% load
810	18-1810	GE M5371PATP Turbine - HS	CT	325.57	>80%	NG	8,760	100% load
811	18-1811	GE M5371PATP Turbine - HS	CT	307.85	>80%	NG	8,760	100% load
812	18-1812	GE M5371PATP Turbine - HS	CT	318.12	>80%	NG	8,760	100% load
813	18-1813	GE M5371PATP Turbine - LS	CT	334.62	>80%	NG	8,760	100% load
833	18-1876	GE MS5382C Turbine	CT	339.87	>80%	NG	8,760	100% load
834	18-1878	GE MS5382C Turbine	CT	329.89	>80%	NG	8,760	100% load
832	18-1410	Broach Heater	Heater	28.5	0	NG	8,760	100% load
814	18-1491	Broach Heater	Heater	37.5	0	NG	8,760	100% load
815	18-1492	Broach Heater	Heater	37.5	0	NG	8,760	100% load
701	18-1501	Eclipse Heater	Heater	10.7	0	NG	8,760	100% load
702	18-1502	Eclipse Heater	Heater	12.345	0	NG	8,760	100% load
703	18-1503	BS&B Heater	Heater	0	0	NG	8,760	100% load
704	18-1504	BS&B Heater	Heater	0	0	NG	8,760	100% load
816	18-2897	Solar Centaur Turbine	ICE	40.4	>600hp	D	200	100% load
817	18-2897-01	GM Engine	ICE	25.2	>600hp	D	200	100% load
818	18-1522	Cummins FWP	ICE	1.79	<600hp	D	295	100% load
819A-J	18-1403	HP/IP Flare Arm 1	Flare	9.24	0	NG	8,760	100% load
820A-J	18-1403	HP/IP Flare Arm 2	Flare	9.24	0	NG	8,760	100% load
821A-J	18-1403	HP/IP Flare Arm 3	Flare	9.24	0	NG	8,760	100% load
822A-I	18-1403	HP/IP Flare Arm 4	Flare	8.34	0	NG	8,760	100% load
823A-E	18-1494	STV Flare	Flare	25.26	0	NG	8,760	100% load
824	18-1496	Line Back-up Flare	Flare	5.41	0	NG	8,760	100% load
825	18-1497	Line Back-up Flare	Flare	5.41	0	NG	8,760	100% load
1117	19-1883	GE Frame 6 Turbine	CT	419.08	>80%	NG	8,760	100% load
1119	19-1884	GE Frame 6 Turbine	CT	404.48	>80%	NG	8,760	100% load
1116	19-1885	GE Frame 6 Turbine	CT	417.74	>80%	NG	8,760	100% load
1118	19-1886	GE Frame 6 Turbine	CT	413.75	>80%	NG	8,760	100% load
1101	19-1801	RB211-24C Turbine	CT	258.80	>80%	NG	8,760	100% load
1102	19-1802	RB211-24C Turbine	CT	258.80	>80%	NG	8,760	100% load
1103	19-1805	RB211-24C Turbine	CT	258.80	>80%	NG	8,760	100% load
1104	19-1855	RB211-24C Turbine	CT	258.80	>80%	NG	8,760	100% load
1105	19-1806	GE MS5382C w/LHE Turbine	CT	379.8	>80%	NG	8,760	100% load
1106	19-1856	GE MS5382C w/LHE Turbine	CT	379.8	>80%	NG	8,760	100% load
1115	19-1857	GE MS5382C w/LHE Turbine	CT	379.8	>80%	NG	8,760	100% load
1107	19-1401	Chiyoda Heater	Heater	216	0	NG	8,760	100% load
1108	19-1402	Chiyoda Heater	Heater	216	0	NG	8,760	100% load
1109	19-1403	Chiyoda Heater	Heater	216	0	NG	8,760	100% load
1121	19-2890	GM Engine	ICE	28	>600hp	D	200	100% load
1110	19-2802	GM Engine	ICE	28	>600hp	D	200	100% load
1111	19-2819	GM Engine	ICE	28	>600hp	D	200	100% load
1122	19-1529	Cat Fire Water Engine	ICE	2.31	<600hp	D	200	100% load
11130	19-1408	LP Flare	Flare	54.95	0	NG	8,760	100% load
11131	19-1409	HP Flare	Flare	41.24	0	NG	8,760	100% load
NGL	19-1412	NGL Pit	Flare	12.05	0	NG	8,760	100% load

Based on actual data provided by BPXA.

ATTACHMENT 3 - KENAI SPUR HIGHWAY RELOCATION CONSTRUCTION EMISSIONS

KENAI SPUR HIGHWAY RELOCATION CONSTRUCTION EMISSIONS

Relocating a portion of the Kenai Spur Highway existing between Mileposts 19 and 22 would avoid potential conflicts with the proposed Liquefaction Facility. A number of different alignments are under consideration for the relocated Kenai Spur Highway, ranging from 3.5 to 5.8 miles in length. For purposes of this assessment of construction emissions, a length of 5.8 miles is assumed.

Because the specific roadway alignment has not yet been selected and engineering of required improvements has not been completed, emissions associated with construction of the Kenai Spur Highway relocation were estimated using a roadway construction emissions model developed by the Sacramento (California) Metropolitan Air Quality Management District. [*Road Construction Emissions Model Version 8.1.0*, Sacramento (California) Metropolitan Air Quality Management District, June 2016, available at http://www.airquality.org/ceqa/ (accessed June 9, 2016).] The model uses data related to project type, construction start year, duration, soil type, roadway length, project area, disturbed acres, imported material, exported material, and project mitigation to estimate emissions associated with a road construction project.

Based on available information, emissions associated to construction of the relocated Kenai Spur Highway are presented in Table 1. Additional details are provided in Attachment A.

Table 1. Summary of Kenai Spur Highway Relocation Construction Emissions – Anticipated 2019 to 2020

	Criteria Pollutants (tons)						Greenhouse Gases (metric tons)			
Project Phase	VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O	CO_2e
Grubbing/Land Clearing	0.1	0.5	0.4	1.8	0.4	0.00	82.0	0.02	0.00	82.8
Grading/Excavation	0.9	9.5	6.2	7.5	1.9	0.01	1,321.7	0.33	0.02	1,334.7
Drainage/Utilities/Sub-Grade	0.6	6.5	5.0	6.5	1.6	0.01	1,056.0	0.18	0.01	1,064.9
Paving	0.1	1.2	1.0	0.1	0.0	0.00	282.5	0.04	0.01	285.2
Total Construction Project	1.6	17.7	12.6	15.8	3.9	0.03	2,742.2	0.57	0.04	2,767.5

Notes:

1. Source: *Road Construction Emissions Model Version 8.1.0*, Sacramento Metropolitan Air Quality Management District, released June 2016, using data inputs for the Kenai Spur Highway Relocation (5.8 miles). VOC is assumed to equal ROG as calculated by the *Road Construction Emissions Model*.
2. Column entries may not add up to totals due to rounding.
3. Due to an internal error with the model, CO_2e emissions are not calculated correctly. The CO_2e emissions in the above table assume a global warming potential of 25 for CH_4 and 298 for N_2O.
4. Because the *Road Construction Emissions Model* uses California-specific on-road and non-road emission factors, on-road and non-road fleets are assumed to be unmitigated.

Alaska LNG Project - Air Quality Analysis of Non-Jurisdictional Projects
Attachment A: Construction Emissions - Kenai Spur Highway Relocation

Road Construction Emissions Model, Version 8.1.0

Daily Emission Estimates for -> Kenai Spur Highway Relocation Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)
Grubbing/Land Clearing	2.59	17.85	26.66	90.13	1.13	89.00	19.52	1.00	18.51	0.04	4,142.93	0.90	0.05	4,179.60
Grading/Excavation	10.76	78.89	120.08	94.45	5.45	89.00	23.39	4.88	18.51	0.17	16,687.54	4.16	0.20	16,852.15
Drainage/Utilities/Sub-Grade	9.10	72.62	93.64	93.57	4.57	89.00	22.65	4.14	18.51	0.16	15,238.23	2.63	0.21	15,366.28
Paving	3.55	33.08	40.15	2.02	2.02	0.00	1.67	1.67	0.00	0.10	9,511.40	1.26	0.20	9,602.05
Maximum (pounds/day)	10.76	78.89	120.08	94.45	5.45	89.00	23.39	4.88	18.51	0.17	16,687.54	4.16	0.21	16,852.15
Total (tons/construction project)	1.64	12.62	17.72	15.81	0.83	14.98	3.86	0.74	3.12	0.03	2,742.18	0.57	0.04	2,767.51

Notes:

Project Start Year ->	2019
Project Length (months) ->	18
Total Project Area (acres) ->	53
Maximum Area Disturbed/Day (acres) ->	9
Water Truck Used? ->	Yes

	Total Material Imported/Exported Volume (yd^3/day)		Daily VMT (miles/day)			
Phase	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck
Grubbing/Land Clearing	0	0	0	0	800	80
Grading/Excavation	286	0	450	0	1,600	80
Drainage/Utilities/Sub-Grade	0	491	0	750	1,520	40
Paving	0	764	0	1,170	1,160	40

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

Total Emission Estimates by Phase for -> Kenai Spur Highway Relocation Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	Total PM10 (tons/phase)	Exhaust PM10 (tons/phase)	Fugitive Dust PM10 (tons/phase)	Total PM2.5 (tons/phase)	Exhaust PM2.5 (tons/phase)	Fugitive Dust PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)
Grubbing/Land Clearing	0.05	0.35	0.53	1.78	0.02	1.76	0.39	0.02	0.37	0.00	82.03	0.02	0.00	75.08
Grading/Excavation	0.85	6.25	9.51	7.48	0.43	7.05	1.85	0.39	1.47	0.01	1,321.65	0.33	0.02	1,210.82
Drainage/Utilities/Sub-Grade	0.63	5.03	6.49	6.48	0.32	6.17	1.57	0.29	1.28	0.01	1,056.01	0.18	0.01	966.06
Paving	0.11	0.98	1.19	0.06	0.06	0.00	0.05	0.05	0.00	0.00	282.49	0.04	0.01	258.71
Maximum (tons/phase)	0.85	6.25	9.51	7.48	0.43	7.05	1.85	0.39	1.47	0.01	1321.65	0.33	0.02	1,210.82
Total (tons/construction project)	1.64	12.62	17.72	15.81	0.83	14.98	3.86	0.74	3.12	0.03	2742.18	0.57	0.04	2,510.67

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

The CO2e emissions are reported as metric tons per phase.

Alaska LNG Project - Air Quality Analysis of Non-Jurisdictional Projects
Attachment A: Construction Emissions - Kenai Spur Highway Relocation

Road Construction Emissions Model **Version 8.1.0**
Data Entry Worksheet

Note: Required data input sections have a yellow background.
Optional data input sections have a blue background. Only areas with a
yellow or blue background can be modified. Program defaults have a white background.
The user is required to enter information in cells D10 through D24, E28 through G35, and D38 through D41 for all project types.
Please use "Clear Data Input & User Overrides" button first before changing the Project Type or begin a new project.

To begin a new project, click this button to clear data previously entered. This button will only work if you opted not to disable macros when loading this spreadsheet.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

Input Type

Project Name	Kenai Spur Highway Relocation	
Construction Start Year	2019	Enter a Year between 2014 and 2025 (inclusive)
Project Type	1	1) New Road Construction : Project to build a roadway from bare ground, which generally requires more site preparation than widening an existing roadway 2) Road Widening : Project to add a new lane to an existing roadway 3) Bridge/Overpass Construction : Project to build an elevated roadway, which generally requires some different equipment than a new roadway, such as a crane 4) Other Linear Project Type: Non-roadway project such as a pipeline, transmission line, or levee construction
Project Construction Time	18.00	months
Working Days per Month	22.00	days (assume 22 if unknown)
Predominant Soil/Site Type: Enter 1, 2, or 3 (for project within "Sacramento County", follow soil type selection instructions in cells E18 to E20 otherwise see instructions provided in cells J18 to J22)	1	1) Sand Gravel : Use for quaternary deposits (Delta/West County) 2) Weathered Rock-Earth : Use for Laguna formation (Jackson Highway area) or the Ione formation (Scott Road, Rancho Murieta) 3) Blasted Rock : Use for Salt Springs Slate or Copper Hill Volcanics (Folsom South of Highway 50, Rancho Murieta)
Project Length	5.80	miles
Total Project Area	53.40	acres
Maximum Area Disturbed/Day	8.90	acres
Water Trucks Used?	1	1. Yes 2. No

Please note that the soil type instructions provided in cells E18 to E20 are specific to Sacramento County. Maps available from the California Geologic Survey (see weblink below) can be used to determine soil type outside Sacramento County.

http://www.conservation.ca.gov/cgs/information/geologic_mapping/Pages/googlemaps.aspx#regionalseries

Material Hauling Quantity Input

Material Type	Phase	Haul Truck Capacity (yd^3) (assume 20 if unknown)	Import Volume (yd^3/day)	Export Volume (yd^3/day)
Soil	Grubbing/Land Clearing	20.00		
	Grading/Excavation	20.00		286.40
	Drainage/Utilities/Sub-Grade	20.00		
	Paving	20.00		
Asphalt	Grubbing/Land Clearing	20.00		
	Grading/Excavation	20.00		
	Drainage/Utilities/Sub-Grade	20.00	491.00	
	Paving	20.00	763.80	

Mitigation Options

On-road Fleet Emissions Mitigation	No Mitigation	Select "2010 and Newer On-road Vehicles Fleet" option when the on-road heavy-duty truck fleet for the project will be limited to vehicles of model year 2010 or newer
Off-road Equipment Emissions Mitigation	No Mitigation	Select "20% NOx and 45% Exhaust PM reduction" option if the project will be required to use a lower emitting off-road construction fleet. The SMAQMD Construction Mitigation Calculator can be used to confirm compliance with this mitigation measure (http://www.airquality.org/ceqa/mitigation.shtml). Select "Tier 4 Equipment" option if some or all off-road equipment used for the project meets CARB Tier 4 Standard

The remaining sections of this sheet contain areas that can be modified by the user, although those modifications are optional.

Alaska LNG Project - Air Quality Analysis of Non-Jurisdictional Projects
Attachment A: Construction Emissions - Kenai Spur Highway Relocation

Note: The program's estimates of construction period phase length can be overridden in cells D50 through D53, and F50 through F53.

Construction Periods	User Override of Construction Months	Program Calculated Months	User Override of Phase Starting Date	Program Default Phase Starting Date
Grubbing/Land Clearing		1.80		1/1/2019
Grading/Excavation		7.20		2/25/2019
Drainage/Utilities/Sub-Grade		6.30		10/2/2019
Paving		2.70		4/11/2020
Totals (Months)		18		

Note: Soil Hauling emission default values can be overridden in cells D61 through D64, and F61 through F64.

Soil Hauling Emissions User Input	User Override of Miles/Round Trip	Program Estimate of Miles/Round Trip	User Override of Truck Round Trips/Day	Default Values Round Trips/Day	Calculated Daily VMT
Miles/round trip: Grubbing/Land Clearing		30.00		0	0.00
Miles/round trip: Grading/Excavation		30.00		15	450.00
Miles/round trip: Drainage/Utilities/Sub-Grade		30.00		0	0.00
Miles/round trip: Paving		30.00		0	0.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.13	0.52	4.97	0.13	0.07	0.02	1,647.29	0.01	0.06	1,664.03
Grading/Excavation (grams/mile)	0.13	0.52	4.97	0.13	0.07	0.02	1,647.29	0.01	0.06	1,664.03
Draining/Utilities/Sub-Grade (grams/mile)	0.12	0.48	4.52	0.12	0.06	0.02	1,639.03	0.01	0.06	1,655.69
Paving (grams/mile)	0.11	0.44	4.13	0.12	0.05	0.02	1,631.71	0.00	0.06	1,648.31
Hauling Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Grading/Excavation	0.13	0.52	4.93	0.13	0.07	0.02	1,634.24	0.01	0.06	1,650.85
Tons per const. Period - Grading/Excavation	0.01	0.04	0.39	0.01	0.01	0.00	129.43	0.00	0.00	130.75
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons per construction project	0.01	0.04	0.39	0.01	0.01	0.00	129.43	0.00	0.00	130.75

Note: Asphalt Hauling emission default values can be overridden in cells D87 through D90, and F87 through F90.

Asphalt Hauling Emissions User Input	User Override of Miles/Round Trip	Program Estimate of Miles/Round Trip	User Override of Truck Round Trips/Day	Default Values Round Trips/Day	Calculated Daily VMT
Miles/round trip: Grubbing/Land Clearing		30.00		0	0.00
Miles/round trip: Grading/Excavation		30.00		0	0.00
Miles/round trip: Drainage/Utilities/Sub-Grade		30.00		25	750.00
Miles/round trip: Paving		30.00		39	1170.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.13	0.52	4.97	0.13	0.07	0.02	1,647.29	0.01	0.06	1,664.03
Grading/Excavation (grams/mile)	0.13	0.52	4.97	0.13	0.07	0.02	1,647.29	0.01	0.06	1,664.03
Draining/Utilities/Sub-Grade (grams/mile)	0.12	0.48	4.52	0.12	0.06	0.02	1,639.03	0.01	0.06	1,655.69
Paving (grams/mile)	0.11	0.44	4.13	0.12	0.05	0.02	1,631.71	0.00	0.06	1,648.31
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Drainage/Utilities/Sub-Grade	0.20	0.79	7.48	0.20	0.10	0.03	2,710.08	0.01	0.09	2,737.63
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.01	0.05	0.52	0.01	0.01	0.00	187.81	0.00	0.01	189.72
Pounds per day - Paving	0.27	1.12	10.65	0.30	0.14	0.04	4,208.85	0.01	0.14	4,251.66
Tons per const. Period - Paving	0.01	0.03	0.32	0.01	0.00	0.00	125.00	0.00	0.00	126.27
Total tons per construction project	0.02	0.09	0.83	0.02	0.01	0.00	312.81	0.00	0.01	315.99

Alaska LNG Project - Air Quality Analysis of Non-Jurisdictional Projects
Attachment A: Construction Emissions - Kenai Spur Highway Relocation

Note: Worker commute default values can be overridden in cells D113 through D118.

Worker Commute Emissions	User Override of Worker Commute Default Values	Default Values		
User Input				
Miles/ one-way trip		20	Calculated	Calculated
One-way trips/day		2	Daily Trips	Daily VMT
No. of employees: Grubbing/Land Clearing		20	40	800.00
No. of employees: Grading/Excavation		40	80	1,600.00
No. of employees: Drainage/Utilities/Sub-Grade		38	76	1,520.00
No. of employees: Paving		29	58	1,160.00

Emission Rates	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Grubbing/Land Clearing (grams/mile)	0.02	1.19	0.13	0.05	0.02	0.00	381.71	0.01	0.01	383.53
Grading/Excavation (grams/mile)	0.02	1.19	0.13	0.05	0.02	0.00	381.71	0.01	0.01	383.53
Draining/Utilities/Sub-Grade (grams/mile)	0.02	1.13	0.12	0.05	0.02	0.00	376.27	0.01	0.00	377.99
Paving (grams/mile)	0.02	1.08	0.11	0.05	0.02	0.00	371.46	0.01	0.00	373.08
Grubbing/Land Clearing (grams/trip)	1.08	2.86	0.23	0.00	0.00	0.00	85.97	0.01	0.01	89.17
Grading/Excavation (grams/trip)	1.08	2.86	0.23	0.00	0.00	0.00	85.97	0.01	0.01	89.17
Draining/Utilities/Sub-Grade (grams/trip)	1.03	2.69	0.21	0.00	0.00	0.00	84.94	0.01	0.01	87.94
Paving (grams/trip)	1.00	2.55	0.20	0.00	0.00	0.00	84.03	0.01	0.01	86.84
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.14	2.35	0.25	0.08	0.03	0.01	680.80	0.02	0.01	684.29
Tons per const. Period - Grubbing/Land Clearing	0.00	0.05	0.00	0.00	0.00	0.00	13.48	0.00	0.00	13.55
Pounds per day - Grading/Excavation	0.28	4.70	0.49	0.17	0.07	0.01	1,361.59	0.04	0.02	1,368.59
Tons per const. Period - Grading/Excavation	0.02	0.37	0.04	0.01	0.01	0.00	107.84	0.00	0.00	108.39
Pounds per day - Drainage/Utilities/Sub-Grade	0.25	4.24	0.44	0.16	0.07	0.01	1,275.14	0.03	0.02	1,281.38
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.02	0.29	0.03	0.01	0.00	0.00	88.37	0.00	0.00	88.80
Pounds per day - Paving	0.18	3.08	0.32	0.12	0.05	0.01	960.71	0.02	0.01	965.20
Tons per const. Period - Paving	0.01	0.09	0.01	0.00	0.00	0.00	28.53	0.00	0.00	28.67
Total tons per construction project	0.05	0.80	0.08	0.03	0.01	0.00	238.22	0.01	0.00	239.41

Note: Water Truck default values can be overridden in cells D145 through D148, and F145 through F148.

Water Truck Emissions	User Override of Default # Water Trucks	Program Estimate of Number of Water Trucks	User Override of Truck Miles Traveled/Vehicle/Day	Default Values Miles Traveled/Vehicle/Day	Calculated Daily VMT
User Input					
Grubbing/Land Clearing - Exhaust		2		40.00	80.00
Grading/Excavation - Exhaust		2		40.00	80.00
Drainage/Utilities/Subgrade		1		40.00	40.00
Paving		1		40.00	40.00

Emission Rates	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Grubbing/Land Clearing (grams/mile)	0.13	0.52	4.97	0.13	0.07	0.02	1,647.29	0.01	0.06	1,664.03
Grading/Excavation (grams/mile)	0.13	0.52	4.97	0.13	0.07	0.02	1,647.29	0.01	0.06	1,664.03
Draining/Utilities/Sub-Grade (grams/mile)	0.12	0.48	4.52	0.12	0.06	0.02	1,639.03	0.01	0.06	1,655.69
Paving (grams/mile)	0.11	0.44	4.13	0.12	0.05	0.02	1,631.71	0.00	0.06	1,648.31
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.02	0.09	0.88	0.02	0.01	0.00	290.53	0.00	0.01	293.48
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.02	0.00	0.00	0.00	5.75	0.00	0.00	5.81
Pounds per day - Grading/Excavation	0.02	0.09	0.88	0.02	0.01	0.00	290.53	0.00	0.01	293.48
Tons per const. Period - Grading/Excavation	0.00	0.01	0.07	0.00	0.00	0.00	23.01	0.00	0.00	23.24
Pounds per day - Drainage/Utilities/Sub-Grade	0.01	0.04	0.40	0.01	0.01	0.00	144.54	0.00	0.00	146.01
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.03	0.00	0.00	0.00	10.02	0.00	0.00	10.12
Pounds per day - Paving	0.01	0.04	0.36	0.01	0.00	0.00	143.89	0.00	0.00	145.36
Tons per const. Period - Paving	0.00	0.00	0.01	0.00	0.00	0.00	4.27	0.00	0.00	4.32
Total tons per construction project	0.00	0.01	0.13	0.00	0.00	0.00	43.05	0.00	0.00	43.49

Note: Fugitive dust default values can be overridden in cells D171 through D173.

Fugitive Dust	User Override of Max Acreage Disturbed/Day	Default Maximum Acreage/Day	PM10 pounds/day	PM10 tons/per period	PM2.5 pounds/day	PM2.5 tons/per period
Fugitive Dust - Grubbing/Land Clearing		8.90	89.00	1.76	18.51	0.37
Fugitive Dust - Grading/Excavation		8.90	89.00	7.05	18.51	1.47
Fugitive Dust - Drainage/Utilities/Subgrade		8.90	89.00	6.17	18.51	1.28

Alaska LNG Project - Air Quality Analysis of Non-Jurisdictional Projects
Attachment A: Construction Emissions - Kenai Spur Highway Relocation

Off-Road Equipment Emissions

Grubbing/Land Clearing	Default Number of Vehicles	Mitigation Option: Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Override of Default Number of Vehicles	*Program-estimate*		Equipment Tier	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Crawler Tractors	1.20	5.06	15.69	0.59	0.54	0.02	1,525.24	0.48	0.01	1,541.32
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Excavators	0.54	6.73	5.53	0.27	0.25	0.01	1,054.60	0.33	0.01	1,065.73
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	12		Model Default Tier	Signal Boards	0.69	3.61	4.31	0.17	0.17	0.01	591.76	0.06	0.00	594.77
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment	If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab			ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Number of Vehicles		Equipment Tier	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
0.00		N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Grubbing/Land Clearing		pounds per day	2.42	15.41	25.53	1.03	0.96	0.03	3,171.60	0.88	0.03	3,201.82
	Grubbing/Land Clearing		tons per phase	0.05	0.31	0.51	0.02	0.02	0.00	62.80	0.02	0.00	63.40

Alaska LNG Project - Air Quality Analysis of Non-Jurisdictional Projects
Attachment A: Construction Emissions - Kenai Spur Highway Relocation

Grading/Excavation	Default Number of Vehicles	Mitigation Option: Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier	Type	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Override of Default Number of Vehicles	*Program-estimate*		Equipment Tier	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Cranes	0.49	2.24	5.88	0.25	0.23	0.01	558.85	0.18	0.00	564.74
	2		Model Default Tier	Crawler Tractors	1.20	5.06	15.69	0.59	0.54	0.02	1,525.24	0.48	0.01	1,541.32
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4		Model Default Tier	Excavators	1.08	13.47	11.07	0.53	0.49	0.02	2,109.20	0.67	0.02	2,131.45
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Graders	1.54	9.25	15.22	0.85	0.78	0.01	1,237.72	0.39	0.01	1,250.73
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3		Model Default Tier	Rollers	0.69	5.79	6.81	0.45	0.41	0.01	788.79	0.25	0.01	797.10
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Rubber Tired Loaders	0.79	3.31	9.51	0.32	0.29	0.01	1,219.32	0.39	0.01	1,232.20
	3		Model Default Tier	Scrapers	3.15	23.85	38.21	1.50	1.38	0.05	4,438.15	1.40	0.04	4,484.95
	12		Model Default Tier	Signal Boards	0.69	3.61	4.31	0.17	0.17	0.01	591.76	0.06	0.00	594.77
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3		Model Default Tier	Tractors/Loaders/Backhoes	0.71	6.98	7.08	0.47	0.44	0.01	932.14	0.29	0.01	941.95
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment	If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab			ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Number of Vehicles	Equipment Tier	Type		pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

			ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grading/Excavation	pounds per day		10.33	73.57	113.78	5.13	4.73	0.14	13,401.17	4.11	0.12	13,539.23
Grading/Excavation	tons per phase		0.82	5.83	9.01	0.41	0.37	0.01	1,061.37	0.33	0.01	1,072.31

Alaska LNG Project - Air Quality Analysis of Non-Jurisdictional Projects
Attachment A: Construction Emissions - Kenai Spur Highway Relocation

Drainage/Utilities/Subgrade	Default Number of Vehicles	Mitigation Option: Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Override of Default Number of Vehicles	*Program-estimate*		Equipment Tier		pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Air Compressors	0.68	4.90	4.68	0.32	0.32	0.01	750.53	0.06	0.01	753.73
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Excavators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Generator Sets	0.84	7.43	7.24	0.42	0.42	0.01	1,246.07	0.07	0.01	1,250.72
	2		Model Default Tier	Graders	1.48	9.21	14.57	0.81	0.75	0.01	1,222.95	0.39	0.01	1,235.96
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Plate Compactors	0.08	0.42	0.50	0.02	0.02	0.00	68.96	0.01	0.00	69.31
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Pumps	0.89	7.54	7.34	0.44	0.44	0.01	1,246.07	0.08	0.01	1,250.83
			Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Rough Terrain Forklifts	0.28	4.60	3.57	0.15	0.14	0.01	674.20	0.22	0.01	681.40
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3		Model Default Tier	Scrapers	3.04	22.91	36.39	1.42	1.31	0.05	4,386.67	1.40	0.04	4,433.48
	12		Model Default Tier	Signal Boards	0.69	3.61	4.31	0.17	0.17	0.01	591.76	0.06	0.00	594.77
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3		Model Default Tier	Tractors/Loaders/Backhoes	0.67	6.94	6.71	0.44	0.40	0.01	921.25	0.29	0.01	931.07
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment	If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab			ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Number of Vehicles	Equipment Tier	Type		pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

			ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Drainage/Utilities/Sub-Grade	pounds per day		8.64	67.55	85.32	4.20	3.97	0.12	11,108.47	2.59	0.09	11,201.26
Drainage/Utilities/Sub-Grade	tons per phase		0.60	4.68	5.91	0.29	0.28	0.01	769.82	0.18	0.01	776.25

Alaska LNG Project - Air Quality Analysis of Non-Jurisdictional Projects
Attachment A: Construction Emissions - Kenai Spur Highway Relocation

Paving	Default Number of Vehicles	Mitigation Option: Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier	Type	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Override of Default Number of Vehicles	*Program-estimate*		Equipment Tier	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Excavators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Pavers	0.51	5.62	5.45	0.26	0.24	0.01	882.53	0.29	0.01	892.04
	2		Model Default Tier	Paving Equipment	0.41	5.03	4.25	0.21	0.20	0.01	783.08	0.25	0.01	791.53
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4		Model Default Tier	Rollers	0.84	7.67	8.43	0.54	0.49	0.01	1,028.97	0.33	0.01	1,040.06
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	12		Model Default Tier	Signal Boards	0.69	3.61	4.31	0.17	0.17	0.01	591.76	0.06	0.00	594.77
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3		Model Default Tier	Tractors/Loaders/Backhoes	0.64	6.91	6.38	0.40	0.37	0.01	911.61	0.29	0.01	921.42
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment	If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab			ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Number of Vehicles	Equipment Tier	Type		pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Paving	pounds per day		3.09	28.84	28.82	1.59	1.47	0.05	4,197.95	1.23	0.04	4,239.82
	Paving	tons per phase		0.09	0.86	0.86	0.05	0.04	0.00	124.68	0.04	0.00	125.92
Total Emissions all Phases (tons per construction period) =>				1.56	11.67	16.29	0.76	0.71	0.02	2,018.67	0.56	0.02	2,037.87

Equipment default values for horsepower and hours/day can be overridden in cells D391 through D424 and F391 through F424.

Equipment	User Override of Horsepower	Default Values Horsepower	User Override of Hours/day	Default Values Hours/day
Aerial Lifts		63		8
Air Compressors		78		8
Bore/Drill Rigs		206		8
Cement and Mortar Mixers		9		8
Concrete/Industrial Saws		81		8
Cranes		226		8
Crawler Tractors		208		8
Crushing/Proc. Equipment		85		8
Excavators		163		8
Forklifts		89		8
Generator Sets		84		8
Graders		175		8
Off-Highway Tractors		123		8
Off-Highway Trucks		400		8
Other Construction Equipment		172		8
Other General Industrial Equipment		88		8
Other Material Handling Equipment		167		8
Pavers		126		8
Paving Equipment		131		8
Plate Compactors		8		8
Pressure Washers		13		8
Pumps		84		8
Rollers		81		8
Rough Terrain Forklifts		100		8
Rubber Tired Dozers		255		8
Rubber Tired Loaders		200		8
Scrapers		362		8
Signal Boards		6		8
Skid Steer Loaders		65		8
Surfacing Equipment		254		8
Sweepers/Scrubbers		64		8
Tractors/Loaders/Backhoes		98		8
Trenchers		81		8
Welders		46		8

END OF DATA ENTRY SHEET