Hilcorp Alaska, LLC

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January 20, 2020

Alaska Department of Environmental Conservation
Air Permits Program
Attention: Kathie Mulkey
555 Cordova Street
Anchorage, AK 99524

Subject: Hilcorp Alaska, LLC – Beluga River Unit AQC Operating Permit AQ0942TVP01, Rev. 2 Application for Renewal Second Amendment

Dear Ms. Mulkey:

Hilcorp Alaska, LLC (Hilcorp) is providing an update to the Title V Renewal Application for Beluga River Unit (BRU) per the Off-Permit Change Notification (OPCN) provided on December 20, 2019. This OPCN describes the addition of a flash separator to three dehydration units (EU IDs 4 through 6) and results in a slight reduction of VOC emissions. Because of this change, Hilcorp has updated the D Forms to the previously-amended Title V Renewal Application.

Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete.

Please contact Julieanna Potter at (907) 777-8444 or jupotter@hilcorp.com with any questions or concerns.

Sincerely,

David S. Wilkins
Senior Vice President
Hilcorp Alaska, LLC

Enclosure: Updated D Forms for BRU Title V Renewal

cc: EPA Region 10
Julieanna Potter, Hilcorp

Permit Number: AQ0942TVP01, Rev. 2

Table D-1a. Significant Emission Unit Inventory - Base Scenario
(Expected Actual and Potential Annual)
Hilcorp Alaska, LLC - Beluga River Unit

		Emissions (tons/year)						
EU ID	**Emission Unit Name**	**NO_X**	**CO**	**PM_{10}**	**VOC**	**SO_2**	**CO2e**	**HAP**
Significant Units								
Turbines and Engines								
1	Turbine Compressor- Out of Solonox	2.5	39.4	0.1	0.0	1.1	31,594	0.27
1	Turbine Compressor- In Solonox	7.7	5.6	1.7	0.5			
2	Compressor	10.2	2.1	0.0	2.2	0.1	2,175	0.27
3	Generator	0.3	0.2	0.2	0.2	0.0	26	0.00
12	Generator	0.7	0.2	0.1	0.1	0.0	27	0.00
19	Generator	0.1	0.0	0.0	0.0	0.0	4	0.00
37-1	Wellsite Compressor	0.4	2.5	0.2	0.1	0.1	3,036	0.82
37-2	Wellsite Compressor	0.4	4.9	0.2	0.1	0.1	3,036	0.82
37-3	Wellsite Compressor	1.3	0.5	0.1	0.0	0.1	1,641	0.44
37-4	Wellsite Compressor	3.4	5.5	0.2	0.2	0.1	3,036	0.82
37-6	Wellsite Compressor	1.0	1.4	0.1	0.0	0.1	1,641	0.44
37-7	Wellsite Compressor	3.5	6.9	0.2	0.1	0.1	3,036	0.44
37-8	Wellsite Compressor	4.2	6.6	0.2	0.1	0.1	3,036	0.82
37-9	Wellsite Compressor	3.3	6.9	0.2	0.1	0.1	3,036	0.82
37-10	Wellsite Compressor	4.7	11.4	0.2	0.2	0.1	3,036	0.82
42	Generator	0.1	0.0	0.0	0.0	0.0	14	0.00
43	Wellsite Compressor	1.4	1.6	0.1	0.1	0.0	903	0.24
Glycol Dehydration Units								
4	GDU	0.0	0.0	0.0	0.8	0.0	21	0.00
5	GDU	0.0	0.0	0.0	0.0	0.0	30	0.00
6	GDU	0.0	0.0	0.0	0.0	0.0	21	0.00
7	GDU	0.0	0.0	0.0	0.2	0.0	74	0.00
8	GDU	0.0	0.0	0.0	0.0	0.0	26	0.00
9	GDU	0.0	0.0	0.0	0.1	0.0	22	0.00
10	GDU	0.0	0.0	0.0	0.0	0.0	22	0.00
13	GDU	0.0	0.0	0.0	0.0	0.0	32	0.00
14	GDU	0.0	0.0	0.0	0.2	0.0	25	0.00
15	GDU	0.0	0.0	0.0	0.1	0.0	10	0.00
16	GDU	0.0	0.0	0.0	0.0	0.0	74	0.00
17	GDU	0.0	0.0	0.0	0.4	0.0	43	0.00
18	GDU	0.0	0.0	0.0	0.3	0.0	22	0.00
21	GDU	0.0	0.0	0.0	0.2	0.0	73	0.00
22	GDU	0.0	0.0	0.0	0.2	0.0	75	0.00
23	GDU	0.0	0.0	0.0	0.0	0.0	78	0.00
24	GDU	0.0	0.0	0.0	0.2	0.0	37	0.00
Incinerator								
26	Incinerator	1.0	3.3	2.3	1.0	0.8	668	2.18
Gasoline Dispensing Facility								
44	GDF	0.0	0.0	0.0	1.4	0.0	0	*0.08*
	Significant Unit Total	46.2	98.9	6.4	9.2	3.0	60,632	9.3
Insignificant Units								
11	Process Heater	0.4	0.4	0.03	0.02	0.78	513	0.01
20	Process Heater	0	0	0	0.02	1	513	0.01
25	Process Heater	0	0	0	0.00	0	64	0.00
29	Office Coleman Heater	0	0	0	0.00	0	31	0.00
30	Shop Perfection Schwank Heater	0	0	0	0.00	0	10	0.00
31	Electrical Shop Modine Heater	0	0	0	0.00	0	15	0.00
32	Mechanics Shop Modine Heater	0	0	0	0.00	0	56	0.00
33	Mechanics Shop Modine Heater	0	0	0	0.01	0	154	0.00
34	BRWD Heater	0	0	0	0.01	0	256	0.00
35	Mechanics Shop Used Oil Heater	0	0	0	0.02	0	358	0.00
36	Portable Frost Fighter	0	0	0	0.01	0	287	0.00
	Insignificant Unit Total	1.81	1.25	0.37	0.10	2.47	2257.98	0.03
	Total (Significant and Insignificant)	48.0	100.2	6.7	9.3	5.5	62,890	9.3
	Major/Minor	Minor	Major	Minor	Minor	NA	NA	NA
	Total Assessable Emissions	**155**						

Table D-1b. Significant Emission Unit Inventory - Potential Scenario
Hilcorp Alaska, LLC - Beluga River Unit

		Emissions (tons/year)						
EU ID	**Emission Unit Name**	**NO_X**	**CO**	**PM_{10}**	**VOC**	**SO_2**	**CO2e**	**HAP**
Significant Units								
Turbines and Engines								
1	Turbine Compressor- Out of Solonox	54.0	863.4	1.8	0.6	1.1	31,594	0.27
1	Turbine Compressor- In Solonox	0.0	0.0	0.0	0.0			
2	Compressor	10.2	2.1	0.0	2.2	0.1	2,175	0.27
3	Generator	26.0	14.2	14.2	14.2	2.6	2,311	0.05
12	Generator	63.7	13.7	4.5	5.1	2.2	2,354	0.06
19	Generator	9.1	2.0	0.6	0.7	0.3	336	0.01
37-1	Wellsite Compressor	0.4	2.5	0.2	0.1	0.1	3,036	0.82
37-2	Wellsite Compressor	0.4	4.9	0.2	0.1	0.1	3,036	0.82
37-3	Wellsite Compressor	1.3	0.5	0.1	0.0	0.1	1,641	0.44
37-4	Wellsite Compressor	3.4	5.5	0.2	0.2	0.1	3,036	0.82
37-6	Wellsite Compressor	1.0	1.4	0.1	0.0	0.1	1,641	0.44
37-7	Wellsite Compressor	3.5	6.9	0.2	0.1	0.1	3,036	0.82
37-8	Wellsite Compressor	4.2	6.6	0.2	0.1	0.1	3,036	0.82
37-9	Wellsite Compressor	3.3	6.9	0.2	0.1	0.1	3,036	0.82
37-10	Wellsite Compressor	4.7	11.4	0.2	0.2	0.1	3,036	0.82
42	Generator	9.8	2.1	0.4	0.6	1.5	1,266	0.04
43	Wellsite Compressor	1.4	1.6	0.1	0.1	0.0	903	0.24
Glycol Dehydration Units								
4	GDU	0.0	0.0	0.0	0.8	0.0	21	0.00
5	GDU	0.0	0.0	0.0	0.0	0.0	30	0.00
6	GDU	0.0	0.0	0.0	0.0	0.0	21	0.00
7	GDU	0.0	0.0	0.0	0.2	0.0	74	0.00
8	GDU	0.0	0.0	0.0	0.0	0.0	26	0.00
9	GDU	0.0	0.0	0.0	0.1	0.0	22	0.00
10	GDU	0.0	0.0	0.0	0.0	0.0	22	0.00
13	GDU	0.0	0.0	0.0	0.0	0.0	32	0.00
14	GDU	0.0	0.0	0.0	0.2	0.0	25	0.00
15	GDU	0.0	0.0	0.0	0.1	0.0	10	0.00
16	GDU	0.0	0.0	0.0	0.0	0.0	74	0.00
17	GDU	0.0	0.0	0.0	0.4	0.0	43	0.00
18	GDU	0.0	0.0	0.0	0.3	0.0	22	0.00
21	GDU	0.0	0.0	0.0	0.2	0.0	73	0.00
22	GDU	0.0	0.0	0.0	0.2	0.0	75	0.00
23	GDU	0.0	0.0	0.0	0.0	0.0	78	0.00
24	GDU	0.0	0.0	0.0	0.2	0.0	37	0.00
Incinerator								
26	Incinerator	1.0	3.3	2.3	1.0	0.8	668	2.18
Gasoline Dispensing Facility								
44	GDF	0.0	0.0	0.0	1.4	0.0	0	0.08
	Significant Unit Total	197.4	948.9	25.9	29.5	9.6	66,828	9.8
Insignificant Units								
11	Process Heater	0.4	0.4	0.0	0.02	0.78	512.9	0.0
20	Process Heater	0.4	0.4	0.0	0.02	0.78	512.9	0.0
25	Process Heater	0.1	0.0	0.0	0.00	0.10	64.1	0.0
29	Office Coleman Heater	0.0	0.0	0.0	0.00	0.05	30.8	0.0
30	Shop Perfection Schwank Heater	0.0	0.0	0.0	0.00	0.02	10.3	0.0
31	Electrical Shop Modine Heater	0.0	0.0	0.0	0.00	0.02	15.4	0.0
32	Mechanics Shop Modine Heater	0.0	0.0	0.0	0.00	0.09	56.4	0.0
33	Mechanics Shop Modine Heater	0.1	0.1	0.0	0.01	0.23	153.9	0.0
34	BRWD Heater	0.2	0.2	0.0	0.01	0.39	256.4	0.0
35	Mechanics Shop Used Oil Heater	0.2	0.0	0.2	0.02	0.00	358.3	0.0
36	Portable Frost Fighter	0.3	0.1	0.0	0.01	0.00	286.6	0.0
	Insignificant Unit Total	1.81	1.25	0.37	0.10	2.47	2257.98	0.03
	Total (Significant and Insignificant)	199.2	950.1	26.3	29.6	12.0	69,086	9.8
	Major/Minor	Major	Major	Minor	Minor	NA	NA	NA
	Total Assessable Emissions	**1,217**						

Permit Number: AQ0942TVP01, Rev. 2

Table D-2b. HAPs Summary - Potential Scenario
Hilcorp Alaska, LLC - Beluga River Unit

Significant Units — Emissions per Unit (tons)

Hazardous Air Pollutant	1	2	3	4-6	7	8	9-10	12	13	14-15	16	17	18	19	21-23	24	26
Acetaldehyde	1.08E-02	1.08E-02	1.51E-04	----	----	----	----	1.26E-04	----	----	----	----	----	1.80E-05	----	----	----
Acrolein	1.73E-03	1.73E-03	1.82E-05	----	----	----	----	1.52E-05	----	----	----	----	----	2.17E-06	----	----	----
Benzene	3.24E-03	3.24E-03	1.84E-04	----	----	----	----	1.53E-04	----	----	----	----	----	2.19E-05	----	----	----
Bis(2-ethylhexyl)phthalate (DEHP)	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1,3 Butadiene	----	----	7.71E-06	----	----	----	----	6.42E-06	----	----	----	----	----	9.18E-07	----	----	----
Carbon tetrachloride	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Chlorobenzene	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Chloroform	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1,4-Dichlorobenzene(p)	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Ethyl benzene	8.63E-03	8.63E-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Ethylene dibromide (Dibromoethane)	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Formaldehyde	1.92E-01	1.92E-01	2.33E-04	----	----	----	----	1.94E-04	----	----	----	----	----	2.77E-05	----	----	----
n-Hexane	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Hydrochloric acid	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	2.10E+00
Methanol	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Methylene chloride (Dichloromethane)	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Nitrobenzene	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Phenol	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Phosphorus	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Polycyclic Organic Matter (POM)	5.94E-04	5.94E-04	3.31E-05	----	----	----	----	2.76E-05	----	----	----	----	----	3.94E-06	----	----	----
Naphthalene	3.51E-04	3.51E-04	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Styrene	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Toluene	3.51E-02	3.51E-02	8.06E-05	----	----	----	----	6.72E-05	----	----	----	----	----	9.60E-06	----	----	----
2,2,4-Trimethylpentane	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Vinyl chloride	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Xylenes (isomers and mixture)	1.73E-02	1.73E-02	5.62E-05	----	----	----	----	4.68E-05	----	----	----	----	----	6.69E-06	----	----	----
Total VOC HAPs	0.27	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.10
Non Volatile Organic Compounds																	
Antimony Compounds	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Arsenic Compounds (inorganic including arsine)	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	1.44E-03
Cadmium Compounds	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	3.58E-03
Chromium Compounds	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	2.95E-03
Cobalt Compounds	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	---
Lead Compounds	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	7.00E-02
Manganese Compounds	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	---
Mercury Compounds	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	1.84E-03
Nickel Compounds	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	---	2.58E-03
Total non-VOC HAPs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.24E-02
Total HAPs	0.27	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.18

Significant Units (continued) — Emissions per Unit (tons)

Hazardous Air Pollutant	37-1	37-2	37-3	37-4	37-6	37-7	37-8	37-9	37-10	42	43	44
Acetaldehyde	7.23E-02	7.23E-02	3.91E-02	7.23E-02	3.91E-02	3.91E-02	7.23E-02	7.23E-02	7.23E-02	8.28E-05	2.15E-02	----
Acrolein	6.82E-02	6.82E-02	3.69E-02	6.82E-02	3.69E-02	3.69E-02	6.82E-02	6.82E-02	6.82E-02	9.99E-06	2.03E-02	----
Benzene	4.10E-02	4.10E-02	2.21E-02	4.10E-02	2.21E-02	2.21E-02	4.10E-02	4.10E-02	4.10E-02	1.01E-04	1.22E-02	1.30E-02
Bis(2-ethylhexyl)phthalate (DEHP)	----	----	----	----	----	----	----	----	----	----	----	----
1,3 Butadiene	----	----	----	----	----	----	----	----	----	4.22E-06	----	----
Carbon tetrachloride	4.59E-04	4.59E-04	2.48E-04	4.59E-04	2.48E-04	2.48E-04	4.59E-04	4.59E-04	4.59E-04	----	1.36E-04	----
Chlorobenzene	3.34E-04	3.34E-04	1.81E-04	3.34E-04	1.81E-04	1.81E-04	3.34E-04	3.34E-04	3.34E-04	----	9.94E-05	----
Chloroform	3.55E-04	3.55E-04	1.92E-04	3.55E-04	1.92E-04	1.92E-04	3.55E-04	3.55E-04	3.55E-04	----	1.06E-04	----
1,4-Dichlorobenzene(p)	----	----	----	----	----	----	----	----	----	----	----	----
Ethyl benzene	----	----	----	----	----	----	----	----	----	----	----	1.44E-03
Ethylene dibromide (Dibromoethane)	5.52E-04	5.52E-04	2.99E-04	5.52E-04	2.99E-04	2.99E-04	5.52E-04	5.52E-04	5.52E-04	----	1.64E-04	----
Formaldehyde	5.32E-01	5.32E-01	2.87E-01	5.32E-01	2.87E-01	2.87E-01	5.32E-01	5.32E-01	5.32E-01	1.27E-04	1.58E-01	----
n-Hexane	----	----	----	----	----	----	----	----	----	----	----	2.30E-02
Hydrochloric acid	----	----	----	----	----	----	----	----	----	----	----	----
Methanol	7.93E-02	7.93E-02	4.29E-02	7.93E-02	4.29E-02	4.29E-02	7.93E-02	7.93E-02	7.93E-02	----	2.36E-02	----
Methylene chloride (Dichloromethane)	1.07E-03	1.07E-03	5.77E-04	1.07E-03	5.77E-04	5.77E-04	1.07E-03	1.07E-03	1.07E-03	----	3.18E-04	----
Nitrobenzene	----	----	----	----	----	----	----	----	----	----	----	----
Phenol	----	----	----	----	----	----	----	----	----	----	----	----
Phosphorus	----	----	----	----	----	----	----	----	----	----	----	----
Polycyclic Organic Matter (POM)	2.52E-03	2.52E-03	1.36E-03	2.52E-03	1.36E-03	1.36E-03	2.52E-03	2.52E-03	2.52E-03	1.81E-05	7.49E-04	7.20E-03
Naphthalene	2.52E-03	2.52E-03	1.36E-03	2.52E-03	1.36E-03	1.36E-03	2.52E-03	2.52E-03	2.52E-03	----	7.49E-04	----
Styrene	3.09E-04	3.09E-04	1.67E-04	3.09E-04	1.67E-04	1.67E-04	3.09E-04	3.09E-04	3.09E-04	----	9.17E-05	----
Toluene	1.45E-02	1.45E-02	7.82E-03	1.45E-02	7.82E-03	7.82E-03	1.45E-02	1.45E-02	1.45E-02	4.42E-05	4.30E-03	1.87E-02
2,2,4-Trimethylpentane	----	----	----	----	----	----	----	----	----	----	----	1.15E-02
Vinyl chloride	1.86E-04	1.86E-04	1.01E-04	1.86E-04	1.01E-04	1.01E-04	1.86E-04	1.86E-04	1.86E-04	----	5.53E-05	----
Xylenes (isomers and mixture)	5.06E-03	5.06E-03	2.73E-03	5.06E-03	2.73E-03	2.73E-03	5.06E-03	5.06E-03	5.06E-03	3.08E-05	1.50E-03	7.20E-03
Total VOC HAPs	0.82	0.82	0.44	0.82	0.44	0.44	0.82	0.82	0.82	0.00	0.24	0.08
Non Volatile Organic Compounds												
Antimony Compounds	----	----	----	----	----	----	----	----	----	----	----	----
Arsenic Compounds (inorganic including arsine)	----	----	----	----	----	----	----	----	----	----	----	----
Cadmium Compounds	----	----	----	----	----	----	----	----	----	----	----	----
Chromium Compounds	----	----	----	----	----	----	----	----	----	----	----	----
Cobalt Compounds	----	----	----	----	----	----	----	----	----	----	----	----
Lead Compounds	----	----	----	----	----	----	----	----	----	----	----	----
Manganese Compounds	----	----	----	----	----	----	----	----	----	----	----	----
Mercury Compounds	----	----	----	----	----	----	----	----	----	----	----	----
Nickel Compounds	----	----	----	----	----	----	----	----	----	----	----	----
Total non-VOC HAPs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total HAPs	0.82	0.82	0.44	0.82	0.44	0.44	0.82	0.82	0.82	0.00	0.24	0.08

Insignificant — Emissions per Unit (tons); Total

Hazardous Air Pollutant	11	20	25	27	28	29	30	31	32	33	34	35	36	Total HAP Emissions
Acetaldehyde	----	----	----	----	----	----	----	----	----	----	----	----	----	0.59
Acrolein	----	----	----	----	----	----	----	----	----	----	----	----	----	0.54
Benzene	9.20E-06	9.20E-06	1.15E-06	----	----	5.52E-07	1.84E-07	2.76E-07	1.01E-06	2.76E-06	4.60E-06	----	2.74E-06	0.34
Bis(2-ethylhexyl)phthalate (DEHP)	----	----	----	----	----	----	----	----	----	----	----	3.52E-05	----	0.00
1,3 Butadiene	----	----	----	----	----	----	----	----	----	----	----	----	----	0.00
Carbon tetrachloride	----	----	----	----	----	----	----	----	----	----	----	----	----	0.00
Chlorobenzene	----	----	----	----	----	----	----	----	----	----	----	----	----	0.00
Chloroform	----	----	----	----	----	----	----	----	----	----	----	----	----	0.00
1,4-Dichlorobenzene(p)	----	----	----	----	----	----	----	----	----	----	----	1.28E-08	----	0.00
Ethyl benzene	----	----	----	----	----	----	----	----	----	----	----	----	8.13E-07	0.02
Ethylene dibromide (Dibromoethane)	----	----	----	----	----	----	----	----	----	----	----	----	----	0.00
Formaldehyde	3.29E-04	3.29E-04	4.11E-05	----	----	1.97E-05	6.57E-06	9.86E-06	3.61E-05	9.86E-05	1.64E-04	----	4.22E-04	4.59
n-Hexane	7.88E-03	7.88E-03	9.86E-04	----	----	4.73E-04	1.58E-04	2.37E-04	8.67E-04	2.37E-03	3.94E-03	----	----	0.05
Hydrochloric acid	----	----	----	----	----	----	----	----	----	----	----	----	----	2.10
Methanol	----	----	----	----	----	----	----	----	----	----	----	----	----	0.63
Methylene chloride (Dichloromethane)	----	----	----	----	----	----	----	----	----	----	----	----	----	0.01
Nitrobenzene	9.20E-06	9.20E-06	1.15E-06	----	----	5.52E-07	1.84E-07	2.76E-07	1.01E-06	2.76E-06	4.60E-06	----	----	0.00
Phenol	----	----	----	----	----	----	----	----	----	----	----	3.84E-05	----	0.00
Phosphorus	----	----	----	----	----	----	----	----	----	----	----	5.75E-04	----	0.00
Polycyclic Organic Matter (POM)	2.67E-06	2.67E-06	3.34E-07	----	----	1.60E-07	5.34E-08	8.02E-08	2.94E-07	8.02E-07	1.34E-06	2.08E-04	6.40E-07	0.03
Naphthalene	2.67E-06	2.67E-06	3.34E-07	----	----	1.60E-07	5.34E-08	8.02E-08	2.94E-07	8.02E-07	1.34E-06	2.08E-04	1.45E-05	0.02
Styrene	----	----	----	----	----	----	----	----	----	----	----	----	----	0.00
Toluene	1.49E-05	1.49E-05	1.86E-06	----	----	8.94E-07	2.98E-07	4.47E-07	1.64E-06	4.47E-06	7.45E-06	----	7.93E-05	0.20
2,2,4-Trimethylpentane	----	----	----	----	----	----	----	----	----	----	----	----	----	0.01
Vinyl chloride	----	----	----	----	----	----	----	----	----	----	----	----	----	0.00
Xylenes (isomers and mixture)	----	----	----	----	----	----	----	----	----	----	----	----	1.39E-06	0.08
Total VOC HAPs	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.23
Non Volatile Organic Compounds														
Antimony Compounds	----	----	----	----	----	----	----	----	----	----	----	5.44E-06	----	0.00
Arsenic Compounds (inorganic including arsine)	8.76E-07	8.76E-07	1.10E-07	----	----	5.26E-08	1.75E-08	2.63E-08	9.64E-08	2.63E-07	4.38E-07	4.00E-05	----	0.00
Cadmium Compounds	4.82E-06	4.82E-06	6.02E-07	----	----	2.89E-07	9.64E-08	1.45E-07	5.30E-07	1.45E-06	2.41E-06	2.40E-06	----	0.00
Chromium Compounds	6.13E-06	1.93E-05	7.67E-07	----	----	3.68E-07	1.23E-07	1.84E-07	6.75E-07	1.84E-06	3.07E-06	3.04E-03	----	0.01
Cobalt Compounds	----	----	----	----	----	----	----	----	----	----	----	9.11E-05	----	0.00
Lead Compounds	----	----	----	----	----	----	----	----	----	----	----	----	----	0.07
Manganese Compounds	1.66E-06	1.66E-06	2.08E-07	----	----	9.99E-08	3.33E-08	4.99E-08	1.83E-07	4.99E-07	8.32E-07	3.52E-05	----	0.00
Mercury Compounds	1.14E-06	1.14E-06	1.42E-07	----	----	6.83E-08	2.28E-08	3.42E-08	1.25E-07	3.42E-07	5.69E-07	----	----	0.00
Nickel Compounds	----	----	----	----	----	----	----	----	----	----	----	7.99E-04	----	0.00
Total non-VOC HAPs	1.46E-05	2.78E-05	1.83E-06	0.00E+00	0.00E+00	8.78E-07	2.93E-07	4.39E-07	1.61E-06	4.39E-06	7.31E-06	4.01E-03	0.00E+00	0.09
Total HAPs	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.31

Notes:

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

[2] Because insignificant tank VOC emissions are so small, it is assumed that the HAP emissions from each tank and from all tanks combined is negligible. See VOC calculations for details.

Permit Number: AQ0942TVP01, Rev. 2

Table D-2b. HAPs Summary - Potential Scenario
Hilcorp Alaska, LLC - Beluga River Unit

Significant Units — Emissions per Unit (tons)

Hazardous Air Pollutant	1	2	3	4-6	7	8	9-10	12	13	14-15	16	17	18	19	21-23	24	26
Acetaldehyde	1.08E-02	1.08E-02	6.75E-04	----	----	----	----	1.10E-02	----	----	----	----	----	1.58E-03	----	----	----
Acrolein	1.73E-03	1.73E-03	1.60E-03	----	----	----	----	1.33E-03	----	----	----	----	----	1.90E-04	----	----	----
Benzene	3.24E-03	3.24E-03	1.61E-02	----	----	----	----	1.34E-02	----	----	----	----	----	1.92E-03	----	----	----
Bis(2-ethylhexyl)phthalate (DEHP)	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1,3 Butadiene	----	----	6.75E-04	----	----	----	----	5.63E-04	----	----	----	----	----	8.04E-05	----	----	----
Carbon tetrachloride	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Chlorobenzene	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Chloroform	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1,4-Dichlorobenzene(p)	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Ethyl benzene	8.63E-03	8.63E-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Ethylene dibromide (Dibromoethane)	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Formaldehyde	1.92E-01	1.92E-01	2.04E-02	----	----	----	----	1.70E-02	----	----	----	----	----	2.43E-03	----	----	----
n-Hexane	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Hydrochloric acid	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	2.10E+00
Methanol	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Methylene chloride (Dichloromethane)	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Nitrobenzene	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Phenol	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Phosphorus	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Polycyclic Organic Matter (POM)	5.94E-04	5.94E-04	2.90E-03	----	----	----	----	2.42E-03	----	----	----	----	----	3.45E-04	----	----	----
Naphthalene	3.51E-04	3.51E-04	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Styrene	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Toluene	3.51E-02	3.51E-02	7.06E-03	----	----	----	----	5.89E-03	----	----	----	----	----	8.41E-04	----	----	----
2,2,4-Trimethylpentane	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Vinyl chloride	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Xylenes (isomers and mixture)	1.73E-02	1.73E-02	4.92E-03	----	----	----	----	4.10E-03	----	----	----	----	----	5.86E-04	----	----	----
Total VOC HAPs	0.27	0.27	0.05	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	2.10
Non Volatile Organic Compounds																	
Antimony Compounds	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Arsenic Compounds (inorganic including arsine)	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	1.44E-03
Cadmium Compounds	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	3.58E-03
Chromium Compounds	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	2.95E-03
Cobalt Compounds	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	---
Lead Compounds	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	7.00E-02
Manganese Compounds	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	---
Mercury Compounds	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	1.84E-03
Nickel Compounds	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	2.58E-03
Total non-VOC HAPs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.24E-02
Total HAPs	0.27	0.27	0.05	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	2.18

Significant Units (continued) — Emissions per Unit (tons)

Hazardous Air Pollutant	37-1	37-2	37-3	37-4	37-6	37-7	37-8	37-9	37-10	42	43	44
Acetaldehyde	7.23E-02	7.23E-02	3.91E-02	7.23E-02	3.91E-02	7.23E-02	7.23E-02	7.23E-02	7.23E-02	7.25E-03	2.15E-02	----
Acrolein	6.82E-02	6.82E-02	3.69E-02	6.82E-02	3.69E-02	6.82E-02	6.82E-02	6.82E-02	6.82E-02	8.75E-04	2.03E-02	----
Benzene	4.10E-02	4.10E-02	2.21E-02	4.10E-02	2.21E-02	4.10E-02	4.10E-02	4.10E-02	4.10E-02	8.82E-03	1.22E-02	1.30E-02
Bis(2-ethylhexyl)phthalate (DEHP)	----	----	----	----	----	----	----	----	----	----	----	----
1,3 Butadiene	----	----	----	----	----	----	----	----	----	3.70E-04	----	----
Carbon tetrachloride	4.59E-04	4.59E-04	2.48E-04	4.59E-04	2.48E-04	4.59E-04	4.59E-04	4.59E-04	4.59E-04	----	1.36E-04	----
Chlorobenzene	3.34E-04	3.34E-04	1.81E-04	3.34E-04	1.81E-04	3.34E-04	3.34E-04	3.34E-04	3.34E-04	----	9.94E-05	----
Chloroform	3.55E-04	3.55E-04	1.92E-04	3.55E-04	1.92E-04	3.55E-04	3.55E-04	3.55E-04	3.55E-04	----	1.06E-04	----
1,4-Dichlorobenzene(p)	----	----	----	----	----	----	----	----	----	----	----	----
Ethyl benzene	----	----	----	----	----	----	----	----	----	----	----	1.44E-03
Ethylene dibromide (Dibromoethane)	5.52E-04	5.52E-04	2.99E-04	5.52E-04	2.99E-04	5.52E-04	5.52E-04	5.52E-04	5.52E-04	----	1.64E-04	----
Formaldehyde	5.32E-01	5.32E-01	2.87E-01	5.32E-01	2.87E-01	5.32E-01	5.32E-01	5.32E-01	5.32E-01	1.12E-02	1.58E-01	----
n-Hexane	----	----	----	----	----	----	----	----	----	----	----	2.30E-02
Hydrochloric acid	----	----	----	----	----	----	----	----	----	----	----	----
Methanol	7.93E-02	7.93E-02	4.29E-02	7.93E-02	4.29E-02	7.93E-02	7.93E-02	7.93E-02	7.93E-02	----	2.36E-02	----
Methylene chloride (Dichloromethane)	1.07E-03	1.07E-03	5.77E-04	1.07E-03	5.77E-04	1.07E-03	1.07E-03	1.07E-03	1.07E-03	----	3.18E-04	----
Nitrobenzene	----	----	----	----	----	----	----	----	----	----	----	----
Phenol	----	----	----	----	----	----	----	----	----	----	----	----
Phosphorus	----	----	----	----	----	----	----	----	----	----	----	----
Polycyclic Organic Matter (POM)	2.52E-03	2.52E-03	1.36E-03	2.52E-03	1.36E-03	2.52E-03	2.52E-03	2.52E-03	2.52E-03	1.59E-03	7.49E-04	7.20E-03
Naphthalene	2.52E-03	2.52E-03	1.36E-03	2.52E-03	1.36E-03	2.52E-03	2.52E-03	2.52E-03	2.52E-03	----	7.49E-04	----
Styrene	3.09E-04	3.09E-04	1.67E-04	3.09E-04	1.67E-04	3.09E-04	3.09E-04	3.09E-04	3.09E-04	----	9.17E-05	----
Toluene	1.45E-02	1.45E-02	7.82E-03	1.45E-02	7.82E-03	1.45E-02	1.45E-02	1.45E-02	1.45E-02	3.87E-03	4.30E-03	1.87E-02
2,2,4-Trimethylpentane	----	----	----	----	----	----	----	----	----	----	----	1.15E-02
Vinyl chloride	1.86E-04	1.86E-04	1.01E-04	1.86E-04	1.01E-04	1.86E-04	1.86E-04	1.86E-04	1.86E-04	----	5.53E-05	----
Xylenes (isomers and mixture)	5.06E-03	5.06E-03	2.73E-03	5.06E-03	2.73E-03	5.06E-03	5.06E-03	5.06E-03	5.06E-03	2.70E-03	1.50E-03	7.20E-03
Total VOC HAPs	0.82	0.82	0.44	0.82	0.44	0.82	0.82	0.82	0.82	0.04	0.24	0.08
Non Volatile Organic Compounds												
Antimony Compounds	----	----	----	----	----	----	----	----	----	----	----	----
Arsenic Compounds (inorganic including arsine)	----	----	----	----	----	----	----	----	----	----	----	----
Cadmium Compounds	----	----	----	----	----	----	----	----	----	----	----	----
Chromium Compounds	----	----	----	----	----	----	----	----	----	----	----	----
Cobalt Compounds	----	----	----	----	----	----	----	----	----	----	----	----
Lead Compounds	----	----	----	----	----	----	----	----	----	----	----	----
Manganese Compounds	----	----	----	----	----	----	----	----	----	----	----	----
Mercury Compounds	----	----	----	----	----	----	----	----	----	----	----	----
Nickel Compounds	----	----	----	----	----	----	----	----	----	----	----	----
Total non-VOC HAPs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total HAPs	0.82	0.82	0.44	0.82	0.44	0.82	0.82	0.82	0.82	0.04	0.24	0.08

Insignificant — Emissions per Unit (tons); Total

Hazardous Air Pollutant	11	20	25	27	28	29	30	31	32	33	34	35	36	Total HAP Emissions
Acetaldehyde	----	----	----	----	----	----	----	----	----	----	----	----	----	0.65
Acrolein	----	----	----	----	----	----	----	----	----	----	----	----	----	0.58
Benzene	9.20E-06	9.20E-06	1.15E-06	----	----	5.52E-07	1.84E-07	2.76E-07	1.01E-06	2.76E-06	4.60E-06	----	2.74E-06	0.40
Bis(2-ethylhexyl)phthalate (DEHP)	----	----	----	----	----	----	----	----	----	----	----	3.52E-05	----	0.00
1,3 Butadiene	----	----	----	----	----	----	----	----	----	----	----	----	----	0.00
Carbon tetrachloride	----	----	----	----	----	----	----	----	----	----	----	----	----	0.00
Chlorobenzene	----	----	----	----	----	----	----	----	----	----	----	----	----	0.00
Chloroform	----	----	----	----	----	----	----	----	----	----	----	----	----	0.00
1,4-Dichlorobenzene(p)	----	----	----	----	----	----	----	----	----	----	----	1.28E-08	----	0.00
Ethyl benzene	----	----	----	----	----	----	----	----	----	----	----	----	8.13E-07	0.02
Ethylene dibromide (Dibromoethane)	----	----	----	----	----	----	----	----	----	----	----	----	----	0.00
Formaldehyde	3.29E-04	3.29E-04	4.11E-05	----	----	1.97E-05	6.57E-06	9.86E-06	3.61E-05	9.86E-05	1.64E-04	----	4.22E-04	4.89
n-Hexane	7.88E-03	7.88E-03	9.86E-04	----	----	4.73E-04	1.58E-04	2.37E-04	8.67E-04	2.37E-03	3.94E-03	----	----	0.05
Hydrochloric acid	----	----	----	----	----	----	----	----	----	----	----	----	----	2.10
Methanol	----	----	----	----	----	----	----	----	----	----	----	----	----	0.66
Methylene chloride (Dichloromethane)	----	----	----	----	----	----	----	----	----	----	----	----	----	0.01
Nitrobenzene	9.20E-06	9.20E-06	1.15E-06	----	----	5.52E-07	1.84E-07	2.76E-07	1.01E-06	2.76E-06	4.60E-06	----	----	0.00
Phenol	----	----	----	----	----	----	----	----	----	----	----	3.84E-05	----	0.00
Phosphorus	----	----	----	----	----	----	----	----	----	----	----	5.75E-04	----	0.00
Polycyclic Organic Matter (POM)	2.67E-06	2.67E-06	3.34E-07	----	----	1.60E-07	5.34E-08	8.02E-08	2.94E-07	8.02E-07	1.34E-06	2.08E-04	6.40E-07	0.04
Naphthalene	2.67E-06	2.67E-06	3.34E-07	----	----	1.60E-07	5.34E-08	8.02E-08	2.94E-07	8.02E-07	1.34E-06	2.08E-04	1.45E-05	0.02
Styrene	----	----	----	----	----	----	----	----	----	----	----	----	----	0.00
Toluene	1.49E-05	1.49E-05	1.86E-06	----	----	8.94E-07	2.98E-07	4.47E-07	1.64E-06	4.47E-06	7.45E-06	----	7.93E-05	0.23
2,2,4-Trimethylpentane	----	----	----	----	----	----	----	----	----	----	----	----	----	0.01
Vinyl chloride	----	----	----	----	----	----	----	----	----	----	----	----	----	0.00
Xylenes (isomers and mixture)	----	----	----	----	----	----	----	----	----	----	----	----	1.39E-06	0.10
Total VOC HAPs	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.76
Non Volatile Organic Compounds														
Antimony Compounds	----	----	----	----	----	----	----	----	----	----	----	5.44E-06	----	0.00
Arsenic Compounds (inorganic including arsine)	8.76E-07	8.76E-07	1.10E-07	----	----	5.26E-08	1.75E-08	2.63E-08	9.64E-08	2.63E-07	4.38E-07	4.00E-05	----	0.00
Cadmium Compounds	4.82E-06	4.82E-06	6.02E-07	----	----	2.89E-07	9.64E-08	1.45E-07	5.30E-07	1.45E-06	2.41E-06	2.40E-06	----	0.00
Chromium Compounds	6.13E-06	1.93E-05	7.67E-07	----	----	3.68E-07	1.23E-07	1.84E-07	6.75E-07	1.84E-06	3.07E-06	3.04E-03	----	0.01
Cobalt Compounds	----	----	----	----	----	----	----	----	----	----	----	9.11E-05	----	0.00
Lead Compounds	----	----	----	----	----	----	----	----	----	----	----	----	----	0.07
Manganese Compounds	1.66E-06	1.66E-06	2.08E-07	----	----	9.99E-08	3.33E-08	4.99E-08	1.83E-07	4.99E-07	8.32E-07	3.52E-05	----	0.00
Mercury Compounds	1.14E-06	1.14E-06	1.42E-07	----	----	6.83E-08	2.28E-08	3.42E-08	1.25E-07	3.42E-07	5.69E-07	----	----	0.00
Nickel Compounds	----	----	----	----	----	----	----	----	----	----	----	7.99E-04	----	0.00
Total non-VOC HAPs	1.46E-05	2.78E-05	1.83E-06	0.00E+00	0.00E+00	8.78E-07	2.93E-07	4.39E-07	1.61E-06	4.39E-06	7.31E-06	4.01E-03	0.00E+00	0.09
Total HAPs	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.84

Notes:

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

[2] Because insignificant tank VOC emissions are so small, it is assumed that the HAP emissions from each tank and from all tanks combined is negligible. See VOC calculations for details.

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Table D-3a. Significant Emission Unit Inventory - NO_X Emissions
Hilcorp Alaska, LLC - Beluga River Unit

						Base Scenario	Potential
EU ID	**Emission Unit Name**	**Reference**	**Emission Factor**	**Rating/Size**	**Maximum Operation**	**NO_X Emissions**	
Turbines and Engines							
1	Turbine Compressor- Out of Solonox	Source Test	0.2 lb/MMBtu	7,700 hp	400 hr/yr	2.5 tpy	54.0 tpy
1	Turbine Compressor- In Solonox	Source Test	1.84 lb/hr	7,700 hp	8,360 hr/yr	7.7 tpy	0.0 tpy
2	Compressor	Vendor Data	2 g/hp-hr	530 hp	8,760 hr/yr	10.2 tpy	10.2 tpy
3	Generator	Vendor Data	6.4 g/kW-hr	420 kW	100 hr/yr[1]	0.3 tpy	26.0 tpy
12	Generator	AP-42 Table 3.3-1	0.031 lb/hp-hr	350 kW	100 hr/yr[2]	0.7 tpy	63.7 tpy
19	Generator	AP-42 Table 3.3-1	0.031 lb/hp-hr	50 kW	100 hr/yr[2]	0.1 tpy	9.1 tpy
37-1	Wellsite Compressor	Source Test	0.05 g/hp-hr	740 hp	8,760 hr/yr	0.4 tpy	0.4 tpy
37-2	Wellsite Compressor	Source Test	0.06 g/hp-hr	740 hp	8,760 hr/yr	0.4 tpy	0.4 tpy
37-3	Wellsite Compressor	Source Test	0.34 g/hp-hr	400 hp	8,760 hr/yr	1.3 tpy	1.3 tpy
37-4	Wellsite Compressor	Source Test	0.47 g/hp-hr	740 hp	8,760 hr/yr	3.4 tpy	3.4 tpy
37-6	Wellsite Compressor	Source Test	0.27 g/hp-hr	400 hp	8,760 hr/yr	1.0 tpy	1.0 tpy
37-7	Wellsite Compressor	Source Test	0.49 g/hp-hr	740 hp	8,760 hr/yr	3.5 tpy	3.5 tpy
37-8	Wellsite Compressor	Source Test	0.59 g/hp-hr	740 hp	8,760 hr/yr	4.2 tpy	4.2 tpy
37-9	Wellsite Compressor	Source Test	0.46 g/hp-hr	740 hp	8,760 hr/yr	3.3 tpy	3.3 tpy
37-10	Wellsite Compressor	Source Test	0.66 g/hp-hr	740 hp	8,760 hr/yr	4.7 tpy	4.7 tpy
42	Generator	Vendor Data	2.23 lb/hr	230 kW	100 hr/yr[1]	0.1 tpy	9.8 tpy
43	Wellsite Compressor	Source Test	0.66 g/hp-hr	220 hp	8,760 hr/yr	1.4 tpy	1.4 tpy
Glycol Dehydration Units							
4	GDU	N/A	N A	0.25 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
5	GDU	N/A	N A	0.25 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
6	GDU	N/A	N A	0.18 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
7	GDU	N/A	N A	0.08 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
8	GDU	N/A	N A	0.25 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
9	GDU	N/A	N A	0.25 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
10	GDU	N/A	N A	0.25 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
13	GDU	N/A	N A	0.25 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
14	GDU	N/A	N A	0.25 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
15	GDU	N/A	N A	0.13 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
16	GDU	N/A	N A	0.25 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
17	GDU	N/A	N A	0.50 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
18	GDU	N/A	N A	0.25 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
21	GDU	N/A	N A	0.25 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
22	GDU	N/A	N A	0.18 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
23	GDU	N/A	N A	0.13 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
24	GDU	N/A	N A	0.25 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
Incinerator							
26	Incinerator	AP-42 Table 2.1-12	3 lb/ton	150 lb/hr	8,760 hr/yr	1.0 tpy	1.0 tpy
Gasoline Dispensing Facility							
44	GDF	N/A	N A	<10,000 gallons/mo	N A	0.0 tpy	0.0 tpy
					Totals	**46.2 tpy**	**197.4 tpy**

Notes:

[1] EU IDs 3 and 42 are limited to 100 hours per calendar year of operation by 40 CFR 60.4211, Subpart IIII.

[2] EU IDs 12 and 19 are limited to 100 hours per calendar year of operation by 40 CFR 63.6640(f)(2), Subpart ZZZZ.

Table D-3b. Insignificant Emission Unit Inventory - NO_X Emissions
Hilcorp Alaska, LLC - Beluga River Unit

EU ID	Emission Unit Name	Reference	Emission Factor	Rating/Size	Maximum Operation	NO_X Emissions
11	Process Heater	AP-42 Table 1.4-1	100 lb/MMscf	1 MMBtu/hr	8,760 hr/yr	0.4 tpy
20	Process Heater	AP-42 Table 1.4-1	100 lb/MMscf	1 MMBtu/hr	8,760 hr/yr	0.4 tpy
25	Process Heater	AP-42 Table 1.4-1	100 lb/MMscf	0.125 MMBtu/hr	8,760 hr/yr	0.1 tpy
29	Office Coleman Heater	AP-42 Table 1.4-1	100 lb/MMscf	0.06 MMBtu/hr	8,760 hr/yr	0.0 tpy
30	Shop Perfection Schwank Heater	AP-42 Table 1.4-1	100 lb/MMscf	0.02 MMBtu/hr	8,760 hr/yr	0.0 tpy
31	Electrical Shop Modine Heater	AP-42 Table 1.4-1	100 lb/MMscf	0.03 MMBtu/hr	8,760 hr/yr	0.0 tpy
32	Mechanics Shop Modine Heater	AP-42 Table 1.4-1	100 lb/MMscf	0.11 MMBtu/hr	8,760 hr/yr	0.0 tpy
33	Mechanics Shop Modine Heater	AP-42 Table 1.4-1	100 lb/MMscf	0.3 MMBtu/hr	8,760 hr/yr	0.1 tpy
34	BRWD Heater	AP-42 Table 1.4-1	100 lb/MMscf	0.5 MMBtu/hr	8,760 hr/yr	0.2 tpy
35	Mechanics Shop Used Oil Heater	AP-42 Table 1.11-2	11 lb/kgal	0.5 MMBtu/hr	8,760 hr/yr	0.176 tpy
36	Portable Frost Fighter	AP-42 Table 1.3-1	20 lb/kgal	0.4 MMBtu/hr	8,760 hr/yr	0.256 tpy
						1.8 tpy

Conversions:

Fuel Gas Heat Content:	1,000 Btu/scf
Diesel Fuel Heat Content:	137,000 Btu/gal
Diesel Fuel Density:	7 lb/gal
Diesel Engine Heat Rate:	7,000 Btu/hp-hr
Gas Engine Heat Rate	8,000 Btu/hp-hr

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Table D-4a. Significant Emission Unit Inventory - CO Emissions
Hilcorp Alaska, LLC - Beluga River Unit

						Base Scenario	Potential
EU ID	**Emission Unit Name**	**Reference**	**Emission Factor**	**Rating/Size**	**Maximum Operation**	**CO Emissions**	
Turbines and Engines							
1	Turbine Compressor- Out of Solonox	Source Test	3.2 lb/MMBtu	7,700 hp	400 hr/yr	39.4 tpy	863.4 tpy
1	Turbine Compressor- In Solonox	Source Test	1.33 lb/hr	7,700 hp	8,360 hr/yr	5.6 tpy	0 tpy
2	Compressor	Source Test	0.49 lb/hr	530 hp	8,760 hr/yr	2.1 tpy	2.1 tpy
3	Generator	Vendor Data	3.5 g/kW-hr	420 kW	100 hr/yr[1]	0.2 tpy	14.2 tpy
12	Generator	AP-42 Table 3.3-1	0.00668 lb/hp-hr	350 kW	100 hr/yr[2]	0.2 tpy	13.7 tpy
19	Generator	AP-42 Table 3.3-1	0.00668 lb/hp-hr	50 kW	100 hr/yr[2]	0.0 tpy	2.0 tpy
37-1	Wellsite Compressor	Source Test	0.35 g/hp-hr	740 hp	8,760 hr/yr	2.5 tpy	2.5 tpy
37-2	Wellsite Compressor	Source Test	0.69 g/hp-hr	740 hp	8,760 hr/yr	4.9 tpy	4.9 tpy
37-3	Wellsite Compressor	Source Test	0.12 g/hp-hr	400 hp	8,760 hr/yr	0.5 tpy	0.5 tpy
37-4	Wellsite Compressor	Source Test	0.77 g/hp-hr	740 hp	8,760 hr/yr	5.5 tpy	5.5 tpy
37-6	Wellsite Compressor	Source Test	0.35 g/hp-hr	400 hp	8,760 hr/yr	1.4 tpy	1.4 tpy
37-7	Wellsite Compressor	Source Test	0.97 g/hp-hr	740 hp	8,760 hr/yr	6.9 tpy	6.9 tpy
37-8	Wellsite Compressor	Source Test	0.92 g/hp-hr	740 hp	8,760 hr/yr	6.6 tpy	6.6 tpy
37-9	Wellsite Compressor	Source Test	0.96 g/hp-hr	740 hp	8,760 hr/yr	6.9 tpy	6.9 tpy
37-10	Wellsite Compressor	Source Test	1.6 g/hp-hr	740 hp	8,760 hr/yr	11.4 tpy	11.4 tpy
42	Generator	Vendor Data	0.47 lb/hr	230 kW	100 hr/yr[1]	0.0 tpy	2.1 tpy
43	Wellsite Compressor	Source Test	0.36 lb/hr	220 hp	8,760 hr/yr	1.6 tpy	1.6 tpy
Glycol Dehydration Units							
4	GDU	N/A	N A	0.250 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
5	GDU	N/A	N A	0.250 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
6	GDU	N/A	N A	0.175 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
7	GDU	N/A	N A	0.075 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
8	GDU	N/A	N A	0.250 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
9	GDU	N/A	N A	0.250 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
10	GDU	N/A	N A	0.250 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
13	GDU	N/A	N A	0.250 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
14	GDU	N/A	N A	0.250 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
15	GDU	N/A	N A	0.125 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
16	GDU	N/A	N A	0.250 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
17	GDU	N/A	N A	0.500 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
18	GDU	N/A	N A	0.250 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
21	GDU	N/A	N A	0.250 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
22	GDU	N/A	N A	0.175 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
23	GDU	N/A	N A	0.125 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
24	GDU	N/A	N A	0.250 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
Incinerator							
26	Incinerator	AP-42 Table 2.1-12	10 lb/ton	150 lb/hr	8,760 hr/yr	3.3 tpy	3.3 tpy
Gasoline Dispensing Facility							
44	GDF	N/A	N A	<10,000 gallons/mo	N A	0.0 tpy	0.0 tpy
					Totals	**95.6 tpy**	**945.6 tpy**

Notes:

[1] EU IDs 3 and 42 are limited to 100 hours per calendar year of operation by 40 CFR 60.4211, Subpart IIII.

[2] EU IDs 12 and 19 are limited to 100 hours per calendar year of operation by 40 CFR 63.6640(f)(2), Subpart ZZZZ.

Table D-4b. Insignificant Emission Unit Inventory - CO Emissions
Hilcorp Alaska, LLC - Beluga River Unit

EU ID	Emission Unit Name	Reference	Emission Factor	Rating/Size	Maximum Operation	CO Emissions
11	Process Heater	AP-42 Table 1.4-1	84 lb/MMscf	1 MMBtu/hr	8,760 hr/yr	0.4 tpy
20	Process Heater	AP-42 Table 1.4-1	84 lb/MMscf	1 MMBtu/hr	8,760 hr/yr	0.4 tpy
25	Process Heater	AP-42 Table 1.4-1	84 lb/MMscf	0.125 MMBtu/hr	8,760 hr/yr	0.0 tpy
29	Office Coleman Heater	AP-42 Table 1.4-1	84 lb/MMscf	0.06 MMBtu/hr	8,760 hr/yr	0.0 tpy
30	Shop Perfection Schwank Heater	AP-42 Table 1.4-1	84 lb/MMscf	0.02 MMBtu/hr	8,760 hr/yr	0.0 tpy
31	Electrical Shop Modine Heater	AP-42 Table 1.4-1	84 lb/MMscf	0.03 MMBtu/hr	8,760 hr/yr	0.0 tpy
32	Mechanics Shop Modine Heater	AP-42 Table 1.4-1	84 lb/MMscf	0.11 MMBtu/hr	8,760 hr/yr	0.0 tpy
33	Mechanics Shop Modine Heater	AP-42 Table 1.4-1	84 lb/MMscf	0.3 MMBtu/hr	8,760 hr/yr	0.1 tpy
34	BRWD Heater	AP-42 Table 1.4-1	84 lb/MMscf	0.5 MMBtu/hr	8,760 hr/yr	0.2 tpy
35	Mechanics Shop Used Oil Heater	AP-42 Table 1.11-2	1.7 lb/kgal	0.5 MMBtu/hr	8,760 hr/yr	0.0272 tpy
36	Portable Frost Fighter	AP-42 Table 1.3-1	5 lb/kgal	0.4 MMBtu/hr	8,760 hr/yr	0.0639 tpy
						1.2 tpy

Conversions:

Fuel Gas Heat Content:	1,000 Btu/scf
Diesel Fuel Heat Content:	137,000 Btu/gal
Diesel Fuel Density:	7 lb/gal
Diesel Engine Heat Rate:	7,000 Btu/hp-hr
NG Engine Heat Rate:	8,000 Btu/hp-hr

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Table D-5a. Significant Emission Unit Inventory - PM Emissions
Hilcorp Alaska, LLC - Beluga River Unit

						Base Scenario	Potential
EU ID	**Emission Unit Name**	**Reference**	**Emission Factor**	**Rating/Size**	**Maximum Operation**	**PM Emissions**	
Turbines and Engines							
1	Turbine Compressor- Out of Solonox	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	7,700 hp	400 hr/yr	0.1 tpy	1.8 tpy
1	Turbine Compressor- In Solonox	AP-42 Table 3.1-2a	0.0066 lb/MMBtu	7,700 hp	8,360 hr/yr	1.7 tpy	0 tpy
2	Compressor	AP-42 Table 3.2-2	7.7E-05 lb/MMBtu	530 hp	8,760 hr/yr	0.00143 tpy	0.00143 tpy
3	Generator	Vendor Data	3.5 g/kW-hr	420 kW	100 hr/yr[1]	0.2 tpy	14.2 tpy
12	Generator	AP-42 Table 3.3-1	0.0022 lb/hp-hr	350 kW	100 hr/yr[2]	0.1 tpy	4.5 tpy
19	Generator	AP-42 Table 3.3-1	0.0022 lb/hp-hr	50 kW	100 hr/yr[2]	0.0 tpy	0.6 tpy
37-1	Wellsite Compressor	AP-42 Table 3.2-3	0.0095 lb/MMBtu	740 hp	8,760 hr/yr	0.2 tpy	0.2 tpy
37-2	Wellsite Compressor	AP-42 Table 3.2-3	0.0095 lb/MMBtu	740 hp	8,760 hr/yr	0.2 tpy	0.2 tpy
37-3	Wellsite Compressor	AP-42 Table 3.2-3	0.0095 lb/MMBtu	400 hp	8,760 hr/yr	0.1 tpy	0.1 tpy
37-4	Wellsite Compressor	AP-42 Table 3.2-3	0.0095 lb/MMBtu	740 hp	8,760 hr/yr	0.2 tpy	0.2 tpy
37-6	Wellsite Compressor	AP-42 Table 3.2-3	0.0095 lb/MMBtu	400 hp	8,760 hr/yr	0.1 tpy	0.1 tpy
37-7	Wellsite Compressor	AP-42 Table 3.2-3	0.0095 lb/MMBtu	740 hp	8,760 hr/yr	0.2 tpy	0.2 tpy
37-8	Wellsite Compressor	AP-42 Table 3.2-3	0.0095 lb/MMBtu	740 hp	8,760 hr/yr	0.2 tpy	0.2 tpy
37-9	Wellsite Compressor	AP-42 Table 3.2-3	0.0095 lb/MMBtu	740 hp	8,760 hr/yr	0.2 tpy	0.2 tpy
37-10	Wellsite Compressor	AP-42 Table 3.2-3	0.0095 lb/MMBtu	740 hp	8,760 hr/yr	0.2 tpy	0.2 tpy
42	Generator	Vendor Data	0.09 lb/hr	230 kW	100 hr/yr[1]	0.0 tpy	0.4 tpy
43	Wellsite Compressor	AP-42 Table 3.2-3	0.0095 lb/MMBtu	220 hp	8,760 hr/yr	0.1 tpy	0.1 tpy
Glycol Dehydration Units							
4	GDU	N/A	N A	0.25 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
5	GDU	N/A	N A	0.25 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
6	GDU	N/A	N A	0.18 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
7	GDU	N/A	N A	0.08 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
8	GDU	N/A	N A	0.25 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
9	GDU	N/A	N A	0.25 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
10	GDU	N/A	N A	0.25 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
13	GDU	N/A	N A	0.25 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
14	GDU	N/A	N A	0.25 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
15	GDU	N/A	N A	0.13 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
16	GDU	N/A	N A	0.25 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
17	GDU	N/A	N A	0.50 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
18	GDU	N/A	N A	0.25 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
21	GDU	N/A	N A	0.25 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
22	GDU	N/A	N A	0.18 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
23	GDU	N/A	N A	0.13 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
24	GDU	N/A	N A	0.25 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
Incinerator							
26	Incinerator	AP-42 Table 2.1-12	7 lb/ton	150 lb/hr	8,760 hr/yr	2.3 tpy	2.3 tpy
Gasoline Dispensing Facility							
44	GDF	N/A	N A	<10,000 gallons/mo	N A	0.0 tpy	0.0 tpy
					Totals	**6.4 tpy**	**25.9 tpy**

Notes:

[1] EU IDs 3 and 42 are limited to 100 hours per calendar year of operation by 40 CFR 60.4211, Subpart IIII.

[2] EU IDs 12 and 19 are limited to 100 hours per calendar year of operation by 40 CFR 63.6640(f)(2), Subpart ZZZZ.

Table D-5b. Insignificant Emission Unit Inventory - PM Emissions
Hilcorp Alaska, LLC - Beluga River Unit

EU ID	Emission Unit Name	Reference	Emission Factor	Rating/Size	Maximum Operation	PM Emissions
11	Process Heater	AP-42 Table 1.4-1	7.6 lb/MMscf	1 MMBtu/hr	8,760 hr/yr	0.0333 tpy
20	Process Heater	AP-42 Table 1.4-1	7.6 lb/MMscf	1 MMBtu/hr	8,760 hr/yr	0.0333 tpy
25	Process Heater	AP-42 Table 1.4-1	7.6 lb/MMscf	0.125 MMBtu/hr	8,760 hr/yr	0.0042 tpy
29	Office Coleman Heater	AP-42 Table 1.4-1	7.6 lb/MMscf	0.06 MMBtu/hr	8,760 hr/yr	0.0020 tpy
30	Shop Perfection Schwank Heater	AP-42 Table 1.4-1	7.6 lb/MMscf	0.02 MMBtu/hr	8,760 hr/yr	0.0007 tpy
31	Electrical Shop Modine Heater	AP-42 Table 1.4-1	7.6 lb/MMscf	0.03 MMBtu/hr	8,760 hr/yr	0.0010 tpy
32	Mechanics Shop Modine Heater	AP-42 Table 1.4-1	7.6 lb/MMscf	0.11 MMBtu/hr	8,760 hr/yr	0.0037 tpy
33	Mechanics Shop Modine Heater	AP-42 Table 1.4-1	7.6 lb/MMscf	0.3 MMBtu/hr	8,760 hr/yr	0.0100 tpy
34	BRWD Heater	AP-42 Table 1.4-1	7.6 lb/MMscf	0.5 MMBtu/hr	8,760 hr/yr	0.0166 tpy
35	Mechanics Shop Used Oil Heater	AP-42 Table 1.11-1	14 lb/kgal	0.5 MMBtu/hr	8,760 hr/yr	0.2238 tpy
36	Portable Frost Fighter	AP-42 Table 1.3-1	3.3 lb/kgal	0.4 MMBtu/hr	8,760 hr/yr	0.0422 tpy
						0.4 tpy

Conversions:

Fuel Gas Heat Content:	1,000	Btu/scf
Diesel Fuel Heat Content:	137,000	Btu/gal
Diesel Fuel Density:	7	lb/gal
Diesel Engine Heat Rate:	7,000	Btu/hp-hr
NG Engine Heat Rate	8,000	Btu/hp-hr

Permit Number: AQ0942TVP01, Rev. 2

Table D-6a. Significant Emission Unit Inventory - VOC Emissions
Hilcorp Alaska, LLC - Beluga River Unit

						Base Scenario	Potential
EU ID	**Emission Unit Name**	**Reference**	**Emission Factor**	**Rating/Size**	**Maximum Operation**	**VOC Emissions**	
Turbines and Engines							
1	Turbine Compressor- Out of Solonox	AP-42 Table 3.1-2a	0.0021 lb/MMBtu	7,700 hp	400 hr/yr	0.026 tpy	0.57 tpy
1	Turbine Compressor- In Solonox	AP-42 Table 3.1-2a	0.0021 lb/MMBtu	7,700 hp	8,360 hr/yr	0.541 tpy	0.00 tpy
2	Compressor	AP-42 Table 3.2-2	0.118 lb/MMBtu	530 hp	8,760 hr/yr	2.191 tpy	2.2 tpy
3	Generator	Vendor Data	3.5 g/kW-hr	420 kW	100 hr/yr[1]	0.2 tpy	14.2 tpy
12	Generator	AP-42 Table 3.3-1	0.00247 lb/hp-hr	350 kW	100 hr/yr[2]	0.1 tpy	5.1 tpy
19	Generator	AP-42 Table 3.3-1	0.00247 lb/hp-hr	50 kW	100 hr/yr[2]	0.0 tpy	0.7 tpy
37-1	Wellsite Compressor	Source Test	0.01 g/hp-hr	740 hp	8,760 hr/yr	0.1 tpy	0.1 tpy
37-2	Wellsite Compressor	Source Test	0.01 g/hp-hr	740 hp	8,760 hr/yr	0.1 tpy	0.1 tpy
37-3	Wellsite Compressor	Source Test	0.007 g/hp-hr	400 hp	8,760 hr/yr	0.0 tpy	0.0 tpy
37-4	Wellsite Compressor	Source Test	0.03 g/hp-hr	740 hp	8,760 hr/yr	0.2 tpy	0.2 tpy
37-6	Wellsite Compressor	Source Test	0.00 g/hp-hr	400 hp	8,760 hr/yr	0.0 tpy	0.0 tpy
37-7	Wellsite Compressor	Source Test	0.02 g/hp-hr	740 hp	8,760 hr/yr	0.1 tpy	0.1 tpy
37-8	Wellsite Compressor	Source Test	0.02 g/hp-hr	740 hp	8,760 hr/yr	0.1 tpy	0.1 tpy
37-9	Wellsite Compressor	Source Test	0.02 g/hp-hr	740 hp	8,760 hr/yr	0.1 tpy	0.1 tpy
37-10	Wellsite Compressor	Source Test	0.03 g/hp-hr	740 hp	8,760 hr/yr	0.2 tpy	0.2 tpy
42	Generator	Vendor Data	0.13 lb/hr	230 kW	100 hr/yr[1]	0.0 tpy	0.6 tpy
43	Wellsite Compressor	Source Test	0.03 g/hp-hr	220 hp	8,760 hr/yr	0.1 tpy	0.1 tpy
Glycol Dehydration Units							
4	GDU	GRI-GLYCalc		0.25 MMBtu/hr	8,760 hr/yr	0.835 tpy	0.835 tpy
5	GDU	GRI-GLYCalc		0.25 MMBtu/hr	8,760 hr/yr	0.000 tpy	0.000 tpy
6	GDU	GRI-GLYCalc		0.18 MMBtu/hr	8,760 hr/yr	0.008 tpy	0.008 tpy
7	GDU	GRI-GLYCalc		0.08 MMBtu/hr	8,760 hr/yr	0.170 tpy	0.170 tpy
8	GDU	GRI-GLYCalc		0.25 MMBtu/hr	8,760 hr/yr	0.001 tpy	0.001 tpy
9	GDU	GRI-GLYCalc		0.25 MMBtu/hr	8,760 hr/yr	0.131 tpy	0.131 tpy
10	GDU	GRI-GLYCalc		0.25 MMBtu/hr	8,760 hr/yr	0.000 tpy	0.000 tpy
13	GDU	GRI-GLYCalc		0.25 MMBtu/hr	8,760 hr/yr	0.003 tpy	0.003 tpy
14	GDU	GRI-GLYCalc		0.25 MMBtu/hr	8,760 hr/yr	0.150 tpy	0.150 tpy
15	GDU	GRI-GLYCalc		0.13 MMBtu/hr	8,760 hr/yr	0.072 tpy	0.072 tpy
16	GDU	GRI-GLYCalc		0.25 MMBtu/hr	8,760 hr/yr	0.001 tpy	0.001 tpy
17	GDU	GRI-GLYCalc		0.50 MMBtu/hr	8,760 hr/yr	0.387 tpy	0.387 tpy
18	GDU	GRI-GLYCalc		0.25 MMBtu/hr	8,760 hr/yr	0.276 tpy	0.276 tpy
21	GDU	GRI-GLYCalc		0.25 MMBtu/hr	8,760 hr/yr	0.236 tpy	0.236 tpy
22	GDU	GRI-GLYCalc		0.18 MMBtu/hr	8,760 hr/yr	0.235 tpy	0.235 tpy
23	GDU	GRI-GLYCalc		0.13 MMBtu/hr	8,760 hr/yr	0.003 tpy	0.003 tpy
24	GDU	GRI-GLYCalc		0.25 MMBtu/hr	8,760 hr/yr	0.196 tpy	0.196 tpy
Incinerator							
26	Incinerator	AP-42 Table 2.1-12	3 lb/ton	150 lb/hr	8,760 hr/yr	0.99 tpy	0.99 tpy
Gasoline Dispensing Facility							
44	GDF	AP-42 Table 5.2-7	24 lb/kgal	<10,000 gallons/mo	8,760 hr/yr	1.44 tpy	1.44 tpy
					Totals	**9.2 tpy**	**29.5 tpy**

Notes:

[1] EU IDs 3 and 42 are limited to 100 hours per calendar year of operation by 40 CFR 60.4211, Subpart IIII.

[2] EU IDs 12 and 19 are limited to 100 hours per calendar year of operation by 40 CFR 63.6640(f)(2), Subpart ZZZZ.

Table D-6b. Insignificant Emission Unit Inventory - VOC Emissions
Hilcorp Alaska, LLC - Beluga River Unit

EU ID	Emission Unit Name	Reference	Emission Factor	Rating/Size	Maximum Operation	VOC Emissions
11	Process Heater	AP-42 Table 1.4-1	5.5 lb/MMscf	1.000 MMBtu/hr	8,760 hr/yr	0.0241 tpy
20	Process Heater	AP-42 Table 1.4-1	5.5 lb/MMscf	1.000 MMBtu/hr	8,760 hr/yr	0.0241 tpy
25	Process Heater	AP-42 Table 1.4-1	5.5 lb/MMscf	0.125 MMBtu/hr	8,760 hr/yr	0.0030 tpy
29	Office Coleman Heater	AP-42 Table 1.4-1	5.5 lb/MMscf	0.060 MMBtu/hr	8,760 hr/yr	0.0014 tpy
30	Shop Perfection Schwank Heater	AP-42 Table 1.4-1	5.5 lb/MMscf	0.020 MMBtu/hr	8,760 hr/yr	0.0005 tpy
31	Electrical Shop Modine Heater	AP-42 Table 1.4-1	5.5 lb/MMscf	0.030 MMBtu/hr	8,760 hr/yr	0.0007 tpy
32	Mechanics Shop Modine Heater	AP-42 Table 1.4-1	5.5 lb/MMscf	0.110 MMBtu/hr	8,760 hr/yr	0.0026 tpy
33	Mechanics Shop Modine Heater	AP-42 Table 1.4-1	5.5 lb/MMscf	0.300 MMBtu/hr	8,760 hr/yr	0.0072 tpy
34	BRWD Heater	AP-42 Table 1.4-1	5.5 lb/MMscf	0.500 MMBtu/hr	8,760 hr/yr	0.0120 tpy
35	Mechanics Shop Used Oil Heater	AP-42 Table 1.11-3	1.0 lb/kgal	0.500 MMBtu/hr	8,760 hr/yr	0.0160 tpy
36	Portable Frost Fighter	AP-42 Table 1.3-1	0.7 lb/kgal	0.400 MMBtu/hr	8,760 hr/yr	0.0090 tpy
						0.1 tpy

Conversions:

Fuel Gas Heat Content:	1,000	Btu/scf
Diesel Fuel Heat Content:	137,000	Btu/gal
Diesel Fuel Density:	7	lb/gal
Diesel Engine Heat Rate:	7,000	Btu/hp-hr
NG Engine Heat Rate	8,000	Btu/hp-hr

Permit Number: AQ0094TVP03, Rev. 1

Table D-9. Glycol Dehdration Unit Parameters and Emissions Summary
Hilcorp - Beluga River Unit

	Glycol Regen/Reboiler ID	4	5	6	7	8	9	10	13	14	15	16	17	18	21	22	23	24
	Hours of Operation (hr/yr)	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760
Wet Gas	Temperature (°F)	75	70	60	75	42	60	59	58	48	66	65	50	50	77	77	49	72
	Pressure (psia)	300	775	300	300	100	90	90	130	100	45	310	175	90	300	310	315	155
	Water Content	0.16%	0.06%	0.09%	0.16%	0.14%	0.29%	0.28%	0.19%	0.17%	0.71%	0.11%	0.11%	0.20%	0.17%	0.16%	0.06%	0.26%
	Composition (vol.%) [1]																	
	CO_2	0.514	0.542	0.557	0.514	0.466	0.843	0.364	0.556	0.431	0.339	0.595	0.238	0.359	0.843	0.805	0.741	0.296
	N_2	0.698	0.615	0.469	0.698	0.563	0.583	1.04	0.343	0.274	0.833	0.738	2.11	1.29	0.504	0.349	0.332	0.309
	methane (C1)	98.6	98.7	98.8	98.6	98.8	98.3	98.3	98.9	99.1	98.1	98.5	97.5	98.1	98.4	98.6	98.8	99
	ethane (C2)	0.0709	0.051	0.0559	0.0709	0.035	0.0339	0.0369	0.0649	0.0589	0.0437	0.042	0.038	0.0559	0.0509	0.0509	0.045	0.0997
	propane (C3)	0.00399	0	0.004	0.00399	0.002	0	0	0.00399	0.003	0.000993	0.000999	0.000999	0.00299	0.002	0.003	0.003	0.00997
	isobutane (iC4)	0	0	0	0	0	0	0	0.000998	0.002	0	0	0	0	0.000998	0	0	0
	n-butane (nC4)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	i-pentane (iC5)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	n-pentane (nC5)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	cyclopentane	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	n-hexane (nC6)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	cyclohexane (C6)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	other hexanes (C6)	0	0	0.000999	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	all heptanes (C7)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	methylcyclohexane	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	C8+ heavies	0.000999	0	0	0.000999	0	0.000997	0	0	0.000999	0.000993	0	0.002	0.002	0.000998	0.000998	0	0.000997
	Benzene	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Toluene	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Ethylbenzene	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Xylenes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2,2,4-Trimethylpentane	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	100	100	100	100	100	100	100	100	100	99	100	100	100	100	100	100	100
Dry Gas	Flow Rate (MMcfd) [5-Year Max. * 1.2]	5.530	55.000	55.000	0.450	0.270	5.140	5.140	3.920	1.990	3.870	6.710	2.100	3.050	2.370	2.370	2.370	3.530
	Absorber Stages (*Assumed Value*)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Lean Glycol	Water Content (wt.%) [2]	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.00%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%
	Flow Rate (gpm)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Pump Type		Elec	Elec	Elec	Elec	Elec	Elec	Elec	Elec	Elec	Elec	Elec	Elec	Elec	Elec	Elec	Elec	Elec
Flash Tank	Flash Tank?	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No	No	No	No	No	No
	Temperature (°F)	60	60	60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Pressure (psig)	47	47	47	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uncontrolled Emissions (tpy)	Total VOC	0.8353	0	0.0077	0.1703	0.0008	0.1314	0	0.0026	0.1503	0.0723	0.0008	0.3871	0.2763	0.2359	0.235	0.0027	0.1961
	Methane (C1)	0.819	1.1386	0.7967	2.918	1.0128	0.8524	0.8548	1.2649	1.0014	0.4134	2.9164	1.7103	0.884	2.8604	2.9595	3.0585	1.4812
	Carbon Dioxide (lb/hr)	0.144	0.405	0.209	0.167	0.0739	0.0988	0.0431	0.0957	0.0642	0.019	0.216	0.0593	0.0471	0.268	0.264	0.321	0.0526
	Total HAP	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	n-Hexane	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	2,2,4-Trimethylpentane	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Benzene	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Toluene	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Ethylbenzene	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Xylenes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: Technical Reference Manual for GRI-GLYCalc v.4.0.

[1] Analysis of wet gas samples performed by according to GPA Method 2261-90.

[2] Program default value

As defined under Subpart HH, this system is not a control device or a closed vent system.

Permit Number: AQ0942TVP01, Rev. 2

Table D-7a. Significant Emission Unit Inventory - SO_2 Emissions
Hilcorp Alaska, LLC - Beluga River Unit

						Base Scenario	Potential
EU ID	**Emission Unit Name**	**Reference**	**Emission Factor**	**Rating/Size**	**Maximum Operation**	**SO_2 Emissions**	
Turbines and Engines							
1	Turbine Compressor - Total	Mass Balance	25 ppmvd H_2S	7,700 hp	8,760 hr/yr	1.1 tpy	1.1 tpy
2	Compressor	Mass Balance	25 ppmvd H_2S	530 hp	8,760 hr/yr	0.1 tpy	0.1 tpy
3	Generator	Mass Balance	0.0015 wt.%S	420 kW	100 hr/yr[1]	0.0 tpy	2.6 tpy
12	Generator	Mass Balance	0.0015 wt.%S	350 kW	100 hr/yr[2]	0.0 tpy	2.2 tpy
19	Generator	Mass Balance	0.0015 wt.%S	50 kW	100 hr/yr[2]	0.0 tpy	0.3 tpy
37-1	Wellsite Compressor	Mass Balance	25 ppmvd H_2S	740 hp	8,760 hr/yr	0.1 tpy	0.1 tpy
37-2	Wellsite Compressor	Mass Balance	25 ppmvd H_2S	740 hp	8,760 hr/yr	0.1 tpy	0.1 tpy
37-3	Wellsite Compressor	Mass Balance	25 ppmvd H_2S	400 hp	8,760 hr/yr	0.1 tpy	0.1 tpy
37-4	Wellsite Compressor	Mass Balance	25 ppmvd H_2S	740 hp	8,760 hr/yr	0.1 tpy	0.1 tpy
37-6	Wellsite Compressor	Mass Balance	25 ppmvd H_2S	400 hp	8,760 hr/yr	0.1 tpy	0.1 tpy
37-7	Wellsite Compressor	Mass Balance	25 ppmvd H_2S	740 hp	8,760 hr/yr	0.1 tpy	0.1 tpy
37-8	Wellsite Compressor	Mass Balance	25 ppmvd H_2S	740 hp	8,760 hr/yr	0.1 tpy	0.1 tpy
37-9	Wellsite Compressor	Mass Balance	25 ppmvd H_2S	740 hp	8,760 hr/yr	0.1 tpy	0.1 tpy
37-10	Wellsite Compressor	Mass Balance	25 ppmvd H_2S	740 hp	8,760 hr/yr	0.1 tpy	0.1 tpy
42	Generator	Mass Balance	0.0015 wt.%S	230 kW	100 hr/yr[1]	0.0 tpy	1.5 tpy
43	Wellsite Compressor	Mass Balance	25 ppmvd H_2S	220 hp	8,760 hr/yr	0.0 tpy	0.0 tpy
Glycol Dehydration Units							
4	GDU	N/A	N A	0.250 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
5	GDU	N/A	N A	0.250 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
6	GDU	N/A	N A	0.175 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
7	GDU	N/A	N A	0.075 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
8	GDU	N/A	N A	0.250 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
9	GDU	N/A	N A	0.250 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
10	GDU	N/A	N A	0.250 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
13	GDU	N/A	N A	0.250 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
14	GDU	N/A	N A	0.250 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
15	GDU	N/A	N A	0.125 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
16	GDU	N/A	N A	0.250 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
17	GDU	N/A	N A	0.500 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
18	GDU	N/A	N A	0.250 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
21	GDU	N/A	N A	0.250 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
22	GDU	N/A	N A	0.175 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
23	GDU	N/A	N A	0.125 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
24	GDU	N/A	N A	0.250 MMBtu/hr	8,760 hr/yr	0.0 tpy	0.0 tpy
Incinerator							
26	Incinerator	AP-42, Table 2.1-12	2.5 lb/ton	150 lb/hr	8,760 hr/yr	0.82 tpy	0.82 tpy
Gasoline Dispensing Facility							
44	GDF	N/A	N A	<10,000 gallons/mo	N A	0.0 tpy	0.0 tpy
					Totals	**3.0 tpy**	**9.6 tpy**

Notes:

[1] EU IDs 3 and 42 are limited to 100 hours per calendar year of operation by 40 CFR 60.4211, Subpart IIII.

[2] EU IDs 12 and 19 are limited to 100 hours per calendar year of operation by 40 CFR 63.6640(f)(2), Subpart ZZZZ.

Table D-7b. Insignificant Emission Unit Inventory - SO_2 Emissions
Hilcorp Alaska, LLC - Beluga River Unit

EU ID	Emission Unit Name	Reference	Emission Factor	Rating/Size	Maximum Operation	SO_2 Emissions
11	Process Heater	Mass Balance	25 ppmvd H_2S	1 MMBtu/hr	8,760 hr/yr	0.8 tpy
20	Process Heater	Mass Balance	25 ppmvd H_2S	1 MMBtu/hr	8,760 hr/yr	0.8 tpy
25	Process Heater	Mass Balance	25 ppmvd H_2S	0.125 MMBtu/hr	8,760 hr/yr	0.1 tpy
29	Office Coleman Heater	Mass Balance	25 ppmvd H_2S	0.06 MMBtu/hr	8,760 hr/yr	0.0 tpy
30	Shop Perfection Schwank Heater	Mass Balance	25 ppmvd H_2S	0.02 MMBtu/hr	8,760 hr/yr	0.0 tpy
31	Electrical Shop Modine Heater	Mass Balance	25 ppmvd H_2S	0.03 MMBtu/hr	8,760 hr/yr	0.0 tpy
32	Mechanics Shop Modine Heater	Mass Balance	25 ppmvd H_2S	0.11 MMBtu/hr	8,760 hr/yr	0.1 tpy
33	Mechanics Shop Modine Heater	Mass Balance	25 ppmvd H_2S	0.3 MMBtu/hr	8,760 hr/yr	0.2 tpy
34	BRWD Heater	Mass Balance	25 ppmvd H_2S	0.5 MMBtu/hr	8,760 hr/yr	0.4 tpy
35	Mechanics Shop Used Oil Heater	Mass Balance	0.0015 wt.%S	0.5 MMBtu/hr	8,760 hr/yr	0.0 tpy
36	Portable Frost Fighter	Mass Balance	0.0015 wt.%S	0.4 MMBtu/hr	8,760 hr/yr	0.0 tpy
						2.5 tpy

Conversions:

Fuel Gas Heat Content:	1,000	Btu/scf
Diesel Fuel Heat Content:	137,000	Btu/gal
Diesel Fuel Density:	7	lb/gal
Diesel Engine Heat Rate:	7,000	Btu/hp-hr
Natural Gas Engine Heat Rate:	8,000	Btu/hp-hr

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Table D-8a. Significant Emission Unit Inventory - CO2e Emissions
Hilcorp Alaska, LLC - Beluga River Unit

EU ID	Emission Unit Name	Rating/Size	Base Scenario	Base Scenario CO_2 Emissions	Potential CO_2 Emissions	Base Scenario CH_4 Emissions	Potential CH_4 Emissions	Base Scenario N_2O Emissions	Potential N_2O Emissions	Base Scenario CO_2e Emissions	Potential CO_2e Emissions
Turbines and Engines											
1	Turbine Compressor - Total	7,700 hp	8,760 hr/yr	31,561 tpy	31,561 tpy	0.595 tpy	5.95E-01 tpy	0.059 tpy	5.95E-02 tpy	31,594 tpy	31,594 tpy
2	Compressor	530 hp	8,760 hr/yr	2,172 tpy	2,172 tpy	0.041 tpy	4.09E-02 tpy	0.004 tpy	4.09E-03 tpy	2,175 tpy	2,175 tpy
3	Generator	420 kW	100 hr/yr[1]	26 tpy	2,309 tpy	0.000 tpy	4.35E-02 tpy	0.000 tpy	4.35E-03 tpy	26 tpy	2,311 tpy
12	Generator	350 kW	100 hr/yr[2]	27 tpy	2,346 tpy	0.001 tpy	9.52E-02 tpy	0.000 tpy	1.90E-02 tpy	27 tpy	2,354 tpy
19	Generator	50 kW	100 hr/yr[2]	4 tpy	335 tpy	0.000 tpy	1.36E-02 tpy	0.000 tpy	2.72E-03 tpy	4 tpy	336 tpy
37-1	Wellsite Compressor	740 hp	8,760 hr/yr	3,033 tpy	3,033 tpy	0.057 tpy	5.72E-02 tpy	0.006 tpy	5.72E-03 tpy	3,036 tpy	3,036 tpy
37-2	Wellsite Compressor	740 hp	8,760 hr/yr	3,033 tpy	3,033 tpy	0.057 tpy	5.72E-02 tpy	0.006 tpy	5.72E-03 tpy	3,036 tpy	3,036 tpy
37-3	Wellsite Compressor	400 hp	8,760 hr/yr	1,640 tpy	1,640 tpy	0.031 tpy	3.09E-02 tpy	0.003 tpy	3.09E-03 tpy	1,641 tpy	1,641 tpy
37-4	Wellsite Compressor	740 hp	8,760 hr/yr	3,033 tpy	3,033 tpy	0.057 tpy	5.72E-02 tpy	0.006 tpy	5.72E-03 tpy	3,036 tpy	3,036 tpy
37-6	Wellsite Compressor	400 hp	8,760 hr/yr	1,640 tpy	1,640 tpy	0.031 tpy	3.09E-02 tpy	0.003 tpy	3.09E-03 tpy	1,641 tpy	1,641 tpy
37-7	Wellsite Compressor	740 hp	8,760 hr/yr	3,033 tpy	3,033 tpy	0.057 tpy	5.72E-02 tpy	0.006 tpy	5.72E-03 tpy	3,036 tpy	3,036 tpy
37-8	Wellsite Compressor	740 hp	8,760 hr/yr	3,033 tpy	3,033 tpy	0.057 tpy	5.72E-02 tpy	0.006 tpy	5.72E-03 tpy	3,036 tpy	3,036 tpy
37-9	Wellsite Compressor	740 hp	8,760 hr/yr	3,033 tpy	3,033 tpy	0.057 tpy	5.72E-02 tpy	0.006 tpy	5.72E-03 tpy	3,036 tpy	3,036 tpy
37-10	Wellsite Compressor	740 hp	8,760 hr/yr	3,033 tpy	3,033 tpy	0.057 tpy	5.72E-02 tpy	0.006 tpy	5.72E-03 tpy	3,036 tpy	3,036 tpy
42	Generator	230 kW	100 hr/yr[1]	14 tpy	1,264 tpy	0.000 tpy	2.38E-02 tpy	0.000 tpy	2.38E-03 tpy	14 tpy	1,266 tpy
43	Wellsite Compressor	220 hp	8,760 hr/yr	902 tpy	902 tpy	0.017 tpy	1.70E-02 tpy	0.002 tpy	1.70E-03 tpy	903 tpy	903 tpy
Glycol Dehydration Units											
4	GDU	0.25 MMBtu/hr	8,760 hr/yr	1 tpy	1 tpy	1 tpy	1 tpy	0 tpy	0 tpy	21 tpy	21 tpy
5	GDU	0.25 MMBtu/hr	8,760 hr/yr	2 tpy	2 tpy	1 tpy	1 tpy	0 tpy	0 tpy	30 tpy	30 tpy
6	GDU	0.18 MMBtu/hr	8,760 hr/yr	1 tpy	1 tpy	1 tpy	1 tpy	0 tpy	0 tpy	21 tpy	21 tpy
7	GDU	0.075 MMBtu/hr	8,760 hr/yr	1 tpy	1 tpy	3 tpy	3 tpy	0 tpy	0 tpy	74 tpy	74 tpy
8	GDU	0.25 MMBtu/hr	8,760 hr/yr	0 tpy	0 tpy	1 tpy	1 tpy	0 tpy	0 tpy	26 tpy	26 tpy
9	GDU	0.25 MMBtu/hr	8,760 hr/yr	0 tpy	0 tpy	1 tpy	1 tpy	0 tpy	0 tpy	22 tpy	22 tpy
10	GDU	0.25 MMBtu/hr	8,760 hr/yr	0 tpy	0 tpy	1 tpy	1 tpy	0 tpy	0 tpy	22 tpy	22 tpy
13	GDU	0.25 MMBtu/hr	8,760 hr/yr	0 tpy	0 tpy	1 tpy	1 tpy	0 tpy	0 tpy	32 tpy	32 tpy
14	GDU	0.25 MMBtu/hr	8,760 hr/yr	0 tpy	0 tpy	1 tpy	1 tpy	0 tpy	0 tpy	25 tpy	25 tpy
15	GDU	0.13 MMBtu/hr	8,760 hr/yr	0 tpy	0 tpy	0 tpy	0 tpy	0 tpy	0 tpy	10 tpy	10 tpy
16	GDU	0.25 MMBtu/hr	8,760 hr/yr	1 tpy	1 tpy	3 tpy	3 tpy	0 tpy	0 tpy	74 tpy	74 tpy
17	GDU	0.50 MMBtu/hr	8,760 hr/yr	0 tpy	0 tpy	2 tpy	2 tpy	0 tpy	0 tpy	43 tpy	43 tpy
18	GDU	0.25 MMBtu/hr	8,760 hr/yr	0 tpy	0 tpy	1 tpy	1 tpy	0 tpy	0 tpy	22 tpy	22 tpy
21	GDU	0.25 MMBtu/hr	8,760 hr/yr	1 tpy	1 tpy	3 tpy	3 tpy	0 tpy	0 tpy	73 tpy	73 tpy
22	GDU	0.18 MMBtu/hr	8,760 hr/yr	1 tpy	1 tpy	3 tpy	3 tpy	0 tpy	0 tpy	75 tpy	75 tpy
23	GDU	0.13 MMBtu/hr	8,760 hr/yr	1 tpy	1 tpy	3 tpy	3 tpy	0 tpy	0 tpy	78 tpy	78 tpy
24	GDU	0.25 MMBtu/hr	8,760 hr/yr	0 tpy	0 tpy	1 tpy	1 tpy	0 tpy	0 tpy	37 tpy	37 tpy
Incinerator											
26	Incinerator	150 lb/hr	8,760 hr/yr	654 tpy	654 tpy	2.31E-01 tpy	2.31E-01 tpy	3.03E-02 tpy	3.03E-02 tpy	668 tpy	668 tpy
Gasoline Dispensing Facility											
44	GDF	<10,000 gallons/mo	8,760 hr/yr	0 tpy	0 tpy	0 tpy	0 tpy	0 tpy	0 tpy	0 tpy	0 tpy
			Totals	**59,882 tpy**	**66,065 tpy**	**2.8E+01 tpy**	**2.8E+01 tpy**	**1.4E-01 tpy**	**1.7E-01 tpy**	**60,632 tpy**	**66,828 tpy**

Notes:

[1] EU IDs 3 and 42 are limited to 100 hours per calendar year of operation by 40 CFR 60.4211, Subpart IIII.

[2] EU IDs 12 and 19 are limited to 100 hours per calendar year of operation by 40 CFR 63.6640(f)(2), Subpart ZZZZ.

Table D-8b. Insignificant Emission Unit Inventory - CO2e Emissions
Hilcorp Alaska, LLC - Beluga River Unit

EU ID	Emission Unit Name	Rating/Size	Maximum Operation	CO_2 Emissions	CH_4 Emissions	N_2O Emissions	CO_2e Emissions
11	Process Heater	1 MMBtu/hr	8,760 hr/yr	512 tpy	0.0097 tpy	0.0010 tpy	513 tpy
20	Process Heater	1 MMBtu/hr	8,760 hr/yr	512 tpy	0.0097 tpy	0.0010 tpy	513 tpy
25	Process Heater	0.125 MMBtu/hr	8,760 hr/yr	64 tpy	0.0012 tpy	0.0001 tpy	64 tpy
29	Office Coleman Heater	0.06 MMBtu/hr	8,760 hr/yr	31 tpy	0.0006 tpy	0.0001 tpy	31 tpy
30	Shop Perfection Schwank Heater	0.02 MMBtu/hr	8,760 hr/yr	10 tpy	0.0002 tpy	0.0000 tpy	10 tpy
31	Electrical Shop Modine Heater	0.03 MMBtu/hr	8,760 hr/yr	15 tpy	0.0003 tpy	0.0000 tpy	15 tpy
32	Mechanics Shop Modine Heater	0.11 MMBtu/hr	8,760 hr/yr	56 tpy	0.0011 tpy	0.0001 tpy	56 tpy
33	Mechanics Shop Modine Heater	0.3 MMBtu/hr	8,760 hr/yr	154 tpy	0.0029 tpy	0.0003 tpy	154 tpy
34	BRWD Heater	0.5 MMBtu/hr	8,760 hr/yr	256 tpy	0.0048 tpy	0.0005 tpy	256 tpy
35	Mechanics Shop Used Oil Heater	0.5 MMBtu/hr	8,760 hr/yr	357 tpy	0.0145 tpy	0.0029 tpy	358 tpy
36	Portable Frost Fighter	0.4 MMBtu/hr	8,760 hr/yr	286 tpy	0.0116 tpy	0.0023 tpy	287 tpy
			Totals	**2,254 tpy**	**5.6E-02 tpy**	**8.3E-03 tpy**	**2,258 tpy**

Conversions:

Fuel Gas Heat Content:	1,000	Btu/scf
Diesel Fuel Heat Content:	137,000	Btu/gal
Diesel Fuel Density:	7	lb/gal
Diesel Engine Heat Rate:	7,000	Btu/hp-hr
NG Engine Heat Rate:	8,000	Btu/hp-hr
Municipal Solid Waste HHV:	9.95	MMBtu/short ton

GHG Emission Factors (kg/MMBtu):	Fuel Gas	Diesel	MSW	GWP
CO_2	53.06	73.96	90.7	1
CH_4	1.00E-03	3.00E-03	3.20E-02	25
N_2O	1.00E-04	6.00E-04	4.20E-03	298

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Table D-9. Gas-Fired Turbines - Estimated Potential HAP Emissions
Hilcorp Alaska, LLC - Beluga River Unit

Maximum Total Heat Input: 539,616 MMBtu/yr [1]

Section 112 Hazardous Air Pollutants			Source Category Emission Calculations		Base and Potential Emissions
No.	**CAS No.**	**Chemical Name**	**Emission Factor [2]**	**All Units**	**EU ID 1**
35	75070	Acetaldehyde	4.00E-05 lb/MMBtu	1.08E-02 tpy	1.08E-02 tpy
39	107028	Acrolein	6.40E-06 lb/MMBtu	1.73E-03 tpy	1.73E-03 tpy
48	71432	Benzene	1.20E-05 lb/MMBtu	3.24E-03 tpy	3.24E-03 tpy
99	100414	Ethyl benzene	3.20E-05 lb/MMBtu	8.63E-03 tpy	8.63E-03 tpy
109	5000	Formaldehyde	7.10E-04 lb/MMBtu	1.92E-01 tpy	1.92E-01 tpy
145	91203	Naphthalene	1.30E-06 lb/MMBtu	3.51E-04 tpy	3.51E-04 tpy
162	N/A	Polycylic Organic Matter	2.20E-06 lb/MMBtu	5.94E-04 tpy	5.94E-04 tpy
176	108883	Toluene	1.30E-04 lb/MMBtu	3.51E-02 tpy	3.51E-02 tpy
188	106423	Xylenes (isomers and mixture)	6.40E-05 lb/MMBtu	1.73E-02 tpy	1.73E-02 tpy
			Total HAP Emissions	**0.27 tpy**	**0.27 tpy**

Notes/Comments:

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

(1) 7,700 hp Solar Taurus 60 Compressor Drive
Potential Fuel Use/Heat Input (EU ID 1) 539,616.0 MMBtu @ 8,760 hr/yr

Total Potential Fuel Use/Heat Input TOTAL 539,616.0 MMBtu/yr

[2] Reference: AP-42, Tables 3.1-3

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Table D-10. Gas-Fired Engines - Estimated Potential HAP Emissions
Hilcorp Alaska, LLC - Beluga River Unit

Maximum Total Heat Input: 434,496 MMBtu/yr [1]

Section 112 Hazardous Air Pollutants			Source Category Emission Calculations		Base and Potential Emissions		
No.	CAS No.	Chemical Name	Emission Factor [2]	All Units	EU IDs 37-1/2/4/7/8/9/10	EU IDs 37-3/6	EU ID 43
1	79345	1,1,2,2-Tetrachloroethane	2.53E-05 lb/MMBtu	5.50E-03 tpy	6.56E-04 tpy	3.55E-04 tpy	1.95E-04 tpy
2	79005	1,1,2-Trichloroethane	1.53E-05 lb/MMBtu	3.32E-03 tpy	3.97E-04 tpy	2.14E-04 tpy	1.18E-04 tpy
9	106990	1,3-Butadiene	6.63E-04 lb/MMBtu	1.44E-01 tpy	1.72E-02 tpy	9.29E-03 tpy	5.11E-03 tpy
10	542756	1,3-Dichloropropene	1.27E-05 lb/MMBtu	2.76E-03 tpy	3.29E-04 tpy	1.78E-04 tpy	9.79E-05 tpy
35	75070	Acetaldehyde	2.79E-03 lb/MMBtu	6.06E-01 tpy	7.23E-02 tpy	3.91E-02 tpy	2.15E-02 tpy
39	107028	Acrolein	2.63E-03 lb/MMBtu	5.71E-01 tpy	6.82E-02 tpy	3.69E-02 tpy	2.03E-02 tpy
48	71432	Benzene	1.58E-03 lb/MMBtu	3.43E-01 tpy	4.10E-02 tpy	2.21E-02 tpy	1.22E-02 tpy
63	56235	Carbon tetrachloride	1.77E-05 lb/MMBtu	3.85E-03 tpy	4.59E-04 tpy	2.48E-04 tpy	1.36E-04 tpy
70	108907	Chlorobenzene	1.29E-05 lb/MMBtu	2.80E-03 tpy	3.34E-04 tpy	1.81E-04 tpy	9.94E-05 tpy
72	67663	Chloroform	1.37E-05 lb/MMBtu	2.98E-03 tpy	3.55E-04 tpy	1.92E-04 tpy	1.06E-04 tpy
102	1006934	Ethylene dibromide (Dibromoethane)	2.13E-05 lb/MMBtu	4.63E-03 tpy	5.52E-04 tpy	2.99E-04 tpy	1.64E-04 tpy
109	5000	Formaldehyde	2.05E-02 lb/MMBtu	4.45E+00 tpy	5.32E-01 tpy	2.87E-01 tpy	1.58E-01 tpy
129	67561	Methanol	3.06E-03 lb/MMBtu	6.65E-01 tpy	7.93E-02 tpy	4.29E-02 tpy	2.36E-02 tpy
141	75092	Methylene chloride(Dichloromethane)	4.12E-05 lb/MMBtu	8.95E-03 tpy	1.07E-03 tpy	5.77E-04 tpy	3.18E-04 tpy
145	91203	Naphthalene	9.71E-05 lb/MMBtu	2.11E-02 tpy	2.52E-03 tpy	1.36E-03 tpy	7.49E-04 tpy
172	100425	Styrene	1.19E-05 lb/MMBtu	2.59E-03 tpy	3.09E-04 tpy	1.67E-04 tpy	9.17E-05 tpy
176	108883	Toluene	5.58E-04 lb/MMBtu	1.21E-01 tpy	1.45E-02 tpy	7.82E-03 tpy	4.30E-03 tpy
183	75014	Vinyl chloride	7.18E-06 lb/MMBtu	1.56E-03 tpy	1.86E-04 tpy	1.01E-04 tpy	5.53E-05 tpy
185	1330207	Xylenes (isomers and mixture)	1.95E-04 lb/MMBtu	4.24E-02 tpy	5.06E-03 tpy	2.73E-03 tpy	1.50E-03 tpy
		Total HAP Emissions		**7.01 tpy**	**0.84 tpy**	**0.45 tpy**	**0.25 tpy**

Notes/Comments:

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

(7) 740 hp	Wellsite Compressors		
	Potential Fuel Use/Heat Input (EU ID 37-1)	51,859.2	MMBtu @ 8,760 hr/yr
	Potential Fuel Use/Heat Input (EU ID 37-2)	51,859.2	MMBtu @ 8,760 hr/yr
	Potential Fuel Use/Heat Input (EU ID 37-4)	51,859.2	MMBtu @ 8,760 hr/yr
	Potential Fuel Use/Heat Input (EU ID 37-7)	51,859.2	MMBtu @ 8,760 hr/yr
	Potential Fuel Use/Heat Input (EU ID 37-8)	51,859.2	MMBtu @ 8,760 hr/yr
	Potential Fuel Use/Heat Input (EU ID 37-9)	51,859.2	MMBtu @ 8,760 hr/yr
	Potential Fuel Use/Heat Input (EU ID 37-10)	51,859.2	MMBtu @ 8,760 hr/yr
(2) 400 hp	Wellsite Compressors		
	Potential Fuel Use/Heat Input (EU ID 37-3)	28,032.0	MMBtu @ 8,760 hr/yr
	Potential Fuel Use/Heat Input (EU ID 37-6)	28,032.0	MMBtu @ 8,760 hr/yr
(1) 220 hp	Wellsite Compressor		
	Potential Fuel Use/Heat Input (EU ID 43)	15,417.6	MMBtu @ 8,760 hr/yr
Total Potential Fuel Use/Heat Input		TOTAL 434,496.0	MMBtu/yr

[2] Reference: AP-42, Tables 3.2-3

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Table D-11. Gas-Fired Heaters - Estimated Potential HAP Emissions
Hilcorp Alaska, LLC - Beluga River Unit

Maximum Total Heat Input: 28 MMscf/yr [1]

Section 112 Hazardous Air Pollutants			Source Category Emission Calculations		Base and Potential Emissions							
No.	CAS No.	Chemical Name	Emission Factor [2]	All Units	EU ID 11/20	EU ID 25	EU ID 29	EU ID 30	EU ID 31	EU ID 32	EU ID 33	EU ID 34
46	N/A	Arsenic Compounds	2.00E-04 lb/MMscf	2.76E-06 tpy	8.76E-07 tpy	1.10E-07 tpy	5.26E-08 tpy	1.75E-08 tpy	2.63E-08 tpy	9.64E-08 tpy	2.63E-07 tpy	4.38E-07 tpy
48	71432	Benzene	2.10E-03 lb/MMscf	2.89E-05 tpy	9.20E-06 tpy	1.15E-06 tpy	5.52E-07 tpy	1.84E-07 tpy	2.76E-07 tpy	1.01E-06 tpy	2.76E-06 tpy	4.60E-06 tpy
58	N/A	Cadmium Compounds	1.10E-03 lb/MMscf	1.52E-05 tpy	4.82E-06 tpy	6.02E-07 tpy	2.89E-07 tpy	9.64E-08 tpy	1.45E-07 tpy	5.30E-07 tpy	1.45E-06 tpy	2.41E-06 tpy
75	N/A	Chromium Compounds	1.40E-03 lb/MMscf	1.93E-05 tpy	6.13E-06 tpy	7.67E-07 tpy	3.68E-07 tpy	1.23E-07 tpy	1.84E-07 tpy	6.75E-07 tpy	1.84E-06 tpy	3.07E-06 tpy
109	5000	Formaldehyde	7.50E-02 lb/MMscf	1.03E-03 tpy	3.29E-04 tpy	4.11E-05 tpy	1.97E-05 tpy	6.57E-06 tpy	9.86E-06 tpy	3.61E-05 tpy	9.86E-05 tpy	1.64E-04 tpy
118	110543	N-Hexane	1.80E+00 lb/MMscf	2.48E-02 tpy	7.88E-03 tpy	9.86E-04 tpy	4.73E-04 tpy	1.58E-04 tpy	2.37E-04 tpy	8.67E-04 tpy	2.37E-03 tpy	3.94E-03 tpy
127	N/A	Manganese Compounds	3.80E-04 lb/MMscf	5.23E-06 tpy	1.66E-06 tpy	2.08E-07 tpy	9.99E-08 tpy	3.33E-08 tpy	4.99E-08 tpy	1.83E-07 tpy	4.99E-07 tpy	8.32E-07 tpy
128	N/A	Mercury Compounds	2.60E-04 lb/MMscf	3.58E-06 tpy	1.14E-06 tpy	1.42E-07 tpy	6.83E-08 tpy	2.28E-08 tpy	3.42E-08 tpy	1.25E-07 tpy	3.42E-07 tpy	5.69E-07 tpy
145	91203	Naphthalene	6.10E-04 lb/MMscf	8.40E-06 tpy	2.67E-06 tpy	3.34E-07 tpy	1.60E-07 tpy	5.34E-08 tpy	8.02E-08 tpy	2.94E-07 tpy	8.02E-07 tpy	1.34E-06 tpy
147	98953	Nitrobenzene	2.10E-03 lb/MMscf	2.89E-05 tpy	9.20E-06 tpy	1.15E-06 tpy	5.52E-07 tpy	1.84E-07 tpy	2.76E-07 tpy	1.01E-06 tpy	2.76E-06 tpy	4.60E-06 tpy
176	108883	Toluene	3.40E-03 lb/MMscf	4.68E-05 tpy	1.49E-05 tpy	1.86E-06 tpy	8.94E-07 tpy	2.98E-07 tpy	4.47E-07 tpy	1.64E-06 tpy	4.47E-06 tpy	7.45E-06 tpy
		Total HAP Emissions		**0.03 tpy**	**0.01 tpy**	**0.00 tpy**	**0.00 tpy**	**0.00 tpy**	**0.00 tpy**	**0.00 tpy**	**0.00 tpy**	**0.00 tpy**

Notes/Comments:

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

(2) 1.0 MMBtu/hr	Process Heater		
	Potential Fuel Use/Heat Input (EU ID 11)	8.76	MMscf @ 8,760 hr/yr
	Potential Fuel Use/Heat Input (EU ID 20)	8.76	MMscf @ 8,760 hr/yr
(1) 0.125 MMBtu/hr	Process Heater		
	Potential Fuel Use/Heat Input (EU ID 25)	1.1	MMscf @ 8,760 hr/yr
(1) 0.06 MMBtu/hr	Office Coleman Heater		
	Potential Fuel Use/Heat Input (EU ID 29)	0.5	MMscf @ 8,760 hr/yr
(1) 0.02 MMBtu/hr	Shop Perfection Schwank Heater		
	Potential Fuel Use/Heat Input (EU ID 30)	0.2	MMscf @ 8,760 hr/yr
(1) 0.03 MMBtu/hr	Electrical Shop Modine Heater		
	Potential Fuel Use/Heat Input (EU ID 31)	0.3	MMscf @ 8,760 hr/yr
(1) 0.11 MMBtu/hr	Mechanics Shop Modine Heater		
	Potential Fuel Use/Heat Input (EU ID 32)	1.0	MMscf @ 8,760 hr/yr
(1) 0.30 MMBtu/hr	Mechanics Shop Modine Heater		
	Potential Fuel Use/Heat Input (EU ID 33)	2.6	MMscf @ 8,760 hr/yr
(1) 0.50 MMBtu/hr	BRWD Heater		
	Potential Fuel Use/Heat Input (EU ID 34)	4.4	MMscf @ 8,760 hr/yr
Total Potential Fuel Use/Heat Input	TOTAL	27.6	MMscf/yr

[2] Reference: AP-42, Table 1.4-3 & 1.4-4

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Table D-12. Insignificant Diesel-Fired Heater - Estimated Potential HAP Emissions
Hilcorp Alaska, LLC - Beluga River Unit

Maximum Total Heat Input: 26 kgal/yr [1]

Section 112 Hazardous Air Pollutants			Source Category Emission Calculations	
				Base/Potential Emissions
No.	**CAS No.**	**Chemical Name**	**Emission Factor [2]**	**EU ID 36**
48	71432	Benzene	2.14E-04 lb/kgal	2.74E-06 tpy
99	100414	Ethyl benzene	6.36E-05 lb/kgal	8.13E-07 tpy
109	5000	Formaldehyde	3.30E-02 lb/kgal	4.22E-04 tpy
145	91203	Naphthalene	1.13E-03 lb/kgal	1.45E-05 tpy
162	N/A	Polycylic Organic Matter	5.01E-05 lb/kgal	6.40E-07 tpy
176	108883	Toluene	6.20E-03 lb/kgal	7.93E-05 tpy
188	106423	Xylenes (isomers and mixture)	1.09E-04 lb/kgal	1.39E-06 tpy
			Total HAP Emissions	**5.21E-04 tpy**

Notes/Comments:

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

(1) 0.4 MMBtu/hr	Portable Frost Fighter		
	Potential Fuel Use/ Heat Input (EU ID 36)		25.6 kgal @ 8,760 hr/yr
Total Potential Fuel Use/Heat Input		TOTAL	25.6 kgal/yr

[2] Reference: AP-42, Table 1.3-9

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Table D-13. Insignificant Waste Oil Fired Heater - Estimated Potential HAP Emissions
Hilcorp Alaska, LLC - Beluga River Unit

Maximum Total Heat Input: 32 kgal/yr [1]

Section 112 Hazardous Air Pollutants			Source Category Emission Calculations	
				Base/Potential Emissions
No.	**CAS No.**	**Chemical Name**	**Emission Factor [2]**	**EU ID 35**
12	106467	1,4-Dichlorobenzene(p)	8.00E-07 lb/kgal	1.28E-08 tpy
45	N/A	Antimony Compounds	3.40E-04 lb/kgal	5.44E-06 tpy
46	N/A	Arsenic Compounds	2.50E-03 lb/kgal	4.00E-05 tpy
55	117817	Bis(2-ethylhexyl)phthalate (DEHP)	2.20E-03 lb/kgal	3.52E-05 tpy
58	N/A	Cadmium Compounds	1.50E-04 lb/kgal	2.40E-06 tpy
75	N/A	Chromium Compounds	1.90E-01 lb/kgal	3.04E-03 tpy
76	N/A	Cobalt Compounds	5.70E-03 lb/kgal	9.11E-05 tpy
127	N/A	Manganese Compounds	2.20E-03 lb/kgal	3.52E-05 tpy
145	91203	Naphthalene	1.30E-02 lb/kgal	2.08E-04 tpy
146	N/A	Nickel Compounds	5.00E-02 lb/kgal	7.99E-04 tpy
156	108952	Phenol	2.40E-03 lb/kgal	3.84E-05 tpy
158	7723140	Phosphorus	3.60E-02 lb/kgal	5.75E-04 tpy
			Total HAP Emissions	**4.87E-03 tpy**

Notes/Comments:

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

(1) 0.5 MMBtu/hr Mechanics Shop Used Oil Heater
Potential Fuel Use/ Heat Input (EU ID 35) 32.0 kgal @ 8,760 hr/yr

Total Potential Fuel Use/Heat Input TOTAL 32.0 kgal/yr

[2] Reference: AP-42, Table 1.11-4 and 1.11-5

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Table D-14. Diesel-Fired Reciprocating ICE ≤ 600 hp
Hilcorp Alaska, LLC - Beluga River Unit

Maximum Total Heat Input: 986 MMBtu/yr [1]

Section 112 Hazardous Air Pollutants			Source Category Emission Calculations		Base Emissions				Potential Emissions			
No.	CAS No.	Chemical Name	Emission Factor [2]	All Units	EU ID 3	EU ID 12	EU ID 19	EU ID 42	EU ID 3	EU ID 12	EU ID 19	EU ID 42
9	106990	1,3-Butadiene	3.91E-05 lb/MMBtu	1.93E-05 tpy	7.71E-06 tpy	6.42E-06 tpy	9.18E-07 tpy	4.22E-06 tpy	6.75E-04 tpy	5.63E-04 tpy	8.04E-05 tpy	3.70E-04 tpy
35	75070	Acetaldehyde	7.67E-04 lb/MMBtu	3.78E-04 tpy	1.51E-04 tpy	1.26E-04 tpy	1.80E-05 tpy	8.28E-05 tpy	1.32E-02 tpy	1.10E-02 tpy	1.58E-03 tpy	7.25E-03 tpy
39	107028	Acrolein	9.25E-05 lb/MMBtu	4.56E-05 tpy	1.82E-05 tpy	1.52E-05 tpy	2.17E-06 tpy	9.99E-06 tpy	1.60E-03 tpy	1.33E-03 tpy	1.90E-04 tpy	8.75E-04 tpy
48	71432	Benzene	9.33E-04 lb/MMBtu	4.60E-04 tpy	1.84E-04 tpy	1.53E-04 tpy	2.19E-05 tpy	1.01E-04 tpy	1.61E-02 tpy	1.34E-02 tpy	1.92E-03 tpy	8.82E-03 tpy
109	5000	Formaldehyde	1.18E-03 lb/MMBtu	5.82E-04 tpy	2.33E-04 tpy	1.94E-04 tpy	2.77E-05 tpy	1.27E-04 tpy	2.04E-02 tpy	1.70E-02 tpy	2.43E-03 tpy	1.12E-02 tpy
162	N/A	Polycylic Organic Matter	1.68E-04 lb/MMBtu	8.28E-05 tpy	3.31E-05 tpy	2.76E-05 tpy	3.94E-06 tpy	1.81E-05 tpy	2.90E-03 tpy	2.42E-03 tpy	3.45E-04 tpy	1.59E-03 tpy
176	108883	Toluene	4.09E-04 lb/MMBtu	2.02E-04 tpy	8.06E-05 tpy	6.72E-05 tpy	9.60E-06 tpy	4.42E-05 tpy	7.06E-03 tpy	5.89E-03 tpy	8.41E-04 tpy	3.87E-03 tpy
188	106423	Xylenes (isomers and mixture)	2.85E-04 lb/MMBtu	1.40E-04 tpy	5.62E-05 tpy	4.68E-05 tpy	6.69E-06 tpy	3.08E-05 tpy	4.92E-03 tpy	4.10E-03 tpy	5.86E-04 tpy	2.70E-03 tpy
		Total HAP Emissions	**1.91E-03 tpy**		**7.64E-04 tpy**	**6.36E-04 tpy**	**9.09E-05 tpy**	**4.18E-04 tpy**	**6.69E-02 tpy**	**5.57E-02 tpy**	**7.96E-03 tpy**	**3.66E-02 tpy**

Notes/Comments:

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

(1) 420 kW	John Deere Engine		
	Potential Fuel Use/Heat Input (EU ID 3)	394	MMBtu/yr @ 100 hr/yr[3]
(1) 350 kW	Cummins Engine		
	Potential Fuel Use/Heat Input (EU ID 12)	329	MMBtu/yr @ 100 hr/yr[4]
(1) 50 kW	Duetz Engine		
	Potential Fuel Use/Heat Input (EU ID 19)	47	MMBtu/yr @ 100 hr/yr[4]
(1) 230 kW	Caterpillar Engine		
	Potential Fuel Use/Heat Input (EU ID 42)	216	MMBtu/yr @ 100 hr/yr[3]
	Total Potential Fuel Use/Heat Input TOTAL	986	MMBtu/yr

[2] Reference: AP-42, Tables 3.3-2

[3] EU IDs 3 and 42 are limited to 100 hours per calendar year of operation by 40 CFR 60.4211, Subpart IIII.

[4] EU IDs 12 and 19 are limited to 100 hours per calendar year of operation by 40 CFR 63.6640(f)(2), Subpart ZZZZ.

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Table D-15. Incinerator - Estimated Potential HAP Emissions
Hilcorp Alaska, LLC - Beluga River Unit

Maximum Total Heat Input: 657 tons/yr [1]

Section 112 Hazardous Air Pollutants			Source Category Emission Calculations	
				Base/Potential Emissions
No.	**CAS No.**	**Chemical Name**	**Emission Factor [2]**	**EU ID 26**
46	N/A	Arsenic Compounds	4.37E-03 lb/ton	1.44E-03 tpy
58	N/A	Cadmium Compounds	1.09E-02 lb/ton	3.58E-03 tpy
75	N/A	Chromium Compounds	8.97E-03 lb/ton	2.95E-03 tpy
120	7647010	Hydrochloric acid	6.40E+00 lb/ton	2.10E+00 tpy
124	N/A	Lead Compounds	2.13E-01 lb/ton	7.00E-02 tpy
128	N/A	Mercury Compounds	5.60E-03 lb/ton	1.84E-03 tpy
146	N/A	Nickel Compounds	7.85E-03 lb/ton	2.58E-03 tpy
			Total HAP Emissions	**2.18E+00 tpy**

Notes/Comments:

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

(1) 150 lbs/hr	Thermal Engine Corp. Incinerator		
	Potential Fuel Use/ Heat Input (EU ID 26)		657 tons @ 8,760 hr/yr
Total Potential Fuel Use/Heat Input		TOTAL	657 tons/yr

[2] Reference: AP-42, Table 2.1-2

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Table D-16. Gasoline Dispensing Facility - Estimated Potential HAP Emissions
Hilcorp Alaska, LLC - Beluga River Unit

Total Potential VOCs: 1.4 tpy [1]

Section 112 Hazardous Air Pollutants			Source Category Emission Calculations	
No.	**CAS No.**	**Chemical Name**	**Emission Factor [2]**	**EU ID 44**
14	540841	2,2,4-Trimethylpentane	0.8 wt.%VOC	1.15E-02 tpy
48	71432	Benzene	0.9 wt.%VOC	1.30E-02 tpy
99	100414	Ethyl benzene	0.1 wt.%VOC	1.44E-03 tpy
118	110543	N-Hexane	1.6 wt.%VOC	2.30E-02 tpy
162	N/A	Polycylic Organic Matter	0.5 wt.%VOC	7.20E-03 tpy
176	108883	Toluene	1.3 wt.%VOC	1.87E-02 tpy
188	106423	Xylenes (isomers and mixture)	0.5 wt.%VOC	7.20E-03 tpy
			Total HAP Emissions	**0.08 tpy**

Notes/Comments:

[1] Total VOC based on full time operation as noted below:

(1) <10,000 gal/mo Gasoline Dispensing Facility

Potential Fuel Use/Heat Input (EU ID 44)		1.4 tpy
Total Potential VOCs:	TOTAL	1.4 tpy

[2] Emission factors from Table 4, "Normal" column in *Developing a Consistent Methodology to Calculate VOC and HAP Evaporative Emissions for Stage I and Stage II Operations at Gasoline Service Stations for the 1999 NEI*