

June 30, 2015

NSR Program Manager / Attn.: O&G Production Facilities
Air Quality Division
Department of Environmental Quality
Herschler Building, 2-E
122 West 25th Street
Cheyenne, WY 82002

Dear Program Manager:

RE: Ballard Petroleum Holdings, LLC – Leavitt Trust Federal 41-34 TH Facility

Bison Engineering, Inc. (Bison) is submitting a permit application on behalf of Ballard Petroleum Holdings, LLC (Ballard) for the Leavitt Trust Federal 41-34 TH Facility which is subject to the requirements for oil and gas production facilities under the Wyoming Air Quality Standards and Regulations. This facility consists of a single well production site.

All required facility and emissions information has been entered into the IMPACT reporting system. Additional supporting information including the emission calculations, E&P Tank program inputs and outputs, low pressure oil analysis and gas analysis, and site plans have been uploaded into IMPACT for this facility.

Regarding emissions entry into IMPACT, all emissions generated from the oil tanks, including those generated from combusting tank gas, were entered under the oil tanks and not under the flare controlling the emissions. Oil and water tank emissions were divided equally between the total number of oil and water tanks for entry into IMPACT.

Please send all correspondence regarding this matter to Ballard, Attn: Ben Davis with a copy to Bison. If the Department has any questions or concerns, please contact me (406.442.5768 or dfleming@bison-eng.com). I will be pleased to assist you.

Sincerely,
BISON ENGINEERING, INC.

Derek Fleming
Project Engineer

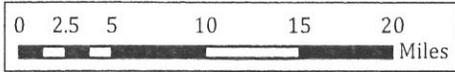
cc: Ben Davis, Ballard Petroleum Holdings, LLC
Bison File BLP215023

Attachments

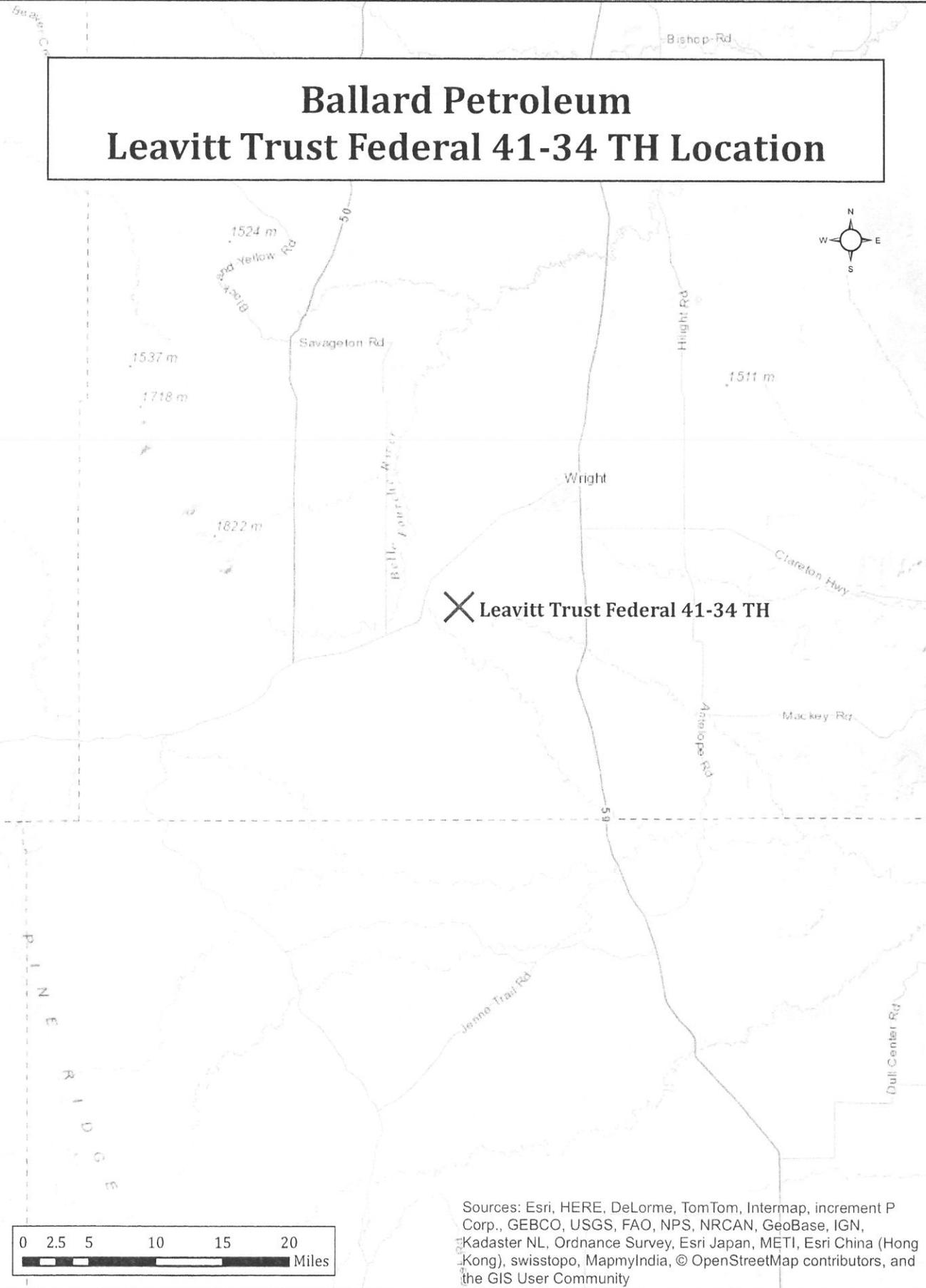
Ballard Petroleum Leavitt Trust Federal 41-34 TH Location



X Leavitt Trust Federal 41-34 TH

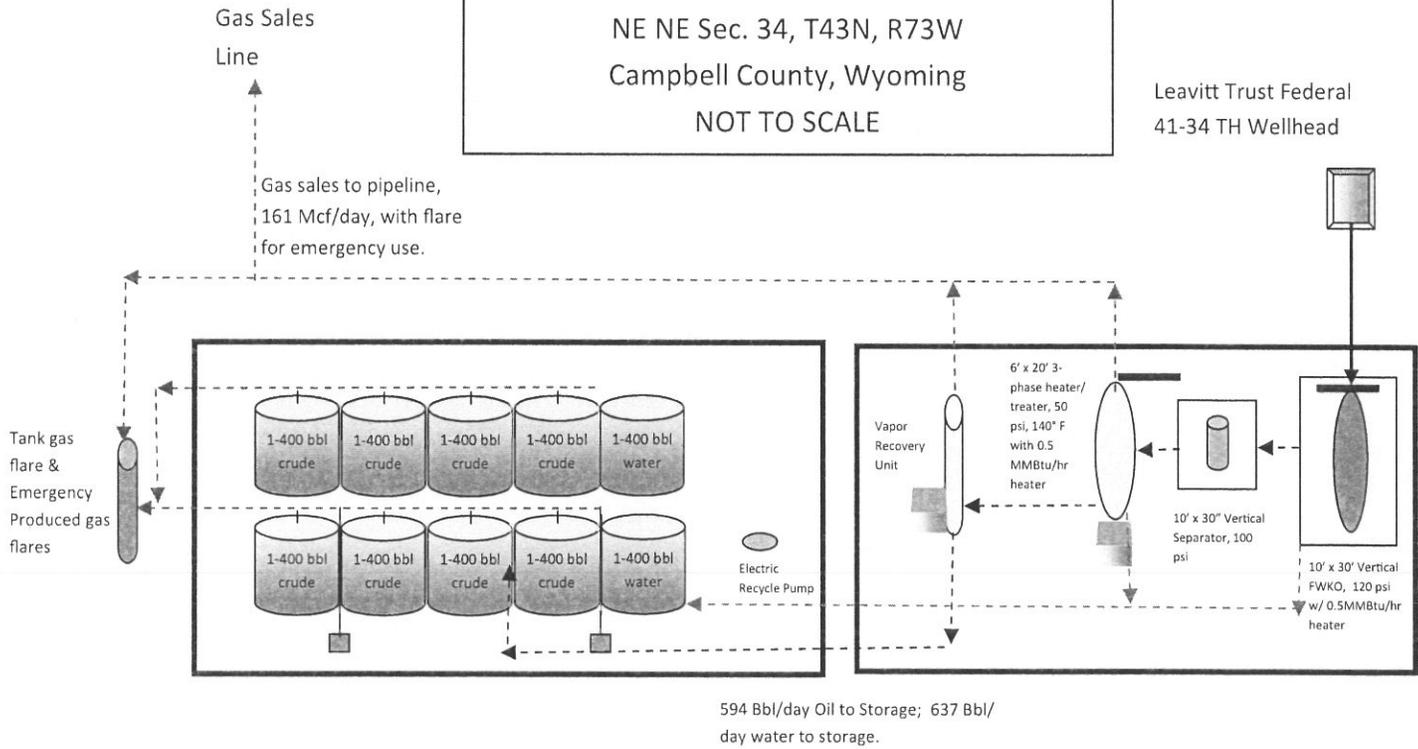


Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community



FACILITY PLOT PLAN
Leavitt Trust Federal 41-34 TH Well
NE NE Sec. 34, T43N, R73W
Campbell County, Wyoming
NOT TO SCALE

Leavitt Trust Federal
 41-34 TH Wellhead



Air emission sources in the diagram are the oil and water storage tanks, flares, truck loading losses, two 0.5 MMBtu heaters, fugitive VOC and road dust emissions.

The oil/water/gas emulsion produced at the wellhead is initially sent to the free water knockout, where a portion of produced water is separated from the oil/gas. The remaining fluids are processed in a 2-phase separator, which is used to separate a portion gas from the oil. The remaining fluids are sent to a heated, three phase separator which provides additional oil/water/gas separation. After 3-phase and two phase separation, a vapor recovery unit collects the flashed vapors prior to the oil entering storage tanks. Produced oil is sent to the storage tanks, where a tank gas flare provides emissions control. Gas produced in 3-phase separation and in the VRU is sold through a gas sales line, with a flare on-site to serve as an emergency backup. In the event that the vapor recovery unit is not working, the tank gas flare will control all produced oil tank emissions. Produced water is also sent to onsite storage tanks. An electric recycle pump is available to send tank fluids back through the separation process if needed. Both oil and water are trucked from on-site storage tanks to be sold or disposed of.

Legend

- Oil Line
- Water Line
- Gas Line

Ballard Petroleum Holdings, LLC - Leavitt Trust Federal 41-34 TH

IMPACT Equipment List

Equipment ID	IMPACT ID	Equipment Description
Flare #1	FLA001, FLR001	Tank gas flare
Flare #2	FLA002, FLR002	Emergency produced gas flare
Fugitives #1	FUG001	Equipment leaks from oil and gas production equipment
Fugitives #2	FUG002	Fugitive dust emissions from vehicle traffic
Heater #1	HET001	Heater for the heater-treater/three phase separator
Heater #2	HET002	Heater for the freewater knock out
Truck Loading	LUD001	Truck loading of produced oil
Heater Treater #1	SEP001	Heater-treater/three phase separator
FWKO #1	SEP002	Freewater knock out
Two Phase #1	SEP003	Two Phase Separator
Tank #1	TNK001	Oil storage tank
Tank #2	TNK002	Oil storage tank
Tank #3	TNK003	Oil storage tank
Tank #4	TNK004	Oil storage tank
Tank #5	TNK005	Oil storage tank
Tank #6	TNK006	Oil storage tank
Tank #7	TNK007	Oil storage tank
Tank #8	TNK008	Oil storage tank
Tank #9	TNK009	Produced water storage tank
Tank #10	TNK010	Produced water storage tank

Ballard Petroleum Holdings, LLC

Well Completion Name: **Leavitt Trust Federal 41-34 TH**

Location: (QTR/QTR, Sec., T, R) **NE NE 34 43 N 73 W**
 Location: (Lat. & Long.) **43.66168 Deg. North -105.60624 Deg. East**
 County: **Campbell** Formation: **Turner** Field: **K-BAR**
 Production Start Date: **4/13/2015**

Site and Equipment Information

Name/Description	Manufacturer	Unit Type/ Model	Mfr. Date	Design Capacity	Number	Fuel Type
Production Oil Tanks	EMIT	Steel	2014	400 bbl	8	NA
Produced Water Tanks	EMIT	Fiberglass	2014	400 bbl	2	NA
Recycle Pump	Baldor	N/A	N/A	N/A	1	Electric
Flare for Treater	Yes	Steffes SHP-6	4/13/2015	NA	NA	NA
Storage Tanks Controlled?	Yes	Flogistix VRU	4/13/2015	NA	NA	NA
Sales Oil Transport by	Truck					
Heater Size, MMBtu		1.0				

Oil Well Site Production Data

# Wells Producing to Battery	1 Well(s)
Maximum 30-day Avg. Oil Production	989 bbl/day
Maximum 30-day Avg. Wastewater Production	1061 bbl/day
Maximum 30-day Avg. Gas Produced	269 Mcf/day
Decline Factor	0.6 WDEQ Default
Average Daily Oil Production	594 bbl/day
Average Wastewater Production	637 bbl/day
Est Average Daily Gas Produced	161 Mcf/day
Annual Hours per Year	8760 hr

Producing Wells Flow to Tank Battery	Initial BOPD	Initial MCFD	Initial BWPD	Production Start Date	Well Formation	Well Field
Leavitt Trust Federal 41-34 TH	989	269	1061	4/13/2015	Turner	K-BAR

Total: 989 269 1061

Leavitt Trust Federal 41-34 TH

Emissions Summary

Component Emitted	Potential Emissions		Controlled Emissions	
	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)
VOC	142.67	624.88	5.01	21.94
NOx	0.05	0.23	0.27	1.20
CO	0.04	0.19	1.25	5.47
SO2	0.00	0.00	0.00	0.00
PM-10	0.06	0.28	0.09	0.37
PM-2.5	0.06	0.28	0.09	0.37
Total HAPs	1.63	7.15	0.06	0.26
CO2	118.4	518.6	498.3	2,182.7
CH4	2.64	11.56	0.11	0.47
N2O	0.00	0.00	0.00	0.00
CO2e	184.5	808.0	501.4	2196.1

Ballard Petroleum Holdings, LLC

Leavitt Trust Federal 41-34 TH
400 bbl Production Tanks

Oil Tank Emissions

Tank vents controlled? (Y/N): **Yes**

Oil Production 593.55 bbl/day (BOPD)
Emitted gas molecular weight 47.08 lb/lb-mole
Tank Gas Emissions 49.83 scf/bbl
Emitted HC gas amount 1232.37 scf/hr
Emitted HC gas heat value 2641.0 BTU/scf
Tank Gas Btu Rate 3.25 10⁶BTU/hr

Component Emitted		Basis		Potential Emissions ^(c)		Controlled Emissions ^(b)	
				(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)
VOC	1.04	tpy/bopd	E&P TANK	140.47	615.28	2.81	12.31
Total HAPs	0.012	tpy/bopd	E&P TANK	1.61E+00	7.04E+00	3.22E-02	1.41E-01
Benzene	4.53%	% of total HAPS	E&P TANK	7.29E-02	3.19E-01	1.46E-03	6.38E-03
Toluene	9.83%	% of total HAPS	E&P TANK	1.58E-01	6.92E-01	3.16E-03	1.38E-02
E-Benzene	7.94%	% of total HAPS	E&P TANK	1.28E-01	5.59E-01	2.55E-03	1.12E-02
Xylenes	5.90%	% of total HAPS	E&P TANK	9.49E-02	4.16E-01	1.90E-03	8.31E-03
n-Hexane	69.14%	% of total HAPS	E&P TANK	1.11E+00	4.87E+00	2.22E-02	9.74E-02
2,2,4-Trimethylpentane	2.66%	% of total HAPS	E&P TANK	4.28E-02	1.87E-01	8.55E-04	3.75E-03
CH4	1.91E-02	tpy/bopd	E&P TANK	2.58	11.31	0.05	0.23
CO2	1.21E-02	tpy/bopd	E&P TANK	1.63	7.16	1.63	7.16
CO2e	Calculated using global warming potential			66	290	3	13
Flare Combustion Component^(a)	Emission Factor	Reference					
VOC	5.50 lb/10 ⁶ scf	AP-42 ^(c)		0.00	0.00	0.0068	0.03
NOx	0.068 lb/10 ⁶ BTU	AP-42 ^(d)		0.00	0.00	0.2213	0.97
CO	0.37 lb/10 ⁶ BTU	AP-42 ^(d)		0.00	0.00	1.2042	5.27
SO2	0.6 lb/10 ⁶ scf	AP-42 ^(c)		0.00	0.00	0.0007	0.00
PM-10	16.73 lb/10 ⁶ scf	AP-42 ^{(c)(d)}		0.00	0.00	0.0206	0.09
PM-2.5	16.73 lb/10 ⁶ scf	AP-42 ^{(c)(d)}		0.00	0.00	0.0206	0.09
CO2	5.31E+01 kg/mmBtu	Part 98, Table C-1		0.00	0.00	379.9219	1664.06
CH4	1.00E-03 kg/mmBtu	Part 98, Table C-2		0.00	0.00	0.0072	3.14E-02
N2O	1.00E-04 kg/mmBtu	Part 98, Table C-2		0.00	0.00	0.0007	3.14E-03
CO2e	Calculated using global warming potential			0	0	380	1666
Hazardous Air Pollutants (HAP)							
2-Methylnaphthalene	2.40E-05	lb/10 ⁶ scf	AP-42 ^(c)	0.00	0.00	0.0000	1.30E-07
3-Methylchloranthrene	1.80E-06	lb/10 ⁶ scf	AP-42 ^(c)	0.00	0.00	0.0000	9.72E-09
7-12-Dimethylbenz(a)anthracene	1.60E-05	lb/10 ⁶ scf	AP-42 ^(c)	0.00	0.00	0.0000	8.64E-08
Acenaphthene	1.80E-06	lb/10 ⁶ scf	AP-42 ^(c)	0.00	0.00	0.0000	9.72E-09
Acenaphthylene	1.80E-06	lb/10 ⁶ scf	AP-42 ^(c)	0.00	0.00	0.0000	9.72E-09
Anthracene	2.40E-06	lb/10 ⁶ scf	AP-42 ^(c)	0.00	0.00	0.0000	1.30E-08
Benz(a)anthracene	1.80E-06	lb/10 ⁶ scf	AP-42 ^(c)	0.00	0.00	0.0000	9.72E-09
Benzeneb	2.10E-03	lb/10 ⁶ scf	AP-42 ^(c)	0.00	0.00	0.0000	1.13E-05
Benzo(a)pyrene	1.20E-06	lb/10 ⁶ scf	AP-42 ^(c)	0.00	0.00	0.0000	6.48E-09
Benzo(b)fluoranthene	1.80E-06	lb/10 ⁶ scf	AP-42 ^(c)	0.00	0.00	0.0000	9.72E-09
Benzo(g,h,i)perylene	1.20E-06	lb/10 ⁶ scf	AP-42 ^(c)	0.00	0.00	0.0000	6.48E-09
Benzo(k)fluoranthene	1.80E-06	lb/10 ⁶ scf	AP-42 ^(c)	0.00	0.00	0.0000	9.72E-09
Chrysene	1.80E-06	lb/10 ⁶ scf	AP-42 ^(c)	0.00	0.00	0.0000	9.72E-09
Dibenzo(a,h)anthracene	1.20E-06	lb/10 ⁶ scf	AP-42 ^(c)	0.00	0.00	0.0000	6.48E-09
Dichlorobenzene	1.20E-03	lb/10 ⁶ scf	AP-42 ^(c)	0.00	0.00	0.0000	6.48E-06
Fluoranthene	3.00E-06	lb/10 ⁶ scf	AP-42 ^(c)	0.00	0.00	0.0000	1.62E-08
Fluorene	2.80E-06	lb/10 ⁶ scf	AP-42 ^(c)	0.00	0.00	0.0000	1.51E-08
Formaldehyde	7.50E-02	lb/10 ⁶ scf	AP-42 ^(c)	0.00	0.00	0.0001	4.05E-04
Hexane	1.80E+00	lb/10 ⁶ scf	AP-42 ^(c)	0.00	0.00	0.0022	9.72E-03
Indeno(1,2,3-cd)pyrene	1.80E-06	lb/10 ⁶ scf	AP-42 ^(c)	0.00	0.00	0.0000	9.72E-09
Naphthalene	6.10E-04	lb/10 ⁶ scf	AP-42 ^(c)	0.00	0.00	0.0000	3.29E-06
Phenanathrene	1.70E-05	lb/10 ⁶ scf	AP-42 ^(c)	0.00	0.00	0.0000	9.18E-08
Pyrene	5.00E-06	lb/10 ⁶ scf	AP-42 ^(c)	0.00	0.00	0.0000	2.70E-08
Toluene	3.40E-03	lb/10 ⁶ scf	AP-42 ^(c)	0.00	0.00	0.0000	1.84E-05
Total HAPs:				0.00	0.00	2.32E-03	0.0102

(a) Tank emissions controlled at 98% per WDEQ requirements

(b) Emission calculations include potential emissions due to flaring tank gas to account for potential time when the VRU is down.

(c) AP42, Table 1.4-1.2, & 3, 7/1998

(d) AP-42, 13.5, Table 13.5-1

Ballard Petroleum Holdings, LLC

Leavitt Trust Federal 41-34 TH

Separation Vessel Heaters

Natural gas fired, fire tube heater in treater

Heater in Use? (Y/N): Yes

Total Heater Burner Size 1.0 MMBtu/hr
 Natural Gas Heat Value: 1892.40 BTU/scf
 Gas volume 0.53 Mscf/hr
 VOC (NMHC) in gas 56.88%
 HAPs in gas 0.09%
 Ideal gas constant (C) 379 scf/lb-mole
 Gas MW 33.48 lb/lb-mole

Pollutant	Emission Factor		Basis	Potential Emissions		Controlled Emissions	
				(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)
VOC	5.50	lb/10 ⁶ scf	AP42 ^(a)	2.906E-03	0.0127	2.906E-03	0.0127
NOx	100	lb/10 ⁶ scf	AP42 ^(a)	5.284E-02	0.2315	5.284E-02	0.2315
CO	84	lb/10 ⁶ scf	AP42 ^(a)	4.439E-02	0.1944	4.439E-02	0.1944
SO2	0.6	lb/10 ⁶ scf	AP42 ^(a)	3.171E-04	0.0014	3.171E-04	0.0014
PM-10	1.9	lb/10 ⁶ scf	AP42 ^(a)	1.004E-03	0.0044	1.004E-03	0.0044
PM-2.5	1.9	lb/10 ⁶ scf	AP42 ^(a)	1.004E-03	0.0044	1.004E-03	0.0044
CO2	5.31E+01	kg/mmBtu	Part 98, Table C-1	116.73	511.29	117	511
CH4	1.00E-03	kg/mmBtu	Part 98, Table C-2	0.00	0.01	0.00	0.01
N2O	1.00E-04	kg/mmBtu	Part 98, Table C-2	0.00	0.00	0.00	0.00
CO2e	Calculated using global warming potential			1.17E+02	512	1.17E+02	5.12E+02
Hazardous Air Pollutants (HAP)							
2-Methylnaphthalene	2.40E-05	lb/10 ⁶ scf	AP42 ^(a)	1.268E-08	5.555E-08	1.268E-08	5.555E-08
3-Methylchloranthrene	1.80E-06	lb/10 ⁶ scf	AP42 ^(a)	9.512E-10	4.166E-09	9.512E-10	4.166E-09
7-12-Dimethylbenz(a)anthracene	1.60E-05	lb/10 ⁶ scf	AP42 ^(a)	8.455E-09	3.703E-08	8.455E-09	3.703E-08
Acenaphthene	1.80E-06	lb/10 ⁶ scf	AP42 ^(a)	9.512E-10	4.166E-09	9.512E-10	4.166E-09
Acenaphthylene	1.80E-06	lb/10 ⁶ scf	AP42 ^(a)	9.512E-10	4.166E-09	9.512E-10	4.166E-09
Anthracene	2.40E-06	lb/10 ⁶ scf	AP42 ^(a)	1.268E-09	5.555E-09	1.268E-09	5.555E-09
Benz(a)anthracene	1.80E-06	lb/10 ⁶ scf	AP42 ^(a)	9.512E-10	4.166E-09	9.512E-10	4.166E-09
Benzene	2.10E-03	lb/10 ⁶ scf	AP42 ^(a)	1.110E-06	4.860E-06	1.110E-06	4.860E-06
Benzo(a)pyrene	1.20E-06	lb/10 ⁶ scf	AP42 ^(a)	6.341E-10	2.777E-09	6.341E-10	2.777E-09
Benzo(b)fluoranthene	1.80E-06	lb/10 ⁶ scf	AP42 ^(a)	9.512E-10	4.166E-09	9.512E-10	4.166E-09
Benzo(g,h,i)perylene	1.20E-06	lb/10 ⁶ scf	AP42 ^(a)	6.341E-10	2.777E-09	6.341E-10	2.777E-09
Benzo(k)fluoranthene	1.80E-06	lb/10 ⁶ scf	AP42 ^(a)	9.512E-10	4.166E-09	9.512E-10	4.166E-09
Chrysene	1.80E-06	lb/10 ⁶ scf	AP42 ^(a)	9.512E-10	4.166E-09	9.512E-10	4.166E-09
Dibenzo(a,h)anthracene	1.20E-06	lb/10 ⁶ scf	AP42 ^(a)	6.341E-10	2.777E-09	6.341E-10	2.777E-09
Dichlorobenzene	1.20E-03	lb/10 ⁶ scf	AP42 ^(a)	6.341E-07	2.777E-06	6.341E-07	2.777E-06
Fluoranthene	3.00E-06	lb/10 ⁶ scf	AP42 ^(a)	1.585E-09	6.944E-09	1.585E-09	6.944E-09
Fluorene	2.80E-06	lb/10 ⁶ scf	AP42 ^(a)	1.480E-09	6.481E-09	1.480E-09	6.481E-09
Formaldehyde	7.50E-02	lb/10 ⁶ scf	AP42 ^(a)	3.963E-05	1.736E-04	3.963E-05	1.736E-04
Hexane	1.80E+00	lb/10 ⁶ scf	AP42 ^(a)	9.512E-04	4.166E-03	9.512E-04	4.166E-03
Indeno(1,2,3-cd)pyrene	1.80E-06	lb/10 ⁶ scf	AP42 ^(a)	9.512E-10	4.166E-09	9.512E-10	4.166E-09
Naphthalene	6.10E-04	lb/10 ⁶ scf	AP42 ^(a)	3.223E-07	1.412E-06	3.223E-07	1.412E-06
Phenanthrene	1.70E-05	lb/10 ⁶ scf	AP42 ^(a)	8.983E-09	3.935E-08	8.983E-09	3.935E-08
Pyrene	5.00E-06	lb/10 ⁶ scf	AP42 ^(a)	2.642E-09	1.157E-08	2.642E-09	1.157E-08
Toluene	3.40E-03	lb/10 ⁶ scf	AP42 ^(a)	1.797E-06	7.869E-06	1.797E-06	7.869E-06
Total HAPs				0.0010	0.0044	0.0010	0.0044

(a) AP42, Table 1.4-1,2, & 3, 7/1998



2110 Overland Avenue
 Suite 101a
 Billings, MT 59102
 406-850-3642 406-661-3893

CLIENT NAME: Bison Engineering, Inc.

Operator: Ballard
 Well Name: Leavitt Trust 44-31TH
 Sample Temp: 127°F
 Sample Pressure: 34 psi
 Sample Container: WC1014
 Date Collected: 4/2/2014
 Sampled By: Bison Staff

Received: 4/3/2014
 Reported: 4/16/2014
 Sample Number: 201404100216

Gas Processors Association Method 2103 Modified

COMPONENT	MOLE%	WEIGHT %	VOLUME%
NITROGEN	0.004	0.001	0.001
METHANE	0.147	0.012	0.033
CARBON DIOXIDE	0.043	0.010	0.010
ETHANE	1.282	0.201	0.460
PROPANE	4.999	1.151	1.848
I-BUTANE	1.300	0.395	0.571
N-BUTANE	5.113	1.552	2.164
I-PENTANE	2.247	0.847	1.104
N-PENTANE	3.016	1.137	1.467
N-HEXANE	2.168	0.976	1.197
BENZENE	0.129	0.053	0.048
OTHER HEXANES	7.785	3.504	4.298
TOLUENE	0.935	0.450	0.420
OTHER HEPTANES	6.075	3.179	3.762
ETHYLBENZENE	2.848	1.579	1.475
TOTAL XYLENES	2.965	1.644	1.533
2,2,4-TRIMETHYLPENTANE	0.233	0.139	0.162
OTHER OCTANES	2.758	1.646	1.897
NONANES	4.133	2.769	3.122
DECANES PLUS	51.819	78.756	74.429
TOTAL ALL COMPONENTS	100.000	100.000	100.000

	Cylinder Sample Decanes Plus	Cylinder Sample All Fractions	Tank Sample	Method
Specific Gravity, unitless	0.8618	0.7664	0.8299	Calculated
API Gravity, °	32.7	53.1	39.0	ASTM D4052-11
Average Molecular Weight	291	191	-----	ASTM D2887-08mod
Absolute Density, lbs/gal	7.18	6.39	6.92	Calculated
Reid Vapor Pressure, psi	-----	-----	4.89	ASTM D323-08

Flash Factor
 Shrinkage

Prepared by:

Kathy Smit

Kathy Smit
 Senior Chemist



2110 Overland Avenue
 Suite 101a
 Billings, MT 59102
 406-850-3642 406-661-3893

CLIENT NAME: Bison Engineering, Inc.

Operator: Ballard
 Well Name: Leavitt Trust 21-7TH
 Sample Temp: 165°F
 Sample Pressure: 40 psi
 Sample Container: WC1013
 Date Collected: 4/2/2014
 Sampled By: Bison Staff

Received: 4/3/2014
 Reported: 4/16/2014
 Sample Number: 201404100210

Gas Processors Association Method 2103 Modified

COMPONENT	MOLE%	WEIGHT %	VOLUME%
NITROGEN	0.145	0.023	0.023
METHANE	0.310	0.028	0.074
CARBON DIOXIDE	0.136	0.034	0.032
ETHANE	1.237	0.209	0.467
PROPANE	4.396	1.091	1.708
I-BUTANE	1.339	0.438	0.618
N-BUTANE	5.025	1.644	2.236
I-PENTANE	2.748	1.116	1.419
N-PENTANE	3.824	1.553	1.954
N-HEXANE	2.554	1.239	1.482
BENZENE	0.196	0.086	0.077
OTHER HEXANES	9.501	4.609	5.512
TOLUENE	1.502	0.779	0.709
OTHER HEPTANES	7.101	4.005	4.622
ETHYLBENZENE	2.677	1.600	1.457
TOTAL XYLENES	1.376	0.822	0.748
2,2,4-TRIMETHYLPENTANE	0.194	0.125	0.143
OTHER OCTANES	3.777	2.429	2.730
NONANES	4.060	2.932	3.224
DECANES PLUS	47.901	75.236	70.766
TOTAL ALL COMPONENTS	100.000	100.000	100.000

	Cylinder Sample Decanes Plus	Cylinder Sample All Fractions	Tank Sample	Method
Specific Gravity, unitless	0.8443	0.7490	0.8156	Calculated
API Gravity, °	36.1	57.4	42.0	ASTM D4052-11
Average Molecular Weight	279	178	----	ASTM D2887-08mod
Absolute Density, lbs/gal	7.04	6.80	6.24	Calculated
Reid Vapor Pressure, psi	----	----	3.87	ASTM D323-08

Prepared by:

Kathy Smit

Kathy Smit
 Senior Chemist



2110 Overland Avenue
 Suite 101a
 Billings, MT 59102
 406-850-3642 406-661-3893

CLIENT NAME: Bison Engineering, Inc.

Operator: Ballard
 Well Name: Leavitt Trust 14-2TH
 Sample Temp: 70°F
 Sample Pressure: 20 psi
 Sample Container: WC1015
 Date Collected: 4/2/2014
 Sampled By: Bison Staff

Received: 4/3/2014
 Reported: 4/16/2014
 Sample Number: 201404100201

Gas Processors Association Method 2103 Modified

COMPONENT	MOLE%	WEIGHT %	VOLUME%
NITROGEN	0.000	0.000	0.000
METHANE	0.284	0.025	0.067
CARBON DIOXIDE	0.072	0.017	0.017
ETHANE	0.862	0.142	0.321
PROPANE	2.707	0.653	1.038
I-BUTANE	0.871	0.277	0.397
N-BUTANE	3.621	1.151	1.591
I-PENTANE	2.252	0.888	1.148
N-PENTANE	2.973	1.173	1.500
N-HEXANE	2.322	1.094	1.330
BENZENE	0.188	0.080	0.073
OTHER HEXANES	8.626	4.065	4.941
TOLUENE	1.227	0.618	0.572
OTHER HEPTANES	6.491	3.557	4.171
ETHYLBENZENE	3.340	1.939	1.795
TOTAL XYLENES	3.028	1.758	1.625
2,2,4-TRIMETHYLPENTANE	0.198	0.124	0.143
OTHER OCTANES	4.424	2.763	3.156
NONANES	4.847	3.399	3.799
DECANES PLUS	51.666	76.278	72.316
TOTAL ALL COMPONENTS	100.000	100.000	100.000

	Cylinder Sample Decanes Plus	Cylinder Sample All Fractions	Tank Sample	Method
Specific Gravity, unitless	0.8514	0.7699	0.8132	Calculated
API Gravity, °	34.7	52.3	42.5	ASTM D4052-11
Average Molecular Weight	270	183	-----	ASTM D2887-08mod
Absolute Density, lbs/gal	7.10	6.42	6.78	Calculated
Reid Vapor Pressure, psi	-----	-----	6.03	ASTM D323-08

Prepared by:

Kathy Smit

Kathy Smit
 Senior Chemist

Item	Uncontrolled [ton/yr]	Uncontrolled [lb/hr]	Controlled [ton/yr]	Controlled [lb/hr]
Total HAPs	6.380	1.457	0.534	0.122
----- E&P TANK -----				
Total HC	712.456	162.661	60.556	13.826
VOCs, C2+	690.357	157.616	60.235	13.752
VOCs, C3+	584.600	133.470	54.980	12.553

Uncontrolled Recovery Info.		
Vapor	34.5400	[MSCFD]
HC Vapor	34.0600	[MSCFD]
GOR	34.54	[SCF/bbl]

-- Emission Composition --					
No	Component	Uncontrolled [ton/yr]	Uncontrolled [lb/hr]	Controlled [ton/yr]	Controlled [lb/hr]
1	H2S	0.000	0.000	0.000	0.000
2	O2	0.000	0.000	0.000	0.000
3	CO2	7.648	1.746	5.160	1.178
4	N2	1.574	0.359	0.306	0.070
5	C1	22.100	5.046	0.322	0.073
6	C2	105.756	24.145	5.254	1.200
7	C3	334.360	76.338	28.881	6.594
8	i-C4	44.201	10.092	5.458	1.246
9	n-C4	118.227	26.992	13.524	3.088
10	i-C5	25.574	5.839	2.195	0.501
11	n-C5	27.265	6.225	2.116	0.483
12	C6	21.103	4.818	1.677	0.383
13	C7	5.913	1.350	0.478	0.109
14	C8	1.117	0.255	0.075	0.017
15	C9	0.457	0.104	0.043	0.010
16	C10+	0.000	0.000	0.000	0.000
17	Benzene	0.301	0.069	0.019	0.004
18	Toluene	0.724	0.165	0.042	0.010
19	E-Benzene	0.320	0.073	0.046	0.011
20	Xylenes	0.339	0.077	0.042	0.009
21	n-C6	4.508	1.029	0.368	0.084
22	2,2,4-Trimethylp	0.191	0.044	0.017	0.004
	Total	721.678	164.767	60.830	13.888

-- Stream Data --								
No.	Component	MW	LP Oil	Flash Oil	Sale Oil	Flash Gas	W&S Gas	Total
Emissions			mol %	mol %	mol %	mol %	mol %	mol %
1	H2S	34.80	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	O2	32.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	CO2	44.01	0.0650	0.0220	0.0000	1.5116	0.6396	1.0449
4	N2	28.01	0.0210	0.0009	0.0000	0.6952	0.0273	0.3377
5	C1	16.04	0.5150	0.0694	0.0000	15.4889	2.0245	8.2826
6	C2	30.07	1.3230	0.6361	0.0087	24.4028	18.3187	21.1465
7	C3	44.10	4.2410	3.3118	1.4995	35.4638	54.3844	45.5903
8	i-C4	58.12	1.1480	1.0576	0.9210	4.1867	4.9073	4.5723
9	n-C4	58.12	4.4490	4.2368	3.9331	11.5792	12.7952	12.2300
10	i-C5	72.15	2.1380	2.1395	2.1384	2.0876	2.1691	2.1312

 * Project Setup Information *

Project File : \\tsclient\Y\Projects\Ballard Petroleum BLP\BLP214738 Powder
 River Basin Permitting\Samples & EP Tank\Leavitt Trust 44-31TH.ept
 Flowsheet Selection : Oil Tank with Separator
 Calculation Method : RVP Distillation
 Control Efficiency : 100.0%
 Known Separator Stream : Low Pressure Oil
 Entering Air Composition : No

Filed Name : Ballard Petroleum
 Well Name : Leavitt Trust 44-31TH
 Date : 2014.04.17

 * Data Input *

Separator Pressure : 34.00[psig]
 Separator Temperature : 127.00[F]
 Ambient Pressure : 12.20[psia]
 Ambient Temperature : 57.00[F]
 C10+ SG : 0.8618
 C10+ MW : 291.00

-- Low Pressure Oil -----

No.	Component	mol %
1	H2S	0.0000
2	O2	0.0000
3	CO2	0.0430
4	N2	0.0040
5	C1	0.1470
6	C2	1.2820
7	C3	4.9990
8	i-C4	1.3000
9	n-C4	5.1130
10	i-C5	2.2470
11	n-C5	3.0160
12	C6	7.7850
13	C7	6.0750
14	C8	2.7580
15	C9	4.1330
16	C10+	51.8190
17	Benzene	0.1290
18	Toluene	0.9350
19	E-Benzene	2.8480
20	Xylenes	2.9650
21	n-C6	2.1680
22	2,2,4-Trimethylp	0.2330

-- Sales Oil -----

Production Rate : 1000[bb1/day]
 Days of Annual Operation : 365 [days/year]
 API Gravity : 39.0
 Reid Vapor Pressure : 4.89[psia]

 * Calculation Results *

-- Emission Summary -----

11	n-C5	72.15	3.0160	3.0378	3.0897	2.1418	2.3571	2.3012
12	C6	86.16	7.7850	7.9417	8.4262	1.4848	1.5953	1.5666
13	C7	100.20	6.0750	6.2170	6.6616	0.3645	0.3944	0.3867
14	C8	114.23	2.7580	2.8254	3.0370	0.0492	0.0539	0.0527
15	C9	128.28	4.1330	4.2352	4.5564	0.0240	0.0284	0.0273
16	C10+	291.00	51.8190	53.1077	57.1623	0.0000	0.0000	0.0000
17	Benzene	78.11	0.1290	0.1318	0.1404	0.0176	0.0190	0.0186
18	Toluene	92.13	0.9350	0.9574	1.0277	0.0336	0.0366	0.0358
19	E-Benzene	106.17	2.8480	2.9180	3.1381	0.0319	0.0351	0.0343
20	xylenes	106.17	2.9650	3.0380	3.2676	0.0285	0.0315	0.0308
21	n-C6	86.18	2.1680	2.2140	2.3570	0.3174	0.3416	0.3353
22	224Trimethylp	114.24	0.2330	0.2385	0.2558	0.0110	0.0119	0.0117

MW		190.80	194.45	205.55	43.81	49.11	47.74
Stream Mole Ratio		1.0000	0.9757	0.9065	0.0243	0.0692	0.0935
Heating Value	[BTU/SCF]				2468.98	2776.79	2696.91
Gas Gravity	[Gas/Air]				1.51	1.70	1.65
Bubble Pt. @ 100F	[psia]	32.15	20.91	5.64			
RVP @ 100F	[psia]	16.63	13.00	4.93			

Page 2-----E&P TANK

Spec. Gravity @ 100F	0.727	0.728	0.732
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Item		Uncontrolled [ton/yr]	Uncontrolled [lb/hr]
Total HAPs		17.710	4.043

Page 1-----E&P TANK

Total HC	1636.747	373.687
VOCs, C2+	1622.380	370.406
VOCs, C3+	1514.931	345.875

Uncontrolled Recovery Info.		
Vapor	69.0800	[MSCFD]
HC Vapor	67.3900	[MSCFD]
GOR	69.08	[SCF/bbl]

-- Emission Composition -----

No	Component	Uncontrolled [ton/yr]	Uncontrolled [lb/hr]
1	H2S	0.000	0.000
2	O2	0.000	0.000
3	CO2	17.291	3.948
4	N2	11.734	2.679
5	C1	14.367	3.280
6	C2	107.449	24.532
7	C3	555.932	126.925
8	i-C4	183.870	41.979
9	n-C4	510.875	116.638
10	i-C5	85.705	19.567
11	n-C5	81.361	18.576
12	C6	59.033	13.478
13	C7	16.185	3.695
14	C8	3.000	0.685
15	C9	1.256	0.287
16	C10+	0.000	0.000
17	Benzene	0.834	0.190
18	Toluene	2.022	0.462
19	E-Benzene	1.325	0.303
20	Xylenes	0.589	0.134
21	n-C6	12.537	2.862
22	224Trimethylp	0.408	0.093
	Total	1665.773	380.313

-- Stream Data -----

No.	Component Emissions	MW	LP Oil mol %	Flash Oil mol %	Sale Oil mol %	Flash Gas mol %	W&S Gas mol %	Total mol %
1	H2S	34.80	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	O2	32.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	CO2	44.01	0.1360	0.0456	0.0000	3.1035	0.5173	1.1812
4	N2	28.01	0.1450	0.0065	0.0000	4.6912	0.0742	1.2593
5	C1	16.04	0.3100	0.0422	0.0000	9.1030	0.4785	2.6923
6	C2	30.07	1.2370	0.5986	0.0001	22.1974	6.7871	10.7427
7	C3	44.10	4.3960	3.4478	0.0361	35.5305	38.7204	37.9016
8	i-C4	58.12	1.3390	1.2366	0.2757	4.7009	11.1713	9.5104
9	n-C4	58.12	5.0250	4.7938	2.2404	12.6168	31.1926	26.4244
10	i-C5	72.15	2.7480	2.7528	2.6409	2.5898	3.9100	3.5711

 * Project Setup Information *

 Project File : \\tsclient\Y\Projects\Ballard Petroleum BLP\BLP214738 Powder
 River Basin Permitting\Samples & EP Tank\Leavitt Trust 14-2TH.ept
 Flowsheet Selection : Oil Tank with Separator
 Calculation Method : RVP Distillation
 Control Efficiency : 100.0%
 Known Separator Stream : Low Pressure Oil
 Entering Air Composition : No

 Filed Name : Ballard Petroleum
 Well Name : Leavitt Trust 14-2TH
 Date : 2014.04.17

 * Data Input *

 Separator Pressure : 20.00[psig]
 Separator Temperature : 70.00[F]
 Ambient Pressure : 12.20[psia]
 Ambient Temperature : 57.00[F]
 C10+ SG : 0.8514
 C10+ MW : 270.00

-- Low Pressure Oil -----

No.	Component	mol %
1	H2S	0.0000
2	O2	0.0000
3	CO2	0.0720
4	N2	0.0000
5	C1	0.2840
6	C2	0.8620
7	C3	2.7070
8	i-C4	0.8710
9	n-C4	3.6210
10	i-C5	2.2520
11	n-C5	2.9730
12	C6	8.6260
13	C7	6.4910
14	C8	4.4240
15	C9	4.8470
16	C10+	51.6660
17	Benzene	0.1880
18	Toluene	1.2270
19	E-Benzene	3.3400
20	Xylenes	3.0280
21	n-C6	2.3220
22	2,2,4-Trimethylp	0.1980

-- Sales Oil -----

Production Rate : 1000[bb1/day]
 Days of Annual Operation : 365 [days/year]
 API Gravity : 42.5
 Reid Vapor Pressure : 6.03[psia]

 * Calculation Results *

-- Emission Summary -----

11	n-C5	72.15	2.9730	2.9795	3.0003	2.1296	2.2266	2.2051
12	C6	86.16	8.6260	8.6793	8.8710	1.6693	1.7390	1.7235
13	C7	100.20	6.4910	6.5377	6.7068	0.3959	0.4147	0.4105
14	C8	114.23	4.4240	4.4573	4.5780	0.0804	0.0850	0.0840
15	C9	128.28	4.8470	4.8839	5.0179	0.0288	0.0327	0.0319
16	C10+	270.00	51.6660	52.0620	53.4996	0.0000	0.0000	0.0000
17	Benzene	78.11	0.1880	0.1892	0.1937	0.0257	0.0269	0.0266
18	Toluene	92.13	1.2270	1.2361	1.2689	0.0443	0.0466	0.0461
19	E-Benzene	106.17	3.3400	3.3653	3.4571	0.0376	0.0399	0.0394
20	Xylenes	106.17	3.0280	3.0510	3.1344	0.0293	0.0312	0.0308
21	n-C6	86.18	2.3220	2.3372	2.3918	0.3449	0.3598	0.3565
22	2,2,4-Trimethylp	114.24	0.1980	0.1994	0.2047	0.0096	0.0100	0.0099

MW		182.09	183.19	187.03	38.07	44.18	42.83
Stream Mole Ratio		1.0000	0.9924	0.9657	0.0076	0.0267	0.0343
Heating Value	[BTU/SCF]				2108.21	2475.44	2394.03
Gas Gravity	[Gas/Air]				1.31	1.53	1.48
Bubble Pt. @ 100F	[psia]	27.12	19.22	7.85			
RVP @ 100F	[psia]	11.93	10.40	6.31			

Page 2----- E&P TANK

Spec. Gravity @ 100F	0.730	0.731	0.732
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Item	Uncontrolled [ton/yr]	Uncontrolled [lb/hr]	Controlled [ton/yr]	Controlled [lb/hr]
Total HAPs Page 1	20.210	4.614	0.534	0.122
----- E&P TANK				
Total HC	1792.552	409.258	60.556	13.826
VOCs, C2+	1785.220	407.584	60.235	13.752
VOCs, C3+	1671.792	381.688	54.980	12.553

Uncontrolled Recovery Info.		
Vapor	72.8100	[MSCFD]
HC Vapor	72.3900	[MSCFD]
GOR	72.81	[SCF/bbl]

-- Emission Composition

No	Component	Uncontrolled [ton/yr]	Uncontrolled [lb/hr]	Controlled [ton/yr]	Controlled [lb/hr]
1	H2S	0.000	0.000	0.000	0.000
2	O2	0.000	0.000	0.000	0.000
3	CO2	6.493	1.482	0.000	0.000
4	N2	1.459	0.333	5.160	1.178
5	C1	7.333	1.674	0.306	0.070
6	C2	113.428	25.897	0.322	0.073
7	C3	567.760	129.626	5.254	1.200
8	i-C4	204.720	46.740	28.881	6.594
9	n-C4	606.560	138.484	5.458	1.246
10	i-C5	101.435	23.159	13.524	3.088
11	n-C5	87.239	19.918	2.195	0.501
12	C6	61.676	14.081	2.116	0.483
13	C7	17.830	4.071	1.677	0.383
14	C8	3.199	0.730	0.478	0.109
15	C9	1.165	0.266	0.075	0.017
16	C10+	0.000	0.000	0.043	0.010
17	Benzene	1.015	0.232	0.000	0.000
18	Toluene	1.851	0.423	0.019	0.004
19	E-Benzene	1.804	0.412	0.042	0.010
20	Xylenes	1.237	0.282	0.046	0.011
21	n-C6	13.798	3.150	0.042	0.009
22	224Trimethylp	0.501	0.114	0.368	0.084
	Total	1800.503	411.074	60.830	13.888

-- Stream Data

No.	Component	MW	LP Oil	Flash Oil	Sale Oil	Flash Gas	W&S Gas	Total
Emissions			mol %	mol %	mol %	mol %	mol %	mol %
1	H2S	34.80	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	O2	32.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	CO2	44.01	0.0510	0.0206	0.0000	1.4122	0.2031	0.4208
4	N2	28.01	0.0180	0.0011	0.0000	0.7774	0.0104	0.1485
5	C1	16.04	0.1580	0.0275	0.0000	6.0103	0.2703	1.3037
6	C2	30.07	1.3040	0.7264	0.0001	27.1983	7.1498	10.7593
7	C3	44.10	4.4710	3.7098	0.0230	38.5944	36.3135	36.7242
8	i-C4	58.12	1.3860	1.3052	0.1917	5.0075	11.1525	10.0461
9	n-C4	58.12	5.1420	4.9632	1.7461	13.1540	33.4130	29.7656
10	i-C5	72.15	2.7410	2.7440	2.5660	2.6051	4.3184	4.0100



Client Name Bison Engineering, Inc.
 1400 11th Avenue
 Helena, MT 59601
 Attn: Mr. Derek Fleming
 406-442-5768
dfleming@bison-eng.com

Date Received 4/3/2014
 Date Reported 4/17/2014
 Lab Number 201404100211
 Date Analyzed 4/9/2014
 File # gases\04071422
 Page 1 of 2

Company/Operator Ballard
 Location Leavitt Fed Trust 21-7H
 Sample Type Natural Gas
 Sampled by Ian Erickson Bison Engineering Inc.

Date Sampled 4/2/2014
 Time Sampled Not given
 Cylinder #: SC1004
 Source Temp 165°F
 Source Press. 40 psi

GAS ANALYSIS BY GC/TCD/FID GPA Method 2286-95

COMPONENT	Normalized Mole Percent	Gross Heating Value (BTU/ft3)	Gross Heating Value (BTU/lb)	Gasoline Content (gal/1000ft3)	Specific Gravity
Carbon Dioxide	1.61%	0.00	0.00	0.00	0.0244
Ethane	14.27%	252.51	4232.29	3.81	0.1481
Nitrogen	0.42%	0.00	0.00	0.00	0.0041
Methane	71.61%	723.27	12122.88	12.11	0.3967
Propane	8.01%	201.48	3377.03	2.20	0.1219
I-butane	0.96%	31.32	524.87	0.31	0.0193
N-butane	2.19%	71.45	1197.54	0.69	0.0440
Neopentane	0.00%	0.13	2.21	0.00	0.0001
I-pentane	0.49%	19.50	326.80	0.18	0.0121
N-pentane	0.43%	17.32	290.24	0.16	0.0108
Hexanes	0.00%	0.15	2.49	0.00	0.0001
Heptanes	0.00%	0.06	1.05	0.00	0.0000
Octanes	0.00%	0.05	0.81	0.00	0.0000
Nonanes	0.00%	0.05	0.81	0.00	0.0000
Decanes+	0.00%	0.12	2.29	0.00	0.0003
TOTAL	100.000%	1300.0	21790	7.19	0.7819
COMPRESSIBILITY =		0.9958			
DRY BTU (IDEAL) =		1317.4			
DRY BTU (REAL) =		1322.8			
SATURATED BTU (IDEAL) =		1294.4			
SATURATED BTU (REAL) =		1300.3			
UNNORMALIZED TOTAL PERCENT =		100.000%			

AVERAGE MOLAR MASS = 22.6

NOTES: IDEAL VALUES NOT CORRECTED FOR COMPRESSIBILITY
 REAL VALUES CORRECTED FOR COMPRESSIBILITY
 STD CONDITIONS: 14.696 PSIA & SP. GR. @ AIR = 0.9995
 GAS CONSTANTS FOR DECANES+ ARE FOR N-DECANE
 ACCURACY IS TO 1 PART IN 1000 (EXTRA DIGITS FOR ROUNDING)
 CALCULATIONS ARE BASED UPON DRY ANALYSIS



Client Name Bison Engineering, Inc.
 1400 11th Avenue
 Helena, MT 59601
 Attn: Mr. Derek Fleming
 406-442-5768
d Fleming@bison-eng.com

Date Received 4/3/2014
 Date Reported 4/17/2014
 Lab Number 201404100202
 Date Analyzed 4/12/2014
 File # gases\04121409
 Page 1 of 2

Company/Operator Ballard
 Location Leavitt Trust 14-2TH
 Sample Type Natural Gas
 Sampled by Ian Erickson Bison Engineering Inc.

Date Sampled 4/2/2014
 Time Sampled 1:00 PM
 Cylinder #: SC1056
 Source Temp 70°F
 Source Press. 20 psi

GAS ANALYSIS BY GC/TCD/FID GPA Method 2286-95

COMPONENT	Normalized Mole Percent	Gross Heating Value (BTU/ft3)	Gross Heating Value (BTU/lb)	Gasoline Content (gal/1000ft3)	Specific Gravity
Carbon Dioxide	1.40%	0.00	0.00	0.00	0.0212
Ethane	14.43%	255.28	3808.63	3.85	0.1498
Nitrogen	0.41%	0.00	0.00	0.00	0.0040
Methane	64.53%	651.77	9724.26	10.91	0.3574
Propane	10.78%	271.18	4046.00	2.96	0.1641
I-butane	1.69%	55.05	821.39	0.55	0.0340
N-butane	4.33%	141.19	2106.52	1.36	0.0869
Neopentane	0.01%	0.44	6.50	0.00	0.0003
I-pentane	1.25%	49.83	743.52	0.45	0.0310
N-pentane	1.16%	46.41	692.50	0.42	0.0288
Hexanes	0.01%	0.50	7.41	0.00	0.0003
Heptanes	0.00%	0.13	1.91	0.00	0.0001
Octanes	0.00%	0.12	1.83	0.00	0.0000
Nonanes	0.01%	0.12	1.83	0.00	0.0000
Decanes+	0.00%	0.35	5.91	0.00	0.0008
TOTAL	100.000%	1425.9	21274	9.19	0.8787
COMPRESSIBILITY =		0.9946			
DRY BTU (IDEAL) =		1472.3			
DRY BTU (REAL) =		1480.3			
SATURATED BTU (IDEAL) =		1446.6			
SATURATED BTU (REAL) =		1455.1			
UNNORMALIZED TOTAL PERCENT =		100.000%			
AVERAGE MOLAR MASS =		25.4			

NOTES: IDEAL VALUES NOT CORRECTED FOR COMPRESSIBILITY
 REAL VALUES CORRECTED FOR COMPRESSIBILITY
 STD CONDITIONS: 14.696 PSIA & SP. GR. @ AIR = 0.9995
 GAS CONSTANTS FOR DECANES+ ARE FOR N-DECANE
 ACCURACY IS TO 1 PART IN 1000 (EXTRA DIGITS FOR ROUNDING)
 CALCULATIONS ARE BASED UPON DRY ANALYSIS



Client Name	Bison Engineering, Inc. 1400 11th Avenue Helena, MT 59601	Date Received	4/3/2014
Attn:	Mr. Derek Fleming 406-442-5768 dfleming@bison-eng.com	Date Reported	4/17/2014
Company/Operator	Ballard	Lab Number	201404100208
Location	Dilts 44-14TH	Date Analyzed	4/12/2014
Sample Type	Natural Gas	File #	gases\04121421
Sampled by	Ian Erickson Bison Engineering Inc.	Page	1 of 2
		Date Sampled	4/2/2014
		Time Sampled	Not given
		Cylinder #:	SC1035
		Source Temp	157°F
		Source Press.	32 psi

GAS ANALYSIS BY GC/TCD/FID GPA Method 2286-95

COMPONENT	Normalized Mole Percent	Gross Heating Value (BTU/ft3)	Gross Heating Value (BTU/lb)	Gasoline Content (gal/1000ft3)	Specific Gravity
Carbon Dioxide	1.08%	0.00	0.00	0.00	0.0165
Ethane	24.61%	435.46	4165.12	6.56	0.2555
Nitrogen	0.03%	0.00	0.00	0.00	0.0003
Methane	20.51%	207.18	1981.67	3.47	0.1136
Propane	28.15%	708.39	6775.85	7.74	0.4286
I-butane	5.04%	163.77	1566.47	1.64	0.1011
N-butane	12.42%	405.20	3875.77	3.91	0.2493
Neopentane	0.15%	5.85	55.93	0.06	0.0037
I-pentane	3.97%	158.85	1519.38	1.45	0.0989
N-pentane	3.78%	151.57	1449.75	1.37	0.0942
Hexanes	0.18%	8.47	81.03	0.07	0.0053
Heptanes	0.04%	2.35	22.48	0.00	0.0015
Octanes	0.02%	1.05	10.00	0.01	0.0002
Nonanes	0.02%	1.05	10.00	0.01	0.0002
Decanes+	0.00%	1.16	12.38	0.01	0.0027
TOTAL	100.000%	2097.7	20066	21.45	1.3714
COMPRESSIBILITY =		0.9858			
DRY BTU (IDEAL) =		2249.3			
DRY BTU (REAL) =		2281.8			
SATURATED BTU (IDEAL) =		2210.1			
SATURATED BTU (REAL) =		2243.2			
UNNORMALIZED TOTAL PERCENT =		100.000%			

AVERAGE MOLAR MASS = 39.7

NOTES: IDEAL VALUES NOT CORRECTED FOR COMPRESSIBILITY
 REAL VALUES CORRECTED FOR COMPRESSIBILITY
 STD CONDITIONS: 14.696 PSIA & SP. GR. @ AIR = 0.9995
 GAS CONSTANTS FOR DECANES+ ARE FOR N-DECANE
 ACCURACY IS TO 1 PART IN 1000 (EXTRA DIGITS FOR ROUNDING)
 CALCULATIONS ARE BASED UPON DRY ANALYSIS



Client Name	Bison Engineering, Inc.	Date Received	4/3/2014
	1400 11th Avenue	Date Reported	4/17/2014
	Helena, MT 59601	Lab Number	201404100217
Attn:	Mr. Derek Fleming	Date Analyzed	4/12/2014
	406-442-5768	File #	gases\04121408
	<u>dfleming@bison-eng.com</u>	Page	1 of 2
Company/Operator	Ballard	Date Sampled	4/2/2014
Location	Leavitt Fed Trust 44-31TH	Time Sampled	Not given
		Cylinder #:	SC1002
Sample Type	Natural Gas	Source Temp	127°F
Sampled by	Ian Erickson Bison Engineering Inc.	Source Press.	34 psi

GAS ANALYSIS BY GC/TCD/FID GPA Method 2286-95

COMPONENT	Normalized Mole Percent	Gross Heating Value (BTU/ft3)	Gross Heating Value (BTU/lb)	Gasoline Content (gal/1000ft3)	Specific Gravity
Carbon Dioxide	1.24%	0.00	0.00	0.00	0.0189
Ethane	24.53%	434.16	4237.49	6.54	0.2547
Nitrogen	0.05%	0.00	0.00	0.00	0.0005
Methane	21.02%	212.35	2072.63	3.56	0.1165
Propane	30.78%	774.55	7560.07	8.46	0.4687
I-butane	4.37%	142.10	1386.91	1.43	0.0877
N-butane	11.56%	377.26	3682.24	3.64	0.2321
Neopentane	0.10%	3.89	37.93	0.04	0.0024
I-pentane	2.99%	119.45	1165.86	1.09	0.0744
N-pentane	3.02%	121.11	1182.05	1.09	0.0753
Hexanes	0.16%	7.71	75.20	0.07	0.0048
Heptanes	0.06%	3.30	32.22	0.00	0.0021
Octanes	0.04%	2.20	21.44	0.02	0.0004
Nonanes	0.07%	2.20	21.44	0.02	0.0004
Decanes+	0.00%	4.32	47.16	0.04	0.0101
TOTAL	100.000%	2081.3	20320	21.32	1.3488
COMPRESSIBILITY =		0.9865			
DRY BTU (IDEAL) =		2202.5			
DRY BTU (REAL) =		2232.7			
SATURATED BTU (IDEAL) =		2164.0			
SATURATED BTU (REAL) =		2195.0			
UNNORMALIZED TOTAL PERCENT =		100.000%			
AVERAGE MOLAR MASS =		38.9			

NOTES: IDEAL VALUES NOT CORRECTED FOR COMPRESSIBILITY
REAL VALUES CORRECTED FOR COMPRESSIBILITY
STD CONDITIONS: 14.696 PSIA & SP. GR. @ AIR = 0.9995
GAS CONSTANTS FOR DECANES+ ARE FOR N-DECANE
ACCURACY IS TO 1 PART IN 1000 (EXTRA DIGITS FOR ROUNDING)
CALCULATIONS ARE BASED UPON DRY ANALYSIS



Client Name	Bison Engineering, Inc. 1400 11th Avenue Helena, MT 59601	Date Received	4/3/2014
Attn:	Mr. Derek Fleming 406-442-5768 dfleming@bison-eng.com	Date Reported	4/17/2014
		Lab Number	201404100214
		Date Analyzed	4/12/2014
		File #	gases\04121404
		Page	1 of 2
Company/Operator	Ballard	Date Sampled	4/2/2014
Location	Roush 44-25TH	Time Sampled	Not given
		Cylinder #:	SC1049
Sample Type	Natural Gas	Source Temp	161°F
Sampled by	Ian Erickson Bison Engineering Inc.	Source Press.	32 psi

GAS ANALYSIS BY GC/TCD/FID GPA Method 2286-95

COMPONENT	Normalized Mole Percent	Gross Heating Value (BTU/ft3)	Gross Heating Value (BTU/lb)	Gasoline Content (gal/1000ft3)	Specific Gravity
Carbon Dioxide	0.93%	0.00	0.00	0.00	0.0142
Ethane	21.52%	380.92	3540.10	5.74	0.2235
Nitrogen	0.07%	0.00	0.00	0.00	0.0007
Methane	18.86%	190.52	1770.66	3.19	0.1045
Propane	31.45%	791.36	7354.96	8.64	0.4789
I-butane	4.96%	161.31	1499.19	1.62	0.0995
N-butane	13.78%	449.58	4178.32	4.33	0.2766
Neopentane	0.12%	4.69	43.60	0.04	0.0029
I-pentane	3.92%	156.85	1457.78	1.43	0.0977
N-pentane	4.06%	162.81	1513.15	1.47	0.1012
Hexanes	0.20%	9.66	89.79	0.08	0.0060
Heptanes	0.06%	3.24	30.07	0.00	0.0020
Octanes	0.02%	1.49	13.82	0.01	0.0002
Nonanes	0.03%	1.49	13.82	0.01	0.0002
Decanes+	0.00%	1.72	17.93	0.02	0.0041
TOTAL	100.000%	2151.4	19996	21.93	1.4122
COMPRESSIBILITY =		0.9849			
DRY BTU (IDEAL) =		2314.2			
DRY BTU (REAL) =		2349.7			
SATURATED BTU (IDEAL) =		2273.8			
SATURATED BTU (REAL) =		2310.0			
UNNORMALIZED TOTAL PERCENT =		100.000%			
AVERAGE MOLAR MASS =		40.8			

NOTES: IDEAL VALUES NOT CORRECTED FOR COMPRESSIBILITY
 REAL VALUES CORRECTED FOR COMPRESSIBILITY
 STD CONDITIONS: 14.696 PSIA & SP. GR. @ AIR = 0.9995
 GAS CONSTANTS FOR DECANES+ ARE FOR N-DECANE
 ACCURACY IS TO 1 PART IN 1000 (EXTRA DIGITS FOR ROUNDING)
 CALCULATIONS ARE BASED UPON DRY ANALYSIS

NSR Application A0001240
Leavitt Trust Federal 41-34 TH
F026916
June 30, 2015

If I am claiming any information in this submission is a trade secret, I hereby swear or affirm that the trade secret request meets the requirements of Wyoming Air Quality Standards and Regulations and that the justification submitted with the trade secret request sets forth the basis for claiming that the information should be considered a trade secret as defined in Wyoming Air Quality Standards and Regulations.

- a) I am the Authorized Representative identified in applicable Wyoming Air Quality Standards and Regulations as authorized to sign this document; and
- b) Based on information and belief formed after reasonable inquiry, I hereby affirm that all factual statements in this transmittal are true, accurate and complete to the best of my knowledge and that all judgments and estimates have been made in good faith.

Account: Chipper37

Date/time submitted: Jun 30 2015, 14:06:08

X	6316	Cover Letter/Project Description	Cover Letter
X	6317	Equipment List	Leavitt Trust Federal 41-34 TH Equipment List
X	6326	Facility Map	Leavitt Trust Federal 41-34 TH Map

PM)						
PM # 10 microns in diameter (PE/PM10)	0	0		0	0	
PM # 2.5 microns in diameter (PE/PM2.5)	0	0		0	0	
Sulfur dioxide (SO2)	0	0		0	0	
Nitrogen oxides (NOx)	0	0		0	0	
Carbon monoxide (CO)	0	0		0	0	
Volatile organic compounds (VOC)	0	0		0	0	
Lead (Pb)	0	0		0	0	
Total Hazardous Air Pollutants (HAPs)	0	0		0	0	
Fluoride (F)	0	0		0	0	
Hydrogen Sulfide (H2S)	0	0		0	0	
Mercury (Hg)	0	0		0	0	
Total Reduced Sulfur (TRS)	0	0		0	0	
Sulfuric Acid Mist (SAM)	0	0		0	0	

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

Greenhouse Gases (GHGs):

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected. Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- Best Available Control Technology (BACT)

Was a BACT Analysis completed for this unit? No

- Lowest Achievable Emission Rate (LAER)

Was a LAER Analysis completed for this unit? No

- Federal and State Rule Applicability

New Source Performance Standards (NSPS)
 New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)
 National Emissions Standards for Hazardous Air Pollutants

Not affected

Section II - Specific Air Contaminant Source Information

AQD EU ID: FLR002

AQD EU description: Emergency
Produced Gas Flare

Company EU ID: Flare #2

Company EU Description: Emergency
Produced Gas Flare

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Construction(greenfield/new facility)

Date production began:

04/13/2015

- **Emission Unit Type Specific Information**

Emission Unit Type : Flare

Emergency Flare Only : Yes

Btu Content (Btu/scf) : 1,892.40

Assist Gas Utilized : No

Waste Gas Volume : 6.70

Installation Date : 04/13/2015

Continuously Monitored : Yes

Describe Continuous Flare equipped with a thermocouple for flame detection.
Monitoring :

Ignition Device Type : Pilot

Smokeless Design : Yes

Units : Mscf/hr

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

Hours/day : 24

Hours/year : 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

Basis for Determination Options:

- *Manufacturer Data*
- *Test results for this source*
- *Similar source test results*
- *GRICalc*
- *Tanks Program*
- *AP-42*
- *Other. If this is selected, attach a document with a description of the method used.*

Criteria Pollutants :

Pollutant	Pre- Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determinatio n*
		Potential to Emit (PTE)*	Units*			
Particulate emissions	0	0		0	0	

Pollutants (NESHAP Part 61)

National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

Not affected

Prevention of Significant Deterioration (PSD)

These rules are found under WAQSR Chapter 6, Section 4.

Not Affected

Non-Attainment New Source Review

These rules are found under WAQSR Chapter 6, Section 13.

Not Affected

- **Emission Unit Attachments**

Required Attachment	Public Document Id	Attachment Type	Description
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diameter (PE/PM10)						
PM # 2.5 microns in diameter (PE/PM2.5)	0	0		0	0	
Sulfur dioxide (SO2)	0	0		0	0	
Nitrogen oxides (NOx)	0	0		0	0	
Carbon monoxide (CO)	0	0		0	0	
Volatile organic compounds (VOC)	1.87	0		0.43	1.87	Other
Lead (Pb)	0	0		0	0	
Total Hazardous Air Pollutants (HAPs)	0	0		0	0.01	Other
Fluoride (F)	0	0		0	0	
Hydrogen Sulfide (H2S)	0	0		0	0	
Mercury (Hg)	0	0		0	0	
Total Reduced Sulfur (TRS)	0	0		0	0	
Sulfuric Acid Mist (SAM)	0	0		0	0	

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			
Ethyl Benzene	VOC-HAP	0.0001	0		0	0.0001	Other
Toluene	VOC-HAP	0.001	0		0.0002	0.001	Other
Hexane, N-	VOC-HAP	0.0102	0		0.0023	0.0102	Other
Xylenes (Isomers and Mixture)	VOC-HAP	0.0003	0		0.0001	0.0003	Other
Trimethylpentane, 2,2,4- (Isooctane)	HAP	0.0017	0		0.0004	0.0017	Other
Benzene	VOC-HAP	0.0007	0		0.0002	0.0007	Other

Greenhouse Gases (GHGs):

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			
Methane	GHG	0.0579	0		0.0132	0.0579	Other
Carbon Dioxide	GHG	0.0367	0		0.0084	0.0367	Other
CO2e - Carbon Dioxide Equivalent	Other	1.4852	0		0.3391	1.4852	Other

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected. Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- Best Available Control Technology (BACT)

Was a BACT Analysis completed for this unit? No

Section II - Specific Air Contaminant Source Information

AQD EU ID: FUG002

AQD EU description:

Company EU ID: Fugitives #2

Company EU Description: Fugitive dust emissions from vehicle traffic

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Construction(greenfield/new facility)

Date production began:

04/13/2015

- **Emission Unit Type Specific Information**

Emission Unit Type : Fugitive

Type of Fugitive Emission : Other

Detailed Description of Fugitive dust from vehicle traffic.
Fugitive Source :

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

Hours/day : 24

Hours/year : 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

Basis for Determination Options:

- *Manufacturer Data*
- *Test results for this source*
- *Similar source test results*
- *GRICalc*
- *Tanks Program*
- *AP-42*
- *Other. If this is selected, attach a document with a description of the method used.*

Criteria Pollutants :

Pollutant	Pre- Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determinatio n*
		Potential to Emit (PTE)*	Units*			
Particulate emissions (PE/PM) (formerly particulate matter, PM)	0.28	0		0.06	0.28	Other
PM # 10 microns in diameter (PE/PM10)	0.28	0		0.06	0.28	Other
PM # 2.5 microns in diameter (PE/PM2.5)	0.28	0		0.06	0.28	Other

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

Prevention of Significant Deterioration (PSD) Not Affected
These rules are found under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review Not Affected
These rules are found under WAQSR Chapter 6, Section 13.

- **Emission Unit Attachments**

Required Attachment	Public Document Id	Attachment Type	Description
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Nitrogen oxides (NOx)	0.1157	0		0.0264	0.1157	AP-42
Carbon monoxide (CO)	0.0972	0		0.2219	0.0972	AP-42
Volatile organic compounds (VOC)	0.0064	0		0.0014	0.0064	AP-42
Lead (Pb)	0	0		0	0	
Total Hazardous Air Pollutants (HAPs)	0.0022	0		0.0005	0.0022	AP-42
Fluoride (F)	0	0		0	0	
Hydrogen Sulfide (H2S)	0	0		0	0	
Mercury (Hg)	0	0		0	0	
Total Reduced Sulfur (TRS)	0	0		0	0	
Sulfuric Acid Mist (SAM)	0	0		0	0	

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			
Toluene	VOC-HAP	0.000004	0		0.000001	0.000004	AP-42
Hexane, N-	VOC-HAP	0.00208	0		0.000476	0.00208	AP-42
Formaldehyde	VOC-HAP	0.000087	0		0.00002	0.000087	AP-42
Benzene	VOC-HAP	0.000002	0		0.000001	0.000002	AP-42

Greenhouse Gases (GHGs):

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			
Methane	GHG	0.0048			0.0011	0.0048	Other
Carbon Dioxide	GHG	255.64	0		58.37	255.64	Other
CO2e - Carbon Dioxide Equivalent	Other	255.91	0		58.43	255.91	Other
Nitrous Oxide	GHG	0.0005	0		0.0001	0.0005	Other

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected. Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- Best Available Control Technology (BACT)

Was a BACT Analysis completed for this unit? No

- Lowest Achievable Emission Rate (LAER)

Was a LAER Analysis completed for this unit? No

- Federal and State Rule Applicability

New Source Performance Standards (NSPS)

New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

Not affected

Section II - Specific Air Contaminant Source Information

AQD EU ID: HET002

AQD EU description:

Company EU ID: Heater #2

Company EU Description: Heater used for the free water knock out.

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Construction(greenfield/new facility)

Date production began:

04/13/2015

- **Emission Unit Type Specific Information**

Emission Unit Type : Heater/Chiller

Fuel Sulfur Content : 0.00

Units : ppm

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

Hours/day : 24

Hours/year : 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

Basis for Determination Options:

- *Manufacturer Data*
- *Test results for this source*
- *Similar source test results*
- *GRICalc*
- *Tanks Program*
- *AP-42*
- *Other. If this is selected, attach a document with a description of the method used.*

Criteria Pollutants :

Pollutant	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
		Potential to Emit (PTE)*	Units*			
Particulate emissions (PE/PM) (formerly particulate matter, PM)	0.0022	0		0.0005	0.0022	AP-42
PM # 10 microns in diameter (PE/PM10)	0.0022	0		0.0005	0.0022	AP-42
PM # 2.5 microns in diameter (PE/PM2.5)	0.0022	0		0.0005	0.0022	AP-42
Sulfur dioxide (SO2)	0.0007	0		0.0002	0.0007	AP-42

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)
National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)
National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

Not affected

Prevention of Significant Deterioration (PSD)
These rules are found under WAQSR Chapter 6, Section 4.

Not Affected

Non-Attainment New Source Review
These rules are found under WAQSR Chapter 6, Section 13.

Not Affected

- **Emission Unit Attachments**

Required Attachment	Public Document Id	Attachment Type	Description
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PM # 10 microns in diameter (PE/PM10)	0	0		0	0	
PM # 2.5 microns in diameter (PE/PM2.5)	0	0		0	0	
Sulfur dioxide (SO2)	0	0		0	0	
Nitrogen oxides (NOx)	0	0		0	0	
Carbon monoxide (CO)	0	0		0	0	
Volatile organic compounds (VOC)	7.67	0		1.75	7.67	AP-42
Lead (Pb)	0	0		0	0	
Total Hazardous Air Pollutants (HAPs)	0.09	0		0.02	0.09	AP-42
Fluoride (F)	0	0		0	0	
Hydrogen Sulfide (H2S)	0	0		0	0	
Mercury (Hg)	0	0		0	0	
Total Reduced Sulfur (TRS)	0	0		0	0	
Sulfuric Acid Mist (SAM)	0	0		0	0	

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			
Ethyl Benzene	VOC-HAP	0.00697	0		0.001601	0.007	Other
Toluene	VOC-HAP	0.0086	0		0.00198	0.0086	Other
Hexane, N-	VOC-HAP	0.0607	0		0.0139	0.0607	Other
Xylenes (Isomers and Mixture)	VOC-HAP	0.00518			0.00119	0.00518	Other
Trimethylpentane, 2,2,4- (Isooctane)	HAP	0.0023	0		0.00054	0.0023	Other
Benzene	VOC-HAP	0.004	0		0.00091	0.004	Other

Greenhouse Gases (GHGs):

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			
Methane	GHG	0.24	0		0.05	0.24	Other
Carbon Dioxide	GHG	0.015	0		0.03	0.15	Other
CO2e - Carbon Dioxide Equivalent	Other	6.09	0		1.39	6.09	Other

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- Best Available Control Technology (BACT)

Was a BACT Analysis completed for this unit? No

Section II - Specific Air Contaminant Source Information

AQD EU ID: SEP001

AQD EU description: Three Phase Separator/Heater Treater

Company EU ID: SEP001

Company EU Description: Three Phase Separator/Heater Treater

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Construction(greenfield/new facility)

Date production began:

04/13/2015

- **Emission Unit Type Specific Information**

Emission Unit Type : Separator/Treater

Operating Temperature (F) : 140

Operating Pressure (psig) : 50.00

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

Hours/day : 24

Hours/year : 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

Basis for Determination Options:

- *Manufacturer Data*
- *Test results for this source*
- *Similar source test results*
- *GRICalc*
- *Tanks Program*
- *AP-42*
- *Other. If this is selected, attach a document with a description of the method used.*

Criteria Pollutants :

Pollutant	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
		Potential to Emit (PTE)*	Units*			
Particulate emissions (PE/PM) (formerly particulate matter, PM)	0	0		0	0	
PM # 10 microns in diameter (PE/PM10)	0	0		0	0	
PM # 2.5 microns in diameter (PE/PM2.5)	0	0		0	0	

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

Prevention of Significant Deterioration (PSD)
These rules are found under WAQSR Chapter 6, Section 4.

Not Affected

Non-Attainment New Source Review
These rules are found under WAQSR Chapter 6, Section 13.

Not Affected

- Emission Unit Attachments

Required Attachment	Public Document Id	Attachment Type	Description
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Carbon monoxide (CO)	0	0		0	0	
Volatile organic compounds (VOC)	0	0		0	0	
Lead (Pb)	0	0		0	0	
Total Hazardous Air Pollutants (HAPs)	0	0		0	0	
Fluoride (F)	0	0		0	0	
Hydrogen Sulfide (H2S)	0	0		0	0	
Mercury (Hg)	0	0		0	0	
Total Reduced Sulfur (TRS)	0	0		0	0	
Sulfuric Acid Mist (SAM)	0	0		0	0	

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

Greenhouse Gases (GHGs):

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected. Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- Best Available Control Technology (BACT)

Was a BACT Analysis completed for this unit? No

- Lowest Achievable Emission Rate (LAER)

Was a LAER Analysis completed for this unit? No

- Federal and State Rule Applicability

New Source Performance Standards (NSPS) Not affected
New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61) Not affected
National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) Not affected
National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

Section II - Specific Air Contaminant Source Information

AQD EU ID: SEP003

AQD EU description: 2-phase separator

Company EU ID: Separator #3

Company EU Description: Two phase separator

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Construction(greenfield/new facility)

Date production began:

04/13/2015

- **Emission Unit Type Specific Information**

Emission Unit Type : Separator/Treater

Operating Temperature (F) : 100

Operating Pressure (psig) : 100.00

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

Hours/day : 24

Hours/year : 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

Basis for Determination Options:

- *Manufacturer Data*
- *Test results for this source*
- *Similar source test results*
- *GRICalc*
- *Tanks Program*
- *AP-42*
- *Other. If this is selected, attach a document with a description of the method used.*

Criteria Pollutants :

Pollutant	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
		Potential to Emit (PTE)*	Units*			
Particulate emissions (PE/PM) (formerly particulate matter, PM)	0	0		0	0	
PM # 10 microns in diameter (PE/PM10)	0	0		0	0	
PM # 2.5 microns in diameter (PE/PM2.5)	0	0		0	0	
Sulfur dioxide (SO2)	0	0		0	0	
Nitrogen oxides (NOx)	0	0		0	0	

Prevention of Significant Deterioration (PSD)
 These rules are found under WAQSR Chapter 6, Section 4.

Not Affected

Non-Attainment New Source Review
 These rules are found under WAQSR Chapter 6, Section 13.

Not Affected

- **Emission Unit Attachments**

Required Attachment	Public Document Id	Attachment Type	Description
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PM # 2.5 microns in diameter (PE/PM2.5)	0	0		0.0026	0.011	AP-42
Sulfur dioxide (SO2)	0	0		0.0001	0.0006	AP-42
Nitrogen oxides (NOx)	0	0		0.028	0.121	AP-42
Carbon monoxide (CO)	0	0		0.15	0.7	AP-42
Volatile organic compounds (VOC)	76.9098	0		0.35	1.5	Tanks Program
Lead (Pb)	0	0		0	0	
Total Hazardous Air Pollutants (HAPs)	0.8802	0		0.0043	0.019	Tanks Program
Fluoride (F)	0	0		0	0	
Hydrogen Sulfide (H2S)	0	0		0	0	
Mercury (Hg)	0	0		0	0	
Total Reduced Sulfur (TRS)	0	0		0	0	
Sulfuric Acid Mist (SAM)	0	0		0	0	

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			
Ethyl Benzene	VOC-HAP	0.07	0		0.000319	0.0014	Tanks Program
Toluene	VOC-HAP	0.0865	0		0.000395	0.00173	Tanks Program
Hexane, N-	VOC-HAP	0.61	0		0.00278	0.0122	Tanks Program
Xylenes (Isomers and Mixture)	VOC-HAP	0.0519	0		0.000237	0.00104	Tanks Program
Trimethylpentane, 2,2,4- (Isooctane)	HAP	0.023	0		0.000107	0.000468	Tanks Program
Benzene	VOC-HAP	0.0399	0		0.000182	0.000798	Tanks Program

Greenhouse Gases (GHGs):

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			
Methane	GHG	1.41	0		0.0065	0.028	Tanks Program
Carbon Dioxide	GHG	0.89	0		47.69	208.9	Other
CO2e - Carbon Dioxide Equivalent	Other	36.25	0		47.9	209.8	Other
Nitrous Oxide	GHG	0	0		0.0001	0.0004	Other

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected. Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

Section II - Specific Air Contaminant Source Information

AQD EU ID: TNK002

AQD EU description: Water Storage Tank

Company EU ID: TNK002

Company EU Description: Oil Storage Tank #2

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Construction(greenfield/new facility)

Date production began:

04/13/2015

- **Emission Unit Type Specific Information**

Emission Unit Type : Storage Tank/Silo

Maximum Hourly Throughput 41.2000

Units : barrels/hr

Is Tank Heated : No

Operating Pressure (psig) : 0.50

Vapor Pressure of Material 2.50
Stored (psig) :

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

Hours/day : 24

Hours/year : 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

Basis for Determination Options:

- *Manufacturer Data*
- *Test results for this source*
- *Similar source test results*
- *GRICalc*
- *Tanks Program*
- *AP-42*
- *Other. If this is selected, attach a document with a description of the method used.*

Criteria Pollutants :

Pollutant	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
		Potential to Emit (PTE)*	Units*			
Particulate emissions (PE/PM) (formerly particulate matter, PM)	0	0		0.0026	0.011	AP-42
PM # 10 microns in diameter (PE/PM10)	0	0		0.0026	0.011	AP-42

- **Best Available Control Technology (BACT)**

Was a BACT Analysis completed for this unit? No

- **Lowest Achievable Emission Rate (LAER)**

Was a LAER Analysis completed for this unit? No

- **Federal and State Rule Applicability**

New Source Performance Standards (NSPS)

New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)

National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

Not affected

Prevention of Significant Deterioration (PSD)

These rules are found under WAQSR Chapter 6, Section 4.

Not Affected

Non-Attainment New Source Review

These rules are found under WAQSR Chapter 6, Section 13.

Not Affected

- **Emission Unit Attachments**

Required Attachment	Public Document Id	Attachment Type	Description
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PM # 2.5 microns in diameter (PE/PM2.5)	0	0		0.0026	0.011	AP-42
Sulfur dioxide (SO2)	0	0		0.0001	0.0006	AP-42
Nitrogen oxides (NOx)	0	0		0.028	0.121	AP-42
Carbon monoxide (CO)	0	0		0.15	0.7	AP-42
Volatile organic compounds (VOC)	76.9098	0		0.35	1.5	Tanks Program
Lead (Pb)	0	0		0	0	
Total Hazardous Air Pollutants (HAPs)	0.8802	0		0.0043	0.019	Tanks Program
Fluoride (F)	0	0		0	0	
Hydrogen Sulfide (H2S)	0	0		0	0	
Mercury (Hg)	0	0		0	0	
Total Reduced Sulfur (TRS)	0	0		0	0	
Sulfuric Acid Mist (SAM)	0	0		0	0	

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			
Ethyl Benzene	VOC-HAP	0.07	0		0.000319	0.0014	Tanks Program
Toluene	VOC-HAP	0.0865	0		0.000395	0.00173	Tanks Program
Hexane, N-	VOC-HAP	0.61	0		0.00278	0.0122	Tanks Program
Xylenes (Isomers and Mixture)	VOC-HAP	0.0519	0		0.000237	0.00104	Tanks Program
Trimethylpentane, 2,2,4- (Isooctane)	HAP	0.023	0		0.000107	0.000468	Tanks Program
Benzene	VOC-HAP	0.0399	0		0.000182	0.000798	Tanks Program

Greenhouse Gases (GHGs):

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			
Methane	GHG	1.41	0		0.0065	0.028	Tanks Program
Carbon Dioxide	GHG	0.89	0		47.69	208.9	Other
CO2e - Carbon Dioxide Equivalent	Other	36.25	0		47.9	209.8	Other
Nitrous Oxide	GHG	0	0		0.0001	0.0004	Other

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected. Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

Section II - Specific Air Contaminant Source Information

AQD EU ID: TNK004

AQD EU description:

Company EU ID: TNK004

Company EU Description: Oil Storage Tank #4

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Construction(greenfield/new facility)

Date production began:

04/13/2015

- **Emission Unit Type Specific Information**

Emission Unit Type : Storage Tank/Silo

Maximum Hourly Throughput 41.2000

Units : barrels/hr

Is Tank Heated : No

Operating Pressure (psig) : 0.50

Vapor Pressure of Material Stored (psig) : 2.50

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

Hours/day : 24

Hours/year : 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

Basis for Determination Options:

- *Manufacturer Data*
- *Test results for this source*
- *Similar source test results*
- *GRICalc*
- *Tanks Program*
- *AP-42*
- *Other. If this is selected, attach a document with a description of the method used.*

Criteria Pollutants :

Pollutant	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
		Potential to Emit (PTE)*	Units*			
Particulate emissions (PE/PM) (formerly particulate matter, PM)	0	0		0.0026	0.011	AP-42
PM # 10 microns in diameter (PE/PM10)	0	0		0.0026	0.011	AP-42

- **Best Available Control Technology (BACT)**

Was a BACT Analysis completed for this unit? No

- **Lowest Achievable Emission Rate (LAER)**

Was a LAER Analysis completed for this unit? No

- **Federal and State Rule Applicability**

New Source Performance Standards (NSPS)

New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)

National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

Not affected

Prevention of Significant Deterioration (PSD)

These rules are found under WAQSR Chapter 6, Section 4.

Not Affected

Non-Attainment New Source Review

These rules are found under WAQSR Chapter 6, Section 13.

Not Affected

- **Emission Unit Attachments**

Required Attachment	Public Document Id	Attachment Type	Description
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PM # 2.5 microns in diameter (PE/PM2.5)	0	0		0.0026	0.011	AP-42
Sulfur dioxide (SO2)	0	0		0.0001	0.0006	AP-42
Nitrogen oxides (NOx)	0	0		0.028	0.121	AP-42
Carbon monoxide (CO)	0	0		0.15	0.7	AP-42
Volatile organic compounds (VOC)	76.9098	0		0.35	1.5	Tanks Program
Lead (Pb)	0	0		0	0	
Total Hazardous Air Pollutants (HAPs)	0.8802	0		0.0043	0.019	Tanks Program
Fluoride (F)	0	0		0	0	
Hydrogen Sulfide (H2S)	0	0		0	0	
Mercury (Hg)	0	0		0	0	
Total Reduced Sulfur (TRS)	0	0		0	0	
Sulfuric Acid Mist (SAM)	0	0		0	0	

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			
Ethyl Benzene	VOC-HAP	0.07	0		0.000319	0.0014	Tanks Program
Toluene	VOC-HAP	0.0865	0		0.000395	0.00173	Tanks Program
Hexane, N-	VOC-HAP	0.61	0		0.00278	0.0122	Tanks Program
Xylenes (Isomers and Mixture)	VOC-HAP	0.0519	0		0.000237	0.00104	Tanks Program
Trimethylpentane, 2,2,4- (Isooctane)	HAP	0.023	0		0.000107	0.000468	Tanks Program
Benzene	VOC-HAP	0.0399	0		0.000182	0.000798	Tanks Program

Greenhouse Gases (GHGs):

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			
Methane	GHG	1.41	0		0.0065	0.028	Tanks Program
Carbon Dioxide	GHG	0.89	0		47.69	208.9	Other
CO2e - Carbon Dioxide Equivalent	Other	36.25	0		47.9	209.8	Other
Nitrous Oxide	GHG	0	0		0.0001	0.0004	Other

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected. Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

Section II - Specific Air Contaminant Source Information

AQD EU ID: TNK006

AQD EU description:

Company EU ID: TNK006

Company EU Description: Oil Storage Tank #6

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Construction(greenfield/new facility)

Date production began:

04/13/2015

- **Emission Unit Type Specific Information**

Emission Unit Type : Storage Tank/Silo

Maximum Hourly Throughput 41.2000

Units : barrels/hr

Is Tank Heated : No

Operating Pressure (psig) : 0.50

Vapor Pressure of Material 2.50
Stored (psig) :

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

Hours/day : 24

Hours/year : 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

Basis for Determination Options:

- *Manufacturer Data*
- *Test results for this source*
- *Similar source test results*
- *GRI Calc*
- *Tanks Program*
- *AP-42*
- *Other. If this is selected, attach a document with a description of the method used.*

Criteria Pollutants :

Pollutant	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
		Potential to Emit (PTE)*	Units*			
Particulate emissions (PE/PM) (formerly particulate matter, PM)	0	0		0.0026	0.011	AP-42
PM # 10 microns in diameter (PE/PM10)	0	0		0.0026	0.011	AP-42

- **Best Available Control Technology (BACT)**

Was a BACT Analysis completed for this unit? No

- **Lowest Achievable Emission Rate (LAER)**

Was a LAER Analysis completed for this unit? No

- **Federal and State Rule Applicability**

New Source Performance Standards (NSPS) Not affected
New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61) Not affected
National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) Not affected
National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

Prevention of Significant Deterioration (PSD) Not Affected
These rules are found under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review Not Affected
These rules are found under WAQSR Chapter 6, Section 13.

- **Emission Unit Attachments**

Required Attachment	Public Document Id	Attachment Type	Description
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PM # 2.5 microns in diameter (PE/PM2.5)	0	0		0.0026	0.011	AP-42
Sulfur dioxide (SO2)	0	0		0.0001	0.0006	AP-42
Nitrogen oxides (NOx)	0	0		0.028	0.121	AP-42
Carbon monoxide (CO)	0	0		0.15	0.7	AP-42
Volatile organic compounds (VOC)	76.9098	0		0.35	1.5	Tanks Program
Lead (Pb)	0	0		0	0	
Total Hazardous Air Pollutants (HAPs)	0.8802	0		0.0043	0.019	Tanks Program
Fluoride (F)	0	0		0	0	
Hydrogen Sulfide (H2S)	0	0		0	0	
Mercury (Hg)	0	0		0	0	
Total Reduced Sulfur (TRS)	0	0		0	0	
Sulfuric Acid Mist (SAM)	0	0		0	0	

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			
Ethyl Benzene	VOC-HAP	0.07	0		0.000319	0.0014	Tanks Program
Toluene	VOC-HAP	0.0865	0		0.000395	0.00173	Tanks Program
Hexane, N-	VOC-HAP	0.61	0		0.00278	0.0122	Tanks Program
Xylenes (Isomers and Mixture)	VOC-HAP	0.0519	0		0.000237	0.00104	Tanks Program
Trimethylpentane, 2,2,4- (Isooctane)	HAP	0.023	0		0.000107	0.000468	Tanks Program
Benzene	VOC-HAP	0.0399	0		0.000182	0.000798	Tanks Program

Greenhouse Gases (GHGs):

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			
Methane	GHG	1.41	0		0.0065	0.028	Tanks Program
Carbon Dioxide	GHG	0.89	0		47.69	208.9	Other
CO2e - Carbon Dioxide Equivalent	Other	36.25	0		47.9	209.8	Other
Nitrous Oxide	GHG	0	0		0.0001	0.0004	Other

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

Section II - Specific Air Contaminant Source Information

AQD EU ID: TNK008

AQD EU description:

Company EU ID: TNK008

Company EU Description: Oil Storage Tank #8

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Construction(greenfield/new facility)

Date production began:

04/13/2015

- **Emission Unit Type Specific Information**

Emission Unit Type : Storage Tank/Silo

Maximum Hourly Throughput 41.2000

Units : barrels/hr

Is Tank Heated : No

Operating Pressure (psig) : 0.50

Vapor Pressure of Material 2.50
Stored (psig) :

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

Hours/day : 24

Hours/year : 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

Basis for Determination Options:

- *Manufacturer Data*
- *Test results for this source*
- *Similar source test results*
- *GRICalc*
- *Tanks Program*
- *AP-42*
- *Other. If this is selected, attach a document with a description of the method used.*

Criteria Pollutants :

Pollutant	Pre- Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determinatio n*
		Potential to Emit (PTE)*	Units*			
Particulate emissions (PE/PM) (formerly particulate matter, PM)	0	0		0.0026	0.011	AP-42
PM # 10 microns in diameter (PE/PM10)	0	0		0.0026	0.011	AP-42

- **Best Available Control Technology (BACT)**

Was a BACT Analysis completed for this unit? No

- **Lowest Achievable Emission Rate (LAER)**

Was a LAER Analysis completed for this unit? No

- **Federal and State Rule Applicability**

New Source Performance Standards (NSPS)

New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)

National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

Not affected

Prevention of Significant Deterioration (PSD)

These rules are found under WAQSR Chapter 6, Section 4.

Not Affected

Non-Attainment New Source Review

These rules are found under WAQSR Chapter 6, Section 13.

Not Affected

- **Emission Unit Attachments**

Required Attachment	Public Document Id	Attachment Type	Description
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PM # 2.5 microns in diameter (PE/PM2.5)	0	0		0	0	
Sulfur dioxide (SO2)	0	0		0	0	
Nitrogen oxides (NOx)	0	0		0	0	
Carbon monoxide (CO)	0	0		0	0	
Volatile organic compounds (VOC)	0.0246	0		0.0056	0.0246	Other
Lead (Pb)	0	0		0	0	
Total Hazardous Air Pollutants (HAPs)	0.0003	0		0.0001	0.0003	Other
Fluoride (F)	0	0		0	0	
Hydrogen Sulfide (H2S)	0	0		0	0	
Mercury (Hg)	0	0		0	0	
Total Reduced Sulfur (TRS)	0	0		0	0	
Sulfuric Acid Mist (SAM)	0	0		0	0	

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			
Ethyl Benzene	VOC-HAP	0.000022	0		0.000003	0.000022	Tanks Program
Toluene	VOC-HAP	0.000028	0		0.000003	0.000028	Tanks Program
Hexane, N-	VOC-HAP	0.000195	0		0.000022	0.000195	Tanks Program
Xylenes (Isomers and Mixture)	VOC-HAP	0.000017	0		0.000002	0.000017	Tanks Program
Trimethylpentane, 2,2,4- (Isooctane)	HAP	0.000007	0		0.000001	0.000007	Tanks Program
Benzene	VOC-HAP	0.000013	0		0.000001	0.000013	Tanks Program

Greenhouse Gases (GHGs):

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			
Methane	GHG	0	0		0	0	Other
Carbon Dioxide	GHG	0	0		0	0	Other
CO2e - Carbon Dioxide Equivalent	Other	0	0		0	0	Other
Nitrous Oxide	GHG	0	0		0	0	Other

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected. Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- Best Available Control Technology (BACT)

Section II - Specific Air Contaminant Source Information

AQD EU ID: TNK010

AQD EU description:

Company EU ID: TNK010

Company EU Description: Water Storage Tank #2

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Construction(greenfield/new facility)

Date production began:

04/13/2015

- **Emission Unit Type Specific Information**

Emission Unit Type : Storage Tank/Silo

Maximum Hourly Throughput : 44.2000

Units : barrels/hr

Is Tank Heated : No

Operating Pressure (psig) : 0.50

Vapor Pressure of Material Stored (psig) : 0.50

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

Hours/day : 24

Hours/year : 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

Basis for Determination Options:

- *Manufacturer Data*
- *Test results for this source*
- *Similar source test results*
- *GRICalc*
- *Tanks Program*
- *AP-42*
- *Other. If this is selected, attach a document with a description of the method used.*

Criteria Pollutants :

Pollutant	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
		Potential to Emit (PTE)*	Units*			
Particulate emissions (PE/PM) (formerly particulate matter, PM)	0	0		0	0	
PM # 10 microns in diameter (PE/PM10)	0	0		0	0	

Was a BACT Analysis completed for this unit? No

- **Lowest Achievable Emission Rate (LAER)**

Was a LAER Analysis completed for this unit? No

- **Federal and State Rule Applicability**

New Source Performance Standards (NSPS) Not affected
New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61) Not affected
National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) Not affected
National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

Prevention of Significant Deterioration (PSD) Not Affected
These rules are found under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review Not Affected
These rules are found under WAQSR Chapter 6, Section 13.

- **Emission Unit Attachments**

Required Attachment	Public Document Id	Attachment Type	Description
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Facility Detail Report
Facility Name: Leavitt Trust Federal 41-34 TH
ID: F026916

Facility Information

Facility ID: F026916
 Facility Name: Leavitt Trust Federal 41-34 TH
 Facility Type: [Blank]
 Location: [Blank]
 Status: [Blank]

Physical Address	City	County	Latitude	Longitude	Location Date
[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]

Location Description: [Blank]
 County: [Blank]
 City: [Blank]
 State: [Blank]
 Zip: [Blank]

API	API Description
[Blank]	[Blank]

User Name	Notes
[Blank]	[Blank]

Contacts	Contact Name	Contact Title	Contact Phone	Contact Email
[Blank]	[Blank]	[Blank]	[Blank]	[Blank]

Contact Detail for [Blank]:
 Name: [Blank]
 Title: [Blank]
 Phone: [Blank]
 Email: [Blank]

Company Title:

Contact's Company Name: Ballard Petroleum Holdings

Address 1: 845 12th St. West

Address 2:

City: Billings

Zip Code: 59102

State: Montana

Work Phone No: (406) 281-8230

Secondary Phone No.:

Address 2:

Secondary Ext. No.:

Mobile Phone No.:

Pager No.:

Fax No:

Pager PIN No.:

Email: Bdavis@ballardpetroleum.com

Email Pager Address:

- Rules & Regs

Subject to Part 60 NSPS:

Subject to 112(r) Accidental Release
Prevention:

Subject to Part 61 NESHAP:

Subject to non-attainment NSR:

Subject Part 63 NESHAP:

Subject to PSD:

Subject to Title IV Acid Rain:

- Attachments

Description	Type	Modified By	Modified Date
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- Version

Version ID	Version Start Date	Version End Date	Preserved
CURRENT	06/30/2015		X
30956	06/29/2015	06/30/2015	X
30955	06/29/2015	06/29/2015	X

Emission Unit : FLR002

Sep 4 2015, 09:09:36

- Emission Unit Information

AQD Emissions Unit ID: FLR002
Emission Unit Type: Flare
Maximum Design Capacity: 1100000.0
Minimum Design Capacity: 27000.0
Pilot Gas Volume (scf/min): 0.8300
AQD Description: Emergency Produced Gas Flare
Company Equipment ID: Flare #2
Company Equipment Description: Emergency Produced Gas Flare
Operating Status: Operating
Initial Construction Commencement Date: 02/24/2015
Initial Operation Commencement Date: 02/24/2015
Most Recent Construction/Modification Commencement Date:
Most Recent Operation Commencement Date:

Units: scf/day

Units: scf/day

- Permitted Emissions

Pollutant	Potential Emissions (Lbs/hour)	Potential Emissions (Tons/Year)	Allowable Emissions (Lbs/Hour)	Allowable Emissions (Tons/Year)	Comments
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- Processes

- Emission Process Information

Process ID: PRC002
Process Name: Flare #2
Company Process Description: Emergency produced gas flare
Source Classification Code (SCC): 3-10-001-60

Release points(s) directly associated with this process

VER002

Emission Unit : FUG002

Sep 4 2015, 09:09:36

- Emission Unit Information

AQD Emissions Unit ID: FUG002
Emission Unit Type: Fugitive
AQD Description:
Company Equipment ID: Fugitives #2
Company Equipment Description: Fugitive dust emissions from vehicle traffic
Operating Status: Operating
Initial Construction Commencement Date: 02/24/2015
Initial Operation Commencement Date: 02/24/2015
Most Recent Construction/Modification Commencement Date:
Most Recent Operation Commencement Date:

- Permitted Emissions

Pollutant	Potential Emissions (Lbs/hour)	Potential Emissions (Tons/Year)	Allowable Emissions (Lbs/Hour)	Allowable Emissions (Tons/Year)	Comments

- Processes

- Emission Process Information

Process ID: PRC004
Process Name: Vehicle traffic dust
Company Process Description: Fugitive dust from on-pad vehicle traffic
Source Classification Code (SCC): 3-10-888-01

Release points(s) directly associated with this process

AVL002

Emission Unit : HET002

Sep 4 2015, 09:09:36

- Emission Unit Information

AQD Emissions Unit ID: HET002
Emission Unit Type: Heater/Chiller
Firing Type: Indirect
Heat Input Rating: 0.5
Primary Fuel Type: Field Gas
Heat Content of Fuel (BTU/scf): 2485
AQD Description:
Company Equipment ID: Heater #2
Company Equipment Description: Heater used for the free water knock out.
Operating Status: Operating
Initial Construction Commencement Date: 02/24/2015
Initial Operation Commencement Date: 02/24/2015
Most Recent Construction/Modification Commencement Date:
Most Recent Operation Commencement Date:

Units: MMBtu/hr
Secondary Fuel Type: N/A

- Permitted Emissions

Pollutant	Potential Emissions (Lbs/hour)	Potential Emissions (Tons/Year)	Allowable Emissions (Lbs/Hour)	Allowable Emissions (Tons/Year)	Comments
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- Processes

- Emission Process Information

Process ID: PRC006
Process Name: Heater #2
Company Process Description: Heater used on the freewater knock out
Source Classification Code (SCC): 3-10-004-04

Release points(s) directly associated with this process

VER004

Emission Unit : SEP001

Sep 4 2015, 09:09:36

- Emission Unit Information

AQD Emissions Unit ID: SEP001

Emission Unit Type: Separator/Treater

Type Of Vessel: 3-Phase Separator

is Vessel Heated: Yes

AQD Description: Three Phase Separator/Heater Treater

Company Equipment ID: SEP001

Company Equipment Description: Three Phase Separator/Heater Treater

Operating Status: Operating

Initial Construction Commencement Date: 02/24/2015

Initial Operation Commencement Date: 02/24/2015

Most Recent Construction/Modification Commencement Date:

Most Recent Operation Commencement Date:

- Permitted Emissions

Pollutant	Potential Emissions (Lbs/hour)	Potential Emissions (Tons/Year)	Allowable Emissions (Lbs/Hour)	Allowable Emissions (Tons/Year)	Comments

- Processes

- Emission Process Information

Process ID: PRC008

Process Name: Heater Treater #1

Company Process Description: Heater Treater/3-phase separator

Source Classification Code (SCC): 3-10-001-29

Control equipment(s) directly associated with this process

FLA002

Emission Unit : SEP003

Sep 4 2015, 09:09:36

- Emission Unit Information

AQD Emissions Unit ID: SEP003
 Emission Unit Type: Separator/Treater
 Type Of Vessel: 2-Phase Separator
 AQD Description: 2-phase separator
 Company Equipment ID: Separator #3
 Company Equipment Description: Two phase separator
 Operating Status: Operating

Initial Construction Commencement Date: 04/13/2013
 Initial Operation Commencement Date: 04/13/2013
 Most Recent Construction/Modification Commencement Date:
 Most Recent Operation Commencement Date:

is Vessel Heated: No

- Permitted Emissions

Pollutant	Potential Emissions (Lbs/hour)	Potential Emissions (Tons/Year)	Allowable Emissions (Lbs/Hour)	Allowable Emissions (Tons/Year)	Comments

- Processes

- Emission Process Information

Process ID: PRC020
 Process Name: Two-Phase Seperrator
 Company Process Description: Two-Phase Seperator
 Source Classification Code (SCC): 3-10-001-29

Emission Unit : TNK002

Sep 4 2015, 09:09:36

- Emission Unit Information

AQD Emissions Unit ID: TNK002
Emission Unit Type: Storage Tank/Silo
Material Type: Liquid
Description of Material Stored: Oil
Capacity: 400
Maximum Throughput: 134685.0000
AQD Description: Water Storage Tank
Company Equipment ID: TNK002
Company Equipment Description: Oil Storage Tank #2
Operating Status: Operating
Initial Construction Commencement Date: 02/24/2015
Initial Operation Commencement Date: 02/24/2015
Most Recent Construction/Modification Commencement Date:
Most Recent Operation Commencement Date:

Units: barrels

Units: barrels/yr

- Permitted Emissions

Pollutant	Potential Emissions (Lbs/hour)	Potential Emissions (Tons/Year)	Allowable Emissions (Lbs/Hour)	Allowable Emissions (Tons/Year)	Comments
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- Processes

- Emission Process Information

Process ID: PRC011
Process Name: Tank Gas #2
Company Process Description: Tank Gas Emissions
Source Classification Code (SCC): 4-04-003-12

Control equipment(s) directly associated with this process

VRU001

FLA001

Emission Unit : TNK004

Sep 4 2015, 09:09:36

- Emission Unit Information

AQD Emissions Unit ID: TNK004
 Emission Unit Type: Storage Tank/Silo
 Material Type: Liquid
 Description of Material Stored: Oil
 Capacity: 400
 Maximum Throughput: 134685.0000
 AQD Description:
 Company Equipment ID: TNK004
 Company Equipment Description: Oil Storage Tank #4
 Operating Status: Operating
 Initial Construction Commencement Date: 02/24/2015
 Initial Operation Commencement Date: 02/24/2015
 Most Recent Construction/Modification Commencement Date:
 Most Recent Operation Commencement Date:

Units: barrels
 Units: barrels/yr

- Permitted Emissions

Pollutant	Potential Emissions (Lbs/hour)	Potential Emissions (Tons/Year)	Allowable Emissions (Lbs/Hour)	Allowable Emissions (Tons/Year)	Comments

- Processes

- Emission Process Information

Process ID: PRC013
 Process Name: Tank Gas #4
 Company Process Description: Tank Gas Emissions
 Source Classification Code (SCC): 4-04-003-12

Control equipment(s) directly associated with this process

VRU001
 FLA001

Emission Unit : TNK006

Sep 4 2015, 09:09:36

- Emission Unit Information

AQD Emissions Unit ID: TNK006
Emission Unit Type: Storage Tank/Silo
Material Type: Liquid
Description of Material Stored: Oil
Capacity: 400
Maximum Throughput: 134685.0000
AQD Description:
Company Equipment ID: TNK006
Company Equipment Description: Oil Storage Tank #6
Operating Status: Operating
Initial Construction Commencement Date: 02/24/2015
Initial Operation Commencement Date: 02/24/2015
Most Recent Construction/Modification Commencement Date:
Most Recent Operation Commencement Date:

Units: barrels

Units: barrels/yr

- Permitted Emissions

Pollutant	Potential Emissions (Lbs/hour)	Potential Emissions (Tons/Year)	Allowable Emissions (Lbs/Hour)	Allowable Emissions (Tons/Year)	Comments
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- Processes

- Emission Process Information

Process ID: PRC015
Process Name: Tank Gas #6
Company Process Description: Tank Gas Emissions
Source Classification Code (SCC): 4-04-003-12

Control equipment(s) directly associated with this process

VRU001

FLA001

Emission Unit : TNK008

Sep 4 2015, 09:09:36

- Emission Unit Information

AQD Emissions Unit ID: TNK008
 Emission Unit Type: Storage Tank/Silo
 Material Type: Liquid
 Description of Material Stored: Oil
 Capacity: 400
 Maximum Throughput: 134685.0000
 AQD Description:
 Company Equipment ID: TNK008
 Company Equipment Description: Oil Storage Tank #8
 Operating Status: Operating
 Initial Construction Commencement Date: 02/24/2015
 Initial Operation Commencement Date: 02/24/2015
 Most Recent Construction/Modification Commencement Date:
 Most Recent Operation Commencement Date:

Units: barrels
 Units: barrels/yr

- Permitted Emissions

Pollutant	Potential Emissions (Lbs/hour)	Potential Emissions (Tons/Year)	Allowable Emissions (Lbs/Hour)	Allowable Emissions (Tons/Year)	Comments

- Processes

- Emission Process Information

Process ID: PRC017
 Process Name: Tank Gas #8
 Company Process Description: Tank Gas Emissions
 Source Classification Code (SCC): 4-04-003-12

Control equipment(s) directly associated with this process

VRU001
 FLA001

Emission Unit : TNK010

Sep 4 2015, 09:09:36

- Emission Unit Information

AQD Emissions Unit ID: TNK010
Emission Unit Type: Storage Tank/Silo
Material Type: Liquid
Description of Material Stored: Water
Capacity: 400 Units: barrels
Maximum Throughput: 690507.0000 Units: barrels/yr
AQD Description:
Company Equipment ID: TNK010
Company Equipment Description: Water Storage Tank #2
Operating Status: Operating
Initial Construction Commencement Date: 02/24/2015
Initial Operation Commencement Date: 02/24/2015
Most Recent Construction/Modification Commencement Date:
Most Recent Operation Commencement Date:

- Permitted Emissions

Pollutant	Potential Emissions (Lbs/hour)	Potential Emissions (Tons/Year)	Allowable Emissions (Lbs/Hour)	Allowable Emissions (Tons/Year)	Comments
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- Processes

- Emission Process Information

Process ID: PRC019
Process Name: Water Tank Gas #2
Company Process Description: Emission from produced water tanks
Source Classification Code (SCC): 4-04-003-15

Release points(s) directly associated with this process

AVL003

Control Equipment : FLA002

Sep 4 2015, 09:09:36

- Control Equipment Information

Equipment Type: Flare
Control Equipment ID: FLA002
AQD Description:
Company Control Equipment ID: Flare #2
Company Control Equipment Description: Emergency flare for controlling produced gas when sales is unavailable.
Operating Status: Operating
Initial Installation Date: 02/24/2015
Manufacturer: Steffes
Model: SHP-6

- Specific Equipment Type information

Flare Type: Elevated - Open
Elevated Flare Type: Non-Assisted
Ignition Device: Yes
Flame Presence Sensor: Yes
Inlet Gas Temp: 153
Flame Presence Type: Thermocouple
Gas Flow Rate: 53.3
Sec. Outlet Gas Temp: 700

- Pollutants Controlled

Pollutant	Design Control Efficiency(%)	Operating Control Efficiency(%)	Capture Efficiency(%)	Total Capture Control(%)
VOC - Volatile Organic Compounds	98	98	100	98

- Associated Control Equipments And Release Points

Release points(s) directly associated with this control equipment

VER002

Release Point : VER001

Sep 4 2015, 09:09:36

- Release Point Information

Release Point ID: VER001
Release Type: Vertical
AQD Description:
Company Release Point ID: Flare #1
Company Release Point Description: Tank gas flare
Operating Status: Operating
Base Elevation (ft): 5197.0

- Stack Details

Stack Height (ft): 25.0
Stack Diameter (ft): 0.5
Exit Gas Velocity (ft/s): 88.11
Exit Gas Flow Rate (acfm): 1038.0
Exit Gas Temp (F): 700.0

- Release Latitude and Longitude

Latitude: 43.66168

Longitude: -105.60624

- CEM Data

Description	H2S	SO2	NOX	CO	THC	HCL	HFL	O	TRS	CO2	FLOW	OPACITY	PM
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Release Point : AVL001

Sep 4 2015, 09:09:36

- **Release Point Information**

Release Point ID: AVL001

Release Type: Fugitive (Area, Volume, Line)

AQD Description:

Company Release Point ID: Fugitives #1

Company Release Point Description: Fugitive equipment leaks from oil and gas production equipment

Operating Status: Operating

Release Height (ft): 5.0

- **Release Latitude and Longitude**

Latitude: 43.66168

Longitude: -105.60624

- **CEM Data**

Description	H2S	SO2	NOX	CO	THC	HCL	HFL	O	TRS	CO2	FLOW	OPACITY	PM
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Release Point : VER004

Sep 4 2015, 09:09:36

- Release Point Information

Release Point ID: VER004

Release Type: Vertical

AQD Description:

Company Release Point ID: Heater #2

Company Release Point Description: Heater used with the freewater knock out

Operating Status: Operating

Base Elevation (ft): 5197.0

- Stack Details

Stack Height (ft): 15.0

Stack Diameter (ft): 0.5

Exit Gas Velocity (ft/s): 18.9

Exit Gas Flow Rate (acfm): 222.7

Exit Gas Temp (F): 350.0

- Release Latitude and Longitude

Latitude: 43.66168

Longitude: -105.60624

- CEM Data

Description	H2S	SO2	NOX	CO	THC	HCL	HFL	O	TRS	CO2	FLOW	OPACITY	PM
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Release Point : AVL003

Sep 4 2015, 09:09:36

- Release Point Information

Release Point ID: AVL003

Release Type: Fugitive (Area, Volume, Line)

AQD Description:

Company Release Point ID: Water Tanks

Company Release Point Description: Emissions from produced water tanks

Operating Status: Operating

Release Height (ft): 20.0

- Release Latitude and Longitude

Latitude: 43.66168

Longitude: -105.60624

- CEM Data

Description	H2S	SO2	NOX	CO	THC	HCL	HFL	O	TRS	CO2	FLOW	OPACITY	PM
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