



Devon Energy Corporation
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Oklahoma City, OK 73102

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July 24, 2024

Texas Commission on Environmental Quality
Permits Initial Review Team, MC 163
P. O. Box 13087
Austin, Texas 78711-3087
(512) 239-1000

Re: **Devon Energy Production Company, L.P.**
Green A Pad 4
CN600132344
RN111970869
Permit By Rule No. 176899

Submitted via STEERS

Dear Reader:

Devon Energy Production Company, L.P. (Devon) owns and operates Green A Pad 4 located in Karnes County, Texas. Devon is submitting the enclosed documentation to register and certify emissions from one (1) engine, two (2) heater treaters, two (2) oil storage tanks, three (3) water storage tanks, one (1) flare, truck loading, and associated sitewide fugitives.

If you have any questions concerning this certification or wish to discuss the information provided with this letter, please contact me at (361) 275-0971.

Sincerely,

Ryan Kainer

Ryan Kainer
Environmental Professional

DEVON ENERGY PRODUCTION COMPANY, L.P.
GREEN A PAD 4
KARNES COUNTY, TEXAS

PROJECT DESCRIPTION

Devon Energy Production Company, L.P. is registering the Green A Pad 4 under Permit by Rule (PBR) §106.352(a)-(k). While the Facility is located outside the Barnett Shale Area, Devon is voluntarily registering the Facility under the requirements in PBR §106.352(a)-(k). The site will consist of one (1) compressor engine, two (2) heater treaters, two (2) oil storage tanks, three (3) water storage tanks, and various support operations.

DEVON ENERGY PRODUCTION COMPANY, L.P.
GREEN A PAD 4
KARNES COUNTY, TEXAS

IMPACTS EVALUATION

An impacts review was conducted for benzene using the TCEQ lookup tables from the TCEQ Oil and Gas spreadsheet. The results are included in the attached application and show that the site passes the impacts review for benzene. Based on the sitewide emission rates, a full impacts review is not required for NO₂, H₂S, or SO₂.

**DEVON ENERGY PRODUCTION COMPANY, L.P.
GREEN A PAD 4
KARNES COUNTY, TEXAS**

REGULATORY APPLICABILITY

New Source Performance Standards (NSPS)

The Facility was constructed after December 6, 2022; therefore, the site is not subject to NSPS Subpart OOOO or OOOOa. Cumulative PTE emissions from the oil tanks are greater than 6 T/yr per tank battery; therefore, the tanks are subject to NSPS Subpart OOOOb. The fugitive equipment components are subject to the LDAR monitoring requirements of Subpart OOOOb. There may be pneumatic pumps and controllers onsite that are operated by compressed air and therefore, are not subject to NSPS Subpart OOOOb.

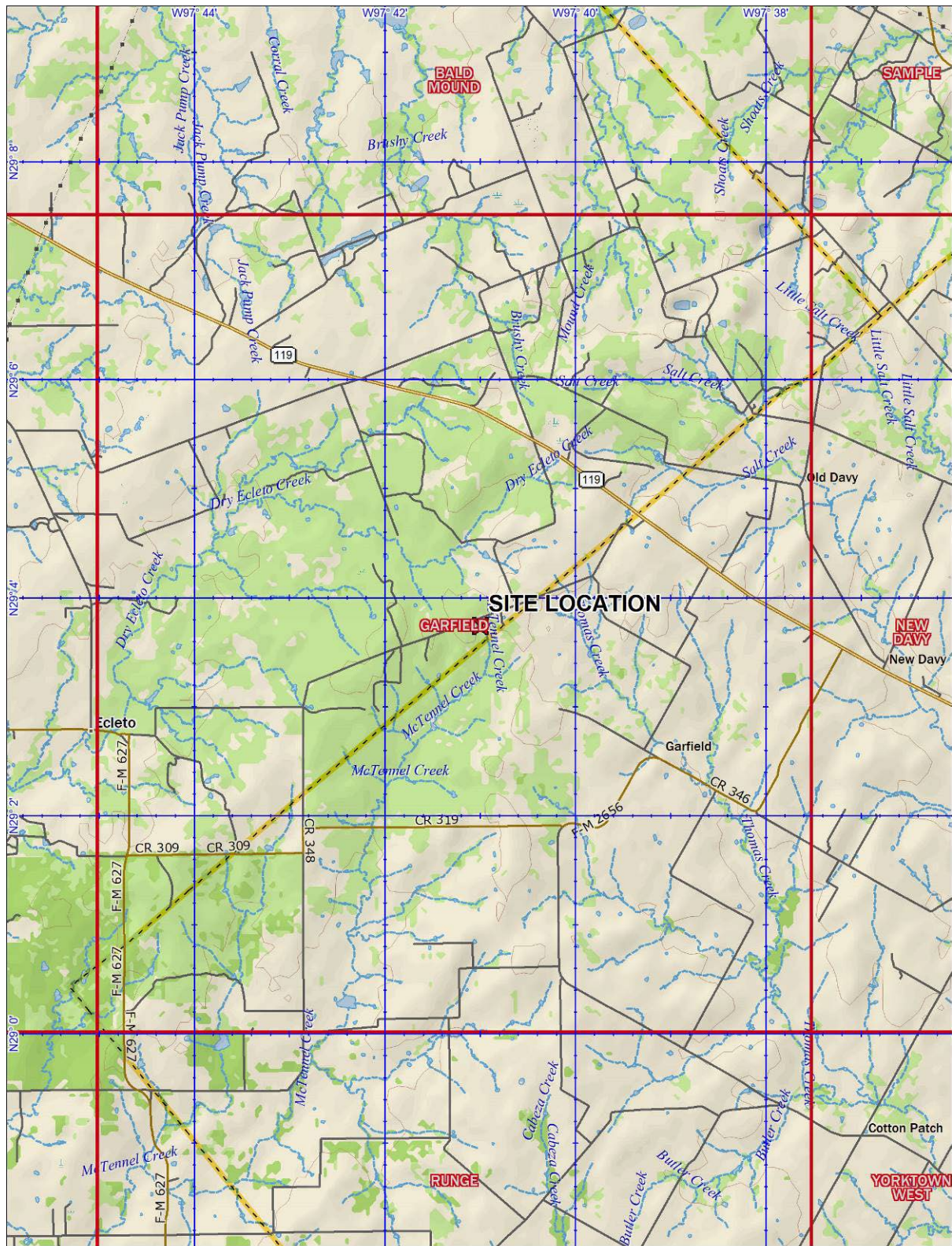
NSPS Subpart JJJJ applies to spark-ignited internal combustion engines that were manufactured on or after July 1, 2007 for engines with a maximum engine horsepower greater than or equal to 500 Hp. ENGINE1 is subject to this requirement

Hazardous Air Pollutants Maximum Achievable Control Technology Standards (MACT)

ENGINE1 is subject to current NESHAP for stationary reciprocating internal combustion engines, 40 CFR 63 Subpart ZZZZ.

Texas Commission on Environmental Quality
Table 29 Reciprocating Engines

I. Engine Data											
Manufacturer: Caterpillar		Model No. G3508B		Serial No. TBD		Manufacture Date: 01/01/2013					
Rebuilds Date: N/A		No. of Cylinders: 8		Compression Ratio: 8.0:1		EPN: ENGINE1					
Application: ☒ Gas Compression ☐ Electric Generation ☐ Refrigeration ☐ Emergency/Stand by ☒ 4 Stroke Cycle ☐ 2 Stroke Cycle ☒ Carbureted ☒ Spark Ignited ☐ Dual Fuel ☐ Fuel Injected ☐ Diesel ☐ Naturally Aspirated ☐ Blower /Pump Scavenged ☐ Turbo Charged and I.C. ☐ Turbo Charged ☐ Intercooled ☐ I.C. Water Temperature ☒ Lean Burn ☐ Rich Burn											
Ignition/Injection Timing: Fixed:				Variable:							
Manufacture Horsepower Rating: 690						Proposed Horsepower Rating: 690					
Discharge Parameters											
Stack Height (Feet)		Stack Diameter (Feet)		Stack Temperature (°F)		Exit Velocity (FPS)					
23		1.00		931		94.54					
II. Fuel Data											
Type of Fuel: ☒ Field Gas ☐ Landfill Gas ☐ LP Gas ☐ Natural Gas ☐ Digester Gas ☐ Diesel											
Fuel Consumption (BTU/bhp-hr): 8203				Heat ing Value: 1090 Btu/scf				Lower Heating Value:			
Sulfur Content (grains/100 scf - weight %): Negligible											
III. Emission Factors (Before Control)											
NO _x		CO		SO ₂		VOC		Formaldehyde		PM ₁₀	
g/hp-hr	ppmv	g/hp-hr	ppmv	g/hp-hr	ppmv	g/hp-hr	ppmv	g/hp-hr	ppmv	g/hp-hr	ppmv
1.00		2.58				0.70					
Source of Emission Factors: ☐ Manufacturer Data ☒ AP-42 ☒ Other (specify): NSPS JJJJ											
IV. Emission Factors (Post Control)											
NO _x		CO		SO ₂		VOC		Formaldehyde		PM ₁₀	
g/hp-hr	ppmv	g/hp-hr	ppmv	g/hp-hr	ppmv	g/hp-hr	ppmv	g/hp-hr	ppmv	g/hp-hr	ppmv
1.00		2.00				0.70		0.0528 lb/MMBtu			
Method of Emission Control: ☐ NSCR Catalyst ☒ Lean Operation ☐ Parameter Adjustment ☐ Stratified Charge ☐ JLCC Catalyst ☒ Other (Specify): Oxidation Catalyst											
Note: Must submit a copy of any manufacturer control information that demonstrates control efficiency.											
Is Formaldehyde included in the VOCs?										☐ Yes ☒ No	
V. Federal and State Standards (Check all that apply)											
☒ NSPS JJJJ ☒ MACT ZZZZ ☐ NSPS IIII ☐ Title 30 Chapter 117 - List County: _____											
VI. Additional Information											
1. Submit a copy of the engine manufacturer's site rating or general rating specification data. 2. Submit a typical fuel gas analysis, including sulfur content and heating value. For gaseous fuels, provide mole percent of constituents. 3. Submit description of air/fuel ratio control system (manufacturer information is acceptable).											



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www.delorme.com



525 CENTRAL PARK DR.
SUITE 500
OKLAHOMA CITY, OK 73105

www.altamira-us.com

FIGURE TITLE
AREA MAP

DOCUMENT TITLE
PERMIT BY RULE APPLICATION

CLIENT
DEVON ENERGY PRODUCTION COMPANY, L.P.

LOCATION
GREEN A PAD 4
KARNES COUNTY, TEXAS

DATE 7/10/2024

SCALE AS SHOWN

DESIGNED BY AD

APPROVED BY CM

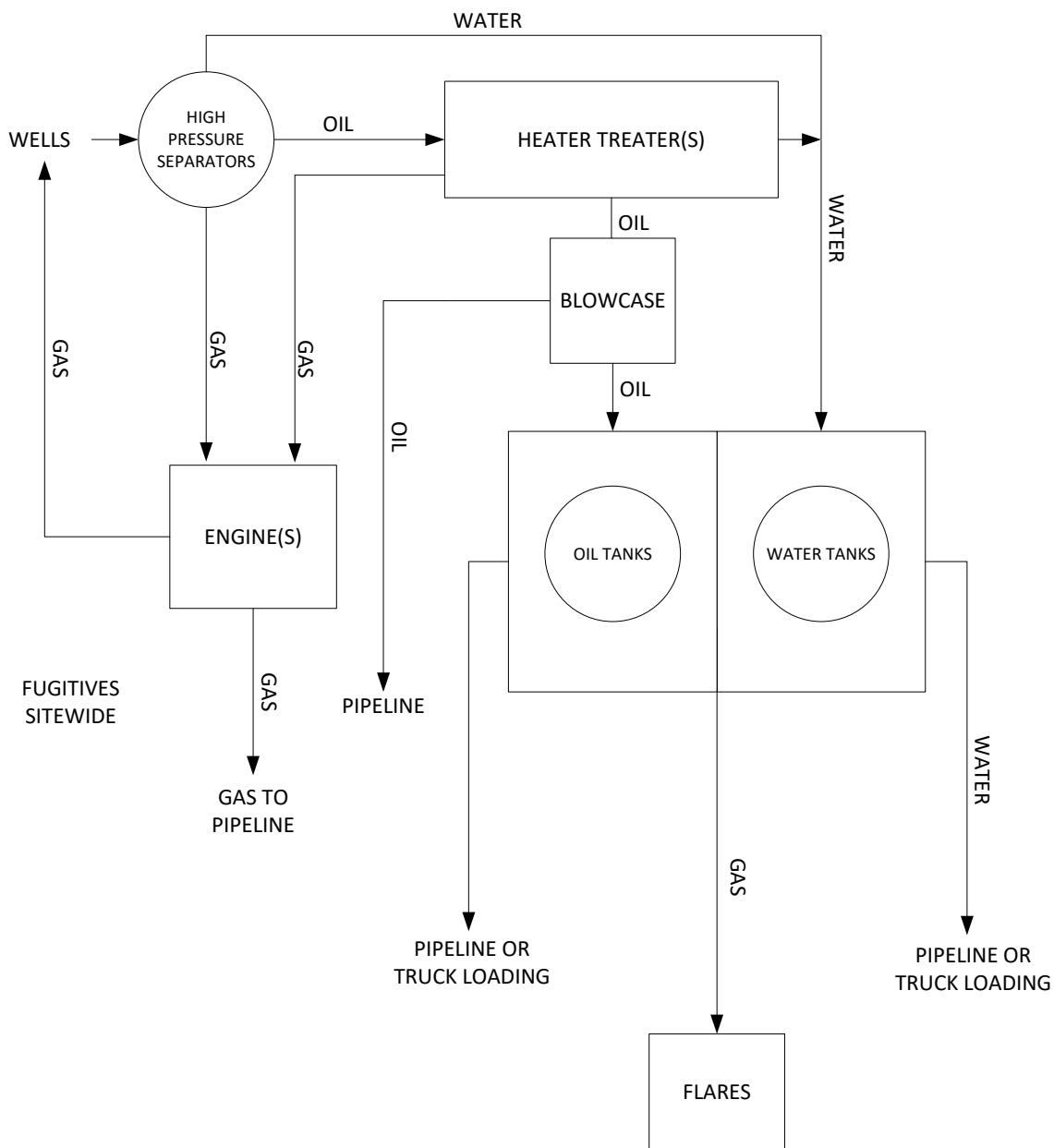
DRAWN BY AD

PROJECT NUMBER

DVNATX1901

FIGURE NUMBER

3-1



525 CENTRAL PARK DR.
SUITE 500
OKLAHOMA CITY, OK 73105

www.altamira-us.com

FIGURE TITLE
PROCESS FLOW DIAGRAM

DOCUMENT TITLE
PERMIT BY RULE APPLICATION

CLIENT
DEVON ENERGY PRODUCTION COMPANY, L.P.

LOCATION
**GREEN A PAD 4
KARNES COUNTY, TEXAS**

DATE
7/10/2024

SCALE
NOT TO SCALE

DESIGNED BY
AT

APPROVED BY
CM

DRAWN BY
AT

PROJECT NUMBER

DVNATX1901

FIGURE NUMBER

3-2

TABLE 1

Total Emission Summary

Owner/Operator: Devon Energy
Location: GREEN A PAD 4

Emission Source	# Units		NOx		CO		VOC		PM		SO2		H2S		Total HAPS		Methane		Benzene	
			lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
Flare	1	All	0.042	0.289	0.094	0.649	1.422	1.253			0.028	0.067	0.000	0.001	0.042	0.054	0.040	0.162	0.004	0.007
Fugitive	1	All					1.139	4.987					0.000	0.000	0.048	0.211	0.096	0.422	0.002	0.010
Heater Treater 1	1	All	0.079	0.344	0.066	0.289	0.004	0.019	0.006	0.026	0.006	0.027	0.000	0.000	0.001	0.006	0.002	0.008	0.000	0.000
Heater Treater 2	1	All	0.079	0.344	0.066	0.289	0.004	0.019	0.006	0.026	0.006	0.027	0.000	0.000	0.001	0.006	0.002	0.008	0.000	0.000
Engine 1	1	All	1.521	6.663	3.042	13.326	1.411	6.180	0.057	0.248	0.003	0.015			0.394	1.725	7.075	30.989	0.002	0.011
Oil Loadout	1	All					27.750	0.901					0.004	0.000	0.749	0.024	0.436	0.014	0.059	0.002
Water Loadout	1	All					0.664	0.466					0.019	0.011	0.456	0.277	1.155	1.122	0.135	0.071
MSS	1	All					110.307	3.574					0.018	0.001	9.867	0.169	124.222	4.969	0.441	0.009
Oil Tank	2	All					1.415	1.099					0.000	0.000	0.039	0.035	0.023	0.059	0.003	0.003
Water Tank	3	All					0.013	0.080					0.000	0.001	0.003	0.017	0.006	0.055	0.001	0.004
Sum			1.720	7.640	3.268	14.553	144.129	18.578	0.068	0.300	0.043	0.135	0.042	0.014	11.600	2.526	133.056	37.807	0.648	0.117

NOTES:

- The oil tank, oil loadout, water tank, water loadout, flare, fugitive, heater treater, engine, and MSS emission calculations were performed by Devon Energy Production Company, L.P. using a ProMax simulation.
- Engine VOC includes aldehydes.

TABLE 2

Flare

Owner/Operator: Devon Energy
Facility: GREEN A PAD 4

Equipment Specifications:

# of Flares	1	Flare 1
MF Capacity	mscfd	140
Annual Heat Rating	mmbtuh	0.48
Design Heat Rating	mmbtuh	9.81
Control Efficiency		98%

Emission Factors:

Per TCEQ Memorandum - 2/13/1995. (BTU/SCF)(MSCF/D)*(1000 SCF/MSCF)*(1 D/24HR)*(1 MMBTU/ 10*6 BTU)*(LB/BTU)		
	LB/MMBTU	
	>1000	192-1000
Pollutant	BTU/SCF	BTU/SCF
NOX	0.138	0.068
CO	0.31	0.5496

*The more conservative (higher) lb/MMBtu factor is selected from between the TCEQ guidance and AP-42 Ch. 13
*Per TCEQ Guidance: Technical Supplement 4 - Flares and EPA AP-42 - Ch 13, Table 13.5.1
*Per TCEQ Guidance: Technical Supplement 4 - Flares and EPA AP-42 - Ch 13, Table 13.5.2

		Daily (MSCFD)	Hourly (Mscf/hr)	Annual (Mscf/yr)	Percent to Flare	Control Efficiency	Corrected Gas to Flare (MSCF/yr)	Heating Value (Btu/ft³)	Emissions															
									NOX		CO		VOC		SO2		H2S		Total HAP		Methane		Benzene	
									lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
Pilot Light*		3.12	0.13	1138.80	100.00%	98.00%	1138.80	1090.12	0.020	0.086	0.044	0.192	0.022	0.098	0.000	0.000	0.000	0.000	0.001	0.003	0.011	0.050	0.000	0.000
Oil Tanks	All	3.37	0.06	1229.50	98.00%	98.00%	1204.91	2307.61	0.017	0.192	0.039	0.431	1.387	1.077	0.017	0.012	0.000	0.000	0.038	0.035	0.023	0.058	0.003	0.003
Water Tanks	All	0.41	0.03	148.12	98.00%	98.00%	145.15	1130.10	0.005	0.011	0.011	0.025	0.013	0.078	0.011	0.055	0.000	0.001	0.003	0.017	0.006	0.054	0.001	0.004
Total		6.89	0.22	2516.41			2488.86		0.042	0.289	0.094	0.649	1.422	1.253	0.028	0.067	0.000	0.001	0.042	0.054	0.040	0.162	0.004	0.007
Weighted Average								1681.86																

*98% Control Efficiency, 100% Conversion of combusted H₂S to SO₂ assumed

*Heating values are from Promax streams

*Pilot gas includes flare assist gas

Flare Heat Release Rate: 382,475 BTU/hr

1487.77 Hourly Weighted Average Heating Value (BTU/scf)
0.21 MSCF/Hr to Flare (SCF/hr / 1000)

Note: Flare Tip Velocity (ft/sec) = (Flare Volume (SCF/Hr) x 1 hr/60 min x 1 min/60 sec) / (3.1416 x (Flare Diameter (ft)² /4))

Flare Volume 214.86 SCF/Hr (Sum of [Hourly MSCF/hr x Percent to Flare x 1000])
Flare Diameter 0.33 ft
Flare Tip Velocity 0.68 ft/sec

TABLE 3

Heater Treaters

Owner/Operator: Devon Energy
Facility: GREEN A PAD 4

Equipment Specifications:

# of Heaters	2	Heater 1	Heater 2
Design Heat Rating	mmbtuh	0.75	0.75
Stack Height	ft	20	20
Stack Diameter	ft	1	1
Exit Temperature	F	250	250
Exhaust Gas Flowrate	ft3/min	250	250

Emission Factors:

Pollutant	Emission Factors ^a (lb/MMSCF)	Adjusted Factors ^b (lb/MMSCF)
NO _x (a)	100.00	106.874
CO (a)	84.00	89.774
VOC (a)	5.50	5.878
SO ₂ (c)	8.28	8.283
H ₂ S (c)	0.09	0.090
PM/PM ₁₀ (a)	7.60	8.122
Methane	2.30	2.458
Benzene (d)	0.002	0.002

^a Criteria Pollutant Emission Factors obtained from AP-42 Nat Gas Combustion, Table 1.4-1, (7/98) < 100 MMBtu/hr heat input; & Table 1.4-2, (7/98)

^b As per EPA AP-42 Emission Factor Adjusted for Fuel Gas Heating Value

^c As per EPA AP-42 Emission Factors for Criteria Pollutants and Greenhouse Gases from Natural Gas Combustion, Table 1.4-

^d As per EPA AP-42 Emission Factors for Speciated Organic Compounds from Natural Gas Combustion

SO ₂ Emission Factor:	mol H ₂ S in feed gas	Molecular Weight SO ₂	Combustion Efficiency	Calculated EF
*Assumes ideal gas law:	fractional	lb/lbmol	fractional	lb/MMSCF
	379 scf/lbmol	0.00005	64.066	0.98

Calculation Method: $(1/379)(\text{lbmol/scf})(10^6 \text{ SCF/MMSCF})(\text{Combustion Efficiency})(\text{Mol fraction H}_2\text{S})(64.066 \text{ lb/lbmol SO}_2) = \text{lb/MMSCF}$

1. H₂S emissions are calculated in the same manner, except using the bypass fraction instead of combustion efficiency and the molecular weight of H₂S (34.081 lb/lbmol)

2. If the calculated SO₂ EF is less than 0.6 lb/MMSCF (per AP-42 table 1.4-2), the EF is conservatively set at 0.6 lb/MMSCF

		Heat Rating (mmbtuh)	Run Hours	Heating Value (Btu/ft³)	Emissions																	
					NO _x		CO		VOC		SO ₂		H ₂ S		PM		Total HAP		Methane		Benzene	
					lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
Heater 1	0.75	8760	1090.12	0.079	0.344	0.066	0.289	0.004	0.019	0.006	0.027	0.000	0.000	0.006	0.026	0.001	0.006	0.002	0.008	0.000	0.000	
Heater 2	0.75	8760	1090.12	0.079	0.344	0.066	0.289	0.004	0.019	0.006	0.027	0.000	0.000	0.006	0.026	0.001	0.006	0.002	0.008	0.000	0.000	

TABLE 4

Fugitives

Owner/Operator: Devon Energy
Facility: GREEN A PAD 4

Component Count:
Liquid Stream Compositions STX - Johnson A 6-9 - EGLFD First Stage Separator Liquid
Gas Stream Compositions STX - Johnson A 6-9 - EGLFD First Stage Separator Gas
Equipment Count Method Used Count 1
Run Hours 8760

Gas Service

Component	Count	Emission Factor ^a (lb/hr/component)	Emissions	
			lb/hr	tpy
Valve	100	0.0099	0.992	4.345
Flanges	103	0.0009	0.089	0.388
Pump	0	0.0053	0.000	0.000
Compressor Seal	2	0.0194	0.039	0.170
Relief Valve	11	0.0194	0.213	0.935
Open-Ended Line	0	0.0044	0.000	0.000
Connectors	181	0.0004	0.080	0.349
Other	0	0.0194	0.000	0.000
Total			1.412	6.186

Component	wt fraction	lb/hr	tpy
Total VOC	0.2859	0.404	1.769
Hydrogen Sulfide	0.0001	0.000	0.000
Methane	0.5008	0.030	0.133
Total HAP	0.0107	0.015	0.066
Benzene	0.0007	0.001	0.004

Light Oil > 20° API

Component	Count	Emission Factor ^a (lb/hr/component)	Emissions	
			lb/hr	tpy
Valve	86	0.0055	0.473	2.072
Flanges	210	0.0002	0.050	0.221
Pump	1	0.0287	0.029	0.126
Compressor Seal	0	0.0165	0.000	0.000
Relief Valve	5	0.0165	0.083	0.361
Open-Ended Line	2	0.0031	0.006	0.027
Connectors	216	0.0005	0.099	0.435
Other	0	0.0165	0.000	0.000
Total			0.740	3.242

Component	wt fraction	lb/hr	tpy
Total VOC	0.9927	0.735	3.218
Hydrogen Sulfide	0.0000	0.000	0.000
Methane	0.0020	0.066	0.289
Total HAP	0.0445	0.033	0.144
Benzene	0.0017	0.001	0.005

Water/Light Oil Service

Component	Count	Emission Factor ^a (lb/hr/component)	Emissions	
			lb/hr	tpy
Valve	69	0.0002	0.015	0.065
Flanges	135	0.0000	0.001	0.004
Pump	3	0.0001	0.000	0.001
Compressor Seal	0	0.0309	0.000	0.000
Relief Valve	3	0.0309	0.093	0.406
Open-Ended Line	3	0.0006	0.002	0.008
Connectors	144	0.0002	0.035	0.153
Other	0	0.0309	0.000	0.000
Total			0.145	0.637

Component	wt fraction	lb/hr	tpy
Total VOC	8.49E-05	0.000	0.000
Hydrogen Sulfide	1.76E-06	0.000	0.000
Methane	1.75E-07	0.000	0.000
Total HAP	2.57E-05	0.000	0.000
Benzene	9.24E-06	0.000	0.000

Fugitive Emissions Summary

Component	lb/hr	tpy
Total VOC	1.139	4.987
Hydrogen Sulfide	0.000	0.000
Methane	0.096	0.422
Total HAP	0.048	0.211
Benzene	0.002	0.010

^a Per TCEQ Fugitive Guidance for Oil/Gas Production Operations, (lb/hr/component)(hr/yr)(1 ton/2000 lbs) = tpy emissions

TABLE 5

Oil Tank Emissions

Owner/Operator: Devon Energy
Facility: GREEN A PAD 4

Throughput (bbl/hr) 20.83
Throughput (bbl/day) 2,000.00
Throughput (bbl/yr) 730,000.00
Tanks 2.00
Controls Flare
Control Efficiency 98%
Capture Efficiency 98%
Meteorological Data Victoria, TX
Run Hours 8760
VRU Capture 0%

Flashing Emissions

Pollutant	Emission Factors ^a		Emissions					
			Uncontrolled			Controlled		
	tpy/bopd	lb/bbl	lb/hr	tpy	tpy/tank	lb/hr	tpy	tpy/tank
VOC	0.022	0.120	3.880	43.827	21.914	0.078	0.877	0.438
H2S	0.000	0.000	0.000	0.005	0.002	0.000	0.000	0.000
Methane	0.001	0.008	0.145	2.798	1.399	0.003	0.056	0.028
Total HAP	0.001	0.004	0.113	1.466	0.733	0.002	0.029	0.015
Benzene	0.000	0.000	0.009	0.111	0.056	0.000	0.002	0.001

Working/Standing

Pollutant	Emission Factors ^b		Emissions					
			Uncontrolled			Controlled		
	tpy/bopd	lb/bbl	lb/hr	tpy	tpy/tank	lb/hr	tpy	tpy/tank
VOC	0.005	0.025	2.114	9.017	4.509	0.042	0.180	0.090
H2S	0.000	0.000	0.000	0.001	0.001	0.000	0.000	0.000
Methane	0.000	0.000	0.004	0.142	0.071	0.000	0.003	0.001
Total HAP	0.000	0.001	0.077	0.243	0.122	0.002	0.005	0.002
Benzene	0.000	0.000	0.006	0.019	0.010	0.000	0.000	0.000

Vapor Balance Emissions

Pollutant	Emission Factors		Emissions					
			Uncontrolled			Controlled		
	tpy/bopd	lb/bbl	lb/hr (95°F)	ton/yr	tpy/tank	lb/hr	tpy	tpy/tank
VOC	0.001	0.006	64.751	2.102	1.051	1.295	0.042	0.021
H2S	0.000	0.000	0.009	0.000	0.000	0.000	0.000	0.000
Methane	0.000	0.000	1.016	0.033	0.017	0.020	0.001	0.000
Total HAP	0.000	0.000	1.747	0.057	0.028	0.035	0.001	0.001
Benzene	0.000	0.000	0.137	0.004	0.002	0.003	0.000	0.000

Total Emissions

Pollutant	Emission Factors		Emissions					
			Uncontrolled			Controlled		
	tpy/bopd	lb/bbl	lb/hr	tpy	tpy/tank	lb/hr	tpy	tpy/tank
VOC	0.027	0.151	70.745	54.947	27.473	1.415	1.099	0.549
H2S	0.000	0.000	0.009	0.007	0.003	0.000	0.000	0.000
Methane	0.001	0.008	1.165	2.973	1.486	0.023	0.059	0.030
Total HAP	0.001	0.005	1.937	1.766	0.883	0.039	0.035	0.018
Benzene	0.000	0.000	0.151	0.135	0.067	0.003	0.003	0.001

^a ProMax Oil Tk Gas Stream

^b Promax W &S Stream

TABLE 6

Water Tank Emissions

Owner/Operator: Devon Energy
Facility: GREEN A PAD 4

Throughput (bbl/hr) 20.83
Throughput (bbl/day) 900.00
Throughput (bbl/yr) 328,500.00
Tanks 3.00
Controls Flare
Control Efficiency 98%
Capture Efficiency 98%
Meteorological Data Victoria, TX
Run Hours 8760
VRU Capture 0%

Flashing Emissions

Pollutant	Emission Factors ^a		Emissions					
			Uncontrolled			Controlled		
	tpy/bopd	lb/bbl	lb/hr	tpy	tpy/tank	lb/hr	tpy	tpy/tank
VOC	0.003	0.018	0.468	2.923	0.974	0.009	0.058	0.019
H2S	0.000	0.000	0.001	0.005	0.002	0.000	0.000	0.000
Methane	0.003	0.014	0.247	2.335	0.778	0.005	0.047	0.016
Total HAP	0.000	0.001	0.028	0.229	0.076	0.001	0.005	0.002
Benzene	0.000	0.000	0.007	0.057	0.019	0.000	0.001	0.000

Working/Standing

Pollutant	Emission Factors ^b		Emissions					
			Uncontrolled			Controlled		
	tpy/bopd	lb/bbl	lb/hr	tpy	tpy/tank	lb/hr	tpy	tpy/tank
VOC	0.001	0.006	0.181	1.063	0.354	0.004	0.021	0.007
H2S	0.000	0.000	0.005	0.025	0.008	0.000	0.001	0.000
Methane	0.000	0.002	0.037	0.397	0.132	0.001	0.008	0.003
Total HAP	0.001	0.004	0.124	0.633	0.211	0.002	0.013	0.004
Benzene	0.000	0.001	0.037	0.163	0.054	0.001	0.003	0.001

Total Emissions

Pollutant	Emission Factors		Emissions					
			Uncontrolled			Controlled		
	tpy/bopd	lb/bbl	lb/hr	tpy	tpy/tank	lb/hr	tpy	tpy/tank
VOC	0.004	0.024	0.649	3.986	1.329	0.013	0.080	0.027
H2S	0.000	0.000	0.006	0.031	0.010	0.000	0.001	0.000
Methane	0.003	0.017	0.284	2.732	0.911	0.006	0.055	0.018
Total HAP	0.001	0.005	0.152	0.861	0.287	0.003	0.017	0.006
Benzene	0.000	0.001	0.044	0.220	0.073	0.001	0.004	0.001

^a ProMax Water Tank Gas Stream

^b ProMax Water W & S Gas Stream

TABLE 7

Loading Emissions

Owner/Operator: Devon Energy
Facility: GREEN A PAD 4

Oil Loading	Hourly	Annual	
Throughput (bbl/hr)	190.00	-	*Amount of liquids that can be loading in one hour
Throughput (bbl/day)	500.00	2000.00	
Run Hours	8760		
Throughput (bbl/yr)	-	730,000.00	
Saturation Factor, S	1.00		*Per AP-42 Table 5.2-1, Saturation Factors
Average Surface Temperature, (°F)	98.89	74.14	
Temperature, T (R)	558.9	534.1	
TVP, (psia)	14.19	13.49	*Promax Oil Losses Stencil
Vapor MW, M (lb/lbmol)	47.90	40.70	*Promax Oil Losses Stencil
L _L , lb/1000 gal	15.155	12.807	*Per AP-42 5.2.2.1.1 - LL = 12.46*SPM/T
VOC wt%	76.49%		
H2S wt%	0.01%		
Methane wt%	1.20%		
Total HAP wt%	2.06%		
Benzene wt%	0.16%		
Oil to Pipeline	Y		
% Oil to Pipeline	98%		
Controls	Vapor Balancing		
Capture Efficiency, eff	70%		

Pollutant	Emission Factors	Emissions	
		Uncontrolled	
	lb/bbl	lb/hr (95°F)	ton/yr
VOC	0.002	27.750	0.901
H2S	0.000	0.004	0.000
Methane	0.000	0.436	0.014
Total HAP	0.000	0.749	0.024
Benzene	0.000	0.059	0.002

Water Loading	Hourly	Annual	
Throughput (bbl/hr)	190.00	-	
Throughput (bbl/day)	500.00	900.00	
Run Hours	8760		
Throughput (bbl/yr)	-	328,500.00	
Saturation Factor, S	0.6		*Per AP-42 Table 5.2-1, Saturation Factors
Average Surface Temperature, (°F)	98.89	74.14	*Promax Water Losses Stencil
Temperature, T (R)	558.9	534.1	
TVP, (psia)	14.32	13.68	*Promax Water Losses Stencil
Vapor MW, M (lb/lbmol)	29.40	27.24	
L _L , lb/1000 gal	5.631	5.216	*Per AP-41 5.2.2.1.1 - LL = 12.46*SPM/T*wt% VOC
VOC wt%	17.73%		
H2S wt%	0.42%		
Methane wt%	6.62%		
Total HAP wt%	10.56%		
Benzene wt%	2.72%		
Water to Pipeline	N		
% Water to Pipeline	0%		

Pollutant	Emission Factors	Emissions	
		Uncontrolled	
	lb/bbl	lb/hr (95°F)	ton/yr
VOC	0.003	0.664	0.466
H2S	0.000	0.019	0.011
Methane	0.007	1.155	1.122
Total HAP	0.002	0.456	0.277
Benzene	0.000	0.135	0.071

TABLE 8

Engine 1

Owner/Operator: Devon Energy
Facility: GREEN A PAD 4

Make/Model: CAT3508
 Manufactured Date: 1/1/2013
 Serial Number: TBD
 Emission Factors (Uncontrolled): AP-42
 Emission Factors (Controlled): Quad J
 Engine Make/Model: CAT3508
 Max HP, 100% Load: 690
 Annual Run Time, hrs: 8760
 Design Class: 4-Stroke Lean Burn
 Fuel Type: Natural Gas
 Ignition Type: Spark
 Fuel Consumption, Btu/bhp*hr: 8203
 Fuel Consumption, MMBtu/hr: 5.66
 Gas Heating Value, Btu/scf: 1090.12 *STX - Johnson A 6-9 - EGLFD First Stage Separator Gas
 Stack Height (ft): 23.00
 Stack Diameter (ft): 1.00
 Exit Temperature (°F): 931.00
 Exhaust Gas Flowrate (ft³/min): 4455.00
 Exhaust Velocity (ft/s): 94.54

Engine Controls

Controls? N
 Control Type AFR/CC
 Control Efficiency 0

Engine 1 Emission Calculations

Pollutant	Controlled Emissions				
	Emission Factors				
	EF	Units	Reference	lb/hr	ton/yr
NO _x	1	g/(hp*hr)	Quad J	1.521	6.663
VOC	0.7	g/(hp*hr)	Quad J	1.411	6.180
CO	2	g/(hp*hr)	Quad J	3.042	13.326
PM ₁₀	0.0099871	(lb/MMBtu)	AP-42	0.057	0.248
PM _{2.5}	0.0099871	(lb/MMBtu)	AP-42	0.057	0.248
SO ₂	0.000588	(lb/MMBtu)	AP-42	0.003	0.015
Methane	1.25	(lb/MMBtu)	AP-42	7.075	30.989
Formaldehyde	0.0528	(lb/MMBtu)	AP-42	0.299	1.309
Acetaldehyde	0.00836	(lb/MMBtu)	AP-42	0.047	0.207
Benzene	0.00044	(lb/MMBtu)	AP-42	0.002	0.011

*VOC includes Formaldehyde and Acetaldehyde

TABLE 9

MSS Summary

Owner/Operator: Devon Energy
Facility: GREEN A PAD 4

MSS Activity	Component	Max Hourly Emissions	Annual Emissions	Annual Controlled	Annual Controlled Emissions	Events Per Year	Comments
		lb/hr	ton/yr	lb/hr	ton/yr		
Blowdown	VOC	70.907	2.836	70.907	2.836	40.00	40 events/yr (1 event = 2 hrs/day)
	H2S	0.018	0.001	0.018	0.001		
	Methane	124.176	4.967	124.176	4.967		
	Total HAP	2.661	0.106	2.661	0.106		
	Benzene	0.168	0.007	0.168	0.007		
Oil Tank Degassing	VOC	3.660	0.201	3.660	0.201	2.00	2 events/yr (1 event = 2 hrs/day)
	H2S	0.000	0.000	0.000	0.000		
	Methane	0.035	0.002	0.035	0.002		
	Total HAP	0.099	0.005	0.099	0.005		
	Benzene	0.008	0.000	0.008	0.000		
Water Tank Degassing	VOC	0.037	0.002	0.037	0.002	2.00	2 events/yr (1 event = 2 hrs/day)
	H2S	0.000	0.000	0.000	0.000		
	Methane	0.000	0.000	0.000	0.000		
	Total HAP	0.001	0.000	0.001	0.000		
	Benzene	0.000	0.000	0.000	0.000		
Oil Tank VAC Truck	VOC	35.290	0.282	35.290	0.282	8.00	8 events/yr (1 event = 2 hrs/day)
	H2S	0.000	0.000	0.000	0.000		
	Methane	0.011	0.000	0.011	0.000		
	Total HAP	7.036	0.056	7.036	0.056		
	Benzene	0.263	0.002	0.263	0.002		
Water Tank VAC Truck	VOC	0.353	0.003	0.353	0.003	4.00	4 events/yr (1 event = 2 hrs/day)
	H2S	0.000	0.000	0.000	0.000		
	Methane	0.000	0.000	0.000	0.000		
	Total HAP	0.070	0.001	0.070	0.001		
	Benzene	0.003	0.000	0.003	0.000		
Misc. MSS	VOC	0.060	0.250	0.060	0.250	-	Misc. MSS Emissions (TCEQ Default)
Totals	VOC	110.307	3.574	110.307	3.574	-	*Total hourly emissions assumes all events would occur simultaneously, which is extremely unlikely
	H2S	0.018	0.001	0.018	0.001		
	Methane	124.222	4.969	124.222	4.969		
	Total HAP	9.867	0.169	9.867	0.169		
	Benzene	0.441	0.009	0.441	0.009		

TABLE 10

Benzene Impact Review

Benzene Short Term ESL ($\mu\text{g}/\text{m}^3$):	170
Benzene Long Term ESL ($\mu\text{g}/\text{m}^3$):	4.5

Benzene Hourly - Impact Review											
EPN	Source Name		Which impacts table corresponds to this EPN?	Hourly estimated emissions for each EPN (lbs/hr)	WR _{EPNx}	ESL _{benzene, short term} ($\mu\text{g}/\text{m}^3$)	Distance from emission point to nearest receptor (ft)	Height of emission release point (ft)	G _{EPNx}	E _{max,EPNx, hourly, steadystate} (lb/hr)	
Flare	Flare	All	13 - Flare	0.0039	5.98E-03	170	50	30	43	2.36E-02	
Fugitive	Fugitive	All	11 - Fugitive	0.0022	3.40E-03	170	50	3	2625	2.20E-04	
Heater Treater 1	Heater Treater 1	All	14 - Heater Treater	0.0000	2.55E-06	170	50	20	58	7.47E-06	
Heater Treater 2	Heater Treater 2	All	14 - Heater Treater	0.0000	2.55E-06	170	50	20	58	7.47E-06	
Engine 1	Engine 1	All	15 - Engine	0.0025	3.84E-03	170	50	23	15	4.36E-02	
MSS	MSS	All	12 - MSS ≥ 30 psig	0.1676	2.59E-01	170	50	23	25	1.76E+00	
MSS	MSS	All	12 - MSS < 30 psig	0.2737	4.22E-01	170	50	3	4304	1.67E-02	
Oil Tank	Oil Tank	All	11 - Tank Hatch	0.0030	4.66E-03	170	50	30	183	4.33E-03	
Water Tank	Water Tank	All	11 - Tank Hatch	0.0009	1.37E-03	170	50	30	183	1.28E-03	
Oil Loadout	Oil Loadout	All	11 - Loading	0.0586	9.05E-02	170	50	10	739	2.08E-02	
Water Loadout	Water Loadout	All	11 - Loading	0.1355	2.09E-01	170	50	10	739	4.81E-02	
				E _{estimated, total, hourly, steady}	Total	Passed				E _{max, total, hourly, steadystate} (lb/hr)	
				0.648	1.00					1.918	

Benzene Annual - Impact Review											
EPN	Source Name		What amount of time is this source is emitting? (hrs/yr)	Which impacts table corresponds to this EPN?	Annual estimated emissions for each EPN (tons/yr)	WR _{EPNx}	ESL _{benzene, long term} ($\mu\text{g}/\text{m}^3$)	Distance from emission point to nearest receptor (ft)	Height of emission release point (ft)	G _{EPNx}	E _{max,EPNx, annual} (tons/yr)
Flare	Flare	All	8760	13 - Flare	0.0071	6.07E-02	4.5	50	30	43	3.48E-01
Fugitive	Fugitive	All	8760	11 - Fugitive	0.0096	8.22E-02	4.5	50	3	2625	7.71E-03
Heater Treater 1	Heater Treater 1	All	8760	14 - Heater Treater	0.0000	6.16E-05	4.5	50	20	58	2.62E-04
Heater Treater 2	Heater Treater 2	All	8760	14 - Heater Treater	0.0000	6.16E-05	4.5	50	20	58	2.62E-04
Engine 1	Engine 1	All	8760	15 - Engine	0.0109	9.30E-02	4.5	50	23	15	1.53E+00
MSS	MSS	All	8760	12 - MSS ≥ 30 psig	0.0067	5.71E-02	4.5	50	23	25	5.63E-01
MSS	MSS	All	8760	12 - MSS < 30 psig	0.0026	2.18E-02	4.5	50	3	4304	1.25E-03
Oil Tank	Oil Tank	All	8760	11 - Tank Hatch	0.0027	2.30E-02	4.5	50	30	183	3.10E-02
Water Tank	Water Tank	All	8760	11 - Tank Hatch	0.0044	3.75E-02	4.5	50	30	183	5.04E-02
Oil Loadout	Oil Loadout	All	8760	11 - Loading	0.0019	1.62E-02	4.5	50	10	739	5.41E-03
Water Loadout	Water Loadout	All	8760	11 - Loading	0.0714	6.08E-01	4.5	50	10	739	2.03E-01
				E _{estimated, total, annual} (tons/yr)	Total	Passed				E _{max, total, annual} (tons/yr)	
				0.117	1.00					2.737	

TABLE 11
DEVON ENERGY PRODUCTION COMPANY L.P.
GREEN A PAD 4
KARNES COUNTY, TEXAS

Generic Modeling Factor (G) Look-up	
Fugitive	
Distance from emission source to nearest receptor or property line (ft):	50
Height of emission release point (ft):	3
G [(μg/m ³)/(lb/hr)]:	2625

Generic Modeling Factor (G) Look-up	
Loading	
Distance from emission source to nearest receptor or property line (ft):	50
Height of emission release point (ft):	10
G [(μg/m ³)/(lb/hr)]:	739

Generic Modeling Factor (G) Look-up	
Tank Hatch	
Distance from emission source to nearest receptor or property line (ft):	50
Height of emission release point (ft):	30
G [(μg/m ³)/(lb/hr)]:	183

TABLE 12
DEVON ENERGY PRODUCTION COMPANY L.P.
GREEN A PAD 4
KARNES COUNTY, TEXAS

Generic Modeling Factor (G) Look-up	
Low Pressure (< 30 psig) Blowdowns, Purging, and Pigging	
Distance from emission source to nearest receptor or property line (ft):	50
Height of emission release point (ft):	3
G [(μg/m ³)/(lb/hr)]:	4304

Generic Modeling Factor (G) Look-up	
High Pressure (≥ 30 psig) Blowdowns, Purging, and Pigging	
Distance from emission source to nearest receptor or property line (ft):	50
Height of emission release point (ft):	23
G [(μg/m ³)/(lb/hr)]:	25

TABLE 13
DEVON ENERGY PRODUCTION COMPANY L.P.
GREEN A PAD 4
KARNES COUNTY, TEXAS

Generic Modeling Factor (G) Look-up	
Flares and Thermal Destruction Devices	
Distance from emission source to nearest receptor or property line (ft):	50
Height of emission release point (ft):	30
G [(µg/m³)/(lb/hr)]:	43

TABLE 14
DEVON ENERGY PRODUCTION COMPANY L.P.
GREEN A PAD 4
KARNES COUNTY, TEXAS

Generic Modeling Factor (G) Look-up	
Flares and Thermal Destruction Devices	
Distance from emission source to nearest receptor or property line (ft):	50
Height of emission release point (ft):	20
G [(µg/m³)/(lb/hr)]:	58

TABLE 15
DEVON ENERGY PRODUCTION COMPANY L.P.
GREEN A PAD 4
KARNES COUNTY, TEXAS

Generic Modeling Factor (G) Look-up	
Engines Greater Than 500 and Less Than or Equal to 1,000 hp	
Distance from emission source to nearest receptor or property line (ft):	50
Height of emission release point (ft):	23
G [(µg/m ³)/(lb/hr)]:	15

PROMAX REPORT - OIL TANKS - HOURLY

Project information	
File Name	DEET - GREEN A PAD 4
Company	Devon Energy
City, State	("Custom Location", "Custom Location", "Custom Location")
Equation of State	("Peng-Robinson", "Peng-Robinson", "Peng-Robinson")
Description	DEET Emissions Report

Stream Selection for Tank Losses Stencil	
Name of Property Stencil	Oil Tank Losses
Name of Process Stream	Tank Inlet(Oil Tanks)

Loading Information	
Mode of Operation	Submerged Loading of a Clean Cargo Tank
Cargo Carrier	Tank Truck or Rail Tank Car
Saturation Factor	1.0
VOCs [C3+]	81

Tank Information	
Shell Height [ft]	30
Diameter [ft]	15.5
Maximum Fill Percent [%]	90
Number of Tanks	2
Average Fill Percent [%]	50
Total Tank Volume [bbl]	2016.4
Net Throughput [bbl/hr]	50603.6
Max Liquid Surface Temperature [°F]	101.575
Average Liquid Surface Temperature [°F]	98.8939
MW	43.9154
Turnovers (per year)	31.7372

Paint Characteristics	
Shell Color	Tan
Shell Paint Condition	Average
Roof Color	Tan
Roof Condition	Average

Roof Characteristics	
Type	Dome
Dome Radius [ft]	
Slope [ft/ft]	--

Breather Vent Settings	
Vacuum Settings [psig]	-0.0300000
Pressure Settings [psig]	0.0300000

Meteorological Data	
Location	Custom Location
Ambient Pressure [psia]	14.67
Min Ambient Temperature [°F]	95
Max Ambient Temperature [°F]	95
Solar Insolation [BTU/ft2*day]	1460
Wind Speed [mph]	9.95

Emission Summary						
Item	Flash Gas	W/B Losses	Loading Losses	Heater Treater Gas	ULPS Gas	
	%	%	%	%	%	
Capture Efficiency	98	98	70	0	0	
Percent to Tank	98	98	0	0	0	

Emission Summary							
Item	Flash Gas	W/B Losses	Loading Losses	Heater Treater Gas	ULPS Gas	Total Losses	
	[lb/h]	[lb/h]	[lb/h]	[lb/h]	[lb/h]	[lb/h]	[lb/h]
VOCs [C3+]	0.602	0.084	0.167	0.000	0.000		0.853
Benzene	0.002	0.000	0.000	0.000	0.000		0.002
H2S	0.000	0.000	0.000	0.000	0.000		0.000

PROMAX REPORT - OIL TANKS - HOURLY

Emission Composition						
No.	Component	Flash Gas [Mol%]	W/B Losses [Mol%]	Loading Losses [Mol%]	Heater Treater [Mol%]	ULPS [Mol%]
1	Hydrogen Sulfide	0.010	0.011	0.011	--	--
2	Nitrogen	0.006	0.001	0.001	--	--
3	Carbon Dioxide	1.195	0.938	0.938	--	--
4	Methane	15.210	4.541	4.541	--	--
5	Ethane	24.564	25.663	25.663	--	--
6	Propane	28.376	31.782	31.782	--	--
7	i-Butane	5.119	5.993	5.993	--	--
8	n-Butane	12.258	14.679	14.679	--	--
9	2,2-Dimethylpropane	0.065	0.079	0.079	--	--
10	i-Pentane	3.391	4.265	4.265	--	--
11	n-Pentane	3.630	4.625	4.625	--	--
12	2,2-Dimethylbutane	0.046	0.059	0.059	--	--
13	Cyclopentane	0.000	0.000	0.000	--	--
14	2,3-Dimethylbutane	0.140	0.183	0.183	--	--
15	2-Methylpentane	0.785	1.029	1.029	--	--
16	3-Methylpentane	0.420	0.553	0.553	--	--
17	n-Hexane	0.956	1.269	1.269	--	--
18	Methylcyclopentane	0.278	0.367	0.367	--	--
19	Benzene	0.109	0.143	0.143	--	--
20	Cyclohexane	0.246	0.326	0.326	--	--
21	2-Methylhexane	0.190	0.256	0.256	--	--
22	3-Methylhexane	0.146	0.198	0.198	--	--
23	2,2,4-Trimethylpentane	0.000	0.000	0.000	--	--
24	n-Heptane	0.371	0.505	0.505	--	--
25	Methylcyclohexane	0.194	0.263	0.263	--	--
26	Toluene	0.141	0.191	0.191	--	--
27	n-Octane	0.221	0.309	0.309	--	--
28	Ethylbenzene	0.015	0.020	0.020	--	--
29	m-Xylene	0.049	0.069	0.069	--	--
30	p-Xylene	0.000	0.000	0.000	--	--
31	o-Xylene	0.016	0.022	0.022	--	--
32	n-Nonane	0.063	0.090	0.090	--	--
33	n-Decane	0.023	0.034	0.034	--	--
34	Undecane	0.006	0.009	0.009	--	--
35	Dodecane	0.002	0.003	0.003	--	--
36	Tridecane	0.001	0.001	0.001	--	--
37	Tetradecane	0.000	0.000	0.000	--	--
38	Pentadecane	0.000	0.000	0.000	--	--
39	Hexadecane	0.000	0.000	0.000	--	--
40	Heptadecane	0.000	0.000	0.000	--	--
41	Octadecane	0.000	0.000	0.000	--	--
42	Nonadecane	0.000	0.000	0.000	--	--
43	Eicosane	0.000	0.000	0.000	--	--
44	Heneicosane	0.000	0.000	0.000	--	--
45	Docosane	0.000	0.000	0.000	--	--
46	Tricosane	0.000	0.000	0.000	--	--
47	Tetracosane	0.000	0.000	0.000	--	--
48	Pentacosane	0.000	0.000	0.000	--	--
49	Hexacosane	0.000	0.000	0.000	--	--
50	Heptacosane	0.000	0.000	0.000	--	--
51	Octacosane	0.000	0.000	0.000	--	--
52	Nonacosane	0.000	0.000	0.000	--	--
53	C30	0.000	0.000	0.000	--	--
54	Water	1.762	1.523	1.523	--	--
55	C10+	0.000	0.000	0.000	--	--

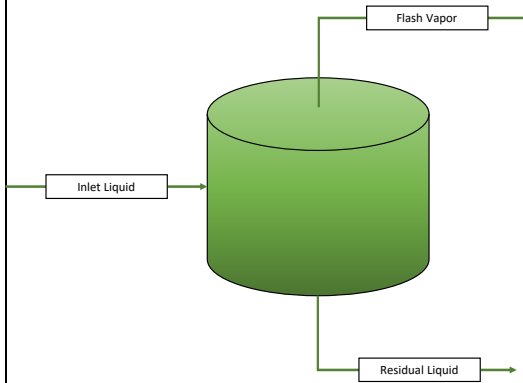
PROMAX REPORT - OIL TANKS - HOURLY

Stream Compositional Data							
No.	Component	Flash Gas [lb/h]	W/B Losses [lb/h]	Loading Losses [lb/h]	Heater Treater [lb/h]	ULPS [lb/h]	Total Losses [lb/h]
1	Hydrogen Sulfide	0.000	0.000				#VALUE!
2	Nitrogen	0.000	0.000				#VALUE!
3	Carbon Dioxide	0.010	0.001				#VALUE!
4	Methane	0.046	0.002				#VALUE!
5	Ethane	0.140	0.017				#VALUE!
6	Propane	0.237	0.031				#VALUE!
7	i-Butane	0.056	0.008				#VALUE!
8	n-Butane	0.135	0.019				#VALUE!
9	2,2-Dimethylpropane	0.001	0.000				#VALUE!
10	i-Pentane	0.046	0.007				#VALUE!
11	n-Pentane	0.050	0.007				#VALUE!
12	2,2-Dimethylbutane	0.001	0.000				#VALUE!
13	Cyclopentane	0.000	0.000				#VALUE!
14	2,3-Dimethylbutane	0.002	0.000				#VALUE!
15	2-Methylpentane	0.013	0.002				#VALUE!
16	3-Methylpentane	0.007	0.001				#VALUE!
17	n-Hexane	0.016	0.002				#VALUE!
18	Methylcyclopentane	0.004	0.001				#VALUE!
19	Benzene	0.002	0.000				#VALUE!
20	Cyclohexane	0.004	0.001				#VALUE!
21	2-Methylhexane	0.004	0.001				#VALUE!
22	3-Methylhexane	0.003	0.000				#VALUE!
23	2,2,4-Trimethylpentane	0.000	0.000				#VALUE!
24	n-Heptane	0.007	0.001				#VALUE!
25	Methylcyclohexane	0.004	0.001				#VALUE!
26	Toluene	0.002	0.000				#VALUE!
27	n-Octane	0.005	0.001				#VALUE!
28	Ethylbenzene	0.000	0.000				#VALUE!
29	m-Xylene	0.001	0.000				#VALUE!
30	p-Xylene	0.000	0.000				#VALUE!
31	o-Xylene	0.000	0.000				#VALUE!
32	n-Nonane	0.002	0.000				#VALUE!
33	n-Decane	0.001	0.000				#VALUE!
34	Undecane	0.000	0.000				#VALUE!
35	Dodecane	0.000	0.000				#VALUE!
36	Tridecane	0.000	0.000				#VALUE!
37	Tetradecane	0.000	0.000				#VALUE!
38	Pentadecane	0.000	0.000				#VALUE!
39	Hexadecane	0.000	0.000				#VALUE!
40	Heptadecane	0.000	0.000				#VALUE!
41	Octadecane	0.000	0.000				#VALUE!
42	Nonadecane	0.000	0.000				#VALUE!
43	Eicosane	0.000	0.000				#VALUE!
44	Heneicosane	0.000	0.000				#VALUE!
45	Docosane	0.000	0.000				#VALUE!
46	Tricosane	0.000	0.000				#VALUE!
47	Tetracosane	0.000	0.000				#VALUE!
48	Pentacosane	0.000	0.000				#VALUE!
49	Hexacosane	0.000	0.000				#VALUE!
50	Heptacosane	0.000	0.000				#VALUE!
51	Octacosane	0.000	0.000				#VALUE!
52	Nonacosane	0.000	0.000				#VALUE!
53	C30	0.000	0.000				#VALUE!
54	Water	0.006	0.001				#VALUE!
55	C10+	0.000	0.000				#VALUE!

Stream Properties							
		Flash Gas	W/B Losses	Loading Losses	Heater Treater	ULPS	
MW		42.440	47.050	47.050	28.671	--	
Heating Value [BTU/scf]		2181.594	2419.178	2419.178	1472.488	--	
Specific Gravity		1.465	1.625	1.625	0.990	--	
VOC Concentration [wt%]		100.000	100.000	100.000	100.000	--	
Temperature [°F]		92.418	101.575	101.575	130.000	--	
Gas Volumetric Flow [scf/hr]		359.399	42.170	13.257	0.000	0.000	

PROMAX REPORT - OIL TANKS - HOURLY

Inlet Stream Data	
Component	Tank Inlet [Mol%]
Hydrogen Sulfide	0.001
Nitrogen	0.001
Carbon Dioxide	0.128
Methane	1.502
Ethane	2.991
Propane	5.832
i-Butane	1.585
n-Butane	4.894
2,2-Dimethylpropane	0.033
i-Pentane	2.870
n-Pentane	3.915
2,2-Dimethylbutane	0.076
Cyclopentane	0.000
2,3-Dimethylbutane	0.300
2-Methylpentane	1.819
3-Methylpentane	1.076
n-Hexane	3.058
Methylcyclopentane	0.819
Benzene	0.332
Cyclohexane	0.901
2-Methylhexane	1.216
3-Methylhexane	1.021
2,2,4-Trimethylpentane	0.000
n-Heptane	3.356
Methylcyclohexane	1.662
Toluene	1.379
n-Octane	6.175
Ethylbenzene	0.424
m-Xylene	1.587
p-Xylene	0.000
o-Xylene	0.572
n-Nonane	5.333
n-Decane	5.883
Undecane	4.690
Dodecane	3.678
Tridecane	3.515
Tetradecane	3.018
Pentadecane	2.662
Hexadecane	2.203
Heptadecane	1.882
Octadecane	1.772
Nonadecane	1.641
Eicosane	1.428
Heneicosane	1.265
Docosane	1.085
Tricosane	0.932
Tetracosane	0.853
Pentacosane	0.775
Hexacosane	0.620
Heptacosane	0.660
Octacosane	0.510
Nonacosane	0.517
C30	5.363
Water	0.191
C10+	0.000



Residual Liquid Data	
Flow (bbl/d)	138.640
TVP [psia]	14.233

PROMAX REPORT - WATER TANKS - HOURLY

Project information	
File Name	DEET - GREEN A PAD 4
Company	Devon Energy
City, State	("Custom Location","Custom Location","Custom Location")
Equation of State	("Peng-Robinson","Peng-Robinson","Peng-Robinson")
Description	DEET Emissions Report

Stream Selection for Tank Losses Stencil	
Name of Property Stencil	Water Tank Losses
Name of Process Stream	Inlet[Water Tanks]

Loading Information	
Mode of Operation	Submerged Loading of a Clean Cargo Tank
Cargo Carrier	Tank Truck or Rail Tank Car
Saturation Factor	0.6
VOCs [C3+]	16

Tank Information	
Shell Height [ft]	30
Diameter [ft]	15.5
Maximum Fill Percent [%]	90
Number of Tanks	3
Average Fill Percent [%]	50
Total Tank Volume [bbl]	3024.7
Net Throughput [bbl/yr]	2.92072E+06
Max Liquid Surface Temperature [°F]	101.575
Average Liquid Surface Temperature [°F]	98.8939
MW	26.8368
Turnovers (per year)	1214.72

Paint Characteristics	
Shell Color	Tan
Shell Paint Condition	Average
Roof Color	Tan
Roof Condition	Average

Roof Characteristics	
Type	Dome
Dome Radius [ft]	
Slope [ft/ft]	--

Breather Vent Settings	
Vacuum Settings [psig]	-0.0300000
Pressure Settings [psig]	0.0300000

Meteorological Data	
Location	Custom Location
Ambient Pressure [psia]	14.67
Min Ambient Temperature [°F]	95
Max Ambient Temperature [°F]	95
Solar Insolation [BTU/ft2*day]	1460
Wind Speed [mph]	9.95

Emission Summary						
Item		Flash Gas	W/B Losses			
		%	%			
Capture Efficiency		98	98			
Percent to Flare		0	0			

Emission Summary						
Item		Flash Gas	W/B Losses			Total Losses
		[lb/h]	[lb/h]			[lb/h]
VOCs [C3+]		0.110	0.046			0.156
Benzene		0.002	0.009			0.011
H2S		0.000	0.001			0.001

PROMAX REPORT - WATER TANKS - HOURLY

Emission Composition							
No.	Component	Flash Gas [Mol%]	W/B Losses [Mol%]				
1	Hydrogen Sulfide	0.037	0.273				
2	Nitrogen	0.025	0.003				
3	Carbon Dioxide	7.879	21.847				
4	Methane	42.120	8.533				
5	Ethane	20.772	5.464				
6	Propane	8.585	1.598				
7	i-Butane	0.722	0.082				
8	n-Butane	2.723	0.471				
9	2,2-Dimethylpropane	0.005	0.000				
10	i-Pentane	0.432	0.048				
11	n-Pentane	0.292	0.017				
12	2,2-Dimethylbutane	0.002	0.000				
13	Cyclopentane	0.000	0.000				
14	2,3-Dimethylbutane	0.015	0.001				
15	2-Methylpentane	0.071	0.005				
16	3-Methylpentane	0.077	0.012				
17	n-Hexane	0.051	0.002				
18	Methylcyclopentane	0.078	0.019				
19	Benzene	0.198	1.137				
20	Cyclohexane	0.125	0.061				
21	2-Methylhexane	0.008	0.000				
22	3-Methylhexane	0.007	0.000				
23	2,2,4-Trimethylpentane	0.000	0.000				
24	n-Heptane	0.013	0.000				
25	Methylcyclohexane	0.054	0.012				
26	Toluene	0.275	1.633				
27	n-Octane	0.005	0.000				
28	Ethylbenzene	0.031	0.171				
29	m-Xylene	0.101	0.545				
30	p-Xylene	0.000	0.000				
31	o-Xylene	0.035	0.195				
32	n-Nonane	0.001	0.000				
33	n-Decane	0.000	0.000				
34	Undecane	0.000	0.000				
35	Dodecane	0.000	0.000				
36	Tridecane	0.000	0.000				
37	Tetradecane	0.000	0.000				
38	Pentadecane	0.000	0.000				
39	Hexadecane	0.000	0.000				
40	Heptadecane	0.000	0.000				
41	Octadecane	0.000	0.000				
42	Nonadecane	0.000	0.000				
43	Eicosane	0.000	0.000				
44	Heneicosane	0.000	0.000				
45	Docosane	0.000	0.000				
46	Tricosane	0.000	0.000				
47	Tetracosane	0.000	0.000				
48	Pentacosane	0.000	0.000				
49	Hexacosane	0.000	0.000				
50	Heptacosane	0.000	0.000				
51	Octacosane	0.000	0.000				
52	Nonacosane	0.000	0.000				
53	C30	0.000	0.000				
54	Water	15.262	57.870				
55	C10+	0.000	0.000				

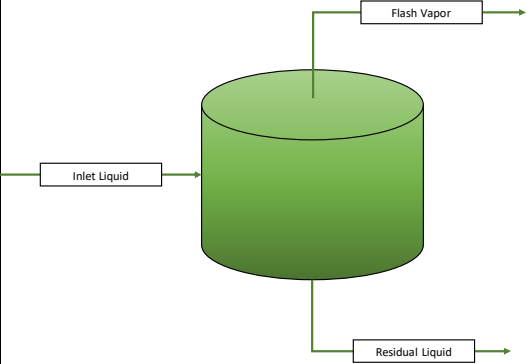
PROMAX REPORT - WATER TANKS - HOURLY

Stream Compositional Data							
No.	Component	Flash Gas [lb/h]	W/B Losses [lb/h]				Total Losses [lb/h]
1	Hydrogen Sulfide	0.000	0.001				0.001131909
2	Nitrogen	0.000	0.000				0.000
3	Carbon Dioxide	0.052	0.098				0.150
4	Methane	0.101	0.014				0.115
5	Ethane	0.094	0.017				0.110
6	Propane	0.057	0.007				0.064
7	i-Butane	0.006	0.000				0.007
8	n-Butane	0.024	0.003				0.027
9	2,2-Dimethylpropane	0.000	0.000				0.000
10	i-Pentane	0.005	0.000				0.005
11	n-Pentane	0.003	0.000				0.003
12	2,2-Dimethylbutane	0.000	0.000				0.000
13	Cyclopentane	0.000	0.000				0.000
14	2,3-Dimethylbutane	0.000	0.000				0.000
15	2-Methylpentane	0.001	0.000				0.001
16	3-Methylpentane	0.001	0.000				0.001
17	n-Hexane	0.001	0.000				0.001
18	Methylcyclopentane	0.001	0.000				0.001
19	Benzene	0.002	0.009				0.011
20	Cyclohexane	0.002	0.001				0.002
21	2-Methylhexane	0.000	0.000				0.000
22	3-Methylhexane	0.000	0.000				0.000
23	2,2,4-Trimethylpentane	0.000	0.000				0.000
24	n-Heptane	0.000	0.000				0.000
25	Methylcyclohexane	0.001	0.000				0.001
26	Toluene	0.004	0.015				0.019
27	n-Octane	0.000	0.000				0.000
28	Ethylbenzene	0.000	0.002				0.002
29	m-Xylene	0.002	0.006				0.007
30	p-Xylene	0.000	0.000				0.000
31	o-Xylene	0.001	0.002				0.003
32	n-Nonane	0.000	0.000				0.000
33	n-Decane	0.000	0.000				0.000
34	Undecane	0.000	0.000				0.000
35	Dodecane	0.000	0.000				0.000
36	Tridecane	0.000	0.000				0.000
37	Tetradecane	0.000	0.000				0.000
38	Pentadecane	0.000	0.000				0.000
39	Hexadecane	0.000	0.000				0.000
40	Heptadecane	0.000	0.000				0.000
41	Octadecane	0.000	0.000				0.000
42	Nonadecane	0.000	0.000				0.000
43	Eicosane	0.000	0.000				0.000
44	Heneicosane	0.000	0.000				0.000
45	Docosane	0.000	0.000				0.000
46	Tricosane	0.000	0.000				0.000
47	Tetracosane	0.000	0.000				0.000
48	Pentacosane	0.000	0.000				0.000
49	Hexacosane	0.000	0.000				0.000
50	Heptacosane	0.000	0.000				0.000
51	Octacosane	0.000	0.000				0.000
52	Nonacosane	0.000	0.000				0.000
53	C30	0.000	0.000				0.000
54	Water	0.041	0.106				0.147
55	C10+	0.000	0.000				0.000

Stream Properties							
		Flash Gas	W/B Losses				
MW		26.583	27.677				
Heating Value [BTU/scf]		1098.401	384.114				
Specific Gravity		0.918	0.956				
VOC Concentration [wt%]		100.000	100.000				
Temperature [°F]		130.168	101.575				
Gas Volumetric Flow [scf/hr]		284.745	192.426				

PROMAX REPORT - WATER TANKS - HOURLY

Inlet Stream Data		
Component	Tank Inlet (Mol%)	
Hydrogen Sulfide	0.000	
Nitrogen	0.000	
Carbon Dioxide	0.003	
Methane	0.006	
Ethane	0.003	
Propane	0.001	
i-Butane	0.000	
n-Butane	0.000	
2,2-Dimethylpropane	0.000	
i-Pentane	0.000	
n-Pentane	0.000	
2,2-Dimethylbutane	0.000	
Cyclopentane	0.000	
2,3-Dimethylbutane	0.000	
2-Methylpentane	0.000	
3-Methylpentane	0.000	
n-Hexane	0.000	
Methylcyclopentane	0.000	
Benzene	0.000	
Cyclohexane	0.000	
2-Methylhexane	0.000	
3-Methylhexane	0.000	
2,2,4-Trimethylpentane	0.000	
n-Heptane	0.000	
Methylcyclohexane	0.000	
Toluene	0.000	
n-Octane	0.000	
Ethylbenzene	0.000	
m-Xylene	0.000	
p-Xylene	0.000	
o-Xylene	0.000	
n-Nonane	0.000	
n-Decane	0.000	
Undecane	0.000	
Dodecane	0.000	
Tridecane	0.000	
Tetradecane	0.000	
Pentadecane	0.000	
Hexadecane	0.000	
Heptadecane	0.000	
Octadecane	0.000	
Nonadecane	0.000	
Eicosane	0.000	
Heneicosane	0.000	
Docosane	0.000	
Tricosane	0.000	
Tetracosane	0.000	
Pentacosane	0.000	
Hexacosane	0.000	
Heptacosane	0.000	
Octacosane	0.000	
Nonacosane	0.000	
C30	0.000	
Water	99.986	
C10+	0.000	



Residual Liquid Data	
Flow (bbl/d)	8001.963
TVP [psia]	14.334

PROMAX REPORT - SLOP TANK - HOURLY

Project information							
File Name	DEET - GREEN A PAD 4						
Company	Devon Energy						
City, State	{"Custom Location","Custom Location","Custom Location"}						
Equation of State	{"Peng-Robinson","Peng-Robinson","Peng-Robinson"}						
Description	DEET Emissions Report						

Stream Selection for Tank Losses Stencil	
Name of Property Stencil	Slop Tank Losses
Name of Process Stream	Slop Tank Feed[Flowsheet1]

Loading Information	
Mode of Operation	Submerged Loading of a Clean Cargo Tank
Cargo Carrier	Tank Truck or Rail Tank Car
Saturation Factor	0.6
VOCs [C3+]	0

Tank Information	
Shell Height [ft]	20
Diameter [ft]	12
Maximum Fill Percent [%]	90
Number of Tanks	1
Average Fill Percent [%]	50
Total Tank Volume [bbl]	402.9
Net Throughput [bbl/yr]	--
Max Liquid Surface Temperature [°F]	--
Average Liquid Surface Temperature [°F]	--
MW	--
Turnovers (per year)	--

Paint Characteristics	
Shell Color	Tan
Shell Paint Condition	Average
Roof Color	Tan
Roof Condition	Average

Roof Characteristics	
Type	Dome
Dome Radius [ft]	
Slope [ft/ft]	--

Breather Vent Settings	
Vacuum Settings [psig]	-0.0300000
Pressure Settings [psig]	0.0300000

Meteorological Data	
Location	Custom Location
Ambient Pressure [psia]	14.67
Min Ambient Temperature [°F]	95
Max Ambient Temperature [°F]	95
Solar Insolation [BTU/ft2*day]	1460
Wind Speed [mph]	9.95

Emission Summary							
Item		Flash Gas	W/B Losses				
		%	%				
Capture Efficiency		98	98				
Percent to Flare		--	--				

Emission Summary							
Item		Flash Gas	W/B Losses				Total Losses
		[lb/h]	[lb/h]				[lb/h]
VOCs [C3+]		#VALUE!	#VALUE!				0.000
Benzene		0.000	#VALUE!				0.000
H2S		0.000	#VALUE!				0.000

PROMAX REPORT - SLOP TANK - HOURLY

Emission Composition							
No.	Component	Flash Gas [Mol%]	W/B Losses [Mol%]				
1	Hydrogen Sulfide	--	--				
2	Nitrogen	--	--				
3	Carbon Dioxide	--	--				
4	Methane	--	--				
5	Ethane	--	--				
6	Propane	--	--				
7	i-Butane	--	--				
8	n-Butane	--	--				
9	2,2-Dimethylpropane	--	--				
10	i-Pentane	--	--				
11	n-Pentane	--	--				
12	2,2-Dimethylbutane	--	--				
13	Cyclopentane	--	--				
14	2,3-Dimethylbutane	--	--				
15	2-Methylpentane	--	--				
16	3-Methylpentane	--	--				
17	n-Hexane	--	--				
18	Methylcyclopentane	--	--				
19	Benzene	--	--				
20	Cyclohexane	--	--				
21	2-Methylhexane	--	--				
22	3-Methylhexane	--	--				
23	2,2,4-Trimethylpentane	--	--				
24	n-Heptane	--	--				
25	Methylcyclohexane	--	--				
26	Toluene	--	--				
27	n-Octane	--	--				
28	Ethylbenzene	--	--				
29	m-Xylene	--	--				
30	p-Xylene	--	--				
31	o-Xylene	--	--				
32	n-Nonane	--	--				
33	n-Decane	--	--				
34	Undecane	--	--				
35	Dodecane	--	--				
36	Tridecane	--	--				
37	Tetradecane	--	--				
38	Pentadecane	--	--				
39	Hexadecane	--	--				
40	Heptadecane	--	--				
41	Octadecane	--	--				
42	Nonadecane	--	--				
43	Eicosane	--	--				
44	Heneicosane	--	--				
45	Docosane	--	--				
46	Tricosane	--	--				
47	Tetracosane	--	--				
48	Pentacosane	--	--				
49	Hexacosane	--	--				
50	Heptacosane	--	--				
51	Octacosane	--	--				
52	Nonacosane	--	--				
53	C30	--	--				
54	Water	--	--				
55	C10+	--	--				

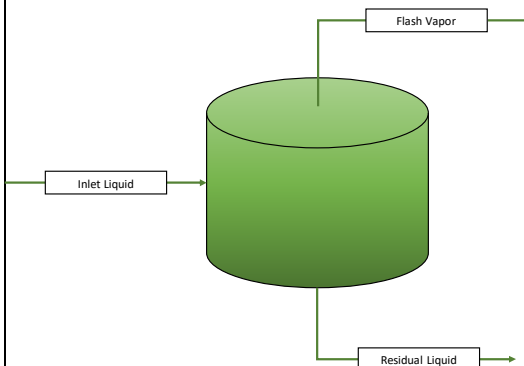
PROMAX REPORT - SLOP TANK - HOURLY

Stream Compositional Data							
No.	Component	Flash Gas [lb/h]	W/B Losses [lb/h]				Total Losses [lb/h]
1	Hydrogen Sulfide	0.000	#VALUE!				0
2	Nitrogen	0.000	#VALUE!				0.000
3	Carbon Dioxide	0.000	#VALUE!				0.000
4	Methane	0.000	#VALUE!				0.000
5	Ethane	0.000	#VALUE!				0.000
6	Propane	0.000	#VALUE!				0.000
7	i-Butane	0.000	#VALUE!				0.000
8	n-Butane	0.000	#VALUE!				0.000
9	2,2-Dimethylpropane	0.000	#VALUE!				0.000
10	i-Pentane	0.000	#VALUE!				0.000
11	n-Pentane	0.000	#VALUE!				0.000
12	2,2-Dimethylbutane	0.000	#VALUE!				0.000
13	Cyclopentane	0.000	#VALUE!				0.000
14	2,3-Dimethylbutane	0.000	#VALUE!				0.000
15	2-Methylpentane	0.000	#VALUE!				0.000
16	3-Methylpentane	0.000	#VALUE!				0.000
17	n-Hexane	0.000	#VALUE!				0.000
18	Methylcyclopentane	0.000	#VALUE!				0.000
19	Benzene	0.000	#VALUE!				0.000
20	Cyclohexane	0.000	#VALUE!				0.000
21	2-Methylhexane	0.000	#VALUE!				0.000
22	3-Methylhexane	0.000	#VALUE!				0.000
23	2,2,4-Trimethylpentane	0.000	#VALUE!				0.000
24	n-Heptane	0.000	#VALUE!				0.000
25	Methylcyclohexane	0.000	#VALUE!				0.000
26	Toluene	0.000	#VALUE!				0.000
27	n-Octane	0.000	#VALUE!				0.000
28	Ethylbenzene	0.000	#VALUE!				0.000
29	m-Xylene	0.000	#VALUE!				0.000
30	p-Xylene	0.000	#VALUE!				0.000
31	o-Xylene	0.000	#VALUE!				0.000
32	n-Nonane	0.000	#VALUE!				0.000
33	n-Decane	0.000	#VALUE!				0.000
34	Undecane	0.000	#VALUE!				0.000
35	Dodecane	0.000	#VALUE!				0.000
36	Tridecane	0.000	#VALUE!				0.000
37	Tetradecane	0.000	#VALUE!				0.000
38	Pentadecane	0.000	#VALUE!				0.000
39	Hexadecane	0.000	#VALUE!				0.000
40	Heptadecane	0.000	#VALUE!				0.000
41	Octadecane	0.000	#VALUE!				0.000
42	Nonadecane	0.000	#VALUE!				0.000
43	Eicosane	0.000	#VALUE!				0.000
44	Heneicosane	0.000	#VALUE!				0.000
45	Docosane	0.000	#VALUE!				0.000
46	Tricosane	0.000	#VALUE!				0.000
47	Tetracosane	0.000	#VALUE!				0.000
48	Pentacosane	0.000	#VALUE!				0.000
49	Hexacosane	0.000	#VALUE!				0.000
50	Heptacosane	0.000	#VALUE!				0.000
51	Octacosane	0.000	#VALUE!				0.000
52	Nonacosane	0.000	#VALUE!				0.000
53	C30	0.000	#VALUE!				0.000
54	Water	0.000	#VALUE!				0.000
55	C10+	0.000	#VALUE!				0.000

Stream Properties							
		Flash Gas	W/B Losses				
MW		--	--				
Heating Value [BTU/scf]		--	--				
Specific Gravity		--	--				
VOC Concentration [wt%]		--	--				
Temperature [°F]		--	--				
Gas Volumetric Flow [scf/hr]		0.000	--				

PROMAX REPORT - SLOP TANK - HOURLY

Inlet Stream Data	
Component	Tank Inlet (Mol%)
Hydrogen Sulfide	0.001
Nitrogen	0.003
Carbon Dioxide	0.146
Methane	3.232
Ethane	2.638
Propane	2.971
i-Butane	0.867
n-Butane	2.616
2,2-Dimethylpropane	0.016
i-Pentane	1.349
n-Pentane	1.801
2,2-Dimethylbutane	0.034
Cyclopentane	0.000
2,3-Dimethylbutane	0.134
2-Methylpentane	0.804
3-Methylpentane	0.474
n-Hexane	1.317
Methylcyclopentane	0.368
Benzene	0.146
Cyclohexane	0.388
2-Methylhexane	0.476
3-Methylhexane	0.399
2,2,4-Trimethylpentane	0.000
n-Heptane	1.245
Methylcyclohexane	0.641
Toluene	0.512
n-Octane	1.739
Ethylbenzene	0.121
m-Xylene	0.434
p-Xylene	0.000
o-Xylene	0.151
n-Nonane	0.994
n-Decane	0.583
Undecane	0.214
Dodecane	0.074
Tridecane	0.030
Tetradecane	0.011
Pentadecane	0.004
Hexadecane	0.001
Heptadecane	0.001
Octadecane	0.000
Nonadecane	0.000
Eicosane	0.000
Heneicosane	0.000
Docosane	0.000
Tricosane	0.000
Tetracosane	0.000
Pentacosane	0.000
Hexacosane	0.000
Heptacosane	0.000
Octacosane	0.000
Nonacosane	0.000
C30	0.000
Water	73.065
C10+	0.000



Residual Liquid Data	
Flow (bbl/d)	0.000
TVP [psia]	--

PROMAX REPORT - PROCESS STREAM - HOURLY

Project information	
File Name	DEET - GREEN A PAD 4
Company	Devon Energy
City, State	{ "Custom Location", "Custom Location", "Custom Location" }
Equation of State	{ "Peng-Robinson", "Peng-Robinson", "Peng-Robinson" }
Description	DEETMax Emissions Report

Stream Selection									
Item		Inlet Gas	Inlet Gas	Inlet Oil	Inlet Oil				
Name of Process Stream		Gas	Gas	Oil	Oil				

Emission Composition									
No.	Component	Inlet Gas [Mol%]	Inlet Gas [Mass%]	Inlet Oil [Mol%]	Inlet Oil [Mass%]				
1	Hydrogen Sulfide	0.005	0.007	0.000	0.000				
2	Nitrogen	0.146	0.177	0.047	0.008				
3	Carbon Dioxide	1.459	2.778	0.065	0.018				
4	Methane	72.147	50.076	2.009	0.205				
5	Ethane	14.119	18.368	2.593	0.496				
6	Propane	6.956	13.271	4.512	1.264				
7	i-Butane	0.973	2.447	1.446	0.534				
8	n-Butane	2.101	5.283	4.689	1.732				
9	2,2-Dimethylpropane	0.000	0.000	0.047	0.022				
10	i-Pentane	0.508	1.586	2.914	1.336				
11	n-Pentane	0.536	1.673	3.994	1.831				
12	2,2-Dimethylbutane	0.010	0.037	0.073	0.040				
13	Cyclopentane	0.000	0.000	0.000	0.000				
14	2,3-Dimethylbutane	0.038	0.142	0.285	0.156				
15	2-Methylpentane	0.162	0.604	1.807	0.990				
16	3-Methylpentane	0.087	0.324	1.072	0.587				
17	n-Hexane	0.208	0.776	3.060	1.676				
18	Methylcyclopentane	0.037	0.135	0.846	0.452				
19	Benzene	0.020	0.068	0.339	0.168				
20	Cyclohexane	0.039	0.142	0.923	0.494				
21	2-Methylhexane	0.036	0.156	1.243	0.792				
22	3-Methylhexane	0.034	0.147	1.036	0.660				
23	2,2,4-Trimethylpentane	0.000	0.000	0.000	0.000				
24	n-Heptane	0.113	0.490	3.383	2.154				
25	Methylcyclohexane	0.041	0.174	1.696	1.058				
26	Toluene	0.030	0.120	1.412	0.827				
27	n-Octane	0.095	0.469	6.277	4.557				
28	Ethylbenzene	0.002	0.009	0.437	0.295				
29	m-Xylene	0.018	0.083	1.620	1.093				
30	p-Xylene	0.000	0.000	0.000	0.000				
31	o-Xylene	0.004	0.018	0.587	0.396				
32	n-Nonane	0.049	0.272	5.433	4.428				
33	n-Decane	0.023	0.142	6.022	5.445				
34	Undecane	0.004	0.027	4.815	4.783				
35	Dodecane	0.000	0.000	3.779	4.091				
36	Tridecane	0.000	0.000	3.611	4.231				
37	Tetradecane	0.000	0.000	3.100	3.908				
38	Pentadecane	0.000	0.000	2.735	3.692				
39	Hexadecane	0.000	0.000	2.263	3.257				
40	Heptadecane	0.000	0.000	1.933	2.954				
41	Octadecane	0.000	0.000	1.820	2.944				
42	Nonadecane	0.000	0.000	1.686	2.877				
43	Eicosane	0.000	0.000	1.467	2.634				
44	Heneicosane	0.000	0.000	1.299	2.448				
45	Docosane	0.000	0.000	1.115	2.201				
46	Tricosane	0.000	0.000	0.957	1.974				
47	Tetracosane	0.000	0.000	0.876	1.885				
48	Pentacosane	0.000	0.000	0.796	1.784				
49	Hexacosane	0.000	0.000	0.637	1.485				
50	Heptacosane	0.000	0.000	0.678	1.641				
51	Octacosane	0.000	0.000	0.524	1.315				
52	Nonacosane	0.000	0.000	0.531	1.379				
53	C30	0.000	0.000	5.509	14.803				
54	Water	0.000	0.000	0.000	0.000				
55	C10+	0.000	0.000	0.000	0.000				

PROMAX REPORT - PROCESS STREAM - HOURLY

Stream Selection											
Item		Pilot Gas	Slop Tank	1st Stage Gas	2nd Stage Gas	Heater Treater Gas	Gunbarrel Gas	ULPS Gas	Oil Tanks	Water Tanks	
Name of Process Stream		1st Stage Gas	See Slop Tank Report	1st Stage Gas	2nd Stage Gas	HT Gas	5	ULPS Gas	See Oil Tank Report	SeeWater Tank Report	
Emission Summary											
Item		Pilot Gas	Slop Tank	1st Stage Gas	2nd Stage Gas	Heater Treater Gas	Gunbarrel Gas	ULPS Gas	Oil Tanks	Water Tanks	
		[%]		[%]		[%]	[%]	[%]	[%]	[%]	
Control Efficiency		98	0	98	0	0	0	0	98	98	
Percent to Flare		100	0	0	0	0	0	0	98	98	
Emission Summary											
Item		Pilot Gas	Slop Tank	1st Stage Gas	2nd Stage Gas	Heater Treater Gas	Gunbarrel Gas	ULPS Gas	Oil Tanks	Water Tanks	Total
		[lb/h]	[lb/h]	[lb/h]	[lb/h]	[lb/h]	[lb/h]	[lb/h]	[lb/h]	[lb/h]	[lb/h]
VOCs [C3+]		0.021		0.000		0.000			0.673	0.153	#VALUE!
Benzene		0.000		0.000	0.000	0.000	0.000	0.000	0.002	0.011	#VALUE!
H2S		0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.001	#VALUE!
Emission Composition											
No.	Component	Pilot Gas [Mol%]	Slop Tank [Mol%]	1st Stage Gas [Mol%]	2nd Stage Gas [Mol%]	Heater Treater [Mol%]	Gunbarrel Gas [Mol%]	ULPS [Mol%]	Oil Tanks [Mol %]	Water Tanks [Mol %]	
1	Hydrogen Sulfide	0.002	See Slop Tank Report	0.002	--	0.007	--	--	See Oil Tank Report	See Water Tank Report	
2	Nitrogen	0.229		0.229	--	0.055	--	--			
3	Carbon Dioxide	1.235		1.235	--	1.833	--	--			
4	Methane	81.562		81.562	--	50.378	--	--			
5	Ethane	11.024		11.024	--	21.859	--	--			
6	Propane	3.437		3.437	--	12.756	--	--			
7	i-Butane	0.450		0.450	--	1.945	--	--			
8	n-Butane	0.946		0.946	--	4.417	--	--			
9	2,2-Dimethylpropane	0.005		0.005	--	0.023	--	--			
10	i-Pentane	0.239		0.239	--	1.180	--	--			
11	n-Pentane	0.249		0.249	--	1.276	--	--			
12	2,2-Dimethylbutane	0.003		0.003	--	0.016	--	--			
13	Cyclopentane	0.000		0.000	--	0.000	--	--			
14	2,3-Dimethylbutane	0.010		0.010	--	0.051	--	--			
15	2-Methylpentane	0.055		0.055	--	0.288	--	--			
16	3-Methylpentane	0.030		0.030	--	0.155	--	--			
17	n-Hexane	0.071		0.071	--	0.367	--	--			
18	Methylcyclopentane	0.019		0.019	--	0.102	--	--			
19	Benzene	0.007		0.007	--	0.040	--	--			
20	Cyclohexane	0.017		0.017	--	0.092	--	--			
21	2-Methylhexane	0.015		0.015	--	0.078	--	--			
22	3-Methylhexane	0.012		0.012	--	0.061	--	--			
23	2,2,4-Trimethylpentane	0.000		0.000	--	0.000	--	--			
24	n-Heptane	0.032		0.032	--	0.160	--	--			
25	Methylcyclohexane	0.016		0.016	--	0.081	--	--			
26	Toluene	0.011		0.011	--	0.059	--	--			
27	n-Octane	0.023		0.023	--	0.109	--	--			
28	Ethylbenzene	0.001		0.001	--	0.007	--	--			
29	m-Xylene	0.005		0.005	--	0.024	--	--			
30	p-Xylene	0.000		0.000	--	0.000	--	--			
31	o-Xylene	0.002		0.002	--	0.008	--	--			
32	n-Nonane	0.008		0.008	--	0.036	--	--			
33	n-Decane	0.004		0.004	--	0.015	--	--			
34	Undecane	0.001		0.001	--	0.005	--	--			
35	Dodecane	0.000		0.000	--	0.001	--	--			
36	Tridecane	0.000		0.000	--	0.001	--	--			
37	Tetradecane	0.000		0.000	--	0.000	--	--			
38	Pentadecane	0.000		0.000	--	0.000	--	--			
39	Hexadecane	0.000		0.000	--	0.000	--	--			
40	Heptadecane	0.000		0.000	--	0.000	--	--			
41	Octadecane	0.000		0.000	--	0.000	--	--			
42	Nonadecane	0.000		0.000	--	0.000	--	--			
43	Eicosane	0.000		0.000	--	0.000	--	--			
44	Heneicosane	0.000		0.000	--	0.000	--	--			
45	Docosane	0.000		0.000	--	0.000	--	--			
46	Tricosane	0.000		0.000	--	0.000	--	--			
47	Tetracosane	0.000		0.000	--	0.000	--	--			
48	Pentacosane	0.000		0.000	--	0.000	--	--			
49	Hexacosane	0.000		0.000	--	0.000	--	--			
50	Heptacosane	0.000		0.000	--	0.000	--	--			
51	Octacosane	0.000		0.000	--	0.000	--	--			
52	Nonacosane	0.000		0.000	--	0.000	--	--			
53	C30	0.000		0.000	--	0.000	--	--			
54	Water	0.279		0.279	--	2.517	--	--			
55	C10+	0.000		0.000	--	0.000	--	--			

PROMAX REPORT - PROCESS STREAM - HOURLY

[illegible]

Stream Properties										
		Pilot Gas	Slop Tank	1st Stage Gas	2nd Stage Gas	Heater Treater	Gunbarrel	ULPS	Oil Tanks	Water Tanks
Heating Value [BTU/scf]		1076.125	See Slop Tank Report	1076.125	--	1472.488	--	--	See Oil Tank Report	See Oil Tank Report
Molecular Weight [lb/lbmol]		20.061		20.061	--	28.671		--		
Gas Volumetric Flow [scf/hr]		130.000		0.000	0.000	0.000	0.000	0.000	393.724	9.353

PROMAX REPORT - OIL TANKS - ANNUALLY

Project information							
File Name	DEET - GREEN A PAD 4						
Company	Devon Energy						
City, State	("Victoria, TX","Victoria, TX","Victoria, TX")						
Equation of State	("Peng-Robinson","Peng-Robinson","Peng-Robinson")						
Description	DEET Emissions Report						
Stream Selection for Tank Losses Stencil							
Name of Property Stencil	Oil Tank Losses						
Name of Process Stream	Tank Inlet[Oil Tanks]						
Loading Information							
Mode of Operation	Submerged Loading of a Clean Cargo Tank						
Cargo Carrier	Tank Truck or Rail Tank Car						
Saturation Factor	1.0						
VOCs [C3+]	76						
Tank Information							
Shell Height [ft]	30						
Diameter [ft]	15.5						
Maximum Fill Percent [%]	90						
Number of Tanks	2						
Average Fill Percent [%]	50						
Total Tank Volume [bbl]	2016.4						
Net Throughput [bbl/yr]	14600.0						
Max Liquid Surface Temperature [°F]	81.0441						
Average Liquid Surface Temperature [°F]	74.1378						
MW	40.7021						
Turnovers (per year)	9.13001						
Paint Characteristics							
Shell Color	Tan						
Shell Paint Condition	Average						
Roof Color	Tan						
Roof Condition	Average						
Roof Characteristics							
Type	Dome						
Dome Radius [ft]							
Slope [ft/ft]	--						
Breather Vent Settings							
Vacuum Settings [psig]	-0.0300000						
Pressure Settings [psig]	0.0300000						
Meteorological Data							
Location	Victoria, TX						
Ambient Pressure [psia]	14.63						
Min Ambient Temperature [°F]	60.5						
Max Ambient Temperature [°F]	80.1						
Solar Insolation [BTU/ft2*day]	1439						
Wind Speed [mph]	9.2						
Emission Summary							
Item		Flash Gas	W/B Losses	Loading Losses	Heater Treater Gas	ULPS Gas	
		%	%	%	%	%	
Capture Efficiency		98	98	70	0	0	
Percent to Flare		100	100	100	0	0	
Emission Summary							
Item		Flash Gas	W/B Losses	Loading Losses	Heater Treater Gas	ULPS Gas	Total Losses
		[ton/yr]	[ton/yr]	[ton/yr]	[ton/yr]	[ton/yr]	[ton/yr]
VOCs [C3+]		0.877	0.180	0.042	0.000	0.000	1.099
Benzene		0.002	0.000	0.000	0.000	0.000	0.003
H2S		0.000	0.000	0.000	0.000	0.000	0.000

PROMAX REPORT - OIL TANKS - ANNUALLY

Emission Composition						
No.	Component	Flash Gas [Mol%]	W/B Losses [Mol%]	Loading Losses [Mol%]	Heater Treater [Mol%]	ULPS [Mol%]
1	Hydrogen Sulfide	0.011	0.014	0.014	--	--
2	Nitrogen	0.005	0.000	0.000	--	--
3	Carbon Dioxide	1.075	0.740	0.740	--	--
4	Methane	13.150	3.339	3.339	--	--
5	Ethane	24.152	31.266	31.266	--	--
6	Propane	30.390	34.490	34.490	--	--
7	i-Butane	5.396	5.698	5.698	--	--
8	n-Butane	12.757	13.004	13.004	--	--
9	2,2-Dimethylpropane	0.058	0.058	0.058	--	--
10	i-Pentane	3.408	3.205	3.205	--	--
11	n-Pentane	3.623	3.324	3.324	--	--
12	2,2-Dimethylbutane	0.046	0.041	0.041	--	--
13	Cyclopentane	0.000	0.000	0.000	--	--
14	2,3-Dimethylbutane	0.142	0.124	0.124	--	--
15	2-Methylpentane	0.781	0.680	0.680	--	--
16	3-Methylpentane	0.417	0.361	0.361	--	--
17	n-Hexane	0.944	0.797	0.797	--	--
18	Methylcyclopentane	0.271	0.234	0.234	--	--
19	Benzene	0.107	0.092	0.092	--	--
20	Cyclohexane	0.240	0.205	0.205	--	--
21	2-Methylhexane	0.184	0.150	0.150	--	--
22	3-Methylhexane	0.143	0.115	0.115	--	--
23	2,2,4-Trimethylpentane	0.000	0.000	0.000	--	--
24	n-Heptane	0.361	0.287	0.287	--	--
25	Methylcyclohexane	0.188	0.151	0.151	--	--
26	Toluene	0.137	0.109	0.109	--	--
27	n-Octane	0.214	0.159	0.159	--	--
28	Ethylbenzene	0.014	0.011	0.011	--	--
29	m-Xylene	0.048	0.036	0.036	--	--
30	p-Xylene	0.000	0.000	0.000	--	--
31	o-Xylene	0.015	0.011	0.011	--	--
32	n-Nonane	0.061	0.042	0.042	--	--
33	n-Decane	0.022	0.015	0.015	--	--
34	Undecane	0.006	0.004	0.004	--	--
35	Dodecane	0.002	0.001	0.001	--	--
36	Tridecane	0.001	0.000	0.000	--	--
37	Tetradecane	0.000	0.000	0.000	--	--
38	Pentadecane	0.000	0.000	0.000	--	--
39	Hexadecane	0.000	0.000	0.000	--	--
40	Heptadecane	0.000	0.000	0.000	--	--
41	Octadecane	0.000	0.000	0.000	--	--
42	Nonadecane	0.000	0.000	0.000	--	--
43	Eicosane	0.000	0.000	0.000	--	--
44	Heneicosane	0.000	0.000	0.000	--	--
45	Docosane	0.000	0.000	0.000	--	--
46	Tricosane	0.000	0.000	0.000	--	--
47	Tetracosane	0.000	0.000	0.000	--	--
48	Pentacosane	0.000	0.000	0.000	--	--
49	Hexacosane	0.000	0.000	0.000	--	--
50	Heptacosane	0.000	0.000	0.000	--	--
51	Octacosane	0.000	0.000	0.000	--	--
52	Nonacosane	0.000	0.000	0.000	--	--
53	C30	0.000	0.000	0.000	--	--
54	Water	1.630	1.236	1.236	--	--
55	C10+	0.000	0.000	0.000	--	--

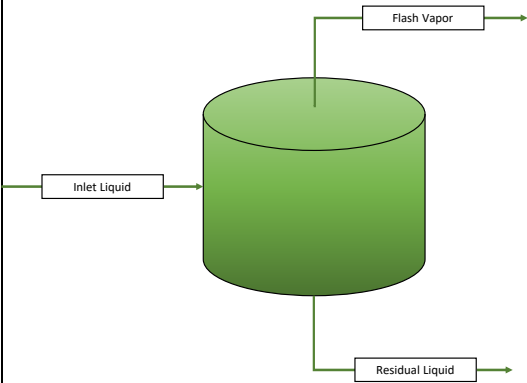
PROMAX REPORT - OIL TANKS - ANNUALLY

Stream Compositional Data							
No.	Component	Flash Gas [ton/yr]	W/B Losses [ton/yr]	Loading Losses [ton/yr]	Heater Treater [ton/yr]	ULPS [ton/yr]	Total Losses [ton/yr]
1	Hydrogen Sulfide	0.000	0.000	0.000			0.000
2	Nitrogen	0.000	0.000	0.000			0.000
3	Carbon Dioxide	0.013	0.002	0.000			0.015
4	Methane	0.056	0.003	0.001			0.059
5	Ethane	0.193	0.050	0.012			0.254
6	Propane	0.356	0.080	0.019			0.455
7	i-Butane	0.083	0.018	0.004			0.105
8	n-Butane	0.197	0.040	0.009			0.246
9	2,2-Dimethylpropane	0.001	0.000	0.000			0.001
10	i-Pentane	0.065	0.012	0.003			0.080
11	n-Pentane	0.069	0.013	0.003			0.085
12	2,2-Dimethylbutane	0.001	0.000	0.000			0.001
13	Cyclopentane	0.000	0.000	0.000			0.000
14	2,3-Dimethylbutane	0.003	0.001	0.000			0.004
15	2-Methylpentane	0.018	0.003	0.001			0.022
16	3-Methylpentane	0.010	0.002	0.000			0.012
17	n-Hexane	0.022	0.004	0.001			0.026
18	Methylcyclopentane	0.006	0.001	0.000			0.007
19	Benzene	0.002	0.000	0.000			0.003
20	Cyclohexane	0.005	0.001	0.000			0.006
21	2-Methylhexane	0.005	0.001	0.000			0.006
22	3-Methylhexane	0.004	0.001	0.000			0.005
23	2,2,4-Trimethylpentane	0.000	0.000	0.000			0.000
24	n-Heptane	0.010	0.002	0.000			0.011
25	Methylcyclohexane	0.005	0.001	0.000			0.006
26	Toluene	0.003	0.001	0.000			0.004
27	n-Octane	0.006	0.001	0.000			0.008
28	Ethylbenzene	0.000	0.000	0.000			0.000
29	m-Xylene	0.001	0.000	0.000			0.002
30	p-Xylene	0.000	0.000	0.000			0.000
31	o-Xylene	0.000	0.000	0.000			0.001
32	n-Nonane	0.002	0.000	0.000			0.002
33	n-Decane	0.001	0.000	0.000			0.001
34	Undecane	0.000	0.000	0.000			0.000
35	Dodecane	0.000	0.000	0.000			0.000
36	Tridecane	0.000	0.000	0.000			0.000
37	Tetradecane	0.000	0.000	0.000			0.000
38	Pentadecane	0.000	0.000	0.000			0.000
39	Hexadecane	0.000	0.000	0.000			0.000
40	Heptadecane	0.000	0.000	0.000			0.000
41	Octadecane	0.000	0.000	0.000			0.000
42	Nonadecane	0.000	0.000	0.000			0.000
43	Eicosane	0.000	0.000	0.000			0.000
44	Heneicosane	0.000	0.000	0.000			0.000
45	Docosane	0.000	0.000	0.000			0.000
46	Tricosane	0.000	0.000	0.000			0.000
47	Tetracosane	0.000	0.000	0.000			0.000
48	Pentacosane	0.000	0.000	0.000			0.000
49	Hexacosane	0.000	0.000	0.000			0.000
50	Heptacosane	0.000	0.000	0.000			0.000
51	Octacosane	0.000	0.000	0.000			0.000
52	Nonacosane	0.000	0.000	0.000			0.000
53	C30	0.000	0.000	0.000			0.000
54	Water	0.008	0.001	0.000			0.009
55	C10+	0.000	0.000	0.000			0.000

Stream Properties							
		Flash Gas	W/B Losses	Loading Losses	Heater Treater	ULPS	
MW		43.182	44.617	44.617	29.478	--	
Heating Value [BTU/scf]		2222.865	2307.614	2307.614	1514.307	--	
Specific Gravity		1.491	1.541	1.541	1.018	--	
VOC Concentration [wt%]		100.000	100.000	100.000	100.000	--	
Temperature [°F]		91.391	81.044	81.044	130.000	--	
Gas Volumetric Flow [scf/hr]		114.932	22.892	3.614	0.000	0.000	

PROMAX REPORT - OIL TANKS - ANNUALLY

Inlet Stream Data	
Component	Tank Inlet [Mol%]
Hydrogen Sulfide	0.002
Nitrogen	0.000
Carbon Dioxide	0.124
Methane	1.410
Ethane	3.145
Propane	6.510
i-Butane	1.722
n-Butane	5.225
2,2-Dimethylpropane	0.031
i-Pentane	2.934
n-Pentane	3.971
2,2-Dimethylbutane	0.078
Cyclopentane	0.000
2,3-Dimethylbutane	0.309
2-Methylpentane	1.837
3-Methylpentane	1.083
n-Hexane	3.066
Methylcyclopentane	0.810
Benzene	0.334
Cyclohexane	0.893
2-Methylhexane	1.200
3-Methylhexane	1.010
2,2,4-Trimethylpentane	0.000
n-Heptane	3.327
Methylcyclohexane	1.639
Toluene	1.361
n-Octane	6.077
Ethylbenzene	0.415
m-Xylene	1.559
p-Xylene	0.000
o-Xylene	0.561
n-Nonane	5.236
n-Decane	5.761
Undecane	4.584
Dodecane	3.594
Tridecane	3.435
Tetradecane	2.949
Pentadecane	2.602
Hexadecane	2.153
Heptadecane	1.839
Octadecane	1.731
Nonadecane	1.604
Eicosane	1.395
Heneicosane	1.236
Docosane	1.061
Tricosane	0.910
Tetracosane	0.833
Pentacosane	0.757
Hexacosane	0.606
Heptacosane	0.645
Octacosane	0.498
Nonacosane	0.505
C30	5.240
Water	0.191
C10+	0.000



Residual Liquid Data	
Flow (bbl/d)	40.000
TVP [psia]	13.489

PROMAX REPORT - WATER TANKS - ANNUALLY

Project information	
File Name	DEET - GREEN A PAD 4
Company	Devon Energy
City, State	("Victoria, TX","Victoria, TX","Victoria, TX")
Equation of State	("Peng-Robinson","Peng-Robinson","Peng-Robinson")
Description	DEET Emissions Report

Stream Selection for Tank Losses Stencil	
Name of Property Stencil	Water Tank Losses
Name of Process Stream	Inlet[Water Tanks]

Loading Information	
Mode of Operation	Submerged Loading of a Clean Cargo Tank
Cargo Carrier	Tank Truck or Rail Tank Car
Saturation Factor	0.6
VOCs [C3+]	18

Tank Information	
Shell Height [ft]	30
Diameter [ft]	15.5
Maximum Fill Percent [%]	90
Number of Tanks	3
Average Fill Percent [%]	50
Total Tank Volume [bbl]	3024.7
Net Throughput [bbl/yr]	327542
Max Liquid Surface Temperature [°F]	81.0441
Average Liquid Surface Temperature [°F]	74.1378
MW	27.2437
Turnovers (per year)	135.619

Paint Characteristics	
Shell Color	Tan
Shell Paint Condition	Average
Roof Color	Tan
Roof Condition	Average

Roof Characteristics	
Type	Dome
Dome Radius [ft]	
Slope [ft/ft]	--

Breather Vent Settings	
Vacuum Settings [psig]	-0.0300000
Pressure Settings [psig]	0.0300000

Meteorological Data	
Location	Victoria, TX
Ambient Pressure [psia]	14.63
Min Ambient Temperature [°F]	60.5
Max Ambient Temperature [°F]	80.1
Solar Insolation [BTU/ft2*day]	1439
Wind Speed [mph]	9.2

Emission Summary						
Item		Flash Gas	W/B Losses			
		%	%			
Capture Efficiency		98	98			
Percent to Flare		100	100			

Emission Summary						
Item		Flash Gas	W/B Losses			Total Losses
		[ton/yr]	[ton/yr]			[ton/yr]
VOCs [C3+]		0.058	0.021			0.080
Benzene		0.001	0.003			0.004
H2S		0.000	0.001			0.001

PROMAX REPORT - WATER TANKS - ANNUALLY

Emission Composition							
No.	Component	Flash Gas [Mol%]	W/B Losses [Mol%]				
1	Hydrogen Sulfide	0.043	0.380				
2	Nitrogen	0.021	0.003				
3	Carbon Dioxide	7.668	29.850				
4	Methane	39.767	12.702				
5	Ethane	21.972	9.590				
6	Propane	9.660	3.069				
7	i-Butane	0.789	0.172				
8	n-Butane	2.926	0.862				
9	2,2-Dimethylpropane	0.005	0.001				
10	i-Pentane	0.445	0.092				
11	n-Pentane	0.298	0.027				
12	2,2-Dimethylbutane	0.002	0.000				
13	Cyclopentane	0.000	0.000				
14	2,3-Dimethylbutane	0.015	0.003				
15	2-Methylpentane	0.072	0.009				
16	3-Methylpentane	0.078	0.021				
17	n-Hexane	0.051	0.003				
18	Methylcyclopentane	0.077	0.033				
19	Benzene	0.199	1.070				
20	Cyclohexane	0.124	0.104				
21	2-Methylhexane	0.008	0.001				
22	3-Methylhexane	0.007	0.001				
23	2,2,4-Trimethylpentane	0.000	0.000				
24	n-Heptane	0.013	0.001				
25	Methylcyclohexane	0.054	0.022				
26	Toluene	0.272	1.542				
27	n-Octane	0.005	0.000				
28	Ethylbenzene	0.030	0.148				
29	m-Xylene	0.100	0.614				
30	p-Xylene	0.000	0.000				
31	o-Xylene	0.035	0.169				
32	n-Nonane	0.001	0.000				
33	n-Decane	0.000	0.000				
34	Undecane	0.000	0.000				
35	Dodecane	0.000	0.000				
36	Tridecane	0.000	0.000				
37	Tetradecane	0.000	0.000				
38	Pentadecane	0.000	0.000				
39	Hexadecane	0.000	0.000				
40	Heptadecane	0.000	0.000				
41	Octadecane	0.000	0.000				
42	Nonadecane	0.000	0.000				
43	Eicosane	0.000	0.000				
44	Heneicosane	0.000	0.000				
45	Docosane	0.000	0.000				
46	Tricosane	0.000	0.000				
47	Tetracosane	0.000	0.000				
48	Pentacosane	0.000	0.000				
49	Hexacosane	0.000	0.000				
50	Heptacosane	0.000	0.000				
51	Octacosane	0.000	0.000				
52	Nonacosane	0.000	0.000				
53	C30	0.000	0.000				
54	Water	15.261	39.512				
55	C10+	0.000	0.000				

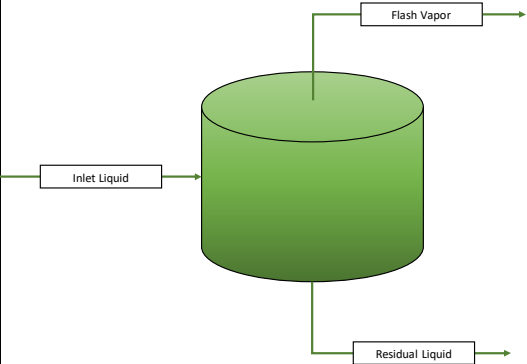
PROMAX REPORT - WATER TANKS - ANNUALLY

Stream Compositional Data							
No.	Component	Flash Gas [ton/yr]	W/B Losses [ton/yr]				Total Losses [ton/yr]
1	Hydrogen Sulfide	0.000	0.001				0.001
2	Nitrogen	0.000	0.000				0.000
3	Carbon Dioxide	0.025	0.051				0.076
4	Methane	0.047	0.008				0.055
5	Ethane	0.048	0.011				0.060
6	Propane	0.031	0.005				0.036
7	i-Butane	0.003	0.000				0.004
8	n-Butane	0.012	0.002				0.014
9	2,2-Dimethylpropane	0.000	0.000				0.000
10	i-Pentane	0.002	0.000				0.003
11	n-Pentane	0.002	0.000				0.002
12	2,2-Dimethylbutane	0.000	0.000				0.000
13	Cyclopentane	0.000	0.000				0.000
14	2,3-Dimethylbutane	0.000	0.000				0.000
15	2-Methylpentane	0.000	0.000				0.000
16	3-Methylpentane	0.000	0.000				0.001
17	n-Hexane	0.000	0.000				0.000
18	Methylcyclopentane	0.000	0.000				0.001
19	Benzene	0.001	0.003				0.004
20	Cyclohexane	0.001	0.000				0.001
21	2-Methylhexane	0.000	0.000				0.000
22	3-Methylhexane	0.000	0.000				0.000
23	2,2,4-Trimethylpentane	0.000	0.000				0.000
24	n-Heptane	0.000	0.000				0.000
25	Methylcyclohexane	0.000	0.000				0.000
26	Toluene	0.002	0.006				0.007
27	n-Octane	0.000	0.000				0.000
28	Ethylbenzene	0.000	0.001				0.001
29	m-Xylene	0.001	0.003				0.003
30	p-Xylene	0.000	0.000				0.000
31	o-Xylene	0.000	0.001				0.001
32	n-Nonane	0.000	0.000				0.000
33	n-Decane	0.000	0.000				0.000
34	Undecane	0.000	0.000				0.000
35	Dodecane	0.000	0.000				0.000
36	Tridecane	0.000	0.000				0.000
37	Tetradecane	0.000	0.000				0.000
38	Pentadecane	0.000	0.000				0.000
39	Hexadecane	0.000	0.000				0.000
40	Heptadecane	0.000	0.000				0.000
41	Octadecane	0.000	0.000				0.000
42	Nonadecane	0.000	0.000				0.000
43	Eicosane	0.000	0.000				0.000
44	Heneicosane	0.000	0.000				0.000
45	Docosane	0.000	0.000				0.000
46	Tricosane	0.000	0.000				0.000
47	Tetracosane	0.000	0.000				0.000
48	Pentacosane	0.000	0.000				0.000
49	Hexacosane	0.000	0.000				0.000
50	Heptacosane	0.000	0.000				0.000
51	Octacosane	0.000	0.000				0.000
52	Nonacosane	0.000	0.000				0.000
53	C30	0.000	0.000				0.000
54	Water	0.020	0.028				0.048
55	C10+	0.000	0.000				0.000

Stream Properties							
		Flash Gas	W/B Losses				
MW		27.117	30.762				
Heating Value [BTU/scf]		1130.104	538.248				
Specific Gravity		0.936	1.062				
VOC Concentration [wt%]		100.000	100.000				
Temperature [°F]		130.168	81.044				
Gas Volumetric Flow [scf/hr]		31.715	16.876				

PROMAX REPORT - WATER TANKS - ANNUALLY

Inlet Stream Data		
Component	Tank Inlet (Mol%)	
Hydrogen Sulfide	0.000	
Nitrogen	0.000	
Carbon Dioxide	0.003	
Methane	0.005	
Ethane	0.003	
Propane	0.001	
i-Butane	0.000	
n-Butane	0.000	
2,2-Dimethylpropane	0.000	
i-Pentane	0.000	
n-Pentane	0.000	
2,2-Dimethylbutane	0.000	
Cyclopentane	0.000	
2,3-Dimethylbutane	0.000	
2-Methylpentane	0.000	
3-Methylpentane	0.000	
n-Hexane	0.000	
Methylcyclopentane	0.000	
Benzene	0.000	
Cyclohexane	0.000	
2-Methylhexane	0.000	
3-Methylhexane	0.000	
2,2,4-Trimethylpentane	0.000	
n-Heptane	0.000	
Methylcyclohexane	0.000	
Toluene	0.000	
n-Octane	0.000	
Ethylbenzene	0.000	
m-Xylene	0.000	
p-Xylene	0.000	
o-Xylene	0.000	
n-Nonane	0.000	
n-Decane	0.000	
Undecane	0.000	
Dodecane	0.000	
Tridecane	0.000	
Tetradecane	0.000	
Pentadecane	0.000	
Hexadecane	0.000	
Heptadecane	0.000	
Octadecane	0.000	
Nonadecane	0.000	
Eicosane	0.000	
Heneicosane	0.000	
Docosane	0.000	
Tricosane	0.000	
Tetracosane	0.000	
Pentacosane	0.000	
Hexacosane	0.000	
Heptacosane	0.000	
Octacosane	0.000	
Nonacosane	0.000	
C30	0.000	
Water	99.986	
C10+	0.000	



Residual Liquid Data	
Flow (bbl/d)	897.375
TVP [psia]	13.678

PROMAX REPORT - PROCESS STREAM - ANNUALLY

Project information	
File Name	DEET - GREEN A PAD 4
Company	Devon Energy
City, State	{ "Victoria, TX", "Victoria, TX", "Victoria, TX" }
Equation of State	{ "Peng-Robinson", "Peng-Robinson", "Peng-Robinson" }
Description	DEETMax Emissions Report

Stream Selection									
Item		Inlet Gas	Inlet Gas	Inlet Oil	Inlet Oil				
Name of Process Stream		Gas	Gas	Oil	Oil				

Emission Composition									
No.	Component	Inlet Gas [Mol%]	Inlet Gas [Mass%]	Inlet Oil [Mol%]	Inlet Oil [Mass%]				
1	Hydrogen Sulfide	0.005	0.007	0.000	0.000				
2	Nitrogen	0.146	0.177	0.047	0.008				
3	Carbon Dioxide	1.459	2.778	0.065	0.018				
4	Methane	72.147	50.076	2.009	0.205				
5	Ethane	14.119	18.368	2.593	0.496				
6	Propane	6.956	13.271	4.512	1.264				
7	i-Butane	0.973	2.447	1.446	0.534				
8	n-Butane	2.101	5.283	4.689	1.732				
9	2,2-Dimethylpropane	0.000	0.000	0.047	0.022				
10	i-Pentane	0.508	1.586	2.914	1.336				
11	n-Pentane	0.536	1.673	3.994	1.831				
12	2,2-Dimethylbutane	0.010	0.037	0.073	0.040				
13	Cyclopentane	0.000	0.000	0.000	0.000				
14	2,3-Dimethylbutane	0.038	0.142	0.285	0.156				
15	2-Methylpentane	0.162	0.604	1.807	0.990				
16	3-Methylpentane	0.087	0.324	1.072	0.587				
17	n-Hexane	0.208	0.776	3.060	1.676				
18	Methylcyclopentane	0.037	0.135	0.846	0.452				
19	Benzene	0.020	0.068	0.339	0.168				
20	Cyclohexane	0.039	0.142	0.923	0.494				
21	2-Methylhexane	0.036	0.156	1.243	0.792				
22	3-Methylhexane	0.034	0.147	1.036	0.660				
23	2,2,4-Trimethylpentane	0.000	0.000	0.000	0.000				
24	n-Heptane	0.113	0.490	3.383	2.154				
25	Methylcyclohexane	0.041	0.174	1.696	1.058				
26	Toluene	0.030	0.120	1.412	0.827				
27	n-Octane	0.095	0.469	6.277	4.557				
28	Ethylbenzene	0.002	0.009	0.437	0.295				
29	m-Xylene	0.018	0.083	1.620	1.093				
30	p-Xylene	0.000	0.000	0.000	0.000				
31	o-Xylene	0.004	0.018	0.587	0.396				
32	n-Nonane	0.049	0.272	5.433	4.428				
33	n-Decane	0.023	0.142	6.022	5.445				
34	Undecane	0.004	0.027	4.815	4.783				
35	Dodecane	0.000	0.000	3.779	4.091				
36	Tridecane	0.000	0.000	3.611	4.231				
37	Tetradecane	0.000	0.000	3.100	3.908				
38	Pentadecane	0.000	0.000	2.735	3.692				
39	Hexadecane	0.000	0.000	2.263	3.257				
40	Heptadecane	0.000	0.000	1.933	2.954				
41	Octadecane	0.000	0.000	1.820	2.944				
42	Nonadecane	0.000	0.000	1.686	2.877				
43	Eicosane	0.000	0.000	1.467	2.634				
44	Heneicosane	0.000	0.000	1.299	2.448				
45	Docosane	0.000	0.000	1.115	2.201				
46	Tricosane	0.000	0.000	0.957	1.974				
47	Tetracosane	0.000	0.000	0.876	1.885				
48	Pentacosane	0.000	0.000	0.796	1.784				
49	Hexacosane	0.000	0.000	0.637	1.485				
50	Heptacosane	0.000	0.000	0.678	1.641				
51	Octacosane	0.000	0.000	0.524	1.315				
52	Nonacosane	0.000	0.000	0.531	1.379				
53	C30	0.000	0.000	5.509	14.803				
54	Water	0.000	0.000	0.000	0.000				
55	C10+	0.000	0.000	0.000	0.000				

PROMAX REPORT - PROCESS STREAM - ANNUALLY

Stream Selection											
Item		Pilot Gas	Slop Tank	1st Stage Gas	2nd Stage Gas	Heater Treater Gas	Gunbarrel Gas	ULPS Gas	Oil Tanks	Water Tanks	
Name of Process Stream		1st Stage Gas	See Slop Tank Report	1st Stage Gas	2nd Stage Gas	HT Gas	5	ULPS Gas	See Oil Tank Report	SeeWater Tank Report	
Emission Summary											
Item		Pilot Gas	Slop Tank	1st Stage Gas	2nd Stage Gas	Heater Treater Gas	Gunbarrel Gas	ULPS Gas	Oil Tanks	Water Tanks	
		[%]		[%]		[%]	[%]	[%]	[%]	[%]	
Control Efficiency		98	0	98	0	98	0	0	98	98	
Percent to Flare		100.00	0	0	0	1	0	0	100	100	
Emission Summary											
Item		Pilot Gas	Slop Tank	1st Stage Gas	2nd Stage Gas	Heater Treater Gas	Gunbarrel Gas	ULPS Gas	Oil Tanks	Water Tanks	Total
		[ton/yr]	[ton/yr]	[ton/yr]	[ton/yr]	[ton/yr]	[ton/yr]	[ton/yr]	[ton/yr]	[ton/yr]	[ton/yr]
VOCs [C3+]		0.098		0.000		0.635				0.080	0.813
Benzene		0.000		0.000	0.000	0.001	0.000	0.000	0.003	0.004	0.009
H2S		0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001
Emission Composition											
No.	Component	Pilot Gas [Mol%]	Slop Tank [Mol%]	1st Stage Gas [Mol%]	2nd Stage Gas [Mol%]	Heater Treater [Mol%]	Gunbarrel Gas [Mol%]	ULPS [Mol%]	Oil Tanks [Mol %]	Water Tanks [Mol %]	
1	Hydrogen Sulfide	0.003	See Slop Tank Report	0.003	--	0.008	--	--	See Oil Tank Report	See Water Tank Report	
2	Nitrogen	0.203		0.203	--	0.046	--	--			
3	Carbon Dioxide	1.364		1.364	--	1.779	--	--			
4	Methane	80.039		80.039	--	47.240	--	--			
5	Ethane	11.871		11.871	--	22.994	--	--			
6	Propane	3.891		3.891	--	14.282	--	--			
7	i-Butane	0.492		0.492	--	2.118	--	--			
8	n-Butane	1.014		1.014	--	4.726	--	--			
9	2,2-Dimethylpropane	0.004		0.004	--	0.021	--	--			
10	i-Pentane	0.244		0.244	--	1.210	--	--			
11	n-Pentane	0.252		0.252	--	1.299	--	--			
12	2,2-Dimethylbutane	0.003		0.003	--	0.017	--	--			
13	Cyclopentane	0.000		0.000	--	0.000	--	--			
14	2,3-Dimethylbutane	0.010		0.010	--	0.053	--	--			
15	2-Methylpentane	0.056		0.056	--	0.292	--	--			
16	3-Methylpentane	0.030		0.030	--	0.157	--	--			
17	n-Hexane	0.071		0.071	--	0.369	--	--			
18	Methylcyclopentane	0.019		0.019	--	0.101	--	--			
19	Benzene	0.007		0.007	--	0.040	--	--			
20	Cyclohexane	0.017		0.017	--	0.092	--	--			
21	2-Methylhexane	0.015		0.015	--	0.077	--	--			
22	3-Methylhexane	0.012		0.012	--	0.061	--	--			
23	2,2,4-Trimethylpentane	0.000		0.000	--	0.000	--	--			
24	n-Heptane	0.032		0.032	--	0.159	--	--			
25	Methylcyclohexane	0.016		0.016	--	0.080	--	--			
26	Toluene	0.011		0.011	--	0.058	--	--			
27	n-Octane	0.023		0.023	--	0.109	--	--			
28	Ethylbenzene	0.001		0.001	--	0.007	--	--			
29	m-Xylene	0.005		0.005	--	0.024	--	--			
30	p-Xylene	0.000		0.000	--	0.000	--	--			
31	o-Xylene	0.002		0.002	--	0.008	--	--			
32	n-Nonane	0.008		0.008	--	0.036	--	--			
33	n-Decane	0.004		0.004	--	0.015	--	--			
34	Undecane	0.001		0.001	--	0.005	--	--			
35	Dodecane	0.000		0.000	--	0.001	--	--			
36	Tridecane	0.000		0.000	--	0.001	--	--			
37	Tetradecane	0.000		0.000	--	0.000	--	--			
38	Pentadecane	0.000		0.000	--	0.000	--	--			
39	Hexadecane	0.000		0.000	--	0.000	--	--			
40	Heptadecane	0.000		0.000	--	0.000	--	--			
41	Octadecane	0.000		0.000	--	0.000	--	--			
42	Nonadecane	0.000		0.000	--	0.000	--	--			
43	Eicosane	0.000		0.000	--	0.000	--	--			
44	Heneicosane	0.000		0.000	--	0.000	--	--			
45	Docosane	0.000		0.000	--	0.000	--	--			
46	Tricosane	0.000		0.000	--	0.000	--	--			
47	Tetracosane	0.000		0.000	--	0.000	--	--			
48	Pentacosane	0.000		0.000	--	0.000	--	--			
49	Hexacosane	0.000		0.000	--	0.000	--	--			
50	Heptacosane	0.000		0.000	--	0.000	--	--			
51	Octacosane	0.000		0.000	--	0.000	--	--			
52	Nonacosane	0.000		0.000	--	0.000	--	--			
53	C30	0.000		0.000	--	0.000	--	--			
54	Water	0.279		0.279	--	2.514	--	--			
55	C10+	0.000		0.000	--	0.000	--	--			

PROMAX REPORT - PROCESS STREAM - ANNUALLY

Stream Compositional Data											
No.	Component	Pilot Gas [ton/yr]	Slop Tank [ton/yr]	1st Stage Gas [ton/yr]	2nd Stage Gas [ton/yr]	Heater Treater [ton/yr]	Gunbarrel Gas [ton/yr]	ULPS [ton/yr]	Oil Tanks [ton/yr]	Water Tanks [ton/yr]	Total [ton/yr]
1	Hydrogen Sulfide	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.001
2	Nitrogen	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.002
3	Carbon Dioxide	0.02		0.00	0.00	0.04	0.00	0.00	0.01	0.08	0.145
4	Methane	0.39		0.00	0.00	0.35	0.00	0.00	0.06	0.05	0.850
5	Ethane	0.11		0.00	0.00	0.32	0.00	0.00	0.25	0.06	0.740
6	Propane	0.05		0.00	0.00	0.29	0.00	0.00	0.45	0.04	0.834
7	i-Butane	0.01		0.00	0.00	0.06	0.00	0.00	0.10	0.00	0.174
8	n-Butane	0.02		0.00	0.00	0.13	0.00	0.00	0.25	0.01	0.405
9	2,2-Dimethylpropane	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.002
10	i-Pentane	0.01		0.00	0.00	0.04	0.00	0.00	0.08	0.00	0.129
11	n-Pentane	0.01		0.00	0.00	0.04	0.00	0.00	0.08	0.00	0.135
12	2,2-Dimethylbutane	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.002
13	Cyclopentane	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
14	2,3-Dimethylbutane	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.006
15	2-Methylpentane	0.00		0.00	0.00	0.01	0.00	0.00	0.02	0.00	0.035
16	3-Methylpentane	0.00		0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.019
17	n-Hexane	0.00		0.00	0.00	0.01	0.00	0.00	0.03	0.00	0.043
18	Methylcyclopentane	0.00		0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.012
19	Benzene	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.009
20	Cyclohexane	0.00		0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.012
21	2-Methylhexane	0.00		0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.010
22	3-Methylhexane	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.008
23	2,2,4-Trimethylpentane	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
24	n-Heptane	0.00		0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.020
25	Methylcyclohexane	0.00		0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.010
26	Toluene	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.014
27	n-Octane	0.00		0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.014
28	Ethylbenzene	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.002
29	m-Xylene	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.006
30	p-Xylene	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
31	o-Xylene	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.002
32	n-Nonane	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.005
33	n-Decane	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.002
34	Undecane	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.001
35	Dodecane	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
36	Tridecane	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
37	Tetradecane	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
38	Pentadecane	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
39	Hexadecane	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
40	Heptadecane	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
41	Octadecane	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
42	Nonadecane	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
43	Eicosane	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
44	Heneicosane	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
45	Docosane	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
46	Tricosane	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
47	Tetracosane	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
48	Pentacosane	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
49	Hexacosane	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
50	Heptacosane	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
51	Octacosane	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
52	Nonacosane	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
53	C30	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
54	Water	0.00		0.00	0.00	0.02	0.00	0.00	0.01	0.05	0.080
55	C10+	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000

	Stream Properties									
	Pilot Gas	Slop Tank	1st Stage Gas	2nd Stage Gas	Heater Treater	Gunbarrel	ULPS	Oil Tanks	Water Tanks	
Heating Value [BTU/scf]	1090.117	See Slop Tank Report	1090.117	--	1514.307	--	--	See Oil Tank Report	See Oil Tank Report	
Molecular Weight [lb/lbmol]	20.391		20.391	--	29.478	--	--			
Gas Volumetric Flow [mscf/day]	3.120		0.000	0.000	4.807	0.000	0.000	3.368	0.023	

December 22, 2017

FESCO, Ltd.
1100 Fesco Ave. - Alice, Texas 78332

For: Devon Energy Operating Company, LP
333 W. Sheridan Avenue
Oklahoma City, Oklahoma 73102-5010

Sample: Johnson A 6H-9H
First Stage Separator Gas
Sampled @ 73 psig & 65 °F

Date Sampled: 12/14/2017

Job Number: 74272.001

CHROMATOGRAPH EXTENDED ANALYSIS - GPA 2286

COMPONENT	MOL%	GPM
Hydrogen Sulfide*	0.005	
Nitrogen	0.146	
Carbon Dioxide	1.459	
Methane	72.147	
Ethane	14.119	3.771
Propane	6.956	1.914
Isobutane	0.973	0.318
n-Butane	2.101	0.662
2-2 Dimethylpropane	0.000	0.000
Isopentane	0.508	0.186
n-Pentane	0.536	0.194
Hexanes	0.505	0.208
Heptanes Plus	<u>0.545</u>	<u>0.238</u>
Totals	100.000	7.490

Computed Real Characteristics Of Heptanes Plus:

Specific Gravity ----- 3.579 (Air=1)
Molecular Weight ----- 103.19
Gross Heating Value ----- 5387 BTU/CF

Computed Real Characteristics Of Total Sample:

Specific Gravity ----- 0.801 (Air=1)
Compressibility (Z) ----- 0.9955
Molecular Weight ----- 23.11
Gross Heating Value
Dry Basis ----- 1351 BTU/CF
Saturated Basis ----- 1328 BTU/CF

*Hydrogen Sulfide tested on location by: Stain Tube Method (GPA 2377)
Results: 3.144 Gr/100 CF, 50.0 PPMV or 0.005 Mol %

Base Conditions: 14.650 PSI & 60 Deg F

Sampled By: (03) T. Simon
Analyst: RR
Processor: RG
Cylinder ID: T-2570

Certified: FESCO, Ltd. - Alice, Texas

David Dannhaus 361-661-7015

CHROMATOGRAPH EXTENDED ANALYSIS - GPA 2286
TOTAL REPORT

COMPONENT	MOL %	GPM	WT %
Hydrogen Sulfide*	0.005		0.007
Nitrogen	0.146		0.177
Carbon Dioxide	1.459		2.779
Methane	72.147		50.087
Ethane	14.119	3.771	18.371
Propane	6.956	1.914	13.273
Isobutane	0.973	0.318	2.447
n-Butane	2.101	0.662	5.284
2,2 Dimethylpropane	0.000	0.000	0.000
Isopentane	0.508	0.186	1.586
n-Pentane	0.536	0.194	1.673
2,2 Dimethylbutane	0.010	0.004	0.037
Cyclopentane	0.000	0.000	0.000
2,3 Dimethylbutane	0.038	0.016	0.142
2 Methylpentane	0.162	0.067	0.604
3 Methylpentane	0.087	0.035	0.324
n-Hexane	0.208	0.085	0.776
Methylcyclopentane	0.037	0.013	0.135
Benzene	0.020	0.006	0.068
Cyclohexane	0.039	0.013	0.142
2-Methylhexane	0.036	0.017	0.156
3-Methylhexane	0.034	0.015	0.147
2,2,4 Trimethylpentane	0.000	0.000	0.000
Other C7's	0.042	0.018	0.180
n-Heptane	0.071	0.033	0.308
Methylcyclohexane	0.041	0.016	0.174
Toluene	0.030	0.010	0.120
Other C8's	0.064	0.030	0.305
n-Octane	0.031	0.016	0.153
Ethylbenzene	0.002	0.001	0.009
M & P Xylenes	0.018	0.007	0.083
O-Xylene	0.004	0.002	0.018
Other C9's	0.037	0.019	0.202
n-Nonane	0.012	0.007	0.067
Other C10's	0.019	0.011	0.116
n-Decane	0.004	0.002	0.025
Undecanes (11)	<u>0.004</u>	<u>0.002</u>	<u>0.025</u>
Totals	100.000	7.490	100.000

Computed Real Characteristics of Total Sample

Specific Gravity -----	0.801	(Air=1)
Compressibility (Z) -----	0.9955	
Molecular Weight -----	23.11	
Gross Heating Value		
Dry Basis -----	1351	BTU/CF
Saturated Basis -----	1328	BTU/CF

December 22, 2017

FESCO, Ltd.
1100 Fesco Ave. - Alice, Texas 78332

Sample: Johnson A 6H-9H
First Stage Separator Gas
Sampled @ 73 psig & 65 °F

Date Sampled: 12/14/2017

Job Number: 74272.001

GLYCALC FORMAT

COMPONENT	MOL%	GPM	Wt %
Carbon Dioxide	1.459		2.779
Hydrogen Sulfide	0.005		0.007
Nitrogen	0.146		0.177
Methane	72.147		50.087
Ethane	14.119	3.771	18.371
Propane	6.956	1.914	13.273
Isobutane	0.973	0.318	2.447
n-Butane	2.101	0.662	5.284
Isopentane	0.508	0.186	1.586
n-Pentane	0.536	0.194	1.673
Cyclopentane	0.000	0.000	0.000
n-Hexane	0.208	0.085	0.776
Cyclohexane	0.039	0.013	0.142
Other C6's	0.297	0.122	1.107
Heptanes	0.220	0.096	0.926
Methylcyclohexane	0.041	0.016	0.174
2,2,4 Trimethylpentane	0.000	0.000	0.000
Benzene	0.020	0.006	0.068
Toluene	0.030	0.010	0.120
Ethylbenzene	0.002	0.001	0.009
Xylenes	0.022	0.008	0.101
Octanes Plus	<u>0.171</u>	<u>0.087</u>	<u>0.893</u>
Totals	100.000	7.490	100.000

Real Characteristics Of Octanes Plus:

Specific Gravity ----- 4.187 (Air=1)
Molecular Weight ----- 120.74
Gross Heating Value ----- 6285 BTU/CF

Real Characteristics Of Total Sample:

Specific Gravity ----- 0.801 (Air=1)
Compressibility (Z) ----- 0.9955
Molecular Weight ----- 23.11
Gross Heating Value
Dry Basis ----- 1351 BTU/CF
Saturated Basis ----- 1328 BTU/CF

January 15, 2018

FESCO, Ltd.
1100 FESCO Avenue - Alice, Texas 78332

For: Devon Energy Operating Company, LP
333 W. Sheridan Avenue
Oklahoma City, Oklahoma 73102-5010

Sample: Johnson A 6H-9H
First Stage Separator Hydrocarbon Liquid
Sampled @ 73 psig & 65 °F

Date Sampled: 12/14/17

Job Number: 74272.002

CHROMATOGRAPH EXTENDED ANALYSIS - GPA 2186-M

COMPONENT	MOL %	LIQ VOL %	WT %
Nitrogen	0.047	0.008	0.008
Carbon Dioxide	0.065	0.017	0.018
Methane	2.009	0.524	0.202
Ethane	2.593	1.067	0.488
Propane	4.512	1.913	1.245
Isobutane	1.446	0.728	0.526
n-Butane	4.689	2.275	1.706
2,2 Dimethylpropane	0.047	0.028	0.021
Isopentane	2.914	1.640	1.316
n-Pentane	3.994	2.228	1.804
2,2 Dimethylbutane	0.073	0.047	0.039
Cyclopentane	0.000	0.000	0.000
2,3 Dimethylbutane	0.285	0.180	0.154
2 Methylpentane	1.807	1.154	0.975
3 Methylpentane	1.072	0.674	0.578
n-Hexane	3.060	1.936	1.650
Heptanes Plus	<u>71.385</u>	<u>85.581</u>	<u>89.269</u>
Totals:	100.000	100.000	100.000

Characteristics of Heptanes Plus:

Specific Gravity -----	0.8127 (Water=1)
°API Gravity -----	42.62 @ 60°F
Molecular Weight -----	199.8
Vapor Volume -----	12.91 CF/Gal
Weight -----	6.77 Lbs/Gal

Characteristics of Total Sample:

Specific Gravity -----	0.7791 (Water=1)
°API Gravity -----	50.12 @ 60°F
Molecular Weight -----	159.8
Vapor Volume -----	15.48 CF/Gal
Weight -----	6.49 Lbs/Gal

Base Conditions: 14.650 PSI & 60 °F

Certified: FESCO, Ltd. - Alice, Texas

Sampled By: T. Simon
Analyst: XG
Processor: XGdjv
Cylinder ID: W-2311

David Dannhaus 361-661-7015

TANKS DATA INPUT REPORT - GPA 2186-M

COMPONENT	Mol %	LiqVol %	Wt %
Carbon Dioxide	0.065	0.017	0.018
Nitrogen	0.047	0.008	0.008
Methane	2.009	0.524	0.202
Ethane	2.593	1.067	0.488
Propane	4.512	1.913	1.245
Isobutane	1.446	0.728	0.526
n-Butane	4.737	2.303	1.727
Isopentane	2.914	1.640	1.316
n-Pentane	3.994	2.228	1.804
Other C-6's	3.238	2.055	1.746
Heptanes	7.432	4.956	4.479
Octanes	7.972	5.830	5.428
Nonanes	5.433	4.591	4.316
Decanes Plus	46.154	67.759	72.308
Benzene	0.339	0.146	0.166
Toluene	1.412	0.728	0.814
E-Benzene	0.437	0.260	0.291
Xylenes	2.207	1.311	1.467
n-Hexane	3.060	1.936	1.650
2,2,4 Trimethylpentane	<u>0.000</u>	<u>0.000</u>	<u>0.000</u>
Totals:	100.000	100.000	100.000

Characteristics of Total Sample:

Specific Gravity -----	0.7791 (Water=1)
°API Gravity -----	50.12 @ 60°F
Molecular Weight-----	159.8
Vapor Volume -----	15.48 CF/Gal
Weight -----	6.49 Lbs/Gal

Characteristics of Decanes (C10) Plus:

Specific Gravity -----	0.8314 (Water=1)
Molecular Weight-----	250.3

Characteristics of Atmospheric Sample:

°API Gravity -----	48.64 @ 60°F
Reid Vapor Pressure Equivalent (D-6377)-----	8.90 psi

QUALITY CONTROL CHECK		
	Sampling Conditions	Test Samples
Cylinder Number	-----	W-2311* -----
Pressure, PSIG	73	70 -----
Temperature, °F	65	65 -----

* Sample used for analysis

TOTAL EXTENDED REPORT - GPA 2186-M

COMPONENT	Mol %	LiqVol %	Wt %
Nitrogen	0.047	0.008	0.008
Carbon Dioxide	0.065	0.017	0.018
Methane	2.009	0.524	0.202
Ethane	2.593	1.067	0.488
Propane	4.512	1.913	1.245
Isobutane	1.446	0.728	0.526
n-Butane	4.689	2.275	1.706
2,2 Dimethylpropane	0.047	0.028	0.021
Isopentane	2.914	1.640	1.316
n-Pentane	3.994	2.228	1.804
2,2 Dimethylbutane	0.073	0.047	0.039
Cyclopentane	0.000	0.000	0.000
2,3 Dimethylbutane	0.285	0.180	0.154
2 Methylpentane	1.807	1.154	0.975
3 Methylpentane	1.072	0.674	0.578
n-Hexane	3.060	1.936	1.650
Methylcyclopentane	0.846	0.461	0.446
Benzene	0.339	0.146	0.166
Cyclohexane	0.923	0.483	0.486
2-Methylhexane	1.243	0.890	0.780
3-Methylhexane	1.036	0.732	0.650
2,2,4 Trimethylpentane	0.000	0.000	0.000
Other C-7's	0.709	0.492	0.440
n-Heptane	2.674	1.899	1.677
Methylcyclohexane	1.696	1.049	1.042
Toluene	1.412	0.728	0.814
Other C-8's	4.031	3.010	2.780
n-Octane	2.246	1.770	1.606
E-Benzene	0.437	0.260	0.291
M & P Xylenes	1.620	0.967	1.077
O-Xylene	0.587	0.344	0.390
Other C-9's	3.554	2.964	2.808
n-Nonane	1.879	1.627	1.508
Other C-10's	4.489	4.115	3.969
n-decane	1.533	1.448	1.366
Undecanes(11)	4.815	4.528	4.430
Dodecanes(12)	3.779	3.840	3.808
Tridecanes(13)	3.611	3.933	3.955
Tetradecanes(14)	3.100	3.617	3.687
Pentadecanes(15)	2.735	3.419	3.526
Hexadecanes(16)	2.263	3.022	3.144
Heptadecanes(17)	1.933	2.730	2.867
Octadecanes(18)	1.820	2.707	2.860
Nonadecanes(19)	1.686	2.612	2.776
Eicosanes(20)	1.467	2.363	2.526
Heneicosanes(21)	1.299	2.201	2.366
Docosanes(22)	1.115	1.969	2.129
Tricosanes(23)	0.957	1.751	1.904
Tetracosanes(24)	0.876	1.662	1.815
Pentacosanes(25)	0.796	1.566	1.719
Hexacosanes(26)	0.637	1.299	1.432
Heptacosanes(27)	0.678	1.434	1.588
Octacosanes(28)	0.524	1.146	1.273
Nonacosanes(29)	0.531	1.198	1.336
Triacotanes(30)	0.394	0.916	1.025
Hentriacotanes Plus(31+)	<u>5.115</u>	<u>14.281</u>	<u>16.808</u>
Total	100.000	100.000	100.000

January 15, 2018

FESCO, Ltd.
1100 Fesco Avenue - Alice, Texas 78332

For: Devon Energy Operating Company, LP
 333 W. Sheridan Avenue
 Oklahoma City, Oklahoma 73102-5010

Date Sampled: 12/14/17

Date Analyzed: 01/03/18

Sample: Johnson A 6H-9H

Job Number: J74272

FLASH LIBERATION OF HYDROCARBON LIQUID		
	Separator HC Liquid	Stock Tank
Pressure, psig	73	0
Temperature, °F	65	70
Gas Oil Ratio (1)	-----	47.7
Gas Specific Gravity (2)	-----	1.297
Separator Volume Factor (3)	1.0337	1.000

STOCK TANK FLUID PROPERTIES	
Shrinkage Recovery Factor (4)	0.9674
Oil API Gravity at 60 °F	48.64
Reid Vapor Pressure Equivalent (D-6377), psi (5)	8.90

Quality Control Check			
	Sampling Conditions	Test Samples	
Cylinder No.	-----	W-2311*	-----
Pressure, psig	73	70	-----
Temperature, °F	65	65	-----

(1) - Scf of flashed vapor per barrel of stock tank oil

(2) - Air = 1.000

(3) - Separator volume / Stock tank volume

(4) - Fraction of first stage separator liquid

(5) - Absolute pressure at 100 deg F

Analyst: E.J.

* Sample used for flash study

Base Conditions: 14.65 PSI & 60 °F

Certified: FESCO, Ltd. - Alice, Texas

David Dannhaus 361-661-7015

January 11, 2018

FESCO, Ltd.
1100 Fesco Ave. - Alice, Texas 78332

For: Devon Energy Operating Company, LP
333 W. Sheridan Avenue
Oklahoma City, Oklahoma 73102-5010

Sample: Johnson A 6H-9H
Gas Evolved from Hydrocarbon Liquid Flashed
From 73 psig & 65 °F to 0 psig & 70 °F

Date Sampled: 12/14/17

Job Number: 74272.011

CHROMATOGRAPH EXTENDED ANALYSIS - GPA 2286

COMPONENT	MOL%	GPM
Hydrogen Sulfide*	< 0.001	
Nitrogen	0.214	
Carbon Dioxide	0.917	
Methane	27.947	
Ethane	25.912	6.979
Propane	24.075	6.679
Isobutane	4.135	1.363
n-Butane	9.286	2.948
2-2 Dimethylpropane	0.020	0.008
Isopentane	2.394	0.882
n-Pentane	2.375	0.867
Hexanes	1.649	0.684
Heptanes Plus	<u>1.076</u>	<u>0.452</u>
Totals	100.000	20.861

Computed Real Characteristics Of Heptanes Plus:

Specific Gravity ----- 3.435 (Air=1)
Molecular Weight ----- 98.23
Gross Heating Value ----- 5123 BTU/CF

Computed Real Characteristics Of Total Sample:

Specific Gravity ----- 1.297 (Air=1)
Compressibility (Z) ----- 0.9874
Molecular Weight ----- 37.09
Gross Heating Value
Dry Basis ----- 2130 BTU/CF
Saturated Basis ----- 2093 BTU/CF

*Hydrogen Sulfide tested in laboratory by: Stain Tube Method (GPA 2377)
Results: 0.063 Gr/100 CF, 1.0 PPMV or 0.0001 Mol%

Base Conditions: 14.650 PSI & 60 Deg F

Sampled By: (16) TG
Analyst: RR
Processor: ANB
Cylinder ID: FL-6S

Certified: FESCO, Ltd. - Alice, Texas

David Dannhaus 361-661-7015

**CHROMATOGRAPH EXTENDED ANALYSIS - GPA 2286
TOTAL REPORT**

COMPONENT	MOL %	GPM	WT %
Hydrogen Sulfide*	< 0.001		< 0.001
Nitrogen	0.214		0.162
Carbon Dioxide	0.917		1.088
Methane	27.947		12.086
Ethane	25.912	6.979	21.008
Propane	24.075	6.679	28.624
Isobutane	4.135	1.363	6.480
n-Butane	9.286	2.948	14.552
2,2 Dimethylpropane	0.020	0.008	0.039
Isopentane	2.394	0.882	4.657
n-Pentane	2.375	0.867	4.620
2,2 Dimethylbutane	0.035	0.015	0.081
Cyclopentane	0.000	0.000	0.000
2,3 Dimethylbutane	0.129	0.053	0.300
2 Methylpentane	0.544	0.227	1.264
3 Methylpentane	0.289	0.119	0.672
n-Hexane	0.652	0.270	1.515
Methylcyclopentane	0.111	0.039	0.252
Benzene	0.057	0.016	0.120
Cyclohexane	0.109	0.037	0.247
2-Methylhexane	0.088	0.041	0.238
3-Methylhexane	0.083	0.038	0.224
2,2,4 Trimethylpentane	0.000	0.000	0.000
Other C7's	0.108	0.047	0.289
n-Heptane	0.154	0.072	0.416
Methylcyclohexane	0.089	0.036	0.236
Toluene	0.057	0.019	0.142
Other C8's	0.101	0.047	0.300
n-Octane	0.037	0.019	0.114
Ethylbenzene	0.003	0.001	0.009
M & P Xylenes	0.017	0.007	0.049
O-Xylene	0.004	0.002	0.011
Other C9's	0.036	0.018	0.123
n-Nonane	0.008	0.005	0.028
Other C10's	0.011	0.006	0.042
n-Decane	0.002	0.001	0.008
Undecanes (11)	<u>0.001</u>	<u>0.001</u>	<u>0.004</u>
Totals	100.000	20.861	100.000

Computed Real Characteristics Of Total Sample:

Specific Gravity -----	1.297	(Air=1)
Compressibility (Z) -----	0.9874	
Molecular Weight -----	37.09	
Gross Heating Value		
Dry Basis -----	2130	BTU/CF
Saturated Basis -----	2093	BTU/CF