



Certificate of Analysis

Number: 3040-14070032-003A

Venus Laboratory
2440 Chambers Street, Suite A
Venus, TX 76084

Station Name: Lea Unit
Station Location: Lea County
Sample Point: Meter Run
Cylinder No: 7186
Analyzed: 07/16/2014 09:24:02 by RJ

Sampled By: M.Bosworth
Sample Of: Natural Gas Spot
Sample Date: 07/01/2014
Sample Conditions: 32 psig, @ 89 °F
Method: GPA 2286

Analytical Data

Components	Mol. %	Wt. %	GPM at 14.696 psia	
Hydrogen Sulfide	0.0002	0.0003		GPM TOTAL C2+ 8.960
Nitrogen	3.3491	3.7991		
Carbon Dioxide	0.1117	0.1991		
Methane	65.3789	42.4716		
Ethane	15.0387	18.3113	4.032	
Propane	9.0324	16.1283	2.495	
Iso-Butane	1.0784	2.5381	0.354	
n-Butane	3.1353	7.3793	0.991	
Iso-Pentane	0.7522	2.1976	0.276	
n-Pentane	0.8551	2.4983	0.311	
i-Hexanes	0.4910	1.6744	0.196	
n-Hexane	0.2719	0.9492	0.112	
Benzene	0.0497	0.1573	0.014	
Cyclohexane	0.1072	0.3668	0.037	
i-Heptanes	0.2576	0.9527	0.102	
n-Heptane	0.0343	0.1390	0.016	
Toluene	0.0033	0.0142	0.001	
i-Octanes	0.0497	0.2120	0.021	
n-Octane	0.0011	0.0029	0.001	
Ethylbenzene	0.0000	0.0000	0.000	
Xylenes	0.0000	0.0000	0.000	
i-Nonanes	0.0022	0.0085	0.001	
n-Nonane	0.0000	0.0000	0.000	
Decane Plus	0.0000	0.0000	0.000	
	100.0000	100.0000	8.960	

Physical Properties **Total**
Calculated Molecular Weight 24.69
GPA 2172-09 Calculation:
Calculated Gross BTU per ft³ @ 14.696 psia & 60°F
Real Gas Dry BTU 1422.4
Water Sat. Gas Base BTU 1397.6
Relative Density Real Gas 0.8565
Compressibility Factor 0.9950
Comments: H2S 2 ppm



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Sample Conditions: 32 psig, @ 89 °F
Method: GPA 2286

Analytical Data

Components	Mol. %	Wt. %	GPM at 14.696 psia		
Nitrogen	3.349	3.799		GPM TOTAL C2+	8.960
Carbon Dioxide	0.112	0.199		GPM TOTAL C3+	4.928
Methane	65.380	42.473		GPM TOTAL iC5+	1.088
Ethane	15.039	18.311	4.032		
Propane	9.032	16.128	2.495		
Iso-butane	1.078	2.538	0.354		
n-Butane	3.135	7.379	0.991		
Iso-pentane	0.752	2.198	0.276		
n-Pentane	0.855	2.498	0.311		
Hexanes Plus	1.268	4.477	0.501		
	100.000	100.000	8.960		

Physical Properties	Total
Relative Density Real Gas	0.8565
Calculated Molecular Weight	24.69
Compressibility Factor	0.9950

GPA 2172-09 Calculation:

Calculated Gross BTU per ft³ @ 14.696 psia & 60°F

Real Gas Dry BTU	1422.4000
Water Sat. Gas Base BTU	1397.6000

Comments: H2S 2 ppm



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Method: GPA 2286

Analytical Data

Components	Mol. %	Wt. %	GPM at 14.696 psia		
Nitrogen	3.349	3.799		GPM TOTAL C2+	8.960
Carbon Dioxide	0.112	0.199		GPM TOTAL C3+	4.928
Methane	65.380	42.473		GPM TOTAL iC5+	1.088
Ethane	15.039	18.311	4.032		
Propane	9.032	16.128	2.495		
Iso-Butane	1.078	2.538	0.354		
n-Butane	3.135	7.379	0.991		
Iso-Pentane	0.752	2.198	0.276		
n-Pentane	0.855	2.498	0.311		
Hexane	0.763	2.624	0.308		
Heptanes Plus	0.505	1.853	0.193		
	100.000	100.000	8.960		

Physical Properties	Total
Relative Density Real Gas	0.8565
Calculated Molecular Weight	24.69
Compressibility Factor	0.9950

GPA 2172-09 Calculation:**Calculated Gross BTU per ft³ @ 14.696 psia & 60°F**

Real Gas Dry BTU	1422.4000
Water Sat. Gas Base BTU	1397.6000

Comments: H2S 2 ppm



Certificate of Analysis

Number: 3040-14070032-004A

Venus Laboratory
2440 Chambers Street, Suite A
Venus, TX 76084

Station Name: Lea Unit
Station Location: Lea County
Sample Point: Heater Treater
Cylinder No: 02418
Analyzed: 07/07/2014 10:46:41 by JCD

Sampled By: M.Bosworth
Sample Of: Liquid Spot
Sample Date: 07/01/2014
Sample Conditions: 30 psig, @ 79 °F
Method: GPA 2103

Analytical Data

Components	Mol. %	MW	Wt. %	Sp. Gravity	L.V. %
Nitrogen	0.017	28.013	0.003	0.807	0.003
Methane	0.656	16.043	0.066	0.300	0.175
Carbon Dioxide	0.007	44.010	0.002	0.817	0.002
Ethane	2.026	30.069	0.382	0.356	0.850
Propane	4.980	44.096	1.377	0.507	2.150
Iso-Butane	1.432	58.122	0.522	0.563	0.735
n-Butane	5.973	58.122	2.177	0.584	2.951
Iso-Pentane	3.114	72.149	1.409	0.625	1.785
n-Pentane	4.487	72.149	2.030	0.631	2.548
i-Hexanes	0.574	85.422	0.308	0.666	0.366
n-Hexane	1.251	86.175	0.676	0.664	0.806
2,2,4-Trimethylpentane	0.052	114.231	0.037	0.697	0.042
Benzene	0.278	78.114	0.136	0.885	0.122
Heptanes	7.343	95.635	4.404	0.718	4.855
Toluene	1.206	92.141	0.697	0.872	0.633
Octanes	11.659	110.476	8.075	0.732	8.732
Ethylbenzene	0.487	106.167	0.324	0.872	0.294
Xylenes	1.756	106.167	1.169	0.873	1.060
Nonanes	9.651	126.525	7.659	0.745	8.136
Decanes Plus	43.051	253.948	68.547	0.851	63.755
	100.000		100.000		100.000

Physical Properties

	Total	C10+
Specific Gravity at 60°F	0.7918	0.8513
API Gravity at 60°F	47.211	34.716
Molecular Weight	159.477	253.948
Pounds per Gallon (in Vacuum)	6.601	7.097
Pounds per Gallon (in Air)	6.594	7.090
Cu. Ft. Vapor per Gallon @ 14.696 psia	15.708	10.606



Certificate of Analysis

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Venus Laboratory
2440 Chambers Street, Suite A
Venus, TX 76084

Station Name: Lea Unit
Station Location: Lea County
Sample Point: Heater Treater
Cylinder No: 02418
Analyzed: 07/21/2014 by AMD

Sampled By: M.Bosworth
Sample Of: Liquid Spot
Sample Date: 07/01/2014
Sample Conditions: 30 psig, @ 79 °F
Method: EOS Flash

Analytical Data

Analyte	Result	Units	Detection Limit
Shrinkage Factor	0.9881		
Flash Factor	19.1849	Cu.Ft./STBbl.	
Methane	3.6599	Cu.Ft./STBbl.	
Carbon Dioxide	0.0301	Cu.Ft./STBbl.	

Comments: Staged Flash from 44.7 psi @ 79°F to 0 psi @ 60°F



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Station Name: Lea Unit
Station Location: Lea County
Sample Point: Heater Treater
Cylinder No: 02418
Analyzed: 07/21/2014 by AMD

Sampled By: M.Bosworth
Sample Of: Liquid Spot
Sample Date: 07/01/2014
Sample Conditions: 30 psig, @ 79 °F
Method: EOS Flash

Analytical Data

Components	Mol. %	Wt. %	GPM at 14.696 psia		
Nitrogen	0.557	0.409		GPM TOTAL C2+	28.357
Carbon Dioxide	0.157	0.181		GPM TOTAL iC5+	1.494
Methane	19.077	8.035			
Ethane	31.383	24.776	11.797		
Propane	28.575	33.083	10.427		
Iso-Butane	3.843	5.864	1.180		
n-Butane	10.854	16.563	3.459		
Iso-Pentane	2.226	4.217	0.611		
n-Pentane	2.430	4.603	0.674		
Hexanes	0.270	0.599	0.066		
Benzene	0.042	0.085	0.015		
Heptanes	0.323	0.820	0.070		
Toluene	0.047	0.115	0.014		
Octanes	0.155	0.458	0.031		
Ethylbenzene	0.006	0.017	0.002		
Xylenes	0.016	0.045	0.004		
Nonanes	0.039	0.130	0.007		
Decane Plus	0.000	0.000	0.000		
	100.000	100.000	28.357		

Physical Properties

Total

GPA 2172-09 Calculation:

Calculated Gross BTU per ft³ @ 14.696 psia & 60°F

Real Gas Dry BTU 2210.1
Water Sat. Gas Base BTU 2171.6
Relative Density Real Gas 1.3332
Compressibility Factor 0.9866

Comments: EOS Flash Gas Composition
Staged Flash from 44.7 psi @ 79°F to 0 psi @ 60°F



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Station Name: Lea Unit
Station Location: Lea County
Sample Point: Heater Treater
Cylinder No: 02418
Analyzed: 07/21/2014 by AMD

Sampled By: M.Bosworth
Sample Of: Liquid Spot
Sample Date: 07/01/2014
Sample Conditions: 30 psig, @ 79 °F
Method: EOS Flash

Analytical Data

Components	Mol. %	Wt. %	L.V. %
Nitrogen	0.001	0.000	0.000
Carbon Dioxide	0.003	0.001	0.001
Methane	0.108	0.011	0.028
Ethane	1.153	0.212	0.473
Propane	4.279	1.155	1.814
Iso-Butane	1.360	0.484	0.682
n-Butane	5.828	2.073	2.817
Iso-Pentane	3.140	1.387	1.756
n-Pentane	4.548	2.009	2.524
Hexanes	1.871	0.969	1.155
Benzene	0.285	0.136	0.122
Heptanes	7.552	4.468	5.135
Toluene	1.240	0.700	0.635
Octanes	12.055	8.277	9.293
Ethylbenzene	0.501	0.326	0.296
Xylenes	1.808	1.175	1.053
Nonanes	9.937	7.709	8.457
Decane Plus	44.331	68.910	63.759
	100.000	100.000	100.000

Physical Properties	Total	C10+
Molecular Weight	163.370	252.378
BTU / LB.	14469	11616
BTU / GAL.	95703	83217
Cu. Ft. Vapor per Gallon @ 14.696 psia	15.328	10.747
Pounds per Gallon (in Vacuum)	6.614	7.164
Pounds per Gallon (in Air)	6.606	7.155
Specific Gravity at 60°F	0.7933	0.8593
API Gravity at 60°F	46.9000	33.2000

Comments: EOS Liquid Residue Composition
Staged Flash from 44.7 psi @ 79°F to 0 psi @ 60°F

New Mexico OCD C-129

Calculations or Specific Justification for Volumes

- **Calculations**
No calculations of volume of vent/flare necessary. Volumes are metered.
- **Specific Justification for Volumes**
Metered volumes that were previously sold via pipeline. Must flare gas due to sales pipeline being shut-in.

District I

1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720

District II

811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

QUESTIONS

Action 46439

QUESTIONS

Operator: LEGACY RESERVES OPERATING, LP 15 Smith Road Midland, TX 79705	OGRID: 240974
	Action Number: 46439
	Action Type: [C-129] Venting and/or Flaring (C-129)

QUESTIONS**Prerequisites**

Any messages presented in this section, will prevent submission of this application. Please resolve these issues before continuing with the rest of the questions.

Incident Well	Not answered.
Incident Facility	[fAPP2124634435] High Lonesome 23 Fed 1H

Determination of Reporting Requirements

Answer all questions that apply. The Reason(s) statements are calculated based on your answers and may provide additional guidance.

Was or is this venting and/or flaring caused by an emergency or malfunction	Yes
Did or will this venting and/or flaring last eight hours or more cumulatively within any 24-hour period from a single event	Yes
Is this considered a submission for a notification of a major venting and/or flaring	Yes, minor venting and/or flaring of natural gas.
An operator shall file a form C-141 instead of a form C-129 for a release that, includes liquid during venting and/or flaring that is or may be a major or minor release under 19.15.29.7 NMAC.	
Was there or will there be at least 50 MCF of natural gas vented and/or flared during this event	Yes
Did this venting and/or flaring result in the release of ANY liquids (not fully and/or completely flared) that reached (or has a chance of reaching) the ground, a surface, a watercourse, or otherwise, with reasonable probability, endanger public health, the environment or fresh water	No
Was the venting and/or flaring within an incorporated municipal boundary or withing 300 feet from an occupied permanent residence, school, hospital, institution or church in existence	No

Equipment Involved

Primary Equipment Involved	Not answered.
Additional details for Equipment Involved. Please specify	Not answered.

Representative Compositional Analysis of Vented or Flared Natural Gas

Please provide the mole percent for the percentage questions in this group.

Methane (CH4) percentage	65
Nitrogen (N2) percentage, if greater than one percent	3
Hydrogen Sulfide (H2S) PPM, rounded up	2
Carbon Dioxide (CO2) percentage, if greater than one percent	0
Oxygen (O2) percentage, if greater than one percent	0

If you are venting and/or flaring because of Pipeline Specification, please provide the required specifications for each gas.

Methane (CH4) percentage quality requirement	Not answered.
Nitrogen (N2) percentage quality requirement	Not answered.
Hydrogen Sulfide (H2S) PPM quality requirement	Not answered.
Carbon Dioxide (CO2) percentage quality requirement	Not answered.
Oxygen (O2) percentage quality requirement	Not answered.

Date(s) and Time(s)

Date venting and/or flaring was discovered or commenced	09/01/2021
Time venting and/or flaring was discovered or commenced	12:00 AM
Time venting and/or flaring was terminated	12:00 AM
Cumulative hours during this event	24

Measured or Estimated Volume of Vented or Flared Natural Gas

Natural Gas Vented (Mcf) Details	Not answered.
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Natural Gas Flared (Mcf) Details	Cause: Midstream Emergency Maintenance Separator Natural Gas Flared Released: 80 Mcf Recovered: 0 Mcf Lost: 80 Mcf]
Other Released Details	Not answered.
Additional details for Measured or Estimated Volume(s). Please specify	Not answered.
Is this a gas only submission (i.e. only significant Mcf values reported)	Yes, according to supplied volumes this appears to be a "gas only" report.

Venting or Flaring Resulting from Downstream Activity

Was or is this venting and/or flaring a result of downstream activity	Yes
Date notified of downstream activity requiring this venting and/or flaring	09/01/2021
Time notified of downstream activity requiring this venting and/or flaring	12:00 AM

Steps and Actions to Prevent Waste

For this event, the operator could not have reasonably anticipated the current event and it was beyond the operator's control.	True
Please explain reason for why this event was beyond your operator's control	Sales Pipeline shut in.
Steps taken to limit the duration and magnitude of venting and/or flaring	Communicate with sales pipeline for anticipated date of return service.
Corrective actions taken to eliminate the cause and reoccurrence of venting and/or flaring	Communicate with sales pipeline for anticipated date of return service.

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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 46439

CONDITIONS

Operator: LEGACY RESERVES OPERATING, LP 15 Smith Road Midland, TX 79705	OGRID: 240974
	Action Number: 46439
	Action Type: [C-129] Venting and/or Flaring (C-129)

CONDITIONS

Created By	Condition	Condition Date
reyesm01	If the information provided in this report requires an amendment, submit a [C-129] Amend Venting and/or Flaring Incident (C-129A), utilizing your incident number from this event.	9/3/2021