



2030 Afton Place
Farmington, NM 87401
(505) 325-6622

Analysis No: CT180001
Cust No: 20010-10025

30-045-31342

Well/Lease Information

Customer Name: CROSS TIMBERS ENERGY
Well Name: PAN AM STATE #1B; BHD
County/State:
Location:
Field:
Formation: NMOCB
Cust. Stn. No.: MAY 23 2018
DISTRICT III

Source: BRADENHEAD
Well Flowing:
Pressure: 21 PSIG
Flow Temp: DEG. F
Ambient Temp: DEG. F
Flow Rate: MCF/D
Sample Method:
Sample Date: 05/15/2018
Sample Time: 10.30 AM
Sampled By: PETER SCHMIDT
Sampled by (CO): CROSS TIMBERS

Heat Trace:

Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.7745	0.3412	0.0850	0.00	0.0075
CO2	0.0193	0.0085	0.0030	0.00	0.0003
Methane	94.8376	41.7810	16.1110	957.86	0.5253
Ethane	2.9286	1.2902	0.7850	51.83	0.0304
Propane	0.7477	0.3294	0.2060	18.81	0.0114
Iso-Butane	0.1925	0.0848	0.0630	6.26	0.0039
N-Butane	0.1802	0.0794	0.0570	5.88	0.0036
I-Pentane	0.0894	0.0394	0.0330	3.58	0.0022
N-Pentane	0.0402	0.0177	0.0150	1.61	0.0010
Hexane Plus	0.1900	0.0837	0.0850	10.02	0.0063
Total	100.0000	44.0553	17.4430	1055.84	0.5919

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0023
BTU/CU.FT IDEAL: 1058.3
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1060.7
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1042.2
DRY BTU @ 15.025: 1081.9
REAL SPECIFIC GRAVITY: 0.593

CYLINDER #: 7007
CYLINDER PRESSURE: 5 PSIG
ANALYSIS DATE: 05/16/2018
ANALYSIS TIME: 04:24:56 PM
ANALYSIS RUN BY: RE

GPM, BTU, and SPG calculations as shown above are based on current GPA constants.

GPA Standard: GPA-2261

GC: Danalyzer Model 500

GC Method: C6+ Gas

Last Cal/Verify: 05/18/2018

2



CROSS TIMBERS ENERGY
WELL ANALYSIS COMPARISON

Lease: PAN AM STATE #1B; BHD
Stn. No.:
Mtr. No.:

BRADENHEAD

05/18/2018
20010-10025

Smpl Date:	05/15/2018	07/02/2015
Test Date:	05/16/2018	07/02/2015
Run No:	CT180001	CT150001
Nitrogen:	0.7745	0.5360
CO2:	0.0193	0.0030
Methane:	94.8376	93.7200
Ethane:	2.9286	3.8570
Propane:	0.7477	1.0550
I-Butane:	0.1925	0.2710
N-Butane:	0.1802	0.2600
I-Pentane:	0.0894	0.1140
N-Pentane:	0.0402	0.0650
Hexane+:	0.1900	0.1190
BTU:	1060.7	1077.2
GPM:	17.4430	17.5970
SPG:	0.5930	0.6007



2030 Afton Place
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Analysis No: CT180002
Cust No: 20010-10030

Well/Lease Information

Customer Name: CROSS TIMBERS ENERGY
Well Name: PAN AM STATE #1B; CSG
County/State:
Location:
Field:
Formation:
Cust. Str. No.:

Source: CASING
Well Flowing:
Pressure: 66 PSIG
Flow Temp: DEG. F
Ambient Temp: DEG. F
Flow Rate: MCF/D
Sample Method:
Sample Date: 05/15/2018
Sample Time: 9.57 AM
Sampled By: PETER SCHMIDT
Sampled by (CO): CROSS TIMBERS

Heat Trace:
Remarks:

NMOC
23 2018
DISTRICT III

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.2013	0.1989	0.0220	0.00	0.0019
CO2	0.3712	0.3668	0.0640	0.00	0.0056
Methane	81.8419	80.8766	13.9220	826.60	0.4533
Ethane	8.6832	8.5808	2.3300	153.67	0.0901
Propane	4.4976	4.4446	1.2430	113.16	0.0685
Iso-Butane	0.9746	0.9631	0.3200	31.69	0.0196
N-Butane	1.3917	1.3753	0.4400	45.40	0.0279
I-Pentane	0.5318	0.5255	0.1950	21.28	0.0132
N-Pentane	0.4386	0.4334	0.1600	17.58	0.0109
Hexane Plus	1.0681	1.0555	0.4780	56.30	0.0353
Total	100.0000	98.8205	19.1740	1265.69	0.7265

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0037
BTU/CU.FT IDEAL: 1268.6
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1273.3
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1251.1
DRY BTU @ 15.025: 1298.8
REAL SPECIFIC GRAVITY: 0.729

CYLINDER #: 7003
CYLINDER PRESSURE: 66 PSIG
ANALYSIS DATE: 05/17/2018
ANALYSIS TIME: 08:00:34 AM
ANALYSIS RUN BY: RICHARD WILSON

GPM, BTU, and SPG calculations as shown above are based on current GPA constants.

GPA Standard: GPA-2261

GC: Danalyzer Model 500

Last Cal/Verify: 05/18/2018

GC Method: C6+ Gas



CROSS TIMBERS ENERGY
WELL ANALYSIS COMPARISON

Lease: PAN AM STATE #1B; CSG
Stn. No.:
Mtr. No.:

CASING

05/18/2018
20010-10030

Smpl Date:	05/15/2018	07/02/2015
Test Date:	05/17/2018	07/02/2015
Run No:	CT180002	CT150002
Nitrogen:	0.2013	0.1880
CO2:	0.3712	0.3560
Methane:	81.8419	83.6780
Ethane:	8.6832	8.5670
Propane:	4.4976	3.6980
I-Butane:	0.9746	0.8330
N-Butane:	1.3917	1.0650
I-Pentane:	0.5318	0.4720
N-Pentane:	0.4386	0.3170
Hexane+:	1.0681	0.8260
BTU:	1273.3	1233.8
GPM:	19.1740	18.9010
SPG:	0.7290	0.7032



2030 Afton Place
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Analysis No: CT180003
Cust No: 20010-10045

Well/Lease Information

Customer Name: CROSS TIMBERS ENERGY
Well Name: PAN AM STATE COM #1B; TBG
County/State: SAN JUAN NM
Location:
Field:
Formation: MV
Cust. Stn. No.:

Source: TUBING
Well Flowing:
Pressure: 45 PSIG
Flow Temp: DEG. F
Ambient Temp: DEG. F
Flow Rate: MCF/D
Sample Method:
Sample Date: 05/15/2018
Sample Time: 10.30 AM
Sampled By: PETER SCHMIDT
Sampled by (CO): CROSS TIMBERS

Heat Trace:
Remarks:

NMOC
MAY 23 2018
DISTRICT III

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.1522	0.1501	0.0170	0.00	0.0015
CO2	0.8301	0.8186	0.1420	0.00	0.0126
Methane	84.9233	83.7496	14.4390	857.73	0.4704
Ethane	8.0571	7.9458	2.1610	142.59	0.0836
Propane	3.1707	3.1269	0.8760	79.78	0.0483
Iso-Butane	0.6357	0.6269	0.2090	20.67	0.0128
N-Butane	0.8946	0.8822	0.2830	29.18	0.0180
I-Pentane	0.3495	0.3447	0.1280	13.98	0.0087
N-Pentane	0.2530	0.2495	0.0920	10.14	0.0063
Hexane Plus	0.7338	0.7237	0.3280	38.68	0.0243
Total	100.0000	98.6180	18.6750	1192.75	0.6864

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0032
BTU/CU.FT IDEAL: 1195.5
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1199.3
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1178.4
DRY BTU @ 15.025: 1223.3
REAL SPECIFIC GRAVITY: 0.6883

CYLINDER #: 6084
CYLINDER PRESSURE: 60 PSIG
ANALYSIS DATE: 05/16/2018
ANALYSIS TIME: 04:38:02 PM
ANALYSIS RUN BY: RICHARD WILSON

GPM, BTU, and SPG calculations as shown above are based on current GPA constants.

GPA Standard: GPA-2261

GC: Danalyzer Model 500

GC Method: C6+ Gas

Last Cal/Verify: 05/18/2018



CROSS TIMBERS ENERGY
WELL ANALYSIS COMPARISON

Lease: PAN AM STATE COM #1B; TBG
Stn. No.:
Mtr. No.:

TUBING
MV

05/18/2018
20010-10045

Smpl Date: 05/15/2018
Test Date: 05/16/2018
Run No: CT180003
Nitrogen: 0.1522
CO2: 0.8301
Methane: 84.9233
Ethane: 8.0571
Propane: 3.1707
I-Butane: 0.6357
N-Butane: 0.8946
I-Pentane: 0.3495
N-Pentane: 0.2530
Hexane+: 0.7338
BTU: 1199.3
GPM: 18.6750
SPG: 0.6883