



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

Analysis No: CT190003
Cust No: 20010-10060

30-039-06687

Well/Lease Information

Customer Name: CROSS TIMBERS ENERGY
Well Name: BREECH E 87; TBG
County/State: RIO ARRIBA NM
Location:
Lease/PA/CA:
Formation: PC
Cust. Stn. No.:

Source: TUBING
Well Flowing: Y
Pressure: 73 PSIG
Flow Temp: DEG. F
Ambient Temp: DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 07/15/2019
Sample Time: 9.00 AM
Sampled By: PETER SCHMIDT
Sampled by (CO):

NMOC

JUL 26 2019

DISTRICT III

Heat Trace:
Remarks:

Analysis

Component:	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.7400	0.7429	0.0820	0.00	0.0072
CO2	0.1968	0.1976	0.0340	0.00	0.0030
Methane	84.9364	85.2725	14.4430	857.86	0.4705
Ethane	6.3605	6.3857	1.7060	112.56	0.0660
Propane	4.1727	4.1892	1.1530	104.99	0.0635
Iso-Butane	0.9261	0.9298	0.3040	30.12	0.0186
N-Butane	1.0891	1.0934	0.3440	35.53	0.0219
I-Pentane	0.4214	0.4231	0.1550	16.86	0.0105
N-Pentane	0.2790	0.2801	0.1010	11.18	0.0070
Hexane Plus	0.8780	0.8815	0.3930	46.28	0.0291
Total	100.0000	100.3958	18.7150	1215.38	0.6971

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0033
BTU/CU.FT IDEAL: 1218.2
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1222.2
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1200.9
DRY BTU @ 15.025: 1246.7
REAL SPECIFIC GRAVITY: 0.6991

CYLINDER #: 5020
CYLINDER PRESSURE: 74 PSIG
ANALYSIS DATE: 07/19/2019
ANALYSIS TIME: 01:50:25 AM
ANALYSIS RUN BY: SHYANN ELLEDGE

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: 07/24/2019



CROSS TIMBERS ENERGY
WELL ANALYSIS COMPARISON

Lease: BREECH E 87; TBG
Stn. No.:
Mtr. No.:

TUBING
PC

07/24/2019
20010-10060

Smpl Date: 07/15/2019
Test Date: 07/19/2019
Run No: CT190003
Nitrogen: 0.7400
CO2: 0.1968
Methane: 84.9364
Ethane: 6.3605
Propane: 4.1727
I-Butane: 0.9261
N-Butane: 1.0891
I-Pentane: 0.4214
N-Pentane: 0.2790
Hexane+: 0.8780
BTU: 1222.2
GPM: 18.7150
SPG: 0.6991



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

Analysis No: CT190002
Cust No: 20010-10055

Well/Lease Information

Customer Name: CROSS TIMBERS ENERGY
Well Name: BREECH E 87; CSG
County/State: RIO ARRIBA NM
Location:
Lease/PA/CA:
Formation: PC
Cust. Str. No.:

Source: CASING
Well Flowing: N
Pressure: 75 PSIG
Flow Temp: DEG. F
Ambient Temp: DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 07/15/2019
Sample Time: 9.10 AM
Sampled By: PETER SCHMIDT
Sampled by (CO):

Heat Trace:
Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.7726	0.7733	0.0850	0.00	0.0075
CO2	0.0084	0.0084	0.0010	0.00	0.0001
Methane	84.7900	84.8699	14.4200	856.38	0.4697
Ethane	6.3465	6.3525	1.7030	112.31	0.0659
Propane	4.2770	4.2810	1.1820	107.61	0.0651
Iso-Butane	1.0581	1.0591	0.3470	34.41	0.0212
N-Butane	1.1376	1.1387	0.3600	37.11	0.0228
I-Pentane	0.4791	0.4796	0.1760	19.17	0.0119
N-Pentane	0.3193	0.3196	0.1160	12.80	0.0080
Hexane Plus	0.8114	0.8122	0.3630	42.77	0.0269
Total	100.0000	100.0943	18.7530	1222.56	0.6991

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0034
BTU/CU.FT IDEAL: 1225.4
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1229.5
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1208.1
DRY BTU @ 15.025: 1254.1
REAL SPECIFIC GRAVITY: 0.7011

CYLINDER #: 6194
CYLINDER PRESSURE: 84 PSIG
ANALYSIS DATE: 07/19/2019
ANALYSIS TIME: 02:55:51 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

Last Cal/Verify: 07/24/2019

GC Method: C6+ Gas



CROSS TIMBERS ENERGY
WELL ANALYSIS COMPARISON

Lease: BREECH E 87; CSG
Stn. No.:
Mtr. No.:

CASING
PC

07/24/2019
20010-10055

Smpl Date: 07/15/2019
Test Date: 07/19/2019
Run No: CT190002
Nitrogen: 0.7726
CO2: 0.0084
Methane: 84.7900
Ethane: 6.3465
Propane: 4.2770
I-Butane: 1.0581
N-Butane: 1.1376
I-Pentane: 0.4791
N-Pentane: 0.3193
Hexane+: 0.8114
BTU: 1229.5
GPM: 18.7530
SPG: 0.7011



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

Analysis No: CT190001
Cust No: 20010-10050

Well/Lease Information

Customer Name: CROSS TIMBERS ENERGY
Well Name: BREECH E 87; BHD
County/State: RIO ARRIBA NM
Location:
Lease/PA/CA:
Formation: PC
Cust. Str. No.:

Source: BRADENHEAD
Well Flowing: N
Pressure: 75 PSIG
Flow Temp: DEG. F
Ambient Temp: DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 07/15/2019
Sample Time: 8.55 AM
Sampled By: PETER SCHMIDT
Sampled by (CO):

Heat Trace:
Remarks:

NMOC
JUL 26 2019
DISTRICT III

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.7350	0.7412	0.0810	0.00	0.0071
CO2	0.0084	0.0085	0.0010	0.00	0.0001
Methane	84.9872	85.7025	14.4520	858.37	0.4707
Ethane	6.3067	6.3598	1.6920	111.61	0.0655
Propane	4.2435	4.2792	1.1730	106.77	0.0646
Iso-Butane	0.9847	0.9930	0.3230	32.02	0.0198
N-Butane	1.1268	1.1363	0.3560	36.76	0.0226
I-Pentane	0.4764	0.4804	0.1750	19.06	0.0119
N-Pentane	0.3216	0.3243	0.1170	12.89	0.0080
Hexane Plus	0.8097	0.8165	0.3620	42.68	0.0268
Total	100.0000	100.8417	18.7320	1220.16	0.6971

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0033
BTU/CU.FT IDEAL: 1223.0
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1227.0
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1205.7
DRY BTU @ 15.025: 1251.6
REAL SPECIFIC GRAVITY: 0.6991

CYLINDER #: 6023
CYLINDER PRESSURE: 71 PSIG
ANALYSIS DATE: 07/19/2019
ANALYSIS TIME: 02:30:49 PM
ANALYSIS RUN BY: SHYANN ELLEDGE

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: 07/24/2019



CROSS TIMBERS ENERGY
WELL ANALYSIS COMPARISON

Lease: BREECH E 87; BHD
Stn. No.:
Mtr. No.:

BRADENHEAD
PC

07/24/2019
20010-10050

Smpl Date: 07/15/2019
Test Date: 07/19/2019
Run No: CT190001
Nitrogen: 0.7350
CO2: 0.0084
Methane: 84.9872
Ethane: 6.3067
Propane: 4.2435
I-Butane: 0.9847
N-Butane: 1.1268
I-Pentane: 0.4764
N-Pentane: 0.3216
Hexane+: 0.8097
BTU: 1227.0
GPM: 18.7320
SPG: 0.6991