



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

Analysis No: CT190005
Cust No: 20010-10070

30-039-06647

Well/Lease Information

Customer Name: CROSS TIMBERS ENERGY
Well Name: BREECH E 109; CSG
County/State: RIO ARRIBA NM
Location:
Lease/PA/CA:
Formation: MV/CH/PC
Cust. Stn. No.:

Source: CASING
Well Flowing: N
Pressure: 100 PSIG
Flow Temp: DEG. F
Ambient Temp: DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 07/15/2019
Sample Time: 9.40 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	0.4865	0.4852	0.0540	0.00	0.0047
CO2	0.3348	0.3339	0.0570	0.00	0.0051
Methane	79.5170	79.3057	13.5270	803.12	0.4404
Ethane	10.9328	10.9037	2.9340	193.48	0.1135
Propane	5.1185	5.1049	1.4150	128.79	0.0779
Iso-Butane	0.7112	0.7093	0.2340	23.13	0.0143
N-Butane	1.3592	1.3556	0.4300	44.34	0.0273
I-Pentane	0.4379	0.4367	0.1610	17.52	0.0109
N-Pentane	0.3587	0.3577	0.1300	14.38	0.0089
Hexane Plus	0.7434	0.7414	0.3330	39.19	0.0246
Total	100.0000	99.7341	19.2750	1263.94	0.7277

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0037
BTU/CU.FT IDEAL: 1266.9
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1271.6
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1249.5
DRY BTU @ 15.025: 1297.1
REAL SPECIFIC GRAVITY: 0.7301

CYLINDER #: 6075
CYLINDER PRESSURE: 103 PSIG
ANALYSIS DATE: 07/19/2019
ANALYSIS TIME: 02:50:24 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

Last Cal/Verify: 07/24/2019

GC Method: C6+ Gas



CROSS TIMBERS ENERGY
WELL ANALYSIS COMPARISON

Lease: BREECH E 109; CSG
Stn. No.:
Mtr. No.:

CASING
MV/CH

07/24/2019
20010-10070

Smpl Date: 07/15/2019
Test Date: 07/19/2019
Run No: CT190005

Nitrogen: 0.4865
CO2: 0.3348
Methane: 79.5170
Ethane: 10.9328
Propane: 5.1185
I-Butane: 0.7112
N-Butane: 1.3592
I-Pentane: 0.4379
N-Pentane: 0.3587
Hexane+: 0.7434

BTU: 1271.6
GPM: 19.2750
SPG: 0.7301



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

Analysis No: CT190006
Cust No: 20010-10075

Well/Lease Information

Customer Name: CROSS TIMBERS ENERGY
Well Name: BREECH E 109; TBG
County/State: RIO ARRIBA NM
Location:
Lease/PA/CA:
Formation: MV/CH/PC
Cust. Stn. No.:

Source: TUBING
Well Flowing: Y
Pressure: 99 PSIG
Flow Temp: DEG. F
Ambient Temp: DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 07/15/2019
Sample Time: 9.43 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	0.8558	0.8476	0.0940	0.00	0.0083
CO2	0.1604	0.1589	0.0270	0.00	0.0024
Methane	83.8455	83.0406	14.2580	846.84	0.4644
Ethane	6.8998	6.8336	1.8510	122.11	0.0716
Propane	4.8128	4.7666	1.3300	121.09	0.0733
Iso-Butane	1.1195	1.1088	0.3670	36.41	0.0225
N-Butane	1.0736	1.0633	0.3390	35.02	0.0215
I-Pentane	0.3487	0.3454	0.1280	13.95	0.0087
N-Pentane	0.2081	0.2061	0.0760	8.34	0.0052
Hexane Plus	0.6758	0.6693	0.3020	35.62	0.0224
Total	100.0000	99.0402	18.7720	1219.38	0.7003

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0033
BTU/CU.FT IDEAL: 1222.2
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1226.3
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1205.0
DRY BTU @ 15.025: 1250.9
REAL SPECIFIC GRAVITY: 0.7023

CYLINDER #: 6084
CYLINDER PRESSURE: 96 PSIG
ANALYSIS DATE: 07/19/2019
ANALYSIS TIME: 02:08:04 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 109; TBG
Stn. No.:
Mtr. No.:

TUBING
MV/CH

07/24/2019
20010-10075

Smpl Date: 07/15/2019
Test Date: 07/19/2019
Run No: CT190006
Nitrogen: 0.8558
CO2: 0.1604
Methane: 83.8455
Ethane: 6.8998
Propane: 4.8128
I-Butane: 1.1195
N-Butane: 1.0736
I-Pentane: 0.3487
N-Pentane: 0.2081
Hexane+: 0.6758
BTU: 1226.3
GPM: 18.7720
SPG: 0.7023



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

Analysis No: CT190004
Cust No: 20010-10065

Well/Lease Information

Customer Name: CROSS TIMBERS ENERGY
Well Name: BREECH E 109; BHD
County/State: RIO ARRIBA NM
Location:
Lease/PA/CA:
Formation: MV/CH/PC
Cust. Stn. No.:

Source: BRADENHEAD
Well Flowing: N
Pressure: 77 PSIG
Flow Temp: DEG. F
Ambient Temp: DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 07/15/2019
Sample Time: 9.46 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	0.4909	0.4836	0.0540	0.00	0.0047
CO2	0.3110	0.3064	0.0530	0.00	0.0047
Methane	79.2706	78.0914	13.4860	800.63	0.4391
Ethane	10.9303	10.7677	2.9340	193.43	0.1135
Propane	5.1113	5.0353	1.4130	128.61	0.0778
Iso-Butane	0.7071	0.6966	0.2320	22.99	0.0142
N-Butane	1.3261	1.3064	0.4200	43.26	0.0266
I-Pentane	0.4135	0.4073	0.1520	16.54	0.0103
N-Pentane	0.3356	0.3306	0.1220	13.45	0.0084
Hexane Plus	1.1036	1.0872	0.4940	58.17	0.0365
Total	100.0000	98.5125	19.3600	1277.10	0.7358

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0038
BTU/CU.FT IDEAL: 1280.1
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1284.9
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1262.5
DRY BTU @ 15.025: 1310.6
REAL SPECIFIC GRAVITY: 0.7384

CYLINDER #: 4100
CYLINDER PRESSURE: 66 PSIG
ANALYSIS DATE: 07/19/2019
ANALYSIS TIME: 03:09:30 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 109; BHD
Stn. No.:
Mtr. No.:

BRADENHEAD
MV/CH

07/24/2019
20010-10065

Smpl Date: 07/15/2019
Test Date: 07/19/2019
Run No: CT190004
Nitrogen: 0.4909
CO2: 0.3110
Methane: 79.2706
Ethane: 10.9303
Propane: 5.1113
I-Butane: 0.7071
N-Butane: 1.3261
I-Pentane: 0.4135
N-Pentane: 0.3356
Hexane+: 1.1036
BTU: 1284.9
GPM: 19.3600
SPG: 0.7384