

39-06713

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

Analysis No: LG190231
Cust No: 46600-11555

Well/Lease Information

Customer Name: LOGOS OPERATING LLC
Well Name: JOHNSTON SHEAR 1; BHD
County/State: RIO ARRIBA NM
Location:
Lease/PA/CA:
Formation: PC/MV
Cust. Stn. No.:

CC # 3153105A
CC # 3153105B
SOUTH

Heat Trace:
Remarks:

Source: BRADENHEAD
Well Flowing:
Pressure: 25 PSIG
Flow Temp: DEG. F
Ambient Temp: 84 DEG. F
Flow Rate: 0 MCF/D
Sample Method: Purge & Fill
Sample Date: 07/30/2019
Sample Time: 12.20 PM
Sampled By: EUGENE BURBANK
Sampled by (CO): LOGOS

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.7291	0.7238	0.0810	0.00	0.0071
CO2	0.3235	0.3212	0.0550	0.00	0.0049
Methane	75.7352	75.1857	12.8910	764.93	0.4195
Ethane	11.1876	11.1065	3.0040	197.99	0.1161
Propane	6.4179	6.3714	1.7750	161.48	0.0977
Iso-Butane	1.3684	1.3585	0.4500	44.50	0.0275
N-Butane	1.8881	1.8744	0.5980	61.60	0.0379
I-Pentane	0.7510	0.7456	0.2760	30.05	0.0187
N-Pentane	0.5387	0.5348	0.1960	21.59	0.0134
Hexane Plus	1.0605	1.0528	0.4750	55.90	0.0351
Total	100.0000	99.2747	19.8010	1338.03	0.7779

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0043
BTU/CU.FT IDEAL: 1341.1
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1346.8
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1323.4
DRY BTU @ 15.025: 1373.8
REAL SPECIFIC GRAVITY: 0.7809

CYLINDER #: 4125
CYLINDER PRESSURE: 26 PSIG
ANALYSIS DATE: 08/08/2019
ANALYSIS TIME: 11:46:56 AM
ANALYSIS RUN BY: RICHARD WILSON

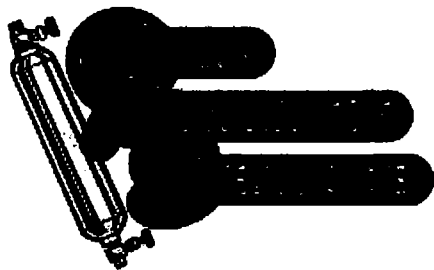
GPM, BTU, and SPG calculations as shown above are based on current GPA constants.

GPA Standard: GPA-2261

GC: Danalyzer Model 500

Last Cal/Verify: 08/12/2019

GC Method: C6+ Gas



LOGOS OPERATING LLC
WELL ANALYSIS COMPARISON

Lease: JOHNSTON SHEAR 1; BHD
Stn. No.:
Mtr. No.: CC # 3153105A

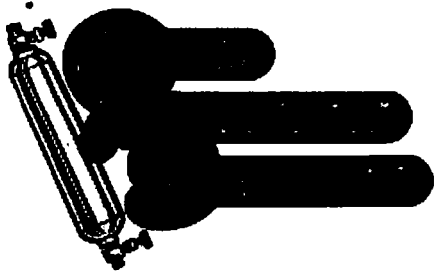
BRADENHEAD
PC/MV

08/12/2019
46600-11555

Smpl Date: 07/30/2019
Test Date: 08/08/2019
Run No: LG190231

Nitrogen: 0.7291
CO2: 0.3235
Methane: 75.7352
Ethane: 11.1876
Propane: 6.4179
I-Butane: 1.3684
N-Butane: 1.8881
I-Pentane: 0.7510
N-Pentane: 0.5387
Hexane+: 1.0605

BTU: 1346.8
GPM: 19.8010
SPG: 0.7809



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

Analysis No: LG190232
Cust No: 46600-11560

Well/Lease Information

Customer Name: LOGOS OPERATING LLC
Well Name: JOHNSTON SHEAR 1; CSG
County/State: RIO ARRIBA NM
Location:
Lease/PA/CA:
Formation: PC/MV
Cust. Str. No.:

CC # 3153105A
CC # 3153105B
SOUTH

Source: CASING
Well Flowing:
Pressure: 74 PSIG
Flow Temp: DEG. F
Ambient Temp: 84 DEG. F
Flow Rate: 0 MCF/D
Sample Method: Purge & Fill
Sample Date: 07/30/2019
Sample Time: 12.25 PM
Sampled By: EUGENE BURBANK
Sampled by (CO): LOGOS

Heat Trace:
Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.7695	0.7692	0.0850	0.00	0.0074
CO2	0.3240	0.3239	0.0560	0.00	0.0049
Methane	75.6952	75.6638	12.8850	764.52	0.4193
Ethane	11.1761	11.1715	3.0010	197.78	0.1160
Propane	6.3972	6.3945	1.7700	160.96	0.0974
Iso-Butane	1.3628	1.3622	0.4480	44.32	0.0273
N-Butane	1.8907	1.8899	0.5980	61.68	0.0379
I-Pentane	0.7514	0.7511	0.2760	30.06	0.0187
N-Pentane	0.5412	0.5410	0.1970	21.70	0.0135
Hexane Plus	1.0919	1.0914	0.4890	57.55	0.0361
Total	100.0000	99.9585	19.8050	1338.57	0.7787

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0043
BTU/CU.FT IDEAL: 1341.7
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1347.5
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1324.1
DRY BTU @ 15.025: 1374.5
REAL SPECIFIC GRAVITY: 0.7817

CYLINDER #: 6162
CYLINDER PRESSURE: 70 PSIG
ANALYSIS DATE: 08/08/2019
ANALYSIS TIME: 12:02:03 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

Last Cal/Verify: 08/12/2019

GC Method: C6+ Gas



LOGOS OPERATING LLC
WELL ANALYSIS COMPARISON

Lease: JOHNSTON SHEAR 1; CSG
Stn. No.:
Mtr. No.: CC # 3153105A

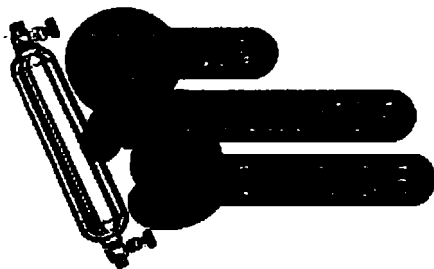
CASING
PC/MV

08/12/2019
46600-11560

Smpl Date: 07/30/2019
Test Date: 08/08/2019
Run No: LG190232

Nitrogen: 0.7695
CO2: 0.3240
Methane: 75.6952
Ethane: 11.1761
Propane: 6.3972
I-Butane: 1.3628
N-Butane: 1.8907
I-Pentane: 0.7514
N-Pentane: 0.5412
Hexane+: 1.0919

BTU: 1347.5
GPM: 19.8050
SPG: 0.7817



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

Analysis No: LG190233
Cust No: 46600-11565

Well/Lease Information

Customer Name: LOGOS OPERATING LLC
Well Name: JOHNSTON SHEAR 1; TBG
County/State: RIO ARRIBA NM
Location:
Lease/PA/CA:
Formation: PC/MV
Cust. Str. No.:

CC # 3153105A
CC # 3153105B
SOUTH

Source: TUBING
Well Flowing:
Pressure: 65 PSIG
Flow Temp: DEG. F
Ambient Temp: 84 DEG. F
Flow Rate: 0 MCF/D
Sample Method: Purge & Fill
Sample Date: 07/30/2019
Sample Time: 12.22 PM
Sampled By: EUGENE BURBANK
Sampled by (CO): LOGOS

Heat Trace:
Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.2441	0.2416	0.0270	0.00	0.0024
CO2	0.6906	0.6836	0.1180	0.00	0.0105
Methane	81.1816	80.3595	13.8090	819.93	0.4497
Ethane	10.0996	9.9973	2.7100	178.73	0.1049
Propane	4.3840	4.3396	1.2120	110.31	0.0667
Iso-Butane	0.7342	0.7268	0.2410	23.88	0.0147
N-Butane	1.1924	1.1803	0.3770	38.90	0.0239
I-Pentane	0.3424	0.3389	0.1260	13.70	0.0085
N-Pentane	0.2482	0.2457	0.0900	9.95	0.0062
Hexane Plus	0.8829	0.8740	0.3950	46.54	0.0292
Total	100.0000	98.9873	19.1050	1241.93	0.7167

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0036
BTU/CU.FT IDEAL: 1244.8
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1249.2
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1227.5
DRY BTU @ 15.025: 1274.2
REAL SPECIFIC GRAVITY: 0.7189

CYLINDER #: 4097
CYLINDER PRESSURE: 61 PSIG
ANALYSIS DATE: 08/08/2019
ANALYSIS TIME: 11:46:18 AM
ANALYSIS RUN BY: SHYANN ELLEDGE

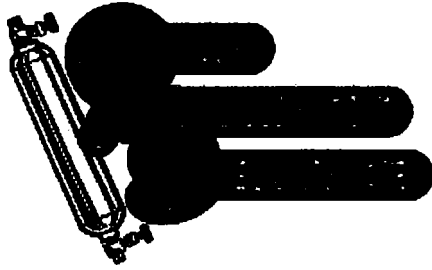
GPM, BTU, and SPG calculations as shown above are based on current GPA constants.

GPA Standard: GPA-2261

GC: Danalyzer Model 500

Last Cal/Verify: 08/12/2019

GC Method: C6+ Gas



LOGOS OPERATING LLC
WELL ANALYSIS COMPARISON

Lease: JOHNSTON SHEAR 1; TBG
Str. No.:
Mtr. No.: CC # 3153105A

TUBING
PC/MV

08/12/2019
46600-11565

Smpl Date: 07/30/2019
Test Date: 08/08/2019
Run No: LG190233

Nitrogen: 0.2441
CO2: 0.6906
Methane: 81.1816
Ethane: 10.0996
Propane: 4.3840
I-Butane: 0.7342
N-Butane: 1.1924
I-Pentane: 0.3424
N-Pentane: 0.2482
Hexane+: 0.8829

BTU: 1249.2
GPM: 19.1050
SPG: 0.7189