

39-06743

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

Analysis No: LG190228
Cust No: 46600-11540

Well/Lease Information

Customer Name: LOGOS OPERATING LLC
Well Name: JICARILLA WEST 2; BHD
County/State: RIO ARRIBA NM
Location:
Lease/PA/CA: 152
Formation: PC
Cust. Stn. No.:
CC # 3151481A

SOUTH
Heat Trace: N
Remarks:

Source: BRADENHEAD
Well Flowing: N
Pressure: 32 PSIG
Flow Temp: DEG. F
Ambient Temp: 90 DEG. F
Flow Rate: 0 MCF/D
Sample Method: Purge & Fill
Sample Date: 07/31/2019
Sample Time: 3.30 PM
Sampled By: EUGENE BURBANK
Sampled by (CO): LOGOS

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.5612	0.5576	0.0620	0.00	0.0054
CO2	0.1730	0.1719	0.0300	0.00	0.0026
Methane	84.7013	84.1520	14.4030	855.48	0.4692
Ethane	7.1224	7.0762	1.9110	126.05	0.0739
Propane	4.0266	4.0005	1.1130	101.31	0.0613
Iso-Butane	0.8340	0.8286	0.2740	27.12	0.0167
N-Butane	1.1598	1.1523	0.3670	37.84	0.0233
I-Pentane	0.4299	0.4271	0.1580	17.20	0.0107
N-Pentane	0.3085	0.3065	0.1120	12.37	0.0077
Hexane Plus	0.6833	0.6789	0.3060	36.02	0.0226
Total	100.0000	99.3516	18.7360	1213.38	0.6935

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0033
BTU/CU.FT IDEAL: 1216.2
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1220.2
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1199.0
DRY BTU @ 15.025: 1244.6
REAL SPECIFIC GRAVITY: 0.6955

CYLINDER #: 6096
CYLINDER PRESSURE: 27 PSIG
ANALYSIS DATE: 08/08/2019
ANALYSIS TIME: 12:46:27 AM
ANALYSIS RUN BY: SHYANN ELLEDGE

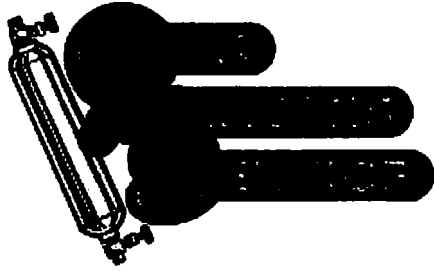
GPM, BTU, and SPG calculations as shown above are based on current GPA constants.

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: JICARILLA WEST 2; BHD
Stn. No.:
Mtr. No.: CC # 3151481A

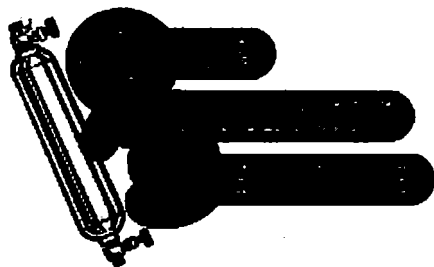
BRADENHEAD
PC

08/12/2019
46600-11540

Smpl Date: 07/31/2019
Test Date: 08/08/2019
Run No: LG190228

Nitrogen: 0.5612
CO2: 0.1730
Methane: 84.7013
Ethane: 7.1224
Propane: 4.0266
I-Butane: 0.8340
N-Butane: 1.1598
I-Pentane: 0.4299
N-Pentane: 0.3085
Hexane+: 0.6833

BTU: 1220.2
GPM: 18.7360
SPG: 0.6955



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

Analysis No: LG190229
Cust No: 46600-11545

Well/Lease Information

Customer Name: LOGOS OPERATING LLC
Well Name: JICARILLA WEST 2; CSG
County/State: RIO ARRIBA NM
Location:
Lease/PA/CA:
Formation: PC
Cust. Stn. No.:
CC # 3151481A
SOUTH
Heat Trace: N
Remarks:

Source: CASING
Well Flowing: N
Pressure: 105 PSIG
Flow Temp: DEG. F
Ambient Temp: 90 DEG. F
Flow Rate: 0 MCF/D
Sample Method: Purge & Fill
Sample Date: 07/31/2019
Sample Time: 3.40 PM
Sampled By: EUGENE BURBANK
Sampled by (CO): LOGOS

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.4716	0.4685	0.0520	0.00	0.0046
CO2	0.1682	0.1671	0.0290	0.00	0.0026
Methane	84.7076	84.1542	14.4040	855.55	0.4692
Ethane	7.1754	7.1285	1.9250	126.98	0.0745
Propane	4.0544	4.0279	1.1200	102.01	0.0617
Iso-Butane	0.8324	0.8270	0.2730	27.07	0.0167
N-Butane	1.1610	1.1534	0.3670	37.88	0.0233
I-Pentane	0.4311	0.4283	0.1580	17.25	0.0107
N-Pentane	0.3093	0.3073	0.1120	12.40	0.0077
Hexane Plus	0.6890	0.6845	0.3080	36.32	0.0228
Total	100.0000	99.3467	18.7480	1215.45	0.6938

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0033
BTU/CU.FT IDEAL: 1218.3
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1222.3
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1201.0
DRY BTU @ 15.025: 1246.8
REAL SPECIFIC GRAVITY: 0.6958

CYLINDER #: 4128
CYLINDER PRESSURE: 94 PSIG
ANALYSIS DATE: 08/08/2019
ANALYSIS TIME: 01:14:50 PM
ANALYSIS RUN BY: SHYANN ELLEDGE

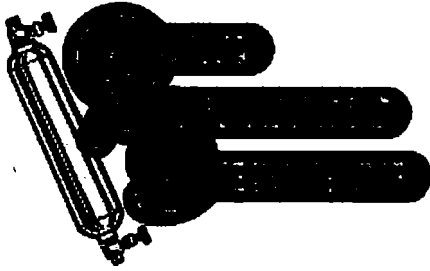
GPM, BTU, and SPG calculations as shown above are based on current GPA constants.

GPA Standard: GPA-2261

GC: Danalyzer Model 500

Last Cal/Verify: 08/12/2019

GC Method: C6+ Gas



LOGOS OPERATING LLC
WELL ANALYSIS COMPARISON

Lease: JICARILLA WEST 2; CSG
Stn. No.:
Mtr. No.: CC # 3151481A

CASING
PC

08/12/2019
46600-11545

Smpl Date: 07/31/2019
Test Date: 08/08/2019
Run No: LG190229

Nitrogen: 0.4716
CO2: 0.1682
Methane: 84.7076
Ethane: 7.1754
Propane: 4.0544
I-Butane: 0.8324
N-Butane: 1.1610
I-Pentane: 0.4311
N-Pentane: 0.3093
Hexane+: 0.6890

BTU: 1222.3
GPM: 18.7480
SPG: 0.6958

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

Analysis No: LG190230
Cust No: 46600-11550

Well/Lease Information

Customer Name: LOGOS OPERATING LLC
Well Name: JICARILLA WEST 2; TBG
County/State: RIO ARRIBA NM
Location:
Lease/PA/CA: 152
Formation: PC
Cust. Stn. No.:

CC # 3151481A

SOUTH

Heat Trace: N

Remarks:

Source: TUBING
Well Flowing: N
Pressure: 95 PSIG
Flow Temp: DEG. F
Ambient Temp: 90 DEG. F
Flow Rate: 0 MCF/D
Sample Method: Purge & Fill
Sample Date: 07/31/2019
Sample Time: 3.45 PM
Sampled By: EUGENE BURBANK
Sampled by (CO): LOGOS

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.4933	0.4885	0.0540	0.00	0.0048
CO2	0.1601	0.1585	0.0270	0.00	0.0024
Methane	85.5309	84.6934	14.5430	863.86	0.4738
Ethane	6.8932	6.8257	1.8490	121.99	0.0716
Propane	3.8227	3.7853	1.0560	96.18	0.0582
Iso-Butane	0.7674	0.7599	0.2520	24.96	0.0154
N-Butane	1.0351	1.0250	0.3270	33.77	0.0208
I-Pentane	0.3765	0.3728	0.1380	15.06	0.0094
N-Pentane	0.2651	0.2625	0.0960	10.63	0.0066
Hexane Plus	0.6557	0.6493	0.2930	34.56	0.0217
Total	100.0000	99.0209	18.6350	1201.01	0.6846

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0032
BTU/CU.FT IDEAL: 1203.8
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1207.7
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1186.7
DRY BTU @ 15.025: 1231.9
REAL SPECIFIC GRAVITY: 0.6865

CYLINDER #: 4228
CYLINDER PRESSURE: 87 PSIG
ANALYSIS DATE: 08/08/2019
ANALYSIS TIME: 01:00:33 PM
ANALYSIS RUN BY: SHYANN ELLEDGE

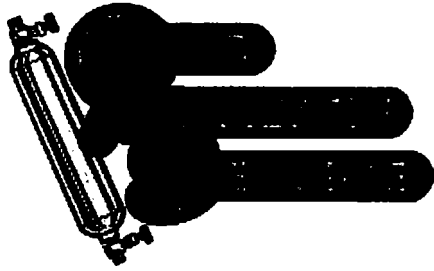
GPM, BTU, and SPG calculations as shown above are based on current GPA constants.

GPA Standard: GPA-2261

GC: Danalyzer Model 500

Last Cal/Verify: 08/12/2019

GC Method: C6+ Gas



LOGOS OPERATING LLC
WELL ANALYSIS COMPARISON

Lease: JICARILLA WEST 2; TBG
Stn. No.:
Mtr. No.: CC # 3151481A

TUBING
PC

08/12/2019
46600-11550

Smpl Date: 07/31/2019
Test Date: 08/08/2019
Run No: LG190230
Nitrogen: 0.4933
CO2: 0.1601
Methane: 85.5309
Ethane: 6.8932
Propane: 3.8227
I-Butane: 0.7674
N-Butane: 1.0351
I-Pentane: 0.3765
N-Pentane: 0.2651
Hexane+: 0.6557
BTU: 1207.7
GPM: 18.6350
SPG: 0.6865