GAS ANALYSIS SERVICE

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

Analysis No: GW170037
Cust No: 33050-10125

Well/Lease Information

Customer Name:	GREAT WESTERN DRILLING	Source:	BRADENHEAD
Well Name:	ATLANTIC A 101 BHD	Well Flowing:	Y
County/State:	SAN JUAN	Pressure:	170 PSIG
Location:		Flow Temp:	DEG. F
Field:		Ambient Temp:	39 DEG. F
Formation:	BASIN DAKOTA	Flow Rate:	MCF/D
Cust. Stn. No.:	94574	Sample Method:	Purge & Fill
		Date Sampled:	10/25/2017
		Sample Time:	8.00 AM
		Sampled By:	CULLAN KELLER
		Sampled by (CO):	GWDC

OIL CONS. DIV DIST. 3
NOV 07 2017

Remarks:

Analysis

Component::	Mole%:	Unormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.5860	0.5747	0.0650	0.00	0.0057
CO2	0.0031	0.0030	0.0010	0.00	0.0000
Methane	90.1723	88.4318	15.3230	910.74	0.4995
Ethane	5.7064	5.5963	1.5300	100.99	0.0592
Propane	2.1338	2.0926	0.5890	53.69	0.0325
Iso-Butane	0.3612	0.3542	0.1180	11.75	0.0072
N-Butane	0.5109	0.5010	0.1610	16.67	0.0103
I-Pentane	0.1755	0.1721	0.0640	7.02	0.0044
N-Pentane	0.1156	0.1134	0.0420	4.63	0.0029
Hexane Plus	0.2352	0.2307	0.1050	12.40	0.0078
Total	100.0000	98.0698	17.9980	1117.88	0.6294

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY
**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBLITY FACTOR (1/Z):	1.0026	CYLINDER #:	6150
BTU/CU.FT IDEAL:	1120.5	CYLINDER PRESSURE:	189 PSIG
BTU/CU.FT (DRY) CORRECTED FOR (1/Z):	1123.4	DATE RUN:	10/30/17 12:00 AM
BTU/CU.FT (WET) CORRECTED FOR (1/Z):	1103.9	ANALYSIS RUN BY:	RICHARD WILSON
DRY BTU @ 15.025:	1145.9		
REAL SPECIFIC GRAVITY:	0.6308		

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: 11/01/2017**
GC Method: C6+ Gas

GAS ANALYSIS SERVICE

2030 Afton Place
Farmington, NM 87401
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Analysis No: GW170039
Cust No: 33050-10360

Well/Lease Information

Customer Name:	GREAT WESTERN DRILLING	Source:	TUBING
Well Name:	ATLANTIC A 101; TBG	Well Flowing:	Y
County/State:	SAN JUAN NM	Pressure:	68 PSIG
Location:		Flow Temp:	DEG. F
Field:		Ambient Temp:	39 DEG. F
Formation:	BD	Flow Rate:	MCF/D
Cust. Stn. No.:	API 30-045-25340	Sample Method:	Purge & Fill
		Date Sampled:	10/25/2017
		Sample Time:	8.10 AM
		Sampled By:	CULLAN
		Sampled by (CO):	GWDC

OIL CONS. DIV DIST. 3
NOV 07 2017

Remarks:

Analysis

Component::	Mole%:	Unormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.3793	0.3688	0.0420	0.00	0.0037
CO2	3.0140	2.9303	0.5150	0.00	0.0458
Methane	94.0492	91.4359	15.9750	949.90	0.5209
Ethane	2.2551	2.1924	0.6040	39.91	0.0234
Propane	0.1399	0.1360	0.0390	3.52	0.0021
Iso-Butane	0.0402	0.0391	0.0130	1.31	0.0008
N-Butane	0.0156	0.0152	0.0050	0.51	0.0003
I-Pentane	0.0097	0.0094	0.0040	0.39	0.0002
N-Pentane	0.0028	0.0027	0.0010	0.11	0.0001
Hexane Plus	0.0942	0.0916	0.0420	4.97	0.0031
Total	100.0000	97.2214	17.2400	1000.61	0.6005

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY
**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBLITY FACTOR (1/Z):	1.0022	CYLINDER #:	4213
BTU/CU.FT IDEAL:	1002.9	CYLINDER PRESSURE:	76 PSIG
BTU/CU.FT (DRY) CORRECTED FOR (1/Z):	1005.1	DATE RUN:	10/30/17 12:00 AM
BTU/CU.FT (WET) CORRECTED FOR (1/Z):	987.6	ANALYSIS RUN BY:	RICHARD WILSON
DRY BTU @ 15.025:	1025.2		
REAL SPECIFIC GRAVITY:	0.6016		

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: 11/01/2017**
GC Method: C6+ Gas

GAS ANALYSIS SERVICE

2030 Afton Place
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Analysis No: GW170038
Cust No: 33050-10365

Well/Lease Information

Customer Name:	GREAT WESTERN DRILLING	Source:	CASING
Well Name:	ATLANTIC A 101; CSG	Well Flowing:	Y
County/State:	SAN JUAN NM	Pressure:	76 PSIG
Location:		Flow Temp:	DEG. F
Field:		Ambient Temp:	39 DEG. F
Formation:	BD	Flow Rate:	MCF/D
Cust. Stn. No.:	API 30-045-25340	Sample Method:	Purge & Fill
		Date Sampled:	10/25/2017
		Sample Time:	7.50 AM
		Sampled By:	CULLAN
		Sampled by (CO):	GWDC

OIL CONS. DIV DIST. 3
NOV 07 2017

Remarks:

Analysis

Component::	Mole%:	Unormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.3788	0.3686	0.0420	0.00	0.0037
CO2	3.0182	2.9372	0.5160	0.00	0.0459
Methane	94.0516	91.5273	15.9760	949.92	0.5210
Ethane	2.2565	2.1959	0.6050	39.93	0.0234
Propane	0.1425	0.1387	0.0390	3.59	0.0022
Iso-Butane	0.0405	0.0394	0.0130	1.32	0.0008
N-Butane	0.0166	0.0162	0.0050	0.54	0.0003
I-Pentane	0.0100	0.0097	0.0040	0.40	0.0002
N-Pentane	0.0030	0.0029	0.0010	0.12	0.0001
Hexane Plus	0.0823	0.0801	0.0370	4.34	0.0027
Total	100.0000	97.3160	17.2380	1000.16	0.6003

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY
**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBLITY FACTOR (1/Z):	1.0022	CYLINDER #:	7032
BTU/CU.FT IDEAL:	1002.5	CYLINDER PRESSURE:	76 PSIG
BTU/CU.FT (DRY) CORRECTED FOR (1/Z):	1004.7	DATE RUN:	10/30/17 12:00 AM
BTU/CU.FT (WET) CORRECTED FOR (1/Z):	987.2	ANALYSIS RUN BY:	RICHARD WILSON
DRY BTU @ 15.025:	1024.8		
REAL SPECIFIC GRAVITY:	0.6014		

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: 11/01/2017**
GC Method: C6+ Gas