



Well Name: FOSTER 1; BHD
 API #:
 Source: BRADENHEAD
 Sample Type: GAS
 Analysis No: MS2021202
 Cust No: 53400-11745

Well/Lease Information

Customer Name: MORNINGSTAR
 Well Name: FOSTER 1; BHD
 County/State:
 Location:
 Lease/PA/CA:
 Formation:
 Cust. Stn. No.:

Source: BRADENHEAD
 Well Flowing: N
 Pressure: 28 PSIG
 Flow Temp: DEG. F
 Ambient Temp: DEG. F
 Flow Rate: MCF/D
 Sample Method:
 Sample Date: 06/21/2021
 Sample Time: 11.37 AM
 Sampled By: CODY PARIS
 Sampled by (CO): WALSH

Heat Trace:
 Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	1.0509	1.0487	0.1160	0.00	0.0102
CO2	0.2158	0.2153	0.0370	0.00	0.0033
Methane	86.3100	86.1265	14.6720	871.73	0.4781
Ethane	6.5659	6.5519	1.7610	116.20	0.0682
Propane	3.4303	3.4230	0.9480	86.31	0.0522
Iso-Butane	0.7757	0.7741	0.2550	25.22	0.0156
N-Butane	0.8224	0.8207	0.2600	26.83	0.0165
I-Pentane	0.3205	0.3198	0.1180	12.82	0.0080
N-Pentane	0.1554	0.1551	0.0560	6.23	0.0039
Hexane Plus	0.3531	0.3523	0.1580	18.61	0.0117
Total	100.0000	99.7874	18.3810	1163.96	0.6675

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.003
 BTU/CU.FT IDEAL: 1166.6
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1170.2
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1149.8
 DRY BTU @ 15.025: 1193.6
 REAL SPECIFIC GRAVITY: 0.6693

CYLINDER #: 4222
 CYLINDER PRESSURE: 24 PSIG
 ANALYSIS DATE: 06/29/2021
 ANALYSIS TIME: 01:56:31 PM
 ANALYSIS RUN BY: PATRICIA KING

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: 06/29/2021

GC Method: C6+ Gas



MORNINGSTAR
WELL ANALYSIS COMPARISON

Lease: FOSTER 1; BHD
Stn. No.:
Mtr. No.:

BRADENHEAD

06/29/2021
53400-11745

Smpl Date: 06/21/2021
Test Date: 06/29/2021
Run No: MS2021202

Nitrogen: 1.0509
CO2: 0.2158
Methane: 86.3100
Ethane: 6.5659
Propane: 3.4303
I-Butane: 0.7757
N-Butane: 0.8224
I-Pentane: 0.3205
N-Pentane: 0.1554
Hexane+: 0.3531

BTU: 1170.2
GPM: 18.3810
SPG: 0.6693



Well Name: FOSTER # 1; CSG

API #:

Source: CASING

Sample Type: GAS

Analysis No: MS2021203

Cust No: 53400-11750

Well/Lease Information

Customer Name: MORNINGSTAR
 Well Name: FOSTER # 1; CSG
 County/State:
 Location:
 Lease/PA/CA:
 Formation:
 Cust. Stn. No.:

Source: CASING
 Well Flowing: N
 Pressure: 49 PSIG
 Flow Temp: DEG. F
 Ambient Temp: DEG. F
 Flow Rate: MCF/D
 Sample Method: Purge & Fill
 Sample Date: 06/21/2021
 Sample Time: 11.29 AM
 Sampled By: CODY PARIS
 Sampled by (CO): WALSH

Heat Trace:

Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	1.0526	1.0461	0.1160	0.00	0.0102
CO2	0.2730	0.2713	0.0470	0.00	0.0041
Methane	86.0261	85.4917	14.6260	868.86	0.4765
Ethane	6.3667	6.3272	1.7080	112.67	0.0661
Propane	3.3374	3.3167	0.9220	83.97	0.0508
Iso-Butane	0.7969	0.7920	0.2620	25.91	0.0160
N-Butane	0.8295	0.8243	0.2620	27.06	0.0166
I-Pentane	0.3685	0.3662	0.1350	14.74	0.0092
N-Pentane	0.2165	0.2152	0.0790	8.68	0.0054
Hexane Plus	0.7328	0.7282	0.3280	38.63	0.0243
Total	100.0000	99.3789	18.4850	1180.53	0.6792

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0031
 BTU/CU.FT IDEAL: 1183.3
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1186.9
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1166.2
 DRY BTU @ 15.025: 1210.7
 REAL SPECIFIC GRAVITY: 0.681

CYLINDER #: 6063
 CYLINDER PRESSURE: 40 PSIG
 ANALYSIS DATE: 06/29/2021
 ANALYSIS TIME: 02:06:47 PM
 ANALYSIS RUN BY: SHYANN GALLEGOS

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: 06/29/2021

GC Method: C6+ Gas



MORNINGSTAR
WELL ANALYSIS COMPARISON

Lease: FOSTER # 1; CSG
Stn. No.:
Mtr. No.:

CASING

06/29/2021
53400-11750

Smpl Date: 06/21/2021
Test Date: 06/29/2021
Run No: MS2021203

Nitrogen: 1.0526
CO2: 0.2730
Methane: 86.0261
Ethane: 6.3667
Propane: 3.3374
I-Butane: 0.7969
N-Butane: 0.8295
I-Pentane: 0.3685
N-Pentane: 0.2165
Hexane+: 0.7328

BTU: 1186.9
GPM: 18.4850
SPG: 0.6810



Well Name: FOSTER #1; TBG

API #:

Source: TUBING

Sample Type: GAS

Analysis No: MS2021204

Cust No: 53400-11755

Well/Lease Information

Customer Name: MORNINGSTAR
 Well Name: FOSTER #1; TBG
 County/State:
 Location:
 Lease/PA/CA:
 Formation:
 Cust. Stn. No.:

Source: TUBING
 Well Flowing:
 Pressure: 49 PSIG
 Flow Temp: DEG. F
 Ambient Temp: DEG. F
 Flow Rate: MCF/D
 Sample Method: Purge & Fill
 Sample Date: 06/21/2021
 Sample Time: 11.20 AM
 Sampled By: CODY PARIS
 Sampled by (CO): WALSH

Heat Trace:

Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	1.0510	1.0459	0.1160	0.00	0.0102
CO2	0.2658	0.2645	0.0450	0.00	0.0040
Methane	86.1224	85.7018	14.6420	869.84	0.4770
Ethane	6.3663	6.3352	1.7070	112.66	0.0661
Propane	3.3341	3.3178	0.9210	83.89	0.0508
Iso-Butane	0.7958	0.7919	0.2610	25.88	0.0160
N-Butane	0.8285	0.8245	0.2620	27.03	0.0166
I-Pentane	0.3675	0.3657	0.1350	14.70	0.0092
N-Pentane	0.2153	0.2142	0.0780	8.63	0.0054
Hexane Plus	0.6533	0.6501	0.2920	34.44	0.0216
Total	100.0000	99.5116	18.4590	1177.07	0.6768

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0031
 BTU/CU.FT IDEAL: 1179.8
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1183.5
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1162.9
 DRY BTU @ 15.025: 1207.2
 REAL SPECIFIC GRAVITY: 0.6787

CYLINDER #: 4220
 CYLINDER PRESSURE: 47 PSIG
 ANALYSIS DATE: 06/29/2021
 ANALYSIS TIME: 01:46:51 PM
 ANALYSIS RUN BY: SHYANN GALLEGOS

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: 06/29/2021

GC Method: C6+ Gas



MORNINGSTAR
WELL ANALYSIS COMPARISON

Lease:	FOSTER #1; TBG	TUBING	06/29/2021
Stn. No.:			53400-11755
Mtr. No.:			

Smpl Date: 06/21/2021
Test Date: 06/29/2021
Run No: MS2021204

Nitrogen: 1.0510
CO2: 0.2658
Methane: 86.1224
Ethane: 6.3663
Propane: 3.3341
I-Butane: 0.7958
N-Butane: 0.8285
I-Pentane: 0.3675
N-Pentane: 0.2153
Hexane+: 0.6533

BTU: 1183.5
GPM: 18.4590
SPG: 0.6787

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District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 34404

CONDITIONS

Operator: MorningStar Operating LLC 400 W 7th St Fort Worth, TX 76102	OGRID: 330132
	Action Number: 34404
	Action Type: [UF-GA] Gas Analysis (GAS ANALYSIS)

CONDITIONS

Created By	Condition	Condition Date
mkuehling	same gas all strings	8/3/2021