



Well Name: SANTA ROSA 5 #3; BHD
 API #: 3004532537
 Source: BRADENHEAD
 Sample Type: GAS
 Analysis No: MS20230085
 Cust No: 53400-11945

Well/Lease Information

Customer Name: MORNINGSTAR
 Well Name: SANTA ROSA 5 #3; BHD
 County/State: SAN JUAN NM
 Location:
 Lease/PA/CA: NMNM-6894
 Formation: FC
 Cust. Stn. No.: 3004532537

Source: BRADENHEAD
 Well Flowing:
 Pressure: 7 PSIG
 Flow Temp: 83 DEG. F
 Ambient Temp: DEG. F
 Flow Rate: 100 MCF/D
 Sample Method: Purge & Fill
 Sample Date: 04/25/2023
 Sample Time: 3.00 PM
 Sampled By: ERIC THOMAS
 Sampled by (CO): MORNINGSTAR

Heat Trace:

Remarks: PRESSURED WITH HELIUM TO 30 LBS.

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	1.3776	0.5721	0.1520	0.00	0.0133
CO2	0.0624	0.0259	0.0110	0.00	0.0009
Methane	88.2664	36.6551	15.0000	891.49	0.4889
Ethane	6.6512	2.7621	1.7830	117.71	0.0691
Propane	2.3864	0.9910	0.6590	60.04	0.0363
Iso-Butane	0.3453	0.1434	0.1130	11.23	0.0069
N-Butane	0.4924	0.2045	0.1560	16.06	0.0099
I-Pentane	0.1515	0.0629	0.0560	6.06	0.0038
N-Pentane	0.0951	0.0395	0.0350	3.81	0.0024
Hexane Plus	0.1717	0.0713	0.0770	9.05	0.0057
Total	100.0000	41.5278	18.0420	1115.46	0.6372

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0027
 BTU/CU.FT IDEAL: 1118.0
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1121.0
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1101.5
 DRY BTU @ 15.025: 1143.5
 REAL SPECIFIC GRAVITY: 0.6386

CYLINDER #: 4010
 CYLINDER PRESSURE: PSIG
 ANALYSIS DATE: 05/01/2023
 ANALYSIS TIME: 11:29:03 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: 05/04/2023

GC Method: C6+ Gas



MORNINGSTAR
WELL ANALYSIS COMPARISON

Lease: SANTA ROSA 5 #3; BHD
Stn. No.: 3004532537
Mtr. No.:

BRADENHEAD
FC

05/04/2023
53400-11945

Smpl Date: 04/25/2023
Test Date: 05/01/2023
Run No: MS20230085

Nitrogen: 1.3776
CO2: 0.0624
Methane: 88.2664
Ethane: 6.6512
Propane: 2.3864
I-Butane: 0.3453
N-Butane: 0.4924
I-Pentane: 0.1515
N-Pentane: 0.0951
Hexane+: 0.1717

BTU: 1121.0
GPM: 18.0420
SPG: 0.6386



Well Name: SANTA ROSA 5 #3; CSG
 API #: 3004532537
 Source: CASING
 Sample Type: GAS
 Analysis No: MS20230086
 Cust No: 53400-11950

Well/Lease Information

Customer Name: MORNINGSTAR	Source: CASING
Well Name: SANTA ROSA 5 #3; CSG	Well Flowing:
County/State: SAN JUAN NM	Pressure: 3 PSIG
Location:	Flow Temp: 83 DEG. F
Lease/PA/CA: NMNM-6894	Ambient Temp: DEG. F
Formation: FC	Flow Rate: 100 MCF/D
Cust. Stn. No.: 3004532537	Sample Method: Purge & Fill
	Sample Date: 04/25/2023
	Sample Time: 3.00 PM
	Sampled By:
Heat Trace:	Sampled by (CO): MORNINGSTAR
Remarks: PRESSURED WITH HELIUM TO 30 LBS.	

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.1397	0.0481	0.0150	0.00	0.0014
CO2	1.4334	0.4935	0.2450	0.00	0.0218
Methane	87.7603	30.2147	14.9160	886.38	0.4861
Ethane	6.9459	2.3914	1.8620	122.92	0.0721
Propane	2.4392	0.8398	0.6740	61.37	0.0371
Iso-Butane	0.4868	0.1676	0.1600	15.83	0.0098
N-Butane	0.3576	0.1231	0.1130	11.67	0.0072
I-Pentane	0.1420	0.0489	0.0520	5.68	0.0035
N-Pentane	0.0773	0.0266	0.0280	3.10	0.0019
Hexane Plus	0.2178	0.0750	0.0970	11.48	0.0072
Total	100.0000	34.4287	18.1620	1118.43	0.6481

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z):	1.0028	CYLINDER #:	5011
BTU/CU.FT IDEAL:	1121.0	CYLINDER PRESSURE:	PSIG
BTU/CU.FT (DRY) CORRECTED FOR (1/Z):	1124.2	ANALYSIS DATE:	05/01/2023
BTU/CU.FT (WET) CORRECTED FOR (1/Z):	1104.6	ANALYSIS TIME:	11:21:31 AM
DRY BTU @ 15.025:	1146.7	ANALYSIS RUN BY:	RICHARD WILSON
REAL SPECIFIC GRAVITY:	0.6497		

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: 05/04/2023

GC Method: C6+ Gas



MORNINGSTAR
WELL ANALYSIS COMPARISON

Lease: SANTA ROSA 5 #3; CSG
Stn. No.: 3004532537
Mtr. No.:

CASING
FC

05/04/2023
53400-11950

Smpl Date: 04/25/2023
Test Date: 05/01/2023
Run No: MS20230086

Nitrogen: 0.1397
CO2: 1.4334
Methane: 87.7603
Ethane: 6.9459
Propane: 2.4392
I-Butane: 0.4868
N-Butane: 0.3576
I-Pentane: 0.1420
N-Pentane: 0.0773
Hexane+: 0.2178

BTU: 1124.2
GPM: 18.1620
SPG: 0.6497

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
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 225656

CONDITIONS

Operator: MorningStar Operating LLC 400 W 7th St Fort Worth, TX 76102	OGRID: 330132
	Action Number: 225656
	Action Type: [UF-GA] Gas Analysis (GAS ANALYSIS)

CONDITIONS

Created By	Condition	Condition Date
mkuehling	similar gas	6/9/2023