



Well Name: ZACHRY #25; BHD
 API #: 3004524528
 Source: BRADENHEAD
 Sample Type: GAS
 Analysis No: MS20240090
 Cust No: 53400-12020

Well/Lease Information

Customer Name: MORNINGSTAR
 Well Name: ZACHRY #25; BHD
 County/State: SAN JUAN NM
 Location:
 Lease/PA/CA: NMSF080724A
 Formation: PC
 Cust. Stn. No.: 3004524528

Source: BRADENHEAD
 Well Flowing: Y
 Pressure: 27 PSIG
 Flow Temp: DEG. F
 Ambient Temp: DEG. F
 Flow Rate: 16 MCF/D
 Sample Method: Purge & Fill
 Sample Date: 04/30/2024
 Sample Time: 1.19 PM
 Sampled By: JEREMY BARNEY
 Sampled by (CO): MORNINGSTAR

Heat Trace: N
 Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.8914	0.8816	0.0980	0.00	0.0086
CO2	0.0190	0.0188	0.0030	0.00	0.0003
Methane	90.4319	89.4333	15.3670	913.36	0.5009
Ethane	4.9505	4.8958	1.3270	87.61	0.0514
Propane	2.1902	2.1660	0.6050	55.11	0.0333
Iso-Butane	0.4536	0.4486	0.1490	14.75	0.0091
N-Butane	0.4926	0.4872	0.1560	16.07	0.0099
I-Pentane	0.1969	0.1947	0.0720	7.88	0.0049
N-Pentane	0.1144	0.1131	0.0420	4.59	0.0028
Hexane Plus	0.2595	0.2566	0.1160	13.68	0.0086
Total	100.0000	98.8957	17.9350	1113.04	0.6299

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0026
 BTU/CU.FT IDEAL: 1115.6
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1118.5
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1099.0
 DRY BTU @ 15.025: 1140.9
 REAL SPECIFIC GRAVITY: 0.6313

CYLINDER #: 1873
 CYLINDER PRESSURE: 27 PSIG
 ANALYSIS DATE: 05/08/2024
 ANALYSIS TIME: 09:17:24 AM
 ANALYSIS RUN BY: ALEXIS MITCHELL

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: 05/09/2024

GC Method: C6+ Gas



MORNINGSTAR
WELL ANALYSIS COMPARISON

Lease: ZACHRY #25; BHD
Stn. No.: 3004524528
Mtr. No.:

BRADENHEAD
PC

05/09/2024
53400-12020

Smpl Date: 04/30/2024
Test Date: 05/08/2024
Run No: MS20240090

Nitrogen: 0.8914
CO2: 0.0190
Methane: 90.4319
Ethane: 4.9505
Propane: 2.1902
I-Butane: 0.4536
N-Butane: 0.4926
I-Pentane: 0.1969
N-Pentane: 0.1144
Hexane+: 0.2595

BTU: 1118.5
GPM: 17.9350
SPG: 0.6313



Well Name: ZACHRY #25; CSG

API #: 3004524528

Source: CASING

Sample Type: GAS

Analysis No: MS20240091

Cust No: 53400-12025

Well/Lease Information

Customer Name: MORNINGSTAR
 Well Name: ZACHRY #25; CSG
 County/State: SAN JUAN NM
 Location:
 Lease/PA/CA: NMSF080724A
 Formation: PC
 Cust. Stn. No.: 3004524528

Source: CASING
 Well Flowing: Y
 Pressure: 32 PSIG
 Flow Temp: DEG. F
 Ambient Temp: DEG. F
 Flow Rate: 15 MCF/D
 Sample Method: Purge & Fill
 Sample Date: 04/30/2024
 Sample Time: 1.10 PM
 Sampled By: JEREMY BERNEY
 Sampled by (CO): MORNINGSTAR

Heat Trace: N

Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.3297	0.3261	0.0360	0.00	0.0032
CO2	0.3085	0.3051	0.0530	0.00	0.0047
Methane	86.7943	85.8399	14.7550	876.62	0.4808
Ethane	6.9220	6.8459	1.8560	122.50	0.0719
Propane	3.2572	3.2214	0.9000	81.95	0.0496
Iso-Butane	0.5178	0.5121	0.1700	16.84	0.0104
N-Butane	0.8311	0.8220	0.2630	27.11	0.0167
I-Pentane	0.2728	0.2698	0.1000	10.91	0.0068
N-Pentane	0.2057	0.2034	0.0750	8.25	0.0051
Hexane Plus	0.5609	0.5547	0.2510	29.57	0.0186
Total	100.0000	98.9004	18.4590	1173.75	0.6676

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.003
 BTU/CU.FT IDEAL: 1176.5
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1180.0
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1159.5
 DRY BTU @ 15.025: 1203.6
 REAL SPECIFIC GRAVITY: 0.6694

CYLINDER #: 2198
 CYLINDER PRESSURE: 26 PSIG
 ANALYSIS DATE: 05/08/2024
 ANALYSIS TIME: 08:49:46 AM
 ANALYSIS RUN BY: ALEXIS MITCHELL

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: 05/09/2024

GC Method: C6+ Gas



MORNINGSTAR
WELL ANALYSIS COMPARISON

Lease:	ZACHRY #25; CSG	CASING	05/09/2024
Stn. No.:	3004524528	PC	53400-12025
Mtr. No.:			

Smpl Date: 04/30/2024
Test Date: 05/08/2024
Run No: MS20240091

Nitrogen: 0.3297
CO2: 0.3085
Methane: 86.7943
Ethane: 6.9220
Propane: 3.2572
I-Butane: 0.5178
N-Butane: 0.8311
I-Pentane: 0.2728
N-Pentane: 0.2057
Hexane+: 0.5609

BTU: 1180.0
GPM: 18.4590
SPG: 0.6694

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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 342674

CONDITIONS

Operator: MorningStar Operating LLC 400 W 7th St Fort Worth, TX 76102	OGRID: 330132
	Action Number: 342674
	Action Type: [UF-GA] Gas Analysis (GAS ANALYSIS)

CONDITIONS

Created By	Condition	Condition Date
mkuehling	for record	5/10/2024