



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

Analysis No: SR180186  
Cust No: 72550-10945

30-045-09315

### Well/Lease Information

Customer Name: SOUTHLAND ROYALTY  
Well Name: MCCORD #13; BHD  
County/State: SAN JUAN NM  
Location:  
Field:  
Formation: DAKOTA  
Cust. Stn. No.: 73811-01

Source: BRADENHEAD  
Well Flowing: Y  
Pressure: 65 PSIG  
Flow Temp: DEG. F  
Ambient Temp: 77 DEG. F  
Flow Rate: 40 MCF/D  
Sample Method: Purge & Fill  
Sample Date: 05/16/2018  
Sample Time: 1.40 PM  
Sampled By:  
Sampled by (CO):

Heat Trace: N  
Remarks:

### Analysis

| Component:: | Mole%:   | Unnormalized %: | **GPM:  | *BTU:   | *SP Gravity: |
|-------------|----------|-----------------|---------|---------|--------------|
| Nitrogen    | 0.5953   | 0.5878          | 0.0660  | 0.00    | 0.0058       |
| CO2         | 1.1129   | 1.0988          | 0.1910  | 0.00    | 0.0169       |
| Methane     | 75.7074  | 74.7484         | 12.8810 | 764.64  | 0.4193       |
| Ethane      | 12.3356  | 12.1794         | 3.3110  | 218.30  | 0.1281       |
| Propane     | 6.1521   | 6.0742          | 1.7010  | 154.79  | 0.0937       |
| Iso-Butane  | 0.8742   | 0.8631          | 0.2870  | 28.43   | 0.0175       |
| N-Butane    | 1.7548   | 1.7326          | 0.5550  | 57.25   | 0.0352       |
| I-Pentane   | 0.5567   | 0.5496          | 0.2040  | 22.27   | 0.0139       |
| N-Pentane   | 0.4832   | 0.4771          | 0.1760  | 19.37   | 0.0120       |
| Hexane Plus | 0.4278   | 0.4224          | 0.1910  | 22.55   | 0.0142       |
| Total       | 100.0000 | 98.7334         | 19.5630 | 1287.61 | 0.7566       |

\* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

\*\*@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0039  
BTU/CU.FT IDEAL: 1290.6  
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1295.6  
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1273.1  
DRY BTU @ 15.025: 1321.5  
REAL SPECIFIC GRAVITY: 0.7592

CYLINDER #: 6070  
CYLINDER PRESSURE: 64 PSIG  
ANALYSIS DATE: 05/21/2018  
ANALYSIS TIME: 02:21:00 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: 05/22/2018

GC Method: C6+ Gas

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SOUTHLAND ROYALTY  
WELL ANALYSIS COMPARISON

Lease: MCCORD #13; BHD  
Stn. No.: 73811-01  
Mtr. No.:

BRADENHEAD  
DAKOTA

05/22/2018  
72550-10945

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Smpl Date: 05/16/2018  
Test Date: 05/21/2018  
Run No: SR180186  
  
Nitrogen: 0.5953  
CO2: 1.1129  
Methane: 75.7074  
Ethane: 12.3356  
Propane: 6.1521  
I-Butane: 0.8742  
N-Butane: 1.7548  
I-Pentane: 0.5567  
N-Pentane: 0.4832  
Hexane+: 0.4278  
  
BTU: 1295.6  
GPM: 19.5630  
SPG: 0.7592



2030 Afton Place  
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(505) 325-6622

Analysis No: SR180187  
Cust No: 72550-10950

### Well/Lease Information

Customer Name: SOUTHLAND ROYALTY  
Well Name: MCCORD #13; CSG  
County/State: SAN JUAN NM  
Location:  
Field:  
Formation: DAKOTA  
Cust. Stn. No.: 73811-01

Source: CASING  
Well Flowing: Y  
Pressure: 190 PSIG  
Flow Temp: DEG. F  
Ambient Temp: 77 DEG. F  
Flow Rate: 40 MCF/D  
Sample Method: Purge & Fill  
Sample Date: 05/16/2018  
Sample Time: 1.00 PM  
Sampled By:  
Sampled by (CO):

Heat Trace: N  
Remarks:

### Analysis

| Component:: | Mole%:   | Unnormalized %: | **GPM:  | *BTU:   | *SP Gravity: |
|-------------|----------|-----------------|---------|---------|--------------|
| Nitrogen    | 0.5879   | 0.5808          | 0.0650  | 0.00    | 0.0057       |
| CO2         | 1.1467   | 1.1329          | 0.1960  | 0.00    | 0.0174       |
| Methane     | 75.1721  | 74.2645         | 12.7930 | 759.24  | 0.4164       |
| Ethane      | 12.2744  | 12.1262         | 3.2950  | 217.22  | 0.1274       |
| Propane     | 6.1927   | 6.1179          | 1.7130  | 155.81  | 0.0943       |
| Iso-Butane  | 0.9028   | 0.8919          | 0.2970  | 29.36   | 0.0181       |
| N-Butane    | 1.8408   | 1.8186          | 0.5830  | 60.05   | 0.0369       |
| I-Pentane   | 0.6392   | 0.6315          | 0.2350  | 25.57   | 0.0159       |
| N-Pentane   | 0.5749   | 0.5680          | 0.2090  | 23.05   | 0.0143       |
| Hexane Plus | 0.6685   | 0.6604          | 0.2990  | 35.24   | 0.0221       |
| Total       | 100.0000 | 98.7927         | 19.6850 | 1305.54 | 0.7686       |

\* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

\*\*@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0041  
BTU/CU.FT IDEAL: 1308.6  
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1313.9  
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1291.0  
DRY BTU @ 15.025: 1340.2  
REAL SPECIFIC GRAVITY: 0.7715

CYLINDER #: 4076  
CYLINDER PRESSURE: 186 PSIG  
ANALYSIS DATE: 05/21/2018  
ANALYSIS TIME: 02:26:40 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: 05/22/2018

GC Method: C6+ Gas



SOUTHLAND ROYALTY  
WELL ANALYSIS COMPARISON

Lease: MCCORD #13; CSG  
Stn. No.: 73811-01  
Mtr. No.:

CASING  
DAKOTA

05/22/2018  
72550-10950

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Smpl Date: 05/16/2018  
Test Date: 05/21/2018  
Run No: SR180187  
  
Nitrogen: 0.5879  
CO2: 1.1467  
Methane: 75.1721  
Ethane: 12.2744  
Propane: 6.1927  
I-Butane: 0.9028  
N-Butane: 1.8408  
I-Pentane: 0.6392  
N-Pentane: 0.5749  
Hexane+: 0.6685  
  
BTU: 1313.9  
GPM: 19.6850  
SPG: 0.7715





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

Analysis No: SR180188  
Cust No: 72550-10955

### Well/Lease Information

Customer Name: SOUTHLAND ROYALTY  
Well Name: MCCORD #13; TBG  
County/State: SAN JUAN NM  
Location:  
Field:  
Formation: DAKOTA  
Cust. Stn. No.: 73811-01

Source: TUBING  
Well Flowing: Y  
Pressure: 187 PSIG  
Flow Temp: DEG. F  
Ambient Temp: 77 DEG. F  
Flow Rate: 40 MCF/D  
Sample Method: Purge & Fill  
Sample Date: 05/16/2018  
Sample Time: 1.00 PM  
Sampled By:  
Sampled by (CO):

Heat Trace: N  
Remarks:

### Analysis

| Component:: | Mole%:   | Unnormalized %: | **GPM:  | *BTU:   | *SP Gravity: |
|-------------|----------|-----------------|---------|---------|--------------|
| Nitrogen    | 0.6442   | 0.6454          | 0.0710  | 0.00    | 0.0062       |
| CO2         | 1.1580   | 1.1602          | 0.1980  | 0.00    | 0.0176       |
| Methane     | 77.1279  | 77.2768         | 13.1220 | 778.99  | 0.4272       |
| Ethane      | 11.8137  | 11.8365         | 3.1710  | 209.07  | 0.1226       |
| Propane     | 5.5679   | 5.5786          | 1.5390  | 140.09  | 0.0848       |
| Iso-Butane  | 0.7749   | 0.7764          | 0.2540  | 25.20   | 0.0156       |
| N-Butane    | 1.4737   | 1.4765          | 0.4660  | 48.08   | 0.0296       |
| I-Pentane   | 0.4292   | 0.4300          | 0.1580  | 17.17   | 0.0107       |
| N-Pentane   | 0.3600   | 0.3607          | 0.1310  | 14.43   | 0.0090       |
| Hexane Plus | 0.6505   | 0.6518          | 0.2910  | 34.29   | 0.0215       |
| Total       | 100.0000 | 100.1929        | 19.4010 | 1267.32 | 0.7448       |

\* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

\*\*@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0038  
BTU/CU.FT IDEAL: 1270.3  
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1275.1  
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1252.9  
DRY BTU @ 15.025: 1300.6  
REAL SPECIFIC GRAVITY: 0.7473

CYLINDER #: 6128  
CYLINDER PRESSURE: 187 PSIG  
ANALYSIS DATE: 05/21/2018  
ANALYSIS TIME: 11:29:46 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: 05/22/2018

GC Method: C6+ Gas



SOUTHLAND ROYALTY  
WELL ANALYSIS COMPARISON

Lease: MCCORD #13; TBG  
Stn. No.: 73811-01  
Mtr. No.:

TUBING  
DAKOTA

05/22/2018  
72550-10955

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Smpl Date: 05/16/2018  
Test Date: 05/21/2018  
Run No: SR180188  
Nitrogen: 0.6442  
CO2: 1.1580  
Methane: 77.1279  
Ethane: 11.8137  
Propane: 5.5679  
I-Butane: 0.7749  
N-Butane: 1.4737  
I-Pentane: 0.4292  
N-Pentane: 0.3600  
Hexane+: 0.6505  
BTU: 1275.1  
GPM: 19.4010  
SPG: 0.7473