

## Natural Gas Analysis Report

### SAN JUAN DIVISION

#### Sample Information

30-045-23866

| Sample Information |                         |
|--------------------|-------------------------|
| Sample Name        | HUMBLE N KIRTLAND 1E BH |
| TECH               | Tim Doering             |
| GC Serial          | GC1008B621              |
| Report Date        | 2015-07-22 09:25:16     |

#### Component Results

| Component Name   | Norm%    | Gross HV (Dry)<br>(BTU / Ideal cu.ft.) | Relative Gas<br>Density (Dry) | GPM (Dry)<br>(Gal. / 1000 cu.ft.) |
|------------------|----------|----------------------------------------|-------------------------------|-----------------------------------|
| Nitrogen         | 0.5343   | 0.0                                    | 0.00517                       | 0.059                             |
| Oxygen           | 0.0079   | 0.0                                    | 0.00009                       | 0.001                             |
| Methane          | 80.8674  | 818.7                                  | 0.44792                       | 13.753                            |
| Carbon Dioxide   | 1.3446   | 0.0                                    | 0.02043                       | 0.230                             |
| Ethane           | 9.8536   | 174.8                                  | 0.10230                       | 2.644                             |
| Propane          | 4.3630   | 110.0                                  | 0.06643                       | 1.206                             |
| I-Butane         | 0.6365   | 20.7                                   | 0.01277                       | 0.209                             |
| N-Butane         | 1.0942   | 35.8                                   | 0.02196                       | 0.346                             |
| I-Pentane        | 0.3870   | 15.5                                   | 0.00964                       | 0.142                             |
| N-Pentane        | 0.3811   | 15.3                                   | 0.00949                       | 0.139                             |
| Hexanes          | 0.2927   | 14.0                                   | 0.00871                       | 0.121                             |
| Heptanes         | 0.1935   | 10.7                                   | 0.00669                       | 0.090                             |
| Octanes          | 0.0432   | 2.7                                    | 0.00170                       | 0.022                             |
| Nonanes          | 0.0010   | 0.1                                    | 0.00004                       | 0.001                             |
| Hydrogen Sulfide | 0.0000   | 0.0                                    | 0.00000                       | 0.000                             |
| Water            | 0.0000   | 0.0                                    | 0.00000                       | 0.000                             |
| Total:           | 100.0000 | 1218.2                                 | 0.71335                       | 18.961                            |

#### Results Summary

| Result                                  | Dry      | Sat.     |
|-----------------------------------------|----------|----------|
| Total Normalized Mole%                  | 100.0000 | 100.0000 |
| Pressure Base (psia)                    | 14.730   |          |
| Flowing Temperature (Deg. F)            | 70.0     |          |
| Flowing Pressure (psia)                 | 50.0     |          |
| Gross Heating Value (BTU / Real cu.ft.) | 1222.4   | 1201.6   |
| Relative Density (G), Real              | 0.7155   | 0.7142   |
| Compressibility (Z) Factor              | 0.9966   | 0.9962   |
| Total GPM                               | 18.961   | 18.738   |

## Natural Gas Analysis Report

### SAN JUAN DIVISION

#### Sample Information

|             | Sample Information          |
|-------------|-----------------------------|
| Sample Name | HUMBLE N KIRTLAND 1E CASING |
| TECH        | Tim Doering                 |
| GC Serial   | GC1008B621                  |
| Report Date | 2015-07-22 09:31:34         |

#### Component Results

| Component Name   | Norm%    | Gross HV (Dry)<br>(BTU / Ideal cu.ft.) | Relative Gas<br>Density (Dry) | GPM (Dry)<br>(Gal. / 1000 cu.ft.) |
|------------------|----------|----------------------------------------|-------------------------------|-----------------------------------|
| Nitrogen         | 0.5206   | 0.0                                    | 0.00504                       | 0.057                             |
| Oxygen           | 0.0049   | 0.0                                    | 0.00005                       | 0.000                             |
| Methane          | 81.1798  | 821.8                                  | 0.44965                       | 13.805                            |
| Carbon Dioxide   | 1.3473   | 0.0                                    | 0.02047                       | 0.231                             |
| Ethane           | 9.8549   | 174.8                                  | 0.10231                       | 2.644                             |
| Propane          | 4.3675   | 110.1                                  | 0.06650                       | 1.207                             |
| I-Butane         | 0.6377   | 20.8                                   | 0.01280                       | 0.209                             |
| N-Butane         | 1.0894   | 35.6                                   | 0.02186                       | 0.345                             |
| I-Pentane        | 0.3828   | 15.4                                   | 0.00954                       | 0.140                             |
| N-Pentane        | 0.3651   | 14.7                                   | 0.00910                       | 0.133                             |
| Hexanes          | 0.2145   | 10.2                                   | 0.00638                       | 0.088                             |
| Heptanes         | 0.0305   | 1.7                                    | 0.00106                       | 0.014                             |
| Octanes          | 0.0020   | 0.1                                    | 0.00008                       | 0.001                             |
| Nonanes          | 0.0030   | 0.2                                    | 0.00013                       | 0.002                             |
| Hydrogen Sulfide | 0.0000   | 0.0                                    | 0.00000                       | 0.000                             |
| Water            | 0.0000   | 0.0                                    | 0.00000                       | 0.000                             |
| Total:           | 100.0000 | 1205.4                                 | 0.70496                       | 18.876                            |

#### Results Summary

| Result                                  | Dry      | Sat.     |
|-----------------------------------------|----------|----------|
| Total Normalized Mole%                  | 100.0000 | 100.0000 |
| Pressure Base (psia)                    | 14.730   |          |
| Flowing Temperature (Deg. F)            | 70.0     |          |
| Flowing Pressure (psia)                 | 50.0     |          |
| Gross Heating Value (BTU / Real cu.ft.) | 1209.4   | 1188.9   |
| Relative Density (G), Real              | 0.7070   | 0.7058   |
| Compressibility (Z) Factor              | 0.9967   | 0.9963   |
| Total GPM                               | 18.876   | 18.655   |

## Natural Gas Analysis Report

### SAN JUAN DIVISION

#### Sample Information

| Sample Information |                             |
|--------------------|-----------------------------|
| Sample Name        | HUMBLE N KIRTLAND 1E TUBING |
| TECH               | Tim Doering                 |
| GC Serial          | GC1008B621                  |
| Report Date        | 2015-07-22 09:38:13         |

#### Component Results

| Component Name   | Norm%    | Gross HV (Dry)<br>(BTU / Ideal cu.ft.) | Relative Gas<br>Density (Dry) | GPM (Dry)<br>(Gal. / 1000 cu.ft.) |  |
|------------------|----------|----------------------------------------|-------------------------------|-----------------------------------|--|
| Nitrogen         | 0.5510   | 0.0                                    | 0.00533                       | 0.061                             |  |
| Oxygen           | 0.0049   | 0.0                                    | 0.00005                       | 0.000                             |  |
| Methane          | 80.4624  | 814.6                                  | 0.44568                       | 13.685                            |  |
| Carbon Dioxide   | 1.3446   | 0.0                                    | 0.02043                       | 0.230                             |  |
| Ethane           | 9.9662   | 176.8                                  | 0.10347                       | 2.674                             |  |
| Propane          | 4.6231   | 116.6                                  | 0.07039                       | 1.278                             |  |
| I-Butane         | 0.6630   | 21.6                                   | 0.01331                       | 0.218                             |  |
| N-Butane         | 1.1649   | 38.1                                   | 0.02338                       | 0.368                             |  |
| I-Pentane        | 0.3722   | 14.9                                   | 0.00927                       | 0.137                             |  |
| N-Pentane        | 0.3664   | 14.7                                   | 0.00913                       | 0.133                             |  |
| Hexanes          | 0.2318   | 11.0                                   | 0.00690                       | 0.096                             |  |
| Heptanes         | 0.1788   | 9.9                                    | 0.00619                       | 0.083                             |  |
| Octanes          | 0.0648   | 4.1                                    | 0.00256                       | 0.033                             |  |
| Nonanes          | 0.0059   | 0.4                                    | 0.00026                       | 0.003                             |  |
| Hydrogen Sulfide | 0.0000   | 0.0                                    | 0.00000                       | 0.000                             |  |
| Water            | 0.0000   | 0.0                                    | 0.00000                       | 0.000                             |  |
| Total:           | 100.0000 | 1222.7                                 | 0.71633                       | 18.999                            |  |

#### Results Summary

| Result                                  | Dry      | Sat.     |  |
|-----------------------------------------|----------|----------|--|
| Total Normalized Mole%                  | 100.0000 | 100.0000 |  |
| Pressure Base (psia)                    | 14.730   |          |  |
| Flowing Temperature (Deg. F)            | 70.0     |          |  |
| Flowing Pressure (psia)                 | 210.0    |          |  |
| Gross Heating Value (BTU / Real cu.ft.) | 1226.9   | 1206.0   |  |
| Relative Density (G), Real              | 0.7185   | 0.7172   |  |
| Compressibility (Z) Factor              | 0.9966   | 0.9961   |  |
| Total GPM                               | 18.999   | 18.775   |  |



NEW MEXICO ENERGY, MINERALS  
& NATURAL RESOURCES DEPARTMENT

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OIL CONS. DIV DIST. 3

AUG 03 2015

BRADENHEAD TEST REPORT

(submit 1 copy to above address)

Date of Test 7/20/15 Operator Xto Energy API #30-0 452.3866  
Property Name Humble N Kintan Well No. 1E Location: Unit J Section 13 Township 30N Range 14W  
Well Status (Shut-In or Producing) Initial PSI: Tubing 195 Intermediate N/A Casing 198 Bradenhead 170

OPEN BRADENHEAD AND INTERMEDIATE TO ATMOSPHERE INDIVIDUALLY FOR 15 MINUTES EACH

| Testing | PRESSURE   |     |     |        |     |
|---------|------------|-----|-----|--------|-----|
|         | Bradenhead |     |     | INTERM |     |
|         | BH         | Int | Csg | Int    | Csg |
| TIME    |            |     |     |        |     |
| 5 min   |            |     | 200 |        |     |
| 10 min  |            |     | 202 |        |     |
| 15 min  |            |     | 205 |        |     |
| 20 min  |            |     | 208 |        |     |
| 25 min  |            |     | 210 |        |     |
| 30 min  |            |     | 212 |        |     |

|                 | FLOW CHARACTERISTICS                |              |
|-----------------|-------------------------------------|--------------|
|                 | BRADENHEAD                          | INTERMEDIATE |
| Steady Flow     | <input checked="" type="checkbox"/> |              |
| Surges          |                                     |              |
| Down to Nothing |                                     |              |
| Nothing         |                                     |              |
| Gas             | <input checked="" type="checkbox"/> |              |
| Gas & Water     |                                     |              |
| Water           |                                     |              |

If bradenhead flowed water, check all of the descriptions that apply below:

CLEAR \_\_\_\_\_ FRESH \_\_\_\_\_ SALTY \_\_\_\_\_ SULFUR \_\_\_\_\_ BLACK \_\_\_\_\_

5 MINUTE SHUT-IN PRESSURE BRADENHEAD 80 INTERMEDIATE \_\_\_\_\_

REMARKS: Gas analysis taken on 7/22/15, NMOED will witness  
New test on 7/30/15

By Ken Durham  
Sr Production Foreman  
(Position)

Witness \_\_\_\_\_

E-mail address \_\_\_\_\_