

**KANSAS CORPORATION COMMISSION**  
**ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST**

Form G-2  
(Rev. 8/88)

Type Test  
 Open Flow  
 Deliverability

Test Date: 3/21/15 API No. 15- 18721212 - 0000

|   |   |  |  |                             |                   |
|---|---|--|--|-----------------------------|-------------------|
| Company<br><b>Kerr McGee Oil &amp; Gas Onshore LP</b> |   | Lease<br><b>Santa Fe</b>                               |  | Well Number<br><b>21-3</b>  |                   |
| County<br><b>Stanton</b>                              | Location<br><b>330 FEL &amp; 660' FSL</b>   | Section<br><b>21</b>                                   | TWP<br><b>29S</b>                            | RNGE (E/W)<br><b>41W</b>    | Acres Attributed  |
| Field<br><b>Arroyo</b>                                | Reservoir<br><b>Morrow</b>                  | Gas Gathering Connection<br><b>APC</b>                 |  |                             |                   |
| Completion Date<br><b>4/1/2013</b>                    | Plug Back Total Depth<br><b>5546</b>        | Tubing Anchor<br><b>5334</b>                           |  |                             |                   |
| Casing Size<br><b>5.5</b>                             | Weight<br><b>15.5</b>                       | Interenal Diameter<br><b>4.95</b>                      | Set at                                       | Perforations<br><b>5386</b> | To<br><b>5470</b> |
| Tubing Size<br><b>2.375</b>                           | Weight<br><b>4.7</b>                        | Interenal Diameter<br><b>1.995</b>                     | Set at<br><b>5494</b>                        | Perforations<br><b>NA</b>   | To<br><b>NA</b>   |
| Type Completion (Describe)<br><b>Morrow</b>           | Type Fluid Production<br><b>Oil / Water</b> | Pump Unit or Traveling Plunger?<br><b>PUMPING UNIT</b> | Yes / No<br><b>PUMP</b>                      |                             |                   |
| Producing Thru (Annulus / Casing)<br><b>CSG</b>       | % Carbon Dioxide<br><b>1.512</b>            | % Nitrogen<br><b>2.631</b>                             | Gas Gravity - G <sub>g</sub><br><b>1.288</b> |                             |                   |
| Vertical Depth (H)<br><b>5428</b>                     | Pressure Taps<br><b>Flange</b>              | (Meter Run)<br><b>X</b>                                | (PROVER)                                     | Size<br><b>2.067</b>        |                   |
| Pressure Buildup:<br>Well on Line:                    | Shut in <u>03/20/15</u><br>Started _____    | 9:45 AM<br>(AM)(PM)                                    | Taken <u>03/21/15</u><br>Taken _____         | 9:45 AM<br>(AM)(PM)         | (AM)(PM)          |

**OBSERVED SURFACE DATA**

Duration of Shut-in **24 Hours**

| Static / Dynamic Property | Orifice Size inches | Circle One: Meter or Prover Pressure psig | Pressure Differential in (h) Inches H <sub>2</sub> O | Flowing Temperature t | Well Head Temperature t | Casing Wellhead Pressure (P <sub>w</sub> ) or (P <sub>i</sub> ) or (P <sub>e</sub> ) |      | Tubing Wellhead Pressure (P <sub>w</sub> ) or (P <sub>i</sub> ) or (P <sub>e</sub> ) |      | Duration (Hours) | Liquid Produced (Barrels) |
|---------------------------|---------------------|---|--|-----------------------|-------------------------|--|------|--|------|------------------|---------------------------|
|                           |                     |   |  |                       |                         | psig   | psia | psig   | psia |                  |                           |
| Shut-In                   |                     |   |  |                       |                         | 12.8   | 27.2 | PUMP   |      | 24               | 0                         |
| Flow                      | 0.500               | NA  | NA   | NA                    | NA                      | NA   | 0    | PUMP   |      | NA               | 0                         |

**FLOW STREAM ATTRIBUTES**

| Plate Coefficient (F <sub>b</sub> ) (F <sub>p</sub> ) Mcfd | Circle One: Meter or Prover Pressure psia | Pressure Extension Sqrt ((Pm)(Hw)) | Gravity Factor F <sub>g</sub> | Flowing Temperature Factor F <sub>t</sub> | Deviation Factor F <sub>pv</sub> | Metered Flow R (Mcfd) | GOR (Cubic Feet/ Barrel) | Flowing Fluid Gravity G <sub>m</sub> |
|--|---|------------------------------------|-------------------------------|---|----------------------------------|-----------------------|--------------------------|--------------------------------------|
| 1.219  | 14.4                                      | 0                                  | 0.881                         | 1.063                                     | 1.000                            | 0                     | 0                        | 0.000                                |

**(OPEN FLOW) (DELIVERABILITY) CALCULATIONS**

(P<sub>d</sub>)<sup>2</sup>= 0.74 (P<sub>w</sub>)<sup>2</sup>= 0 P<sub>d</sub>= \_\_\_\_\_ % (P<sub>e</sub>-14.4)+14.4= \_\_\_\_\_ (P<sub>w</sub>)<sup>2</sup>=0.207 (P<sub>d</sub>)<sup>2</sup>= \_\_\_\_\_

| (P <sub>e</sub> ) <sup>2</sup> -(P <sub>a</sub> ) <sup>2</sup> or (P <sub>e</sub> ) <sup>2</sup> -(P <sub>d</sub> ) <sup>2</sup> | (P <sub>e</sub> ) <sup>2</sup> -(P <sub>w</sub> ) <sup>2</sup> | Choose formula 1 or 2:<br>1. P <sub>e</sub> <sup>2</sup> -P <sub>a</sub> <sup>2</sup><br>2. P <sub>e</sub> <sup>2</sup> -P <sub>d</sub> <sup>2</sup><br>divided by P <sub>e</sub> <sup>2</sup> -P <sub>w</sub> <sup>2</sup> | LOG of formula 1. or 2. (P <sub>e</sub> <sup>2</sup> -P <sub>w</sub> <sup>2</sup> ) and divide by: | Backpressure Curve Slope = "n" ----- or ----- Assigned Standard Slope | n x LOG() | Antilog | Open Flow Deliverability Equals R x Antilog Mcfd |
|--|--|---|--|---|-----------|---------|--|
| 0.533  | 0.740  | 0.72  | -0.143   | 0.850   | -0.122    | 0.756   | 0  |

**Open Flow** 0 Mcfd @ 14.65 psia **Deliverability** Mcfd @ 14.65 psia

The undersigned authority, on behalf of the Company, states that he is duly authorized to make the above report and that he has knowledge of the facts stated therein, and that said report is true and correct. Executed this the 21 th day of March 2015

Witness (if any)

For Commission

Thomas L. Walsh  
For Company

Received  
KANSAS CORPORATION COMMISSION

APR 07 2015

CONSERVATION DIVISION  
WICHITA, KS

*Thomas L. Walsh*  
Checked by

KCC WICHITA

MAY 11 2015

RECEIVED

5-11-15

I declare under penalty or perjury under the laws of the state of Kansas that I am aut  
 exempt status under Rule K.A.R. 82-3-304 on behalf of the operator KEER McGEE OIL & GAS  
 and that the foregoing information and statements contained on this application form are true and correct to  
 the best of my knowledge and belief based upon gas production records and records of equipment installa-  
 tion and/or of type completion or upon use of the gas well herin named.

I hereby request a permanent exemption form open flow testing for the SANTA FE 21-3  
 gas well on the grounds that said well:

(Check One)

- is a coalbed methane producer
- is cycled on plunger lift due to water
- is a source of natural gas for injection into an oil reservoir undergoing ER
- is on vacuume at the present time; KCC approval Docket No. \_\_\_\_\_
- is incapable of producing at a daily rate in excess of 150 mcf/D

Date: 4/1/15

Signature: Madelin Brun

Title: PRODUCTION ENGINEER

**Instructions** All active gas wells must have at least on original G-2 form on file with the conservation division. If a gas well meets the eligibility criteria set out in KCC regulation K.A.R. 82-3-304, the operator may complete the statement provided above in order to obtain a testing exemption.

At some point during the succeeding calender year, wellhead shut-in pressure shall be measured after a minimum of 24 hours shut-in/buildup time and shall be reported on the front side of this form under "observed surface data." Shut-in pressure shall thereafter be reported yearley in the same manner.

The G-2 form conveying the newest shut-in pressure reading shall be filed with the Wichita office no later than thirty (30) days after the taking of the pressure reading. The form must be signed and dated on the front side as though it was a verified report of test results.

APR 1 2015  
 10:11 AM  
 KANSAS DEPARTMENT OF REVENUE  
 DIVISION OF OIL & GAS