

KANSAS CORPORATION COMMISSION
ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

Form G-2
(Rev. 8/98)

Type Test
 Open Flow
 Deliverability

Test Date: **3/5/14** API No. 15- **129 20541-0000**

| | | | | | | | |
|--|---|---|--|---|---|-------------------------------------|----------------------|
| Company ANADARKO E&P ONSHORE | | Lease McDOUGAL | | Well Number A-1 | | | |
| County MORTON | Location 1980FSL &660 FEL | Section 11 | TWP 33 | RNGE (E/W) 41 | Acres Attributed 0 | | |
| Field PANOMA UNALLOCATED | | Reservoir COUNCIL GROVE | | Gas Gathering Connection ANADARKO GATHERING | | | |
| Completion Date 10/01/81 | | Plug Back Total Depth 2670 | | Packer Set at N/A | | | |
| Casing Size 4.5 | Weight 10.5 | Internal Diameter 4.052 | Set at 3143 | Perforations 2512 | To 2646 | | |
| Tubing Size 2.375 | Weight 4.7 | Internal Diameter 1.995 | Set at 2649 | Perforations NA | To NA | | |
| Type Completion (Describe) SINGLE GAS | Type Fluid Production WATER | Reservoir Temp 130 | Pump Unit or Traveling Plunger? Pumping Unit | Yes / No Pmp | | | |
| Producing Thru (Annulus / Casing) Casing | | % Carbon Dioxide 0.119 | % Nitrogen 17.985 | Gas Gravity - G _g 0.727 | | | |
| Vertical Depth (H) 2579 | Pressure Taps Flange | | (Meter Run) X | (PROVER) | Size 4 | | |
| Pressure Buildup: Well on Line: | | Shut in 3/4/14 Started N/A | at 11:50 am at N/A | (AM)(PM) (AM)(PM) | Taken 3/5/14 Taken N/A | at 11:50 am at N/A | (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 ₂ O | Flowing Temperature t | Well Head Temperature t | Casing Wellhead Pressure (P _w) or (P _i) or (P _e) | | Tubing Wellhead Pressure (P _w) or (P _i) or (P _e) | | Duration (Hours) | Liquid Produced (Barrels) |
|---------------------------|---------------------|---|--|-----------------------|-------------------------|--|-------------|--|------|------------------|---------------------------|
| | | | | | | psig | psia | psig | psia | | |
| Shut-In | | | | | | 15 | 29.4 | Pmp | | 24 | |
| Flow | 0.625 | N/A | N/A | N/A | 60 | N/A | 0 | Pmp | | N/A | N/A |

FLOW STREAM ATTRIBUTES

| Plate Coefficient (F _b) (F _d) Mcfd | Circle One: Meter or Prover Pressure psia | Pressure Extension Sqrt ((P _m)(H _w)) | Gravity Factor F _g | Flowing Temperature Factor F _t | Deviation Factor F _{pv} | Metered Flow R (Mcfd) | GOR (Cubic Feet/ Barrel) | Flowing Fluid Gravity G _m |
|--|---|--|-------------------------------|---|----------------------------------|-----------------------|--------------------------|--------------------------------------|
| 1.892 | 14.4 | 0 | 1.173 | 1.063 | 1.000 | 0 | 0 | 0.000 |

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P_d)²= **0.864** (P_w)²= **0** P_d= **%** (P_e-14.4)+14.4= **(P_w)²=0.207**
(P_d)²= **_____**

| (P _d) ² -(P _a) ² or (P _d) ² -(P _w) ² | (P _d) ² -(P _w) ² | Choose formula 1 or 2: 1. P _e ² -P _a ² 2. P _e ² -P _w ² divided by P _e ² -P _w ² | LOG of formula 1. or 2. (P _e ² -P _w ²) and divide by: | Backpressure Curve Slope = "n" ----- or ----- Assigned Standard Slope | n x LOG() | Antilog | Open Flow Deliverability Equals R x Antilog Mcfd |
|--|--|---|--|---|---------------|--------------|--|
| 0.657 | 0.864 | 0.76 | -0.119 | 0.961 | -0.114 | 0.768 | 0 |

Open Flow

Deliverability

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 5th day of March 2014

Witness (if any)

Thomas L. Walsh
For Company

For Commission

Checked by

KCC WICHITA

APR 02 2014

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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 Anadarko E&P Onshore 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 installation 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 McDougal A-1 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: 3/31/14

Signature: Madeline Brown

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.

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