KANSAS CORPORATION COMMISSION ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

| Type Tes | Type Test: (See Instructions on Reverse Side) | | | | | | | | | | | | |
|---|---|---|--|---|--|---|---|--|-------------------------------------|-----------------------------|-------------------------------|---|--|
| Open Flow Deliverability | | | | Test Date | | | | | No. 15 023-21314-(| No. 15 23-21314-00-00 | | | |
| Company Noble Energy Inc | | | | | Lease Rogers | | | ··- | | | Well Number 24-32 | | |
| County Location Cheyenne NE-SW-SE-SW | | | | Section 32 | | | | RNG (E/W) 39W | | | Acres Attributed | | |
| Field Prairie Start | | | | | Reservoir Niobrara | | | Gas Gathering Connection Kinder Morgan | | | | | |
| Completion Date 6/6/2011 | | | | Plug Bac 1470' | Plug Back Total Depth 1470' | | | Packer Set at | | | | | |
| Casing Size Weight 7", 4-1/2" 17#, 11.6# | | | | Internal Diameter Set a 9-7/8", 6-1/4" 340'. | | | Perforations 1306' | | то 1335' | | | | |
| Tubing S 2-3/8: | Tubing Size Weight 2-3/8: 4.7# | | | Internal (1.995 | Internal Diameter Set at 1.995 | | | Perforations | | То | То | | |
| Type Cor Single | | n (De | escribe) | | | Type Fluid Production Saltwater | | | Pump Unit or Traveling Plung Yes | | Plunger? Yes | nger? Yes / No | |
| | | (Anı | nulus / Tubing |) | % C | % Carbon Dioxide | | | % Nitrogen | | Gas Gr | Gas Gravity - G | |
| Vertical Depth(H) Pressure Taps (Meter Run) (Prover) Size | | | | | | | | | | | | | |
| Pressure | Pressure Buildup: Shut in 6/11 20 11 at 9:00 (PM) Taken 20 at (AM) (PM) | | | | | | | | | | | | |
| Well on L | .ine: | | Started 6/22 | 2 2 | 0 11 at 2 | | _ | Taken | | 20 | at | (AM) (PM) | |
| | | | | | T- | OBSERVE | D SURFACE | DATA | , | | Duration of Shut- | in 269 Hours | |
| Static / Dynamic Property | Size Meter Differ | | Pressure Differential in Inches H ₂ 0 | Flowing Well Head Temperature t | | Casing Wellhead Pressure (P _w) or (P _c) psig psia | | Tubing Welthead Pressure (P ₊) or (P _t) or (P _c) psig psia | | Duration (Hours) | Liquid Produced (Barrels) | | |
| Shut-In | | | | | | | 203 | μεια | parg | psia | | | |
| Flow | | | | | | | | | | | | | |
| | r | | | | | FLOW STR | EAM ATTRI | BUTES | | | | | |
| Plate Coeffiecient (F _b) (F _p) Mcfd | | | Circle one: Meter or ver Pressure psia | Press Extension | Gravity Factor F _a | | Flowing emperature Factor F ₁₁ | Fa | iation ctor pv | Metered Flov R (Mcfd) | v GOR (Cubic Fe Barrel) | l Gravity l | |
| | | | | | | | | <u> </u> | | | | | |
| (OPEN FLOW) (DELIVERABILITY) CALCULATIONS $(P_a)^2 = 0.207$ $(P_c)^2 = $: $P_d = $ % $(P_c \cdot 14.4) + 14.4 = $: $(P_d)^2 = $ | | | | | | | | | | | | | |
| $(P_a)^2 - (P_a)^2$ or $(P_a)^2 - (P_a)^2$ | | (P _c) ² - (P _w) ² | | Thoose formula 1 or 2 1. $P_c^2 - P_a^2$ 2. $P_c^2 - P_a^2$ ivided by: $P_c^2 - P_a$ | 1. P ₂ -P ₂ LOG of formula 2. P ₂ -P ₃ 1. ro 2. LOG of formula 2. P ₂ -P ₃ 2. LOG of formula 2. P ₃ -P ₄ 2. LOG of formula 3. ro 2. LOG of formula | | Backpressure Curve Slope = "n"orAssigned Standard Slope | | n x 106 | | Antilog | Open Flow Deliverability Equals R x Antilog (Mcfd) | |
| | | | | | | | | | | | | | |
| Open Flow Mcfd @ 14.65 | | | | 65 psia | 5 psia Deliverability | | | Mcfd @ 14.65 psia | | | | | |
| | | - | • | id report is true | | | • | | | lovember Ao | rt and that he ha | s knowledge of | |
| | | | For Commi | ssion | | | _ | | U | Chec | ked by | EC 13-2011- | |

| | der penalty of perjury under the laws of the state of Kansas that I am authorized to request der Rule K.A.R. 82-3-304 on behalf of the operator Noble Energy Inc |
|--|--|
| and that the forest correct to the best of equipment insta | going pressure information and statements contained on this application form are true and at of my knowledge and belief based upon available production summaries and lease records allation and/or upon type of completion or upon use being made of the gas well herein named. |
| gas well on the gr | rounds that said well: |
| _ | 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 vacuum at the present time; KCC approval Docket No. is not capable of producing at a daily rate in excess of 250 mcf/D e to supply to the best of my ability any and all supporting documents deemed by Commission y to corroborate this claim for exemption from testing. |
| | Signature: Chey Johnson Title: Regulatory Analyst II |

Instructions:

If a gas well meets one of 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 claim exempt status for the gas well.

At some point during the current calendar year, wellhead shut-in pressure shall have been 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 yearly in the same manner for so long as the gas well continues to meet the eligibility criterion or until the claim of eligibility for exemption **IS** denied.

The G-2 form conveying the newest shut-in pressure reading shall be filed with the Wichita office no later than December 31 of the year for which it's intended to acquire exempt status for the subject well. The present signed and dated on the front side as though it was a verified report of annual test results.

DEC 13 2011



NATURAL GAS ANALYSIS

PROJECT NO.:

201110129

ANALYSIS NO.:

ACCOUNT NO.:

COMPANY NAME: NOBLE ENERGY

ANALYSIS DATE: SAMPLE DATE:

OCTOBER 30, 2011 OCTOBER 19, 2011

PRODUCER:

YUMA

TO:

LEASE NO.:

E1502321314

EFFECTIVE DATE: NOVEMBER 1, 2011

NAME/DESCRIP.:

ROGERS 24-32

FIELD DATA

JOSHUA WALTERS

CYLINDER NO.:

1125

SAMPLED BY: SAMPLE PRES.:

31

AMBIENT TEMP.:

SAMPLE TEMP.: SAMPLE TYPE:

69 **SPOT** **GRAVITY: VAPOR PRES.:**

FIELD COMMENTS: NO PROBE

LAB COMMENTS:

| | NORM. | GPM @ | GPM @ | |
|---------------------------|-----------------------|-----------|-------|-------|
| COMPONENTS | MOLE% | 14.65 | 14.73 | |
| HELIUM | 0.12 | - | - | |
| HYDROGEN | 0.01 | - | - | |
| OXYGEN/ARGON | 0.04 | - | - | |
| NITROGEN | 4.65 | - | - | |
| CO2 | 0.57 | - | • | |
| METHANE | 92.53 | - | - | |
| ETHANE | 1.44 | 0.383 | | 0.385 |
| PROPANE | 0.44 | 0.121 | | 0.121 |
| ISOBUTANE | 0.07 | 0.023 | | 0.023 |
| N-BUTANE | 0.08 | 0.025 | | 0.025 |
| ISOPENTANE | 0.02 | 0.007 | | 0.007 |
| N-PENTANE | 0.01 | 0.004 | | 0.004 |
| HEXANES+ | 0.02 | 0.009 | | 0.009 |
| TOTAL | 100.00 | 0.572 | | 0.574 |
| BTU @ 60 DEG F | | 14.65 | | 14.73 |
| NET DRY REAL = | | 880.3 | | 885.1 |
| NET WET REAL = | | 864.9 | | 869.7 |
| GROSS DRY REAL = | | 977.1 | | 982.5 |
| GROSS WET REAL = | | 960.0 | | 965.4 |
| RELATIVE DENSITY REAL (AI | R=1 @ 14.696 PSIA 60F |): 0.5937 | | |
| COMPRESSIBILITY FACTOR: | | 0.99801 | | |

NOTE: REFERENCE GPA 2261(ASTM D1945), 2145, & 2172 CURRENT PUBLICATIONS

THIS DATA HAS BEEN ACQUIRED THROUGH APPLICATION OF CURRENT STATE-OF-THE-ART ANALYTICAL TECHNIQUES. THE USE OF THIS INFORMATION IS THE RESPONSIBILITY OF THE USER. EMPACT ANALYTICAL SYSTEMS, ASSUMES NO RESPONSIBLITY FOR ACCURACY OF THE REPORTED INFORMATION NOR ANY CONSEQUENCES OF IT'S APPLICATION.

> EMPACT Analytical Systems, Inc. 365 S. Main St. Brighton, CO 80601 303-637-0150

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