

KANSAS CORPORATION COMMISSION
ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST



Type Test:

- Open Flow
 Deliverability

Test Date:

API No. 15
15-23-20983-00-00

Company Noble Energy Inc		Lease Douthit		Well Number 13-16	
County Cheyenne	Location N2-SW-NW-SW	Section 16	TWP 4S	RNG (E/W) 41W	Acres Attributed
Field Cherry Creek		Reservoir Niobrara		Gas Gathering Connection Southern Star/Kinder Morgan	
Completion Date 8/26/2011		Plug Back Total Depth 1346'		Packer Set at	
Casing Size 7", 4 1/2"	Weight 17#, 11.6#	Internal Diameter 9 7/8", 6 1/4"	Set at 116', 1386'	Perforations 1201'	To 1240'
Tubing Size	Weight	Internal Diameter	Set at	Perforations	To
Type Completion (Describe) Single (gas)		Type Fluid Production Saltwater		Pump Unit or Traveling Plunger? Yes / No No	
Producing Thru (Annulus / Tubing) Annulus		% Carbon Dioxide		% Nitrogen	
Vertical Depth(H)		Pressure Taps		(Meter Run) (Prover) Size	

Pressure Buildup: Shut in 9/1 20 11 at 10:05  (PM) Taken _____ 20 ____ at _____ (AM) (PM)
Well on Line: Started 9/22 20 11 at 11:00  (PM) Taken _____ 20 ____ at _____ (AM) (PM)

OBSERVED SURFACE DATA

Duration of Shut-in 505 Hours

Static / Dynamic Property	Orifice Size (Inches)	Circle one: Meter Prover Pressure psig (Pm)	Pressure Differential in Inches H ₂ O	Flowing Temperature t	Well Head Temperature t	Casing Wellhead Pressure (P _w) or (P _t) or (P _c)		Tubing Wellhead Pressure (P _w) or (P _t) or (P _c)		Duration (Hours)	Liquid Produced (Barrels)
						psig	psia	psig	psia		
Shut-In						210					
Flow											

FLOW STREAM ATTRIBUTES

Plate Coefficient (F _p) (F _p) Mcfd	Circle one: Meter or Prover Pressure psia	Press Extension $\sqrt{P_m \times h}$	Gravity Factor F _g	Flowing Temperature Factor F _{tt}	Deviation Factor F _{pv}	Metered Flow R (Mcfd)	GOR (Cubic Feet/ Barrel)	Flowing Fluid Gravity G _m

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P_c)² = _____ : (P_w)² = _____ : P_d = _____ % (P_c - 14.4) + 14.4 = _____ : (P_s)² = 0.207
(P_d)² = _____

(P _c) ² - (P _s) ² or (P _c) ² - (P _d) ²	(P _c) ² - (P _w) ²	Choose formula 1 or 2: 1. P _c ² - P _s ² 2. P _c ² - P _d ² divided by: P _c ² - P _w ²	LOG of formula 1, or 2, and divide by: $\frac{P_c^2 - P_w^2}{P_c^2 - P_s^2}$	Backpressure Curve Slope = "n" ----- Assigned Standard Slope	n x LOG $\left[\frac{P_c^2 - P_w^2}{P_c^2 - P_s^2} \right]$	Antilog	Open Flow Deliverability Equals R x Antilog (Mcfd)

Open Flow

Mcfd @ 14.65 psia

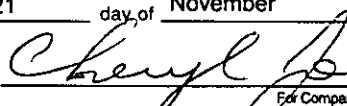
Deliverability

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 day of November, 20 11.

Witness (if any)

For Commission


For Company

Checked by

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KCC WICHITA

I declare under penalty of perjury under the laws of the state of Kansas that I am authorized to request exempt status under Rule K.A.R. 82-3-304 on behalf of the operator Noble Energy Inc and that the foregoing pressure information and statements contained on this application form are true and correct to the best of my knowledge and belief based upon available production summaries and lease records of equipment installation and/or upon type of completion or upon use being made of the gas well herein named.

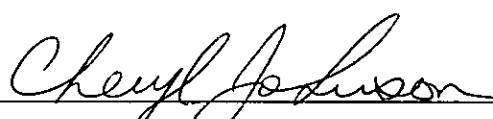
I hereby request a one-year exemption from open flow testing for the Douthit 13-16 gas well on the grounds that said well:

(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 vacuum at the present time; KCC approval Docket No. _____
- is not capable of producing at a daily rate in excess of 250 mcf/D

I further agree to supply to the best of my ability any and all supporting documents deemed by Commission staff as necessary to corroborate this claim for exemption from testing.

Date: 11/21/2011

Signature: 
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 form must be signed and dated on the front side as though it was a verified report of annual test results.

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NATURAL GAS ANALYSIS

PROJECT NO. :	201110131	ANALYSIS NO. :	06
COMPANY NAME :	NOBLE ENERGY	ANALYSIS DATE :	OCTOBER 29, 2011
ACCOUNT NO. :	YUMA	SAMPLE DATE :	OCTOBER 20, 2011
PRODUCER :		TO :	
LEASE NO. :	E1502320983	EFFECTIVE DATE :	NOVEMBER 1, 2011
NAME/DESCRIP. :	DOUTHIT 13-16		

FIELD DATA

SAMPLED BY :	M. MCCALL	CYLINDER NO. :	659
SAMPLE PRES. :		AMBIENT TEMP. :	
SAMPLE TEMP. :		GRAVITY :	
SAMPLE TYPE :		VAPOR PRES. :	
FIELD COMMENTS :			
LAB COMMENTS :			

<u>COMPONENTS</u>	<u>NORM. MOLE%</u>	<u>GPM @ 14.65</u>	<u>GPM @ 14.73</u>
HELIUM	0.10	-	-
HYDROGEN	0.00	-	-
OXYGEN/ARGON	0.04	-	-
NITROGEN	5.15	-	-
CO2	0.71	-	-
METHANE	92.22	-	-
ETHANE	1.24	0.330	0.332
PROPANE	0.35	0.096	0.096
ISOBUTANE	0.06	0.020	0.020
N-BUTANE	0.06	0.019	0.019
ISOPENTANE	0.02	0.007	0.007
N-PENTANE	0.01	0.004	0.004
HEXANES+	0.04	0.017	0.017
<u>TOTAL</u>	<u>100.00</u>	<u>0.493</u>	<u>0.495</u>

BTU @ 60 DEG F	<u>14.65</u>	<u>14.73</u>
NET DRY REAL =	872.1	876.9
NET WET REAL =	856.9	861.7
GROSS DRY REAL =	968.2	973.5
GROSS WET REAL =	951.3	956.6

RELATIVE DENSITY REAL (AIR=1 @ 14.696 PSIA 60F) : 0.5955

COMPRESSIBILITY FACTOR : 0.99803

*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.
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