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

Type Tes	t:				(	See Instru	ctions on Rev	rerse Side	<b>∌</b> )″		_		
	oen Flo eliverab				Test Date	<b>9</b> :				No. 15 023-21188-0	0-00		
Company Noble E		Inc		***************************************	-		Lease Rogers			20 21100 0		Well Number	
County Location Cheyenne SW-NE-NE-NW			Section 32				RNG (E/W) 39W		,	Acres Attributed			
Field Prairie Star					Reservoir Niobrara				hering Conne Morgan	ection			
Completi 6/1/201		е			Plug Bac 1494'	k Total De	pth		Packer S	et at			
Casing Size 7", 4-1/2"				Weight 17#, 11.6#		Internal Diameter 9-7/8", 6-1/4"		Set at <b>345', 1534'</b>		rations 1'	то 1315'		
Tubing Size Weight 2-3/8" 4.7#				Internal I 1.995	Diameter	Set a 1354			rations	То			
Type Completion (Describe) Single (gas)				Type Fluid Production Saltwater			Pump Unit or Traveling Plunger Yes		Plunger? Yes	/ No			
Producing	g Thru	(Ann	nulus / Tubinç	))	% (	% Carbon Dioxide			% Nitrogen		Gas Gra	Gas Gravity - G	
Vertical D	Depth(H	l)				Pre	ssure Taps	ŗ			(Meter F	Run) (Prover) Size	
Pressure	Buildu	p: \$	5/1	2	0 11 at 1	1:00	(AM) (PM)	Taken		20		(AM) (PM)	
Well on L	ine:	5	Started 6/1	2			_ (PM)	Taken		20	at	(AM) (PM)	
			· · · · · · · · · · · · · · · · · · ·			OBSERV	ED SURFACE	DATA			Duration of Shut-	744 Hours	
Static / Dynamic Property	Orifice Size (inches)  Orifice Size Prover Pressure psig (Pm)		Pressure Differential in Inches H <sub>2</sub> 0	Differential in Flowing Well Hear Temperature Temperature		Casing Wellhead Pressure (P <sub>w</sub> ) or (P <sub>1</sub> ) or (P <sub>c</sub> ) psig psia		Tubing Wellhead Pressure (P <sub>w</sub> ) or (P <sub>t</sub> ) or (P <sub>c</sub> ) psig psia		Duration Liq (Hours)	Liquid Produced (Barrels)		
Shut-In							180	<b>P</b> 0.0	Pog	pola			
Flow						FI OW ST	TOTAL ATTO	DUTES			· · · · · · · · · · · · · · · · · · ·		
			Circle and		<u> </u>	FLOW ST	REAM ATTRI	BUIES					
Plate Coeffiec (F <sub>b</sub> ) (F Mcfd	eient		Circle one: Meter or ver Pressure psia	Press Extension P <sub>m</sub> x h	Grav Fac F	tor	Flowing Temperature Factor F <sub>f1</sub>	Fa	riation actor = pv	Metered Flow R (Mcfd)	GOR (Cubic Fee Barrel)	Flowing Fluid Gravity G <sub>m</sub>	
		····			(ODEN EL	0)4/) (DELL	VED A DU ITV	041 011	ATIONS				
(D )2			/D \2 -		-	• •	VERABILITY)					2 = 0.207	
$(P_c)^2 = $ $(P_c)^2 - (I_c)^2 - ($	P <sub>e</sub> ) <sup>2</sup>	(P	c) <sup>2</sup> - (P <sub>w</sub> ) <sup>2</sup>	Choose formula 1 or 2  1. $P_c^2 - P_a^2$ 2. $P_c^2 - P_c^2$ divided by: $P_c^2 - P_a^2$	LOG of formula 1. or 2. and divide	P.2 - P.2	Backpres Slop  Ass	sure Curve e = "n" origned ard Slope	n x l	og [	(P <sub>d</sub> ) <sup>2</sup> Antilog	Open Flow Deliverability Equals R x Antilog (Mcfd)	
				avoided by 1 c 1 w	57.		Ciario					. ,	
		-											
Open Flow Mcfd @ 14.65 psia					Deliverability Mcfd @ 14.65 psia								
		-	•							•	t and that he ha	J	
tne facts s	tated th	ereir	n, and that sa	id report is true	and correc	t. Execute	d this the $\frac{27}{2}$	7//0	day of D	161	<u> </u>	RECEIVED	
	-		Witness (if	any)				<u> </u>	To	For Co	ompany		
		-	For Comm	ssion						Check	red by	DEC 2 8 201	

KCC WICHITA

I declare under penalty of perjury under the laws of the exempt status under Rule K.A.R. 82-3-304 on behalf of the ope and that the foregoing pressure information and statements correct to the best of my knowledge and belief based upon av of equipment installation and/or upon type of completion or up	contained on this application form are true and ailable production summaries and lease records on use being made of the gas well herein named.
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of equipment installation and/or upon type of completion or up	on use being made of the gas well herein named.
I hereby request a one-year exemption from open flow tes	Dames 24 22
	ting for the Rogers 21-32
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 app	roval Docket No.
is not capable of producing at a daily rate	in excess of 250 mcf/D
I fruither caree to comply to the best of my phility and and	
I further agree to supply to the best of my ability any and	• •
staff as necessary to corroborate this claim for exemption fro	m testing.
Date: 12/27/2011	
	2 / /
Signature:	up yourson
Title: Regula	atory 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.:

201109152

ANALYSIS NO.:

COMPANY NAME:

**NOBLE ENERGY** 

ANALYSIS DATE:

**OCTOBER 4, 2011** 

ACCOUNT NO.: PRODUCER:

YUMA

SAMPLE DATE: TO: **SEPTEMBER 21, 2011** 

LEASE NO.:

E1502321188

EFFECTIVE DATE: NOVEMBER 1, 2011

NAME/DESCRIP.:

**ROGERS 21-32** 

\*\*\*FIELD DATA\*\*\*

SAMPLED BY:

JOSHUA WALTERS

CYLINDER NO.:

0.99801

232

SAMPLE PRES.:

AMBIENT TEMP.:

SAMPLE TEMP.: 63 SAMPLE TYPE: **SPOT**  **GRAVITY:** VAPOR PRES.:

FIELD COMMENTS: NO PROBE

**COMPRESSIBILITY FACTOR:** 

LAB COMMENTS:

	NORM.	GPM @	GPM @	
COMPONENTS	MOLE%	14.65	14.73	
HELIUM	0.11	-	-	
HYDROGEN	0.00	-	-	
OXYGEN/ARGON	0.04	<b>-</b>	-	
NITROGEN	4.95	-	-	
CO2	0.70	-	-	
METHANE	92.05	•	-	
ETHANE	1.47	0.391		0.393
PROPANE	0.46	0.126		0.127
ISOBUTANE	0.08	0.026		0.026
N-BUTANE	0.09	0.028		0.028
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	0.591		0.594
BTU @ 60 DEG F		14.65		14.73
NET DRY REAL =		877.4		882.2
NET WET REAL =		862.1		866.9
GROSS DRY REAL =		973.9		979.3
GROSS WET REAL =		956.9		962.3
RELATIVE DENSITY REAL (A	IR=1 @ 14.696 PSIA 60F	): 0.5969		

## 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 RESPONSIBLITY 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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