

KANSAS CORPORATION COMMISSION

ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

Type Test:

- Open Flow
 Deliverability

(See Instructions on Reverse Side)

Test Date:

API No. 15
007-23999-0000

Company M&M Exploration, Inc.		Lease Z Bar		Well Number 8-1	
County Barber	Location 500 FNL 600 FEL	Section 8	TWP 34	RNG (E/W) 14W	Acres Attributed 160
Field Aetna Gas Area		Reservoir Mississippian		Gas Gathering Connection ONEOK	
Completion Date 05/06/2013		Plug Back Total Depth 5129'		Packer Set at None	
Casing Size 5.5	Weight 15.5	Internal Diameter 4.950	Set at 5160'	Perforations 4725'	To 4854'
Tubing Size 2.375	Weight 4.7	Internal Diameter 1.995	Set at 4712'	Perforations	To
Type Completion (Describe) Single (Gas)		Type Fluid Production Saltwater/Crude		Pump Unit or Traveling Plunger? Yes / No None	
Producing Thru (Annulus / Tubing) Tubing		% Carbon Dioxide 0.0847		% Nitrogen 1.9028	
Gas Gravity - G _g 0.6231		Vertical Depth(H)		Pressure Taps	
				(Meter Run) (Prover) Size	

Pressure Buildup: Shut in August 28 2013 at 12:15 (AM) (PM) Taken August 29 2013 at 12:15 (AM) (PM)

Well on Line: Started _____ 20____ at _____ (AM) (PM) Taken _____ 20____ at _____ (AM) (PM)

OBSERVED SURFACE DATA

Duration of Shut-in _____ 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 _i) or (P _c)		Tubing Wellhead Pressure (P _w) or (P _i) or (P _c)		Duration (Hours)	Liquid Produced (Barrels)
						psig	psia	psig	psia		
Shut-In						770	784.4	770	784.4		
Flow											

FLOW STREAM ATTRIBUTES

Plate Coefficient (F _b) (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_g)² = 0.207
(P_d)² = _____

(P _c) ² - (P _g) ² or (P _c) ² - (P _d) ²	(P _c) ² - (P _w) ²	Choose formula 1 or 2: 1. P _c ² - P _g 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: $\left[\frac{P_c^2 - P_w^2}{P_c^2 - P_g^2} \right]$	Backpressure Curve Slope = "n" or Assigned Standard Slope	n x LOG $\left[\frac{P_c^2 - P_w^2}{P_c^2 - P_g^2} \right]$	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 6th day of September 2013

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[Signature]

Witness (if any)

For Commission

For Company

Checked by

SEP 11 2013

CONSERVATION DIVISION
WICHITA, KS

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 M&M Exploration, 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 Z Bar 8-1 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 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: September 6, 2013

Signature: *M. M. M.*

Title: President

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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Z-Bar 8-1		API # 15-007-23999		Sec 8 Twp 34S Rge 14W			250#x100"x1.000					
DATE	Wtr Line Pessure	TBG	CSG	LP	DIFF	MCF	WKLY GAS	TOTAL GAS MO.	HRS. ON	REMARKS		
Jun-1							0.00		24			
Jun-2		1200	1240	70	70	229.25			12	turned to sales		
Jun-3	38	280	960	55	35	287.38			24	16/64"		
Jun-4	50	350	960	55	35	287.38			24			
Jun-5	55	360	940	70	25	274.01			24			
Jun-6	62	410	920	60	30	277.89			24			
Jun-7	62	460	910	60	20	226.90			24			
Jun-8	25	445	920	60	22	237.97	1820.78	1820.78	24	15/64"		
DATE	Wtr Line Pessure	TBG	CSG	LP	DIFF	MCF	WKLY GAS	TOTAL GAS MO.	HRS. ON	REMARKS		
Jun-9	40	460	905	55	20	217.24			24			
Jun-10	47	455	910	55	20	217.24			24			
Jun-11	54	440	900	55	17	200.28			24			
Jun-12	57	360	900	55	15	188.13			24			
Jun-13	15	330	900	60	19	221.15			24	pump thru wtr line		
Jun-14	35	335	865	60	24	248.56			24			
Jun-15	47	440	760	55	20	217.24			24			
Jun-16	53	485	760	60	15	196.50	1706.34	3527.13	24			
DATE	Wtr Line Pessure	TBG	CSG	LP	DIFF	MCF	WKLY GAS	TOTAL GAS MO.	HRS. ON	REMARKS		
Jun-17	54	380	880	50	20	207.13			24	17/64"		
Jun-18	63	365	840	55	35	287.38			24			
Jun-19	63	380	840	55	27	252.41			24			
Jun-20	63	445	840	60	30	277.89			24			
Jun-21	63	480	840	55	30	266.06			24			
Jun-22	62	470	820	45	35	259.95			24			
Jun-23	65	480	820	50	40	292.92			24			
Jun-24	67	460	840	48	40	287.01	2130.75	5657.88	24			
DATE	Wtr Line Pessure	TBG	CSG	LP	DIFF	MCF	WKLY GAS	TOTAL GAS MO.	HRS. ON	REMARKS		
Jun-25	24	390	780	50	40	292.92			24	17/64"		
Jun-26	33	420	800	50	40	292.92			24	pump thru wtr line		
Jun-27	42	440	800	50	35	274.01			24			
Jun-28	45	450	800	50	38	285.51			24			
Jun-29	52	445	820	50	40	292.92			24			
Jun-30	57	420	800	50	40	292.92			24			
							1731.21	7389.09				
TOTAL GAS PRODUCED			7389.09		MCF avg	246.30						
Fluid goes to 16-4 SWD												

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WICHITA, KS

Z-Bar 8-1		API # 15-007-23999		Sec 8 Twp 34S R 14W			250#x100"x1.000					
DATE	Wtr Line Press	TBG	CSG	LP	DIFF	MCF	WKLY GAS	TOTAL GAS MO.	HRS. ON	REMARKS	separator	
Jul-1	55	880	880	50	35	274.01			24			
Jul-2	65	418	780	50	32	262.00			24		78	
Jul-3	65	410	780	50	32	262.00			24	start chemical	80	
Jul-4	67	420	765	50	30	253.68			24		78	
Jul-5	65	400	780	50	30	253.68			24		90	
Jul-6	68	420	760	50	30	253.68			24		90	
Jul-7	66	440	750	50	30	253.68			24		90	
Jul-8	70	440	760	48	28	240.13	2052.85	2052.85	24		90	
Jul-9	60	438	750	50	28	245.08			24		85	
Jul-10	64	440	765	50	26	236.16			24		85	
Jul-11	67	390	738	50	26	236.16			24		85	
Jul-12	69	420	745	50	26	236.16			24		85	
Jul-13	62	400	740	50	26	236.16			24		84	
Jul-14	65	440	750	50	25	231.58			24		85	
Jul-15	67	420	740	50	25	231.58			24		90	
Jul-16	67	415	730	47	25	224.52	1877.41	3930.27	24		90	
Jul-17	45	410	745	55	25	242.88			24		88	
Jul-18	58	418	730	50	25	231.58			24		87	
Jul-19	60	420	745	55	23	232.96			24		90	
Jul-20	63	400	720	50	25	231.58			24		85	
Jul-21	66	400	725	50	25	231.58			24		90	
Jul-22	68	420	740	55	22	227.84			24		88	
Jul-23	67	395	720	55	23	232.96			24		82	
Jul-24	68	380	720	55	23	232.96	1864.34	5794.61	24		92	
Jul-25	60	380	705	50	24	226.90			24		95	
Jul-26	63	410	720	53	23	228.69			24		95	
Jul-27	57	425	720	50	25	231.58			24		95	
Jul-28	62	385	700	55	23	232.96			24		95	
Jul-29	67	380	700	50	25	231.58			24		95	
Jul-30	55	380	705	50	25	231.58			24		95	
Jul-31	66	390	710	55	23	232.96	1616.24	7410.85	24		95	
TOTAL GAS PRODUCED			7410.85		MCF avg	239.06						
Fluid goes to 16-4 SWD												

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Z-Bar 8-1		API # 15-007-23999		Sec 8 Twp 34S R 14W			250#x100"x1.000						
DATE	Wtr Line Press	TBG	CSG	LP	DIFF	MCF	WKLY GAS	TOTAL GAS MO.	HRS. ON	REMARKS	Separator		
Aug-1	65	365	690	50	22	217.24			24		95		
Aug-2	62	380	690	55	20	217.24			24		90		
Aug-3	63	345	680	55	20	217.24			24		90		
Aug-4	65	370	685	55	20	217.24			24		95		
Aug-5	67	350	680	55	20	217.24			24		95		
Aug-6	65	345	670	55	20	217.24			24		92		
Aug-7	65	365	680	55	19	211.74			24		95		
Aug-8	70	350	670	55	18	206.09	1721.26	1721.26	24		95		
Aug-9	43	370	680	55	18	206.09			24		95		
Aug-10	45	380	680	55	18	206.09			24		90		
Aug-11	53	375	680	55	18	206.09			24		98		
Aug-12	60	360	670	50	18	196.50			24		95		
Aug-13	64	330	660	50	18	196.50			24		95		
Aug-14	67	350	660	50	18	196.50			24		98		
Aug-15	67	340	660	50	18	196.50			24		95		
Aug-16	72	400	675	50	18	196.50	1600.77	3322.04	24		98		
Aug-17	60	320	650	50	18	196.50			24		95		
Aug-18	60	365	655	50	18	196.50			24		95		
Aug-19	64	340	650	50	18	196.50			24		98		
Aug-20	66	355	655	50	18	196.50			24		93		
Aug-21	70	360	640	50	18	196.50			24		95		
Aug-22	65	318	640	50	18	196.50			24		95		
Aug-23	67	350	650	50	18	196.50			24		100		
Aug-24	70	310	640	50	18	196.50	1572.00	4894.04	24		95		
Aug-25	57	340	640	50	18	196.50			24		95		
Aug-26	63	340	640	50	18	196.50			24		98		
Aug-27	67	300	625	50	18	98.25			12		95		
Aug-28	68	770	770	55	40	153.61			12	24 hr SI	95		
Aug-29	64	300	625	45	25	219.69			24		20		
Aug-30	63	300	700	45	20	196.50			24	clock stopped chg battery	95		
Aug-31	62	330	660	52	22	221.54	1282.60	6176.63	24		98		
TOTAL GAS PRODUCED			6176.63		MCF avg	199.25							
Fluid goes to 16-4 SWD													

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CONSERVATION DIVISION
WICHITA, KS

MEASUREMENT SOLUTIONS INC.

6705 East 81st Street Suite 155 Tulsa, OK 74133
Telephone 918-493-2700 Fax 918-493-2704

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6/16/2013

GAS ANALYSIS REPORT

METER NUMBER :	999999	SAMPLE TYPE :	SPOT
METER NAME :	Z-BAR 8-1	SAMPLE DATE :	06/10/2013
METER ID :	M & M EXPLORATION	SAMPLE PRES / TEMP :	51 / 97
PRODUCER :		SAMPLED BY :	MRM
COMPANY :	M & M EXPLORATION	EFFECTIVE DATE :	06/01/2013

<u>COMPONENT</u>		<u>PERCENT</u>	<u>BTU VALUES @ 14.65</u>		<u>BTU VALUES @ 14.73</u>	
Helium	He	0.0848	REAL DRY	1080.78	REAL DRY	1086.68
Oxygen	O2	0.0000	REAL WET	1061.86	REAL WET	1067.66
Hydrogen Sulfide	H2S	0.0000				
Carbon Dioxide	CO2	0.0847				
Nitrogen	N2	1.9028				
Methane	C1	90.4851	<u>GPM VALUES @ 14.65</u>		<u>GPM VALUES @ 14.73</u>	
Ethane	C2	4.5333	C2	1.2051	C2	1.2117
Propane	C3	1.7575	C3	0.4813	C3	0.4839
I-Butane	iC4	0.2108	iC4	0.0686	iC4	0.0690
N-Butane	nC4	0.4821	nC4	0.1512	nC4	0.1520
I-Pentane	iC5	0.1165	iC5	0.0424	iC5	0.0426
N-Pentane	nC5	0.1390	nC5	0.0501	nC5	0.0503
Hexane Plus	C6+	0.2034	C6+	0.0883	C6+	0.0887
TOTALS		100.0000		2.0870		2.0982

SPECIFIC GRAVITY

REAL DRY	0.6231
REAL WET	0.6232

COMPRESSIBILITY FACTOR

Z FACTOR DRY	0.9976
Z FACTOR WET	0.9976

GALLONS PER THOUSAND

GPM TOTALS @ 14.65

C2 + GPM	2.0870
C3 + PGM	0.8819
C4 + GPM	0.4006
C5 + GPM	0.1808

GPM TOTALS @ 14.73

C2 + GPM	2.0982
C3 + PGM	0.8865
C4 + GPM	0.4026
C5 + GPM	0.1816

COMMENTS :

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