

KANSAS CORPORATION COMMISSION ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

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JAN 23 2014

Type Test:

- Open Flow
 Deliverability

(See Instructions on Reverse Side)

Test Date:
01/14 to 01/15/14

API No. 15
145-21,513-00-00

KCC DODGE CITY

Company Bear Petroleum, LLC		Lease Woelk		Well Number 1-7	
County Pawnee	Location SWNE	Section 7	TWP 22S	RNG (E/W) 19W	Acres Attributed
Field Wildcat		Reservoir Herington		Gas Gathering Connection Bear Petroleum/Pawnee	
Completion Date 9/19/05		Plug Back Total Depth 2269 CIBP		Packer Set at none	
Casing Size 4.5	Weight	Internal Diameter	Set at 2486	Perforations 2216	To 2232
Tubing Size 2.375	Weight	Internal Diameter	Set at 2243	Perforations	To
Type Completion (Describe) single		Type Fluid Production SW		Pump Unit or Traveling Plunger? Yes / No yes - pump unit	
Producing Thru (Annulus / Tubing) annulus		% Carbon Dioxide .068		% Nitrogen 31.019	
Vertical Depth(H)		Pressure Taps flange		(Meter Run) (Prover) Size 2"	
Pressure Buildup: Shut in		1/10	20 14	at 9:30 am	(AM) (PM) Taken 1/13
Well on Line: Started		1/14	20 14	at 10:00 am	(AM) (PM) Taken 1/15
				at 9:30 am	(AM) (PM)
				at 11:15 am	(AM) (PM)

OBSERVED SURFACE DATA

Duration of Shut-in 72 Hours

Static / Dynamic Property	Orifice Size (inches)	Circle one: Meter Prover Pressure pslg (Pm)	Pressure Differential in Inches H ₂ O	Flowing Temperature t	Well Head Temperature t	Casing Wellhead Pressure (P _w) or (P _c) or (P _c)		Tubing Wellhead Pressure (P _w) or (P _c) or (P _c)		Duration (Hours)	Liquid Produced (Barrels)
						psig	psia	psig	psia		
Shut-In						552.0	566.4			72	
Flow	.500	81	21	45		112.2	126.6			25.25	

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 _t	Deviation Factor F _{pv}	Metered Flow R (Mcfd)	GOR (Cubic Feet/ Barrel)	Flowing Fluid Gravity G _m
1.219	95.4	44.76	1.209	1.015	-----	67		.684

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P_c)² = 320.808 : (P_w)² = 16.027 : P_d = _____ % (P_c - 14.4) + 14.4 = _____ : (P_a)² = 0.207
(P_d)² = _____

(P _c) ² - (P _a) ² or (P _c) ² - (P _d) ²	(P _c) ² - (P _w) ²	Choose formula 1 or 2: 1. P _c ² - P _a 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: $\left[\frac{P_c^2 - P_w^2}{P_c^2 - P_a^2} \right]$	Backpressure Curve Slope = "n" ----- or ----- Assigned Standard Slope	n x LOG $\left[\frac{P_c^2 - P_w^2}{P_c^2 - P_a^2} \right]$	Antilog	Open Flow Deliverability Equals R x Antilog (Mcfd)
320.601	304.781	1.052	.0220	.850	.0187	1.04	70
				assigned			

Open Flow 70 Mcfd @ 14.65 psia x .50 = Deliverability 35 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 16th day of January, 20 14.

Witness (if any)
No Witness Richard W. Lued
For Commission

[Signature]
For Company
GM, INC.
Checked by

KCC WICHITA

JAN 27 2014

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MEASUREMENT SOLUTIONS INC.

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

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10/21/2013

GAS ANALYSIS REPORT

METER NUMBER :	3500195	SAMPLE TYPE :	SPOT
METER NAME :	WOELK	SAMPLE DATE :	10/04/2013
METER ID :	BEAR PETROLEUM	SAMPLE PRES / TEMP :	81 / 75
PRODUCER :		SAMPLED BY :	GM
COMPANY :	BEAR PETROLEUM	EFFECTIVE DATE :	10/01/2013

<u>COMPONENT</u>		<u>PERCENT</u>	<u>BTU VALUES @ 14.65</u>		<u>BTU VALUES @ 14.73</u>	
Helium	He	1.1146	REAL DRY	690.68	REAL DRY	694.45
Oxygen	O2	0.0000	REAL WET	678.59	REAL WET	682.30
Hydrogen Sulfide	H2S	0.0000				
Carbon Dioxide	CO2	0.0680				
Nitrogen	N2	31.0193				
Methane	C1	67.0522	<u>GPM VALUES @ 14.65</u>		<u>GPM VALUES @ 14.73</u>	
Ethane	C2	0.5838	C2	0.1552	C2	0.1560
Propane	C3	0.1212	C3	0.0332	C3	0.0334
I-Butane	iC4	0.0185	iC4	0.0060	iC4	0.0061
N-Butane	nC4	0.0142	nC4	0.0045	nC4	0.0045
I-Pentane	iC5	0.0055	iC5	0.0020	iC5	0.0020
N-Pentane	nC5	0.0027	nC5	0.0010	nC5	0.0010
Hexane Plus	C6+	0.0000	C6+	0.0000	C6+	0.0000
TOTALS		100.0000		0.2019		0.2030

SPECIFIC GRAVITY

REAL DRY 0.6836
REAL WET 0.6826

COMPRESSIBILITY FACTOR

Z FACTOR DRY 0.9988
Z FACTOR WET 0.9987

GALLONS PER THOUSAND

GPM TOTALS @ 14.65
C2 + GPM 0.2019
C3 + PGM 0.0467
C4 + GPM 0.0135
C5 + GPM 0.0030

GPM TOTALS @ 14.73
C2 + GPM 0.2030
C3 + PGM 0.0470
C4 + GPM 0.0136
C5 + GPM 0.0030

COMMENTS :

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