

KANSAS CORPORATION COMMISSION ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

Type Test:

- Open Flow
 Deliverability

Test Date:
3/30 to 3/31/12

API No. 15
077-21652-00-01

Company M&M Exploration		Lease Williams-Misak		Well Number 1-5	
County Harper	Location S/2SESESE	Section 05	TWP 35S	RNG (E/W) 05W	Acres Attributed
Field		Reservoir Cherokee Sand	Gas Gathering Connection Atlas		
Completion Date 3/01/12 (re-completion)		Plug Back Total Depth 4930 CIBP	Packer Set at n one		
Casing Size	Weight	Internal Diameter	Set at 5300	Perforations 4560	To 4565
Tubing Size 2.875	Weight	Internal Diameter	Set at 4578	Perforations	To
Type Completion (Describe) single		Type Fluid Production Oil/SW	Pump Unit or Traveling Plunger? Yes / No No		
Producing Thru (Annulus / Tubing) Tubing		% Carbon Dioxide .194	% Nitrogen 19.0204	Gas Gravity - G _g .715	
Vertical Depth(H)		Pressure Taps flange		(Meter Run) (Prover) Size 2"	
Pressure Buildup: Shut in <u>3/27</u>		20 <u>12</u> at <u>9:30 am</u>	(AM) (PM) Taken <u>3/30</u>	20 <u>12</u> at <u>9:30 am</u>	(AM) (PM)
Well on Lino: Started <u>3/30</u>		20 <u>12</u> at <u>9:45 am</u>	(AM) (PM) Taken <u>3/31</u>	20 <u>12</u> at <u>10:00 am</u>	(AM) (PM)

OBSERVED SURFACE DATA

Duration of Shut-in 72 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						1477	1491.4	1075	1089.4	72	
Flow	.750	67	48.2	78		1394	1408.4	1035	1049.4	24.25	

FLOW STREAM ATTRIBUTES

Plate Coefficient (F _o) (F _s) 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 _{dv}	Metered Flow R (Mcfd)	GOR (Cubic Feet/ Barrel)	Flowing Fluid Gravity G _m
2.779	81.4	62.64	1.183	.9831	-----	203		.715

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P_e)² = 2224.273 ; (P_w)² = 1983.590 ; P_g = _____ % (P_c - 14.4) + 14.4 = _____ ; (P_g)² = 0.207
(P_g)² = _____

(P _o) ² - (P _e) ² or (P _o) ² - (P _w) ²	(P _o) ² - (P _w) ²	Choose formula 1 or 2: 1. P _e ² - P _w ² 2. P _o ² - P _w ² divided by: P _o ² - P _w ²	LOG of formula 1. or 2. and divide by: $P_o^2 - P_w^2$	Backpressure Curve Slope = "n" ----- Assigned Standard Slope	n x LOG []	Antilog	Open Flow Deliverability Equals R x Antilog (Mcfd)
2224.066	240.683	9.241	.9657	.898	.8672	7.365	1495

Open Flow **1495** Mcfd @ 14.65 psia X .50 = Deliverability **747.5** 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 17th day of April, 20 12.

RECEIVED

[Signature]

For Company

APR 18 2012

Witness (if any)

For Commission

Checked by

KCC WICHITA