

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special		Test Date 8-10-87		8-13-87							
Company MCKAY OIL CORPORATION			Connection AIR		C. O. A. / A. S. A. O. I. E.						
Pool WEST PECOS SLOPE			Formation ABO		Unit						
Completion Date 8-10-87		Total Depth 3400'		Plug Back TD 3332'	Elevation 4336 GL						
Casing Size 4-1/2" 9.5#		Set At 4.090	3400	Perforations: From 2788' To 3186'							
Tubing Size 2-3/8" 4.7#		Set At 1.995	2761'	Perforations: From -- To --							
Type Well - Single - Bradenhead - G.C. or G.O. Multiple Single				Packer Set At							
Producing thru Tubing		Reservoir Temp. °F 90 @ 2987	Mean Annual Temp. °F 60	Base Press. - P <sub>g</sub> 13.2							
L 2987	H 2987	G <sub>g</sub> 0.612	% CO <sub>2</sub> 0.106	% N <sub>2</sub> 6.039	% H <sub>2</sub> S 0.00						
Prover 2.00		Meter Run --		County Chaves							
State New Mexico											
FLOW DATA			TUBING DATA		CASING DATA						
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h <sub>w</sub>	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	Temp. °F	Duration of Flow
1	2.000	0.250	186	--	70	815	817	60	930	617	60
2	2.000	0.250	302	--	68	615	617	60	430	430	60
3	2.000	0.375	118	--	71	430	250	60	250	250	60
4	2.000	0.375	66	--	78	178		60			60
5											
RATE OF FLOW CALCULATIONS											
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P <sub>m</sub>	Flow Temp. Factor Ft.	Gravity Factor F <sub>g</sub>	Super Compress. Factor F <sub>pv</sub>	Rate of Flow Q <sub>std</sub>				
1	1.087	--	199.2	.9905	1.278	1.014	278				
2	1.087	--	315.2	.9924	1.278	1.024	445				
3	2.378	--	131.2	.9896	1.278	1.010	120				
4	2.378	--	79.2	.9831	1.278	1.006	60				
5											
NO.	F <sub>g</sub>	Temp. °K	T <sub>r</sub>	Z	Gas Liquid Hydrocarbon Ratio 0 Mcf/bbl.						
1	0.30	530	1.54	.972	A.P.I. Gravity of Liquid Hydrocarbons 0 Deg.						
2	0.48	528	1.53	.954	Specific Gravity Separator Gas 0.612		XX XX XX				
3	0.20	531	1.54	.981	Specific Gravity Flowing Fluid XXXXX						
4	0.12	538	1.56	.989	Critical Pressure 660 P.S.I.A.						
5					Critical Temperature 345 R						
P <sub>1</sub> 943.2		P <sub>2</sub> 889.6									
NO.	P <sub>1</sub> <sup>2</sup>	P <sub>w</sub>	P <sub>2</sub> <sup>2</sup>	P <sub>1</sub> <sup>2</sup> - P <sub>2</sub> <sup>2</sup>	(1) $\frac{P_1^2}{P_2^2 - P_1^2} = 4.439$						
1	889.2	689.2	200.4		(2) $\left[ \frac{P_1^2}{P_2^2 - P_1^2} \right]^n = 720$						
2	689.2	397.2	492.4								
3	443.2	196.4	693.2								
4	255.2	69.3	820.3								
5											
Absolute Open Flow 720 Mcfd @ 15.025		Angle of Slope @ 57.44									
Remarks: Well logging up with water on periods #3 and #4 (see chart). No fluid produced during test. Well too weak to use reverse.											
Approved By		Conducted By: D. Kelton		Calculated By: C. Sanders		Checked By: P. Stewart					