ENERGY AND MINERALS DEPARTMENT SANTA FE, NEW MEXICO 8750[illegible]

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File

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test: ☒ Initial ☐ Annual ☐ Special				Test Date: 7-20-87	(illegible)
Company: MCKAY OIL CORPORATION		Connection: AIR			O. C. D. ARTESIA, OFFICE
Pool: West Pecos Slope Abo		Formation: Abo			Unit:
Completion Date: 7-20-87	Total Depth: 3400'	Plug Back TD: 3310'	Elevation: 4396 GR		Farm or Lease Name: Pierce Federal
Csg. Size: 4-1/2" / Wt.: 9.5# / d: 4.090 / Set At: 3388'		Perforations: From 2812 To 3141.5			Well No.: #5
Tbg. Size: 2-3/8" / Wt.: 4.7# / d: 1.995 / Set At: 2777'		Perforations: From -- To --			Unit: G / Sec.: 5 / Twp.: 6S / Rge.: 22E
Type Well – Single – Bradenhead – G.G. or G.O. Multiple: Single		Packer Set At: --			County: Chaves
Producing Thru: Tubing	Reservoir Temp. °F: 90 @ 2976.75	Mean Annual Temp. °F: 60	Baro. Press. – P_a: 13.2		State: New Mexico

L	H	Gg	% CO_2	% N_2	% H_2S	Prover	Meter Run	Taps
2976.75	2976.75	0.622	None	5.356	0.00	2.000	--	--

NO.	FLOW DATA: Prover Line Size	X Orifice Size	Press. p.s.i.g.	Diff. h_w	Temp. °F	TUBING DATA: Press. p.s.i.g.	Temp. °F	CASING DATA: Press. p.s.i.g.	Temp. °F	Duration of Flow
SI						655		655		SI 72 HRS.
1.	2.000	.125	120	--	92	597	--	600	--	60 MIN.
2.	2.000	.250	45	--	93	518	--	520	--	60 MIN.
3.	2.000	.250	17	--	94	205	--	445	--	60 MIN.
4.	2.000	.250	14	--	96	120	--	395	--	60 MIN.
5.										

RATE OF FLOW CALCULATIONS

NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P_m	Flow Temp. Factor Ft.	Gravity Factor Fg	Super Compress. Factor, Fpv	Rate of Flow Q, Mcfd
1	.2648	--	133.2	.9706	1.268	1.008	44
2	1.0870	--	58.2	.9697	1.268	1.004	78
3	1.0870	--	30.2	.9688	1.268	1.002	40
4	1.0870	--	27.2	.9671	1.268	1.002	36
5							

NO.	P_t	Temp. °R	T_t	Z
1	0.20	552	1.57	0.984
2	0.09	553	1.58	0.993
3	0.05	554	1.58	0.996
4	0.04	556	1.58	0.997
5				

Gas Liquid Hydrocarbon Ratio 0 Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons 0 Deg.
Specific Gravity Separator Gas 0.622 XXXXXXXXX
Specific Gravity Flowing Fluid XXXXX
Critical Pressure 662 P.S.I.A. ____ P.S.I.A.
Critical Temperature 351 R ____ R

P_c 668.2 P_c^2 446.5

NO	P_t^2	P_w	P_w^2	$P_c^2 - P_w^2$
1		613.2	376.0	70.5
2		533.2	284.3	162.2
3		458.2	209.9	236.6
4		408.2	166.6	279.9
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 2.753$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 2.019$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 157.505$

Absolute Open Flow 158 Mcfd @ 15.025 Angle of Slope θ 55.25 Slope, n 0.694

Remarks: Well blown free of water prior to test. Period #1 & #2 stabilized, period #3 began decrease--logging up with water, period #4 logged off--made 1-1/2 bbls. water. Well too weak to use reverse-rate procedure

Approved By Division	Conducted By:	Calculated By:	Checked By:
	D. Kelton	C. Sanders	P. Stewart