

13
well file
2-13-72
Revised 9-1-70

NEW MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

RECEIVED
MAR 17 1972
U. S. GEOLOGICAL SURVEY
ARTESIA, NEW MEXICO
NMD456187

Type Test ☒ Initial ☐ Annual ☐ Special					Test Date 3/13/72	
Company Black River Corporation				Connection None		
Pool Washington <i>Ranch</i> Morrow				Unit E		
Completion Date 3/9/72		Total Depth 7072		Plug Back TD 7011		Elevation 3689
Farm or Lease Name Cities E Federal						Well No. 1
Csg. Size 4-1/2	Wt. 10.5	d 	Set At 7072	Perforations: From 6923 To 6970		Unit Sec. Twp. Rge. E 35 25S 24E
Teg. Size 2-7/8	Wt. 6.5	d 2.441	Set At 6874	Perforations: From To		County Eddy
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single				Packer Set At 6874		State New Mexico
Producing Taru Tubing		Reservoir Temp. °F 148 ° 6946		Mean Annual Temp. °F 60		Baro. Press. - P _a 13.2
L 6946	H 6946	Cg 0.570	% CO ₂ 0.6	% N ₂ 0.26	% H ₂ S -	Prover Meter Run 3"
Taps Flange						

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h _w	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	
1	SI 26 hrs.						2395			
2	3 x 1			300	20	87	2023	80	Packer	1
3	3 x 1			300	32	84	1880	83	Packer	1
4	3 x 1			305	47	77	1719	84	Packer	1
5	3 x 1			310	75	73	1460	84	Packer	1

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, Mcfa
1	4.789	79.2	313.2	0.9750	1.325	1.022	500.77
2	4.789	100.1	313.2	0.9777	1.325	1.023	635.30
3	4.789	122.3	318.2	0.9840	1.325	1.024	781.96
4	4.789	155.7	323.2	0.9877	1.325	1.025	1000.23

NO. P _r Temp. °R T _r Z				Gas Liquid Hydrocarbon Ratio <u>Dry</u> Mcf/bbl.			
				A.P.I. Gravity of Liquid Hydrocarbons <u>0.570</u> Dag.			
				Specific Gravity Separator Gas <u>0.570</u> XXXXXXXXX			
				Specific Gravity Flowing Fluid <u>XXXXX</u>			
				Critical Pressure <u>675</u> P.S.I.A. P.S.I.A.			
				Critical Temperature <u>348</u> °R °R			

P _r 2408.2 P _w 5799.4				(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.6013$		(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.556$	
NO.	P _r	P _w	P _r ²	P _w ²	P _r ² - P _w ²		
1	4146.1	2045.6	4184.5	1614.9			
2	3584.2	1893.9	3587.0	2212.4			
3	3000.5	1731.3	2997.4	2802.0			
4	2170.3	1475.7	2177.7	3621.7			

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.556$			
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Absolute Open Flow <u>1556</u> Mcfd @ 15.025		Angle of Slope θ <u>47°</u>		Slope, n <u>0.9383</u>	
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Remarks:			
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Approved By Commission:	Conducted By: J. T. Berry	Calculated By: J. T. Berry	Checked By:
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