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appropriate district office
See Rule 401 & Rule 1122

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-122
Revised 4-1-91

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

RECEIVED

OCT 18 1993

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator MITCHELL ENERGY						Lease or Unit Name APACHE 13 FEDERAL					
Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 9-22-93		Well No. 1			
Completion Date 9-21-93		Total Depth 14280		Plug Back TD 13950		Elevation 3342 KB		Unit Ltr. - Sec. - TWP - Rge. 13 22 30			
Csg. Size 4.50	Wt. 13.50	d 	Set At 14280	Perforations: From: 12836 To: 12844				County Eddy			
Tbg. Size 2 3/8	Wt. 4.7	d 1.995	Set At 12761	Perforations: From: To: 				Pool NE Livingston Ryland			
Type Well - Single - Bradenhead - G.G. or G.O. Multiple				Packer Set At 12761				Formation ATOKA			
Producing Thru Tbg		Reservoir Temp. °F 220 @ 12840		Mean Annual Temp. °F 60		Baro. Press - P _a 13.2		Connection			
L 12840	H 12840	Gg .666	% CO ₂ .84	% N ₂ .77	% H ₂ S .00	Prover .00	Meter Run 4.026	Taps Flange			

FLOW DATA					TUBING DATA		CASING DATA		Duration of Flow	
NO.	Prover Line Size	Orifice Size	Press. p.s.i.g.	Diff. h _w	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.		Temp. °F
SI						2991.	220.			4.5
1.	4.00 X 1.500		600.	13.0	75.	2959.	220.			1.0
2.	4.00 X 1.500		600.	52.0	70.	2919.	220.			1.0
3.	4.00 X 2.000		600.	32.0	70.	2874.	220.			1.0
4.	4.00 X 2.000		600.	51.0	66.	2835.	220.			1.0
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, F _{pv}	Rate of Flow Q, Mcfd
1.	.00	89.39	614.7	.9859	1.2254	1.0595	1200.
2.	.00	178.79	614.7	.9905	1.2254	1.0618	2400.
3.	.00	140.25	614.7	.9905	1.2254	1.0618	3440.
4.	.00	177.06	614.7	.9943	1.2254	1.0636	4343.
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Mcf/tbl.
1.	.92	535.	1.42	.891	A.P. I. Gravity of Liquid Hydrocarbons .0	Deg.
2.	.92	530.	1.41	.887	Specific Gravity Separator Gas .666	XXXXXXXXXX
3.	.92	530.	1.41	.887	Specific Gravity Flowing Fluid XXXXX	.666
4.	.92	526.	1.40	.884	Critical Pressure 672	P.S.I.A. 672. P.S.I.A.
5.					Critical Temperature 376	R 376. R

NO.	P _t ²	P _w	P _w ²	P _c ² - P _w ²
1.	****	2128.	4530.	100.
2.	****	2100.	4409.	220.
3.	****	2067.	4274.	356.
4.	****	2040.	4161.	469.
5.				

1) $\frac{P_c^2}{P_c^2 - P_w^2} = 9.8723$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 29273.$

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 6.7403$

Fast ID-2 11-19-93 comp & BK

Absolute Open Flow	29273.	Mcf @ 15.025	Angle of Slope θ	50.2	Slope, n	.833
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Remarks:

Approved By Division	Conducted By: Pro Well Testers	Calculated By: Jim Blount	Checked By: JB
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