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State of New Mexico,
Regy. Minerals and Natural Resources Depart

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Form C-122
Revised 4-1-91

OIL CONSERVATION DIVISION

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

JUL 23 1992

O. C. D.
DISTRICT OFFICE

File

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator CHI OPERATING ✓						Lease or Unit Name WINCHESTER FEDERAL					
Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 7-7-92		Well No. 1			
Completion Date 7-3-92		Total Depth 12000		Plug Back TD 6550		Elevation		Unit Ltr. - Sec. - TWP - Rge.			
Csg. Size 4 1/2	Wt. 11.6	d	Set At 12000	Perforations: From: 6146 To: 6300				County Eddy			
Tbg. Size 2 3/8	Wt. 4.7	d	Set At 6100	Perforations: From: To:				Pool			
Type Well - Single - Bradenhead - G.G. or G.O. Multiple				Packer Set At 6100				Formation Bone Springs			
Producing Thru TBG		Reservoir Temp. °F 135 @ 6100		Mean Annual Temp. °F 60		Baro. Press. P _a 13.2		Connection			
L **6100	H **6100	G _g .698	% CO ₂ 1.34	% N ₂ 1.99	% H ₂ S	Prover	Meter Run 3.068	Taps FLG			
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.	Temp. °F	Duration of Flow
SI							1950		PKR		48 hr.
1.	3 X 2.250			180	8.50	68	1845		"		1 hr.
2.	3 X 2.250			330	17.00	64	1720		"		1 hr.
3.	3 X 2.250			448	22.00	74	1560		"		1 hr.
4.	3 X 2.250			640	24.00	75	1260		"		1 hr.
5.											
RATE OF FLOW CALCULATIONS											
NO.	COEFFICIENT (24 HOUR)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor F _t	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd				
1.	28.78	40.52	193.2	.9924	1.197	1.021	1,407				
2.	28.78	76.38	343.2	.9962	1.197	1.040	2,726				
3.	28.78	100.73	461.2	.9868	1.197	1.047	3,585				
4.	28.78	125.21	653.2	.9859	1.197	1.078	4,584				
5.											
NO.	P _i	Temp. °R	T _i	%	Gas Liquid Hydrocarbon Ratio 64.1 Mcf/bbl						
1.	.23	528	1.37	.959	A.P.L Gravity of Liquid Hydrocarbons 60.2 @ 60° Deg.						
2.	.51	524	1.36	.925	Specific Gravity Separator Gas 698			XXXXXXXXXX			
3.	.68	534	1.39	.913	Specific Gravity Flowing Fluid			XXXXXX			
4.	.97	535	1.37	.830	Critical Pressure **672 P.S.I.A.			P.S.I.A.			
5.					Critical Temperature **384 R			R			
P _e **1966.8 P _c 3868.3											
NO.	P _i ²	P _w	P _w ²	P _e ² - P _w ²	1) $\frac{P_e^2}{P_e^2 - P_w^2} = 3.754$ (2) $\left[\frac{P_e^2}{P_e^2 - P_w^2} \right]^n = 2.644$						
1.	***	1916.7	3673.7	194.6	AOF = Q $\left[\frac{P_e^2}{P_e^2 - P_w^2} \right]^n = 12,120$						
2.	***	1830.0	3348.9	519.4							
3.	***	1772.5	3141.8	726.5							
4.	***	1684.6	2837.9	1030.4							
5.											
Absolute Open Flow 12,120 Mcfd @ 15.025				Angle of Slope θ 53.7				Slope, n .735			
Remarks: *Corrected to 1.99% Co₂. Well made 8.00 BBLs Condensate during test											
**=BHP Instrument set @ this depth.											
Approved By Division				Conducted By: Pro Well Testers				Calculated By: BM			
								Checked By: BM			

*** = Calculated from Known BHP'S