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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

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator AREAD & STEVENS					Lease or Unit Name CRYSTAL FEDERAL						
Type Test ☒ Initial ☐ Annual ☐ Special					Test Date 9-19-94		Well No. 1				
Completion Date 8-10-94		Total Depth 12,000		Plug Back TD 11692		Elevation		Unit, Ltr., Sec. TWP - Rge. 4-24S-26E			
Csg. Size 5 1/2	Wt. 17.2	d	Set A 12060'	Perforations: From: 11571 To: 11663			County EDDY				
Tbg. Size 2 3/8	Wt. 4.7	d 1.995	Set A 11385	Perforations: From: To:			Pool S. Goodshad Morrow				
Type Well - Single - Bradenhead - G.G. or - O. Multiple single				Packer Set At 11385'		Formation MARROW					
Producing Thru TBG.		Reservoir Temp. °F 60		Mean Annual Temp. °F 60		Baro. Press - P. 13.2		Connection ATMOSPHERE			
L	II	Gg .597	% CO ₂ 2.57	% N ₂ .28	% H ₂ S	Prover -0-	Meter Run 3.068	Taps FLG.			
FLOW DATA					TUBING DATA		CASING DATA				
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											
1.	3.068 X 1.000		30	2	80	1370					
2.	3.068 X 1.000		50	6.5	96	1350			PKR.		1 hr.
3.	3.068 X 1.000		80	17	120	1322			"		1 hr.
4.	3.068 X 1.000		80	50	83	850			"		1 hr.
5.						780			"		1 hr.
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.	4.789	9.30	43.2	.9813	1.294	1.002	57				
2.	4.789	20.27	63.2	.9671	1.294	1.005	122				
3.	4.789	39.81	93.2	.9469	1.294	1.004	235				
4.	4.789	68.26	93.2	.9786	1.294	1.005	416				
5.											
NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio DRY GAS Mcf/bbl						
1.	.06	540	1.53	.996	A.P. I. Gravity of Liquid Hydrocarbons DRY Deg.						
2.	.09	556	1.58	.990	Specific Gravity Separator Gas .597 XXXXXXXXXXXX						
3.	.13	580	1.65	.992	Specific Gravity Flowing Fluid XXXXXX						
4.	.13	543	1.54	.990	Critical Pressure *680 P.S.I.A. P.S.I.A.						
5.					Critical Temperature *351 R R						
P _c 1383.2 P _c ² 1913.2											
NO.	P _i ²	P _w	P _w ²	P _c ² - P _w ²	1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.498$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.289$						
1.	1363.2	1858.4	54.8								
2.	1335.4	1783.3	129.9								
3.	864.4	747.1	1166.1								
4.	797.2	635.6	1277.6								
5.											
Absolute Open Flow 536 Mcfd @ 15.025					Angle of Slope θ 58			Slope, n .6276			
Remarks: NO FLUID MADE DURING TEST * = CORRECTED TO 2.57% CO₂											
Approved By Division			Conducted By: PRO WELL TESTERS			Calculated By: BM			Checked By: BM		