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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

clsf

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator CHEVRON USA						Lease or Unit Name MARQUARDT FEDERAL					
Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 1-12-95		Well No. 2			
Completion Date 09/94		Total Depth 11,615		Plug Back TD 9850		Elevation		Unit Lr. - Sec. - TWP - Rge. F 12-25S-26E			
Csg. Size 5 1/2	Wt. 17#	d 4.892	Set At 10737	Perforations: From: 9661 To: 9699				County EDDY			
Tbg. Size 2-7/8	Wt. 6.5#	d 2.441	Set At 9610'	Perforations: From: To:				Pool			
Type Well - Single - Bradenhead - G.G. or G.O. Multiple single						Packer Set At 9610		Formation WOLFCAMP			
Producing Thru TBG.		Reservoir Temp. °F 167 @ 9610		Mean Annual Temp. °F 60		Baro. Press - P _a 13.2		Connection AIR			
L 9661	H 9661	Gg .669	% CO ₂ .24	% N ₂ .61	% H ₂ S	Prover		Meter Run 4.026	Taps 8lg.		

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						1560				
1.	4.026 X	2.250	371.20	6.3	73	1480		pk.		1 hr.
2.	4.026 X	2.250	383.70	19.4	77	1410				1 hr.
3.	4.026 X	2.250	409.30	31.4	72	1270				1 hr.
4.	4.026 X	2.250	435.70	46.2	73	1150				1 hr.
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.	25.64	49.21	384.4	.9877	1.223	1.039	1584
2.	25.64	87.75	396.9	.9840	1.223	1.040	2816
3.	25.64	115.18	422.5	.9887	1.223	1.043	3725
4.	25.64	144.01	448.9	.9877	1.223	1.045	4661
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio 53.275 Mcf/bbl.			
1.	.57	533	1.41	.927	A.P. I. Gravity of Liquid Hydrocarbons 63.5 @ 60° Deg.			
2.	.59	537	1.42	.924	Specific Gravity Separator Gas .669 XXXXXXXXXX			
3.	.63	532	1.41	.919	Specific Gravity Flowing Fluid .7255 XXXXXX GMIX .720			
4.	.67	533	1.41	.915	Critical Pressure 670 P.S.I.A. 668 P.S.I.A.			
5.					Critical Temperature 378 R 398 R			

NO.	P _c	P _w	P _w ²	P _c ² - P _w ²
1.	2229.6	1501.4	2254.1	220.8
2.	2025.5	1450.3	2103.4	371.5
3.	1646.6	1336.3	1785.8	689.2
4.	1353.0	1255.0	1575.0	900.00
5.				

1) $\frac{P_c^2}{P_c^2 - P_w^2} = 2.750$

2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.197$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 10,241$

$P_c = 1573.2$ $P_c^2 = 2475.0$

Absolute Open Flow 10,241 Mcfd @ 15.025	Angle of Slope Θ 52°	Slope, n .77815
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Remarks: **10 BBLS OF 63.5 GRAVITY OIL MADE DURING TEST.**

Approved By Division	Conducted By: PRO WELL TESTER	Calculated By: KS	Checked By: BM
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RECEIVED

JAN 20 1985

COD HOBBS
OFFICE