

Submit in duplicate to
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

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator Fina Oil & Chemical Co.				Lease or Unit Name Federal HH 33			
Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 12-19-91		Well No. 1	
Completion Date		Total Depth		Plug Back TD 12508		Elevation	
Csg. Size 5 1/2		Wt. 17#		Set At 12508		Perforations: From: 12462 To: 12478	
Tbg. Size 2 3/8"		Wt. 4.7		Set At 12039		Perforations: From: To:	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single				Packer Set At 12039		Formation Morrow	
Producing Thru tubing		Reservoir Temp. °F 199 @ 12462		Mean Annual Temp. °F 60		Baro. Press - P _a 13.2	
L 12462		H 12462		Gg .640		% CO ₂ 1.18	
				% N ₂ .67		% H ₂ S	
				Prover		Meter Run 2.067	
						Taps flange	

FLOW 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							3560		PKR		72 hrs.
1.	2	X	1.250	520	3.00	32	3340		PKR		1 hr.
2.	2	X	1.250	530	5.00	40	3120		PKR		1 hr.
3.	2	X	1.250	660	10.00	41	2700		PKR		1 hr.
4.	2	X	1.250	660	16.00	44	2490		PKR		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 F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1.	8.120	39.99	533.2	1.028	1.250	1.071	447
2.	8.120	52.12	543.2	1.020	1.250	1.072	578
3.	8.120	82.05	673.2	1.019	1.250	1.080	917
4.	8.120	103.78	673.2	1.016	1.250	1.080	1156
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio A.P. I. Gravity of Liquid Hydrocarbons	DRY GAS DRY	Mcf/bbl. Deg.
1.	.79	492	1.32	.872	Specific Gravity Separator Gas .640	XXXXXXX	
2.	.80	500	1.34	.870	Specific Gravity Flowing Fluid	XXXXXX	
3.	.99	501	1.35	.857	Critical Pressure **674	P.S.I.A.	P.S.I.A.
4.	.99	504	1.35	.857	Critical Temperature **371	R	R
5.							

P_c 3573.2 P_c² 12767.8

NO.	P _i ²	P _w	P _w ²	P _c ² - P _w ²	1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.979$	2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.826$
1.		3355.0	11256.0	1511.8		
2.		3135.9	9833.9	2933.9		
3.		2719.3	7394.6	5373.2		
4.		2512.9	6314.7	6453.1		
5.						

$$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.111$$

Absolute Open Flow 2,111 Mcfd @ 15.025 Angle of Slope θ 48.6 Slope, n .882

Remarks: *=423'5 1/2" equiv. length calculated to a total length of 12462' of 1.995 I.D.

No fluid produced during test **= corrected to 1.18% CO₂

Approved By Division	Conducted By: Pro Well Testers	Calculated By: BM	Checked By: BM
----------------------	-----------------------------------	----------------------	-------------------