

Submit in duplicate to
appropriate district office
See Rule 401 & Rule 1122

State of New Mexico
Geology, Minerals and Natural Resources Department

Form C-122
Revised 4-1-91

clsf
File

OIL CONSERVATION DIVISION

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

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator KAISER - FRANCIS OIL COMPANY					Lease or Unit Name WILLOW LAKE				
Type Test ☒ Initial ☐ Annual ☐ Special					Test Date 5-11-92		Well No. 2		
Completion Date 4/28/92		Total Depth 11825		Plug Back TD 11703		Elevation 3006 GR		Unit Ltr. - Sec. - TWP - Rge. B 22 24S 28E	
Csg. Size 7"	Wt. 29	d 6.184	Set At 10463	Perforations: From: 11679 To: 11692			County EDDY		
Tbg. Size 2-7/8"	Wt. 6.5	d 2.441	Set At 11640	Perforations: From: - To: -			Pool Willow Lake		
Type Well - Single - Bradenhead - G.G. or G.O. Multiple SINGLE					Packer Set At 10202		Formation ATOKA		
Producing Thru TBG		Reservoir Temp. °F 190		Mean Annual Temp. °F 60		Baro. Press - P _a 13.2		Connection El Paso Nat. Gas	
L 11600	H 11600	Gg .595	% CO ₂ 1.35	% N ₂ .88	% H ₂ S -	Prover 0.	Meter Run 3.068	Taps FLG.	

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	SI PRESSURE					603				72 hr.
1.	3 X 1.000		335	6.00	98	590		PKR		1 hr.
2.	3 X 1.000		345	21.00	94	580		"		1 hr.
3.	3 X 1.000		360	40.00	94	550		"		1 hr.
4.	3 X 1.000		400	98.00	86	480		"		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.	4.789	45.71	348.2	.9653	1.296	1.021	280
2.	4.789	86.73	358.2	.9688	1.296	1.022	533
3.	4.789	122.18	373.2	.9688	1.296	1.022	751
4.	4.789	201.23	413.2	.9759	1.296	1.028	1253
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Dry Gas	Mc/bbl.
1.	.51	558	1.58	.959	A.P. I. Gravity of Liquid Hydrocarbons	Dry	Deg.
2.	.52	554	1.56	.958	Specific Gravity Separator Gas	.595	XXXXXXXXXX
3.	.55	554	1.56	.958	Specific Gravity Flowing Fluid	XXXXXX	
4.	.61	546	1.54	.947	Critical Pressure	*676	P.S.I.A.
5.					Critical Temperature	*353	R

P _c 665.2 P _c ² 442.5					1) $\frac{P_c^2}{P_c^2 - P_w^2} = 6.120$		(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 5.372$	
NO.	P _t ²	P _w	P _w ²	P _c ² · P _w ²	AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 6.731$			
1.		655.1	429.2	13.3				
2.		642.4	412.7	29.8				
3.		630.4	397.4	45.1				
4.		608.4	370.2	72.3				
5.								

Absolute Open Flow 6,731 Mcfd @ 15.025		Angle of Slope θ 47.1		Slope, n .928	
Remarks: ** BHP INSTRUMENT SET @ THIS DEPTH					
NO FLUID PRODUCED DURING TEST.					
Approved By Division		Conducted By: PRO WELL TESTERS		Calculated By: BM	
				Checked By: BM	

*=CORRECTED Co² too 1.35%