

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

JUL 13 1981

Type Test ☒ Initial FOUR POINT ☐ Annual		☐ Special		Test Date 6-30-81		1980 FSL	
Company FRED POOL <i>operating co.</i>		Connection AIR - NEW WELL				O. C. D. 1980 FEL ARTESIA, OFFICE	
Pool WILDCAT <i>also</i>		Formation ABO				Unit J	
Completion Date 6-17-81		Total Length 3193 3208		Plug Back TD 31083096		Elevation 4293KB	
Farm or Lease Name MCKNIGHT		Well No. 2		Unit J		Sec. 28 Twp. 6S Rge. 22E	
Coq. Size 4.50		Wt. 10.50		d 4.052		Set At 3208	
Perforations: From 2757 To 2810		Perforations: From OPEN To ENDED		County CHAVES		State NEW MEXICO	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple SINGLE		Packer Set At NONE		Prover 4.026		Meter Run FLANGE	
Producing Thru TUBING		Reservoir Temp. °F 98 ° 2783		Mean Annual Temp. °F 60		Buro. Press. - P ₀ 13.2	
L 2783		H 2783		Cq .675		% CO ₂ .35	
% N ₂ 15.53		% H ₂ S 0		Prover 4.026		Meter Run FLANGE	

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	
SI							960	88	1031.7	88.0	237.0
1.	4"	X	1"	420.	1.8	82	920	82	989.2	88.0	1.0
2.	4"	X	1"	440.	3.1	80	875	82	940.7	88.0	1.0
3.	4"	X	1"	400.	10.5	78	830	80	892.9	88.0	1.0
4.	4"	X	1"	500.	21.5	78	755	71	814.4	88.0	1.0
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	4.874	27.92	433.2	.9795	1.2172	1.0271	167.
2	4.874	37.48	453.2	.9813	1.2172	1.0287	224.
3	4.874	65.87	413.2	.9831	1.2172	1.0265	394.
4	4.874	105.04	513.2	.9831	1.2172	1.0325	633.
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NO.	R	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.		
1	.67	542.	1.61	.948	A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.		
2	.70	540.	1.60	.945	Specific Gravity Separator Gas _____		
3	.64	538.	1.60	.949	Specific Gravity Flowing Fluid _____		
4	.80	538.	1.60	.938	Critical Pressure _____ P.S.I.A.		
5					Critical Temperature _____ R		

F_c		F_c^2		1044.9		1091.8		$(1) \frac{P_c^2}{P_c^2 - P_w^2} = \underline{2.6826}$		$(2) \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = \underline{2.6826}$	
NO.	P_i	P_w	P_w^2	$P_c^2 - P_w^2$		$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = \underline{1,698.1}$					
1		1002.4	1004.8	87.0							
2		953.9	909.9	182.0							
3		906.1	821.0	271.0							
4		827.6	684.9	407.0							
5											

Absolute Open Flow	1,698.1	Mcf @ 15.025	Angle of Slope θ	45	Slope, n	1.0
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Remarks:

Approved By Division	Conducted By: DON BENNETT	Calculated By: WOHLFORD & JENKINS	Checked By:
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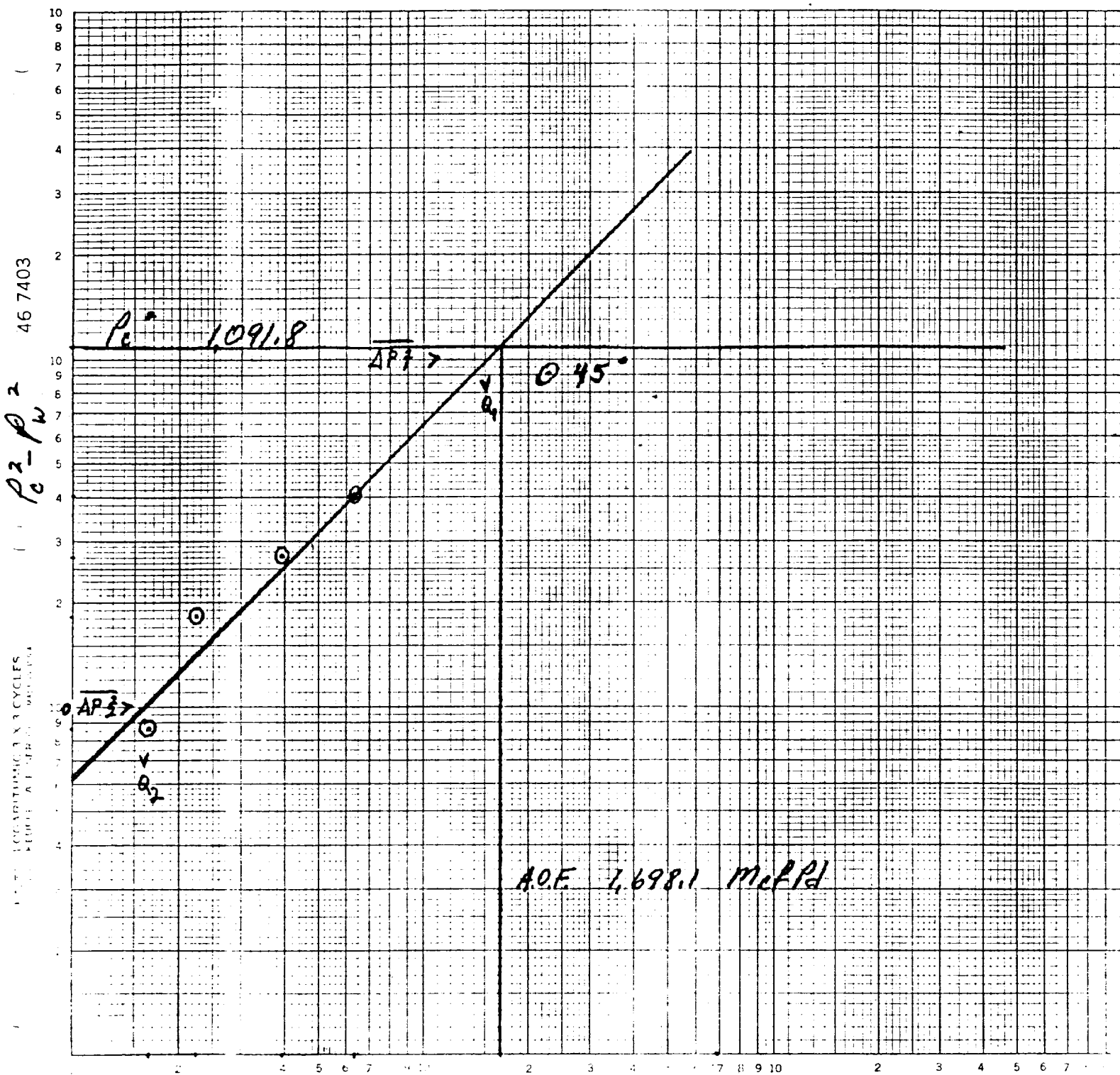
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Line 30, 1981
 11. Knight Well No 2
 Unit J, Sec 28, Twp 65, Rge 22E
 Chaves County



$\overline{AP_1} \quad P_c^2 - P_w^2 = 1,000$
 $\overline{AP_2} \quad P_c^2 - P_w^2 = 100$
 $Q_1 = 1550 \text{ Mcfd}$
 $Q_2 = 155 \text{ Mcfd}$

$\log Q_1 = 3.19033$
 $\log Q_2 = 2.19033$
 $N = 1.0000$

NEW-TEX LAB

P. O. BOX 1181
HOBBS, N.M. 88240

No. 5223
Run No. _____
Date of Run 7-1-81
Date Secured. _____

CERTIFICATE OF ANALYSIS

A Sample of Fred Pooler Jr. McKnight #2
Secured from Bennet Wireline
At Box 787 Secured by _____
Artesia, NM 88210 Time _____ Date _____
Sampling conditions _____ Press _____
Temp. _____

FRACTIONAL ANALYSIS

Percentage Composition

	MOL %	LIQ. %	G.P.M.
Carbon Dioxide	.352		
Air			
Nitrogen	15.577		
Oxygen			
Hydrogen sulfide			
Hydrogen			
Methane	77.899		
Ethane	3.395		.905
Propane	1.560		.428
Butanes			
Iso-Butane	.177		.058
N-Butane	.550		.173
Pentanes			
Iso-Pentane	.102		.037
N-Pentane	.180		.065
Hexanes	.112		.046
Heptanes	.096		.044
Octanes			
TOTAL	100.000		1.756

Calc. Sp. Gr. — 0.6745
Calc. A.P.I. — _____
Calc. Vapor Press. — _____ PSIA
Sp. Gr. _____
Mol. Wt. 19.54

LIQUID CONTENT (GAL./MCF)

Propane Calc. G.P.M. .428
Butanes Calc. G.P.M. .231
Pentanes Plus. G.P.M. .192
Ethane Calc. G.P.M. .905
RVP Gasoline G.P.M. _____
B.T.U./Cu. Ft. @ 14.696 P.S.I.A.
Dry Basis 932
Wet Basis 916
Sulfur Analysis by Titration
Gr./100 Cu. Ft. _____
Hydrogen Sulfide _____
Mercaptans _____
Sulfides _____
Residual Sulfur _____
Total Sulfur _____

Run by Deane Simpson Checked by _____ Approved by Deane Simpson

Additional Data and Remarks

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