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MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

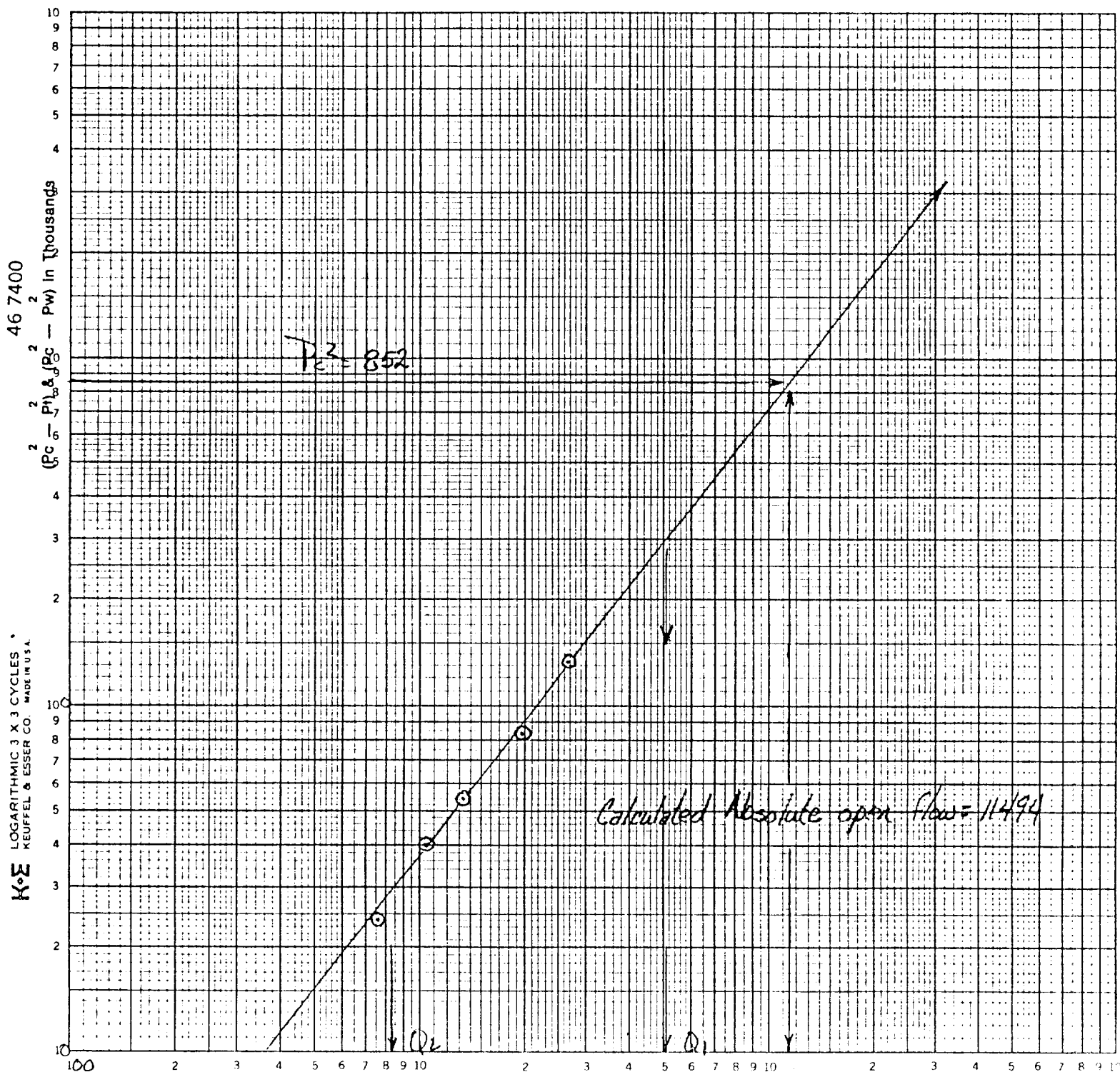
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ARTESIA OFFICE
TO AIR

Type Test 4 POINT ☒ Initial		☐ Annual		☐ Special		Test Date 5-23-86	
Company MCKAY OIL				Connection ARTESIA OFFICE			
Pool WEST PECOS SLOPE				Formation ABO		Unit	
Completion Date 5-22-86		Total Length 3293-3392'		Plug Back TD 3293		Elevation 4196	
Farm or Lease Name REMMELE FED		Well No. 5		Unit 25		Sec. Twp. Rge. 65 22E	
Csg. Size 4.5		Wt. 9.5		d 4.092		Set At 3347	
Thq. Size 2.375		Wt. 4.7		d 1.995		Set At 2835	
Perforations: From 2882		To 3183		Perforations: From OPEN		To ENDED	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple SINGLE				Packer Set At 0		County CHAVES	
Producing Thru TUBING		Reservoir Temp. °F 101 # 3032		Mean Annual Temp. °F 60		Baro. Press. - P _a 13.2	
L 3032		H 3032		G _g .619		% CO ₂ .098	
% N ₂ 5.665		% H ₂ S 0		Prover 2.00		Meter Run 0	
Taps 0							
FLOW DATA				TUBING DATA		CASING DATA	
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. hw	Temp. °F	Duration of Flow
SI							
1.	2.000	.1875	885	0.00	38	885	72
2.	2.000	.21875	878	0.00	43	878	72
3.	2.000	.250	865	0.00	44	865	72
4.	2.000	.3125	839	0.00	46	839	72
5.	2.000	.375	795	0.00	46	795	72
RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor F _t	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1	.6082	0.00	898.2	1.022	1.271	1.087	756
2	.8393	0.00	891.2	1.017	1.271	1.084	1048
3	1.087	0.00	878.2	1.016	1.271	1.080	1331
4	1.672	0.00	852.2	1.014	1.271	1.078	1980
5	2.378	0.00	808.2	1.014	1.271	1.074	2660
NO.	R ₁	Temp. °R	T ₁	Z	Gas Liquid Hydrocarbon Ratio 0 Mcf/bbl.		
1	1.36	498	1.43	.846	A.P.I. Gravity of Liquid Hydrocarbons 0 Deg.		
2	1.35	503	1.44	.851	Specific Gravity Separator Gas .619		
3	1.33	504	1.45	.857	Specific Gravity Flowing Fluid X X X X X		
4	1.29	506	1.45	.860	Critical Pressure 660 P.S.I.A.		
5	1.22	506	1.45	.867	Critical Temperature 348 R		
r _c 923.2 r _c ² 852					(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 6.4060$		
NO.	P ₁ ²	P _w	P _w ²	P _c ² - P _w ²	(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 4.3211$		
1		910.2	828	24	AOR = 0 $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 11494$		
2		901.2	812	40			
3		893.2	798	54			
4		876.2	768	84			
5		848.2	719	133			
Absolute Open Flow 11494 Mcfd @ 15.025					Angle of Slope @ 51.75		Slope, n .788
Remarks: NO FLUID							
Approved By Division							
Conducted By:							
Calculated By:							
Checked By:							

BACK PRESSURE CURVE

Operator McKay Oil Lease Remmele Fed Well No. 5
 County Chaves Field West Pecos Slope Location 25 65 22 E
 Date of Test 5-23-86 Slope "n" .788 Angle of Slope 51.75

Calc. Abs. Potential 11494 MCF/D



$$\overline{\Delta P}_1^2 \quad P_c^2 - P_w^2 = \underline{300}$$

$$\overline{\Delta P}_2^2 \quad P_c^2 - P_w^2 = \underline{30}$$

$$Q_1 = \underline{5156}$$

$$Q_2 = \underline{840}$$

Q in MCF/Day

$$\text{LOG } Q_1 = \underline{3.7123}$$

$$\text{LOG } Q_2 = \underline{2.9243}$$

$$n = \underline{0.788}$$

