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File

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

Form C-122
Revised 10-1-78
RECEIVED

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 6-18-87		OCT 29 '87	
Company HARVARD PETROLEUM				Connection TO AIR				G. C. D. ARTESIA, OFFICE	
Pool W. PECOS SLOPE ABO				Formation ABO				Unit	
Completion Date 6-15-87		Total Depth 4110		Plug Back TD 4110		Elevation 4062		Farm or Lease Name DOUBLE L	
Coq. Size 8.625	Wt. 24	d 3909	Set At	Perforations: From 3036 To 3260		Well No. 1			
Thq. Size 2.375	Wt. 4.7	d 1.995	Set At 3050	Perforations: From OPEN To ENDED		Unit Sec. Twp. Rge.			
Type Well - Single - Bradenhead - G.G. or G.O. Multiple SIGLE						Packer Set At NONE		County CHAVES	
Producing Thru TUBING		Reservoir Temp. °F #		Mean Annual Temp. °F 60		Baro. Press. -- P _g 13.2		State NEW MEXICO	
L 3148	H 3148	G _g .602	% CO ₂ .189	% N ₂ 5.958	% H ₂ S 0	Prover 2.000	Meter Run 0	Taps 0	

FLOW DATA						TUBING DATA		BHP DATA		Duration of Flow	
NO.	Prover Line Size	X	Crifice 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							860	75	855	75	72 HRS
1.	2.000	.09375		835	0.00	77°	835	77	832	77	60 MIN
2.	2.000	.125		800	0.00	77°	800	77	804	77	60 MIN
3.	2.000	.1875		710	0.00	77°	710	77	710	77	60 MIN
4.	2.000	.21875		590	0.00	77°	595	77	600	77	60 MIN
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	.1410	0.00	848.2	.9840	1.289	1.056	160
2	.2648	0.00	813.2	.9840	1.289	1.054	288
3	.6082	0.00	723.2	.9840	1.289	1.048	585
4	.8393	0.00	603.2	.9840	1.289	1.040	668
5							

NO.	P _g	Temp. °R	T _g	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.
1	1.28	537	1.57	.896	A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.
2	1.23	537	1.57	.900	Specific Gravity Separator Gas _____ XXXXXXXXX
3	1.09	537	1.57	.911	Specific Gravity Flowing Fluid _____ XXXXX
4	.91	537	1.57	.924	Critical Pressure _____ 660 P.S.I.A. _____ 660 P.S.I.A.
5					Critical Temperature _____ 341 R _____ 341 R

P _c 868.2 P _c ² 754				
NO.	P _i ²	P _w	P _w ²	P _c ² - P _w ²
1	719	845.2	714	40
2	661	817.2	668	86
3	523	723.2	523	231
4	370	613.2	376	378
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 3.26407$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1403.9$

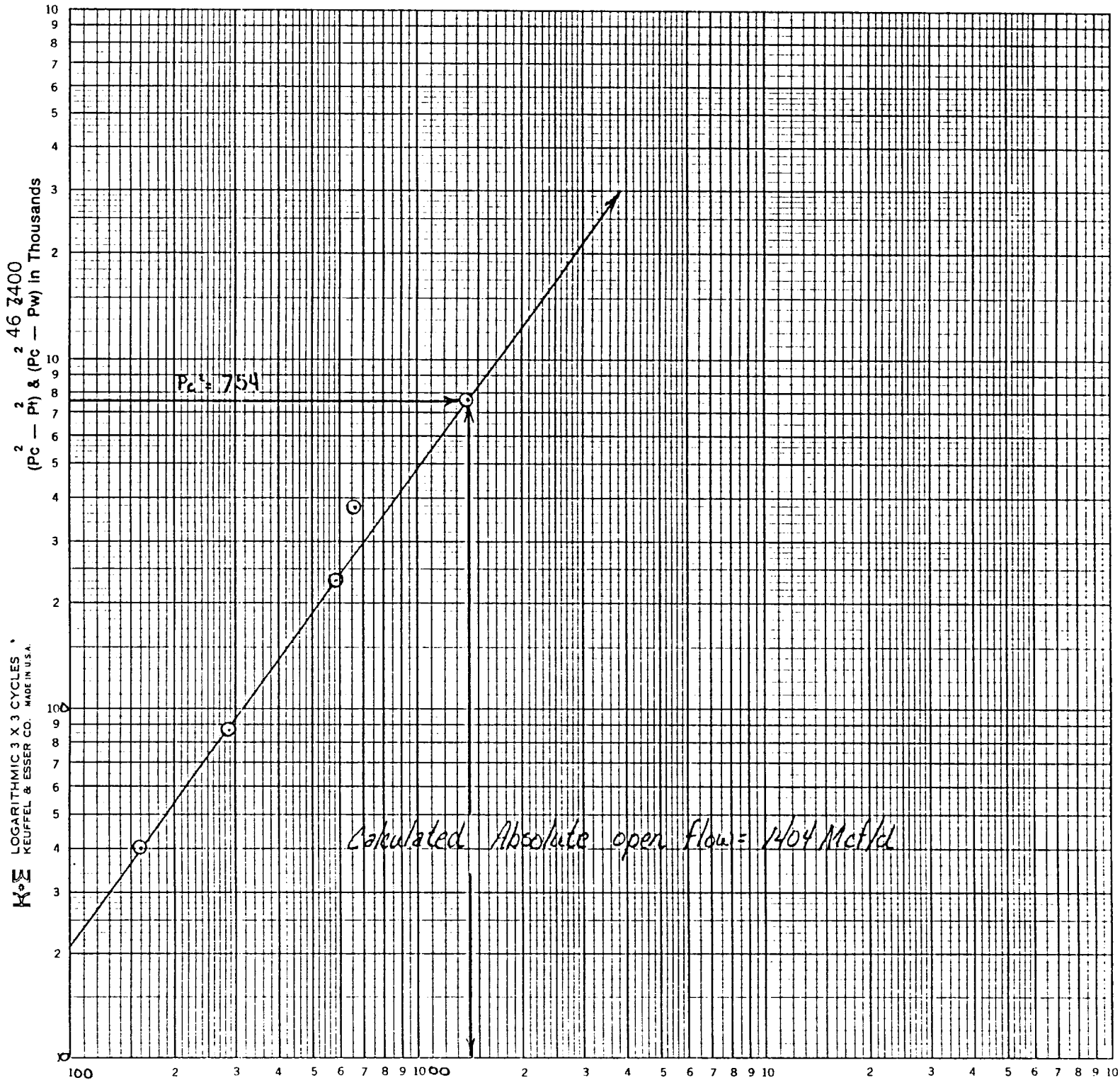
(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.3998$

Absolute Open Flow _____ 1404 _____ Mcfd @ 15.025	Angle of Slope α _____ 53.5 _____	Slope, n _____ 0.740 _____
Remarks: _____		
Approved By Division _____	Conducted By: _____	Calculated By: _____
Checked By: _____		

BACK PRESSURE CURV

Operator Harvard Petroleum Lease Double h Well No. 1
 County Chaves Field Pecos Slope Location _____
 Date of Test 6-18-87 Slope "n" 0.740 Angle of Slope 53.5

Calc. Abs. Potential _____ MCF/D



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

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

$$Q_1 =$$

$$Q_2 =$$

$$\text{LOG } Q_1 =$$

$$\text{LOG } Q_2 =$$

$$n =$$