

NEW MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
Revised 9-1-65

RECEIVED

Type Test ☐ Initial ☐ Annual ☒ Special				Test Date 8-11-73		AUG 23 1973	
Company ADOBE OIL COMPANY				Connection TRANSWESTERN PIPELINE CO.		O. C. C.	
Pool ROCK TANK <i>Lower Morrow</i>				Formation LOWER MORROW		Unit ARTESIA, OFFICE	
Completion Date 4-10-73		Total Depth 10,300		Plug Back TD 10,250		Elevation 3874 GR.	
Farm or Lease Name SMITH FEDERAL				Well No. 2			
Csg. Size 5 1/2	Wt. 17#	d 4.892	Set At 10,300	Perforations: From 10,185 To		Unit Sec. Twp. Rge. P 11 23S 24E	
Tub. Size 2 1/2	Wt. 6.5#	d 2.441	Set At 10,091	Perforations: From OPEN To ENDED			
Type Well - Single - Bradenhead - G.G. or G.O. Multiple G.G. MULTIPLE				Packer Set At 10,091		County EDDY	
Producing Thru TUBING		Reservoir Temp. °F 172 @ 10,200		Mean Annual Temp. °F 60		Baro. Press. - P _a 13.2	
State NEW MEXICO							
L 10,091	H 10,091	G _g 0.5834	% CO ₂ 0.76	% N ₂ 0.75	% H ₂ S TRACE	Prover	Meter Run 2"
						Taps 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							1454.0		PKR.	CHOKE	24.0 HR
1.	2" x 1.250			730.0	2.0	90	1270.0	80		8/64	1.0
2.	2" x 1.250			740.0	6.0	106	1027.0	80		12/64	1.0
3.	2" x 1.250			740.0	10.0	116	869.0	80		16/64	1.0
4.	2" x 1.250			740.0	14.0	120	780.0	80		20/64	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.	8.120	38.56	743.2	0.9723	1.310	1.049	418
2.	8.120	67.22	753.2	0.9585	1.310	1.043	715
3.	8.120	86.79	753.2	0.9501	1.310	1.040	912
4.	8.120	102.69	753.2	0.9469	1.310	1.039	1075
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	DRY GAS	Mcf/bbl.
1.	1.11	550	1.57	0.909	A.P.I. Gravity of Liquid Hydrocarbons		Deg.
2.	1.12	566	1.62	0.919	Specific Gravity Separator Gas	0.5834	XXXXXXX
3.	1.12	576	1.65	0.925	Specific Gravity Flowing Fluid	XXXXX	
4.	1.12	580	1.66	0.927	Critical Pressure	672	P.S.I.A.
5.					Critical Temperature	350	R

NO.	P _r ²	P _w ²	P _w ²	P _c ² - P _w ²
1.	1582.2	2503.4	817.0	
2.	1291.2	1667.2	1653.2	
3.	1166.2	1360.0	1960.4	
4.	1112.2	1237.0	2083.4	
5.				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.5937$

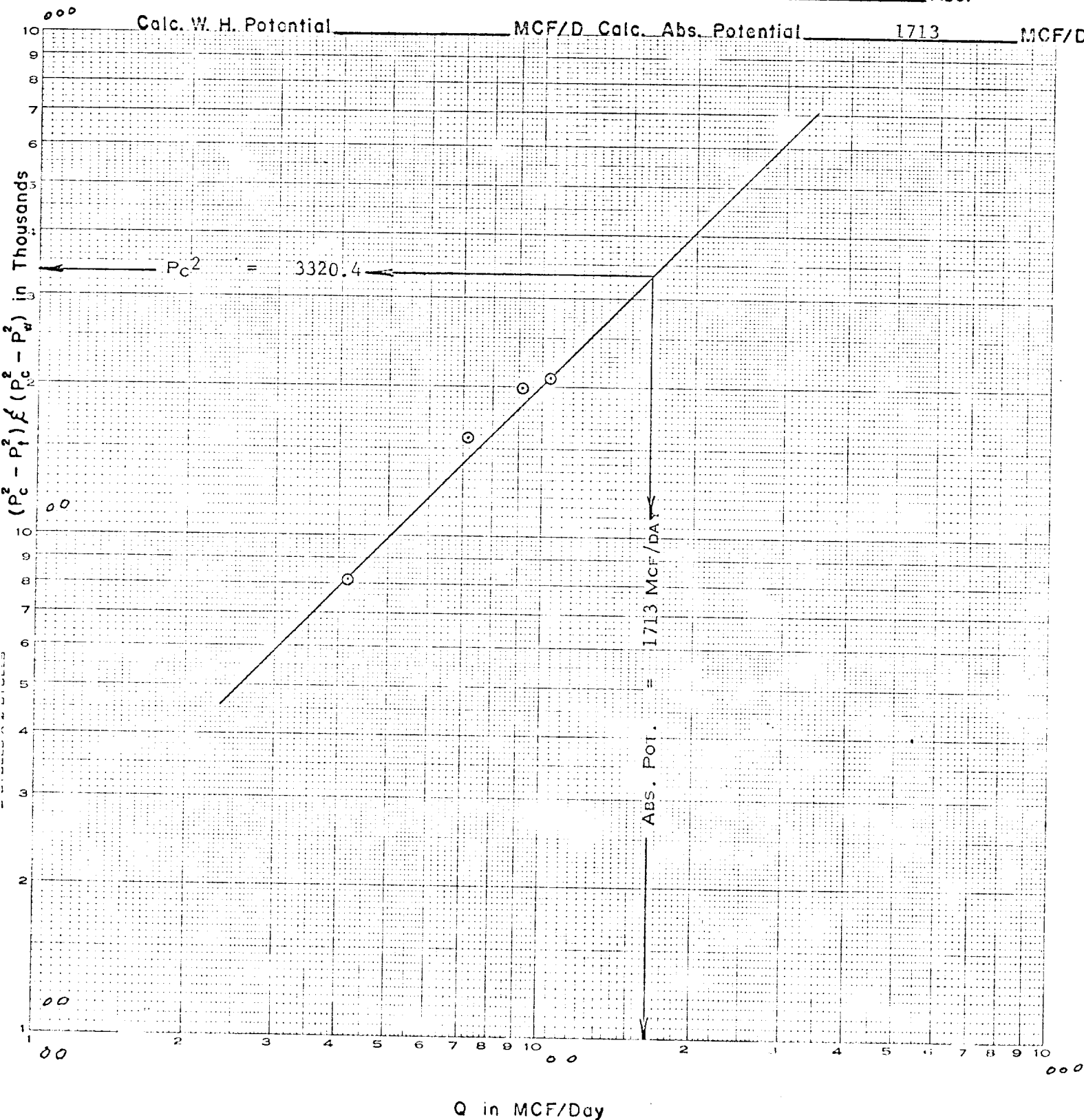
AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1713$

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.5937$

Absolute Open Flow 1713 Mcfd @ 15.025		Angle of Slope θ 45.0°		Slope, n 1.000	
Remarks: BOTTOM HOLE PRESSURES MEASURED WITH AMERADA GAUGE @ 10,200' LIMITED					
Approved By Commission		Conducted By D.A.T.		Calculated By R.L.W.	
				Checked By J.W.W.	

BACK PRESSURE CURVE

Operator ADOBE OIL COMPANY Lease SMITH FEDERAL Well No. 2
 County EDDY Field ROCK TANK, L. MORROW Location P, SEC. 11, T23S, R24E
 Date of Test 8-11-73 Slope "n" 1.00 LIMITED W.H. Abs.
 Calc. W. H. Potential MCF/D Calc. Abs. Potential 1713 MCF/D



ABS. SLOPE (N) = 1.000 LIMITED

$$\text{ABS. POT.} = 1075 \frac{3320.4}{2083.4} \times 1.00 = 1713 \text{ MCF/DAY}$$