

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

Form C-122
Revised 9-1-63

RECEIVED

MAY 15 1981

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 3-26-81			
Company Yates Petroleum Corporation /				Connection Transwestern Pipeline Co.				O.C.D. ARTESIA OFFICE	
Pool Boyd Morrow				Formation Morrow (Upper)				Unit	
Completion Date 1-12-81		Total Depth 9300'		Plug Back TD 8734 KB		Elevation 3615 KB		Farm or Lease Name Davis NC <i>Co.</i>	
Cas. Size 5 1/2	Wt. 17#	d 4.892	Set At 9299 KB	Perforations: From 8704 To 8708 KB				Well No. 1	
Tub. Size 2 3/8"	Wt. 4.7#	d 1.995	Set At 8734 KB	Perforations: From 8717 To 8720 KB				Unit Sec. Twp. Rje. I 11 19s 24e	
Type Well - Single - Dradhead - G.G. or G.O. Multiple 9.9. multiple						Packer Set At 8685 KB		County Eddy	
Producing Thru Tubing		Reservoir Temp. °F 146 # 8706		Mean Annual Temp. °F 62		Baro. Press. - P _g 13.2		State New Mexico	
L 8700	H 8700	G _g 0.592	% CO ₂ 0.70	% N ₂ 0.82	% H ₂ S N.7	Prover ---	Meter Run 2"	Taps flanged	

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							2367	64			Weeks
1.	2.067	X	1.000	630	2.5	60	2276	75			18 hrs
2.	2.067	X	1.000	552	.5	58	2178	76			24 hrs.
3.	2.067	X	1.000	460	10	60	2047	77			24 hrs.
4.	2.067	X	1.000	423	16	68	1648	78			24 hrs.
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	4.946	39.69	643.2	1.000	1.300	1.054	269
2	4.946	53.16	565.2	1.002	1.300	1.048	359
3	4.946	68.79	473.2	1.000	1.300	1.039	460
4	4.946	83.54	436.2	0.9924	1.300	1.034	551
5							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	A.P.I. Gravity of Liquid Hydrocarbons	Specific Gravity Separator Gas	Specific Gravity Flowing Fluid	Critical Pressure	Critical Temperature
1	0.954	520	1.477	.9005	---	---	0.592	XXXXXX	674	352
2	0.839	518	1.472	.9110						
3	0.702	520	1.477	.9258						
4	0.647	528	1.500	.9353						
5										

P _r 3172.2 P _c 10063		$(1) \frac{P_c^2}{P_r^2 - P_w^2} = 1.9597$ $(2) \left[\frac{P_c^2}{P_r^2 - P_w^2} \right]^n = 1.3999$	
NO.	P _r ²	P _w ²	P _w ² - P _r ²
1		3039	9236
2		2913	8485
3		2743	7524
4		2220	4928
5			

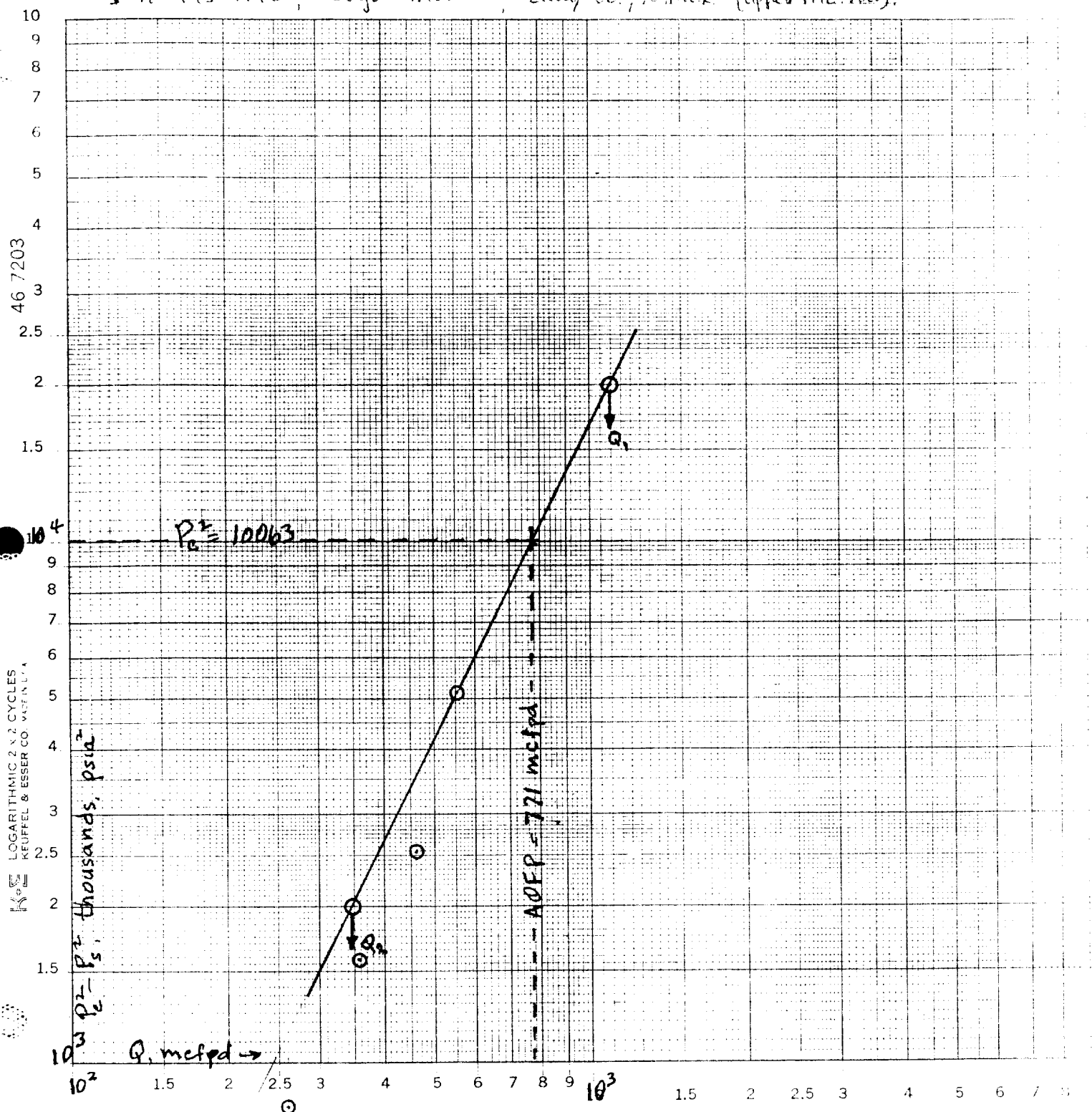
Absolute Open Flow 771 Mcfd @ 15.025		Angle of Slope 63.43 deg.		Slope, n 0.5000	
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Remarks: Static pressures by Bennett Wireline, flowing pressures by DWT. Calculations worksheet C122D attached.

Approved By Commission:	Conducted By: Danny Matthews	Calculated By: Eddie Mahfood	Checked By:
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YPC - Davis No. 1

I-11-14s-24E, Boyer Morrow, El Paso Co., N. Mex. (Upper Morrow).



$$Q_1 = 1094$$

$$\log Q_1 = 3.0390$$

$$Q_2 = 346$$

$$\log Q_2 = 2.5390$$

$$n = 0.5000$$

WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (Pw)

C-122D
Adopted 9-1-65

COMPANY YPC LEASE Davis NE WELL NO. 1 DATE 3-26-81

LOCATION: Unit I Section 11 Township 12S Range 24E

L 87003350 H (1.0014) G 0.5935 % CO₂ 0.70 % N₂ 0.52 % H₂S Nil
 d 1.9999 F_r 0.01657 GH 4929.5 P_{cr} 828 T_{cr} 409
 233 3712 (3482) 3404
 2-23 12 (1212) = 212
 574 (3404) 34841

LINE	S1	1	2	3	4	1	2	3	4
1 Q _m		0.269	0.354	0.460	0.551	0.269	0.354	0.460	0.551
2 F _w (W.H. °R)	524	535	536	537	538				
3 T _s (B.H. °R)	606	605	605	604	604				
4 T = $(\frac{F_w + T_s}{2})$	565	590	570.5	570.5	571	570.5			571
5 Z Est.)	0.6888	0.735	0.703	0.69	0.724	0.700			0.741
6 T ₂	389.172	413.95	401.662	404.435	413.404	399.350			423.111
7 G _H TZ	12.795	11.8857	12.4158	12.3107	12.045	12.469			11.769
8 e ^s (Table XIV)	1.6158	1.5616	1.59295	1.5867	1.5710	1.5961			1.5548
9 1-e ^s (Table XIV)		0.3596	0.3772	0.3698	0.3634	0.3735			0.3568
10 P _i	2.330.2	2.289.2	2.191.2	2.060.2	1.661.2	2.289.2			1.661.2
11 P _i 2/1000	566.535	524.014	480.14	424.44	275.959	524.014			275.956
12 F _r (Table XV) 0.375 $\frac{G_H}{Z}$	0.44571	0.44571	0.46559	0.46165	0.45167	0.46759			0.44135
13 F _c = F _r TZ	6.942	6.646	6.646	6.7023	6.8501	6.6172			7.011
14 F _c Q _m		1.367	2.386	3.023	3.724	1.780			3.863
15 L/H (F _c Q _m) ²		3.437	5.092	4.505	14.226	3.168			14.923
16 F _w = L/H (F _c Q _m) ² (1-e ^s)		1.25	2.1	3.5	5.0	1.2			5.3
17 P _w ² = P _i ² + F _w		5241.69	4803.5	4247.9	2764.72	5241.6			2764.7
18 P _s ² = e ^s P _w ²		818.54	765.17	6740.11	4343.5	8361.1			4292.9
19 P _s 0.5540		2861.0	2766.2	2596.2	2084.1	2892.4			2073.4
20 P = $(\frac{P_i + P_s}{2})$		2575.1	2479.7	2323.2	1872.6	2590.8			1867.3
21 P _r = (P/P _{cr})		3.110	2.994	2.811	2.262	3.129			2.256
22 T _r = (T/T _{cr})		1.3935	1.3945	1.345	1.346	1.3435			1.346
23 Z (Table XI)		0.700	0.703	0.709	0.741	0.700			0.741