

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

Form C-122 1-65
Revised 9-1-65
1-07
File
1-C-122

RECEIVED

Type Test ☒ Initial ☐ Annual ☐ Special					Test Date 1-23-79		MAR 28 1979	
Company Yates Petroleum Corp. ✓				Connection Transwestern Pipeline Co.			O.C.C. ARTESIA, OFFICE	
Pool Eagle Creek Permo Penn				Formation Upper Penn			Unit	
Completion Date 8-24-78		Total Depth 8500'		Plug Back TD 6650' KB		Elevation 3568' KB		Farm or Lease Name Griffin "JJ" Com
Csg. Size 5-1/2"	Wt. 15.5#	d 4.950	Set At 8486'	Perforations: From 6526 To 6624' KB		Well No. 1		
Thg. Size 2-3/8"	Wt. 4.7#	d 1.995	Set At 6494'	Perforations: From To		Unit Sec. Twp. Rge. F 4 18S 25E		
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single				Packer Set At 6494' KB		County Eddy		
Producing Thru Tubing		Reservoir Temp. °F 124 @ 6595		Mean Annual Temp. °F 62		Baro. Press. - P _a 13.2		State New Mexico
L 6588	H 6588	Gg .673	% CO ₂ 0.09	% N ₂ 0.70	% H ₂ S Nil	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							1870	67			Weeks
1.	2.067 x 0.875			265	11	74	1776	68			1 hour
2.				266	23	74	1668	70			1 hour
3.				267	47	73	1509	73			1 hour
4.				268	81	72	1274	77			1 hour
5.											

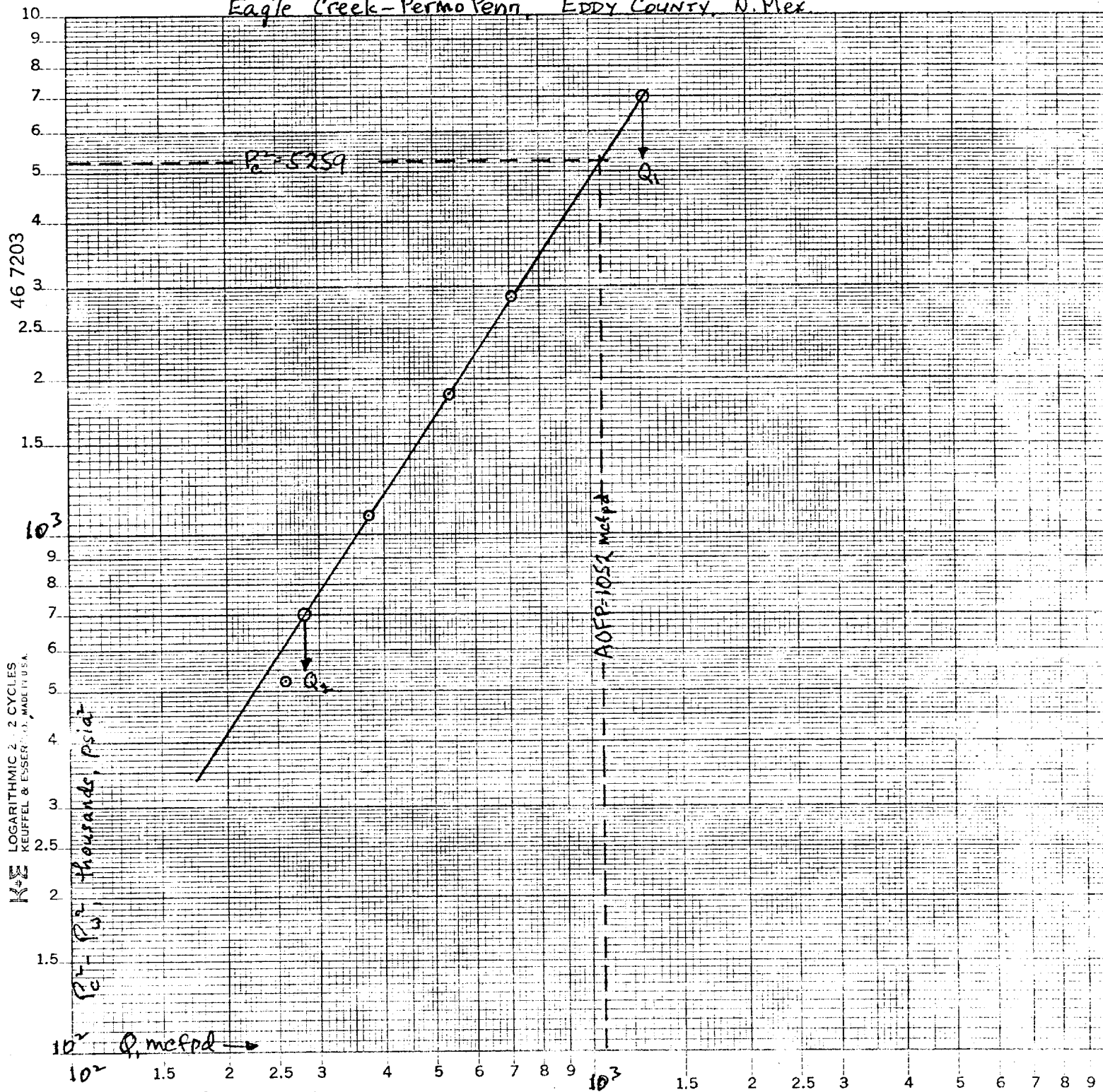
RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor F _t	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1	3.729	55.32	278.2	.9868	1.234	1.0263	258
2.	3.729	80.13	279.2	.9868	1.234	1.0264	373
3.	3.729	114.76	280.2	.9877	1.234	1.0266	535
4.	3.729	150.92	281.2	.9887	1.234	1.0268	705
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	242.72 Mcf/bbl.
1.	.416	534	1.424	.9493	A.P.I. Gravity of Liquid Hydrocarbons	63.8 Deg.
2.	.417	534	1.424	.9492	Specific Gravity Separator Gas	.657 X X X X X X X X
3.	.419	533	1.421	.9488	Specific Gravity Flowing Fluid	X X X X X .673
4.	.420	532	1.419	.9485	Critical Pressure	669 P.S.I.A. 668.5 P.S.I.A.
5.					Critical Temperature	375 R 378.5 R

P _c 2293.2 P _c ² 5259				(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.8388$		(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.4919$	
NO	P _t ²	P _w	P _w ²	P _c ² - P _w ²			
1			4737	522			
2			4168	1091			
3			3393	1866			
4			2399	2860			
5							

Absolute Open Flow 1052 Mcfd @ 15.025				Angle of Slope @ 56.7 deg		Slope, n 0.6568	
Remarks: Static pressures by Bennett Wireline, flowing pressures by dead weight testers. Calculations worksheet C-122D attached.							
Approved By Commission:		Conducted By: Don Weaver		Calculated By: Eddie Mahfood		Checked By:	

YPC- Griffin JJ Com. No. 1, F-4-18s-2SE,
Eagle Creek-Perm Penn, Eddy County, N. Mex.



$$Q_1 = 1275 \text{ mcfpd} \quad \log Q_1 = 3.1055$$

$$Q_2 = 281 \text{ mcfpd} \quad \log Q_2 = 2.4487$$

$$\eta = 0.6568$$

WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (P_w)COMPANY YPC LEASE Grafton JJ Com WELL NO. 1 DATE 1-23-79LOCATION: Unit F Section 4 Township 18S Range 25EL 6588 H 6588 LH 1000 G 0.668 % CO₂ 0.09 % N₂ 0.20 % H₂S N/A
d 2.0678 F_r 1015195 GH 4401 P_{Cr} 668.5 T_{Cr} 378.5

TABLE IX & X

LINE	SI	1	2	3	4	SI	1	2	3
1 Q _m	--	0.258	0.373	0.535	0.705	--	0.258	0.373	0.535
2 T _w (W.H. °R)	527	528	530	533	537				
3 T _s (B.H. °R)	584	584	583	583	583				
4 T = ($\frac{T_w + T_s}{2}$)	555.5	556	556.5	558	560				
5 Z (Est.)	.754	.758	.765	.779	.806				
6 TZ	418.85	421.45	425.92	434.68	451.36				
7 GH/TZ	10.507	10.443	10.338	10.125	9.7505				
8 e ^s (Table XIV)	1.4829	1.4794	1.4735	1.4618	1.4414				
9 1-e ^s (Table XIV)		0.3240	0.3214	0.3157	0.3062				
10 P ₁	1880.2	1789.2	1681.2	1522.2	1287.2				
11 P ₁ ² /1000	3546.4	3201.2	2826.4	2317.1	1656.9				
12 F _r (Table XX) ₃₋₀₃₇₅ ^{GH} F _r ²	0.39403	0.39160	0.38767	0.37962	0.36564				
13 F _c = F _r TZ		6.4404	6.469	6.605	6.8584				
14 F _c Q _m		1.652	2.413	3.534	4.8352				
15 L/H (F _c Q _m) ²		2.730	5.822	12.49	23.38				
16 F _w = L/H (F _c Q _m) ² (1-e ^s)		0.9	1.9	3.9	7.2				
17 P _w ² = P ₁ ² + F _w		3202.1	2828.3	2321.0	1664.1				
18 P _s ² = e ^s P _w ²	5259.0	4737.2	4167.5	3392.8	2398.6				
19 P _s	2293.2	2176.5	2041.4	1842.0	1548.8				
20 P = ($\frac{P_1 + P_s}{2}$)	2088.2	1982.7	1861.3	1682.1	1418.0				
21 P _r = (P/P _{Cr})	3.126	2.966	2.784	2.516	2.121				
22 T _r = (T/T _{Cr})	1.468	1.469	1.470	1.474	1.480				
23 Z (Table XI)	0.754	0.758	0.765	0.779	0.806				