

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

RECEIVED

Type Test ☒ Initial ☐ Annual ☐ Special					Test Date 10-19-76		NOV 4 1976	
Company Yates Petroleum Corp.				Connection Transwestern Pipeline Co.				O. C. C.
Pool Kennedy Farms Atoka				Formation Atoka				Unit ARTESIA, OFFICE
Completion Date 2-29-75		Total Depth 8830		Plug Back TD 8482		Elevation 3341' FB		Form or Lease Name Tidwell "ED" (100)
Csg. Size 5 1/2	Wt. 15.5-17	d 4.3277	Set At	Perforations: From 8276 To 8294		Well No. 1-Com		
Tbg. Size 2-3/8	Wt. 4.7	d	Set At	Perforations: From To		Unit Sec. Twp. Rge. P 22 - 17S-26E		
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Dual - G.G. - Atoka in Annulus					Packer Set At 8482		County Eddy	
Producing Thru Csg. Annulus		Reservoir Temp. °F @135		Mean Annual Temp. °F 62		Baro. Press. - P _a 13.2		State New Mexico
L 8271	H 8271	G _g 0.723	% CO ₂ 0.24	% N ₂ 1.01	% H ₂ S Nil	Prover	Meter Run 4.026"	Taps flange

FLOW DATA							TUBING DATA		CASING DATA		Duration of Flow
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. hw	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	Temp. °F	
SI							2242	69			
1.	4 X 2.000			290	5	62	1850	67			1 hr.
2.	4 X 2.000			290	9	60	1696	67			1 hr.
3.	4 X 2.000			290	18	57	1422	66			1 hr.
4.	4 X 2.000			290	35	54	860	66			1 hr.
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	19.81	38.94	303.2	0.9981	1.205	1.0381	963
2	19.81	52.24	303.2	1.000	1.205	1.0386	1295
3	19.81	73.88	303.2	1.003	1.205	1.0392	1838
4	19.81	103.01	303.2	1.006	1.205	1.0398	2572
5.							

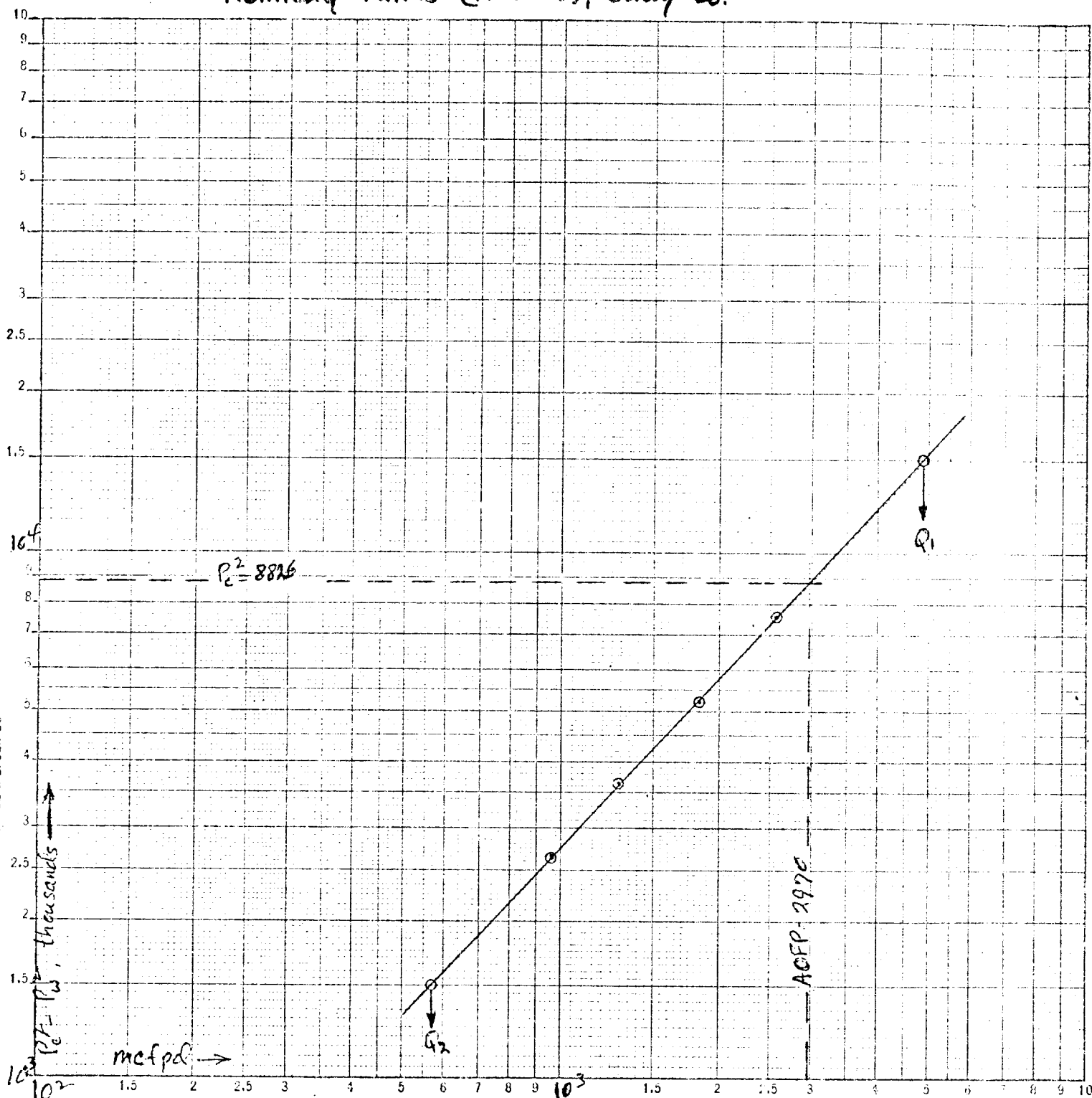
NO.	P _t	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl.
1.	.454	522	1.318	.928	87.5	
2.	.454	520	1.313	.927	53.8	
3.	.454	517	1.306	.926	.689	XXXXXXX
4.	.454	514	1.300	.925	XXXXX	.723
5.					669	668 P.S.I.A.
					386	396 R

P _c 2970.8 P _c ² 8826					(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.167$	(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.155$
NO.	P _t	P _w	P _w ²	P _c ² - P _w ²		
1			6157	2669		
2			5166	3660		
3			3589	5237		
4			1259	7567		
5						

Absolute Open Flow 2970 Mcfd @ 15.025			Angle of Slope 47°	Slope, n 0.933
Remarks: Calculations from dead weight tester, form 122-D attached.				
Approved By Commission:		Conducted By: Don Weaver	Calculated By: Eddie Mahfood	Checked By:

YPC-Tidwell "ED" Conn. No. 1
 Unit P Sec 22-17s-26E,
 Kennedy Farms (Atolca), Eddy Co.

LOGARITHMIC 40 7203
 2 X 2 CYCLES
 KEUFFEL & ESSER CO.



$$Q_1 = 4875 \quad \log Q_1 = 3.688$$

$$Q_2 = 569 \quad \log Q_2 = 2.755$$

$$n = 0.933$$

WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (P_w)

C-122D
Adopted 9-1-65

COMPANY YPC

LEASE Pidwell ED

WELL NO. 1

DATE 10-18-76

LOCATION: Unit P Section 22 Township 17S Range 26E

L H 8271 L/H 684 $G_{sc} = 0.684$ % CO₂ 0.74 % N₂ 1.05 % H₂S Nil

$5\frac{1}{2}$ 155' - 6650' x 1029' = 684.285 cu ft
 $5\frac{1}{2}$ 17' - 1580' x 0998' = 157.684
 $5\frac{1}{2}$ 17' - 41' x 0794' = 3.255
dAug = 4.3277

F_r 002417 GH 5980
P_{cr} 663 T_{cr} 396

LINE	8271 (1029)	1	2	3	4	5	1	2	3	4
1 Q _m		.963	1295	1.838	2.572					
2 T _w (W.H. °R)		527	527	526	526		.963	1295	1.838	2.572
3 T _s (B.H. °R)		595	583	552	530					
4 T = ($\frac{1+w}{2}$ + 15)		562	555	554	553	562	556	555	554	553
5 Z (Est.)		.725	.71	.73	.80	.726	.704	.709	.728	.8155
6 TZ		407.65	389.2	404.42	442.40	406.84	391.42	392.8	403.31	450.97
7 GH/TZ		14.677	15.365	14.7866	13.517	14.697	15.273	15.1971	14.827	13.200
8 e ^s (Table XIV)		1.7339	1.7792	1.7411	1.6602	1.7353	1.7730	1.7681	1.7437	1.6242
9 1-e ^s (Table XIV)			.4380	.4886	.2976		.4361	.4344	.4265	.3955
10 P _t		22552	1863.2	1425.2	873.2	2255.2	1862.2	1709.2	1035.2	873.2
11 P _t 2/1000		5085.9	3471.51	2054.80	762.46		3471.51	2921.30	2059.80	762.46
12 F _t (Table XV)										
13 F _c = F _t TZ			.9407	.9775	1.0693		.9461	.9511	.9705	1.090
14 F _c Q _m			.9059	1.2232	1.707	2.7502	.9111	1.2217	1.732	2.7503
15 L/H (F _c Q _m) ²			.8206	1.8912	3.2211	7.5535	.8300	1.8592	3.210	7.859
15 F _w = L/H (F _c Q _m) ² (1-e ^s)			0.36	0.46	1.37	3.01	0.36	0.66	1.27	3.11
17 P _w ² = P _t ² + F _w			2471.82	2522.02	2461.17	765.69	2470.81	2452.92	2401.17	765.59
18 P _s ² = e ^s P _w ²			6177.15	5160.1	3588.7	1270.57	6159.01	5156.4	3558.7	1255.73
19 P _s			8018.4	2969.6	1894.4	1127.3	2481.3	2597.30	1894.4	1122.0
20 P = ($\frac{P_s + P_s}{2}$)			2612.4	2174.3	1600.8	1422.3	2613.0	2591.1	1600.0	1422.6
21 P _t = (P/P _{cr})			2.411	3.255	2.600	2.042	2.255	2.042	2.042	1.626
22 T _t = (T/T _{cr})			1.419	1.404	1.3940	1.2965	1.4040	1.4045	1.3940	1.394
23 Z (Table XI)			.724	.704	.725	.724	.704	.706	.725	.725