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yates

Form C-122
Revised 9-1-65

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

RECEIVED

Type Test ☒ Initial ☐ Annual ☐ Special					Test Date 7-10-79		SEP 13 1979		
Company Yates Petroleum Corp.				Connection Transwestern Pipeline Co.				D.C.C. ARTESIA, OFFICE	
Pool E. Eagle Creek Atoka Morrow				Formation Atoka-Morrow					
Completion Date 6-22-79		Total Depth 8430' KB		Plug Back TD 8288' KB		Elevation 3401' KB		Farm or Lease Name Ingram Jackson "B"	
Csg. Size 4-1/2"	Wt. 11.6#	d 4.000	Set At 8430' KB	Perforations: From 8030 To 8245'				Well No. 7	
Tbg. Size 2-3/8"	Wt. 4.7#	d 1.995	Set At 8012' KB	Perforations: From To				Unit Sec. Twp. Rge. A 27 17S 25E	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single				Packer Set At 8012' KB		County Eddy			
Producing Thru Tubing		Reservoir Temp. °F 138 @ 8142		Mean Annual Temp. °F 62		Baro. Press. - P _a 13.2		State New Mexico	
L 8142	H 8142	Gg .699	% CO ₂ 3.02	% N ₂ 0.69	% 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	Days
1.	2.067	x	0.750	280	8	75	1921	85			1 hour
2.				280	17	75	1782	86			1 hour
3.				281	33	75	1620	87			1 hour
4.				281	62	75	1395	88			1 hour
5.											

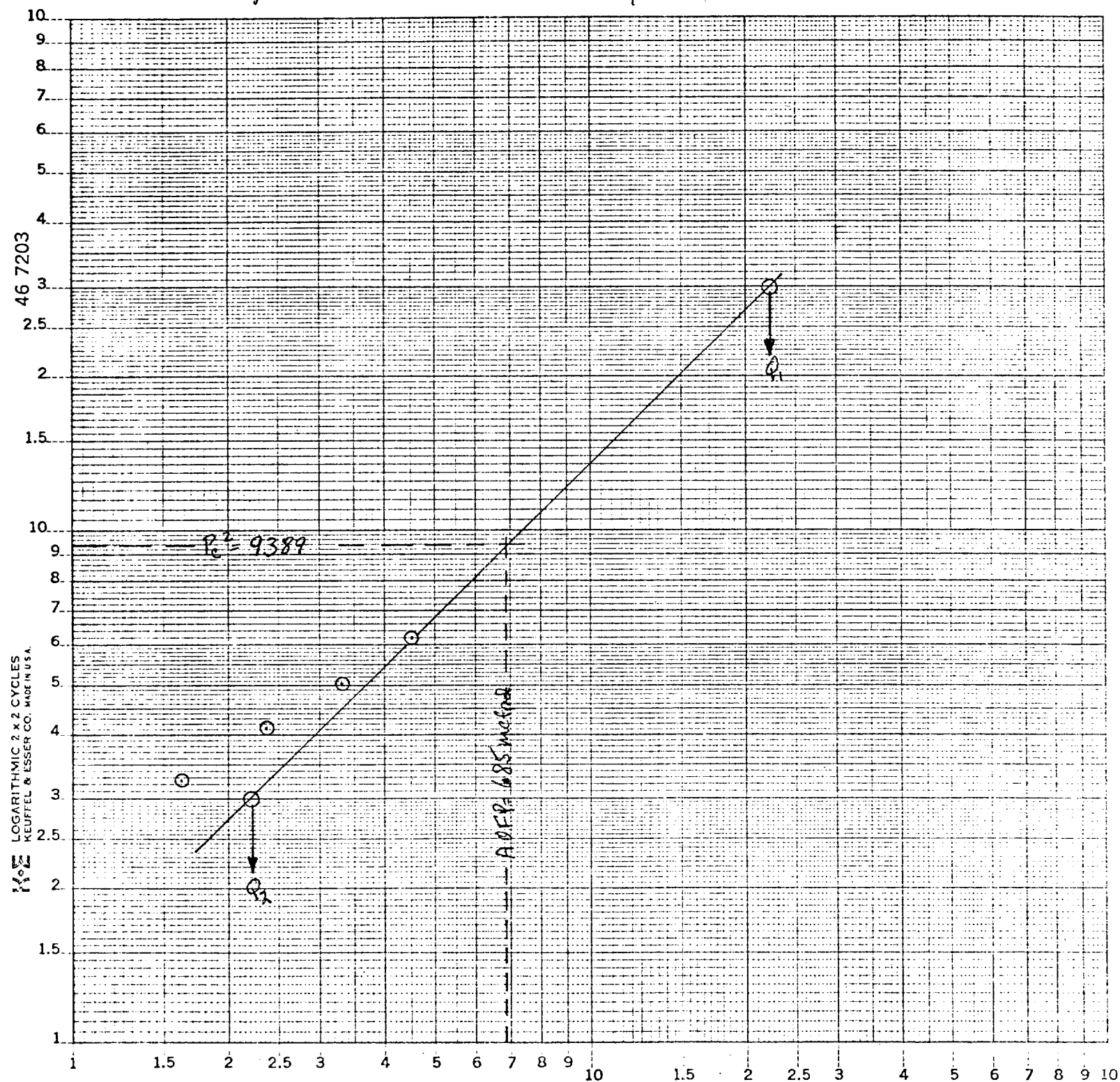
RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor Fg	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1	2.709	48.43	293.2	.9859	1.220	1.0276	162
2	2.709	70.60	293.2	.9859	1.220	1.0276	236
3	2.709	98.53	294.2	.9859	1.220	1.0276	330
4	2.709	135.06	294.2	.9859	1.220	1.0276	452
5							

NO.	P _t	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	114.0 Mcf/bbl.
1	0.43	535	1.421	.947	A.P.I. Gravity of Liquid Hydrocarbons	52.0 Deg.
2	0.43	535	1.421	.947	Specific Gravity Separator Gas	0.672
3	0.43	535	1.421	.947	Specific Gravity Flowing Fluid	.699
4	0.43	535	1.421	.947	Critical Pressure	681 P.S.I.A.
5					Critical Temperature	376.5 °R

P _c 3064.2 P _c ² 9389				(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.5144$		(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.5144$	
NO.	P _t	P _w	P _w ²	P _c ² - P _w ²	AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 685$		
1			6139	3250			
2			5272	4117			
3			4339	5050			
4			3189	6200			
5							

Absolute Open Flow		685 Mcfd @ 15.025	Angle of Slope @ 45 deg	Slope, n 1.000
Remarks: Static pressures by Bennett Wireline; Flowing pressures by DWT. Calculations worksheet C-122D attached.				
Approved By Commission:		Conducted By: David Weaver	Calculated By: Eddie Mahfood	Checked By:

YPC- Ingram-Jackson BY No.7. A-27-175-25E
 E. Eagle Creek Atoka Morrow, Eddy Co, N.Mex.



$$Q_1 = 2220 \text{ mcf/d} \quad \log Q_1 = 3.34635$$

$$Q_2 = 222 \text{ mcf/d} \quad \log Q_2 = 2.34635$$

$$n = 1.00000$$

COMPANY _____ LEASE 900 WELL NO. 2 DATE 7-10-

LOCATION: Unit _____
 Section _____ Township _____ Range _____

H 81/72 L/H 302 % CO₂ 302 % N₂ 302 % H₂S 302

NO	DATE	DESCRIPTION	AMOUNT	CHECK NO.	INITIALS
5011	8/30/79	31883.8			
5012	9/10/79		0.01568	5697	
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[illegible]

LINE	Σ1	1		Σ	Σ1	1	2	Σ
1 Q _m	—	0.162	0.236	0.330	0.452	0.162	0.236	0.330
2 T _w (W.H. °R)	544	545	1.16	567	568			
3 T _s (B.H. °R)	598	597	597	596	596			
4 T = $\frac{(T_w + T_s)}{2}$	571	571	571.5	571.5	572	571	571.5	572
5 Z (Est.)	759	755	7595	769	789			
6 TZ	433.339	431.105	431.105	439.48	451.31			
7 GF/TZ	123.127	13.206	13.116	12.954	12.614			
8 e ^s (Table XIV)	1.6366	1.6408	1.6353	1.6254	1.6049			
9 1 - e ^s (Table XIV)		0.3906	0.3585	0.3848	0.2769			
10 P _i	2395.72	1934.72	1795.2	1633.2	1403.2			
11 P _i ² /1000	5737.10	3741.1	3222.7	2667.3	1983.0			
12 F _T (Table XV) ₁	2492.64	0.49521	0.49185	0.48577	0.47304			
13 F _C = F _T TZ		6.7597	6.806	6.891	7.0765			
14 F _C Q _m		1.095	1.646	2.274	3.199			
15 L/H (F _C Q _m) ²		1.199	2.580	5.171	10.23			
16 F _w = L/H (F _C Q _m) ² (1 - e ^s)		0.5	1.0	2.0	3.9			
17 P _w ² = P _i ² + F _w		3741.6	3223.7	2662.3	1986.9			
18 P _s ² = e ^s P _w ²	9389.3	6139.2	5271.7	4338.7	3182.8			
19 P _s	3064.72	2477.7	2296.0	2082.9	1775.7			
20 P = $\frac{P_i + P_s}{2}$	2920.7	2206.0	2045.6	1850.1	1517.0			
21 P _T = (P/P _{Cr})	4.614	3.244	3.008	2.732	2.348			
22 T _i = (T/T _{Cr})	1.4716	1.0716	1.0729	1.0724	1.0710			
23 Z (Table XI)	8759	0.755	0.7595	0.769	0.789			