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C-122 File
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NEW MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
Revised 9-1-65
RECEIVED

OCT 14 1980

Type Test ☒ Initial ☐ Annual ☐ Special		Test Date 9-30-80	
Company Yates Petroleum Corp. ✓		Connection Transwestern Pipeline Co.	
Pool Unders. Morrow		Formation Morrow	
Completion Date 5-22-80		Total Depth 8680' KB	Plug Back TD 8659' KB
		Elevation 3531' GR	
Csg. Size 4-1/2"	Wt. 11.6#	Set At 4.000	Perforations: From 8406 To 8410
Thq. Size 2-3/8"	Wt. 4.7#	Set At 1.995	Perforations: From 8355 To 8358
Type Well - Single - Drillinghead - G.G. or G.O. Multiple		Packer Set At 8352'	
Producing thru Tubing		Reservoir Temp. °F 145 @ 8408	Mean Annual Temp. °F 62
		Boro. Press. - P _a 13.2	
L 8402	R 8402	Gg 1.0005	% CO ₂ 0.24
		% N ₂ 1.31	% H ₂ S Nil
		Prover	Meter Run 2"
		Taps Flange	
State New Mexico			
County Chaves			
Well No. 1			
Unit I 31 14S 28E			
Farm or Lease Name Nine Mile "LV" State			

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow Days	
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
1.	2.067 x 1.375			837	8	75	2087	96			1 hour
2.				838	15	75	1890	97			1 hour
3.				840	27	75	1781	98			1 hour
4.				841	50	75	1653	98			1 hour
5.							1455	99			

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.	10.20	82.47	850.2	.9859	1.200	1.080	1075
2.	10.20	113.00	851.2	.9859	1.200	1.080	1473
3.	10.20	151.78	853.2	.9859	1.200	1.080	1978
4.	10.20	206.66	854.2	.9859	1.200	1.080	2693
5.							

NO. P _t Temp. °R T _r Z 1. 1.273 535 1.386 .8576 2. 1.274 535 1.386 .8574 3. 1.277 535 1.386 .8572 4. 1.279 535 1.386 .8570				Gas Liquid Hydrocarbon Ratio _____ 54.0 _____ Mcf/bbl. A.P.I. Gravity of Liquid Hydrocarbons _____ 0.695 _____ Degr. Specific Gravity Separator Gas _____ 1.0005 _____ Specific Gravity Flowing Fluid _____ 668 _____ P.S.I.A. Critical Pressure _____ 386 _____ R Critical Temperature _____ 487 _____ R			
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P _c 3276 P _w 10731 NO. P _c ² P _w ² P _c ² - P _w ² 1. 9249 1482 2. 8498 2233 3. 7627 3104 4. 6366 4365				$(1) \frac{P_c^2}{P_c^2 - P_w^2} = 2.4584$ $(2) \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.2524$	
$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 6066$					

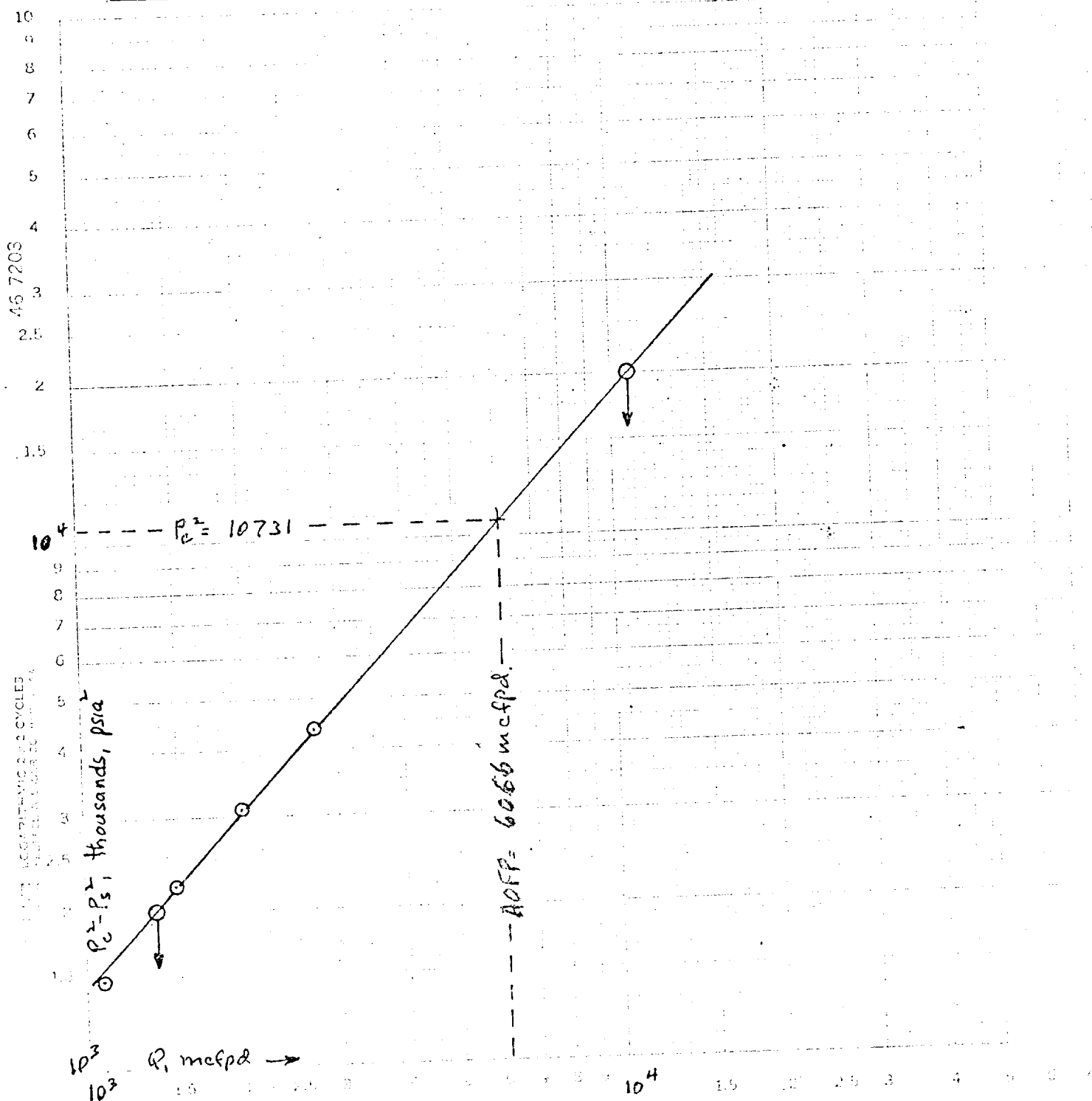
Absolute Open Flow _____ 6066 _____ Mcfd @ 15.025		Angle of Slope α _____ 48 degrees		Slope, f _s _____ 0.9027	
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Static pressures by Bennett Wireline; Flowing pressures by DWT.
 Calculations worksheet C-122D attached.

Approved By Consultant:	Conducted By: Don Weaver	Calculated By: Eddie Mahfood	Checked By:
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YPC- Nine Mile LV State No.1

I-31-145-28E, Undes. Morrow, Chaves, N.Mex



$$Q_1 = 10790 \quad \log Q_1 = 4.0330$$

$$Q_2 = 1350 \quad \log Q_2 = 3.1303$$

$$n = 0.9027$$

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TABLE IX & X

LINE	1	2	3			1	2	3	4
1 Q _m	-	1.075	1.473	1.978	2.693				
2 T _g (W.H. OR)	556	557	558	558	559				
3 T _g (B.H. OR)	605	604	603	602	601				
4 T = ($\frac{1-w}{2} + \frac{1-s}{2}$)	530.5	580.5	580.5	580	580	580.5	580.5	580	580
5 Z (Est.)	.6168	.580	.563	.547	.526	.583	.5665	.551	.538
6 T _Z	354.59	326.69	326.82	317.26	305.08	338.43	328.25	314.55	296.24
7 S _H T _Z	25.728	24.967	25.721	26.496	27.554	24.829	25.562	26.304	27.450
8 e ^s (Table XIV)	2.4632	2.5505	2.6236	2.7010	2.8103	2.5382	2.6080	2.6816	2.7492
9 1-e ^s (Table XIV)		0.6079	0.6188	0.6298	0.6442	0.6060	0.6166	0.6271	0.6425
10 P _i	2100.2	1903.2	1792.2	1668.2	1512.5	1903.2	1794.8	1656.2	1465.2
11 P _i / 1000	2.1002	1.9032	1.7922	1.6682	1.5125	1.9032	1.7948	1.6562	1.4652
12 F _i (Table XV) $\times 10^3$	8.83906	0.93627	0.96451	0.99361	1.03328	0.93145	0.95858	0.98640	1.02236
13 F _c = F _i T _Z		5.5453	5.383	5.2253	5.0247	5.5939	5.4162	5.2325	5.0435
14 F _c Q _m		5.961	7.929	10.336	13.5315	5.992	7.975	10.411	13.559
15 L/H (F _c Q _m) ²		35.536	62.865	106.82	183.10	35.904	63.65	105.61	174.5
16 F _w = L/H (F _c Q _m) ² (1-e ^s)		21.6	38.9	57.3	118.0	21.8	37.2	56.9	105.6
17 P _w ² = P _i ² + F _w		3643.8	3258.1	2843.5	2272.6	3644.0	3258.4	2844.6	2274.2
18 P _w ² = e ^s P _w ²	10730.4	9693.5	8548.0	7630.3	6327.5	9244.2	8499.9	7667.2	6366.1
19 P _S	3275.8	3048.5	2923.6	2771.3	2527.7	3041.2	2915.1	2761.7	2532.1
20 P = ($\frac{P_i + P_S}{2}$)	2688.0	2475.9	2358.9	2218.8	1998.0	2472.2	2358.7	2214.0	1995.5
21 P _i = (P - F _c)	2258	3.765	3.588	3.375	3.039	3176.0	3.581	3.367	3.035
22 T _p = (T/T _c)	1.192	1.192	1.192	1.191	1.171	1.192	1.192	1.191	1.171
23 Z (Table XI)	.5108	0.582	0.5665	0.551	0.528	0.583	0.5665	0.551	0.528

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