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Type Test ☒ Initial ☐ Annual ☐ Special					Test Date 3/9/83			
Company Yates Petroleum Corporation					Connection Transwestern Pipeline Company		O. C. D. ARTESIA, OFFICE	
Pool Und. Pecos Slope Abo					Formation Abo		Unit	
Completion Date 4/6/82		Total Depth 4225.0'		Plug Back TD 4211.0'		Elevation 3638.0'		Farm or Lease Name Rook "RK" State
Csg Size 4.500"	Wt. 9.500#	d 4.090"	Set At 4132.0'	Perforations: From 3766.0' To 3959.0'		Well No. 4		
Tbg Size 2.875"	Wt. 6.400#	d 2.441"	Set At 3713.0'	Perforations: From 0.0' To 0.0'		Unit Sec Twp Rge E 2 8S 25E		
Type Well Single					Packer Set At 3720.0'		County Chaves	
Producing Thru Tubing		Resv. Temp. °F 102 @ 3713'		Mean Temp. °F 62.0		Baro. Press. - Pa 13.2 psia.		State New Mexico
L 3713.0'	H 3713.0'	Gg .653	%CO2 .71	%N2 7.17	%H2S 0.00	Prover 2.000"	Meter Run 2.000"	Taps Flange

FLOW DATA					TUBING DATA		CASING DATA		Duration of Flow
NO	Prover Orifice Size X Size	Press. psig	Diff. hw	Temp. °F	Press. psig	Temp. °F	Press. psig	Temp. °F	
SI	0.000 X 0.000	0	0.0	58	1008	62	0	0	0 hrs.
1.	2.067 X .875	100	24.0	53	920	53	0	0	24 hrs.
2.	2.067 X .875	100	31.0	58	870	58	0	0	24 hrs.
3.	2.067 X .875	100	78.0	56	740	56	0	0	24 hrs.
4.	2.067 X .875	100	91.0	56	620	56	0	0	24 hrs.
5.	0.000 X .875	0	0.0	0	0	0	0	0	0 hrs.

RATE OF FLOW CALCULATIONS

NO	Coefficient (24 HOUR)	$\sqrt{hwPm}$	Pressure Pm	Flow Temp Factor Ft.	Gravity Factor Fg	Super Compress. Fact. Fpv	Rate of Flow Q, Mcfd
1.	3.729	52.12	113.20	1.007	1.237	1.008	244
2.	3.729	59.24	113.20	1.002	1.237	1.008	276
3.	3.729	93.97	113.20	1.004	1.237	1.008	439
4.	3.729	101.49	113.20	1.004	1.237	1.008	474
5.	0.000	0.00	0.00	0.000	0.000	0.000	0

NO	Pr	Temp. °R	Tr	Z	Gas Liquid Hydrocarbon Ratio Dry Mcf/bbl.
1.	.17	513	1.46	.984	A.P.I. Gravity of Liquid Hydrocarbons 0.000 Deg.
2.	.17	518	1.47	.985	Specific Gravity Separator Gas .653 xxxxxxxxxxxxxxx
3.	.17	516	1.46	.984	Specific Gravity Flowing Fluid xxxxxx .653
4.	.17	516	1.46	.984	Critical Pressure 661.2 PSIA 661.2 PSIA
5.	0.00	0	0.00	0.000	Critical Temperature 352.2°R 352.2°R

Pc 1021.2	Pc2 1042.8				
NO	Pt2	Pw	Pw2	Pc2-Pw2 (1)	Pc2 = 1.7390 (2) $\left[\frac{Pc2}{Pc2-Pw2} \right]^n = 1.3350$
1.	870.9	933.3	871.1	171.7	
2.	780.0	883.4	780.4	262.5	
3.	567.3	753.8	568.2	474.7	
4.	400.9	634.0	401.9	640.9	
5.	0.0	0.0	0.0	0.0	

$$ROF = Q \left[\frac{Pc2}{Pc2-Pw2} \right]^n = 633 \text{ Mcfd}$$

Absolute Open Flow 633 Mcfd @ 15.025 Angle of Slope, θ 28 Slope, n .522
Remarks:

Approved By:	Conducted By: David Weaver	Calculated By: jim Brown	Checked By:
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Adopted 9-1-65

DATE 5/11/83

COMPANY Yates Petroleum Corporation LEASE Rook "RK" State WELL NO. 4

LOCATION: Unit E Section 2 Township 8S Range 25E

L 3713.0 H 3713.0 L/H 1.000 G .653 %CO₂ .71 %N₂ 7.17 %H₂S 0.00

d 2.441 Fr .010495 GH 2424.6 Pcr 661.2 Tcr 352.2

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	.244	.276	.439	.474	0.000
2 Tw(W.H.°R)	513.0	518.0	516.0	516.0	0.0
3 Ts(B.H.°R)	562.0	562.0	562.0	562.0	0.0
4 T=(Tw+Ts)/2	537.5	540.0	539.0	539.0	0.0
5 Z(Est.)	.870	.878	.894	.910	0.000
6 TZ	467.4	474.1	481.8	490.4	0.0
7 GH/TZ	5.188	5.114	5.033	4.944	0.000
8 e ^s (Table XIV)	1.215	1.211	1.208	1.204	0.000
9 1-e ^{-s} (Table XIV)	.177	.175	.172	.169	0.000
10 Pt	933.2	883.2	753.2	633.2	0.0
11 Pt ² /1000	870.9	780.0	567.3	400.9	0.0
12 Fr(Table XV)	.010495	.010495	.010495	.010495	0.000000
13 Fc=FrTZ	4.909	4.976	5.059	5.149	0.000
14 FcQm	1.199	1.373	2.220	2.440	0.000
15 L/H(FcQm) ²	1.437	1.886	4.927	5.954	0.000
16 Fw=L/H(FcQm) ² (1-e ^{-s})	.254	.329	.847	1.007	0.000
17 Pw ² =Pt ² +Fw	871.1	780.4	568.2	401.9	0.0
18 Ps ² =e ^s Pw ²	1058.0	945.3	686.1	483.8	0.0
19 Ps	1028.6	972.3	828.3	695.5	0.0
20 P=(Pt+Ps)/2	980.9	927.7	790.8	664.4	0.0
21 Pr=(P/Pcr)	1.48	1.40	1.20	1.00	0.00
22 Tr=(T/Tcr)	1.53	1.53	1.53	1.53	0.00
23 Z(Table XI)	.870	.878	.894	.910	0.000

Company	Yates Petroleum Corporation
Well	Rook "RK" State No. 4
Location	E, 2-8S-25E
County	Chaves
Date	5/11/83

