

C15' F/e

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

AUG 11 1983

Type Test [x] Initial [] Annual [] Special						Test Date 6/15/83		O. C. D.	
Company Yates Petroleum Corporation				Connection Transwestern Pipeline Company					
Pool Pecos Slope: <i>2.6</i>				Formation Abo				Unit	
Completion Date 9/17/82		Total Depth 4184.0'		Plug Back TD 4132.0'		Elevation 3636.3'		Farm or Lease Name Morton "S2" Federal	
Csg Size 4.500"	Wt. 9.500#	d 4.090"	Set Rt 4184.0'	Perforations: From 3900.0' To 3986.0'				Well No. 2	
Tbg Size 2.375"	Wt. 4.700#	d 1.995"	Set Rt 3922.0'	Perforations: From 0.0' To 0.0'				Unit Sec Twp Rge <i>8</i> / <i>10</i> 8S 25E	
Type Well Single						Packer Set Rt 3922.0'		County Chaves	
Producing thru Tubing		Resv. Temp. °F 100 @ 3922'		Mean Temp. °F 62.0		Baro. Press. - Pa 13.2 psia.		State New Mexico	
L 3922.0'	G 3922.0'	Gg .660	%CO2 .46	%N2 7.32	%H2S 0.00	Prover 0.000"	Meter Run 2.000"	Taps Flange	

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow
NO	Prover Size	Orifice 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	0	997	0	0	0	0 hrs.
1.	2.067	x 1.375	100	17.0	70	920	62	0	0	24 hrs.
2.	2.067	x 1.375	105	57.0	70	830	62	0	0	24 hrs.
3.	2.067	x 1.375	110	68.0	70	710	62	0	0	24 hrs.
4.	2.067	x 1.375	120	72.0	70	675	62	0	0	24 hrs.
5.	0.000	x 0.000	0	0.0	0	0	0	0	0	0 hrs.

RATE OF FLOW CALCULATIONS							
NO	Coefficient (24 HOJR)	$\sqrt{hwP_m}$	Pressure Pm	Flow Temp Factor Ft.	Gravity Factor Fg	Super Compress. Fact. Fpv	Rate of Flow Q, Mcfd
1.	10.204	43.87	113.20	.991	1.231	1.009	551
2.	10.204	82.08	118.20	.991	1.231	1.009	1030
3.	10.204	91.53	123.20	.991	1.231	1.009	1150
4.	10.204	97.93	133.20	.991	1.231	1.010	1231
5.	0.200	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	530	1.49	.983	A.P.I. Gravity of Liquid Hydrocarbons 0.000 Deg.		
2.	.18	530	1.49	.982	Specific Gravity Separator Gas .660 xxxxxxxxxxxxxx		
3.	.19	530	1.49	.981	Specific Gravity Flowing Fluid xxxxxx .660		
4.	.20	530	1.49	.980	Critical Pressure 659.6 PSIA 659.6 PSIA		
5.	0.00	0	0.00	0.000	Critical Temperature 354.5°R 354.5°R		

Pc 1010.2 Pc² 1020.5			
NO	Pt²	Pw	Pw²
1.	870.9	935.3	874.8
2.	711.0	851.5	725.0
3.	523.0	735.4	540.8
4.	473.6	703.0	494.1
5.	0.0	0.0	0.0

$$(1) \frac{P_c^2}{P_c^2 - P_w^2} = \frac{1.9230}{1.5026} \quad (2) \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.5026$$

$$ROF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1850 \text{ Mcfd}$$

Absolute Open Flow 1850 Mcfd @ 15.025 Angle of Slope, θ 32 Slope, n .623
 Remarks:

Approved By:	Conducted By: David Weaver	Calculated By: Andie Carpenter	Checked By:
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Adopted 9-1-65

DATE 8/11/83

COMPANY Yates Petroleum Corporation LEASE Morton "82" Federal WELL NO. 2LOCATION: Unit A Section 10 Township 8S Range 25EL 3922.0 H 3922.0 L/H 1.000 G .660 %CO₂ .46 %N₂ 7.32 %H₂S 0.00d 1.995 Fr .017777 GH 2588.5 Pcr 659.6 Tcr 354.5

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	.551	1.030	1.150	1.231	0.000
2 Tw(W.H.°R)	522.0	522.0	522.0	522.0	0.0
3 Ts(B.H.°R)	560.0	560.0	560.0	560.0	0.0
4 T=(Tw+Ts)/2	541.0	541.0	541.0	541.0	0.0
5 Z(Est.)	.869	.880	.895	.900	0.000
6 TZ	470.0	475.9	484.4	486.8	0.0
7 GH/TZ	5.508	5.439	5.344	5.317	0.000
8 e ^s (Table XIV)	1.229	1.226	1.222	1.221	0.000
9 1-e ^{-s} (Table XIV)	.186	.184	.182	.181	0.000
10 Pt	933.2	843.2	723.2	688.2	0.0
11 Pt ² /1030	870.9	711.0	523.0	473.6	0.0
12 Fr(Table XV)	.017777	.017777	.017777	.017777	0.000000
13 Fc=FrTZ	8.362	8.466	8.610	8.658	0.000
14 FcQm	4.603	8.724	9.897	10.656	0.000
15 L/H(FcQm) ²	21.192	76.110	97.959	113.555	0.000
16 Fw=L/H(FcQm) ² (1-e ^{-s})	3.951	14.034	17.790	20.520	0.000
17 Pw ² =Pt ² +Fw	874.8	725.0	540.8	494.1	0.0
18 Ps ² =e ^s Pw ²	1075.3	888.9	660.8	603.1	0.0
19 Ps	1037.0	942.8	812.9	776.6	0.0
20 P=(Pt+Ps)/2	985.1	893.0	768.1	732.4	0.0
21 Pr=(P/Pcr)	1.49	1.35	1.16	1.11	0.00
22 Tr=(T/Tcr)	1.53	1.53	1.53	1.53	0.00
23 Z(Table XI)	.869	.880	.895	.900	0.000

Company	Yates Petroleum Corporation
Well	Morton "SZ" Federal No. 2
Location	R, 10-8S-25E
County	Chaves
Date	8/11/83

