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File

Type Test [x] Initial [] Annual [] Special				Test Date 8/25/88	
Company Yates Petroleum Corporation				Connection Transwestern Pipeline Company	
Pool Four Ranch Pre-Permian Ordovician				Formation Four Ranch	
Completion Date 7/30/88		Total Depth 6410.0'		Plug Back TD 6135.0'	
Elevation 3806.5'		Farm or Lease Name Witz VN State			
Csg Size 5.500"	Wt. 14.000#	d 5.012"	Set At 6410.0'	Perforations: From 6054.0' To 6097.0'	
Tbg Size 2.875"	Wt. 6.500#	d 2.441"	Set At 5984.0'	Perforations: From 0.0' To 0.0'	
Type Well Single				Packer Set At 5984.0'	
Producing Thru Tubing		Resv. Temp. °F 180 @ 5890'		Baro. Press. - Pa 13.2 psia.	
Mean Temp. °F 62.0		State New Mexico			

L 5984.0'	H 5984.0'	Gg .648	%CO2 1.08	%N2 4.06	%H2S 0.00	Prover 0.000"	Meter Run 2.000"	Taps Flange
FLOW DATA					TUBING DATA		CASING DATA	
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	96	1980	0	0	0
1.	2.067 X 1.375	255	46.4	92	1863	62	0	0
2.	2.067 X 1.375	280	61.3	95	1829	62	0	0
3.	2.067 X 1.375	295	79.1	96	1822	62	0	0
4.	2.067 X 1.375	305	82.0	94	1780	62	0	0
5.	0.000 X 0.000	0	0.0	0	0	0	0	0

RATE OF FLOW CALCULATIONS

NO	Coefficient (24 HOUR)	√hwPm	Pressure Pm	Flow Temp Factor Ft.	Gravity Factor Fg	Super Compress. Fact. Fpv	Rate of Flow Q, Mcfd
1.	10.204	111.55	268.20	.971	1.242	1.018	1397
2.	10.204	134.06	293.20	.968	1.242	1.019	1677
3.	10.204	156.14	308.20	.967	1.242	1.020	1953
4.	10.204	161.53	318.20	.969	1.242	1.021	2026
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.	.40	552	1.54	.965	A.P.I. Gravity of Liquid Hydrocarbons	0.000	Deg.
2.	.44	555	1.55	.962	Specific Gravity Separator Gas	.648	xxxxxx
3.	.46	556	1.55	.960	Specific Gravity Flowing Fluid	xxxxxx	.648
4.	.48	554	1.54	.959	Critical Pressure	668.2 PSIA	668.2 PSIA
5.	0.00	0	0.00	0.000	Critical Temperature	358.7°R	358.7°R

Pc 1993.2 Pc2 3972.8				
NO	Pt2	Pw	Pw2	Pc2-Pw2
1.	3520.1	1879.7	3533.2	439.6
2.	3393.7	1847.3	3412.6	560.2
3.	3368.0	1842.2	3393.6	579.3
4.	3215.6	1800.9	3243.2	729.6
5.	0.0	0.0	0.0	0.0

$$(1) \frac{Pc^2}{Pc^2 - Pw^2} = 5.4559 \quad (2) \left[\frac{Pc^2}{Pc^2 - Pw^2} \right]^n = 3.4707$$

$$ROF = Q \left[\frac{Pc^2}{Pc^2 - Pw^2} \right]^n = 7032 \text{ Mcfd}$$

Absolute Open Flow 7032 Mcfd @ 15.025 Angle of Slope, 0 36 Slope, n .733
Remarks:

Approved By:	Conducted By: David Weaver	Calculated By: Andrea Carpenter	Checked By:
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WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (Pw) C-122D

Adopted 9-1-65

DATE 4/6/89

COMPANY Yates Petroleum Corporation LEASE Witz VN State WELL NO. 3

LOCATION: Unit I Section 26 Township 9S Range 26E

L 5984.0 H 5984.0 L/H 1.000 G .648 %CO₂ 1.08 %N₂ 4.06 %H₂S 0.00

d 2.441 Fr .010495 GH 3877.6 Pcr 668.2 Tcr 358.7

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	1.397	1.677	1.953	2.026	0.000
2 Tw(W.H.°R)	522.0	522.0	522.0	522.0	0.0
3 Ts(B.H.°R)	640.0	640.0	640.0	640.0	0.0
4 T=(Tw+Ts)/2	581.0	581.0	581.0	581.0	0.0
5 Z(Est.)	.835	.836	.836	.837	0.000
6 TZ	485.0	485.5	485.6	486.4	0.0
7 GH/TZ	7.996	7.987	7.985	7.973	0.000
8 e ^s (Table XIV)	1.349	1.349	1.349	1.348	0.000
9 1-e ^{-s} (Table XIV)	.259	.259	.259	.258	0.000
10 Pt	1876.2	1842.2	1835.2	1793.2	0.0
11 Pt ² /1000	3520.1	3393.7	3368.0	3215.6	0.0
12 Fr(Table XV)	.010495	.010495	.010495	.010495	0.000000
13 Fc=FrTZ	5.094	5.100	5.096	5.104	0.000
14 FcQm	7.117	8.551	9.953	10.342	0.000
15 L/H(FcQm) ²	50.646	73.126	99.070	106.957	0.000
16 Fw=L/H(FcQm) ² (1-e ^{-s})	13.111	18.913	25.636	27.640	0.000
17 Pw ² =Pt ² +Fw	3533.2	3412.6	3393.6	3243.2	0.0
18 Ps ² =e ^s Pw ²	4767.5	4603.1	4578.3	4373.4	0.0
19 Ps	2183.5	2145.5	2139.7	2091.3	0.0
20 P=(Pt+Ps)/2	2029.8	1993.9	1987.5	1942.2	0.0
21 Pr=(P/Pcr)	3.04	2.98	2.97	2.91	0.00
22 Tr=(T/Tcr)	1.62	1.62	1.62	1.62	0.00
23 Z(Table XI)	.835	.836	.836	.837	0.000

Company	Chaves Petroleum Corporation
Well	Witz VN State No. 3
Location	I, 26-9S-26E
County	Chaves
Date	4/6/89

$P_c^2 - P_w^2$, THOUSANDS

