

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

Form C-122

45F
File

JAN 23 '90

Type Test [x] Initial [] Annual [] Special					Test Date 10/7/88		JAN 23 '90	
Company Yates Petroleum Corporation			Connection Transwestern Pipeline Company			O. C. D. ARTESIA, OFFICE		
Pool Undesignated Springer Basin			Formation Atoka Morrow			Unit		
Completion Date 9/24/88		Total Depth 8020.0'		Plug Back TD 7954.0'		Elevation 3460.6'		Farm or Lease Name Estellita AFO Fed
Csg Size 5.500"	Wt. 14.000#	d 5.012"	Set At 8020.0'	Perforations: From 7649.0' To 7721.0'		Well No. 1		
Tbg Size 2.875"	Wt. 6.500#	d 2.441"	Set At 7590.0'	Perforations: From 0.0' To 0.0'		Unit Sec Twp Rge H 15 14S 27E		
Type Well Single				Packer Set At 7593.0'		County Chaves		
Producing Thru Tubing		Resv. Temp. °F 165 @ 7615'		Mean Temp. °F 62.0		Baro. Press. - Pa 13.2 psia.		State New Mexico
L 7590.0'	H 7590.0'	Gg .642	%CO2 .30	%N2 .49	%H2S 0.00	Prover 0.000"	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	62	1807	0	0	0	0 hrs.
1.	2.067 X 1.000	530	13.3	63	1571	62	0	0	24 hrs.
2.	2.067 X 1.000	540	19.8	61	1516	62	0	0	24 hrs.
3.	2.067 X 1.000	550	23.9	62	1426	62	0	0	24 hrs.
4.	2.067 X 1.000	590	28.0	60	1350	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 HOUR)	$\sqrt{hwP_m}$	Pressure P _m	Flow Temp Factor F _t	Gravity Factor F _g	Super Compress. Fact. F _{pv}	Rate of Flow Q, Mcfd
1.	4.947	85.00	543.20	.997	1.248	1.051	550
2.	4.947	104.66	553.20	.999	1.248	1.053	680
3.	4.947	116.02	563.20	.998	1.248	1.054	753
4.	4.947	129.96	603.20	1.000	1.248	1.059	849
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	Mcfd/bbl.
1.	.81	523	1.42	.905	A.P.I. Gravity of Liquid Hydrocarbons	0.000	Deg.
2.	.82	521	1.42	.902	Specific Gravity Separator Gas	.642	xxxxxx
3.	.84	522	1.42	.901	Specific Gravity Flowing Fluid	xxxxxx	.642
4.	.90	520	1.41	.892	Critical Pressure	671.0 PSIA	671.0 PSIA
5.	0.00	0	0.00	0.000	Critical Temperature	368.0°R	368.0°R

Pc	1820.2	Pc ²	3313.1	
NO	Pt ²	Pw	Pw ²	Pc ² -Pw ²
1.	2509.7	1585.0	2512.1	801.1
2.	2338.5	1530.4	2342.1	971.0
3.	2071.3	1440.8	2075.8	1237.3
4.	1858.3	1365.3	1864.1	1449.1
5.	0.0	0.0	0.0	0.0

$$\frac{P_c^2}{P_c^2 - P_w^2} = \frac{2.2802}{1} \quad (2) \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.8267$$

$$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1552 \text{ Mcfd}$$

Absolute Open Flow 1552 Mcfd @ 15.025 Angle of Slope, 0 36 Slope, n .731
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 1/22/90

COMPANY Yates Petroleum Corporation LEASE Estellita AFO Fed WELL NO. 1

LOCATION: Unit H Section 15 Township 14S Range 27E

L 7590.0 H 7590.0 L/H 1.000 G .642 %CO₂ .30 %N₂ .49 %H₂S 0.00

d 2.441 Fr .010495 GH 4872.8 Pcr 671.0 Tcr 368.0

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	.550	.680	.753	.849	0.000
2 Tw(W.H.°R)	522.0	522.0	522.0	522.0	0.0
3 Ts(B.H.°R)	625.0	625.0	625.0	625.0	0.0
4 T=(Tw+Ts)/2	573.5	573.5	573.5	573.5	0.0
5 Z(Est.)	.818	.821	.828	.833	0.000
6 TZ	469.1	471.0	474.6	477.9	0.0
7 GH/TZ	10.387	10.345	10.267	10.195	0.000
8 e ^s (Table XIV)	1.476	1.474	1.470	1.466	0.000
9 1-e ^{-s} (Table XIV)	.323	.322	.320	.318	0.000
10 Pt	1584.2	1529.2	1439.2	1363.2	0.0
11 Pt ² /1000	2509.7	2338.5	2071.3	1858.3	0.0
12 Fr(Table XV)	.010495	.010495	.010495	.010495	0.000000
13 Fc=FrTZ	4.923	4.944	4.981	5.016	0.000
14 FcQm	2.708	3.361	3.752	4.261	0.000
15 L/H(FcQm) ²	7.335	11.294	14.080	18.157	0.000
16 Fw=L/H(FcQm) ² (1-e ^{-s})	2.366	3.631	4.499	5.769	0.000
17 Pw ² =Pt ² +Fw	2512.1	2342.1	2075.8	1864.1	0.0
18 Ps ² =e ^s Pw ²	3708.4	3452.0	3050.6	2732.1	0.0
19 Ps	1925.7	1858.0	1746.6	1652.9	0.0
20 P=(Pt+Ps)/2	1755.0	1693.6	1592.9	1508.1	0.0
21 Pr=(P/Pcr)	2.62	2.52	2.37	2.25	0.00
22 Tr=(T/Tcr)	1.56	1.56	1.56	1.56	0.00
23 Z(Table XI)	.818	.821	.828	.833	0.000

Or any
Well
Location
County
Date

Yates Petroleum Corporation
Estrellita AFO Fed No. 1
H, 15-14S-27E
Chaves
1/22/90

