

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

45F. File
Form O-122

RECEIVED

Type Test [X] Initial [] Annual [] Special						Test Date 12/14/82		FEB 18 1983	
Company Yates Petroleum Corporation				Connection Transwestern Pipeline Company				O. C. D. ARTESIA, OFFICE	
Pool Pecos Slope - Abo				Formation Abo					
Completion Date 7/5/82		Total Depth 4360.0'		Plug Back TD 4301.0'		Elevation 3629.0'		Farm or Lease Name No. Sturgeon "PR" <i>Aud.</i>	
Csg Size 4.500"	Wt. 9.500#	d 4.090"	Set At 4360.0'	Perforations: From 4014.0' To 4277.0'				Well No. 2	
Tbg Size 2.375"	Wt. 4.700#	d 1.995"	Set At 3970.0'	Perforations: From 0.0' To 0.0'				Unit Sec Twp Rge K 4 7S 26E	
Type Well Single						Packer Set At 3970.0'		County Chaves	
Producing Thru Tubing		Resv. Temp. °F 106 @ 3970'		Mean Temp. °F 62.0		Baro. Press. - Pa 13.2 psia.		State New Mexico	
L 3970.0'	H 3970.0'	Gg .637	%CO2 .16	%H2 5.62	%H2S 0.00	Proven 0.000"	Meter Run 2.000"	Taps Flange	

FLOW DATA					TUBING DATA		CASING DATA		Duration of Flow
NO	Proven 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	60	1005	0	0	0	0 hrs.
1.	2.067 X 1.000	520	4.3	60	868	62	0	0	24 hrs.
2.	2.067 X 1.000	495	6.0	60	824	62	0	0	24 hrs.
3.	2.067 X 1.000	480	9.8	60	780	62	0	0	24 hrs.
4.	2.067 X 1.000	465	13.0	60	720	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)	hw/Pm	Pressure Pm	Flow Temp Factor Ft.	Gravity Factor Fg	Super Compress. Fact. Fpv	Rate of Flow Q, Mcfd
1.	4.947	47.88	533.20	1.000	1.253	1.044	310
2.	4.947	55.22	508.20	1.000	1.253	1.042	357
3.	4.947	69.52	493.20	1.000	1.253	1.041	448
4.	4.947	78.85	478.20	1.000	1.253	1.039	508
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.	.81	520	1.48	.917	A.P.I. Gravity of Liquid Hydrocarbons 0.000 Deg.
2.	.77	520	1.48	.921	Specific Gravity Separator Gas .637 xxxxxxxxxxxxxxx
3.	.75	520	1.48	.924	Specific Gravity Flowing Fluid xxxxxx .637
4.	.72	520	1.48	.926	Critical Pressure 662.0 PSIA 662.0 PSIA
5.	0.00	0	0.00	0.000	Critical Temperature 352.2°R 352.2°R

Pc 1018.2 Pc² 1036.7				
NO	Pt²	Pw	Pw²	Pc²-Pw² (1)
1.	776.5	881.9	777.8	259.0
2.	700.9	838.2	702.6	334.2
3.	629.2	794.9	631.8	404.9
4.	537.6	735.5	541.0	495.7
5.	0.0	0.0	0.0	0.0

$$\frac{Pc^2}{Pc^2 - Pw^2} = \frac{2.1266}{1} \quad (2) \left[\frac{Pc^2}{Pc^2 - Pw^2} \right]^n = 1.7904$$

$$AOF = Q \left[\frac{Pc^2}{Pc^2 - Pw^2} \right]^n = 909 \text{ Mcfd}$$

Absolute Open Flow 909 Mcfd @ 15.025 Angle of Slope, 0 38 Slope, n .772
Remarks: _____

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

Adopted 9-1-65

DATE 2/16/83

COMPANY Yates Petroleum Corporation LEASE No. Sturgeon "PR" WELL NO. 2

LOCATION: Unit K Section 4 Township 7S Range 26E

L 3970.0 H 3970.0 L/H 1.000 G .637 %O₂ .16 %N₂ 5.62 %H₂S 0.00

d 1.995 Fr .017777 GH 2528.9 Pcr 662.0 Tcr 352.2

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	.310	.357	.448	.508	0.000
2 Tw(W.H.°R)	522.0	522.0	522.0	522.0	0.0
3 Ts(B.H.°R)	566.0	566.0	566.0	566.0	0.0
4 T=(Tw+Ts)/2	544.0	544.0	544.0	544.0	0.0
5 Z(Est.)	.881	.887	.892	.900	0.000
6 TZ	479.5	482.4	485.4	489.5	0.0
7 GH/TZ	5.274	5.242	5.210	5.167	0.000
8 e ^s (Table XIV)	1.219	1.217	1.216	1.214	0.000
9 1-e ^{-s} (Table XIV)	.179	.178	.177	.176	0.000
10 Pt	881.2	837.2	793.2	733.2	0.0
11 Pt ² /1000	776.5	700.9	629.2	537.6	0.0
12 Fr(Table XV)	.017777	.017777	.017777	.017777	0.000000
13 Fc=FrTZ	8.524	8.582	8.628	8.705	0.000
14 FcQm	2.642	3.060	3.869	4.422	0.000
15 L/H(FcQm) ²	6.978	9.366	14.970	19.551	0.000
16 Fw=L/H(FcQm) ² (1-e ^{-s})	1.252	1.670	2.657	3.442	0.000
17 Pw ² =Pt ² +Fw	777.8	702.6	631.8	541.0	0.0
18 Ps ² =e ^s Pw ²	947.8	855.1	768.2	656.6	0.0
19 Ps	973.6	924.7	876.4	810.3	0.0
20 P=(Pt+Ps)/2	927.4	881.0	834.8	771.8	0.0
21 Pr=(P/Pcr)	1.40	1.33	1.26	1.17	0.00
22 Tr=(T/Tcr)	1.54	1.54	1.54	1.54	0.00
23 Z(Table XI)	.881	.887	.892	.900	0.000

Company	Yates Petroleum Corporation
Well	No. Sturgeon "PR" No. 2
Location	K, 4-7S-26E
County	Chaves
Date	2/16/83

