

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

Form C-122

clsr
File

Type Test [x] Initial [] Annual [] Special				Test Date 3/10/88	
Company Yates Petroleum Corporation				Connection Transwestern Pipeline Company	
Pool Pecos Slope AED				Formation Abo	
Completion Date 1/23/88		Total Depth 5050.0'		Elevation 3861.0'	
Csg Size 4.500"		Wt. 9.500#		Set At 5050.0'	
Tbg Size 2.375"		Wt. 4.700#		Set At 4417.0'	
Perforations: From 4443.0' To 4817.0'		Perforations: From 0.0' To 0.0'		Farm or Lease Name Engwall RL Federal	
Well No. 2		Unit Sec H 4		Twp Rge 9S 26E	
Type Well Single				Packer Set At 4417.0'	
Producing Thru Tubing		Resv. Temp. °F 106 @ 4816'		Mean Temp. °F 62.0	
Baro. Press. - Pa 13.2 psia.		State Chaves		County	
L 4417.0'		H 4417.0'		Gg .646	
%CO2 .25		%N2 5.02		%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	41	960	0	0	0	0 hrs.
1.	2.067 X 1.125	150	14.0	41	879	62	0	0	24 hrs.
2.	2.067 X 1.125	150	29.6	41	821	62	0	0	24 hrs.
3.	2.067 X 1.125	150	56.7	41	711	62	0	0	24 hrs.
4.	2.067 X 1.125	150	76.0	41	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 HOUR)	hwPm	Pressure Pm	Flow Temp Factor Ft.	Gravity Factor Fg	Super Compress. Fact. Fpv	Rate of Flow Q, Mcfd
1.	6.397	47.80	163.20	1.019	1.244	1.015	393
2.	6.397	69.50	163.20	1.019	1.244	1.015	572
3.	6.397	96.19	163.20	1.019	1.244	1.015	792
4.	6.397	111.37	163.20	1.019	1.244	1.015	916
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.	.25	501	1.40	.971	A.P.I. Gravity of Liquid Hydrocarbons 0.000 Deg.
2.	.25	501	1.40	.971	Specific Gravity Separator Gas .646
3.	.25	501	1.40	.971	Specific Gravity Flowing Fluid .646
4.	.25	501	1.40	.971	Critical Pressure 663.1 PSIA
5.	0.00	0	0.00	0.000	Critical Temperature 356.7°R

Pc 973.2		Pc2 947.1	
NO	Pt2	Pw	Pw2
1.	796.0	893.4	798.2
2.	695.9	837.0	700.6
3.	524.5	730.6	533.7
4.	473.6	697.2	486.1
5.	0.0	0.0	0.0

$$\begin{aligned}
 & \frac{Pc^2}{Pc^2 - Pw^2} = \frac{2.0521}{(1)} \quad (2) \left[\frac{Pc^2}{Pc^2 - Pw^2} \right]^n = 1.7127 \\
 & ROF = Q \left[\frac{Pc^2}{Pc^2 - Pw^2} \right]^n = 1570 \text{ Mcfd}
 \end{aligned}$$

Absolute Open Flow 1570 Mcfd @ 15.025 Angle of Slope, 0 37 Slope, n .748

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 4/29/88

COMPANY Yates Petroleum Corporation LEASE Engwall RL Federal WELL NO. 2

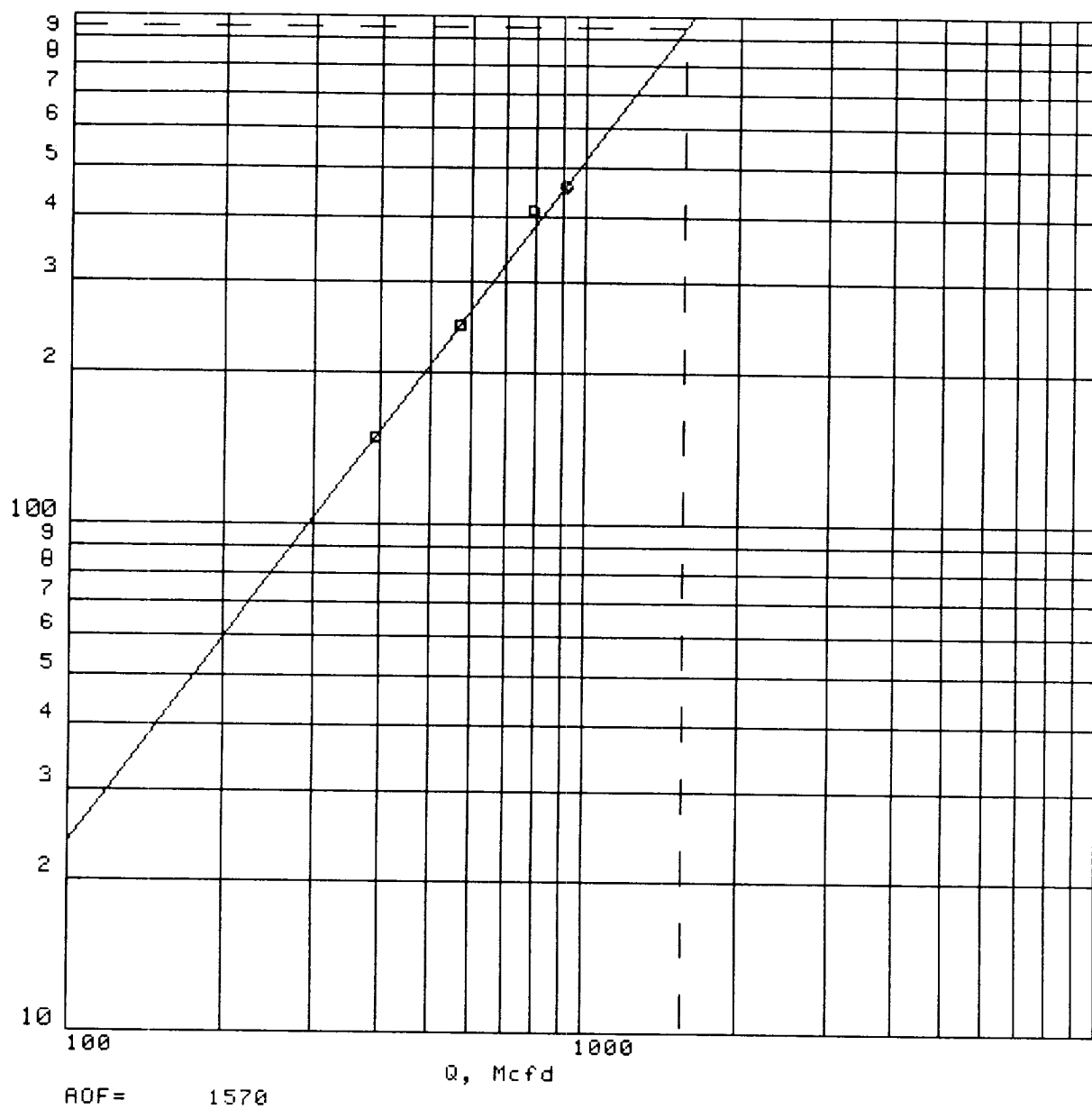
LOCATION: Unit H Section 4 Township 9S Range 26E

L 4417.0 H 4417.0 L/H 1.000 G .646 %CO₂ .25 %N₂ 5.02 %H₂S 0.00

d 1.995 Fr .017777 GH 2853.4 Pcr 663.1 Tcr 356.7

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	.393	.572	.792	.916	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.)	.874	.881	.895	.900	0.000
6 TZ	475.3	479.3	487.1	489.6	0.0
7 GH/TZ	6.004	5.954	5.858	5.828	0.000
8 e ^s (Table XIV)	1.252	1.250	1.246	1.244	0.000
9 1-e ^{-s} (Table XIV)	.201	.200	.197	.196	0.000
10 Pt	892.2	834.2	724.2	688.2	0.0
11 Pt ² /1000	796.0	695.9	524.5	473.6	0.0
12 Fr(Table XV)	.017777	.017777	.017777	.017777	0.000000
13 Fc=FrTZ	8.456	8.520	8.659	8.704	0.000
14 FcQm	3.326	4.873	6.854	7.977	0.000
15 L/H(FcQm) ²	11.064	23.744	46.979	63.634	0.000
16 Fw=L/H(FcQm) ² (1-e ^{-s})	2.229	4.751	9.265	12.492	0.000
17 Pw ² =Pt ² +Fw	798.2	700.6	533.7	486.1	0.0
18 Ps ² =e ^s Pw ²	999.6	875.9	664.9	604.8	0.0
19 Ps	999.8	935.9	815.4	777.7	0.0
20 P=(Pt+Ps)/2	946.0	885.1	769.8	733.0	0.0
21 Pr=(P/Pcr)	1.43	1.33	1.16	1.11	0.00
22 Tr=(T/Tcr)	1.53	1.53	1.53	1.53	0.00
23 Z(Table XI)	.874	.881	.895	.900	0.000

Company	Yates Petroleum Corporation
Well	Engwall RL Federal No. 2
Location	H, 4-9S-26E
County	Chaves
Date	4/29/88



ROF= 1570