

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

Form C-122

RECEIVED

Test Type: ☒ Initial ☐ Annual ☐ Special Test Date: 11/13/82						JAN 20 1983	
Company: Yates Petroleum Corporation				Connection: Transwestern Pipeline Company			
Pool: Undesignated - Abo				Formation: Abo			
Completion Date: 3/2/82				Total Depth: 4150.0'		Plug Back TD: 4101.0'	
Elevation: 3636.2'				Farm or Lease Name: Morton "GZ" Federal			
Csg Size: 4 500"		Wt.: 9.500#		d: 4.090"		Set At: 4149.0'	
Tbg Size: 2 875"		Wt.: 6.500#		d: 2.441"		Set At: 3858.0'	
Perforations: From 3878.0' To 3974.0'		Perforations: From 0.0' To 0.0'		Well No.: 1		Unit Sec Twp Rge: L 10 S8 25E	
Type Well: Single				Packer Set At: 3858.0'		County: Chaves	
Producing Thru Tubing: 100 @ 3926'		Resv. Temp. °F: 62.0		Mean Temp. °F: 13.2 psia		State: New Mexico	
H: 3858.0'		Gg: .664		%CO2: .45		%N2: 8.85	
%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	72	986	0	0	0	0 hrs.
1.	2.067 X 1.000	135	14.6	75	886	62	0	0	24 hrs.
2.	2.067 X 1.000	150	18.3	75	860	62	0	0	24 hrs.
3.	2.067 X 1.000	165	25.2	72	814	62	0	0	24 hrs.
4.	2.067 X 1.000	180	28.0	72	780	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.	4.947	46.52	148.20	.986	1.227	1.011	282
2.	4.947	54.65	163.20	.986	1.227	1.012	331
3.	4.947	67.01	178.20	.989	1.227	1.013	407
4.	4.947	73.55	193.20	.989	1.227	1.014	448
5.	0.000	0.00	0.00	0.000	0.000	0.000	0

NO	Pn	Temp. °R	Tr	Z	Gas Liquid Hydrocarbon Ratio	Dry	Mcf/bbl.
1.	.23	535	1.50	.978	A.P.I. Gravity of Liquid Hydrocarbons	0.000	Deg.
2.	.25	535	1.50	.976	Specific Gravity Separator Gas	.664	xxxxxxxxxxxxxx
3.	.27	532	1.49	.975	Specific Gravity Flowing Fluid	xxxxxx	.664
4.	.29	532	1.49	.972	Critical Pressure	657.0 PSIA	657.0 PSIA
5.	0.00	0	0.00	0.000	Critical Temperature	356.0°R	356.0°R

Pc	999.2	Pc2	998.4
NO	Pt2	Pw	Pw2
1.	808.6	899.4	808.9
2.	762.5	873.5	763.0
3.	684.3	827.7	685.0
4.	629.2	793.8	630.1
5.	0.0	0.0	0.0

$\frac{P_c^2}{P_c^2 - P_w^2} = \frac{3.1895}{(2)} \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.3422$	
$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 954 \text{ Mcfd}$	

Absolute Open Flow	954 Mcfd @ 15.025	Angle of Slope, θ	36	Slope, n	.734
Remarks:					

Approved By:	Conducted By:	Calculated By:	Checked By:
	David Weaver	Andie Alderson	

WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (Pw) C-122D

Adopted 9-1-65

DATE 1/18/83

COM ANY Yates Petroleum Corporation LEASE Morton "SZ" Federal WELL NO. 1

LOCATION: Unit L Section 10 Township 8S Range 25E

L 3858.0 H 3858.0 L/H 1.000 G .664 %O2 .45 %N2 8.85 %H2S 0.00

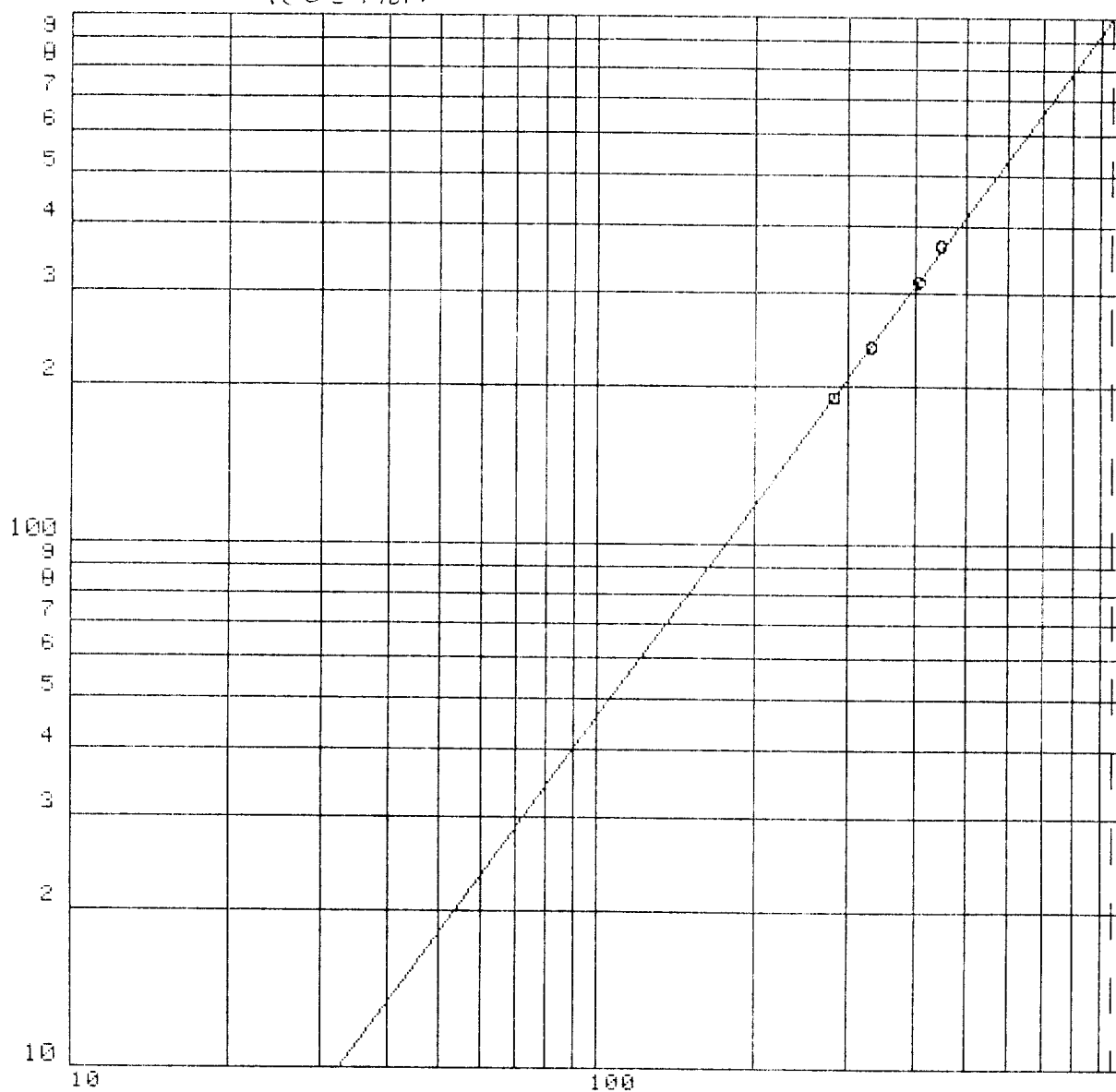
d 2.441 Fr .010495 GH 2561.7 Pcr 657.0 Tcr 356.0

LINE		1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1	Qm	.282	.331	.407	.448	0.000
2	Tw(W.H.*R)	522.0	522.0	522.0	522.0	0.0
3	Ts(B.H.*R)	568.0	568.0	568.0	568.0	0.0
4	T=(Tw+Ts)/2	545.0	545.0	545.0	545.0	0.0
5	Z(Est.)	.874	.878	.883	.888	0.000
6	TZ	476.5	478.3	481.5	483.9	0.0
7	GH/TZ	5.376	5.356	5.321	5.294	0.000
8	e ^s (Table XIV)	1.223	1.222	1.221	1.219	0.000
9	1-e ^s (Table XIV)	.183	.182	.181	.180	0.000
10	Pt	899.2	873.2	827.2	793.2	0.0
11	Pt ² /1000	808.6	762.5	684.3	629.2	0.0
12	Fr(Table XV)	.010495	.010495	.010495	.010495	0.000000
13	Fc=FrTZ	5.001	5.023	5.053	5.081	0.000
14	FcQm	1.408	1.664	2.059	2.275	0.000
15	L/H(FcQm) ²	1.982	2.767	4.238	5.175	0.000
16	Fw=L/H(FcQm) ² (1-e ^s)	.362	.503	.766	.931	0.000
17	Pw ² =Pt ² +Fw	808.9	763.0	685.0	630.1	0.0
18	Ps ² =e ^s Pw ²	989.6	932.6	836.3	768.4	0.0
19	Ps	994.8	965.7	914.5	876.6	0.0
20	P=(Pt+Ps)/2	947.0	919.4	870.8	834.9	0.0
21	Pr=(P/Pcr)	1.44	1.40	1.33	1.27	0.00
22	Tr=(T/Tcr)	1.53	1.53	1.53	1.53	0.00
23	Z(Table XI)	.874	.878	.883	.888	0.000

Company	Yates Petroleum Corporation
Well	Morton "92" Federal No. 1
Location	L, 10-88-25E
County	Chaves
Date	1/18/83

$P_c = 998.4$

$P_c^2 - P_w^2$, THOUSANDS



ROF= 954

Q, Mcfd