

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

c/sf
File
Form O-122
RECEIVED

JUL 18 1983

Type Test [x] Initial [] Annual [] Special				Test Date 5/22/83		O. C. D.	
Company Yates Petroleum Corporation				Connection Transwestern Pipeline Company		ARTESIA, OFFICE	
Pool Pecos Slope				Formation Abo		Unit	
Completion Date 3/29/82		Total Depth 4200.0'		Plug Back TD 4153.0'		Elevation 3614.5'	
Farm or Lease Name Skink "SK" State				Well No. 4			
Csg Size 4.500"	Wt. 3.500#	d 4.090"	Set At 4200.0'	Perforations: From 3810.0' To 3847.0'		Unit Sec F 36	
Tbg Size 2.375"	Wt. 4.700#	d 1.995"	Set At 3760.0'	Perforations: From 0.0' To 0.0'		Tup Rge 7S 25E	
Type Well Single				Packer Set At 3762.0'		County Chaves	
Producing Tubing		Resv. Temp. °F 102 @ 3829'		Mean Temp. °F 62.0		Baro. Press. - Pa 13.2 psia.	
State New Mexico							
L 3760.0'	H 3760.0'	Gg .655	%CO2 1.11	%N2 5.65	%H2S 0.00	Prover 0.000"	Meter Run 2.000"
Taps Flange							

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow
NO	Prover Size	Inlet Size	Press. psig	Diff. hw	Temp. °F	Press. psig	Temp. °F	Press. psig	Temp. °F	
SI	0.000	x 0.000	0	0.0	0	1000	0	0	0	0 hrs.
1.	2.067	x .625	95	16.0	70	910	62	0	0	24 hrs.
2.	2.067	x .625	85	45.0	70	810	62	0	0	24 hrs.
3.	2.067	x .625	95	51.0	70	540	62	0	0	24 hrs.
4.	2.067	x .625	100	65.0	70	500	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 HOURS)	Pressure Pm	Flow Temp Factor Ft.	Gravity Factor Fg	Super Compress. Fact. Fpu	Rate of Flow Q, Mcfd
1.	1.366	41.61	108.20	.991	1.236	96
2.	1.366	66.48	98.20	.991	1.236	153
3.	1.366	74.28	108.20	.991	1.236	171
4.	1.366	85.78	113.20	.991	1.236	198
5.	0.000	0.00	0.00	0.000	0.000	0

NO	Pn	Temp. °R	Tn	Z	Gas Liquid Hydrocarbon Ratio Dry	Mcf/bbl.
1.	.16	530	1.49	.983	A.P.I. Gravity of Liquid Hydrocarbons	0.000 Deg.
2.	.15	530	1.49	.985	Specific Gravity Separator Gas	.655
3.	.16	530	1.49	.983	Specific Gravity Flowing Fluid	xxxxxxx
4.	.17	530	1.49	.983	Critical Pressure	665.4 PSIA
5.	0.00	0	0.00	0.000	Critical Temperature	356.5°R

Pc	1013.2	Pc ²	1026.6					
NO	Pt ²	Pw	Pw ²	Pc ² -Pw ²	(1)	$\frac{Pc^2}{Pc^2-Pw^2} = \frac{5.8943}{}$	(2)	$\left[\frac{Pc^2}{Pc^2-Pw^2} \right]^n = \frac{2.4278}{}$
1.	852.3	923.3	852.4	174.2				
2.	677.7	823.4	678.0	348.6				
3.	306.0	553.6	306.4	720.2				
4.	263.4	513.7	263.9	762.7				
5.	0.0	0.0	0.0	0.0				

ROF = 0
 $\left[\frac{Pc^2}{Pc^2-Pw^2} \right]^n = \frac{233 \text{ Mcfd}}{}$

$$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 233 \text{ Mcfd}$$

Absolute Open Flow 233 Mcfd @ 15.025 Angle of Slope, θ 27 Slope, n .500
Remarks:

Approved By:	Conducted By: David Weaver	Calculated By: Andie Carpenter	Checked By:
--------------	-------------------------------	-----------------------------------	-------------

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

Adopted 9-1-65

DATE 7/15/83

COMPANY Yates Petroleum Corporation LEASE Skink "SK" State WELL NO. 4

LOCATION: Unit F Section 36 Township 7S Range 25E

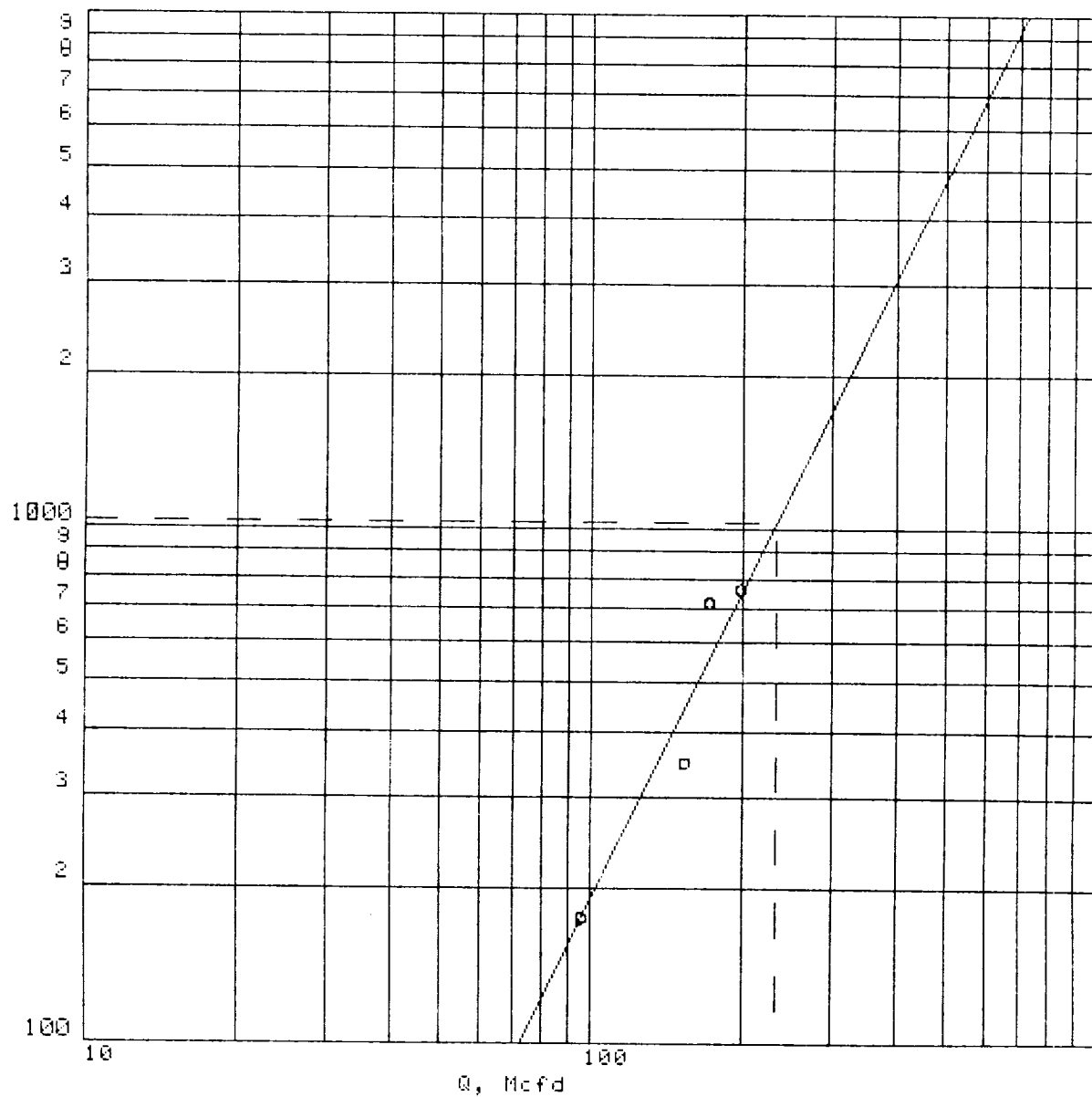
L 3760.0 H 3760.0 L/H 1.000 G .655 %CO₂ 1.11 %N₂ 5.65 %H₂S 0.00

d 1.995 Fr .017777 GH 2462.8 Pcr 665.4 Tcr 356.5

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	.096	.153	.171	.198	0.000
2 Tw(W.H.°R)	522.0	522.0	522.0	522.0	0.0
3 Ts(B.H.°R)	562.0	562.0	562.0	562.0	0.0
4 T=(Tw+Ts)/2	542.0	542.0	542.0	542.0	0.0
5 Z(Est.)	.870	.883	.920	.925	0.000
6 TZ	471.3	478.3	498.4	501.5	0.0
7 GH/TZ	5.225	5.149	4.941	4.911	0.000
8 e ^{-s} (Table XIV)	1.216	1.213	1.204	1.202	0.000
9 1-e ^{-s} (Table XIV)	.178	.175	.169	.168	0.000
10 Pt	923.2	823.2	553.2	513.2	0.0
11 Pt ² /1030	852.3	677.7	306.0	263.4	0.0
12 Fr(Table XV)	.017777	.017777	.017777	.017777	0.000000
13 Fc=FrTZ	8.386	8.509	8.863	8.915	0.000
14 FcQm	.804	1.302	1.516	1.762	0.000
15 L/H(FcQm) ²	.646	1.694	2.299	3.104	0.000
16 Fw=L/H(FcQm) ² (1-e ^{-s})	.115	.297	.389	.522	0.000
17 Pw ² =Pt ² +Fw	852.4	678.0	306.4	263.9	0.0
18 Ps ² =e ^s Pw ²	1036.8	822.2	368.8	317.3	0.0
19 Ps	1018.2	906.8	607.3	563.3	0.0
20 P=(Pt+Ps)/2	970.7	865.0	580.2	538.2	0.0
21 Pr=(P/Pcr)	1.46	1.30	.87	.81	0.00
22 Tr=(T/Tcr)	1.52	1.52	1.52	1.52	0.00
23 Z(Table XI)	.870	.883	.920	.925	0.000

Company	Yates Petroleum Corporation
Well	Skink "SK" State No. 4
Location	F, 36-7S-25E
County	Chaves
Date	7/15/83

$P_c^2 - P_w^2$, THOUSANDS



ROF= 233