

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

Form C-122

SEP 18 '90

Type Test [x] Initial [] Annual [] Special				Test Date 01-09-89	
Company Yates Petroleum Corporation				Connection Transwestern Pipeline Company	
Pool Pecos Slope Abo				Unit	
Completion Date 03-29-85		Total Depth 3500.0'		Plug Back TD 3428.0'	
Csg Size 4.500"		Wt. 9.500#		Elevation 3982.0'	
Tbg Size 2.375"		Wt. 4.700#		Perforations: From 2954.0' To 3067.0'	
Type Well Single		Packer Set At 2903.0'		Farm or Lease Name Lewis ABN Federal	
Producing Thru Tubing		Resv. Temp. °F 98 @ 3010'		Mean Temp. °F 62.0	
Baro. Press. - Pa 13.2 psia.		State New Mexico		Well No. 1	
L 2903.0'		H 2903.0'		Gg .605	
%CO2 .02		%N2 6.50		%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	47	1000	0	0	0	0 hrs.
1.	2.067 X 1.125	580	2.0	50	620	62	0	0	24 hrs.
2.	2.067 X 1.125	490	3.1	48	568	62	0	0	24 hrs.
3.	2.067 X 1.125	450	4.0	49	425	62	0	0	24 hrs.
4.	2.067 X 1.125	450	5.1	47	241	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 Pm	Flow Temp Factor Ft.	Gravity Factor Fg	Super Compress. Fact. Fpv	Rate of Flow Q, Mcfd
1.	6.397	34.44	593.20	1.010	1.286	1.045	299
2.	6.397	39.50	503.20	1.012	1.286	1.039	341
3.	6.397	43.04	463.20	1.011	1.286	1.035	370
4.	6.397	48.60	463.20	1.013	1.286	1.036	419
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.	A.P.I. Gravity of Liquid Hydrocarbons	Deg.
1.	.88	510	1.50	.915	0.000	0.000	Deg.
2.	.75	508	1.50	.927	Specific Gravity Separator Gas .605	xxxxxxx	
3.	.69	509	1.50	.933	Specific Gravity Flowing Fluid .605	xxxxxx	
4.	.69	507	1.49	.932	Critical Pressure 673.1 PSIA	661.0 PSIA	
5.	0.00	0	0.00	0.000	Critical Temperature 339.4°R	339.4°R	

Pc 1013.2 Pc² 1026.6

NO	Pt ²	Pw	Pw ²	Pc ² -Pw ² (1)	$\frac{Pc^2}{Pc^2-Pw^2} = 1.0619$	(2) $\left[\frac{Pc^2}{Pc^2-Pw^2} \right]^n = 1.0480$
1.	400.9	633.9	401.8	624.8		
2.	337.8	582.2	338.9	687.6		
3.	192.0	439.8	193.4	833.2		
4.	64.6	257.7	66.4	960.2		
5.	0.0	0.0	0.0	0.0		

$$AOF = Q \left[\frac{Pc^2}{Pc^2 - Pw^2} \right]^n = 439 \text{ Mcfd}$$

Absolute Open Flow 439 Mcfd @ 15.025 Angle of Slope, 0 38 Slope, n .781
Remarks:

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

Adopted 9-1-65

DATE 08-16-90

COMPANY Yates Petroleum Corporation LEASE Lewis ABN Federal WELL NO. 1

LOCATION: Unit J Section 21 Township 8 Range 23

L 2903.0 H 2903.0 L/H 1.000 G .605 %CO₂ .02 %N₂ 6.50 %H₂S 0.00

d 1.995 Fr .017777 GH 1756.3 Pcr 661.0 Tcr 339.4

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	.299	.341	.370	.419	0.000
2 Tw(W.H.°R)	522.0	522.0	522.0	522.0	0.0
3 Ts(B.H.°R)	558.0	558.0	558.0	558.0	0.0
4 T=(Tw+Ts)/2	540.0	540.0	540.0	540.0	0.0
5 Z(Est.)	.923	.929	.946	.969	0.000
6 TZ	498.3	501.5	510.8	523.3	0.0
7 GH/TZ	3.525	3.502	3.439	3.356	0.000
8 e ^s (Table XIV)	1.141	1.140	1.138	1.134	0.000
9 1-e ^{-s} (Table XIV)	.124	.123	.121	.118	0.000
10 Pt	633.2	581.2	438.2	254.2	0.0
11 Pt ² /1000	400.9	337.8	192.0	64.6	0.0
12 Fr(Table XV)	.017777	.017777	.017777	.017777	0.000000
13 Fc=FrTZ	8.859	8.917	9.080	9.302	0.000
14 FcQm	2.649	3.044	3.363	3.900	0.000
15 L/H(FcQm) ²	7.016	9.263	11.311	15.211	0.000
16 Fw=L/H(FcQm) ² (1-e ^{-s})	.869	1.140	1.368	1.799	0.000
17 Pw ² =Pt ² +Fw	401.8	338.9	193.4	66.4	0.0
18 Ps ² =e ^s Pw ²	458.6	386.5	220.0	75.3	0.0
19 Ps	677.2	621.7	469.0	274.5	0.0
20 P=(Pt+Ps)/2	655.2	601.4	453.6	264.3	0.0
21 Pr=(P/Pcr)	.99	.91	.69	.40	0.00
22 Tr=(T/Tcr)	1.59	1.59	1.59	1.59	0.00
23 Z(Table XI)	.923	.929	.946	.969	0.000

Company	Yates Petroleum Corporation
Well	Lewis ABN Federal No. 1
Location	J, 21-8-23
County	Chaves
Date	08-16-90

$P_c^2 - P_w^2$, THOUSANDS

