

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

Form C-122

45P
File

RECEIVED

Type Test [y] Initial [] Annual [] Special				Test Date 6/3/88		JUL 22 '88	
Company Yates Petroleum Corporation				Connection Transwestern Pipeline Company			
Pool Reos Slope <u>4-196</u>				Formation Abo		Unit O. C. D. ARTESIA, OFFICE	
Completion Date 5/24/82		Total Depth 4750.0'		Plug Back TD 4668.0'		Elevation 3731.4'	
Csg Size 4.500"		Wt. 9.500#		d 4.090"		Set At 4741.0'	
Tbg Size 2.875"		Wt. 6.500#		d 2.441"		Set At 4284.0'	
Perforations: From 4332.0' To 4603.0'		Perforations: From 0.0' To 0.0'		Farm or Lease Name Ultra UA State		Well No. 1	
Unit Sec E 32		Twp 9S		Rge 26E		County Chaves	
Producing Thru Tubing		Resv. Temp. °F 98 @ 4282'		Mean Temp. °F 62.0		Baro. Press. - Pa 13.2 psia.	
L 4741.0'		H 4741.0'		Gg .645		%CO2 .05	
%N2 5.78		%H2S 0.00		Prover 0.000"		Meter Run 2.000"	
Taps Flange		Duration of Flow					

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	90	1000	0	0	0	0 hrs.
1.	3.068 X 1.000	160	2.5	90	825	62	0	0	24 hrs.
2.	3.068 X 1.000	160	4.5	89	689	62	0	0	24 hrs.
3.	3.068 X 1.000	160	8.3	90	544	62	0	0	24 hrs.
4.	3.068 X 1.000	160	10.0	90	450	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.	4.788	20.81	173.20	.972	1.245	1.012	122
2.	4.788	27.92	173.20	.973	1.245	1.012	164
3.	4.788	37.92	173.20	.972	1.245	1.012	222
4.	4.788	41.62	173.20	.972	1.245	1.012	244
5.	0.000	0.00	0.00	0.000	0.000	0.000	0

NO	Pr	Temp. °R	Tr	Z	Gas Liquid Hydrocarbon Ratio A.P.I. Gravity of Liquid Hydrocarbons	Dry Mcf/bbl. 0.000 Deg.
1.	.26	550	1.55	.977	Specific Gravity Separator Gas .645	xxxxxxxxxxxxxx
2.	.26	549	1.55	.977	Specific Gravity Flowing Fluid	xxxxxx .645
3.	.26	550	1.55	.977	Critical Pressure	661.0 PSIA
4.	.26	550	1.55	.977	Critical Temperature	354.6°R
5.	0.00	0	0.00	0.000		

Pc	1013.2	Pc ²	1026.6	
NO	Pt ²	Pw	Pw ²	Pc ² -Pw ²
1.	702.6	838.2	702.7	323.9
2.	493.1	702.3	493.2	533.3
3.	310.5	557.4	310.7	715.8
4.	214.6	463.6	214.9	811.7
5.	0.0	0.0	0.0	0.0

$$(1) \frac{P_c^2}{P_c^2 - P_w^2} = \frac{1.2661}{1.2661 - 1.1951} = 1.2661$$

$$(2) \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.1951$$

$$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 292 \text{ Mcfd}$$

Absolute Open Flow 292 Mcfd @ 15.025 Angle of Slope, 0 37 Slope, n .755
Remarks:

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

Adopted 9-1-65

DATE 7/19/88

COMPANY Yates Petroleum Corporation LEASE Ultra UA State WELL NO. 1

LOCATION: Unit E Section 32 Township 9S Range 26E

L 4741.0 H 4741.0 L/H 1.000 G .645 %CO₂ .05 %N₂ 5.78 %H₂S 0.00

d 2.441 Fr .010495 GH 3057.9 Pcr 661.0 Tcr 354.6

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	.122	.164	.222	.244	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.)	.879	.898	.918	.932	0.000
6 TZ	474.7	484.7	495.7	503.1	0.0
7 GH/TZ	6.441	6.309	6.169	6.079	0.000
8 e ^s (Table XIV)	1.273	1.267	1.260	1.256	0.000
9 1-e ^{-s} (Table XIV)	.215	.211	.206	.204	0.000
10 Pt	838.2	702.2	557.2	463.2	0.0
11 Pt ² /1000	702.6	493.1	310.5	214.6	0.0
12 Fr(Table XV)	.010495	.010495	.010495	.010495	0.000000
13 Fc=FrTZ	4.982	5.090	5.205	5.281	0.000
14 FcQm	.608	.834	1.157	1.289	0.000
15 L/H(FcQm) ²	.370	.696	1.340	1.662	0.000
16 Fw=L/H(FcQm) ² (1-e ^{-s})	.079	.147	.277	.339	0.000
17 Pw ² =Pt ² +Fw	702.7	493.2	310.7	214.9	0.0
18 Ps ² =e ^s Pw ²	894.6	624.8	391.6	269.9	0.0
19 Ps	945.9	790.4	625.8	519.5	0.0
20 P=(Pt+Ps)/2	892.0	746.3	591.5	491.4	0.0
21 Pr=(P/Pcr)	1.35	1.13	.89	.74	0.00
22 Tr=(T/Tcr)	1.52	1.52	1.52	1.52	0.00
23 Z(Table XI)	.879	.898	.918	.932	0.000

Company	Yates Petroleum Corporation
Well	Ultra UA State No. 1
Location	E, 32-9S-26E
County	Chaves
Date	7/19/88

