

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

dsr file
 Form C-12

RECEIVED

OCT 29 1991

Type Test [x] Initial [] Annual [] Special				Test Date 10/27/89			
Company Yates Petroleum Corporation				Connection Yates Petroleum Corporation		O. C. D. ARTESIA OFFICE	
Pool Upper Penn				Formation Dagger Draw North		Unit	
Completion Date 8/9/89		Total Depth 9950.0'		Plug Back TD 8652.0'		Elevation 3749.0'	
Farm or Lease Name LaRue XX Federal							
Csg Size 4.500"	Wt. 9.500#	d 4.090"	Set At 8997.0'	Perforations: From 7679.0' To 7736.0'		Well No. 1	
Tbg Size 2.375"	Wt. 4.700#	d 1.995"	Set At 7653.0'	Perforations: From 0.0' To 0.0'		Unit Sec Twp Rge F 3 20S 24E	
Type Well Single				Packer Set At 7653.0'		County Eddy	
Producing Thru Tubing		Resv. Temp. °F 130 @ 8600'		Mean Temp. °F 62.0		Baro. Press. - Pa 13.2 psia.	
L 7653.0'		H 7653.0'		Gg .666		%CO2 5.60	
				%N2 7.71		%H2S 16.87	
				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	68	1847	0	0	0	0 hrs.
1.	3.068 X 2.250	200	6.3	65	1024	62	0	0	24 hrs.
2.	3.068 X 2.250	200	6.9	61	797	62	0	0	24 hrs.
3.	3.068 X 2.250	210	8.7	68	600	62	0	0	24 hrs.
4.	3.068 X 2.250	210	10.0	64	220	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.	28.748	36.65	213.20	.995	1.225	1.015	1305
2.	28.748	38.35	213.20	.999	1.225	1.016	1371
3.	28.748	44.07	223.20	.992	1.225	1.016	1565
4.	28.748	47.24	223.20	.996	1.225	1.016	1685
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.	.27	525	1.43	.970	A.P.I. Gravity of Liquid Hydrocarbons	0.000	Deg.
2.	.27	521	1.41	.969	Specific Gravity Separator Gas	.666	xxxxxxxxxxxxxx
3.	.28	528	1.43	.969	Specific Gravity Flowing Fluid	xxxxxx	.666
4.	.28	524	1.42	.968	Critical Pressure	791.4	PSIA
5.	0.00	0	0.00	0.000	Critical Temperature	368.3	°R

Pc 1860.2		Pc2 3460.3			
NO	Pt2	Pw	Pw2	Pc2-Pw2 (1)	$\frac{Pc2}{Pc2-Pw2} = \frac{1.0373}{(2)} \left[\frac{Pc2}{Pc2-Pw2} \right]^n = \frac{1.0270}{}$
1.	1075.8	1056.7	1116.6	2343.7	$ROF = Q \left[\frac{Pc2}{Pc2-Pw2} \right]^n = \frac{1731 \text{ Mcfd}}{}$
2.	656.4	838.6	703.2	2757.2	
3.	376.0	662.4	438.8	3021.5	
4.	54.4	362.5	131.4	3329.0	
5.	0.0	0.0	0.0	0.0	

$$AOF = Q \left[\frac{Pc^2}{Pc^2 - Pw^2} \right]^n = 1731 \text{ Mcfd}$$

Absolute Open Flow 1731 Mcfd @ 15.025 Angle of Slope, 0 36 Slope, n .726
 Remarks:

Approved By:	Conducted By: Norbert McCaw	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 10/28/91

COMPANY Yates Petroleum Corporation LEASE LaRue XX Federal WELL NO. 1

LOCATION: Unit F Section 3 Township 20S Range 24E

L 7653.0 H 7653.0 L/H 1.000 G .666 %CO₂ 5.60 %N₂ 7.71 %H₂S 16.87

d 1.995 Fr .017777 GH 5096.9 Pcr 791.4 Tcr 368.3

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	1.305	1.371	1.565	1.685	0.000
2 Tw(W.H.°R)	522.0	522.0	522.0	522.0	0.0
3 Ts(B.H.°R)	590.0	590.0	590.0	590.0	0.0
4 T=(Tw+Ts)/2	556.0	556.0	556.0	556.0	0.0
5 Z(Est.)	.865	.892	.916	.961	0.000
6 TZ	481.1	496.0	509.1	534.1	0.0
7 GH/TZ	10.595	10.277	10.012	9.543	0.000
8 e ^s (Table XIV)	1.488	1.470	1.455	1.430	0.000
9 1-e ^{-s} (Table XIV)	.328	.320	.313	.301	0.000
10 Pt	1037.2	810.2	613.2	233.2	0.0
11 Pt ² /1000	1075.8	656.4	376.0	54.4	0.0
12 Fr(Table XV)	.017777	.017777	.017777	.017777	0.000000
13 Fc=FrTZ	8.552	8.817	9.054	9.494	0.000
14 FcQm	11.158	12.091	14.169	15.999	0.000
15 L/H(FcQm) ²	124.507	146.188	200.759	255.959	0.000
16 Fw=L/H(FcQm) ² (1-e ^{-s})	40.822	46.752	62.819	77.001	0.000
17 Pw ² =Pt ² +Fw	1116.6	703.2	438.8	131.4	0.0
18 Ps ² =e ^s Pw ²	1661.3	1033.8	638.7	187.9	0.0
19 Ps	1288.9	1016.8	799.2	433.5	0.0
20 P=(Pt+Ps)/2	1163.1	913.5	706.2	333.3	0.0
21 Pr=(P/Pcr)	1.47	1.15	.89	.42	0.00
22 Tr=(T/Tcr)	1.51	1.51	1.51	1.51	0.00
23 Z(Table XI)	.865	.892	.916	.961	0.000

Company	Yates Petroleum Corporation
Well	LaRue XX Federal No. 1
Location	F, 3-20S-24E
County	Eddy
Date	10/28/91

