

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

Form C-122

RECEIVED

157
File

Type Test [x] Initial [] Annual [] Special				Test Date 1/25/89		JAN 23 '90	
Company Yates Petroleum Corporation				Connection Transwestern Pipeline Company		Q. C. D. ARTESIA, OFFICE	
Pool South Pecos Slope				Formation Abo		Unit Hard As Nails St Ut	
Completion Date 12/17/88		Total Depth 5100.0'		Plug Back TD 5038.0'		Elevation 3800.5'	
Csg Size 4.500"		Wt. 9.500#		Set At 5100.0'		Perforations: From 4813.0' To 4826.0'	
Tbg Size 2.375"		Wt. 4.700#		Set At 4728.0'		Perforations: From 0.0' To 0.0'	
Type Well Single				Packer Set At 4728.0'		County Chaves	
Producing Thru Tubing		Resv. Temp. °F 110 @ 4700'		Mean Temp. °F 62.0		Baro. Press. - Pa 13.2 psia.	
L 4728.0'		H 4728.0'		Gg .649		Prover 0.000"	
				%CO2 .05		%N2 5.04	
				%H2S 0.00		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	58	840	0	0	0	0 hrs.
1.	2.067 X .875	330	12.0	54	820	62	0	0	24 hrs.
2.	2.067 X .875	370	21.9	57	811	62	0	0	24 hrs.
3.	2.067 X .875	400	25.9	51	801	62	0	0	24 hrs.
4.	2.067 X .875	430	28.2	58	797	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)	1/hwPm	Pressure Pm	Flow Temp Factor Ft.	Gravity Factor Fg	Super Compress. Fact. Fpv	Rate of Flow Q, Mcfd
1.	3.729	64.17	343.20	1.006	1.241	1.031	308
2.	3.729	91.61	383.20	1.003	1.241	1.034	440
3.	3.729	103.45	413.20	1.009	1.241	1.038	501
4.	3.729	111.80	443.20	1.002	1.241	1.039	539
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 0.000 Deg.	Mcf/bbl.
1.	.52	514	1.44	.942	Specific Gravity Separator Gas .649	xxxxxxxxxxxxxx	
2.	.58	517	1.44	.936	Specific Gravity Flowing Fluid .649	xxxxxx	
3.	.62	511	1.43	.928	Critical Pressure 662.1 PSIA	662.1 PSIA	
4.	.67	518	1.45	.926	Critical Temperature 358.0°R	358.0°R	
5.	0.00	0	0.00	0.000			

Pc	853.2	Pc ²	728.0	
NO	Pt ²	Pw	Pw ²	Pc ² -Pw ²
1.	694.2	834.1	695.7	32.3
2.	679.3	826.0	682.3	45.6
3.	662.9	816.6	666.8	61.1
4.	656.4	813.0	661.0	67.0
5.	0.0	0.0	0.0	0.0

$$(1) \frac{Pc^2}{Pc^2 - Pw^2} = 10.8571 \quad (2) \left[\frac{Pc^2}{Pc^2 - Pw^2} \right]^n = 6.1914$$

$$AOF = Q \left[\frac{Pc^2}{Pc^2 - Pw^2} \right]^n = 3336 \text{ Mcfd}$$

Absolute Open Flow 3336 Mcfd @ 15.025 Angle of Slope, 0 37 Slope, n .764
Remarks:

Approved By:	Conducted By: David Weaver	Calculated By: Andrea Carpenter	Checked By:
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WORKSHEET FOR CALCULATION OF STATIC COLUMN WELL HEAD PRESSURE (Pw) C-122D

Adopted 9-1-65

DATE 1/22/90

COMPANY Yates Petroleum Corporation LEASE Hard As Nails St Ut WELL NO. 2

LOCATION: Unit A Section 27 Township 9S Range 26E

L 4728.0 H 4728.0 L/H 1.000 G .649 %CO2 .05 %N2 5.04 %H2S 0.00

d 1.995 Fr .017777 GH 3068.5 Pcr 662.1 Tcr 358.0

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	.308	.440	.501	.539	0.000
2 Tw(W.H.°R)	522.0	522.0	522.0	522.0	0.0
3 Ts(B.H.°R)	570.0	570.0	570.0	570.0	0.0
4 T=(Tw+Ts)/2	546.0	546.0	546.0	546.0	0.0
5 Z(Est.)	.881	.882	.883	.884	0.000
6 TZ	480.9	481.5	482.2	482.4	0.0
7 GH/TZ	6.381	6.373	6.364	6.360	0.000
8 e ^S (Table XIV)	1.270	1.270	1.270	1.269	0.000
9 1-e ^{-S} (Table XIV)	.213	.213	.212	.212	0.000
10 Pt	833.2	824.2	814.2	810.2	0.0
11 Pt ² /1000	694.2	679.3	662.9	656.4	0.0
12 Fr(Table XV)	.017777	.017777	.017777	.017777	0.000000
13 Fc=FrTZ	8.556	8.559	8.571	8.583	0.000
14 FcQm	2.635	3.763	4.298	4.624	0.000
15 L/H(FcQm) ²	6.941	14.157	18.476	21.384	0.000
16 Fw=L/H(FcQm) ² (1-e ^{-S})	1.476	3.009	3.923	4.534	0.000
17 Pw ² =Pt ² +Fw	695.7	682.3	666.8	661.0	0.0
18 Ps ² =e ^S Pw ²	883.6	866.5	846.6	838.8	0.0
19 Ps	940.0	930.9	920.1	915.9	0.0
20 P=(Pt+Ps)/2	886.6	877.5	867.1	863.0	0.0
21 Pr=(P/Pcr)	1.34	1.33	1.31	1.30	0.00
22 Tr=(T/Tcr)	1.53	1.53	1.53	1.53	0.00
23 Z(Table XI)	.881	.882	.883	.884	0.000

Company	Yates Petroleum Corporation
Well	Hard As Nails St Ut No. 2
Location	R, 27-9S-26E
County	Chaves
Date	1/22/90

