

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

RECEIVED BY C-122
NOV 13 1984

Type Test [X] Initial [] Annual [] Special				Test Date 8/23/84		O. C. D. ARTESIA OFFICE	
Company Yates Petroleum Corporation				Connection Transwestern Pipeline Company			
Pool Pecos Slope <i>ABO</i>				Formation Abo		Unit	
Completion Date 2/18/83		Total Depth 4125.0'		Plug Back TD 4059.0'		Elevation 3632.8'	
Farm or Lease Name Duncan "LH" Fed ✓				Well No. 3			
Csg Size 4.500"	Wt. 9.500#	d 4.090"	Set At 4120.0'	Perforations: From 3768.0' To 3943.0'		Unit Sec Twp Rge N 3 8S 25E	
Tbg Size 2.375"	Wt. 4.700#	d 1.995"	Set At 3735.0'	Perforations: From 0.0' To 0.0'			
Type Well Single				Packer Set At 3735.0'		County Chaves	
Producing Thru Tubing		Resv. Temp. °F 106 @ 0'		Mean Temp. °F 62.0		Baro. Press. - Pa 13.2 psia.	
State New Mexico							
L 3735.0'	H 3735.0'	Gg .655	%CO2 .03	%N2 6.72	%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	70	990	0	0	0	0 hrs.
1.	2.067 X 1.375	200	13.0	70	930	62	0	0	24 hrs.
2.	2.067 X 1.375	215	31.3	70	843	62	0	0	24 hrs.
3.	2.067 X 1.375	320	37.2	70	811	62	0	0	24 hrs.
4.	2.067 X 1.375	340	41.2	70	795	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.	10.204	52.65	213.20	.991	1.236	1.016	668
2.	10.204	84.51	228.20	.991	1.236	1.017	1074
3.	10.204	111.33	333.20	.991	1.236	1.026	1426
4.	10.204	120.63	353.20	.991	1.236	1.028	1548
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.	.32	530	1.49	.969	A.P.I. Gravity of Liquid Hydrocarbons	0.000	Deg.
2.	.35	530	1.49	.967	Specific Gravity Separator Gas	.655	xxxxxxxxxxxxxx
3.	.51	530	1.49	.950	Specific Gravity Flowing Fluid	xxxxxx	.655
4.	.54	530	1.49	.947	Critical Pressure	659.0 PSIA	659.0 PSIA
5.	0.00	0	0.00	0.000	Critical Temperature	355.3°R	355.3°R

Pc 1003.2 Pc² 1006.4

NO	Pt²	Pw	Pw²	Pc²-Pw²	(1) $\frac{Pc²}{Pc²-Pw²}$	(2) $\left[\frac{Pc²}{Pc²-Pw²}\right]^n$
1.	889.6	946.1	895.2	111.2	3.0636	2.3868
2.	733.1	864.7	747.6	258.8		
3.	679.3	839.7	705.1	301.3		
4.	653.2	826.8	683.6	322.8		
5.	0.0	0.0	0.0	0.0		

$$ROF = Q \left[\frac{Pc²}{Pc²-Pw²} \right]^n = 3695 \text{ Mcfd}$$

Absolute Open Flow 3695 Mcfd @ 15.025 Angle of Slope, θ 38 Slope, n .777
Remarks:

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

Adopted 9-1-65

DATE 11/6/84

COMPANY Yates Petroleum Corporation LEASE Duncan "LH" Fed WELL NO. 3

LOCATION: Unit N Section 3 Township 8S Range 25E

L 3735.0 H 3735.0 L/H 1.000 G .655 %CO₂ .03 %N₂ 6.72 %H₂S 0.00

d 1.995 Fr .017777 GH 2446.4 Pcr 659.0 Tcr 355.3

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	.668	1.074	1.426	1.548	0.000
2 Tw(W.H.°R)	522.0	522.0	522.0	522.0	0.0
3 Ts(B.H.°R)	566.0	566.0	566.0	566.0	0.0
4 T=(Tw+Ts)/2	544.0	544.0	544.0	544.0	0.0
5 Z(Est.)	.869	.880	.883	.885	0.000
6 TZ	472.9	478.6	480.6	481.6	0.0
7 GH/TZ	5.173	5.111	5.091	5.080	0.000
8 e ^s (Table XIV)	1.214	1.211	1.210	1.210	0.000
9 1-e ^{-s} (Table XIV)	.176	.174	.174	.173	0.000
10 Pt	943.2	856.2	824.2	808.2	0.0
11 Pt ² /1000	889.6	733.1	679.3	653.2	0.0
12 Fr(Table XV)	.017777	.017777	.017777	.017777	0.000000
13 Fc=FrTZ	8.407	8.514	8.543	8.561	0.000
14 FcQm	5.615	9.140	12.186	13.252	0.000
15 L/H(FcQm) ²	31.532	83.537	148.491	175.626	0.000
16 Fw=L/H(FcQm) ² (1-e ^{-s})	5.560	14.563	25.805	30.463	0.000
17 Pw ² =Pt ² +Fw	895.2	747.6	705.1	683.6	0.0
18 Ps ² =e ^s Pw ²	1086.8	905.5	853.4	827.1	0.0
19 Ps	1042.5	951.6	923.8	909.5	0.0
20 P=(Pt+Ps)/2	992.9	903.9	874.0	858.8	0.0
21 Pr=(P/Pcr)	1.51	1.37	1.33	1.30	0.00
22 Tr=(T/Tcr)	1.53	1.53	1.53	1.53	0.00
23 Z(Table XI)	.869	.880	.883	.885	0.000

Company	Yates Petroleum Corporation
Well	Duncan "LH" Fed No. 3
Location	N, 3-8S-25E
County	Chaves
Date	11/6/84

