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File

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

Form C-122

RECEIVED

FEB 18 1983

O. C. D.
ARTESIA, OFFICE

Type Test [X] Initial [] Annual [] Special					Test Date 12/8/82	
Company Yates Petroleum Corporation ✓				Connection Transwestern Pipeline Company		
Pool Pecos Slope - Abo Gas				Formation Abo		Unit O. C. D.
Completion Date 2/25/82		Total Depth 4450.0'		Plug Back TD 4342.0'		Elevation 3842.0'
Farm or Lease Name Hahn "NH" Federal						Well No. 3
Csg Size 4.500"	Wt. 9.500#	d 4.090"	Set At 4351.0'	Perforations: From 3862.0' To 3875.0'		Unit Sec Twp Rge E 9 7S 25E
Tbg Size 2.375"	Wt. 4.700#	d 1.995"	Set At 3832.0'	Perforations: From 0.0' To 0.0'		
Type Well Single				Packer Set At 3832.0'		County Chaves
Producing Thru Tubing		Resv. Temp. °F 95 @ 3882'		Mean Temp. °F 62.0		Baro. Press. - Pa 13.2 psia.
State New Mexico						
L 3832.0'	H 3832.0'	Gg .658	%CO2 .18	%N2 6.86	%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	52	982	0	0	0	0 hrs.
1.	2.067 X .875	135	3.9	52	686	62	0	0	24 hrs.
2.	2.067 X .875	125	5.8	52	556	62	0	0	24 hrs.
3.	2.067 X .875	110	9.4	52	441	62	0	0	24 hrs.
4.	2.067 X .875	100	14.0	52	120	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.	3.729	24.04	148.20	1.008	1.233	1.012	113
2.	3.729	28.31	138.20	1.008	1.233	1.011	133
3.	3.729	34.03	123.20	1.008	1.233	1.010	159
4.	3.729	39.81	113.20	1.008	1.233	1.009	186
5.	0.000	0.00	0.00	0.000	0.000	0.000	0

NO	Pc	Temp. °R	Tr	Z	Gas Liquid Hydrocarbon Ratio	Dry	Mcf/bbl.
1.	.22	512	1.44	.976	A.P.I. Gravity of Liquid Hydrocarbons	0.000	Deg.
2.	.21	512	1.44	.978	Specific Gravity Separator Gas	.658	xxxxxxxxxxxx
3.	.19	512	1.44	.981	Specific Gravity Flowing Fluid	xxxxxx	.658
4.	.17	512	1.44	.983	Critical Pressure	659.3 PSIA	659.3 PSIA
5.	0.00	0	0.00	0.000	Critical Temperature	355.6°R	355.6°R

NO	Pc	Pw	Pw²	Pc² - Pw²	(1)	Pc²	=	1.0229	(2)	$\left[\frac{Pc²}{Pc² - Pw²} \right]^n$	=	1.0173
1.	488.9	699.3	489.0	501.4								
2.	324.0	569.4	324.2	666.2								
3.	206.3	454.6	206.6	783.8								
4.	17.7	135.1	18.2	972.2								
5.	0.0	0.0	0.0	0.0								

$$ROF = Q \left[\frac{Pc²}{Pc² - Pw²} \right]^n = 189 \text{ Mcfd}$$

Absolute Open Flow 189 Mcfd @ 15.025 Angle of Slope, 0 37 Slope, n .759

Remarks:

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

Adopted 9-1-65

DATE 2/16/83

COMPANY Yates Petroleum Corporation LEASE Hahn "NH" Federal WELL NO. 3

LOCATION: Unit E Section 9 Township 7S Range 25E

L 3832.0 H 3832.0 L/H 1.000 G .658 %CO₂ .18 %N₂ 6.86 %H₂S 0.00

d 1.995 Fr .017777 GH 2521.5 Pcr 659.3 Tcr 355.6

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	.113	.133	.159	.186	0.000
2 Tw(W.H.°R)	522.0	522.0	522.0	522.0	0.0
3 Ts(B.H.°R)	555.0	555.0	555.0	555.0	0.0
4 T=(Tw+Ts)/2	538.5	538.5	538.5	538.5	0.0
5 Z(Est.)	.897	.915	.932	.980	0.000
6 TZ	482.8	492.8	501.9	527.5	0.0
7 GH/TZ	5.223	5.116	5.023	4.780	0.000
8 e ^s (Table XIV)	1.216	1.212	1.207	1.196	0.000
9 1-e ^{-s} (Table XIV)	.178	.175	.172	.164	0.000
10 Pt	699.2	569.2	454.2	133.2	0.0
11 Pt ² /1000	488.9	324.0	206.3	17.7	0.0
12 Fr(Table XV)	.017777	.017777	.017777	.017777	0.000000
13 Fc=FrTZ	8.588	8.761	8.925	9.378	0.000
14 FcQm	.968	1.162	1.421	1.745	0.000
15 L/H(FcQm) ²	.937	1.350	2.019	3.044	0.000
16 Fw=L/H(FcQm) ² (1-e ^{-s})	.167	.236	.347	.500	0.000
17 Pw ² =Pt ² +Fw	489.0	324.2	206.6	18.2	0.0
18 Ps ² =e ^s Pw ²	594.8	392.8	249.5	21.8	0.0
19 Ps	771.2	626.7	499.5	147.7	0.0
20 P=(Pt+Ps)/2	735.2	598.0	476.8	140.5	0.0
21 Pr=(P/Pcr)	1.12	.91	.72	.21	0.00
22 Tr=(T/Tcr)	1.51	1.51	1.51	1.51	0.00
23 Z(Table XI)	.897	.915	.932	.980	0.000

Company	Yates Petroleum Corporation
Well	Hahn "NH" Federal No. 3
Location	E, 9-7S-25E
County	Chaves
Date	2/16/83

