

NEW MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FORM AS WELL

Form C-122

File

Type Test ☒ Initial ☐ Annual ☐ Special					Test Date 12/04/1992					
Company Yates Petroleum Corp				Connection Transwestern Pipeline Co				JAN 06 '95		
Pool Abo				Formation Pecos Slope						
Completion Date 11/23/1992		Total Depth 5100		Plug Back TD 5056		Elevation 3792		Farm or Lease Name ARTESIA, OFFICE		
								Filaree AEL Federal Com		
Csg. Size 4.500	Wt. 9.500	d 4.090	Set At 5100	Perforations: From 4631 To 5018			Well No. 3			
Tbg. Size 2.375	Wt. 4.700	d 1.995	Set At 4580	Perforations: From 4631 To 5018			Unit E	Sec 33	Twp. 8S	Rge. 26E
Type Well Single					Packer Set At 4580			County Chaves		
Producing Thru Tubing		Resv. Temp. °F 108 @ 4825		Mean Temp. °F 62		Baro. Press. - Pa 13.2		State New Mexico		
L 4580	H 4580	Gg 0.645	%CO ₂ 0.022	%N ₂ 5.890	%H ₂ S 0.000	Prover 0.000	Meter Run 2.000	Taps Flange		

FLOW DATA							TUBING DATA		CASING DATA		Duration of Flow
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. hw	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	Temp. °F	
Sl.	0.000	x	0.000	0	0.0	0	965	0			0
1.	2.067	x	1.250	440	2.0	58	880	62			24
2.	2.067	x	1.250	440	6.0	55	733	62			24
3.	2.067	x	1.250	440	12.0	53	587	62			24
4.	2.067	x	1.250	440	16.0	50	440	62			24
5.		x									

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{hwP_m}$	Pressure P _m	Flow Temp. Factor F _t	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1.	8.120	30.1	453.2	1.0019	1.245	1.040	317
2.	8.120	52.1	453.2	1.0048	1.245	1.041	551
3.	8.120	73.7	453.2	1.0068	1.245	1.041	782
4.	8.120	85.2	453.2	1.0098	1.245	1.042	906
5.							

NO.	Pr	Temp °R	Tr	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl.
					0	
1	0.69	518	1.46	0.925	API Gravity of Liquid Hydrocarbons	0.000
2	0.69	515	1.45	0.923	Specific Gravity Separator Gas	0.645
3	0.69	513	1.45	0.922	Specific Gravity Flowing Fluid	XXXXXXXXXX
4	0.69	510	1.44	0.920	Critical Pressure	661 P.S.I.A.
5					Critical Temperature	354 °R

NO.	P _c	P _w	P _w ²	P _c ² - P _w ²
1.	797.8	894.0	799.3	157.6
2.	556.8	749.3	561.5	395.4
3.	360.2	608.1	369.8	587.1
4.	205.4	467.5	218.5	738.4
5.				

P_c 978.2 P_c² 956.9

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.630$

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.395$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1091$

Absolute Open Flow	1091	Mcf/d @ 15.025	Angle of Slope	() 34	Slope, n	0.682
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Remarks:

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

DATE 12/04/1992

COMPANY Yates Petroleum Corp LEASE Filaree AEL Federal Com WELL NO. 3

LOCATION: Unit E Section 33 Township 8S Range 26E

L 4580 H 4580 L/H 1.000 G 0.645 %CO₂ 0.022 %N₂ 5.890 %H₂S 0.000
 d 1.995 Fr 0.017777 GH 2954.1 Pcr 660.7 Tcr 354.3

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	0.317	0.551	0.782	0.906	
2 Tw(W.H.°R)	522	522	522	522	
3 Ts(B.H.°R)	568	568	568	568	
4 T = (Tw+Ts) / 2	544.7	544.7	544.7	544.7	
5 Z (Est.)	0.876	0.894	0.913	0.933	
6 TZ	477.0	486.9	497.3	508.1	
7 GH / TZ	6.193	6.067	5.940	5.814	
8 e ^{As} (Table XIV)	1.261	1.255	1.250	1.244	
9 1-e ^{-s} (Table XIV)	0.207	0.203	0.200	0.196	
10 Pt	893.2	746.2	600.2	453.2	
11 Pt ² / 1000	797.8	556.8	360.2	205.4	
12 Fr (Table XV)	0.017777	0.017777	0.017777	0.017777	
13 Fc = FrTZ	8.479	8.656	8.840	9.032	
14 FcQm	2.69	4.77	6.91	8.18	
15 L / H(FcQm) ²	7.2	22.8	47.8	67.0	
16 Fw = L / H(FcQm) ² (1-e ^{-s})	1.50	4.64	9.54	13.12	
17 Pw ² = Pt ² +Fw	799.3	561.5	369.8	218.5	
18 Ps ² = e ^{As} Pw ²	1008.2	704.8	462.0	271.8	
19 Ps	1004.1	839.5	679.7	521.3	
20 P = (Pt+Ps) / 2	948.6	792.9	640.0	487.2	
21 Pr = (P / Pcr)	1.44	1.20	0.97	0.74	
22 Tr = (T / Tcr)	1.54	1.54	1.54	1.54	
23 Z (Table XI)	0.876	0.894	0.913	0.933	

