

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

Form C-122

*457
File*

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 11/01/1992	
Company Yates Petroleum Corp				Connection El Paso Natural Gas			
Pool Ordovician				Formation Palma Mesa			
Completion Date 10/29/1992		Total Depth 6750		Plug Back TD 6700		Elevation 3943	
Csg. Size 5.500		Wt 15.500		d 4.950		Set At 6750	
Tbg. Size 2.875		Wt 6.500		d 2.441		Set At 6263	
Type Well Single				Packer Set At 6263		Farm or Lease Name Hanlad AKZ State	
Producing Thru Tubing		Resv. Temp. °F 126 @ 6362		Mean Temp. °F 62		Baro. Press. - Pa 13.2	
L 6263		H 6263		Gg 0.659		%CO ₂ 1.888	
				%N ₂ 4.325		%H ₂ S 0.000	
				Prover 0.000		Meter Run 3.000	
						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
SI	0.000	x	0.000	0	0.0	0	960	0			0
1.	3.068	x	1.750	690	2.9	63	900	62			24
2	3.068	x	1.750	637	6.1	60	842	62			24
3	3.068	x	1.750	725	12.0	57	783	62			24
4	3.068	x	1.750	725	17.0	50	725	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	15.610	44.8	702.8	0.9971	1.232	1.064	913
2	15.610	63.2	649.8	1.0000	1.232	1.060	1288
3	15.610	94.1	738.2	1.0029	1.232	1.070	1942
4	15.610	112.0	738.2	1.0098	1.232	1.074	2337
5							

NO	Pr	Temp °R	Tr	Z	Gas Liquid Hydrocarbon Ratio	348	Mcft/bbl.
					A.P.I. Gravity of Liquid Hydrocarbons	59.900	Deg.
1	1.05	523	1.45	0.884	Specific Gravity Separator Gas	0.659	XXXXXXXXXX
2	0.97	520	1.44	0.890	Specific Gravity Flowing Fluid	XXXXXXXXXX	0.667
3	1.10	517	1.43	0.873	Critical Pressure	671	P.S.I.A.
4	1.10	510	1.41	0.867	Critical Temperature	360	°R
5							

Pc	973.2	Pc²	947.1
NO	Pt²	Pw	Pw²
1	833.9	916.4	839.8
2	731.4	862.1	743.2
3	633.9	813.1	661.1
4	544.9	764.6	584.7
5			

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 3.312$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 4890$

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.518$

Absolute Open Flow	4890	Mcfd @ 15.025	Angle of Slope	θ 38	Slope, n	0.771
Remarks:						
Approved By Commission:		Conducted By: Paul Hanes		Calculated By: Andrea Carpenter		Checked By:

WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (Pw) C-122D

DATE 11/01/1992

COMPANY Yates Petroleum Corp LEASE Hanlad AKZ State WELL NO. 2

LOCATION: Unit M Section 13 Township 8S Range 27E

L 6263 H 6263 L/H 1.000 G 0.667 %CO₂ 1.888 %N₂ 4.325 %H₂S 0.000

d 2.441 Fr 0.010495 GH 4178.7 Pcr 670.6 Tcr 362.9

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	0.913	1.288	1.942	2.337	
2 Tw(W.H.°R)	522	522	522	522	
3 Ts(B.H.°R)	586	586	586	586	
4 T = (Tw+Ts) / 2	553.7	553.7	553.7	553.7	
5 Z (Est.)	0.868	0.875	0.882	0.889	
6 TZ	480.7	484.7	488.5	492.4	
7 GH / TZ	8.692	8.622	8.553	8.486	
8 e ^{Λs} (Table XIV)	1.385	1.382	1.378	1.375	
9 1-e ^{Λ-s} (Table XIV)	0.278	0.276	0.274	0.273	
10 Pt	913.2	855.2	796.2	738.2	
11 Pt ² / 1000	833.9	731.4	633.9	544.9	
12 Fr (Table XV)	0.010495	0.010495	0.010495	0.010495	
13 Fc = FrTZ	5.045	5.087	5.127	5.168	
14 FcQm	4.61	6.55	9.96	12.08	
15 L / H(FcQm) ²	21.2	42.9	99.2	145.8	
16 Fw = L / H(FcQm) ² (1-e ^{Λ-s})	5.91	11.86	27.21	39.73	
17 Pw ² = Pt ² +Fw	839.8	743.2	661.1	584.7	
18 Ps ² = e ^{Λs} Pw ²	1163.4	1026.9	911.2	803.8	
19 Ps	1078.6	1013.4	954.6	896.5	
20 P = (Pt+Ps) / 2	995.9	934.3	875.4	817.4	
21 Pr = (P / Pcr)	1.49	1.39	1.31	1.22	
22 Tr = (T / Tcr)	1.53	1.53	1.53	1.53	
23 Z (Table XI)	0.868	0.875	0.882	0.889	

Company Yates Petroleum Corp
Well Hanlad AKZ State #2
Location M 13-8S-27E

County Chaves
Date 11-01-1992

