NEW MEXICO OIL CONSERVATION COMMISSION

MULTIPOINT D ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
Revised 9-1-65

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NOV 17 1981
O. C. D.
ARTESIA, OFFICE

Type Test: [XX] Initial [ ] Annual [ ] Special — Test Date: 10-2-81

Company: Yates Petroleum Corporation	Connection: Transwestern Pipeline Co.		
Pool: Eagle Creek Strawn	Formation: Strawn		Unit
Completion Date: 8-7-81	Total Depth: 3420 KB	Plug Back TD: 7849 KB	Elevation: 3557 KB
Farm or Lease Name: Federal BQ Com			
Csg. Size: 4½" / Wt.: 11.6# / d: 4.000 / Set At: 8420 KB	Perforations: From 7720 To 7770 KB		Well No.: 7
Tbg. Size: 2 3/8" / Wt.: 4.7# / d: 1.995 / Set At: 7693 KB	Perforations: From To		Unit: D / Sec.: 27 / Twp.: 17S / Rge.: 25E
Type Well – Single – Bradenhead – G.G. or G.O. Multiple: Single	Packer Set At: 7693 KB		County: Eddy
Producing Thru: tubing	Reservoir Temp. °F: 135 @ 7755	Mean Annual Temp. °F: 62	Baro. Press. – P_a: 13.2
			State: New Mexico

L	H	Gg	% CO_2	% N_2	% H_2S	Prover	Meter Run	Taps
7747	7747	0.645	2.58	1.18	N.7	----	2"	Flanged

	FLOW DATA				TUBING DATA		CASING DATA		
NO.	Prover Line Size X Orifice Size	Press. p.s.i.g.	Diff. h_w	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	Temp. °F	Duration of Flow
SI					2313	69			Weeks
1.	2.067 X 0.500	222	8	68	1915	76			72 hrs.
2.	2.067 X 0.500	240	14	64	1760	77			48 hrs.
3.	2.067 X 0.500	223	28	65	1532	78			48 hrs.
4.	2.067 X 0.500	226	55	70	1229	79			48 hrs.
5.									

RATE OF FLOW CALCULATIONS

NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P_m	Flow Temp. Factor Ft.	Gravity Factor Fg	Super Compress. Factor, Fpv	Rate of Flow Q, Mcfd
1	1.189	43.38	235.2	.9924	1.245	1.0213	55
2	1.189	59.54	253.2	.9962	1.245	1.0234	90
3	1.189	81.32	236.2	.9952	1.245	1.0216	122
4.	1.189	114.70	239.2	.9905	1.245	1.0213	172
5							

NO.	P_r	Temp. °R	T_f	Z
1	0.345	528	1.437	.9587
2.	0.371	524	1.426	.9547
3.	0.346	525	1.429	.9581
4	0.351	530	1.442	.9588
5				

Gas Liquid Hydrocarbon Ratio: 651.7 Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons: 63 Deg.
Specific Gravity Separator Gas: 0.645 XXXXXXXXXX
Specific Gravity Flowing Fluid: XXXXX 0.6495
Critical Pressure: 682 P.S.I.A. 719 P.S.I.A.
Critical Temperature: 367.5 R 382 R

P_c 2907.2 P_c^2 8452

NO	P_t^2	P_w	R_w^2	$P_c^2 - R_w^2$
			5758	2694
			4849	3603
			3648	4804
			2321	6131

(1) $\frac{P_c^2}{P_c^2 - R_w^2} = 1.3786$ (2) $\left[\frac{P_c^2}{P_c^2 - R_w^2}\right]^n = 1.3786$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - R_w^2}\right]^n = 237$

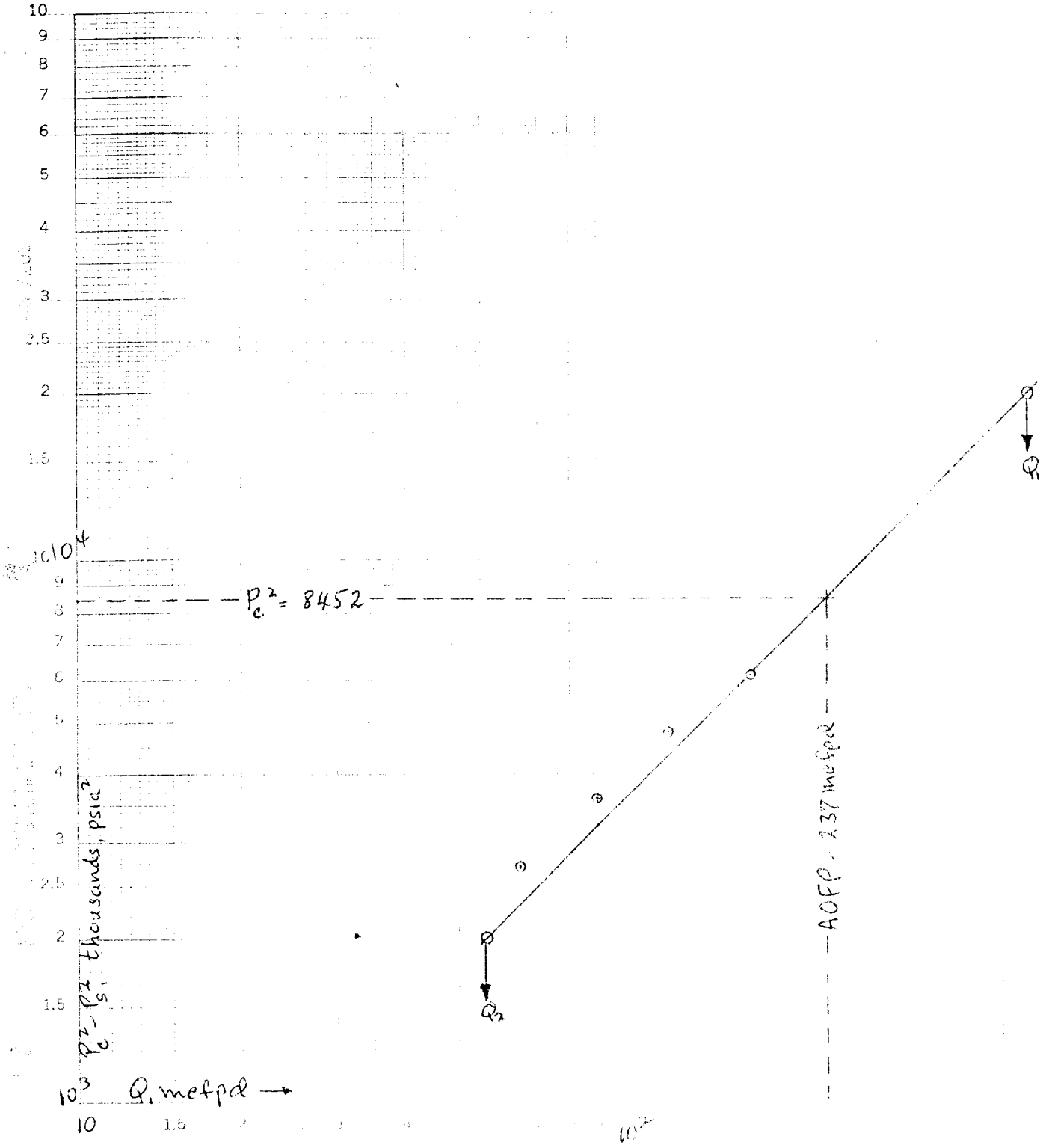
Absolute Open Flow: 237 Mcfd @ 15.025 Angle of Slope θ: 45 deg. Slope, n: 1.000

Remarks: Static pressures by Bennett Wireline, flowing pressures by DWT. Calculation worksheet C-122D attached.

Approved By Commission:	Conducted By:	Calculated By:	Checked By:
	Jerry Wyatt	Eddie Mahrood	

YPC - Federal RQ Com No. 2

D- 27-17s-25E, Eagle Creek Stream, Eddy Co., N. Mex



Q_1 = 560 mcfpd log Q_1 = 2.7482

Q_2 = 56 mcfpd log Q_2 = 1.7482

n = 1.0000

WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (P_w)

Adopted 9-1-65

COMPANY YPC LEASE Federal BQ Com WELL NO. 7 DATE 10-2-81

LOCATION: Unit D Section 27 Township 17S Range 25E

L 7747 H 7747 L/H 1.000 G .6495 % CO_2 2.58 % N_2 1.18 % H_2S Nil

2 3/8 7689 (3.98) = 30602
4 1/2 58 (160) = 928
7747 (4.070) = 31530

S 2.0174 F_r 0.01620 GH 5031.7 H_2O 1.25% P_{cr} 719 (TABLE IX & X) T_{cr} 382 (TABLE IX & X)

LINE	S1	1	2	3	4					
1 Q_m	–	0.065	0.090	0.122	0.172					
2 T_t W.H. °R	529	536	537	538	539					
3 T_s B.H. °R	595	594	593	592	592					
4 [illegible]	562	565	565	565	565.5					
5 [illegible]	.753	.7635	.771	.783	.8185					
6 [illegible]	423.186	431.378	435.615	445.220	462.862					
7 GH/TZ	11.8900	11.6643	11.5508	11.3016	10.8708					
8 e^S (Table XIV)	1.5619	1.5482	1.5421	1.5278	1.5033					
9 $1-e^{-S}$ (Table XIV)	–	0.3543	0.3515	0.3455	0.3348					
10 P_t	2326.2	1928.2	1773.2	1545.2	1242.2					
11 [illegible]	5411.2	3718.96	3144.24	2387.64	1543.06					
12 [illegible]	0.44588	0.43241	0.45315	0.42381	0.40766					
13 $F_c = F_r/TZ$		3.9853	7.057	7.2124	7.4984					
14 $F_c Q_m$		0.454	0.635	0.880	1.290					
15 $L/H (F_c Q_m)^2$		0.206	0.403	0.774	1.663					
16 $P_{w}=L/H(F_cQ_m)^2(1-e^{-S})$		0.07	0.14	0.27	0.56					
17 $P_w^2 = P_t^2 + P_{w}$		3718.03	3144.38	2387.91	1543.62					
18 $P_s^2 = e^S P_w^2$	8451.8	5758.1	4848.9	3648.2	2320.52					
19 P_s	2907.2	2399.6	2202.0	1910.0	1523.3					
20 $P = (\frac{P_t + P_s}{2})$	2616.7	2163.9	1987.6	1727.6	1382.8					
21 $P_r = (P/P_{cr})$	3.634	3.010	2.764	2.403	1.923					
22 $T_r = (T/T_{cr})$	1.471	1.479	1.479	1.479	1.480					
23 [illegible]	0.753	0.7635	0.771	0.782	0.8185					