NEW MEXICO OIL CONSERVATION COMMISSION

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
Revised 9-1-65

RECEIVED
JAN 03 1983
O. C. D.
ARTESIA, OFFICE

Type Test: [X] Initial [ ] Annual [ ] Special — Test Date: 10/27/82

Company: Yates Petroleum Corporation	Connection: Transwestern Pipeline		Unit
Pool: Pecos Slope - Abo Gas	Formation: Abo		
Completion Date: 4/13/82	Total Depth: 4350'	Plug Back TD: 4311'	Elevation: 3625' GL
Farm or Lease Name: Nickey "RF" Federal			
Csg. Size: 4 1/2" / Wt.: 9.5# / d: 4.090 / Set At: 4334'	Perforations: From 3787' To 3964'		Well No.: 1
Tbg. Size: 2 7/8" / Wt.: 6.5# / d: 2.441 / Set At: 3750'	Perforations: From To		Unit: M / Sec.: 19 / Twp.: 7S / Rge.: 26E
Type Well – Single – Bradenhead – G.G. or G.O. Multiple: Single	Packer Set At: 3750'		County: Chaves
Producing Thru: Tubing	Reservoir Temp. °F: 91 @ 3750'	Mean Annual Temp. °F: 62	Baro. Press. – P_a: 13.2 psi
State: New Mexico			
L: 3750' / H: 3750' / Gg: .646 / % CO_2: .93 / % N_2: 5.38 / % H_2S: 0 / Prover: - / Meter Run: 2" / Taps: 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					999				
1.	2.067 x .750	590	26.4	75	894	62			24 hr.
2.	2.067 x .750	575	29.0	72	883	62			24 hr.
3.	2.067 x .750	570	34.8	72	875	62			24 hr.
4.	2.067 x .750	570	42.0	72	855	62			24 hr.
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	2.709	126.2	603.2	.9859	1.244	1.049	440
2	2.709	130.6	588.2	.9887	1.244	1.050	457
3	2.709	142.5	583.2	.9887	1.244	1.049	498
4	2.709	156.5	583.2	.9887	1.244	1.049	547
5							

NO.	P_t	Temp. °R	T_r	Z
1	.91	535	1.49	.908
2	.89	532	1.48	.907
3	.88	532	1.48	.908
4	.88	532	1.48	.908
5				

Gas Liquid Hydrocarbon Ratio: Dry Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons: - Deg.
Specific Gravity Separator Gas: .646 — XXXXXXXXX
Specific Gravity Flowing Fluid: XXXXX — .646
Critical Pressure: 665 P.S.I.A. — 665 P.S.I.A.
Critical Temperature: 360 R — 360 R

P_c 1012.2 P_c^2 1024.5

NO	P_t^2	P_w	P_w^2	$P_c^2 - P_w^2$
1	823.0		823.9	200.6
2	803.2		804.1	220.4
3	788.9		790.0	234.5
4	753.8		755.1	269.4
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 3.803$

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 2.637$

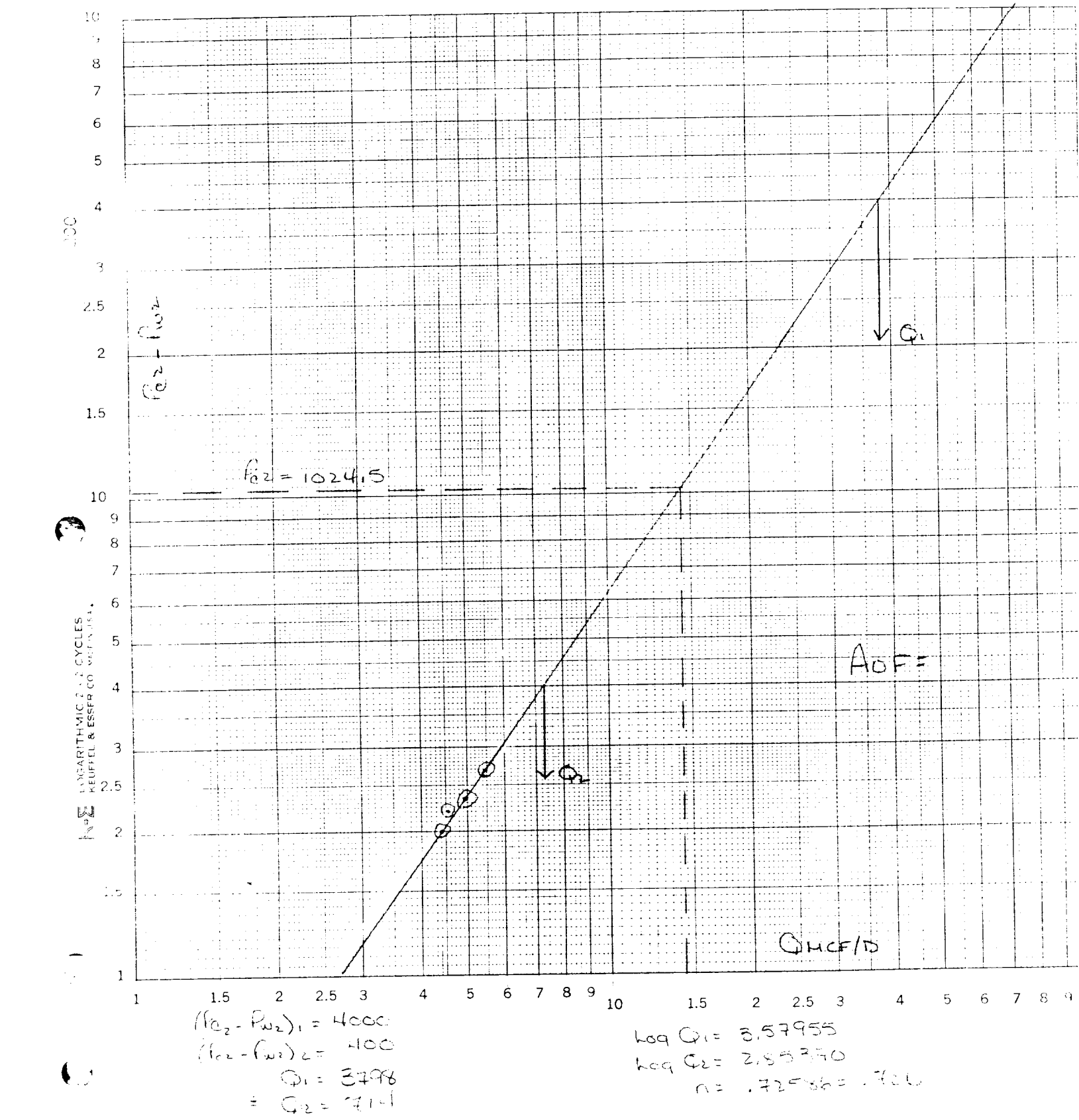
AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 1443$

Absolute Open Flow: 1443 Mcfd @ 15.025 — Angle of Slope θ: — Slope, n: .726

Remarks:

Approved By Commission:	Conducted By:	Calculated By:	Checked By:
	David Weaver	Andie Alderson	

L as Petroleum Corp
Rickard "RF" Federal
Unit M 19-7S-26E
Chaves County



$(P_{c_2} - P_{w_2})_1 = 4000$
$(P_{c_2} - P_{w_2})_2 = 400$
$Q_1 = 3798$
$Q_2 = 771.1$

$\log Q_1 = 3.57955$
$\log Q_2 = 2.88750$
$n = .72556 = .726$

WORKSHEET FOR CALCULATION OF [illegible]

AGA # 9-1-65

COMPANY Yates Petroleum Corp. LEASE Pickett AT Federal WELL NO. 1 DATE 12/9/82

LOCATION: Unit M Section 17 Township 7S Range 26E

L 3760 H [illegible] L/H 1 G .646 % CO_2 .93 % N_2 5.38 % H_2S

d 3.441 F_r .010763 GH 242

P_{cr} 665 TABLE IX & X T_{cr} 360 TABLE IX & X

	LINE	1ST		2ND		3RD		4TH			
1	1 Q_m	.446		.457		.478		.547			
2	2 T_w (W.H. °R)	522		[illegible]		522		522			
3	3 T_s (B.H. °R)	551		551		551		551			
6	4 $T = (\frac{T_w + T_s}{2})$	536.5		[illegible]		536.5		536.5			
	5 Z (Est.)	.862		.862		.863		.867			
9	6 TZ	462.46		462.46		463		465.15			
	7 GH/TZ	5.239		5.239		5.233		5.209			
	8 e^s (Table XIV)	1.217		1.217		1.214		1.216			
	9 $1 - e^{-s}$ (Table XIV)	.178		.178		.178		.178			
17	10 P_t	907.2		876.2		888.2		868.2			
24	11 $P_t^2/1000$	823.0		803.2		788.9		753.8			
	12 F_r (Table XV)	.010763		.010763		.010763		.010763			
32	13 $F_c = F_r TZ$	4.977		4.977		4.983		5.006			
	14 $F_c Q_m$	2.190		2.275		2.482		2.738			
35	15 $L/H (F_c Q_m)^2$	4.797		5.174		6.159		7.499			
37	16 $F_w = L/H (F_c Q_m)^2 (1-e^{-s})$	0.854		0.921		1.096		1.335			
40	17 $P_w^2 = P_t^2 + F_w$	823.9		804.1		790.0		755.1			
42	19 $F_s^2 = e^s P_w^2$	1002.6		978.6		961.4		918.2			
45	19 P_s	1001.3		989.2		[illegible]		[illegible]			
49	20 $P = (\frac{P_t + P_s}{2})$	954.3		[illegible]		[illegible]		[illegible]			
	21 $P_r = P/P_{cr}$	[illegible]		[illegible]		1.4		[illegible]			
	22 $T_r = (T/T_{cr})$	[illegible]		[illegible]		[illegible]		[illegible]			
	23 Z (Table XI)	[illegible]		[illegible]		[illegible]		[illegible]			

(Blue/Black copy acceptable)