MEXICO OIL CONSERVATION [illegible]ION

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

C-SF File
Form C-122
Revised 9-1-65

RECEIVED
JAN 20 1983
O. C. D.
ARTESIA, OFFICE

Type Test: [X] Initial [ ] Annual [ ] Special — Test Date: 9/27/82

Company: Yates Petroleum Corporation				Connection: Transwestern Pipeline			Unit
Pool: Pecos Slope - Abo Gas				Formation: Abo			
Completion Date: 5/13/82		Total Depth: 4200'		Plug Back TD: 4181'	Elevation: 3972' GL		Farm or Lease Name: Monaghan "QY" Federal
Csg. Size: 4 1/2"	Wt.: 9.5#	d: 4.090	Set At: 4192'	Perforations: From 3788 To 3852			Well No.: 6
Tbg. Size: 2 3/8"	Wt.: 4.7#	d: 1.995	Set At: 3744'	Perforations: From To			Unit: H Sec.: 34 Twp.: 5S Rge.: 24E
Type Well – Single – Bradenhead – G.G. or G.O. Multiple: Single				Packer Set At: 3744'			County: Chaves
Producing Thru: Tubing		Reservoir Temp. °F: 102°	3741'	Mean Annual Temp. °F: 62	Baro. Press. – P_a: 13.2 psi		State: New Mexico
L: 3744'	H: 3744'	Gg: .646	% CO_2: 0.04	% N_2: 5.55	% 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							997				
1.	2.067	x	1.375	220	19.1	63	931	62			24 hr.
2.	2.067	x	1.375	250	21.1	68	921	62			24 hr.
3.	2.067	x	1.375	285	20.2	72	910	62			24 hr.
4.	2.067	x	1.375	290	25.0	70	900	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	10.20	66.7	233.2	.9971	1.244	1.021	862
2	10.20	74.5	263.2	.9924	1.244	1.022	959
3	10.20	77.6	298.2	.9887	1.244	1.024	997
4	10.20	87.1	303.2	.9905	1.244	1.025	1122
5							

NO.	P_t	Temp. °R	T_r	Z
1	.35	523	1.46	.960
2	.40	528	1.48	.957
3	.45	532	1.49	.953
4	.46	530	1.48	.951
5				

Gas Liquid Hydrocarbon Ratio: Dry Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons: -- Deg.
Specific Gravity Separator Gas: .646 XXXXXXXXXX
Specific Gravity Flowing Fluid: XXXXX .646
Critical Pressure: 659 P.S.I.A. 659 P.S.I.A.
Critical Temperature: 358 R 358 R

P_c 1010.2 P_c^2 1020.4

NO	P_t^2	P_w	P_w^2	$P_c^2 - P_w^2$
1	891.5		901.0	119.5
2	872.7		884.5	136.0
3	852.3		865.0	155.5
4	833.9		850.2	170.3
5				

(1) $\frac{P_c^2}{P_t^2 - P_w^2} = 5.992$ (2) $\left[\frac{P_c^2}{P_t^2 - P_w^2}\right]^n = 3.689$

AOF = Q $\left[\frac{P_t^2}{P_c^2 - P_w^2}\right]^n = 4138$

Absolute Open Flow: 4138 Mcfd @ 15.025 — Angle of Slope θ: — Slope, n: .729

Remarks:

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

[illegible] FOR CALCULATION OF [illegible] COLUMN [illegible] PRESSURE (P_w)

d 9-1-65

COMPANY Yates Petroleum Corp LEASE Monaghan "QY" Fed WELL NO. #6 DATE 10/26/82

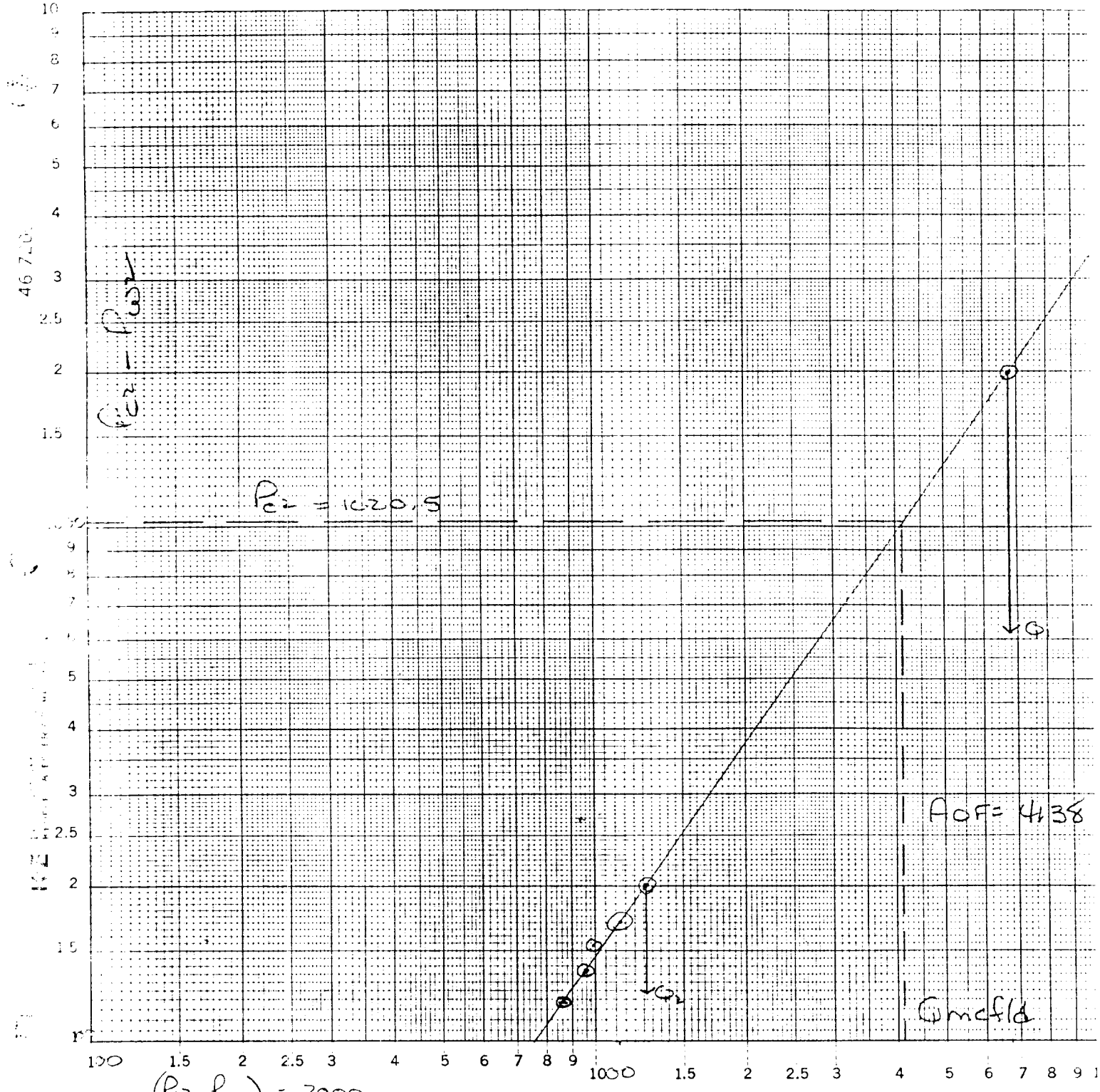
LOCATION: Unit 41 Section 34 Township 5S Range 24E

L 3744 H 3744 L/H 1 G .646 % CO_2 .04 % N_2 5.55 % H_2S 0

d 1.995 F_r .01823 GH 2419 P_{cr} 659 (TABLE IX & X) T_{cr} 358 (TABLE IX & X)

	LINE	1ST	2ND	3RD	4TH
	1 Q_m	.862	.959	.997	1.122
	2 T_w (W.H. °R)	522	522	522	522
	3 T_s (B.H. °R)	562	562	562	562
	4 $T = \frac{(T_w + T_s)}{2}$	542	542	542	542
	5 Z (Est.)	.861	.862	.864	.866
9	6 TZ	466.66	467.20	468.29	469.37
	7 GH/TZ	5.184	5.178	5.166	5.154
	8 e^s (Table XIV)	1.215	1.214	1.214	1.213
	9 $1-e^{-s}$ (Table XIV)	.177	.176	.176	.176
17	10 P_t	944.2	934.2	923.2	913.2
24	11 $P_t^2/1000$	891.5	872.7	852.3	833.9
	12 F_r (Table XV)	.01823	.01823	.01823	.01823
32	13 $F_c = F_r TZ$	8.507	8.517	8.537	8.557
3[illegible]	14 $F_c Q_m$	7.333	8.168	8.511	9.601
35	15 $L/H (F_c Q_m)^2$	53.777	66.715	72.442	92.171
37	16 $F_w = L/H (F_c Q_m)^2 (1-e^{-s})$	9.518	11.742	12.750	16.222
40	17 $P_w^2 = P_t^2 + F_w$	901.0	884.5	865.0	850.2
42	18 $P_s^2 = e^s P_w^2$	1094.8	1073.7	1050.2	1031.2
45	19 P_s	1046.3	1036.2	1024.8	1015.5
49	20 $P = \frac{(P_t + P_s)}{2}$	995.3	985.2	974.0	964.3
	21 P_r = P/(P_{cr}) [illegible]	1.51	1.50	1.48	1.46
	22 T_r = (T/T_{cr}) [illegible]	1.51	1.51	[illegible]	1.51
	23 Z (Table XI)	[illegible]	[illegible]	[illegible]	[illegible]

Yates Petroleum Corp
Monaghan "OY" Fed #6
Unit H 34-5S-24E
Chaves County



$(P_{c2} - P_{w2})_1 = 2000$
$(P_{c2} - P_{w2})_2 = 200$
$Q_1 = 6750$
$Q_2 = 1260$

$\log Q_1 = 3.82930$
$\log Q_2 = 3.10037$
$n = .72893 = .729$