C151
Form C-122
Revised 9-1-65
File

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

Type Test: [X] Initial [ ] Annual [ ] Special				Test Date: 10/20/82	
Company: Yates Petroleum Corporation		Connection: Transwestern Pipeline			
Pool: Pecos Slope - Abo Gas		Formation: Abo		Unit	
Completion Date: 4/16/82	Total Depth: 4275'		Plug Back TD: 4191'	Elevation: 3665' GL	Farm or Lease Name: Federal "HJ"
Csg. Size: 4 1/2" / Wt.: 9.5# / d: 4.090 / Set At: 4251'			Perforations: From 3662 To 3910		Well No.: 6
Tbg. Size: 2 3/8" / Wt.: 4.7# / d: 1.995 / Set At: 3567'			Perforations: From To		Unit: A / Sec.: 31 / Twp.: 6S / Rge.: 26E
Type Well – Single – Bradenhead – G.G. or G.O. Multiple: Single			Packer Set At: 3567'		County: Chaves
Producing Thru: Tubing	Reservoir Temp. °F: 99 @ 3567'	Mean Annual Temp. °F: 62	Baro. Press. – P_a: 13.2 psi		State: New Mexico

L	H	Gg	% CO_2	% N_2	% H_2S	Prover	Meter Run	Taps
3567'	3567'	.639	.06	4.70	0	--	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					1010				
1.	2.067 x 1.125	250	25.4	72	893	62			24 hr.
2.	2.067 x 1.125	255	32.9	72	867	62			24 hr.
3.	2.067 x 1.125	260	36.5	72	846	62			24 hr.
4.	2.067 x 1.125	270	45.0	72	825	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	6.393	81.8	263.2	.9887	1.251	1.022	661
2	6.393	93.9	268.2	.9887	1.251	1.022	759
3.	6.393	99.9	273.2	.9887	1.251	1.022	807
4.	6.393	112.9	283.2	.9887	1.251	1.023	913
5.							

NO.	P_t	Temp. °R	T_r	Z
1.	.40	532	1.49	.958
2.	.41	532	1.49	.957
3.	.41	532	1.49	.957
4.	.43	532	1.49	.955
5.				

Gas Liquid Hydrocarbon Ratio: Dry Mcf/Bbl.
A.P.I. Gravity of Liquid Hydrocarbons: -- Deg.
Specific Gravity Separator Gas: .639 XXXXXXXXX
Specific Gravity Flowing Fluid: XXXXX .639
Critical Pressure: 661 P.S.I.A. 661 P.S.I.A.
Critical Temperature: 358 R 358 R

P_c 1023.2 P_c^2 1046.9

NO	P_t^2	P_w	P_w^2	$P_c^2 - P_w^2$
1	821.2		826.5	220.4
2	774.8		781.8	265.1
3	738.2		746.2	300.7
4	702.6		712.8	334.1
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 3.133$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 2.363$

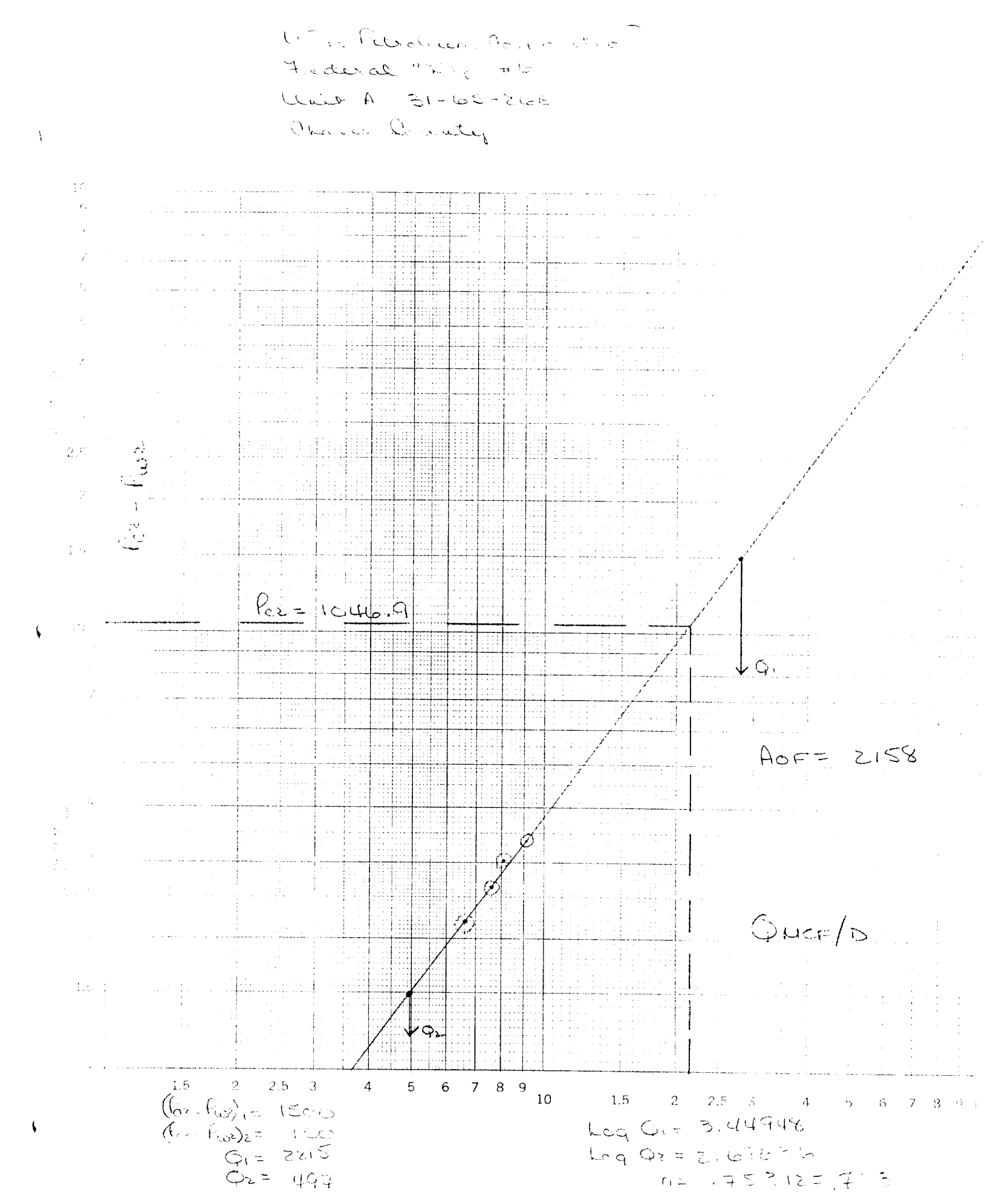
AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 2158$

Absolute Open Flow: 2158 Mcfd @ 15.025 Angle of Slope θ: Slope, n: .753

Remarks:

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

U.T. Petroleum Corp.
Federal "[illegible]" #1
Unit A 31-6S-21E
Ohio County



$((P_c - P_{wf})_1 = 1500$
$(P_c - P_{wf})_2 = 1200$
$Q_1 = 2015$
$Q_2 = 497$

$\log Q_1 = 3.44948$
$\log Q_2 = 2.6[illegible]$
$n = .75?12 = .7[illegible]$

COMPANY [illegible] LEASE [illegible] WELL NO. 6 DATE 11/18/82

LOCATION: Unit A Section 31 Township 6S Range 26E

L [illegible] H 3267 L/H 1 G .6837 % CO_2 [illegible] % N_2 4.70 % H_2S 0

d 1.995 F_r .01827 GH .4279 P_{cr} 661 (TABLE IX & X) T_{cr} 358 (TABLE IX & X)

LINE									
1 Q_m	.661		.459		.307		.112		
2 T_w (W.H. °R)	522		522		522		522		
3 T_s (B.H. °R)	559		559		559		559		
4 $T = (\frac{T_w + T_s}{2})$	540.5		540.5		540.5		540.5		
5 Z (Est.)	.868		.871		.873		.877		
6 TZ	469.15		470.78		471.86		474.02		
7 GH/TZ	4.858		4.841		4.830		4.808		
8 e^s (Table XIV)	1.200		1.199		1.199		1.198		
9 $1-e^{-s}$ (Table XIV)	.167		.166		.166		.165		
10 P_t	906.2		880.2		859.2		838.2		
11 $P_t^2/1000$	821.2		774.8		738.2		702.6		
12 F_r (Table XV)	.01823		.01823		.01823		.01823		
13 $F_c = F_r TZ$	8.553		8.582		8.602		8.641		
14 $F_c Q_m$	5.653		6.514		6.942		7.830		
15 $L/H (F_c Q_m)^2$	31.960		42.431		48.188		62.249		
16 $F_w = L/H(F_c Q_m)^2(1-e^{-s})$	5.337		7.044		7.999		10.340		
17 $P_w^2 = P_t^2 + F_w$	826.5		781.8		746.2		712.9		
19 $P_s^2 = e^s P_w^2$	991.8		937.4		894.9		854.6		
19 P_s	995.9		968.2		945.9		924.1		
20 $P = \frac{(P_t + P_s)}{2}$	951.1		924.2		902.6		881.2		
21 $P_r = P/P_{cr}$	1.440		1.40		1.37		1.33		
22 $T_r = (T/T_{cr})$	1.51		1.51		1.51		1.51		
23 Z (Table XI)	.867		.870		.873		.877		

[illegible] (Work copy acceptable)