

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

c/sf  
File  
Form C-122  
Revised 9-1-65

**RECEIVED**

Type Test <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special					Test Date 9/27/82		
Company Yates Petroleum Corporation			Connection Transwestern Pipeline			NOV 1 1982	
Pool Pecos Slope - Abo Gas			Formation Abo			O.C.D. ARTESIA OFFICE	
Completion Date 5/13/82		Total Depth 4200'		Plug Hole TD 4181'		Elevation 3972' GL	Farm or Lease Name Monaghan "QY" Federal
Test Size 4 1/2"	Wt. 9.5#	d 4.090	Set At 4192'	Perforations: From 3788 To 3852		Well No. 6	
Thy. Size 2 3/8"	Wt. 4.7#	d 1.995	Set At 3744'	Perforations: From To		Unit H 34	Exp. Hgt. 5S 24E
Type Well - Single - Broadhead - 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		State New Mexico	
L 3744'	H 3744'	Gg .646	% CO <sub>2</sub> 0.04	% H <sub>2</sub> 5.55	% H <sub>2</sub> S 0	Prover --	Motor Run. Top 2" Flanged

FLOW DATA						TUBING DATA		CASING DATA		Direction of Flow	
NO.	Prover Line Size	x	Griffice Size	Press. p.s.i.g.	Diff. h <sub>w</sub>	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.		Temp. °F
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 <sub>m</sub>	Flow Temp. Factor Ft.	Gravity Factor F <sub>g</sub>	Super Compress. Factor, F <sub>sp</sub>	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 <sub>r</sub>	Temp. °R	T <sub>r</sub>	Z	Gas Liquid Hydrocarbon Ratio _____ Dry _____ Mcf/bhl.		
1	.35	523	1.46	.960	A.P.I. Gravity of Liquid Hydrocarbons _____ Dwg.		
2	.40	528	1.48	.957	Specific Gravity Separator Gas _____ .646 _____ XXXXXX XXXX		
3	.45	532	1.49	.953	Specific Gravity Flowing Fluid _____ XXXXX _____ .646		
4	.46	530	1.48	.951	Critical Pressure _____ 659 _____ P.S.I.A. _____ 659 P.S.I.A.		
5					Critical Temperature _____ 358 _____ R _____ 358 R		

P <sub>r</sub> 1010.2    P <sub>w</sub> 1020.4			
NO.	P <sub>r</sub> <sup>2</sup>	P <sub>w</sub> <sup>2</sup>	P <sub>r</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup>
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			

$$(1) \frac{P_c^2}{P_r^2 - P_w^2} = 5.992$$

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

$$AOI^* = 0 \left[ \frac{L^2}{P_c^2 - P_w^2} \right]^n = 4138$$

Absolute Open Flow _____ 4138 _____ MCFD @ 15.025	Angle of Slope @ _____	Slope, n _____ .729
Remarks: _____		
Approved By Commission:	Conducted By: David Weaver	Calculated By: Andie Alderson
		Checked By:

COMPANY Yates Petroleum Co LP LEASE Moshachan Oil Field WELL NO. #6 DATE 10/26/82

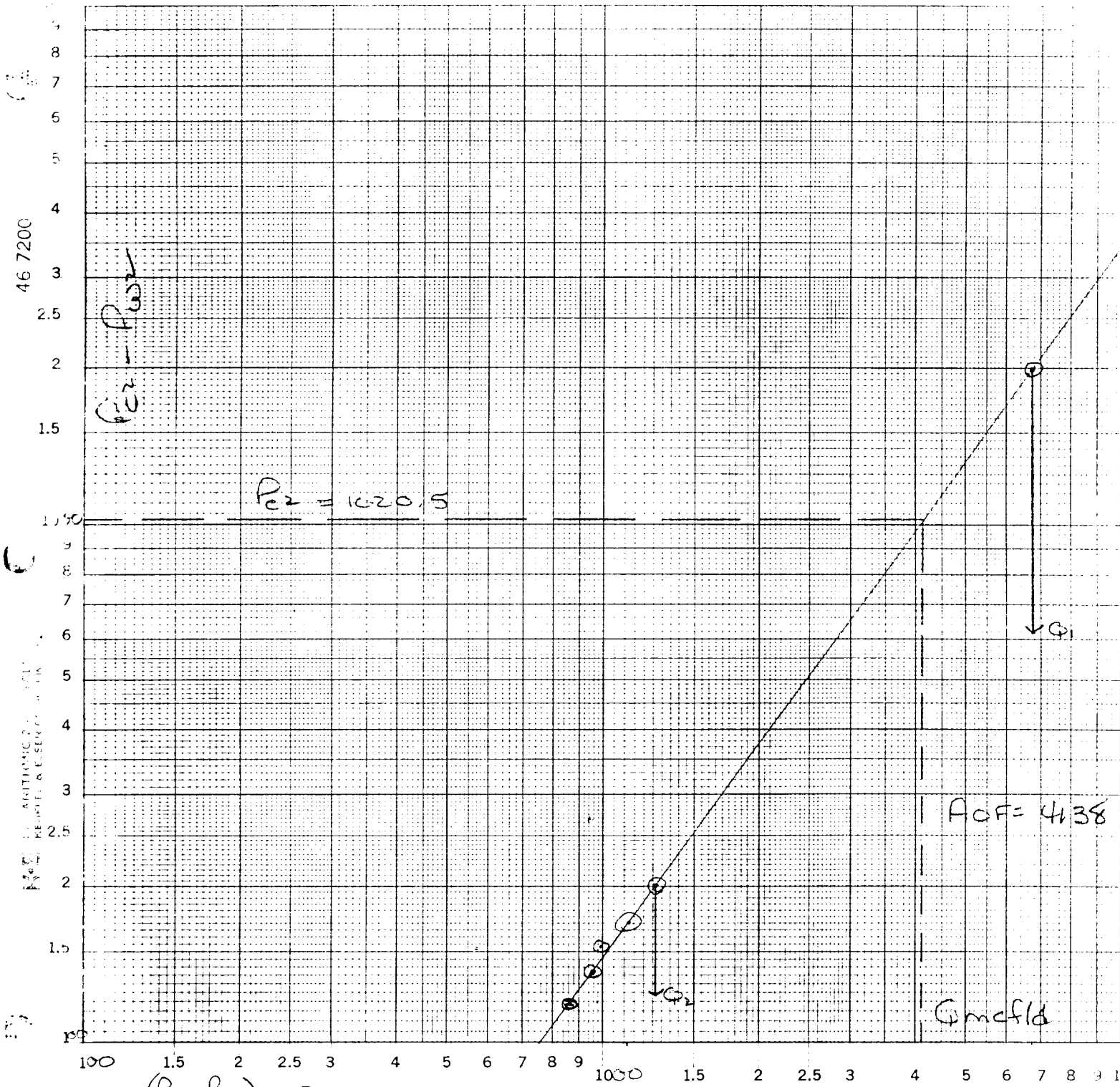
LOCATION: Unit 41 Section 34 Township S5 Range 24E

L 3144 H 3144 LN 1 G 1646 % CO<sub>2</sub> .04 % N<sub>2</sub> 5.55 % H<sub>2</sub>S 0

D 1.095 F<sub>1</sub> .01823 GH 2419 P<sub>cr</sub> 689 T<sub>cr</sub> 358

LINE	1ST	2ND	3RD	4TH
1 Q <sub>m</sub>	.862	.959	.997	1.122
2 T <sub>m</sub> (W.H. QR)	522	522	522	522
3 T <sub>s</sub> (B.H. QR)	562	562	562	562
4 T = (1/W <sup>2</sup> + 1/S)	542	542	542	542
5 Z (Est.)	.861	.862	.864	.866
6 T <sub>2</sub>	466.66	467.20	468.29	469.37
7 GH/T <sub>2</sub>	5.184	5.178	5.166	5.154
8 e <sup>s</sup> (Table XIV)	1.215	1.214	1.214	1.213
9 1 - e <sup>s</sup> (Table XIV)	.177	.176	.176	.176
10 P <sub>1</sub>	944.2	934.2	923.2	913.2
11 P <sub>1</sub> / 1000	891.5	872.7	852.3	832.9
12 F <sub>1</sub> (Table XV)	.01823	.01823	.01823	.01823
13 F <sub>2</sub> = F <sub>1</sub> T <sub>2</sub>	8.507	8.517	8.537	8.557
14 F <sub>2</sub> C <sub>m</sub>	7.232	8.168	8.511	9.661
15 L/H (F <sub>2</sub> C <sub>m</sub> ) <sup>2</sup>	52.177	66.715	72.442	92.171
16 F <sub>2</sub> = L/H (F <sub>2</sub> C <sub>m</sub> ) <sup>2</sup> (1 - e <sup>-s</sup> )	9.518	11.742	12.750	16.222
17 P <sub>w</sub> <sup>2</sup> = P <sub>1</sub> <sup>2</sup> + F <sub>w</sub>	901.0	884.5	865.0	850.2
18 P <sub>s</sub> <sup>2</sup> = e <sup>s</sup> P <sub>w</sub> <sup>2</sup>	1694.8	1673.7	1650.2	1631.2
19 P <sub>s</sub>	1246.3	1036.2	1024.8	1015.5
20 P = (P <sub>s</sub> + P <sub>1</sub> ) / 2	495.3	985.2	974.0	964.3
21 P <sub>1</sub> = P <sub>s</sub> / 2	1.51	1.50	1.48	1.46
22 T <sub>1</sub> = (T <sub>1</sub> / C <sub>1</sub> )	1.51	1.51		1.51
23 T <sub>1</sub> (Table XI)	1.51			1.51

Yates Petroleum Corp  
 Monaghan "Oly" Well #6  
 Unit H 34-55-24E  
 Chaves County



$$\begin{aligned} (P_2 - P_{wf})_1 &= 2000 \\ (P_2 - P_{wf})_2 &= 200 \\ Q_1 &= 6750 \\ Q_2 &= 1260 \end{aligned}$$

$$\begin{aligned} \log Q_1 &= 3.82930 \\ \log Q_2 &= 3.10037 \\ n &= .72893 = .729 \end{aligned}$$