

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

Form C-122
Revised 9-1-65

RECEIVED

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 9/25/82		NOV 1 1982	
Company Yates Petroleum Corporation				Connection Transwestern Pipeline				O. C. D. ARTESIA, OFFICE	
Pool Pecos Slope - Abo Gas				Formation Abo				Unit	
Completion Date 4/23/82		Total Depth 4250'		Plug Hole TD 4185'		Elevation 3952' GL		Farm or Lease Name Kisner "TB" Federal	
Well Size 4 1/2"	Wt. 9.5#	d 4.090	Set At 4250'	Perforations: From 3750 To 4003		Well No. 1			
Tub. Size 2 3/8"	Wt. 4.7#	d 1.995	Set At 3653'	Perforations: From To		Unit K	Sec. 35	Top. 5S	Eqpt. 24E
Type Well - Single - Bradenhead - G.G. or C.O. Multiple Single						Packer Set At 3653'		County Chaves	
Producing Thru Tubing		Reservoir Temp. °F 105° 2653		Mean Annual Temp. °F 62		Baro. Press. - P _a 13.2 psi		State New Mexico	
L 3653	H 3653	C _q .644	% CO ₂ 0.02	% N ₂ 5.34	% H ₂ S 0	Prover --	Motor Run 2"	Tops Flanged	

FLOW DATA						TUBING DATA		CASING DATA		Direction of Flow
NO.	Prover Line Size	X	Grifco Size	Press. p.d.i.g.	Diff. hw	Temp. °F	Press. p.d.i.g.	Temp. °F	Press. p.d.i.g.	
SI							888			
1.	2.067 x 1.125			220	25.1	70	812	62		
2.	2.067 x 1.125			220	36.6	70	787	62		
3.	2.067 x 1.125			230	48.2	70	749	62		
4.	2.067 x 1.125			250	66.0	70	710	62		
5.										

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_{m1}}$	Pressure P _m	Flow Temp. Factor Ft	Gravity Factor Fg	Super Compress. Factor, F _{py}	Rate of Flow Q, Mscf/d
1	6.393	76.5	233.2	.9905	1.246	1.020	616
2	6.393	92.3	233.2	.9905	1.246	1.020	743
3	6.393	108.2	243.2	.9905	1.246	1.021	872
4	6.393	131.8	263.2	.9905	1.246	1.022	1063
5							

NO.	R ₁	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio <u>Dry</u> Mcf/bbl.	
1	.35	530	1.48	.962	A.P.I. Gravity of Liquid Hydrocarbons <u>--</u> Deg.	
2	.35	530	1.48	.962	Specific Gravity Separator Gas <u>.644</u> XXXXXX	
3	.37	530	1.48	.960	Specific Gravity Flowing Fluid <u>XXXXXX</u> .644	
4	.40	530	1.48	.957	Critical Pressure <u>661</u> P.S.I.A. 661 P.S.I.A.	
5					Critical Temperature <u>358</u> R 358 R	

NO.	P _c ²	P _w ²	P _r ²	P _c ² - P _w ²	(1) $\frac{P_c^2}{P_c^2 - P_w^2} =$	(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n =$
1	681.0		685.8	126.4	2.959	2.155
2	640.3		647.4	164.8		
3	580.9		590.8	221.4		
4	523.0		537.7	274.5		
5						

$AOI = 0 \quad \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2291$

Absolute Open Flow <u>2291</u> Mscf @ 15.025	Angle of Slope <u>0</u>	Slope, n <u>.708</u>
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Remarks: _____

Approved By Commission	Conducted By David Weaver	Calculated By Andie Alderson	Checked By
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COMPANY Leasehold LEASE Hydromat WELL NO. 1 DATE 10/25/82

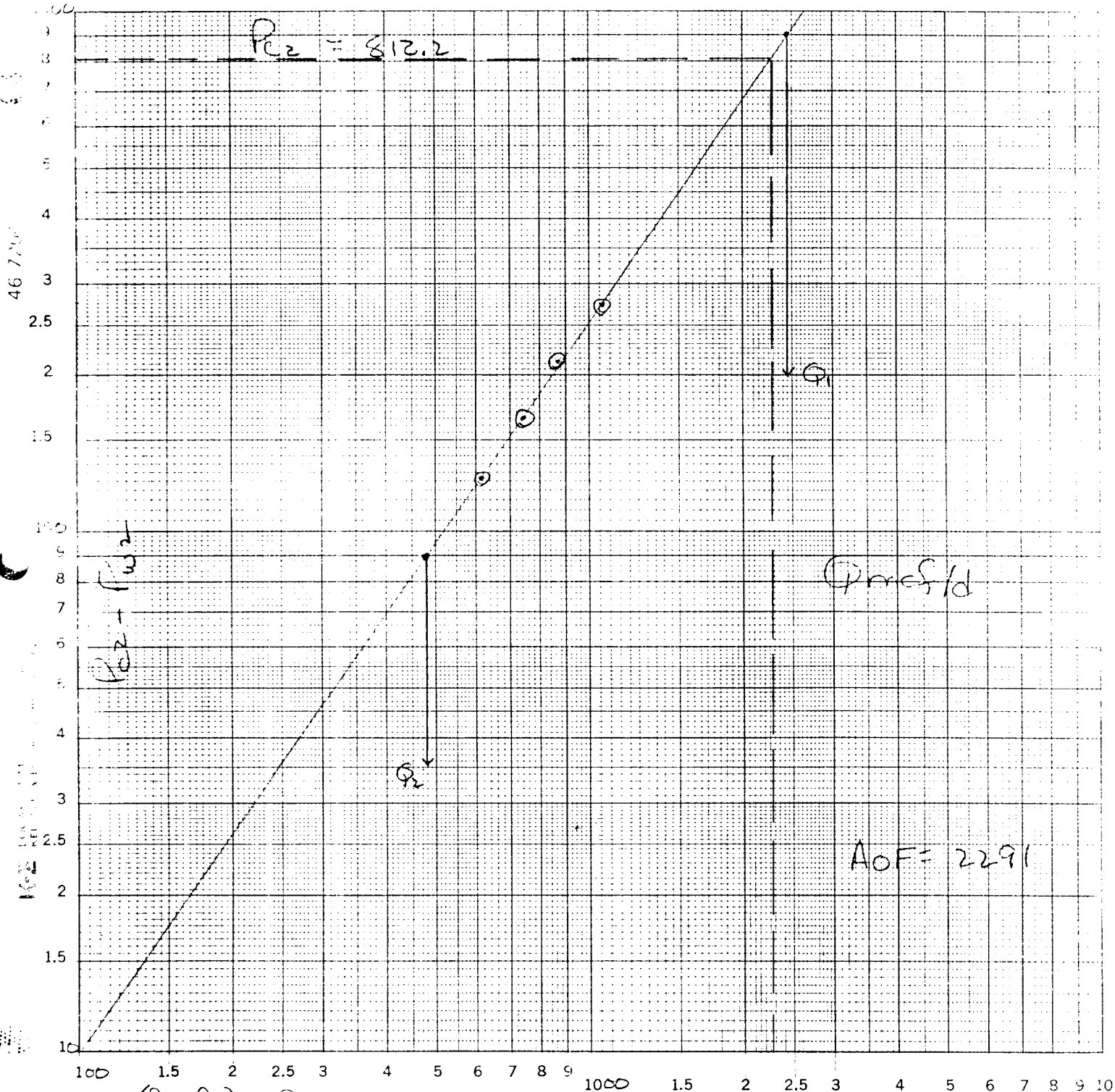
LOCATION: Unit K Section 35 Township 5S Range 24E

L 3653 H 3653 LH 1 G 644 %CO₂ 0.2 %N₂ 5.34 %H₂S 0

D 1.095 F_i 0.01823 GH 2353 P_{cr} 1061 T_{cr} 358

LINE	1ST	2ND	3RD	4TH				
1 Q _m	.616	.743	.872	1.063				
2 T _w (W.H. °R)	522	522	522	522				
3 T _g (B.H. °R)	545	545	545	545				
4 T = (1/w ^{1/3}) (s)	543.5	543.5	543.5	543.5				
5 Z (Est.)	.880	.883	.888	.894				
6 T _z	478.3	479.91	482.63	485.89				
7 SE/TZ	4.920	4.903	4.875	4.843				
8 e ^s (Table XIV)	1.203	1.202	1.201	1.199				
9 1-e ^s (Table XIV)	.169	.168	.167	.166				
10 P _t	825.2	800.2	762.2	723.2				
11 P _t 2/1000	681.0	640.3	580.9	523.0				
12 F _t (Table XV)	.01823	.01823	.01823	.01823				
13 F _c = F _t TZ	8.719	8.749	8.798	8.858				
14 F _c G _m	5.271	6.500	7.672	9.416				
15 J/L/H (F _c Q _m) ²	28.847	42.754	58.862	88.657				
16 F _w = L/H (F _c Q _m) ² (1-e ^s)	4.875	7.079	9.830	14.717				
17 P _w ² = P _t ² + F _w	685.8	647.4	590.8	537.7				
18 F _s ² = e ^s P _w ²	825.1	778.2	709.5	644.7				
19 F _s	908.3	882.2	841.2	803.0				
20 P = (P _t + P _s)	866.8	841.2	802.3	763.1				
21 P _t = (P/P _{cr})	1.31	1.27	1.21	1.15				
22 T _p = (T/T _{cr})	1.52	1.52	1.52	1.52				
23 Z (Table XI)	.855	.855	.858	.861				

Yates Petroleum Corp
 Kiser "TB" Federal #1
 Unit K 55-55-246
 Chaves County



$$\begin{aligned} (P_2 - P_{wf})_1 &= 4000 \\ (P_2 - P_{wf})_2 &= 400 \\ Q_1 &= 2450 \\ Q_2 &= 480 \end{aligned}$$

$$\begin{aligned} \log Q_1 &= 3.38917 \\ \log Q_2 &= 2.68124 \\ n &= .70792 = .708 \end{aligned}$$