

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

Form C-122
Revised 9-1-65

RECEIVED

C-SF
C-122

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 3-9-82		APR 30 1982	
Company Yates Petroleum Corporation				Connection Transwestern Pipeline Co.		O. C. D.	
Pool Pecos Slope Abo Gas				Formation Abo		Unit ARTESIA, OFFICE	
Completion Date 1-10-82		Total Depth 4225'		Plug Back To 4215'		Elevation 3747' GL	
Part or Lease Name Conejo "RH" State							
Csg. Size 4 1/2"	Wt. 9.5#	d 4.090	Set At 4225'	Perforations: From 3684 To 4016		Well No. 3	
Tiq. Size 2 3/8"	Wt. 4.7#	d 1.995	Set At 3988'	Perforations: From To		Unit Sec. Twp. Rge. H 2 7S 25E	
Type well - Single - Protiehead - G.G. or G.O. Multiple Single				Packer Set At -		County Chaves	
Producing thru tubing		Reservoir Temp. °F 103 @ 3986'		Mean Annual Temp. °F 62		State New Mexico	
L 3988		H 3988	Gg .660	% CO ₂ 1.19	% N ₂ 3.90	% H ₂ S 0	Prover -
							Meter Run 2"
							Flanged

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow	
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	of Flow
SI							1000				days
1.	2.067	x	1.125	260	19.9	68	944	65			24 hrs
2.	2.067	x	1.125	270	33.7	72	919	65			24 hrs
3.	2.067	x	1.125	265	49.4	72	899	65			24 hrs
4.	2.067	x	1.125	275	72.0	72	860	65			24 hrs
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor F _L	Gravity Factor F _g	Super. Comp. Factor, F _{pv}	Rate of Flow Q, Mcfd
1	6.393	73.7	273.2	.9924	1.231	1.027	591
2	6.393	97.7	283.2	.9887	1.231	1.025	779
3	6.393	117.2	278.2	.9887	1.231	1.025	935
4	6.393	144.0	288.2	.9887	1.231	1.026	1150
5							

NO.	P _f	Temp. °R	T _f	Z	Gas Liquid Hydrocarbon Ratio	MoI/Sol.
					Dry	-
1.	.41	528	1.44	.949	A.P.I. Gravity of Liquid Hydrocarbons	-
2.	.42	532	1.45	.951	Specific Gravity Separator Gas	.660
3.	.42	532	1.45	.951	Specific Gravity Flowing Fluid	X X X X X X X X
4.	.43	532	1.45	.950	Critical Pressure	667 P.S.I.A.
5.					Critical Temperature	366 R

NO.	P _f ²	P _w ²	P _w ²	P _f ² - P _w ²
1	916.2		920.0	106.6
2	869.0		877.4	149.2
3	832.1		843.6	183.0
4	762.5		779.2	247.4
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 4.1496$

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.9847$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 3432 \text{ mcfpd}$

$P_c = 1013.2$ $P_c^2 = 1026.6$

Absolute Open Flow	3432	Mcf @ 15.025	Angle of Slope θ	Slope, n	.768
Remarks:					
Approved By Commission:	Conducted By:	Calculated By:	Checked By:		
	David Weaver	Al Springer			

WORKSHEET FOR CALCULATION OF ST. COLUMN WELLHEAD PRESSURE (P_w)

0-1220
Rev 9-1-65

COMPANY Kofas Oklahoma LEASE Owajo RH State WELL NO. 43 DATE 4/30/52

LOCATION: Unit A Section 2 Township 15 Range 25E

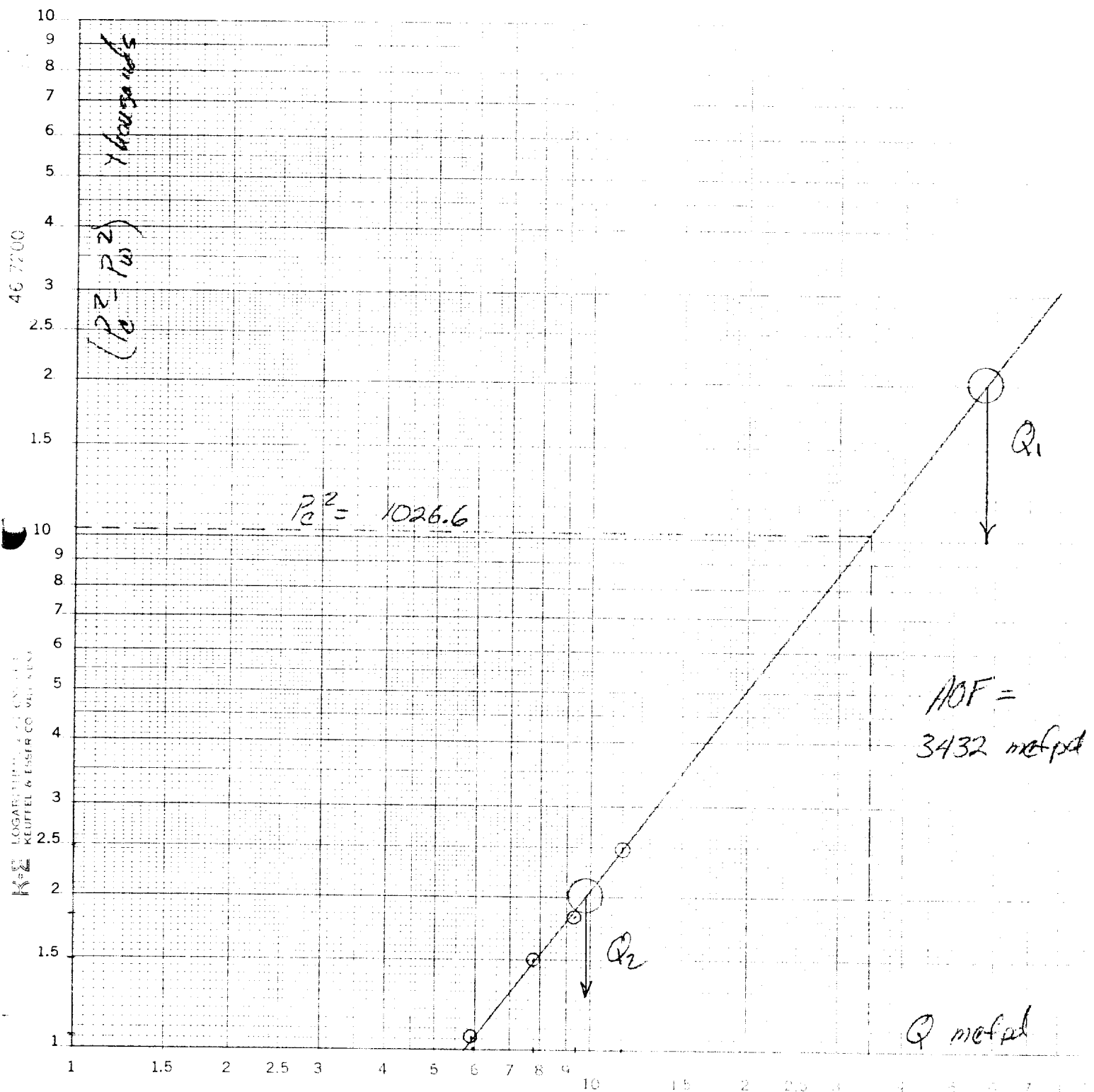
L 3988 H 3988 L/H 1.000 G .660 % CO₂ 1.19 % N₂ 3.90 % H₂S —

S 1.995 F₁ .01572 GH 2632 P_{CF} 661 T_{CF} 366

TABLE IX & I
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LINE	ST. K ₁ & C	2 nd K ₁ & C	3 rd K ₁ & C	4 th K ₁ & C	5 th K ₁ & C	6 th K ₁ & C	7 th K ₁ & C	8 th K ₁ & C	9 th K ₁ & C	10 th K ₁ & C	11 th K ₁ & C	12 th K ₁ & C	13 th K ₁ & C	14 th K ₁ & C	15 th K ₁ & C	16 th K ₁ & C	17 th K ₁ & C	18 th K ₁ & C	19 th K ₁ & C	20 th K ₁ & C	21 st K ₁ & C	22 nd K ₁ & C	23 rd K ₁ & C	
1 Q _m	.591	.919	.935	1.150																				
2 T _m (W.H. 98)	4.24	4.24	4.24	4.24																				
3 T _g (S.H. 98)	5.63	5.63	5.63	5.63																				
4 T = (LW ² /16)	3.04	5.46	5.46	5.46																				
5 C (S.H.)	.863	.863	.860	.861																				
6 T ₂	4.64.03	4.64.01	4.67.34	4.67.34																				
7 C ₂ T ₂	5.6414	5.646	5.626	5.619																				
8 C ₂ (Table XCV)	1.231	1.236	1.235	1.235																				
9 1-e ⁻³ (Table XCV)	.192	.191	.190	.190																				
10 F ₁	957.2	932.2	912.2	892.2																				
11 P ₁ 4/1000	116.2	869.0	832.1	762.5																				
12 F ₁ (Table XCV)	.01823	.01823	.01823	.01823																				
13 F ₂ = F ₁ T ₂	8.499	8.499	8.529	8.539																				
14 F ₂ C ₂	4.999	6.621	7.904	9.393																				
15 L/H (F ₂ C ₂) ^{1/2}	24.994	43.834	65.590	96.66																				
16 F ₂ = L/H (F ₂ C ₂) ² (1-e ⁻³)	41.799	8.372	12.082	16.962																				
17 P _w ² = P ₁ ² + F _w	920.0	877.4	845.6	779.2																				
18 F ₃ ² = e ⁵ P _w ²	1139.3	1084.4	1042.6	762.41																				
19 F ₃	1069.4	1041.4	1021.1	981.0																				
20 P = (P ₁ ² + P ₃ ²)	1012.3	986.8	966.6	929.1																				
21 P ₁ = (P/P ₃)	1.52	1.48	1.45	1.49																				
22 T ₁ = (T/T ₁)	1.49	1.49	1.49	1.49																				
23 Z (Table XI)	.853	.857	.860	.861																				

Yates Petroleum Corp.
 Conejo #4 St. #3
 (H) Sec 2 - 18 - 28 E
 Olvera, NM



$$(P_0^2 - P_w^2)_1 = 2,000$$

$$(P_0^2 - P_w^2)_2 = 200$$

$$Q_1 = 5,750$$

$$\log Q_1 = 3.75967$$

$$\log Q_2 = 2.99123$$

$$n = .76844 = .768$$