

RECEIVED

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 11/15/81		JAN 13 1982	
Company Yates Petroleum Corporation				Connection Transwestern Pipeline Co.		O. C. D. ARTESIA, OFFICE	
Pool <i>Pecos Slope - Abo Gas</i> Undesignated Abo				Formation Abo		Unit	
Completion Date 9/15/81		Total Depth 4200' KB		Plug Back TD 3985'		Elevation 3740.9' GR	
Farm or Lease Name Conejo RH State							
Csq. Size 4-1/2"	Wt. 9.5#	d 4.090	Set At 4190'	Perforations: From 3687' To 3874'		Well No. 1	
Thg. Size 2-3/8"	Wt. 4.7#	d 1.995	Set At 3850'	Perforations: From - To -		Unit Soc. Twp. Rge. P 2 7S 25E	
Type Well - Single - Bradenhead - G.C. or G.O. Multiple Single				Packer Set At -		County Chaves	
Producing Thru Tubing		Reservoir Temp. °F 98# 3780'		Mean Annual Temp. °F 62°		Baro. Press. - P _a 13.2	
State New Mexico							
L 3850	H 3850	G _g .642	% CO ₂ 0.53	% N ₂ 5.42	% H ₂ S 0	Prover -	Meter Run 2"
Taps Flanged							

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow
NO.	Prover Line Size	X Orifice Size	Press. p.s.i.g.	Diff. hw	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	Temp. °F	
SI						959				days
1.	2.067 x 1.125		340	27.0	62	540	66			24 hrs
2.	2.067 x 1.125		340	13.9	65	692	66			24 hrs
3.	2.067 x 1.125		350	5.6	65	799	66			24 hrs
4.	2.067 x 1.125		325	1.9	62	877	66			24 hrs
5.										

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor F _t	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1	6.393	97.7	353.2	.9981	1.248	1.031	802
2	6.393	70.1	353.2	.9952	1.248	1.030	573
3	6.393	45.2	363.2	.9952	1.248	1.031	370
4	6.393	25.1	338.2	.9981	1.248	1.030	206
5							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ Dry	Mcf/bbl.
1	.53	522	1.46	.940	A.P.I. Gravity of Liquid Hydrocarbons _____ Dry	_____ Deg.
2	.53	525	1.47	.942	Specific Gravity Separator Gas _____ .642	XXXXXX
3	.55	525	1.47	.940	Specific Gravity Flowing Fluid _____ XXXXX	.642
4	.51	522	1.46	.942	Critical Pressure _____ 665 P.S.I.A.	665 P.S.I.A.
5					Critical Temperature _____ 357 R	357 R

NO.	P _c	P _w	P _w ²	P _c ² - P _w ²
1	972.2	945.2		
1	306.0		315.0	630.2
2	497.5		501.8	443.4
3	659.7		661.5	283.7
4	792.5		793.0	152.2
5				

$$(1) \frac{P_c^2}{P_c^2 - P_w^2} = 1.4998$$

$$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1185$$

$$(2) \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.4781$$

Absolute Open Flow _____ 1185 _____ Mcfd @ 15.025	Angle of Slope _____	Slope, n _____ .964
---	----------------------	---------------------

Remarks: _____

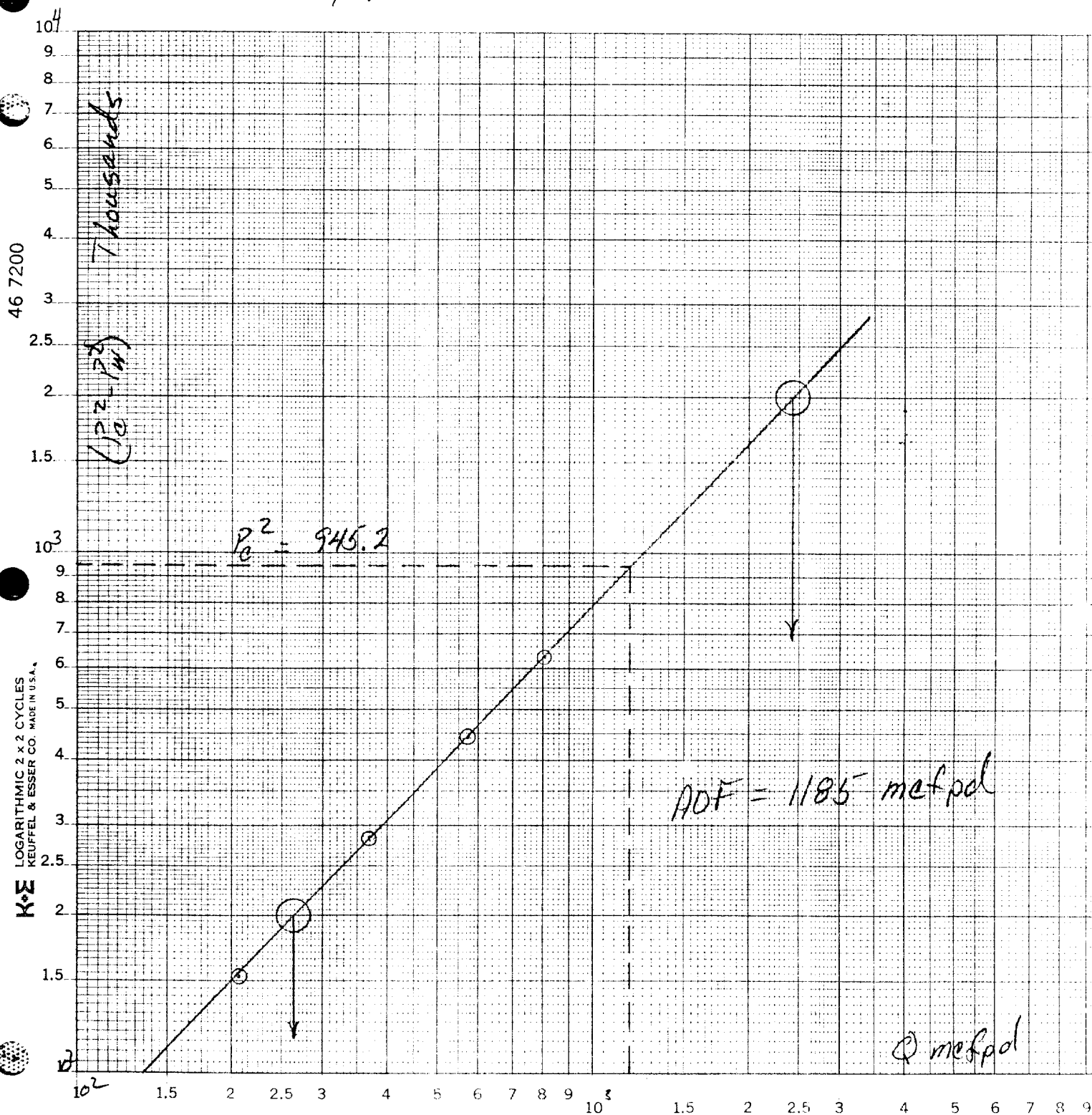
Approved By Division _____	Conducted By: David Weaver	Calculated By: Al Springer	Checked By: _____
----------------------------	-------------------------------	-------------------------------	-------------------

WORKSHEET FOR CALCULATION OF ST. C COLUMN WELLHEAD PRESSURE (P_w)G-122D
Revised 9-1-65COMPANY Vates Petroleum Corp. LEASE Conejo "RH" St. WELL NO. #1 DATE 11/12/82LOCATION: Unit P Section 2 Township 7S Range 25EL 3850 H 3850 L/H 1.000 G .642 % CO₂ 0.53 % N₂ 5.42 % H₂S 0F₁ 1.995 F₂ .01823 GH 2472 P_{cr} 665 T_{cr} 357

TABLE IX & X

LINE	rate #1	rate #2	rate #3	rate #4	rate #5
1 D _m	.802	.573	.370	.206	
2 D _m (Table X)	526	526	526	526	
3 D _m (Table X)	558	558	558	558	
4 D _m (Table X)	542	542	542	542	
5 D _m (Table X)	.917	.896	.883	.872	
6 D _m (Table X)	497.01	485.63	478.59	472.62	
7 D _m (Table X)	4.974	5.090	5.165	5.230	
8 e ^s (Table X)	1.205	1.210	1.214	1.217	
9 1-e ^s (Table X)	.170	.174	.176	.178	
10 P ₁	533.2	705.2	812.2	890.2	
11 P ₁ (Table X)	306.0	497.3	659.7	792.5	
12 P ₁ (Table X)	.01823	.01823	.01823	.01823	
13 P ₁ = P ₁ P ₂	9.061	8.853	8.725	8.616	
14 P ₁ Q _m	7.267	5.073	3.328	1.775	
15 L/H (P ₁ Q _m) ²	52.803	25.733	10.421	3.150	
16 F _w = L/H (P ₁ Q _m) ² (1-e ^s)	8.977	4.478	1.834	.561	
17 P _w ² = P ₁ ² + F _w	315.0	501.8	661.5	793.0	
18 P _s ² = e ^s P _w ²	399.6	607.2	803.1	965.1	
19 P _s	616.1	779.2	896.1	982.4	
20 P = (P ₁ + P _s)	584.7	742.2	854.2	936.3	
21 P _r = (P/P _{cr})	.88	1.12	1.28	1.41	
22 T _r = (T/T _{cr})	1.52	1.52	1.52	1.52	
23 T _r (Table X)	.917	.896	.888	.872	

Yates Petroleum Corp.
 Conejo "RH" St. #1
 Unit P, Sec 2, T-7S, R-25E
 Chaves county, New Mexico



$$(P_c^2 - P_w^2)_1 = 2000$$

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

$$Q_1 = 2,430$$

$$Q_2 = 264$$

$$\log Q_1 = 3.38561$$

$$\log Q_2 = 2.42166$$

$$n = .96400 = .964$$