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O. C. D.

ARTESIA, OFFICE

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 9-1-65

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test: [x] Initial [ ] Annual [ ] Special — 3-29-82

Company: Yates Petroleum Corporation	Connection: Transwestern Pipeline		
Pool: ~~Undesignated~~ Pecos Slope Abo	Formation: Abo		
Completion Date: 2-5-82	Total Depth: ~~4425~~ 4315	Plug Back TD: 4214	Elevation: 4989.8 GL
Farm or Lease Name: Grafa "RW" Fed.	Well No: #1		
Csg. Size: 4½ / Wt.: 9.5# / d: 4.090 / Set At: 4225	Perforations: From 3856 To 3877		
Tbg. Size: 2 3/8 / Wt.: 4.7# / d: 1.995 / Set At: 3834	Perforations: From ____ To ____		
Unit: N / Sec.: 33 / Twp.: 5S / Rge.: 24E			
Type Well – Single – Bradenhead – G.G. or G.O. Multiple: Single	Packer Set At: -------	County: Chaves	
Producing Thru: Tubing	Reservoir Temp. °F: 98° @ 3832	Mean Annual Temp. °F: 62°	Baro. Press. – P_a: 13.2
State: New Mexico			

L	H	Gg	% CO_2	% N_2	% H_2S	Prover	Meter Run	Taps
3834	3834	.723	7.69	6.21	-----	-----	2"	Flanged

NO.	FLOW DATA: Prover Line Size X Orifice Size	Press. p.s.i.g.	Diff. h_w	Temp. °F	TUBING DATA: Press. p.s.i.g.	Temp. °F	CASING DATA: Press. p.s.i.g.	Temp. °F	Duration of Flow
SI					983				
1.	2.067 X .875	280	21.6	67	741	61			24 hrs.
2.	2.067 X .875	260	30.7	66	672	61			24 hrs.
3	2.067 X .875	280	40.0	66	598	61			24 hrs.
4.	2.067 X .875	280	60.0	69	410	61			24 hrs.
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	3.729	79.5	293.2	.9933	1.176	1.025	355
2	3.729	91.6	273.2	.9948	1.176	1.024	409
3	3.729	108.2	293.2	.9948	1.176	1.025	484
4	3.729	132.6	293.2	.9915	1.176	1.025	591
5							

NO	P_t	Temp °R	T_r	Z
1	.42	527	1.46	.952
2	.40	526	1.45	.953
3	.42	526	1.45	.951
4	.42	529	1.46	.952
5				

Gas Liquid Hydrocarbon Ratio: dry Mcf/bbl.

A.P.I. Gravity of Liquid Hydrocarbons: ---- Deg.

Specific Gravity Separator Gas: .723 XXXXXXXXXX

Specific Gravity Flowing Fluid: XXXXX

Critical Pressure: 691 P.S.I.A. 691 P.S.I.A.

Critical Temperature: 362 R 362 R

P_c 996.2 P_c^2 992.4

NO	P_t^2	P_w	R_w^2	$P_c^2 - R_w^2$
1	568.8		570.7	421.7
2	469.5		472.0	520.4
3	373.6		377.1	615.3
4	179.1		184.6	807.8
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.2285$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 1.1768$

AOF = $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n$ = 695 MCFPD

Absolute Open Flow: 695 Mcfd @ 15.025 Angle of Slope θ: ____ Slope, n: .791

Remarks: ____

Approved By Commission: ____ Conducted By: Ronald Hanson Calculated By: ____ Checked By: ____

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

C-122D Adopted 9-1-65

COMPANY Yates Petroleum Corp. LEASE Grafa SW Fed. WELL NO. #1 DATE 5/18/82

LOCATION: Unit N Section [illegible] Township [illegible] Range [illegible]

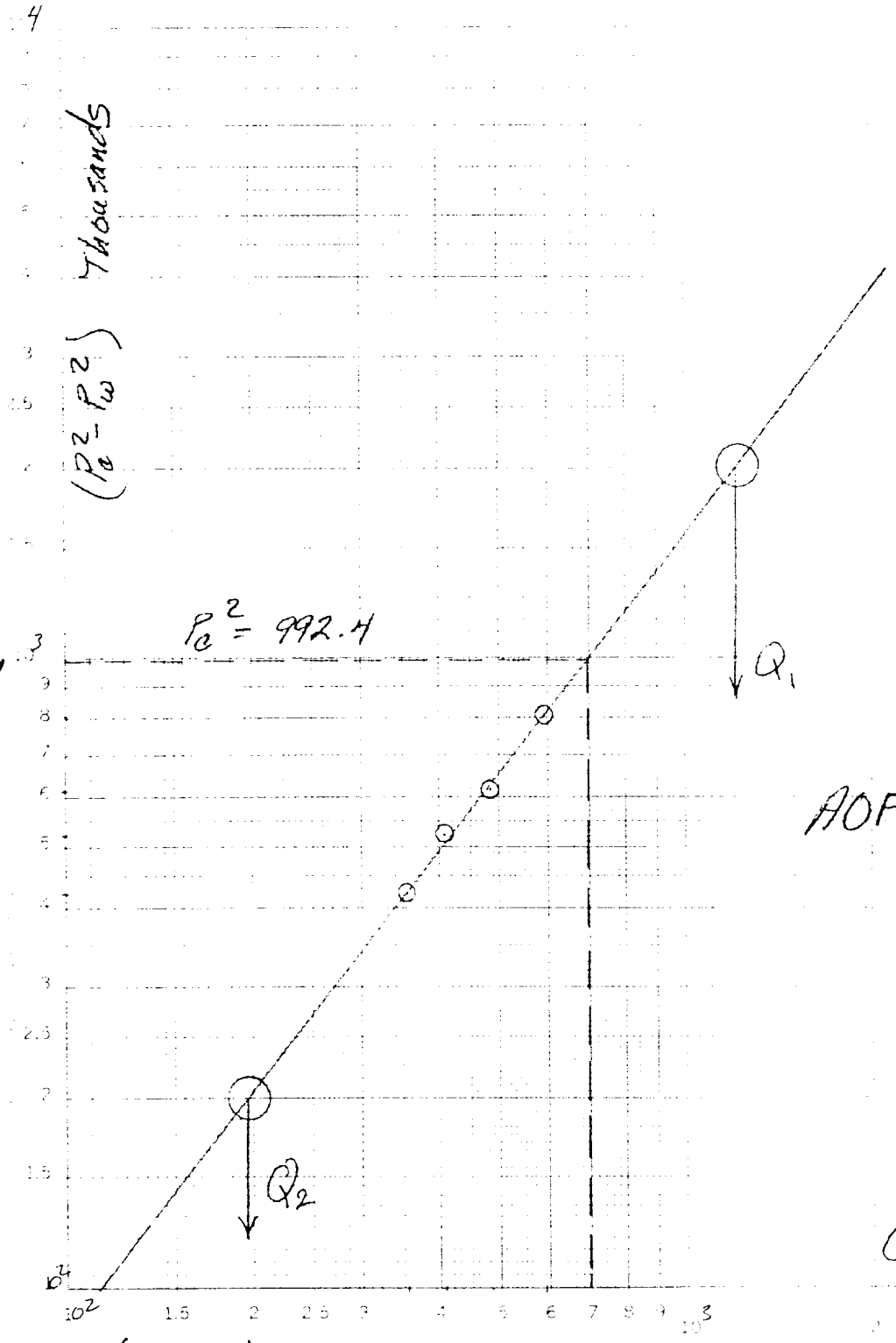
L [illegible] H [illegible] L/H [illegible] G [illegible] % CO_2 [illegible] % N_2 [illegible] % H_2S ______

d 1.[illegible] F_r [illegible] GH 2072 P_{cr} 671 (TABLE IX & X) T_{cr} 362 (TABLE IX & X)

LINE	1st rate		2nd rate		3rd rate		4th rate		
1 Q_m	.35[illegible]		.4[illegible]		.43[illegible]		.591		
2 T_w (W.H. °R)	521		521		521		521		
3 T_s (B.H. °R)	[illegible]		[illegible]		[illegible]		553.8		
4 $T = \frac{T_w + T_s}{2}$	[illegible]		[illegible]		[illegible]		537.[illegible]		
5 Z (Est.)	.835		.895		.905		.927		
6 TZ	44[illegible].46		482.25		4[illegible].25		[illegible]		
7 GH/TZ	5.806		5.941		5.6[illegible]		5.531		
8 e^S (Table XIV)	1.243		1.240		1.237		1.230		
9 $1-e^{-S}$ (Table XIV)	.195		.194		.192		.187		
10 P_t	754.2		685.2		[illegible]		423.2		
11 $P_t^2/1000$	568.8		469.5		343.6		[illegible]		
12 F_r (Table XV)	.01725		.01655		[illegible]		[illegible]		
13 $F_c = F_r$ TZ	8.404		8.802		[illegible]		9.1[illegible]		
14 $F_c Q_m$	3.090		3.600		4.[illegible]		5.400		
15 $L/H (F_c Q_m)^2$	9.548		12.961		[illegible].559		2[illegible]		
16 $F_w = L/H (F_c Q_m)^2 (1-e^{-S})$	1.862		2.514		3.563		5.453		
17 $P_w^2 = P_t^2 + F_w$	570.7		472.0		2[illegible].1		184.6		
18 $P_s^2 = e^S P_w^2$	709.4		585.3		466.5		22[illegible]		
19 P_s	842.2		765.0		[illegible]		476.4		
20 $P = \frac{P_t + P_s}{2}$	798.2		725.1		647.1		449.8		
21 $P_r = (P/P_{cr})$	1.16		1.05		.94		[illegible]		
22 $T_r = (T/T_{cr})$	1.49		1.49		1.49		1.49		
23 Z (Table XI)	.885		.89[illegible]		.905		.927		

[illegible] (If Z is [illegible] acceptable)

Yates Petroleum Corp
Gista RW Fed #1
1N, Sec 33 - [illegible]
Chaves [illegible]



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

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

$Q_1 = 1210$

Log Q_1 = 3.08279

Log Q_2 = 2.29226

n = .79053 = .791