STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

Form C-122
Revised 10-1-78

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

RECEIVED
DEC 23 1981
O. C. D.
ARTESIA, OFFICE

Type Test: [X] Initial [ ] Annual [ ] Special				Test Date: 11-18-81	
Company: Yates Petroleum Corporation		Connection: Transwestern Pipeline Company			Unit: NM 1882
Pool: ~~Undesignated Abo~~ Pecos Slope - Abo Gas		Formation: Abo			
Completion Date: 9-16-81	Total Depth: 4500'	Plug Back TD: 4479'	Elevation: 3638 KB, 3630 GR		Farm or Lease Name: Leeman OC Federal
Csg. Size: 4-1/2" / Wt.: 9.5# / d: 4.090" / Set At: 4469'		Perforations: From 3784' To 3873'			Well No.: 1
Tbg. Size: 2-7/8" / Wt.: 6.5# / d: 2.441 / Set At: 3748		Perforations: From - To -			Unit: O / Sec.: 18 / Twp.: 7S / Rge.: 26E
Type Well – Single – Bradenhead – G.G. or G.O. Multiple: Single		Packer Set At: 3748'			County: Chaves
Producing Thru: Tubing	Reservoir Temp. °F: 119 @ 4465'	Mean Annual Temp. °F: 60	Baro. Press. – P_a: 13.2		State: New Mexico
L: 3748' / H: 3748'	Gg: 0.646	% CO_2: 0.19	% N_2: 6.52	% H_2S: 0	Prover: --- / Meter Run: 2" / Taps: Flange

FLOW DATA / TUBING DATA / CASING DATA

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	Duration of Flow
SI											
1.	2.067	x	0.625	285	2	70	825	72			24 hrs
2.	2.067	x	0.625	285	10	68	767	70			24 hrs
3.	2.067	x	0.625	295	34	66	570	68			24 hrs
4.	2.067	x	0.625	285	57	65	510	68			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	1.866	24.42	298.2	0.9905	1.244	1.024	58
2	1.866	54.61	298.2	0.9924	1.244	1.025	129
3	1.866	102.37	308.2	0.9943	1.244	1.026	242
4	1.866	130.37	298.2	0.9952	1.244	1.025	309
5							

NO.	P_t	Temp. °R	T_t	Z
1	0.453	530	1.489	0.953
2	0.453	528	1.483	0.952
3	0.468	526	1.478	0.950
4	0.453	525	1.475	0.952
5				

Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.
Specific Gravity Separator Gas 0.646 XXXXXXXXXX
Specific Gravity Flowing Fluid XXXXX _____
Critical Pressure 659 P.S.I.A. _____ P.S.I.A.
Critical Temperature 356 R _____ R

P_c 916.2 P_c^2 839.4

NO	P_t^2	P_w	P_w^2	$P_c^2 - P_w^2$
1	702.6		702.6	136.8
2	608.7		608.8	230.6
3	340.1		340.4	499.0
4	273.7		274.2	565.2
5				

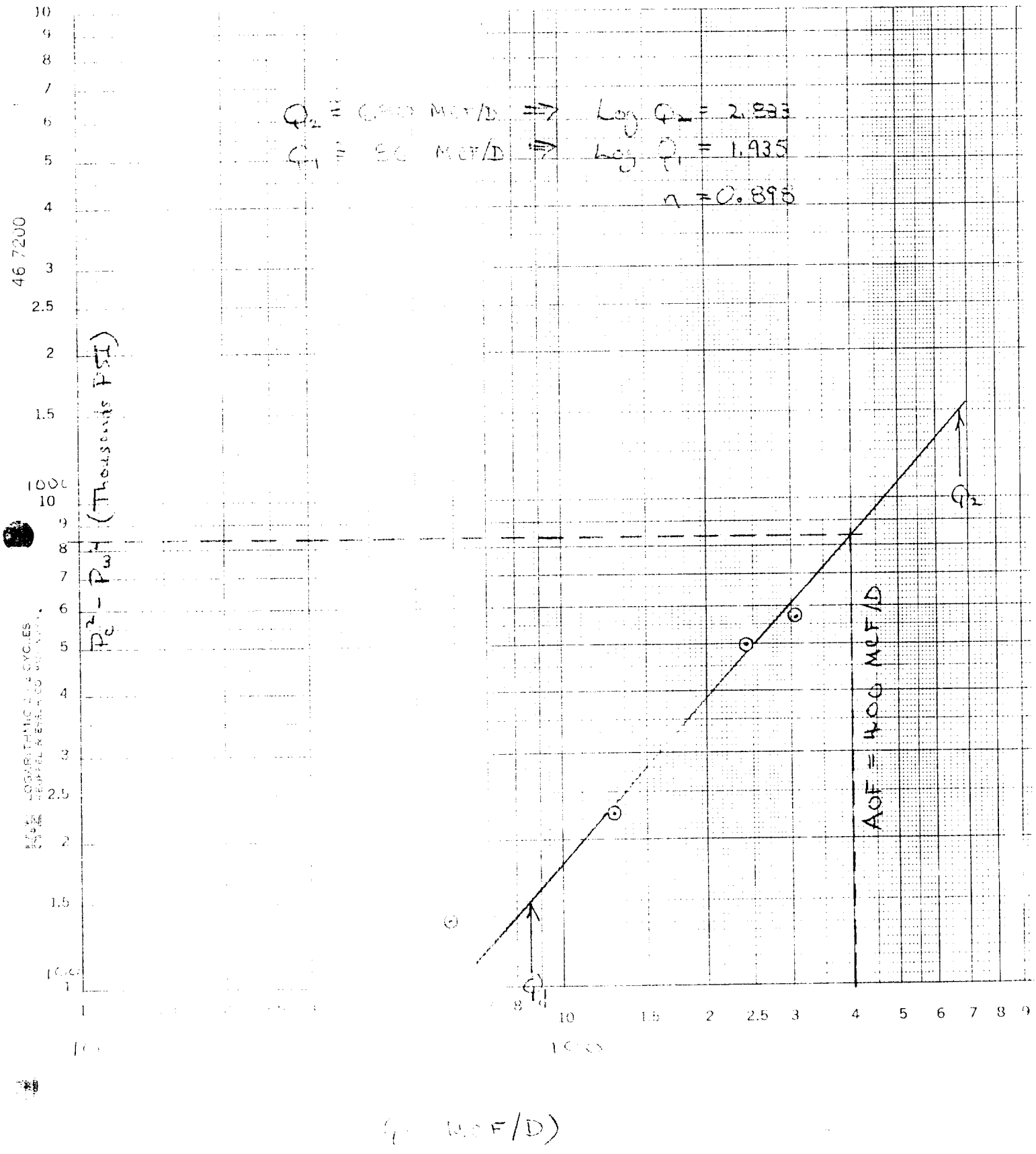
(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 2.099$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 1.946$

Absolute Open Flow $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n$ = 400

Absolute Open Flow 400 Mcfd @ 15.025 | Angle of Slope θ _____ | Slope, n 0.898

Remarks: Static pressures by Bennett Wireline. Flowing pressures by DWT calculations.
Worksheet C122D attached.

Approved By Division	Conducted By:	Calculated By:	Checked By:
	David Weaver	Albert R. Stall	


Q_2 = 600 MCF/D ⇒ Log Q_2 = 2.833
Q_1 = 86 MCF/D ⇒ Log Q_1 = 1.935
n = 0.898
$P_c^2 - P^3$ (Thousands PSI)
AOF = 400 MCF/D
Q_2
Q_1
46 7200

(MCF/D)

C-122D
Adopted 9-1-65

WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (P_w)

COMPANY Yates Petroleum Corp LEASE Lemon CC Fed WELL NO. 1 DATE 12-21-81

LOCATION: Unit C Section 18 Township 7S Range 26E

L 3748' H 3748' L/H 1 G 0.646 % CO_2 0.19 % N_2 6.52 % H_2S 0

J 2.441 F_t .010763 CH 2421 P_{cr} 659 (TABLE IX & X) T_{cr} 356 (TABLE IX & X)

LINE	1ST RATE 1ST TRIAL	1ST RATE 2ND TRIAL	2ND RATE 1ST TRIAL	2ND RATE 2ND TRIAL	3RD RATE 1ST TRIAL	3RD RATE 2ND TRIAL	4TH RATE 1ST TRIAL	4TH RATE 2ND TRIAL
1 P_c	.058	.058	.127	.127	.242	.242	.309	.309
2 T_c (°R)	532	532	530	530	528	528	528	528
3 P_c	571	571	571	571	571	571	571	571
4 $P_c T_c$	551.5	551.5	550.5	550.5	549.5	549.5	549.5	549.5
5 P_r	0.875	0.887	0.890	0.893	0.905	0.916	0.930	0.925
6	482.6	491.2	481.1	491.6	498.2	503.3	511.0	508.3
7 SHAPE	5.017	4.749	4.741	4.925	4.859	4.810	4.737	4.763
8 e^s (Table XIV)	1.207	1.204	1.204	1.203	1.200	1.198	1.194	1.196
9 $1-e^{-s}$ (Table XIV)	0.171	0.169	0.169	0.169	.167	0.165	0.162	0.164
10 P_t	838.2	838.2	780.2	780.2	583.2	583.2	523.2	523.2
11 P_t^2 - 1000	702.6	702.6	608.7	608.7	340.1	340.1	273.7	273.7
12 F_t (Table XV)	.010763	.010763	.010763	.010763	.010763	.010763	.010763	.010763
13 $F_c = F_t T^2$	5.194	5.265	5.273	5.291	5.362	5.417	5.500	5.4708
14 $F_c Q_m$	.30126	.3054	.6802	.6826	1.2176	1.3109	1.6995	1.6905
15 $L/H (F_c Q_m)^2$	.0908	.093	.4627	.4657	1.6639	1.7185	2.8882	2.8577
16 $F_w = L/H(F_c Q_m)^2(1-e^{-s})$	.0155	.0158	.0782	.0787	.2812	.2836	.4779	.4687
17 $P_w^2 = P_t^2 + F_w$	702.62	702.62	608.78	608.78	340.38	340.38	274.17	274.17
18 $P_s^2 = e^s P_w^2$	848.06	845.15	732.77	732.36	408.46	407.78	327.36	327.91
19 P_s	920.9	919.3	856.1	855.8	639.1	638.6	572.2	572.6
20 $P = (\frac{P_t + P_s}{2})$	879.55	878.95	818.17	817.11	611.15	610.87	547.68	547.90
21 $P_r = (P/P_{cr})$	1.3347	1.3338	1.2415	1.2413	.9274	.9270	.8311	.8314
22 $T_r = (T/T_{cr})$	1.5491	1.5421	1.5463	1.5463	1.5435	1.5435	1.5435	1.5435
23 Z (Table XI)	.887	.897	.893	.893	.916	.916	0.925	0.925