

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELLS

Type Test: ☒ Initial ☐ Annual ☐ Special		Test Date: 11-08-84		ARTESIA, OFFICE	
Company: READ & STEVENS, Inc.		Connection: AIR			
Pool: BUNKER HILL <i>Penrose Assoc.</i>		Formation: PENROSE		Unit:	
Completion Date: 11-08-84		Total Depth: 4010		Plug Back TD: 3665 3715	
Casing Size: 4 1/2		Well ID: 10 1/2		Elevation: 4189.6	
Perforations: From 3325 To 3345		Perforations: From 3325 To 3344		Farm or Lease Name: RICHARDSON III	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple: SINGLE		Packer Set At: N/A		Well No.:	
Producing Thru: L		Reservoir Temp. °F: 60		Baro. Press. - P _a : 13.2	
Mean Annual Temp. °F: 60		Prover: 2		Meter Run: 2	
G _g : .69		% CO ₂ :		% N ₂ :	
% H ₂ S:		Prover:		Meter Run:	
Flange:		Taps:		State: NEW MEXICO	

FLOW DATA						TURING 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
1.				48	24	76	610		625		
2.				50	40	79	623		630		1 hr.
3.				50	40	79	619		630		"
4.				50	28	76	605		610		"
5.							490		520		"

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 _{sp}	Rate of Flow Q, Mcfd
1.	.2991	38.325	61.2	.9849	1.204	1.006	13.672
2.	.6689	50.279	63.2	.9822	1.204	1.006	40.005
3.	1.1890	50.279	63.2	.9831	1.204	1.006	71.179
4.	4.949	42.067	63.2	.9850	1.204	1.006	248.206
5.							

NO.	P _t	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.
1.					A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.
2.					Specific Gravity Separator Gas _____ XXXXXXXXXX
3.					Specific Gravity Flowing Fluid _____ XXXXX
4.					Critical Pressure _____ P.S.I.A. _____ P.S.I.A.
5.					Critical Temperature _____ R _____ R

P _c 712.2	P _c ² 507	(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 3.395$	(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 3.395$
NO.	P _w	P _w ²	P _w ² - P _c ²
1.	702.2	493	14
2.	694.2	482	25
3.	681.2	464	43
4.	598.2	357	149
5.			

AOI = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 843$

Post IO-2
11-30-84
Comp + RH

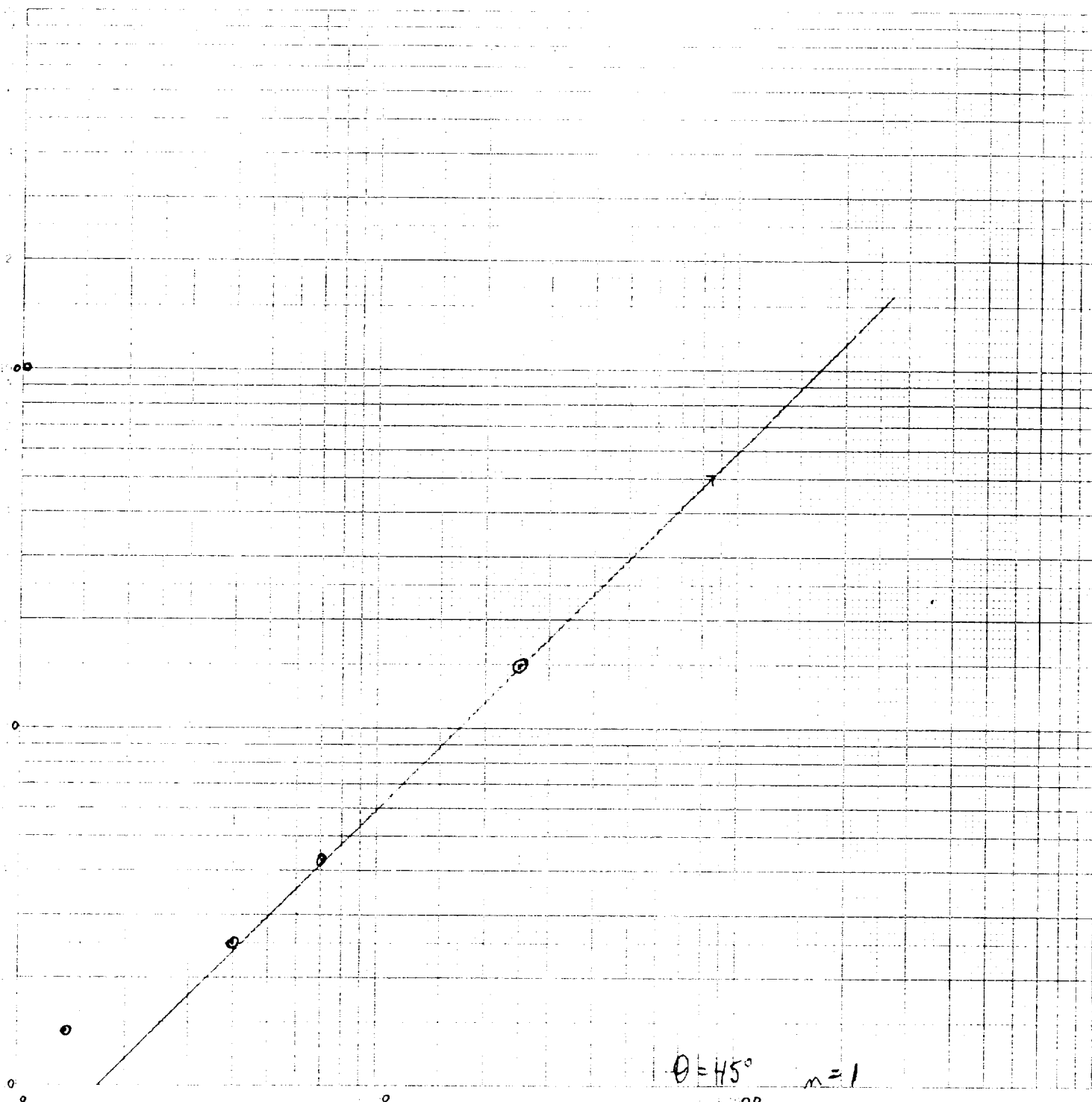
Absolute Open Flow: 843	Mcf/d @ 15.025	Angle of Slope θ: 45°	Slope, n: 1
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Remarks: Bottom hole pressures recorded w/amerada type gauge.

Approved By Division:	Conducted By: KETIC SERVICES	Calculated By: KELLY	Checked By:
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$P^2 - P^2_{(oon)} 467400$

LOGARITHMIC X LOG LINE
FOR GAS RESERVOIR



KELTIC SERVICES INC

COMPANY READ & STEVENS
LEASE RICHARDSON FEE.
FIELD BUNKER HILL
SHUT IN TUBING PRESSURE
BOMB NUMBER 791

DATE 11/08/84
WELL NUMBER #1
FORMATION PENROSE
610 PSIG CASING PRESSURE
OPERATOR CHUCK

DEPTH 3340 FEET
0 PSIG

POINT	TIME HOURS	PRESSURE B. H.	PSIA W. H.	FLOW RATE MSCFPD
01	0.00	712.20	623.20	
02	.25	704.20	638.20	
03	.50	704.20	637.20	
04	.75	703.20	636.20	
05	1.00	702.20	636.20	14
06	1.25	699.20	636.20	
07	1.50	697.20	635.20	
08	1.75	694.20	633.20	
09	2.00	694.20	632.20	40
10	2.25	691.20	623.20	
11	2.50	686.20	623.20	
12	2.75	684.20	618.20	
13	3.00	681.20	618.20	71
14	3.25	651.20	563.20	
15	3.50	638.20	543.20	
16	3.75	628.20	522.20	
17	4.00	598.20	503.20	248

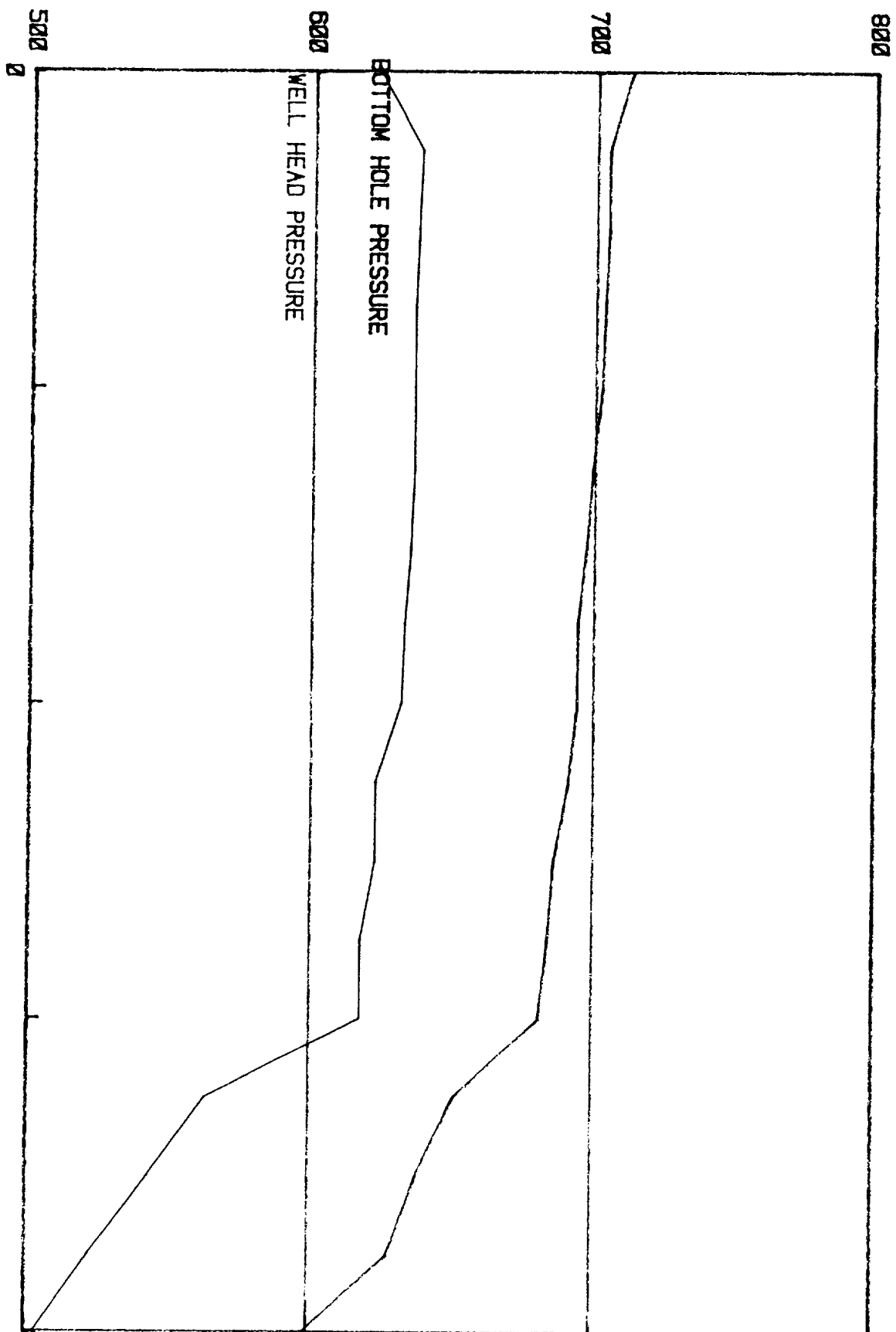
THANK YOU

READ & STEVENS

RICHARDSON FEE. #1

11/08/84

PRESSURE PSIA



KELTIC SERVICES

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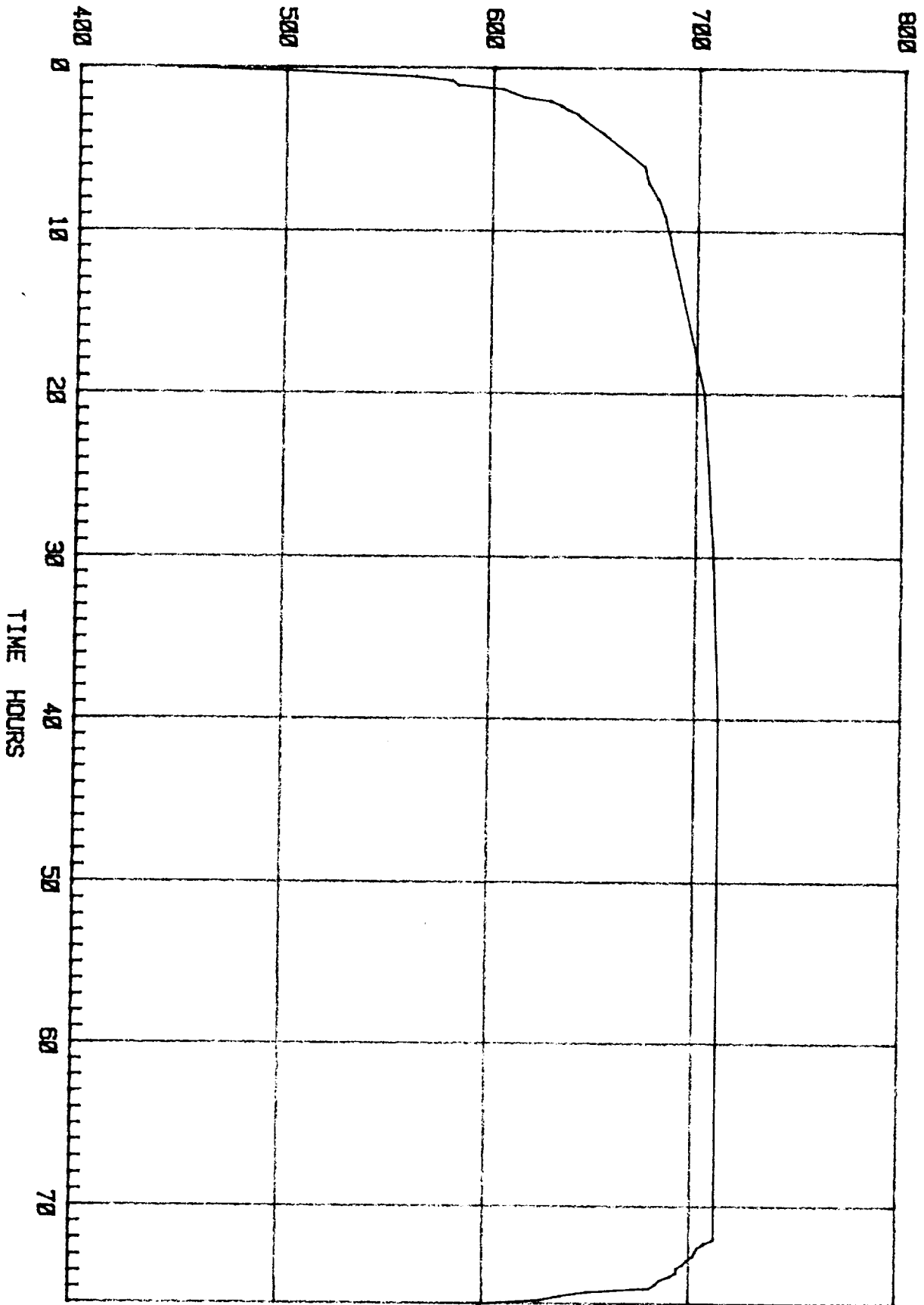
COMPANY READ & STEVENS
 LEASE RICHARDSON FEE.
 FIELD BUNKER HILL
 DEPTH 3340 FEET
 TUBING PRESSURE 610 PSIG
 BOMB NUMBER 791

DATE 11/05-08/84
 WELL NUMBER #1
 FORMATION PENROSE
 CASING PRESSURE 0 PSIG
 OPERATOR CHUCK

TIME	HOURS	PRESSURE	PSIA
0.00		448.20	
.25		514.20	
.50		562.20	
.75		580.20	
1.00		583.20	
1.25		605.20	
1.50		610.20	
1.75		615.20	
2.00		628.20	
2.25		633.20	
2.50		636.20	
2.75		641.20	
3.00		643.20	
4.00		654.20	
5.00		664.20	
6.00		674.20	
7.00		676.20	
8.00		681.20	
9.00		684.20	
10.00		686.20	
20.00		704.20	
30.00		709.20	
40.00		712.20	
50.00		712.20	
60.00		712.20	
70.00		712.20	
72.00		712.20	
72.25		707.20	
72.50		704.20	
72.75		703.20	
73.00		702.20	
73.25		699.20	
73.50		697.20	
73.75		694.20	
74.00		694.20	
74.25		691.20	
74.50		686.20	
74.75		684.20	
75.00		681.20	
75.25		651.20	
75.50		638.20	
75.75		628.20	
76.00		598.20	

THANK YOU

PRESSURE PSIA



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RICHARDSON FEE. #1

11/05-08/84

KELTIC SERVICES