

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

Form C-122
Revised 9-1-65

C/SF
C-122

RECEIVED

Type Test ☒ Initial FOUR POINT ☐ Annual ☐ Special		Test Date 2-8-82		1980 FW APR 2 1982	
Company BEARD OIL COMPANY /		Connection AIR NEW WELL		1980 FSL O. C. D.	
Pool <i>Peros Slope abo</i> UNDESIGNATED		Formation ABO		Unit K ARTESIA, OFFICE	
Completion Date 2-8-82		Total Depth 4155	Plug Back TD 4130	Elevation 3803 KB	Farm or Lease Name FEDERAL 25 25
Csg. Size 4.500	Wt. 10.5	d 4.052	Set At 4155	Perforations: From 3465 To 3642	Well No. 1
Tbg. Size 2.375	Wt. 4.7	d 1.995	Set At 3432	Perforations: From OPEN To ENDED	Unit Sec. Twp. Rge. K 25 7S 2425E
Type Well - Single - Bradenhead - G.G. or G.O. Multiple SINGLE				Packer Set At NONE	County CHAVES
Producing Thru TUBING		Reservoir Temp. °F 98 # 3,398	Mean Annual Temp. °F 60°	Baro. Press. - P _a 13.2	State NEW MEXICO
L 3553	H 3553	G _g 0.7176	% CO ₂ 5.477	% N ₂ 11.777	% H ₂ S 2.00
Prover		Meter Run		Taps	

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	
SI							818		887		119 HRS.
1.	2.00	X	.500	82	0	48	767	47	842		1
2.	2.00	X	.500	112	0	49	717	50	787		1
3.	2.00	X	.500	126	0	45	671	49	738		1
4.	2.00	X	.500	156	0	44	613	48	676		1
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	4.3880	.00	95.2	1.0117	1.1802	1.0081	503
2	4.3880	.00	125.2	1.0107	1.1802	1.0112	663
3	4.3880	.00	139.2	1.1047	1.1802	1.0127	741
4	4.3880	.00	169.2	1.0157	1.1802	1.0153	904
5							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.
1	.14	508	1.44	.984	A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.
2	.19	509	1.44	.978	Specific Gravity Separator Gas <u>.7180</u> X X X X X X X X
3	.21	505	1.43	.975	Specific Gravity Flowing Fluid <u>X X X X X</u> .7180
4	.25	504	1.43	.970	Critical Pressure <u>672</u> _____ P.S.I.A. _____ P.S.I.A.
5					Critical Temperature <u>353</u> _____ R _____ R

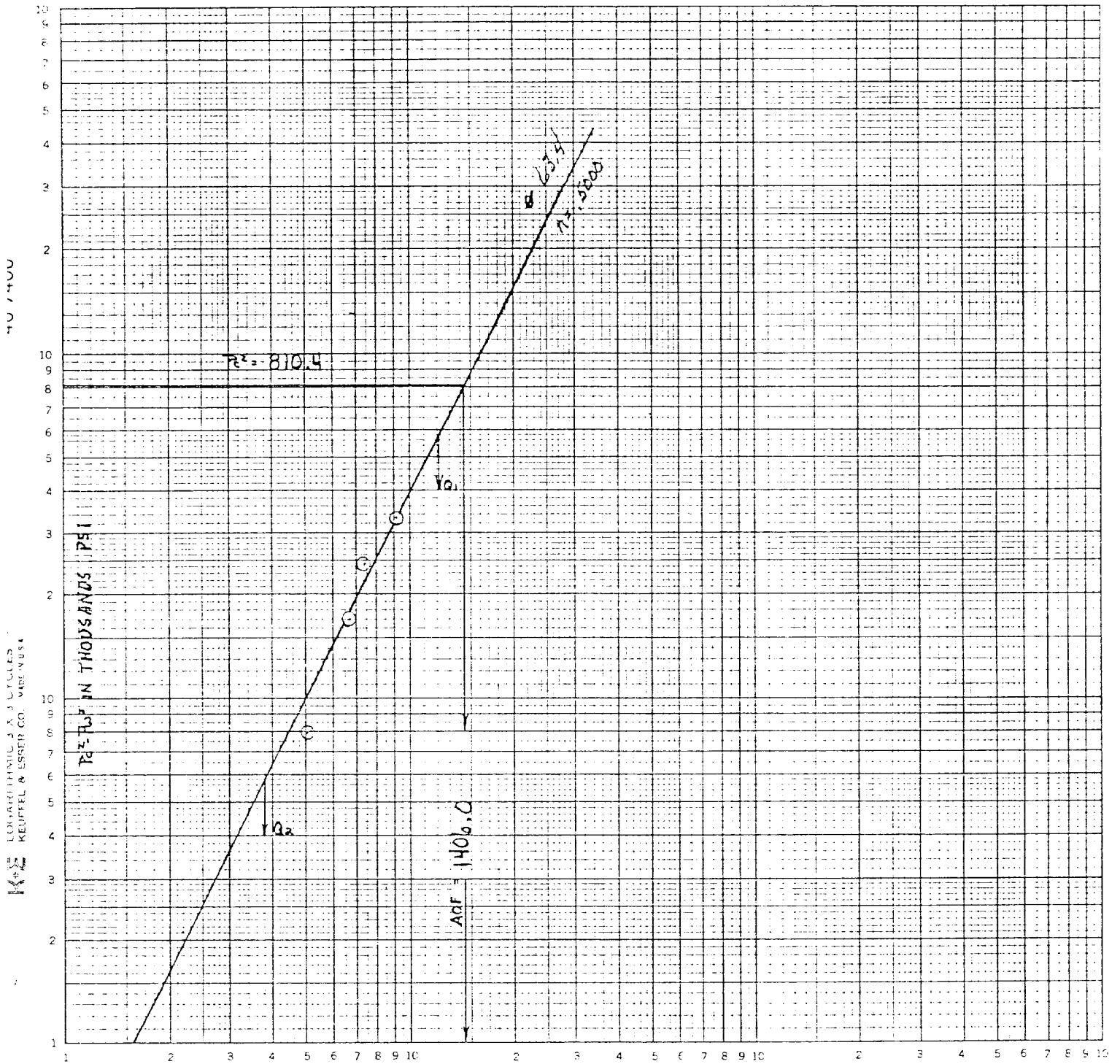
P _c <u>900.2</u> P _c ² <u>810.4</u>		(1) $\frac{P_c^2}{P_c^2 - P_w^2} = \underline{2.41910}$		(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = \underline{1.555347}$	
NO.	P _r ²	P _w ²	P _w ²	P _c ² - P _w ²	
1	855.2	731.4	79.0		
2	500.2	640.3	170.0		
3	751.2	564.3	246.0		
4	689.2	575.0	335.0		
5					

Absolute Oper. Flow <u>1406</u> _____ Mcfd @ 15.025		Angle of Slope <u>63.4</u>	Slope, n <u>.5000</u>
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Remarks: BOTTOM HOLE PRESSURES MEASURED WITH AMERADA PRESSURE ELEMENTS

Approved By Commission:	Conducted By: RICHARD TOWNLEY	Calculated By: BENNETT & CATHEY	Checked By:
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DERAL 25 #1
 UNIT K 25 75 25E
 CHAVES COUNTY
 2-8-82



$$\bar{P}_1 \bar{P}_2 \bar{P}_3 = 580$$

Q, Mcfd

$$\log Q = 3.07978$$

$$\bar{P}_1 \bar{P}_2 \bar{P}_3 = 58$$

$$\log Q = 2.57978$$

$$Q_1 = 1,201.6$$

$$n = 5000$$

NEW-TEX LAB
P.O. BOX 1161
HOBBS NM 88241-1161
505-393-3561

ANALYSIS NUMBER: 6646
DATE OF RUN: 02/09/82
DATE SECURED: 02/08/82

ANALYSIS CERTIFICATE

SAMPLE IDENT: BEARD OIL - FEDERAL 25 #1

CLIENT: BENNETT & CATHEY INC
ADDRESS: BOX 787
CITY, STATE: ARTESIA NM 88210

SAMPLING PRESS: 0 PSIG SAMPLING TEMP: 0 DEG F
STATION NUMBER:

***** GAS ANALYSIS *****

	MOLE PERCENT	GAL/ MCF
NITROGEN	11.7768215	
CARBON DIOXIDE	5.4772635	
METHANE	75.4984512	
ETHANE	4.0949845	1.0921300
PROPANE	1.6786082	0.4607780
ISO-BUTANE	0.2831600	0.0923951
NORMAL BUTANE	0.5807317	0.1825820
ISO-PENTANE	0.1750702	0.0639181
NORMAL PENTANE	0.1877310	0.0678460
HEXANES	0.1312786	0.0538505
HEPTANES PLUS	0.1158996	0.0533370
TOTAL	100.0000000	2.0668400

PROPANE GPM:	0.46	BUTANES GPM:	0.27
ETHANE GPM:	1.09	PENTANES PLUS GPM:	0.24

SPECIFIC GRAV (CALC): .7174
MOLE WEIGHT: 20.79

HHV-BTU/CU FT	PRESSURE (PSIA)	WET	DRY
14.696		916	933
14.650		914	930
14.730		919	935
14.735		919	935

ANALYZED BY:

APPROVED BY:



COMPANY BEARD OIL COMPANY WELL NAME FEDERAL 25 WELL NO. 1
DATE OF TEST 2-8-82 FORMATION ABO PAGE 1 OF 1

CHART READINGS AND CALCULATIONS FOR BUILDUP OR DRAWDOWN TEST

331 PSIA

[illegible]



BEN ETT-CATHEY WIRE LINE SERVICE

P. O. BOX 787
ARTESIA, NEW MEXICO 88210
Phone 746-3281



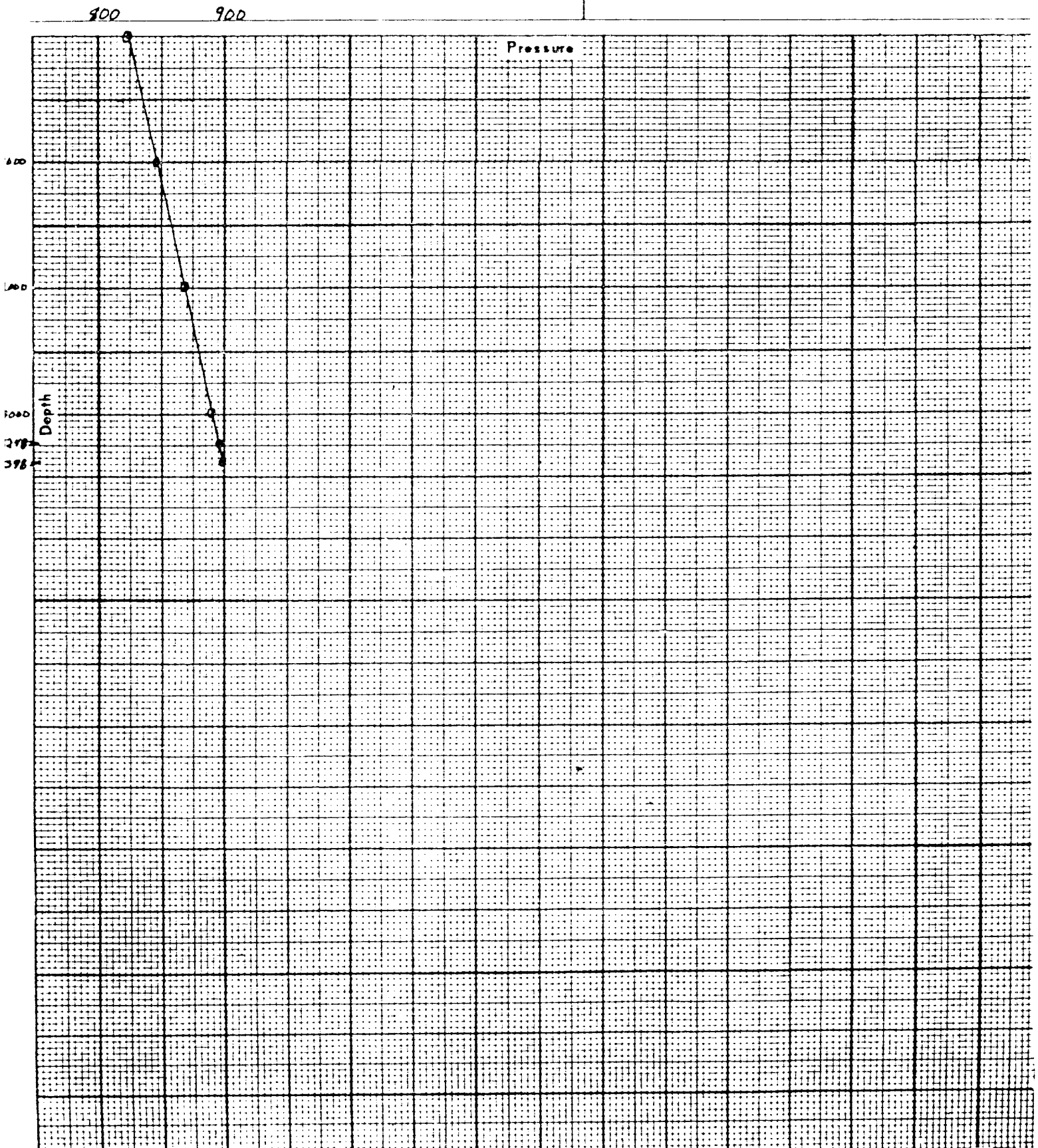
BOTTOM HOLE PRESSURE SURVEY REPORT

OPERATOR BEARD OIL COMPANY
LEASE FEDERAL 25
WELL NO. 1
POOL FORMATION ABO
DATE 2-9-82 TIME 2142 HOURS
STATUS SHUT IN TEST DEPTH 3,492
TIME S.I. 1750 HRS. LAST TEST DATE 1ST TEST
CAS. PRES. 2-8-82 BHP LAST TEST
TUB. PRES. 823 BHP CHANGE
ELE. FLUID TOP
DATUM PLANE WATER TOP
DATUM PSIA 899 RUN BY BO FAULKENBERRY
TEMP 98° PRESSURE RANGE 5,000 LBS.
CLOCK NO. 19040 36 HOURS
ELEMENT NO. RPG3 #21121N

DEPTH	PRESSURE	GRADIENT
0	823	
1,000	846	2.3
2,000	868	2.2
3,000	890	2.2
3,248	896	2.4
3,398	899	2.0
3,492	901	2.1

TIME B.H.P. MEASURED: 2142 HOURS

LENGTH OF TIME WELL SHUT IN: 27 HRS.
52 MIN.



COMPANY BEARD OIL COMPANY WELL NAME FEDERAL 25 WELL NO. 1
DATE OF TEST 2-8-82 - 2-9-82 FORMATION ABO PAGE 1 OF 1

ELEMENT NUMBER	RPG3 #21121N	RANGE	5,000 LBS.
CLOCK NUMBER	19040	RANGE	36 HOURS
TIME WELL SHUT IN	2-8-82 1750 HOURS		
TIME CLOCK STARTED	1400 HOUR 2-8-82 PRIOR TO FOUR POINT		
DEAD WEIGHT ELEMENT ON SURFACE	LBS.		
TIME ELEMENT REACHED BOTTOM	1133 HOURS		
DEAD WEIGHT ELEMENT ON BOTTOM	626 PSIA AFTER FOUR POINT FLOW LBS.		
ELEMENT SET AT	3398 EXTRAPOLATED TO 3,553 FEET.		
TEMPERATURE	3398	FT.	98 °F.
DEAD WEIGHT AT THE END OF	27	HOURS	52 MINUTES.

[illegible]

TEST DATE: 2-8-82

TEST DEPTH: 3,398 FEET

ELEMENT NO.: RPG3 #21121N

RANGE: 5,000 LBS.

CLOCKS: 19040

RANGE: 36 HOURS

OPERATOR: BO FAULKENBERRY

Note: See Attached Sheet for Tabulation of Pressure
And Time.

CARROLL BELLAH

BEARD OIL COMPANY

FEDERAL 25 WELL NO. 1

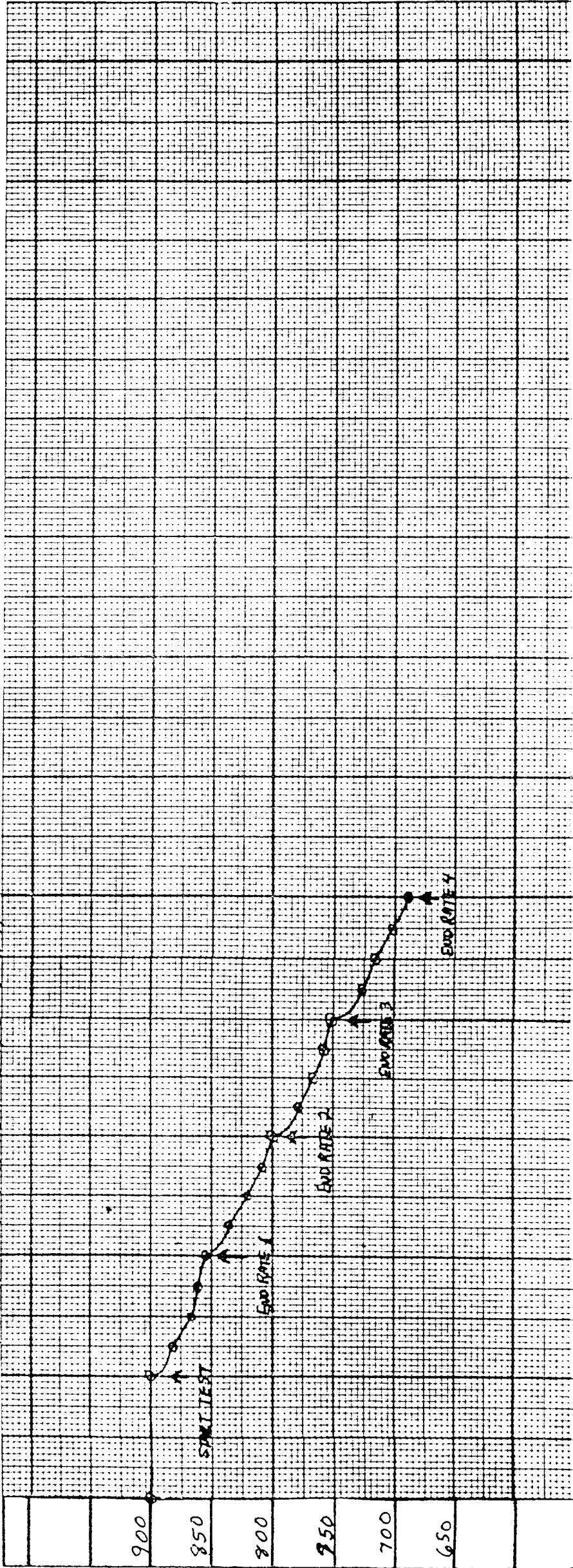
BENNETT-CATHEY WIRE LINE SERVICE
Box 787
Artesia, N.M. 88210 505/746-3281

Drawn By Scale: As Shown

BENNETT-
CATHEY
WELL SERVICES

TIME IN HOURS

0 1/4 1/2 3/4 1 1 1/4 1 1/2 1 3/4 2 2 1/4 2 1/2 2 3/4 3 3 1/4 3 1/2 3 3/4 4



PRESSURE

TEST DATE: 2-8-82
TEST DEPTH: 3,398 FEET

ELEMENT NO.: RPG3 #21121N
RANGE: 5,000 LBS.
CLOCKS: 19040
RANGE: 36 HOURS

OPERATOR: BO FAULKENBERRY

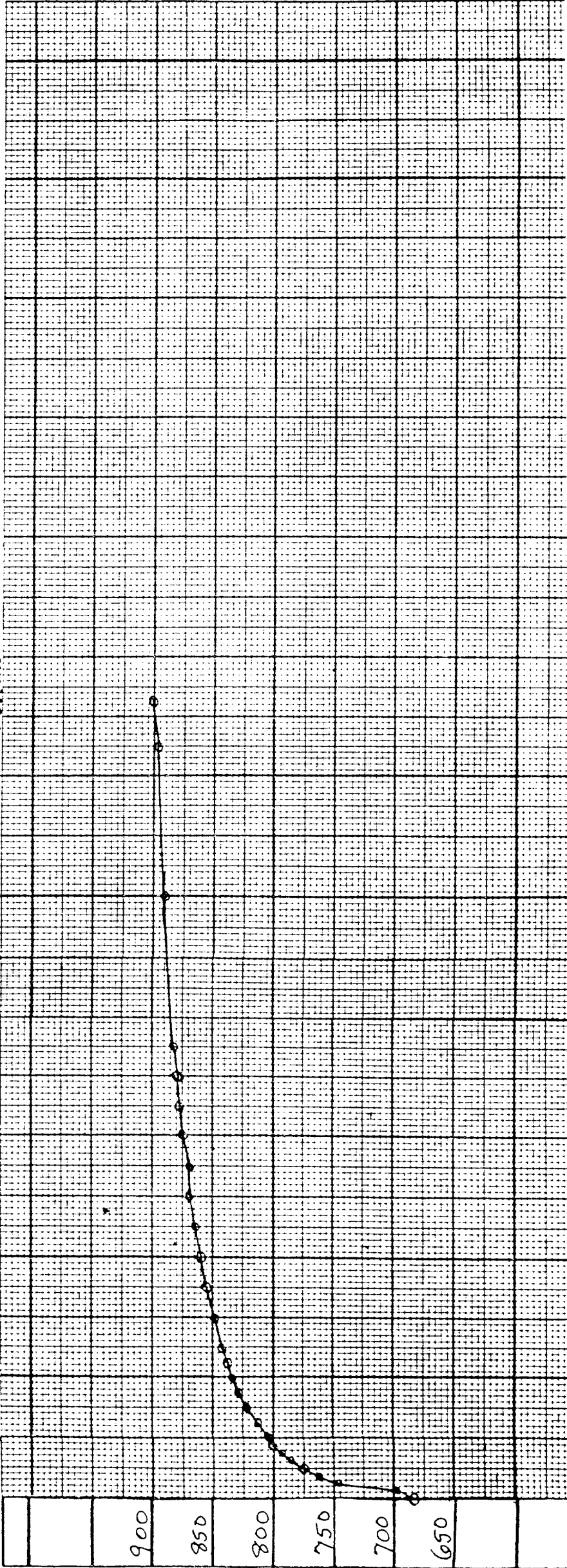
Note: See Attached Sheet for Tabulation of Pressure
And Time.

CARROLL BELLAH
BEARD OIL COMPANY FEDERAL 25 WELL NO. 1
BENNETT-CATHEY WIRE LINE SERVICE Box 787 Artesia, N.M. 88210 505/746-3281
Drawn By _____ Scale: As Shown



TIME IN HOURS

0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72 74 76 78 80 82 84 86 88 90 92 94 96 98 100



PRESSURE