

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

Form C-122
 Revised 9-1-65

RECEIVED

Type Test: ☒ Initial 4 POINT ☐ Annual ☐ Special		Test Date: 1-5-83		JAN 28 1983	
Company: SANDERS OIL & GAS ✓		Connection: AIR NEW WELL			
Pool: PECOS SLOPE <u>U.D. 1-5-83</u>		Formation: ABO		Unit: O. C. D. ARTESIA, OFFICE	
Completion Date: 1-5-83		Total Depth: 4702 1708		Plug Hole: 4662 1703	
Elevation: 3736		Well No.: 1		Form or Lease Name: MARTIN et al	
Well Size: 4.500	Wt.: 9.5	d: 4.090	Set At: 4703	Perforations: From 4616 To 4626	
Fig. Size: 2.375	Wt.: 4.7	d: 1.995	Set At: 4563	Perforations: From 0 To 0	
Type Well - Single - Freedomhead - G.O. or G.O. Multiple				Packer Set At: 0	
Producing Thru: TUBING				County: CHAVES	
Reservoir Temp. °F: 99°		Mean Annual Temp. °F: 60		State: NEW MEXICO	
L: 4621.	H: 4621.	Qg: 0.653	% CO ₂ : 0.06	% N ₂ : 7.14	% H ₂ S: 0
Prover: 2.0		Meter Run: 0		Type: 0	

FLOW DATA						TUBING DATA		B.H.P. 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.	
SI							975		1110	
1	2.00	X	0.250	180	0	55	866	57	989	5/64
2	2.00	X	0.250	270	0	54	709	54	865	7/64
3	2.00	X	0.250	330	0	54	595	56	785	9/64
4	2.00	X	0.250	385	0	54	532	61	710	10.5/64
5										

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{P_m}$	Pressure P _m	Flow Temp. Factor F _t	Gravity Factor F _g	Super Compress. Factor F _{sp}	Rate of Flow O. Mcfd
1	1.08	0	193.2	1.0048	1.2375	1.0178	265.
2	1.08	0	283.2	1.0058	1.2375	1.0266	392.
3	1.08	0	343.2	1.0058	1.2375	1.0324	478.
4	1.08	0	398.2	1.0058	1.2375	1.0373	558.
5							

NO.	P ₁	Temp. °R	T ₁	Z	Gas Liquid Hydrocarbon Ratio	A.P.I. Gravity of Liquid Hydrocarbons	Specific Gravity Separator Gas	Specific Gravity Flowing Fluid	Critical Pressure	Critical Temperature
1	0.29	515.	1.45	0.965			0.653	XXXXXX	658.	356.
2	0.43	514.	1.45	0.949						
3	0.52	514.	1.45	0.938						
4	0.61	514.	1.45	0.929						
5										

1. 993.4 P _c ² 987.		(1) $\frac{P_g^2}{P_c^2 - P_w^2} = 1.7239$		(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.4635$	
NO.	P ₁ ²	P _w ²	R _w ²	P _c ² - R _w ²	
1	1004.	888.	789.	198.	
2	771.	780.	608.	379.	
3	637.	710.	504.	483.	
4	523.	644.	414.	572.	
5					

AOG = 0 $\left[\frac{P_c^2}{P_c^2 - R_w^2} \right]^n = 816.$

Absolute Open Flow: 816. Mcfd @ 15.025

Angle of Slope: 55.0

Slope, n: 0.699

Remarks: BOTTOM HOLE PRESSURES MEASURED WITH AMERADA PRESSURE ELEMENT.

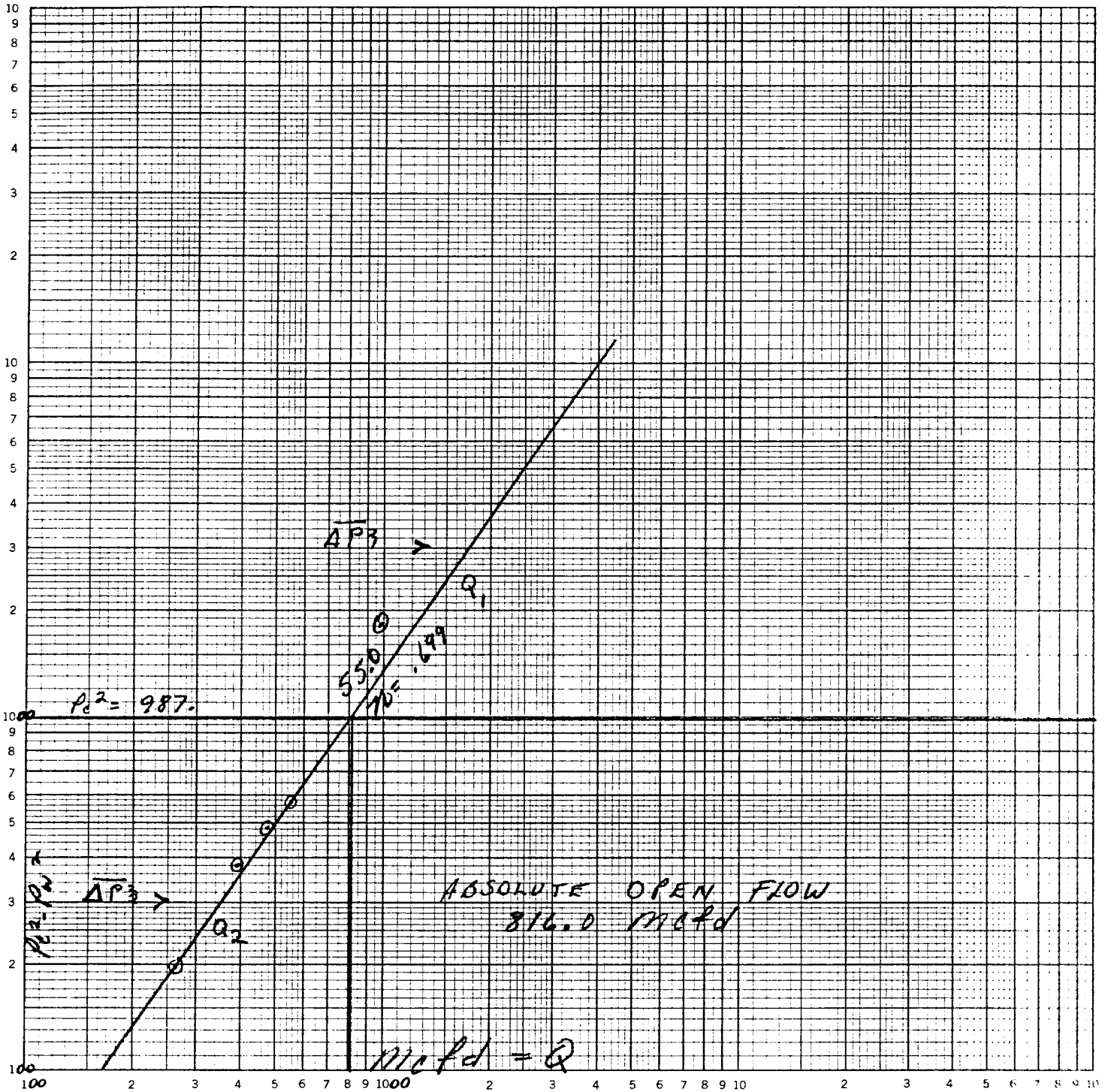
Approved By Commission:	Conducted By: DON BENNETT	Calculated By: BENNETT-CATHEY	Checked By:
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MARTIN
Well No 1
Unit T, S 31, T 85, R 26E
CHAVES COUNTY

1-5-83

46 7400

LOGARITHMIC 3 X 3 CYCLES
KEUFFEL & ESSER CO. MADE IN U.S.A.



$$\Delta P_1 \quad P_c^2 - P_w^2 = 3000$$

$$\Delta P_2 \quad P_c^2 - P_w^2 = 300$$

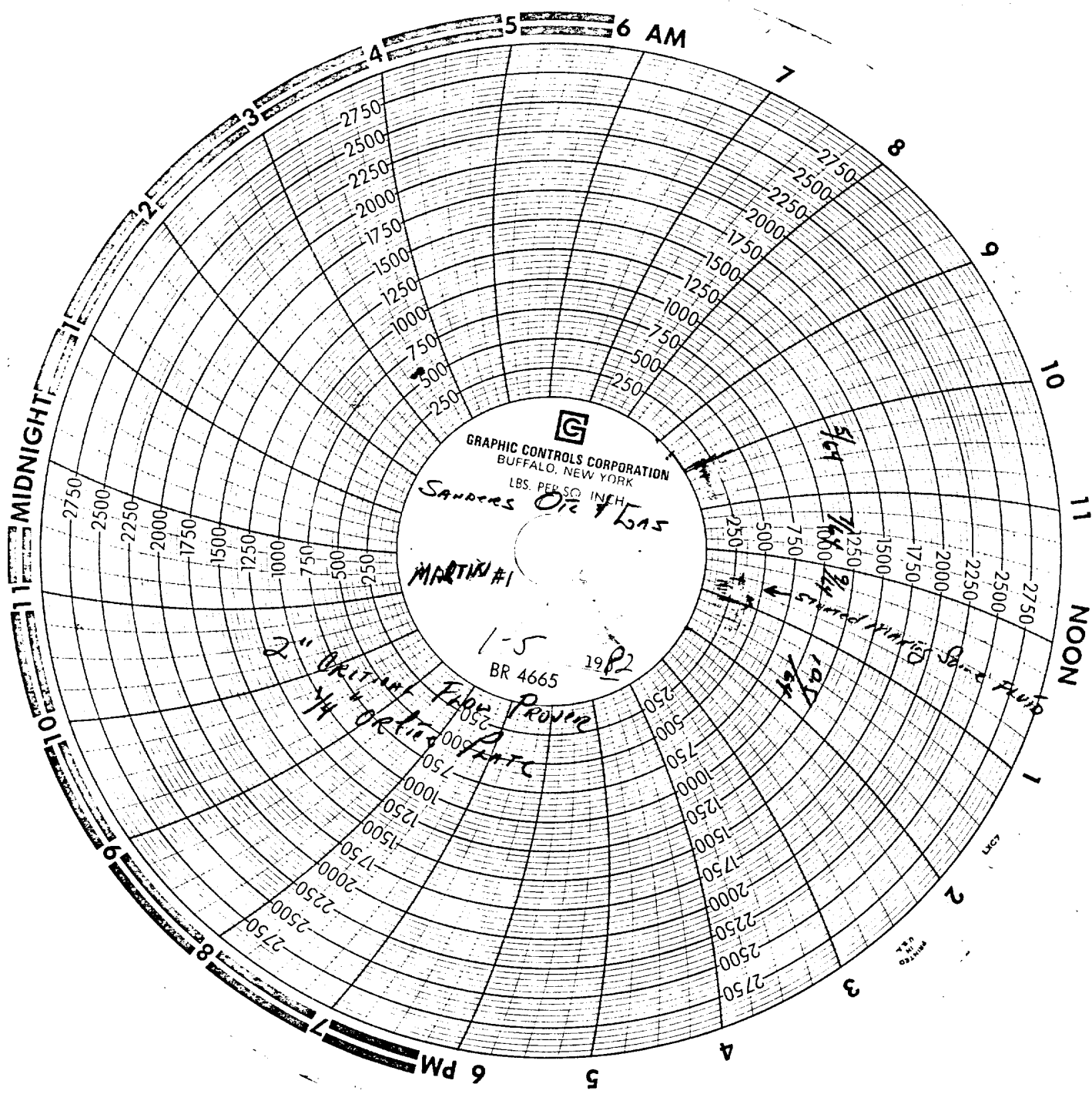
$$Q_1 = 1774.2 \text{ Mcfd}$$

$$Q_2 = 355.0 \text{ Mcfd}$$

$$\log Q_1 = 3.249$$

$$\log Q_2 = 2.550$$

$$n = .699$$



"Let your Interest in Measurement be our Concern"



PRECISION SERVICE INC.

Flow Measurement Engineers

Analysis Results Summary

Casper, WY 82601

Run No. 105-3

Date Run 1/5/83

Date Sampled 1/5/83

Analysis For: Bennett&Cathey Wirelin

Lease: Martin #1

Producer Sanders Petroleum

Location _____ County Chaves State New Mexico

Purpose _____ Sampled By B & C Wireline

Sampling Temp. _____ °F Atmos Temp. _____ °F

Volume/day _____ Formation _____

Pressure on Bomb 600 PSIG; Line Pressure _____ PSIG

Analysis

Press. Base: 14.65

Mol. %

Liq. %

GPM
Per MCF

Carbon Dioxide CO₂ .059

Oxygen O₂ _____

Nitrogen N₂ 7.137

Hydrogen Sulfide H₂S _____

Methane C₁ 85.394

Ethane C₂ 4.092

Propane C₃ 1.573

Iso-Butane IC₄ .282

Nor-Butane NC₄ .540

Iso-Pentane IC₅ .176

Nor-Pentane NC₅ .200

Hexanes C₆ _____

Hexanes .547

Heptanes Plus C₇+ _____

Total 100.000

Pentane + G.P.M. .361

PROPANE + G.P.M. 1.055

BTU Dry 1041

BTU Wet 1023

Calc. Specific Gravity .653

@ Std. Press. 14.696

BTU Dry 1045

BTU Wet 1026

Calc. Vap. Press. #/Sq.In. _____

Reid Vap. Press. #/Sq.In. _____

Z Factor .9977

N Value 1.3031

Ave Mol Wt 18.8700

Run by JAP

Calculated By JAP

Remarks:

Distribution:

COMPANY SANDERS OIL & GAS WELL NAME MARTIN WELL NO. 1
DATE OF TEST 1-5-83 FORMATION ABO PAGE 1 OF 1

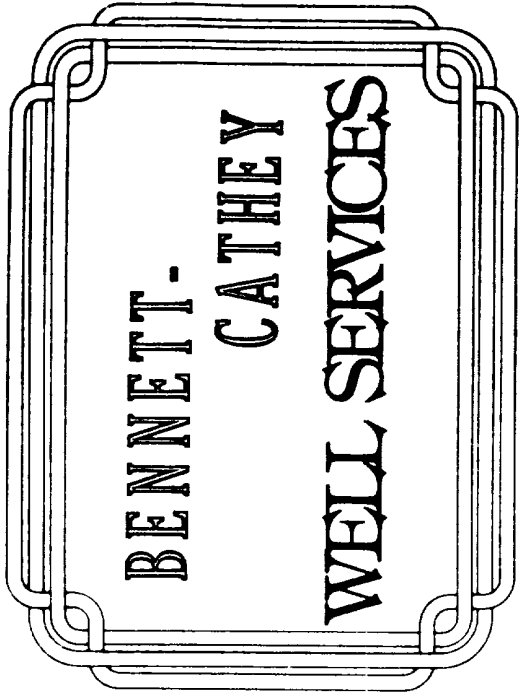
ELEMENT NUMBER	RPG3# 46950	RANGE	7,250 LBS.
CLOCK NUMBER	B 3443	RANGE	12 HRS.
TIME WELL SHUT IN	1500 HRS.	1-3-83	
TIME CLOCK STARTED	0830 HRS.	1-5-83	
DEAD WEIGHT ELEMENT ON SURFACE	988	PSIA	SHUT IN LBS.
TIME ELEMENT REACHED BOTTOM	0929 HRS.	1-5-83	
DEAD WEIGHT ELEMENT ON BOTTOM	988	PSIA	SHUT IN LBS.
ELEMENT SET AT	4,621		FEET.
TEMPERATURE	4,621	FT.	99° °F.
DEAD WEIGHT AT THE END OF	43	HOURS	0 MINUTES.

Bryan Printers & Stationers, Inc

TEST DATE: 1-5-83
TEST DEPTH: 4,621 FEET
ELEMENT NO.: RPG3# 46950
RANGE: 7,250 LBS.
CLOCKS: B 3443
RANGE: 12 HRS.
OPERATOR: BOB HERREN

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

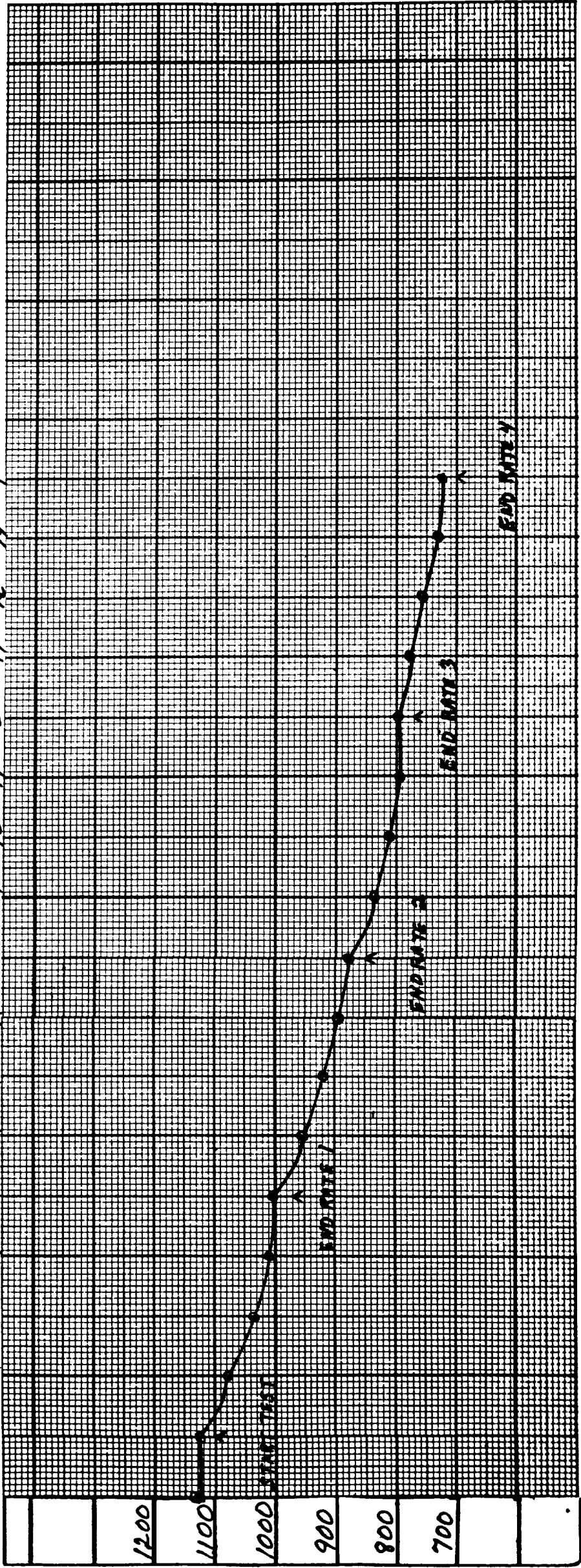
DON WHITTAKER	
SANDERS OIL & GAS COMPANY	
MARTIN WELL NO. 1	
BENNETT-CATHEY WIRE LINE SERVICE Box 787 Artesia, N.M. 88210 505/746-3281	
Drawn By	Scale: As Shown



4 POINT BACK PRESSURE TEST

TIME IN HOURS

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





BOTTOM HOLE PRESSURE SURVEY REPORT

OPERATOR SANDERS OIL & GAS
LEASE MARTIN
WELL NO. 1
POOL FORMATION ABO
DATE 1-5-83 TIME 0929 HRS.
CO. MAN DON WHITTAKER
STATUS SHUT IN TEST DEPTH 4,621 FEET
TIME S.I. 1500 HRS. LAST TEST DATE FIRST TEST
1-3-83 BHP LAST TEST
TUB. PRES. 988 LB. BHP CHANGE
CAS. PRES. FLUID TOP
DATUM PLANE WATER TOP
DATUM PSIA 1123 LB. RUN BY BOB HERREN
TEMP 99° CLOCK #
PRESSURE RANGE 7,250 LBS.
ELEMENT NO. RPG3# 46950

DEPTH	PRESSURE	GRADIENT
0	988	
1,000	1023	3.5
2,000	1050	2.7
3,000	1079	2.9
4,471	1119	2.7
4,621	1123	2.7

TIME B.H.P. MEASURED 0929 HRS.
LENGTH OF TIME WELL SHUT IN 43 HRS. 0 MIN.

