

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

Form C-122
Revised 9-1-65

RECEIVED

C/SF
C-122

Type Test ☒ Initial ☐ FOUR POINT ☐ Annual ☐ Special		Test Date 3-10-82		MAR 17 1982	
Company SANDERS PETROLEUM CORP.		Connection AIR NEW WELL		O. C. D.	
Pool UNDESIGNATED <i>ABO</i>		Formation ABO		Unit L ARTESIA, OFFICE	
Completion Date 3-8-82		Total Depth 4550		Plug Back TD 4482	
Elevation 3765 KB		Farm or Lease Name MICHAEL ERIC		Well No. 2	
Req. Size 4.5	Wt. 11.6	d 4.000	Set At 4526	Perforations: From 4052 To 4391	
Req. Size 2.375	Wt. 4.7	d 1.995	Set At 4007	Perforations: From OPEN To ENDED	
Type Well - Single - Bradenhead - G.C. or G.O. Multiple SINGLE			Packer Set At NONE		County CHAVES
Producing Thru TUBING		Reservoir Temp. °F 106 @ 4000	Mean Annual Temp. °F 60°	Baro. Press. - P _a 13.2	
State NEW MEXICO		Prover L 4222 H 4222 G _g .6537		Meter Run 3.068	
% CO ₂ 1.433		% N ₂ 7.502		% H ₂ S Flange	

FLOW DATA							TUBING DATA		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							931		1042.		238 HRS.
1.	3.068	X	1.000	395	10.0	62	908	59	1025.	8/64	1
2.	3.068	X	1.000	400	22.5	48	883	52	1000.	10/64	1
3.	3.068	X	1.000	410	50.0	42	844	50	964.	11/64	1
4.	3.068	X	1.000	415	99.5	42	783	54	899.	12/64	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	4.9120	63.89	408.2	.9981	1.2365	1.0331	400
2	4.9120	96.42	413.2	1.0117	1.2365	1.0375	615
3	4.9120	145.46	423.2	1.0178	1.2365	1.0403	935
4	4.9120	206.41	428.2	1.0178	1.2365	1.0409	1328
5							

NO.	P _t	Temp. °F	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/lbl.
1	.61	522	1.49	.937	A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.
2	.62	508	1.45	.927	Specific Gravity Separator Gas .6540 X X X X X X X X
3	.64	502	1.43	.924	Specific Gravity Flowing Fluid X X X X X
4	.65	502	1.43	.923	Critical Pressure 664 P.S.I.A. _____ P.S.I.A. _____
5					Critical Temperature 350 R _____ R _____

NO.	P _t	P _w	P _w ²	P _c ² - P _w ²
1	1055.2	1113.2	1038.2	36.0
2			1013.2	87.0
3			977.2	159.0
4			912.2	281.0
5				

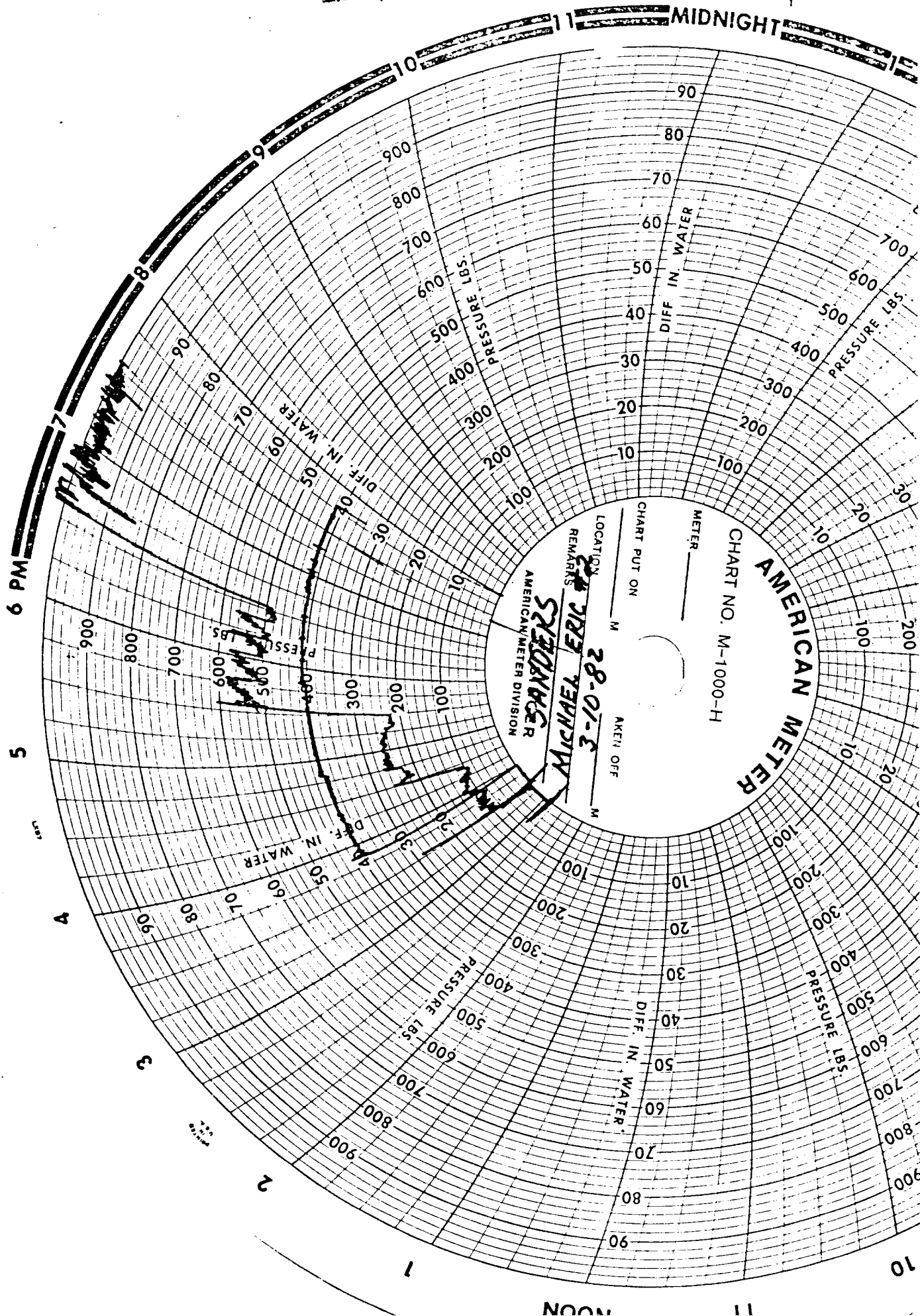
(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 3.9624$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.48799$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 3,304.0$

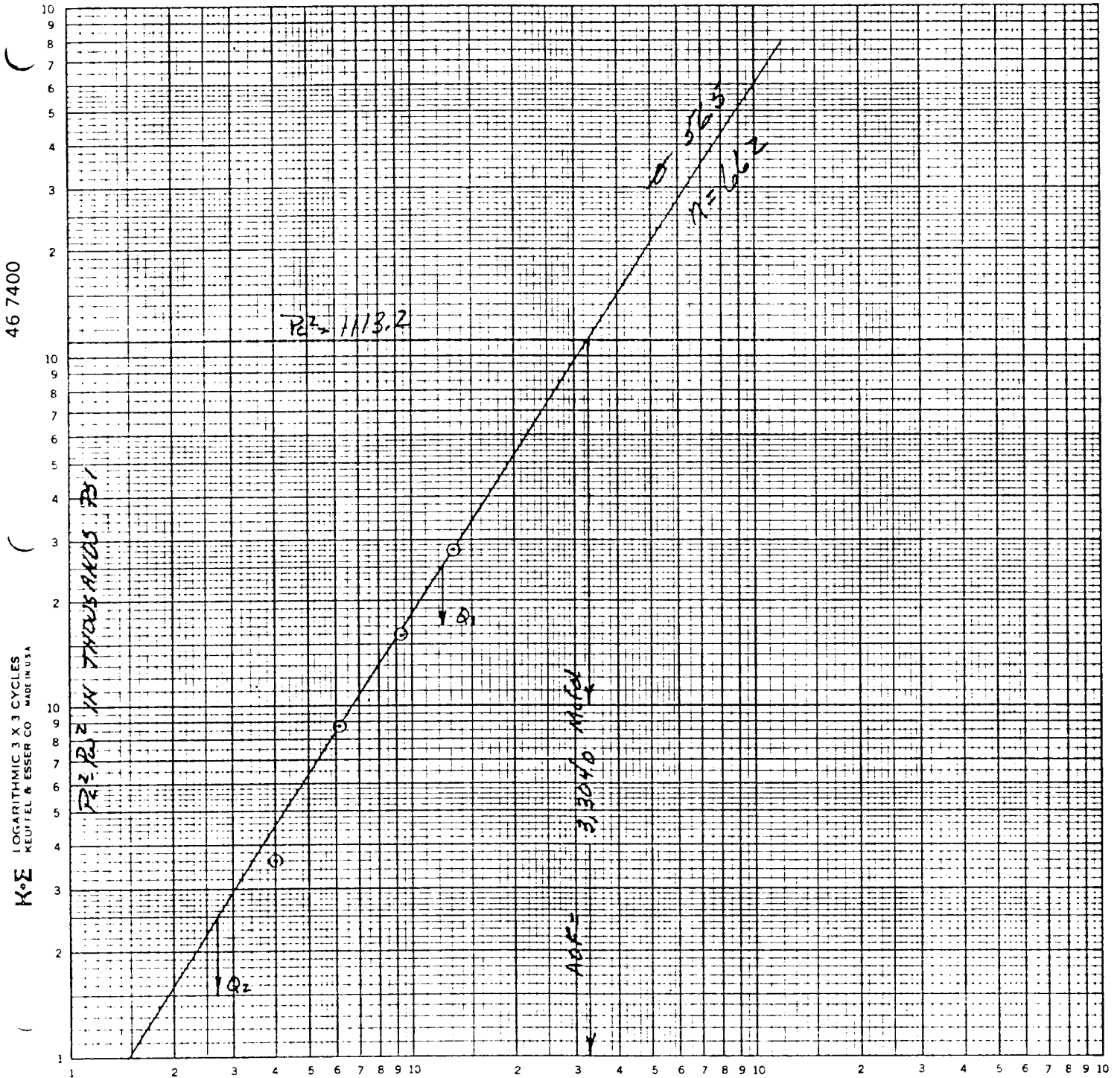
Absolute Open Flow 3,304.0 Mcfd @ 15.025 Angle of Slope @ 56.5 Slope, n .662

Remarks: BOTTOM HOLE PRESSURES MEASURED WITH AMERADA PRESSURE ELEMENTS.

Approved By Commission:	Conducted By: RICHARD TOWNLEY	Calculated By: BENNETT-CATHEY	Checked By: <i>[Signature]</i>
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MICHAEL ERIC
L-22 75 26E
CHAVES COUNTY
3-10-82



$$\Delta P: P_2 \cdot P_w^2 = 250$$

$$\Delta P: P_2 \cdot P_w^2 = 25$$

$$Q_1 = 1239.8$$

$$Q_2 = 270$$

Q_1 , Mcfd

$$\log Q_1 = 3.09336$$

$$\log Q_2 = 2.43136$$

$$n = .6620$$

BENNETT - CATHEY
Artesia, New Mexico 88210
SUBSURFACE PRESSURE MEASUREMENTS

COMPANY SANDERS PETROLEUM CORP. WELL NAME MICHAEL ERIC WELL NO. 2
DATE OF TEST 3-10-82 TO 3-12-82 FORMATION ABO PAGE 1 OF 2

CHART READINGS AND CALCULATIONS FOR BUILDUP OR DRAWDOWN TEST

ELEMENT NUMBER RPG3 #46950 RANGE 7,000 LBS.
CLOCK NUMBER 63179 RANGE 72 HOURS
TIME WELL SHUT IN 3-1-82
TIME CLOCK STARTED 1518 HOURS
DEAD WEIGHT ELEMENT ON SURFACE 944 LBS.
TIME ELEMENT REACHED BOTTOM 1547 HOURS
DEAD WEIGHT ELEMENT ON BOTTOM 944 LBS.
ELEMENT SET AT 4,000 FEET.
TEMPERATURE 4,000 FT. 106 °F.
952 PSIA DEAD WEIGHT AT THE END OF 42 HOURS 49 MINUTES.

DATE	HOUR	TIME	DEFLECTION in/inches	CALCULATED PRESSURE psig	CORRECTION P ± PC psig	CORRECTED PRESSURE psia	PRESSURE AT MID-POINT OF PERFORATIONS psia
3-10-82	0	1535		1042	13.2	1055	1061
START TEST	0	1600		1042	13.2	1055	1061
	1/4	1615		1028	13.2	1041	1047
	1/2	1630		1026	13.2	1039	1045
	3/4	1645		1022	13.2	1035	1041
END RATE 1	1	1700		1019	13.2	1032	1036
	1-1/4	1715		1008	13.2	1021	1027
	1-1/2	1730		1001	13.2	1014	1020
	1-3/4	1745		997	13.2	1010	1016
END RATE 2	2	1800		994	13.2	1007	1013
	2-1/4	1815		979	13.2	992	998
	2-1/2	1830		968	13.2	981	987
	2-3/4	1845		959	13.2	972	978
END RATE 3	3	1900		958	13.2	971	977
	3-1/4	1915		927	13.2	940	946
	3-1/2	1930		913	13.2	926	932
	3-3/4	1945		904	13.2	917	923
END RATE 4	4	2000		893	13.2	906	912
START BUILD UP	0	2000		893	13.2	906	912
	1/4	2015		961	13.2	974	980
	1/2	2030		977	13.2	990	996
	3/4	2045		990	13.2	1003	1009
	1	2100		995	13.2	1008	1014
	1-1/4	2115		1001	13.2	1014	1020
	1-1/2	2130		1004	13.2	1017	1023
	1-3/4	2145		1008	13.2	1021	1027
	2	2200		1009	13.2	1022	1028
	3	2300		1012	13.2	1025	1031
	4	2400		1016	13.2	1029	1035
3-11-82	5	0100		1021	13.2	1034	1040
	6	0200		1022	13.2	1035	1041
	7	0300		1026	13.2	1039	1045
	8	0400		1028	13.2	1041	1047
	9	0500		1029	13.2	1042	1048
	10	0600		1030	13.2	1043	1049
	15	1100		1033	13.2	1046	1052

CHART READINGS AND CALCULATIONS FOR BUILDUP OR DRAWDOWN TEST

[illegible]

TEST DATE: 3-10-82 TO 3-12-82
TEST DEPTH: 4,000 FEET

ELEMENT NO.: RPG3 #63179
RANGE: 7,000 LBS.

CLOCKS: 63179
RANGE: 72 HOURS

OPERATOR: STEVE HARWELL

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

CHARLES SANDERS

SANDERS PETROLEUM CORP.

MICHAEL ERIC WELL NO. 2

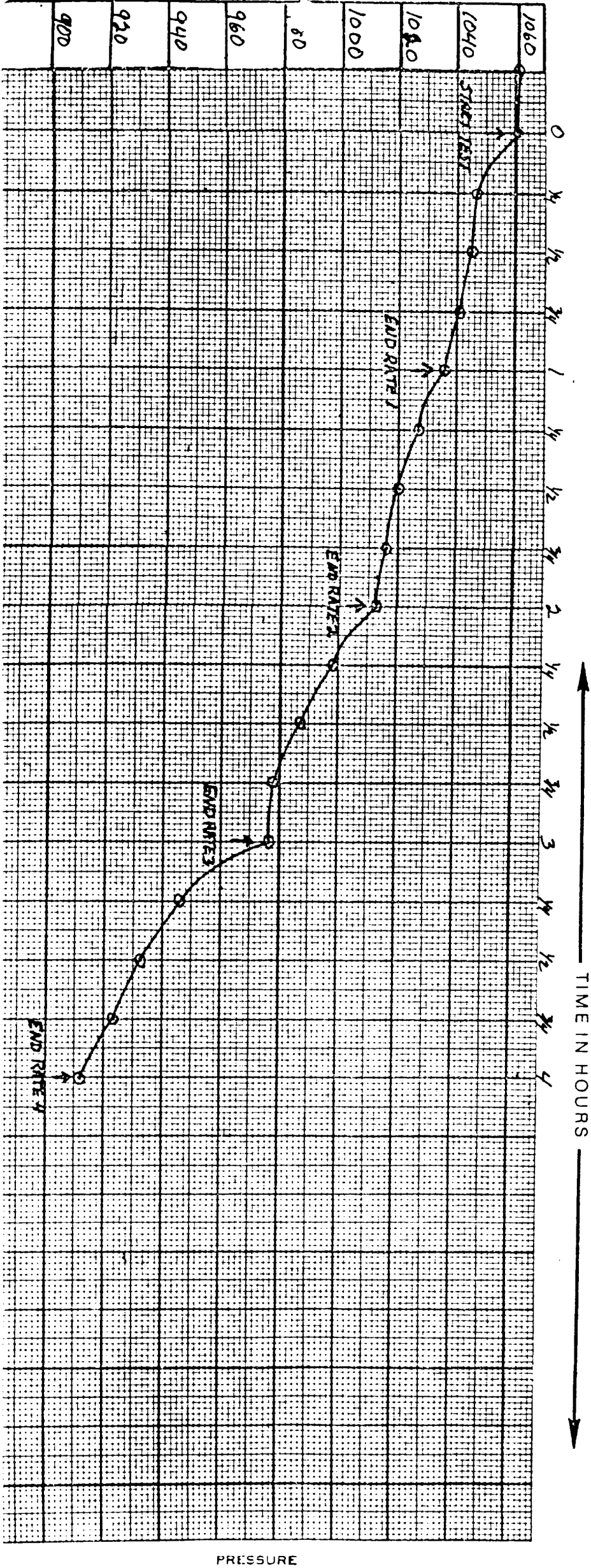
BENNETT-CATHEY WIRE LINE SERVICE
Box 787
Artesia, N.M. 88210
505/746-3281

Drawn By

Scale: As Shown

BENNETT-
CATHEY
WELL SERVICES

FOUR POINT BACK PRESSURE TEST



PRESSURE

TEST DATE: 5-10-82 10 5-12-82
TEST DEPTH: 4,000 LBS.

ELEMENT NO.: RPG3 #46950

RANGE: 7,000 LBS.

CLOCKS: 63179

RANGE: 72 HOURS

OPERATOR: STEVE HARWELL

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

CHARLES SANDERS

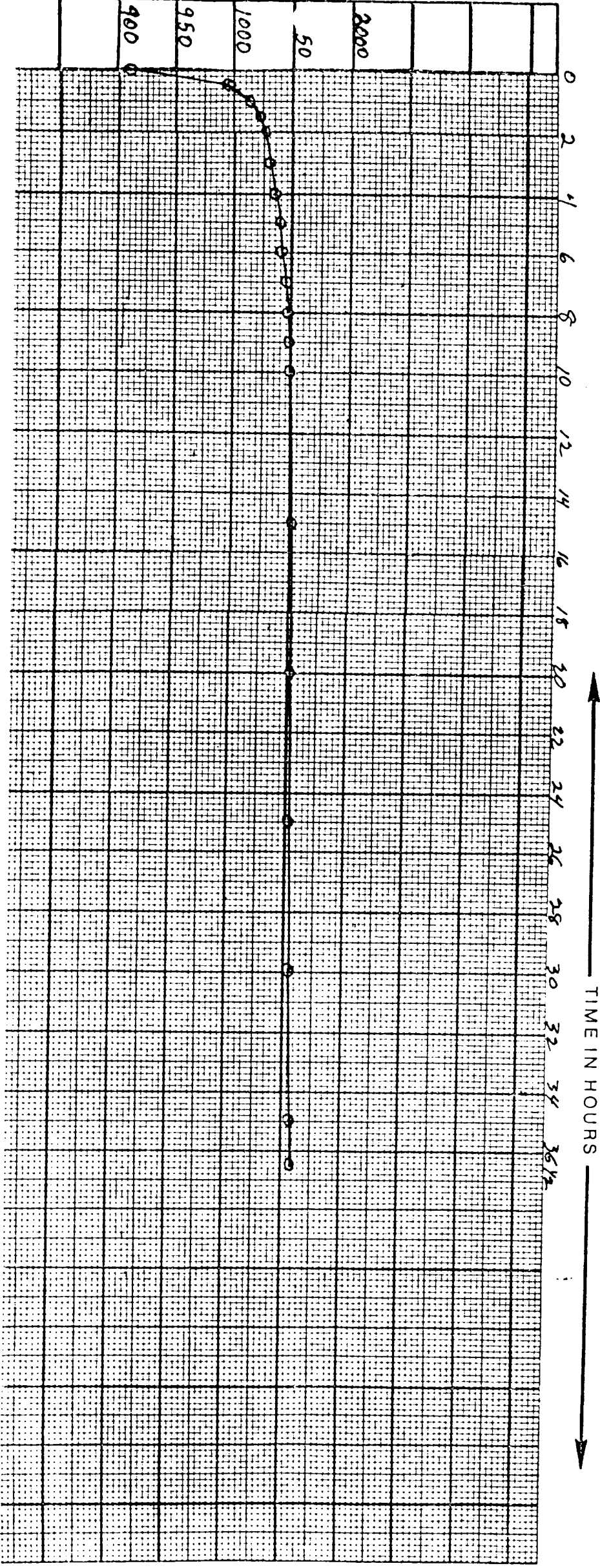
SANDERS PETROLEUM CORP.

MICHAEL ERIC WELL NO. 2

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

Drawn By Scale: As Shown

BENNETT-
CATHEY
WELL SERVICES





BENNETT-CATHEY WIRE LINE SERVICE

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



BOTTOM HOLE PRESSURE SURVEY REPORT

OPERATOR SANDERS PETROLEUM CORP.
LEASE MICHAEL ERIC
WELL NO. 2
POOL FORMATION ABO
DATE 3-12-82 TIME 0934 HOURS

STATUS SHUT IN TEST DEPTH 4,222 FEET
TIME S.I. 1445 HRS. LAST TEST DATE 1ST TEST
CAS. PRES. 3-10-82 BHP LAST TEST
TUB. PRES. 952 BHP CHANGE
ELE. FLUID TOP
DATUM PLANE WATER TOP
DATUM PSIA 1063 RUN BY STEVE HARWELL
TEMP 106° PRESSURE RANGE 7,000 LBS.
CLOCK NO.
ELEMENT NO. RPG3 # 46950

DEPTH	PRESSURE	GRADIENT
0	952	
1,000	979	2.7
2,000	1003	2.4
3,000	1026	2.3
3,850	1053	2.7
4,000	1057	2.7
4,222	1063	2.7

TIME B.H.P. MEASURED: 0934 HOURS

LENGTH OF TIME WELL SHUT IN: 42 HR
49 MI

900 1000 1100

