

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS RECEIVED

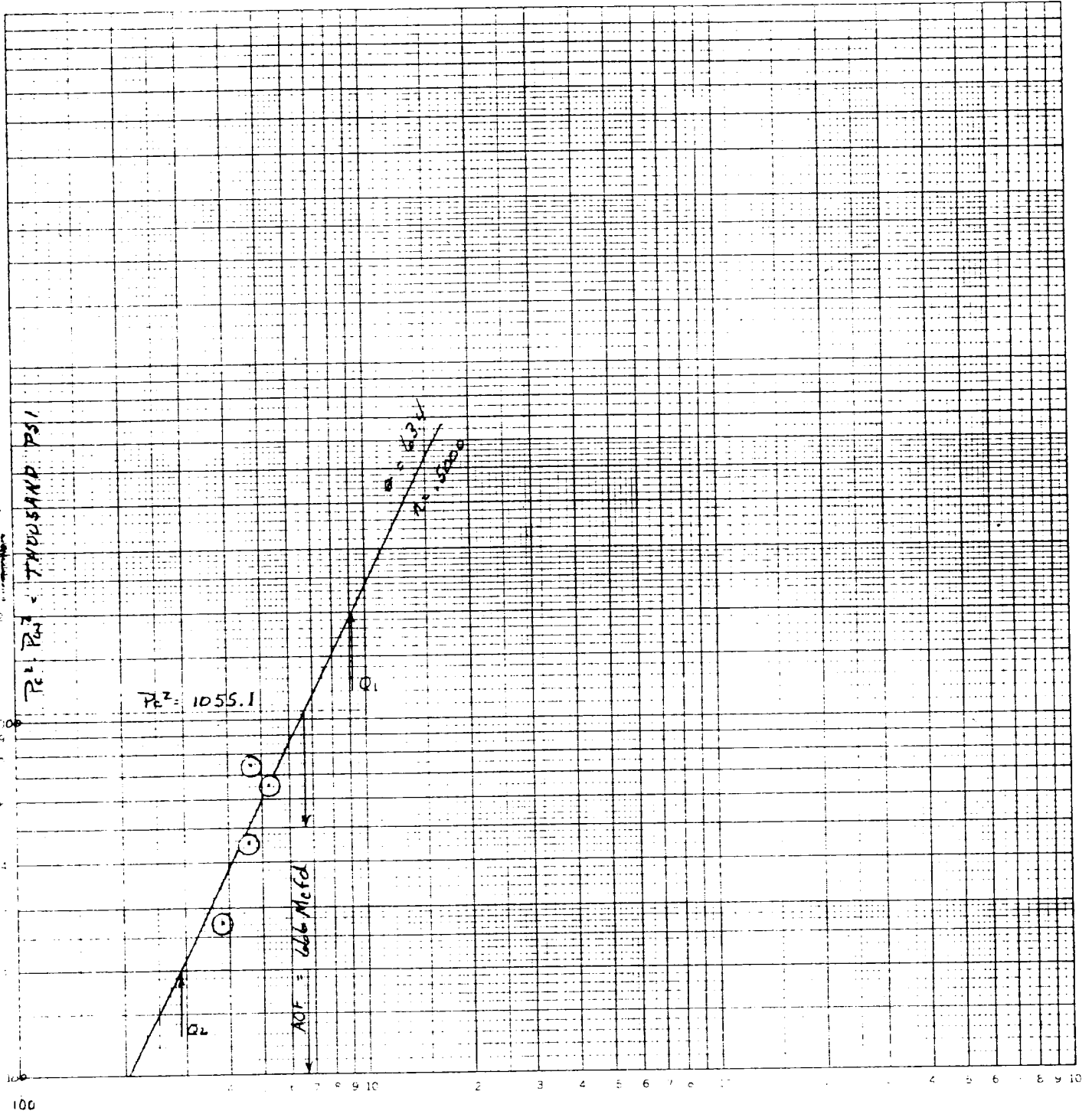
10/8F
0-122
524

Type Test ☒ Initial 4 POINT ☐ Annual ☐ Special				Test Date 12-2-81		JUL 21 1982	
Company SANDERS PETROLEUM CORP. ✓				Connection AIR NEW WELL		O. C. D.	
Pool UNDESIGNATED				Formation ABO		ARTESIA, OFFICE	
Completion Date 11-23-81		Total Length 4749		Plug Back TD 4715		Elevation	
Comp. Size 4.500		Wt. 10.50		Set At 4749		Well No. 1	
Perforations: From 4382 To 4394		Perforations: From OPEN To ENDED		Unit D		Sec. Twp. Rys. 22 7S 26E	
Type Well - Single - Bradenhead - G.C. or G.O. Multiple SINGLE				Packer Set At NONE		County CHAVES	
Producing Thru TUBING		Reservoir Temp. °F 100° 4382		Mean Annual Temp. °F 60°		Baro. Press. - P _a 13.2	
NEW MEXICO		State		Meter Run 3"		Taps FLANGE	
4388		4388		0.6554		0.160	
94258		%		%		%	
FLOW DATA		TUBING DATA		CASING DATA		Duration of Flow	
NO.	Flow Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h _w	Temp. °F	Press. p.s.i.g.
SI							900
1.	3.000	X	1.375	408	2.3	46	764
2.	3.000	X	1.375	405	3.3	43	661
3.	3.000	X	1.375	410	4.3	47	491
4.	3.000	X	1.375	405	3.5	60	409
5.							
RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1	9.4860	31.12	421.2	1.0137	1.2347	1.0386	384
2	9.4860	37.15	418.2	1.0168	1.2347	1.0386	459
3	9.4860	42.66	423.2	1.0127	1.2347	1.0381	525
4	9.4860	38.26	418.2	1.0000	1.2347	1.0336	463
5							
NO.	P _h	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.		
1	.64	506	1.45	.927	A.P.I. Gravity of Liquid Hydrocarbon _____ Deg.		
2	.64	503	1.45	.927	Specific Gravity Separator Gas .6560 X X X X X X X X .6560		
3	.65	507	1.46	.928	Specific Gravity Flowing Fluid X X X X X .6560		
4	.64	520	1.50	.936	Critical Pressure 655 P.S.I.A. 655 P.S.I.A.		
5					Critical Temperature 348 R 348 R		
P _c 1027.2 P _w 1055.1					(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.6109$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.2692$		
NO.	P _c	P _w	P _c ²	P _w ²	AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 666.3$		
1		884.2	781.8	273			
2		774.2	599.4	456			
3		632.2	399.7	655			
4		555.2	308.2	747			
5							
Absolute Open Flow 666.3 Mcfd @ 15.025					Angle of Slope 63.4		Slope, n .5000
Remarks: BOTTOM HOLE PRESSURE MEASURED WITH AMERADA PRESSURE ELEMENT							
Approved By Division		Conducted By. RICHARD TOWNLEY		Calculated By. WOHLFORD & JENKINS		Checked By. <i>[Signature]</i>	

MICHAEL ERIC
D-22-75-26E
CHAVES COUNTY
NEW MEXICO
12-2-1981

46 7400

LOGARITHMIC X CYCLES
WEIGHTS ENTERED



$$\overline{\Delta P} \uparrow P_c^2 P_{ws}^2 = 1000$$

me/d

$$\overline{\Delta P} \downarrow P_c^2 P_{ws}^2 = 1000$$

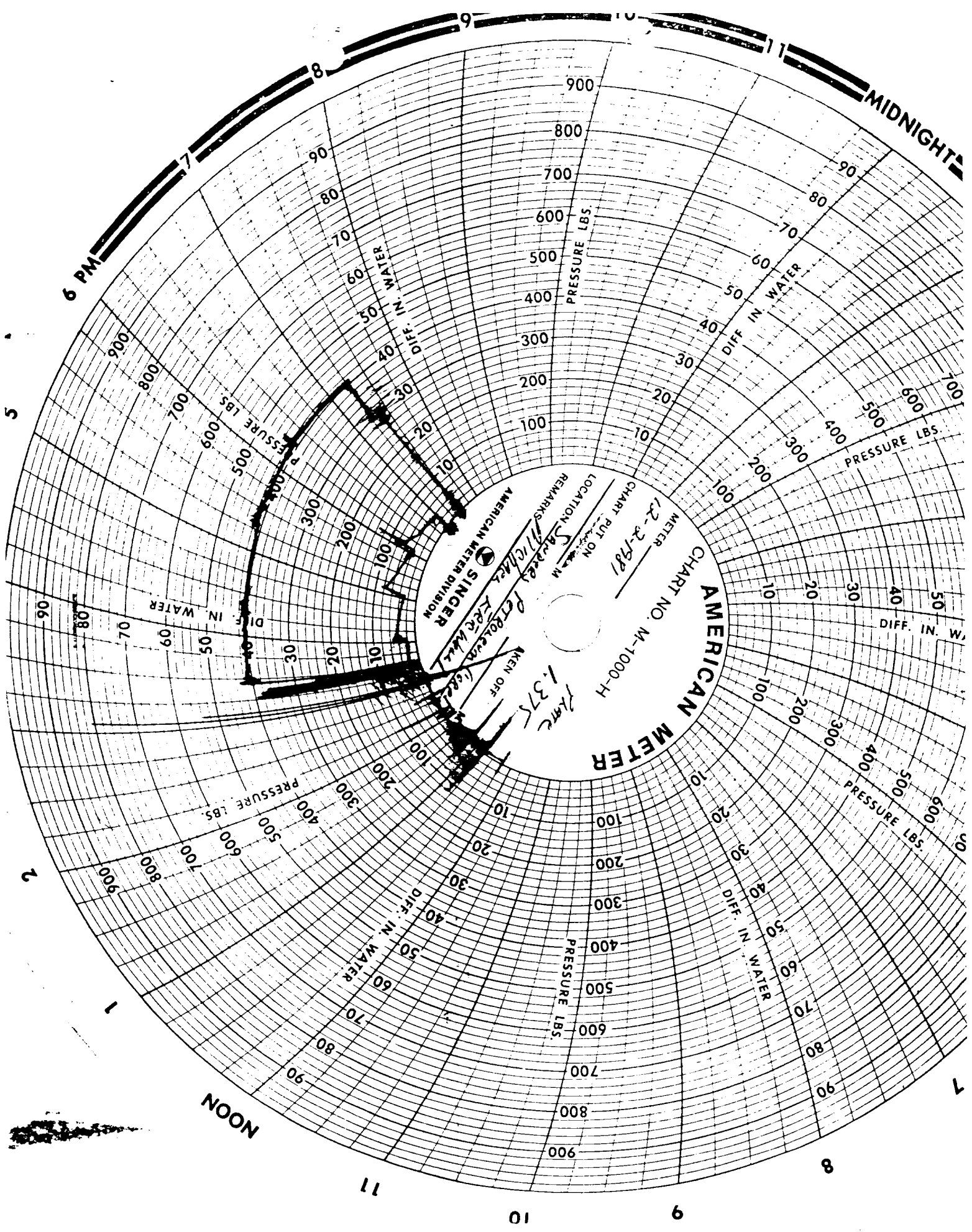
$$\log Q_1 = 2.96236$$

$$\log Q_2 = 2.46239$$

$$n = .49997 \cdot .50000$$

$$Q_1 = 917$$

$$Q_2 = 291$$



BENNETT - CATHEY
Artesia, New Mexico 88210
SUBSURFACE PRESSURE MEASUREMENTS

COMPANY SANDERS PETROLEUM CORP. WELL NAME MICHAEL ERIC WELL NO. 1
DATE OF TEST 12-2-81 TO 12-4-81 FORMATION ABO **RECEIVED** PAGE 1 OF 1

FOUR POINT BACK PRESSURE TEST AND 31 HOUR BUILD UP TEST
CHART READINGS AND CALCULATIONS FOR BUILDUP OR DRAWDOWN TEST

ELEMENT NUMBER RPG3 #37882 RANGE 3,500 LBS **JUL 21 1982**
CLOCK NUMBER 11520 RANGE 48 HOURS
TIME WELL SHUT IN 1932 HOURS 12-2-81 FOLLOWING FOUR POINT TEST C.D.
TIME CLOCK STARTED 1241 HOURS ARTESIA, OFFICE
DEAD WEIGHT ELEMENT ON SURFACE 913 PSIA LBS.
TIME ELEMENT REACHED BOTTOM 1457 HOURS
DEAD WEIGHT ELEMENT ON BOTTOM 422 PSIA START OF BUILD UP LBS.
ELEMENT SET AT 4388 FEET.
TEMPERATURE 4388 FT. 100 °F.
DEAD WEIGHT AT THE END OF 31 HOURS 25 MINUTES.

DATE	HOUR	TIME	DEFLECTION in/inches	CALCULATED PRESSURE psig	CORRECTION P ± PC psig	CORRECTED PRESSURE psia	PRESSURE AT MID-POINT OF PERFORATIONS psia
12-2-81							
SHUT IN		1500		1014	13.2		1027
START TEST	0	1530		1014	13.2		1027
	1/4	1545		928	13.2		941
	1/2	1500		902	13.2		915
	3/4	1615		884	13.2		897
END OF RATE 1	1	1630		871	13.2		884
	1-1/4	1645		816	13.2		829
	1-1/2	1700		796	13.2		809
	1-3/4	1715		778	13.2		791
END OF RATE 2	2	1730		761	13.2		774
	2-1/4	1745		679	13.2		692
	2-1/2	1800		657	13.2		670
	2-3/4	1815		635	13.2		648
END OF RATE 3	3	1800		619	13.2		632
	3-1/4	1845		569	13.2		582
	3-1/2	1900		556	13.2		569
	3-3/4	1915		545	13.2		558
END OF RATE 4	4	1930		542	13.2		555
WELL SHUT IN	0	1932		540	13.2		553
	1/4	1947		694	13.2		707
	1/2	2002		721	13.2		734
	3/4	2017		739	13.2		752
	1	2032		750	13.2		763
	1-1/4	2047		759	13.2		772
	1-1/2	2102		767	13.2		780
	1-3/4	2117		776	13.2		789
	2	2132		781	13.2		794
	2-1/4	2147		789	13.2		802
	2-1/2	2202		793	13.2		806
	2-3/4	2217		798	13.2		811
	3	2232		802	13.2		815
	3-1/2	2302		807	13.2		820
	4	2333		816	13.2		829
	4-1/2	2402		820	13.2		833
	5	2432		825	13.2		838
12-3-81	6	0132		834	13.2		847

WELL NAME

MICHAEL ERIC

LOCATION

ABO

PAGE 2 OF 2

[illegible]



BEN E. CATHEY WIRE LINE SERVICE
P. O. BOX 787
ARTESIA, NEW MEXICO 88210
Phone 746-3281



BOTTOM HOLE PRESSURE SURVEY REPORT

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OPERATOR SANDERS PETROLEUM
LEASE MICHAEL ERIC
WELL NO. 1
POOL FORMATION ABO
DATE 11-3-81 TIME 0257 HOURS

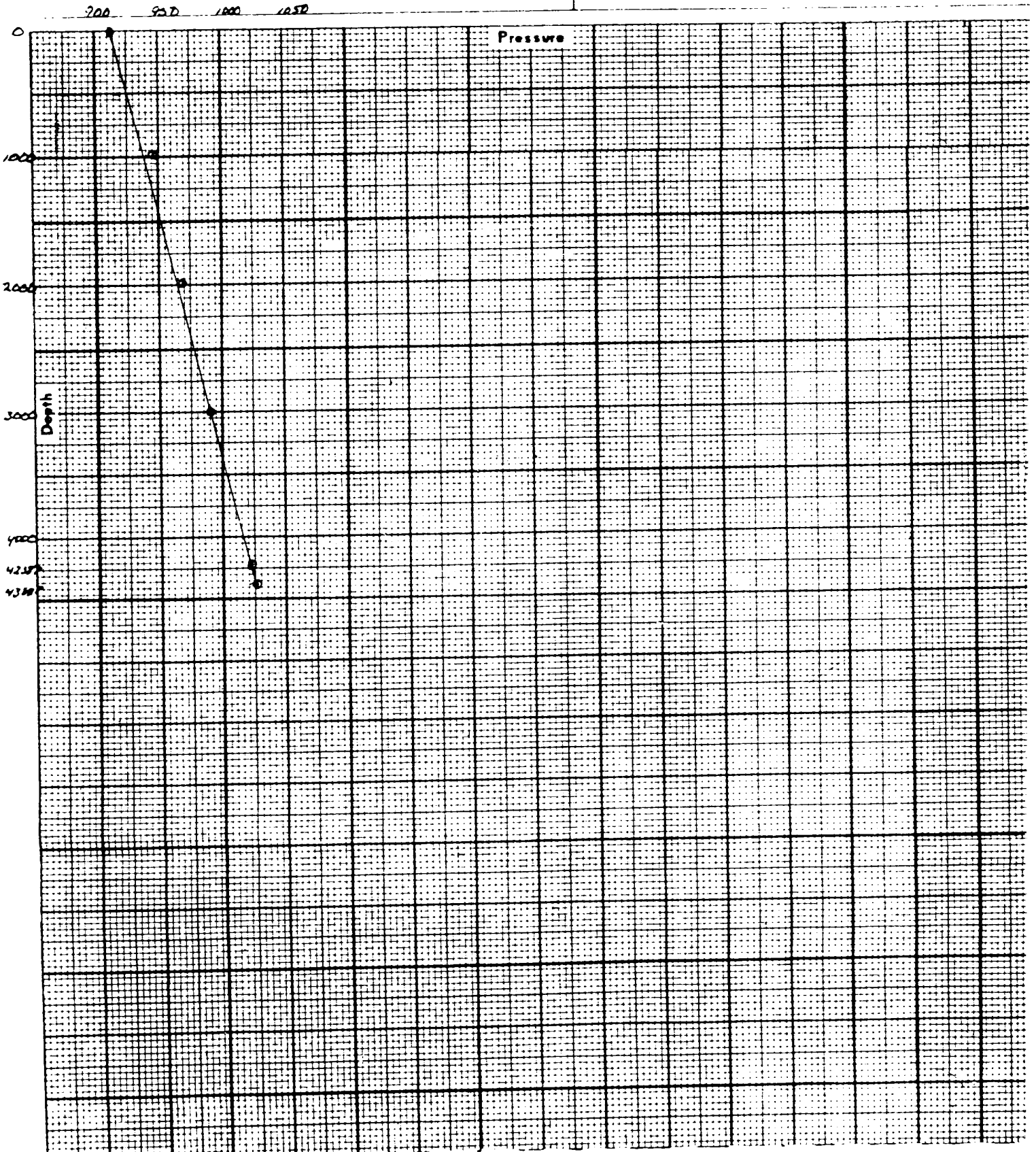
STATUS SHUT IN TEST DEPTH 4,388
TIME S.I. 1932 HRS. LAST TEST DATE 1ST TEST
CAS. PRES. 12-2-81 BHP LAST TEST
TUB. PRES. 913 BHP CHANGE
ELE. FLUID TOP
DATUM PLANE WATER TOP
DATUM PSIA 1026 RUN BY BOB HERREN
TEMP 100° PRESSURE RANGE 3,500 LBS.
CLOCK NO. 11520 48 HOURS
ELEMENT NO. RPG3 #37882

JUL 21 1982

DEPTH	PRESSURE	GRADIENT
	O. C. D.	
0	913 ARTESIA, OFFICE	
1,000	947	3.4
2,005	969	2.2
3,000	991	2.2
4,238	1023	2.6
4,388	1026	2.0

TIME 3.H.P. MEASURED: 0257 HOURS

LENGTH OF TIME WELL SHUT IN: 31 HOURS
25 MINUTE



TEST DATE: 11-3-81

TEST DEPTH: 4,388 FEET

ELEMENT NO.: RPG3 #37882

RANGE: 3,500 LBS.

CLOCKS: 11520

RANGE: 48 HOURS

OPERATOR: BOB HERREN

RECEIVED

JUL 21 1982

O. C. D.
ARTESIA, OFFICE

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

CHARLES SANDERS

SANDERS PETROLEUM

MICHAEL ERIC WELL NO. 1

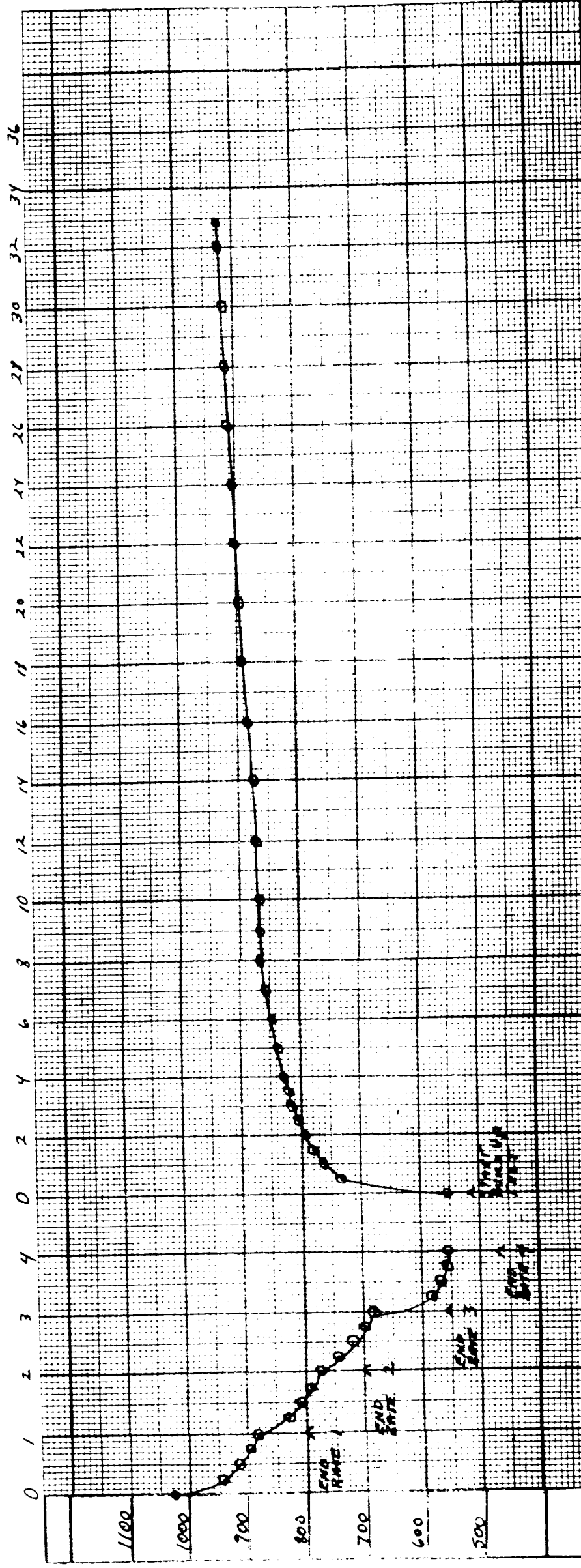
BENNETT-CATHEY WIRE LINE SERVICE

Box 787 Artesia, N.M. 88210 505/746-3281

Drawn By Scale: As Shown

BENNETT-
CATHEY
WELL SERVICES

TIME IN HOURS



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

ANALYSIS NUMBER: 6153
DATE OF RUN: 12/04/81
DATE SECURED: 12/03/81

ANALYSIS CERTIFICATE

SAMPLE IDENT:

SANDERS PETRO CORP - MICHEAL ERIN #1

CLIENT:

BENNETT-CATHEY

ADDRESS:

BOX 787

CITY, STATE:

ARTESIA NM 88210

SAMPLING PRESS: 0 PSIG

SAMPLING TEMP: 0 DEG F

STATION NUMBER: CHAVES CO. NM - UNIT D S22 T75 R26E

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

RECEIVED

JUL 21 1982

O. C. D.
ARTESIA, OFFICE

	MOLE PERCENT	GAL/ MCF
NITROGEN	9.4258337	
CARBON DIOXIDE	0.1604560	
METHANE	83.2434082	
ETHANE	4.2110462	1.1230900
PROPANE	1.5526620	0.4262060
ISO-BUTANE	0.2521811	0.0822867
NORMAL BUTANE	0.5034707	0.1582910
ISO-PENTANE	0.1531586	0.0559182
NORMAL PENTANE	0.1635317	0.0591004
HEXANES	0.1226391	0.0503066
HEPTANES PLUS	0.2116126	0.0973841
TOTAL	100.0000000	2.0525800

PROPANE GPM: 0.43
ETHANE GPM: 1.12

BUTANES GPM: 0.24
PENTANES PLUS GPM: 0.26

SPECIFIC GRAV (CALC):
MOLE WEIGHT:

.6554
19.00

HHV-BTU/CU FT

PRESSURE (PSIA)
14.696
14.650
14.730
14.735

WET
992
989
994
994

DRY
1009
1006
1012
1012

ANALYZED BY:

APPROVED BY: