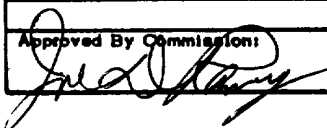


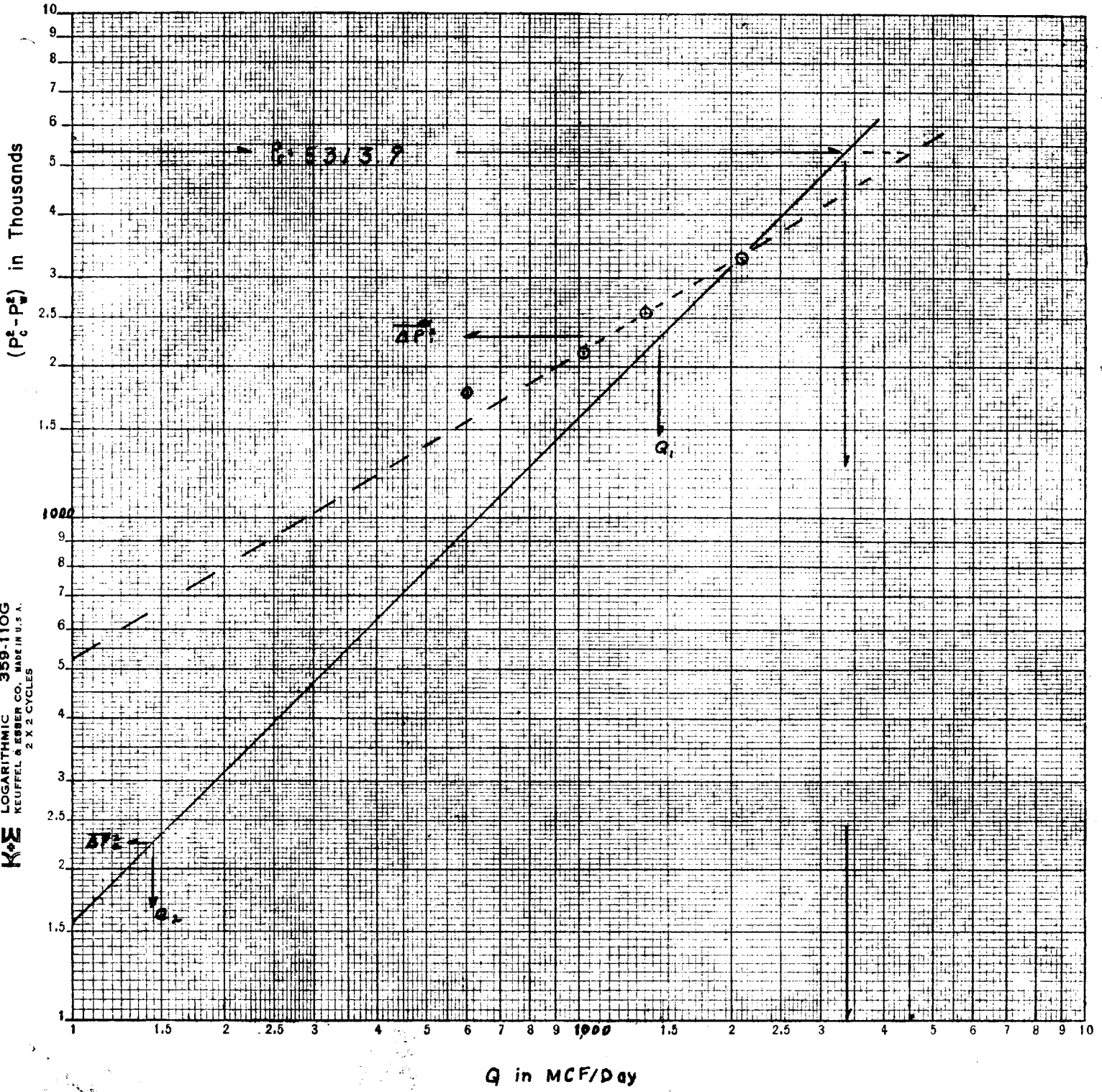
**NEW MEXICO OIL CONSERVATION COMMISSION  
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL**

Form C-122  
Revised 9-1-62

Type Test <input type="checkbox"/> Initial <input type="checkbox"/> Annual <input checked="" type="checkbox"/> Special		Test Date 6-16-1969											
Company H. L. BROWN, JR.		Connection NONE											
Pool WILDCAT		Formation WOLFCAMP											
Completion Date 5-17-1969		Total Depth 8,082	Plug Back TD 7537										
Elevation 4355 DF		Farm or Lease Name MARY MARTIN											
Csg. Size 4 1/2	Wt. 11.60	d 4.082	Set At 7632										
Perforations: From 7381 To 7401		Well No. 1											
Thq. Size 2 3/8	Wt. 4.7	d 1.995	Set At 7326										
Perforations: From OPEN To ENDED		Unit P    Sec. 29    Twp. 6    Rge. 34											
Type Well - Single - Bradenhead - G.G. or G.O. Multiple SINGLE		Packer Set At 7004	County ROOSEVELT										
Producing Thru TUBING	Reservoir Temp. °F 142° @ 7391	Mean Annual Temp. °F 60°	Baro. Press. - P <sub>a</sub> 13.2										
State NEW MEXICO													
L 7326	H 7326	G <sub>g</sub> 7907	% CO <sub>2</sub> NONE										
% N <sub>2</sub> 7.98		% H <sub>2</sub> S NONE	Prover Meter Run X										
Taps FLANGE													
FLOW DATA				TUBING DATA				CASING DATA				Duration of Flow	
NO.	Prover Line Size	x	Orifice Size	Press. p.s.i.g.	Diff. h <sub>w</sub>	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	Temp. °F	Duration of Flow
SI							1755						47.00
1.	4.026	19/64	1.250	850	68	106°	1204	80°					4.75
2.	4.026	14/64	1.250	815	31	99	1240	78					1.75
3.	4.026	11/64	1.250	790	18	112	1330	76					2.00
4.	4.026	8/64	1.250	560	9	110	1420	74					1.00
5.													
RATE OF FLOW CALCULATIONS													
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P <sub>m</sub>	Flow Temp. Factor Ft.	Gravity Factor Fg	Super Compress. Factor, F <sub>pv</sub>	Rate of Flow Q, Mcfd						
1.	7.469	242.26	863.2	.9585	1.120	1.090	2,117.2						
2.	7.469	157.83	828.2	.9645	1.120	1.067	1,358.7						
3.	7.469	120.25	803.2	.9535	1.120	1.084	1,039.7						
4.	7.469	71.82	573.2	.9551	1.120	1.061	608.8						
5.													
NO.	R <sub>1</sub>	Temp. °R	T <sub>1</sub>	Z	Gas Liquid Hydrocarbon Ratio _____ 158.6 _____ Mcf/bbl.								
1.	1.31	566	1.41	.842	A.P.I. Gravity of Liquid Hydrocarbons _____ 69.2 @ 60 _____ Deg.								
2.	1.49	599	1.49	.721	Specific Gravity Separator Gas _____ .7907 _____								
3.	1.22	572	1.42	.855	Specific Gravity Flowing Fluid _____ X X X X X _____								
4.	0.87	570	1.42	.896	Critical Pressure _____ P.S.I.A. _____ P.S.I.A.								
5.					Critical Temperature _____ R _____ R								
P <sub>c</sub> 2305.2    P <sub>c</sub> <sup>2</sup> 5313.9													
NO.	P <sub>1</sub> <sup>2</sup>	P <sub>w</sub>	R <sub>w</sub> <sup>2</sup>	P <sub>c</sub> <sup>2</sup> - R <sub>w</sub> <sup>2</sup>	(1) $\frac{P_c^2}{P_c^2 - R_w^2} = 1.63$ (2) $\left[ \frac{P_c^2}{P_c^2 - R_w^2} \right]^n = 1.63$								
1		1433.2	2054.0	3259.9									
2		1653.2	2733.0	2580.9									
3		1785.2	3186.9	2127.0	AOF = Q $\left[ \frac{R_c^8}{P_c^2 - R_w^2} \right]^n = 3451.036$								
4		1876.2	3520.1	1793.8									
5													
Absolute Open Flow _____ 3,451 _____ Mcfd @ 15.025					Angle of Slope @ _____		Slope, n _____ 1.000 _____						
Remarks: _____													
Approved By Commission: 			Conducted By: ALLAN G. ALLMAN			Calculated By: AGA		Checked By: AGA					

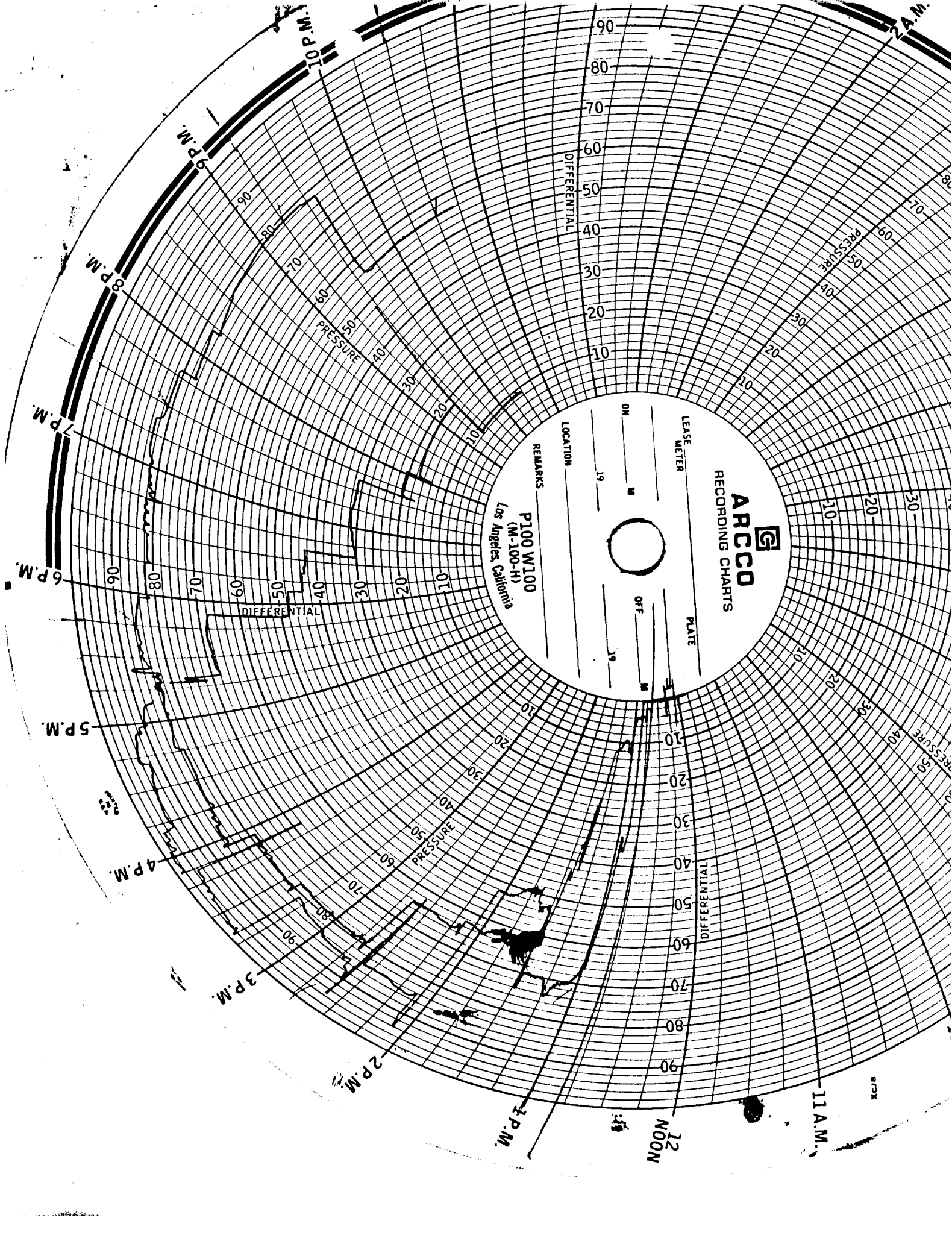
# BACK PRESSURE CURVE

Operator H. L. BROWN, JR. Lease MARY MARTIN Well No. 1  
 County ROOSEVELT Field WILDCAT Location SEC. 29, T6S, R34E  
 Date of Test JUNE 16, 1969 Slope "n" 1.000 (RETEST)  
 Calc. Abs. Potential 3,451 MCF/D



LOGARITHMIC 359-110G  
 KEUFFEL & ESSER CO. MADE IN U.S.A.  
 2 X 2 CYCLES



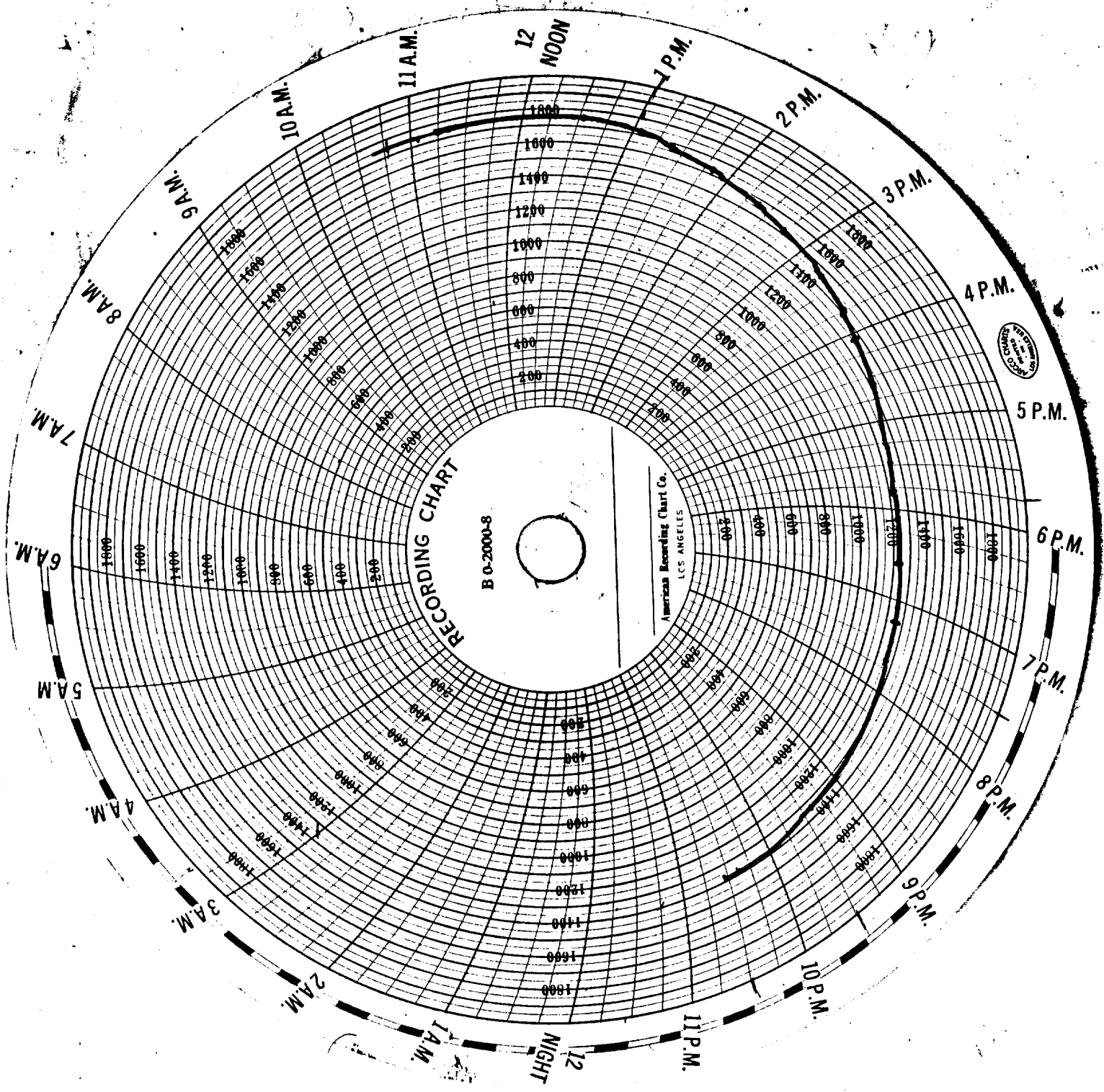


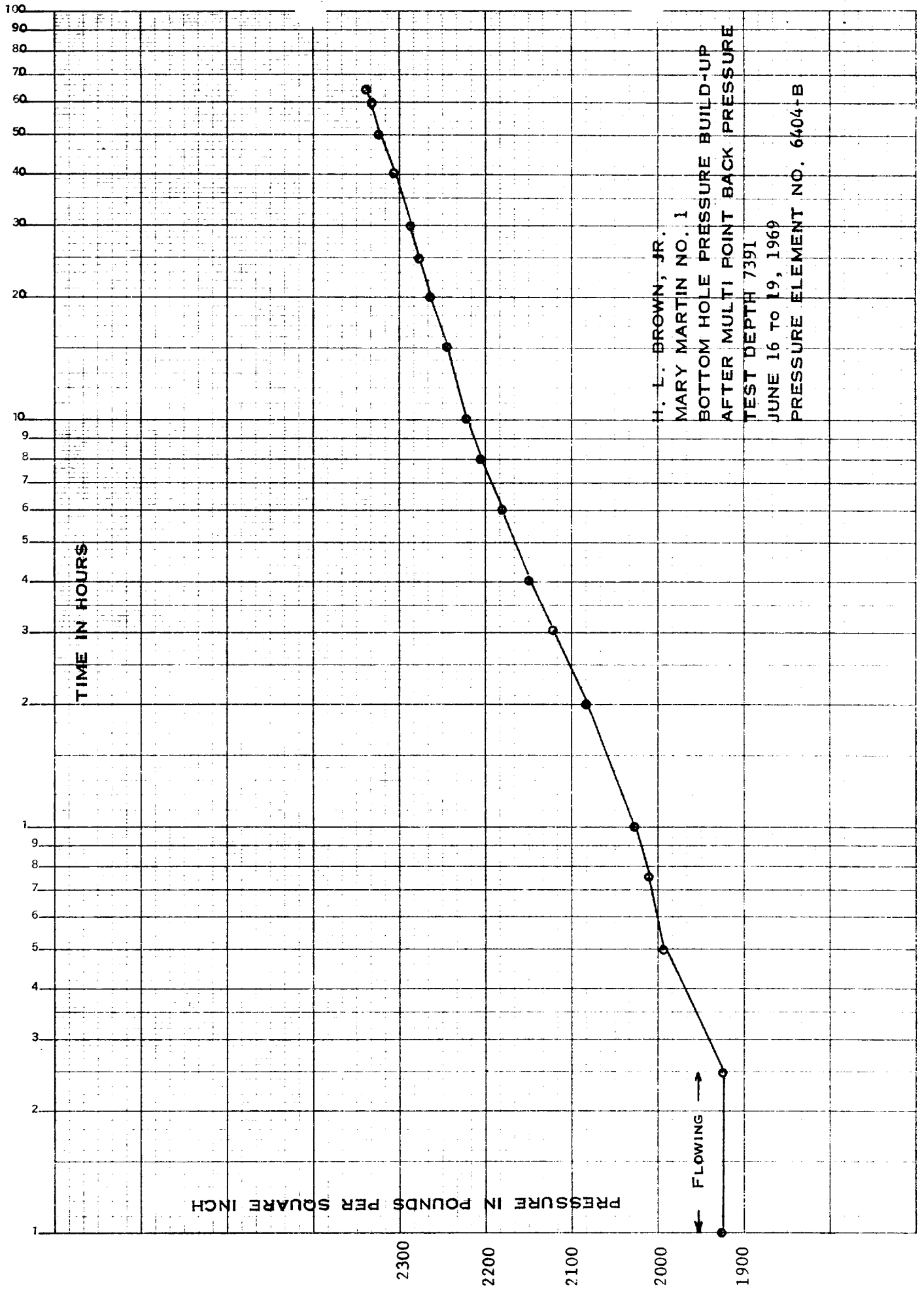
**ARCCO**  
RECORDING CHARTS

LEASE METER \_\_\_\_\_ PLATE \_\_\_\_\_  
 ON \_\_\_\_\_ M \_\_\_\_\_ OFF \_\_\_\_\_ M \_\_\_\_\_  
 LOCATION \_\_\_\_\_  
 REMARKS \_\_\_\_\_  
**P100 W100**  
 (M-100-H)  
 Los Angeles, California

11 A.M.  
 12 NOON  
 1 P.M.  
 2 P.M.  
 3 P.M.  
 4 P.M.  
 5 P.M.  
 6 P.M.  
 7 P.M.  
 8 P.M.  
 9 P.M.  
 10 P.M.

PRESSURE  
 DIFFERENTIAL





H. L. BROWN, JR.  
MARY MARTIN NO. 1  
BOTTOM HOLE PRESSURE BUILD-UP  
AFTER MULTI POINT BACK PRESSURE  
TEST DEPTH 7391  
JUNE 16 TO 19, 1969  
PRESSURE ELEMENT NO. 6404-B

H. L. BROWN, JR  
MARY MARTIN NO. 1  
TABULATION OF BOTTOM HOLE PRESSURES  
BOTTOM HOLE PRESSURE BUILD UP  
AFTER MULTIPOINT BACK PRESSURE TEST  
JUNE 16 TO 19, 1969

CUM. TIME	PRESSURE IN PSI
00 HRS	1926 WELL FLOWING GAUGE ON BOTTOM
.25	1926 WELL CHOKE CLOSED
.50	1994
.75	2014
1.0	2029
2.0	2083
3.0	2119
4.0	2149
6.0	2193
8.0	2205
10	2220
15	2247
20	2265
25	2290
30	2299
40	2317
50	2322
60	2333
65	2340

# UNITED CHEMICAL CORPORATION OF NEW MEXICO

P. O. BOX 1499

PHONE 393-6215

HOBBS, NEW MEXICO 88240

No. UCC-795

Run No. \_\_\_\_\_

Date of Run 6/17/69

Date Secured 6/17/69

## CERTIFICATE OF ANALYSIS

A Sample of H. L. Brown Jr; Mary Martin Lease; well No. 1; Wolfcamp  
Secured from John West Eng. Co.

At \_\_\_\_\_ Secured by \_\_\_\_\_  
Time \_\_\_\_\_ Date \_\_\_\_\_

Sampling conditions Press. 840 PSIG  
Temp. 106° F  
Roosevelt Co., New Mexico; secured at meter run

### FRACTIONAL ANALYSIS

#### Percentage Composition

	MOL%	LIQ.%	G.P.M.
Carbon Dioxide			
Air			
Nitrogen	7.98		
Oxygen			
Hydrogen sulfide			
Hydrogen			
Methane	69.89		
Ethane	11.03		
Propane	6.35		1.75
Butanes			
Iso-Butane	.56		.18
N-Butane	1.82		.57
Pentanes			
Iso-Pentane	.40		.15
N-Pentane	.63		.23
Hexanes Plus	1.34		.57
Heptanes			
<b>TOTAL</b>	<b>100.00</b>		<b>3.43</b>

Calc. Sp. Gr. — 0.7907  
Calc. A.P.I. — \_\_\_\_\_  
Calc. Vapor Press. — \_\_\_\_\_ PSIA  
Sp. Gr. \_\_\_\_\_  
Mol. Wt. \_\_\_\_\_

#### LIQUID CONTENT (GAL./MCF)

Propane Calc. G.P.M. 1.75  
Butanes Calc. G.P.M. .75  
Pentanes Plus. G.P.M. .95  
Ethane Calc. G.P.M. \_\_\_\_\_  
# RVP Gasoline G.P.M. \_\_\_\_\_  
B.T.U./Cu. Ft. @ 14.65 \_\_\_\_\_  
Dry Basis \_\_\_\_\_  
Wet Basis \_\_\_\_\_  
Sulfur Analysis by Titration \_\_\_\_\_  
Gr. / 100 Cu. Ft. \_\_\_\_\_  
Hydrogen Sulfide \_\_\_\_\_  
Mercaptans \_\_\_\_\_  
Sulfides \_\_\_\_\_  
Residual Sulfur \_\_\_\_\_  
Total Sulfur \_\_\_\_\_

Run by Felix B. Foster Checked by Felix B. Foster Approved by FELIX B. FOSTER

Original Signed by  
**FELIX B. FOSTER**

Additional Data and Remarks

---

---

---

---

---

---

---

---



## BOTTOM HOLE PRESSURE SURVEY REPORT

OPERATOR H. L. BROWN, JR.  
 LEASE MARY MARTIN  
 WELL NO. 1  
 FIELD WILDCAT (WOLFCAMP)  
 DATE 12:00 NOON TIME JUNE 16, 1969

STATUS SHUT IN TEST DEPTH 7391  
 TIME S.I. 47 HOURS LAST TEST DATE 4-17-69  
 CAS. PRES. \_\_\_\_\_ BHP LAST TEST 2457  
 TUB. PRES. 1780 BHP CHANGE -165  
 ELEV. 4355DF FLUID TOP \_\_\_\_\_  
 DATUM -3051 WATER TOP \_\_\_\_\_  
 TEMP 144°F RUN BY AGA  
 CLOCK NO. 3130 GAUGE NO. 19389  
 ELEMENT NO. 6404 NB

DEPTH	PRESSURE	GRADIENT
000	1755	
1000	1825	.070
2000	1897	.072
4000	2042	.072
6000	2185	.072
6500	2220	.070
7000	2259	.078
7391	2292	.084

