

RECEIVED BY

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990 F.M.
O. C. D.
ARTESIA, OFFICE

457 file

Type Test 4 POINT ☒ Initial ☐ Annual ☐ Special				Test Date 10-5-84	
Company MERCURY EXPLORATION ✓				Connection TO AIR	
Pool PECOS SLOPE <i>Abs</i>				Formation ABO	
Completion Date 9-30-84 8-31-84		Total Depth 3100. 3425		Plug Back To 3075. 3052	
Elevation 4117.		Form or Lease Name M & M FEDERAL		Well No. #3	
Test. Size 4.500	Wt. 17.0	d 4.052	Set At 3416 3075.	Perforations: From 3012. To 3034.	
Fig. Size 2.375	Wt. 4.7	d 1.995	Set At 2980 2991.	Perforations: From 0. To 0.	
Type Well - Single - Windhead - G.G. or G.O. Multiple SINGLE				Packer Set At 2950.	
Producing Thru TUBING		Reservoir Temp. °F 84. • 3023.		Mean Annual Temp. °F 60.0	
Baro. Press. - P _a 13.2		County CHAVES		State NEW MEXICO	
L 3023.	H 3023.	C _g 0.634	% CO ₂ 0.01	% N ₂ 5.66	% H ₂ S 0.
Prover Ø		Motor Run 2.1		Tape FLANGE	

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.	CHOKE	
01							874.		949.		72.0
1.	2.07 X 1.500			68.	6.0	50.	829.		898.	10/64	1.0
2.	2.07 X 1.500			70.	12.0	44.	784.		852.	12/64	1.0
3.	2.07 X 1.500			80.	26.0	47.	699.		763.	15/64	1.0
4.	2.07 X 1.500			86.	41.0	50.	526.		637.	17/64	1.0
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 _{sp}	Rate of Flow Q, Mcfd
1	12.76	22.07	81.2	1.0098	1.2559	1.0074	360.
2	12.76	31.60	83.2	1.0157	1.2559	1.0078	518.
3	12.76	49.23	93.2	1.0127	1.2559	1.0087	806.
4	12.76	63.77	99.2	1.0098	1.2559	1.0091	1041.
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	0.12	510.	1.44	0.985	0.	0.	0.634	XXXXXX	661.	354.
2	0.13	504.	1.42	0.985						
3	0.14	507.	1.43	0.983						
4	0.15	510.	1.44	0.982						
5										

NO.	P ₁ ²	P _w ²	P ₁ ² - P _w ²	(1) $\frac{P_c^2}{P_1^2 - P_w^2} = 1.8478$	(2) $\left[\frac{P_c^2}{P_1^2 - P_w^2} \right]^n = 1.4786$
1	831.	844.	712.		
2	749.	801.	642.		
3	603.	720.	518.		
4	422.	603.	364.		
5					

$Q = 0 \left[\frac{P_c^2}{P_1^2 - P_w^2} \right]^n = 1540.$

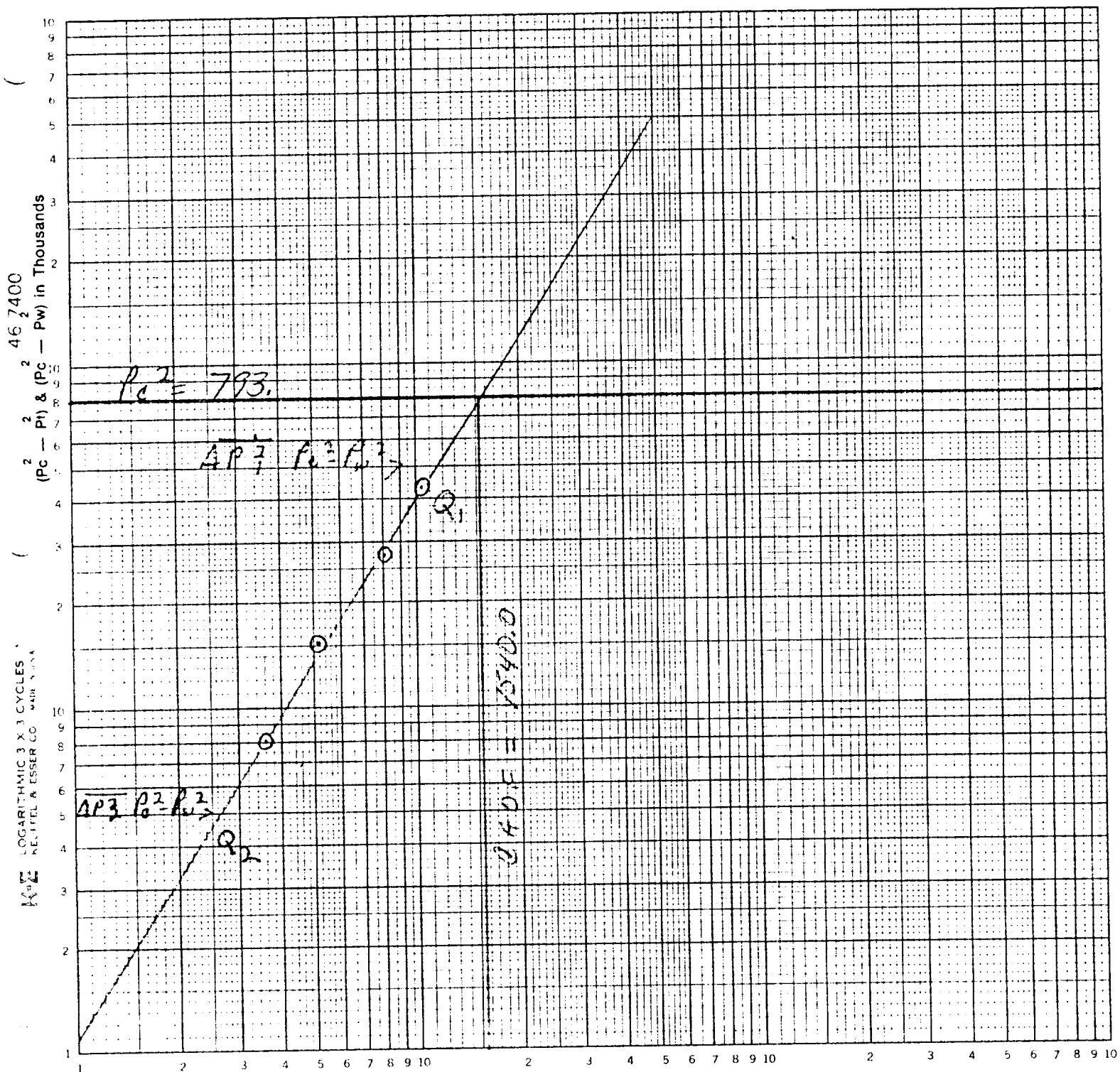
Absolute Open Flow	1540.	Mcfd @ 15.025	Angle of Slope @	57.5	Slope, n	0.637
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Remarks: BOTTOM HOLE PRESSURES MEASURED WITH AMERADA PRESSURE ELEMENTS.

Approved By Commission	Conducted By RICHARD TOWNLEY	Calculated By BENNETT & CATHEY INC.	Checked By
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BACK PRESSURE CURV

Operator Mercury Exploration Lease MTM Federal Well No. 3
 County Chaves Field Pecos Slope Location D 21 6S 23E
 Date of Test 10-5-84 Slope "n" .637 Angle of Slope 57.5
 Calc. Abs. Potential 1540.0 MCF/D



$$\overline{\Delta P}_1^2 \quad P_c^2 - P_w^2 = 500$$

$$\overline{\Delta P}_2^2 \quad P_c^2 - P_w^2 = 50$$

$$Q_1 = 1170.0$$

$$Q_2 = 270.0$$

Q in MCF/Day

$$\text{LOG } Q_1 = 3.068$$

$$\text{LOG } Q_2 = 2.431$$

$$n = .637$$

"Let Your Interest in Measurement be our Concern"



PRECISION SERVICE INC.
Flow Measurement Engineers
Analysis Results Summary
Casper, WY 82601

Run No. 1005-4
Date Run 10/05/04
Date Sampled 10/04/04

Analysis For: BENNETT & CATHEY WRLN.
Lease: M & M Federal #3 Producer: Mitchell Engr. Corp
Location: Antelope Ridge County: Chaves State: New Mexico
Purpose: _____ Sampled By: B & C Wireline
Sampling Temp: 60 °F Atmos Temp: 73 °F
Volume/day: 1000 MCF/Day Formation: Abo
Pressure on Bomb: 100 PSIG: Line Pressure 113.2 PSIA PSIG _____

Gas Component Analysis Press. Base: 14.73

	Mol. %	Liq. %	GPM Per MCF
Carbon Dioxide CO ₂	.006		
Oxygen O ₂	.080		
Nitrogen N ₂	5.662		
Hydrogen Sulfide H ₂ S			
Methane C ₁	89.435		15.159
Ethane C ₂	2.197		.587
Propane C ₃	1.027		.283
Iso-Butane IC ₄	.167		.055
Nor-Butane NC ₄	.458		.144
Iso-Pentane IC ₅	.110		.040
Nor-Pentane NC ₅	.153		.055
Hexanes plus	.707		.326
Hexanes C ₆			
Heptanes			
Heptanes Plus C ₇ +			
Total	100.000		16.650
Pentane + G.P.M.			.422
Propane + GPM			.904
26-lb Gasoline			.910

BTU Dry 1043
BTU Wet 1024
Calc. Specific Gravity .634

@ Std. Press. 14.696
BTU Dry 1040
BTU Wet 1022

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

Z Factor .9978
N Value 1.3045
Ave Mol Wt 18.3367
Ave Cu Ft/Gal _____

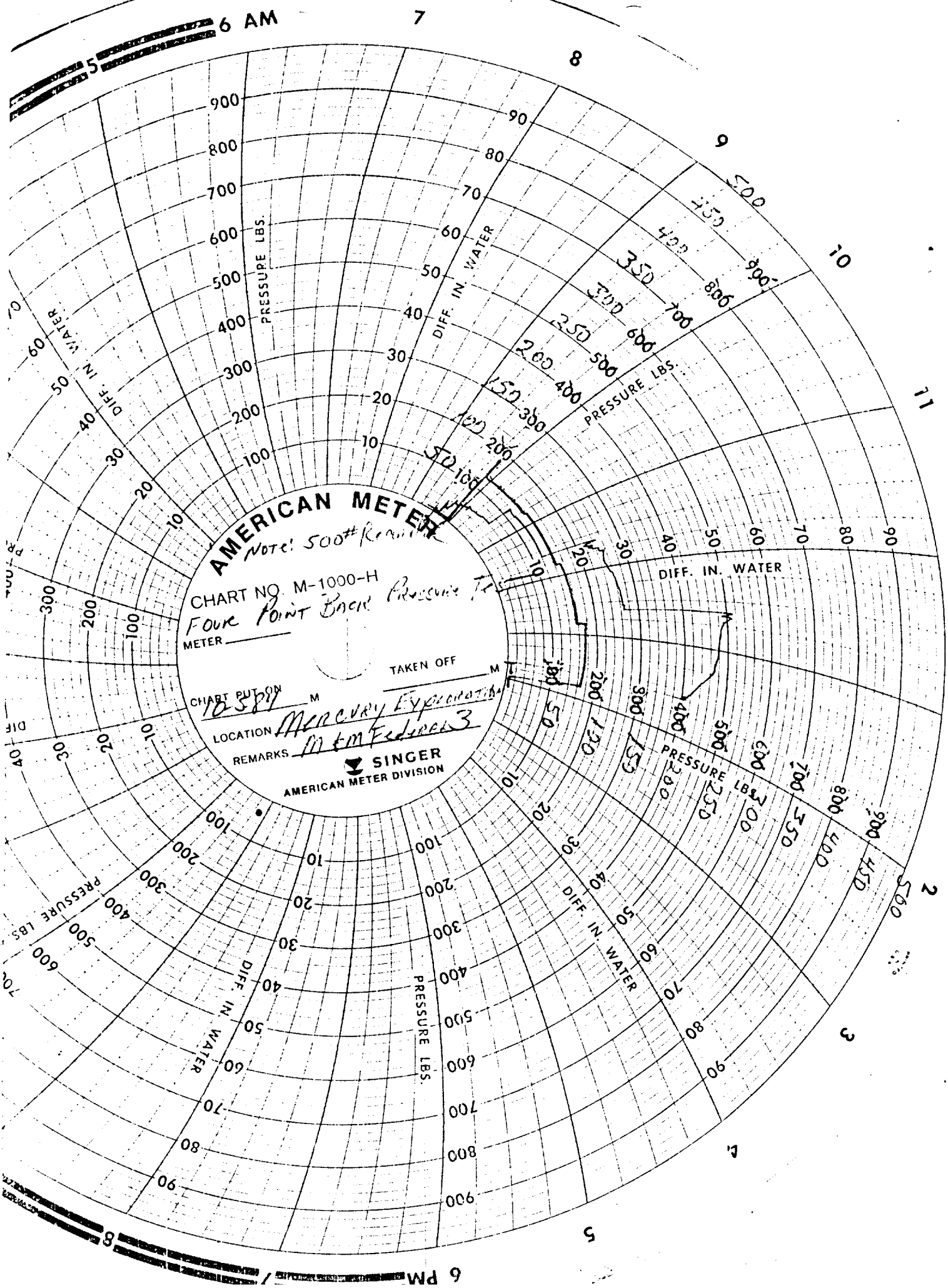
Run by Joe H. Kroum

Calculated By Jeffrey A. Propp

Ethane + GPM 1.491

Remarks:

Distribution:



AMERICAN METER

CHART NO. M-1000-H
FOUR POINT BACK Pressure Test
METER

CHART PUT ON

LOCATION

REMARKS

SINGER
AMERICAN METER DIVISION

10:50 PM
Mercury Expansion
M & M Federal 3

TAKEN OFF

M

FIELD DATA SHEET

990 FNL

660 FWL

RONNIE SCARBOROUGH

Test Date

Type Test:

FLOW

☐ Initial☐ Annual☒ Special

9/29 TO 9/30/84

Lease No. or Serial No.

Company
MERCURY EXPLORATIONConnection
AIR NEW WELL

Allottee

Field
PECOS SLOPE U.D.Reservoir
ABO

Location

Unit
DCompletion Date
4-1-83Total Depth
3050Plug Back TD
3050Elevation
4117Form or Lease Name
M & M FEDERALCsg. Size
4.5Wt.
10.5d
4.052Set At
3050Perforations: From
3017To
3027Well No.
#3

1.9.548

Wt.
4.7d
1.995Set At
2950Perforations: From
OPENTo
ENDED

Sec. 21 Twp. - Blk 6S Rge. - Sur 23E

Type Completion (Describe)

SINGLE

Packer Set At
2950County or Parish
CHAVESProducing Thru
TUBINGReservoir Temp. F
60Mean Ground Temp. F
60Baro. Press. - P_a
13.2State
NEW MEXICOL
3022H
3022G_g% CO₂% N₂% H₂S

Prover

Meter Run
2.Taps
FLANGE

DATE	ELAP. TIME	WELLHEAD WORKING PRESSURE			METER OR PROVER				REMARKS	
		Tbg. Psig	Csg. Psig	Temp. F	Pressure Psig	Diff.	Temp. F	Orifice	(Include liquid production data: Type - API Gravity - Amount)	
								1.5	= 12.76	
9-29-84										
1345	0	580							SHUT IN ABOUT 5 TO 10 MINUTES	
1400	1/4	480	500		39	82	60	995.		
1500	1 1/4				32	55		766.		
1600	2 1/4				32	55		766.		
1700	3 1/4				32	55		766.		
1800	4 1/4				31	54		750.6		
1900	5 1/4				31	53		743.6	START 4' 5 1/2"	
2000	6 1/4				31	53		743.6		
2100	7 1/4				31	53		743.6	9-30	739.9
2200	8 1/4				31	53		743.6	9-29 MOCK	-731.9 START
2300	9 1/4				31	53		743.6		8 BBLs
2400	10 1/4	9-30-84			31	52		736.5		
0100	11 1/4				31	51		729.4		
0200	12 1/4				31	51		729.4		
0300	13 1/4				31	50		722.2		
0400	14 1/4				31	49.5		718.6		
0500	15 1/4				31	49		714.9		
0600	16 1/4				31	48		714.9		
0700	17 1/4	410	450		31	48		714.9		
0800	18 1/4	410	450		31	48		707.6		
9-30-84		CHANGE CHOKE TO						24/64	PER R. SCARBOROUGH'S REQUEST	
0900	19 1/4				32	55.5		769.5		
1000	20 1/4				32	55.5		769.5	10-1	755.6
1100	21 1/4				32	55.0		765.9	9-31	-739.9
1200	22 1/4				32	55.5		769.5	15.7 BBLs	
1300	23 1/4				32	55.5		769.5		
1400	24 1/4				32	55		765.9		
1500	25 1/4				32	54.5		762.5		
1600	26 1/4				32	54		759.0		
1700	27 1/4				31	54		759.0		
1800	28 1/4				31	52.5		748.4		
1900	29 1/4				31	51.75		734.8		
2000	30 1/4				31	51.75		734.8		

FIELD DATA SHEET

990 FNL

RONNIE SCARBOROUGH

660 FWL

Type Test:

FLOW

☐ Initial☐ Annual☒ Special

Test Date

10/1/84 TO 10/2/84

Lease No. or Serial No.

Company

MERCURY EXPLORATION

Connection

AIR NEW WELL

Allottee

Field

PECOS SLOPE U.D.

Reservoir

ABO

Location

Unit

D

Completion Date

4-1-83

Total Depth

3050

Plug Back TD

3050

Elevation

4117

Farm or Lease Name

M & M FEDERAL

Csg. Size

4.5

Wt.

10.5

d

4052

Set At

3050

Perforations: From

3017

To

3027

Well No.

#3

2.375

Wt.

4.7

d

1.995

Set At

2950

Perforations: From

OPEN

To

ENDED

Sec.

21

Twp - Blk

6S

Rge - Sur

23E

Type Completion (Describe)

SINGLE

Packer Set At

2950

County or Parish

CHAVES

Producing Thru

TUBING

Reservoir Temp. F

e

Mean Ground Temp. F

60

Baro. Press. - P

13.2

State

NEW MEXICO

L

H

G_g% CO₂% N₂% H₂S

Prover

Meter Run

Taps

3022

3022

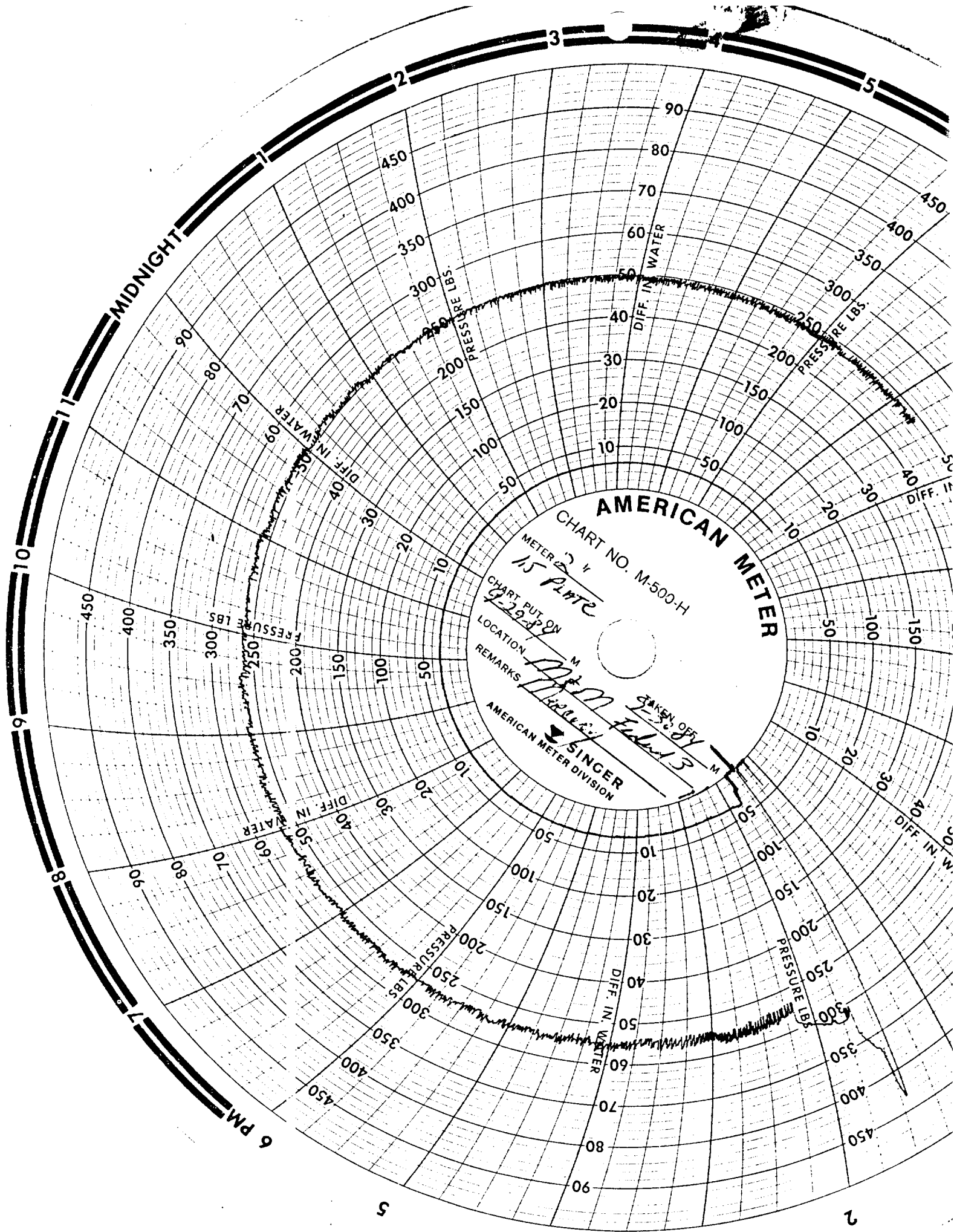
2.

FLANGE

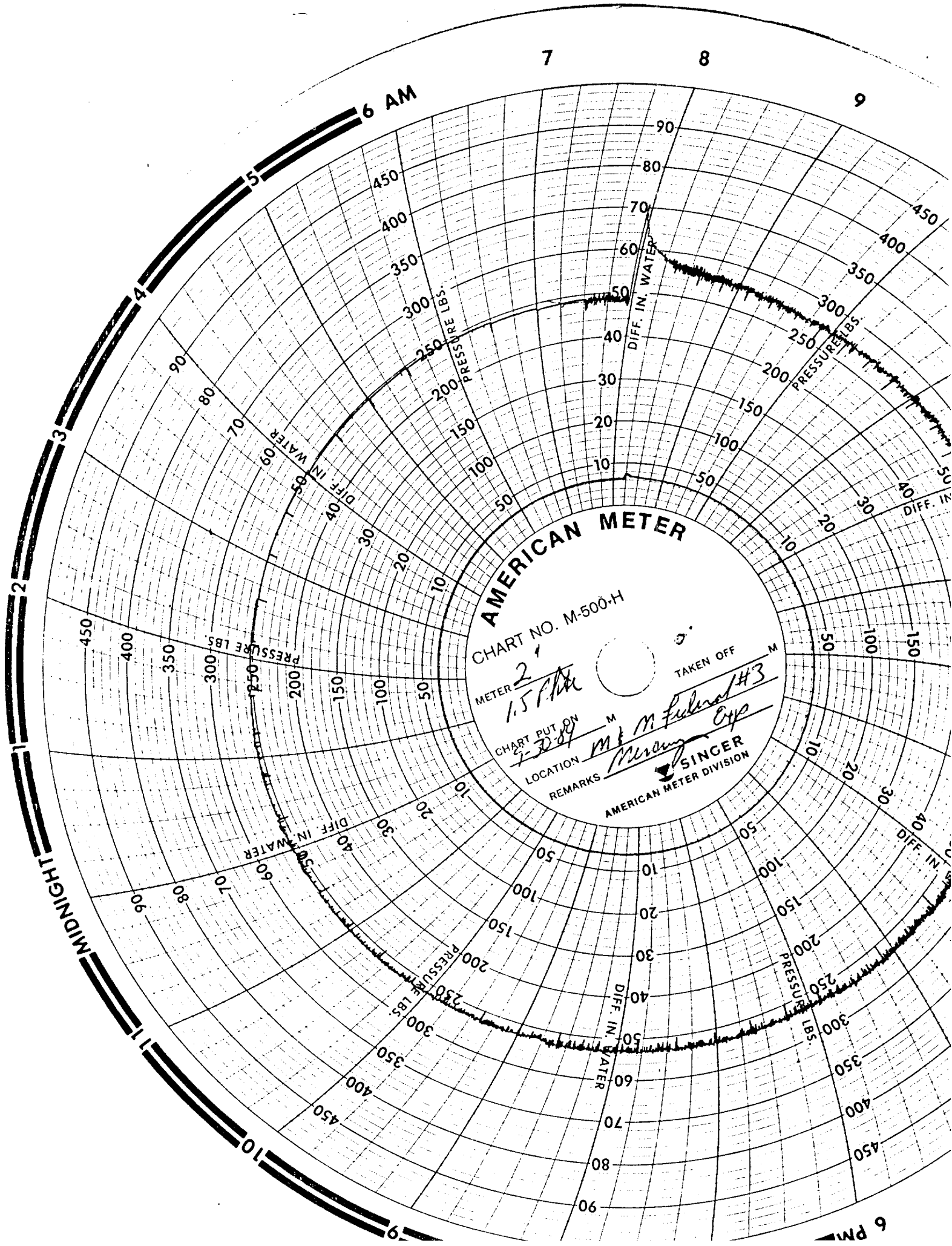
DATE	ELAP. TIME	WELLHEAD WORKING PRESSURE			METER OR PROVER				REMARKS
Time of Reading	Hrs.	Tbg. Psig	Csg. Psig	Temp. F	Pressure Psig	Diff.	Temp. F	Orifice	(Include liquid production data: Type - API Gravity - Amount)
2100	31 $\frac{1}{4}$				31	52		736.5	
2200	32 $\frac{1}{4}$				31	52		736.5	
2300	33 $\frac{1}{4}$				31	52		736.5	
2400	34 $\frac{1}{4}$	10-1-84			31	51.5		733.0	
0100	35 $\frac{1}{4}$				31	51		729.4	
0200	36 $\frac{1}{4}$				31	50.5		725.8	
0300	37 $\frac{1}{4}$				31	50		722.2	
0400	38 $\frac{1}{4}$				31	50		722.2	
0500	39 $\frac{1}{4}$				31	49.5		715.0	
0600	40 $\frac{1}{4}$				31	49		714.0	
0700	41 $\frac{1}{4}$				31	48.5		711.3	
0800	42 $\frac{1}{4}$	305	355		31	48		707.6	

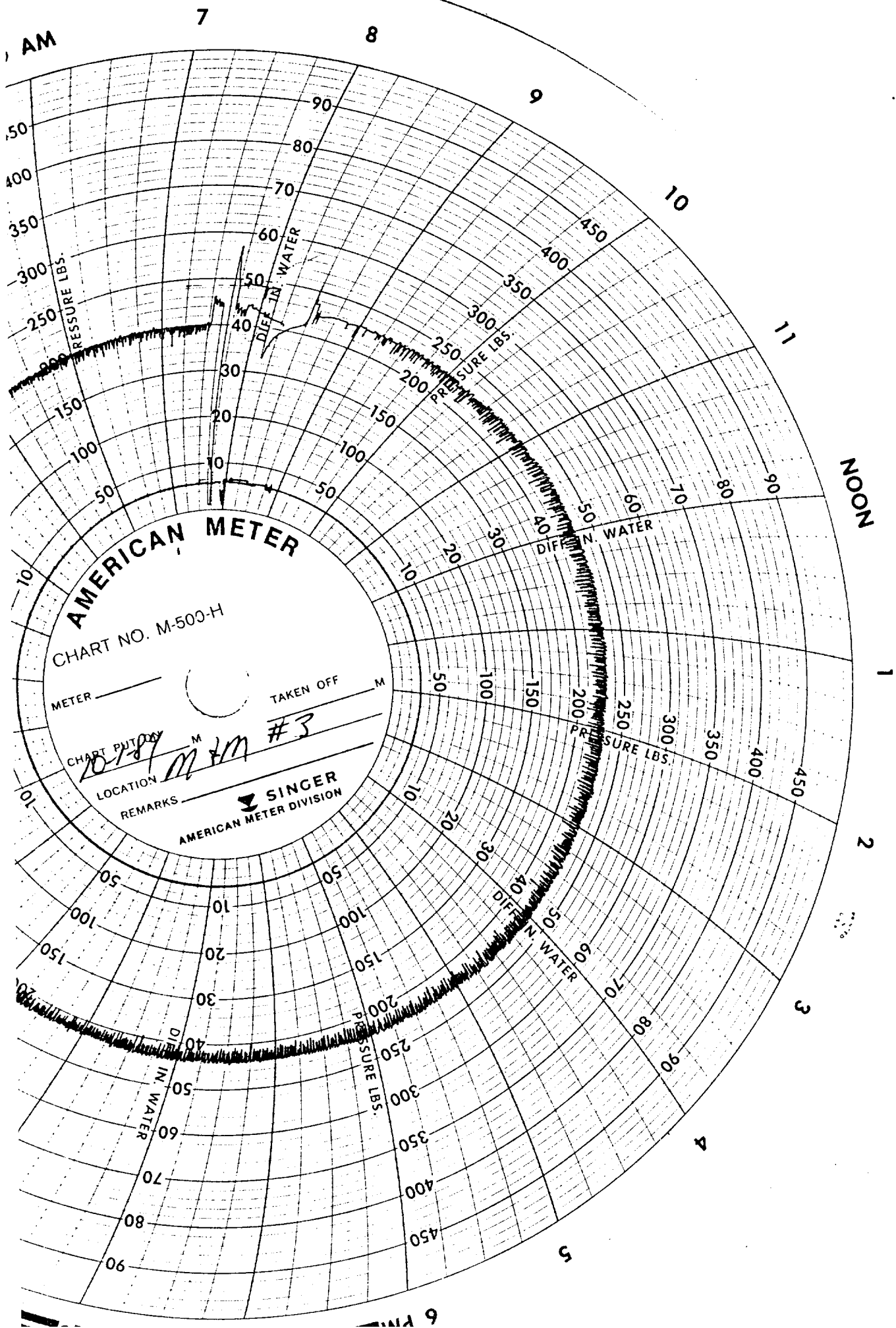
RONNIE SCARBOROUGH INSTRUCTED US TO SET CHOKE BACK TO 20/64

0900	43 $\frac{1}{4}$				30	46		684.9	
1000	44 $\frac{1}{4}$				30	46		684.9	
1100	45 $\frac{1}{4}$				30	46		684.9	MOCK 10-2 763.4
1200	46 $\frac{1}{4}$				30	46		684.9	MOCK 10-1 -755.6
1300	47 $\frac{1}{4}$				30	46		684.9	7.8 BBLs
1400	48 $\frac{1}{4}$				30	46		684.9	
1500	49 $\frac{1}{4}$				30	46		684.9	
1600	50 $\frac{1}{4}$				30	44		669.8	
1700	51 $\frac{1}{4}$				30	44		669.8	
1800	52 $\frac{1}{4}$				30	44		669.8	
1900	53 $\frac{1}{4}$				30	43		662.1	
2000	54 $\frac{1}{4}$				30	43		662.1	
2100	55 $\frac{1}{4}$				30	43		662.1	
2200	56 $\frac{1}{4}$				30	43		662.1	
2300	57 $\frac{1}{4}$				30	42		654.4	
2400	58 $\frac{1}{4}$				30	42		654.4	
0100	59 $\frac{1}{4}$	10-2-84			30	42		654.4	
0200	60 $\frac{1}{4}$				30	42		654.4	
0300	61 $\frac{1}{4}$				30	41		646.6	
0400	62 $\frac{1}{4}$				30	41		646.6	
0500	63 $\frac{1}{4}$				30	41		646.6	



AMERICAN METER
CHART NO. M-500-H
METER NO. 15 PLATE
CHART PUT ON 9-29-39
LOCATION M
REMARKS
TAKEN OFF 1-13-40
SINGER
AMERICAN METER DIVISION





COMPANY: MERCURY EXPLORATION COMPANY
LEASE: M&M FEDERAL
FIELD:
COUNTY: CHAVES
STATUS: FOUR POINT BACK PRESSURE TEST
PERFORATIONS FROM: 3012 ft
DEPTH: 3021 ft

CONTACT: RONNIE SCARBOUGH
WELL: #3
ZONE: ABO
STATE: NEW MEXICO
OPERATOR: RICHARD TOWNLEY
TO: 3034 ft
TEMPERATURE: 84°F

ELEMENT# RPG3#37882
CLOCK# 27193
ELEMENT# RPG3#17772
CLOCK# 28658

ELEMENT RANGE: 3500 psig
CLOCK RANGE: 12 hrs
ELEMENT RANGE: 3850 psig
CLOCK RANGE: 12 hrs

START CLOCK 10/05/84
SET ELEMENT 10/05/84
WELL SHUT IN 10/02/84
TEST ENDED 10/05/84

08:54:00 874 psig
09:47:00 874 psig
08:50:00 308 psig
14:00:00 526 psig

GAIN= 1
FILE: MM-4PT-3:D701

BIAS= 0 psi
BAROMETRIC PRESSURE= 13.2 psia

BENNETT-CATHEY WIRE LINE SERVICE
 PHONE (505) 748-3354
 ARTESIA, NEW MEXICO, 88210

PRESSURE TRANSIENT TEST DATA

COMPANY: MERCURY EXPLORATION COMPANY
 LEASE: M&M FEDERAL
 FIELD:
 COUNTY: CHAVES
 STATUS: FOUR POINT BACK PRESSURE TEST

CONTACT: RONNIE SCAREBOUGH
 WELL: #3
 ZONE: ABO
 STATE: NEW MEXICO
 OPERATOR: RICHARD TOWNLEY

PERFORATIONS FROM: 3,012.0'
 ELEMENT DEPTH: 3,021.0'

TO: 3,034.0'
 TEMPERATURE: 84.0°F

ELEMENT: RPG3#37882
 CLOCK: 27193
 ELEMENT: RPG3#17772
 CLOCK: 28658

RANGE: 3500 psig
 RANGE: 12 hrs
 RANGE: 3850 psig
 RANGE: 12 hrs

SURFACE PRESSURE MEASUREMENTS

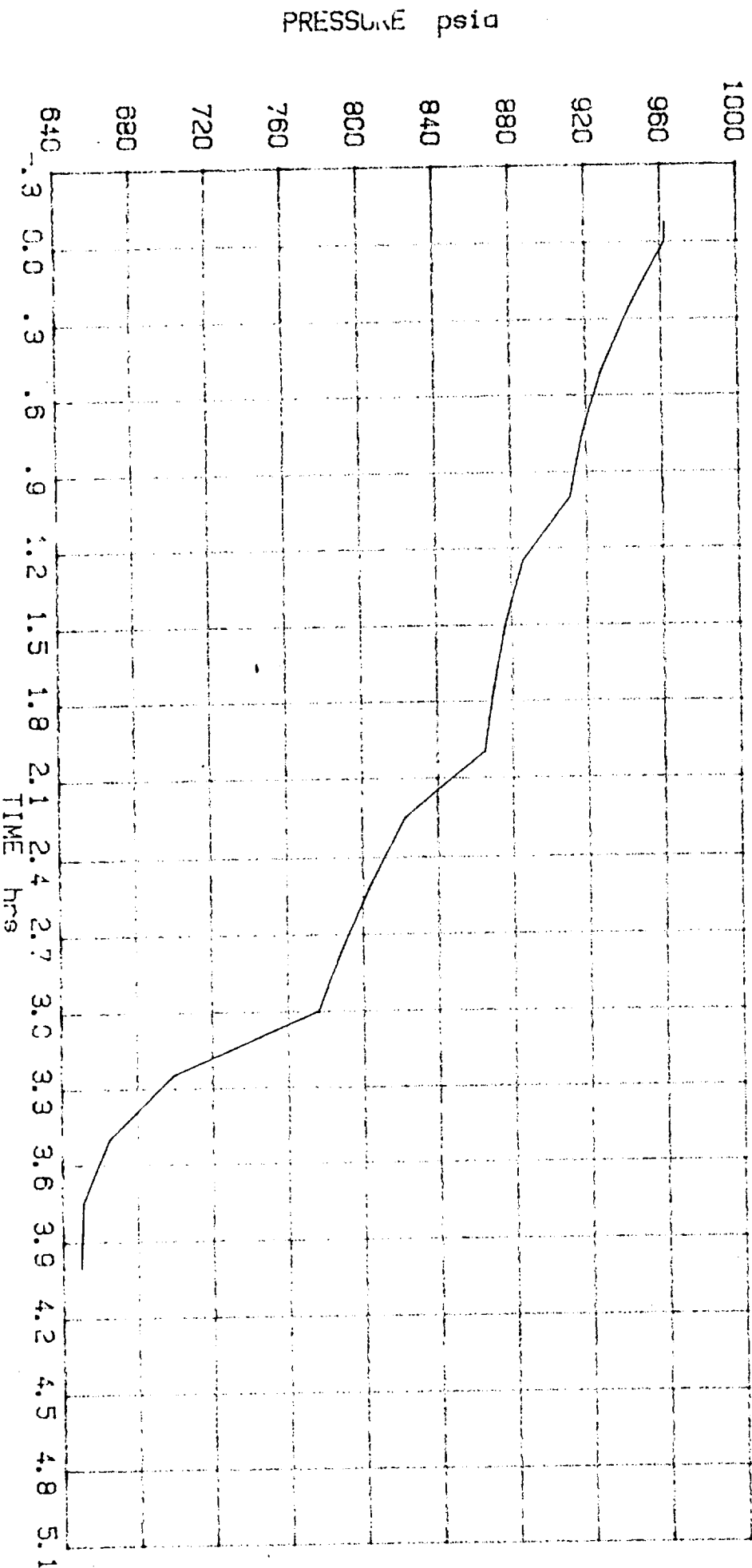
EVENT	DATE	TIME	DEAD WEIGHT PRESSURE
START CLOCK	10/05/84	08:54:00	874.0 psig
SET ELEMENT	10/05/84	09:47:00	874.0 psig
WELL SHUT IN	10/02/84	08:50:00	308.0 psig
END OF TEST	10/05/84	14:00:00	526.0 psig

SUBSURFACE PRESSURE MEASUREMENTS

DATE	TIME	t hrs	GAUGE PRESSURE psig	ABSOLUTE PRESSURE psia	RESERVOIR PRESSURE psia
10/05/84	09:55:39	- .072	949.4	962.6	962.6
10/05/84	10:00:00	0.000	949.2	962.4	962.4
10/05/84	10:15:00	.250	930.6	943.8	943.8
10/05/84	10:30:00	.500	915.4	928.6	928.6
10/05/84	10:45:00	.750	904.9	918.1	918.1
10/05/84	11:00:00	1.000	898.2	911.4	911.4
10/05/84	11:15:00	1.250	873.1	886.3	886.3
10/05/84	11:30:00	1.500	863.5	876.7	876.7
10/05/84	11:45:00	1.750	857.2	870.4	870.4
10/05/84	12:00:00	2.000	852.0	865.2	865.2
10/05/84	12:15:00	2.250	809.8	823.0	823.0
10/05/84	12:30:00	2.500	791.6	804.8	804.8
10/05/84	12:45:00	2.750	776.4	789.6	789.6
10/05/84	13:00:00	3.000	763.1	776.3	776.3
10/05/84	13:15:00	3.250	686.1	699.3	699.3
10/05/84	13:30:00	3.500	652.1	665.3	665.3
10/05/84	13:45:00	3.750	637.9	651.1	651.1
10/05/84	14:00:00	4.000	636.5	649.7	649.7

TEST DATE: 10/02/84 TO 10/05/84
TEST DEPTH: 3021 ft
ELEMENT NO: RPO3#17772
RANGE: 3850 psig
CLOCK: 28658
RANGE: 12 hrs
OPERATOR: RICHARD TOWNLEY

RONNIE SCARBOUGH
MERCURY EXPLORATION COMPANY
M&M FEDERAL #3
BENNETT-CATHEY WIRE LINE SERVICE
Box 787 Artesia, N.M. 88210 (505) 748-3354



COMPANY: MERCURY EXPLORATION COMPANY
LEASE: M&M FEDERAL
FIELD:
COUNTY: CHAVES
STATUS: BOTTOM HOLE BUILD UP TEST
PERFORATIONS FROM: 3012 ft
DEPTH: 3021 ft

CONTACT: RONNIE SCARBOUGH
WELL: #3
ZONE: ABO
STATE: NEW MEXICO
OPERATOR: DAVID SPENCER
TO: 3034 ft
TEMPERATURE: 84°F

ELEMENT# RPG3#37882
CLOCK# 1935
ELEMENT# RPG3#17772
CLOCK# 28658

ELEMENT RANGE: 3500 psig
CLOCK RANGE: 120 hrs
ELEMENT RANGE: 3850 psig
CLOCK RANGE: 120 hrs

START CLOCK 10/02/84
SET ELEMENT 10/02/84
WELL SHUT IN 10/02/84
TEST ENDED 10/05/84

07:38:00 308 psig
08:15:00 308 psig
08:50:00 308 psig
09:47:00 874 psig

GAIN= 1
FILE: MM-BU-8:D701

BIAS= 0 psi
BAROMETRIC PRESSURE= 13.2 psia

BENNETT-CATHEY WIRE LINE SERVICE
 PHONE (505) 748-3354
 ARTESIA, NEW MEXICO, 88210

PRESSURE TRANSIENT TEST DATA

COMPANY: MERCURY EXPLORATION COMPANY
 LEASE: M&M FEDERAL
 FIELD:
 COUNTY: CHAVES
 STATUS: BOTTOM HOLE BUILD UP TEST

CONTACT: RONNIE SCARBROUGH
 WELL: #3
 ZONE: ABO
 STATE: NEW MEXICO
 OPERATOR: DAVID SPENCER

PERFORATIONS FROM: 3,012.0'
 ELEMENT DEPTH: 3,021.0'

TO: 3,034.0'
 TEMPERATURE: 84.0°F

ELEMENT: RPG3#37882
 CLOCK: 1935
 ELEMENT: RPG3#17772
 CLOCK: 28658

RANGE: 3500 psig
 RANGE: 120 hrs
 RANGE: 3850 psig
 RANGE: 120 hrs

SURFACE PRESSURE MEASUREMENTS

EVENT	DATE	TIME	DEAD WEIGHT PRESSURE
START CLOCK	10/02/84	07:38:00	308.0 psig
SET ELEMENT	10/02/84	08:15:00	308.0 psig
WELL SHUT IN	10/02/84	08:50:00	308.0 psig
END OF TEST	10/05/84	09:47:00	874.0 psig

SUBSURFACE PRESSURE MEASUREMENTS

DATE	TIME	t hrs	GAUGE PRESSURE psig	ABSOLUTE PRESSURE psia	RESERVOIR PRESSURE psia
10/02/84	08:28:15	-.362	394.6	407.8	407.8
10/02/84	08:35:00	-.250	395.1	408.3	408.3
10/02/84	08:50:00	0.000	396.2	409.4	409.4
10/02/84	08:55:00	.083	470.8	484.0	484.0
10/02/84	09:00:00	.167	543.7	556.9	556.9
10/02/84	09:05:00	.250	579.6	592.8	592.8
10/02/84	09:10:00	.333	602.4	615.6	615.6
10/02/84	09:15:00	.417	618.2	631.4	631.4
10/02/84	09:20:00	.500	632.0	645.2	645.2
10/02/84	09:25:00	.583	641.7	654.9	654.9
10/02/84	09:30:00	.667	649.1	662.3	662.3
10/02/84	09:35:00	.750	654.5	667.7	667.7
10/02/84	09:40:00	.833	661.7	674.9	674.9
10/02/84	09:45:00	.917	667.5	680.7	680.7
10/02/84	09:50:00	1.000	672.1	685.3	685.3
10/02/84	10:05:00	1.250	682.8	696.0	696.0
10/02/84	10:20:00	1.500	691.3	704.5	704.5
10/02/84	10:35:00	1.750	699.7	712.9	712.9
10/02/84	10:50:00	2.000	706.9	720.1	720.1
10/02/84	11:05:00	2.250	713.3	726.5	726.5
10/02/84	11:20:00	2.500	717.9	731.1	731.1
10/02/84	11:35:00	2.750	723.7	736.9	736.9

BENNETT-CATHEY WIRE LINE SERVICE
 PHONE (505) 748-3354
 ARTESIA, NEW MEXICO, 88210

PRESSURE TRANSIENT TEST DATA
 SUBSURFACE PRESSURE MEASUREMENTS

DATE	TIME	t hrs	GAUGE PRESSURE psig	ABSOLUTE PRESSURE psia	RESERVOIR PRESSURE psia
10/02/84	11:50:00	3.000	728.3	741.5	741.5
10/02/84	12:05:00	3.250	732.0	745.2	745.2
10/02/84	12:20:00	3.500	736.9	750.1	750.1
10/02/84	12:35:00	3.750	741.1	754.3	754.3
10/02/84	12:50:00	4.000	745.0	758.2	758.2
10/02/84	13:05:00	4.250	748.2	761.4	761.4
10/02/84	13:20:00	4.500	751.5	764.7	764.7
10/02/84	13:35:00	4.750	754.6	767.8	767.8
10/02/84	13:50:00	5.000	757.7	770.9	770.9
10/02/84	14:05:00	5.250	760.7	773.9	773.9
10/02/84	14:20:00	5.500	763.1	776.3	776.3
10/02/84	14:35:00	5.750	765.6	778.8	778.8
10/02/84	14:50:00	6.000	767.9	781.1	781.1
10/02/84	15:05:00	6.250	770.3	783.5	783.5
10/02/84	15:20:00	6.500	772.9	786.1	786.1
10/02/84	15:35:00	6.750	775.5	788.7	788.7
10/02/84	15:50:00	7.000	778.0	791.2	791.2
10/02/84	16:05:00	7.250	780.5	793.7	793.7
10/02/84	16:20:00	7.500	782.6	795.8	795.8
10/02/84	16:35:00	7.750	784.5	797.7	797.7
10/02/84	16:50:00	8.000	786.3	799.5	799.5
10/02/84	17:05:00	8.250	788.5	801.7	801.7
10/02/84	17:20:00	8.500	790.6	803.8	803.8
10/02/84	17:35:00	8.750	792.5	805.7	805.7
10/02/84	17:50:00	9.000	794.3	807.5	807.5
10/02/84	18:05:00	9.250	796.0	809.2	809.2
10/02/84	18:20:00	9.500	797.7	810.9	810.9
10/02/84	18:35:00	9.750	799.4	812.6	812.6
10/02/84	18:50:00	10.000	801.1	814.3	814.3
10/02/84	19:05:00	10.250	802.7	815.9	815.9
10/02/84	19:20:00	10.500	804.3	817.5	817.5
10/02/84	19:35:00	10.750	806.0	819.2	819.2
10/02/84	19:50:00	11.000	807.6	820.8	820.8
10/02/84	20:05:00	11.250	809.2	822.4	822.4
10/02/84	20:20:00	11.500	810.8	824.0	824.0
10/02/84	20:35:00	11.750	812.3	825.5	825.5
10/02/84	20:50:00	12.000	813.9	827.1	827.1
10/02/84	21:05:00	12.250	815.5	828.7	828.7
10/02/84	21:20:00	12.500	816.9	830.1	830.1
10/02/84	21:35:00	12.750	818.3	831.5	831.5
10/02/84	21:50:00	13.000	819.7	832.9	832.9
10/02/84	22:05:00	13.250	821.1	834.3	834.3
10/02/84	22:20:00	13.500	822.5	835.7	835.7
10/02/84	22:35:00	13.750	823.9	837.1	837.1
10/02/84	22:50:00	14.000	825.1	838.3	838.3
10/02/84	23:05:00	14.250	826.4	839.6	839.6

BENNETT-CATHEY WIRE LINE SERVICE
 PHONE (505) 748-3354
 ARTESIA, NEW MEXICO, 88210

PRESSURE TRANSIENT TEST DATA

SUBSURFACE PRESSURE MEASUREMENTS

DATE	TIME	t hrs	GAUGE PRESSURE psig	ABSOLUTE PRESSURE psia	RESERVOIR PRESSURE psia
10/02/84	23:20:00	14.500	827.7	840.9	840.9
10/02/84	23:35:00	14.750	829.0	842.2	842.2
10/02/84	23:50:00	15.000	830.0	843.2	843.2
10/03/84	00:05:00	15.250	830.9	844.1	844.1
10/03/84	00:20:00	15.500	831.8	845.0	845.0
10/03/84	00:35:00	15.750	832.8	846.0	846.0
10/03/84	00:50:00	16.000	833.8	847.0	847.0
10/03/84	01:05:00	16.250	834.8	848.0	848.0
10/03/84	01:20:00	16.500	835.9	849.1	849.1
10/03/84	01:35:00	16.750	837.0	850.2	850.2
10/03/84	01:50:00	17.000	838.1	851.3	851.3
10/03/84	02:05:00	17.250	839.2	852.4	852.4
10/03/84	02:20:00	17.500	840.3	853.5	853.5
10/03/84	02:35:00	17.750	841.4	854.6	854.6
10/03/84	02:50:00	18.000	842.4	855.6	855.6
10/03/84	03:05:00	18.250	843.4	856.6	856.6
10/03/84	03:20:00	18.500	844.5	857.7	857.7
10/03/84	03:35:00	18.750	845.5	858.7	858.7
10/03/84	03:50:00	19.000	846.6	859.8	859.8
10/03/84	04:05:00	19.250	847.6	860.8	860.8
10/03/84	04:20:00	19.500	848.7	861.9	861.9
10/03/84	04:35:00	19.750	849.7	862.9	862.9
10/03/84	04:50:00	20.000	850.7	863.9	863.9
10/03/84	05:05:00	20.250	851.7	864.9	864.9
10/03/84	05:20:00	20.500	852.8	866.0	866.0
10/03/84	05:35:00	20.750	853.8	867.0	867.0
10/03/84	05:50:00	21.000	854.8	868.0	868.0
10/03/84	06:05:00	21.250	855.8	869.0	869.0
10/03/84	06:20:00	21.500	856.9	870.1	870.1
10/03/84	06:35:00	21.750	857.9	871.1	871.1
10/03/84	06:50:00	22.000	858.8	872.0	872.0
10/03/84	07:05:00	22.250	859.8	873.0	873.0
10/03/84	07:20:00	22.500	860.7	873.9	873.9
10/03/84	07:35:00	22.750	861.7	874.9	874.9
10/03/84	07:50:00	23.000	862.6	875.8	875.8
10/03/84	08:05:00	23.250	863.5	876.7	876.7
10/03/84	08:20:00	23.500	864.5	877.7	877.7
10/03/84	08:35:00	23.750	865.4	878.6	878.6
10/03/84	08:50:00	24.000	866.3	879.5	879.5
10/03/84	09:05:00	24.250	867.1	880.3	880.3
10/03/84	09:20:00	24.500	867.9	881.1	881.1
10/03/84	09:35:00	24.750	868.6	881.8	881.8
10/03/84	09:50:00	25.000	869.4	882.6	882.6
10/03/84	10:05:00	25.250	870.2	883.4	883.4
10/03/84	10:20:00	25.500	871.0	884.2	884.2
10/03/84	10:35:00	25.750	871.8	885.0	885.0

BENNETT-CATHEY WIRE LINE SERVICE
 PHONE (505) 748-3354
 ARTESIA, NEW MEXICO, 88210

PRESSURE TRANSIENT TEST DATA
 SUBSURFACE PRESSURE MEASUREMENTS

DATE	TIME	t hrs	GAUGE PRESSURE psig	ABSOLUTE PRESSURE psia	RESERVOIR PRESSURE psia
10/03/84	10:50:00	26.000	872.6	885.8	885.8
10/03/84	11:05:00	26.250	873.5	886.7	886.7
10/03/84	11:20:00	26.500	874.3	887.5	887.5
10/03/84	11:35:00	26.750	875.1	888.3	888.3
10/03/84	11:50:00	27.000	875.9	889.1	889.1
10/03/84	12:05:00	27.250	876.7	889.9	889.9
10/03/84	12:20:00	27.500	877.5	890.7	890.7
10/03/84	12:35:00	27.750	878.3	891.5	891.5
10/03/84	12:50:00	28.000	879.1	892.3	892.3
10/03/84	13:05:00	28.250	879.9	893.1	893.1
10/03/84	13:20:00	28.500	880.6	893.8	893.8
10/03/84	13:35:00	28.750	881.4	894.6	894.6
10/03/84	13:50:00	29.000	882.2	895.4	895.4
10/03/84	14:05:00	29.250	882.9	896.1	896.1
10/03/84	14:20:00	29.500	883.7	896.9	896.9
10/03/84	14:35:00	29.750	884.3	897.5	897.5
10/03/84	14:50:00	30.000	884.9	898.1	898.1
10/03/84	15:05:00	30.250	885.6	898.8	898.8
10/03/84	15:20:00	30.500	886.2	899.4	899.4
10/03/84	15:35:00	30.750	886.8	900.0	900.0
10/03/84	15:50:00	31.000	887.4	900.6	900.6
10/03/84	16:05:00	31.250	888.1	901.3	901.3
10/03/84	16:20:00	31.500	888.7	901.9	901.9
10/03/84	16:35:00	31.750	889.3	902.5	902.5
10/03/84	16:50:00	32.000	889.9	903.1	903.1
10/03/84	17:05:00	32.250	890.4	903.6	903.6
10/03/84	17:20:00	32.500	891.0	904.2	904.2
10/03/84	17:35:00	32.750	891.6	904.8	904.8
10/03/84	17:50:00	33.000	892.2	905.4	905.4
10/03/84	18:05:00	33.250	892.7	905.9	905.9
10/03/84	18:20:00	33.500	893.3	906.5	906.5
10/03/84	18:35:00	33.750	893.9	907.1	907.1
10/03/84	18:50:00	34.000	894.5	907.7	907.7
10/03/84	19:05:00	34.250	895.2	908.4	908.4
10/03/84	19:20:00	34.500	895.9	909.1	909.1
10/03/84	19:35:00	34.750	896.6	909.8	909.8
10/03/84	19:50:00	35.000	897.3	910.5	910.5
10/03/84	20:05:00	35.250	898.0	911.2	911.2
10/03/84	20:20:00	35.500	898.7	911.9	911.9
10/03/84	20:35:00	35.750	899.4	912.6	912.6
10/03/84	20:50:00	36.000	900.1	913.3	913.3
10/03/84	21:05:00	36.250	900.8	914.0	914.0
10/03/84	21:20:00	36.500	901.4	914.6	914.6
10/03/84	21:35:00	36.750	901.9	915.1	915.1
10/03/84	21:50:00	37.000	902.5	915.7	915.7
10/03/84	22:05:00	37.250	903.0	916.2	916.2

BENNETT-CATHEY WIRE LINE SERVICE
 PHONE (505) 748-3354
 ARTESIA, NEW MEXICO, 88210

PRESSURE TRANSIENT TEST DATA

SUBSURFACE PRESSURE MEASUREMENTS

DATE	TIME	t hrs	GAUGE PRESSURE psig	ABSOLUTE PRESSURE psia	RESERVOIR PRESSURE psia
10/03/84	22:20:00	37.500	903.5	916.7	916.7
10/03/84	22:35:00	37.750	904.0	917.2	917.2
10/03/84	22:50:00	38.000	904.6	917.8	917.8
10/03/84	23:05:00	38.250	905.1	918.3	918.3
10/03/84	23:20:00	38.500	905.6	918.8	918.8
10/03/84	23:35:00	38.750	906.2	919.4	919.4
10/03/84	23:50:00	39.000	906.7	919.9	919.9
10/04/84	00:05:00	39.250	907.1	920.3	920.3
10/04/84	00:20:00	39.500	907.4	920.6	920.6
10/04/84	00:35:00	39.750	907.8	921.0	921.0
10/04/84	00:50:00	40.000	908.1	921.3	921.3
10/04/84	01:05:00	40.250	908.4	921.6	921.6
10/04/84	01:20:00	40.500	908.8	922.0	922.0
10/04/84	01:35:00	40.750	909.1	922.3	922.3
10/04/84	01:50:00	41.000	909.5	922.7	922.7
10/04/84	02:05:00	41.250	909.8	923.0	923.0
10/04/84	02:20:00	41.500	910.2	923.4	923.4
10/04/84	02:35:00	41.750	910.7	923.9	923.9
10/04/84	02:50:00	42.000	911.2	924.4	924.4
10/04/84	03:05:00	42.250	911.6	924.8	924.8
10/04/84	03:20:00	42.500	912.1	925.3	925.3
10/04/84	03:35:00	42.750	912.6	925.8	925.8
10/04/84	03:50:00	43.000	913.1	926.3	926.3
10/04/84	04:05:00	43.250	913.5	926.7	926.7
10/04/84	04:20:00	43.500	914.0	927.2	927.2
10/04/84	04:35:00	43.750	914.5	927.7	927.7
10/04/84	04:50:00	44.000	914.9	928.1	928.1
10/04/84	05:05:00	44.250	915.3	928.5	928.5
10/04/84	05:20:00	44.500	915.7	928.9	928.9
10/04/84	05:35:00	44.750	916.0	929.2	929.2
10/04/84	05:50:00	45.000	916.4	929.6	929.6
10/04/84	06:05:00	45.250	916.8	930.0	930.0
10/04/84	06:20:00	45.500	917.1	930.3	930.3
10/04/84	06:35:00	45.750	917.5	930.7	930.7
10/04/84	06:50:00	46.000	917.9	931.1	931.1
10/04/84	07:05:00	46.250	918.2	931.4	931.4
10/04/84	07:20:00	46.500	918.6	931.8	931.8
10/04/84	07:35:00	46.750	918.9	932.1	932.1
10/04/84	07:50:00	47.000	919.3	932.5	932.5
10/04/84	08:05:00	47.250	919.7	932.9	932.9
10/04/84	08:20:00	47.500	920.1	933.3	933.3
10/04/84	08:35:00	47.750	920.6	933.8	933.8
10/04/84	08:50:00	48.000	921.0	934.2	934.2
10/04/84	09:05:00	48.250	921.4	934.6	934.6
10/04/84	09:20:00	48.500	921.8	935.0	935.0
10/04/84	09:35:00	48.750	922.2	935.4	935.4

BENNETT-CATHEY WIRE LINE SERVICE
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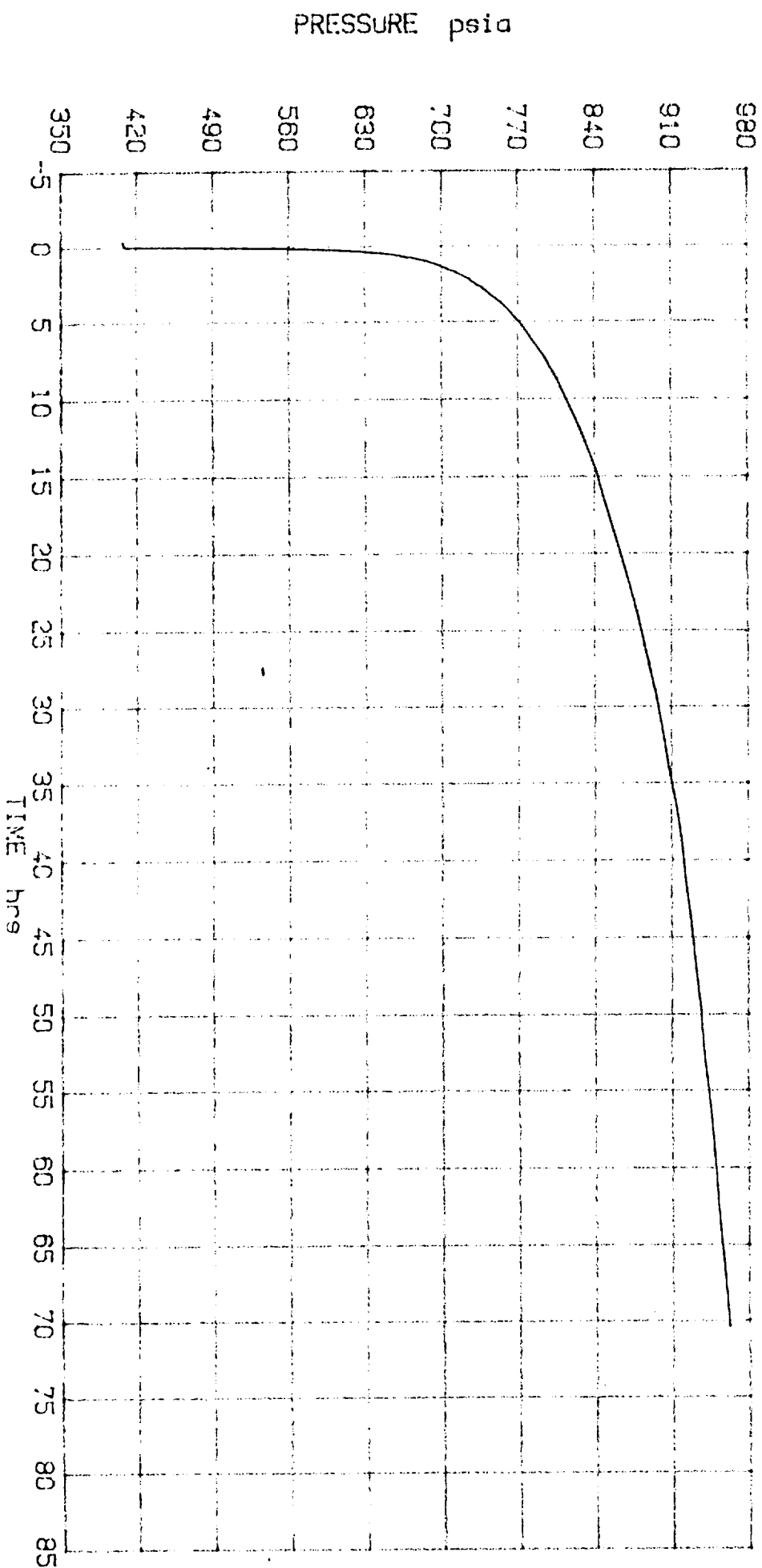
PRESSURE TRANSIENT TEST DATA

SUBSURFACE PRESSURE MEASUREMENTS

DATE	TIME	t hrs	GAUGE PRESSURE psig	ABSOLUTE PRESSURE psia	RESERVOIR PRESSURE psia
10/04/84	09:50:00	49.000	922.6	935.8	935.8
10/04/84	10:05:00	49.250	923.0	936.2	936.2
10/04/84	10:20:00	49.500	923.4	936.6	936.6
10/04/84	10:35:00	49.750	923.8	937.0	937.0
10/04/84	10:50:00	50.000	924.0	937.2	937.2
10/04/84	11:50:00	51.000	925.0	938.2	938.2
10/04/84	12:50:00	52.000	926.0	939.2	939.2
10/04/84	13:50:00	53.000	927.2	940.4	940.4
10/04/84	14:50:00	54.000	928.9	942.1	942.1
10/04/84	15:50:00	55.000	930.6	943.8	943.8
10/04/84	16:50:00	56.000	932.2	945.4	945.4
10/04/84	17:50:00	57.000	933.4	946.6	946.6
10/04/84	18:50:00	58.000	934.7	947.9	947.9
10/04/84	19:50:00	59.000	935.9	949.1	949.1
10/04/84	20:50:00	60.000	937.1	950.2	950.3
10/04/84	21:50:00	61.000	938.1	951.3	951.3
10/04/84	22:50:00	62.000	939.2	952.4	952.4
10/04/84	23:50:00	63.000	940.2	953.4	953.4
10/05/84	00:50:00	64.000	941.4	954.6	954.6
10/05/84	01:50:00	65.000	942.7	955.9	955.9
10/05/84	02:50:00	66.000	944.1	957.3	957.3
10/05/84	03:50:00	67.000	945.3	958.5	958.5
10/05/84	04:50:00	68.000	946.5	959.7	959.7
10/05/84	05:50:00	69.000	947.6	960.8	960.8
10/05/84	06:50:00	70.000	948.7	961.9	961.9
10/05/84	07:14:14	70.404	949.2	962.4	962.4

TEST DATE: 10/02/84 TO 10/05/84
TEST DEPTH: 3021 ft
ELEMENT NO: RFG#17772
RANGE: 3850 psig
CLOCK: 28658
RANGE: 120 hrs
OPERATOR: DAVID SPENCER

RONNIE SCARBROUGH
MERCURY EXPLORATION COMPANY
M&M FEDERAL #3
BENNETT-CATHEY WIRE LINE SERVICE
Box 787 Artesia, N.M. 88210 (505) 748-3354





BENNETT-CATHEY WIRE LINE SERVICE

P. O. BOX 787
ARTESIA, NEW MEXICO 88210
Phone (505) 746-3281



BOTTOM HOLE PRESSURE SURVEY REPORT

OPERATOR MERCURY EXPLORATION COMPANY
LEASE M & M FEDERAL
WELL NO. #3
POOL FORMATION ABO
DATE 10-5-84 TIME 0947 HOUR
CO. MAN RONNIE SCARBOROUGH
STATUS SHUT IN TEST DEPTH 3021 FEET
TIME S.I. 0850 HOUR LAST TEST DATE 1ST TEST
10-2-84 BHP LAST TEST
TUB. PRES. 887.2# BHP CHANGE
CAS. PRES. FLUID TOP
DATUM PLANE WATER TOP
DATUM PSIA 962.2# RUN BY TIM SHANNON
TEMP 84° CLOCK # B-3443
PRESSURE RANGE 3850 LBS.
ELEMENT NO. RPG3#17772

DEPTH	PSIA PRESSURE	LBS/100 FT. GRADIENT
0	887.2	
1000	914.2	2.7
2000	935.2	2.1
2871	957.2	2.5
3021	962.2	3.3

TIME B.H.P. MEASURED 0947 HOUR.

LENGTH OF TIME WELL SHUT IN 72HR 57MIN.

PERFORATIONS FROM 3012 TO 3034 FEET.

800 900 1000

