



TONEY ANAYA
GOVERNOR

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE

1000 RIO BRAZOS ROAD
AZTEC, NEW MEXICO 87410
(505) 334-6178

October 5, 1983

Cotton Petroleum Corporation
717 Seventeenth Street, Suite 2200
Denver Co 80202

Re: Administrative Order DHC 3-1 Revised

Gentlemen:

In accordance with the provisions of Division Order R-6564,
approval is hereby granted for the commingling of the below
listed zones within the wellbore of your Apache #25, A-24-
28N-4W.

Allocation of production from the well shall be on the follow-
ing basis:

Pictured Cliffs	75% of the gas
Chacra	25% of the gas

This order may be rescinded if waste or reservoir damage
results, or if conditions render the installation no longer
eligible for downhole commingling.

Sincerely,

Frant T. Chavez
District Supervisor

FTC/lh

cc: Santa Fe
El Paso Natural Gas



BRUCE KING
GOVERNOR
LARRY KEHOE
SECRETARY

OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE

1000 RIO BRAZOS ROAD
AZTEC, NEW MEXICO 87410
(505) 334-6178

March 4, 1981

Cotton Petroleum Corporation
717 Seventeenth Street, Suite 2200
Denver, Colorado 80202

Administrative Order No. DHC 3-1

Gentlemen:

In accordance with the provisions of Division Order No. R-6564 approval is hereby granted for the commingling of the below listed zones within the wellbore of your Apache #25, A-24-24N-4W.

Allocation of production from the well shall be on the following basis:

Pictured Cliffs	25% of the gas
Chacra	75% of the gas

This order may be recinded by the Division Director if waste or reservoir damage results, or if conditions render the installation no longer eligible for downhole commingling.

Yours truly,

Frank T. Chavez
District Supervisor

xc: Mr. Richard Stamets, Oil Conservation Division, Santa Fe
El Paso Natural Gas Company

FTC:no

Cotton Petroleum Corporation

A United Energy Resources, Inc. Company

717-17th Street Energy Center One—Suite 2200, Denver, Colorado 80202 (303) 893-2233



February 25, 1981

Mr. Frank Chavez
District Engineer
New Mexico Oil Conservation
Commission
1000 Rio Brazos Road
Aztec, NM 87401



Dear Mr. Chavez:

The following well information is that which is required for downhole commingling of the Chacra and Pictured Cliffs Formation, under Rule 2, Paragraphs A-F, of NMOCD Order No. R-6564.

Paragraph A)

Cotton Petroleum Corporation
717 17th Street, Suite 2200
Denver, Colorado 80202

Paragraph B)

Apache #25
790' FEL & 790' FNL, Section 24-T24N-R4W
Pools to be commingled; Chacra and Pictured Cliffs

Paragraph C)

Copies of open hole logs, see Attachment No. 1

Paragraph D)

Wellbore sketches, see Attachment No. 2

Paragraph E)

Flow test and pressure, see Attachment No. 3

Paragraph F)

Formula for the allocation of production:

$$\frac{\text{Commingled flow rate} - \text{single zone flow rate}}{\text{Commingled flow rate}} \times 100$$

Single zone flow rate: Chacra, 166 MCFD
Commingled flow rate: Picture Cliffs, 653 MCFD

Mr. Frank Chavez
February 25, 1981
Page 2

Picture Cliffs allocation = $\frac{653 \text{ MCFD} - 166 \text{ MCFD}}{653 \text{ MCFD}} = 74.58\%$

Chacra allocation = $100 - 74.58 = 25.42\%$

If you should need any further information, please contact Mr. Dave Talbott at the letterhead address.

Sincerely,

COTTON PETROLEUM CORPORATION

D.E. Wood /dmj

D. E. Wood
Division Production Manager

DMT/tg
Attachment



Schlumberger

SIMULTANEOUS
COMPENSATED NEUTRON-
FORMATION DENSITYCOUNTY RIO ARRIBAFIELD WILDCATLOCATION APACHE #25WELL APACHE #25COMPANY COTTON PETROLEUMCOMPANY COTTON PETROLEUMWELL APACHE #25FIELD WILDCATCOUNTY RIO ARRIBA STATE NEW MEXICOLOCATION 790' FNL & 790' FWL

Other Services:

API SERIAL NO.

SEC.

TWP.

RANGE

27

24N

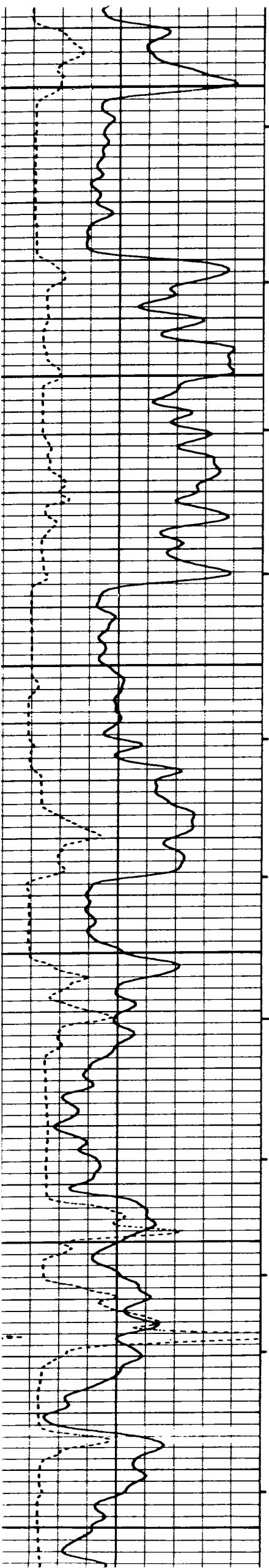
4W

Permanent Datum: GIElev. 6872Log Measured From KB

14 Ft. Above Perm. Datum

Drilling Measured From KBElev. KB 6886D.F. 6885G.I. 6872

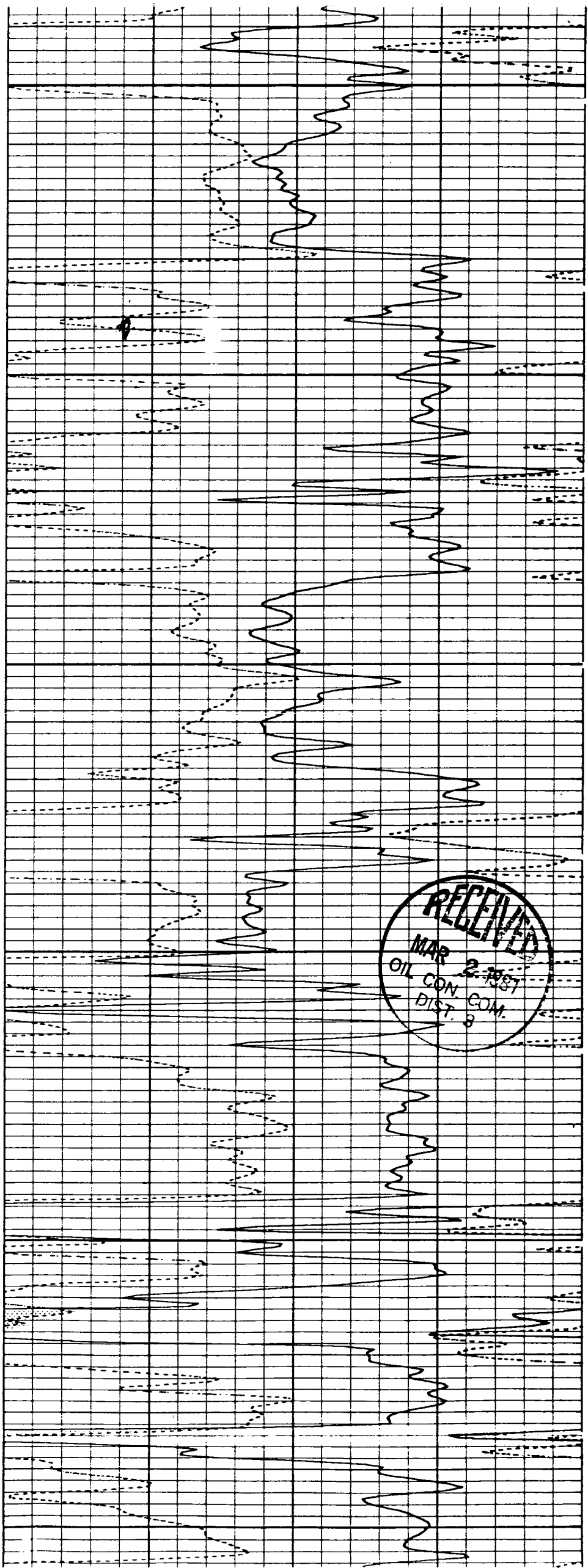
Date	12-18-80								
Run No.	ONE								
Depth-Driller	4099								
Depth-Logger	4085								
Btm. Log Interval	4082								
Top Log Interval	2047								
Casing-Driller	8 5/8 @ 375			@		@		@	
Casing-Logger	374								
Bit Size	7 7/8								
Type Fluid in Hole	GF1								
Dens.	Visc.	9.0	48						
pH	Fluid Loss	9.0	4.4ml		ml		ml		ml
Source of Sample	FLOWLINE								
Rm @ Meas. Temp.	1.53 @ 61 °F			@	°F	@	°F	@	°F
Rmf @ Meas. Temp.	1.24 @ 61 °F			@	°F	@	°F	@	°F
Rmc @ Meas. Temp.	@ °F			@	°F	@	°F	@	°F
Source: Rmf	Rmc	MEAS							
Rm @ BHT	.79 @ 118 °F			@	°F	@	°F	@	°F
Circulation Stopped	1900								
Logger on Bottom	2300								
Max. Rec. Temp.	118 °F				°F		°F		°F
Equip.	Location	8206	FARM						
Recorded By	JOHNSON/BAIR								
Witnessed By	ATTERBERY/TALBOTT								



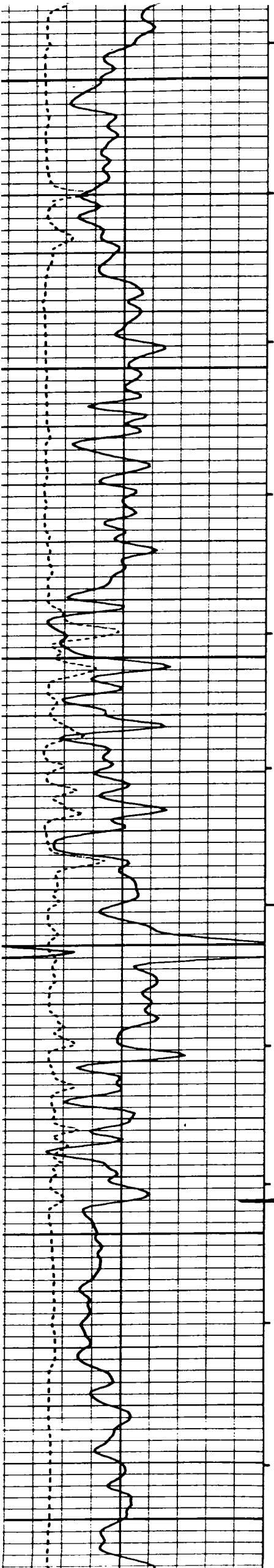
2500

2600

2700



RECEIVED
MAR 2 1987
OIL CON. COM.
DIST. 8

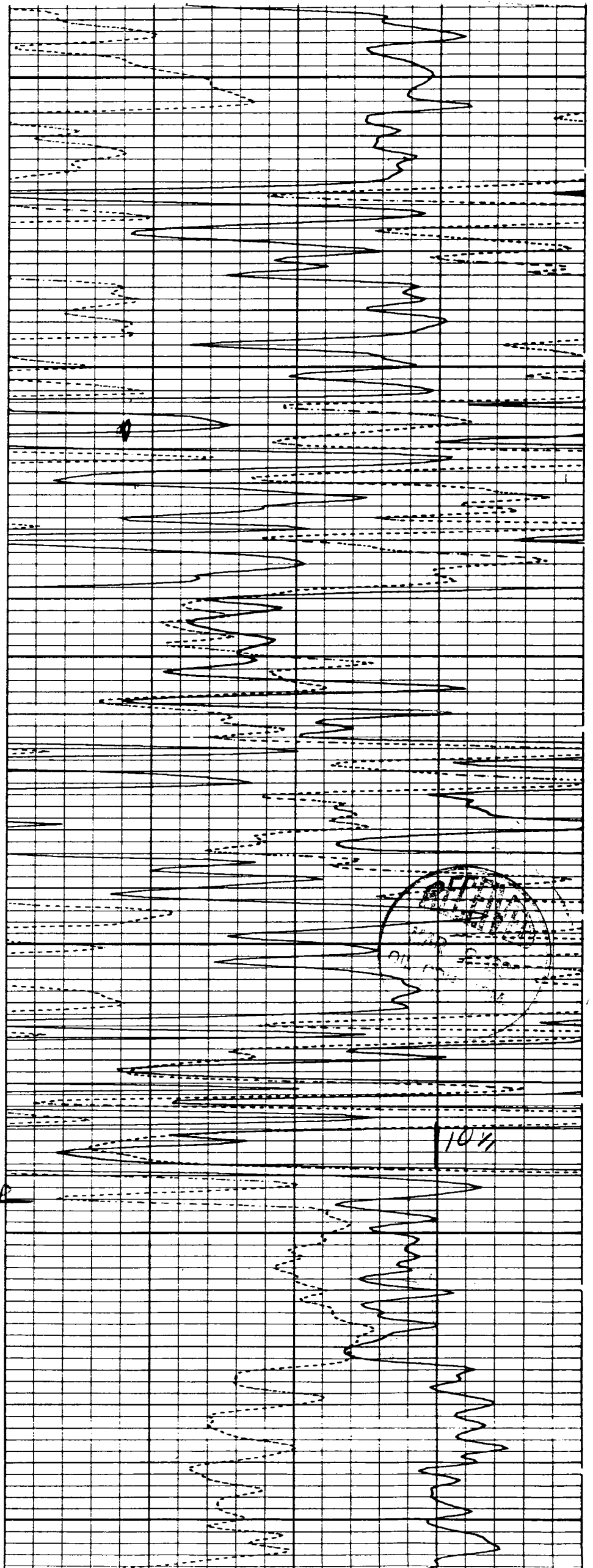


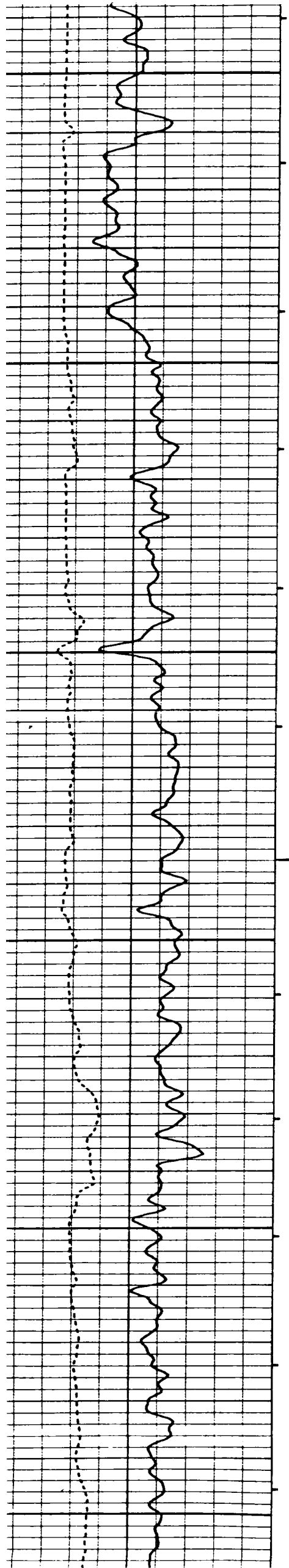
2800

2900

PCTP

3000

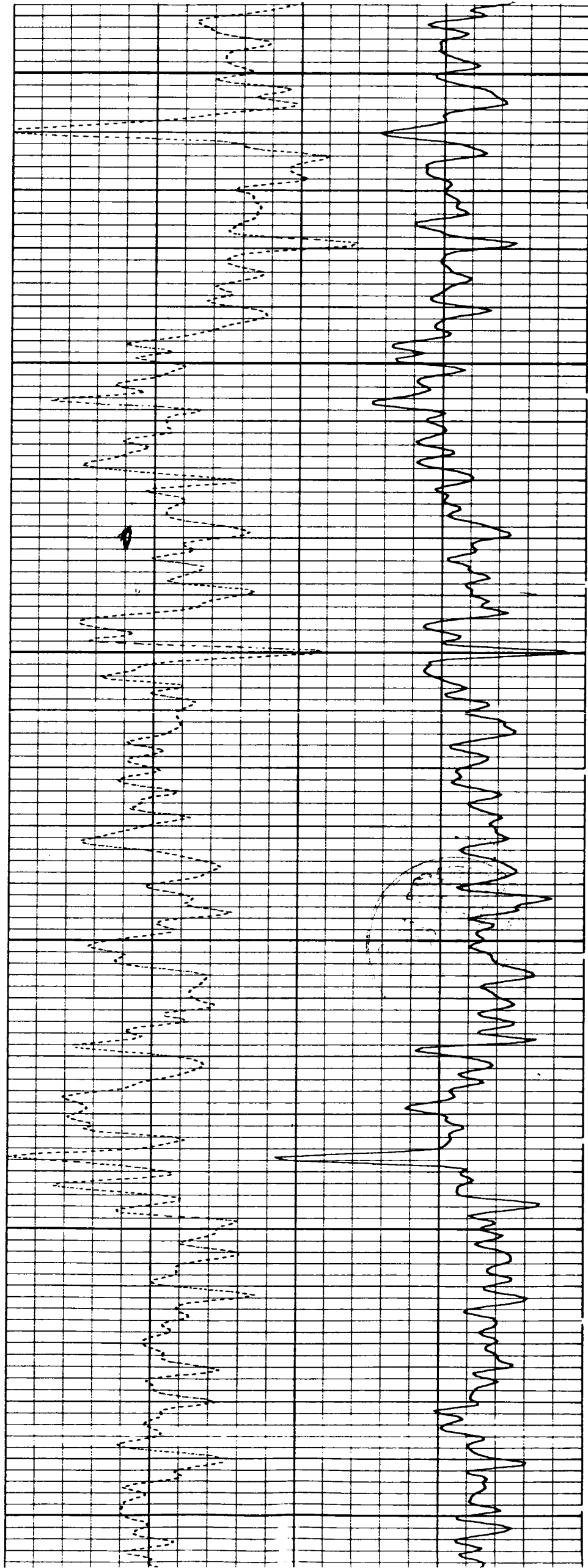


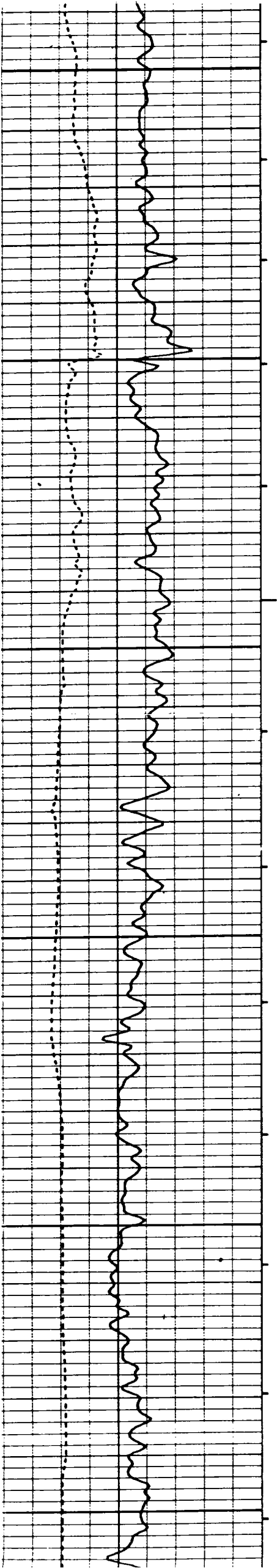


3000

3100

3200

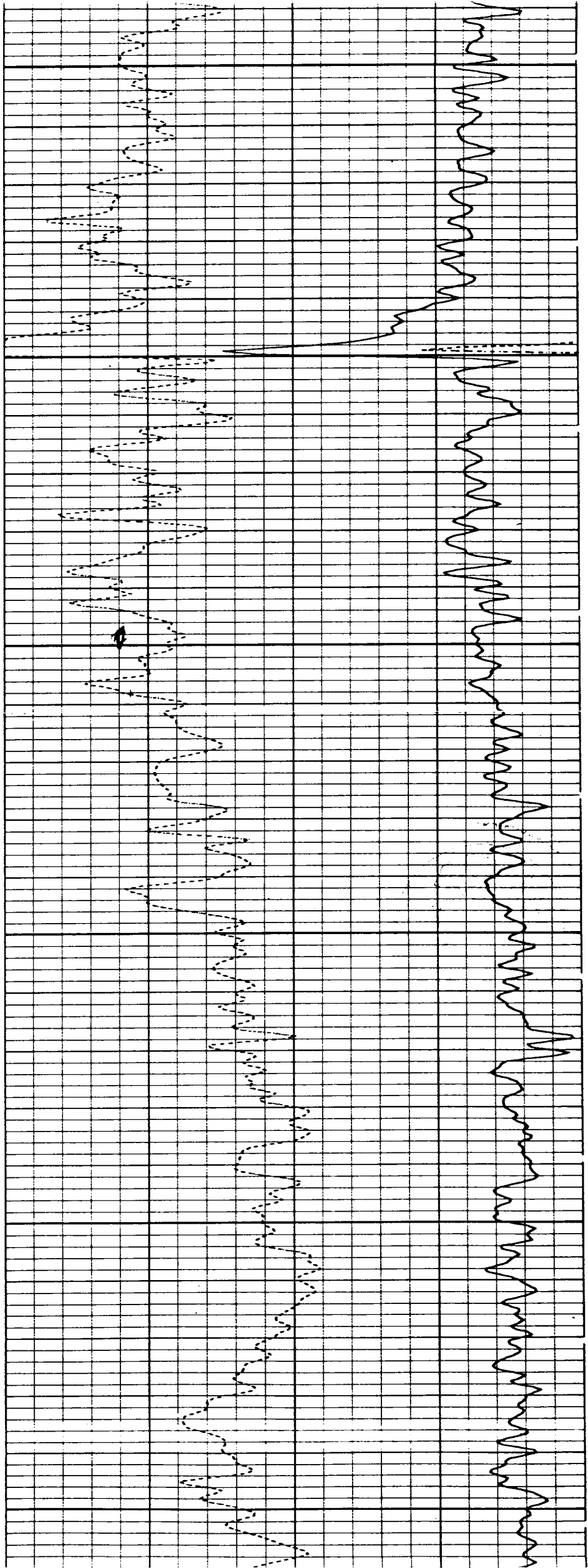


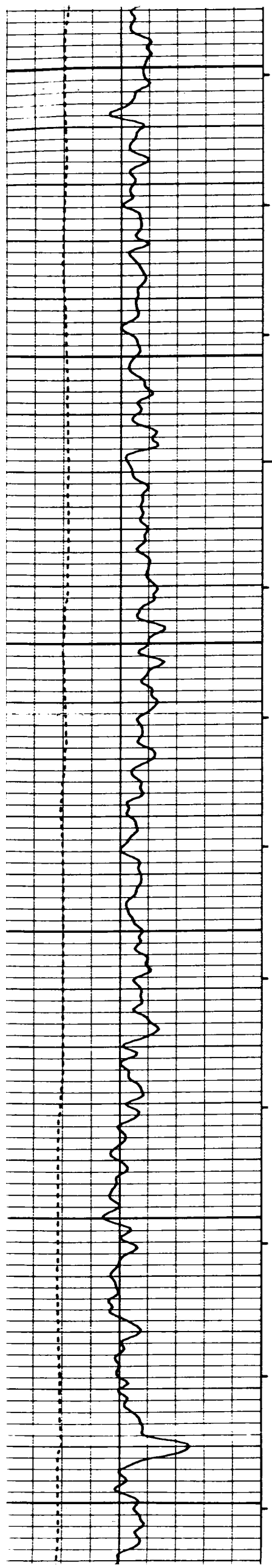


3300

3400

3500

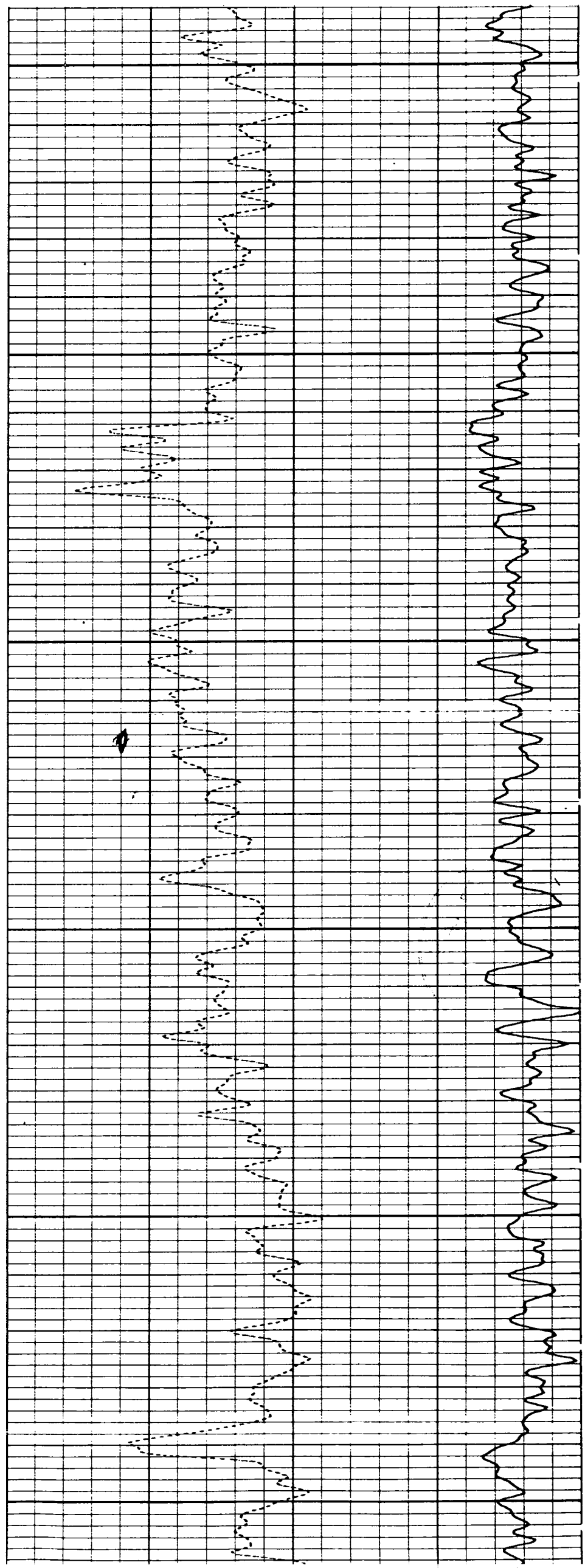




3500

3600

3700



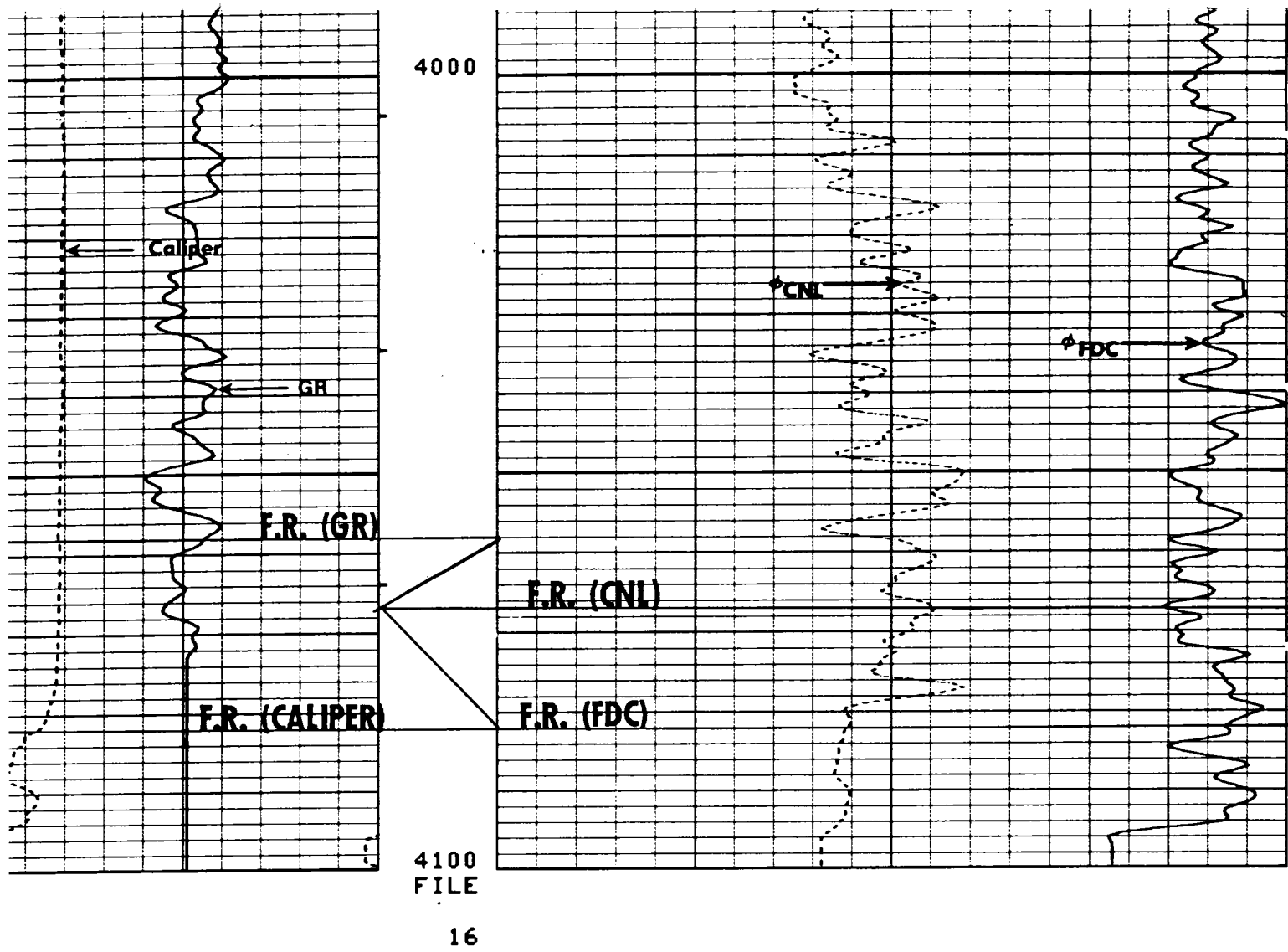
CHACRA Top

3800

3900

4000





CALI<IN >			DPHI< >		
5.000		16.00	0.4000		0.0
GR <GAPI>			NPHI< >		
1.0		200.0	0.4000		0.0
PARAMETERS					
NAME	UNIT	VALUE	NAME	UNIT	VALUE
HC		CALI	PSNR		2.247
MDEN	G/C3	2.650	FD	G/C3	1.000
BHF		WATE			
DO		0.0	BHS		OPEN
			BS	INCH	7.875
			MATR		SAND
			FPHI		PHIX



PARAMETERS					
NAME	UNIT	VALUE	NAME	UNIT	VALUE
HC		CALI	PSNR		2.247
MDEN	G/C3	2.650	FD	G/C3	1.000
BHF		WATE			
DO		0.0	BHS		OPEN
			BS	INCH	7.875
			MATR		SAND
			FPHI		PHIX

CALI<IN >			DPHI< >		
5.000		16.00	0.4000		0.0
GR <GAPI>			NPHI< >		
1.0		200.0	0.4000		0.0

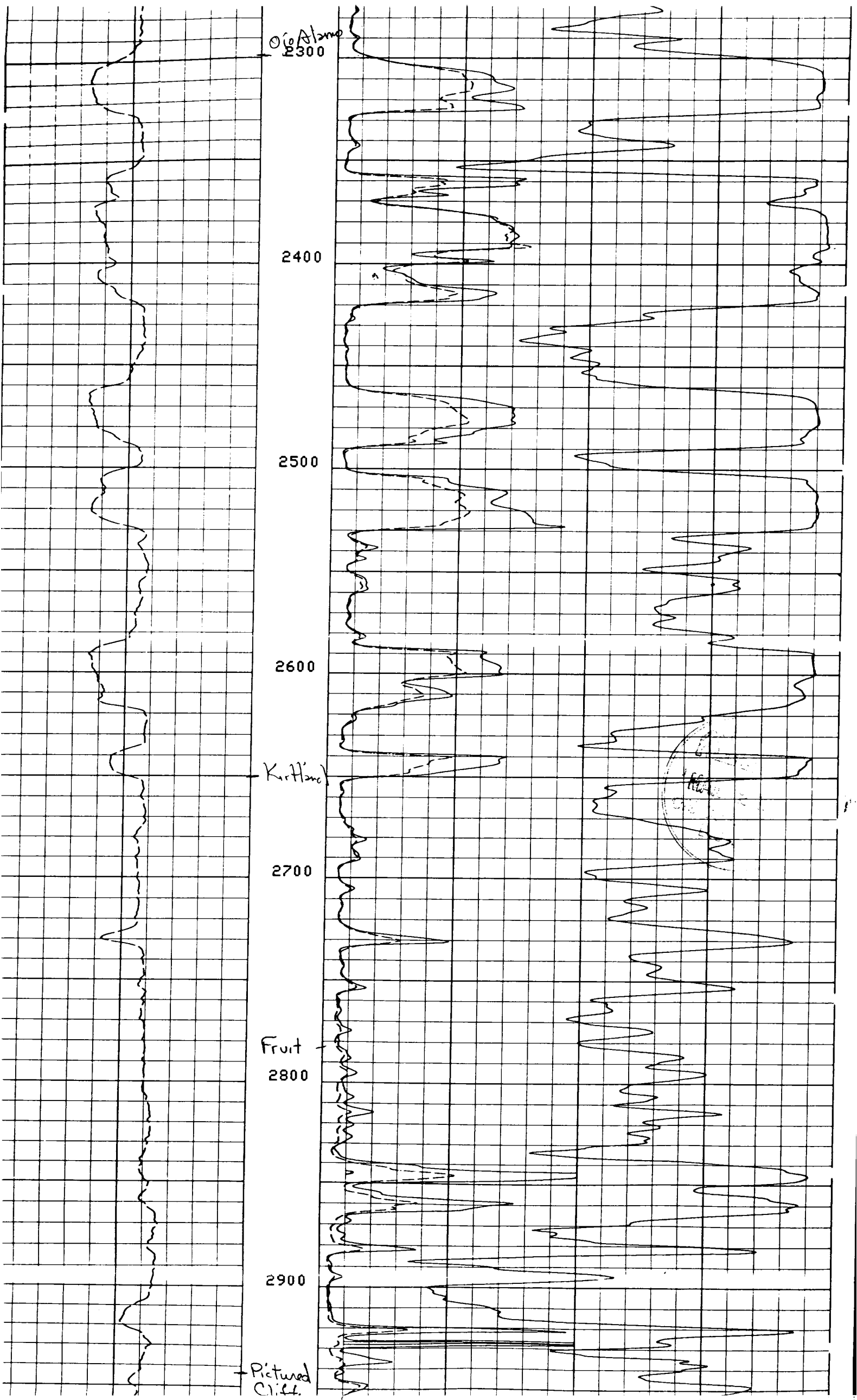


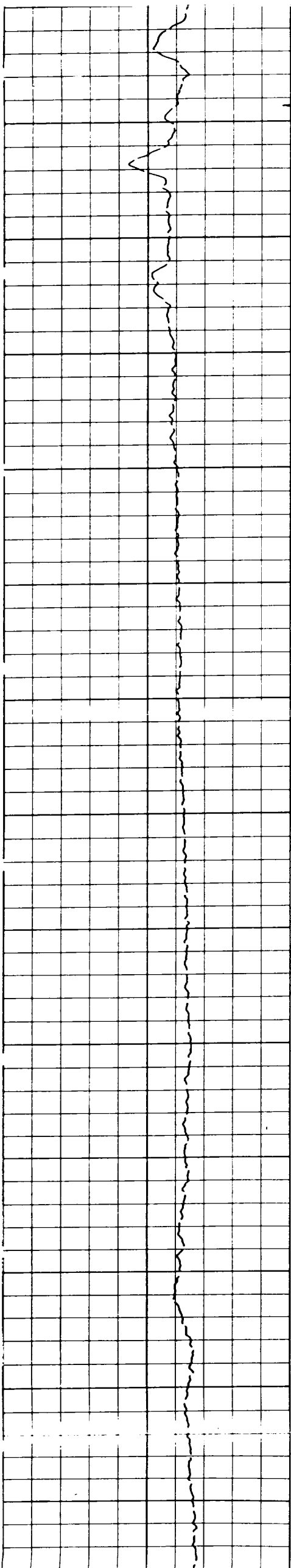
INDUCTION SPHERICALLY FOCUSED LOG

COUNTY	FIELD	LOCATION	WELL	COMPANY	COMPANY <u>COTTON PETROLEUM</u>			
					WELL <u>APACHE #25</u>			
					FIELD <u>WILDCAT</u>			
					COUNTY <u>RIO ARriba</u> STATE <u>NEW MEXICO</u>			
					LOCATION 790 FNL 790 FNL		Other Services: FDX/CNL/GR CyberLook	
					API SERIAL NO	SEC 24	TWP 24N	RANGE 4W
Permanent Datum: <u>GL</u> , Elev.: <u>6872</u>					Elev.: K.B. <u>6886</u>			
Log Measured From: <u>KB</u> <u>14</u> Ft. Above Perm. Datum					D.F. <u>6885</u>			
Drilling Measured From: <u>KB</u>					G.L. <u>6872</u>			
Date	<u>18 DEC 80</u>							
Run No.	<u>ONE</u>							
Depth-Driller	<u>4099</u>							
Depth-Logger (Schl.)	<u>4086</u>							
Btm. Log Interval	<u>4080</u>							
Top Log Interval	<u>374</u>							
Casing-Driller	<u>856 @ 375</u>			(a)	(a)	(a)		
Casing-Logger	<u>374</u>							
Bit Size	<u>7 7/8</u>							
Type Fluid in Hole	<u>GEL</u>							
Dens.	Visc.	<u>9.0</u> <u>48</u>						
pH	Fluid Loss	<u>9.0</u> <u>4.4 ml</u>			ml	ml	ml	
Source of Sample	<u>FLOWLINE</u>							
Rm @ Meas. Temp.	<u>1.53 @ 61 F</u>			(a)	F	(a)	F	
Rmf @ Meas. Temp.	<u>1.24 @ 61 F</u>			(a)	F	(a)	F	
Rmc @ Meas. Temp.	<u>— @ — F</u>			(a)	F	(a)	F	
Source: Rmf	Rmc	<u>MEAS</u> <u>—</u>						
Rm @ BHT	<u>.79 @ 118 F</u>			(a)	F	(a)	F	
Circulation Stopped	<u>1900 @ 1278</u>							
Logger on Bottom	<u>2900 @ 17-18</u>							
Max. Rec. Temp.	<u>118 F</u>				F	F	F	
Equip.	Location	<u>8206 FARM</u>						
Recorded By	<u>A. JOHNSON / S. BAIR</u>							
Witnessed By	<u>MR. ATTERBERY / MR. TALBOTT</u>							

The well name, location and borehole reference data were furnished by the customer.

FOLD HERE





Pictured
Cliffs

3000

Lewis

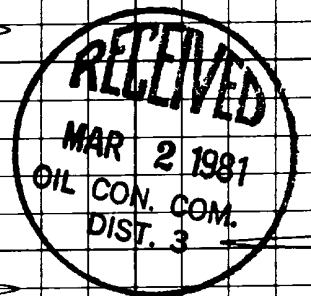
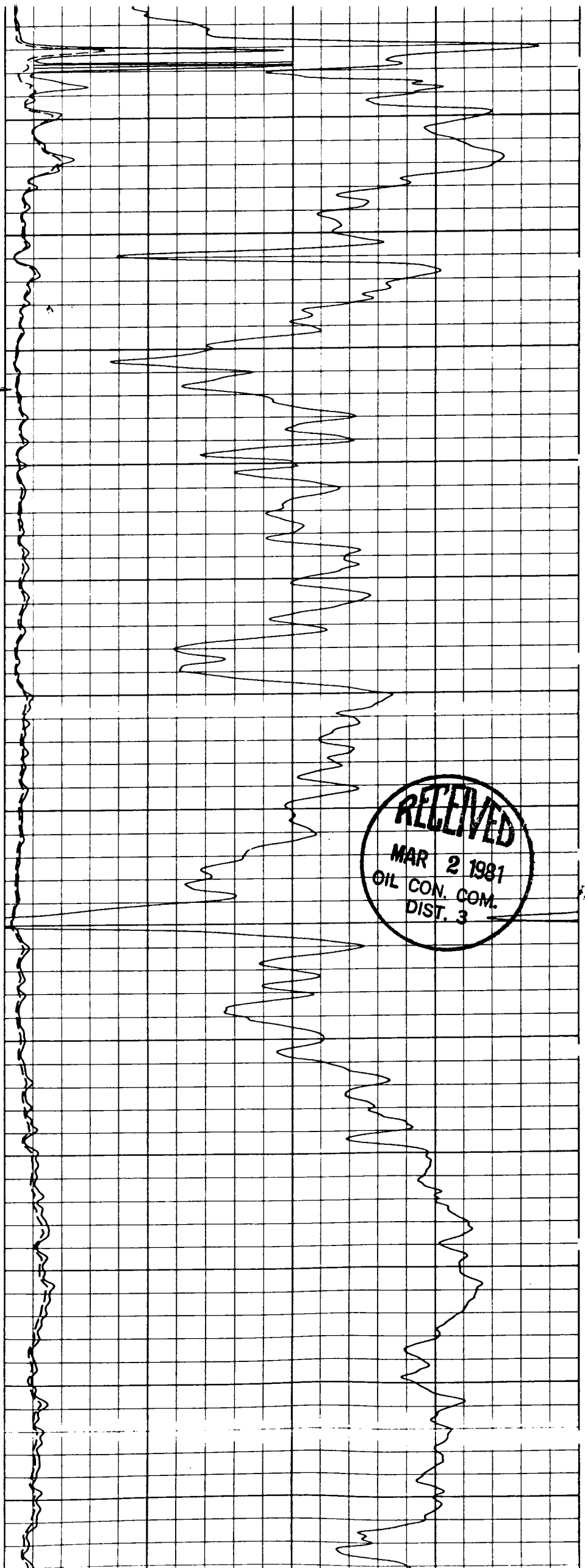
3100

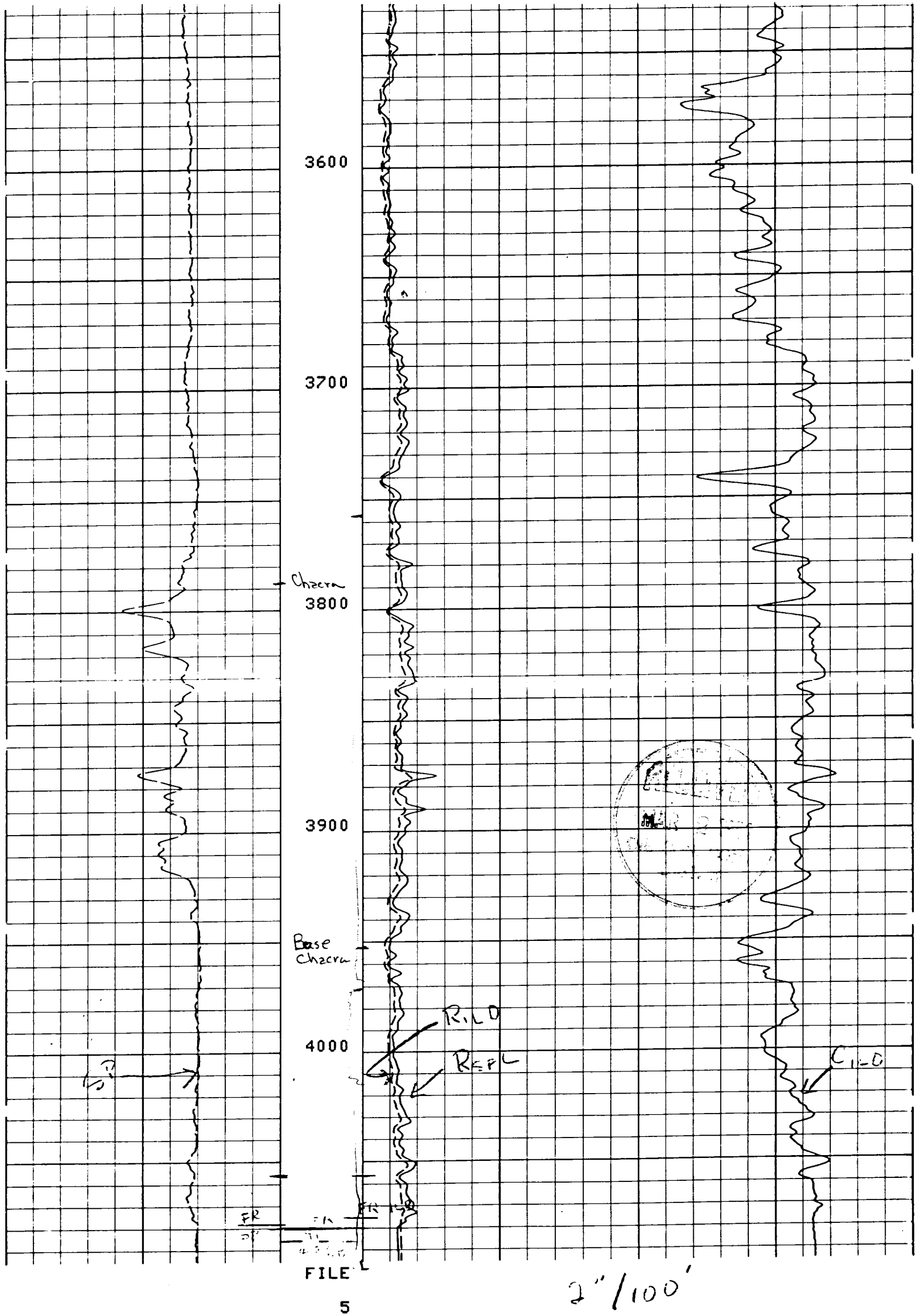
3200

3300

3400

3500





SP (MV)		ILD (DHMM)	
		0.0	100.0
-100.0		SFLA (DHMM)	
		0.0	100.0
0.0		CILD (MM/M)	
400.0		0.0	

APACHE #25



COTTON
PETROLEUM
CORPORATION

COMPLETION
SKETCH

WELL NAME: Apache #25 DFP:
LOCATION: 790' FEL & 790' FNL, Sec 24-T24N-R4W
FIELD: So. Blanco Picture Cliffs COUNTY: Rio Arriba STATE: New Mexico
PRDCG FM AND INTERVAL: Chacra 3798'-3916', Picture Cliffs 2949'-3026'

KB 6880'

GR 6872'

HOLE Ø
12-1/4"

376'

HOLE Ø
7-7/8"

TUBING TALLY					
SIZE	DEPTH	WT/FT	GRDE	THD	CPLG
2-3/8"	3942'	4.7#	J-55	8 RUE	
PACKER/ANCHOR:					

CEMENT TOP:

TD TBG: 3942'

PBTD: 4039'

TD: 4099'

IP:

CASING

O.D.	WT/FT	GRDE	CPLG	INTERVAL	N/U
8-5/8"	24#	K55	ST&C	0-376' KB	
4-1/2"	10.5#	K55	ST&C	0-4098' TD	

REMARKS:

PRIMARY CEMENT

100 sxs Class B 65/35 pox, 6% gel - 2-1/4# per
sx gilsonite, 310 sxs 50/50 pox, 2% gel

PERFORATION

INTERVALS	DENSITY	DESCRIPTION
Chacra -3798', 3800', 02', 14', 16', 18', 72', 74', 83', 3904', 10', 16', 1 JSPF total		12 holes
Picture Cliffs - 2949', 50', 58', 59', 62', 63', 64', 70', 71', 3016', 17', & 26', 1 JSPF total		12 holes.
REMARKS:		

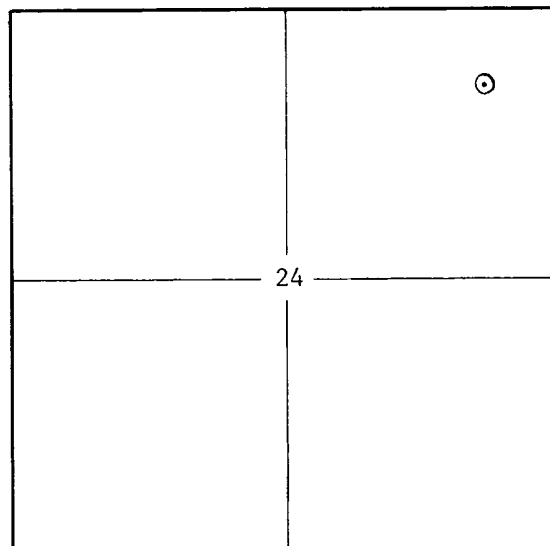
STIMULATION HISTORY

INTERVAL	FRAC FLUID	SD VOL.	DATE
Chacra	1200 gal 15% Spearhead, 80,000 gal 70Q foam	80,000	1-16-81
Picture Cliffs	1200 gal 15% Spearhead, 83,300 gal 70Q foam	98,400#	1-18-81
ORIGINAL ROD STRING			
CURRENT ROD STRING			

No. RODS	SIZE	TYPE	No. RODS	SIZE	TYPE

Picture Cliffs

Chacra



T. 24N R. 4W

200 West 25th Street
Farmington, New Mexico 87401
(505) 327-9267
(505) 325-1873 (Car 851)

632-8476

OE

LLEDGE

OIL and GAS PROPERTY MANAGEMENT

February 4, 1981

Cotton Petroleum Corporation
Apache #25
Chacra and Pictured Cliff Commingled
Rio Arriba, New Mexico

- 1-27-81: Opened commingled well to atmosphere for 24 hours. Rig up for
1-28-81: tested with a $1\frac{1}{4}$ " orifice plate and record flow volume for
last 3 hours of test. FTP= 36psi, FCP= 164 psi. Average 2 1981
meter pressure = 7psi. Rate of flow = 653 MCF/D. OIL CON. COM.
was steady with a mist of water. Shut-in to rig up DIST. 3
to install bottom hole pressure bomb. Set bomb at 3900'.
hour shut-in pressure = SITP=319 psi, SICP = 372 psi. When
bomb on bottom at $2\frac{1}{2}$ hours shut-in, SITP = 381psi, and SICP=
445 psi. Rig up 2 pen recorded and open well to atmosphere
through $1\frac{1}{4}$ " orifice plate. At the end of $1\frac{1}{2}$ hour flow with
bomb in hole, FTP = 58 psi, FCP = 186 psi, and rate of flow =
700 MCF/D. Well shut-in for pressure build up.
- 2-4-81: SITP = 0 psi, SICP = 851 psi. Pull bomb out of hole. All
requirements on flow test to commingle P.C. and Chacra comp-
lete. 7 day shut-in requirement by the state complete. Well
logged off at the end of 7 days. Opened to atmosphere and
well would not unload. Test complete. All Pressures DWT.



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

Form C-122
 Revised 9-1-65

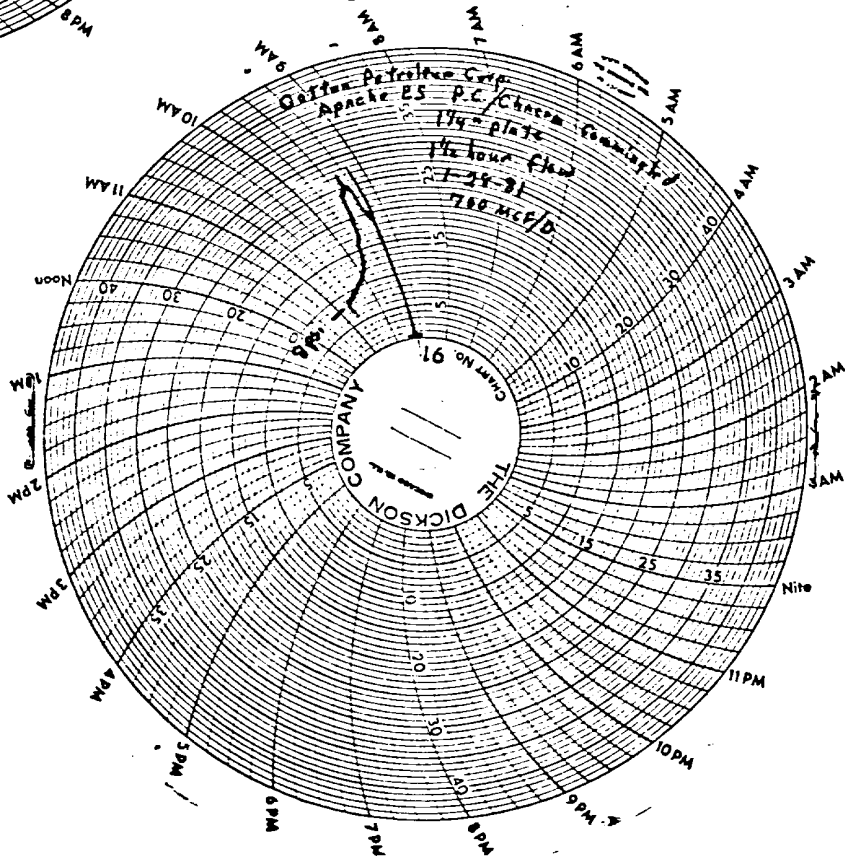
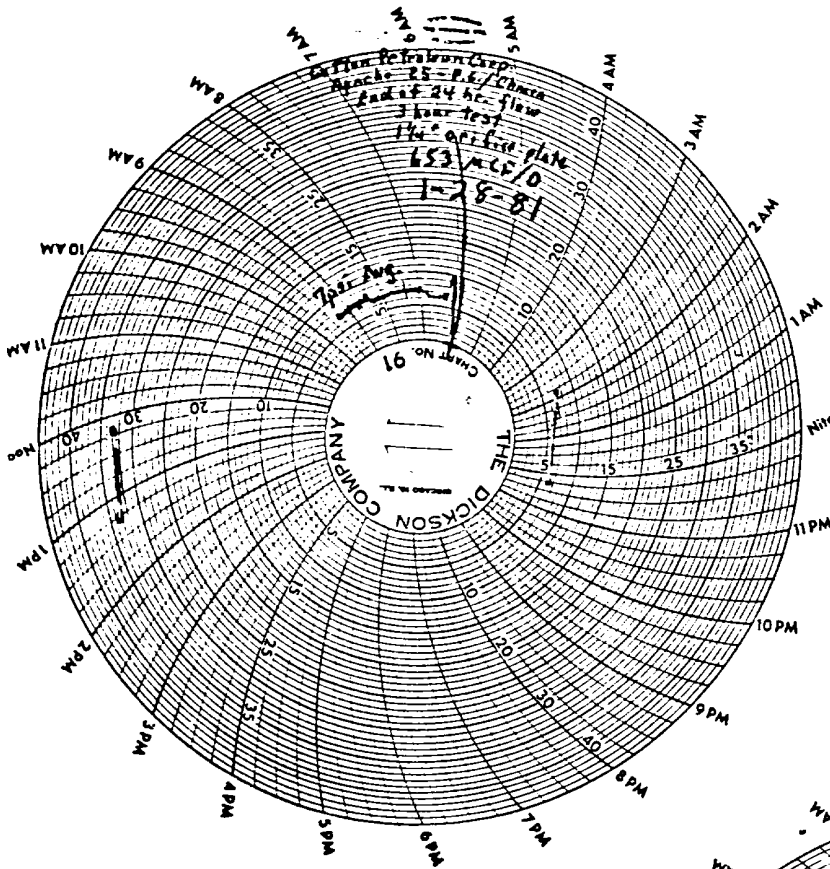
Type Test ☒ Initial ☐ Annual ☐ Special					Test Date 2-4-81	
Company Cotton Petroleum Corporation				Connection El Paso		
Pool Undesignated : So. Blanco				Formation Chacra Pictured Cliff		Unit COMINGLED
Completion Date 1-28-81		Total Depth 4098		Plug Back TD 4039		Elevation 6872
Crg. Size 4.500		Wt. 10.5	d 4.052	Set At 4098	Perforations: From 2949 To 3916	
Tqg. Size 2.375		Wt. 1.7	d 1.005	Set At 3912	Perforations: From Open To Ended	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single/comingled					Facker Set At	
Producing Thru Tubing		Reservoir Temp. °F •		Mean Annual Temp. °F •		Baro. Press. - P _a 11.5 est.
L	H	Gg	% CO ₂	% N ₂	% H ₂ S	Prover
FLOW DATA				TUBING DATA		GAS DATA
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h _w	Temp. °F
SI	7 days					
1.						
2.	*Comingled test taken only. See attachments					
3.						
4.						
5.						
RATE OF FLOW CALCULATIONS						
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor Fg	Super Compress. Factor, Fpv
1.						
2.						
3.						
4.						
5.						
NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl. A.P.I. Gravity of Liquid Hydrocarbons _____ Deg. Specific Gravity Separator Gas _____ X X X X X X X X Specific Gravity Flowing Fluid _____ X X X X X Critical Pressure _____ P.S.I.A. _____ P.S.I.A. Critical Temperature _____ R _____ R	
1.						
2.						
3.						
4.						
5.						
NO.	P ₁	P _w	P _c ²	P _c ² - P _w ²	(1) $\frac{P_c^2}{P_c^2 - P_w^2} =$ _____ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n =$ _____ AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n =$ _____	
1.						
2.						
3.						
4.						
5.						
Absolute Open Flow _____ Mcf @ 15,025					Angle of Slope θ _____ Slope, n _____	
Remarks: #1-17-81 (Isopenta test = 166 MCF/D) 1-28-81 (Comingled test = 653 MCF/D)						
Approved by Commission:		Conducted by:		Calculated by:		Checked by:

OE

LLEDGE

200 West 25th Street
Farmington, New Mexico 87401
(505) 327-9267
(505) 325-1873 (Car 851)

OIL and GAS PROPERTY MANAGEMENT



LLEDGE

