Schlumberger

FOUR—ARM HIGH RESOLUTION CONTINUOUS DIPMETER

COUNTY
FIELD
LOCATION
WELL
COMPANY

RECEIVED-PTLD
FEB 24 1982

COMPANY AMERICAN QUASAR PETROLEUM
WELL WOLVERTON 13-31
FIELD JEFFERSON (EAST ALBANY)
COUNTY MARION STATE OREGON

LOCATION	1100'S & 1800'W of NE CORNER		
API SERIAL NO	SEC. 13	TWP 10S	RANGE 3W

Other Services:
DIL/BHC
FDC/CNL/GR
CST
CIS

Permanent Datum: GL ; Elev.: 234
Log Measured From KB 11 Ft. Above Perm. Datum
Drilling Measured From KB

Elev.: K.B. 245
D.F. —
G.L. 234

Date	9/28/81			
Run No.	ONE			
Depth—Driller	4555			
Depth—Logger (Schl.)	4550			
Btm. Log Interval	4550			
Top Log Interval	893			
Casing—Driller	8 7/8 @ 895	@	@	@
Casing—Logger	893			
Bit Size	7 7/8			
Type Fluid in Hole	DRISPAC/KCL			
Dens. | Visc.	11.6 | 181	|	|	|
pH | Fluid Loss	8.0 | 4.2 ml	ml	ml	ml
Source of Sample	FLOWLINE			
Rm @ Meas. Temp.	.483 @ 86 °F	@ °F	@ °F	@ °F
Rmf @ Meas. Temp.	.368 @ 63 °F	@ °F	@ °F	@ °F
Rmc @ Meas. Temp.	1.19 @ 68 °F	@ °F	@ °F	@ °F
Source: Rmf | Rmc	M | M	|	|	|
Rm @ BHT	.362 @ 117 °F	@ °F	@ °F	@ °F
TIME Circulation Stopped	1000			
TIME Logger on Bottom	2400			
Max. Rec. Temp.	117 °F	°F	°F	°F
Equip. | Location	8128 | SAC	|	|	|
Recorded By	S. MAYER			
Witnessed By	K. MANN			

5W-1 1500-K

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

REMARKS: Service Order No. 205589 Magnetic Declination 17° E

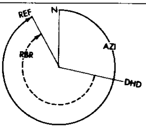
Run No.			1		2		3	4
Tool Type			HDTD					
HDP			752					
DDR	TTR		—	—				
DPI			—					
HDM								
HDE								
HDS			19					
Adapter Head			62					
UG	CG	SAH						
5" Film	10" Film	60" Record	X					
Analog	Digital			X				
TIME Circulation Stopped			1000 9/28					
TIME Schl. on Bottom			2400 9/28					

ROLL NO.	INTERVAL

TOOL AZIMUTH AND HOLE DIRECTION CALCULATION

DEFINITIONS

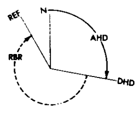
(DHD) HIGH SIDE OF TOOL = Direction from center of tool to upper side of tool.
(N) NORTH = Direction from center of tool to Magnetic North.
(REF) REFERENCE ELECTRODE = Direction from center of tool to #1 electrode.
(AZI) AZIMUTH OF REFERENCE ELECTRODE = Clockwise angle from N to REF.
(RBR) RELATIVE BEARING = Clockwise angle from DHD to REF.
(AHD) AZIMUTH OF HOLE DEV. (TOOL AXIS) = Clockwise angle from N to DHD.



LOW ANGLE UNIT ☒

EXAMPLE

HDM - Low Angle Unit (0-36°)
AZI (solid curve) = 330°
RBR (dotted curve) = 230°
AHD = AZI − RBR = 330° − 230° = 100°



HIGH ANGLE UNIT ☐

EXAMPLE

HDM - High Angle Unit (0-72°)
AHD (solid curve) = 100°
RBR (dotted curve) = 230°
AZI = AHD + RBR = 100° + 230° = 330°

All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not guarantee the accuracy or correctness of any interpretations and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our General Terms and Conditions as set out in our current Price Schedule.

DEVI(DEG)
-1.000 9.000
RB (DEG)
-40.00 360.0
AZIM(DEG)
-40.00 360.0

C2 (IN)
24.00 4.000
C1 (IN)
24.00 4.000

FILE

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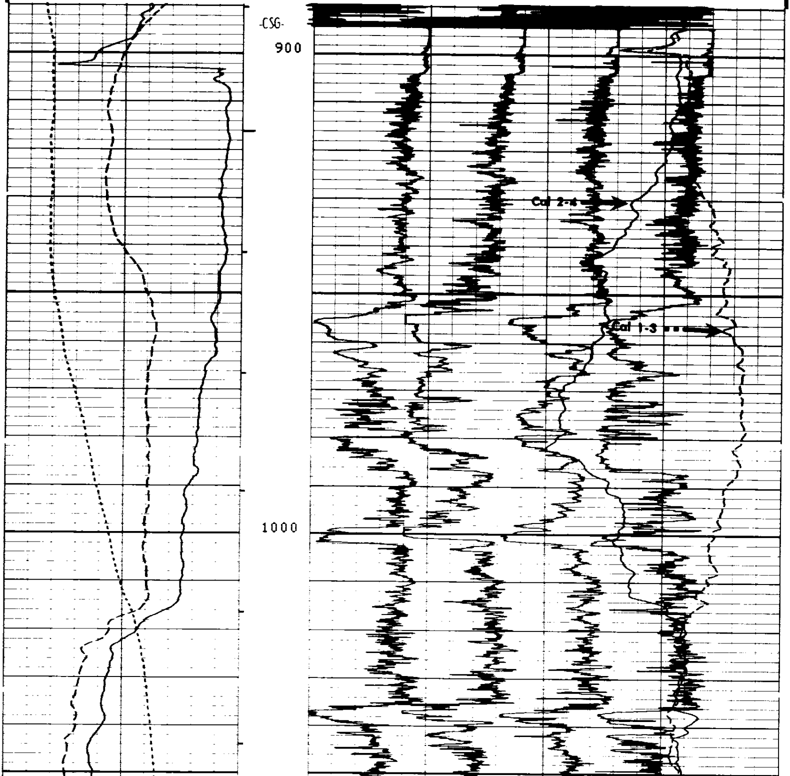

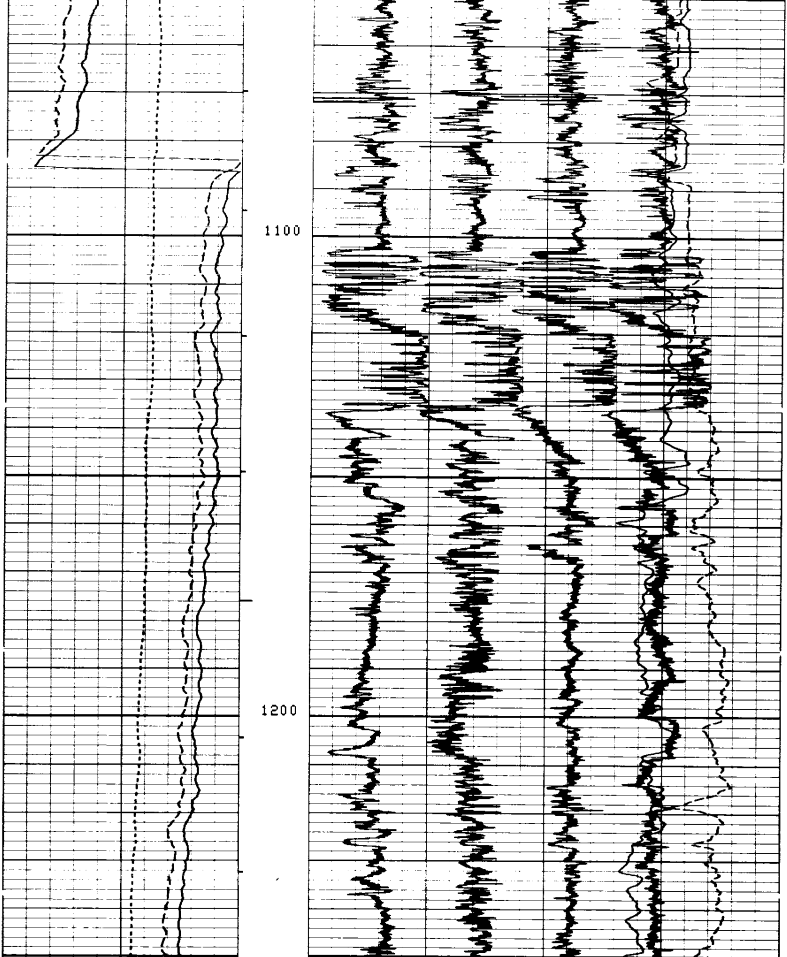

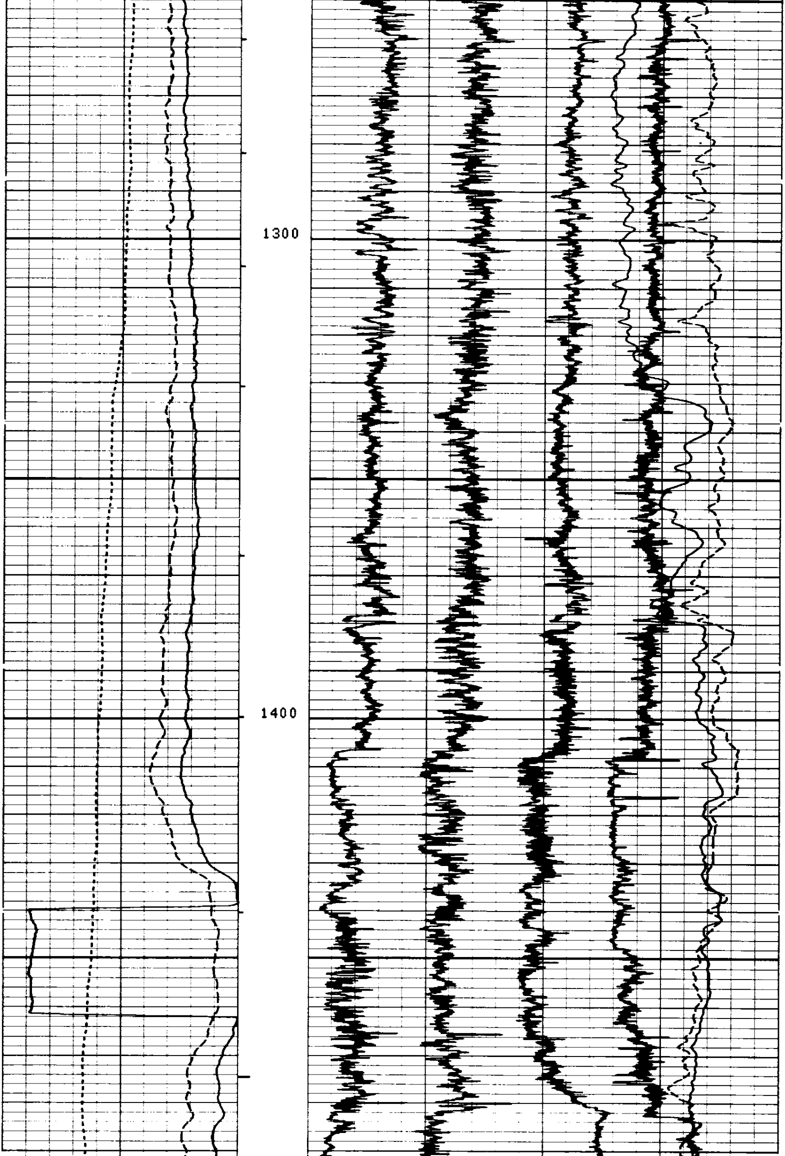

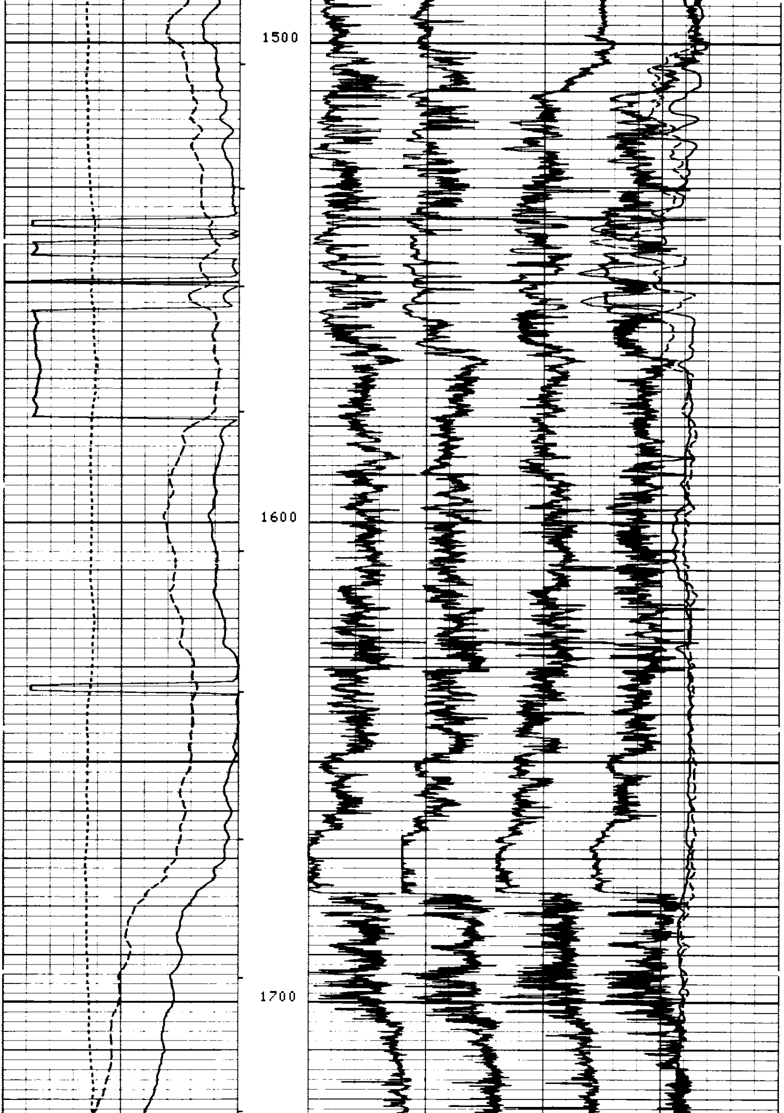

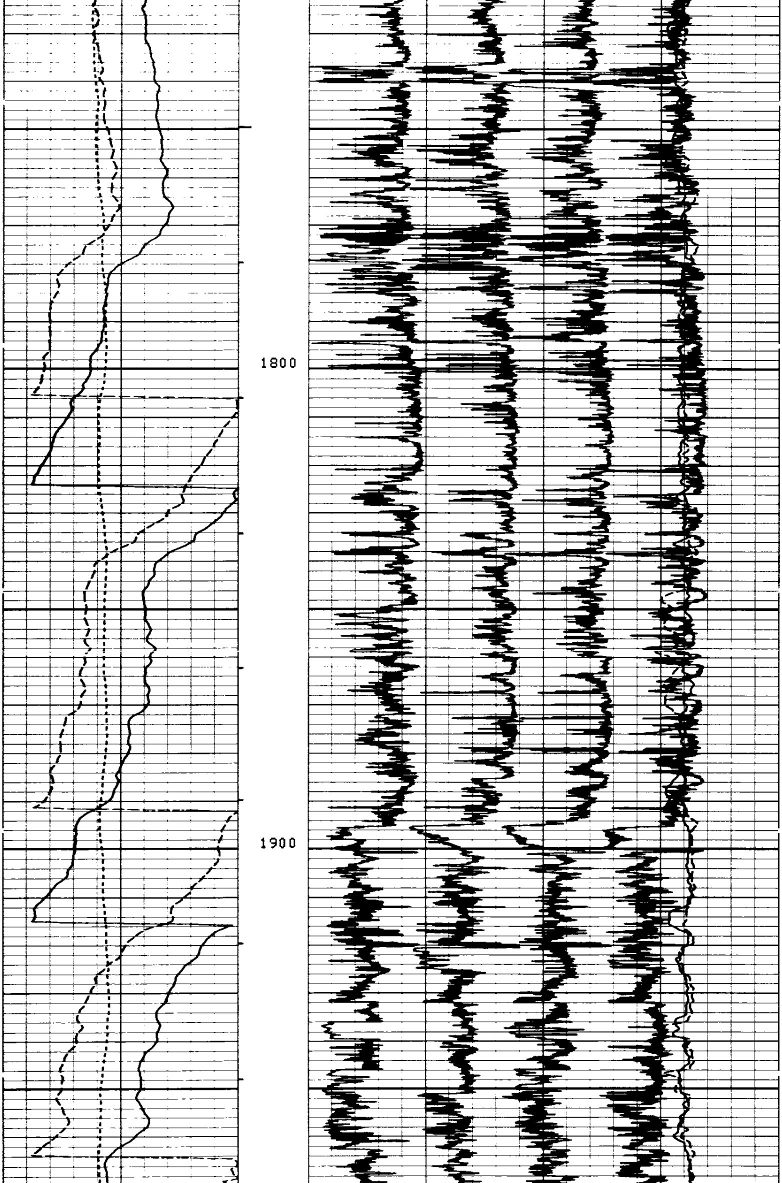

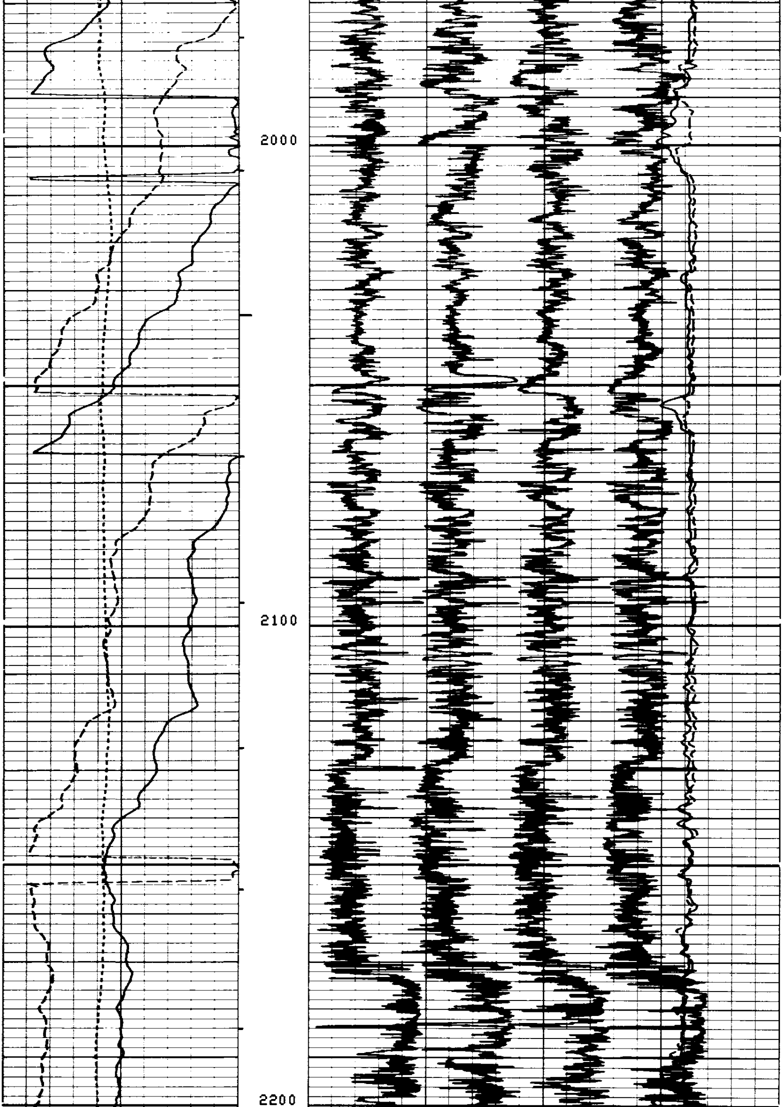

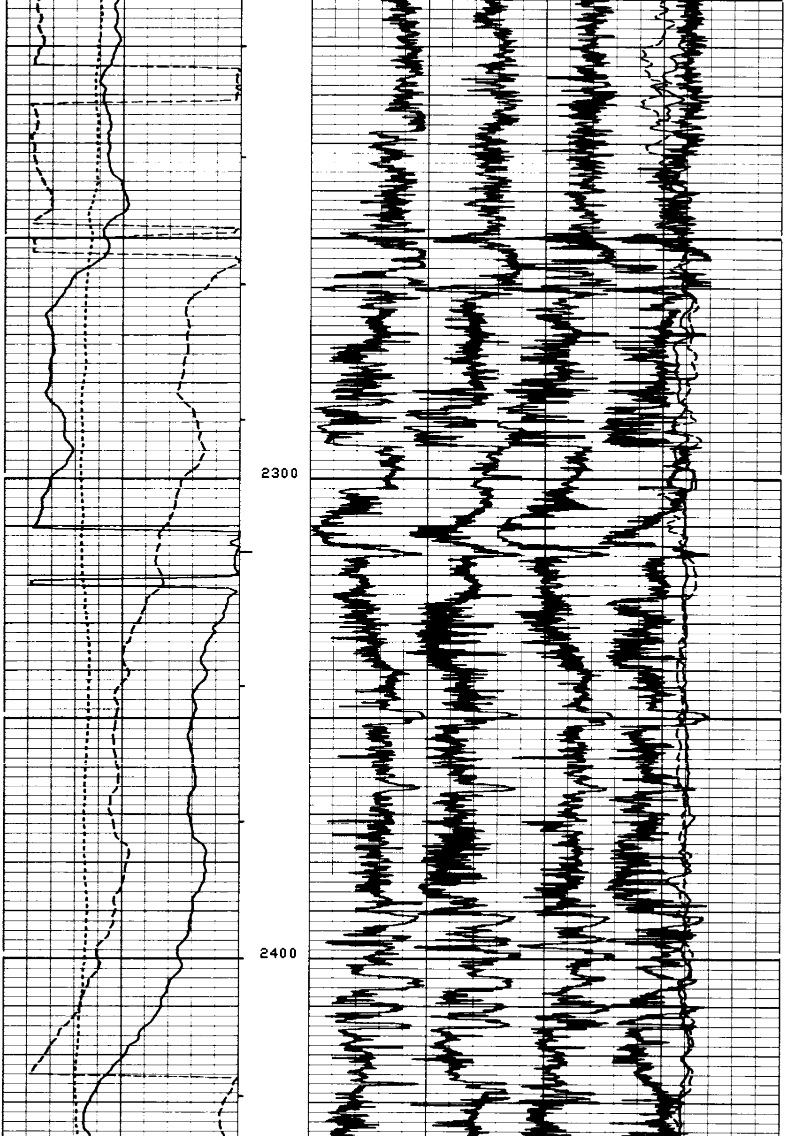

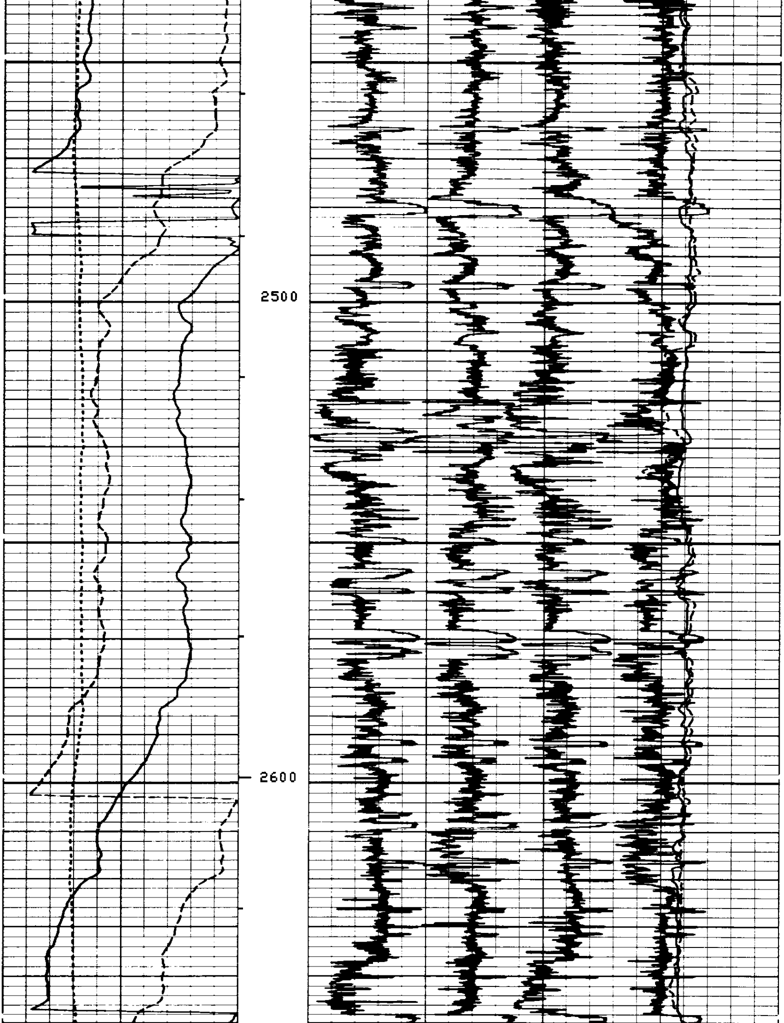

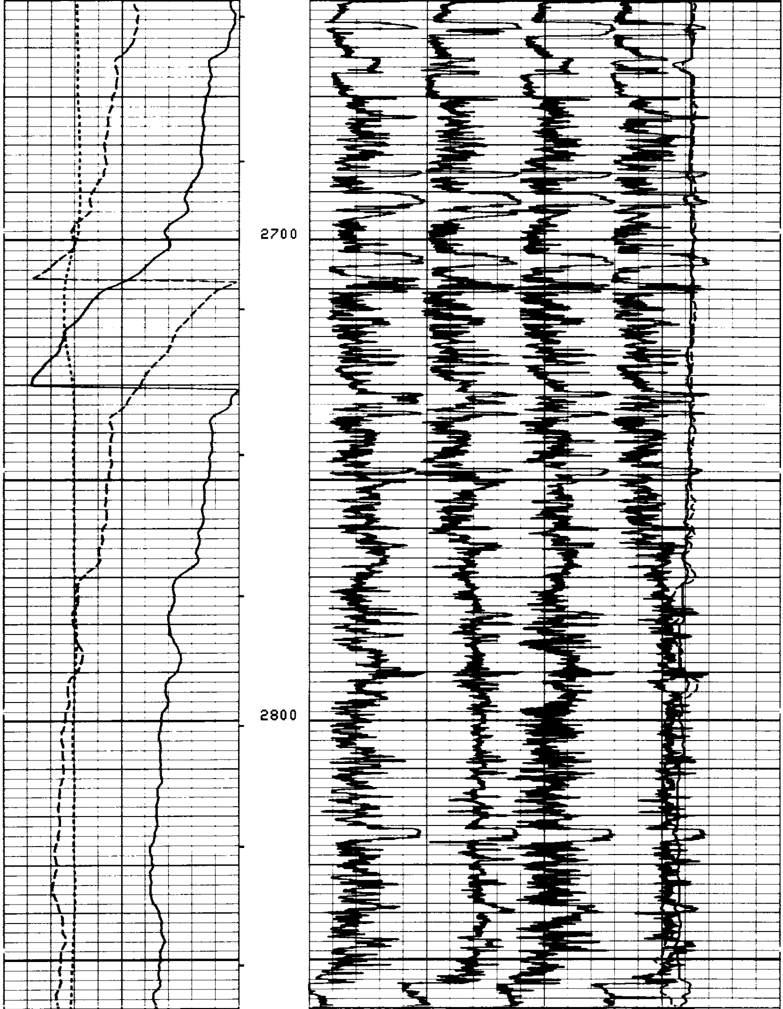

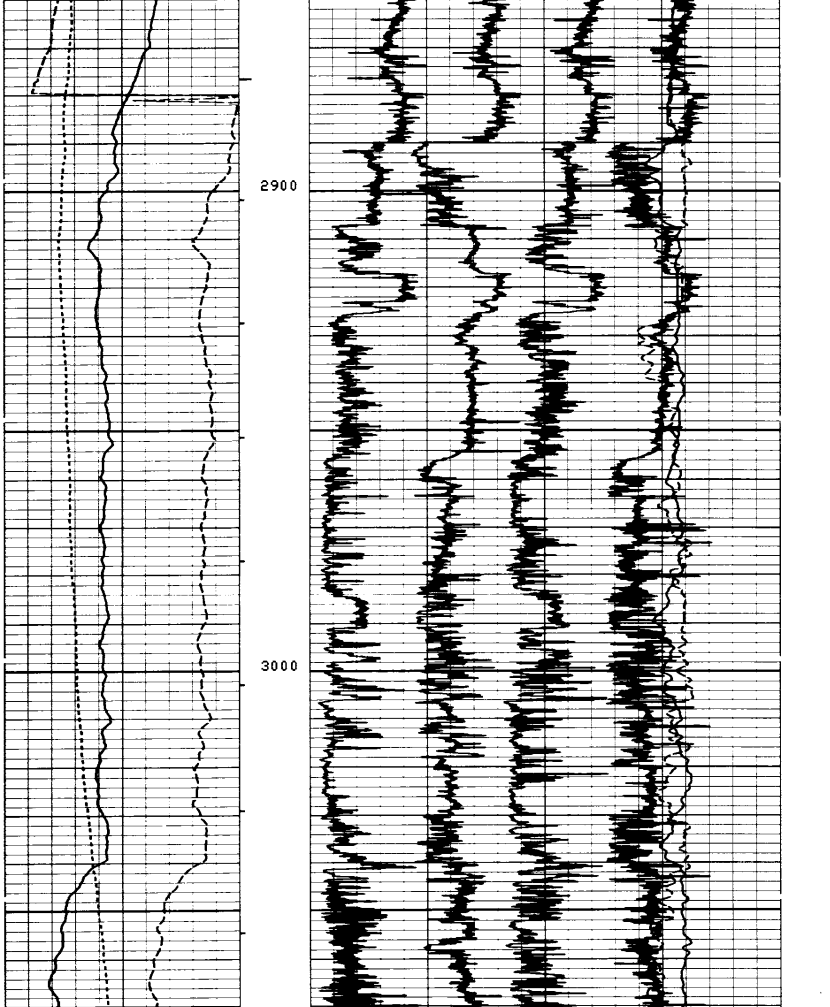

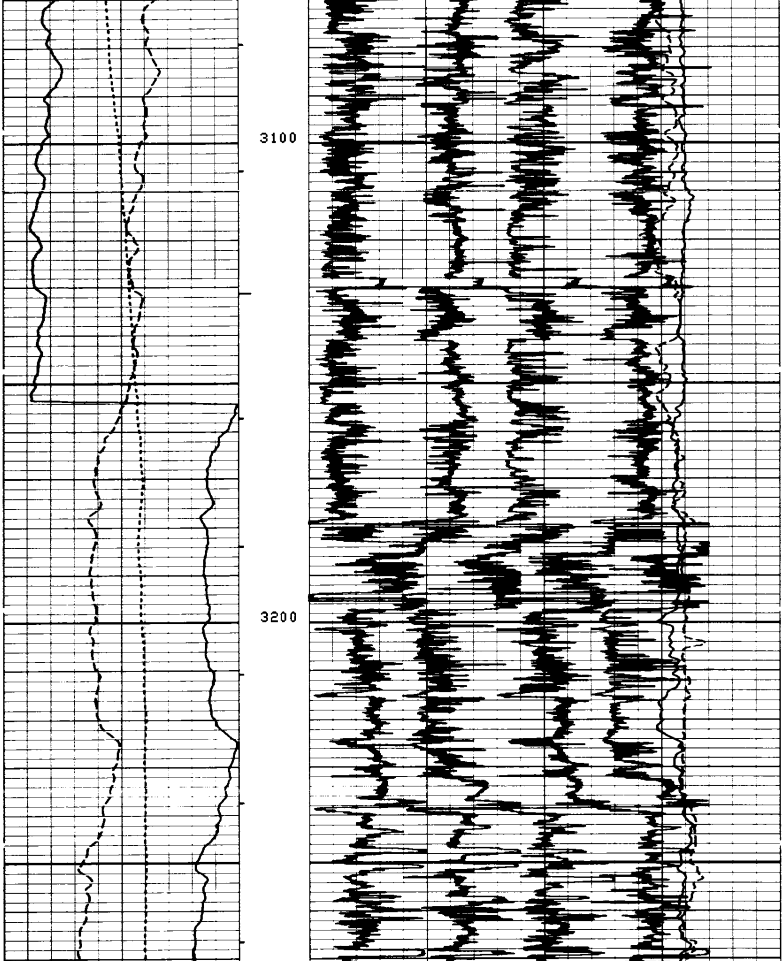

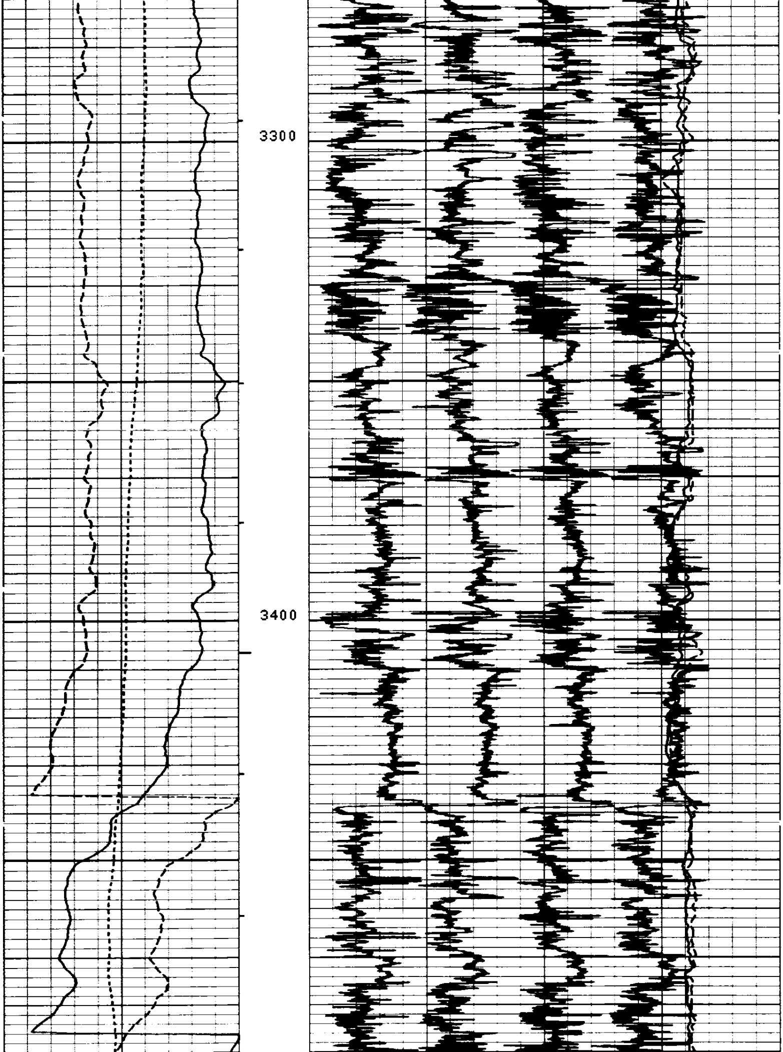

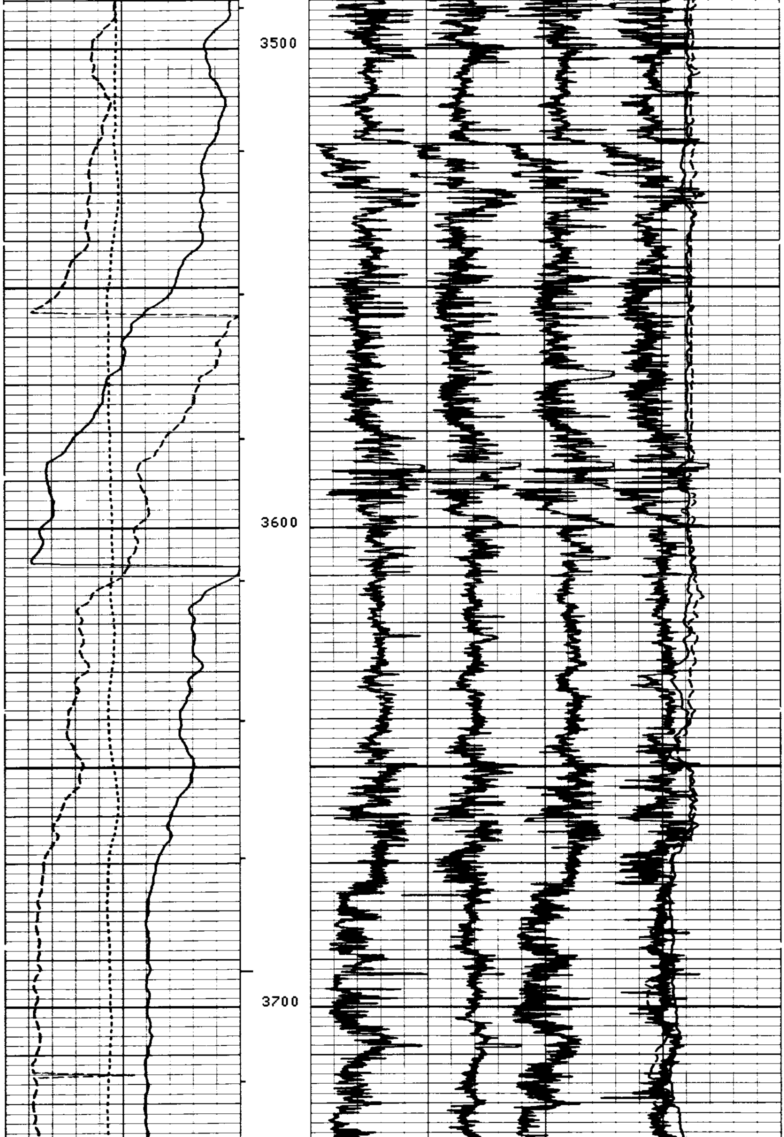

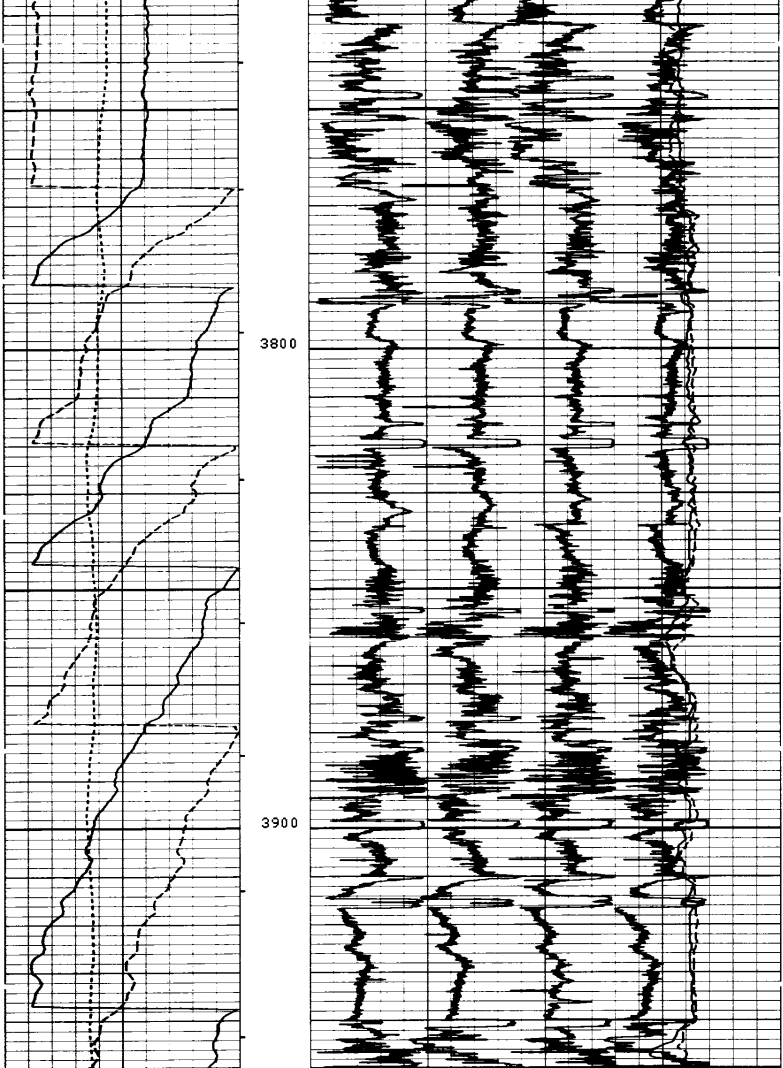

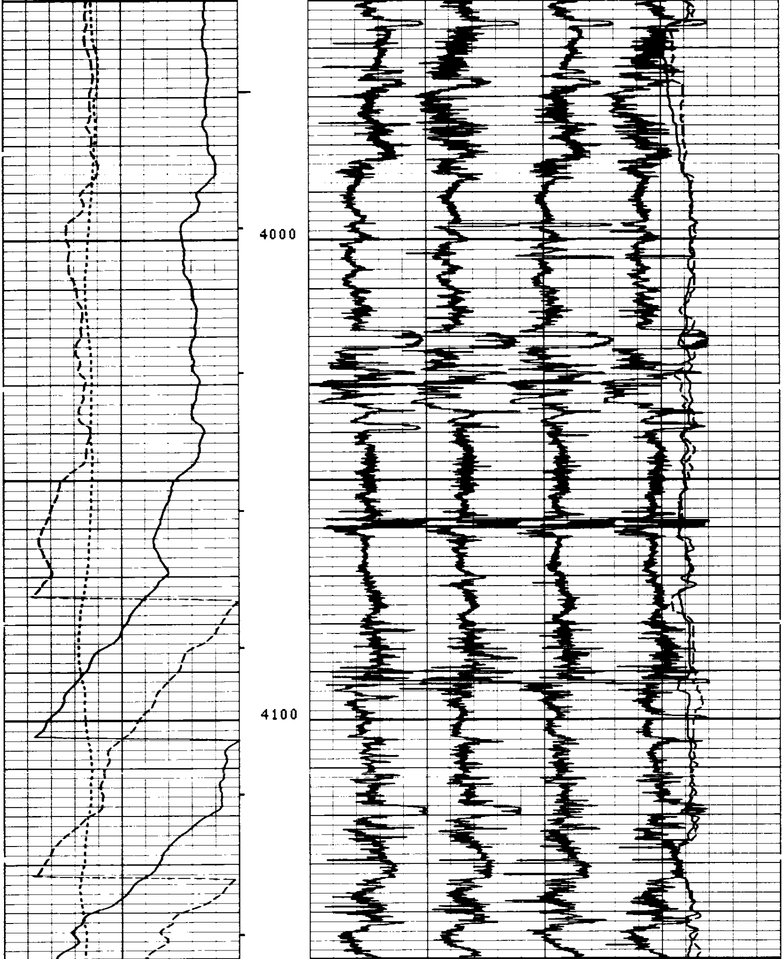

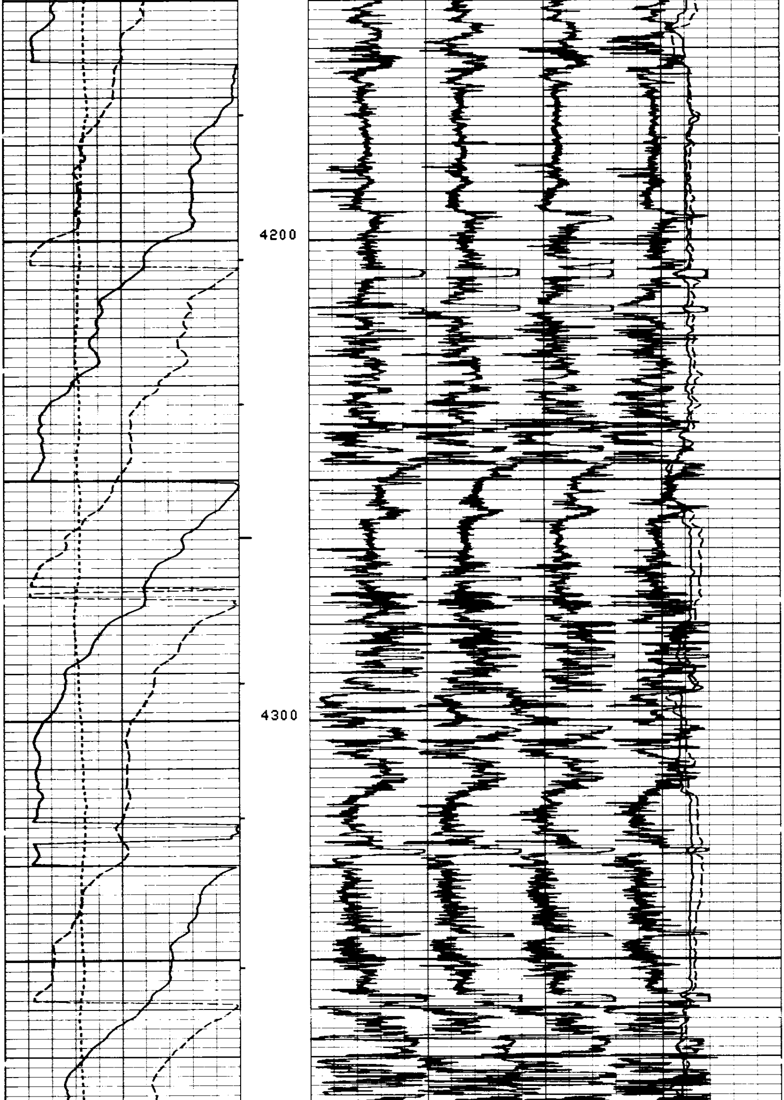

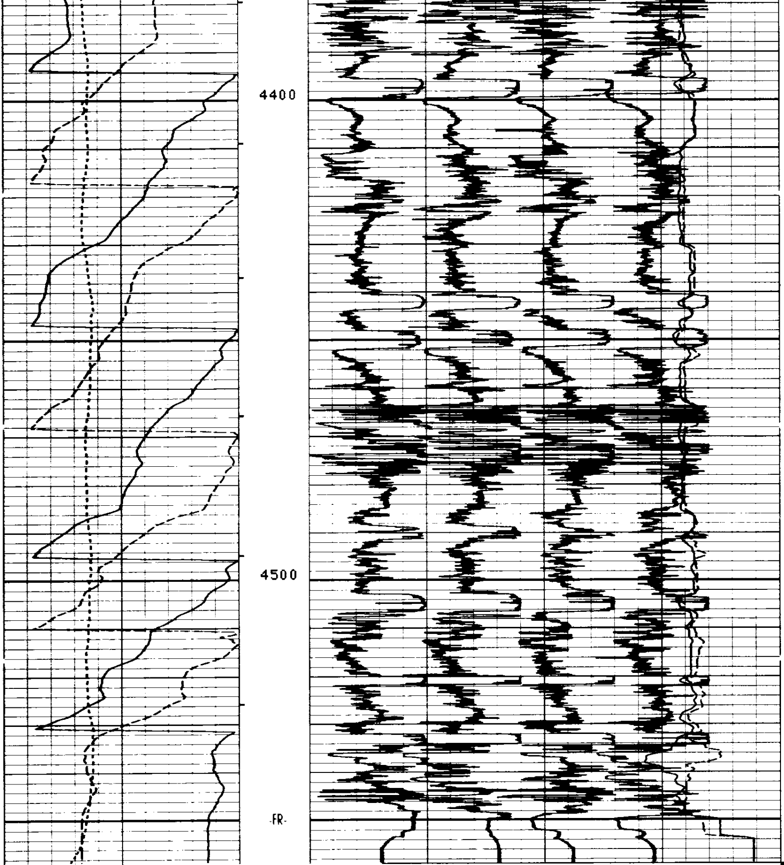

FILE

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Curve	Left	Right
DEVI(DEG)	-1.000	9.000
RB (DEG)	-40.00	360.0
AZIM(DEG)	-40.00	360.0
C2 (IN)	24.00	4.000
C1 (IN)	24.00	4.000

SENSOR MEASURE POINT TO TENSION REFERENCE POINT

RB	.0	FEET	AZIM	.0	FEET
FEP1	.0	FEET	DEVI	.0	FEET
REFE	.0	FEET	FEP2	.0	FEET
EMEX	.0	FEET	RC	.0	FEET
C2	.0	FEET	C1	.0	FEET
RC2	.0	FEET	RC1	.0	FEET
TEMP	.0	FEET	PP	.0	FEET
FC0	.0	FEET	TENS	.0	FEET
FC2	.0	FEET	FC1	.0	FEET
FC4	.0	FEET	FC3	.0	FEET
SHDT	.0	FEET			

PARAMETERS

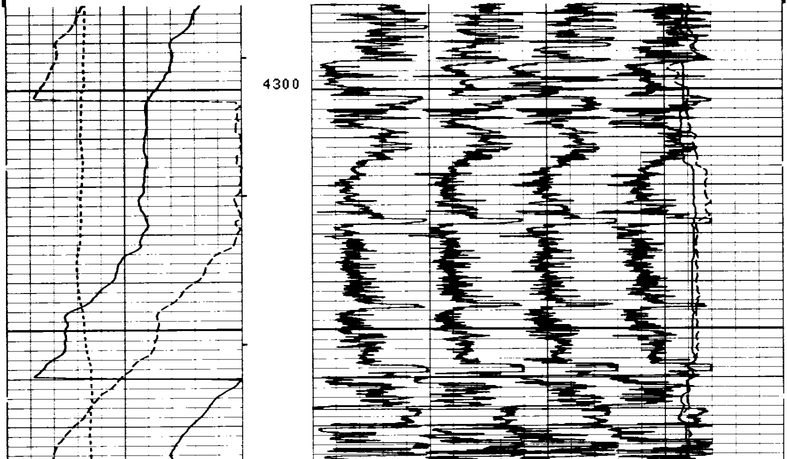
NAME	VALUE	UNIT	NAME	VALUE	UNIT
MCT	36	DEG	BS	7.875	IN
BHS	OPEN		STYP	HDSD	
DO	0.0				

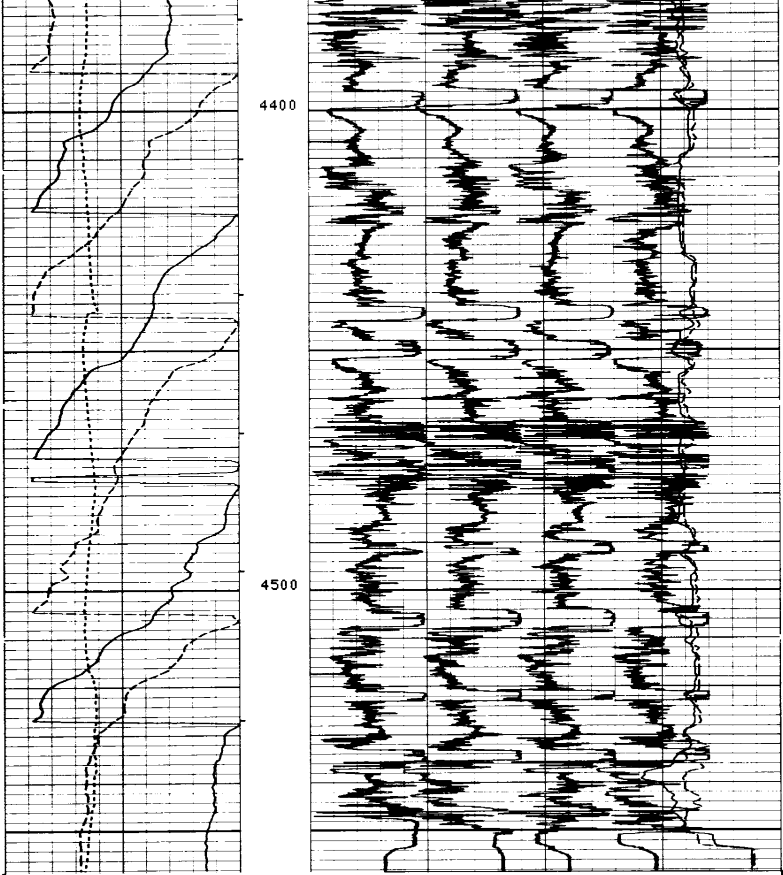
DEVI(DEG)
-1.000 9.000
RB (DEG)
-40.00 360.0
AZIM(DEG)
-40.00 360.0

C2 (IN)
24.00 4.000
C1 (IN)
24.00 4.000

FILE
4

REPEAT SECTION





FILE

4

DEVI(DEG)
-1.000 9.000
RB (DEG)
-40.00 360.0
AZIM(DEG)
-40.00 360.0

C2 (IN)
24.00 4.000
C1 (IN)
24.00 4.000

SENSOR MEASURE POINT TO TENSION REFERENCE POINT

```
RB          .0   FEET                         AZIM        .0   FEET
FEP1        .0   FEET                         DEVI        .0   FEET
REFE        .0   FEET                         FEP2        .0   FEET
EMEX        .0   FEET                         RC          .0   FEET
C2          .0   FEET                         C1          .0   FEET
RC2         .0   FEET                         RC1         .0   FEET
TEMP        .0   FEET                         PP          .0   FEET
FC0         .0   FEET                         TENS        .0   FEET
FC2         .0   FEET                         FC1         .0   FEET
FC4         .0   FEET                         FC3         .0   FEET
SHDT        .0   FEET
```

PARAMETERS

```
NAME   VALUE     UNIT                   NAME   VALUE     UNIT

MCT    36        DEG                    BS     7.875     IN
BHS    OPEN                             STYP   HDSD
DO     0.0
```

```
     DEVI(DEG )
-1.000            9.000                               C2   (IN  )
     RB   (DEG )                    24.00                                          4.000
-40.00            360.0                               C1   (IN  )
     AZIM(DEG )                     24.00                                          4.000
-40.00            360.0
```

SENSOR MEASURE POINT TO TENSION REFERENCE POINT

```
RB          .0   FEET                         AZIM        .0   FEET
FEP1        .0   FEET                         DEVI        .0   FEET
REFE        .0   FEET                         FEP2        .0   FEET
EMEX        .0   FEET                         RC          .0   FEET
C2          .0   FEET                         C1          .0   FEET
RC2         .0   FEET                         RC1         .0   FEET
TEMP        .0   FEET                         PP          .0   FEET
FC0         .0   FEET                         TENS        .0   FEET
FC2         .0   FEET                         FC1         .0   FEET
FC4         .0   FEET                         FC3         .0   FEET
SHDT        .0   FEET
```

PARAMETERS

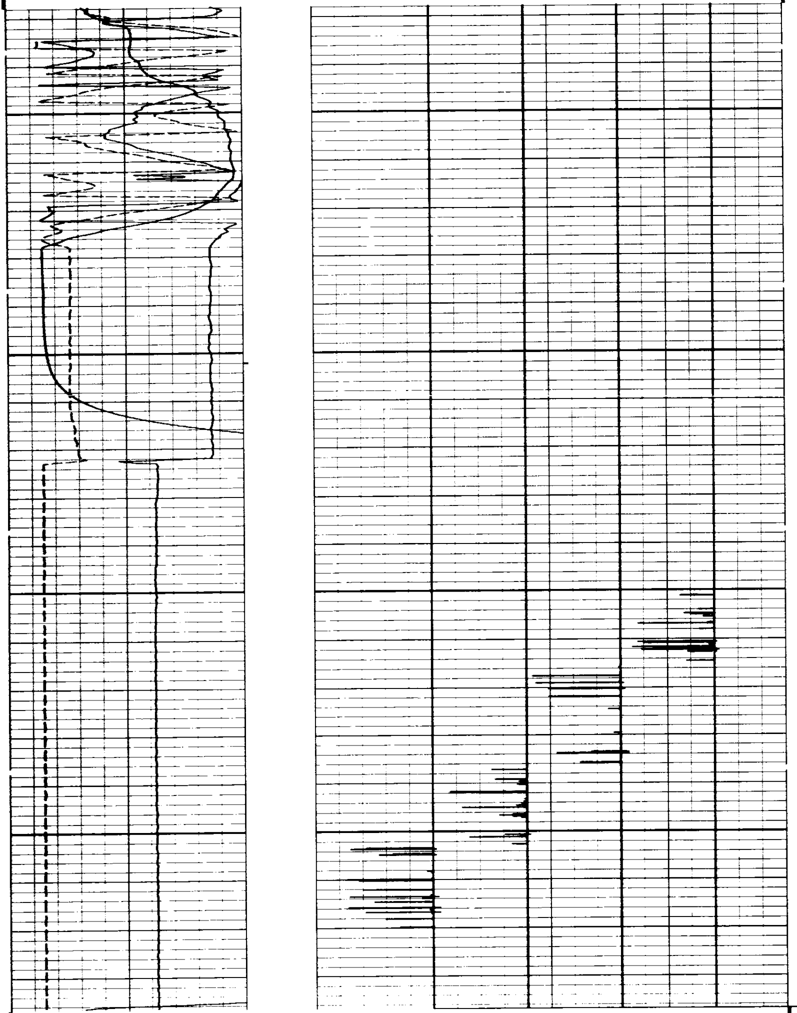
```
NAME   VALUE     UNIT                   NAME   VALUE     UNIT

MCT    36        DEG                    BS     7.875     IN
BHS    OPEN                             STYP   HDSD
DO     0.0
```

```
     DEVI(DEG )
-1.000            9.000                               C2   (IN  )
     RB   (DEG )                    24.00                                          4.000
-40.00            360.0                               C1   (IN  )
     AZIM(DEG )                     24.00                                          4.000
-40.00            360.0
```

FILE

3



FILE

3

DEVI(DEG)		C2 (IN)	
-1.000	9.000	24.00	4.000
RB (DEG)		C1 (IN)	
-40.00	360.0	24.00	4.000
AZIM(DEG)			
-40.00	360.0		

SENSOR MEASURE POINT TO TENSION REFERENCE POINT

RB	.0	FEET	AZIM	.0	FEET
FEP1	.0	FEET	DEVI	.0	FEET
REFE	.0	FEET	FEP2	.0	FEET
EMEX	.0	FEET	RC	.0	FEET
C2	.0	FEET	C1	.0	FEET
RC2	.0	FEET	RC1	.0	FEET
TEMP	.0	FEET	PP	.0	FEET
FC0	.0	FEET	TENS	.0	FEET
FC2	.0	FEET	FC1	.0	FEET
FC4	.0	FEET	FC3	.0	FEET
SHDT	.0	FEET			

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
MCT	36	DEG	BS	7.875	IN
BHS	OPEN		STYP	HDSD	
DO	0.0				

BEFORE SURVEY CALIBRATION SUMMARY

PERFORMED: 81/09/28
PROGRAM FILE: HDT (VERSION 20.2 81/ 1/30)

HDT

CALIPER CALIBRATION SUMMARY

	MEASURED		CALIBRATED		
	SMALL	LARGE	SMALL	LARGE	UNITS
C1	8.6	13.1	8.0	12.0	IN
C2	8.5	13.4	8.0	12.0	IN

FILE

2