



ARRAY INDUCTION

COMPANY **PARAMOUNT RESOURCES LTD.**
WELL **PARAMOUNT ET AL CAMERON J-04**
FIELD **CAMERON HILLS**
PROVINCE/COUNTY **NORTH WEST TERRITORIES**
COUNTRY/STATE **CANADA**
LOCATION **300/J-04-60-10-117-30**

FIELD PRINT

LSD SEC TWP RGE Other Services

API Number **1159** MICROLOG
Permit Number **1159** COMPENSTATED SONIC
PHOTO DENSITY
DUAL SPACED NEUTRON

Permanent Datum GROUND LEVEL, Elevation 765.20 metres
Log Measured From 4.00 M above Permanent Datum
Drilling Measured From KB
Elevations: KB 769.20 metres
DF 765.20 metres
GL

Date **15-FEB-2007**

Run Number **1**

Depth Driller **1449.00** metres

Depth Logger **1449.50** metres

First Reading **1448.70** metre

Last Reading **420.00** metre

Casing Driller **430.00** metres

Casing Logger **429.80** metres

Bit Size **200.00** mm

Hole Fluid Type **GELCHEM**

Density / Viscosity **1060.0 kg/M3** **93.00** CP

PH / Fluid Loss **11.00** **11.00** ml/30Min

Sample Source **FLOWLINE**

Rm @ Measured Temp **1.18 @ 25.0** ohm-m

Rmf @ Measured Temp **1.04 @ 25.0** ohm-m

Rmc @ Measured Temp **1.32 @ 25.0** ohm-m

Source Rmf / Rmc **PRESS** **FILTER**

Rm @ BHT **0.78 @ 48.0** ohm-m

Time Since Circulation **6 HRS**

Max Recorded Temp **48.00** deg C

Equipment Name **COMPACT**

Equipment / Base **13124** **GPR**

Recorded By **G. SINGER**

Witnessed By **A. AHMED**

CIRC. STOP TIME **01:30-FEB-15**

Last Edited: 15-FEB-2007 05:01

BOREHOLE RECORD

Bit Size millimetres	Depth From metres	Depth To metres
311.000	0.00	430.00
200.000	430.00	1449.00

CASING RECORD

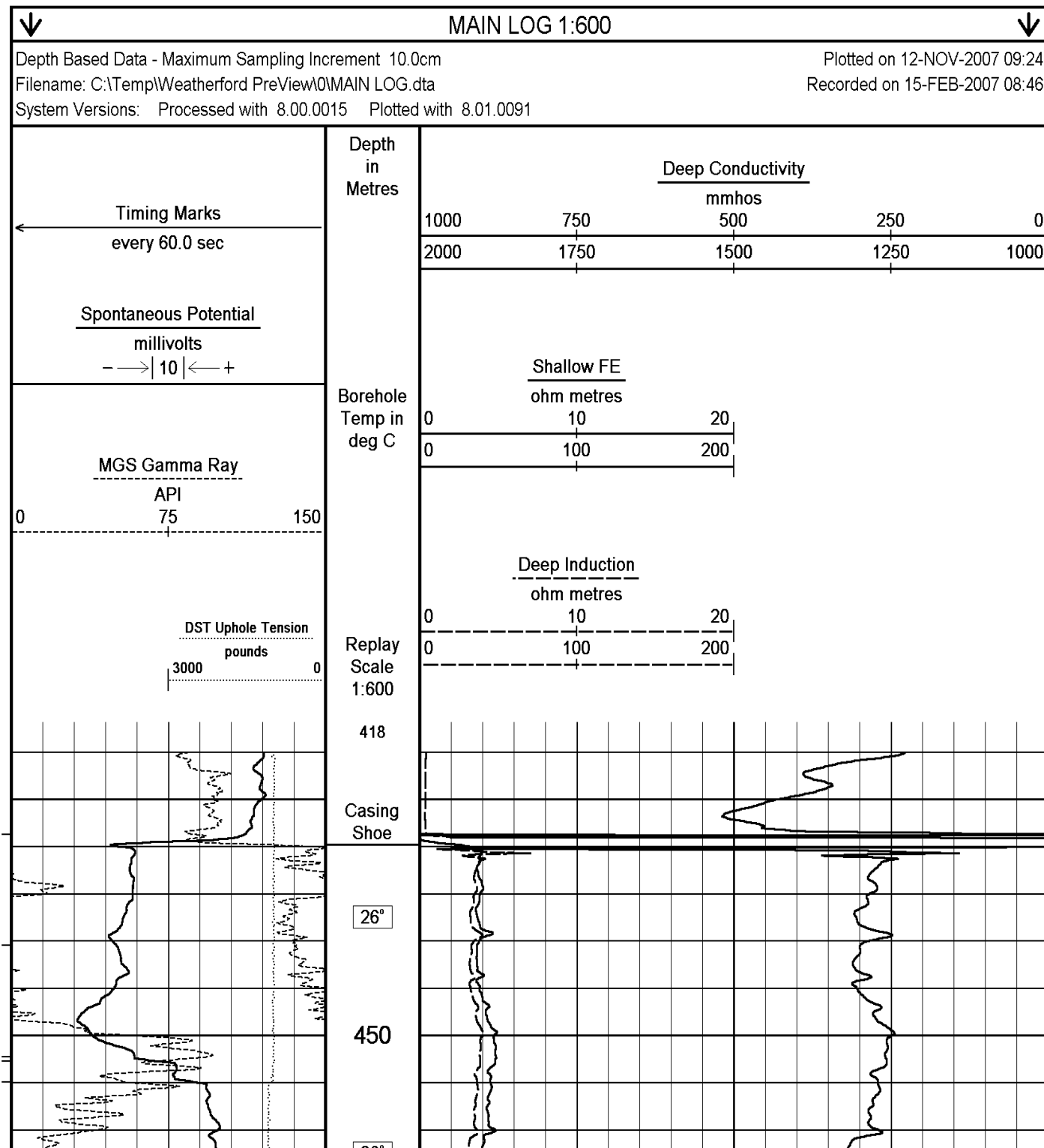
Type	Size millimetres	Depth From metres	Shoe Depth metres	Weight Kg/metre
SURFACE	219.100	0.00	430.00	35.72

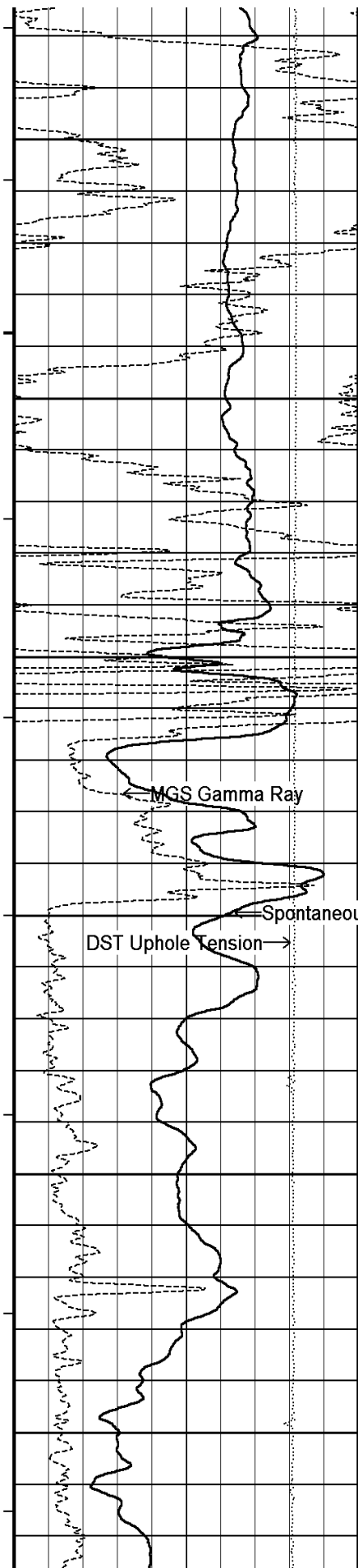
REMARKS

- 1) SOFTWARE ISSUE: WLS 7.01.0195.
- 2) CUSTOMER SCALES AND LOGGED INTERVALS USED
- 3) TOOLS RUN: MAI, MSS, MPD, MDN, MML, ISC, MGS, MTC, MFE, MCG RUN IN COMBINATION
- 4) HARDWARE: MAI: TWO 25.4 MM STANDOFFS
MSS: THREE 25.4 MM STANDOFFS
MDN: DUAL BOWSPRING AND INTERSONIC CRANK
MTC: SIX LEAF CENTRALIZER
- 5) SERVICE ORDER #: 30073028 SAP #: 4147101 # FIELD PRINTS = 3
- 6) RIG: PD 129

ANNULAR VOLUME USING 139.7 MM PRODUCTION CASING = 21.8 CU.M

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 wilful 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 in our price schedule.





20

26°

500

26°

25°

25°

25°

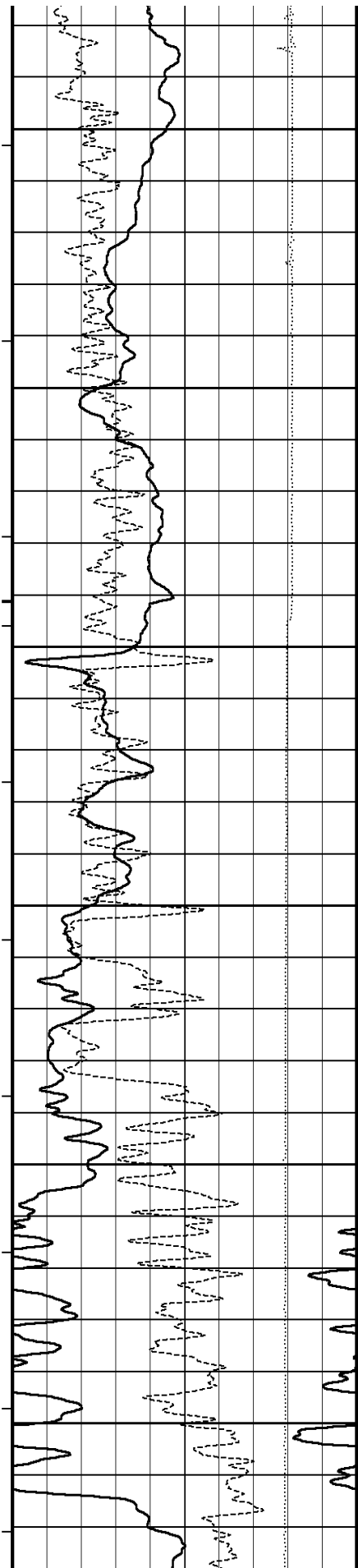
600

27°

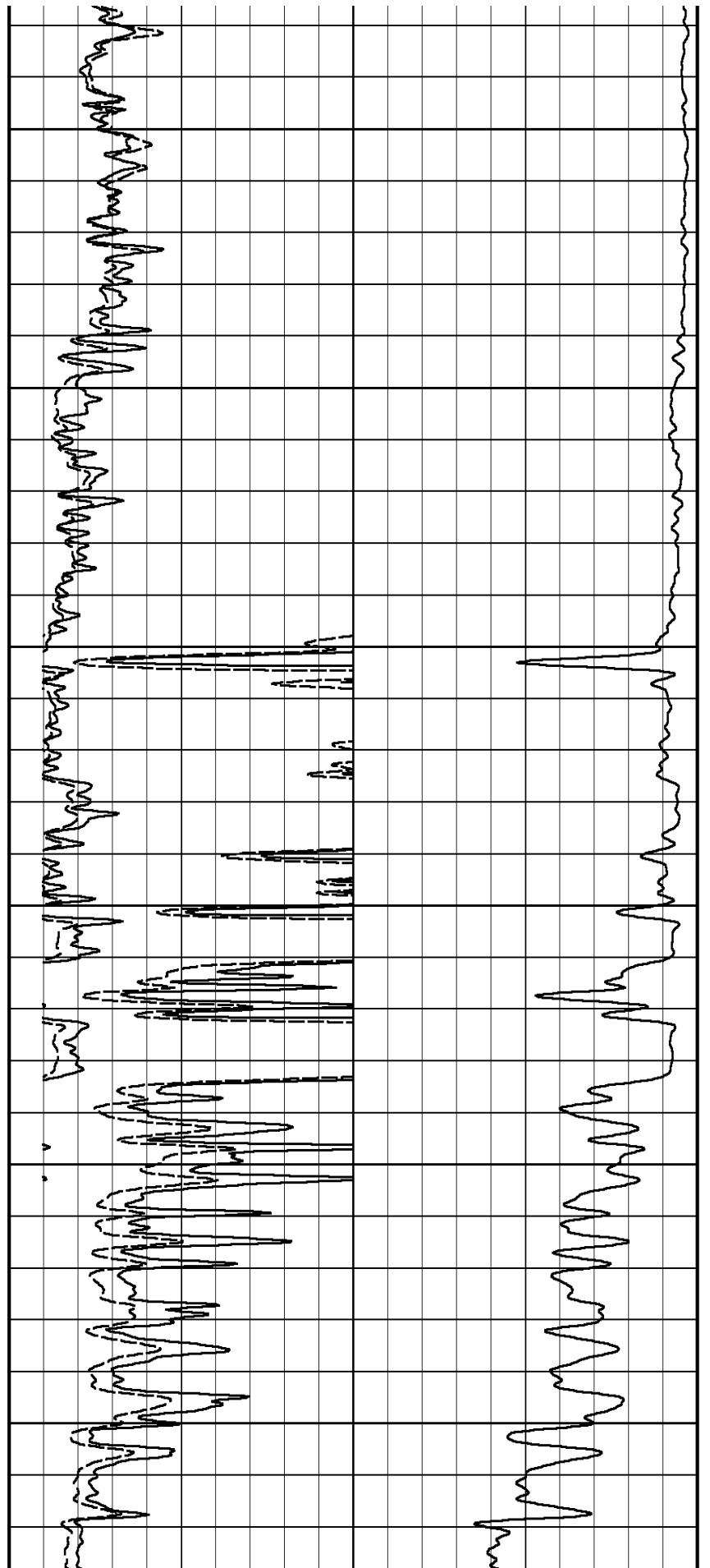
Deep Induction →

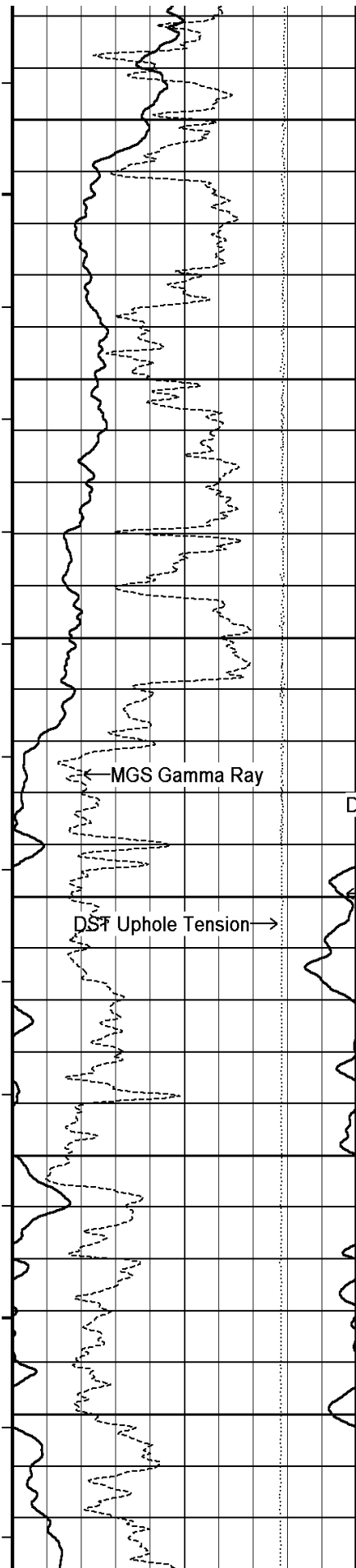
Shallow →

Deep Conductivity →



28° 650 29° 29° 700 30° 30° 750 31°





32°

800

33°

33°

Deep Induction

Shallow FE

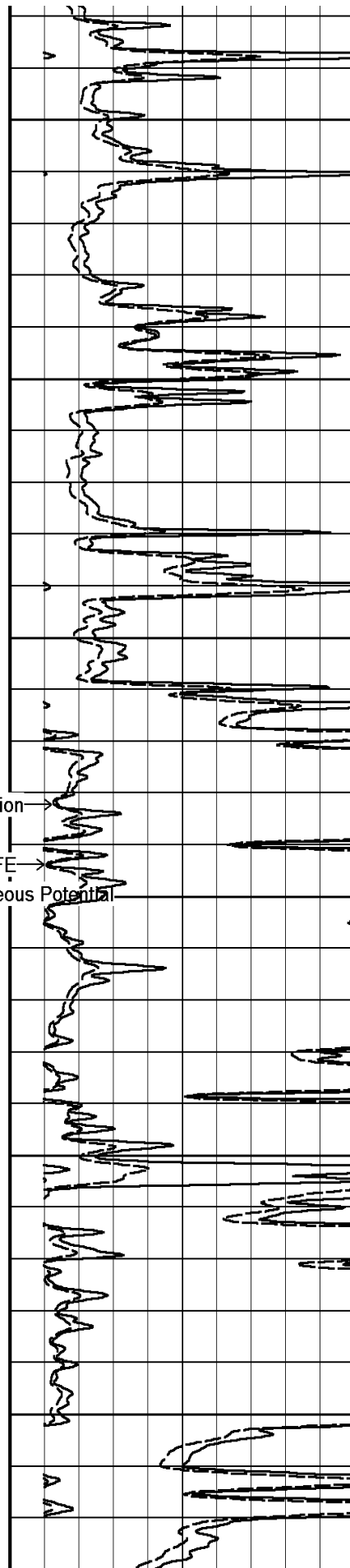
S850neous Potential

34°

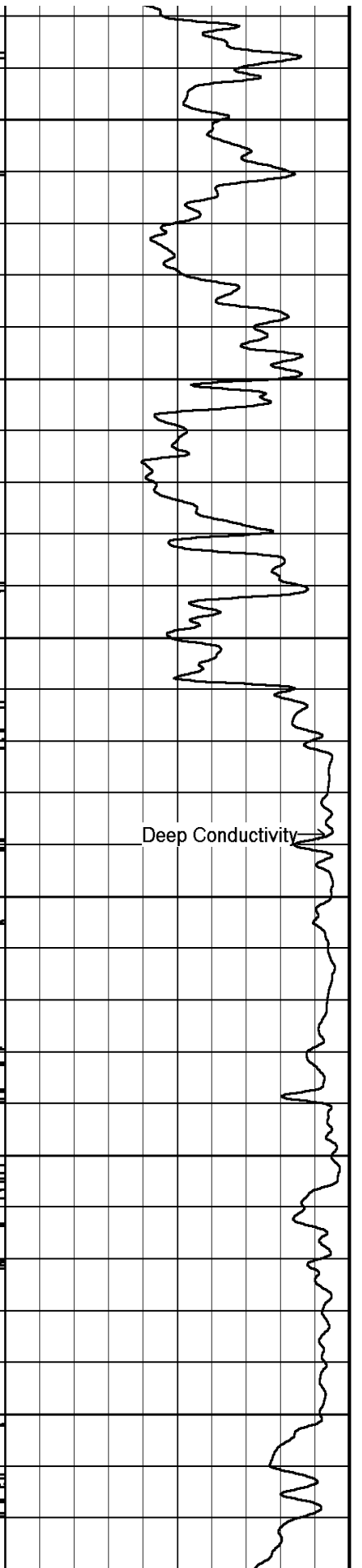
34°

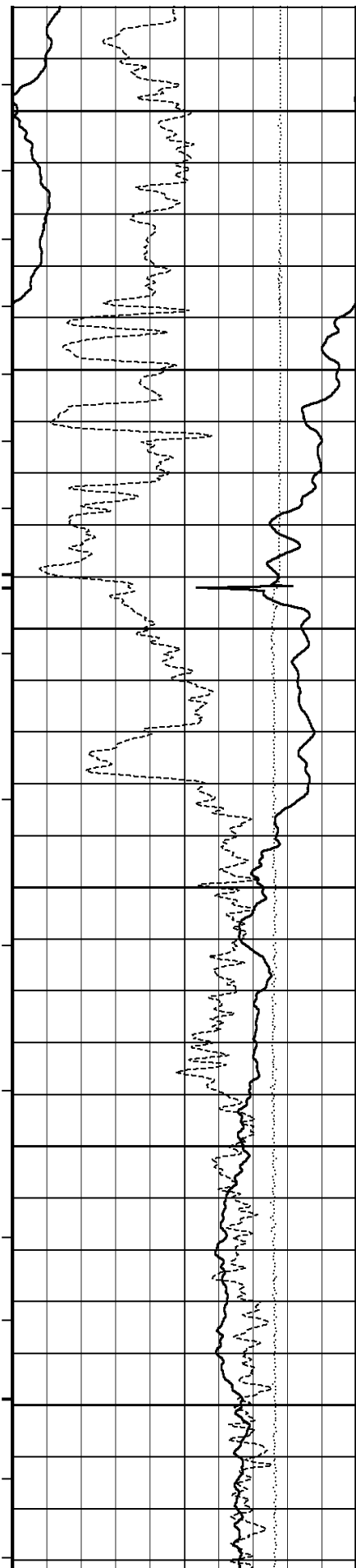
900

35°



Deep Conductivity





35°

950

36°

36°

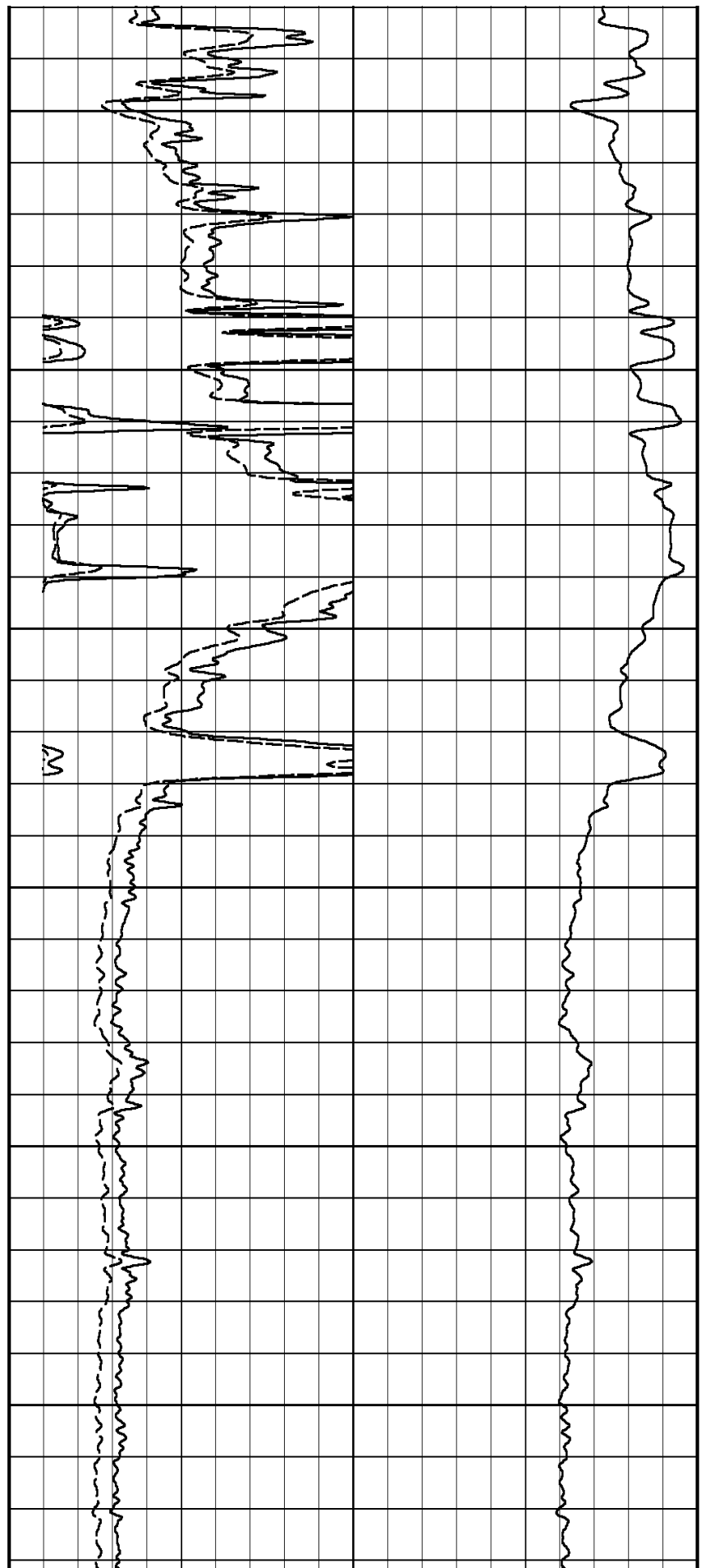
1000

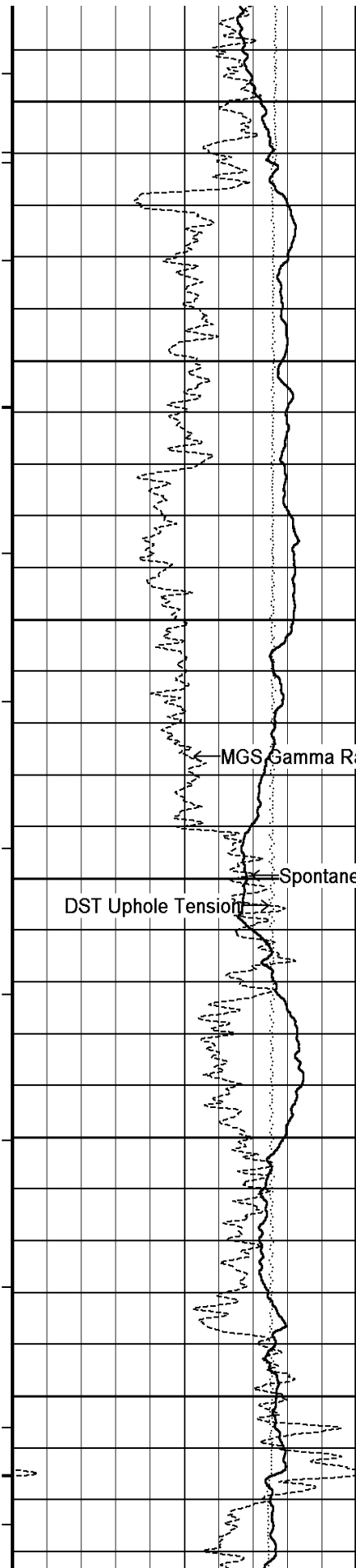
37°

37°

1050

38°





38°

1100

39°

40°

40°

41°

1200

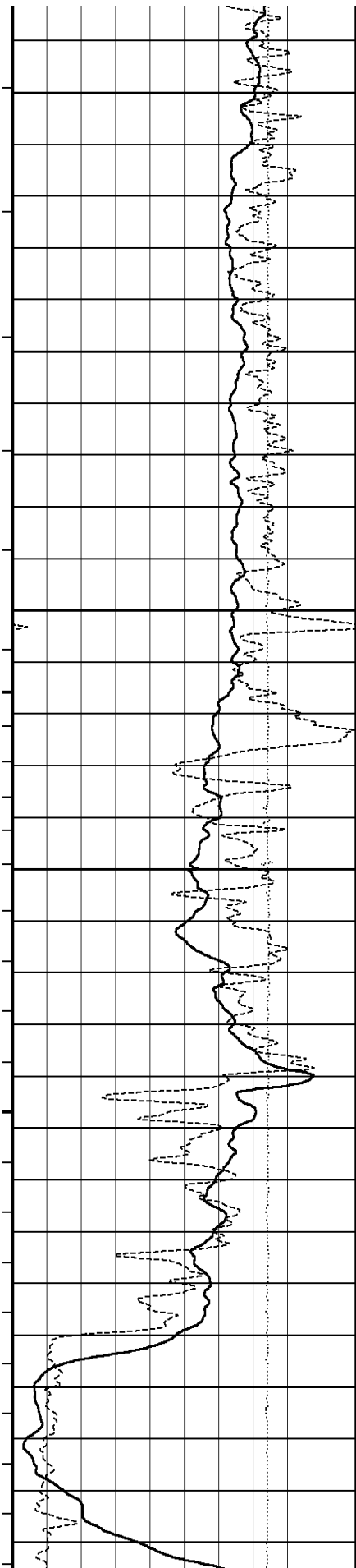
41°

Deep Induction

Shallow FE

ntial

Deep Conductivity



42°

1250

43°

43°

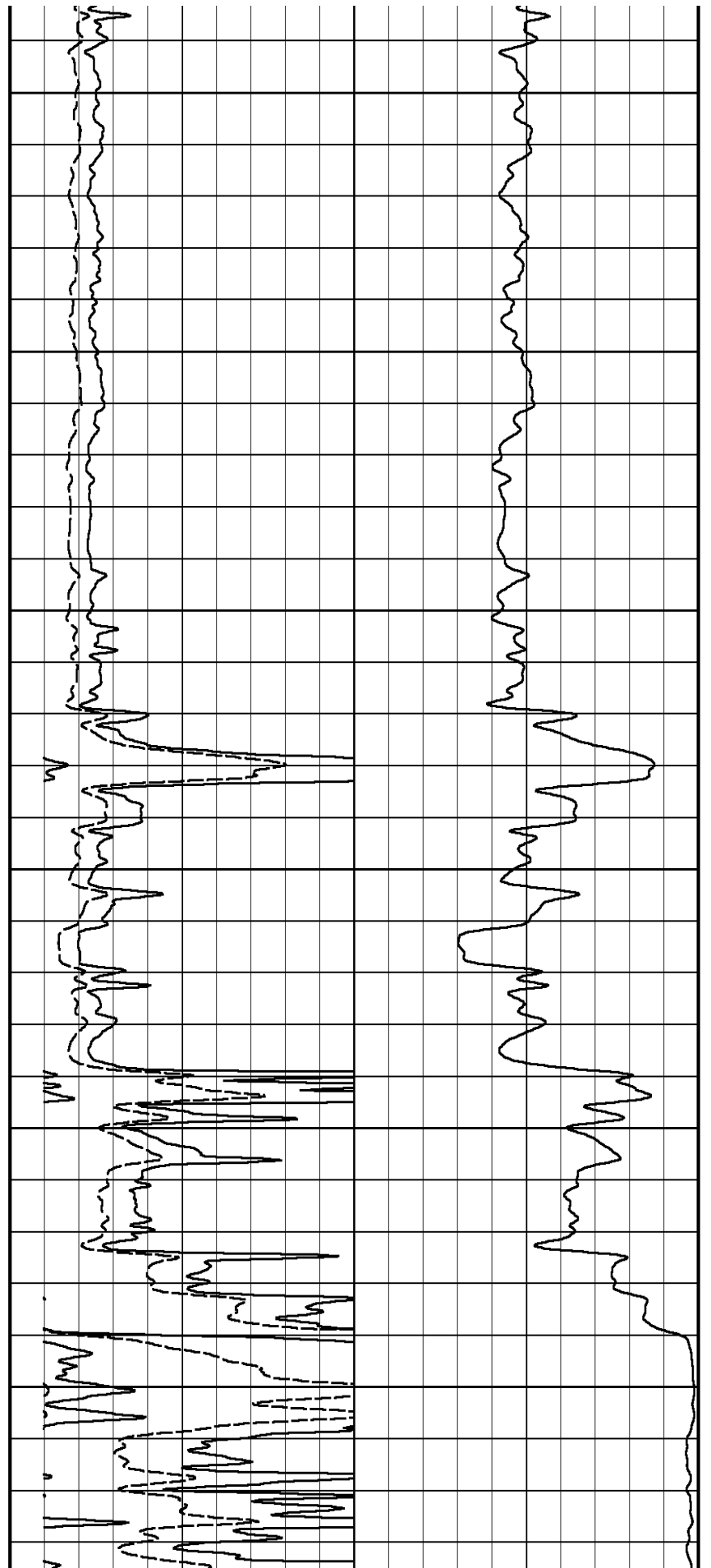
1300

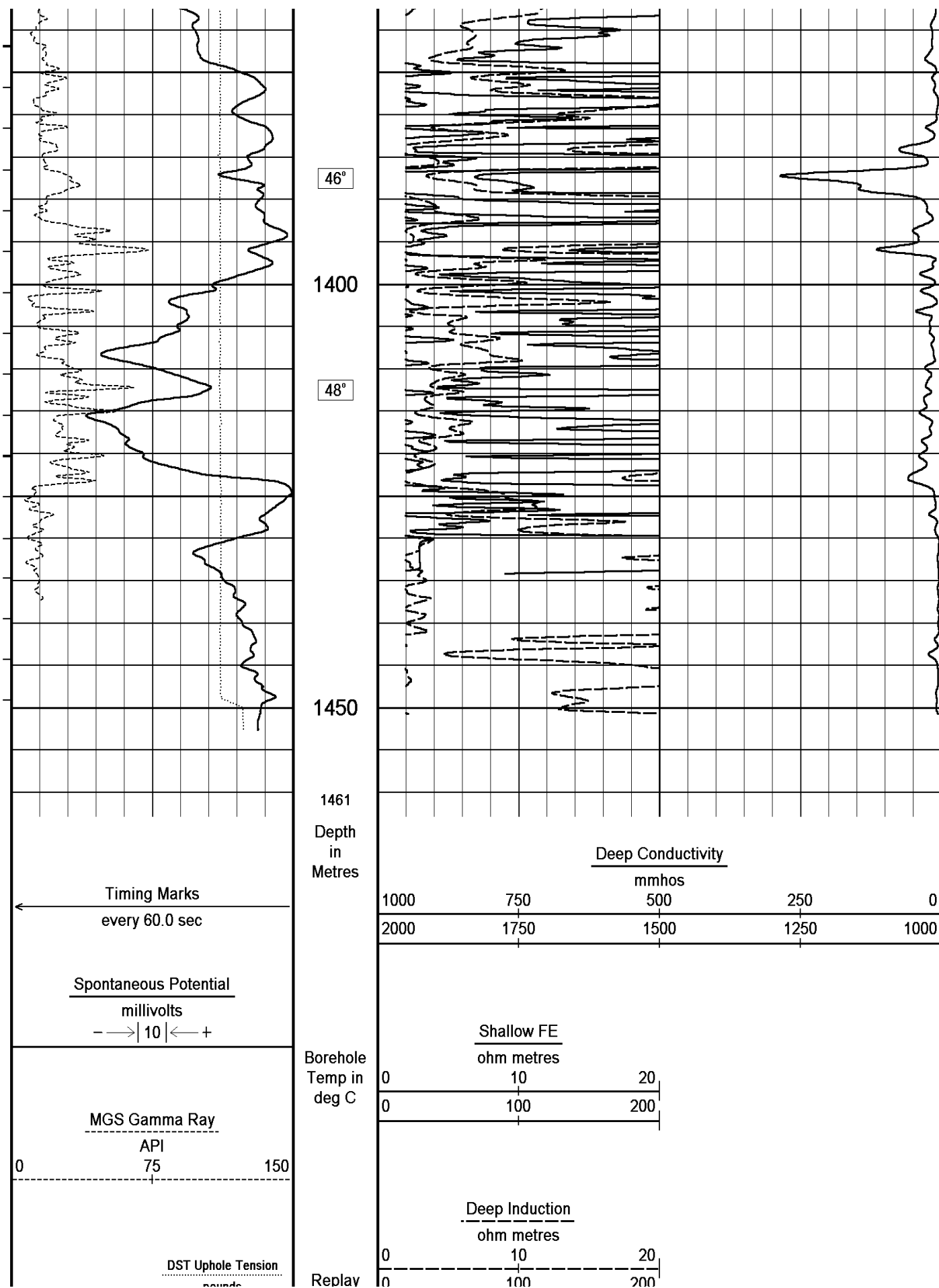
44°

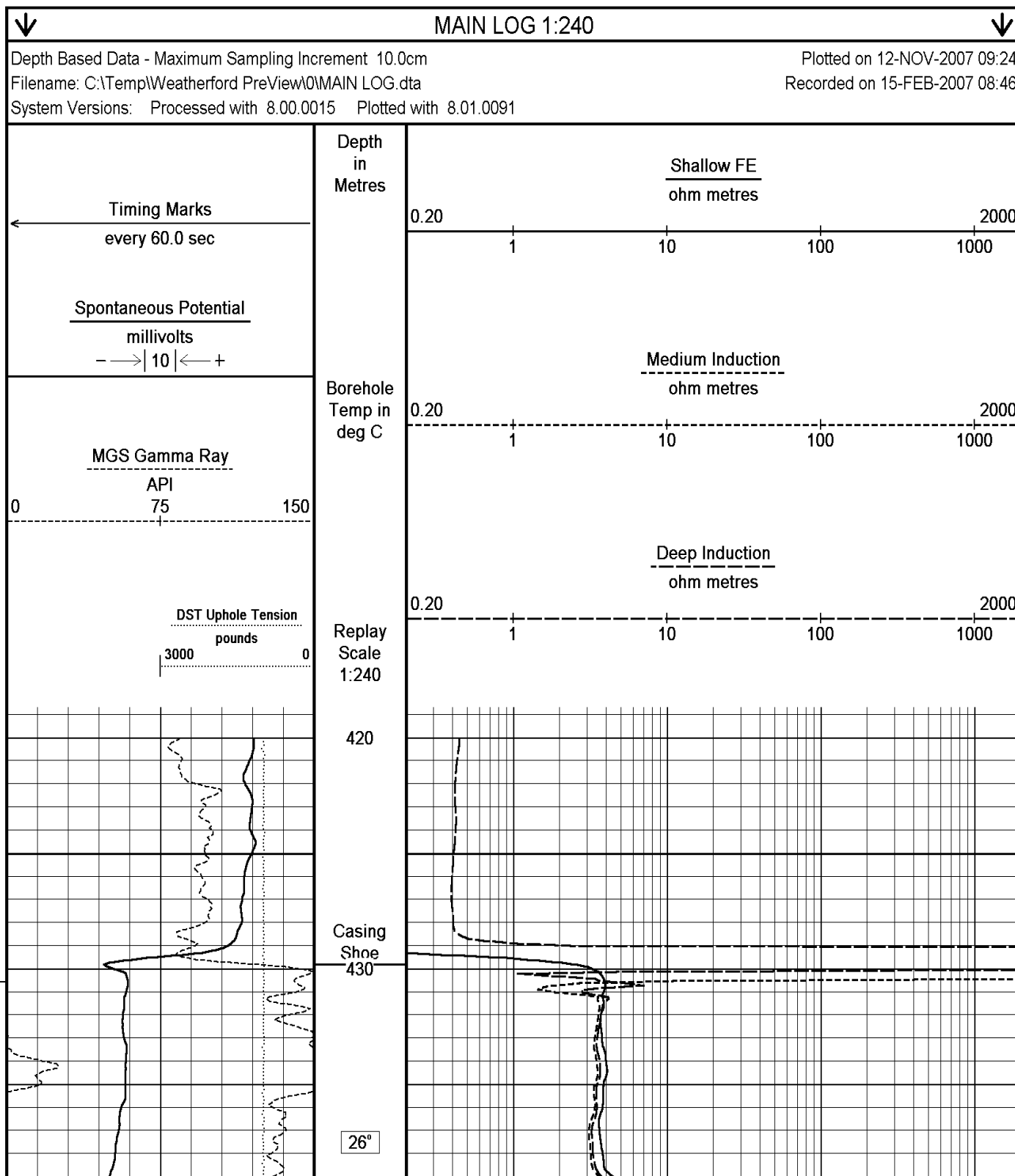
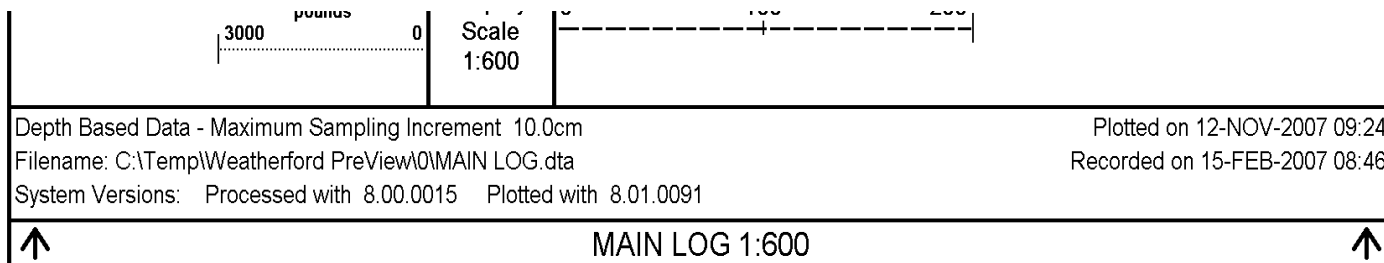
45°

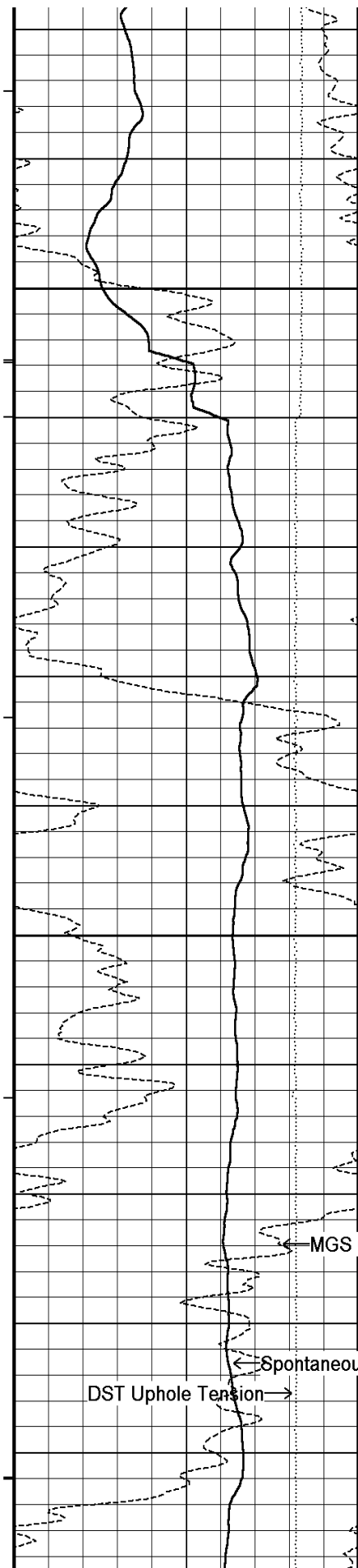
1350

45°









440

450

460

26°

470

480

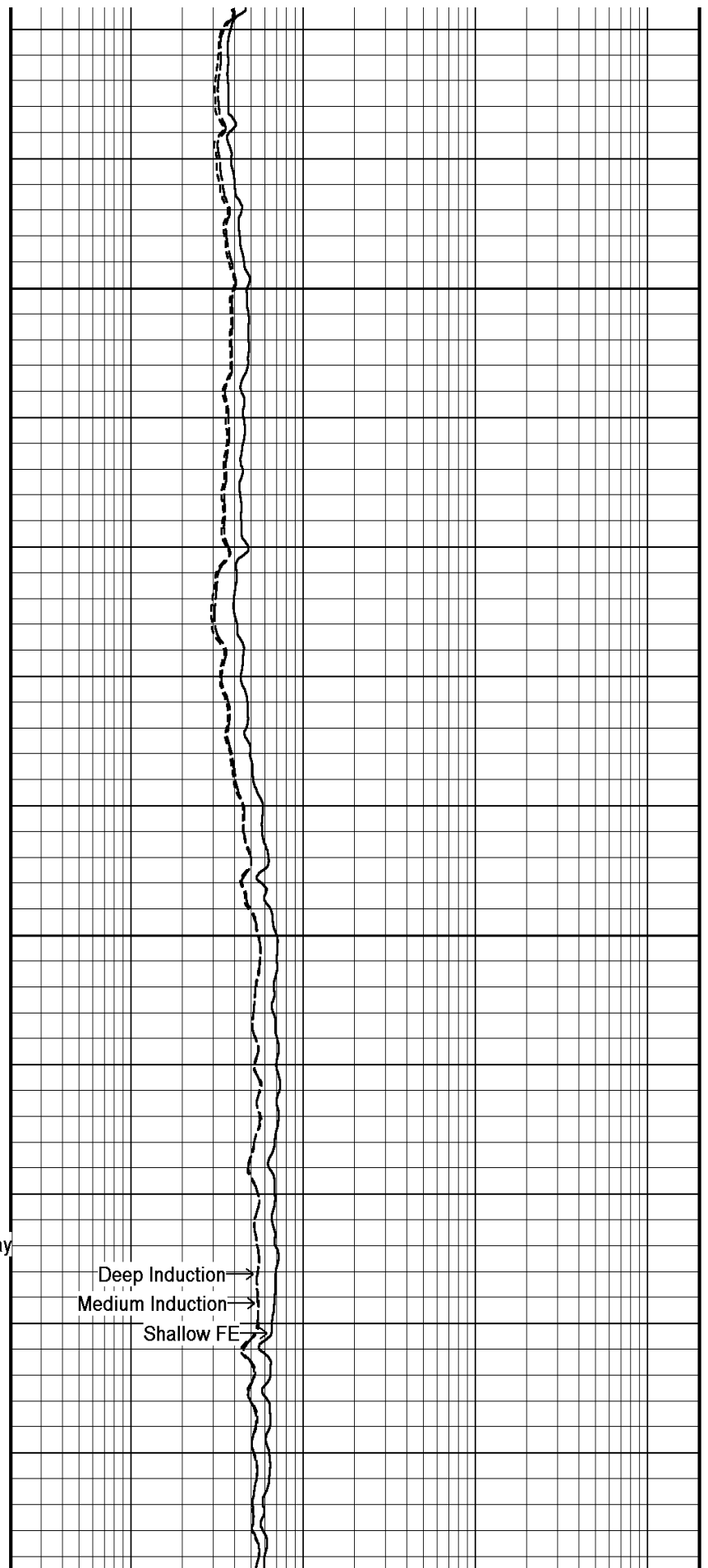
← MGS Gamma Ray

26°

490

← Spontaneous Potential

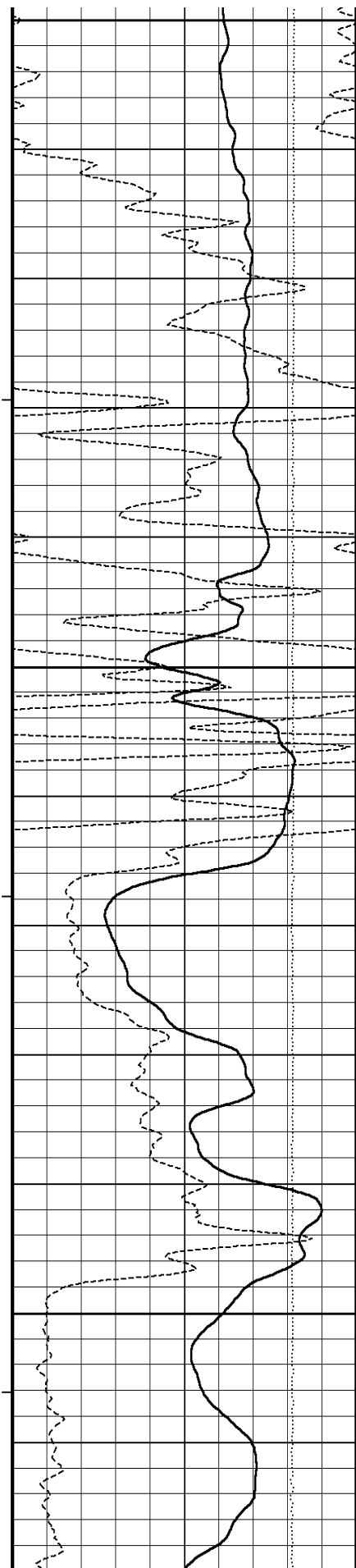
DST Uphole Tension →



Deep Induction →

Medium Induction →

Shallow FE →



500

510

26°

520

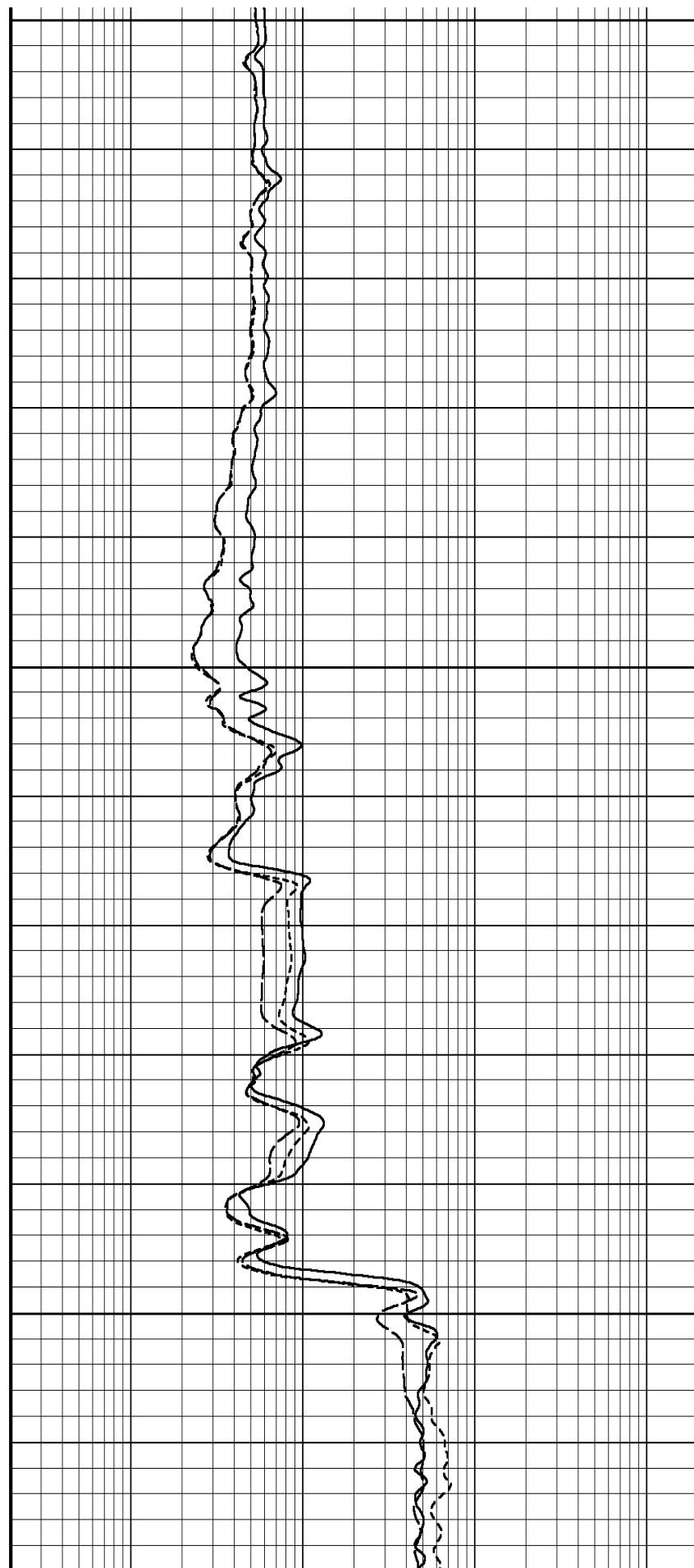
530

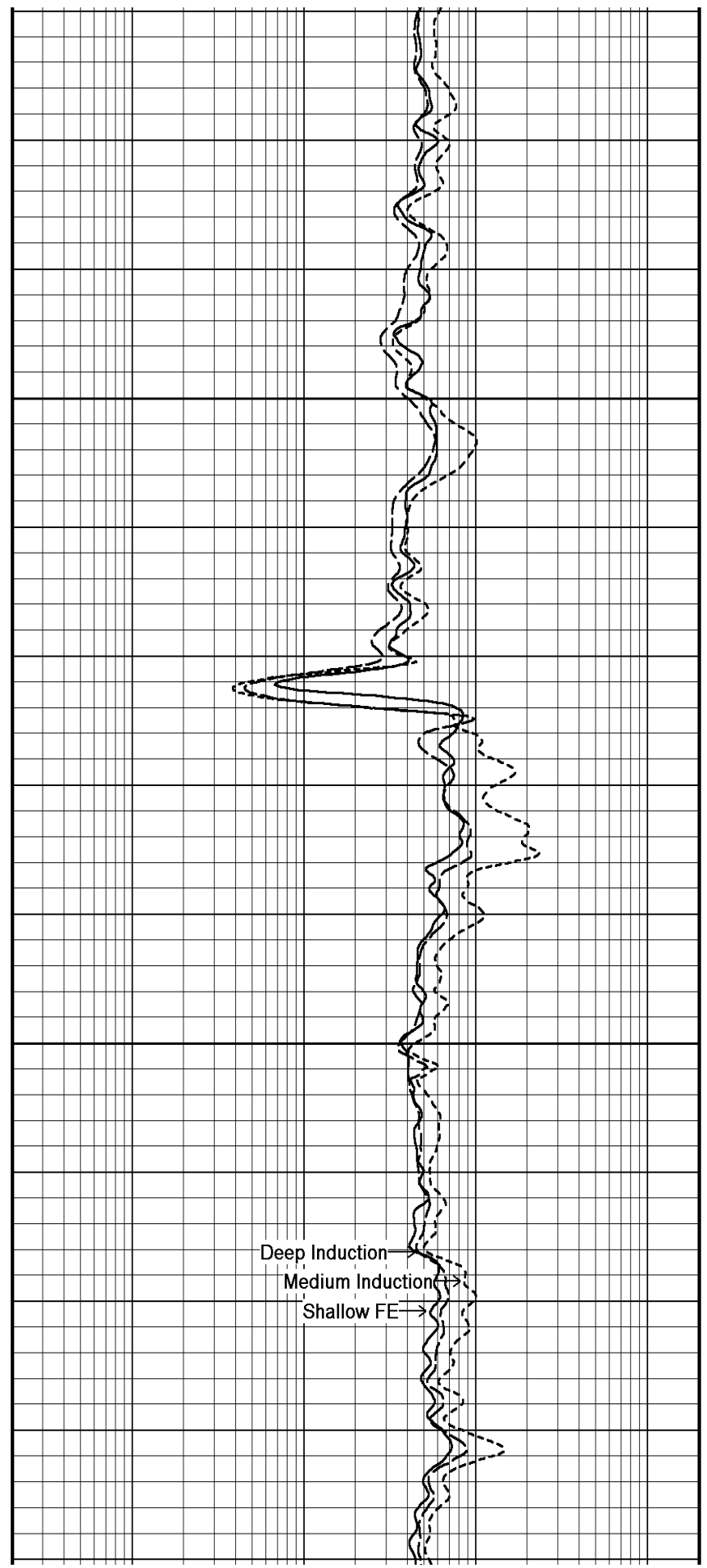
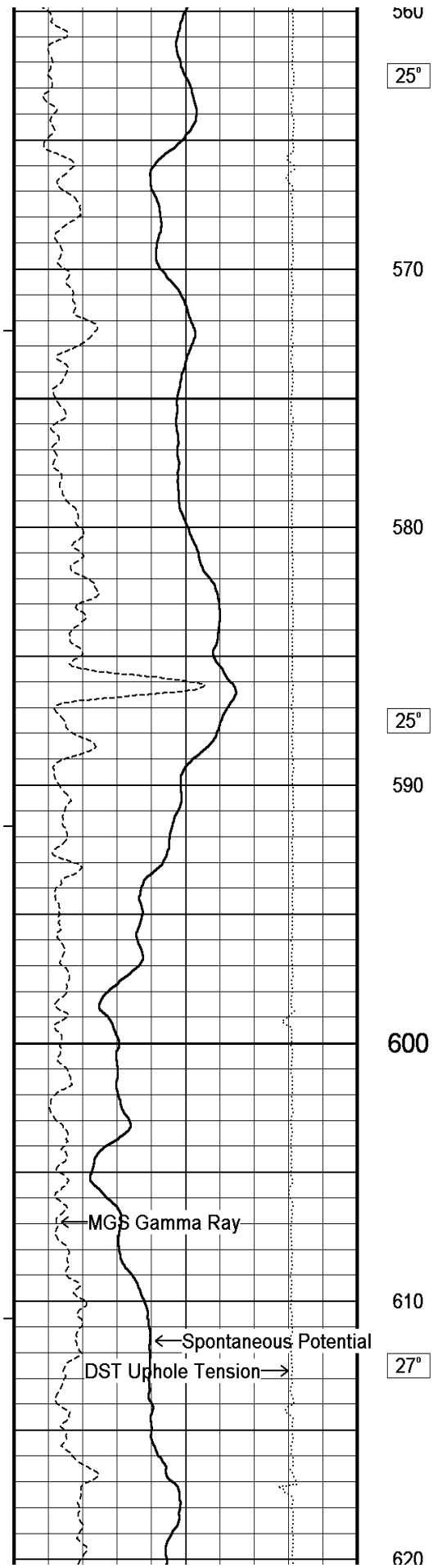
25°

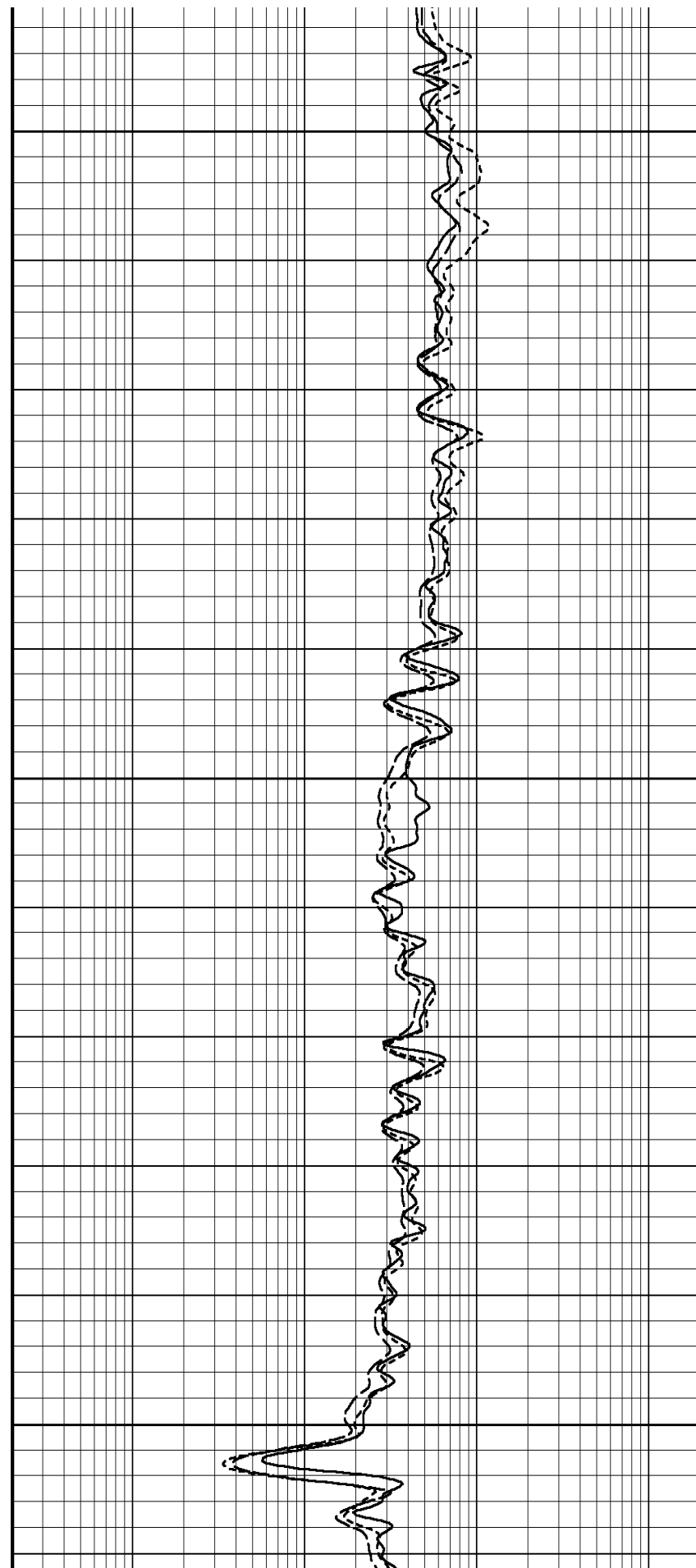
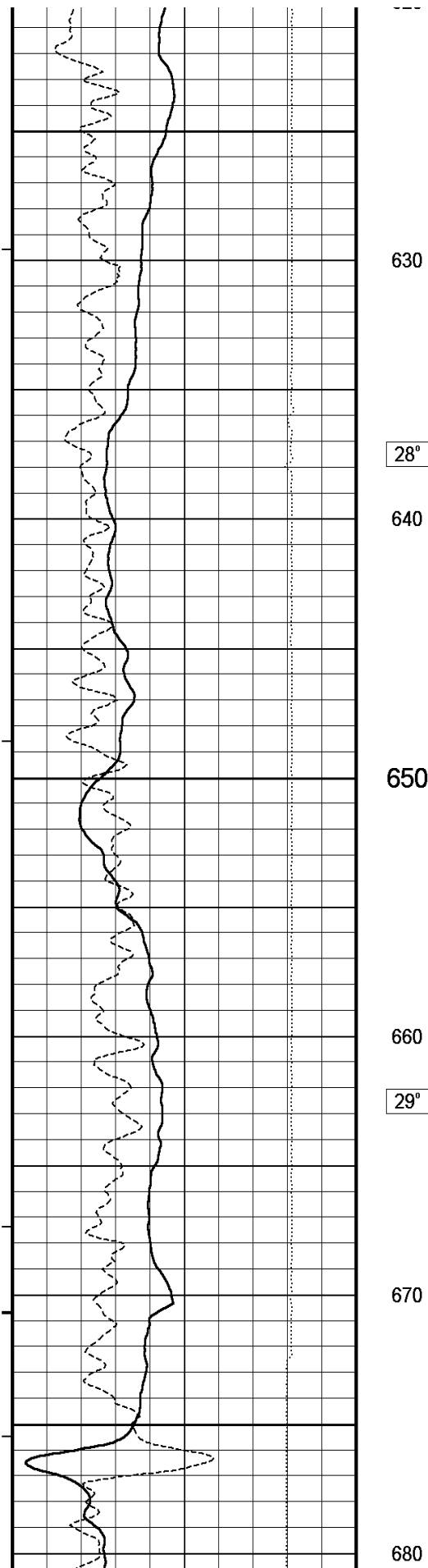
540

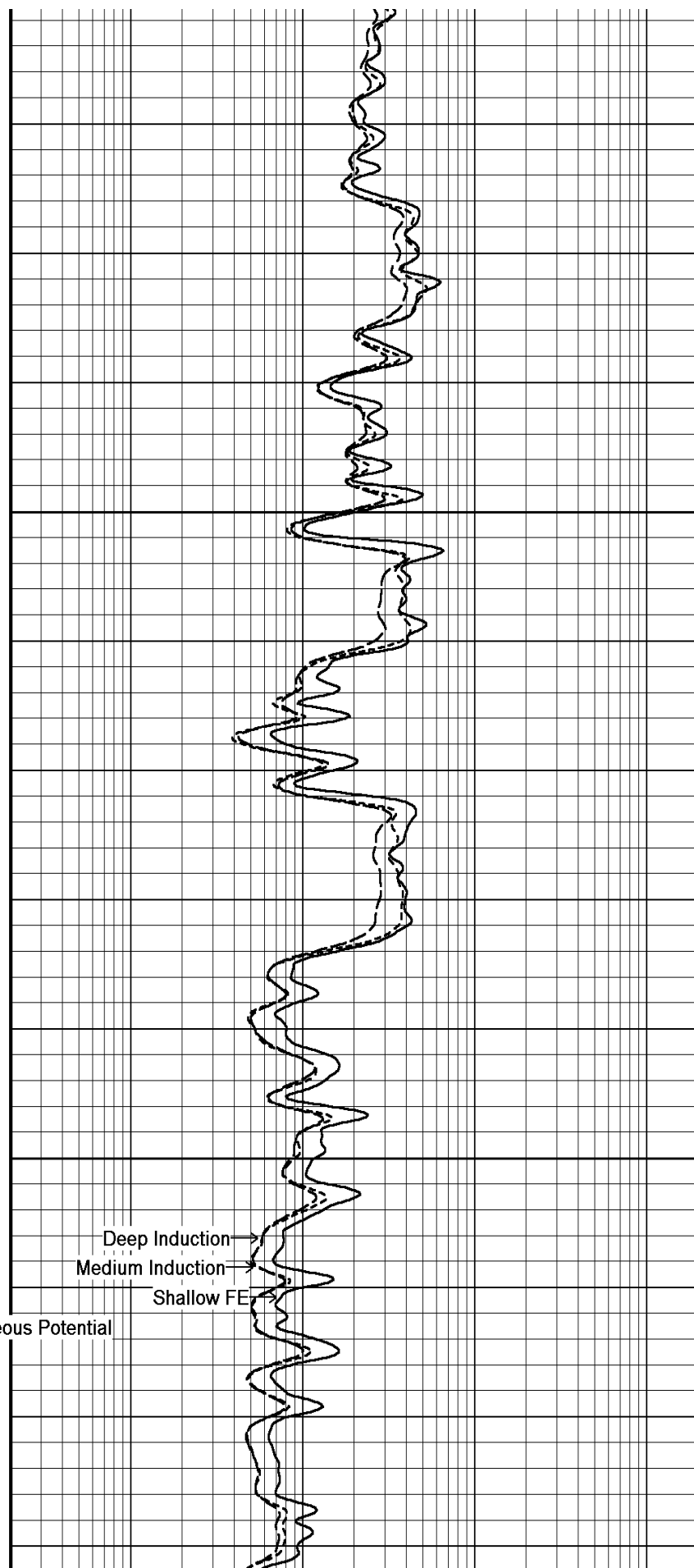
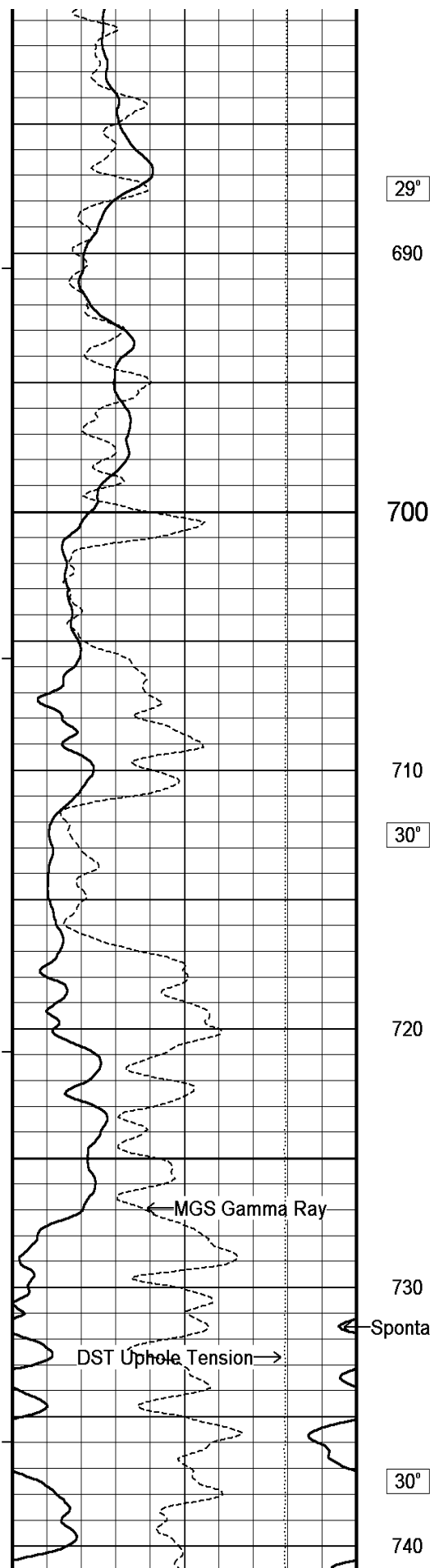
550

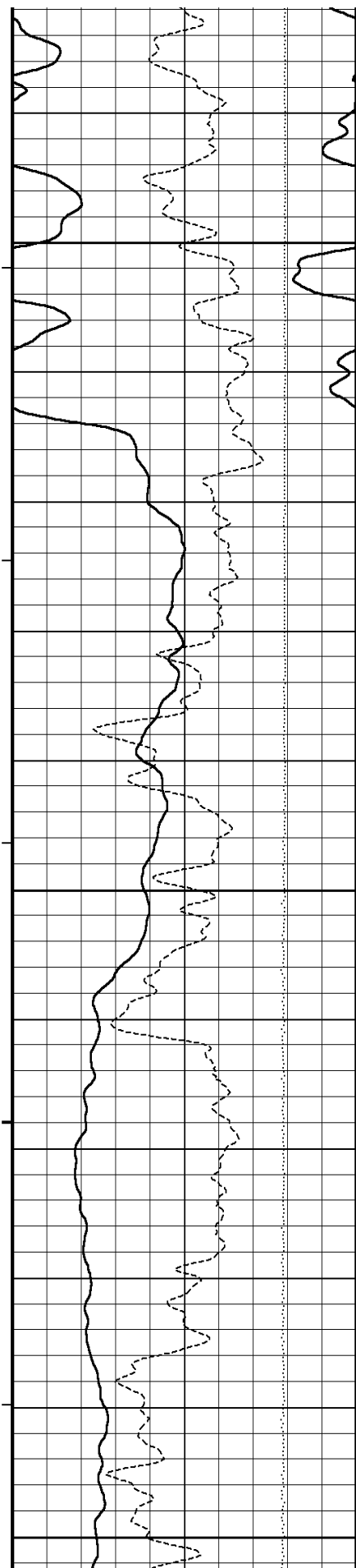
560











750

760

31°

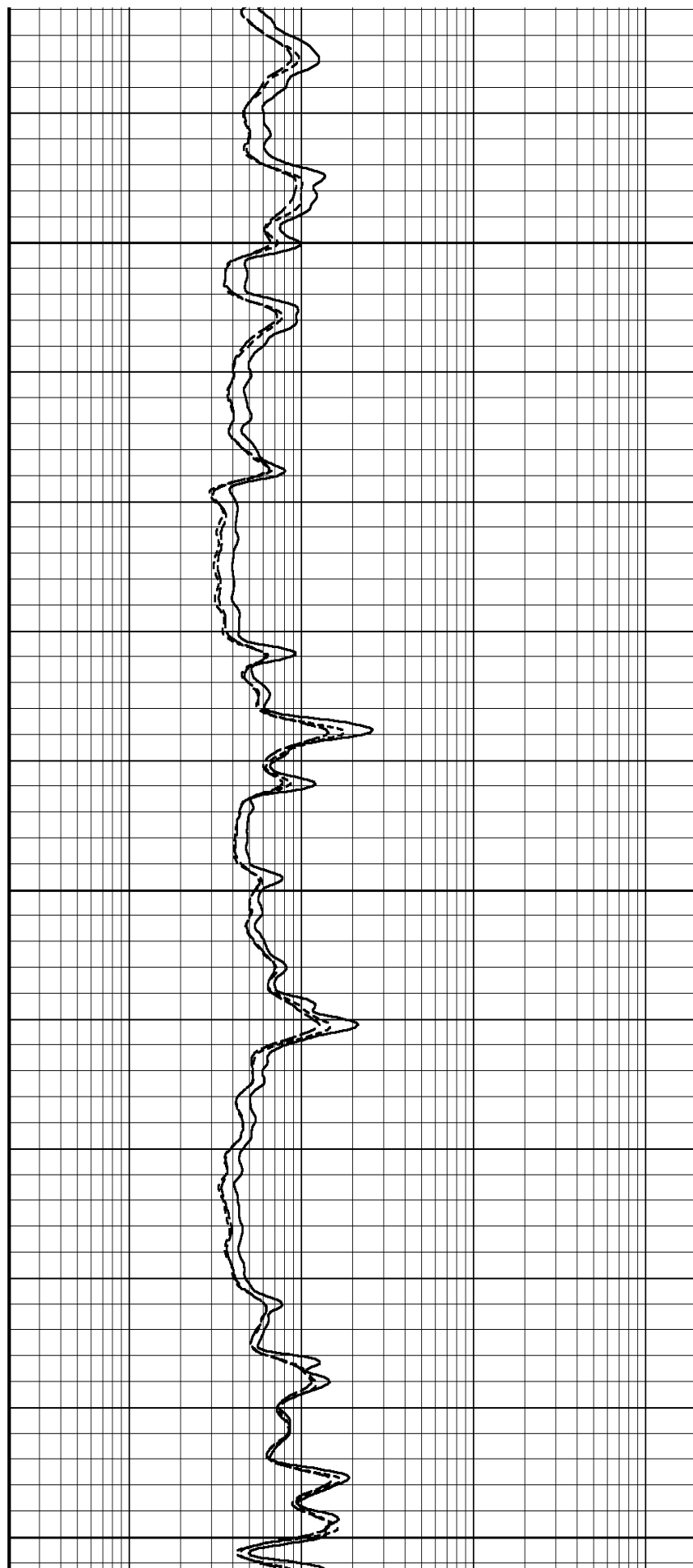
770

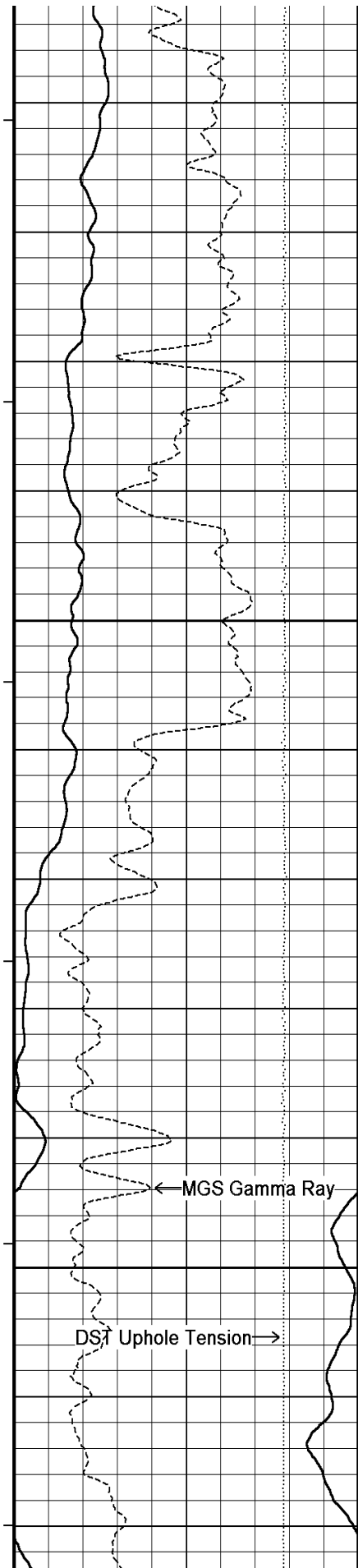
780

32°

790

800





810

33°

820

830

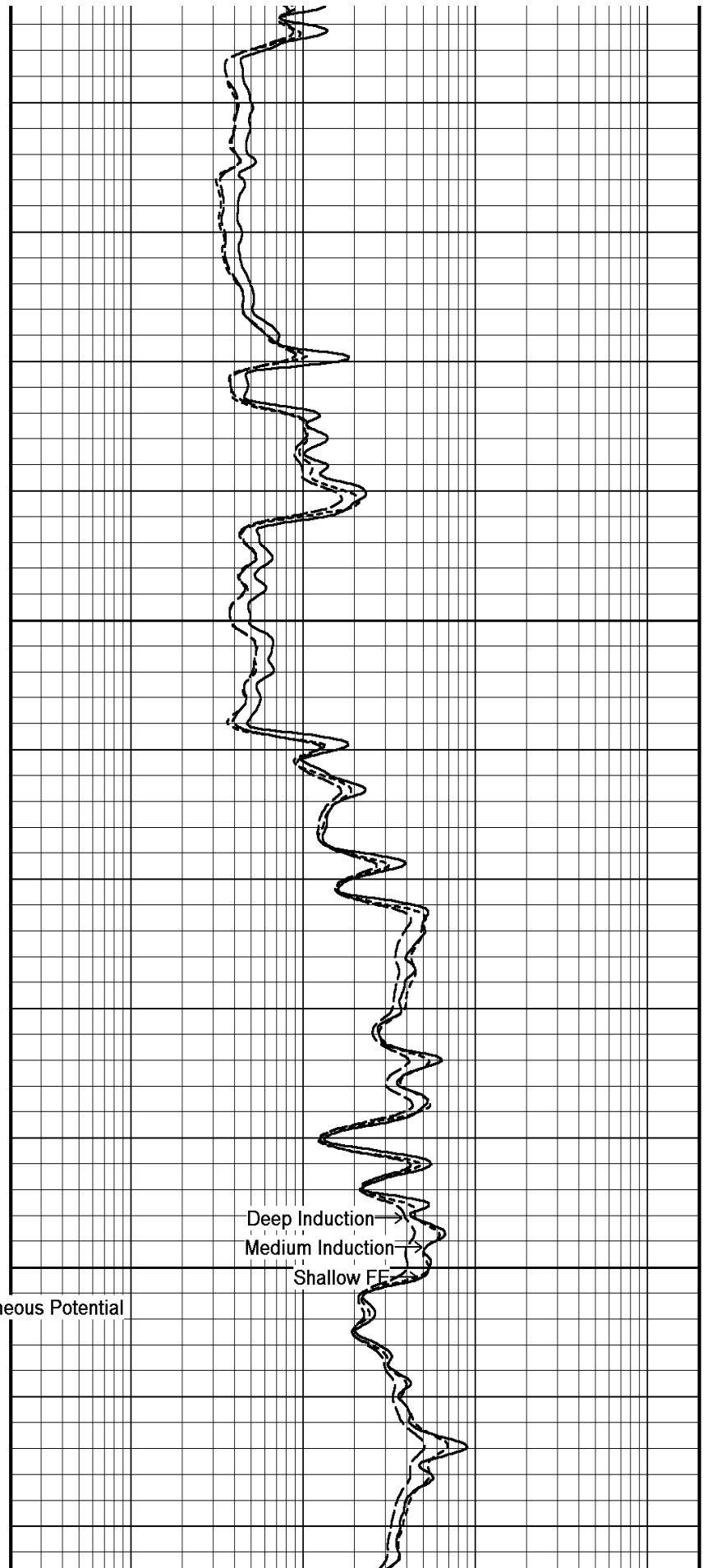
33°

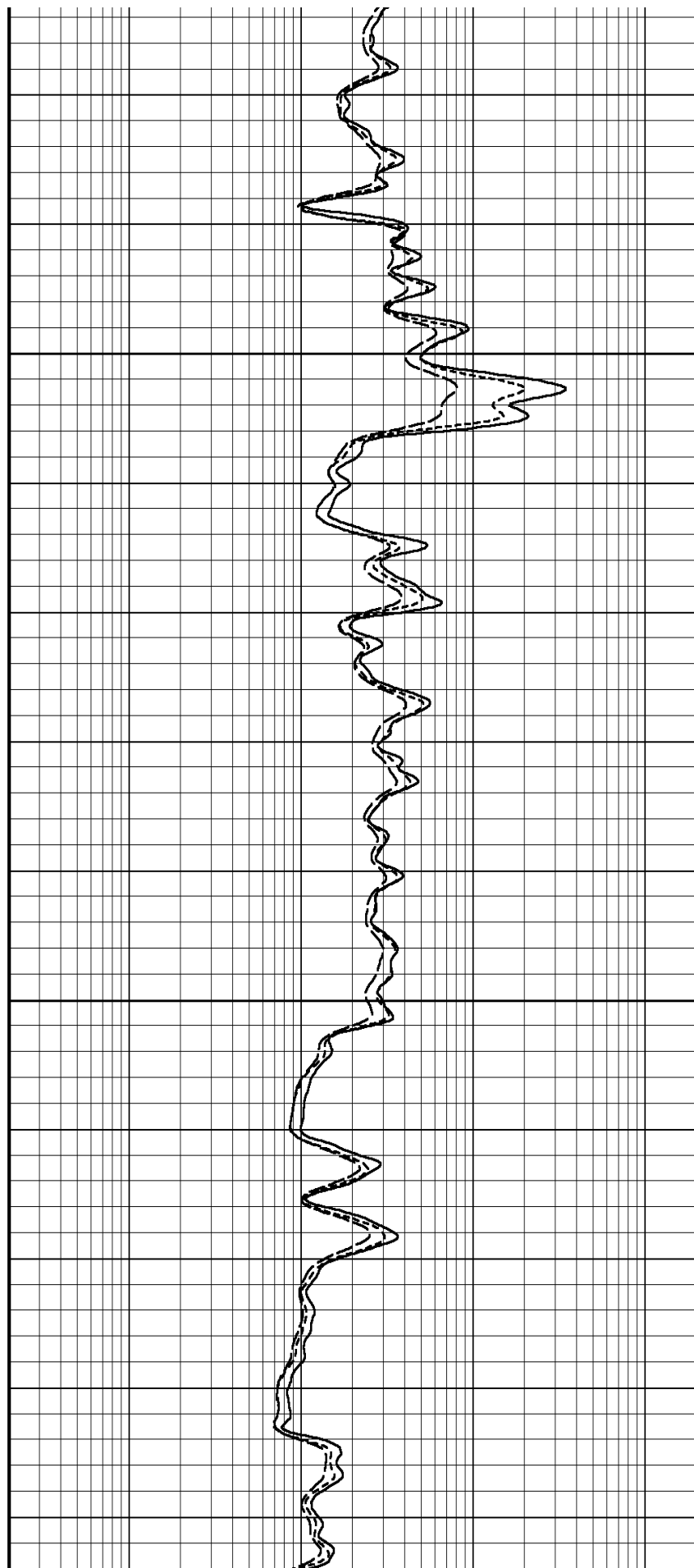
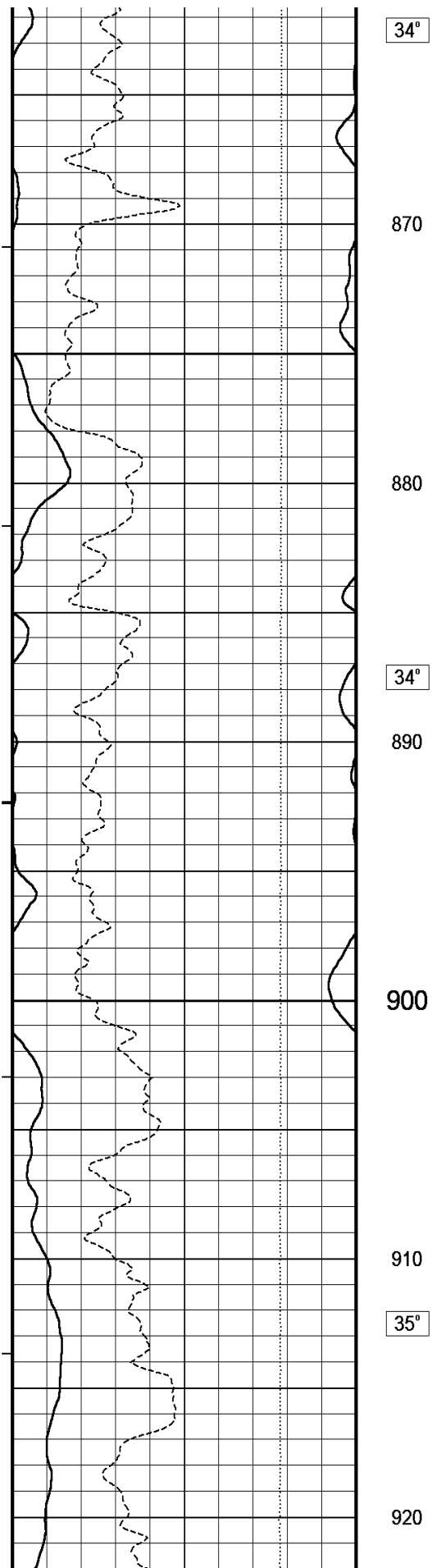
840

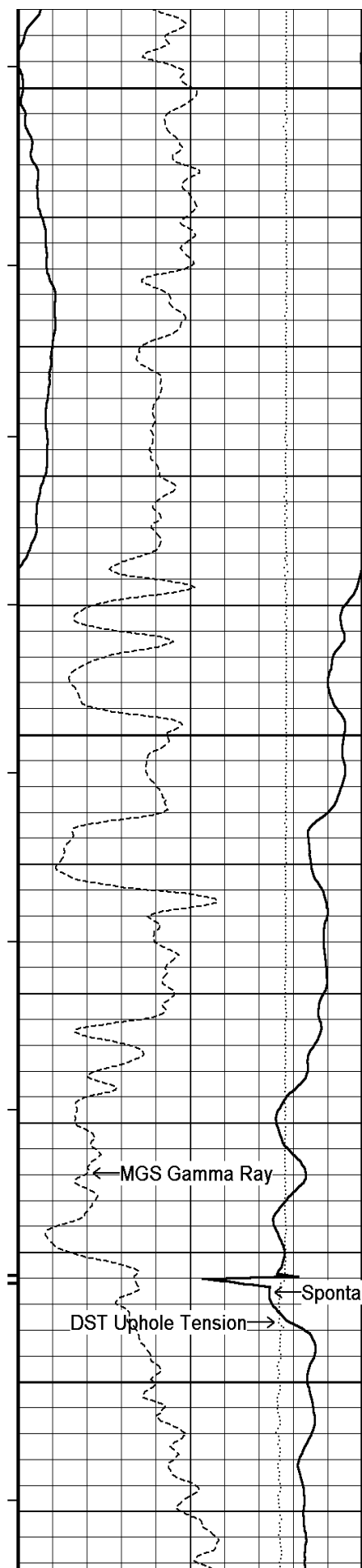
850

860

← Spontaneous Potential







930

35°

940

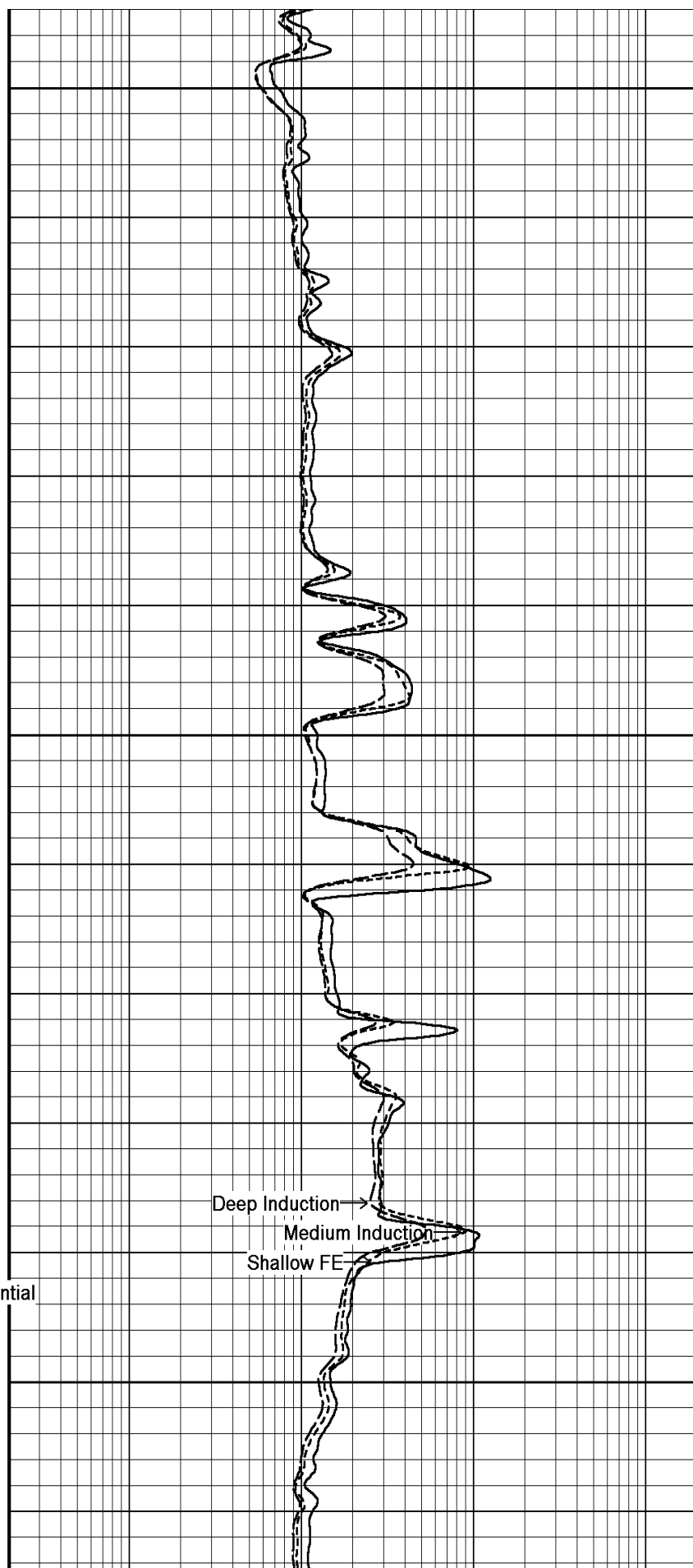
950

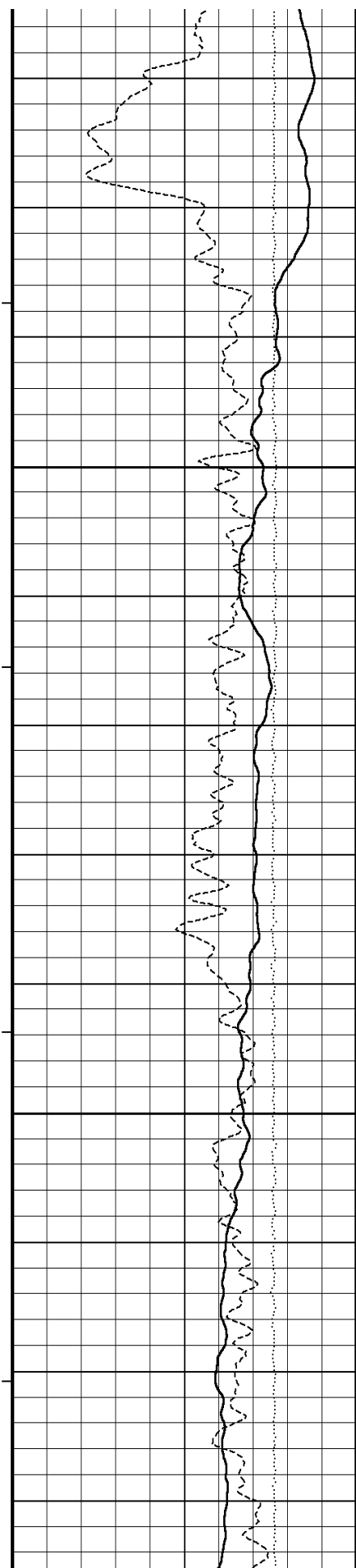
960

36°

970

980





36°

990

1000

1010

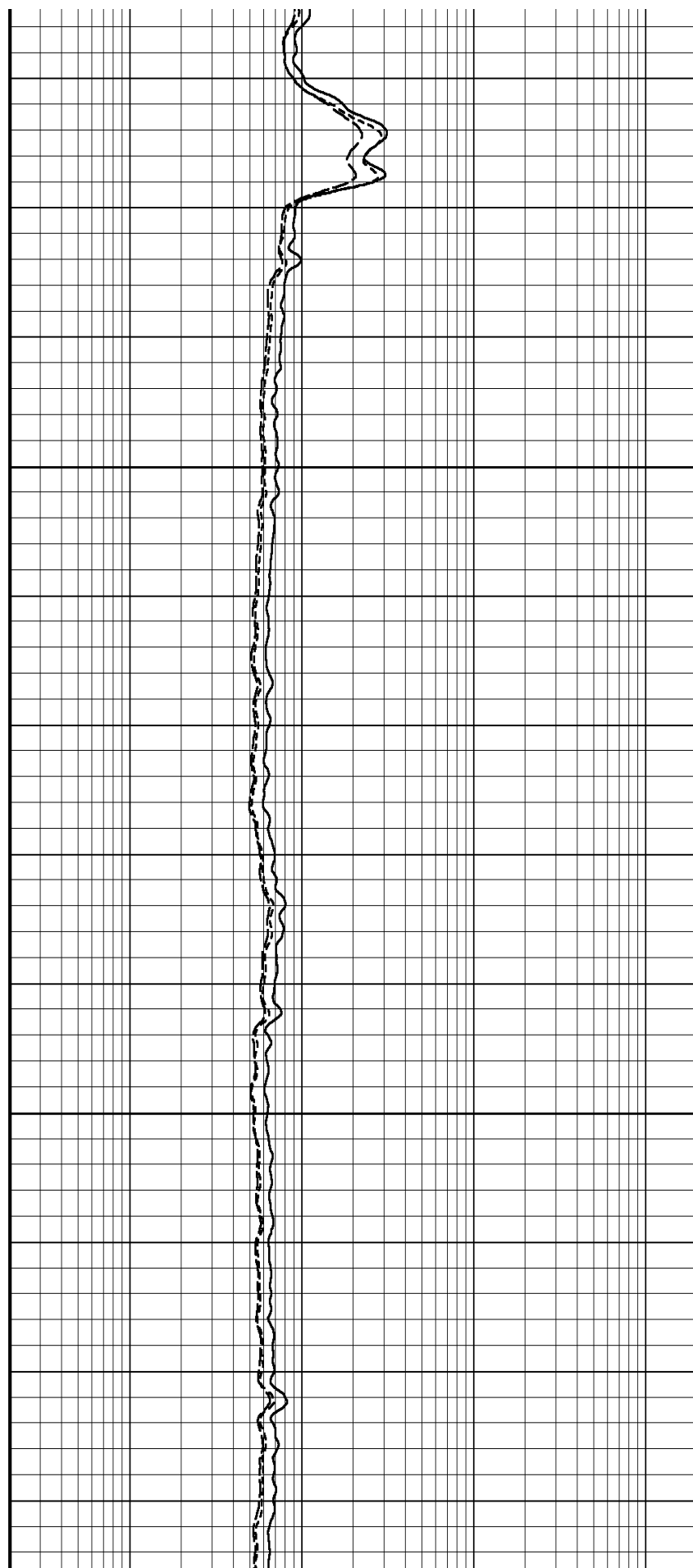
37°

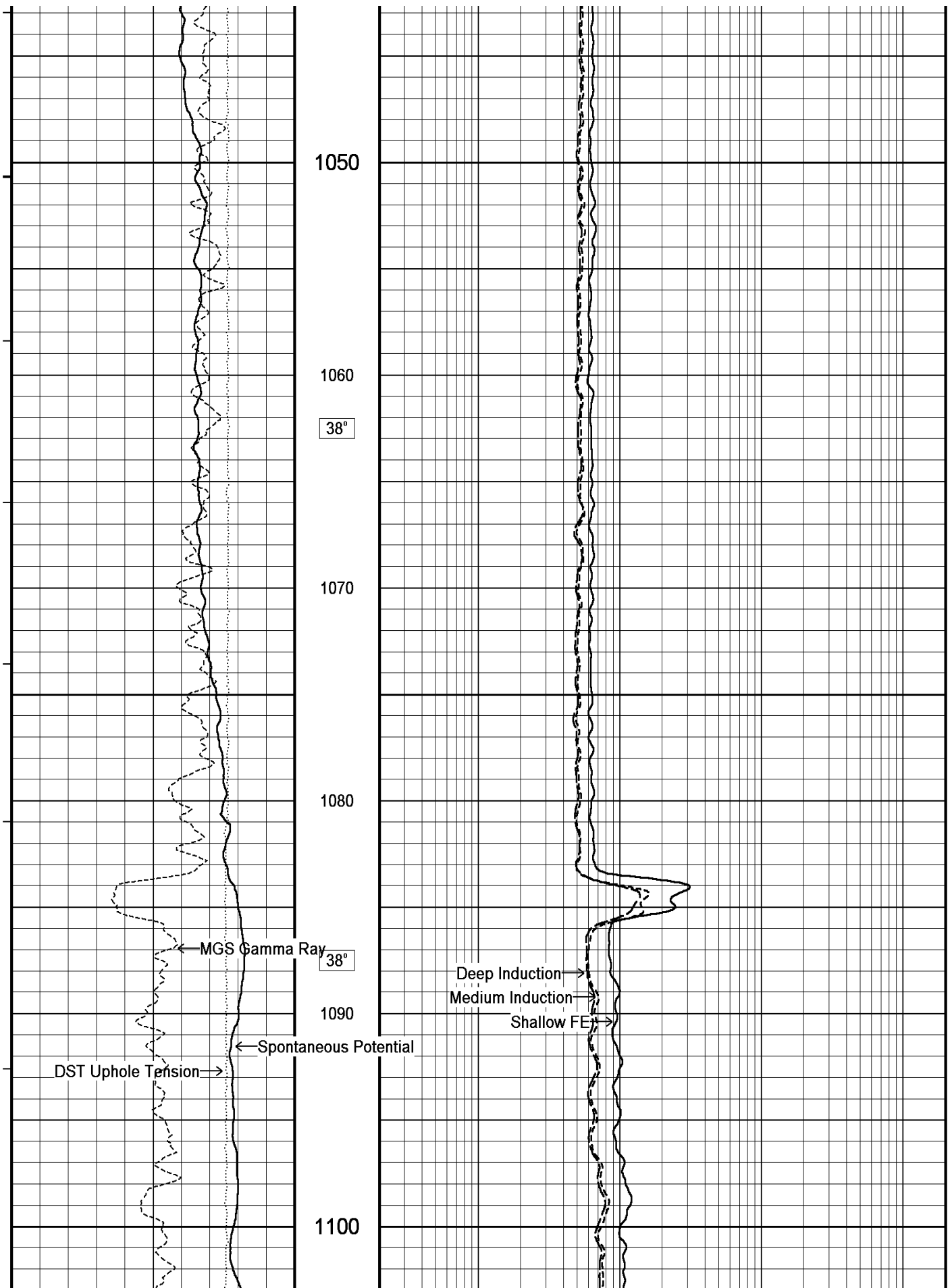
1020

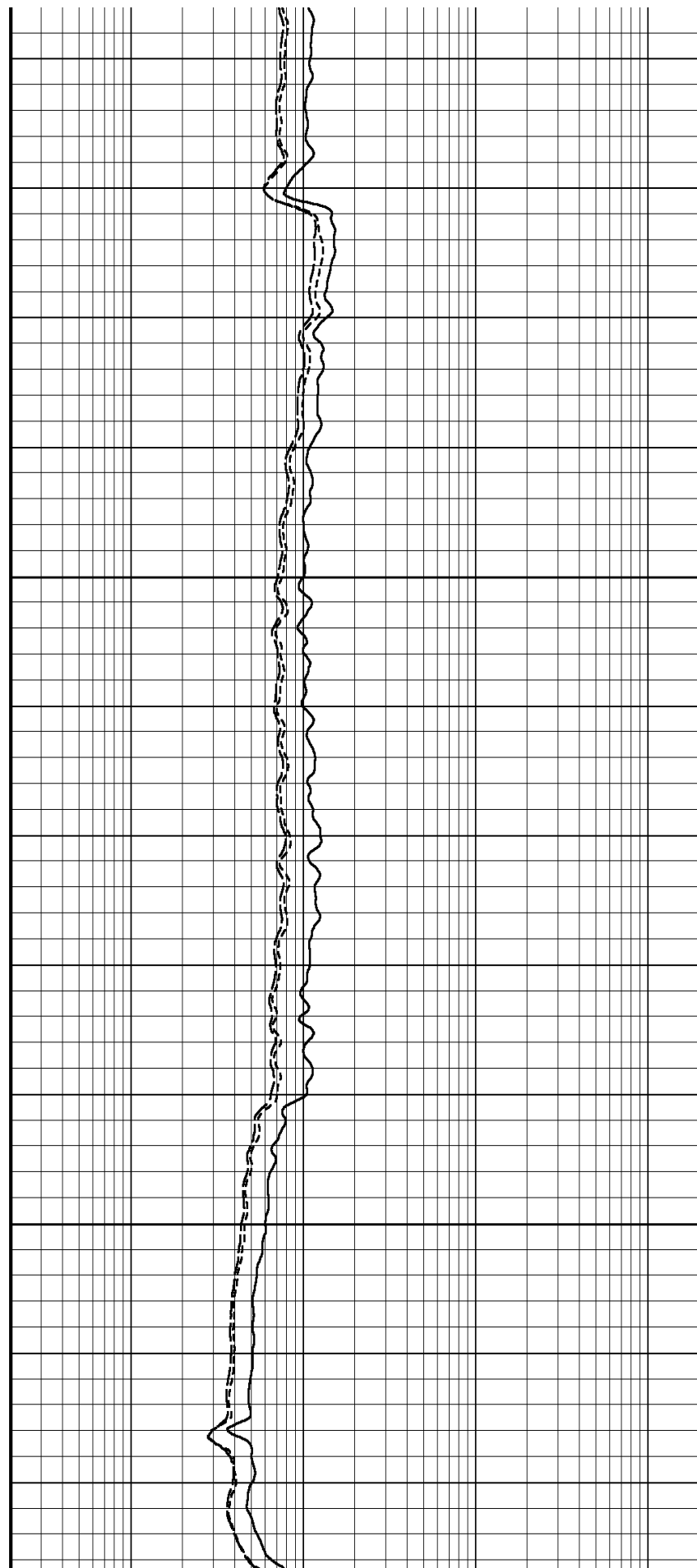
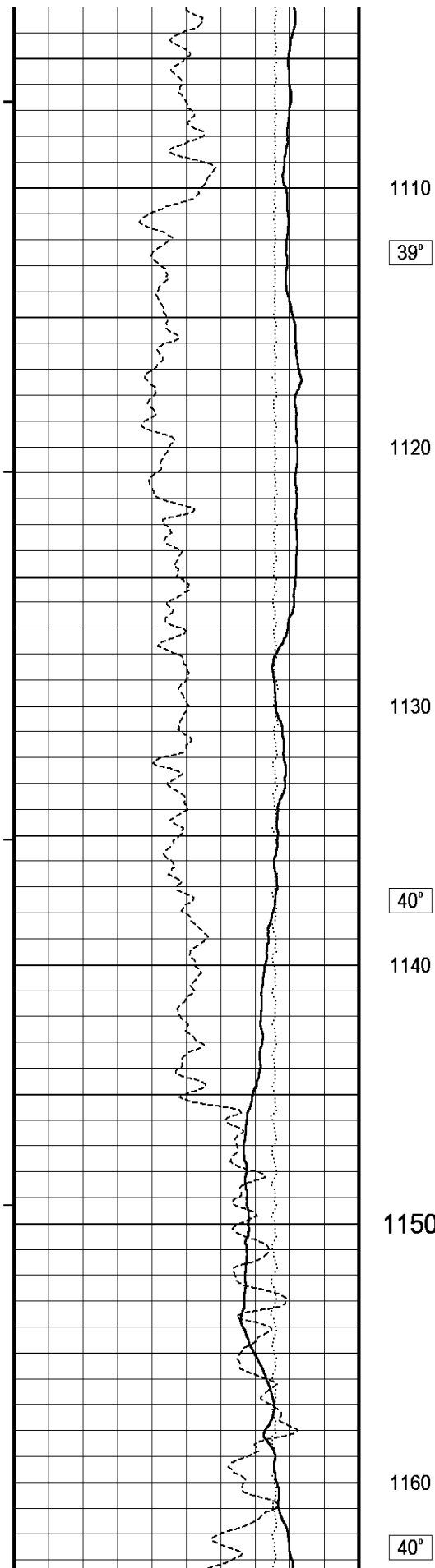
1030

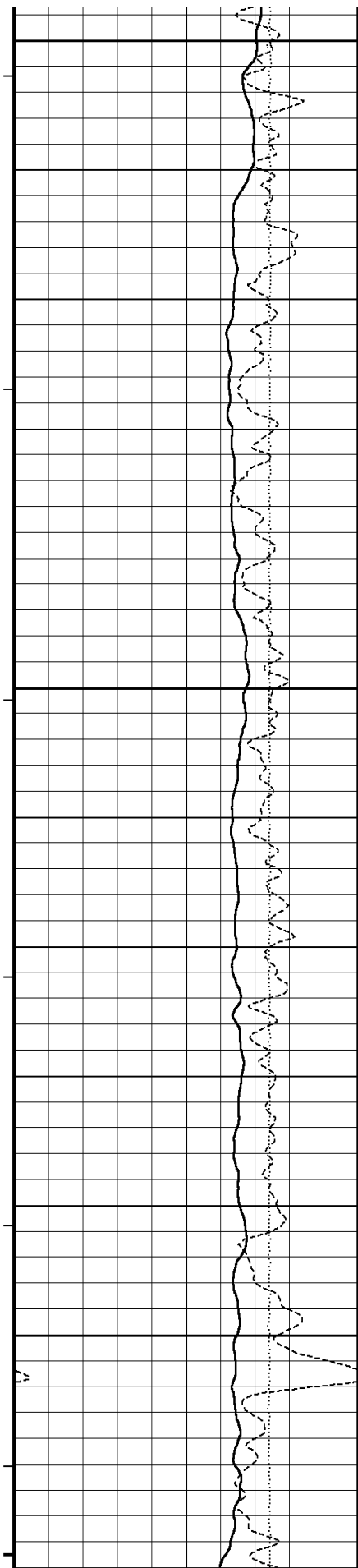
37°

1040









1230

42°

1240

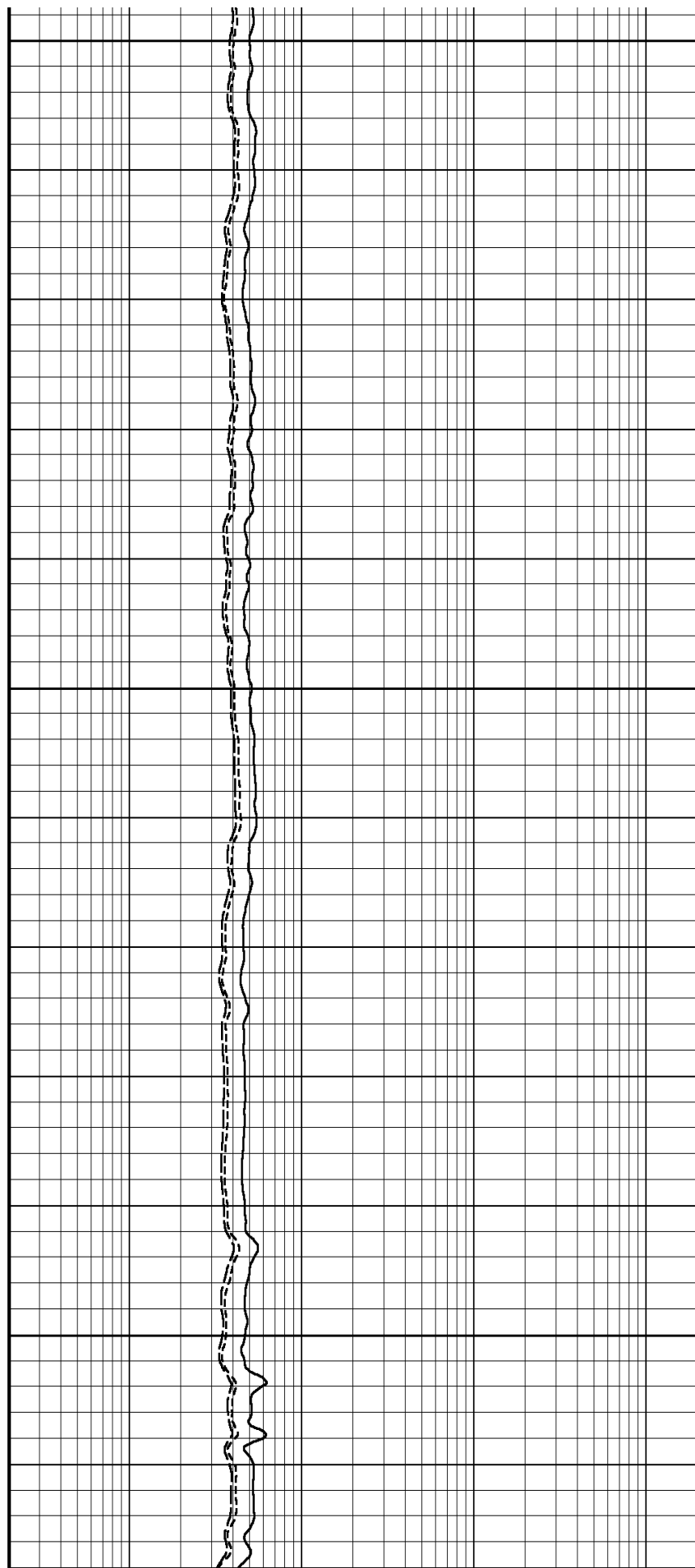
1250

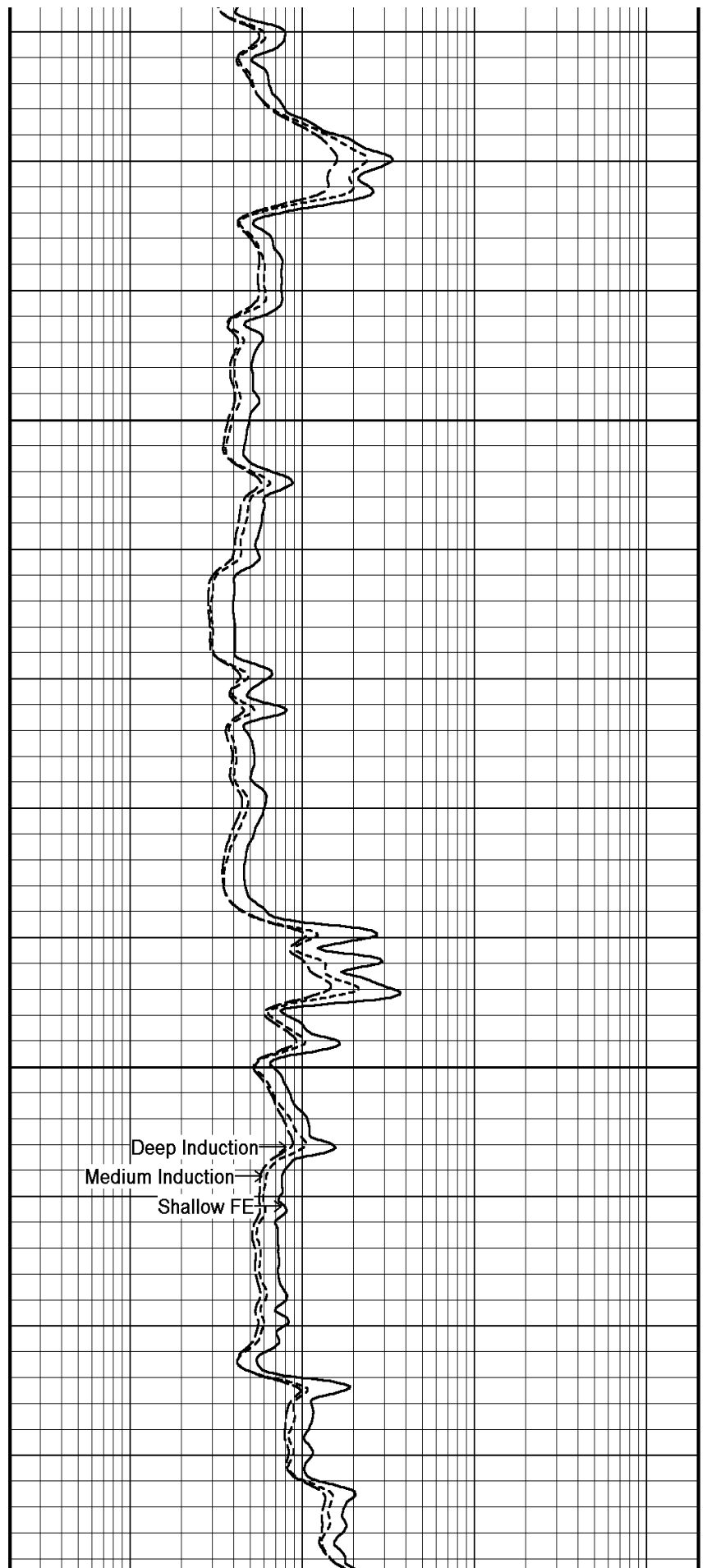
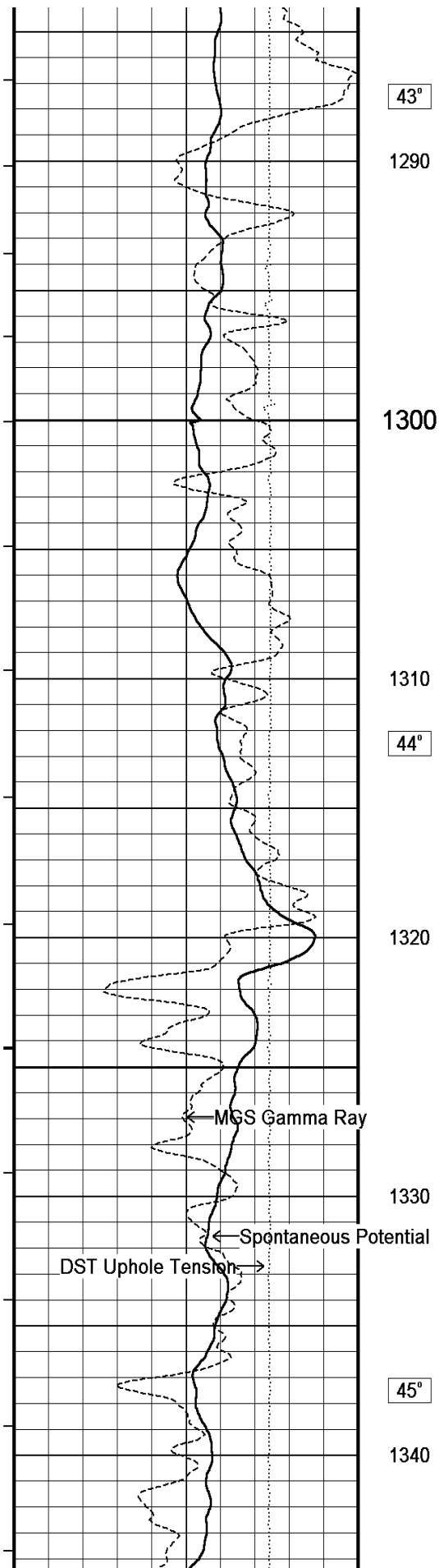
1260

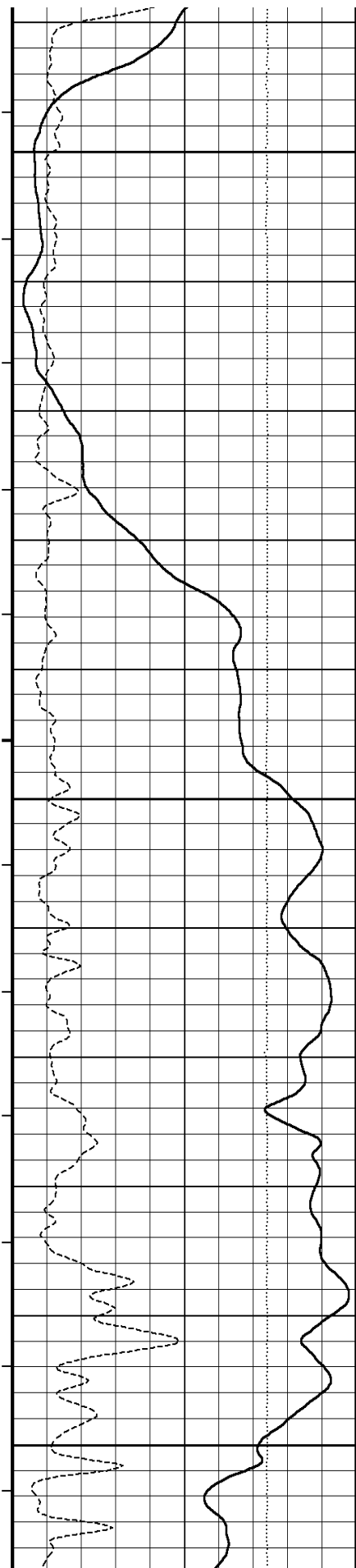
43°

1270

1280







1350

1360

45°

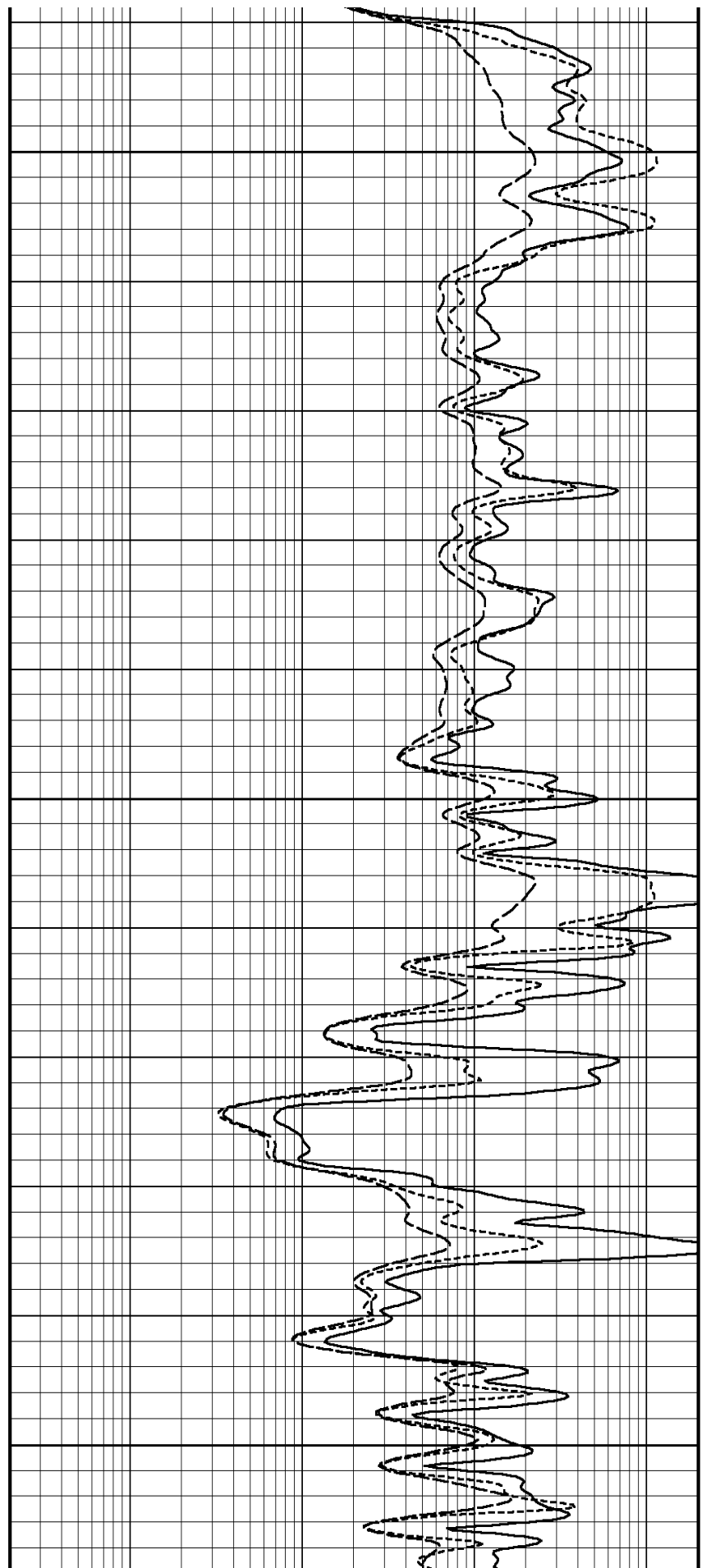
1370

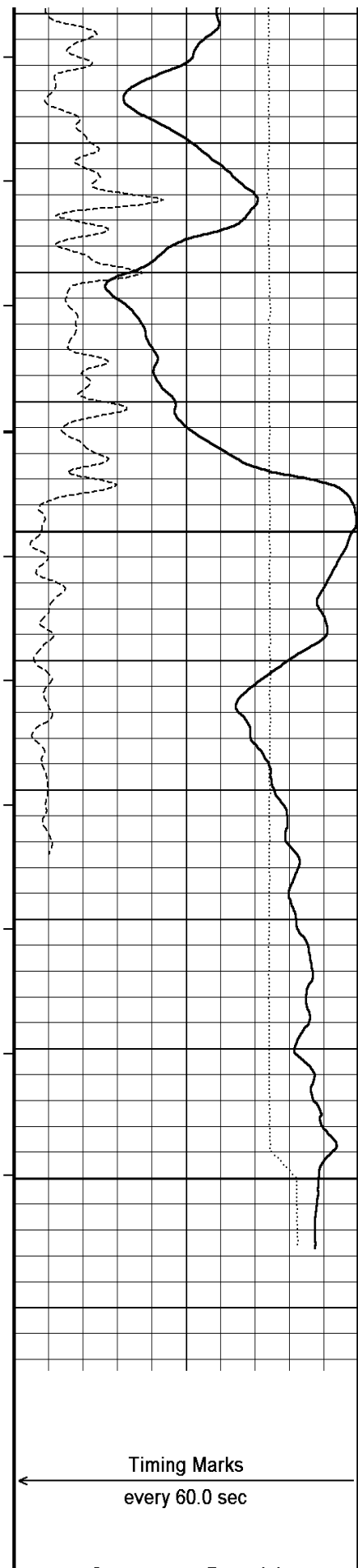
1380

46°

1390

1400





1410

48°

1420

1430

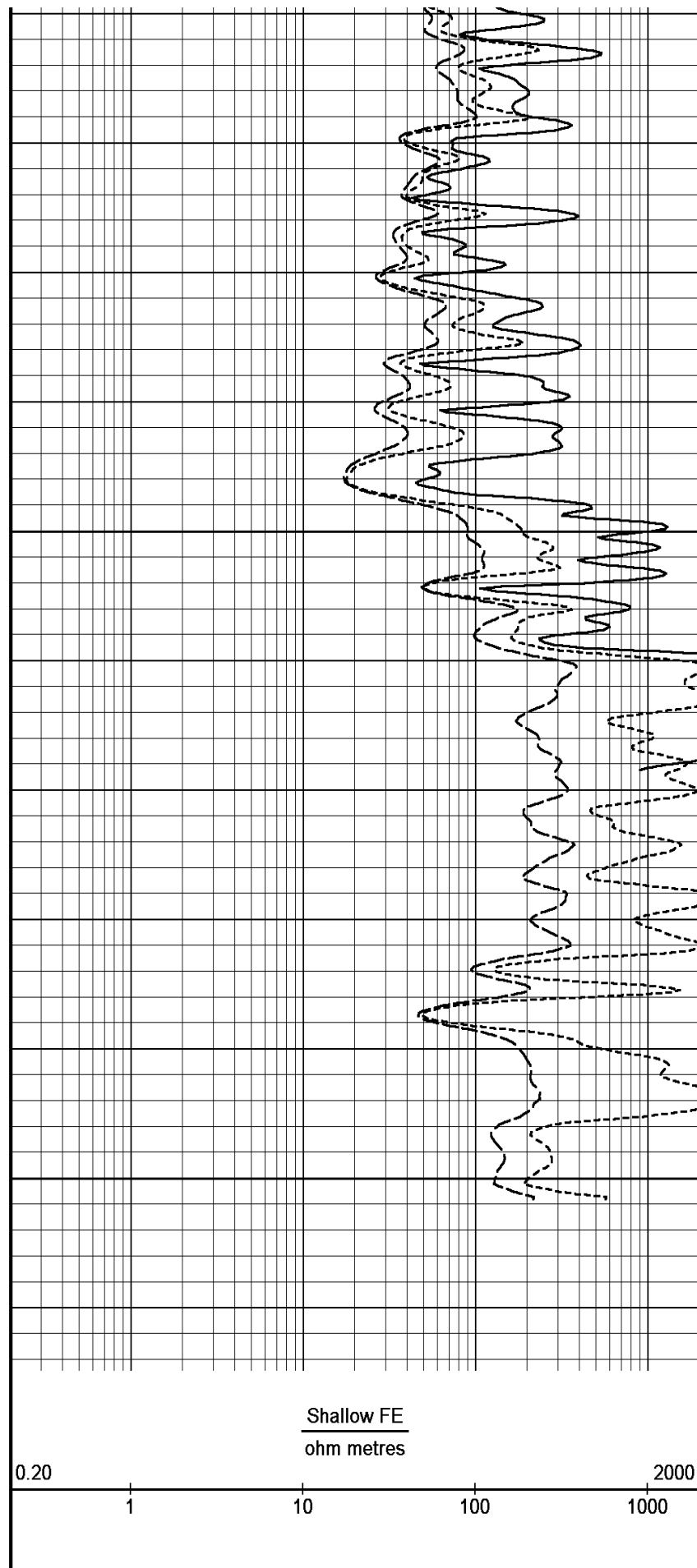
1440

1450

1456

Depth
in
Metres

Timing Marks
every 60.0 sec



Shallow FE
ohm metres

0.20

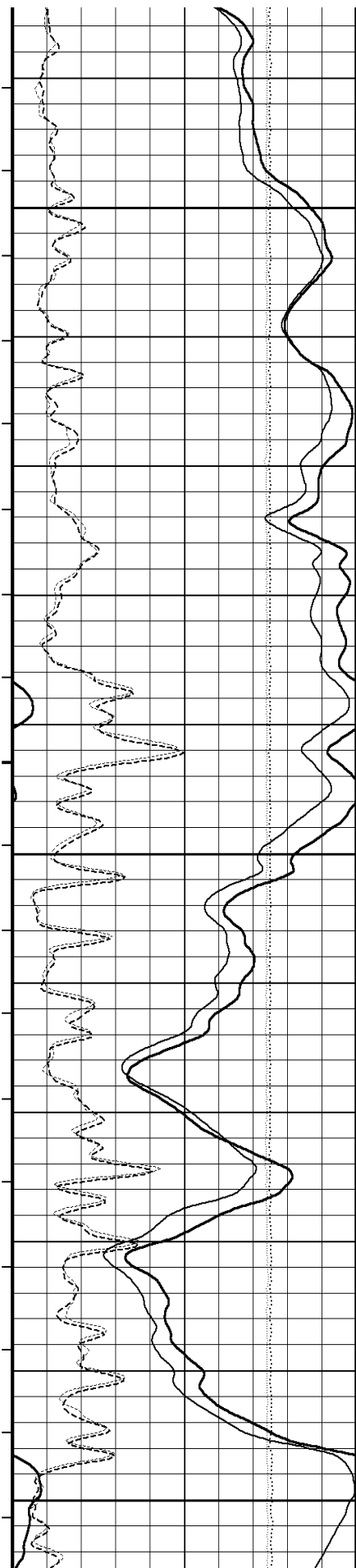
1

10

100

1000

2000



1370

1380

45°

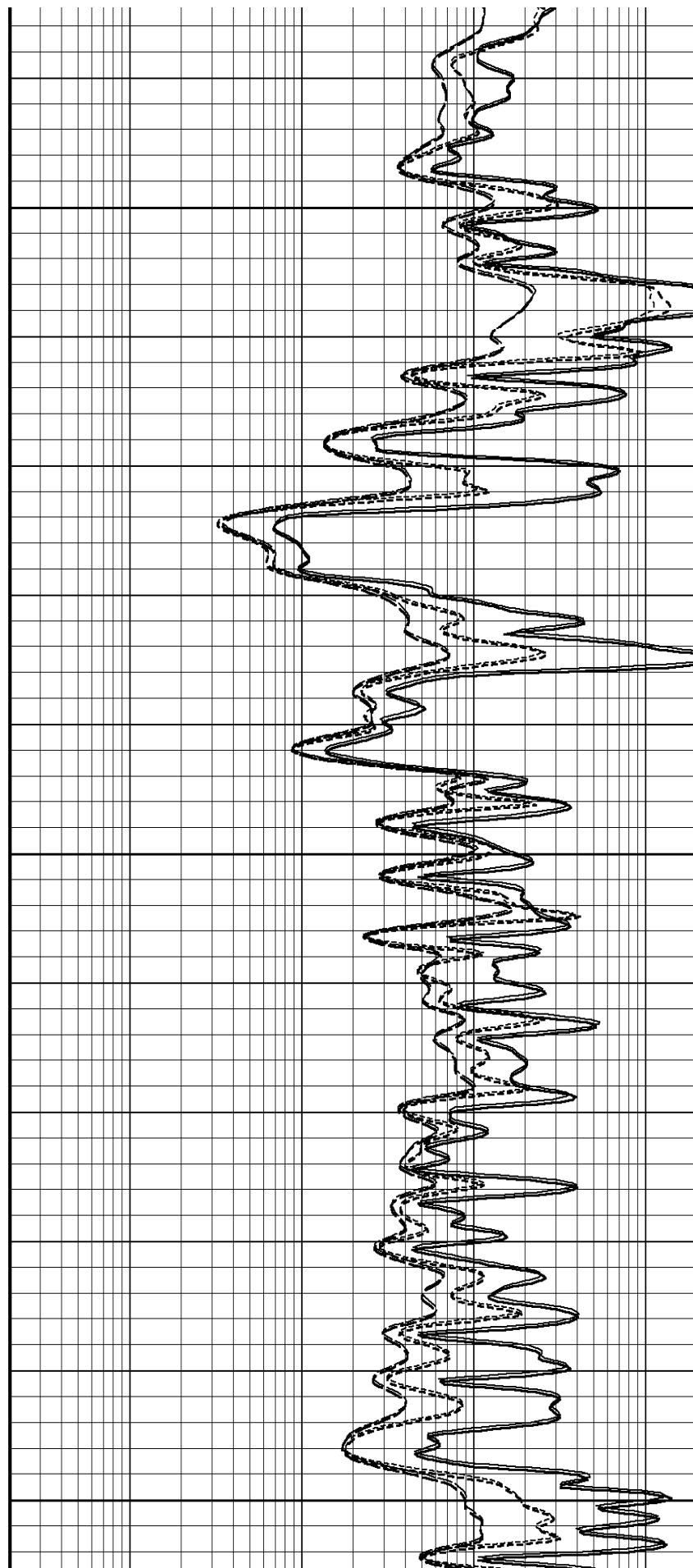
1390

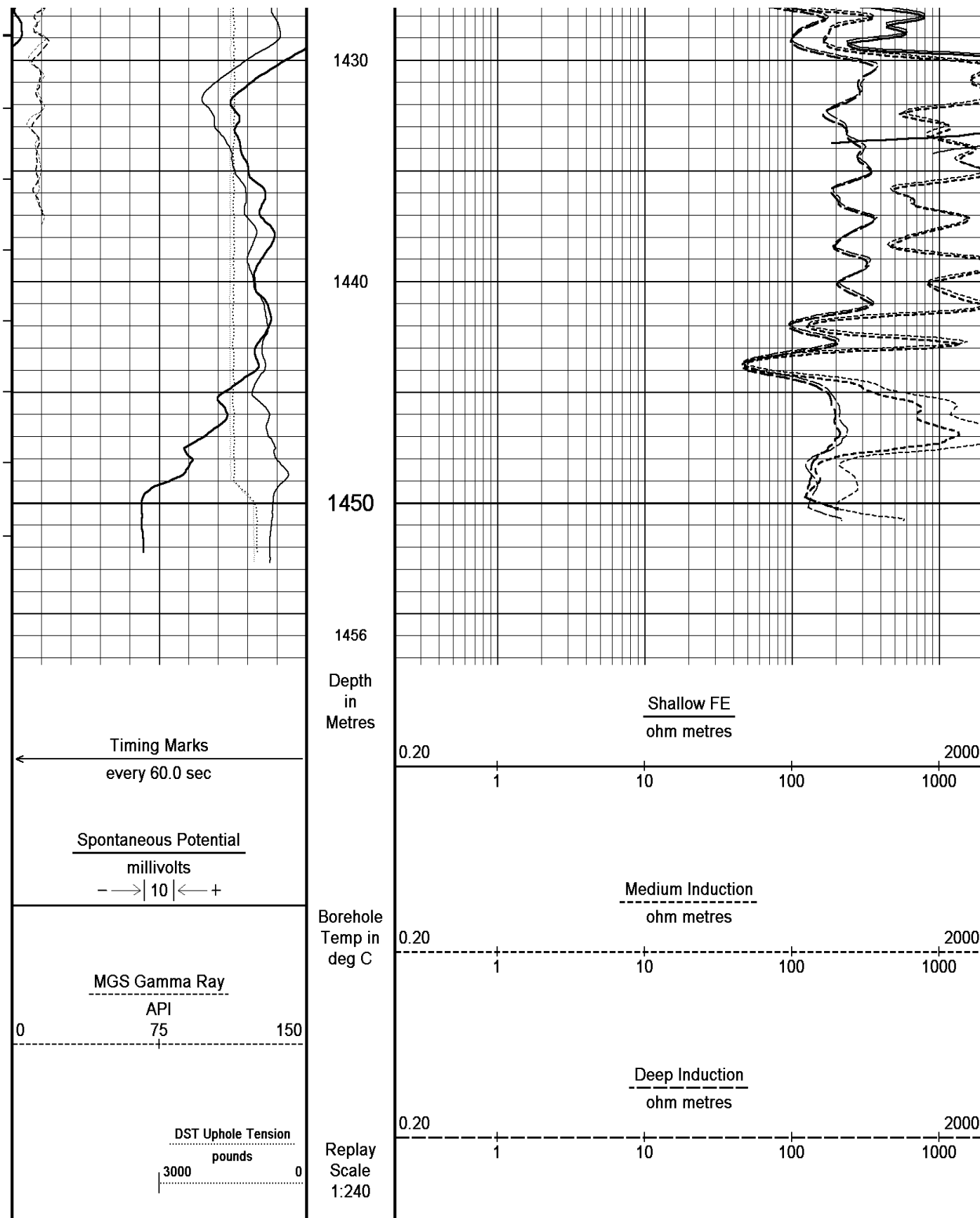
1400

1410

46°

1420





BEFORE SURVEY CALIBRATION

C:\Temp\Weatherford PreView\0\REPEAT.dta

General Constants All 000

Last Edited on 15-FEB-2007,06:48

General Parameters

Mud Resistivity	1.180	ohm-metres
Mud Resistivity Temperature	25.000	degrees C
Water Level	0.000	metres
Density/Neutron Processing	Wet Hole	

Hole/Annular Volume and Differential Caliper Parameters

HVOL Caliper 1	Density Caliper	
HVOL Caliper 2	Y Two Arm Caliper	
Annular Volume Diameter	139.700	mm
Caliper for Differential Caliper	Density Caliper	

Rwa Parameters

Porosity used	Base Density Porosity
Resistivity used	Deep Induction
RWA Constant A	0.610
RWA Constant M	2.150

High Resolution Temperature Calibration MCG 159

Field Calibration on 28-NOV-2006,15:40

	Measured	Calibrated(Deg C)
Lower	10.00	10.00
Upper	50.00	50.00

High Resolution Temperature Constants MCG 159

Last Edited on 28-NOV-2006,15:40

Pre-filter Length	11
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FE Calibration MFE 017

Base Calibration on 14-FEB-2007 07:09

Field Check on

Base Calibration

	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	971.4	126.8
Base Check		279.4
Field Check		0.0

FE Constants MFE 017

Last Edited on 15-FEB-2007,04:52

Caliper Source for FE correction	Density Caliper
Rm Source for FE correction	Temperature Corr
Temp. for Rm Corr.	MCG External Temperature
Stand-off	Centred
	millimetres

Gamma Calibration MGS 010

Field Calibration on 7-FEB-2007,09:09

	Measured	Calibrated (API)
Background	48	31
Calibrator (Gross)	1256	825
Calibrator (Net)	1208	794

Gamma Constants MGS 010

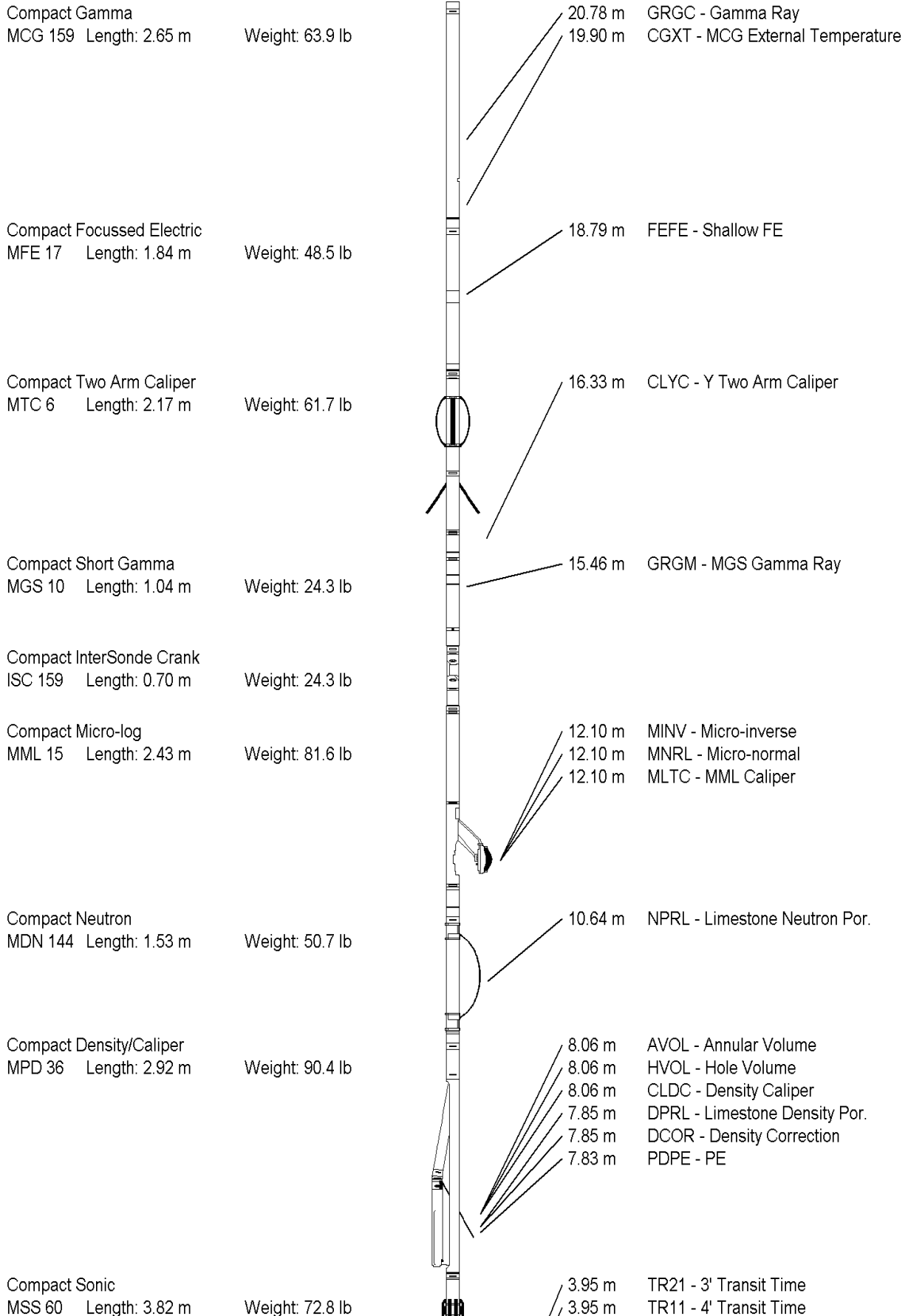
Last Edited on 15-FEB-2007,06:48

Gamma Calibrator Number	grcc075
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Mud Density	1060.00	kg/m3
Caliper Source for Processing	Density Caliper	
Tool Position	Centred	
Concentration of KCl	0.00	kppm
Induction Calibration MAI 072		Base Calibration on 25-JAN-2007,18:16 Field Check on 12-FEB-2007 04:15
Base Calibration		
Test Loop Calibration	Measured	Calibrated (mmho/m)
Channel	Low High	Low High
1	13.9 459.6	9.3 966.2
2	5.3 373.2	7.6 821.4
3	2.9 254.1	5.2 566.0
4	1.3 130.4	2.6 279.2
Array Temperature	18.5	Deg C
Channel	Base Check (mmho/m)	Field Check (mmho/m)
	Low High	Low High
1	18.0 3925.2	20.2 3926.2
2	31.0 3598.6	32.7 3599.2
3	29.0 3101.3	30.3 3102.2
4	20.3 2105.9	21.3 2106.6
Deep	18.4 2019.9	19.4 2021.1
Medium	40.9 4089.6	42.6 4090.6
Shallow	45.6 5324.4	48.1 5324.5
Array Temperature	18.5	22.2 Deg C
Induction Constants MAI 072		Last Edited on 7-FEB-2007,09:11
Induction Model	VECTAR	
Caliper for Borehole Corr.	Y Two Arm Caliper	
Hole Size for Borehole Correction	N/A	millimetres
Stand-off	25.40	millimetres
Number of Fins on Stand-off	5.0000	
Stand-off Fin Width	25.4000	millimetres
Borehole Corr. Rm Source	Temperature Corr	
Temp. for Rm Corr.	MCG External Temperature	
Squasher Start	0.0020	mhos/metre
Borehole Normalisation		
DRM1	0.0000	DRC1 0.0000
DRM2	0.0000	DRC2 0.0000
MRM1	0.0000	MRC1 0.0000
MRM2	0.0000	MRC2 0.0000
SRM1	0.0000	SRC1 0.0000
SRM2	0.0000	SRC2 0.0000
Calibration Site Corrections		
Channel 1	0.00	mmhos/metre
Channel 2	0.00	mmhos/metre
Channel 3	0.00	mmhos/metre
Channel 4	0.00	mmhos/metre
Apparent Porosity and Water Saturation Constants		
Archie Constant (A)	1.00	
Cementation Exponent (M)	2.00	
Saturation Exponent (N)	2.00	
Saturation of Water for Apor	100.00	percent
Resistivity of Water for Apor and Sw	0.05	ohm-m
Resistivity of Mud Filtrate for Sw	0.00	ohm-m

DOWNHOLE EQUIPMENT

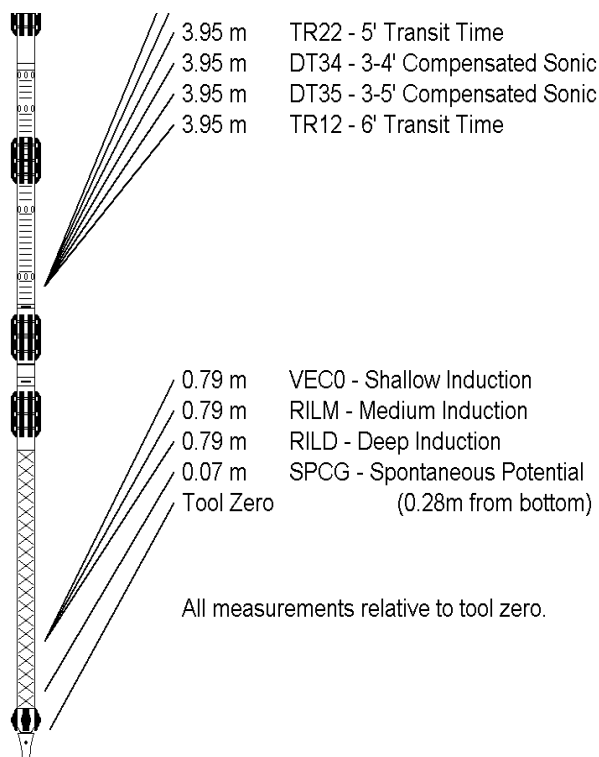
C:\Temp\Weatherford PreView\0\REPEAT.dta



Compact Induction
MAI 72 Length: 3.29 m Weight: 48.5 lb

Compact Hole Finder
HFS 1 Length: 0.24 m Weight: 2.2 lb

Total Length: 22.63 m Weight: 568.8 lb



COMPANY	PARAMOUNT RESOURCES LTD.
WELL	PARAMOUNT ET AL CAMERON J-04
FIELD	CAMERON HILLS
PROVINCE/COUNTY	NORTH WEST TERRITORIES
COUNTRY/STATE	CANADA

Elevation Kelly Bushing	769.20	metres	First Reading	1448.70	metre
Elevation Drill Floor		metres	Depth Driller	1449.00	metres
Elevation Ground Level	765.20	metres	Depth Logger	1449.50	metres



Weatherford®

ARRAY INDUCTION