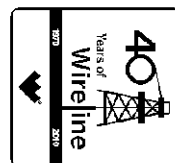




# Weatherford

## ARRAY INDUCTION

### LOG



COMPANY	WEXPRO COMPANY		
WELL	JACK DRAW UNIT #19		
FIELD	JACK DRAW UNIT		
PROVINCE/COUNTY	MOFFAT		
COUNTRY/STATE	U.S.A. / COLORADO		
LOCATION	SHL: 1342' FSL & 2264' FEL		
SEC	TWP	RGE	Other Services
10	11N	97W	MDN/MPD
API Number	05-081-07616		CMI
Permit Number			
Permanent Datum G.L., Elevation 6894 feet			Elevations: feet
Log Measured From KB			KB 6923.00
Drilling Measured From K.B.			DF 6922.00
			GL 6894.00
Date	8-OCT-2011		
Run Number	ONE		
Depth Driller	9373.00	feet	
Depth Logger	9375.00	feet	
First Reading	9372.00		
Last Reading	538.00		
Casing Driller	535.00	feet	
Casing Logger	538.00	feet	
Bit Size	7.875	inches	
Hole Fluid Type	LSND		
Density / Viscosity	10.20 lb/USg	44.00 CP	
PH / Fluid Loss	9.60	7.00 ml/30Min	
Sample Source	FLOWLINE		
Rm @ Measured Temp	7.63 @ 54.0	ohm-m	
Rmf @ Measured Temp	6.10 @ 54.0	ohm-m	
Rmc @ Measured Temp	9.16 @ 54.0	ohm-m	
Source Rmf / Rmc	CALC	CALC	
Rm @ BHT	2.23 @190.0	ohm-m	
Time Since Circulation	8 HOURS		
Max Recorded Temp	190.00	deg F	
Equipment Name	COMPACT		
Equipment / Base	13037	RK SPR	
Recorded By	J. PAULSON		
Witnessed By	R. BUSH		

## BOREHOLE RECORD

Last Edited: 08-OCT-2011 10:44

Bit Size inches	Depth From feet	Depth To feet
7.875	535.00	9373.00

## CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	9.625	0.00	535.00	36.00

## REMARKS

SOFTWARE VERSION 11.03.4044.

TOOLS RUN 1: SHA, MCG, MDN, MPD, MIS-A, SKJ, MIS-B, SKJ, MIM, MIE, MFE, MAI RAN IN COMBINATION.

HARDWARE: MDN: DUAL BOWSPRING USED.  
MPD: 8" PROFILE PLATE USED.  
MAI: TWO 1.0" STANDOFFS USED.

2.65 G/CC DENSITY MATRIX USED TO CALCULATE POROSITY.

ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST.

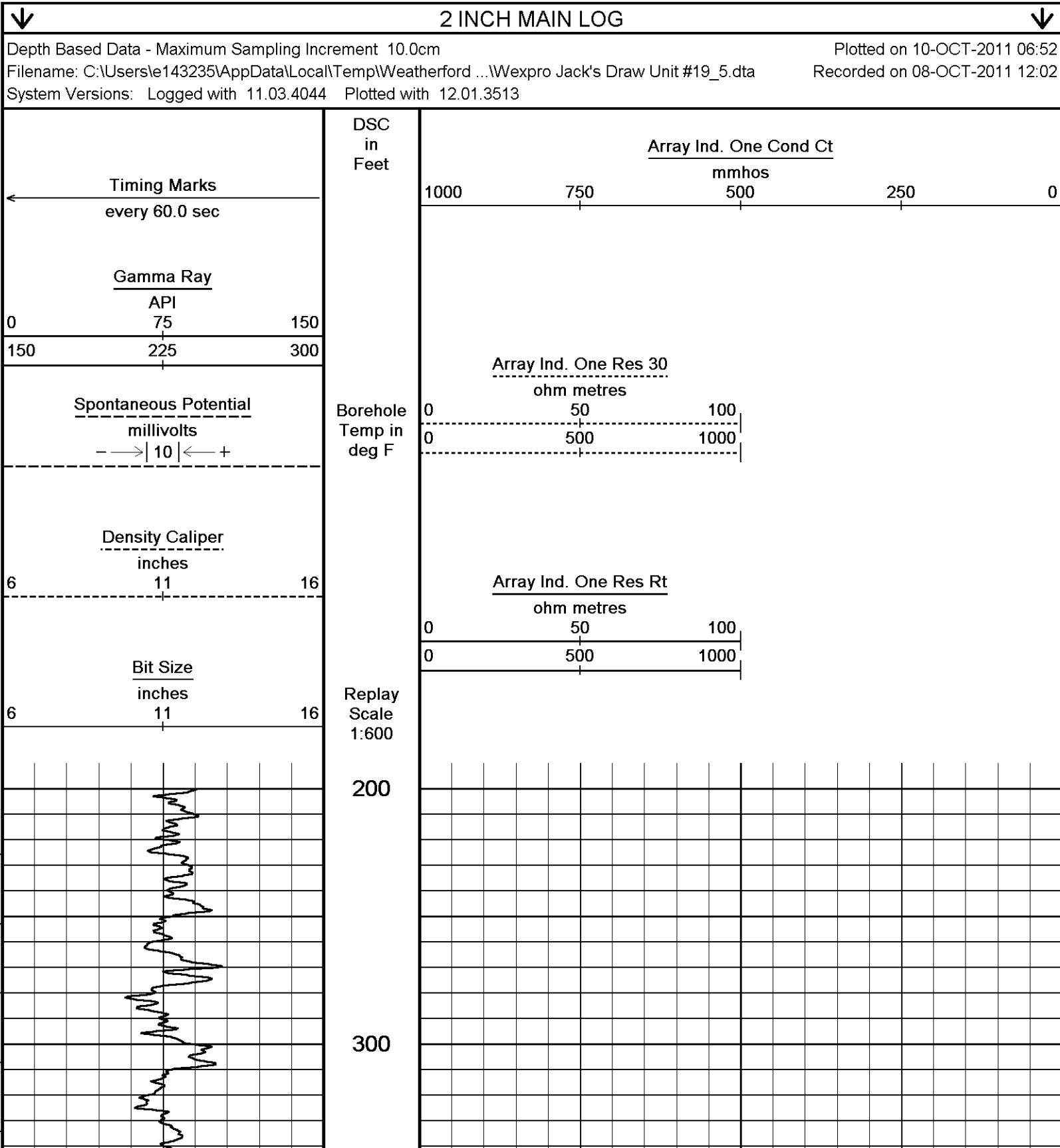
TOTAL HOLE VOLUME FROM T.D. TO SURFACE CASING = 3110 CUBIC FEET.

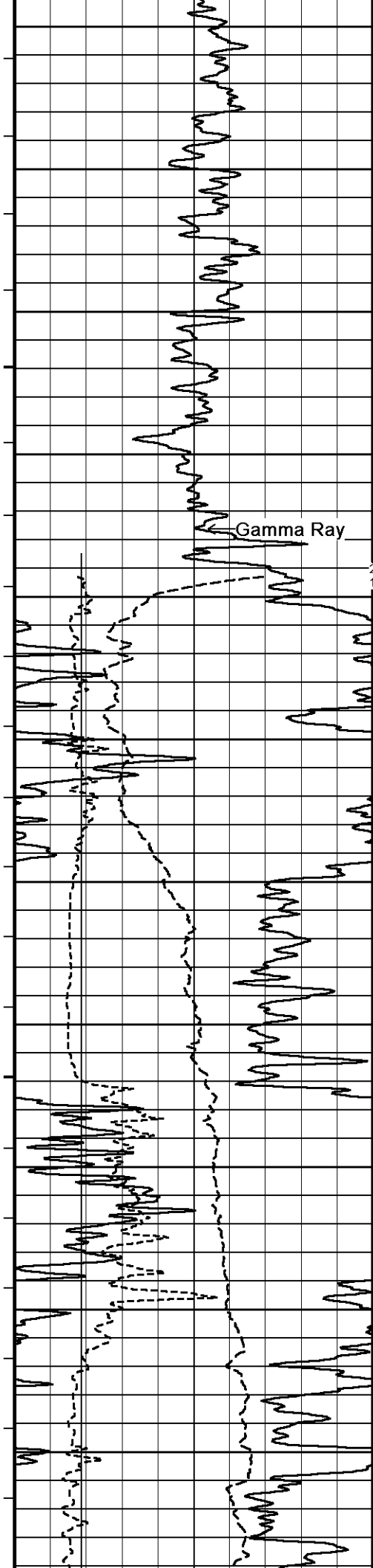
ANNULAR VOLUME WITH 4.5 INCH PRODUCTION CASING = 2130 CUBIC FEET.

TIGHT PULLS, BOREHOLE SIZE AND RUGOSITY WILL AFFECT REPEATABILITY AND DATA QUALITY.

RIG: SST #88.

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.





400

500

Gamma Ray

Casing  
Shoe

79°

600

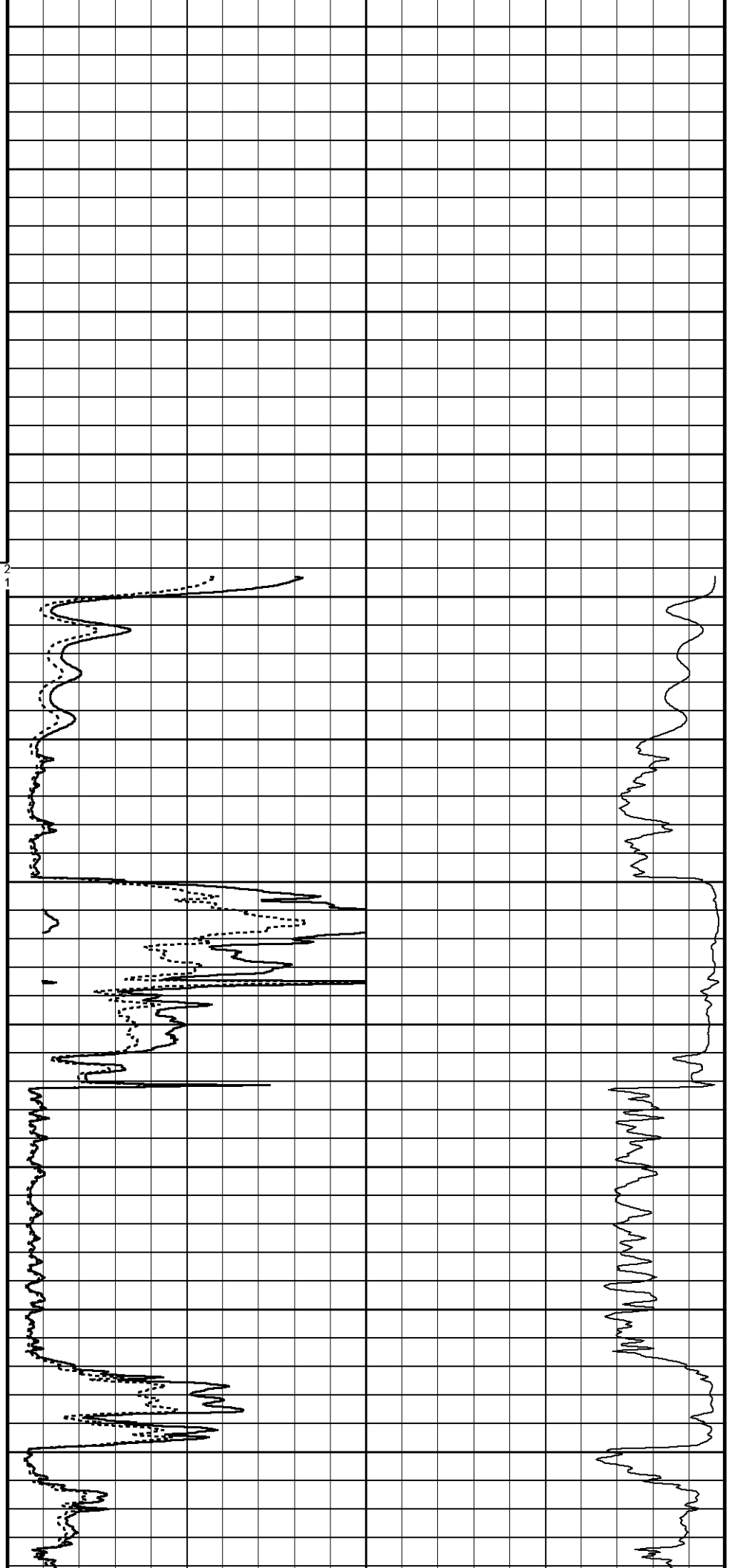
80°

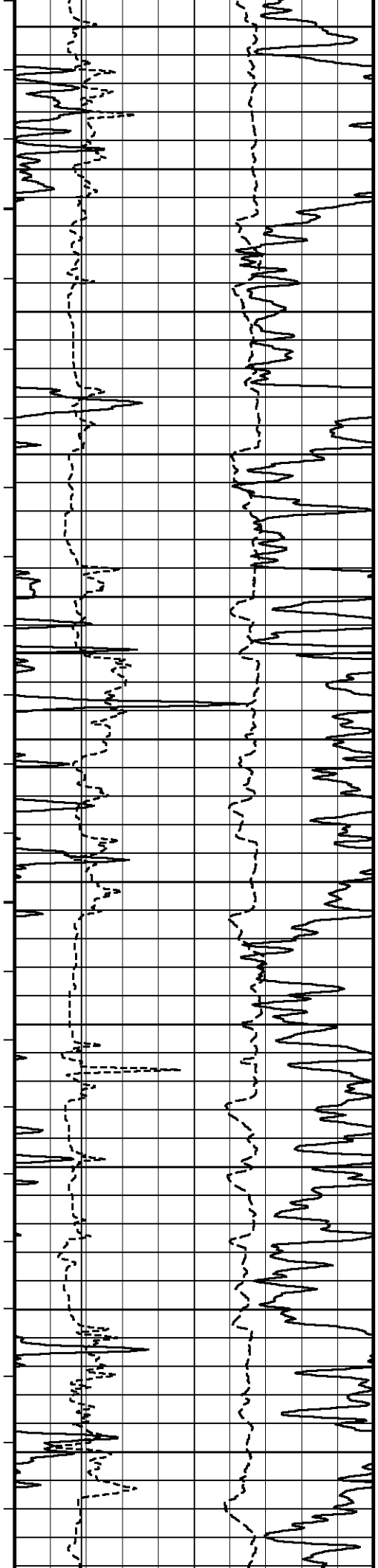
700

81°

800

82°





900

83°

1000

83°

1100

85°

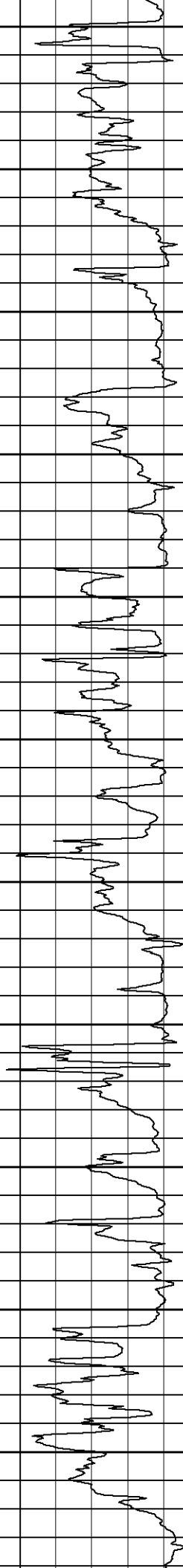
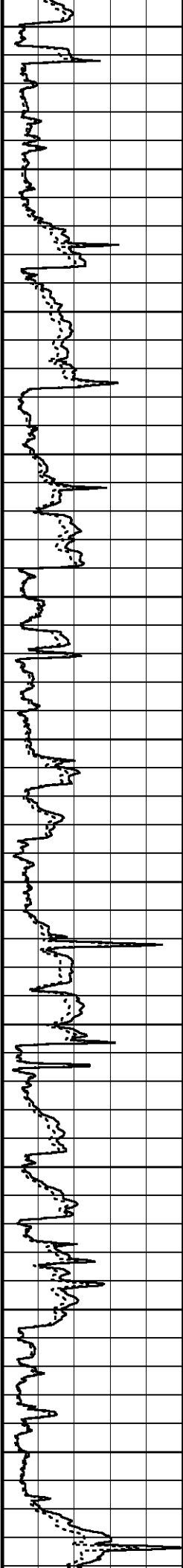
1200

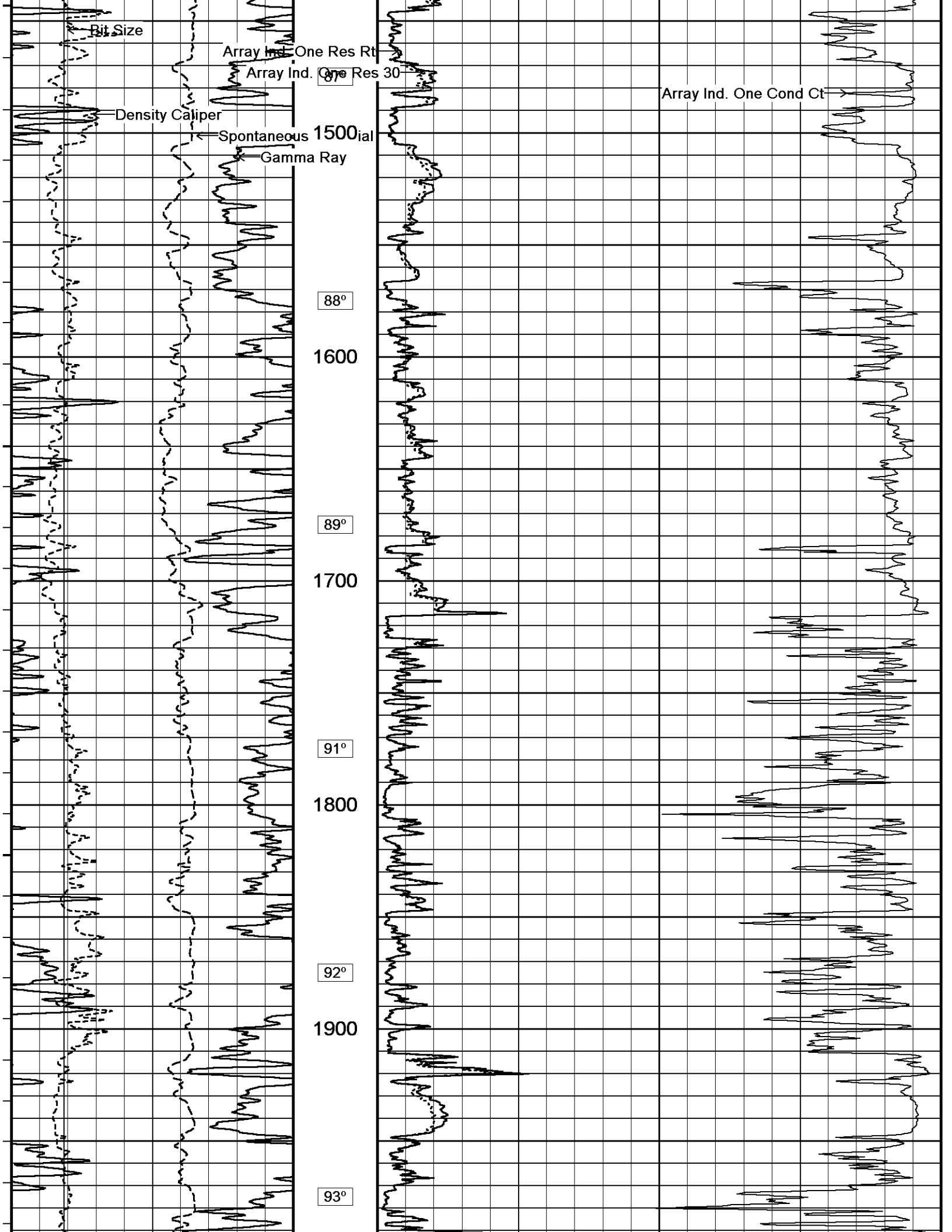
86°

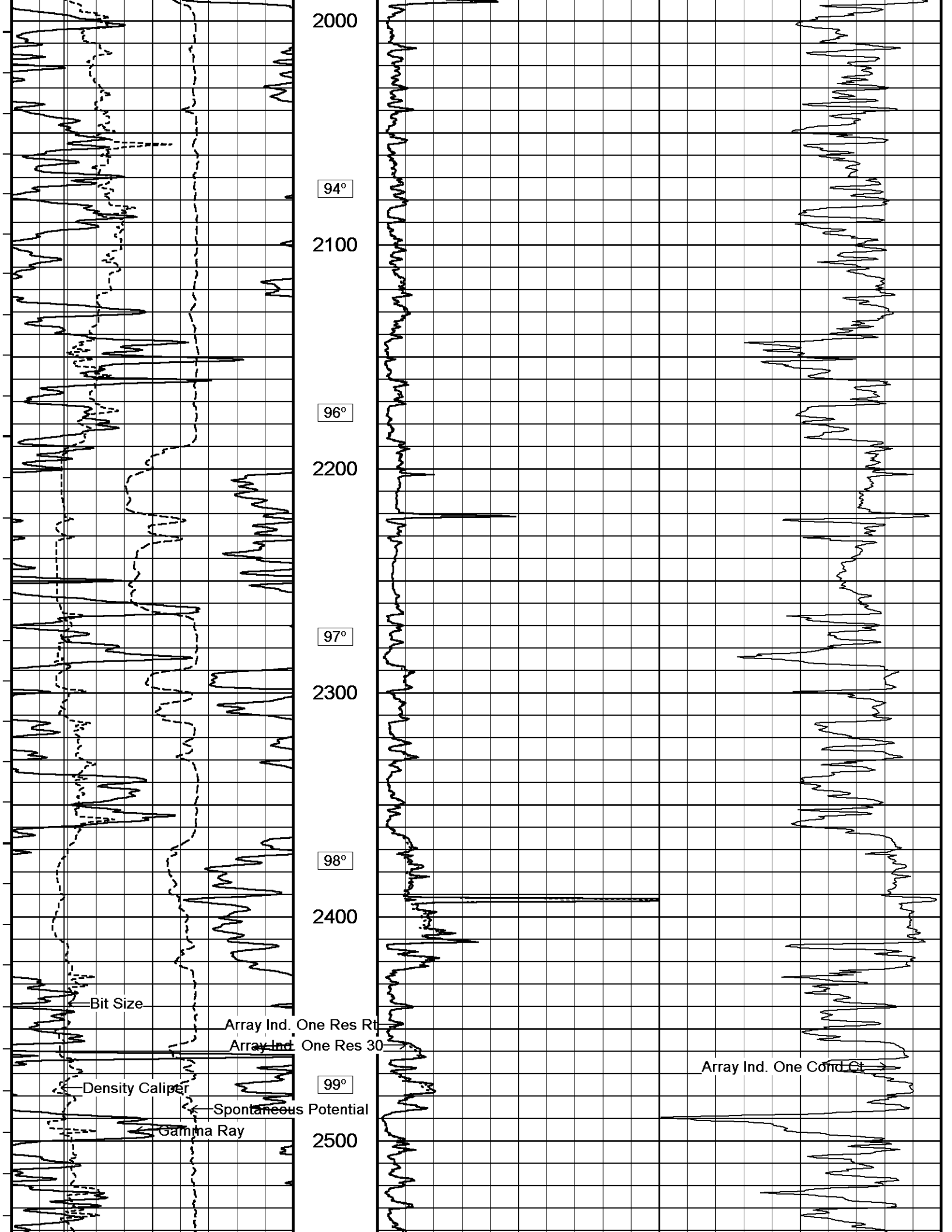
1300

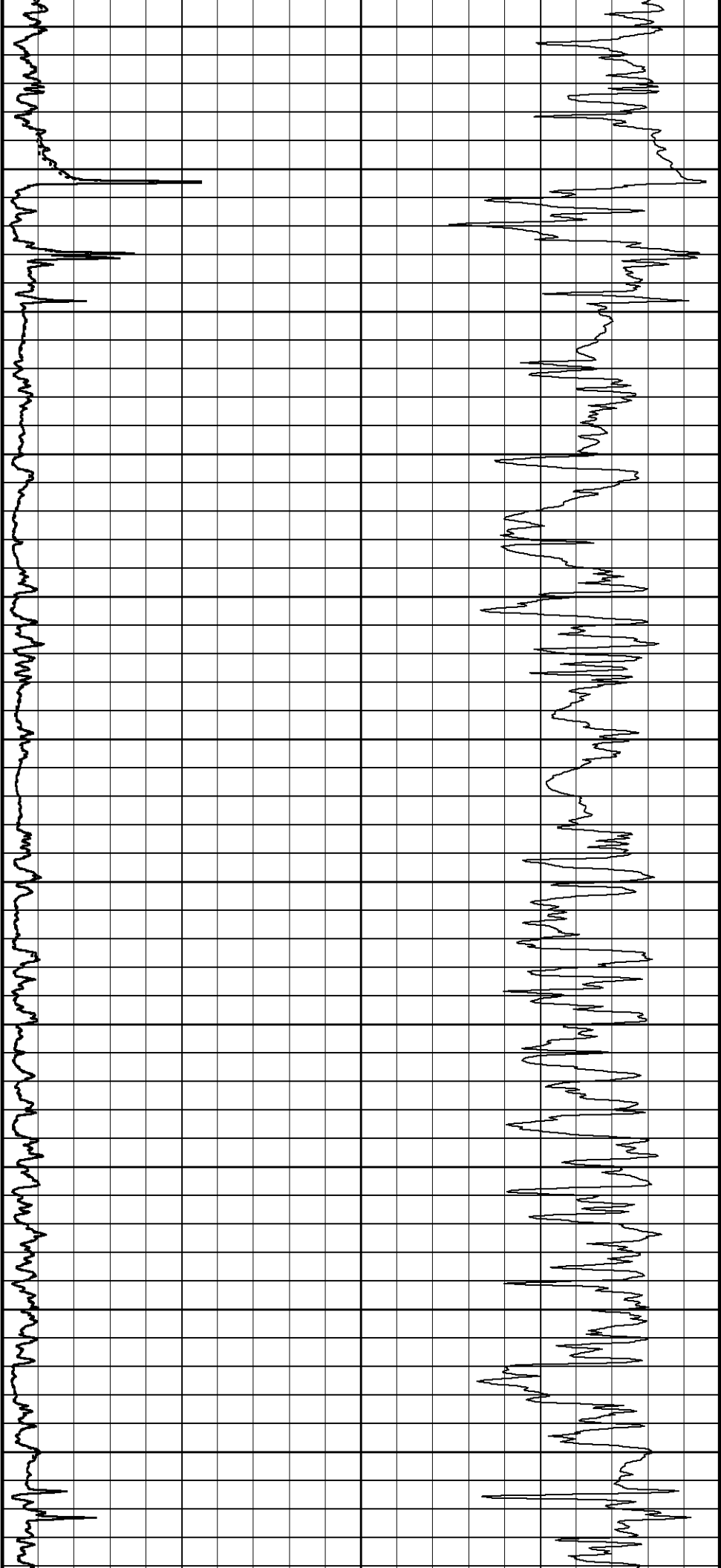
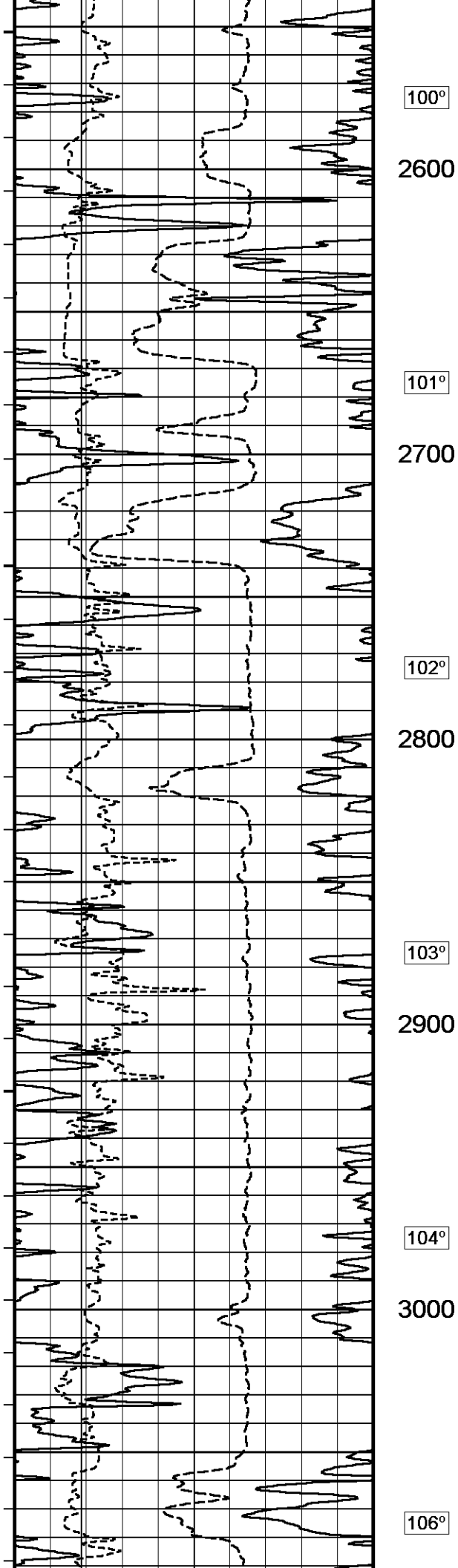
86°

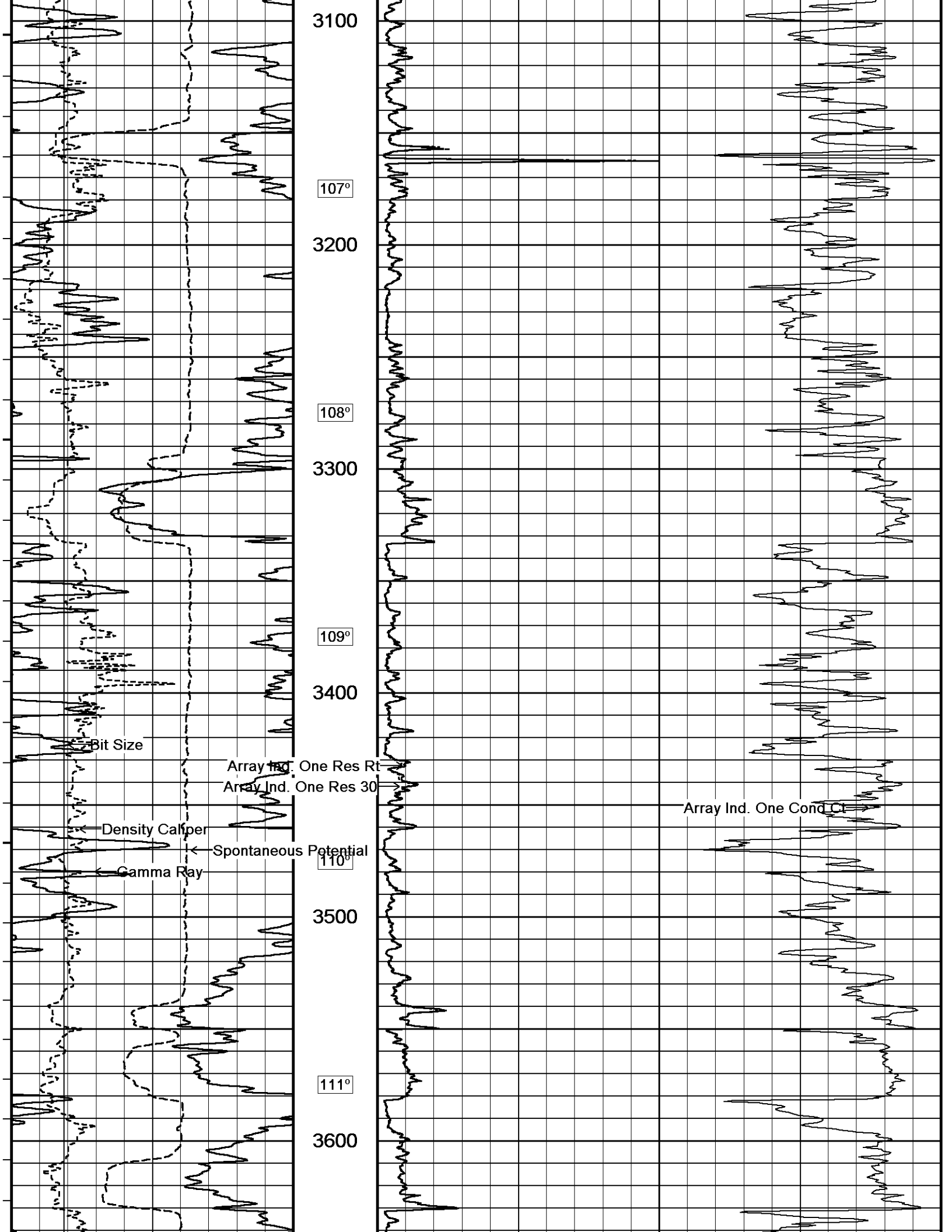
1400



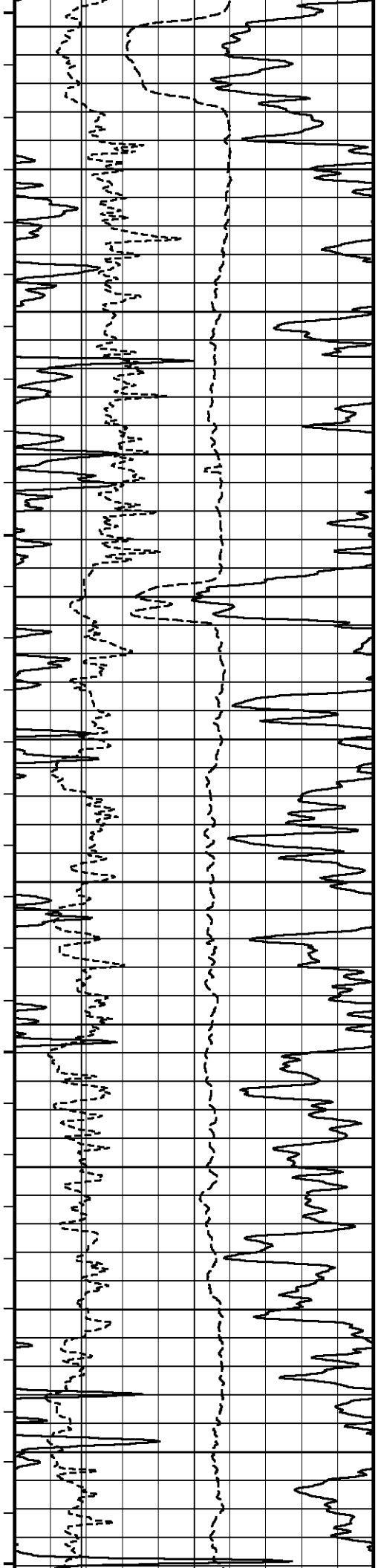












113°

3700

114°

3800

115°

3900

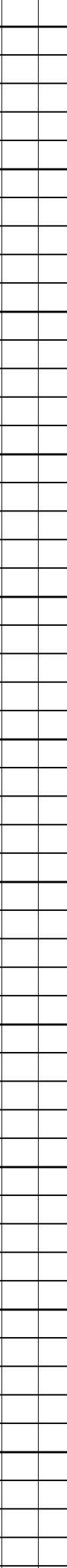
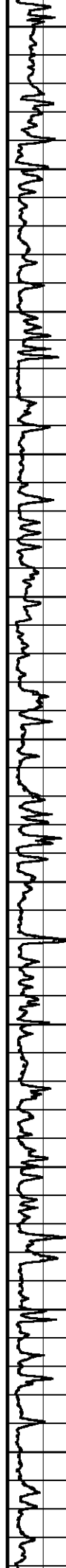
117°

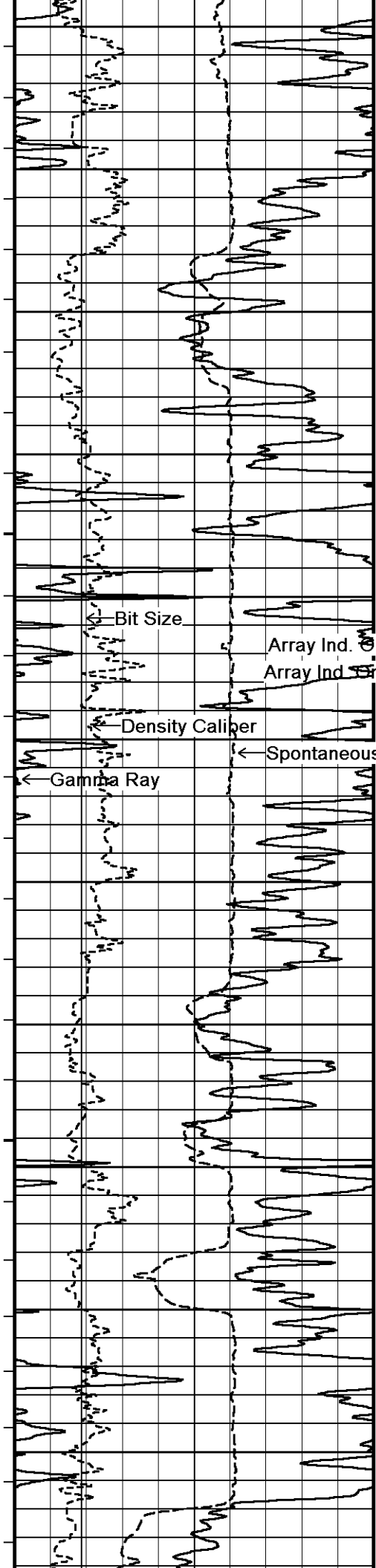
4000

118°

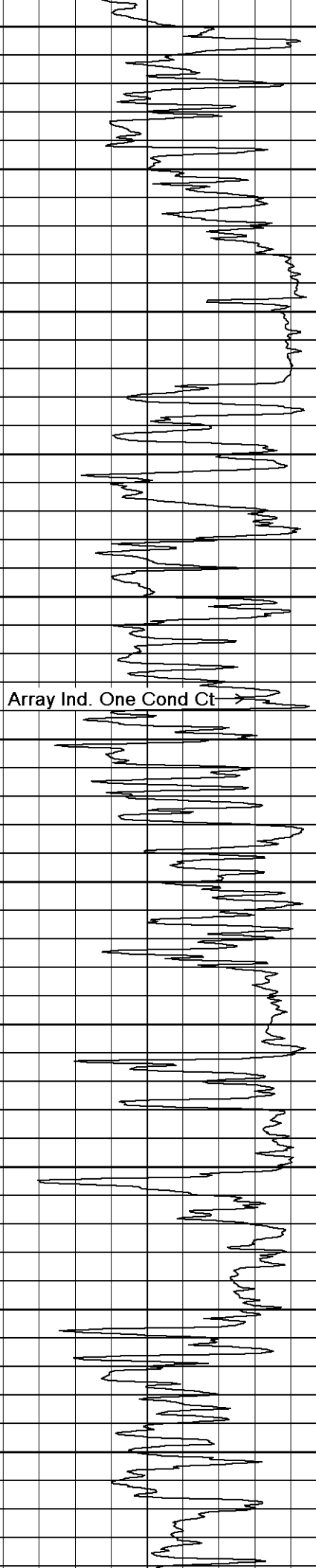
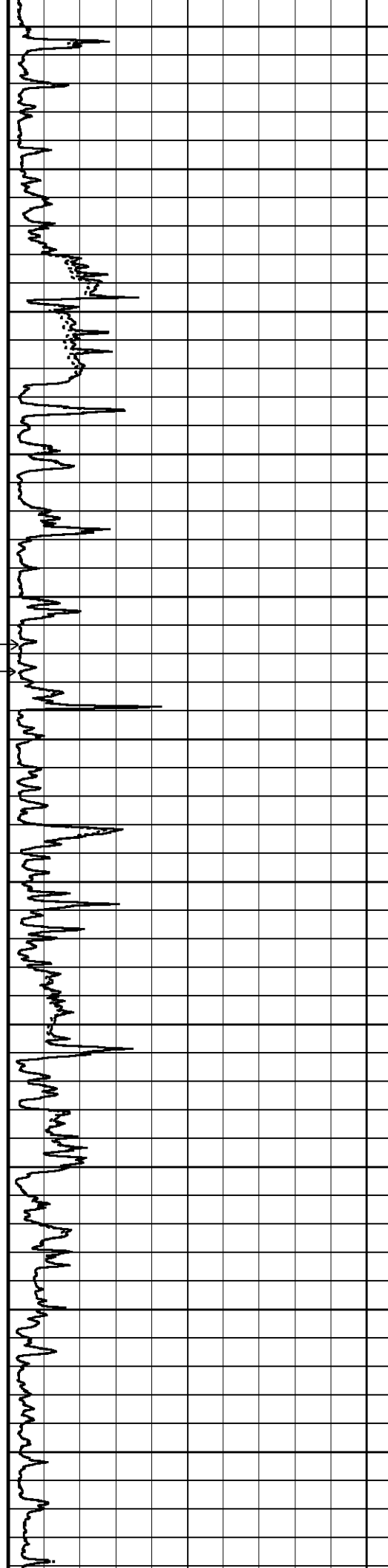
4100

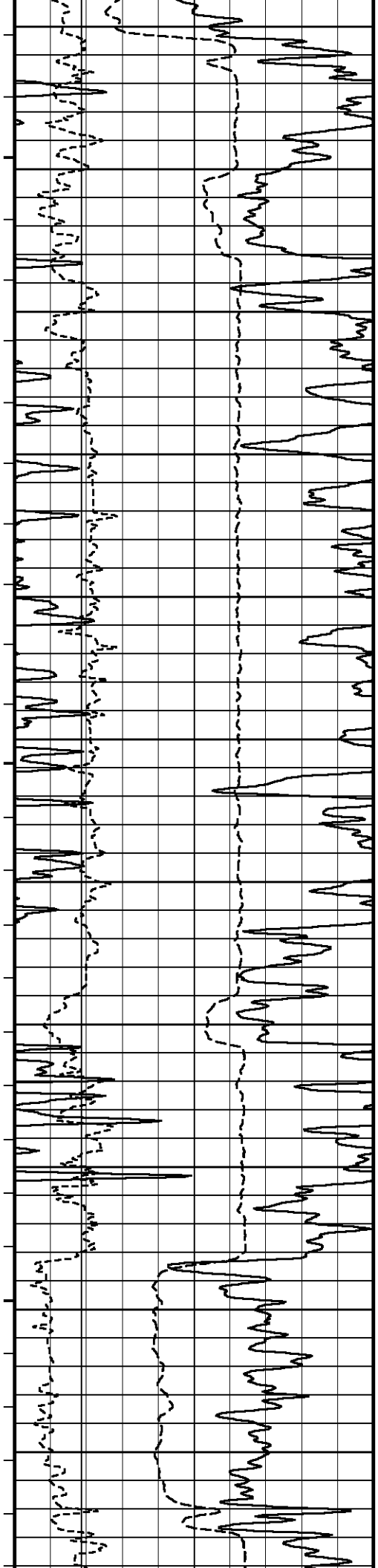
119°





4200  
120°  
4300  
121°  
4400  
123°  
4500  
124°  
4600  
125°  
4700





126°

4800

127°

4900

129°

5000

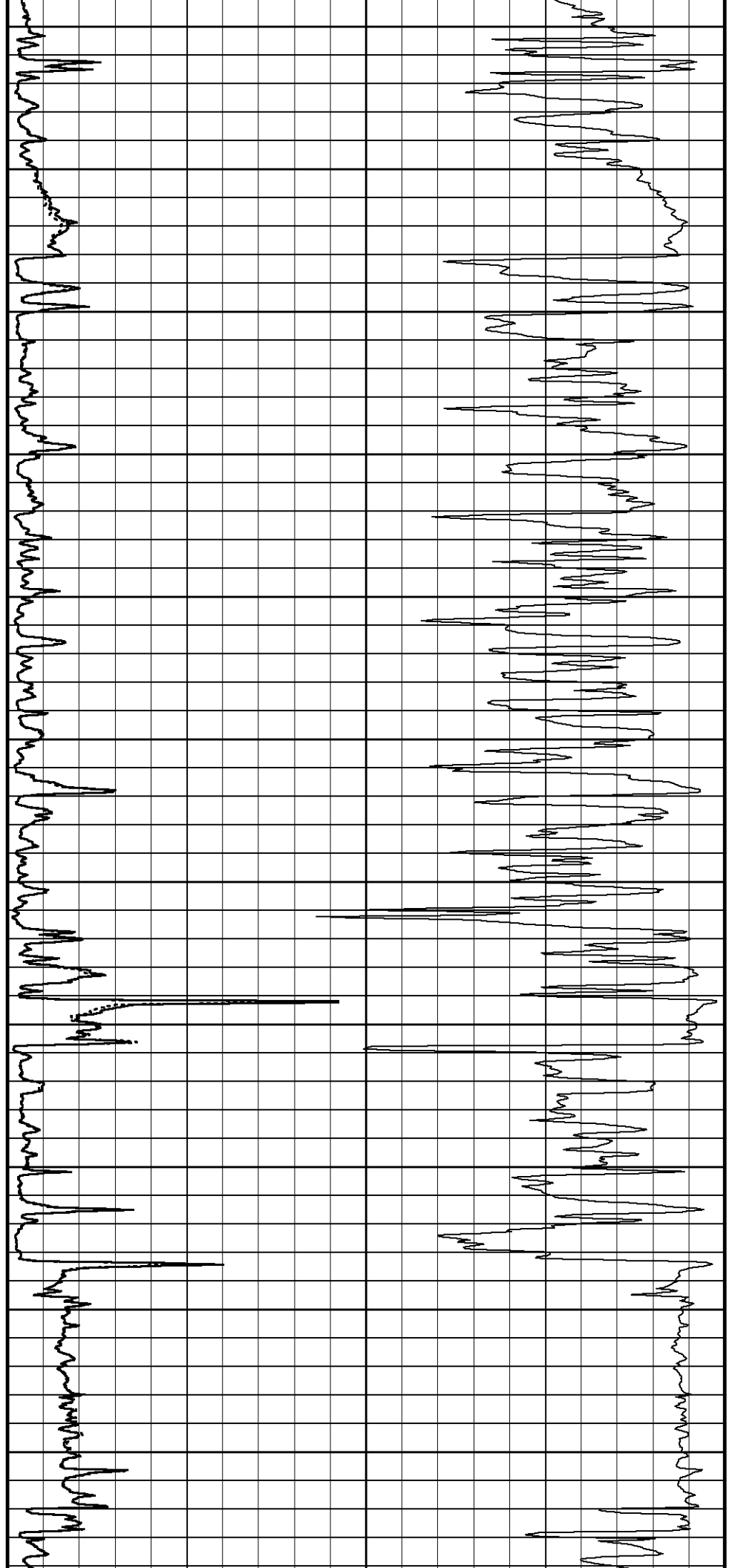
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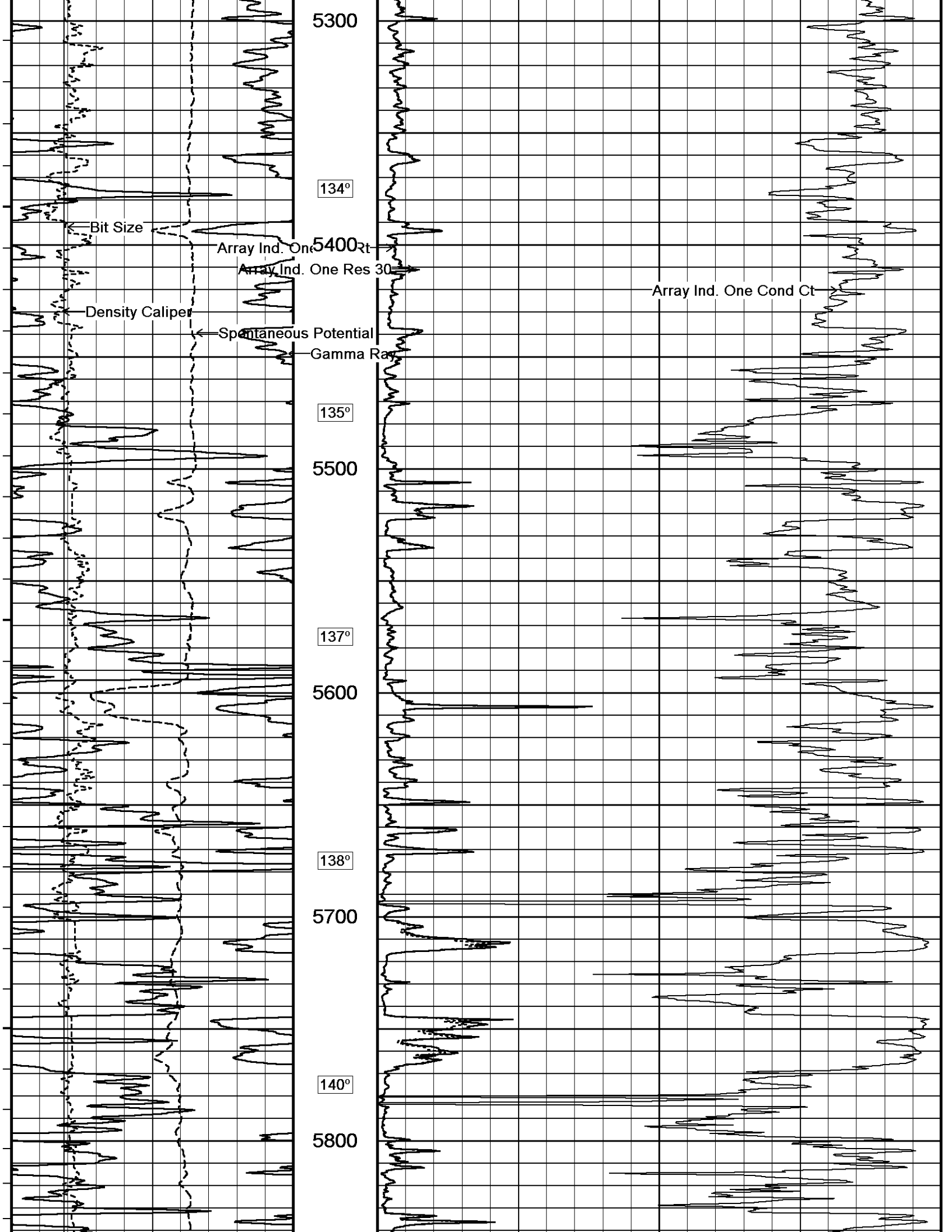
5100

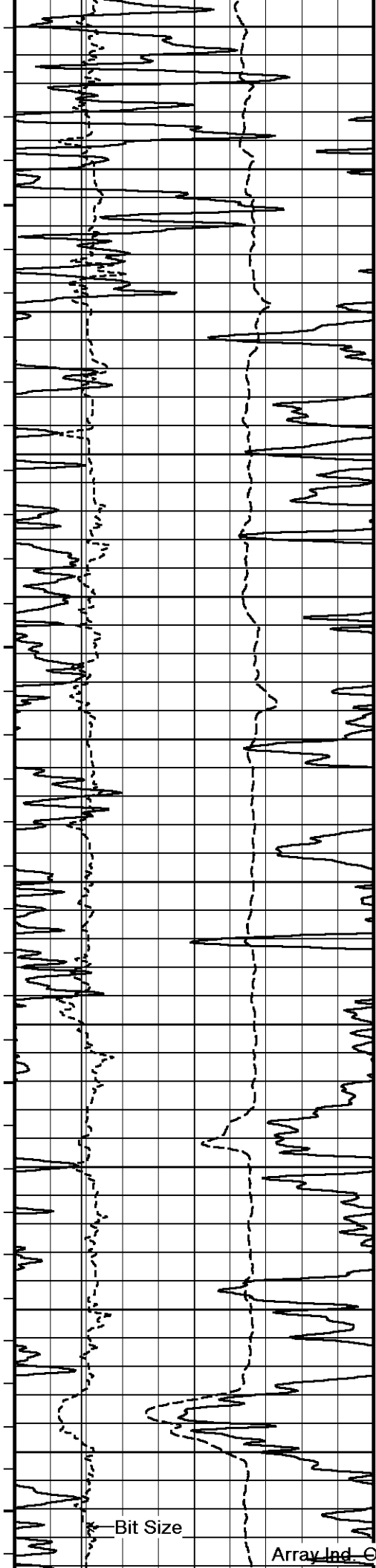
131°

5200

132°







142°

5900

144°

6000

146°

6100

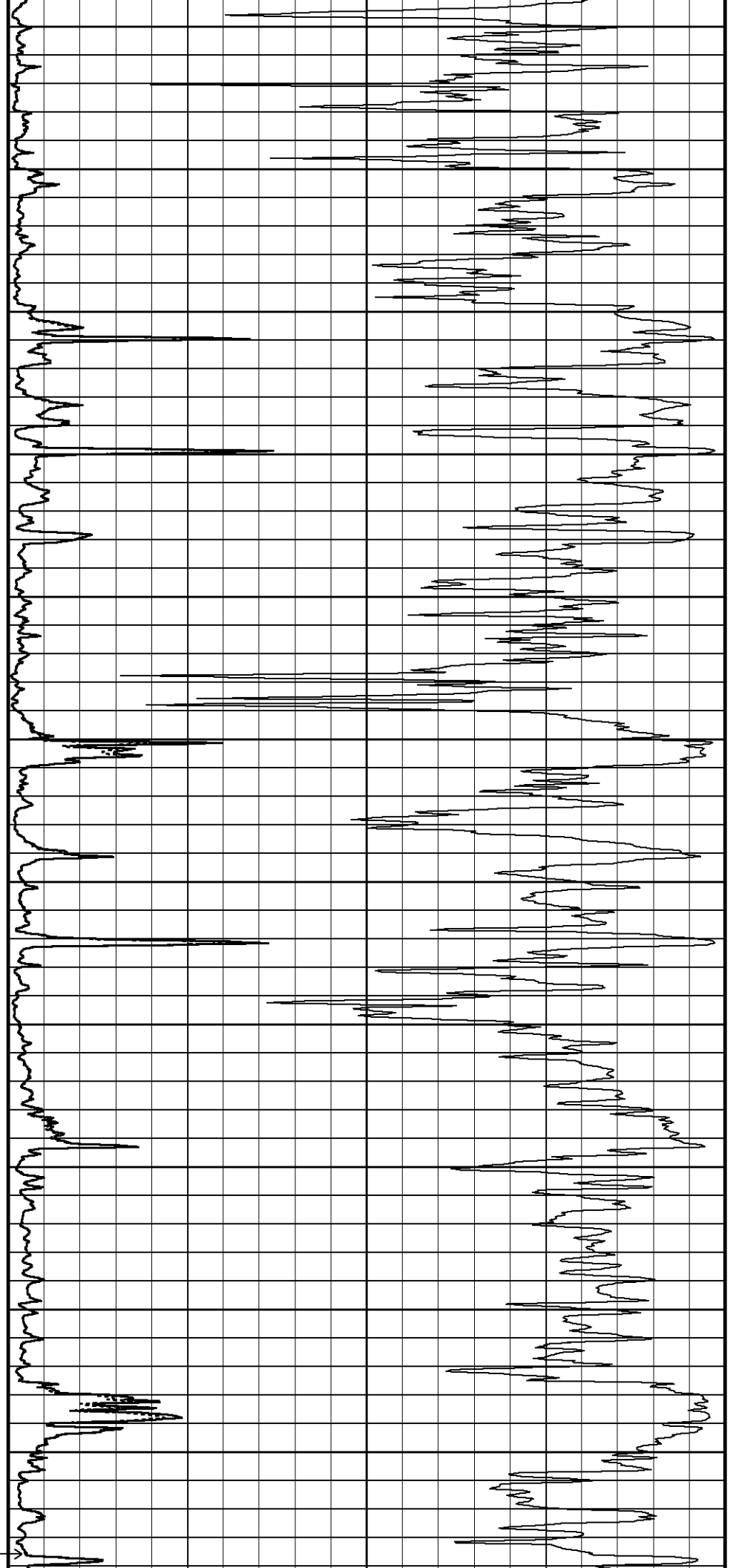
147°

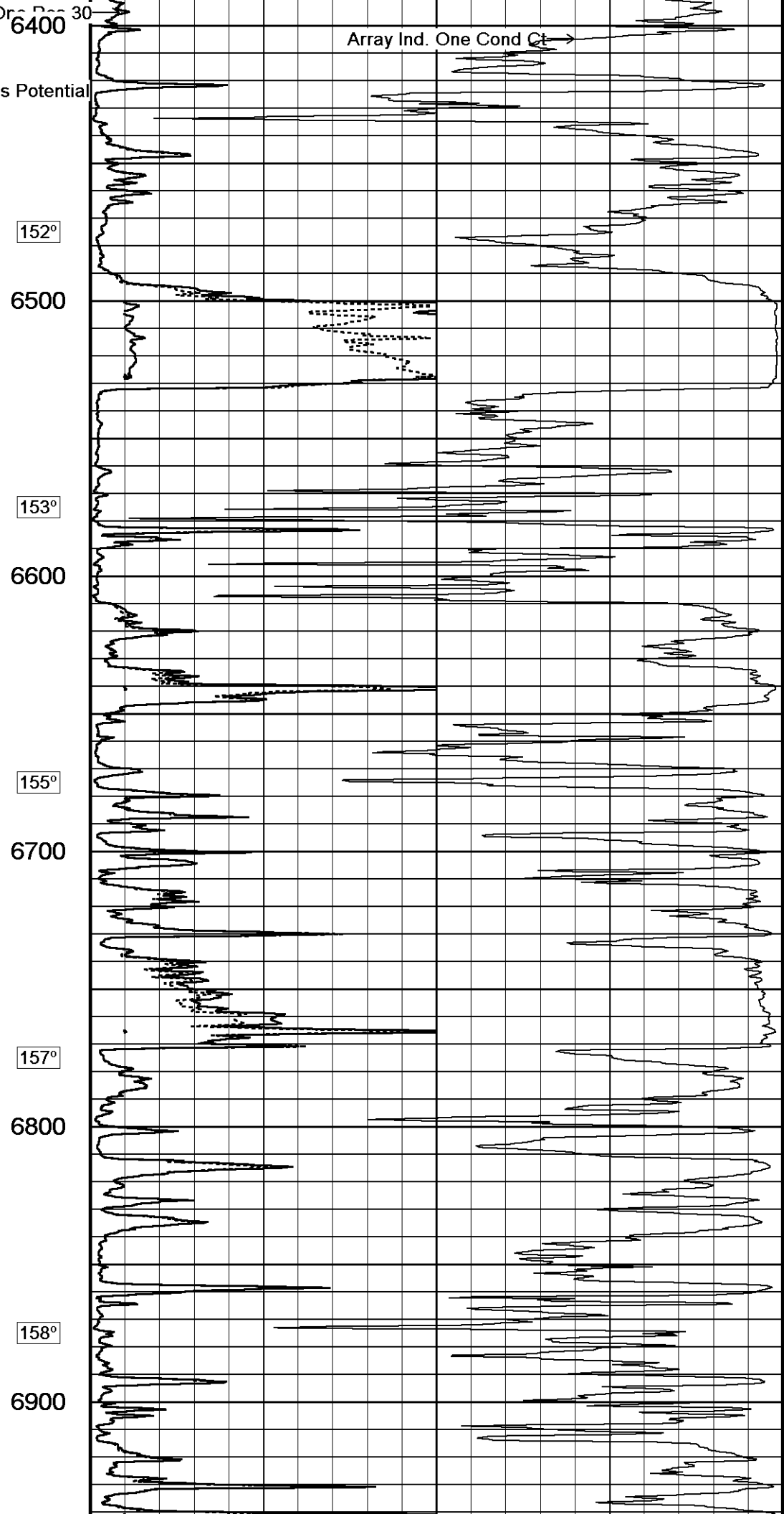
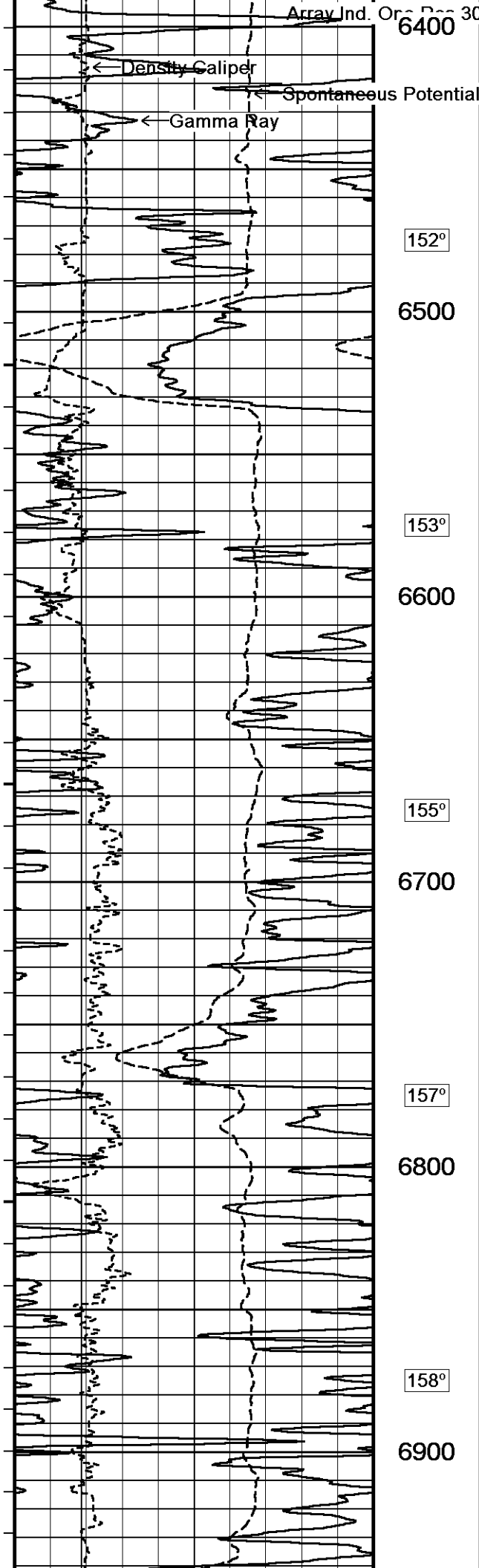
6200

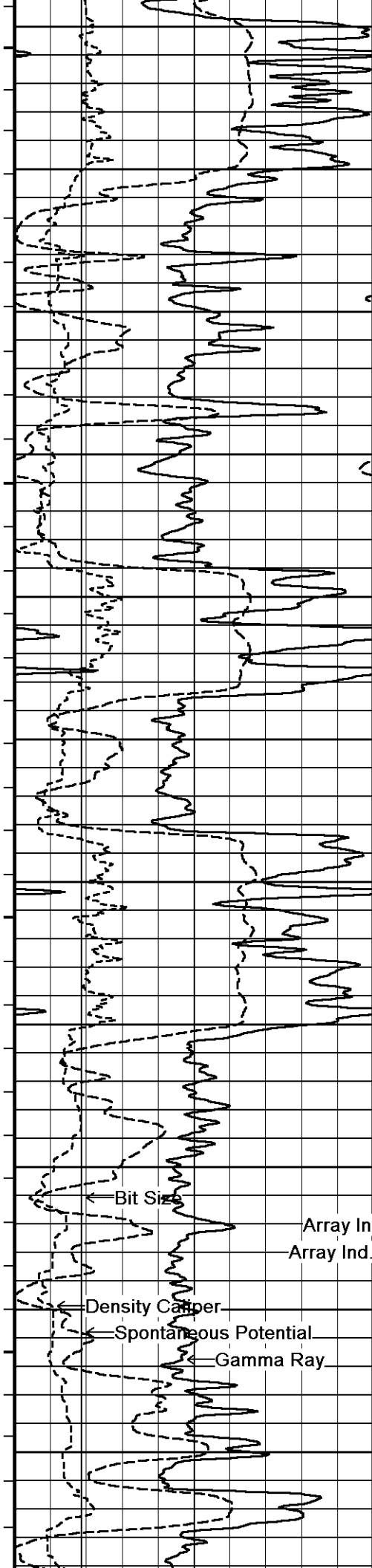
149°

6300

150°







161°

7000

163°

7100

164°

7200

164°

7300

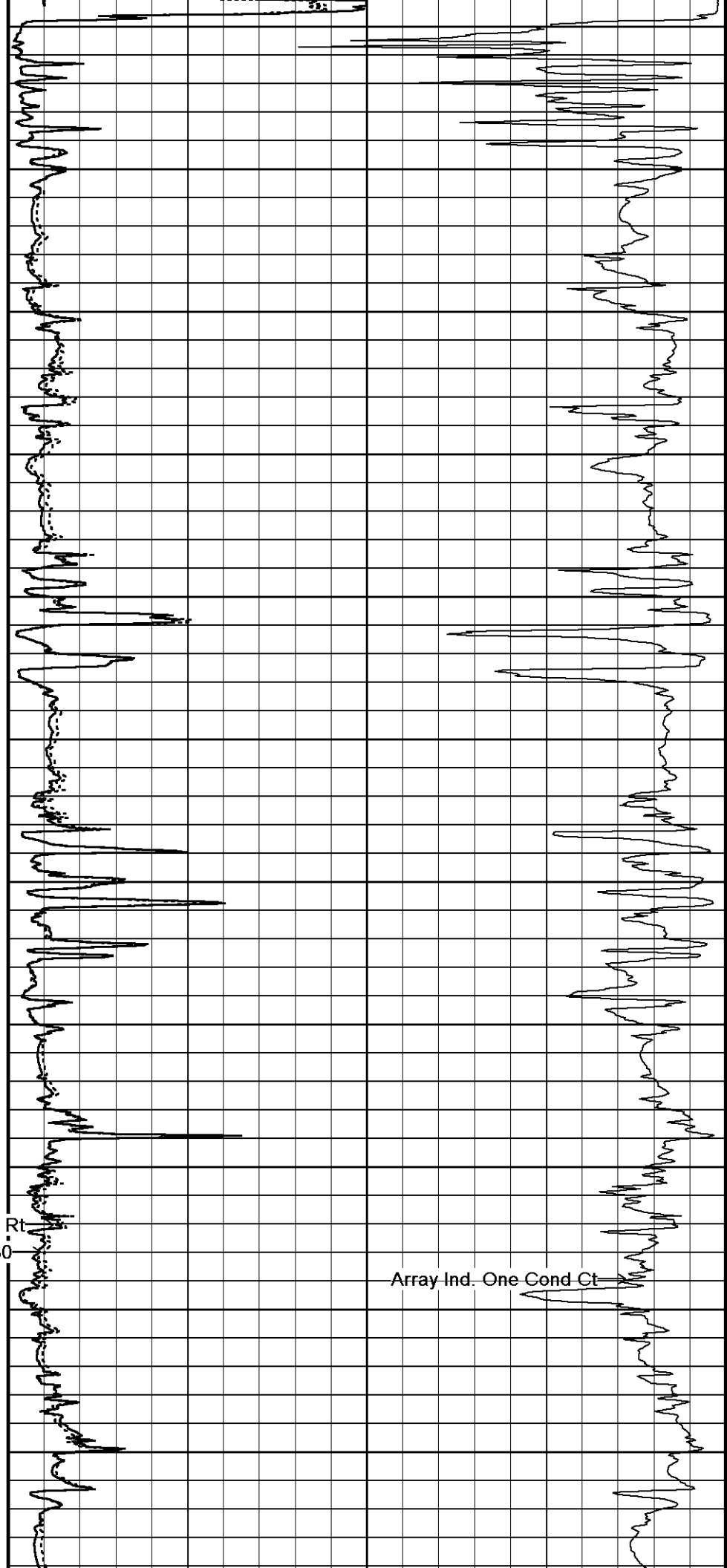
167°

7400

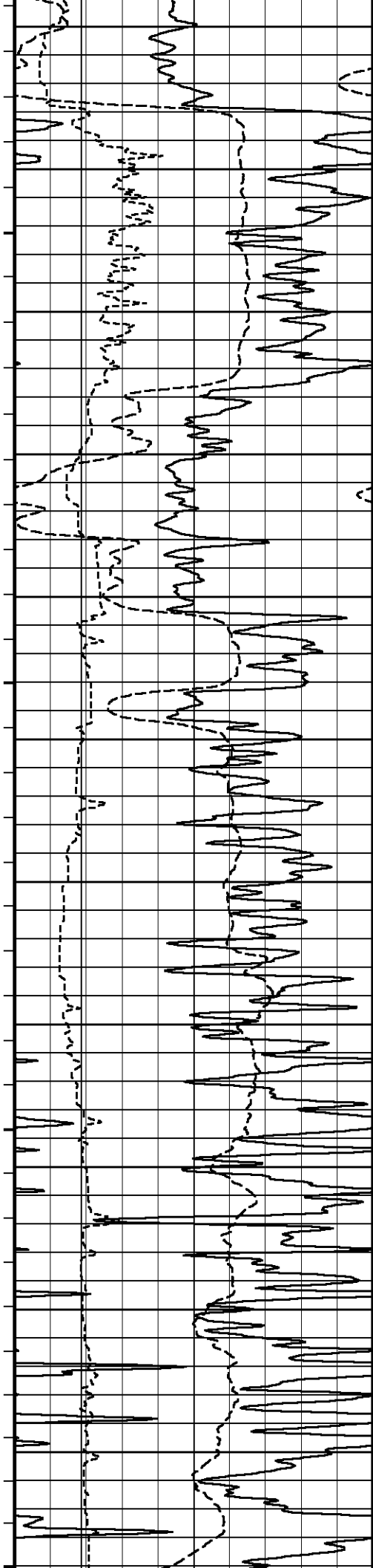
167°

Array Ind. One Res Rt  
Array Ind. One Res 30

Bit Size  
Density Gamma  
Spontaneous Potential  
Gamma Ray



Array Ind. One Cond Ct



7500

168°

7600

169°

7700

169°

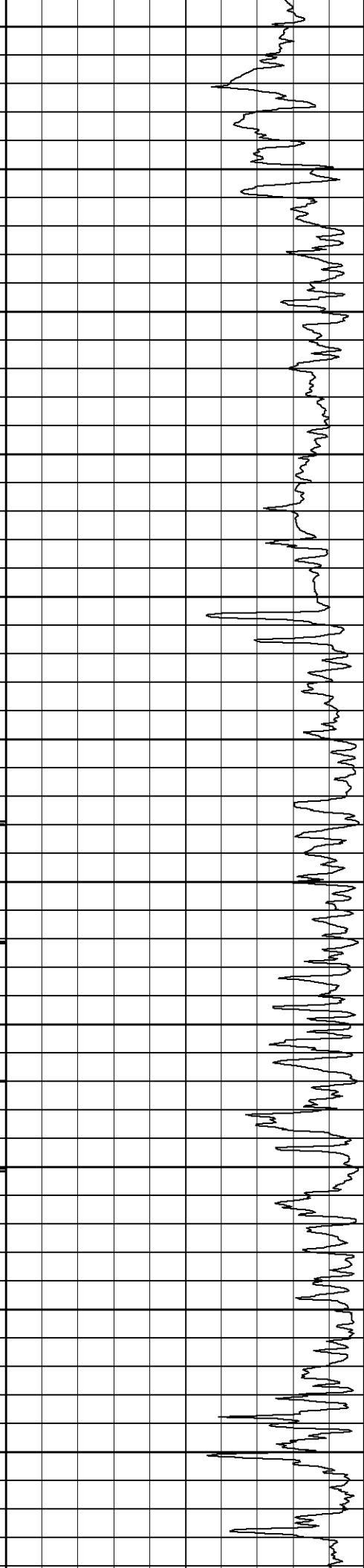
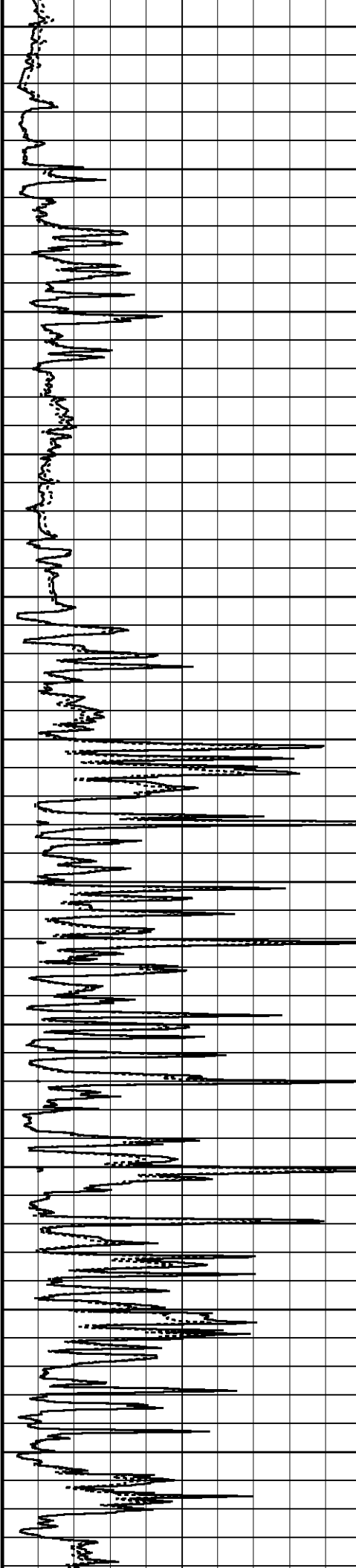
7800

171°

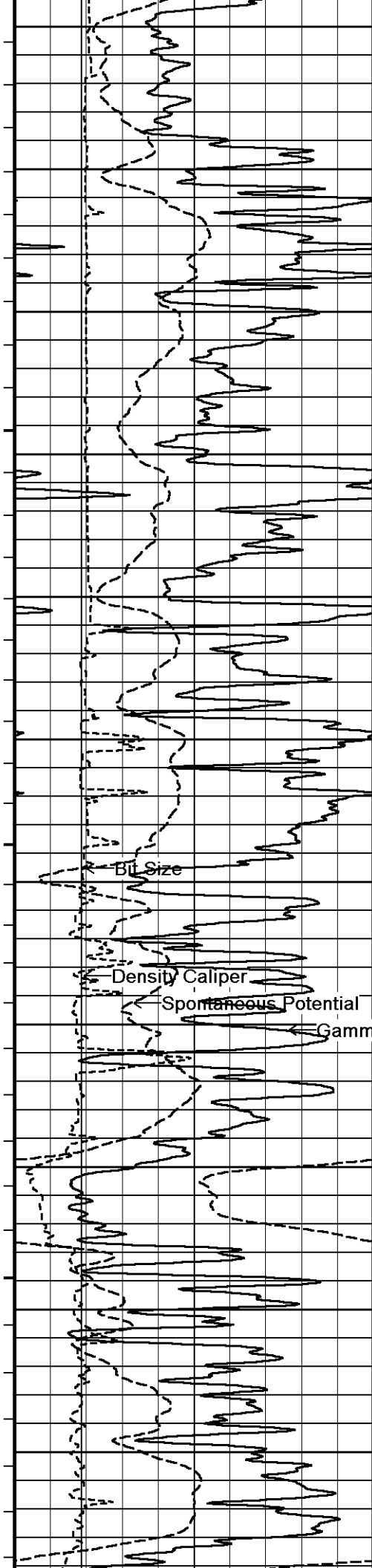
7900

173°

8000







175°

8100

176°

8200

175°

8300

Array Ind. One Res. R<sub>1</sub>

Array Ind. One Res 30

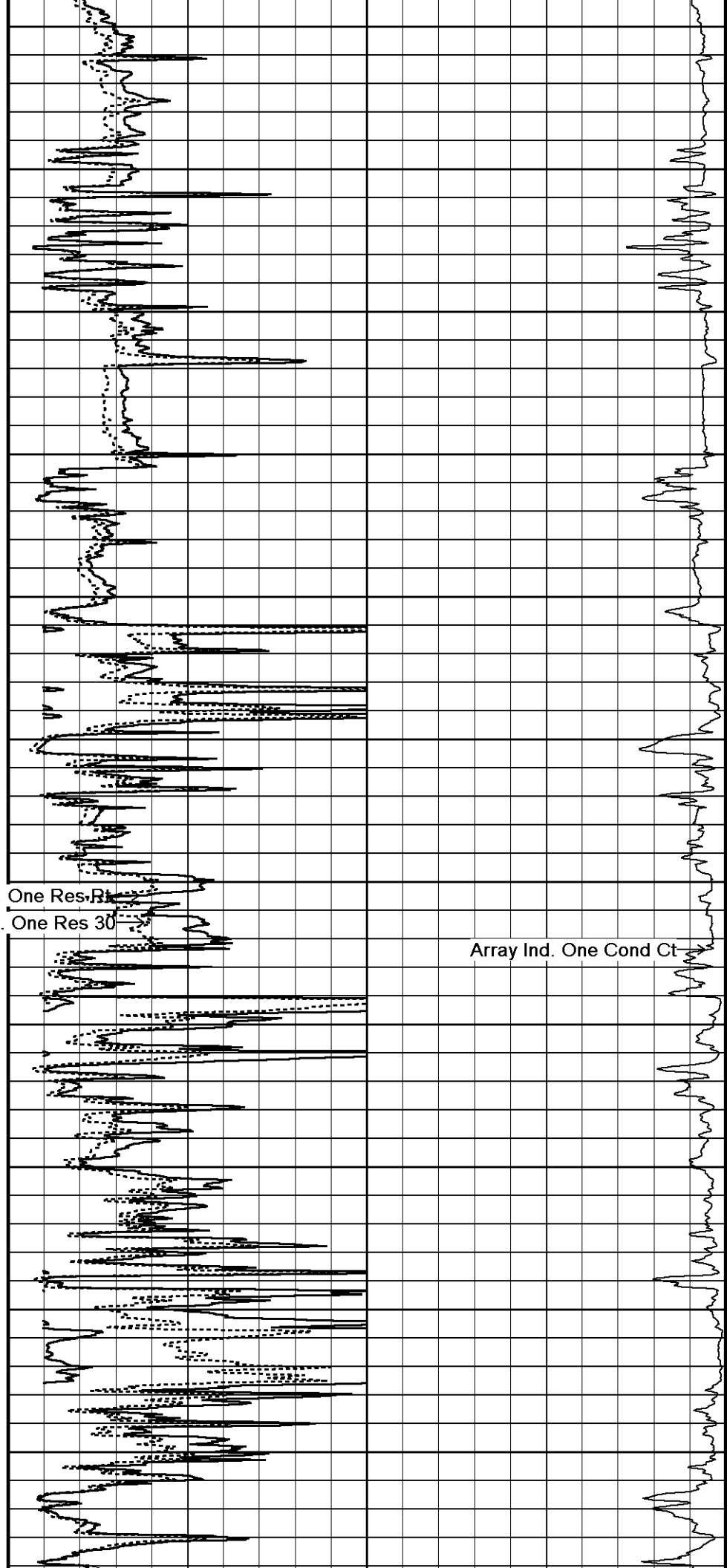
177°

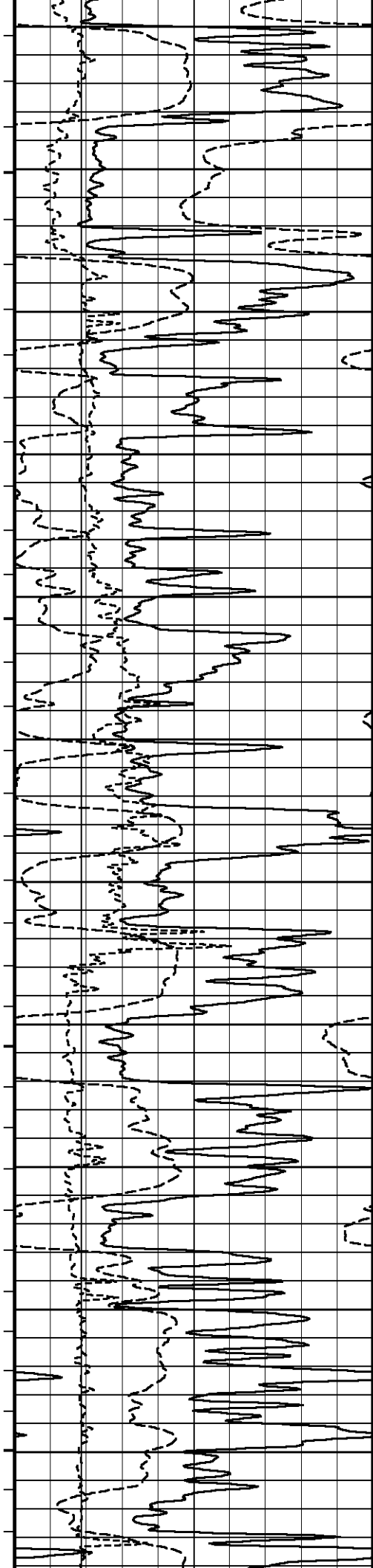
8400

179°

8500

182°





8600

184°

8700

185°

8800

184°

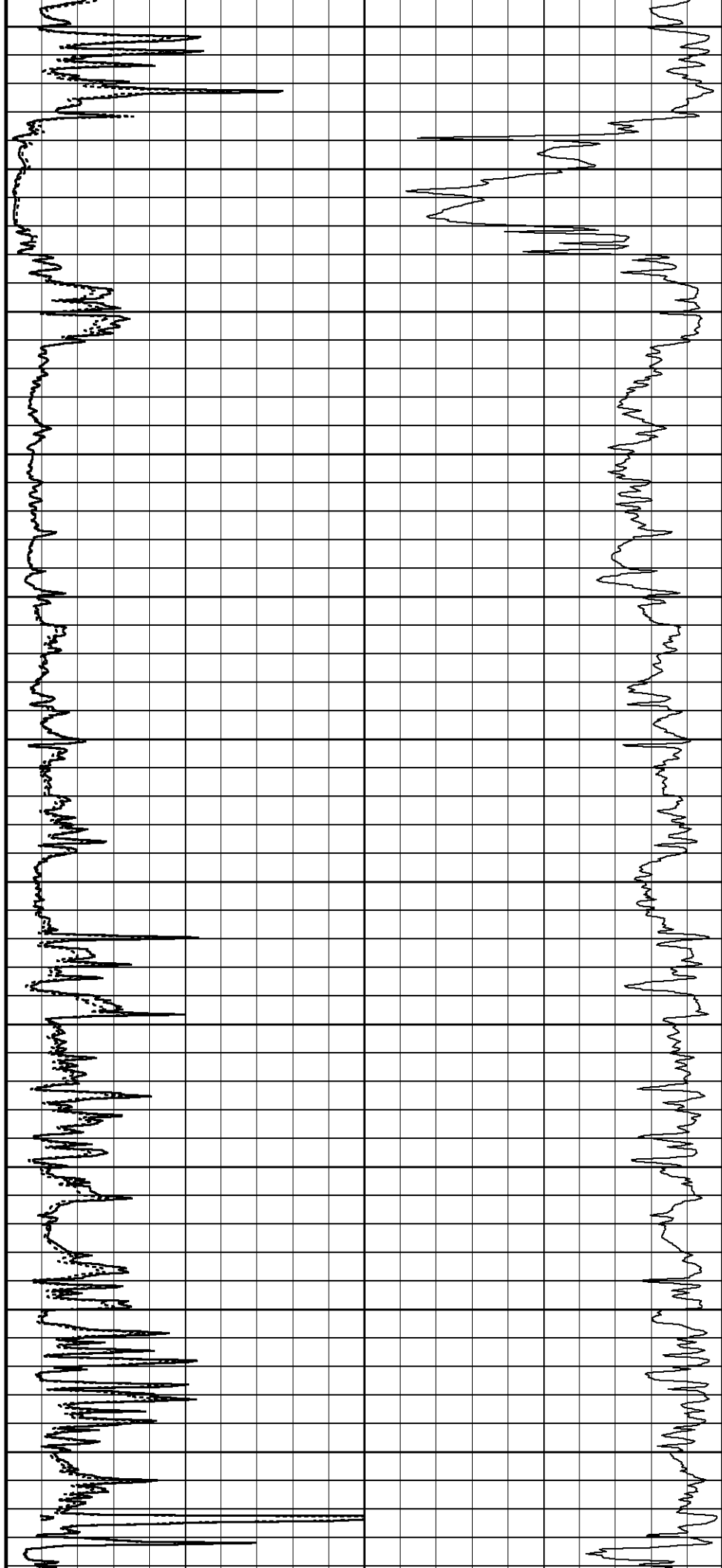
8900

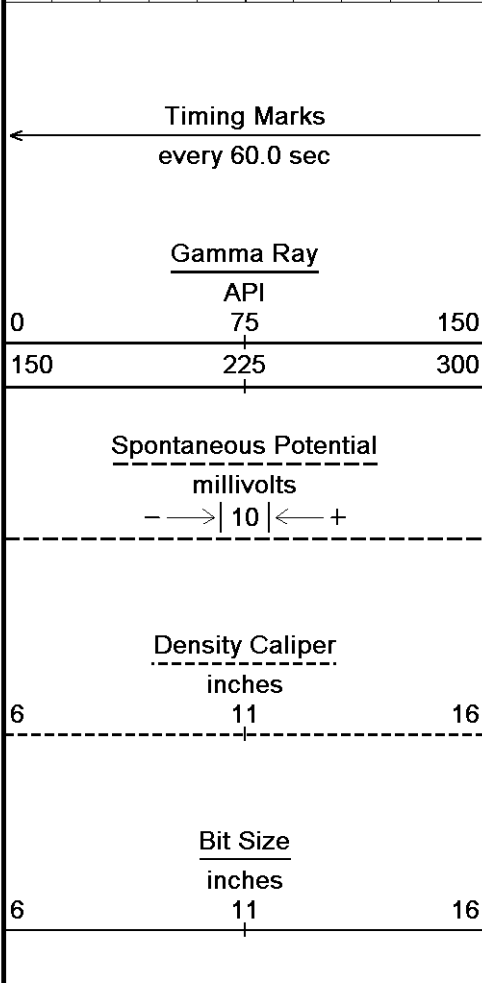
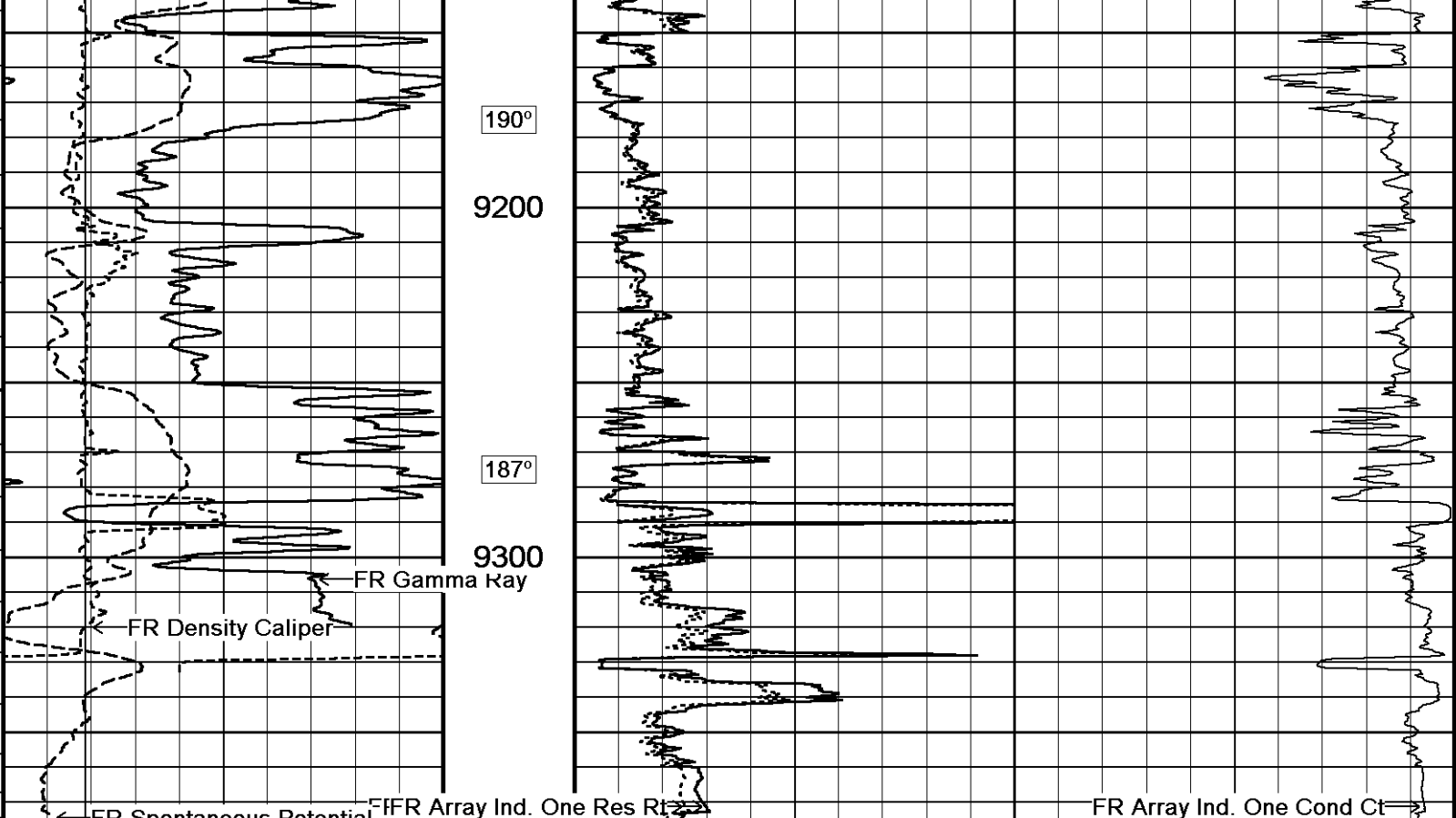
186°

9000

188°

9100



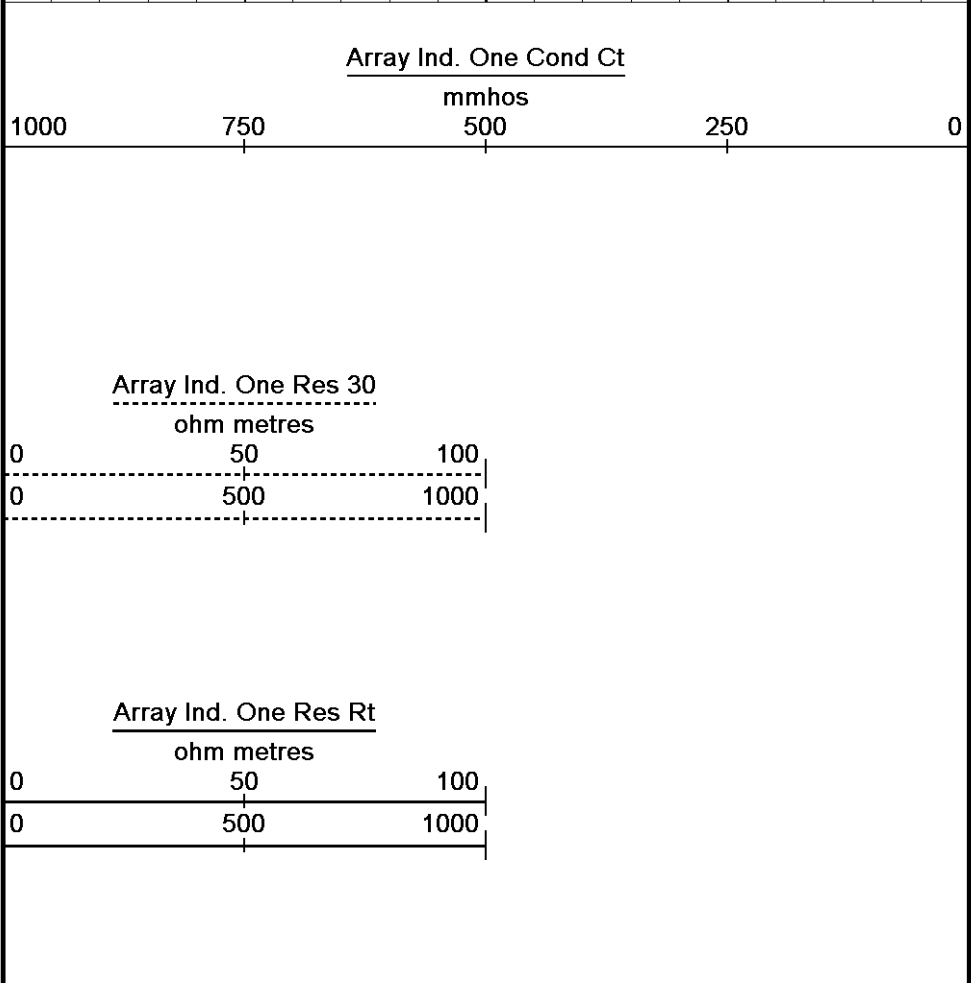


9400

DSC  
in  
Feet

Borehole  
Temp in  
deg F

Replay  
Scale  
1:600



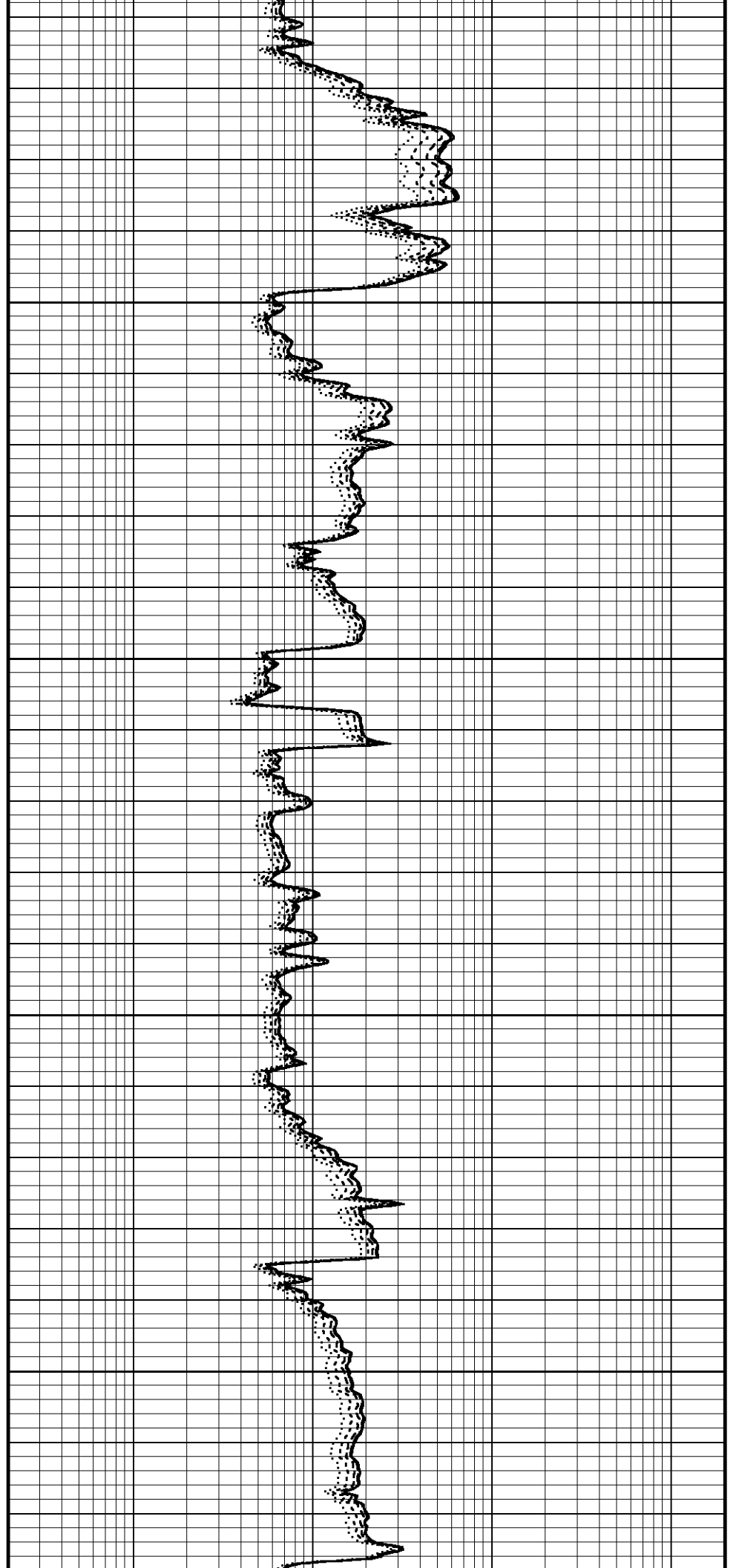
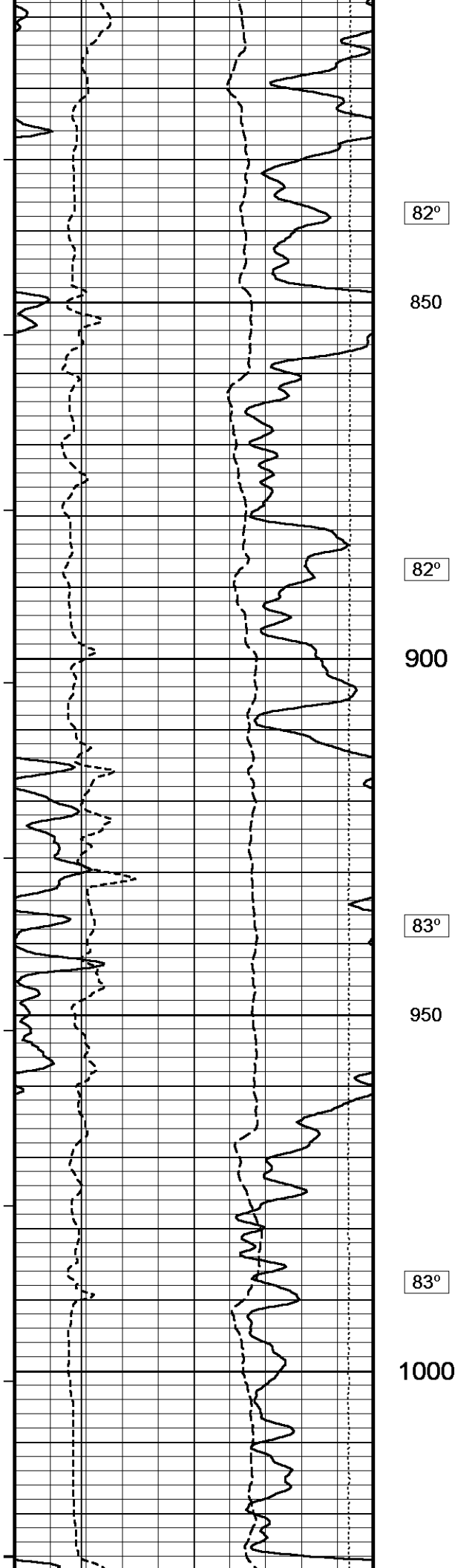


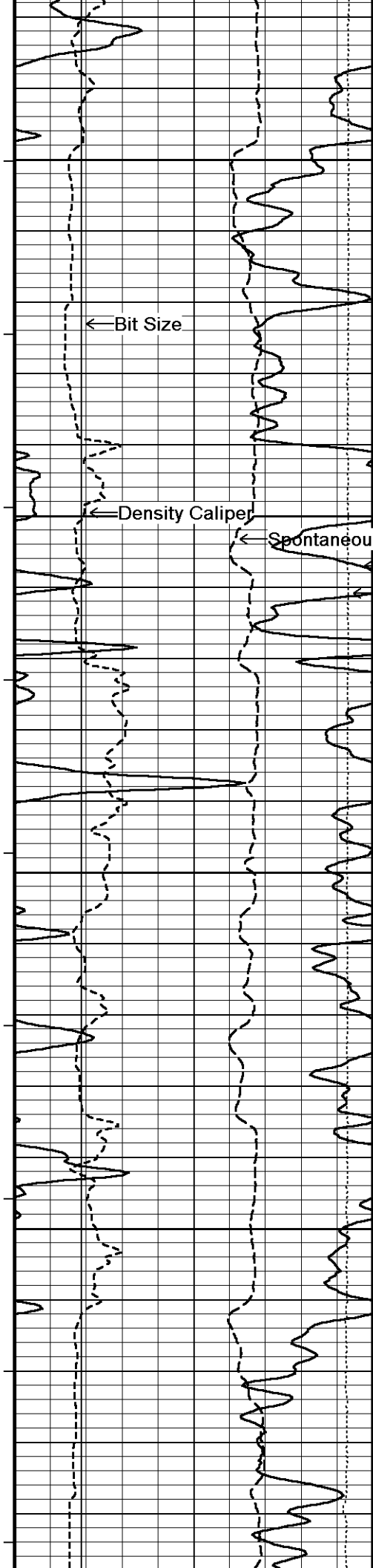
Plotted on 10-OCT-2011 06:52

Recorded on 08-OCT-2011 12:02

Timing Marks every 60.0 sec		DSC in Feet	Array Ind. One Res 20 ohm metres
DST Uphole Tension pounds 10000 5000 0 0 -5000 -10000		Borehole Temp in deg F	Array Ind. One Res 30 ohm metres
Gamma Ray API 0 75 150			Array Ind. One Res 40 ohm metres
Spontaneous Potential millivolts - →   10   ← +			Array Ind. One Res 60 ohm metres
Density Caliper inches 6 11 16			Array Ind. One Res 85 ohm metres
Bit Size inches 6 11 16			Array Ind. One Res Rt ohm metres
Replay Scale 1:240		528	
Casing Shoe		550	
700			







83°

1050

84°

1100

84°

1150

85°

1200

85°

← Bit Size

← Density Caliper

← Spontaneous Potential

← Gamma Ray

← DST Uphole Tension

Array Ind. One Res Rt

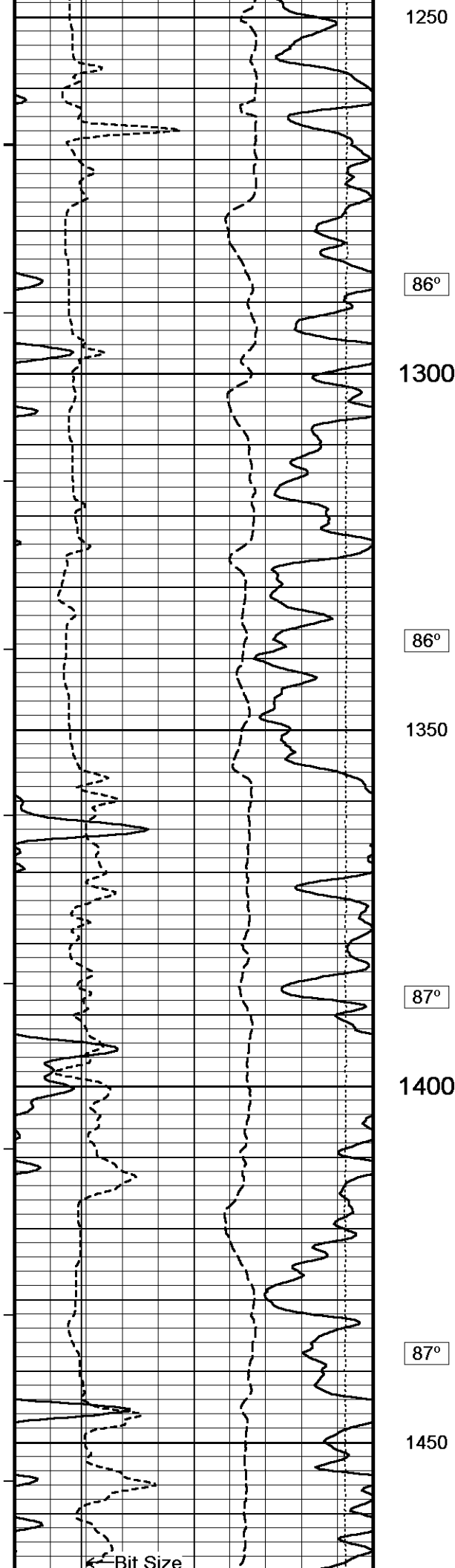
Array Ind. One Res 85

Array Ind. One Res 60

Array Ind. One Res 40

Array Ind. One Res 30

Array Ind. One Res 20 →



1250

86°

1300

86°

1350

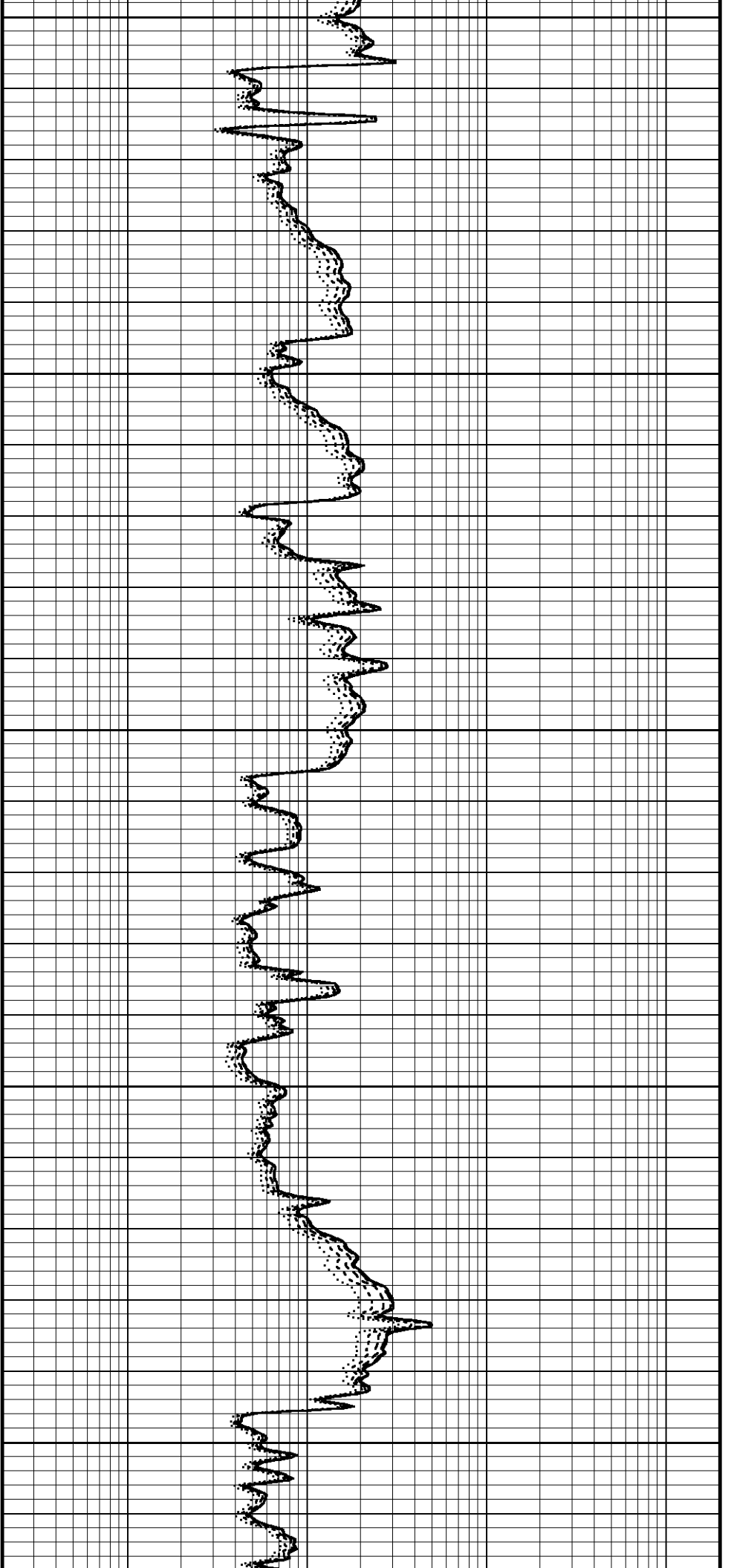
87°

1400

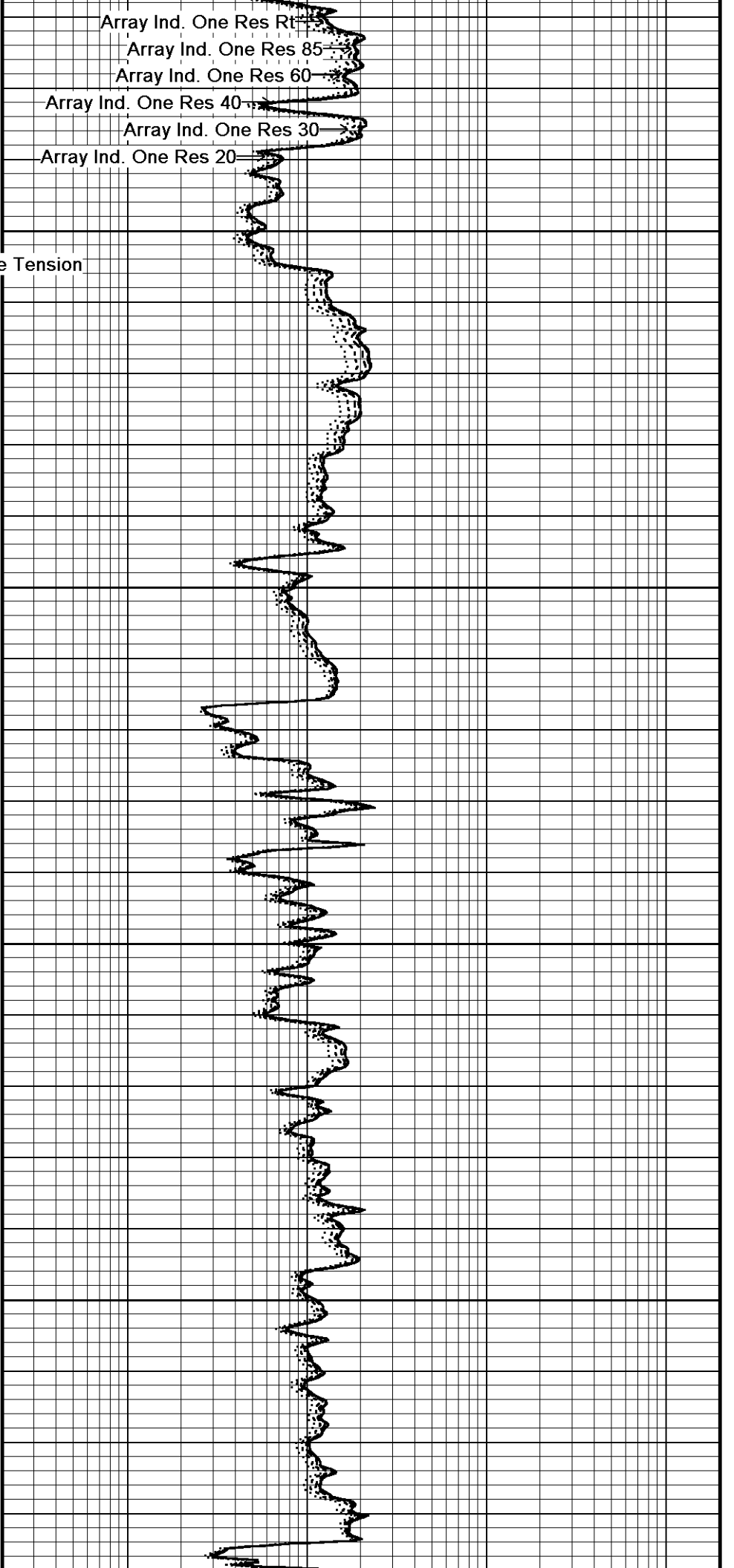
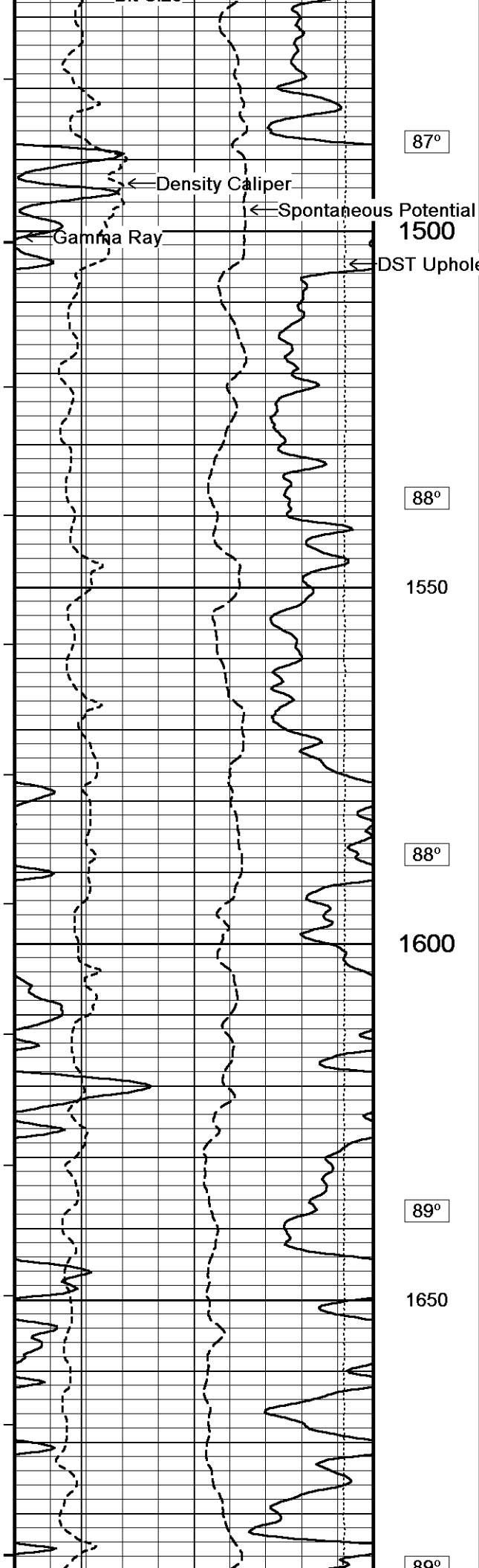
87°

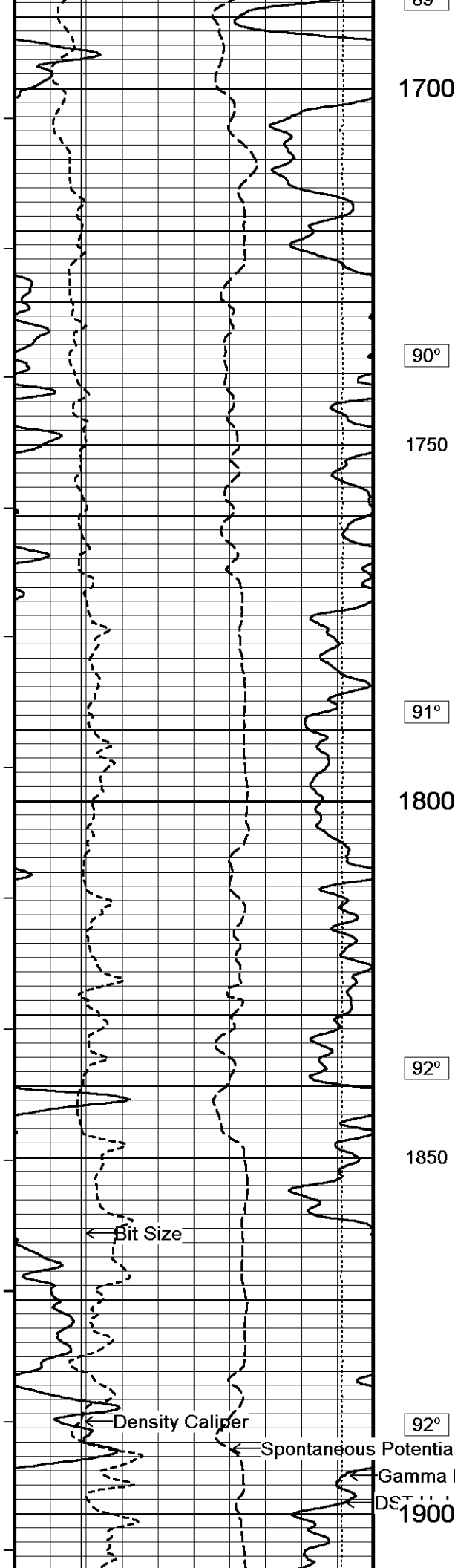
1450

Bit Size

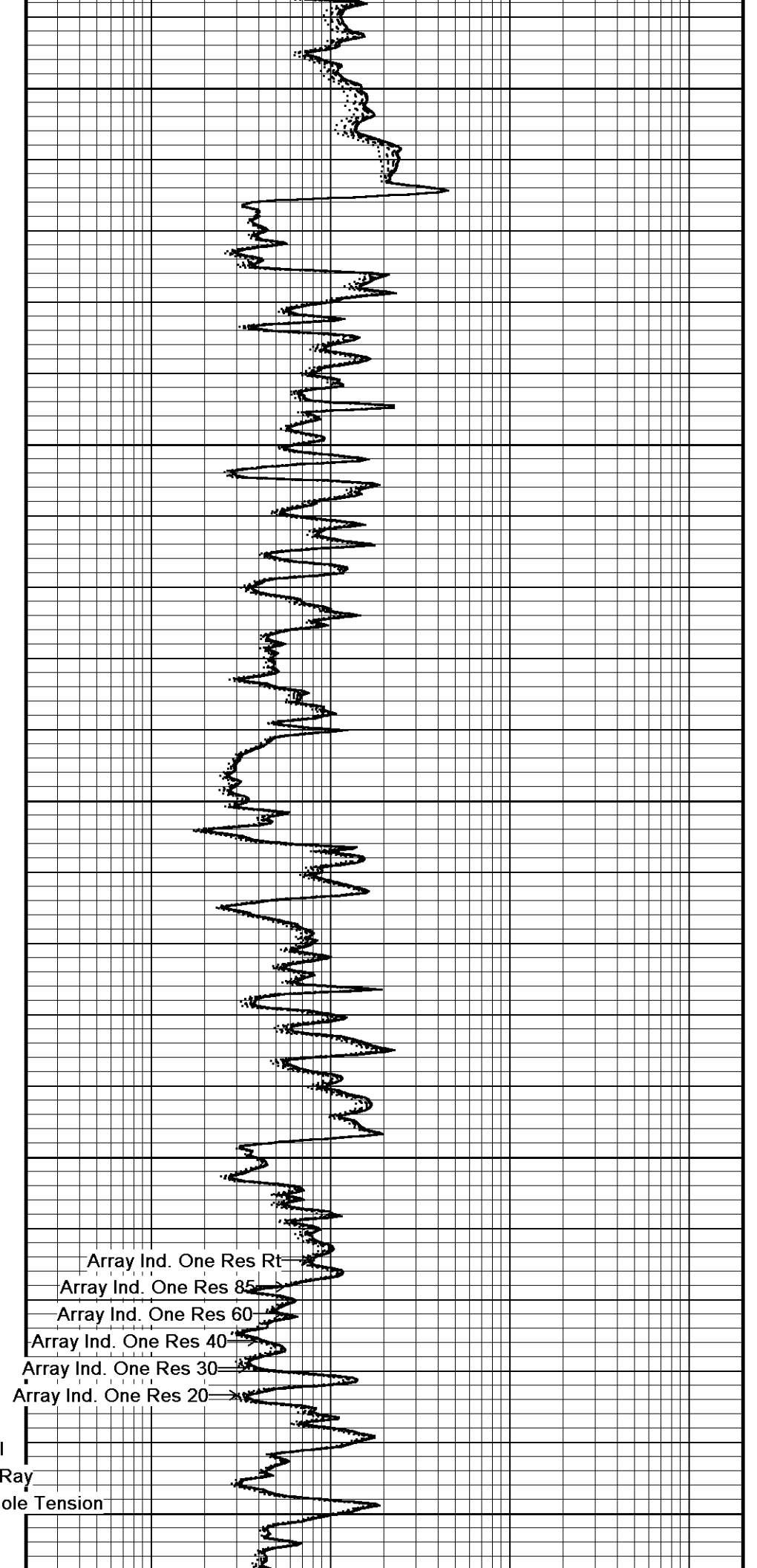






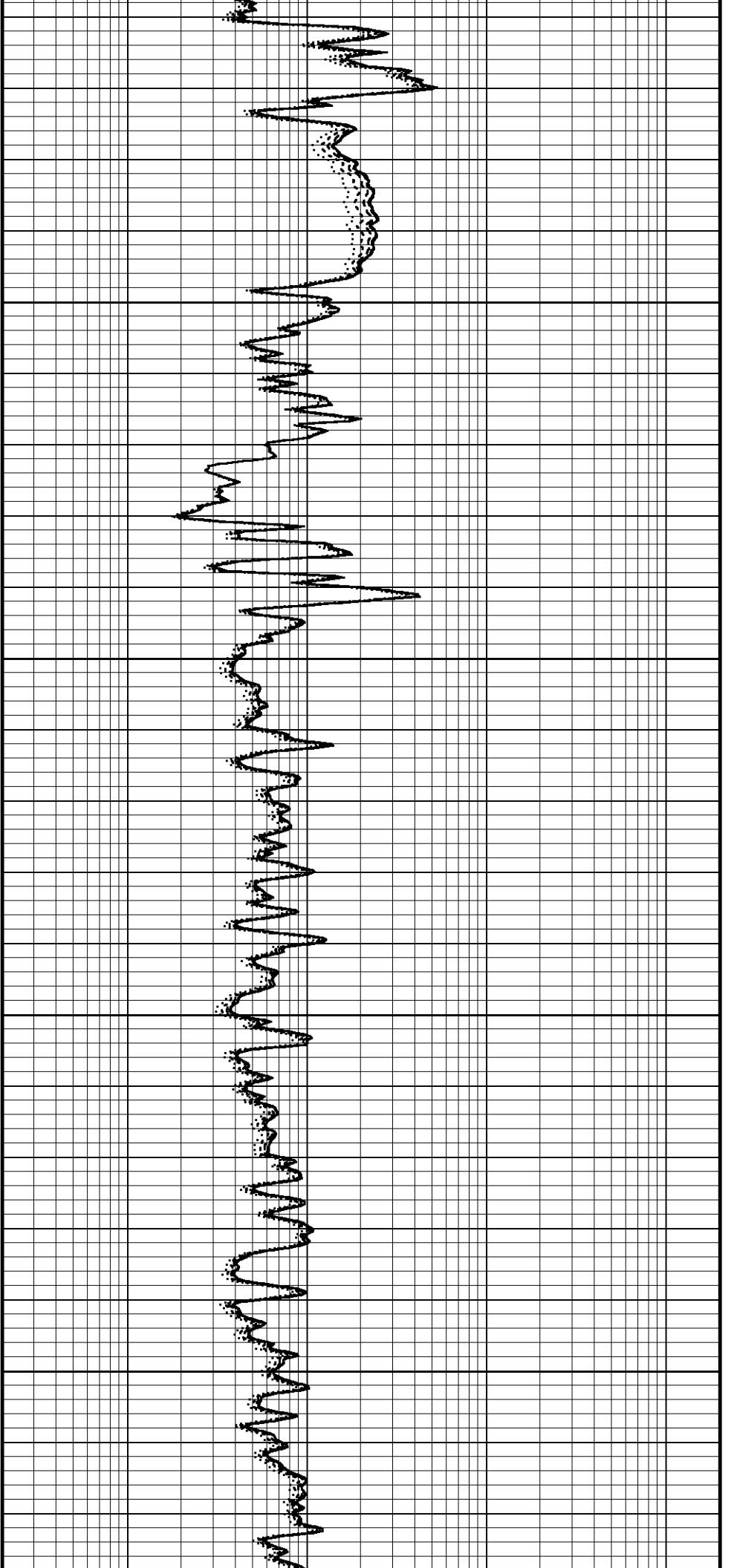
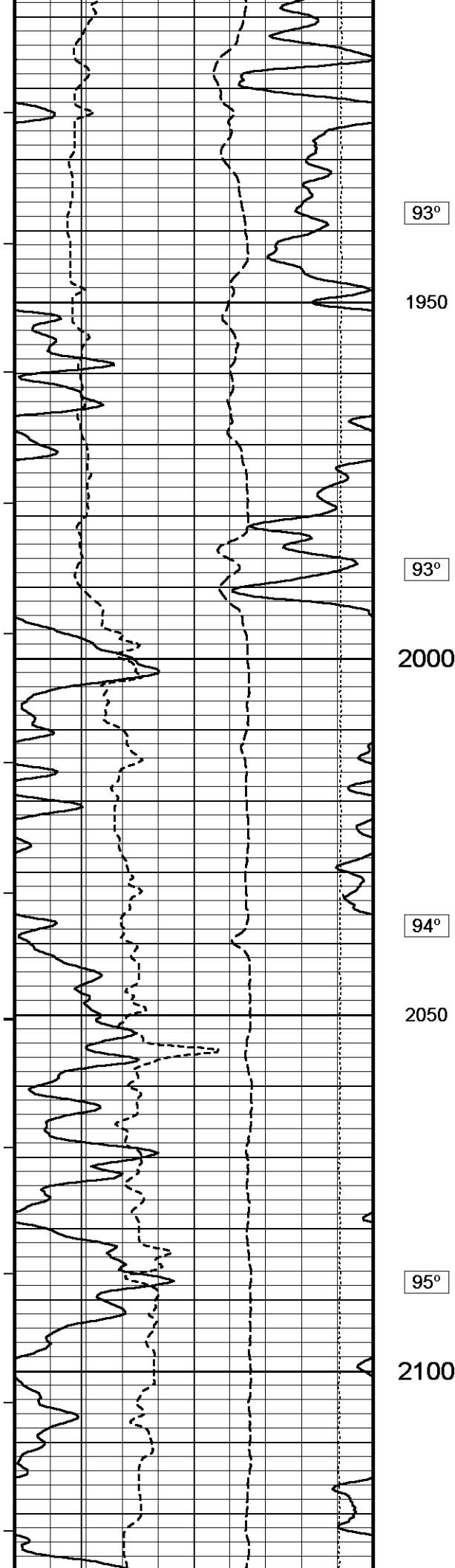


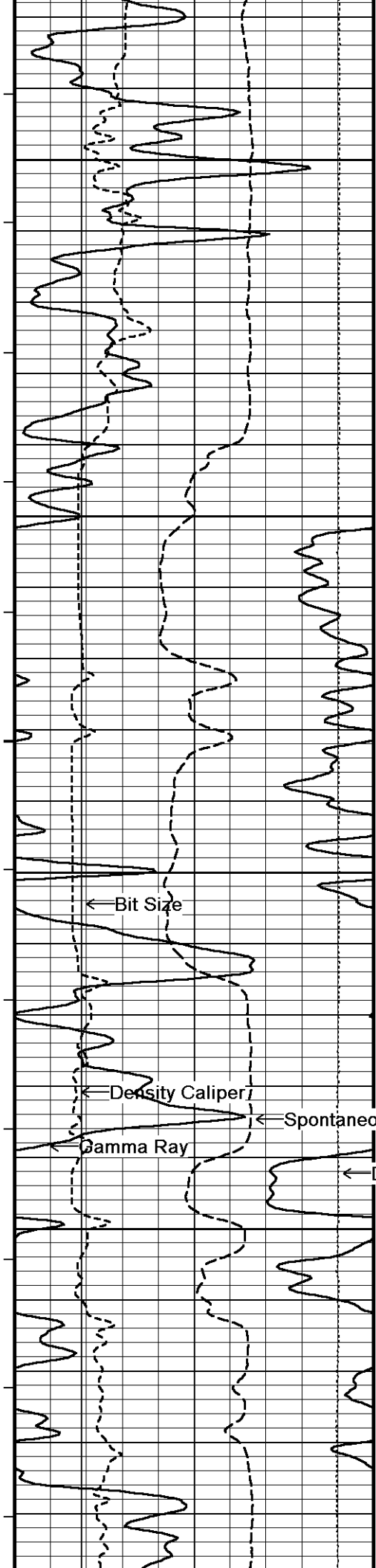
69°  
90°  
91°  
92°  
92°



Array Ind. One Res Rt  
Array Ind. One Res 85  
Array Ind. One Res 60  
Array Ind. One Res 40  
Array Ind. One Res 30  
Array Ind. One Res 20

Spontaneous Potential  
Gamma Ray  
DST  
Pore Tension





95°

2150

96°

2200

96°

2250

← Bit Size

← Density Caliper

← Gamma Ray

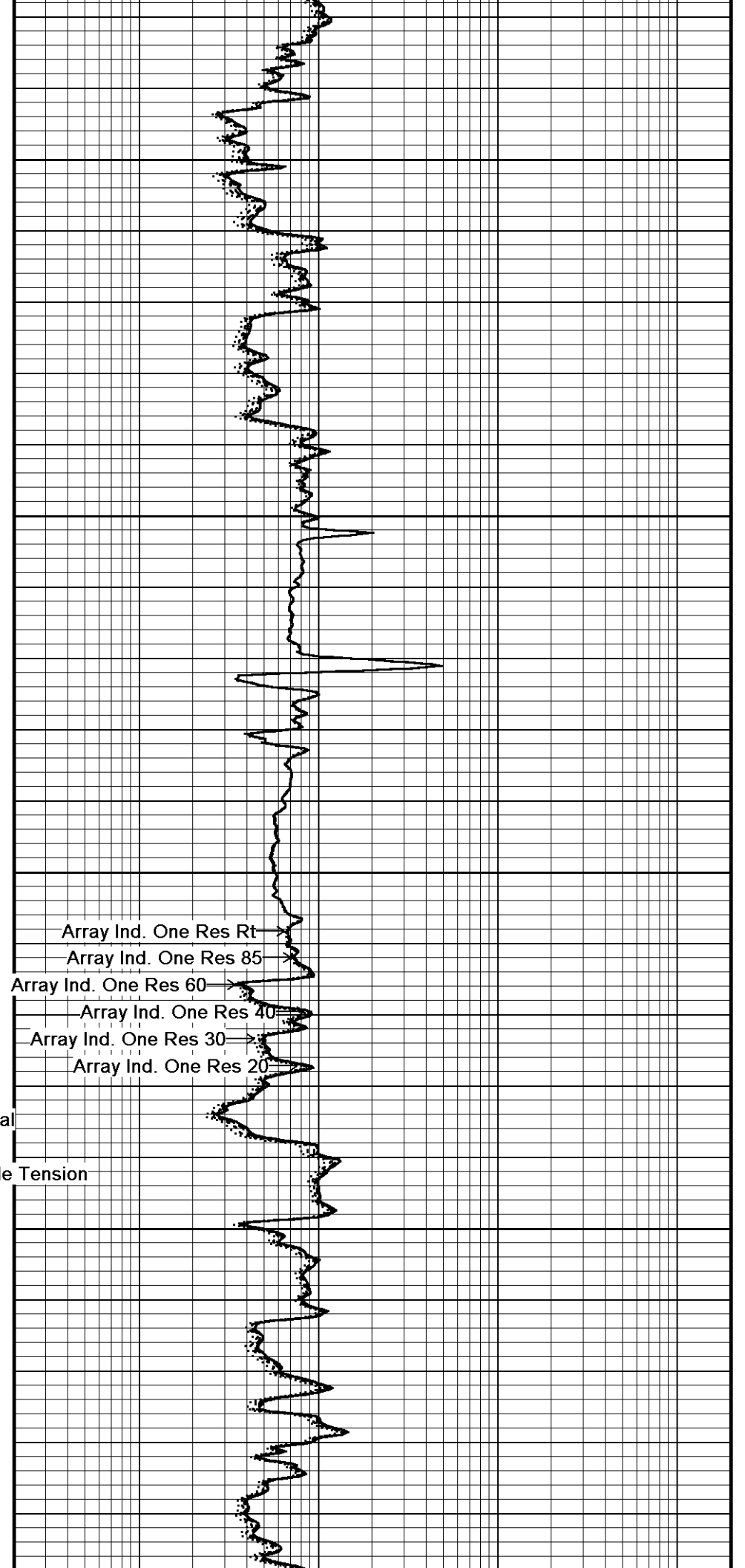
← Spontaneous Potential

97°

← DST Uphole Tension

2300

97°



Array Ind. One Res Rt

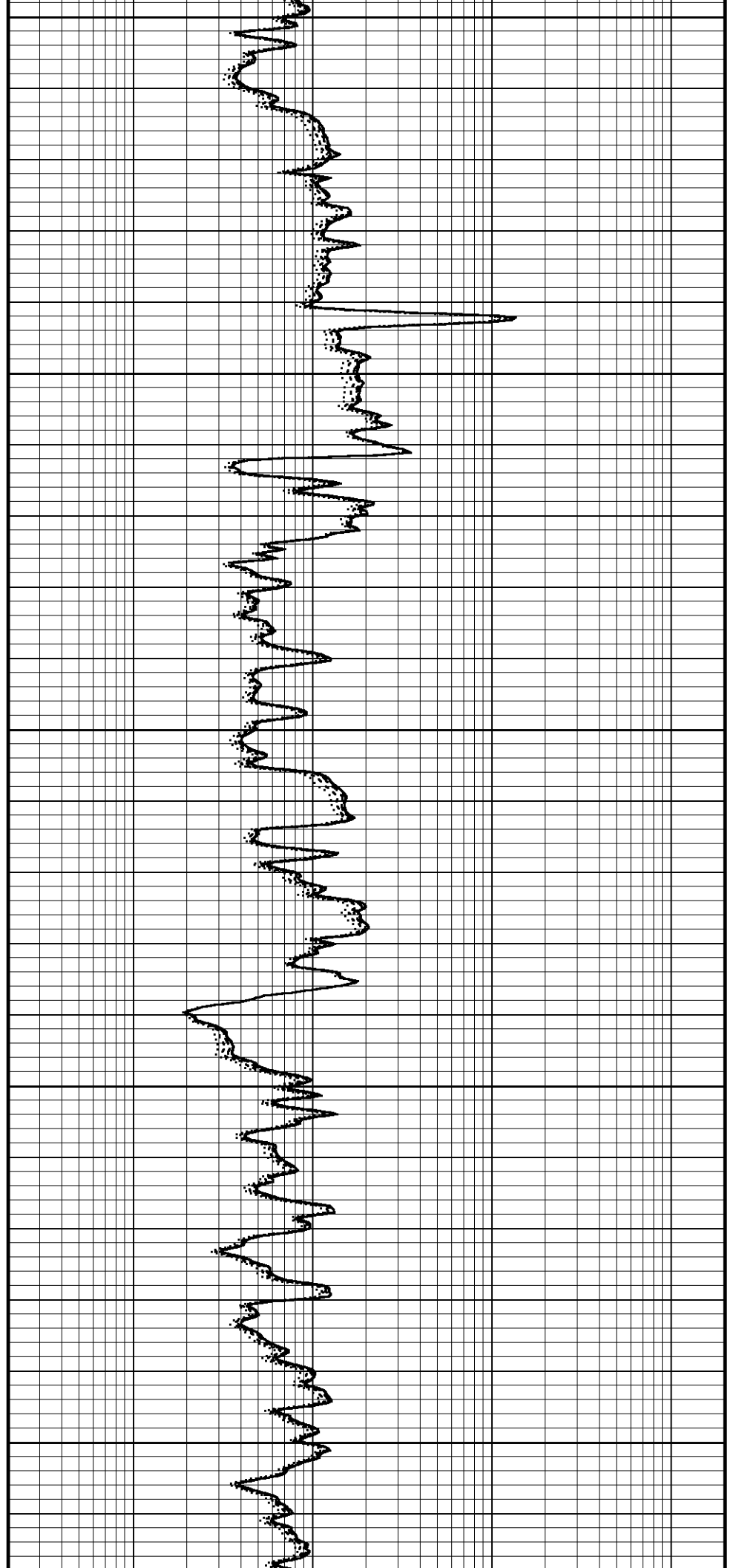
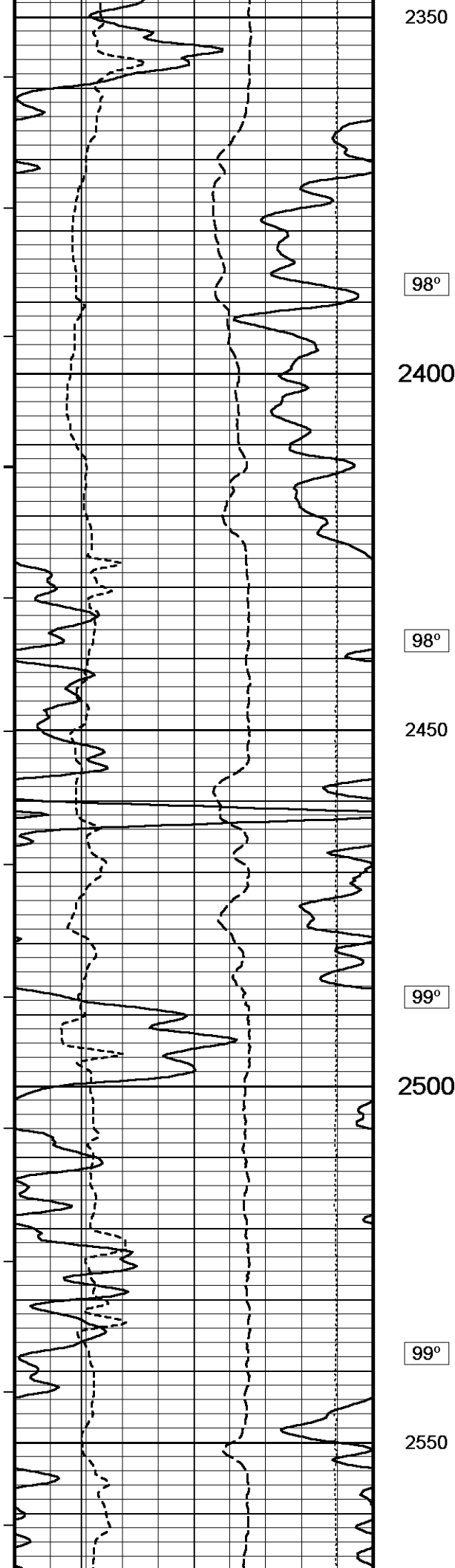
Array Ind. One Res 85

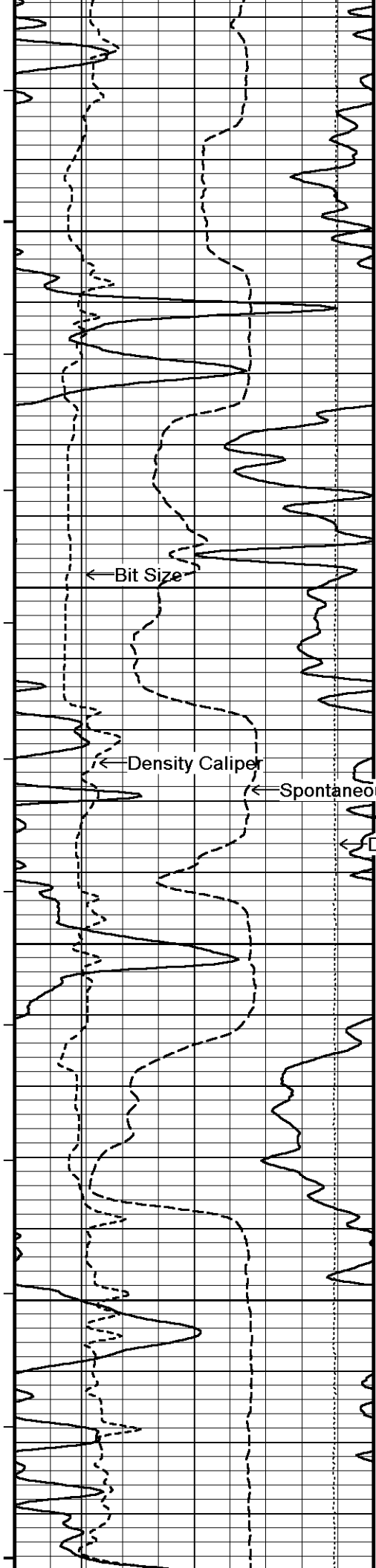
Array Ind. One Res 60

Array Ind. One Res 40

Array Ind. One Res 30

Array Ind. One Res 20





100°

2600

100°

2650

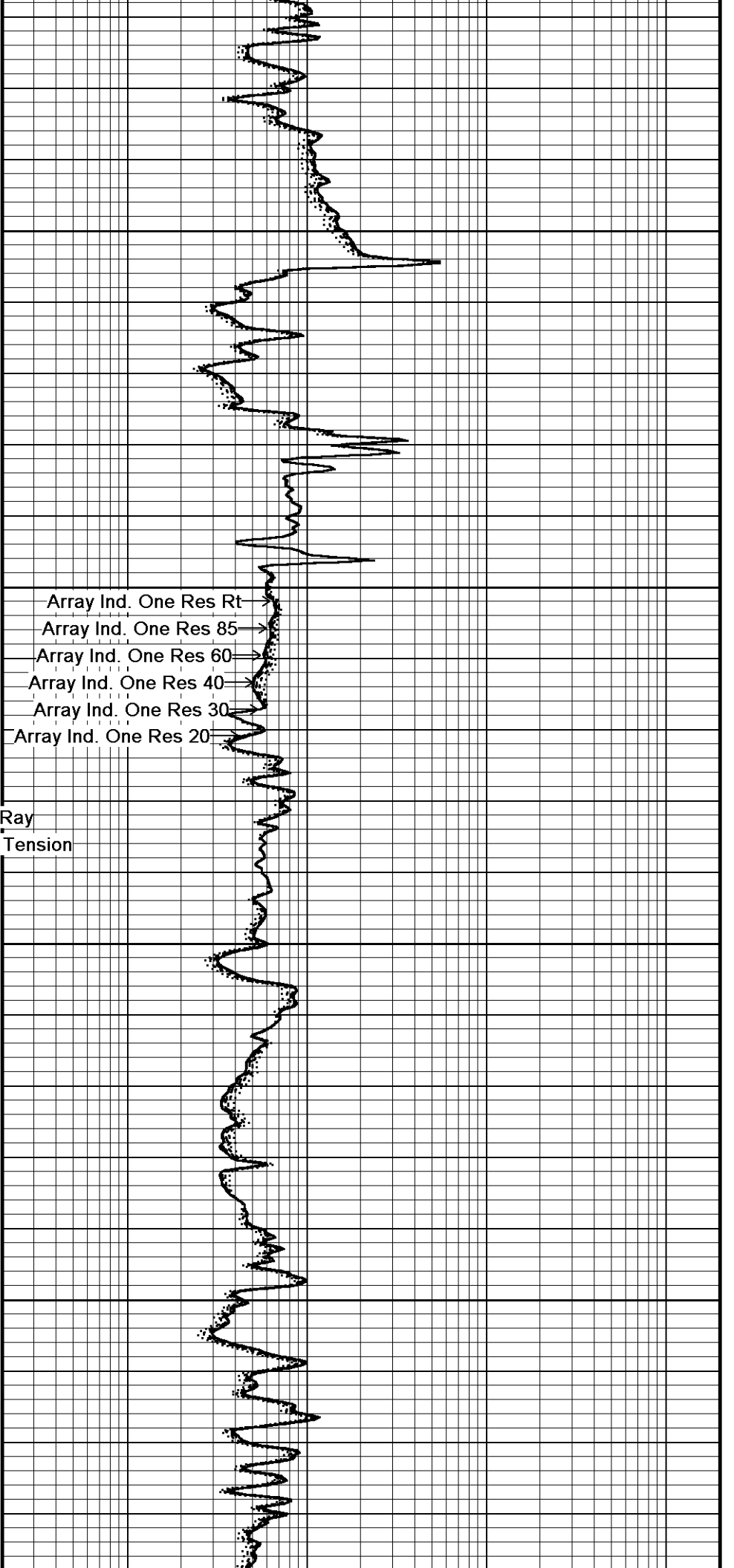
101°

2700

102°

2750

102°



Array Ind. One Res Rt

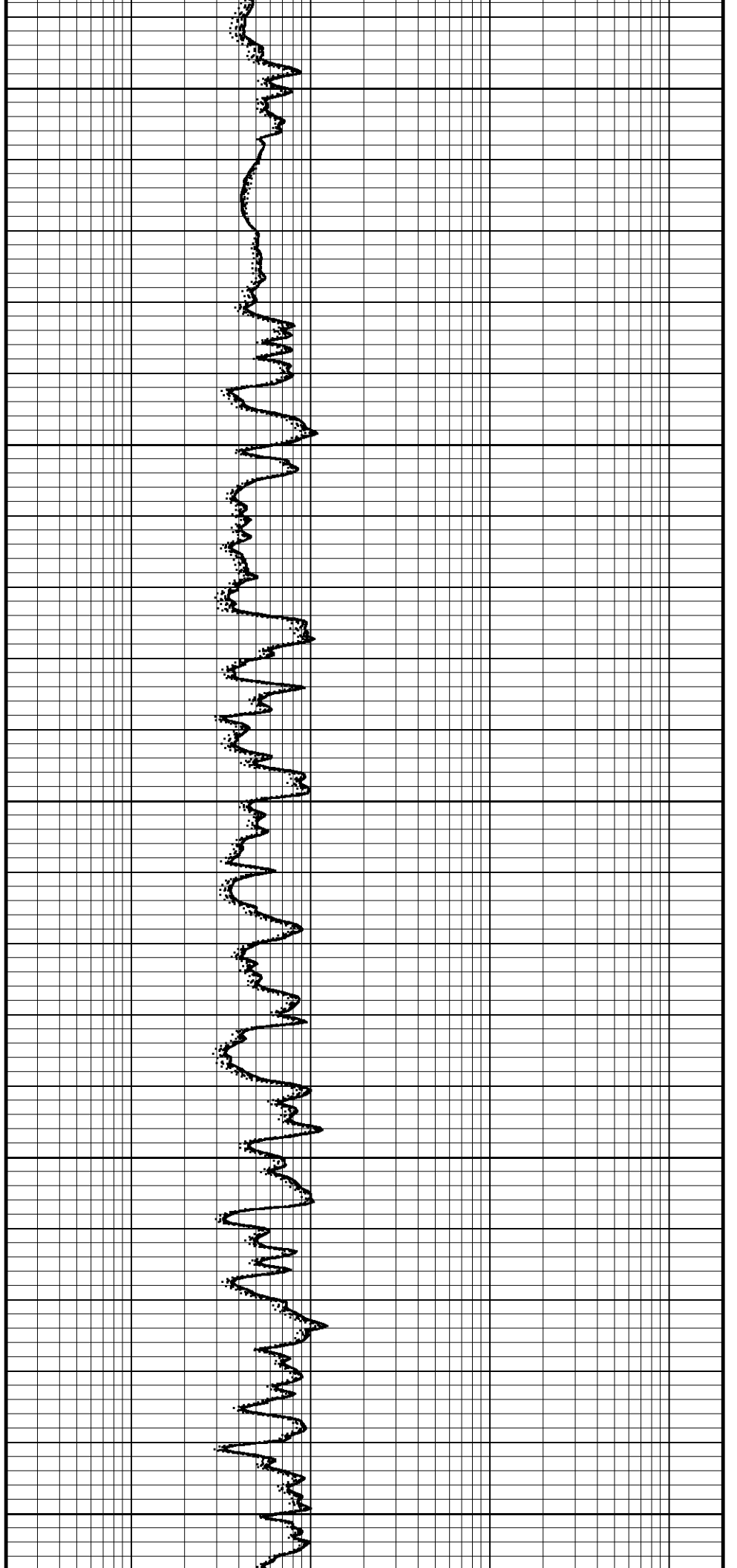
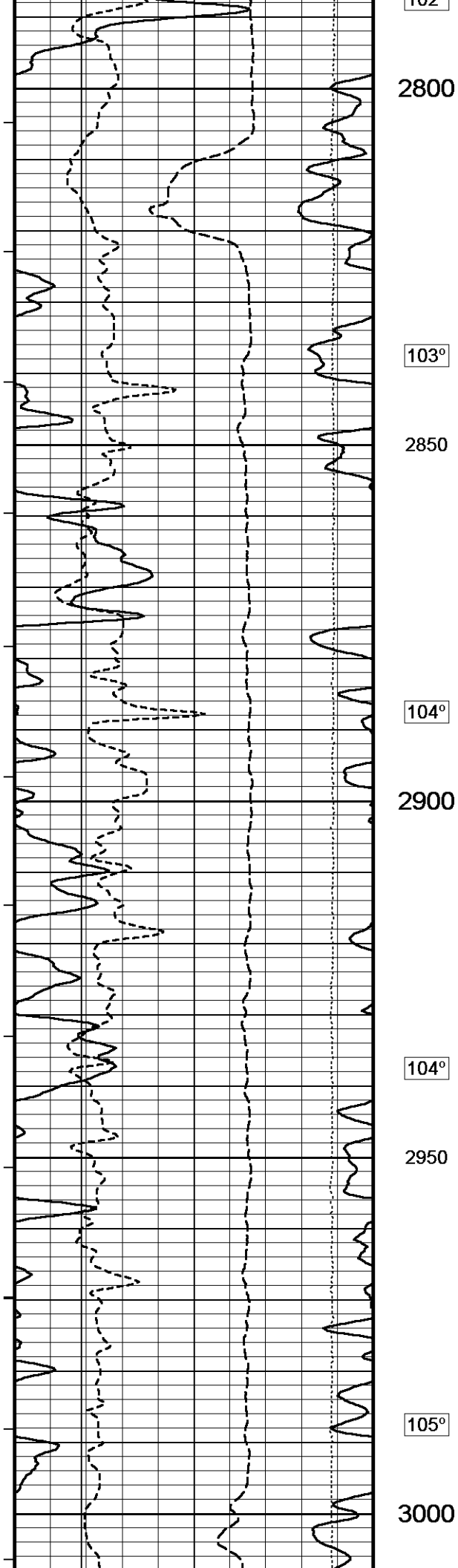
Array Ind. One Res 85

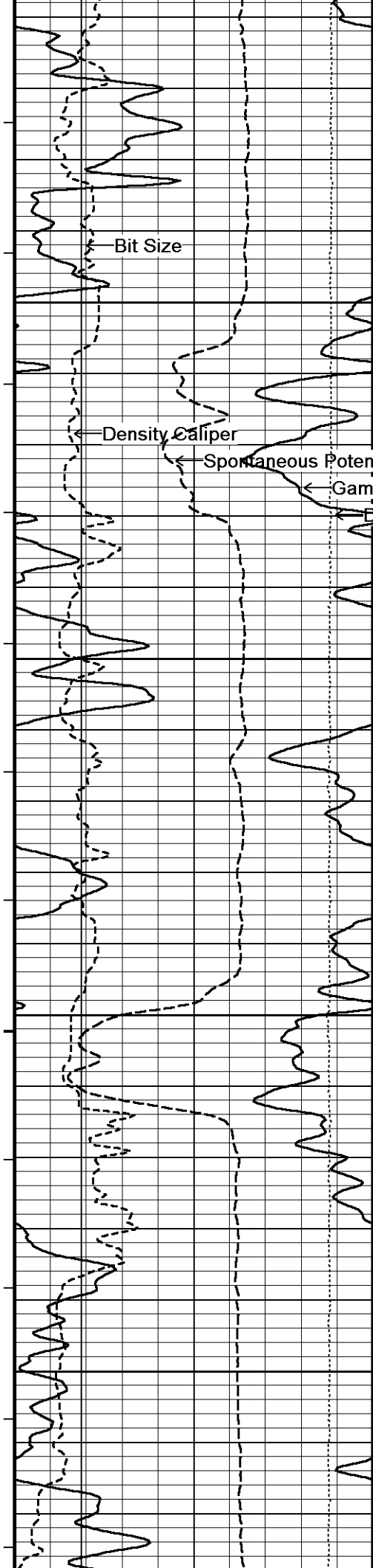
Array Ind. One Res 60

Array Ind. One Res 40

Array Ind. One Res 30

Array Ind. One Res 20





105°

3050

106°

3100

106°

3150

107°

3200

Array Ind. One Res Rt

Array Ind. One Res 85

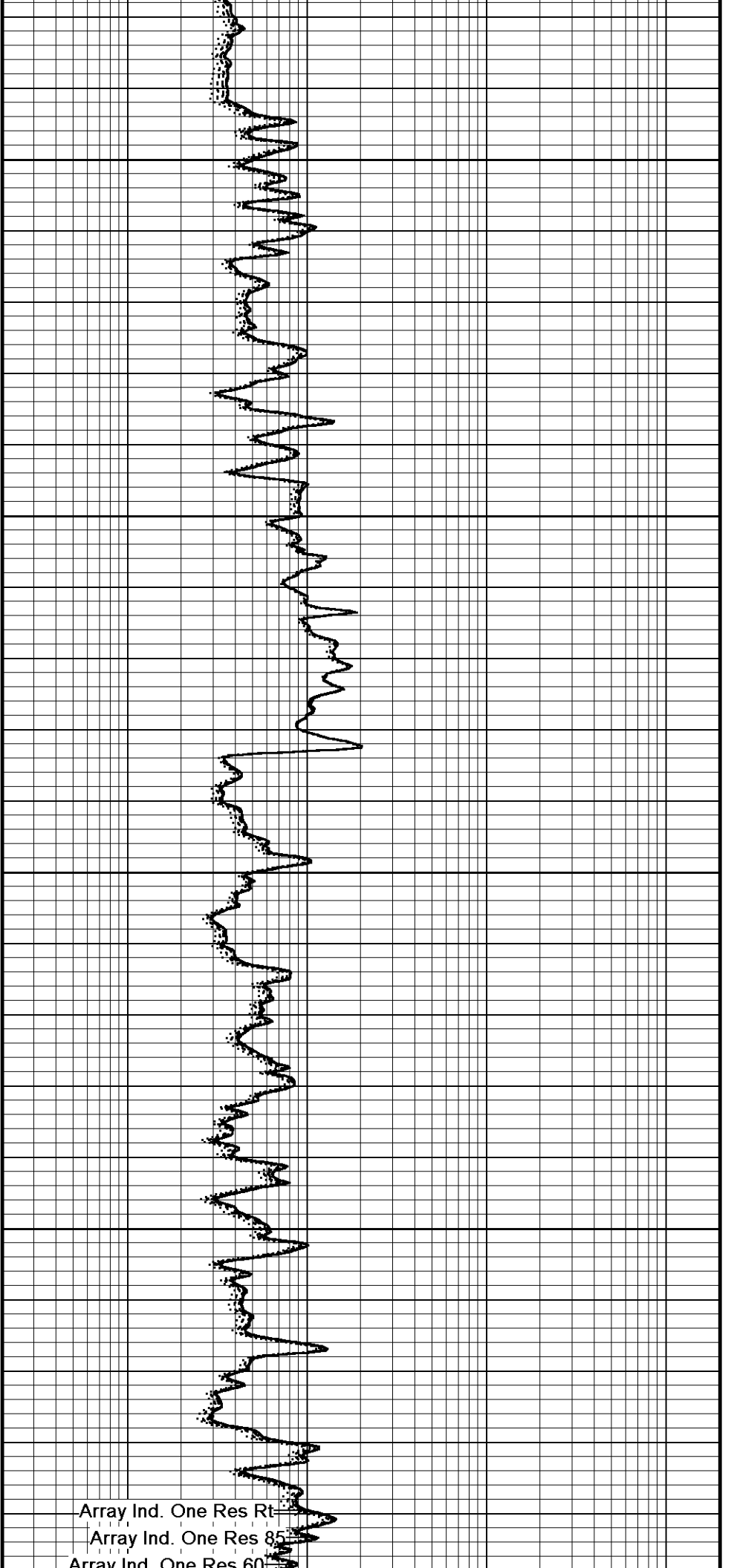
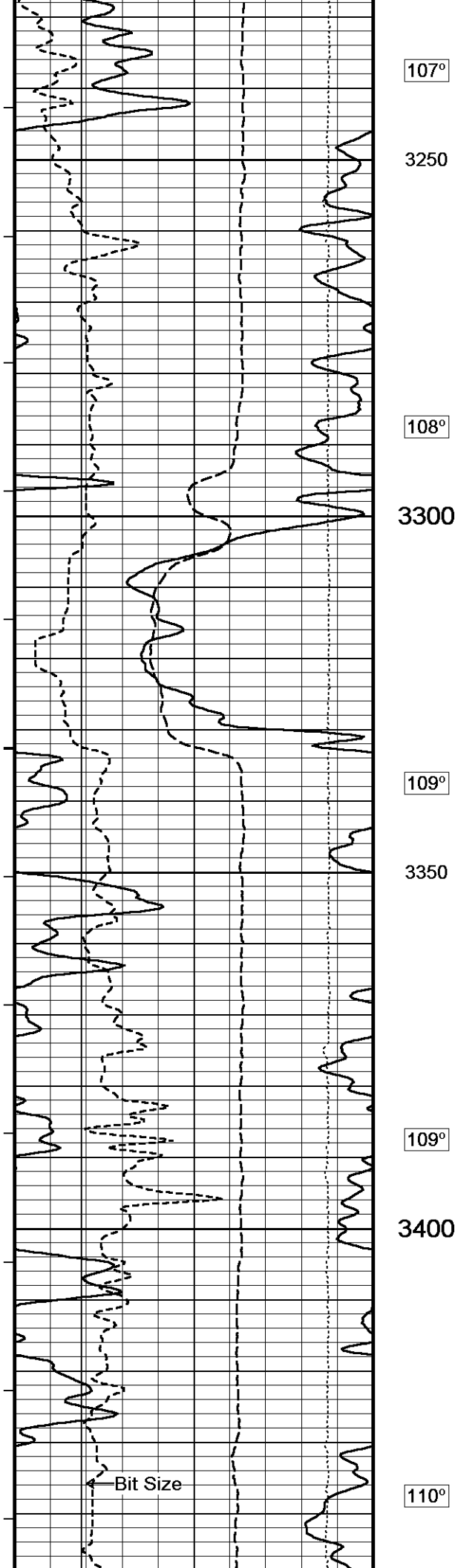
Array Ind. One Res 60

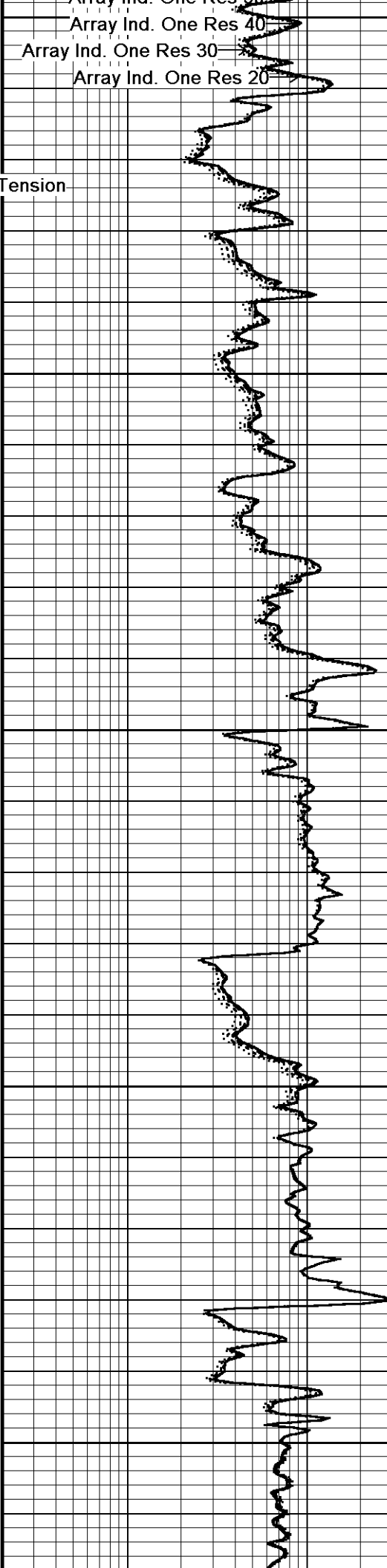
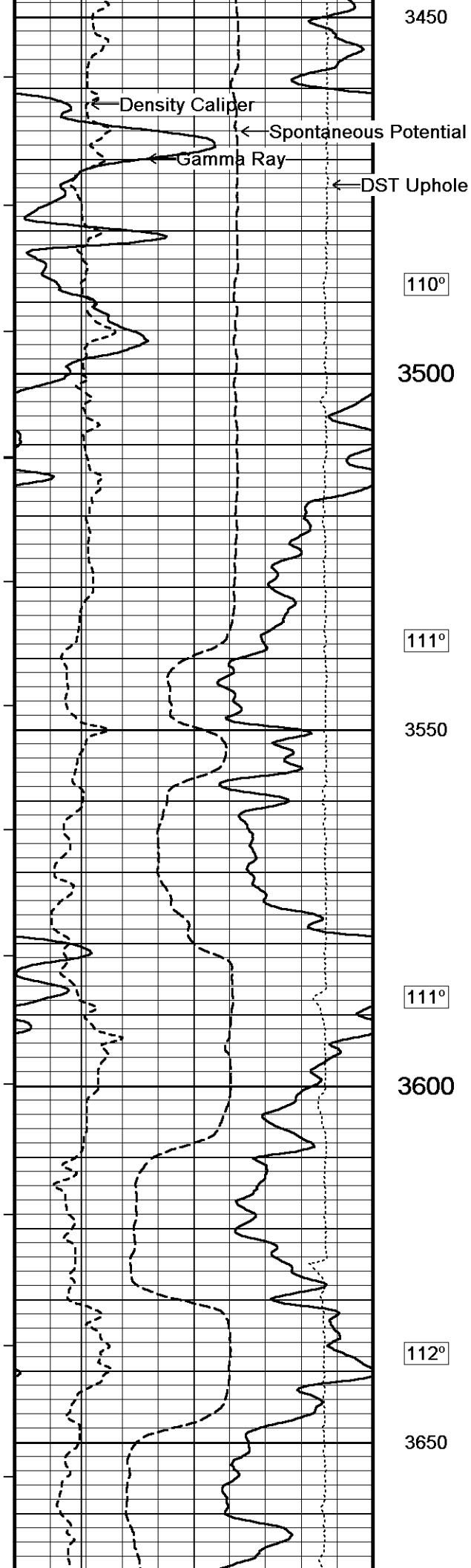
Array Ind. One Res 40

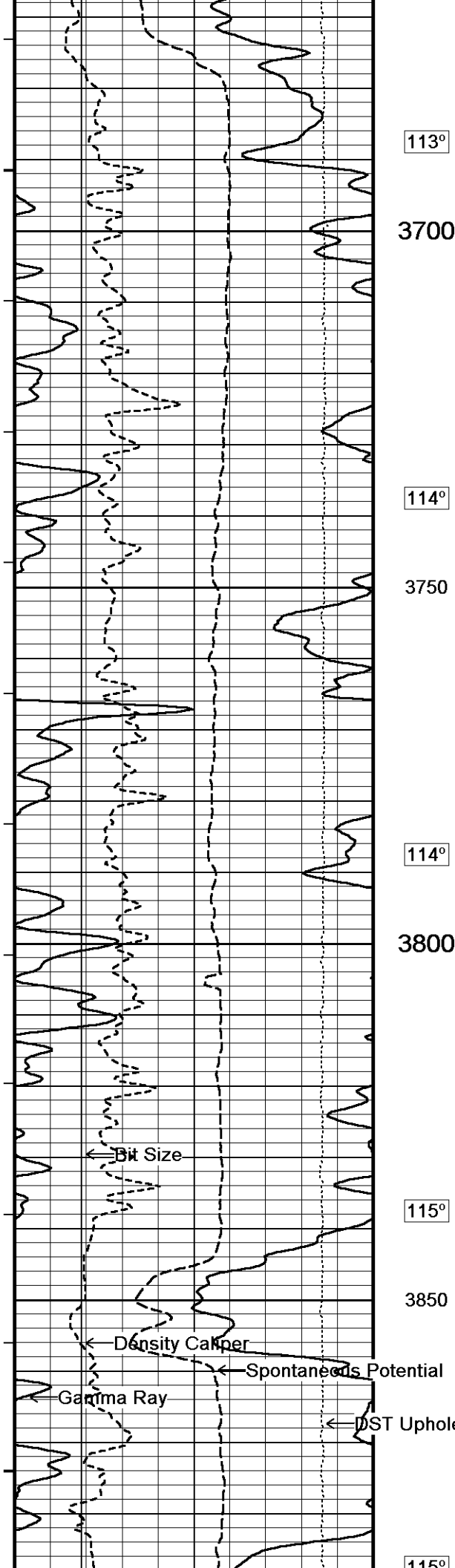
Array Ind. One Res 30

Array Ind. One Res 20

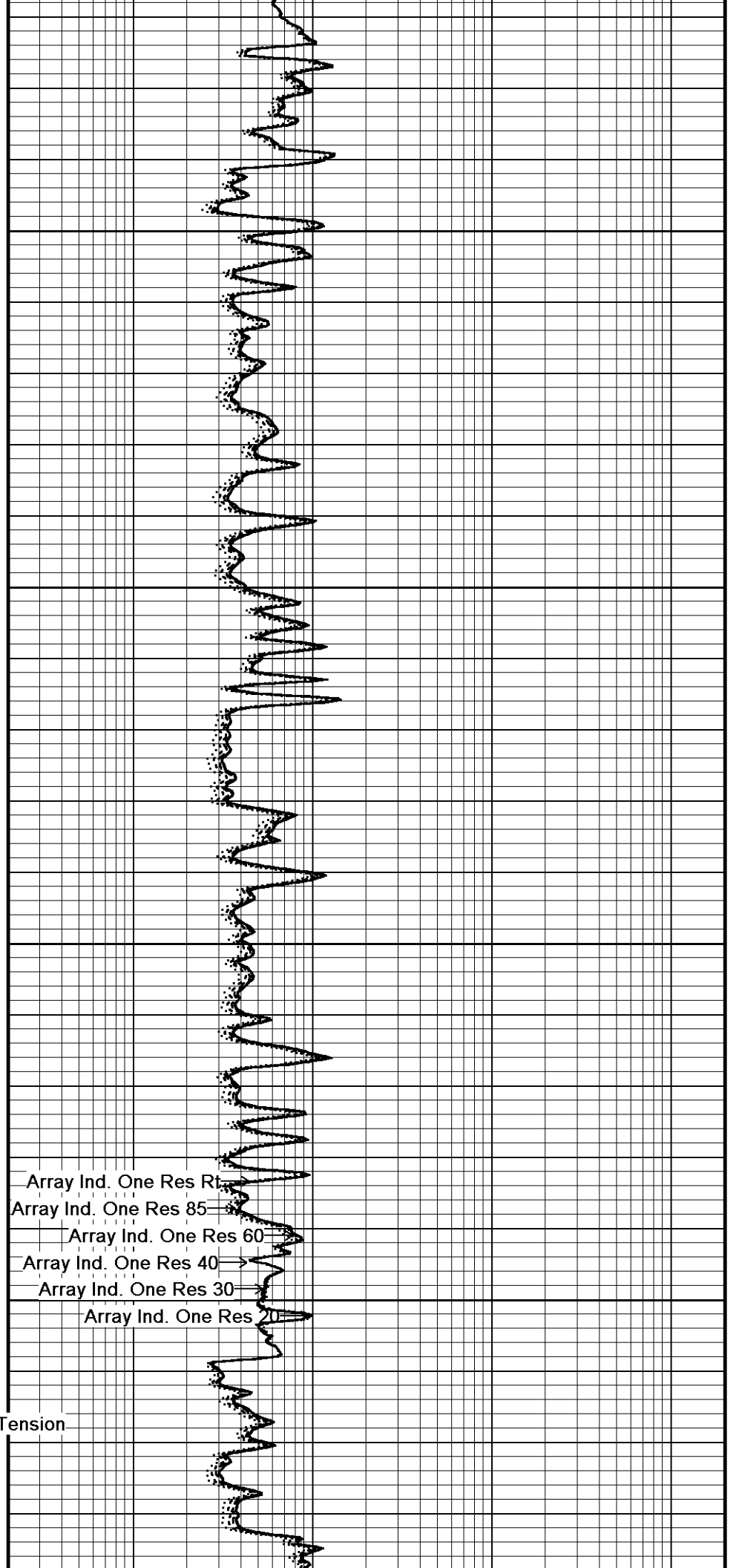


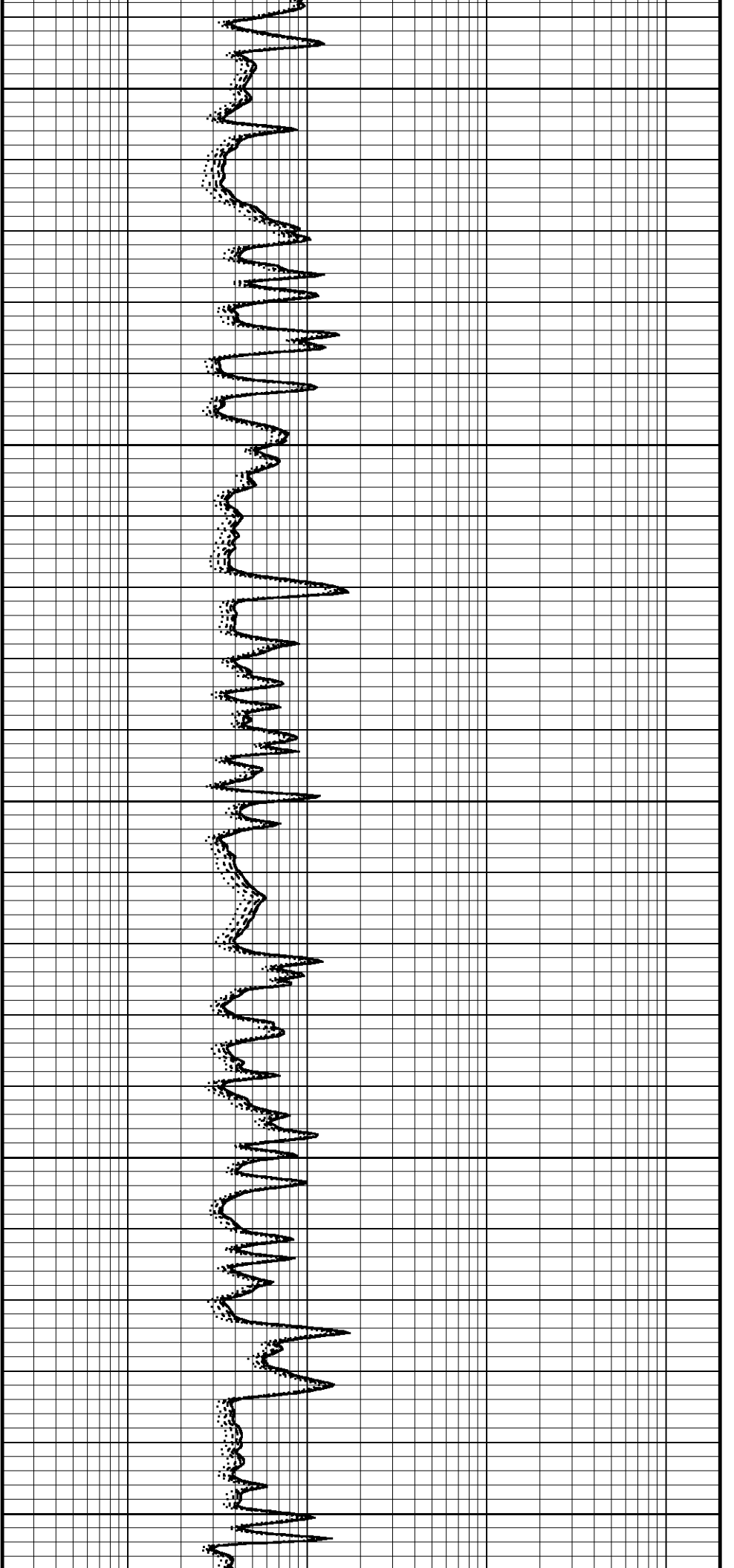
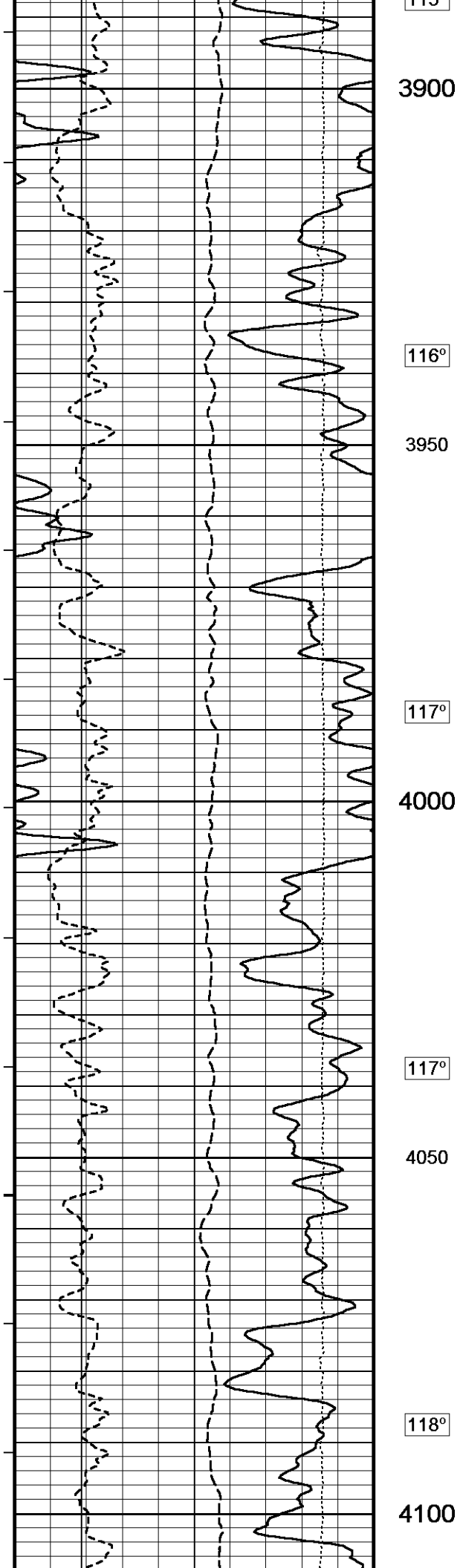


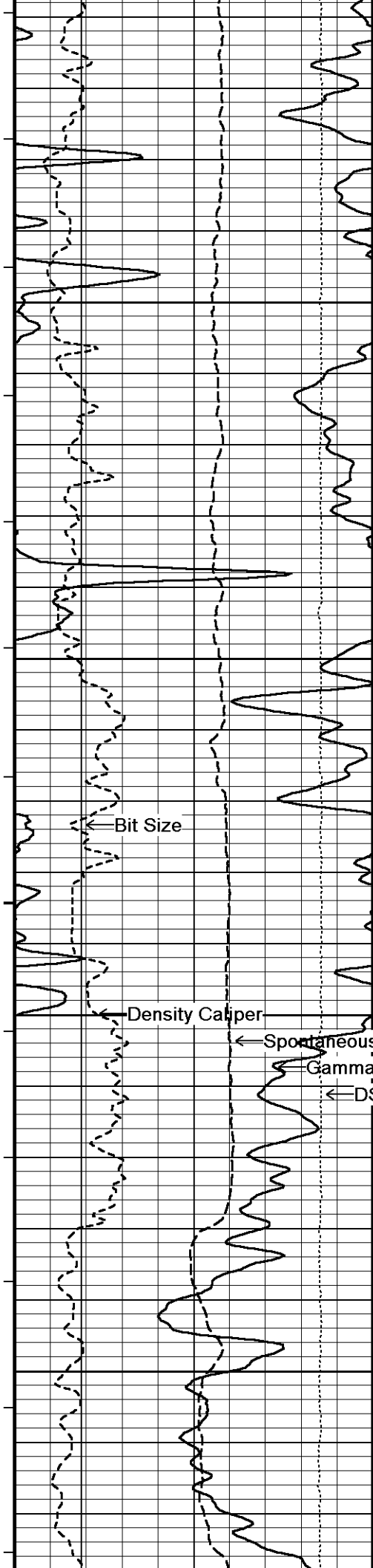




113°  
3700  
114°  
3750  
114°  
3800  
115°  
3850  
115°  
3900







119°

4150

119°

4200

120°

4250

120°

4300

Array Ind. One Res Rt

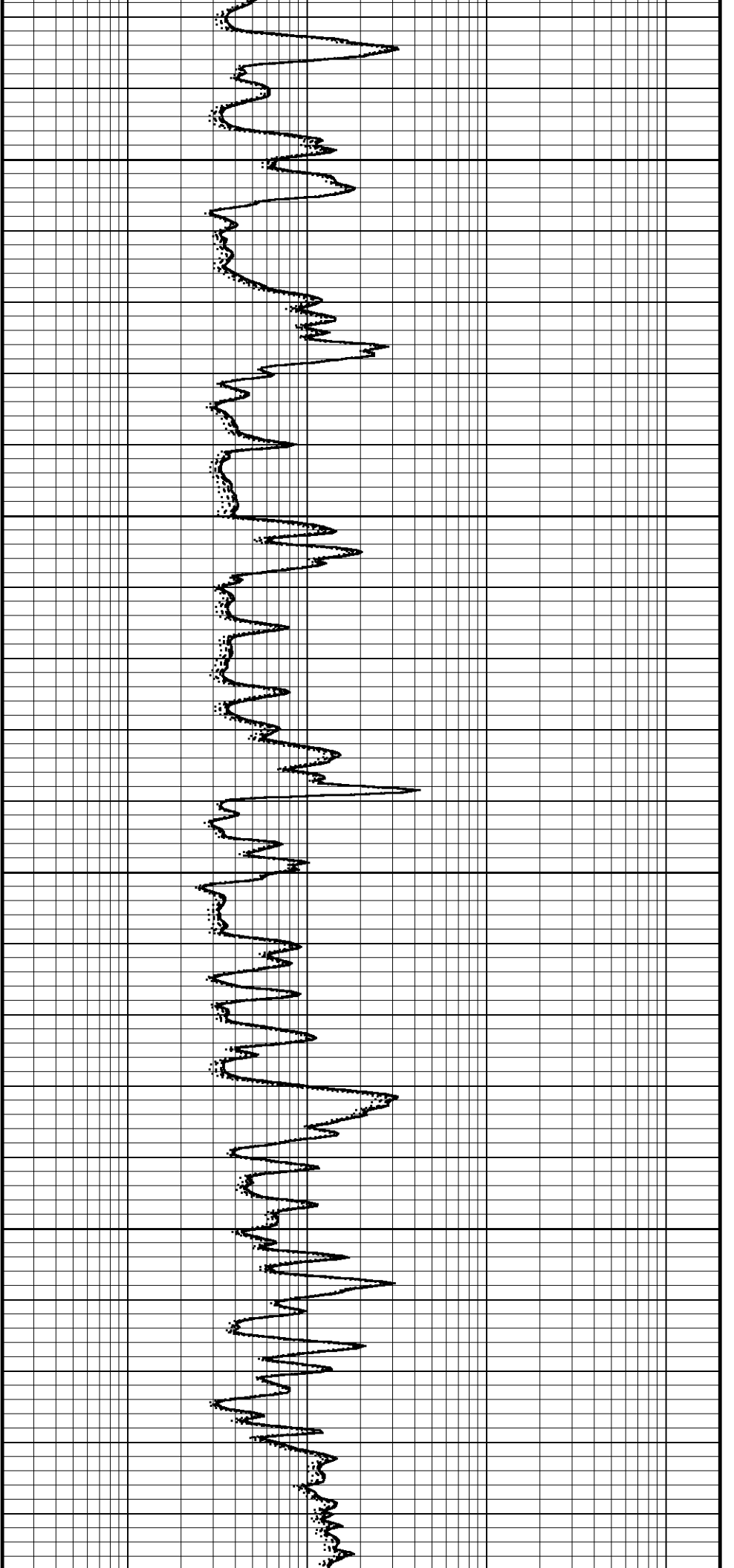
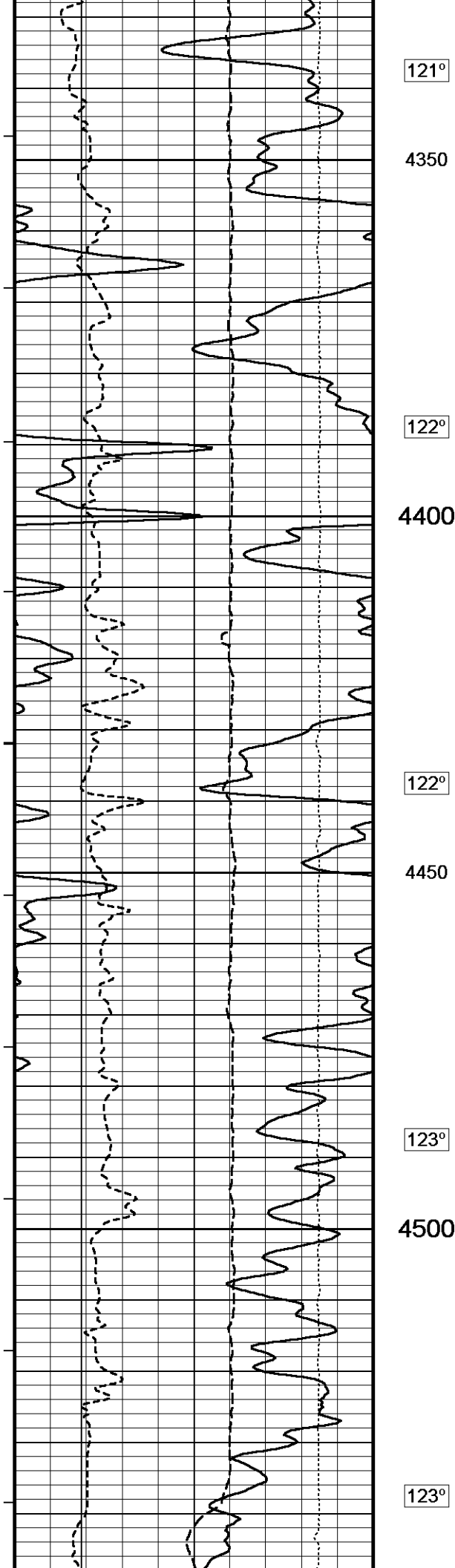
Array Ind. One Res 85

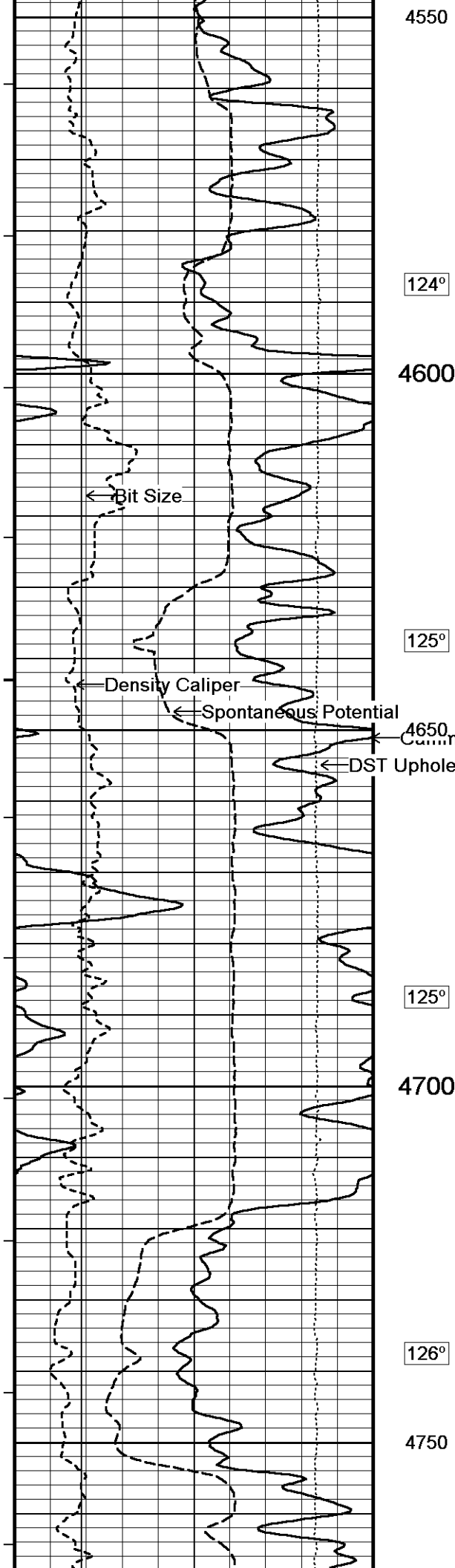
Array Ind. One Res 60

Array Ind. One Res 40

Array Ind. One Res 30

Array Ind. One Res 20





4550

124°

4600

125°

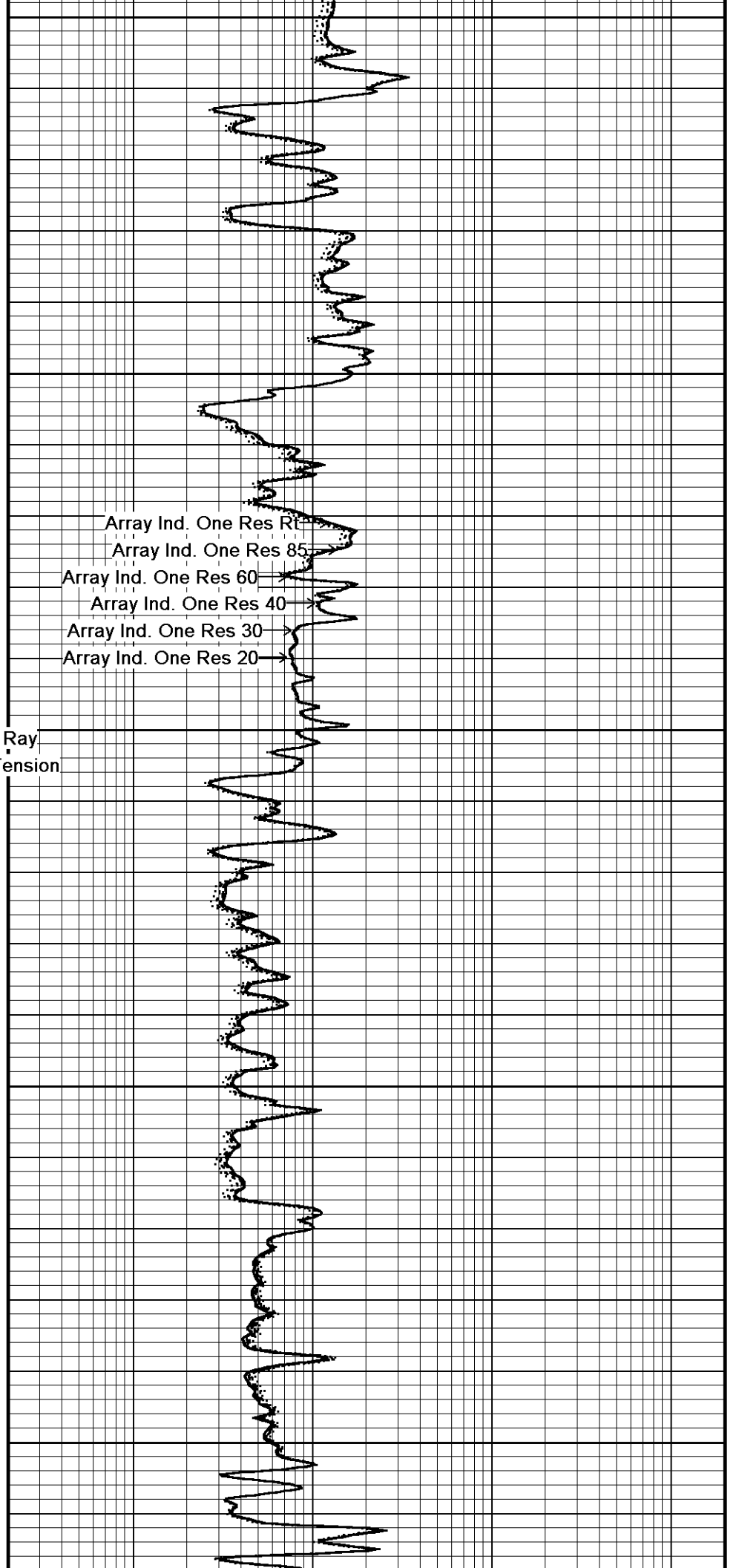
4650

125°

4700

126°

4750



Array Ind. One Res Rt

Array Ind. One Res 85

Array Ind. One Res 60

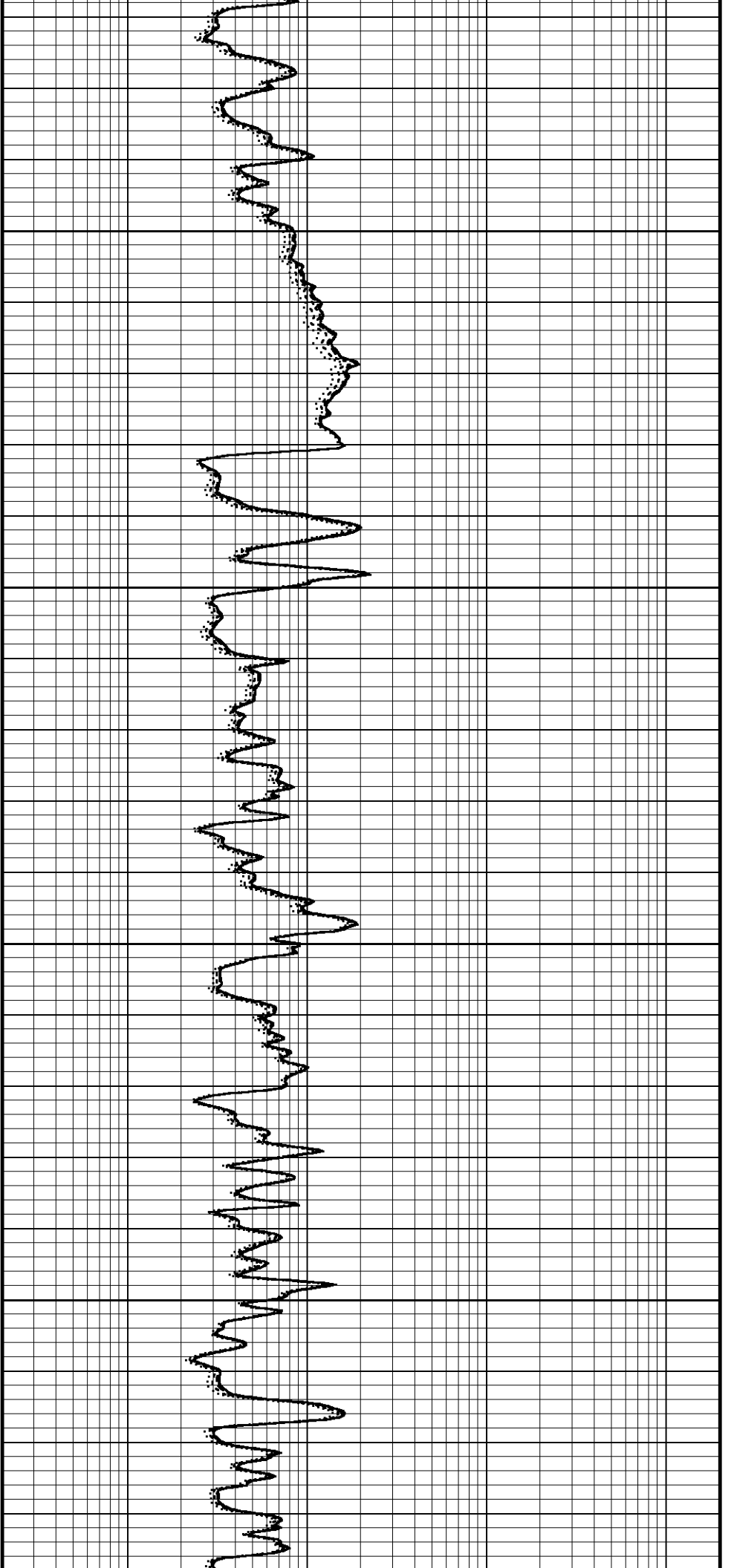
Array Ind. One Res 40

Array Ind. One Res 30

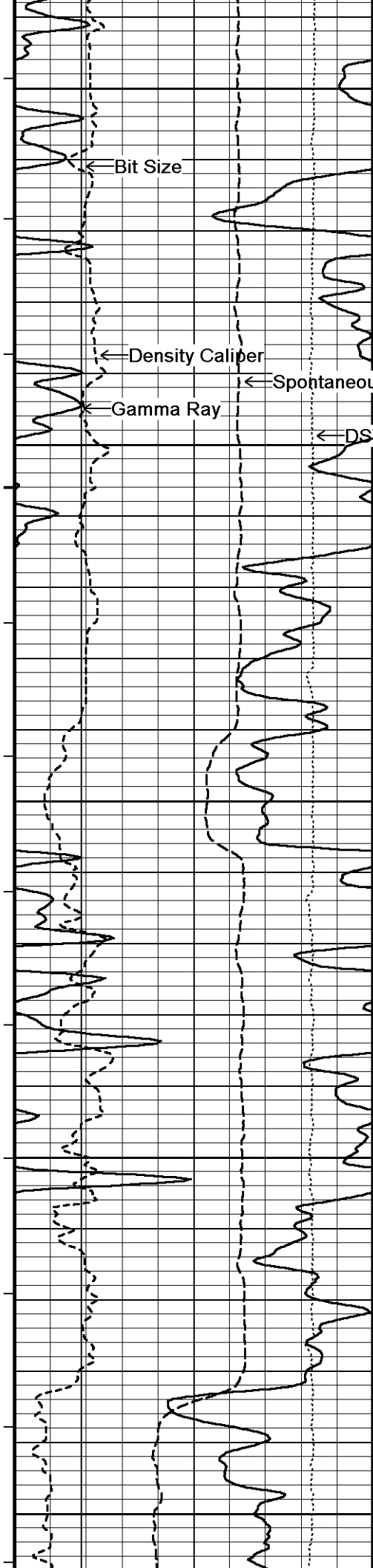
Array Ind. One Res 20

Curina Ray

DST Uphole Tension







129°

5000

Bit Size

Array Ind. One Res Rt

Array Ind. One Res 85

Array Ind. One Res 60

Array Ind. One Res 40

Array Ind. One Res 30

Array Ind. One Res 20

Density Caliper

129°

Gamma Ray

Spontaneous Potential

DST U-tube Tension

5050

130°

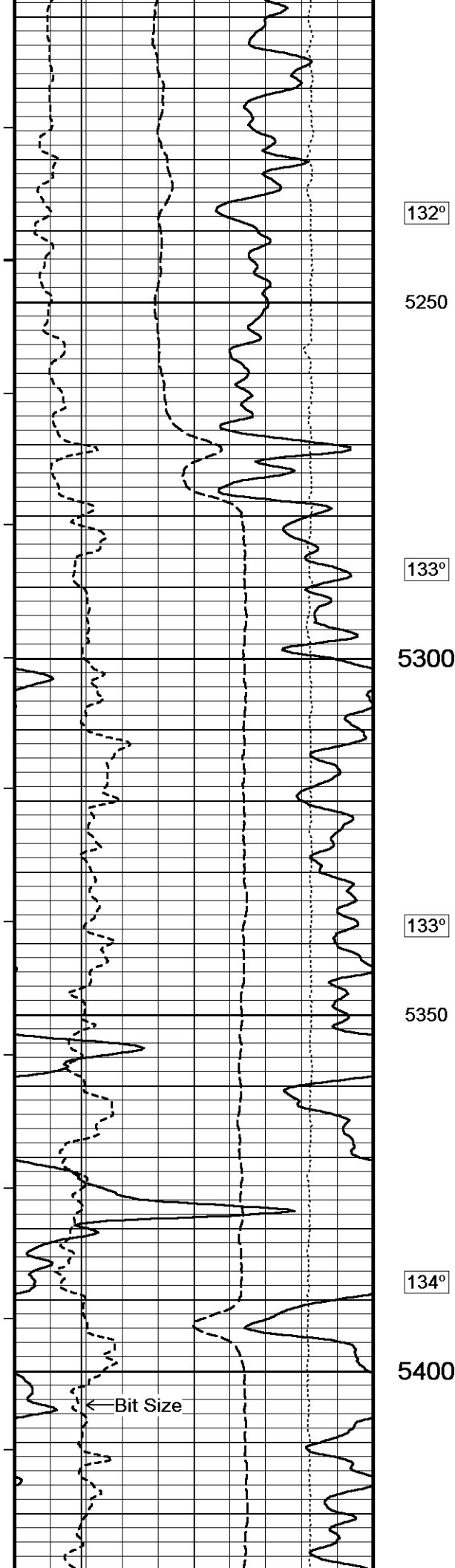
5100

131°

5150

131°

5200



132°

5250

133°

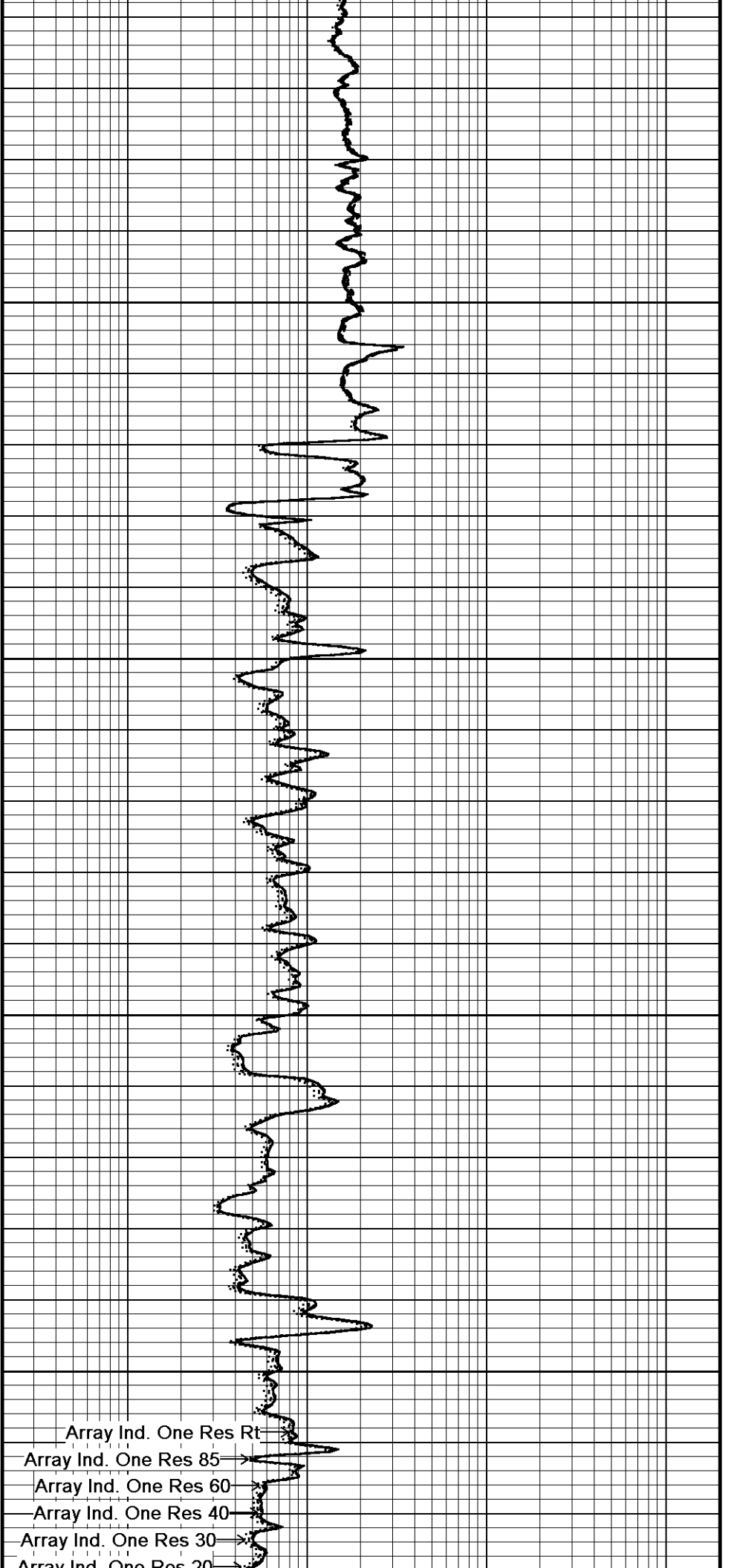
5300

133°

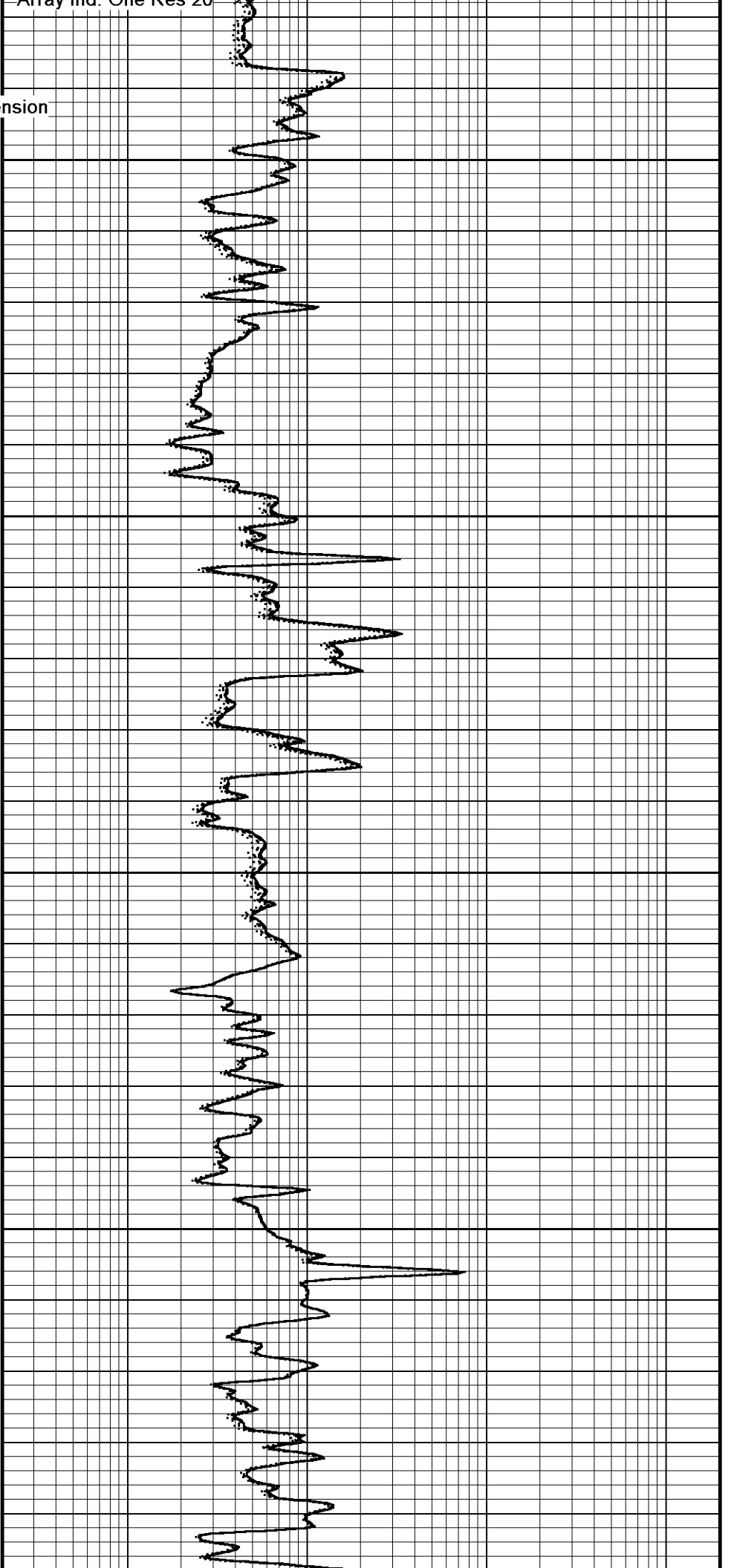
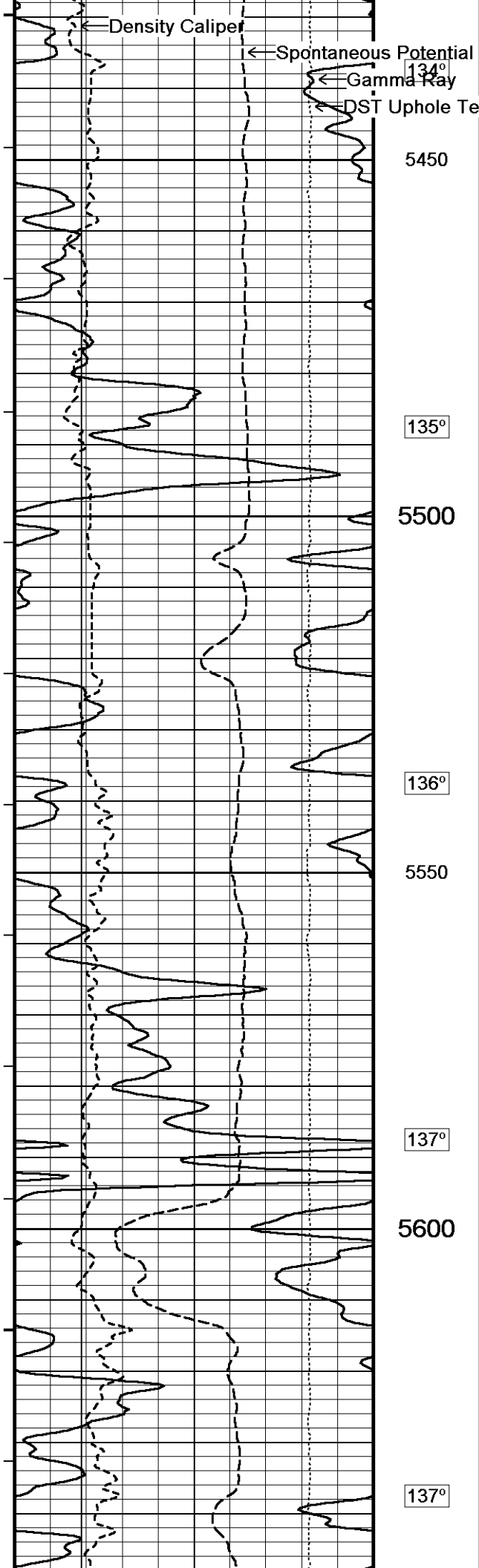
5350

134°

5400



- Array Ind. One Res Rt
- Array Ind. One Res 85
- Array Ind. One Res 60
- Array Ind. One Res 40
- Array Ind. One Res 30
- Array Ind. One Res 20





5650

138°

5700

139°

5750

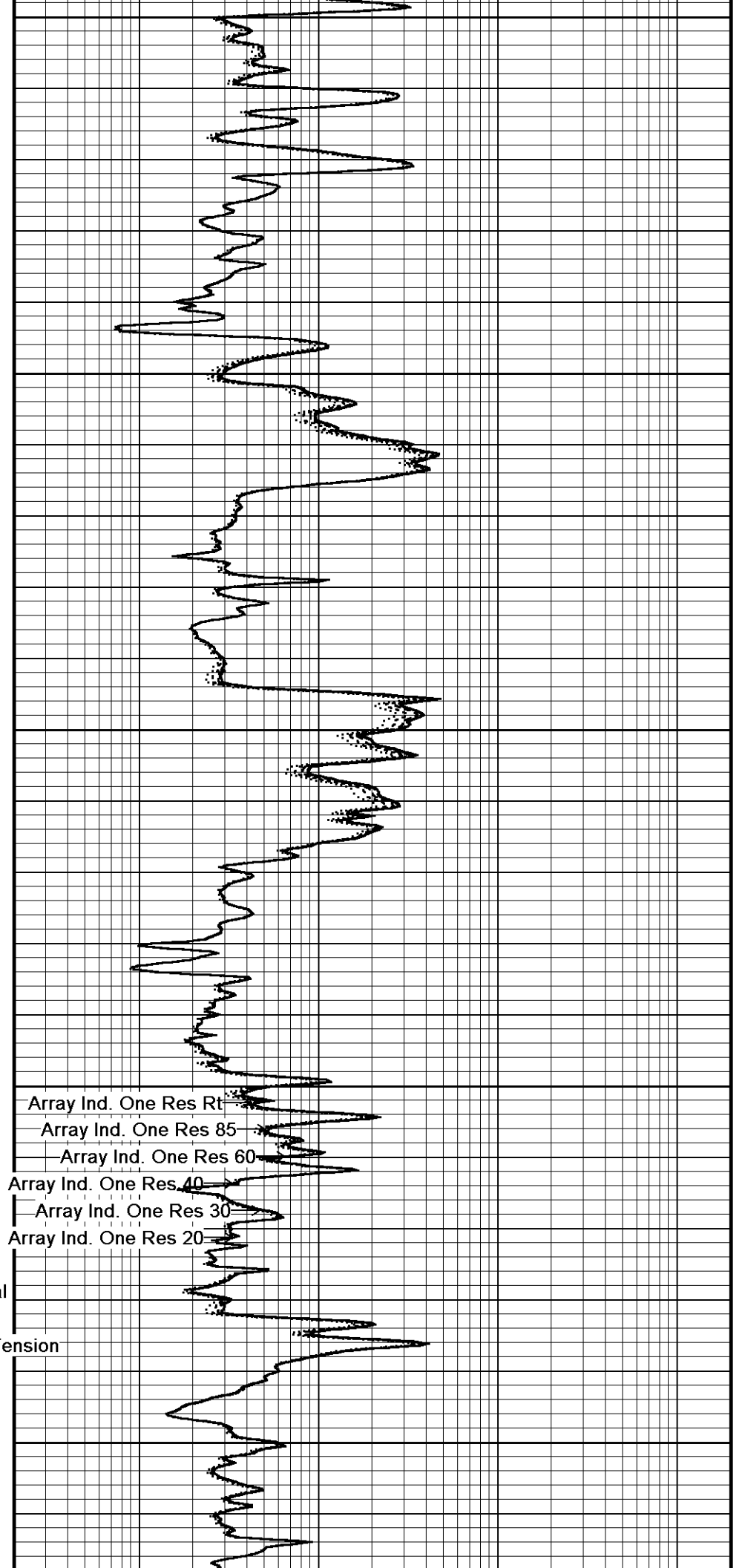
140°

5800

Spontaneous Potential

141°

5850



Array Ind. One Res Rt

Array Ind. One Res 85

Array Ind. One Res 60

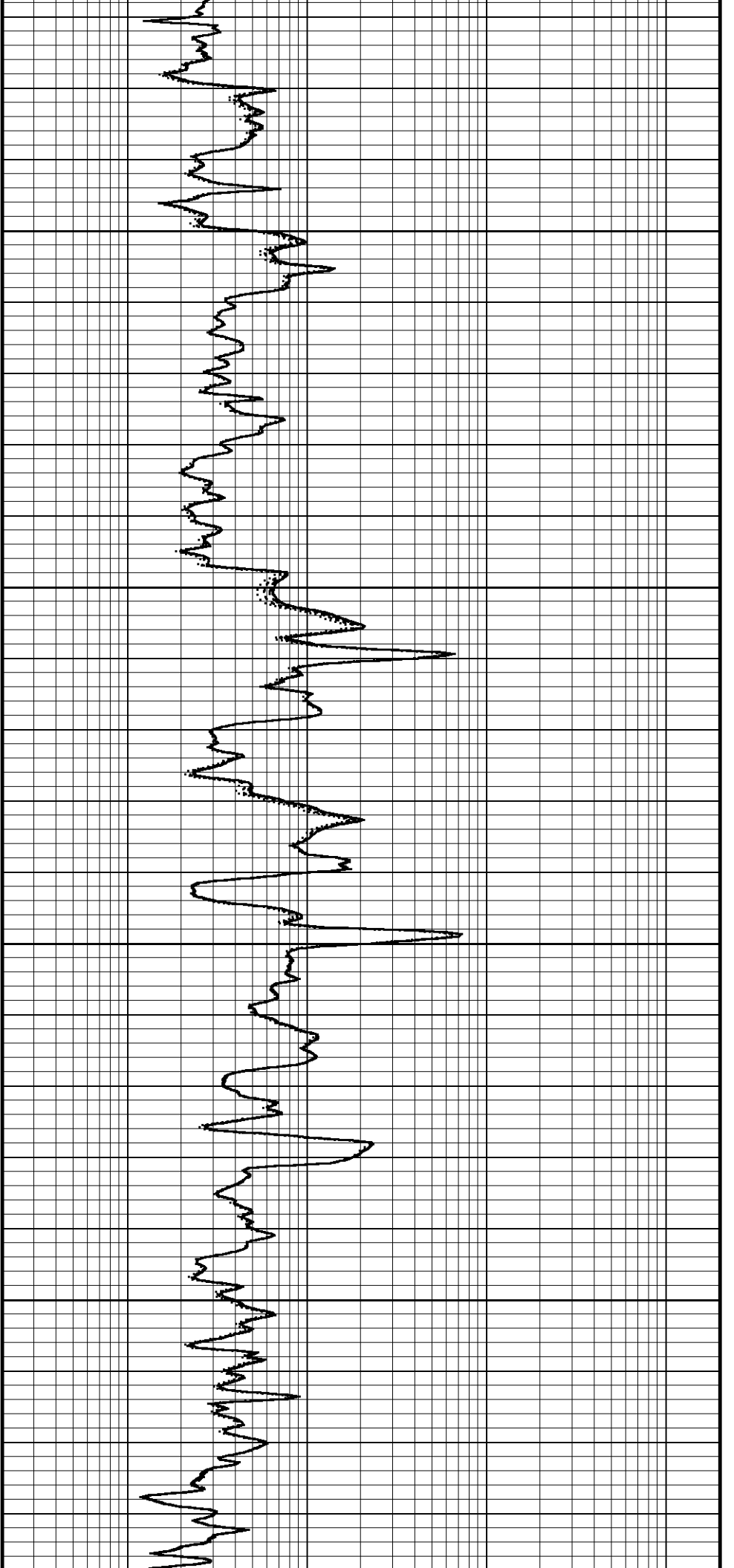
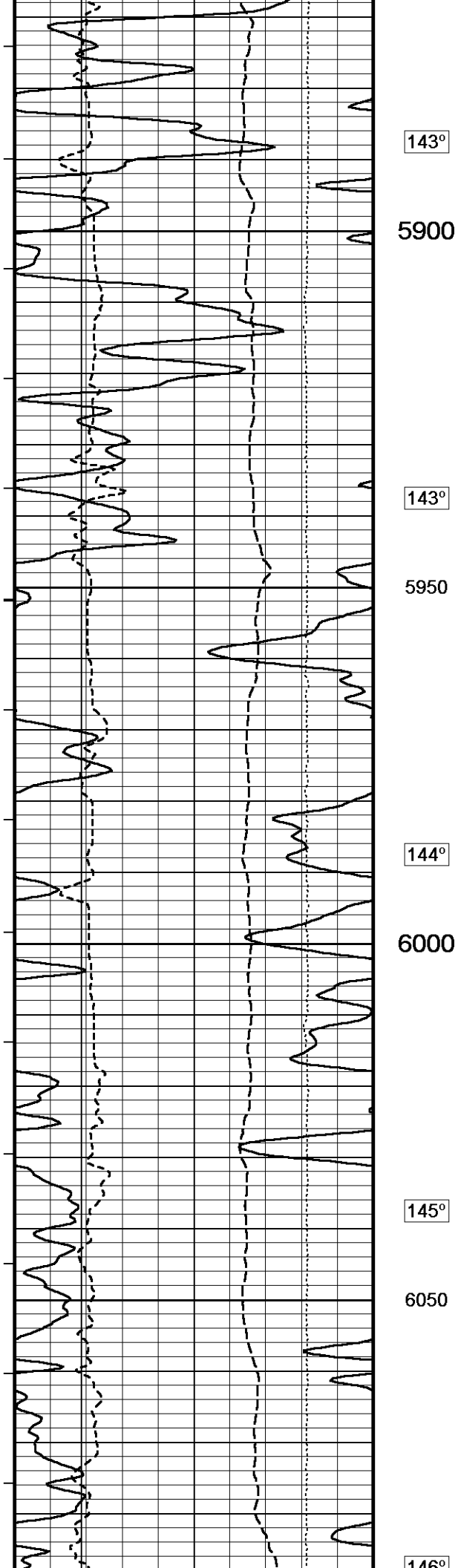
Array Ind. One Res 40

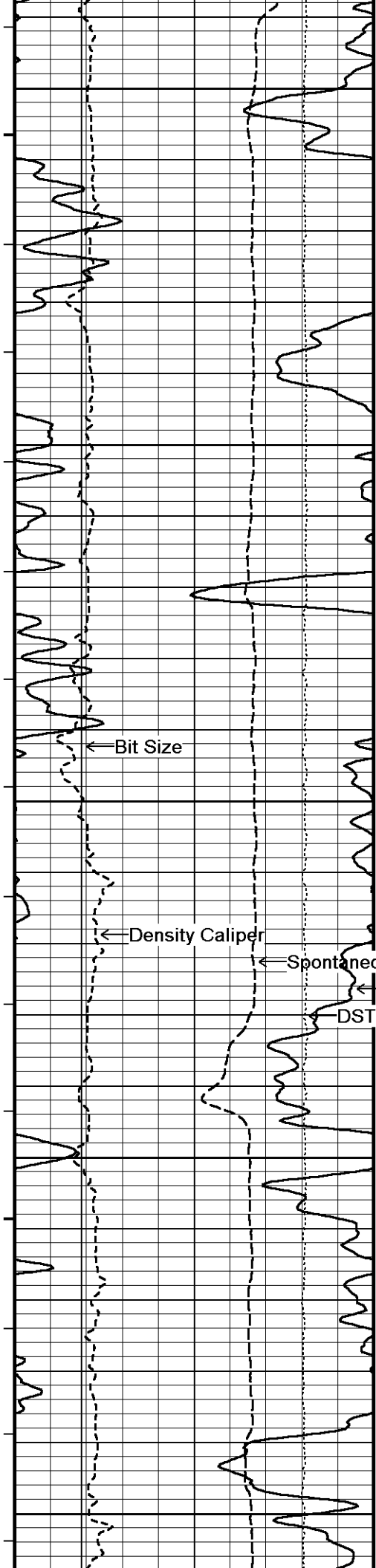
Array Ind. One Res 30

Array Ind. One Res 20

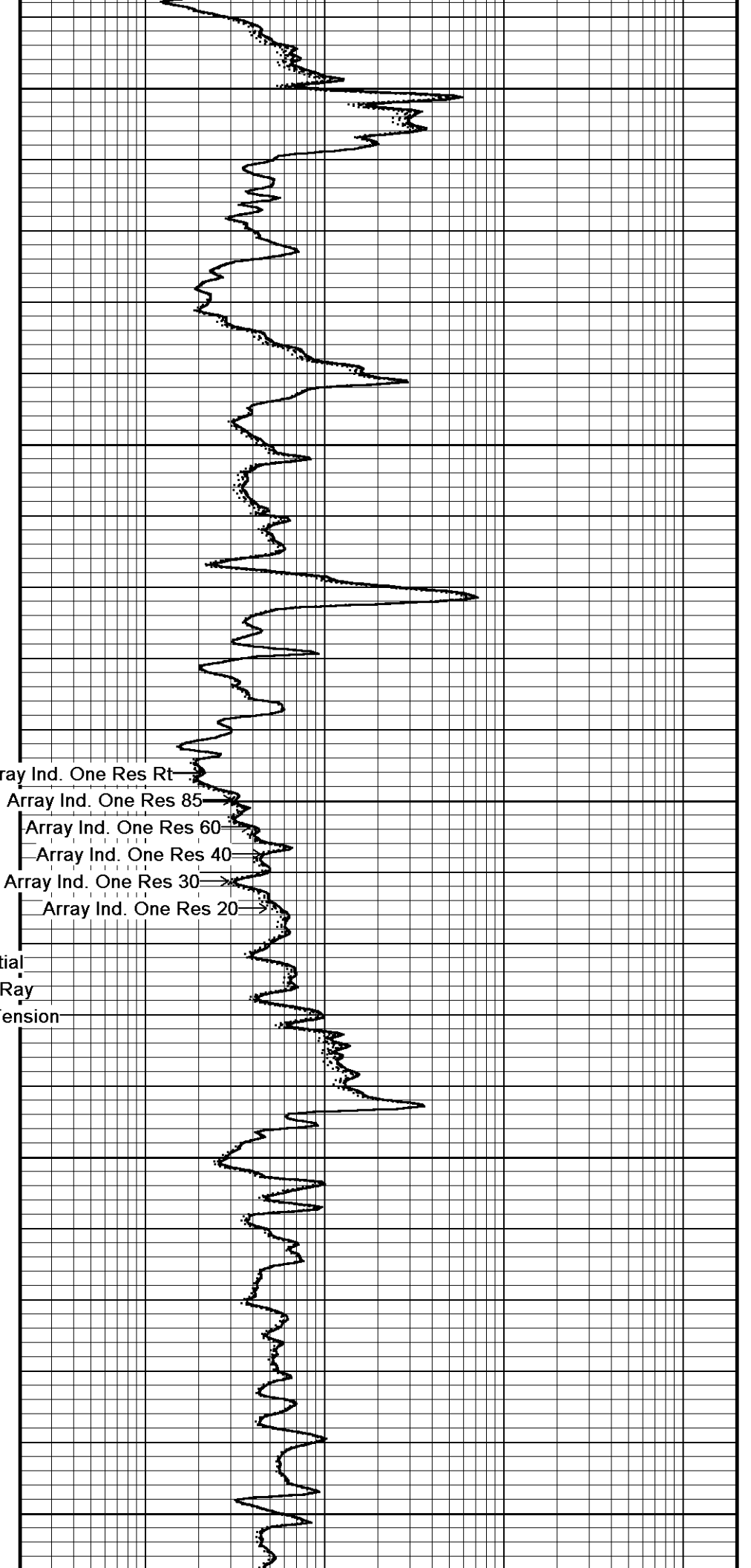
Spontaneous Potential

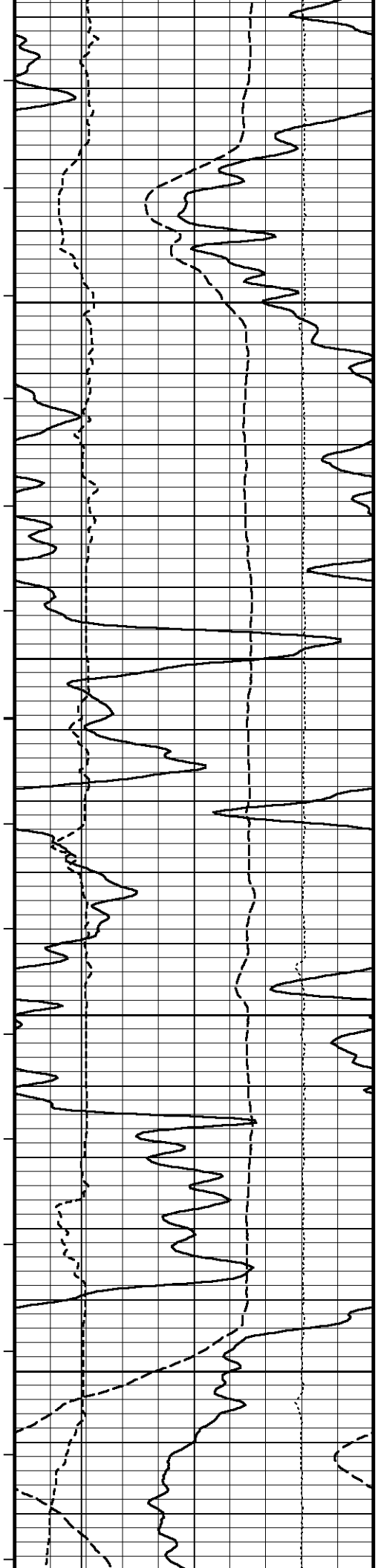
Spontaneous Potential





6100  
147°  
6150  
148°  
6200  
148°  
6250  
149°  
6300





150°

6350

150°

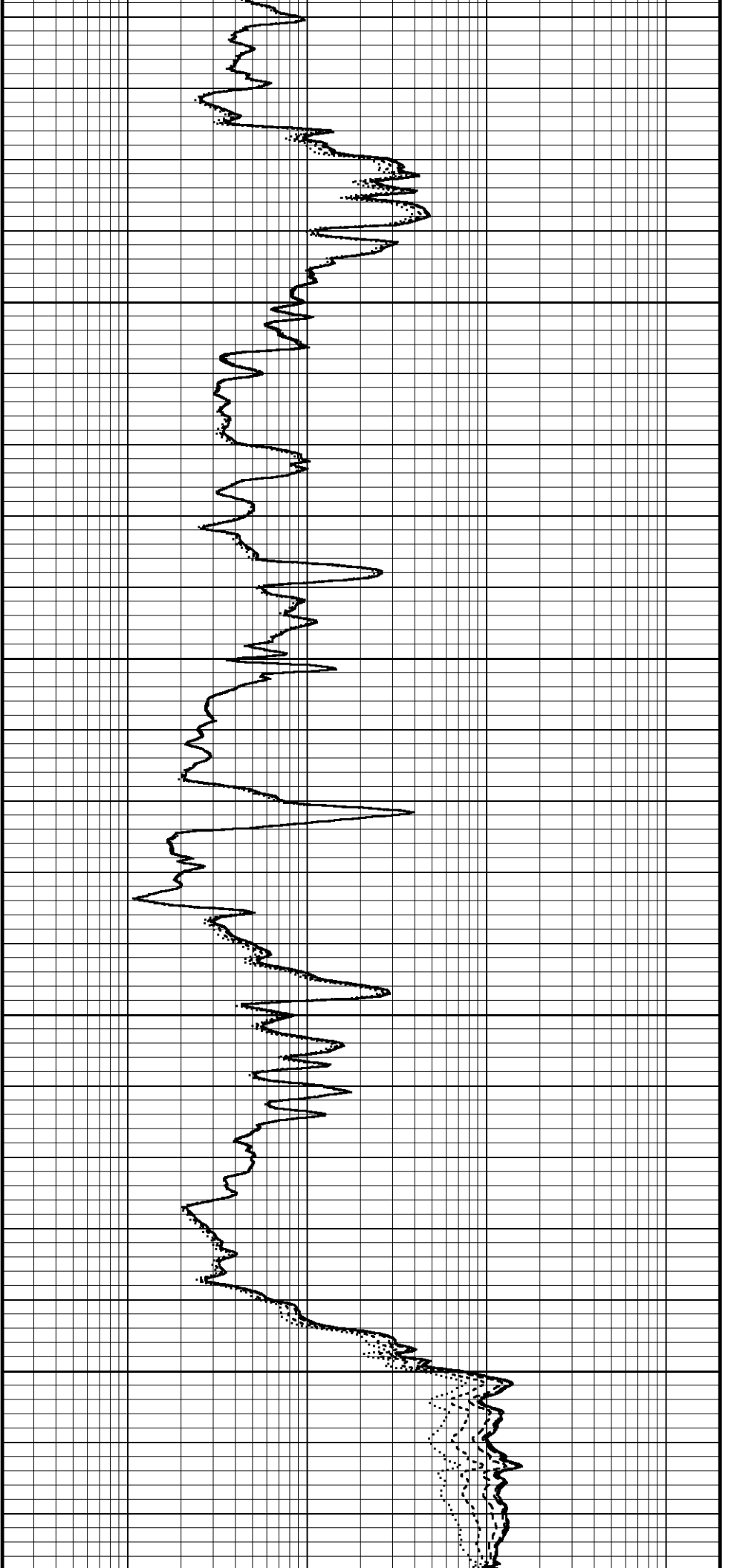
6400

151°

6450

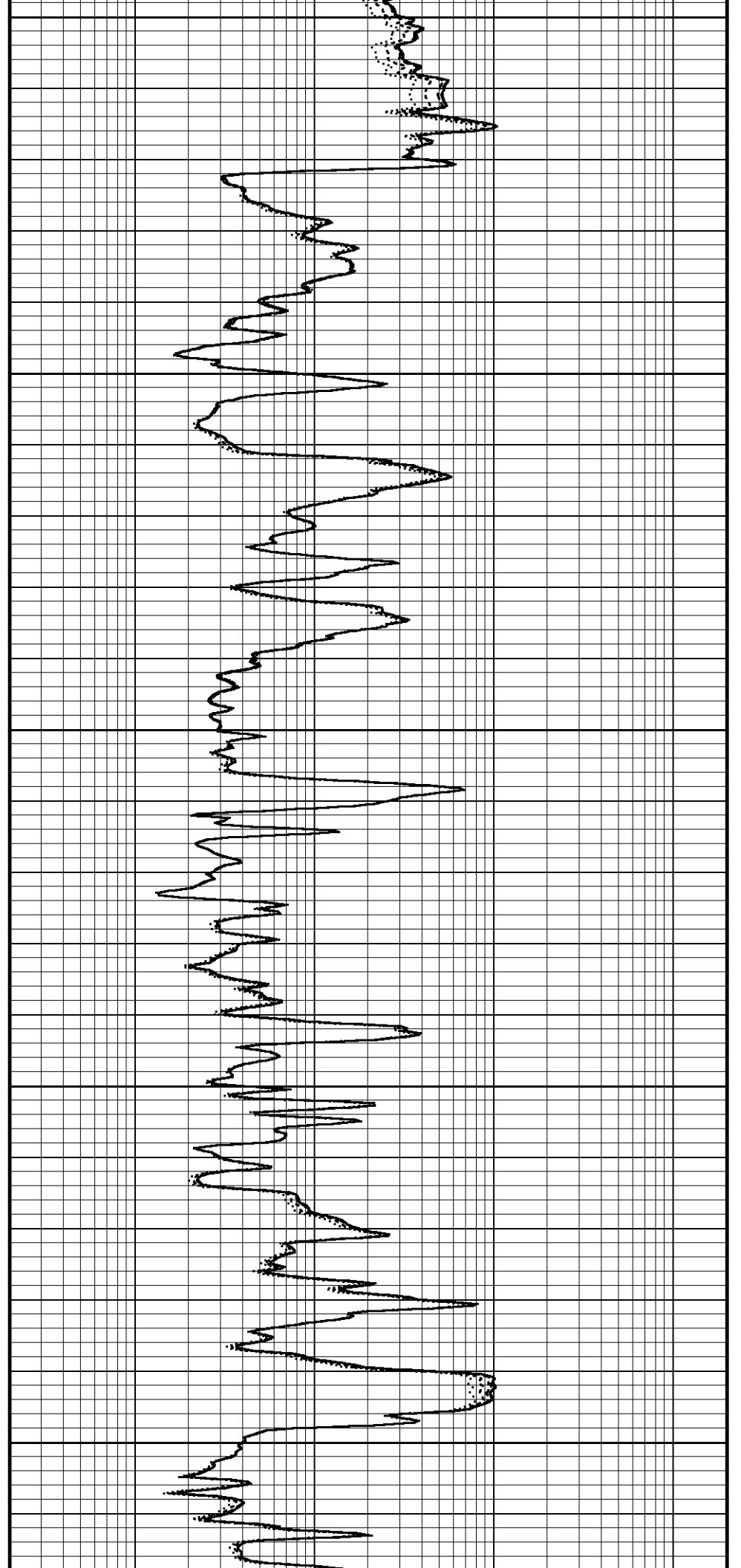
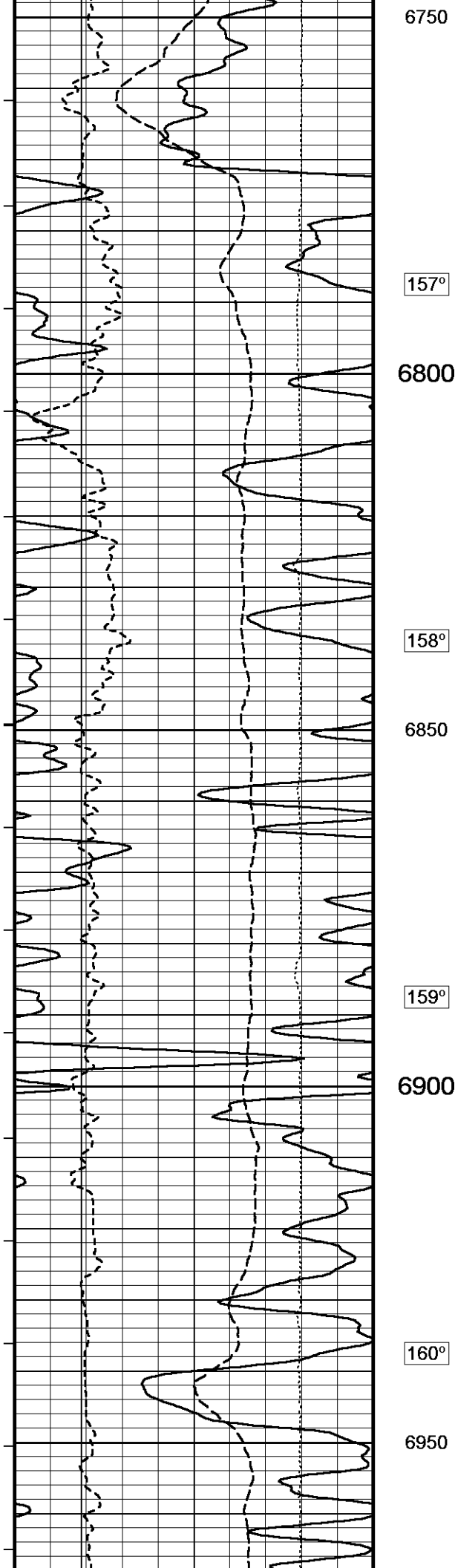
152°

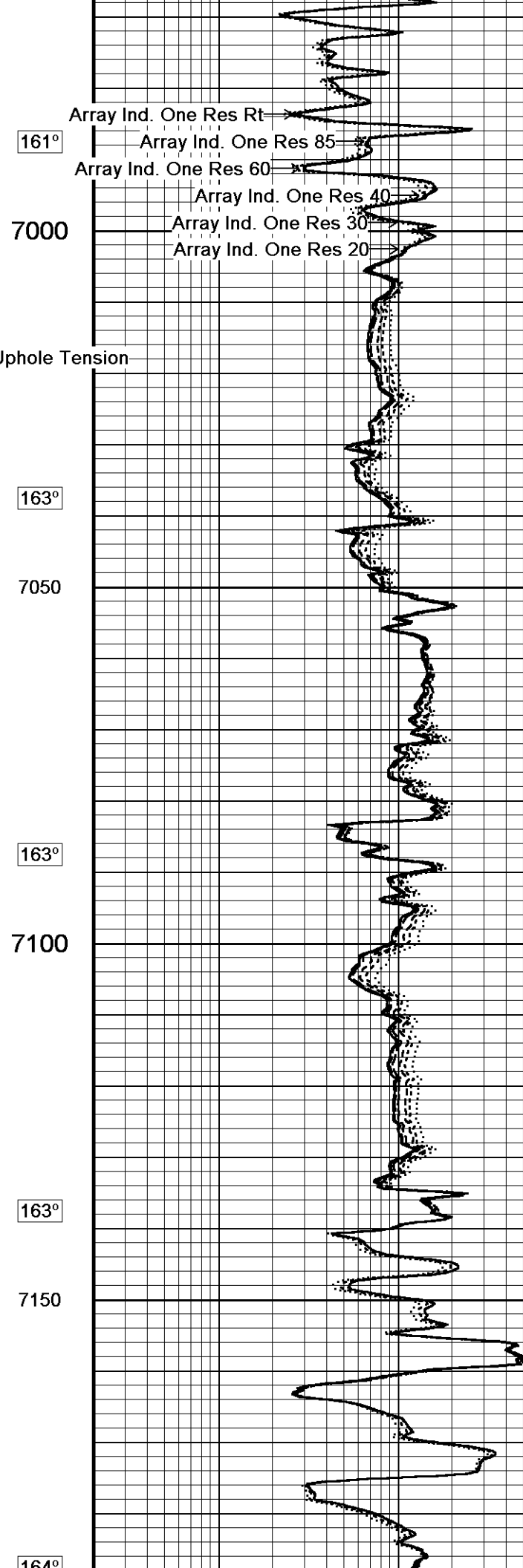
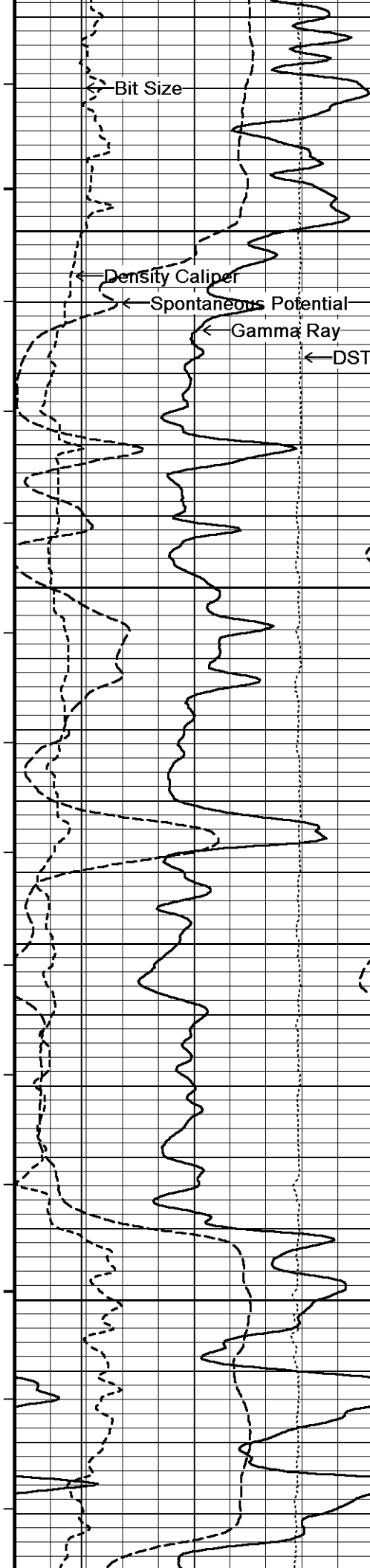
6500

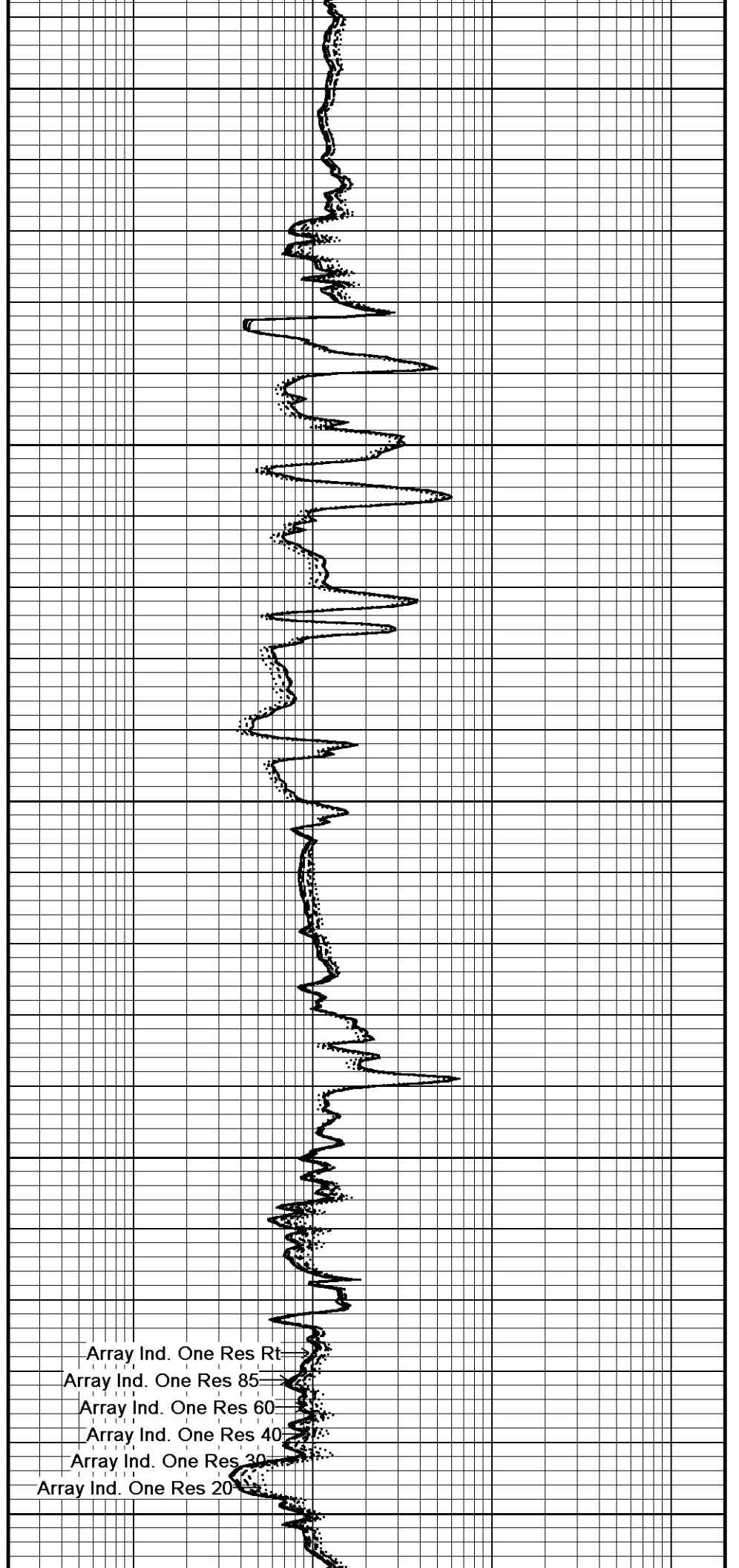
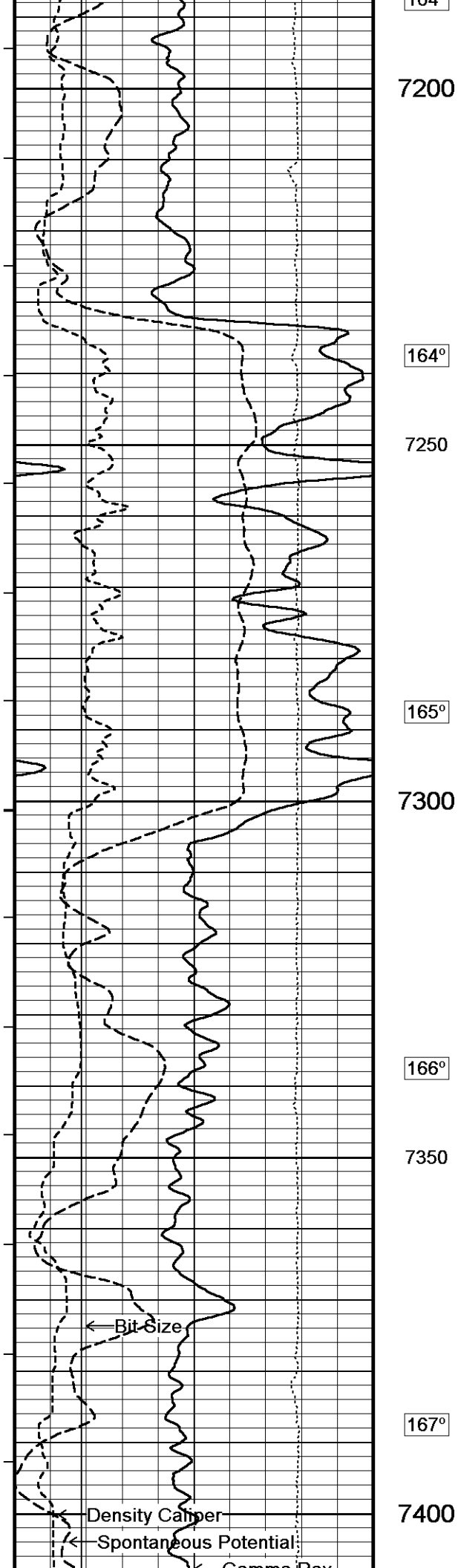


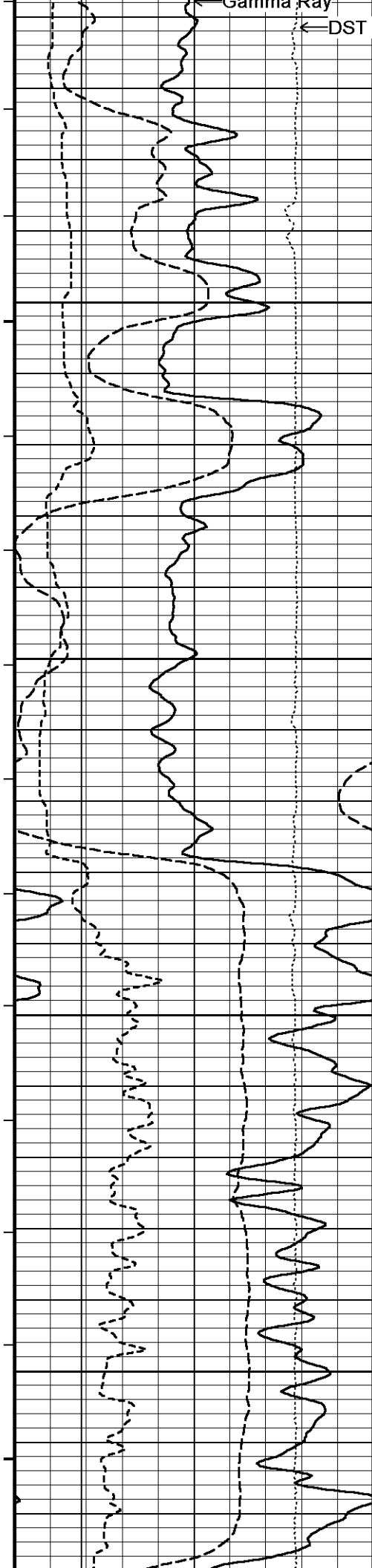












167°

7450

167°

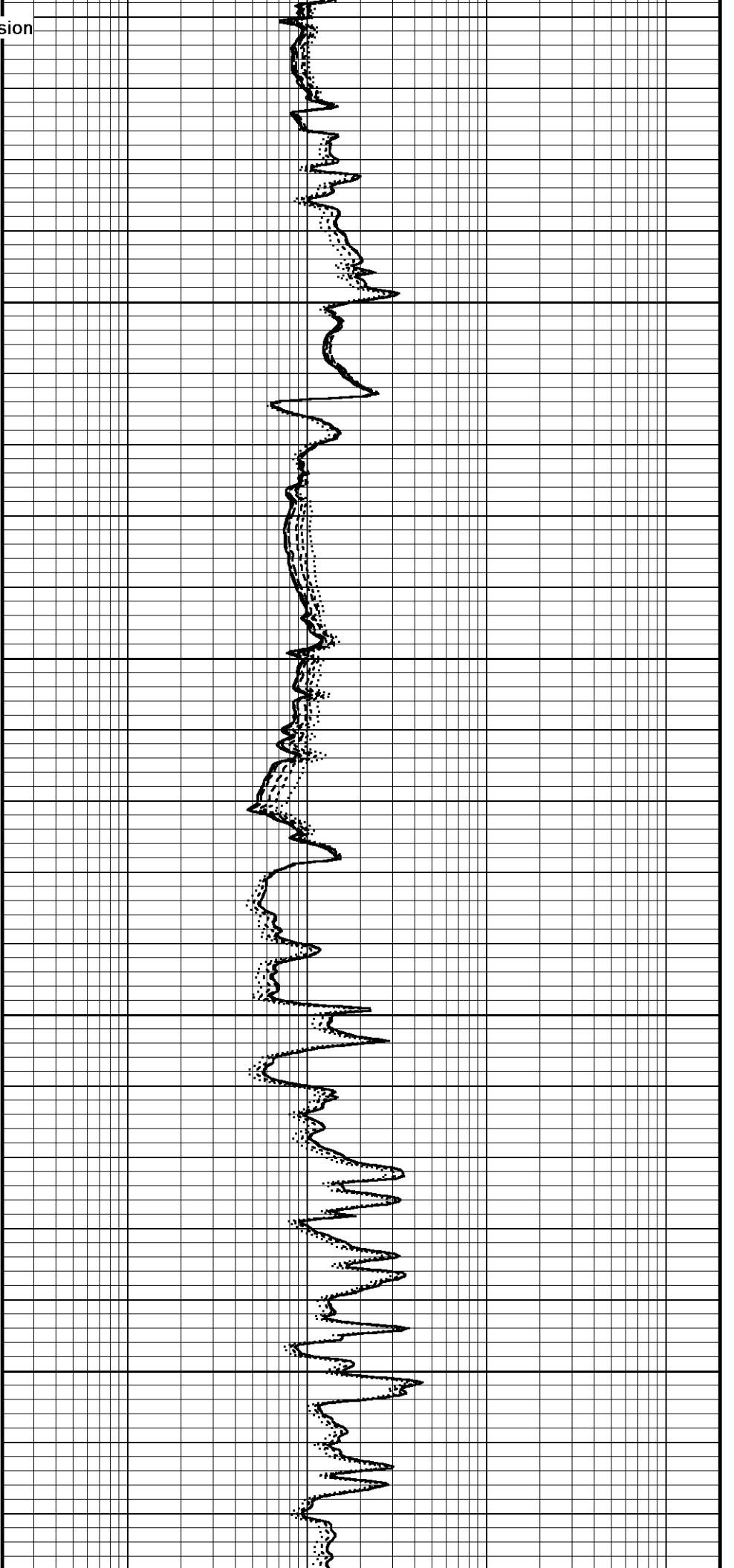
7500

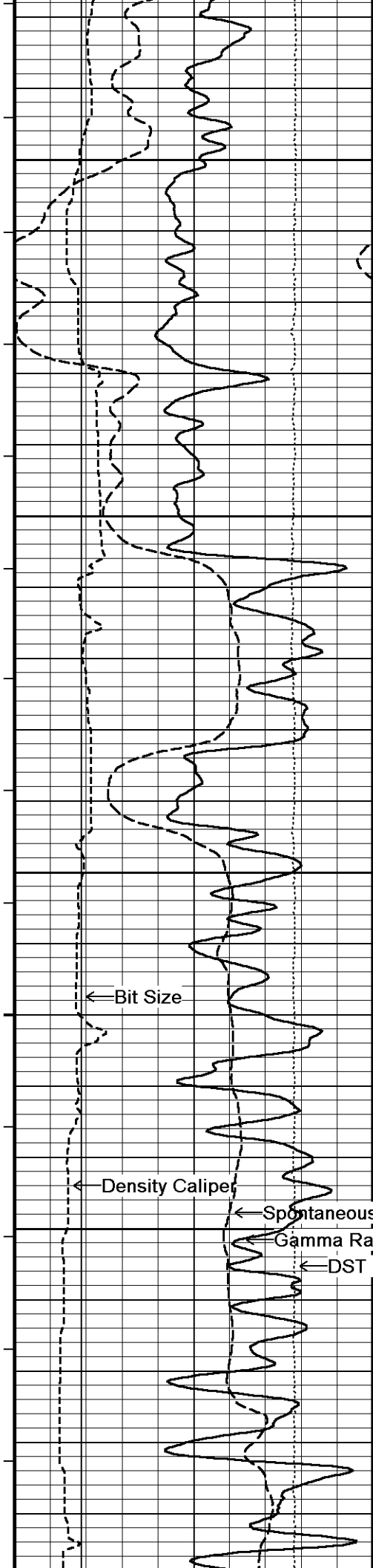
167°

7550

168°

7600





169°

7650

169°

7700

169°

7750

← Bit Size

← Density Caliper

← Spontaneous Potential

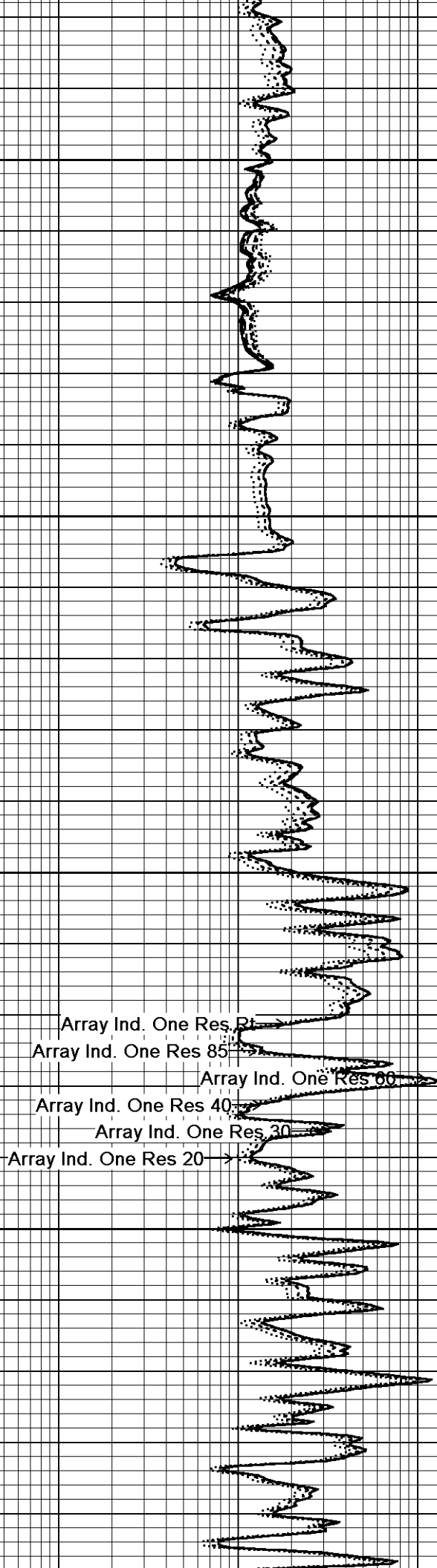
← Gamma Ray

← DST Uphole Tension

169°

7800

170°



Array Ind. One Res Pt

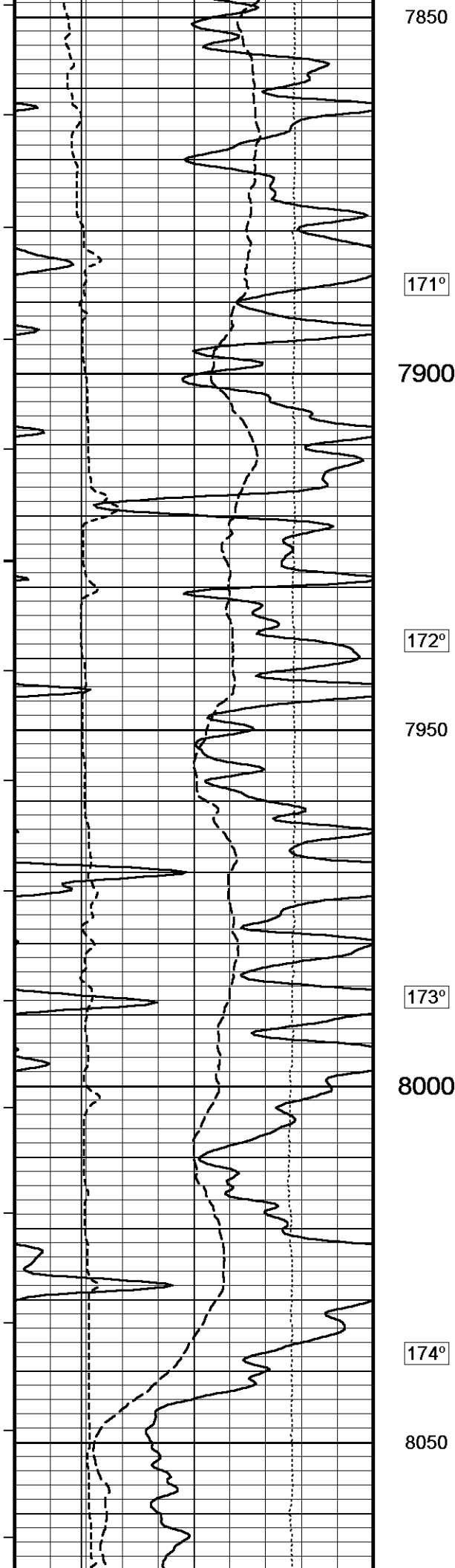
Array Ind. One Res 85

Array Ind. One Res 60

Array Ind. One Res 40

Array Ind. One Res 30

Array Ind. One Res 20



7850

171°

7900

172°

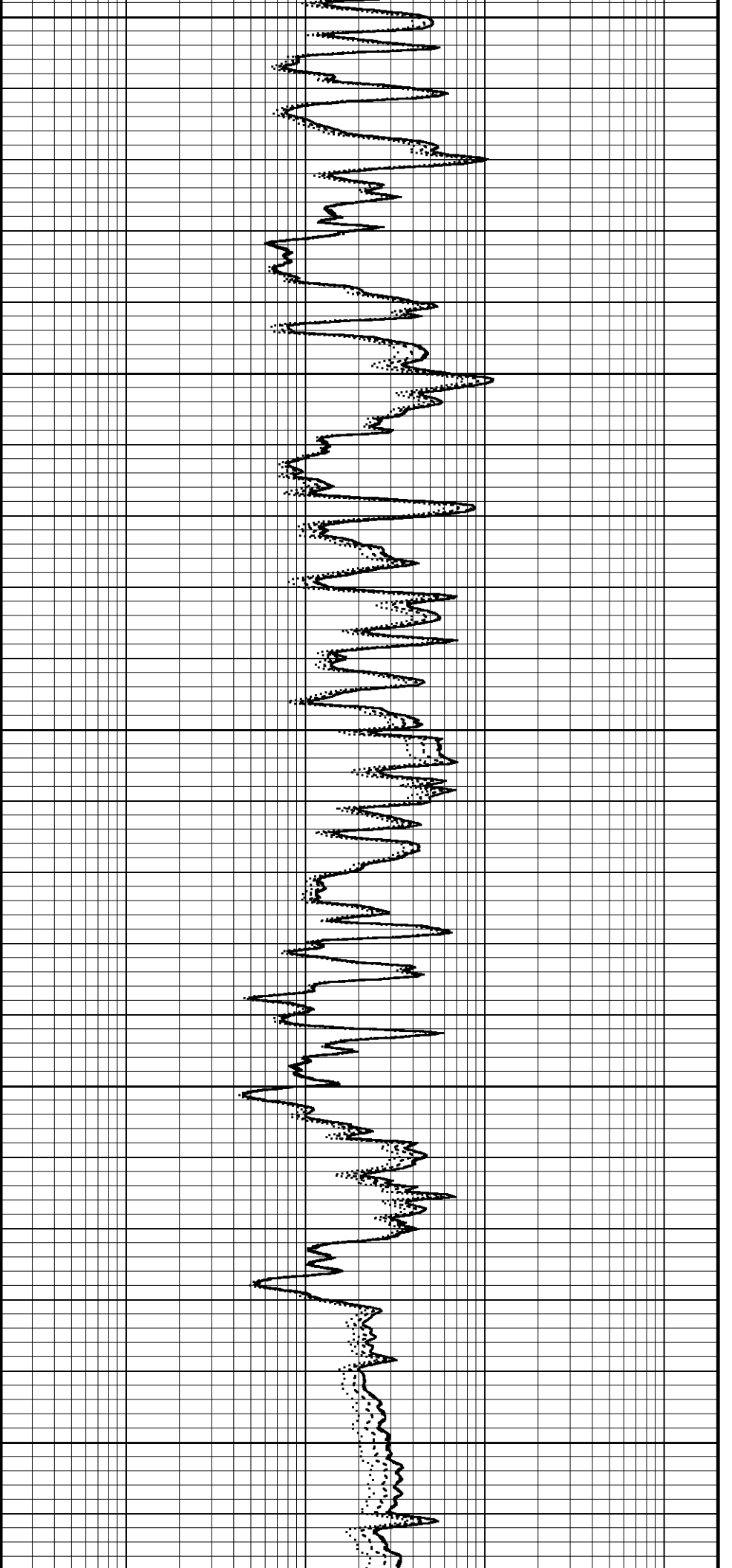
7950

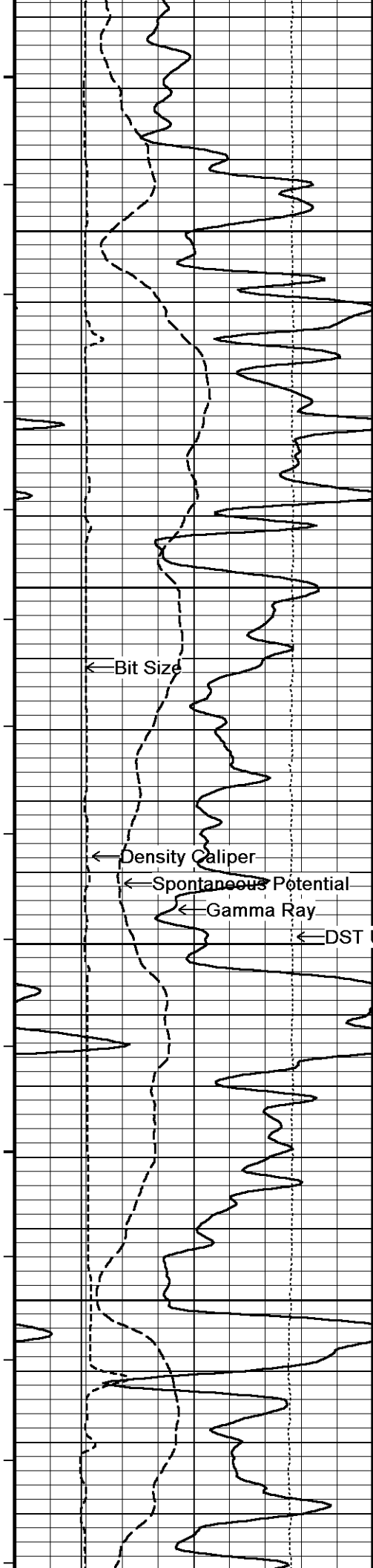
173°

8000

174°

8050





174°

8100

175°

8150

← Bit Size

← Density Caliper

← Spontaneous Potential

← Gamma Ray

← DST Up

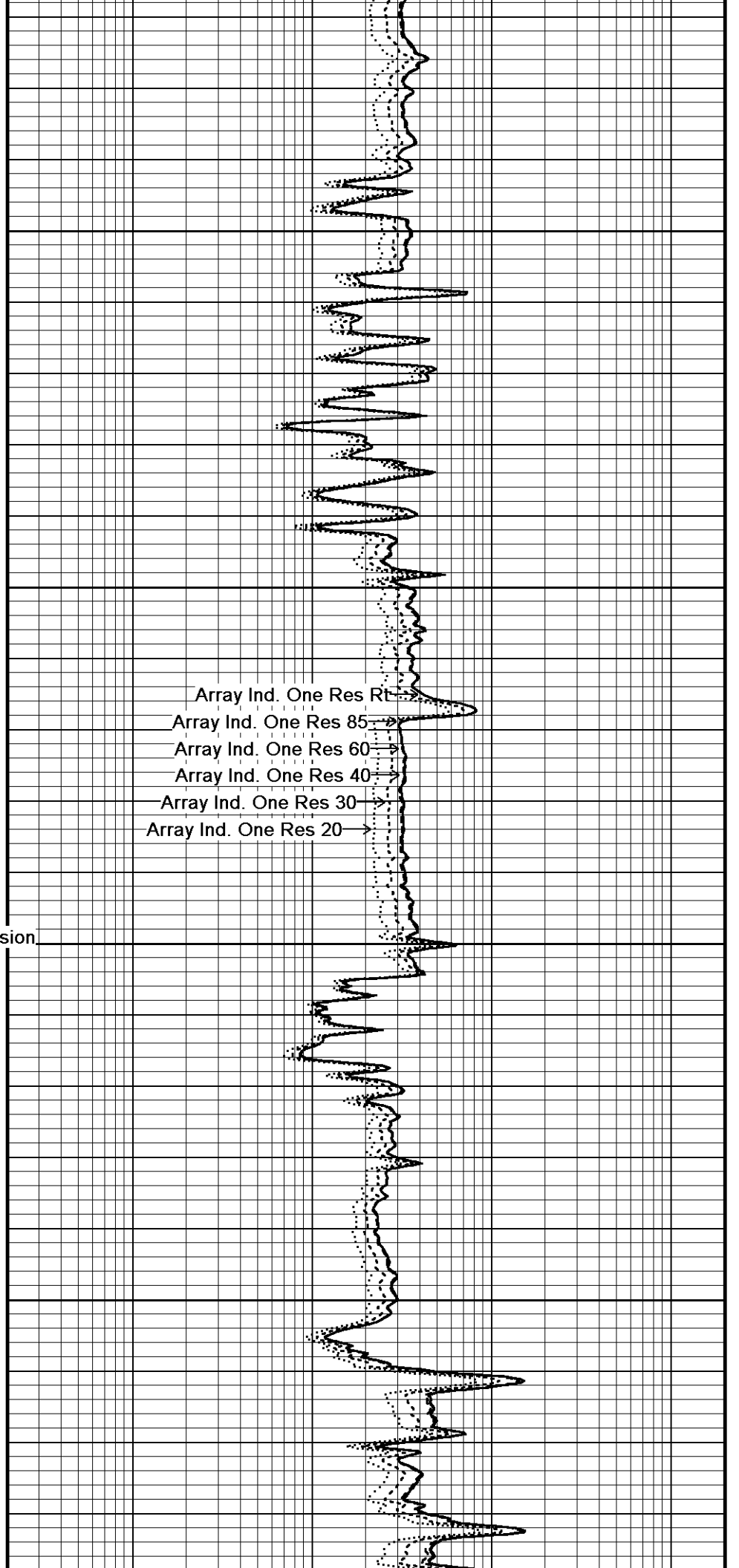
176°

8200

176°

8250

175°



Array Ind. One Res RT

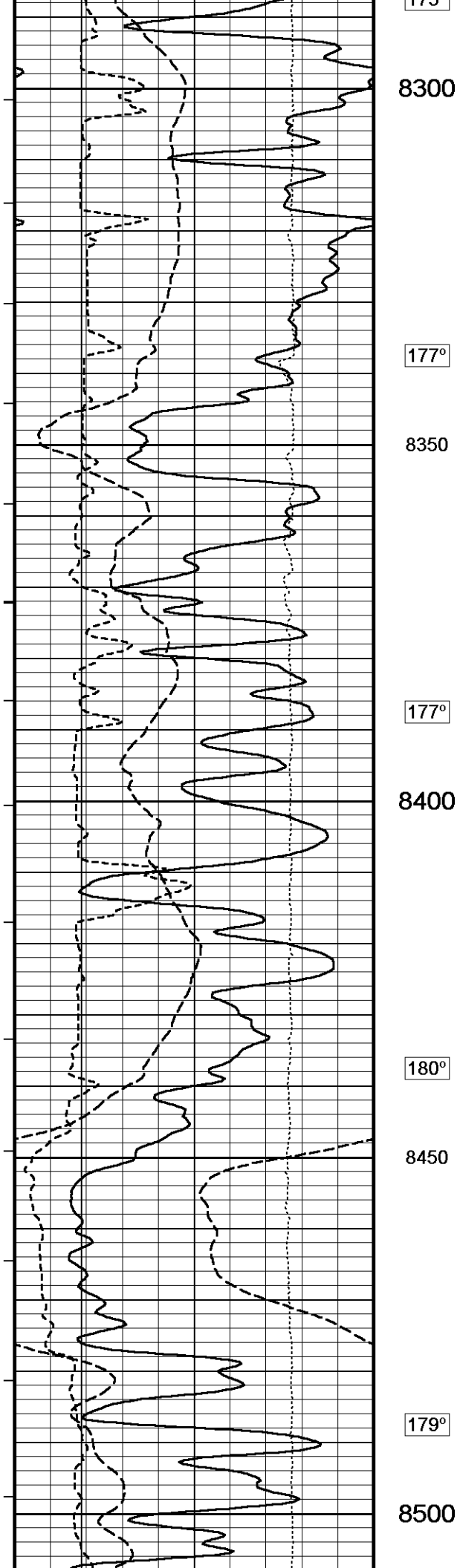
Array Ind. One Res 85

Array Ind. One Res 60

Array Ind. One Res 40

Array Ind. One Res 30

Array Ind. One Res 20



175

8300

177°

8350

177°

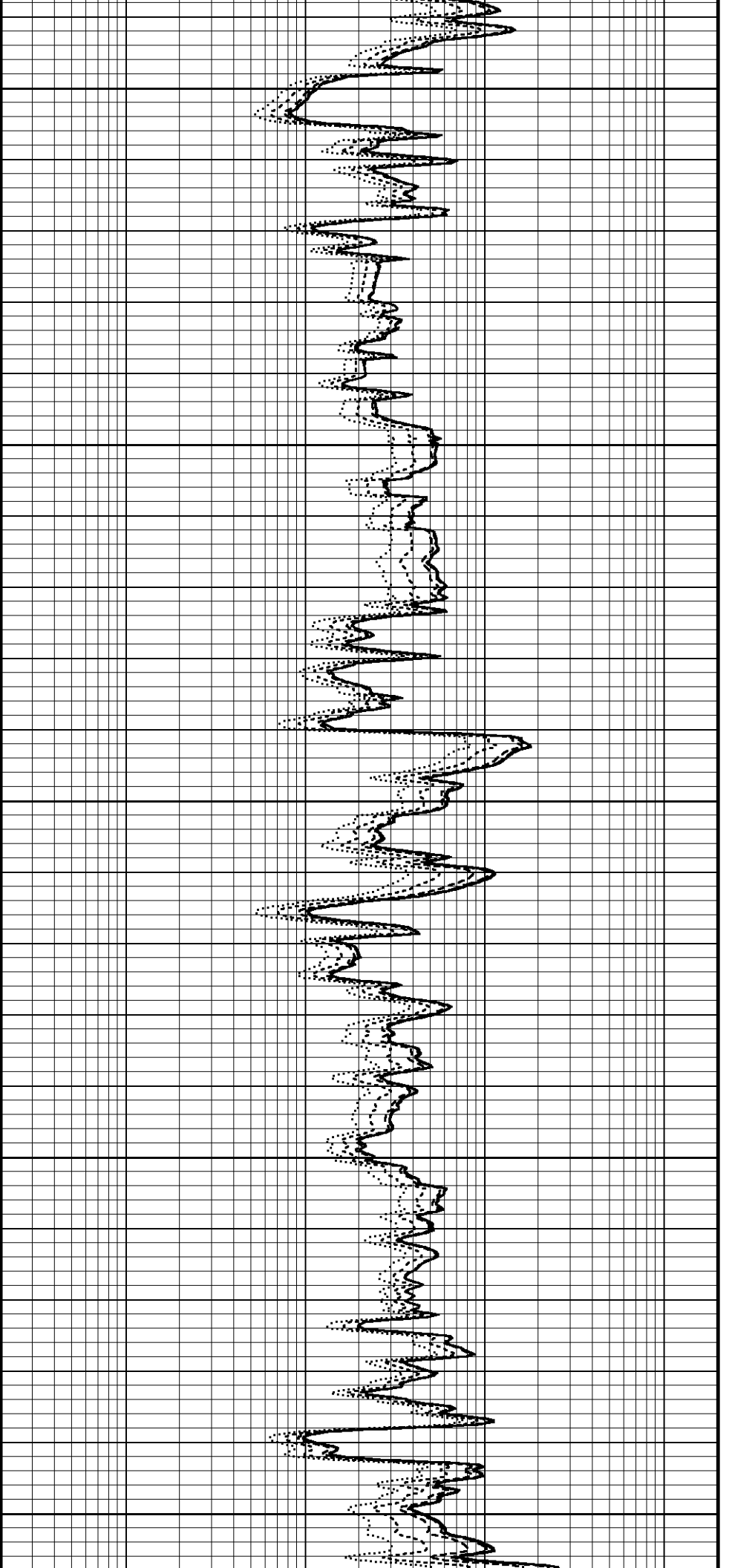
8400

180°

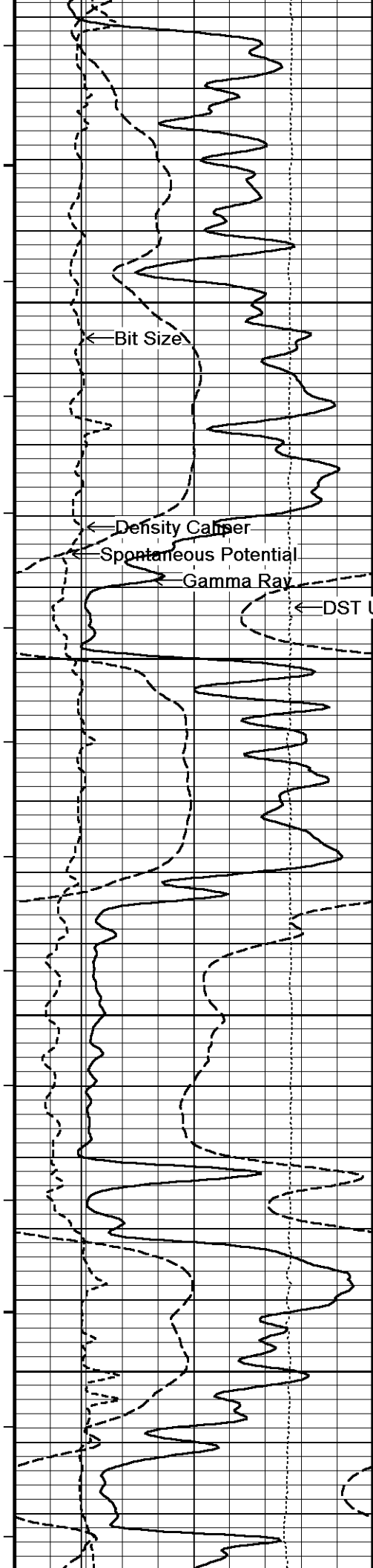
8450

179°

8500







181°

8550

← Bit Size

← Density Caliper

← Spontaneous Potential

← Gamma Ray

← DST Uphole Tension

183°

8600

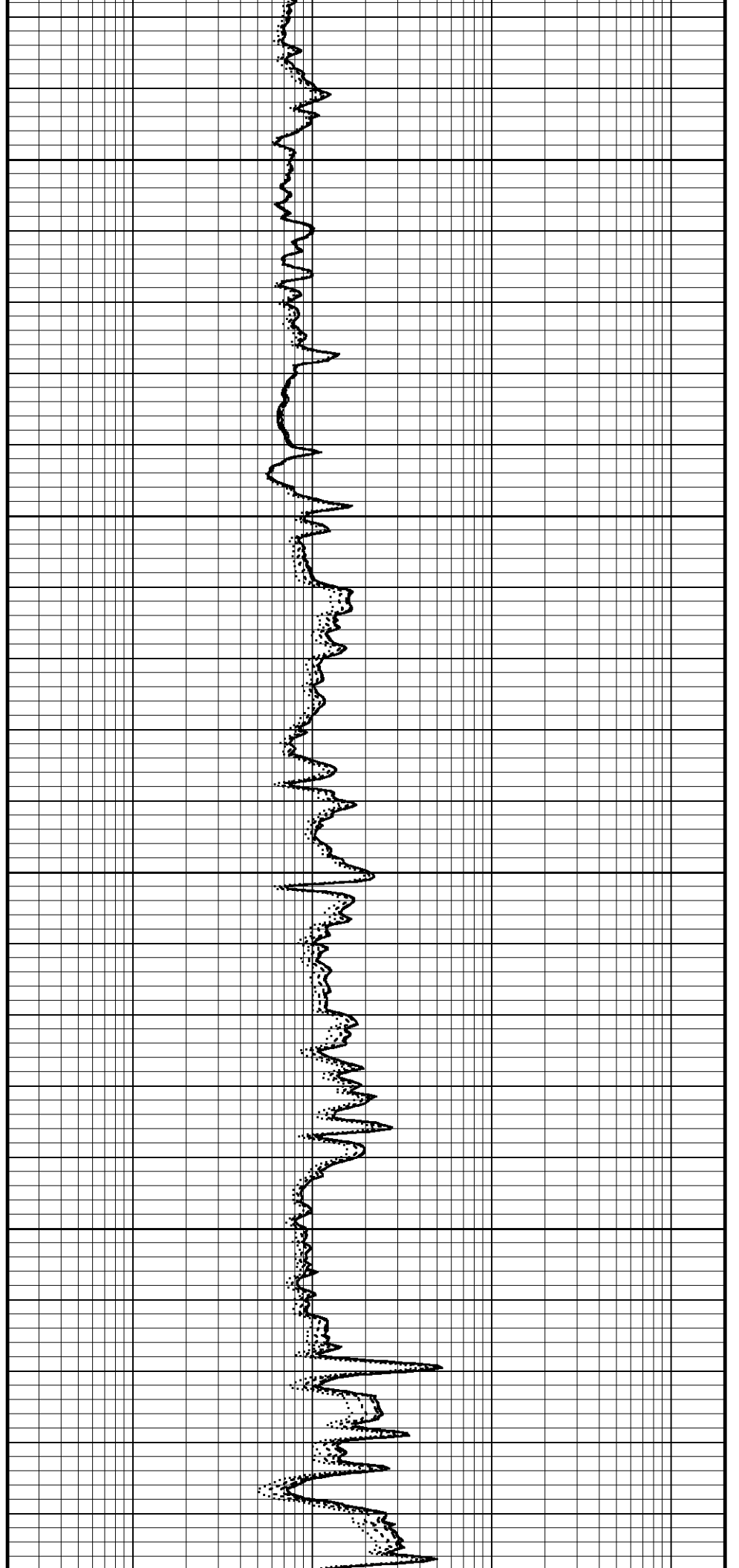
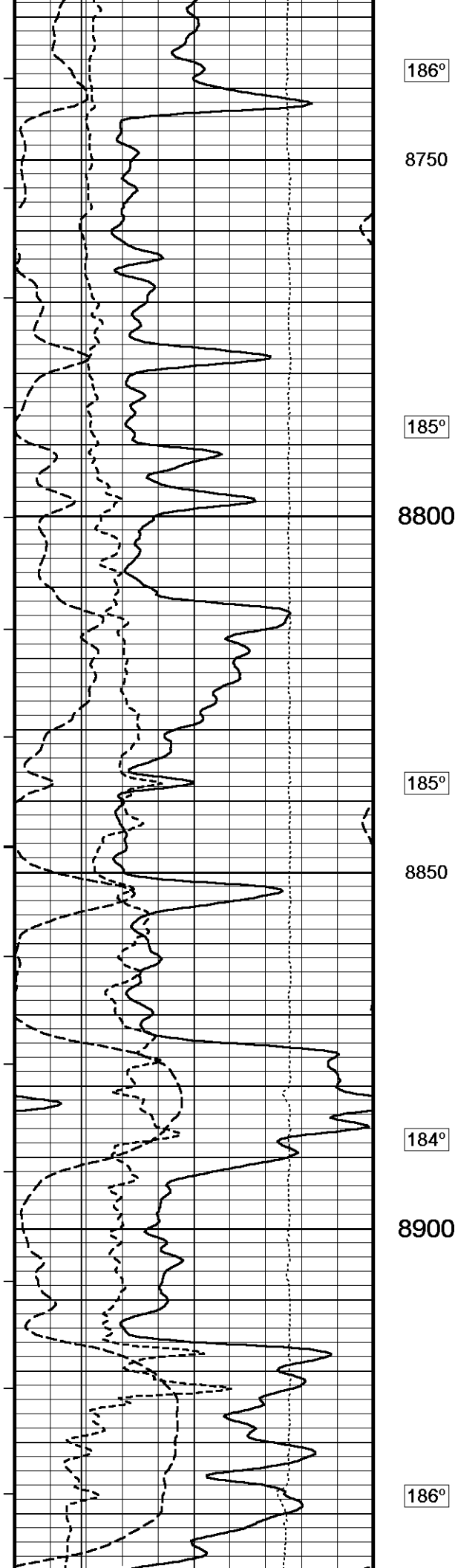
184°

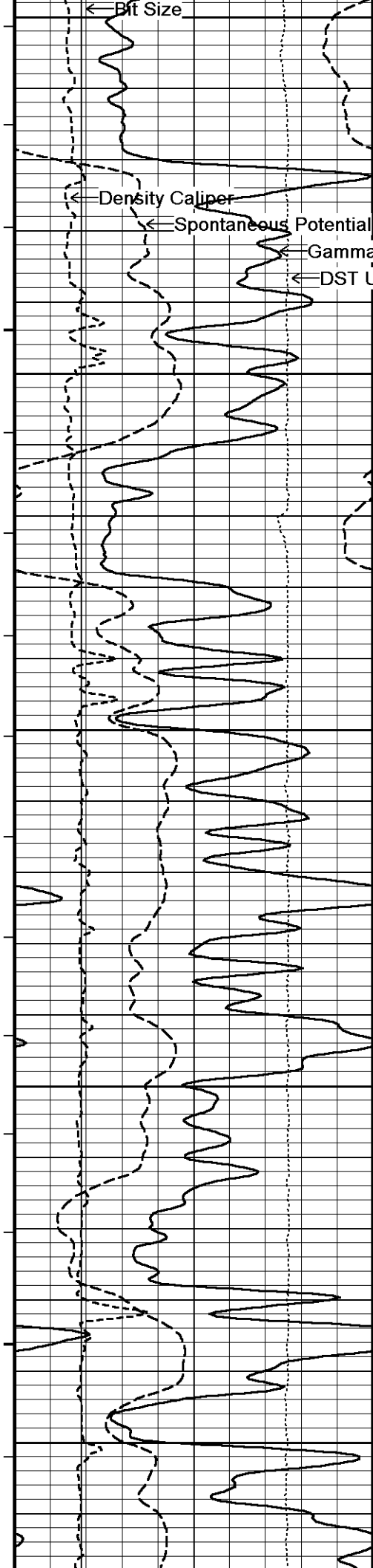
8650

184°

8700

Array Ind. One Res 80  
Array Ind. One Res 85  
Array Ind. One Res 60  
Array Ind. One Res 40  
Array Ind. One Res 30  
Array Ind. One Res 20





8950

9000

9050

9100

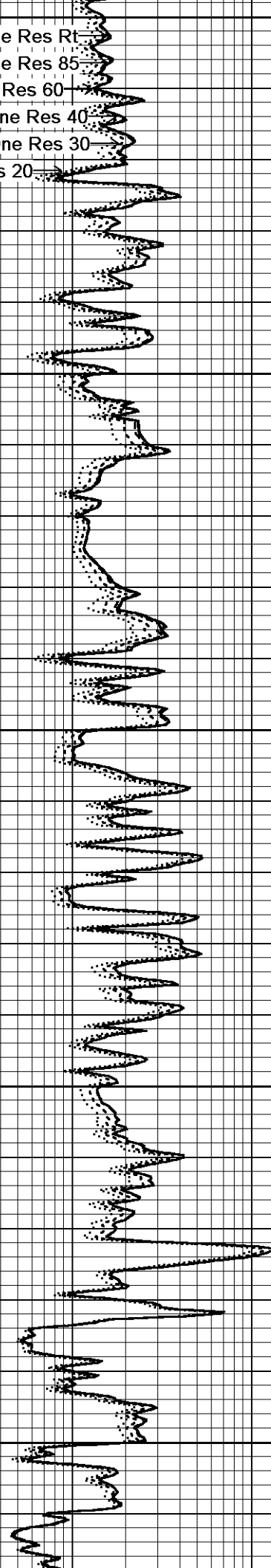
9150

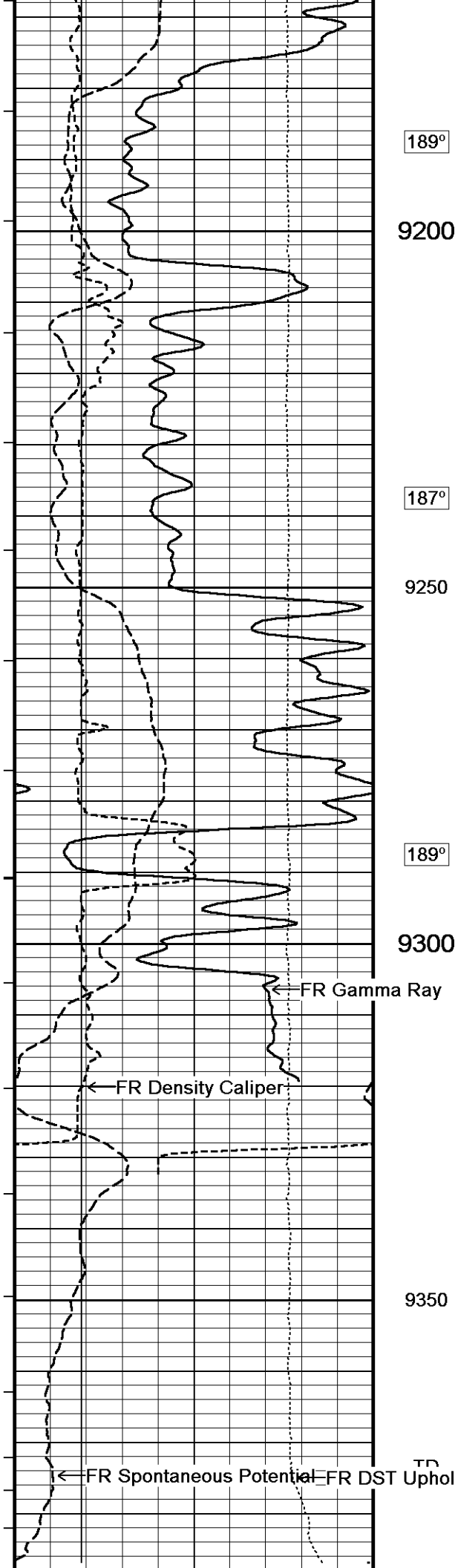
187°

188°

189°

Array Ind. One Res Rt  
Array Ind. One Res 85  
Array Ind. One Res 60  
Array Ind. One Res 40  
Array Ind. One Res 30  
Array Ind. One Res 20





189°

9200

187°

9250

189°

9300

← FR Gamma Ray

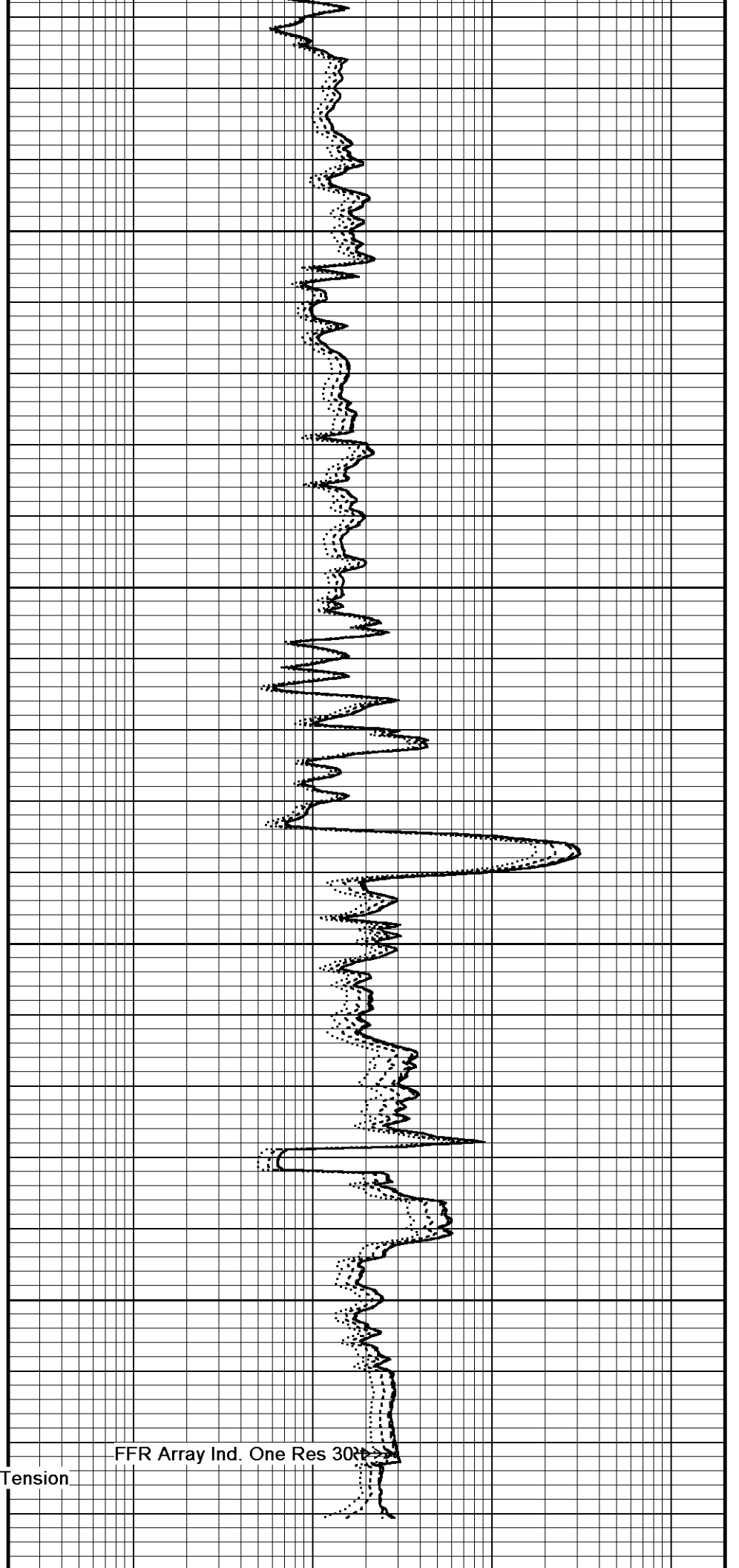
← FR Density Caliper

9350

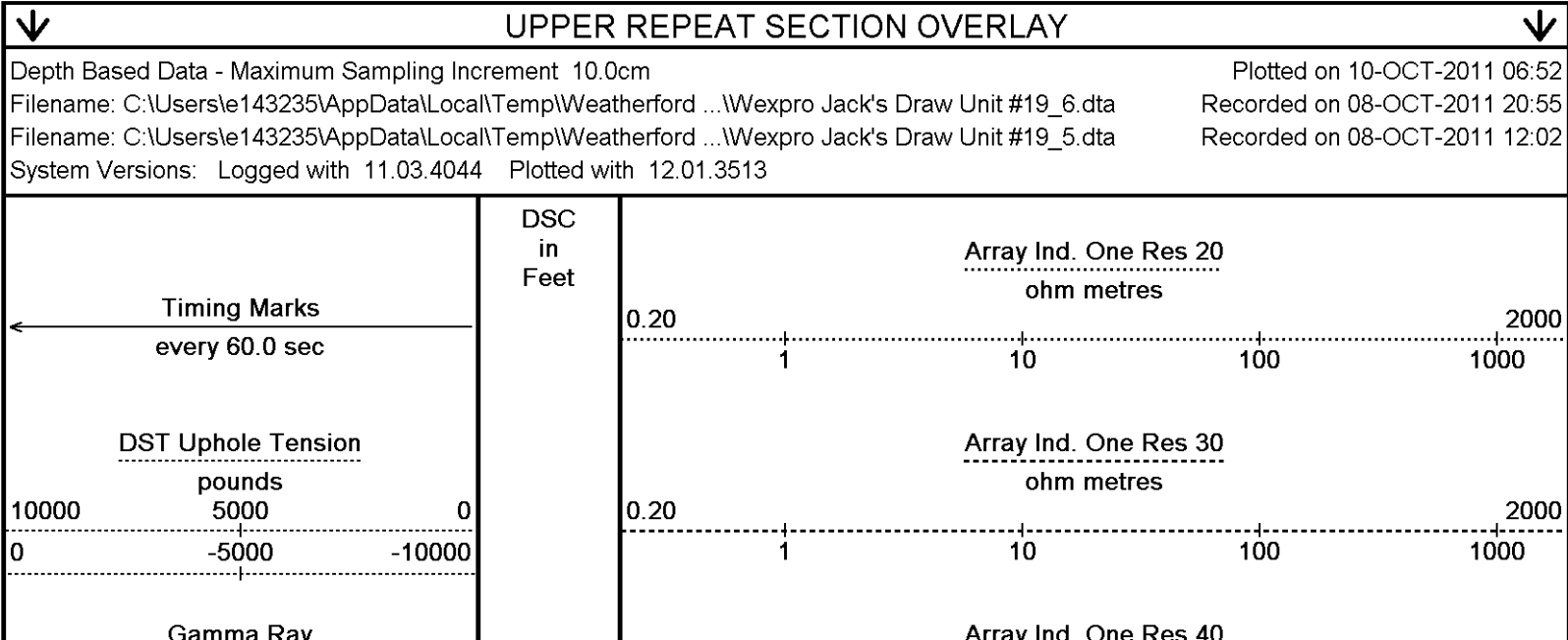
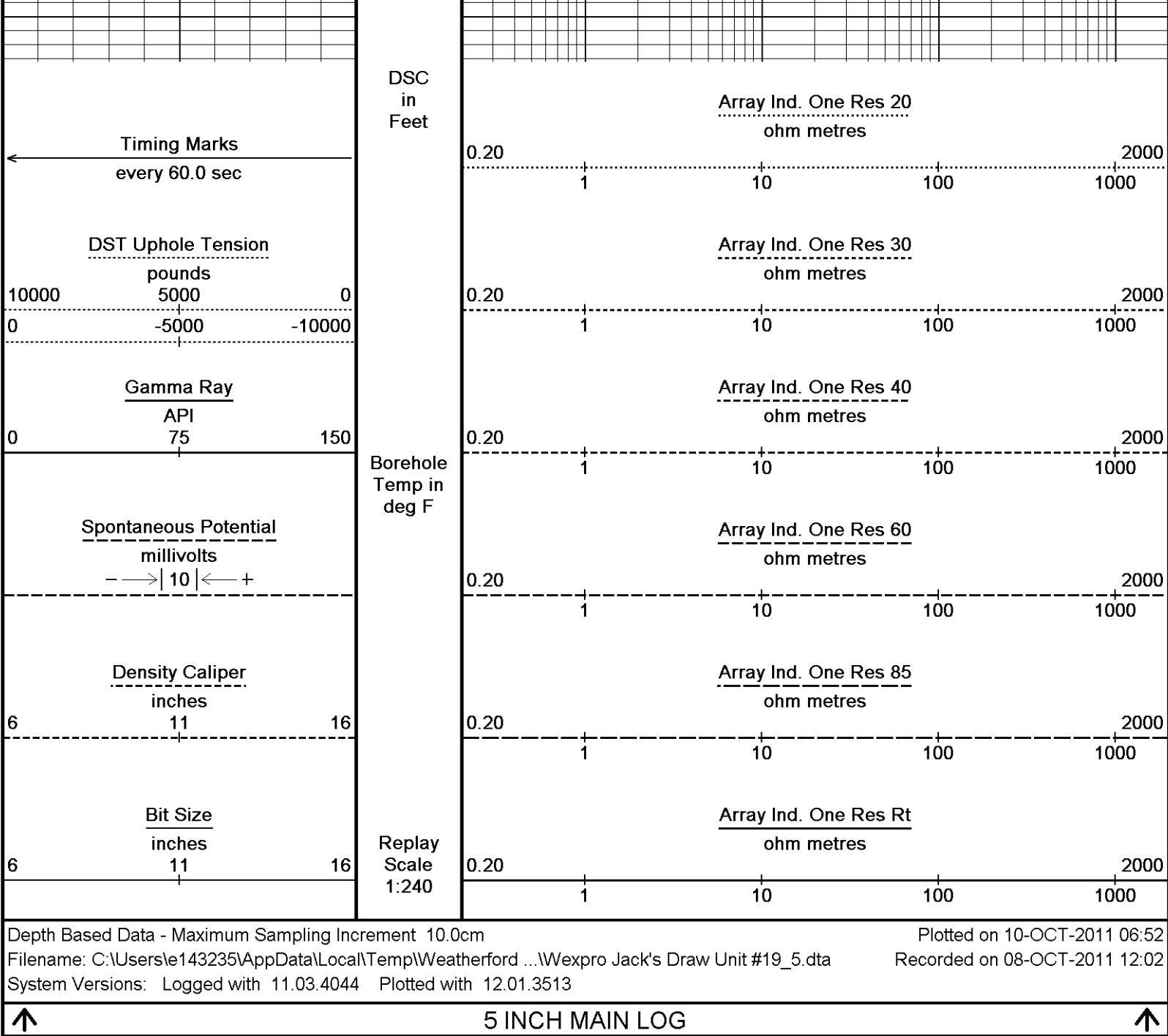
TD

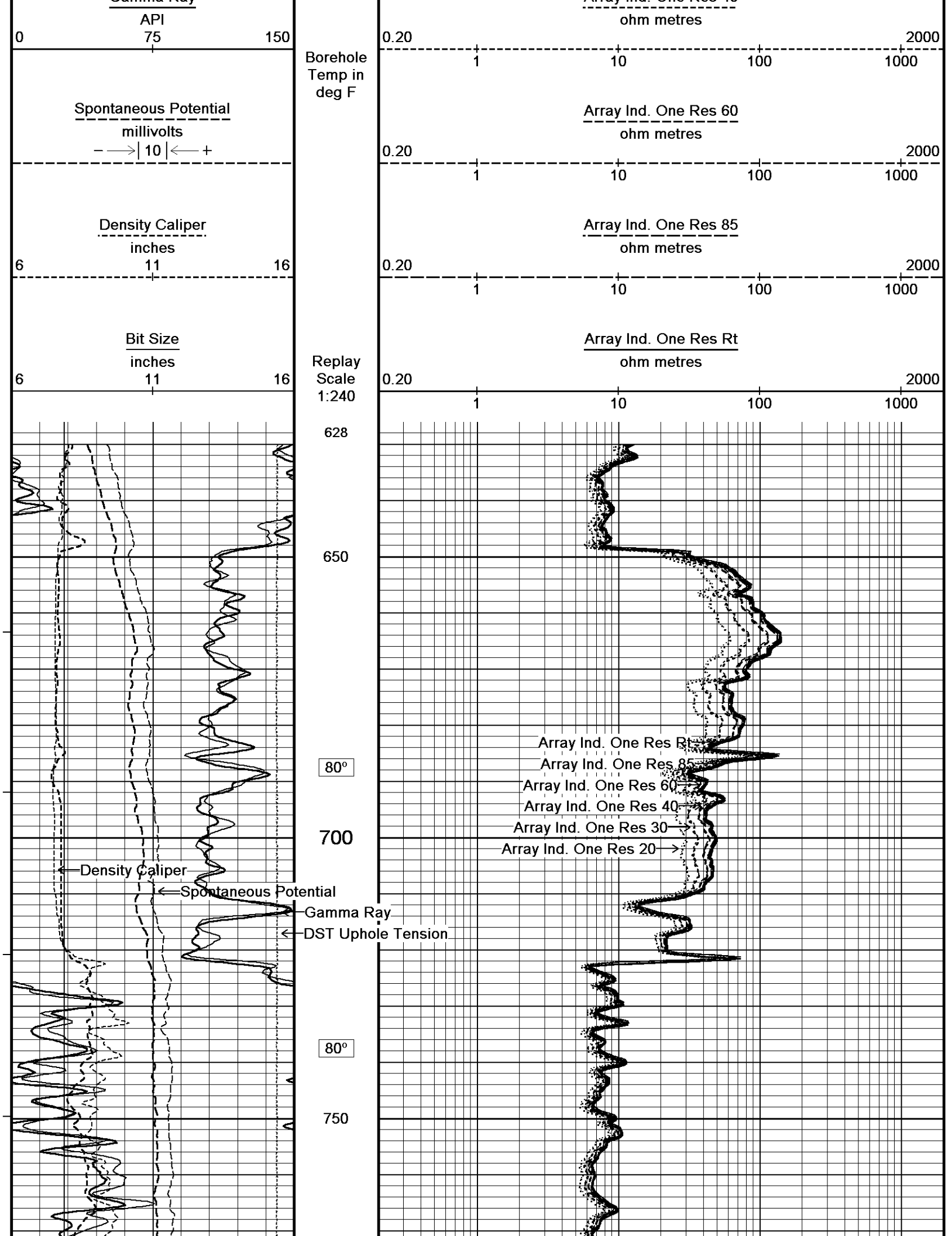
← FR Spontaneous Potential

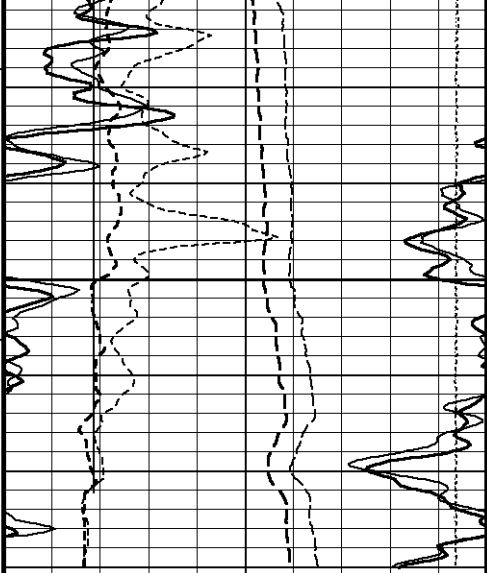
← FR DST Uphole Tension



FFR Array Ind. One Res 30ft







81°

800

81°

DSC  
in  
Feet

Timing Marks  
every 60.0 sec

DST Uphole Tension  
pounds  
10000 5000 0  
0 -5000 -10000

Gamma Ray  
API  
0 75 150

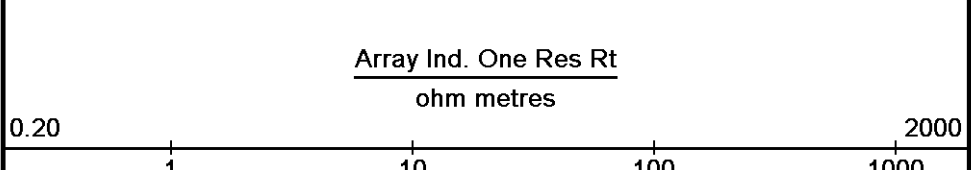
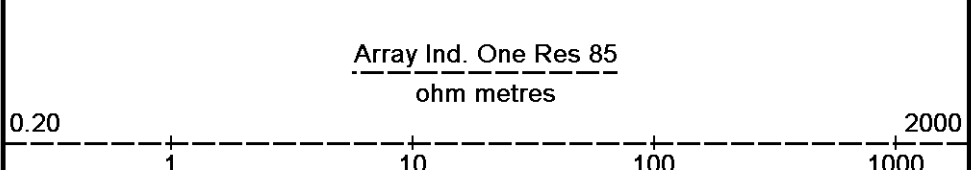
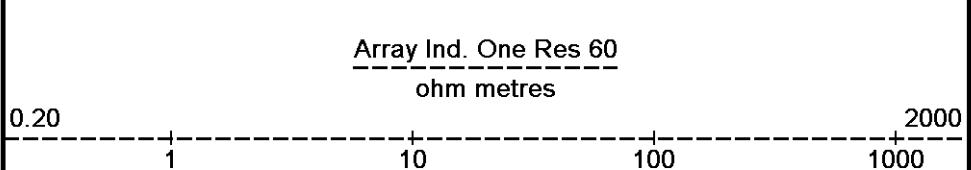
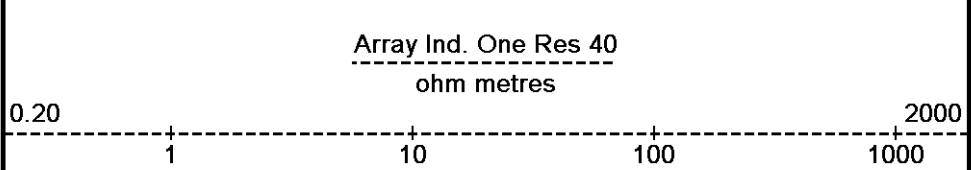
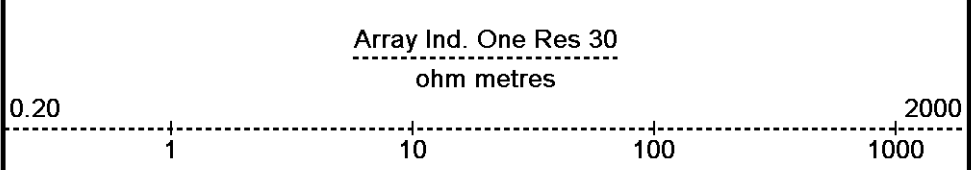
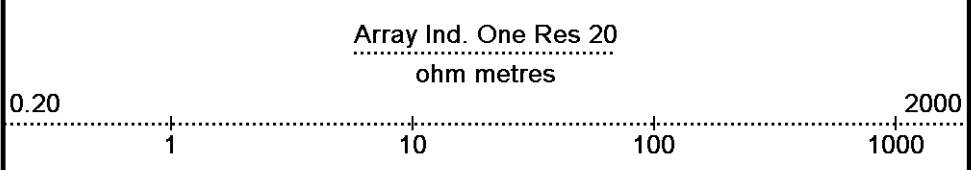
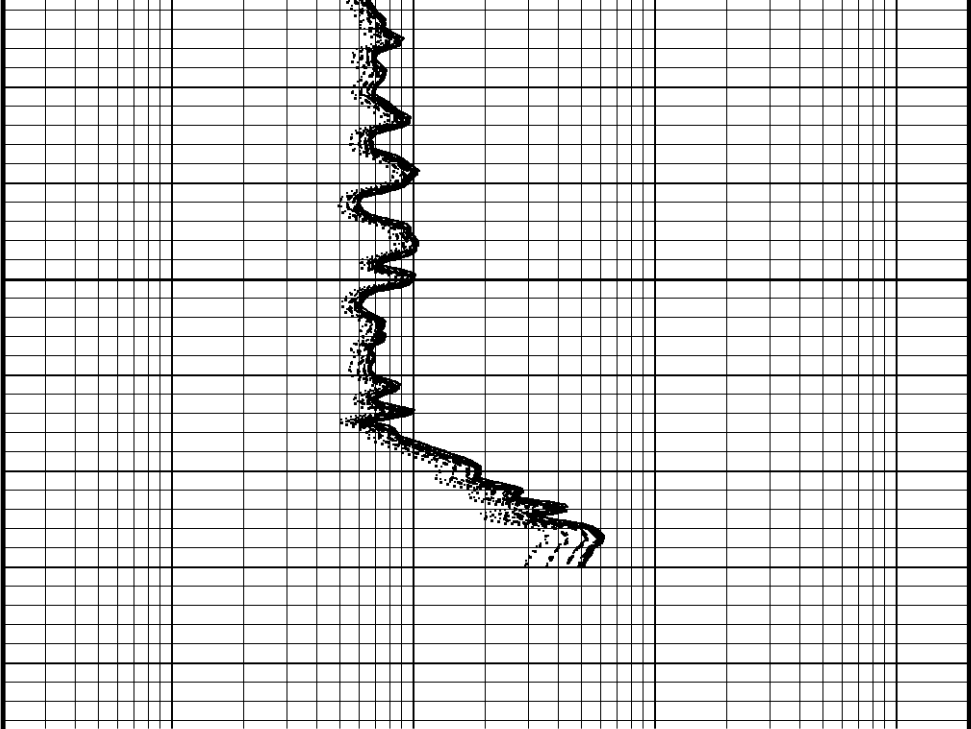
Spontaneous Potential  
millivolts  
- - -> | 10 | < - +

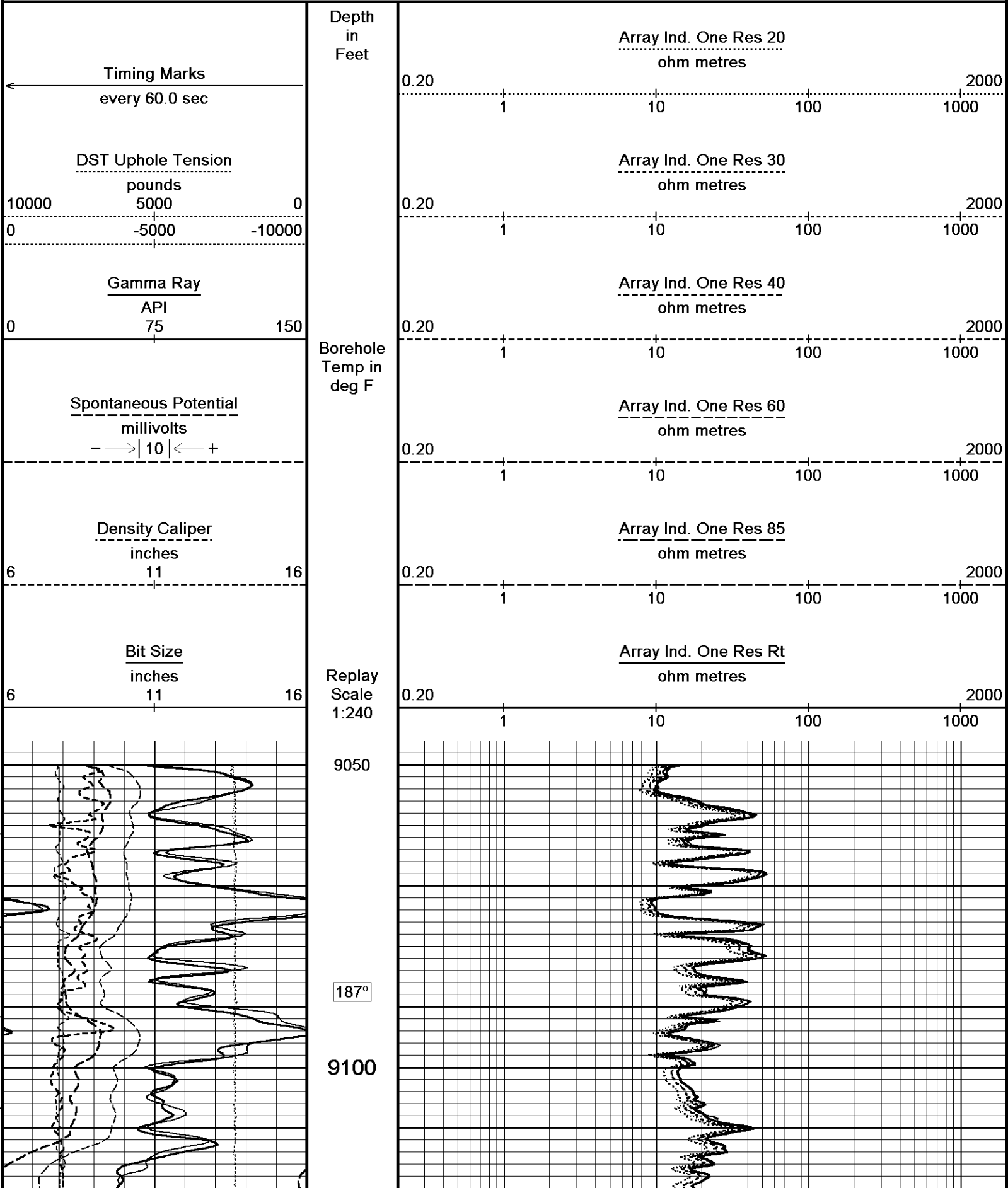
Density Caliper  
inches  
6 11 16

Bit Size  
inches  
6 11 16

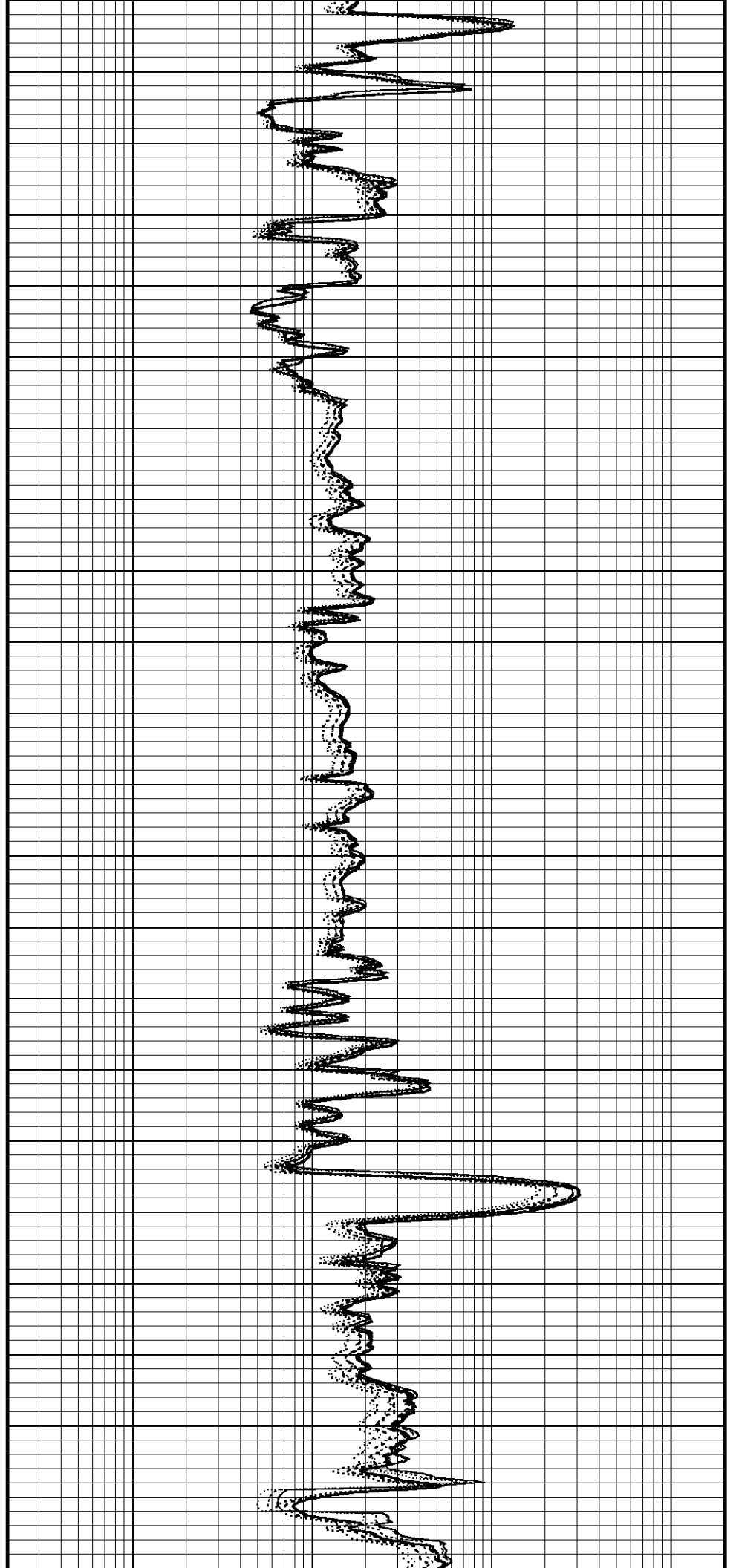
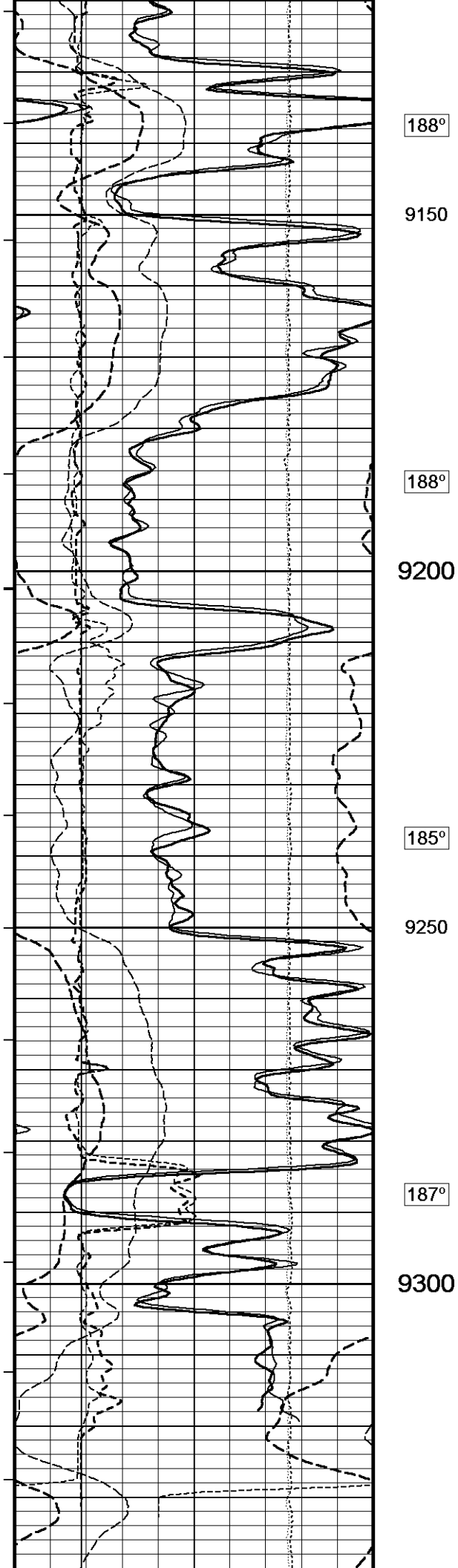
Borehole  
Temp in  
deg F

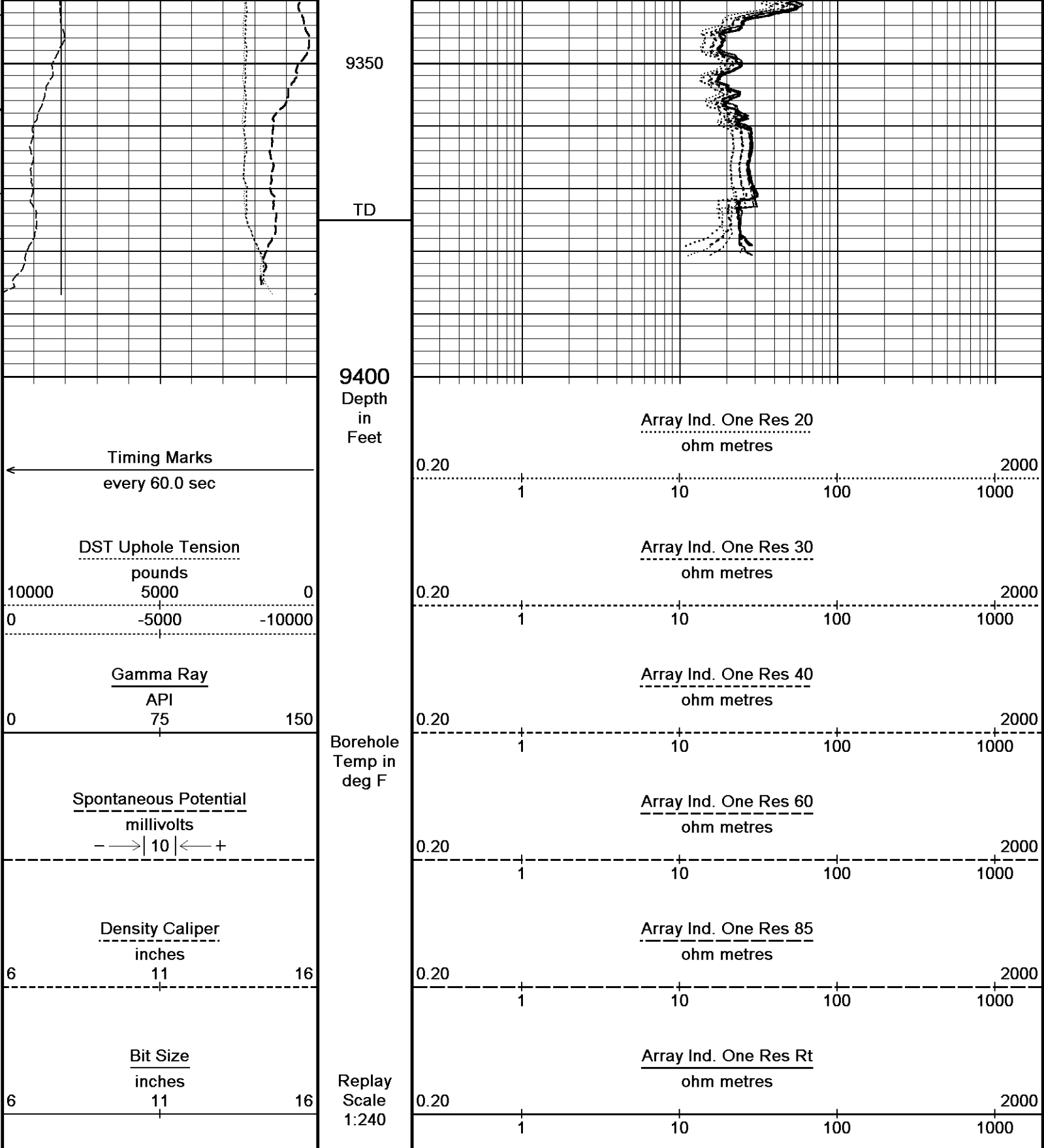
Replay  
Scale  
1:240











Depth Based Data - Maximum Sampling Increment 10.0cm		Plotted on 10-OCT-2011 06:52
Filename: C:\Users\le143235\AppData\Local\Temp\Weatherford ...\Wexpro Jack's Draw Unit #19_4.dta		Recorded on 08-OCT-2011 11:23
Filename: C:\Users\le143235\AppData\Local\Temp\Weatherford ...\Wexpro Jack's Draw Unit #19_5.dta		Recorded on 08-OCT-2011 12:02
System Versions: Logged with 11.03.4044 Plotted with 12.01.3513		

↑ BOTTOM REPEAT SECTION OVERLAY ↑

## General Parameters

Mud Resistivity	7.630	ohm-metres
Mud Resistivity Temperature	54.000	degrees F
Water Level	0.000	feet
Density/Neutron Processing	Wet Hole	

## Hole/Annular Volume and Differential Caliper Parameters

HVOL Method	Single Caliper	
HVOL Caliper 1	Density Caliper	
HVOL Caliper 2	N/A	
Annular Volume Diameter	4.500	inches
Caliper for Differential Caliper	None	

## Rwa Parameters

Porosity used	Base Density Porosity	
Resistivity used	Array Ind. One Res Rt	
RWA Constant A	0.610	
RWA Constant M	2.150	

## Down-hole Tension Calibration SMS 0

Field Calibration on 08-OCT-2011 10:28

Reading No	Measured	Calibrated (lbs)
1	14215.89	0.00
2	15592.64	432.00

## SP Calibration MCG-D.J 424

Field Calibration on 07-OCT-2011 12:01

	Measured	Calibrated (mV)
Reference 1	100.5	100.0
Reference 2	-99.7	-100.0

## Gamma Calibration MCG-D.J 424

Field Calibration on 07-OCT-2011 12:00

	Measured	Calibrated (API)
Background	76	52
Calibrator (Gross)	768	532
Calibrator (Net)	692	480

## Gamma Constants MCG-D.J 424

Last Edited on 07-OCT-2011 11:54

Gamma Calibrator Number	GRCC-112	
Mud Density	1.00	gm/cc
Caliper Source for Processing	Bit Size	
Tool Position	Eccentred	
Concentration of KCl	0.00	kppm

## High Resolution Temperature Calibration MCG-D.J 424

Field Calibration on 28-SEP-2011 08:58

	Measured	Calibrated(Deg F)
Lower	50.00	50.00
Upper	75.00	75.00

## High Resolution Temperature Constants MCG-D.J 424

Last Edited on

Pre-filter Length	11
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## Micro Normal and Micro Inverse Calibration MDN-B.A 191

Base Calibration on 03-MAY-2007 20:21

Field Check on

## Base Calibration

Channel	Resistor 1	Measured Resistor 2	Calibrated (ohm-m) Resistor 1	Resistor 2
Micro Normal	8.2	41.0	10.0	50.0
Micro Inverse	8.2	41.2	10.0	50.0

Channel	Base Check (ohm-m)	Field Check (ohm-m)
Micro Normal	0.0	0.0
Micro Inverse	0.0	0.0

## Micro Normal and Micro Inverse Constants MDN-B.A 191

Last Edited on 13-FEB-2007 11:14

Pad Type	0
Micro Normal K Factor	1.0000

Micro Inverse K Factor	1.0000			
Standoff Offset	N/A		inches	
Neutron Calibration MDN-B.A 191			Base Calibration on 07-SEP-2011 11:49 Field Check on 07-OCT-2011 11:42	
Base Calibration				
	Measured		Calibrated (cps)	
	Near	Far	Near	Far
	2846	88	3714	110
Ratio	32.378		33.764	
Field Calibrator at Base				
			Calibrated (cps)	
			1678	2451
Ratio			0.685	
Field Check				
			Calibrated (cps)	
			1653	2458
Ratio			0.673	
Neutron Constants MDN-B.A 191			Last Edited on 08-OCT-2011 10:12	
Neutron Source Id	P44382B			
Neutron Jig Number	6531NK			
Epithermal Neutron	No			
Caliper Source for Processing	Density Caliper			
Stand-off	0.00	inches		
Mud Density	1.00	gm/cc		
Limestone Sigma	7.10	cu		
Sandstone Sigma	7.00	cu		
Dolomite Sigma	4.70	cu		
Formation Pressure Source	None			
Formation Pressure	N/A	kpsi		
Temperature Source	None			
Temperature	N/A	degrees F		
Mud Salinity	0.00	kppm		
Formation Fluid Salinity Source	None			
Formation Fluid Salinity	N/A	kppm		
Barite Mud Correction	Not Applied			
Magnetometer Parameters MIE-A.A 102				
Date Of Last Magnetometer Calibration	28-SEP-2011,08:24			
	X Magnetometer	Y Magnetometer	Z Magnetometer	
Slope	-1.000000	-1.004500	-0.999600	
Offset	0.015350	-0.015800	0.020450	
Magnetometer Constants MIE-A.A 102			Last Edited on	
Magnetometer Calibrator Number	000			
Accelerometer Parameters MIE-A.A 102				
Date Of Last Accelerometer Calibration	24-AUG-2011,18:36			
	X Accelerometer	Y Accelerometer	Z Accelerometer	
Slope	-1.112160	-1.118700	-1.117220	
Offset	0.004104	0.007024	0.002394	
Accelerometer Constants MIE-A.A 102			Last Edited on 24-AUG-2011 19:34	
Accelerometer Calibrator Number	000			
Accelerometer Temperature Characterisation				
X Accelerometer				
Serial Number	540			
Calibration Date	21-Feb-2008			
	B0	B1	B2	B3
Bias(g)	0.00000e+000	2.02767e-005	-8.30191e-009	9.17037e-011
	SF0	SF1	SF2	SF3
Scale Factor(mA/g)	3.00000e+000	2.90781e-004	3.79264e-007	7.42536e-010
Y Accelerometer				
Serial Number	221			

Calibration Date	01-Nov-2007	B0	B1	B2	B3
Bias(g)	0.00000e+000	1.86127e-005	-2.25929e-008	8.31895e-011	
	SF0	SF1	SF2	SF3	
Scale Factor(mA/g)	3.00000e+000	2.66396e-004	6.50784e-007	-5.38601e-010	
Z Accelerometer					
Serial Number	856				
Calibration Date	03-Feb-2009				
	B0	B1	B2	B3	
Bias(g)	0.00000e+000	7.72617e-006	-4.86834e-008	1.03554e-010	
	SF0	SF1	SF2	SF3	
Scale Factor(mA/g)	3.00000e+000	2.74795e-004	4.10666e-007	4.39253e-010	

Caliper Calibration MIE-A.A 102					Base Calibration on 28-SEP-2011 09:19
					Field Calibration on 28-SEP-2011 09:23
Base Calibration					
Reading No	Pads 1-5 Meas.	Pads 3-7 Meas.	Calibrator Size (in)		
1	26529	26004	5.97		
2	36837	36313	7.96		
3	46406	45939	9.86		
4	57787	57043	11.92		
5	0	0	0.00		
Reading No	Pad 2 Meas.	Pad 4 Meas.	Pad 6 Meas.	Pad 8 Meas.	Calibrator Size (in)
1	24685	25537	25965	25308	5.97
2	33436	33979	33941	34201	7.96
3	41582	42687	41522	42138	9.86
4	51827	53233	50353	51022	11.92
5	0	0	0	0	0.00
Field Calibration					
	Measured	Measured	Actual		
	Pads 1-5 Caliper(in)	Pads 3-7 Caliper(in)	Caliper(in)		
	7.93	7.97	7.96		
	Measured	Measured	Measured	Measured	Actual
	Pad 2 Caliper(in)	Pad 4 Caliper(in)	Pad 6 Caliper(in)	Pad 8 Caliper(in)	Caliper(in)
	3.96	3.98	3.99	3.97	7.96

Caliper Constants MIE-A.A 102	Last Edited on 24-AUG-2011 19:32				
Caliper Difference for BRKT	0.120	inches			

Navigation Constants MIE-A.A 102	Last Edited on 28-SEP-2011 09:24				
Magnetic Declination	9.42	degrees	East		

Imager Pad Check MIE-A.A 102	Field Check on				
Pad 1	Pad Not Tested	Pad 5	Pad Not Tested		
Pad 2	Pad Not Tested	Pad 6	Pad Not Tested		
Pad 3	Pad Not Tested	Pad 7	Pad Not Tested		
Pad 4	Pad Not Tested	Pad 8	Pad Not Tested		

Compact Micro Imager Constants MIE-A.A 102		Last Edited on 28-SEP-2011 09:25	
Sonde Configuration	Imager Mode	degrees	
Arm-Pad Kit	Normal Pads (12.25 in)		
Centre Pad 1 Rotational Offset	0.00		
Image/Borehole Ovality Reference	Azimuth of Pad 1	degrees	
Non Active Buttons	Omit	feet	
Search Angle	0.00	feet	
Correlation Interval	3.28	mAmp	
Correlation Step	1.64	mAmp	
Current Offset	0.0000		
Squasher Start	N/A		
Image Processing	Enabled		

FE Calibration MFE-B.A 220	Base Calibration on 02-SEP-2011 13:53				
Field Check on 07-OCT-2011 11:45					
Base Calibration					
	Measured	Calibrated (ohm-m)			
Reference 1	0.0	0.0			

Reference 2	963.9	126.8
Base Check		280.8
Field Check		281.2

FE Constants MFE-B.A 220		Last Edited on 08-OCT-2011 10:04	
Running Mode	No Sleeve		
MFE K Factor	0.1268		
Caliper Source for FE correction	Density Caliper		
Caliper Value for FE correction	N/A	inches	
Rm Source for FE correction	Temperature Corr		
Temp. for Rm Corr.	MCG External Temperature		
Stand-off	1.0	inches	

Induction Calibration MAI-B.J 362				Base Calibration on 02-SEP-2011 15:29	
				Field Check on 07-OCT-2011 10:26	
Base Calibration					
Test Loop Calibration		Measured		Calibrated (mmho/m)	
Channel	Low	High	Low	High	
1	16.0	468.7	9.3	966.2	
2	6.2	374.5	7.6	821.4	
3	3.6	258.3	5.2	566.0	
4	1.8	133.1	2.6	279.2	
Array Temperature		74.8	Deg F		
Channel	Base Check (mmho/m)		Field Check (mmho/m)		
	Low	High	Low	High	
1	0.0	0.0	13.9	3873.0	
2	0.0	0.0	30.3	3605.8	
3	0.0	0.0	28.4	3069.5	
4	0.0	0.0	19.7	2079.2	
Deep	0.0	0.0	17.4	1954.2	
Medium	0.0	0.0	41.2	4077.5	
Shallow	0.0	0.0	45.3	5400.8	
Array Temperature		0.0	44.9		Deg F

Induction Constants MAI-B.J 362		Last Edited on 08-OCT-2011 10:04	
Induction Model		RtAP-WBM	
Caliper for Borehole Corr.		Density Caliper	
Hole Size for Borehole Correction		N/A	inches
Tool Centred		Yes	
Stand-off Type		N/A	
Stand-off		N/A	inches
Number of Fins on Stand-off		N/A	
Stand-off Fin Angle		N/A	degrees
Stand-off Fin Width		N/A	inches
Borehole Corr. Rm Source		Temperature Corr	
Temp. for Rm Corr.		MCG External Temperature	
Squasher Start		0.0020	mhos/metre
Squasher Offset		N/A	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

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	
Source for Rt	0.00		
Source for Rxo	0.00		
High Resolution Temperature Calibration MAI-B.J 362			
	Measured	Calibrated(Deg F)	Field Calibration on 28-SEP-2011 09:20
Lower	10.00	50.00	
Upper	100.00	212.00	
High Resolution Temperature Constants MAI-B.J 362			Last Edited on
Pre-filter Length	11		
Caliper Calibration MPD-C.A 215			Base Calibration on 02-SEP-2011 17:36
			Field Calibration on 07-OCT-2011 11:32
Base Calibration			
Reading No	Measured	Calibrator Size (in)	
1	17727	3.99	
2	26543	5.96	
3	35429	7.99	
4	43601	9.86	
5	52880	11.93	
6	N/A	N/A	
Field Calibration			
	Measured Caliper (in)	Actual Caliper (in)	
	8.00	7.99	
Photo Density Calibration MPD-C.A 215			Base Calibration on
			Field Check on 07-OCT-2011 11:30
Density Calibration			
Base Calibration	Measured	Calibrated (sdu)	
	Near Far	Near Far	
Reference 1	45233 15264	52994 19128	
Reference 2	21253 2466	25185 2558	
Field Check at Base			
	1297.2 1375.3		
Field Check			
	1299.5 1382.1		
PE Calibration			
Base Calibration	Measured	Calibrated	
	WS WH Ratio	Ratio	
Background	237 1157		
Reference 1	14848 45047 0.333	0.309	
Reference 2	5938 21107 0.286	0.274	
Field Check at Base			
	237.1 1156.8		
Field Check			
	236.2 1162.7		
Density Constants MPD-C.A 215			Last Edited on 08-OCT-2011 10:05
Density Source Id	2859GW		
Nylon Calibrator Number	DNC-E-527		
Aluminium Calibrator Number	DAC-D-527		
Density Shoe Profile	8 inch		
Caliper Source for Processing	Density Caliper		
PE Correction to Density	Not Applied		
Mud Density	1.22	gm/cc	
Mud Density Z/A Multiplier	1.11		
Mud Filtrate Density	1.00	gm/cc	
Drv Hole Mud Filtrate Density	1.00	gm/cc	

DNCT	0.00	gm/cc
CRCT	0.00	gm/cc
Density Z/A Correction	Hybrid	
Matrix Density (gm/cc)	Depth (ft)	
2.71	0.00	
0.00	0.00	
0.00	0.00	
0.00	0.00	
0.00	0.00	
0.00	0.00	
0.00	0.00	
0.00	0.00	
0.00	0.00	

## DOWNHOLE EQUIPMENT

C:\Users\le143235\AppData\Local\Temp\Weatherford PreView\0\Wexpro Jack's Draw Unit #19\_4.dta

SHA-J.A Compact Swivel Head Adaptor

SHA-J.A 225 LG: 2.30 ft WT: 22.0 lb OD: 2.24 in

Compact Comms Gamma

MCG-D.J 424 LG: 8.70 ft WT: 63.9 lb OD: 2.24 in

Compact Neutron

MDN-B.A 191 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

Compact Density/Caliper

MPD-C.A 215 LG: 9.59 ft WT: 90.4 lb OD: 2.45 in

MIS-A.A Compact Inline Bowspring sub

MIS-A.A 70 LG: 5.70 ft WT: 33.1 lb OD: 2.24 in

SKJ-D.A Compact Knuckle Joint

SKJ-D.A 143 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

MIS-B Compact Inline Standoff sub

MIS-B 26 LG: 2.14 ft WT: 15.4 lb OD: 2.24 in

SKJ-D.A Compact Knuckle Joint

SKJ-D.A 89 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

SHA-F Compact Swivel Head Adaptor

SHA-F 38 LG: 2.74 ft WT: 26.5 lb OD: 2.24 in

Compact MMI Memory Section

MIM-A.A 102 LG: 4.65 ft WT: 26.5 lb OD: 2.24 in

Compact MMI Electrode Section

MIE-A.A 102 LG: 13.96 ft WT: 99.2 lb OD: 4.09 in

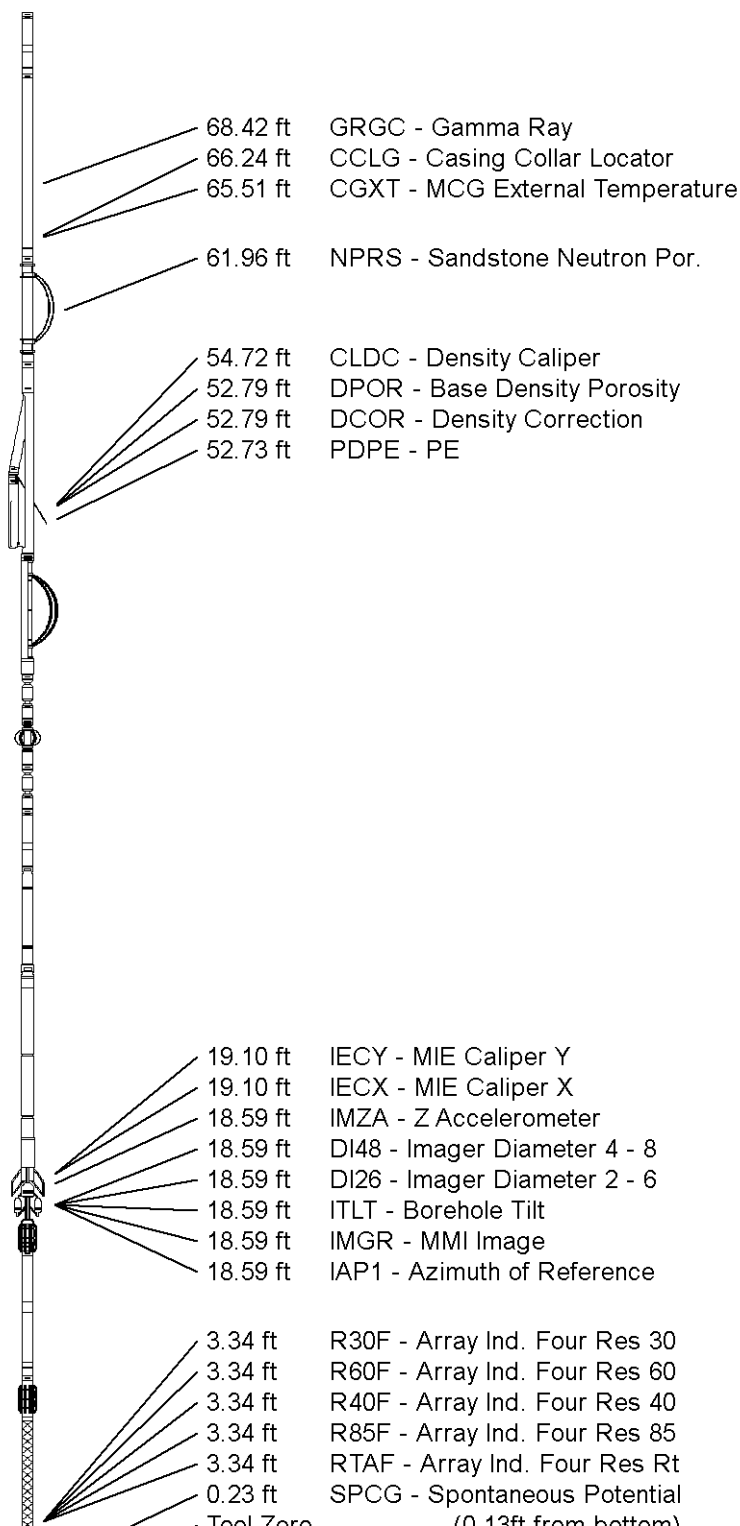
Compact Focussed Electric

MFE-B.A 220 LG: 6.05 ft WT: 48.5 lb OD: 2.24 in

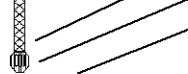
Compact Induction

MAI-B.J 362 LG: 10.81 ft WT: 48.5 lb OD: 2.24 in

Total Length: 76.00 ft Weight: 573.2 lb






 Tool Zero (0.13 ft from Bottom)  
 -0.13 ft SMTU - DST Uphole Tension  
 All measurements relative to tool zero.

COMPANY WEXPRO COMPANY  
 WELL JACK DRAW UNIT #19  
 FIELD JACK DRAW UNIT  
 PROVINCE/COUNTY MOFFAT  
 COUNTRY/STATE U.S.A. / COLORADO

Elevation Kelly Bushing	6923.00	feet	First Reading	9372.00	
Elevation Drill Floor	6922.00	feet	Depth Driller	9373.00	feet
Elevation Ground Level	6894.00	feet	Depth Logger	9375.00	feet



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