

**Weatherford****ARRAY INDUCTION
LOGS**

COMPANY			EAST CHEYENNE GAS STORAGE LLC		
WELL			ECGS NO 6-16 WPD009-2		
FIELD			PEETZ WEST		
PROVINCE/COUNTY			LOGAN		
COUNTRY/STATE			USA/COLORADO		
LOCATION			SHL: 1646' FNL & 2199' FWL		
SEC	TWP	RGE	Other Services		
6	11N	52W	MPD/MDN		
API Number		WPD009-2	CMI		
Permit Number		05-075-09402			
Permanent Datum G.L., Elevation 4555 feet					Elevations: feet
Log Measured From KB					KB 4567.00
Drilling Measured From KB@ 12					DF 4566.00
					GL 4555.00
Date	23-SEP-2012				
Run Number	1				
Depth Driller	5260.00				feet
Depth Logger	5260.00				feet
First Reading	5257.00				feet
Last Reading	1223.00				feet
Casing Driller	1234.00				feet
Casing Logger	1223.00				feet
Bit Size	8.750				inches
Hole Fluid Type	WBM				
Density / Viscosity	9.70 g/cc		51.00 CP		
PH / Fluid Loss	9.00		17.00 ml/10min		
Sample Source	FLOWLINE				
Rm @ Measured Temp	3.46 @ 87.3				ohm-m
Rmf @ Measured Temp	2.77 @ 87.3				ohm-m
Rmc @ Measured Temp	4.15 @ 87.3				ohm-m
Source Rmf / Rmc	CALC	CALC			
Rm @ BHT	2.12 @144.0		ohm-m		
Time Since Circulation	4 HOURS				
Max Recorded Temp	144.00		deg F		
Equipment Name	COMPACT				
Equipment / Base	13144	RK SPR			
Recorded By	J.LIU		T.BENICH		
Witnessed By	J.ASHBY				

BOREHOLE RECORD

Last Edited: 23-SEP-2012 09:50

Bit Size inches	Depth From feet	Depth To feet
8.750	1234.00	5260.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	9.625	0.00	1234.00	36.00

REMARKS

SOFTWARE VERSION 13.03.7779
TOOLS RUN: SHA, MCG, MDN, MPD, MIS-D, SKJ, MIS-E, SKJ, MIM, MIE, SKJ, MFE, MAI RUN IN COMBINATION.

HARDWARE: MPD: 8" PROFILE PLATE USED.
MAI: TWO 1 INCH STANDOFFS USED.
MFE: ONE 1 INCH STANDOFF USED.
MDN: DUAL BOWSPRING USED.
MIM: ONE NONMETALIC CENTRALIZING BASKET USED.
MIE: ONE 1 INCH STANDOFF USED

2.65 G/CC DENSITY MATRIX USED TO CALCULATE POROSITY.

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

ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST.

DENSITY CALIPER UNDERGAUGED. REPROCESSED WITH BIT SIZE

TIGHT PULL AT 3995 FT. CLOSED CALIPERS TO PULL THROUGH. MAX TENSION AT 2000 LBS

TOTAL HOLE VOLUME FROM TD TO SURFACE CASING =1700 CUBIC FEET

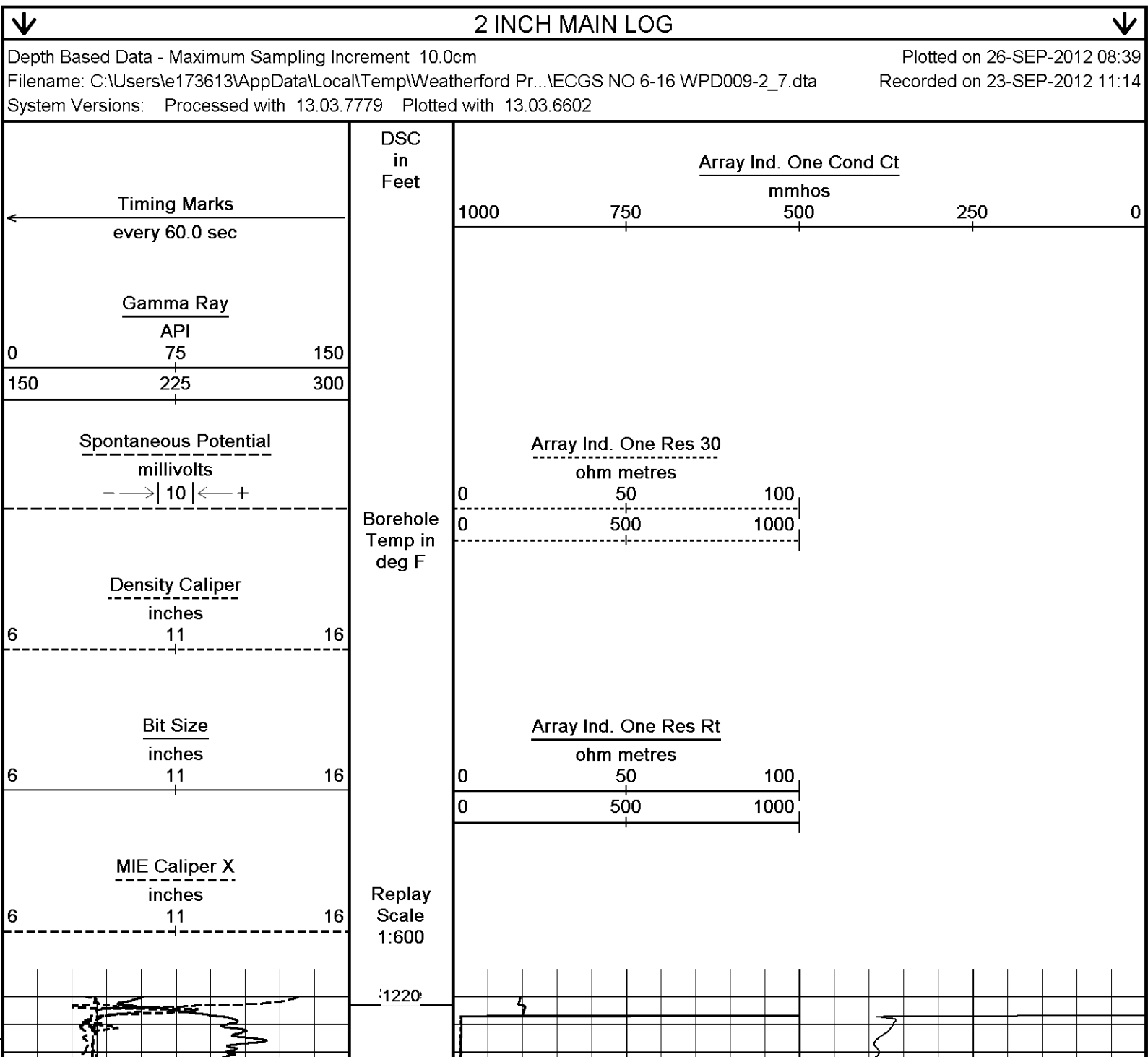
ANNULAR VOLUME WITH 7 INCH PRODUCTION CASING FROM TD TO SURFACE CASING = 620 CUBIC FEET

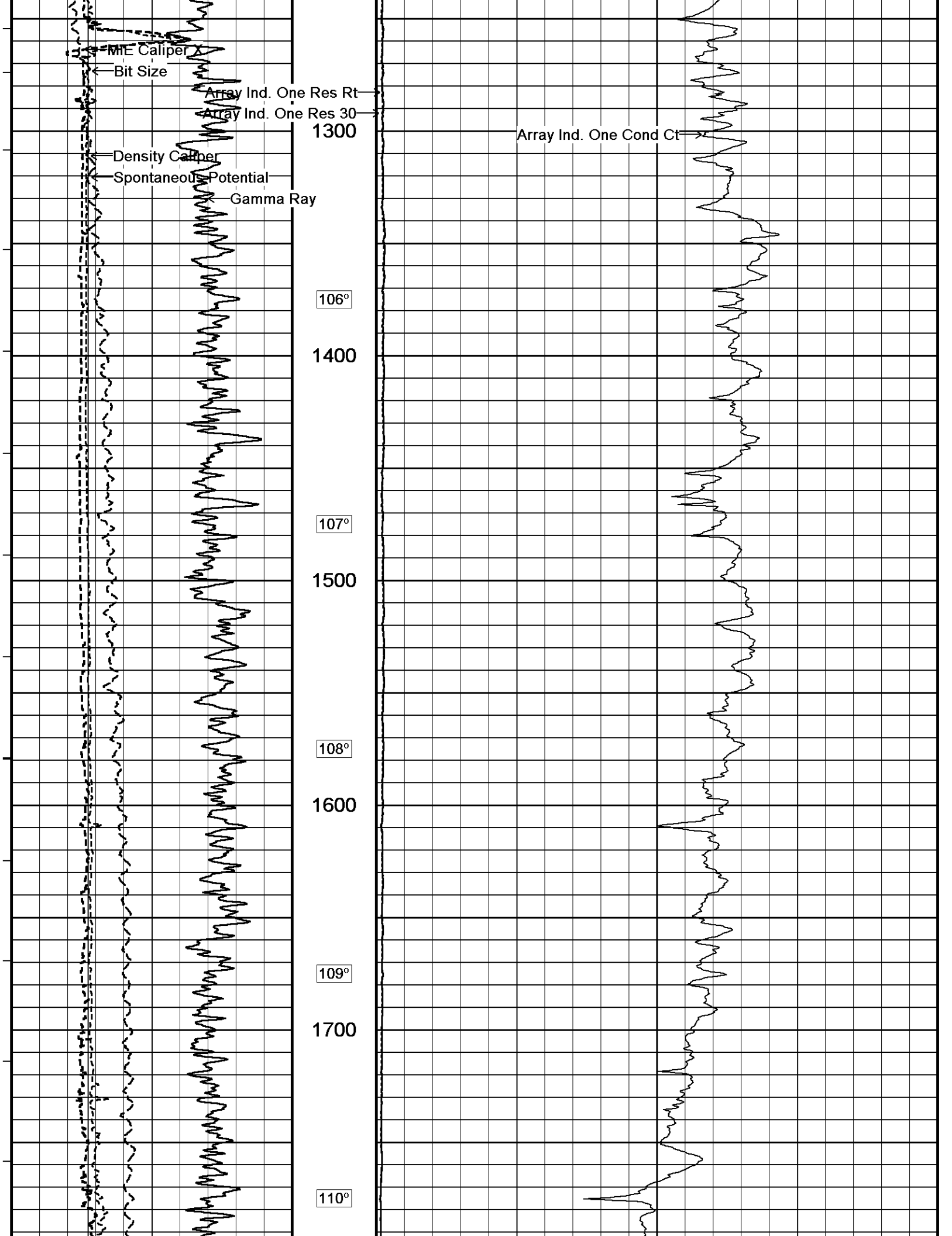
SERVICE ORDER: #3535291

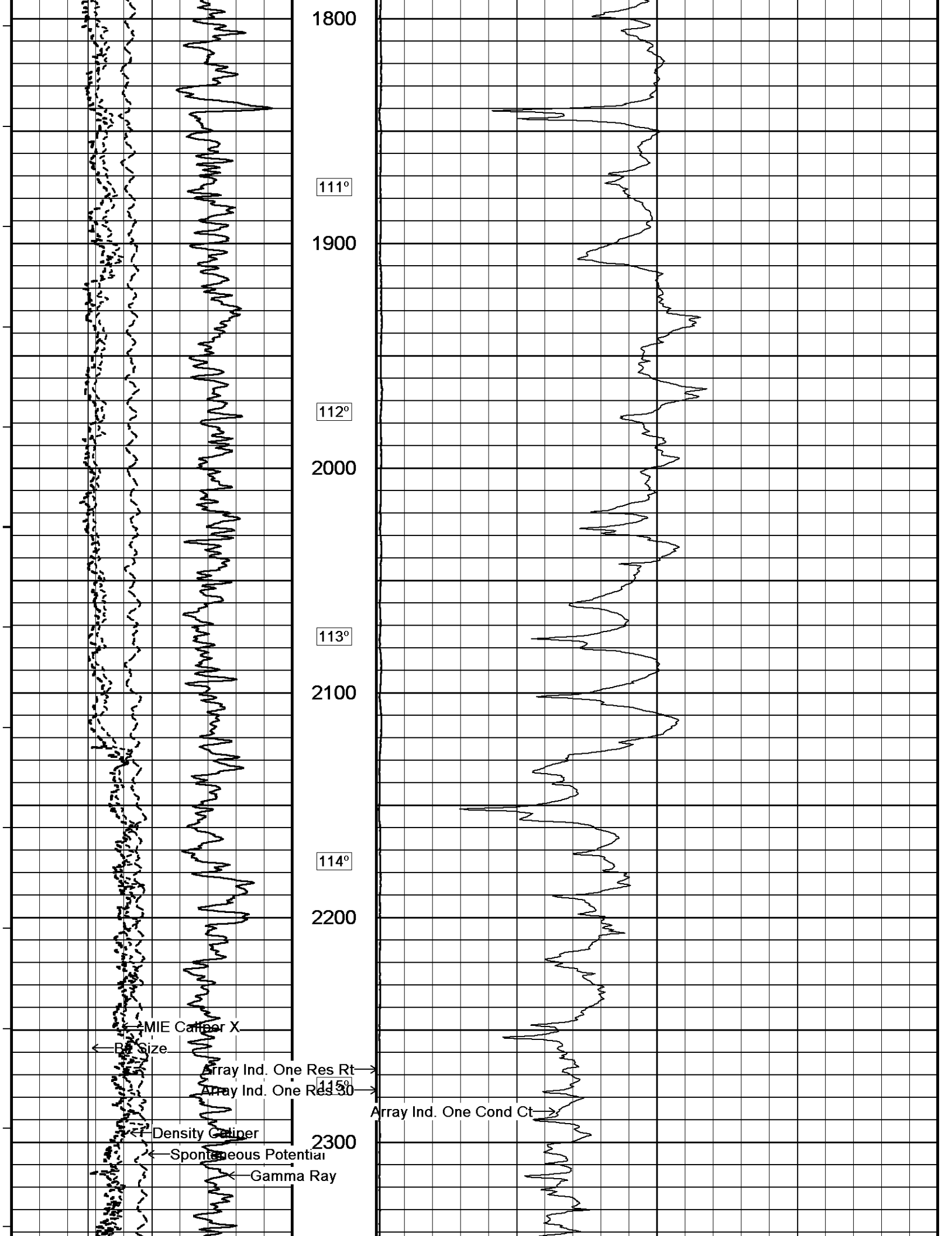
OPERATOR: B.PECK
S.ELMORE
J.BARTZ

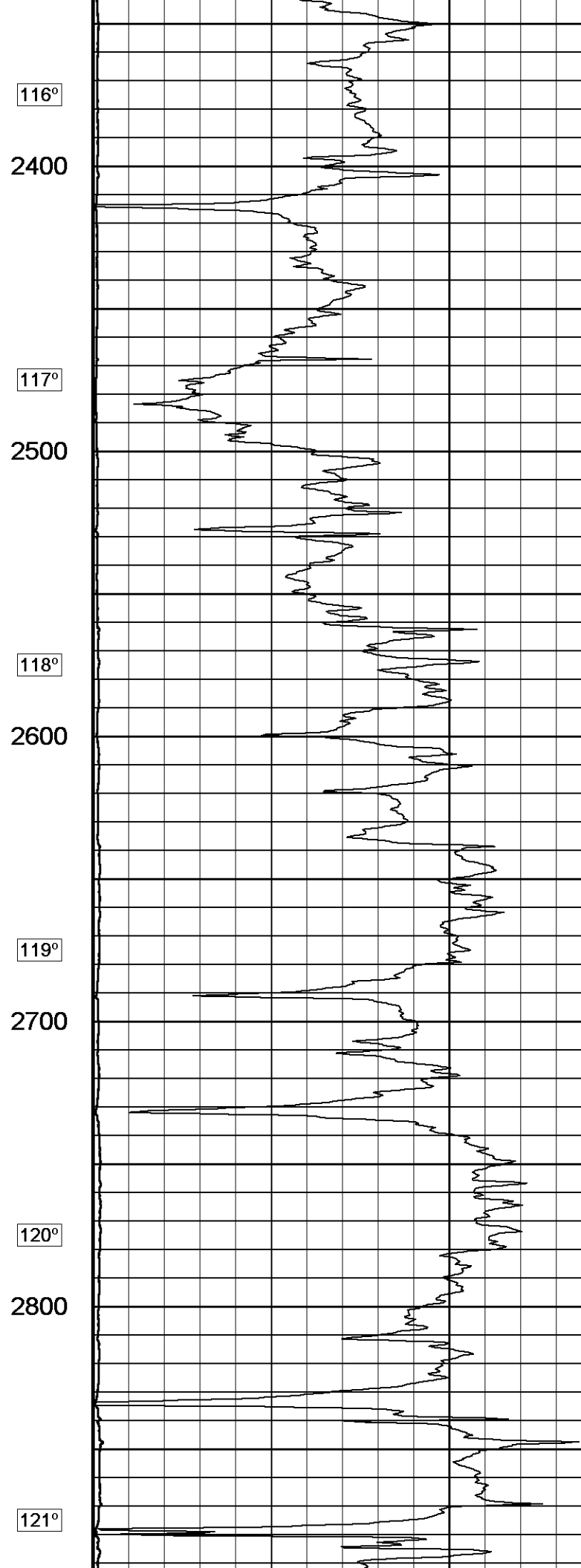
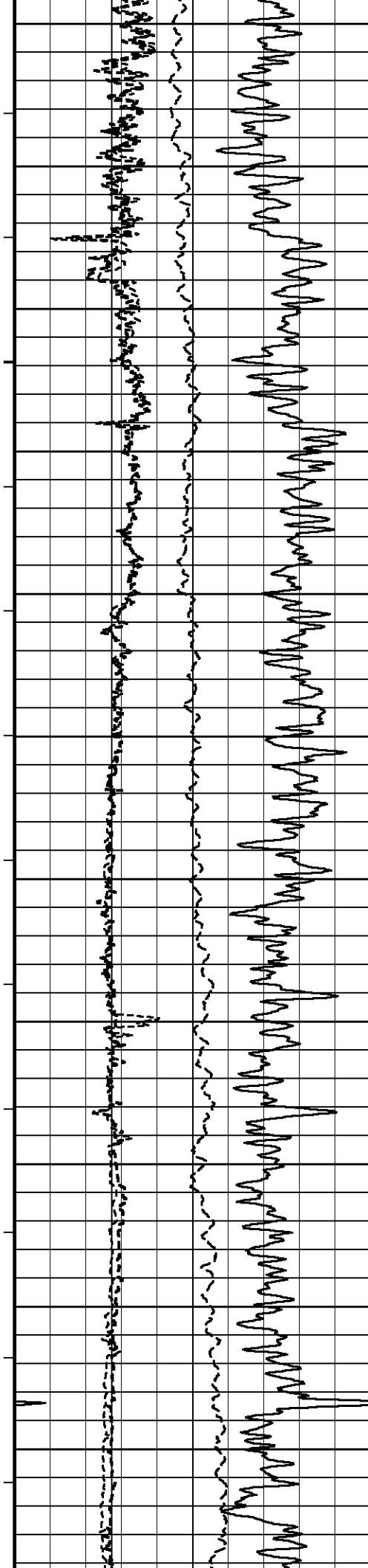
RIG: CADE 22

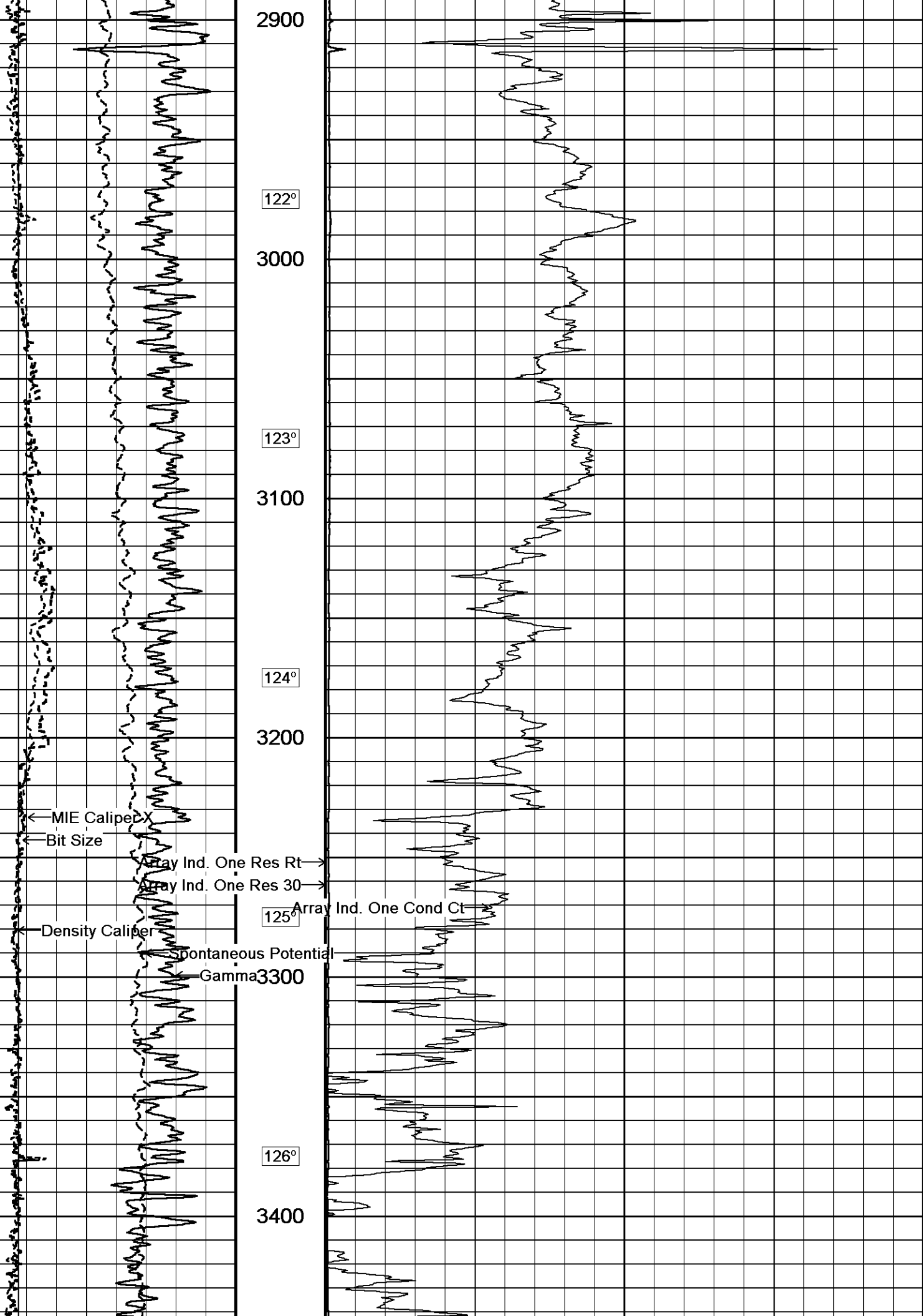
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs, 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.

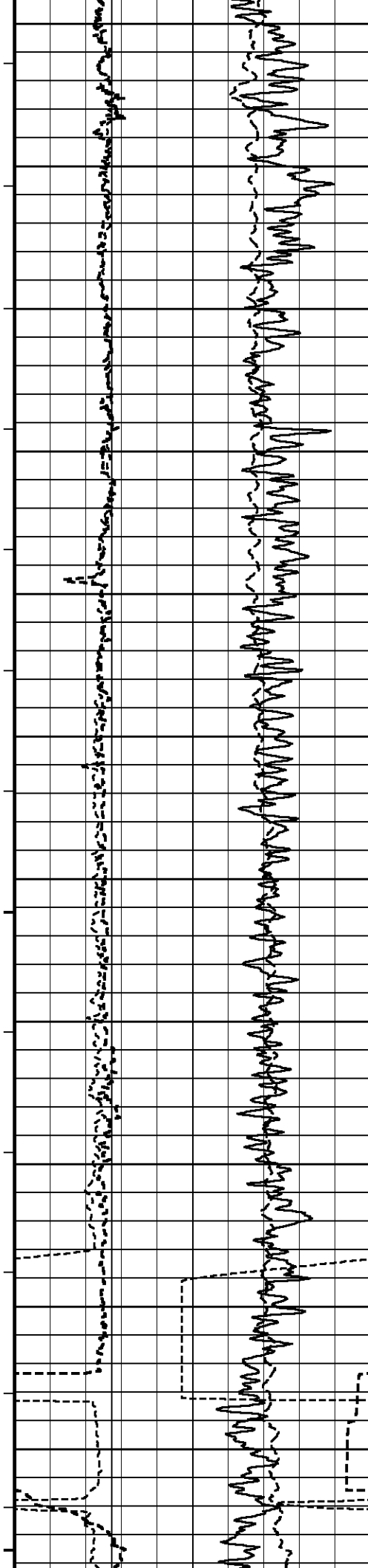












127°

3500

128°

3600

129°

3700

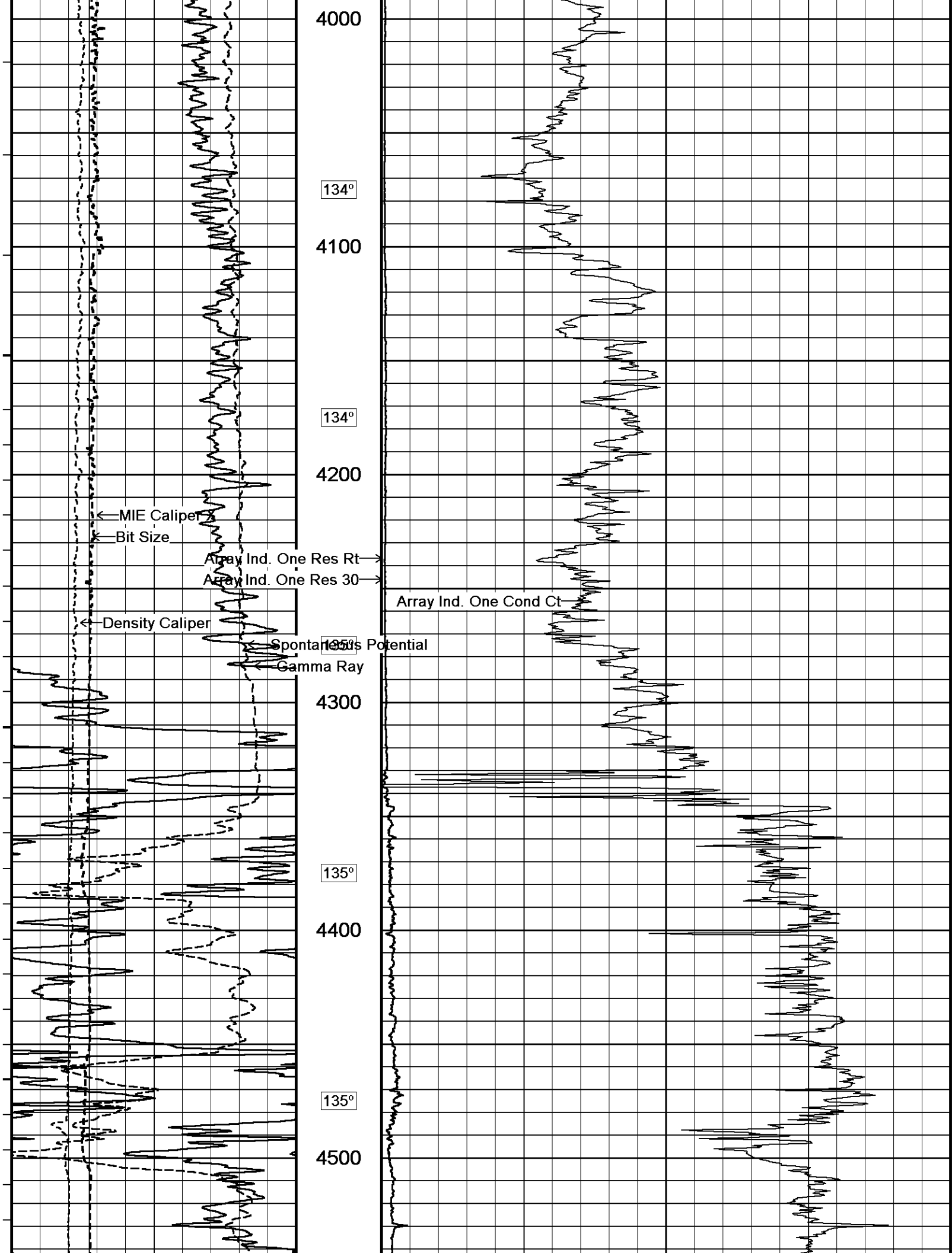
130°

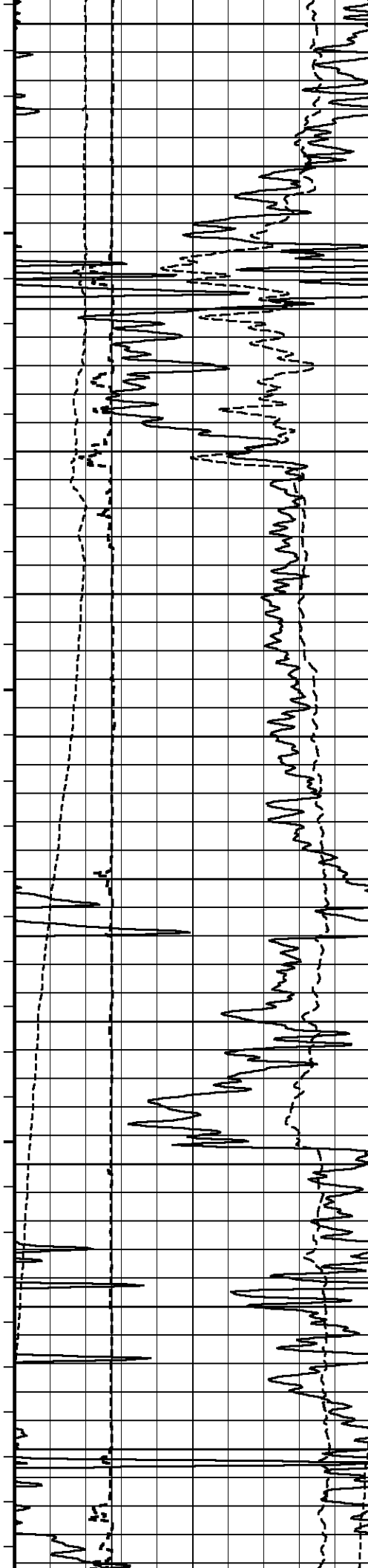
3800

131°

3900

131°





136°

4600

137°

4700

137°

4800

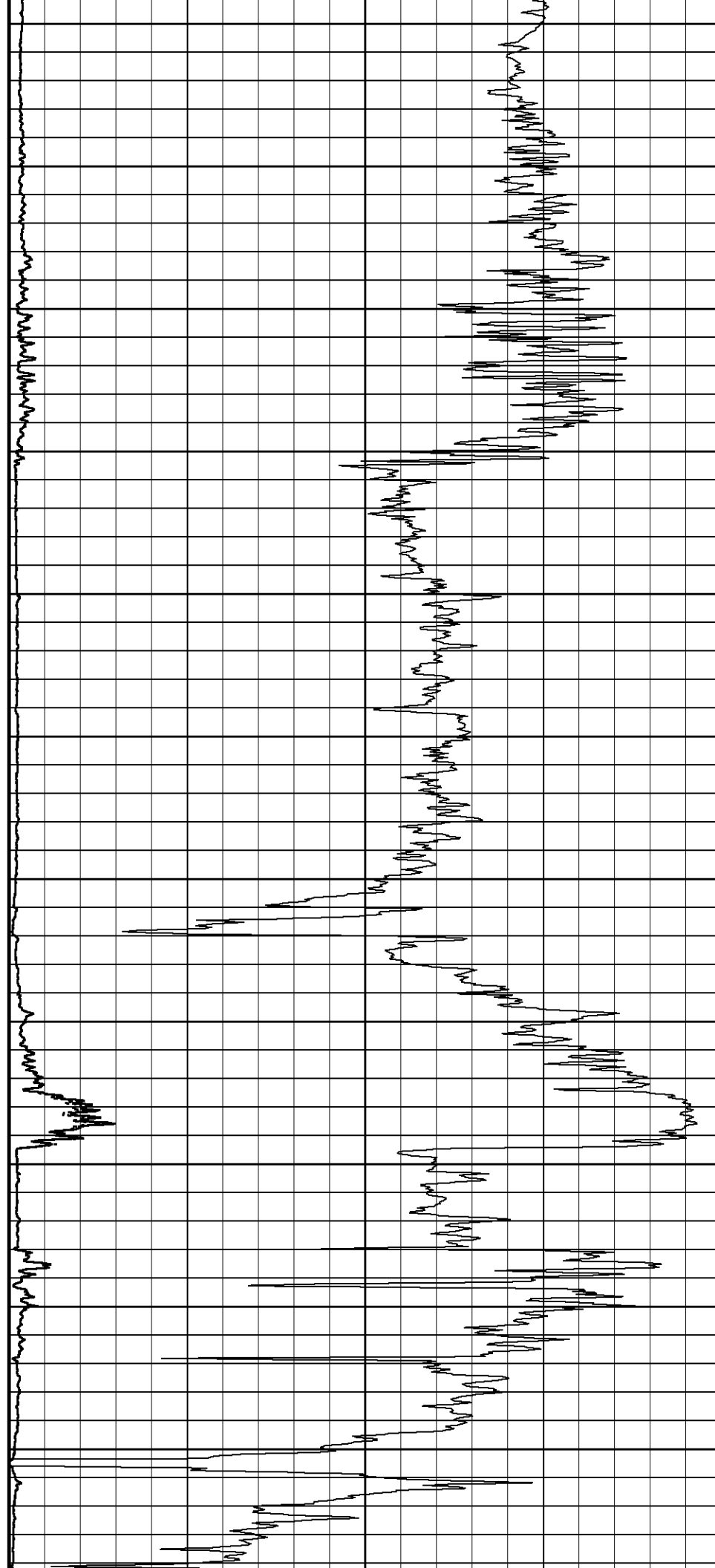
138°

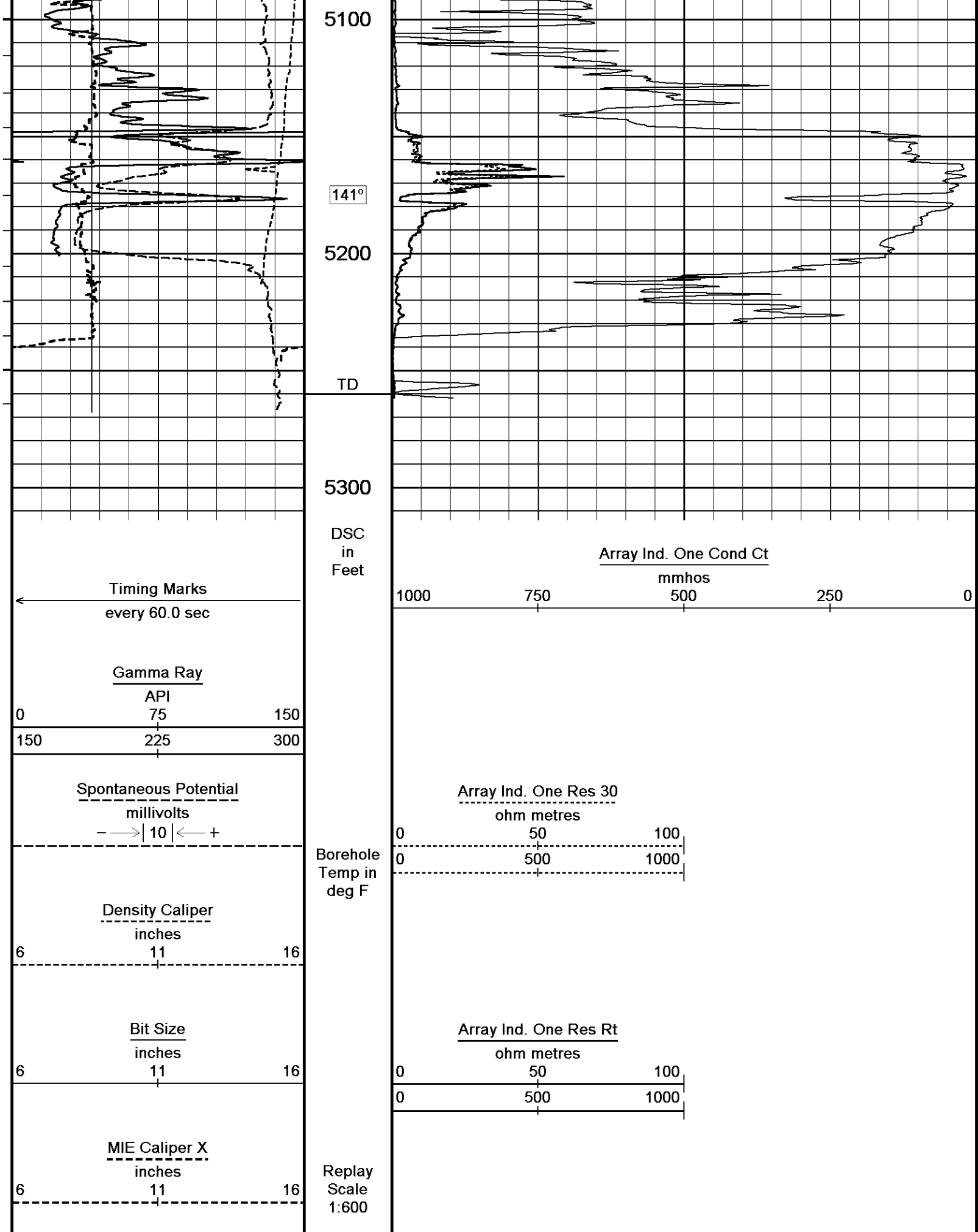
4900

138°

5000

138°





2 INCH MAIN LOG

5 INCH MAIN LOG

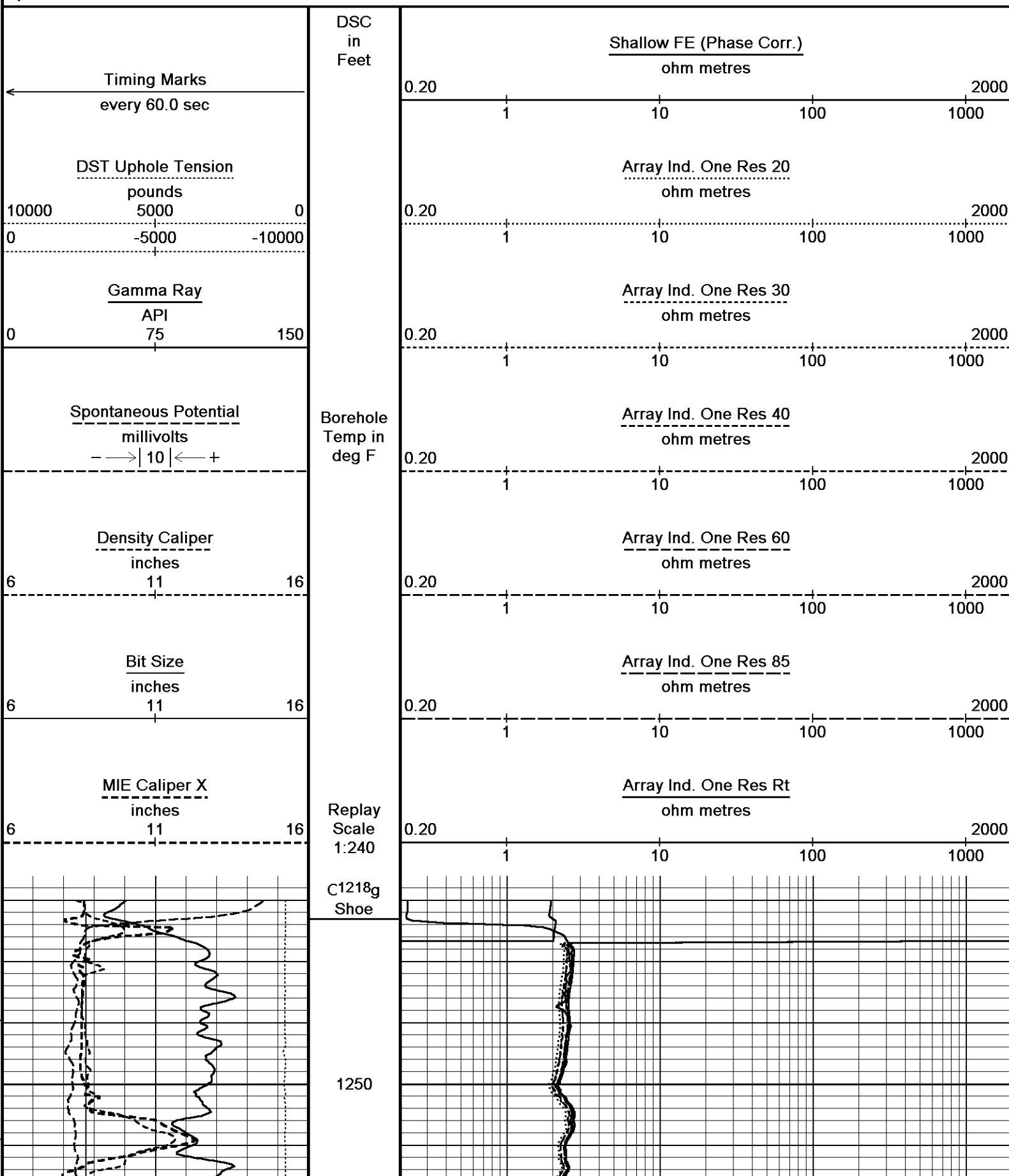
Depth Based Data - Maximum Sampling Increment 10.0cm

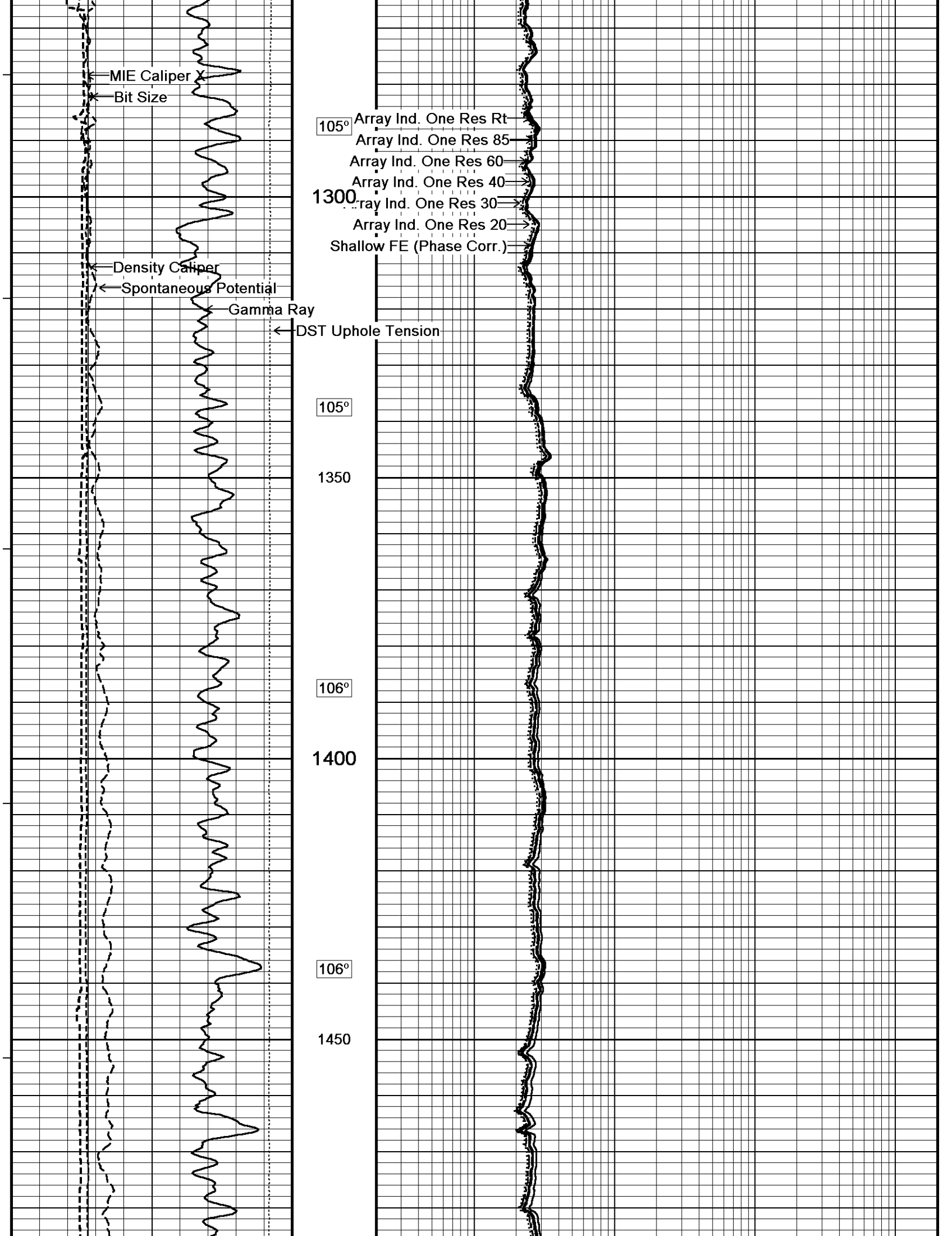
Plotted on 26-SEP-2012 08:39

Filename: C:\Users\le173613\AppData\Local\Temp\Weatherford Pr...\IECGS NO 6-16 WPD009-2_7.dta

Recorded on 23-SEP-2012 11:14

System Versions: Processed with 13.03.7779 Plotted with 13.03.6602







107°

1500

107°

1550

108°

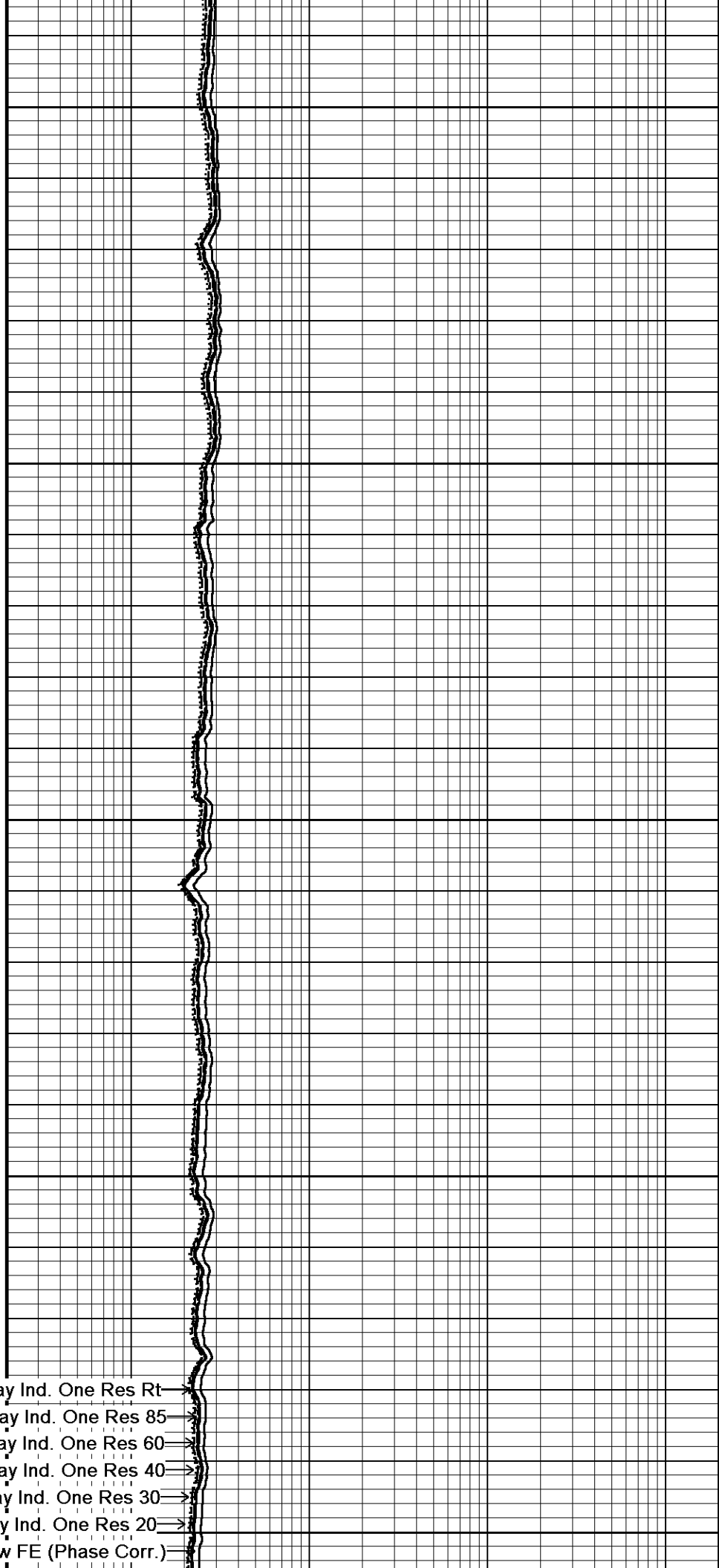
1600

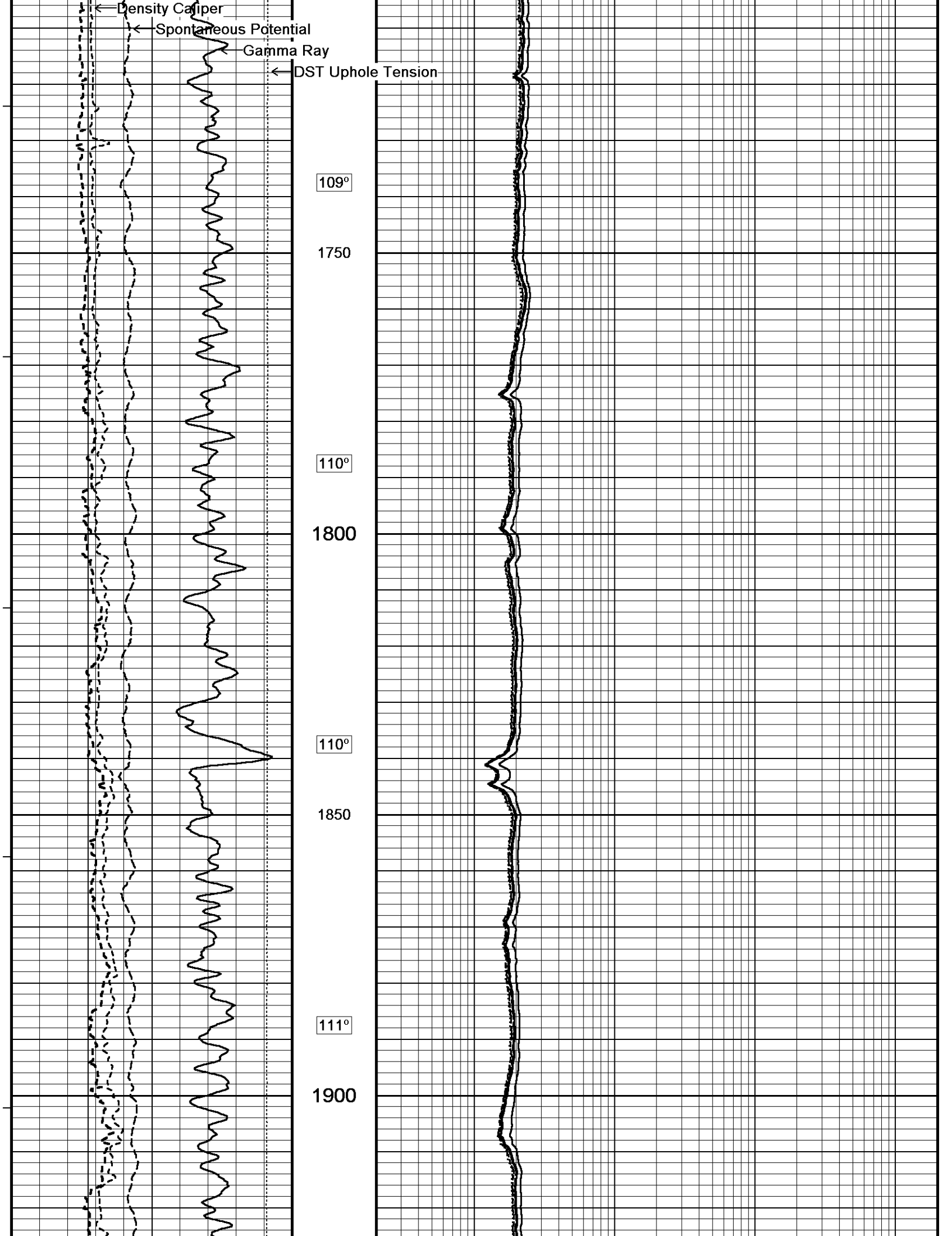
108°

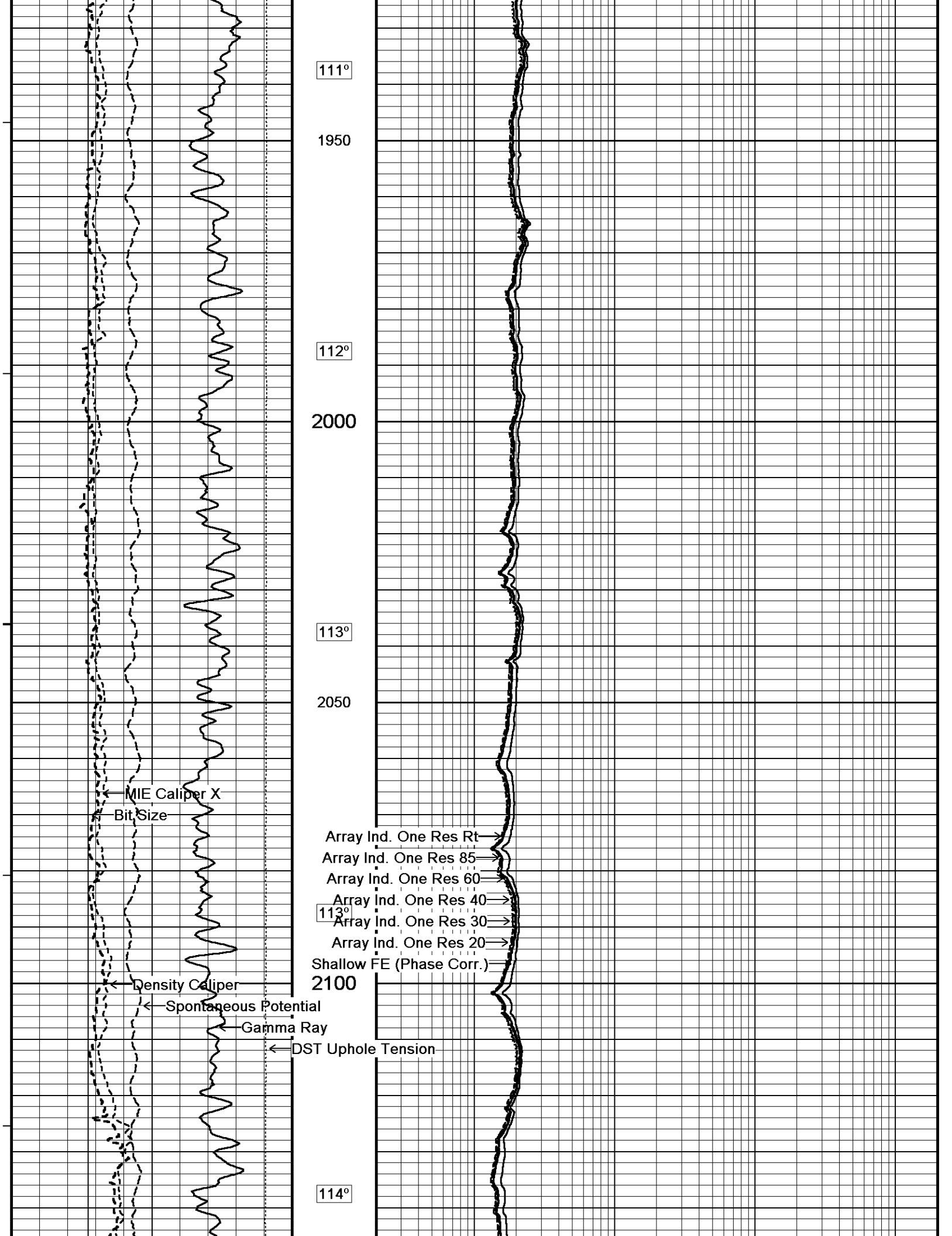
1650

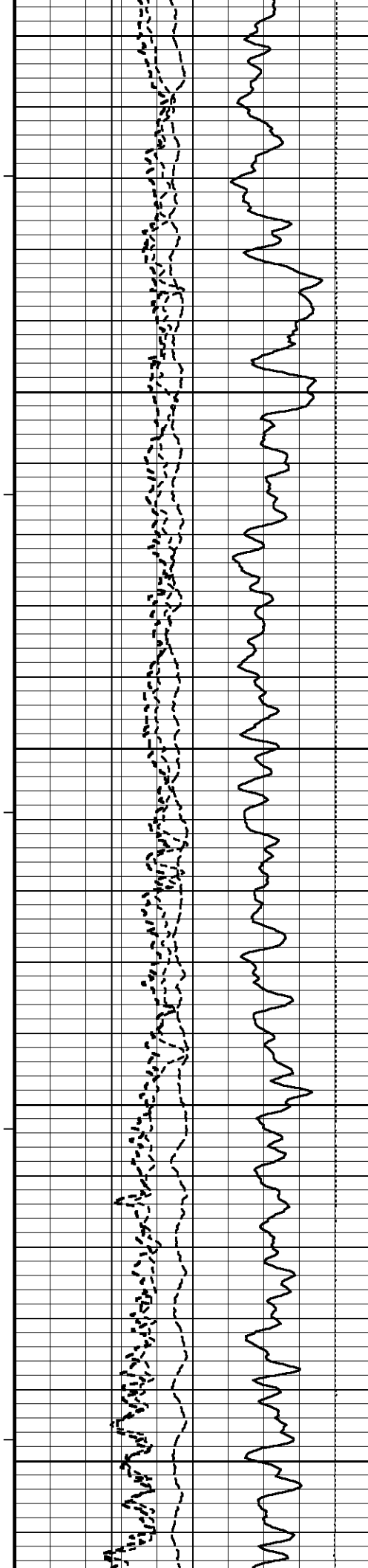
M/E Caliper X
Bit Size

Array Ind. One Res Rt
Array Ind. One Res 85
109° Array Ind. One Res 60
Array Ind. One Res 40
Array Ind. One Res 30
1700 Array Ind. One Res 20
Shallow FE (Phase Corr.)









2150

114°

2200

115°

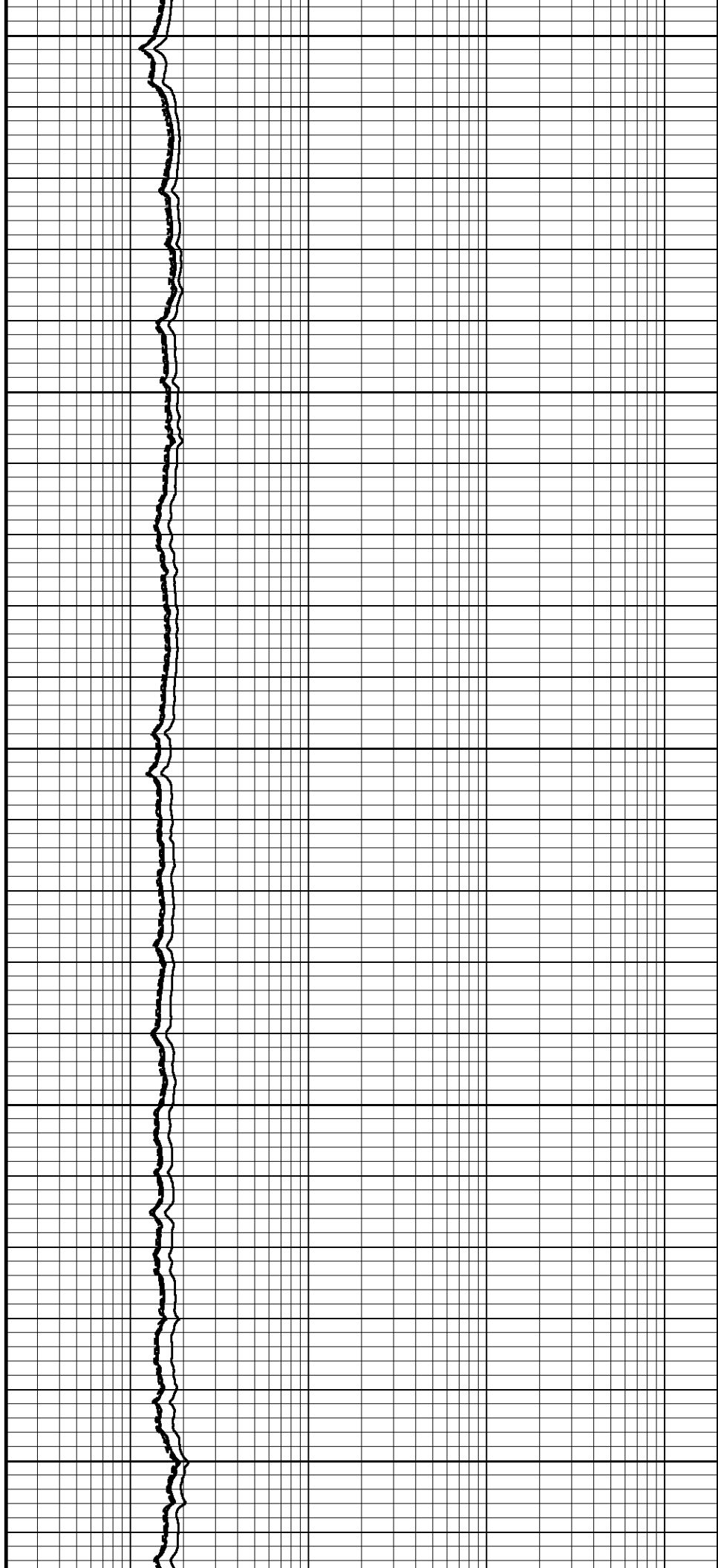
2250

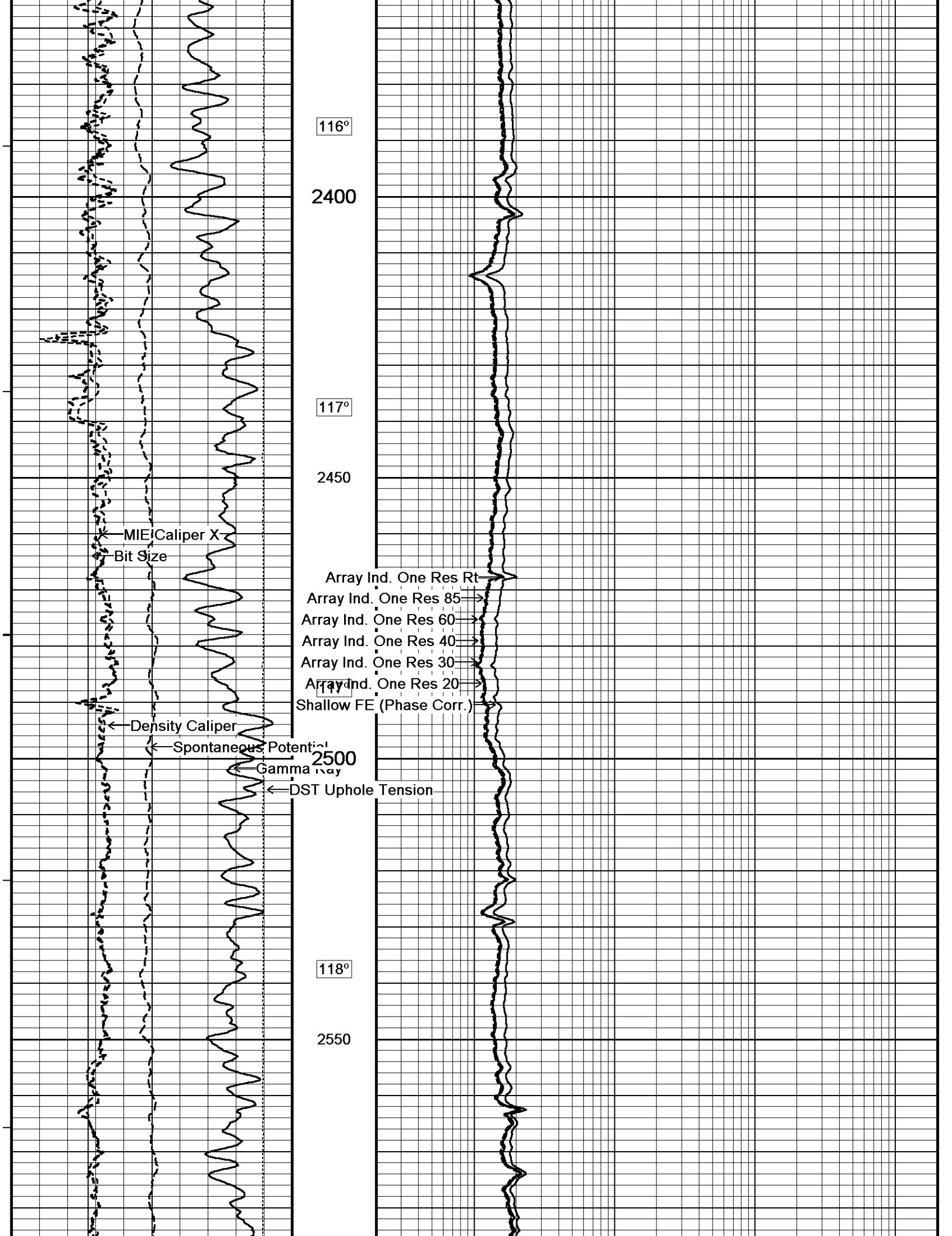
115°

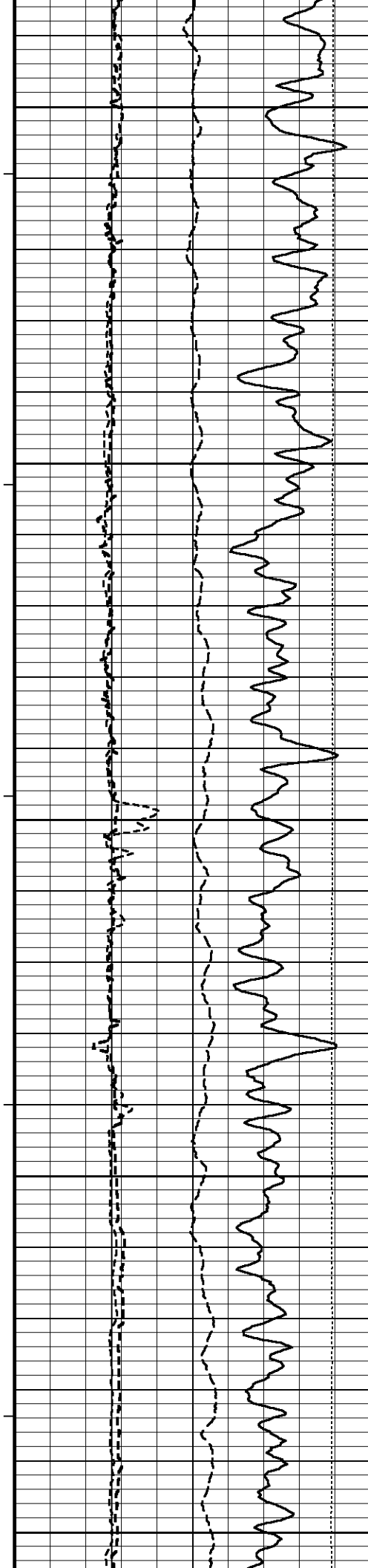
2300

116°

2350







118°

2600

119°

2650

119°

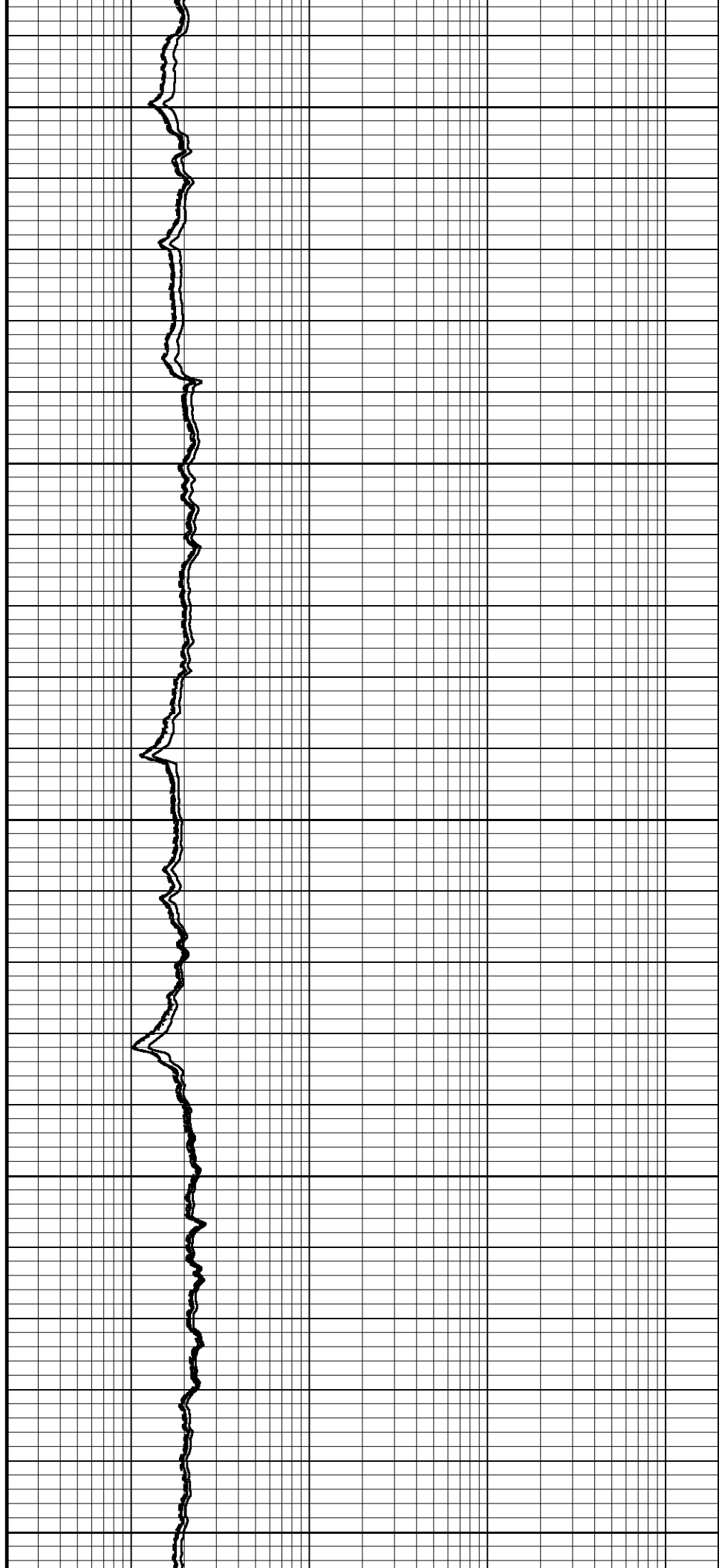
2700

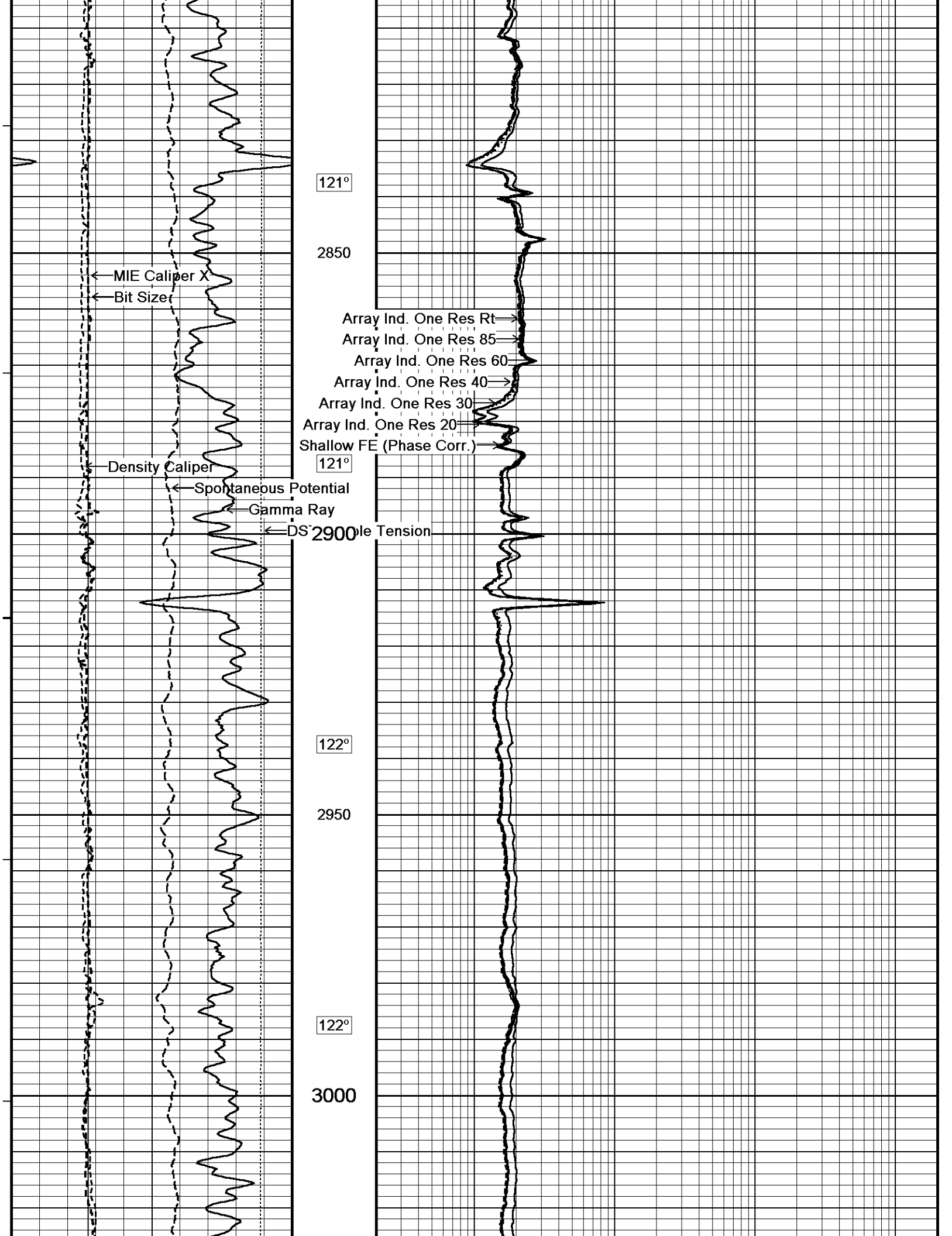
120°

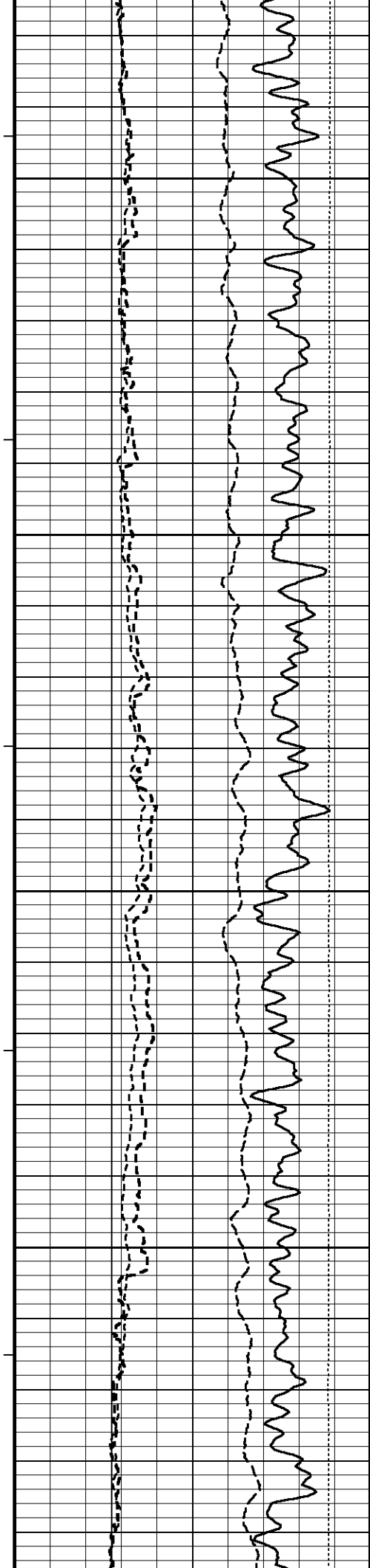
2750

120°

2800







123°

3050

123°

3100

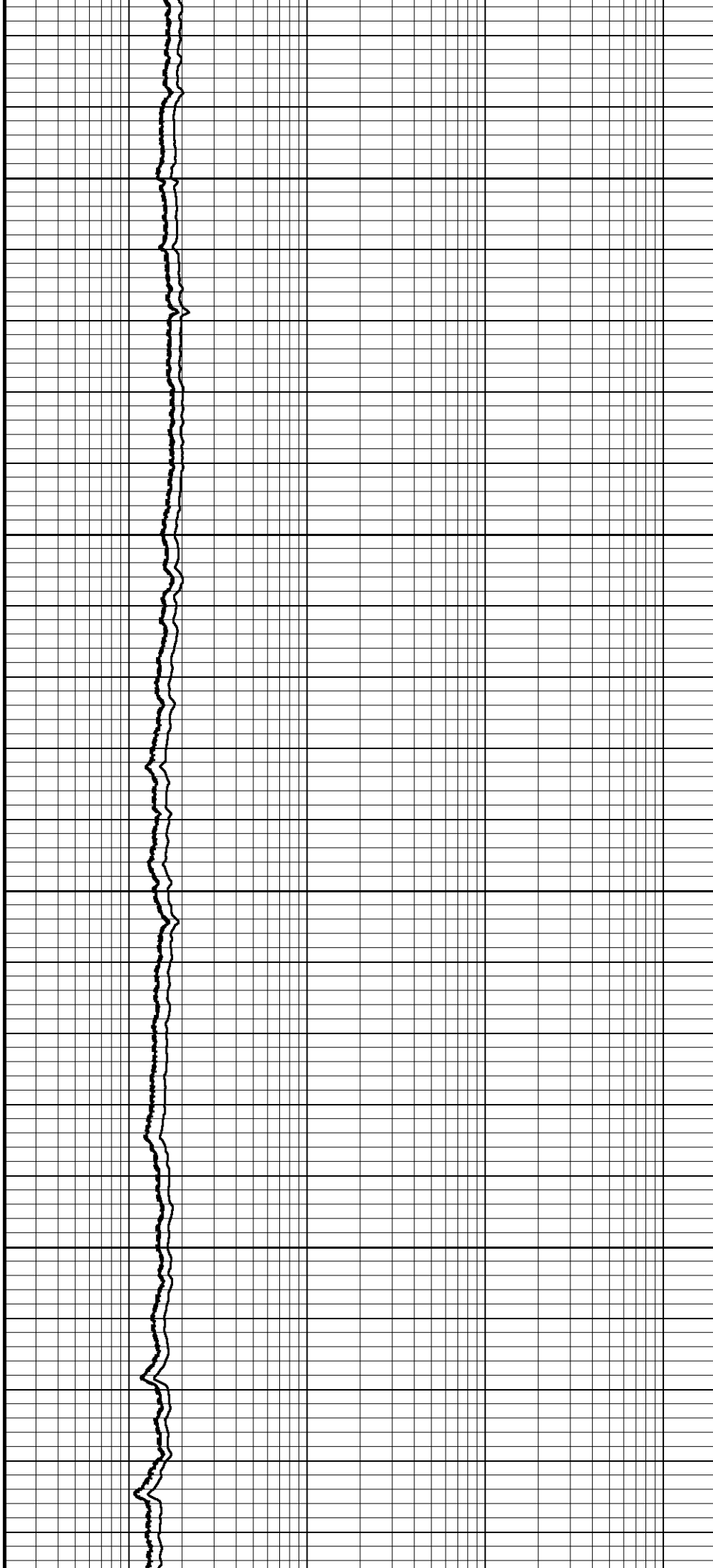
124°

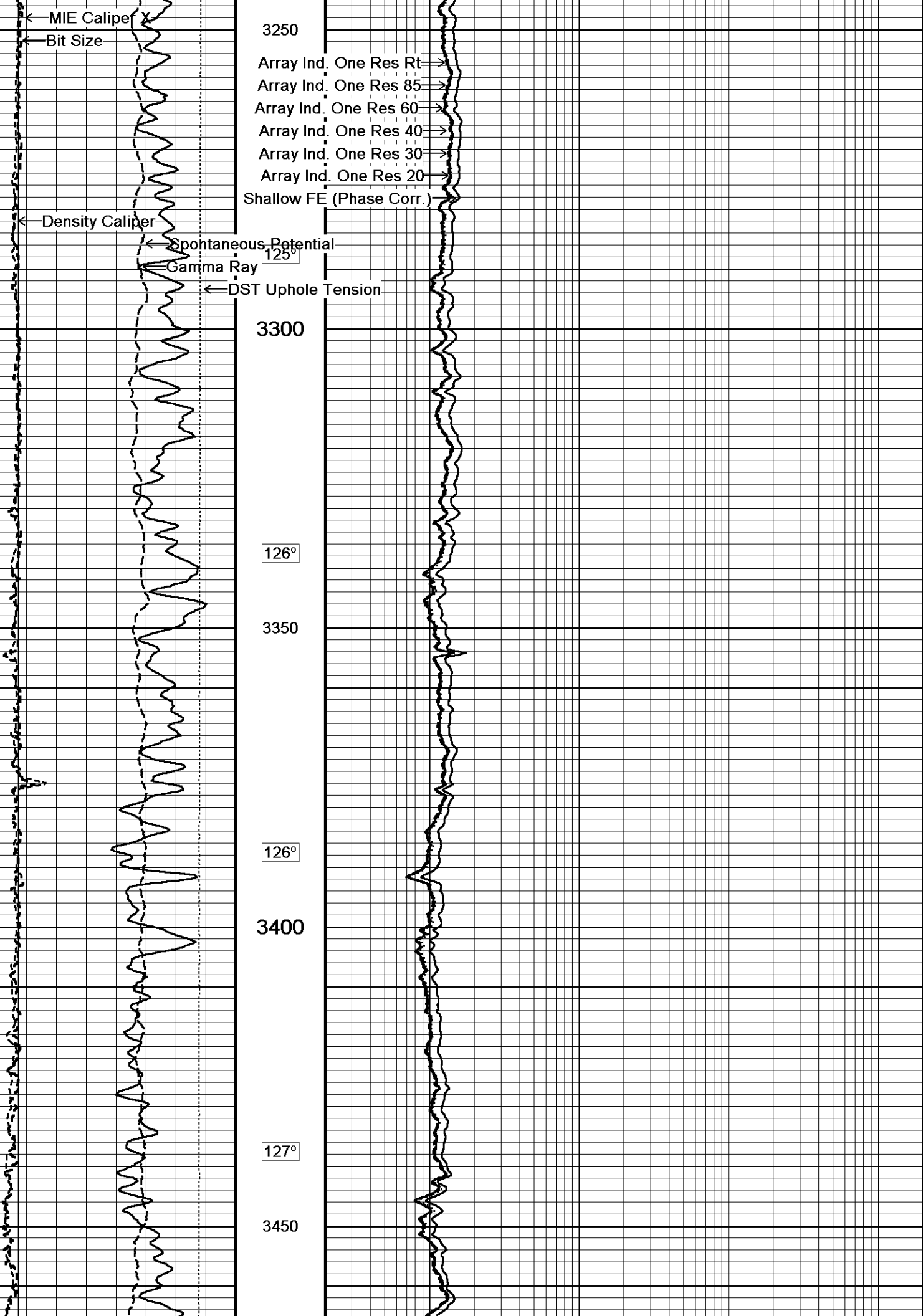
3150

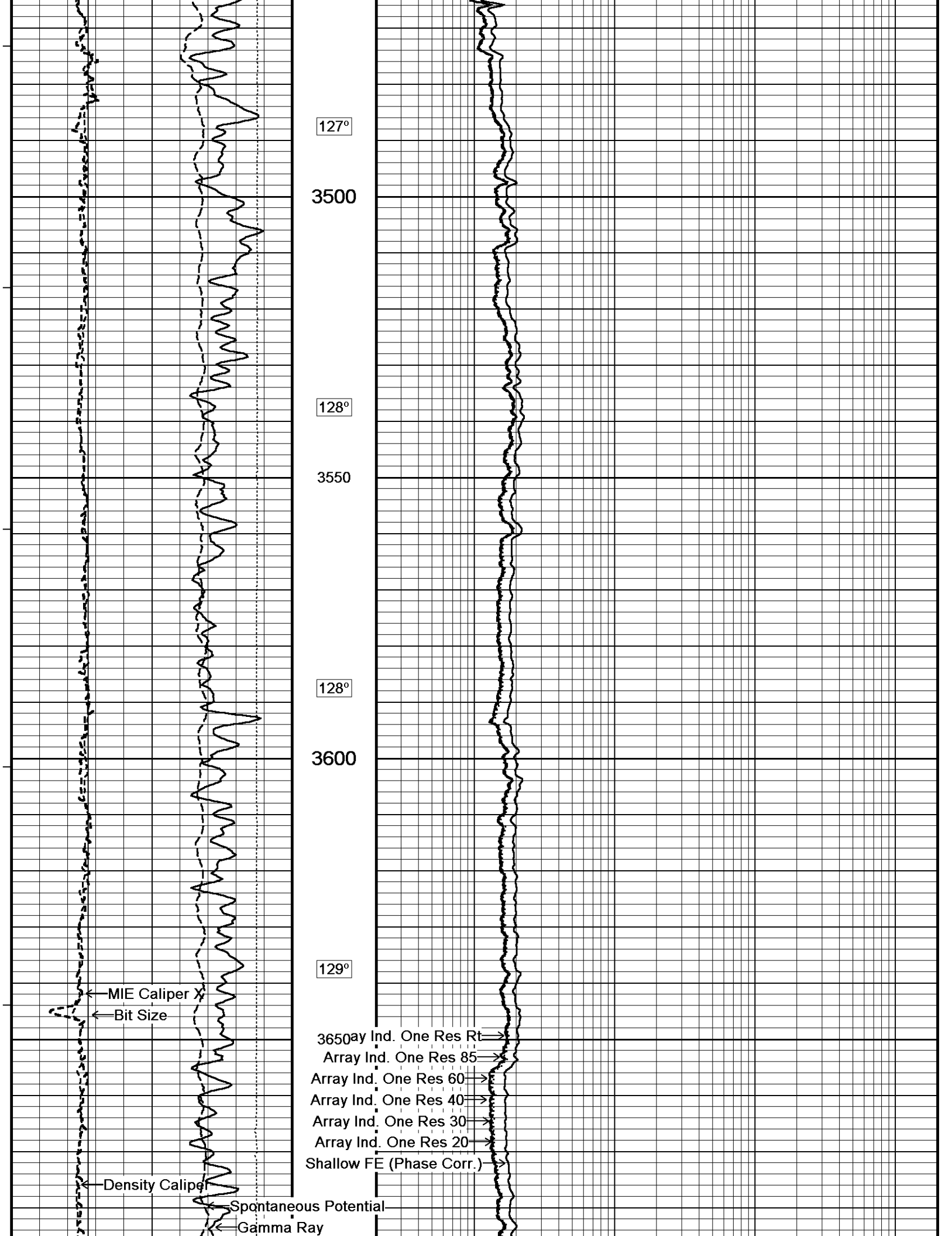
124°

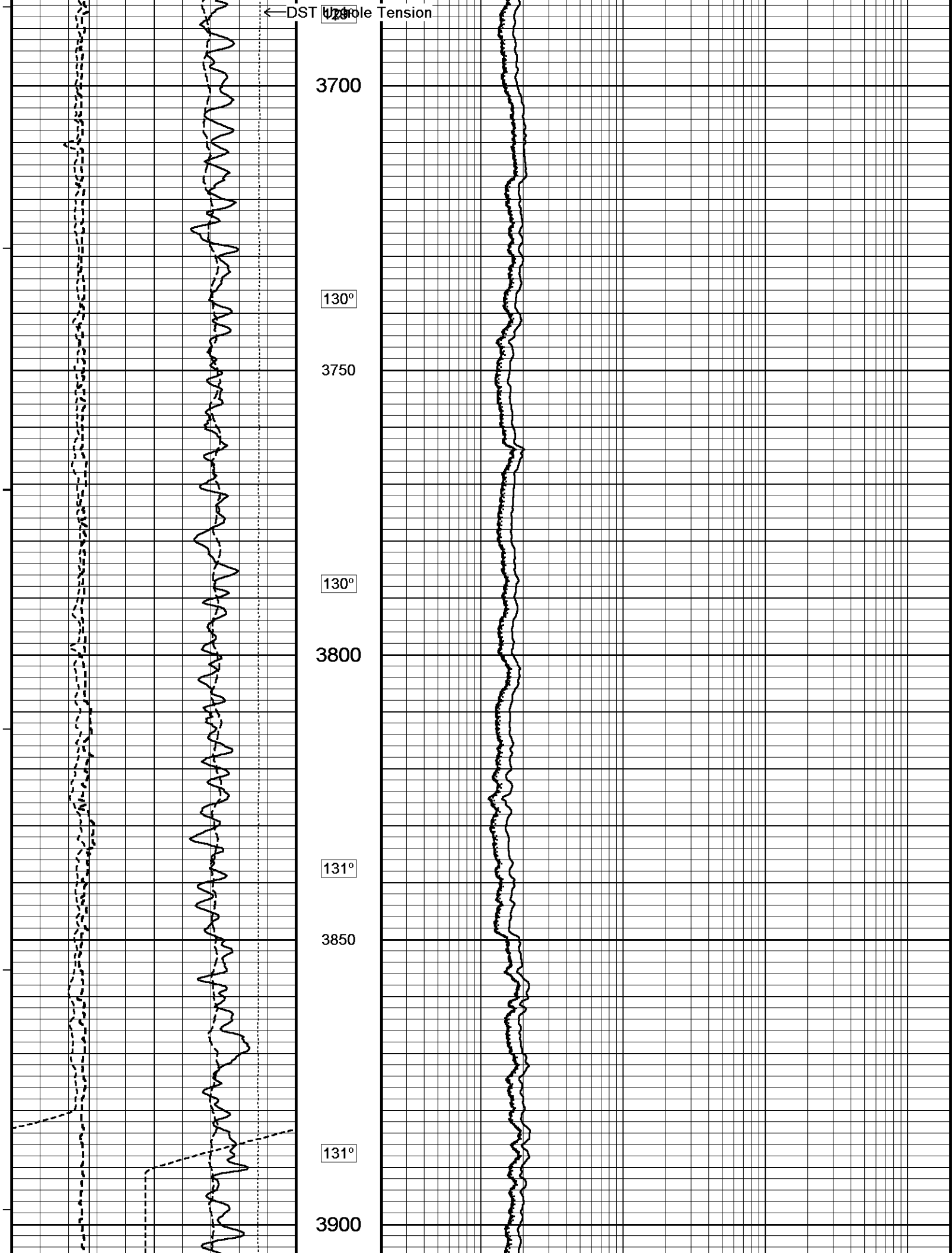
3200

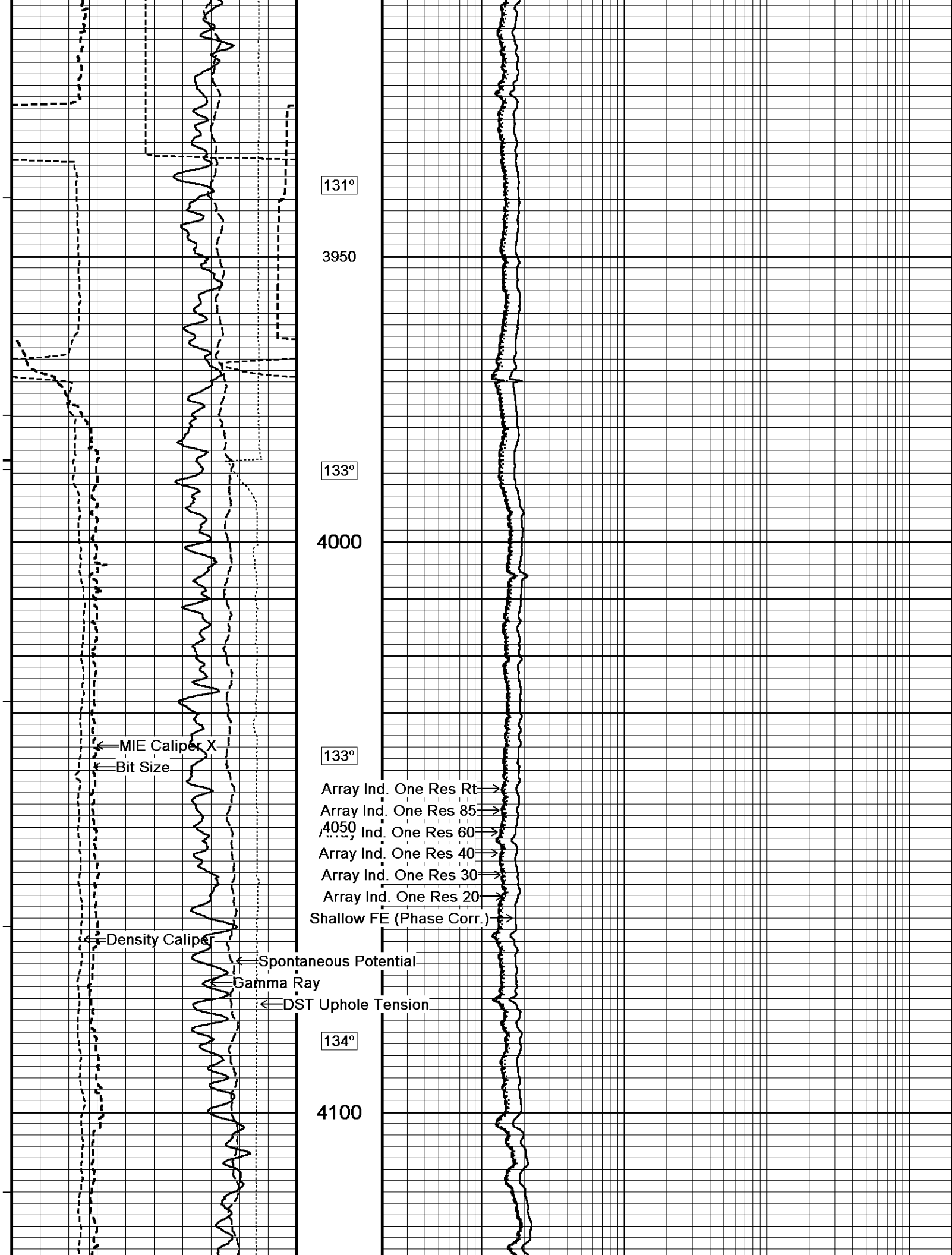
125°

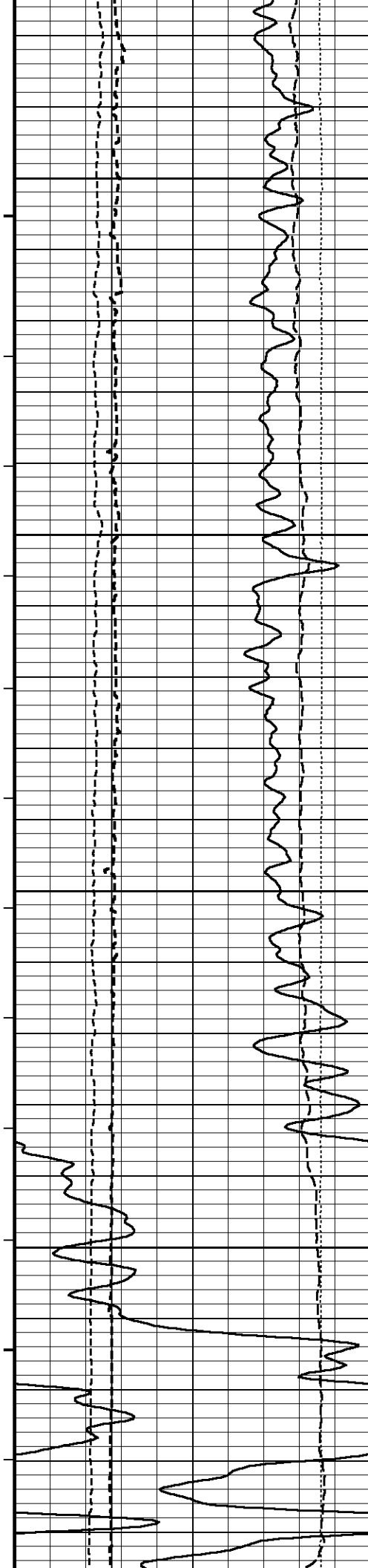












134°

4150

134°

4200

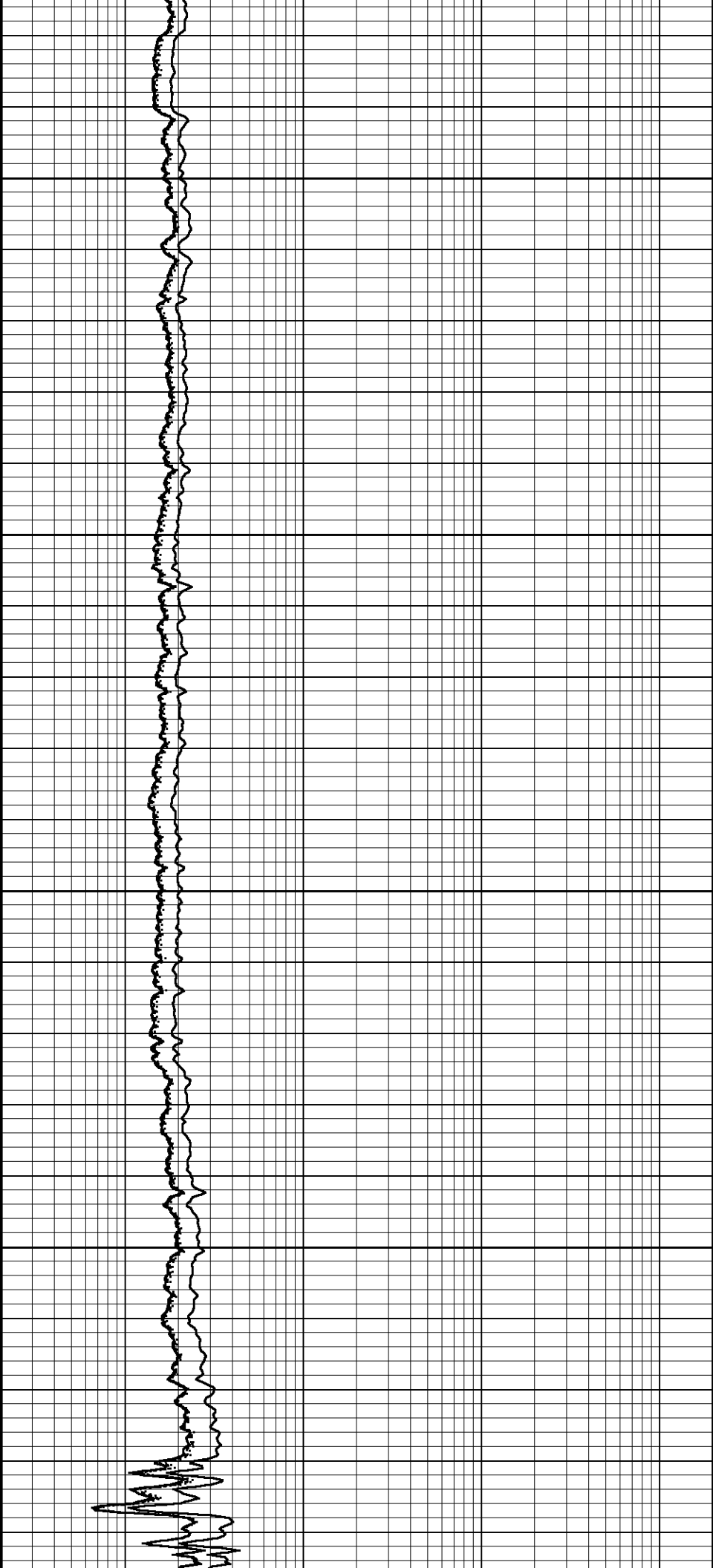
134°

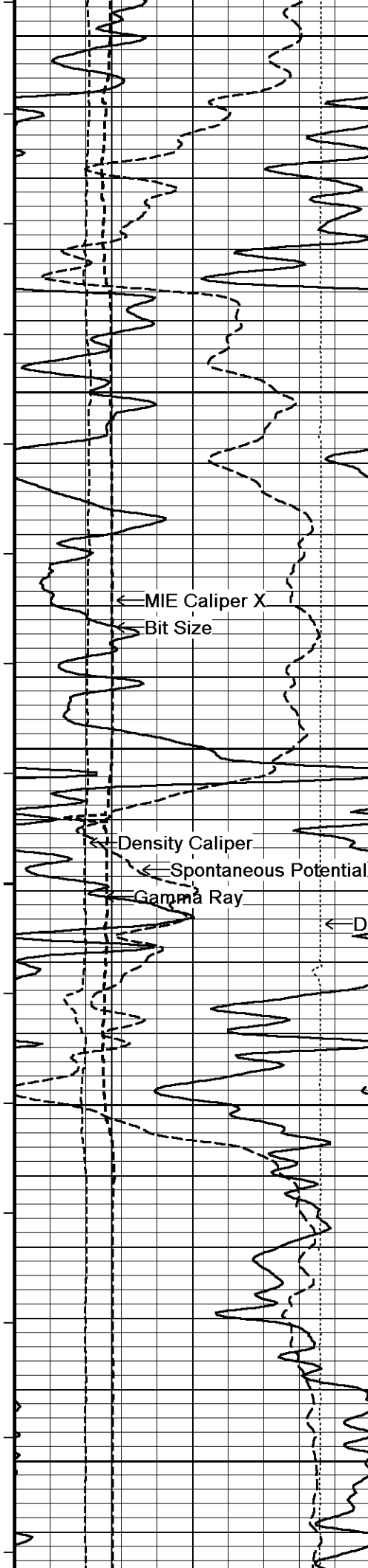
4250

135°

4300

135°





4350

135°

4400

135°

4450

135°

4500

136°

4550

Array Ind. One Res Rt

Array Ind. One Res 85

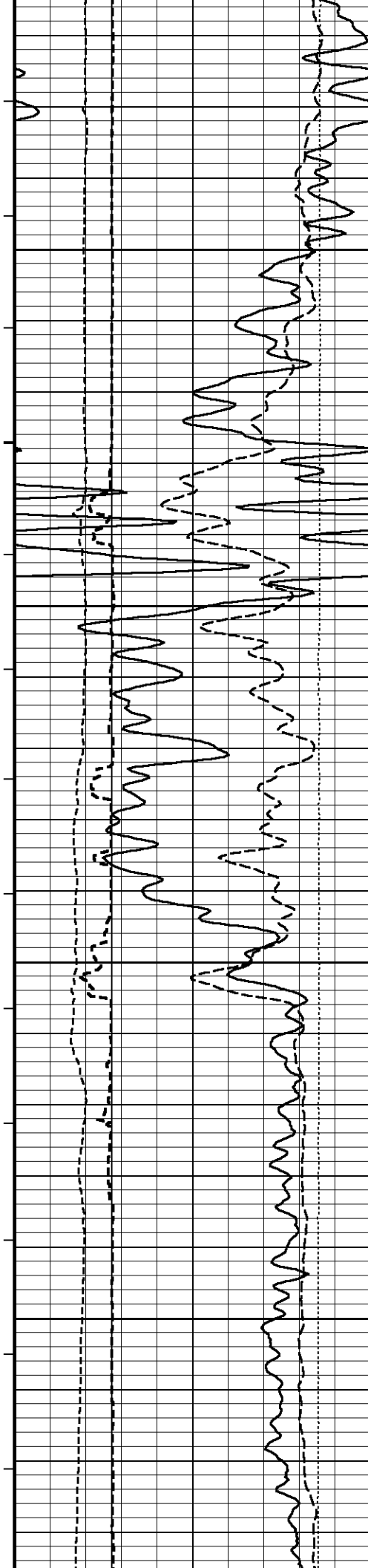
Array Ind. One Res 60

Array Ind. One Res 40

Array Ind. One Res 30

Array Ind. One Res 20

Shallow FE (Phase Coeff)



136°

4600

137°

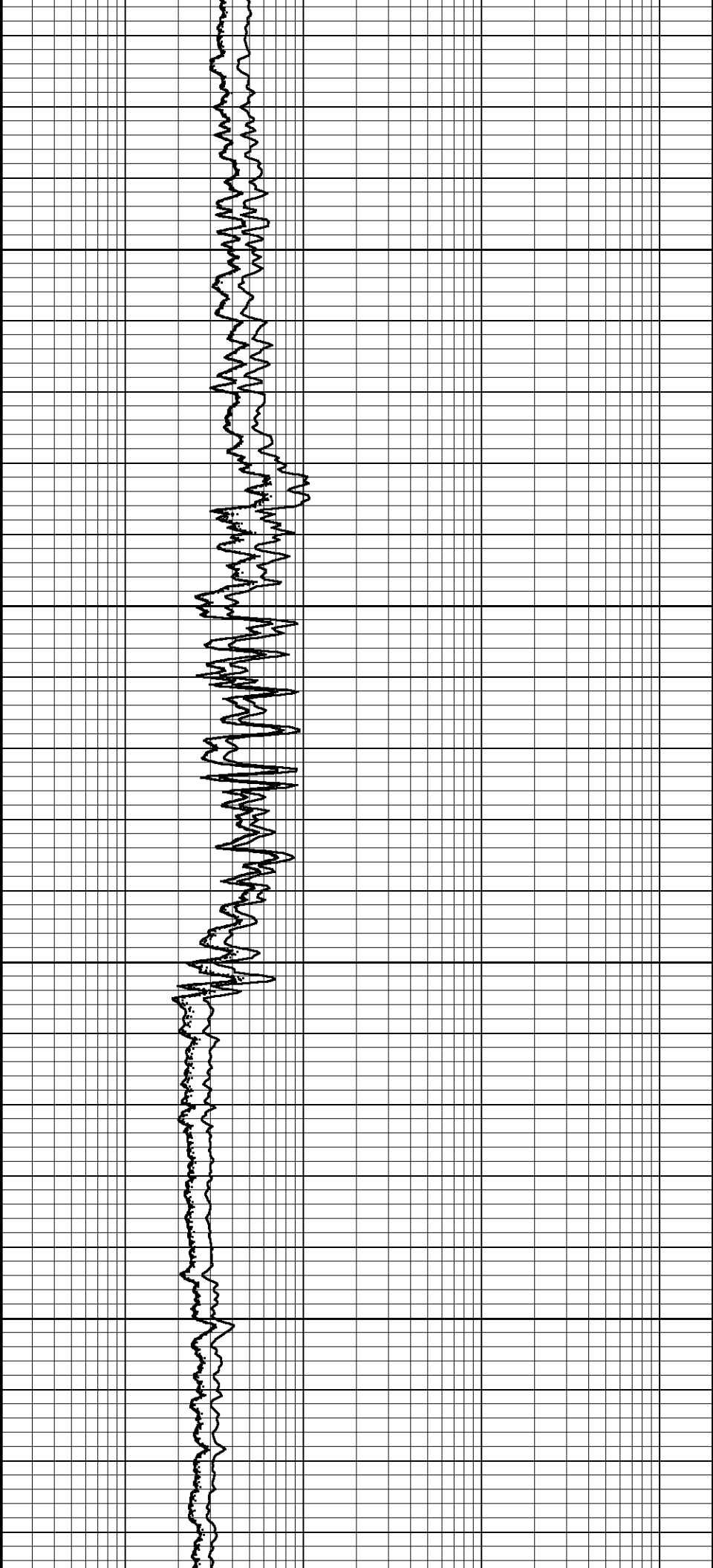
4650

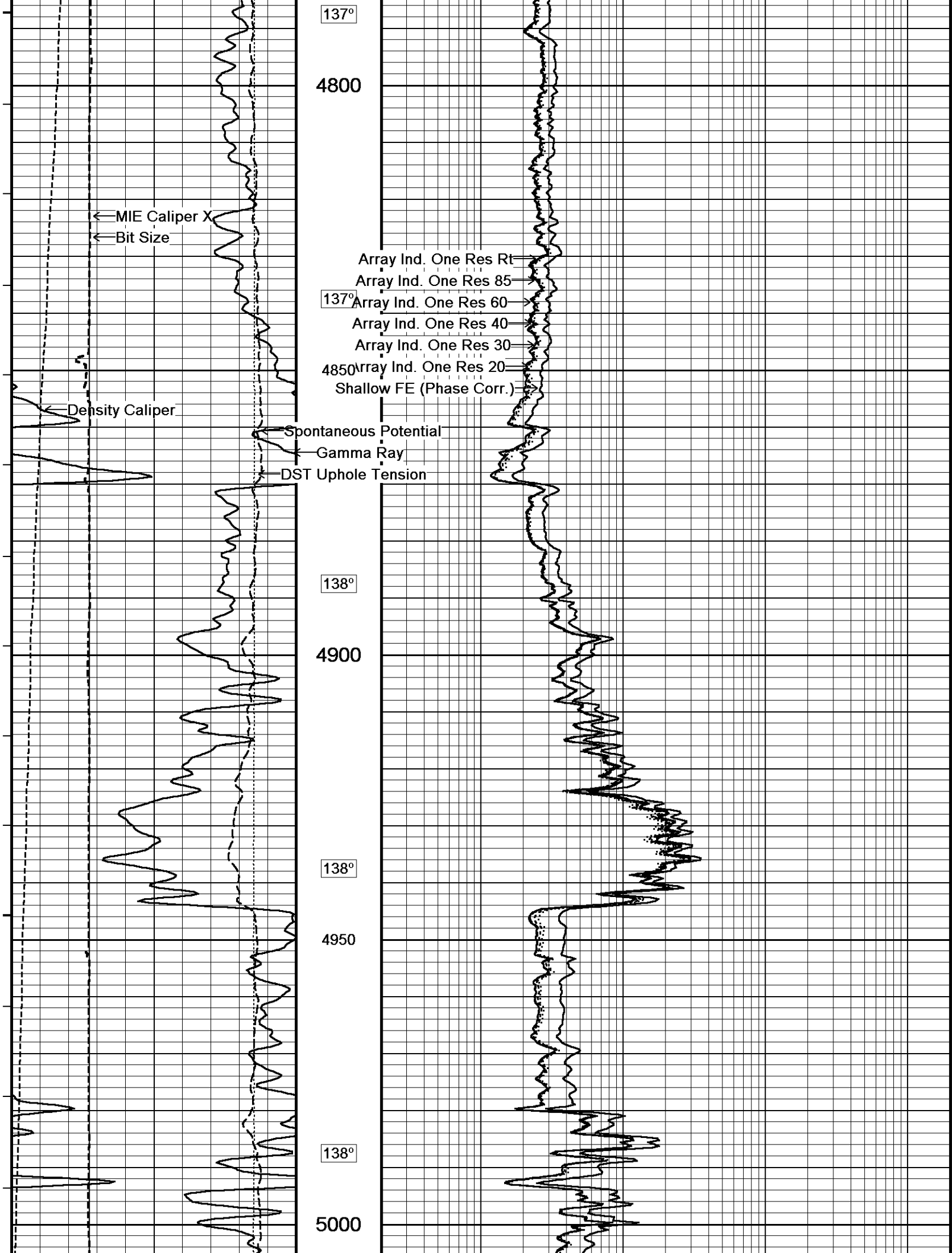
137°

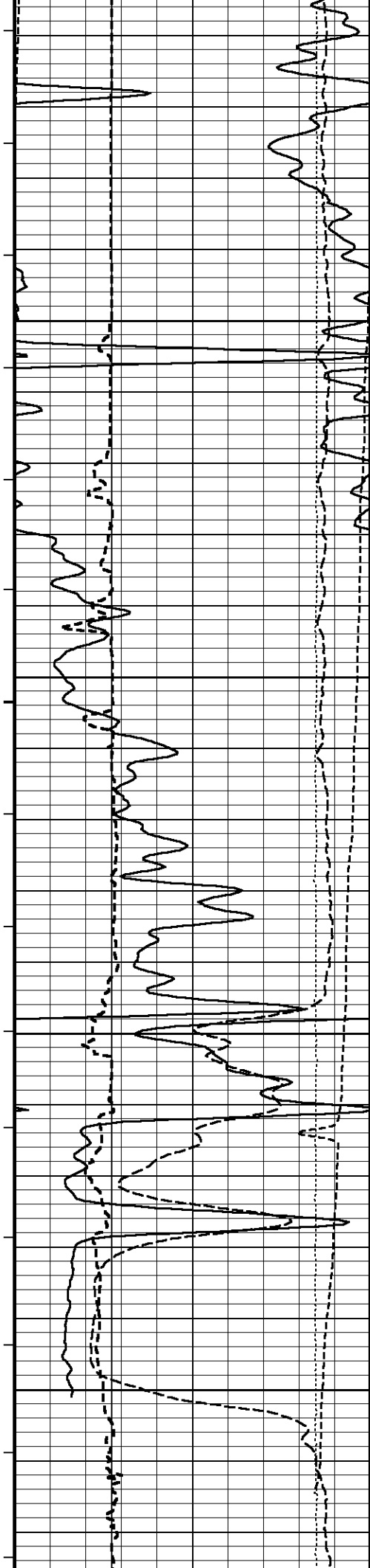
4700

137°

4750







139°

5050

138°

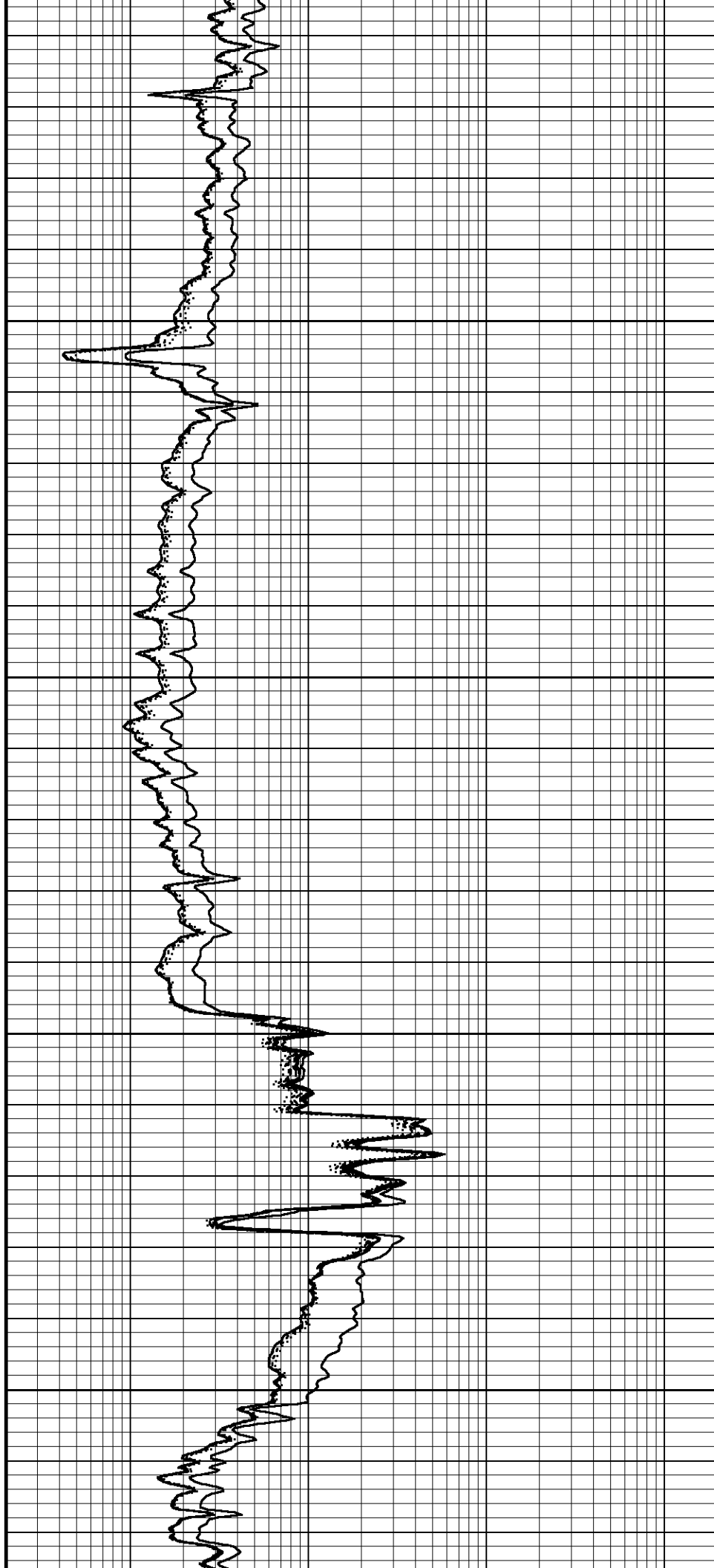
5100

138°

5150

142°

5200

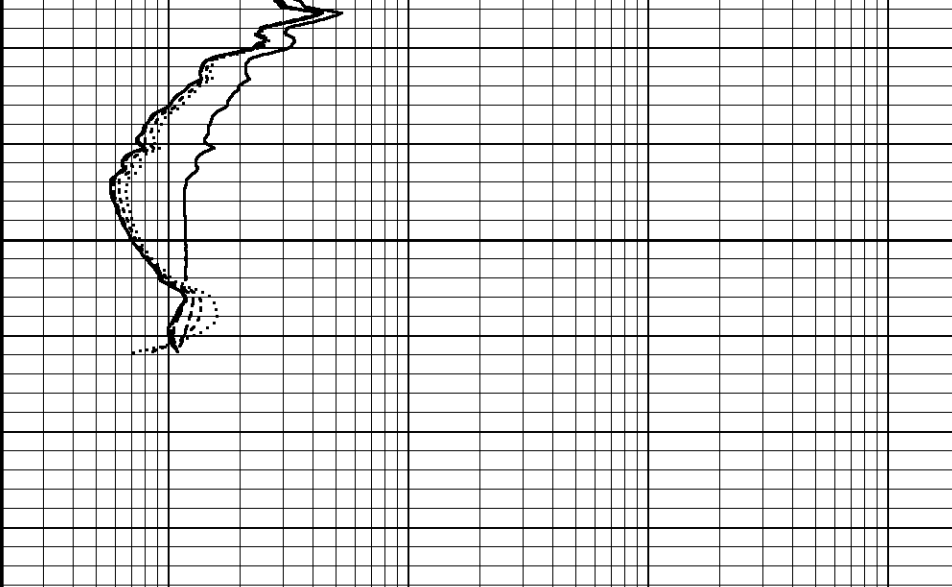




142°

5250

TD



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

MIE Caliper X
inches

6 11 16

Borehole
Temp in
deg F

Replay
Scale
1:240

Shallow FE (Phase Corr.)

ohm metres

0.20 1 10 100 1000 2000

Array Ind. One Res 20
ohm metres

0.20 1 10 100 1000 2000

Array Ind. One Res 30
ohm metres

0.20 1 10 100 1000 2000

Array Ind. One Res 40
ohm metres

0.20 1 10 100 1000 2000

Array Ind. One Res 60
ohm metres

0.20 1 10 100 1000 2000

Array Ind. One Res 85
ohm metres

0.20 1 10 100 1000 2000

Array Ind. One Res Rt
ohm metres

0.20 1 10 100 1000 2000

Depth Based Data - Maximum Sampling Increment 10.0cm

Plotted on 26-SEP-2012 08:40

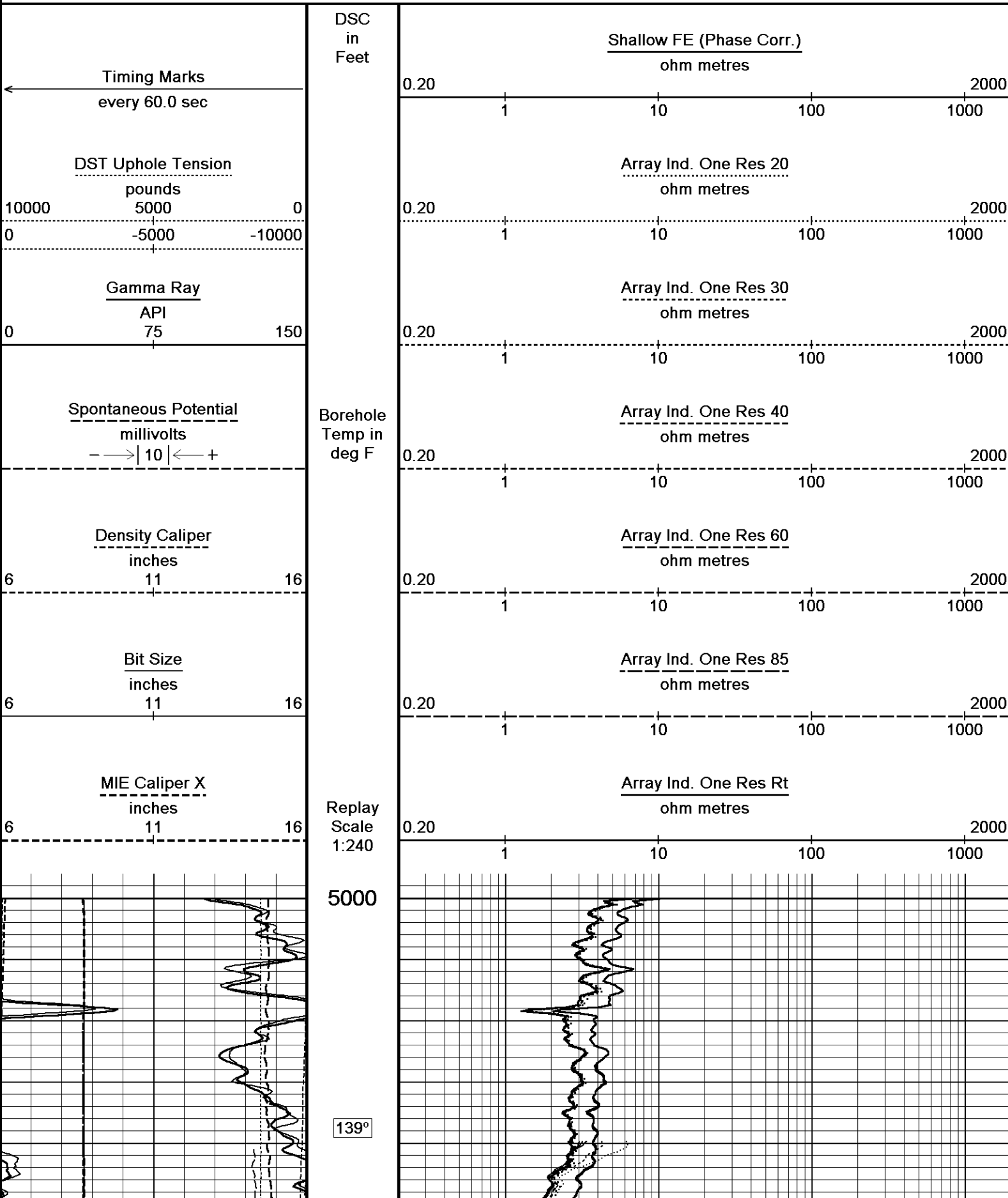
Filename: C:\Users\le173613\AppData\Local\Temp\Weatherford Pr...IECGS NO 6-16 WPD009-2_7.dta

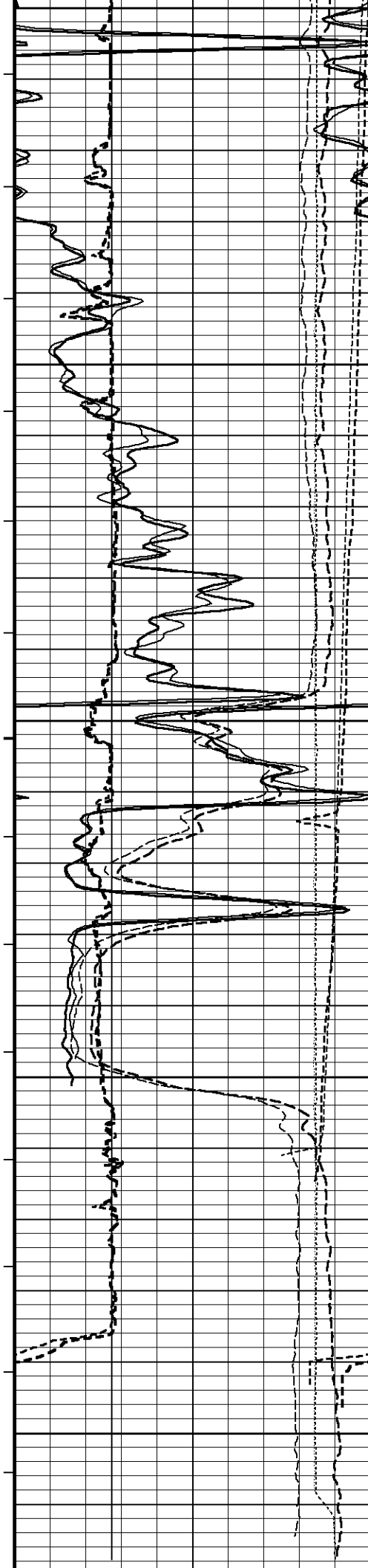
Recorded on 23-SEP-2012 11:14

System Versions: Processed with 13.03.7779 Plotted with 13.03.6602

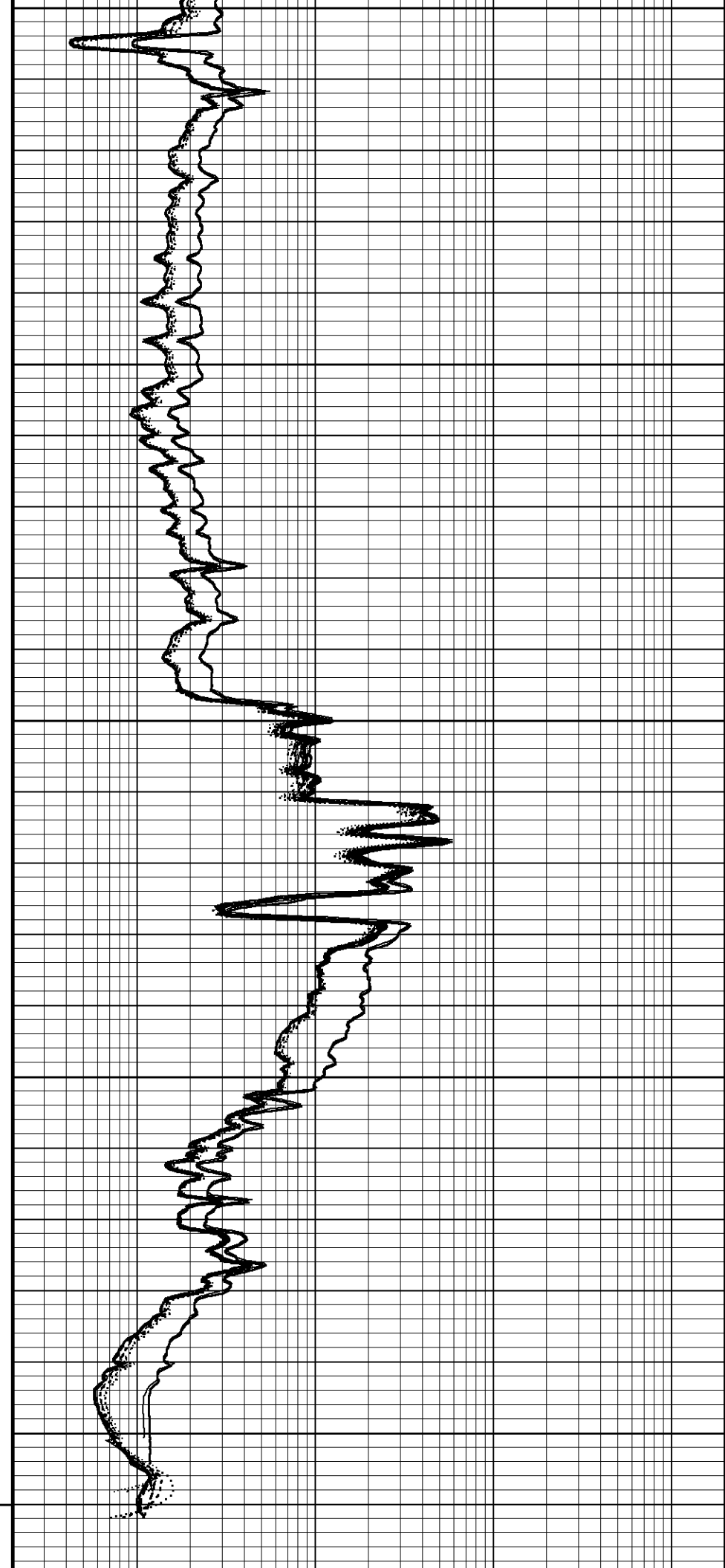


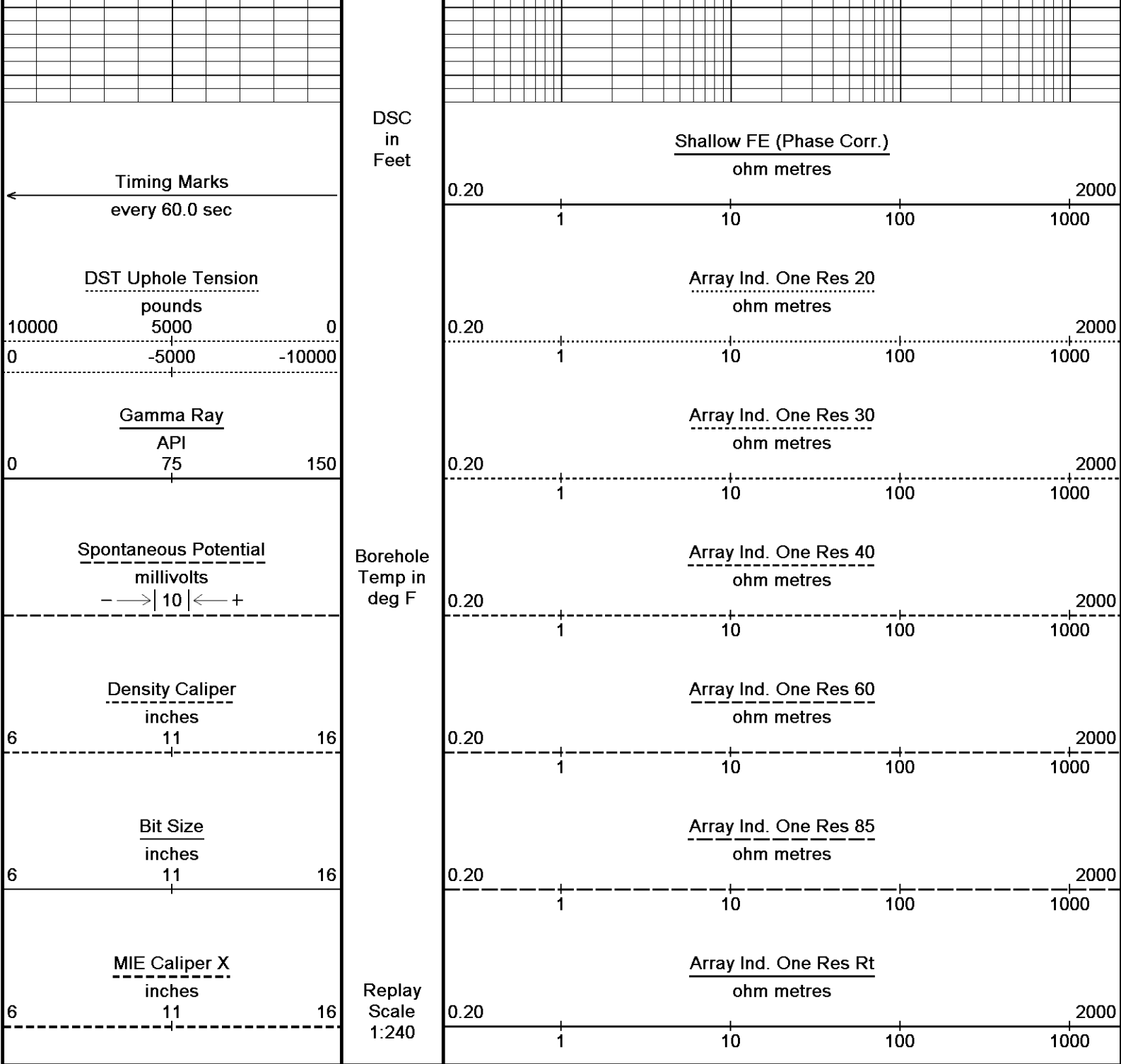
Depth Based Data - Maximum Sampling Increment 10.0cm
 Plotted on 26-SEP-2012 08:40
 Filename: C:\Users\le173613\AppData\Local\Temp\Weatherford Pr...IECGS NO 6-16 WPD009-2_7.dta
 Recorded on 23-SEP-2012 11:14
 Filename: C:\Users\le173613\AppData\Local\Temp\Weatherford Pr...IECGS NO 6-16 WPD009-2_8.dta
 Recorded on 23-SEP-2012 10:50
 System Versions: Processed with 13.03.7779 Plotted with 13.03.6602





5050
138°
5100
138°
5150
142°
5200
142°
5250
TD





Depth Based Data - Maximum Sampling Increment 10.0cm		Plotted on 26-SEP-2012 08:40
Filename: C:\Users\le173613\AppData\Local\Temp\Weatherford Pr...\IECGS NO 6-16 WPD009-2_7.dta		Recorded on 23-SEP-2012 11:14
Filename: C:\Users\le173613\AppData\Local\Temp\Weatherford Pr...\IECGS NO 6-16 WPD009-2_8.dta		Recorded on 23-SEP-2012 10:50
System Versions: Processed with 13.03.7779 Plotted with 13.03.6602		

↑

OVERLAY SECTION

↑

BEFORE SURVEY CALIBRATION		
C:\Users\le173613\AppData\Local\Temp\Weatherford PreView\0\IECGS NO 6-16 WPD009-2_7.dta		
Down-hole Tension Calibration All 000		
		Field Calibration on 24-OCT-2010 03:34
Reading No	Measured	0
1	15659.85	0.00
2	15734.68	370.00

General Constants All 000	Last Edited on 23-SEP-2012,13:52
---------------------------	----------------------------------

General Parameters

Mud Resistivity	3.460	ohm-metres
Mud Resistivity Temperature	87.300	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	MIE Caliper X	
HVOL Caliper 2	N/A	
Annular Volume Diameter	7.000	inches
Caliper for Differential Caliper	None	
Rwa Parameters		
Porosity used	Base Density Porosity	
Resistivity used	Deep Induction	
RWA Constant A	0.610	
RWA Constant M	2.150	

Down-hole Tension Calibration SMS 0			Field Calibration on 23-SEP-2012 09:39
Reading No	Measured	Calibrated (lbs)	
1	15638.44	0.00	
2	16772.04	490.00	

Gamma Calibration MCG-D.K 483			Field Calibration on 22-SEP-2012 22:34
	Measured	Calibrated (API)	
Background	124	85	
Calibrator (Gross)	885	604	
Calibrator (Net)	761	519	

Gamma Constants MCG-D.K 483			Last Edited on 25-SEP-2012,16:17
Gamma Calibrator Number	GRCC119		
Mud Density	1.00	gm/cc	
Caliper Source for Processing	Bit Size		
Tool Position	Eccentred		
Concentration of KCl	0.00	kppm	

SP Calibration MCG-D.K 483			Field Calibration on 23-SEP-2012,10:15
	Measured	Calibrated (mV)	
Reference 1	100.0	100.0	
Reference 2	-100.0	-100.0	

High Resolution Temperature Constants MCG-D.K 483			Last Edited on 23-SEP-2012,10:16
Pre-filter Length	11		

Neutron Calibration MDN-B.J 372			Base Calibration on 11-SEP-2012 10:37 Field Check on 19-SEP-2012 08:56
Base Calibration			
	Measured	Calibrated (cps)	
	Near Far	Near Far	
	2935 90	3714 110	
Ratio	32.738	33.764	
Field Calibrator at Base			
		Calibrated (cps)	
		2265 3365	
Ratio		0.673	
Field Check			
		Calibrated (cps)	
		2282 3344	
Ratio		0.000	

Neutron Constants MDN-B.J 372			Last Edited on 25-SEP-2012,16:16
Neutron Source Id	P31115B		
Neutron Jig Number	NJ5299		
Epithermal Neutron	No		
Caliper Source for Processing	Bit Size		
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	MCG External Temperature	
Temperature	N/A	degrees F
Mud Salinity	0.00	kppm
Salinity Correction	Not Applied	
Formation Fluid Salinity Source	None	
Formation Fluid Salinity	N/A	kppm
Barite Mud Correction	Not Applied	

Imager Pad Check MIE-A.A 173				Field Check on 12-SEP-2012 09:28			
Pad 1	20/20 Buttons Verified	Pad 5	20/20 Buttons Verified				
Pad 2	24/24 Buttons Verified	Pad 6	24/24 Buttons Verified				
Pad 3	20/20 Buttons Verified	Pad 7	20/20 Buttons Verified				
Pad 4	24/24 Buttons Verified	Pad 8	24/24 Buttons Verified				

Compact Micro Imager Constants MIE-A.A 173				Last Edited on 22-SEP-2012,23:06			
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						

Navigation Constants MIE-A.A 173				Last Edited on 22-SEP-2012,23:05			
Magnetic Declination	7.15	degrees	East				

Magnetometer Parameters MIE-A.A 173							
Date Of Last Magnetometer Calibration	23-AUG-2012,08:58						
	X Magnetometer	Y Magnetometer	Z Magnetometer				
Slope	-1.000000	-1.010964	-0.998834				
Offset	0.014865	-0.019075	0.015130				

Magnetometer Constants MIE-A.A 173				Last Edited on			
Magnetometer Calibrator Number	000						

Accelerometer Parameters MIE-A.A 173							
Date Of Last Accelerometer Calibration	8-AUG-2012,14:18						
	X Accelerometer	Y Accelerometer	Z Accelerometer				
Slope	-1.112478	-1.107188	-1.099214				
Offset	0.008132	0.004011	0.006751				

Accelerometer Constants MIE-A.A 173				Last Edited on 05-SEP-2012,16:48			
Accelerometer Calibrator Number	000						
Accelerometer Temperature Characterisation							
X Accelerometer							
Serial Number	228						
Calibration Date	10-Jul-2007						
	B0	B1	B2	B3			
Bias(g)	0.00000e+000	3.38745e-005	-9.26831e-009	1.17995e-010			
	SF0	SF1	SF2	SF3			
Scale Factor(mA/g)	3.00000e+000	2.71979e-004	6.20757e-007	-4.67664e-010			
Y Accelerometer							
Serial Number	229						
Calibration Date	10-Jul-2007						
	B0	B1	B2	B3			

Bias(g)	0.00000e+000	1.46083e-005	5.28186e-009	2.04363e-010
	SF0	SF1	SF2	SF3
Scale Factor(mA/g)	3.00000e+000	2.68135e-004	7.37732e-007	-8.65499e-010
Z Accelerometer				
Serial Number	212			
Calibration Date	10-Jul-2007			
	B0	B1	B2	B3
Bias(g)	0.00000e+000	2.92968e-005	-2.00645e-008	1.96637e-010
	SF0	SF1	SF2	SF3
Scale Factor(mA/g)	3.00000e+000	2.56822e-004	5.65937e-007	1.73081e-011

Caliper Calibration MIE-A.A 173				Base Calibration on 22-SEP-2012 23:13	
				Field Calibration on 22-SEP-2012 23:16	
Base Calibration					
Reading No	Pads 1-5 Meas.	Pads 3-7 Meas.	Calibrator Size (in)		
1	24690	25434	5.97		
2	34724	35775	7.96		
3	44567	45459	9.87		
4	56108	57251	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	25363	26152	25925	25306	5.97
2	33861	34843	34504	33588	7.96
3	42302	43083	42709	41981	9.87
4	51973	52931	52879	51641	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	7.83	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)
	3.81	3.79	4.05	4.06	7.96

Caliper Constants MIE-A.A 173	Last Edited on 29-APR-2012 09:20	
Caliper Difference for BRKT	0.120	inches

FE Calibration MFE-A.A 76			Base Calibration on 10-SEP-2012 11:36
			Field Check on 19-SEP-2012 08:38
Base Calibration			
	Measured	Calibrated (ohm-m)	
Reference 1	0.0	0.0	
Reference 2	964.4	126.8	
Base Check		279.9	
Field Check		280.1	

FE Constants MFE-A.A 76				Last Edited on 25-SEP-2012,16:16	
Running Mode		No Sleeve			
MFE K Factor		0.1268			
Caliper Source for FE correction		Bit Size			
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	

High Resolution Temperature Calibration MAI-B.A 219			Field Calibration on 10-AUG-2011,00:10
	Measured	Calibrated(Deg F)	
Lower	50.00	50.00	
Upper	75.00	75.00	

High Resolution Temperature Constants MAI-B.A 219		Last Edited on 10-SEP-2012,10:18
Pre-filter Length	11	

Induction Calibration MAI-B.A 219			Base Calibration on 08-MAY-2012,15:56	
-----------------------------------	--	--	---------------------------------------	--

Base Calibration

Test Loop Calibration

Channel	Measured		Calibrated (mmho/m)	
	Low	High	Low	High
1	17.4	478.1	9.3	966.2
2	5.8	380.3	7.6	821.4
3	3.5	258.5	5.2	566.0
4	1.9	136.0	2.6	279.2

Array Temperature 77.2 Deg F

Channel	Base Check (mmho/m)		Field Check (mmho/m)	
	Low	High	Low	High
1	0.0	0.0	12.2	3791.7
2	0.0	0.0	30.9	3535.9
3	0.0	0.0	28.6	3055.1
4	0.0	0.0	19.3	2027.9
Deep	0.0	0.0	16.5	1948.3
Medium	0.0	0.0	42.7	4087.3
Shallow	0.0	0.0	47.5	5281.3

Array Temperature 0.0 64.9 Deg F

Induction Constants MAI-B.A 219

Last Edited on 25-SEP-2012,16:16

Induction Model		RtAP-WBM	
Caliper for Borehole Corr.		Bit Size	
Hole Size for Borehole Correction		N/A	inches
Tool Centred		No	
Stand-off Type		Fins	
Stand-off		1.00	inches
Number of Fins on Stand-off		6.0000	
Stand-off Fin Angle		60.00	degrees
Stand-off Fin Width		0.5000	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	
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	

Caliper Calibration MPD-C.A 196

Base Calibration on 11-SEP-2012 13:59

Field Calibration on 19-SEP-2012 08:45

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	15672	3.99
2	24368	5.97
3	32940	7.96
4	41136	9.87
5	50464	11.92

3	30464	11.92
6	N/A	N/A
Field Calibration	Measured Caliper (in) 7.91	Actual Caliper (in) 7.96

Photo Density Calibration MPD-C.A 196				Base Calibration on 11-SEP-2012 15:19 Field Check on 19-SEP-2012 08:44	
Density Calibration					
Base Calibration		Measured		Calibrated (sdu)	
		Near	Far	Near	Far
Reference 1		37007	13951	52994	19128
Reference 2		17051	1942	25185	2558
Field Check at Base					
		601.7	931.8		
Field Check					
		598.3	935.0		
PE Calibration					
Base Calibration		Measured		Calibrated	
	WS	WH	Ratio	Ratio	
Background	110	536			
Reference 1	11578	36914	0.315	0.309	
Reference 2	4580	16980	0.272	0.274	
Field Check at Base					
	110.3	536.4			
Field Check					
	111.2	540.3			

Density Constants MPD-C.A 196			Last Edited on 25-SEP-2012,16:16		
Density Source Id	P15771B				
Nylon Calibrator Number	DNC-D-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	1.16	gm/cc			
Mud Density Z/A Multiplier	1.11				
Mud Filtrate Density	1.00	gm/cc			
Dry 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)				
2.65	5208.00				
2.68	5060.00				
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\le173613\AppData\Local\Temp\Weatherford PreView\0\ECGS 6-16 WPD009-2_INITIAL6.dta	

3/8" Triple Cone Cable Head (MCB C A)	
MCB-C.A 5 LG: 1.58 ft WT: 15.4 lb OD: 2.24 in	
SHA-H Compact Swivel Head Adaptor	
SHA-H 142 LG: 2.30 ft WT: 22.0 lb OD: 2.24 in	

Compact Comms Gamma
MCG-D.K 483 LG: 8.70 ft WT: 63.9 lb OD: 2.24 in

Compact Neutron
MDN-B.J 372 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

Compact Density/Caliper
MPD-C.A 196 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-E.B Compact Knuckle Joint
SKJ-E.B 585 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

MIS-E.A Compact Inline Standoff sub
MIS-E.A 334 LG: 2.14 ft WT: 15.4 lb OD: 2.24 in

SKJ-D.A Compact Knuckle Joint
SKJ-D.A 112 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

Compact MMI Memory Section
MIM-A.A 173 LG: 4.65 ft WT: 26.5 lb OD: 2.24 in

Compact MMI Electrode Section
MIE-A.A 173 LG: 13.96 ft WT: 99.2 lb OD: 4.09 in

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

Compact Focussed Electric
MFE-A.A 76 LG: 6.05 ft WT: 48.5 lb OD: 2.24 in

Compact Induction
MAI-B.A 219 LG: 10.81 ft WT: 48.5 lb OD: 2.24 in

Total Length: 77.00 ft Weight: 586.4 lb



Tool Zero (0.13ft from bottom)
All measurements relative to tool zero.

COMPANY	EAST CHEYENNE GAS STORAGE LLC
WELL	ECGS NO 6-16 WPD009-2
FIELD	PEETZ WEST
PROVINCE/COUNTY	LOGAN
COUNTRY/STATE	USA/COLORADO

Elevation Kelly Bushing	4567.00	feet	First Reading	5257.00	feet
Elevation Drill Floor	4566.00	feet	Depth Driller	5260.00	feet
Elevation Ground Level	4555.00	feet	Depth Logger	5260.00	feet



Weatherford®

ARRAY INDUCTION
LOGS

