Weatherford®

ARRAY INDUCTION SHALLOW FOCUSSED ELECTRIC LOG

COMPANY	COMANCHE RESOURCES CO. LLC
WELL	BONTRAGER 33-1
FIELD	WILDCAT
PROVINCE/COUNTY	SCOTT
COUNTRY/STATE	U.S.A./KANSAS
LOCATION	2640' FSL & 975' FWL
	W2-E2-W2-W2

40 Years of Wireline 1970 2010

SEC	TWP	RGE
33	19S	34W

API Number 15-171-20798
Permit Number

Other Services
MPD/MDN
MML
MSS

Permanent Datum G.L., Elevation 3064 feet
Log Measured From K.B. @ 11 FEET above Permanent Datum
Drilling Measured From K.B.

Elevations:	feet
KB	3075.00
DF	3073.00
GL	3064.00

Date	07-JUN-2011			
Run Number	ONE			
Depth Driller	5104.00	feet		
Depth Logger	5109.00	feet		
First Reading	5106.00	feet		
Last Reading	392.00	feet		
Casing Driller	393.00	feet		
Casing Logger	392.00	feet		
Bit Size	7.875	inches		
Hole Fluid Type	CHEMICAL			
Density / Viscosity	9.20 lb/USg	60.00 CP		
PH / Fluid Loss	10.00	5.20 ml/30Min		
Sample Source	FLOWLINE			
Rm @ Measured Temp	0.73 @ 88.0	ohm-m		
Rmf @ Measured Temp	0.58 @ 88.0	ohm-m		
Rmc @ Measured Temp	0.88 @ 88.0	ohm-m		
Source Rmf / Rmc	CALC	CALC		
Rm @ BHT	0.53 @122.0	ohm-m		
Time Since Circulation	4 HOURS			
Max Recorded Temp	122.00	deg F		
Equipment Name	COMPACT			
Equipment / Base	13025	LIB		
Recorded By	A. SILL		L. SCOTT	
Witnessed By	JIM SPELLMAN		JIM LEMASTER	
S.O. #/JOB #	3531120		LB11-124	

BOREHOLE RECORD

Last Edited: 07-JUN-2011 02:42

Bit Size inches	Depth From feet	Depth To feet
7.875	392.00	5109.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	8.625	0.00	392.00	24.00

REMARKS

ols Used: MAI, MPD, MCG, MDN, MML, MFE, SKJ, MSS
Hardware: MPD: 8 inch profile plate. MAI, MSS and MFE: 0.5 Inch standoffs used. MDN: Dual Bowspring used.
2.71 G/CC Limestone density matrix used to calculate porosity.
Sonic porosity calculated on a limestone scale (47.5 usec/ft).
Borehole rugosity, tight pulls, and washouts will affect data quality.
All intervals logged and scaled per customer's request.
Annular volume with 5.5 inch production casing = 310 cu. ft.
Service order #3531120
Rig: Murfin # 22
Engineer: A. Sill, L. Scott
Operator(s): J. LaPoint

2 INCH MAIN

Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 07-JUN-2011 03:28
Filename: C:\Minimus 11.03.2789\Data\Comanche Bontrager 33-1\Comanche Bontrager 33-1_002.dta
Recorded on 07-JUN-2011 00:07
System Versions: Logged with 11.03.2789 Plotted with 11.03.2789

Timing Marks
every 60.0 sec

Gamma Ray
API
0 75 150

Spontaneous Potential
millivolts
− → | 20 | ← +

DST Uphole Tension
pounds
5000 0

Depth In Feet

Borehole Temp in deg F

Replay Scale 1:600

Array Ind. One Cond Ct
mmhos
1000 750 500 250 0
2000 1750 1500 1250 1000

Shallow FE
ohm metres
0 25 50
0 250 500

Array Ind. One Res Rt
ohm metres
0 25 50
0 250 500

C;380ıg Shoe

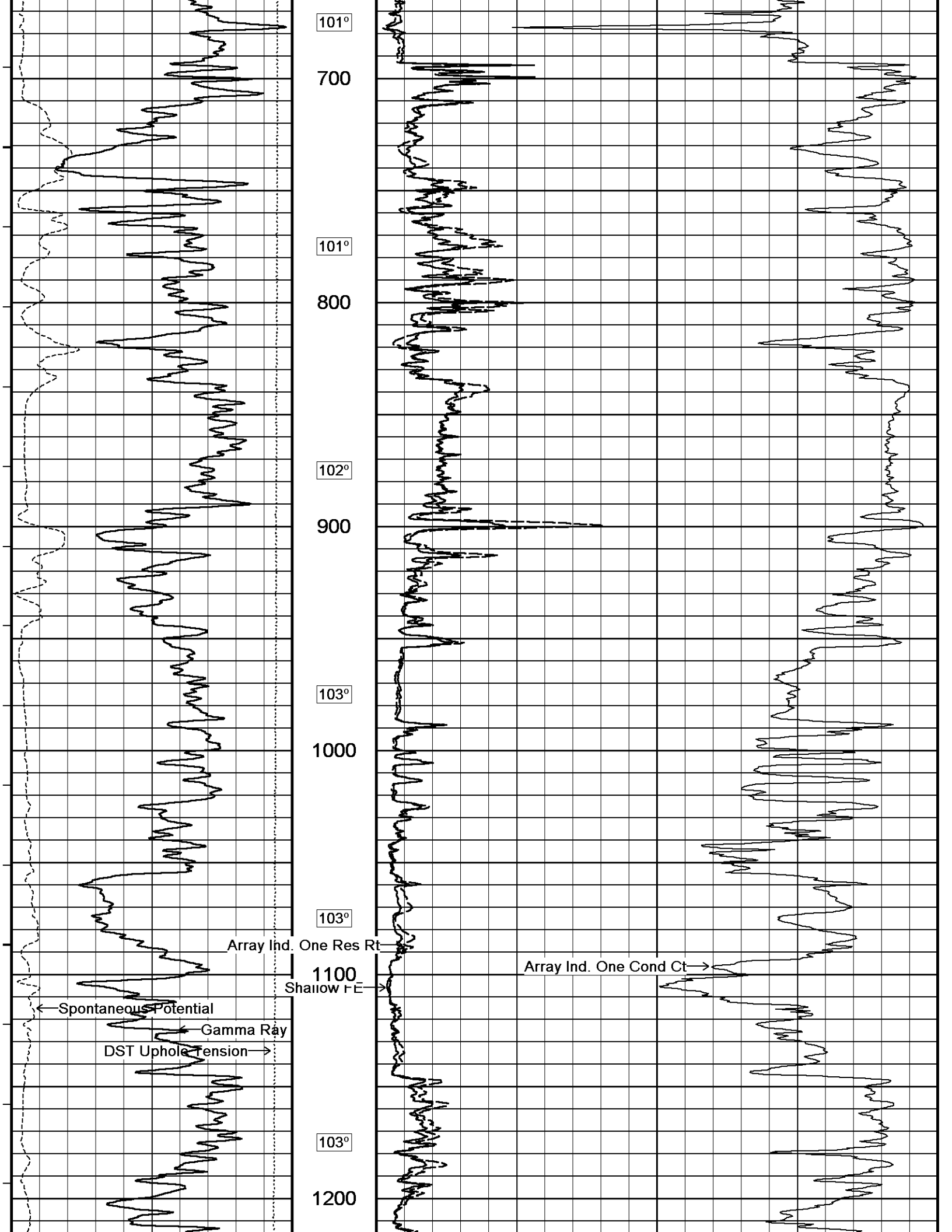
400

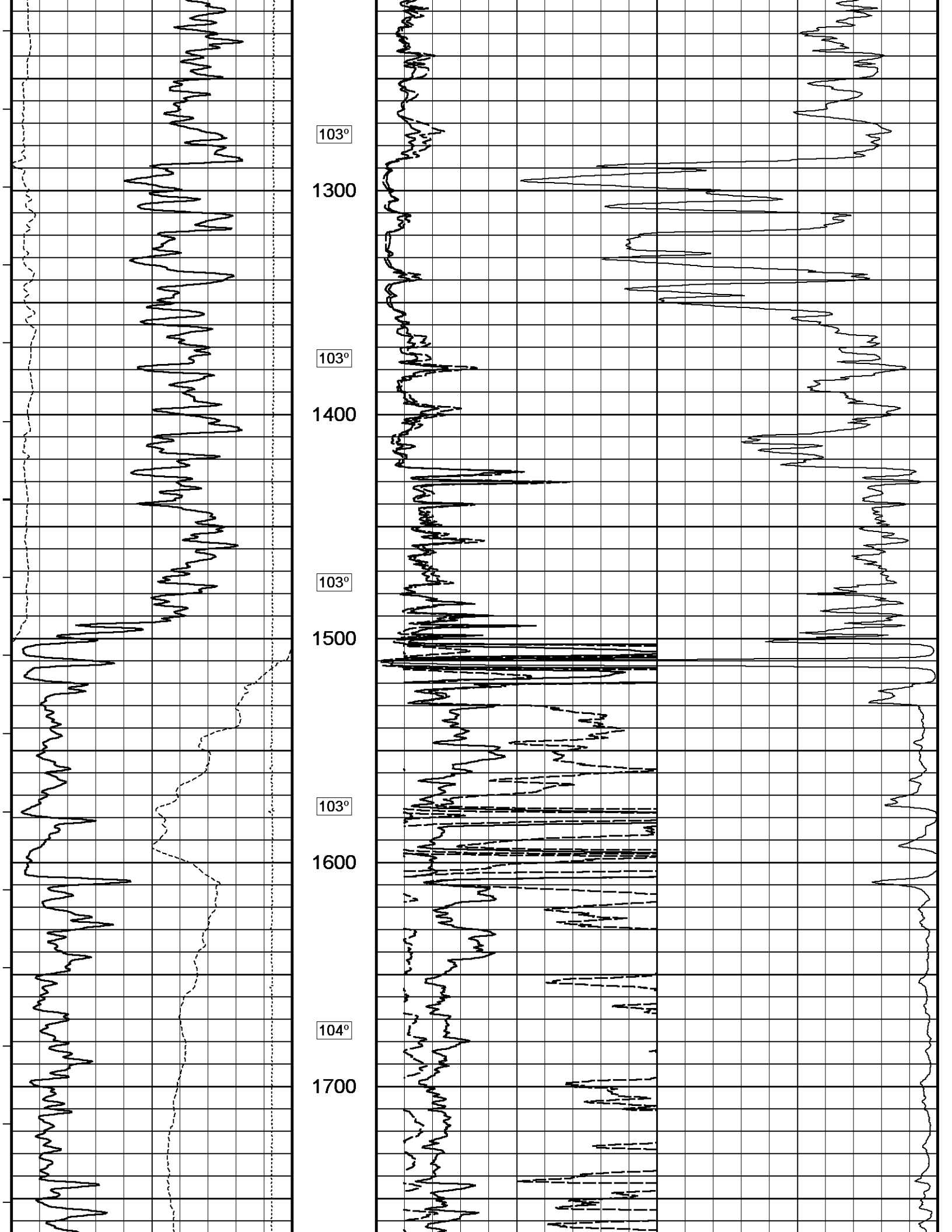
101°

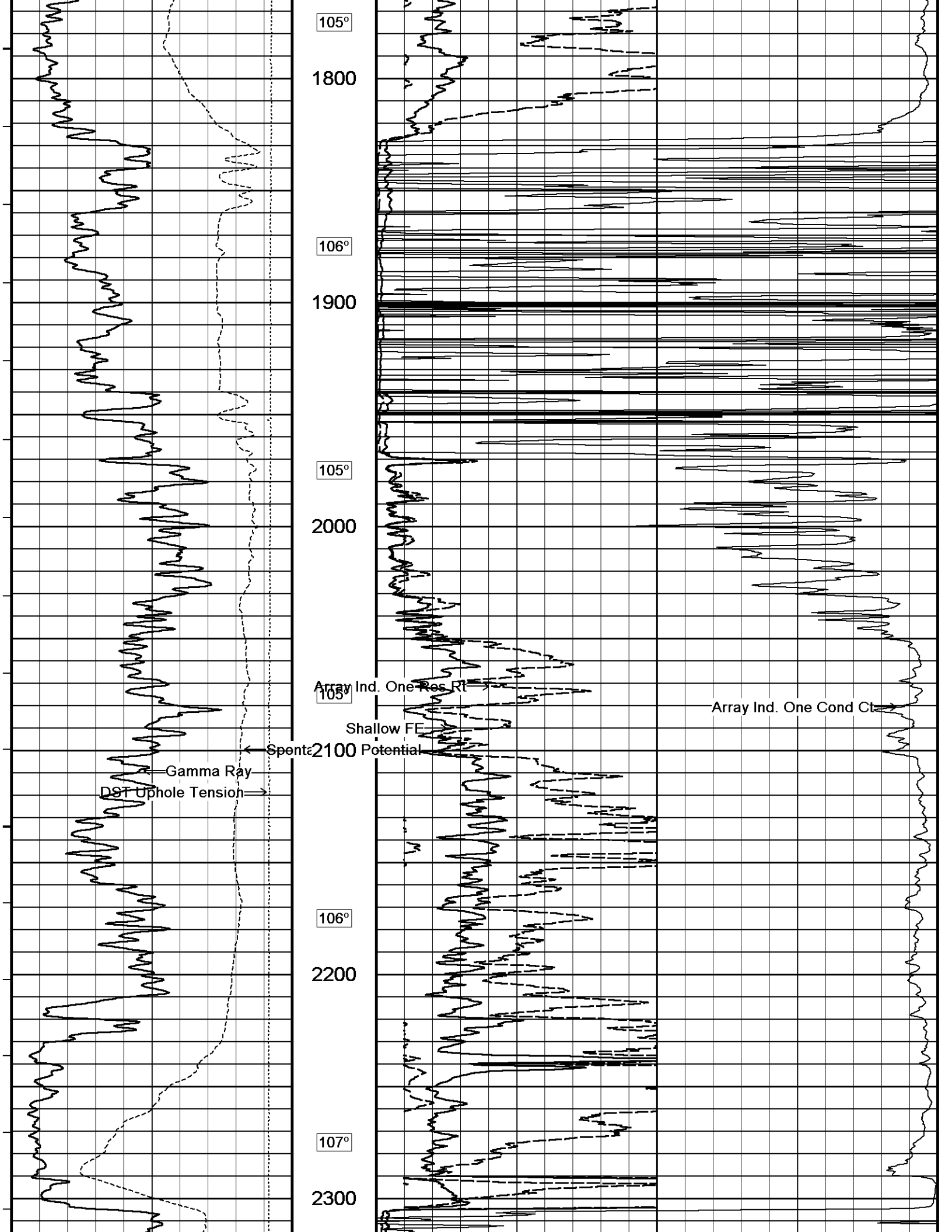
500

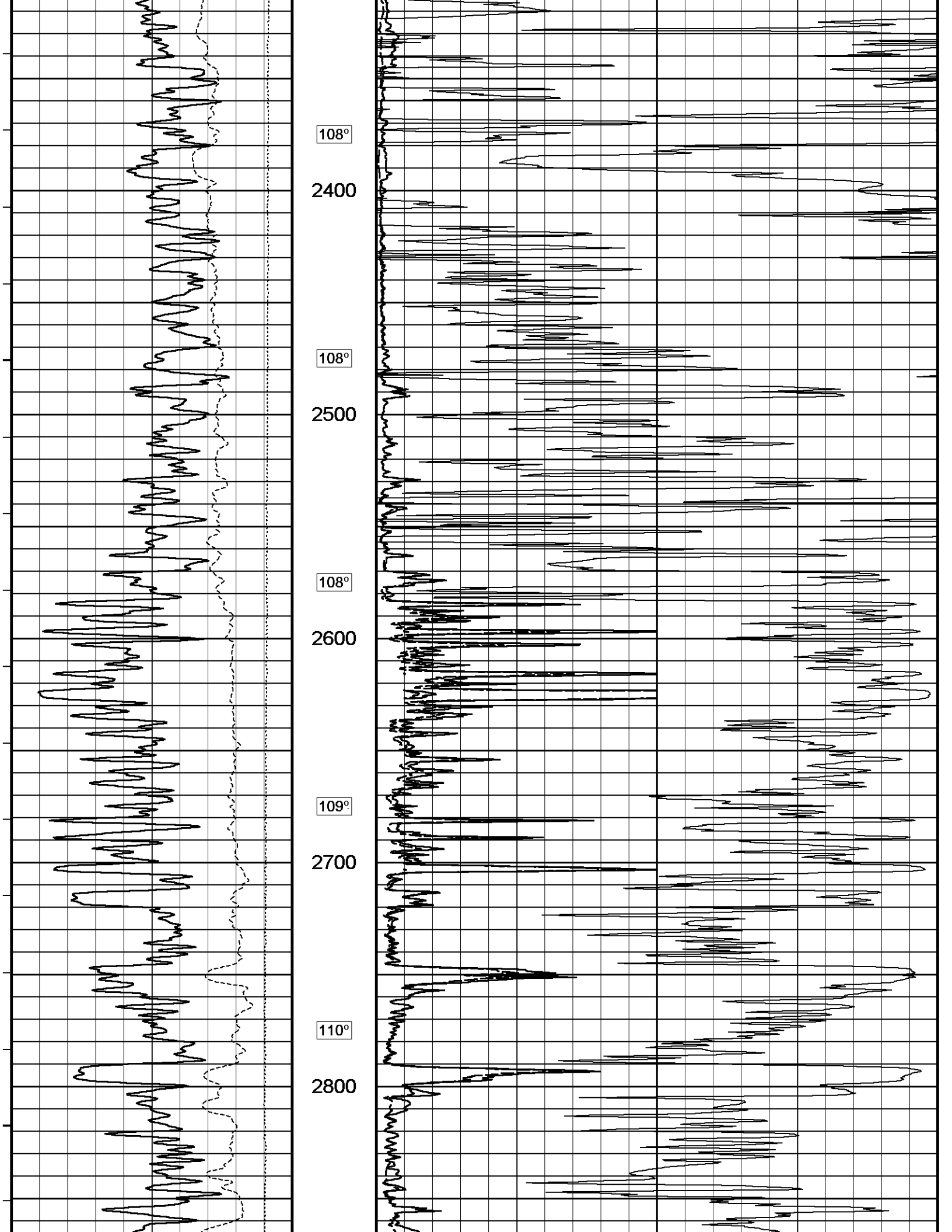
101°

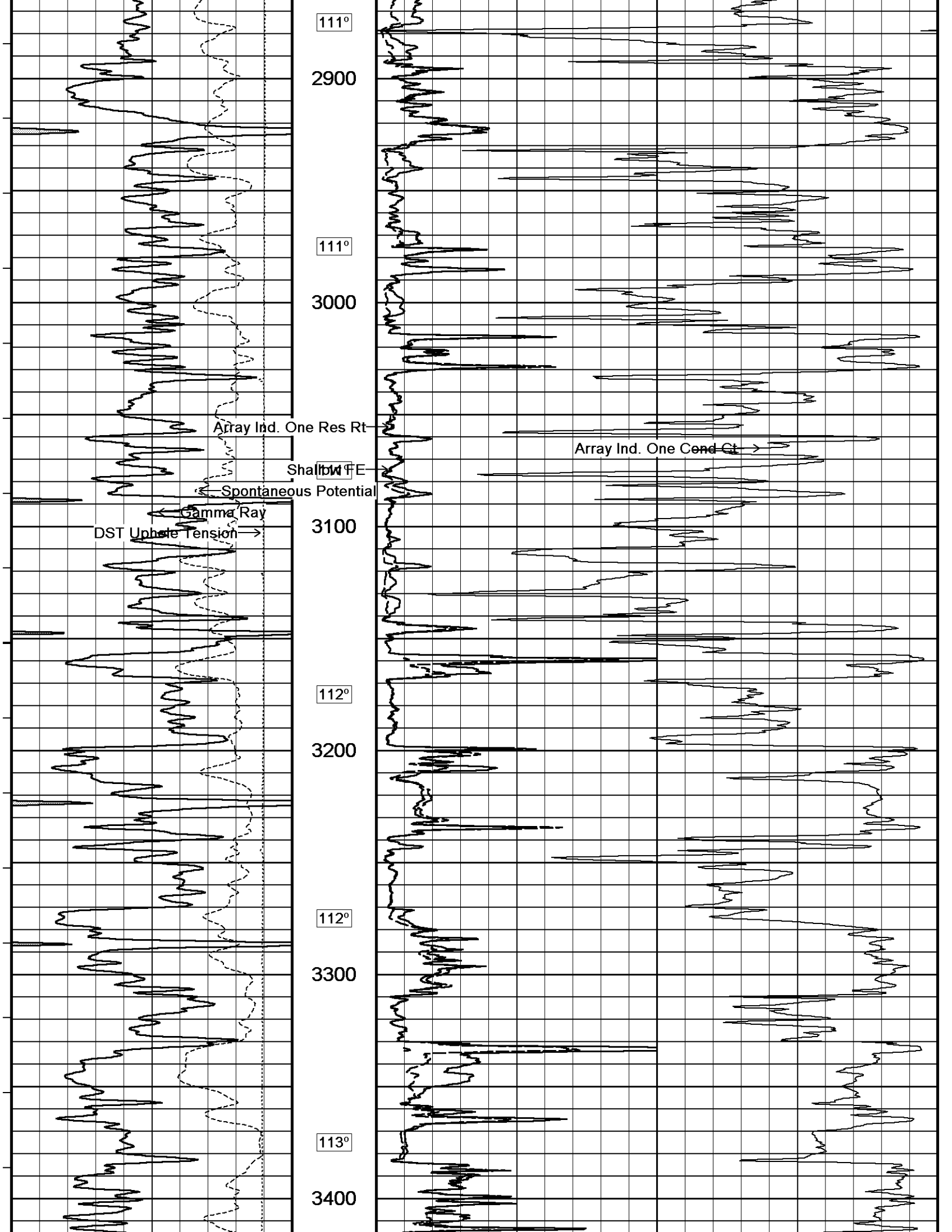
600

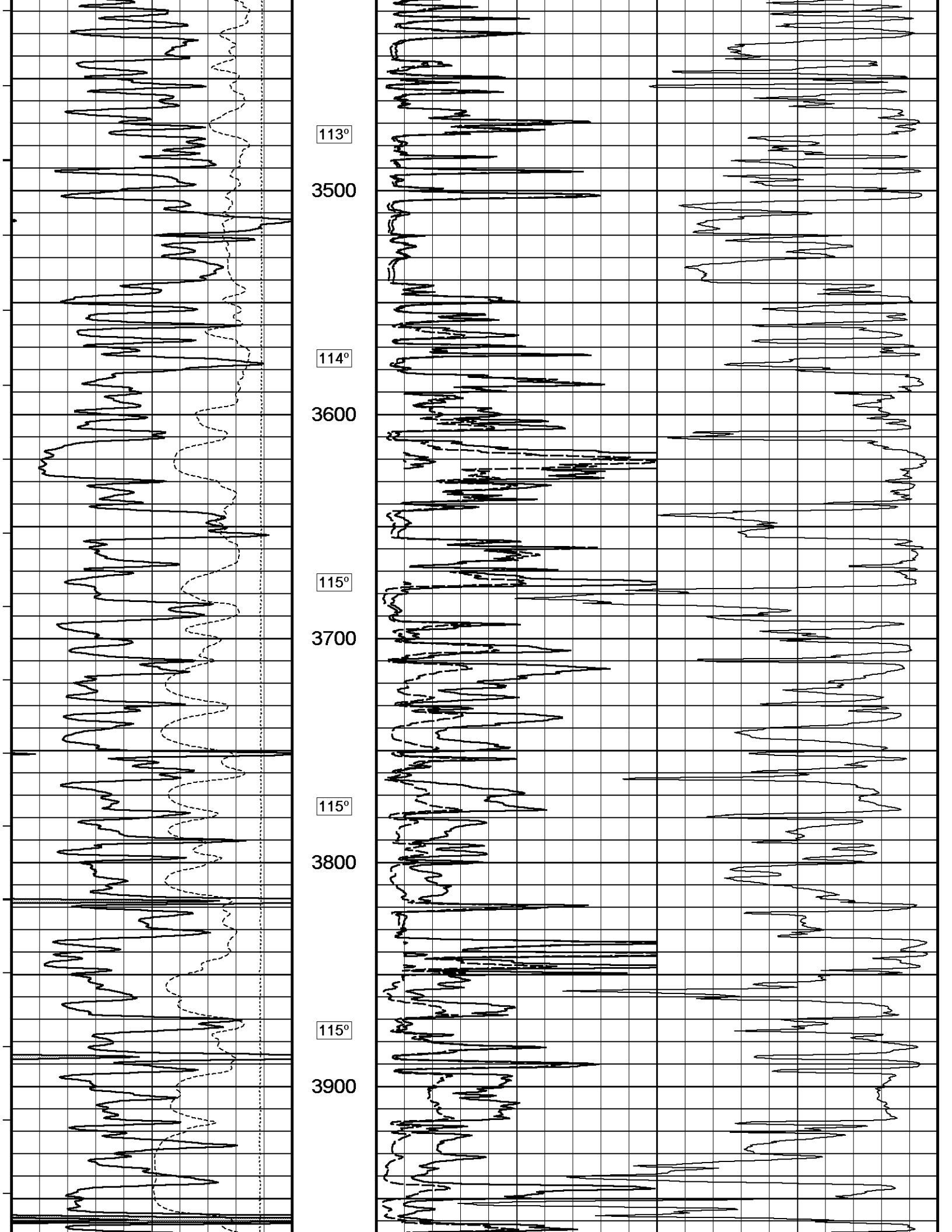

101°
700
101°
800
102°
900
103°
1000
103°
Array Ind. One Res Rt
1100
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension
Array Ind. One Cond Ct
103°
1200

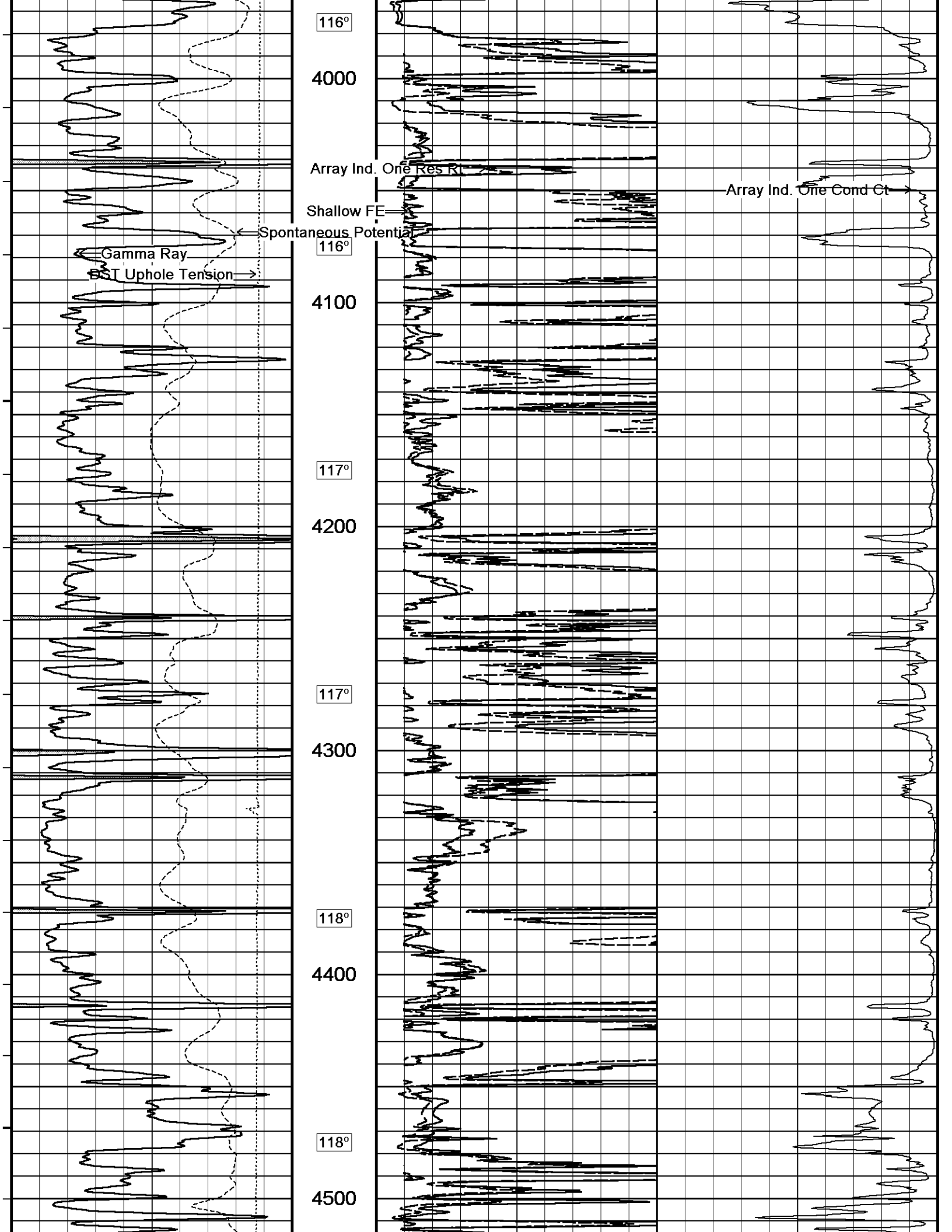

103°
1300
103°
1400
103°
1500
103°
1600
104°
1700

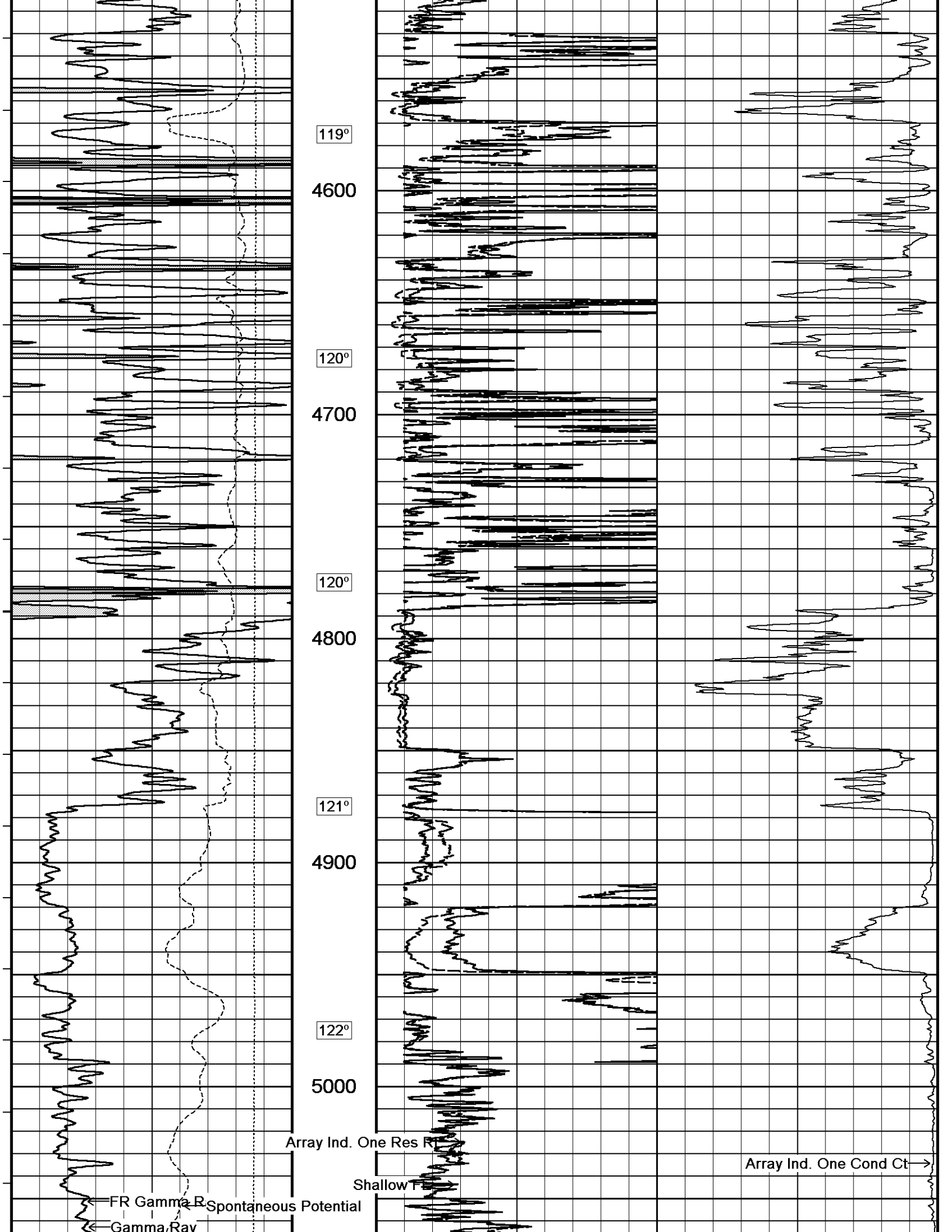

105°
1800
106°
1900
105°
2000
105°
Array Ind. One Res Rt
Array Ind. One Cond Ct
Shallow FE
Spontaneous Potential
2100
Gamma Ray
DST Uphole Tension
106°
2200
107°
2300

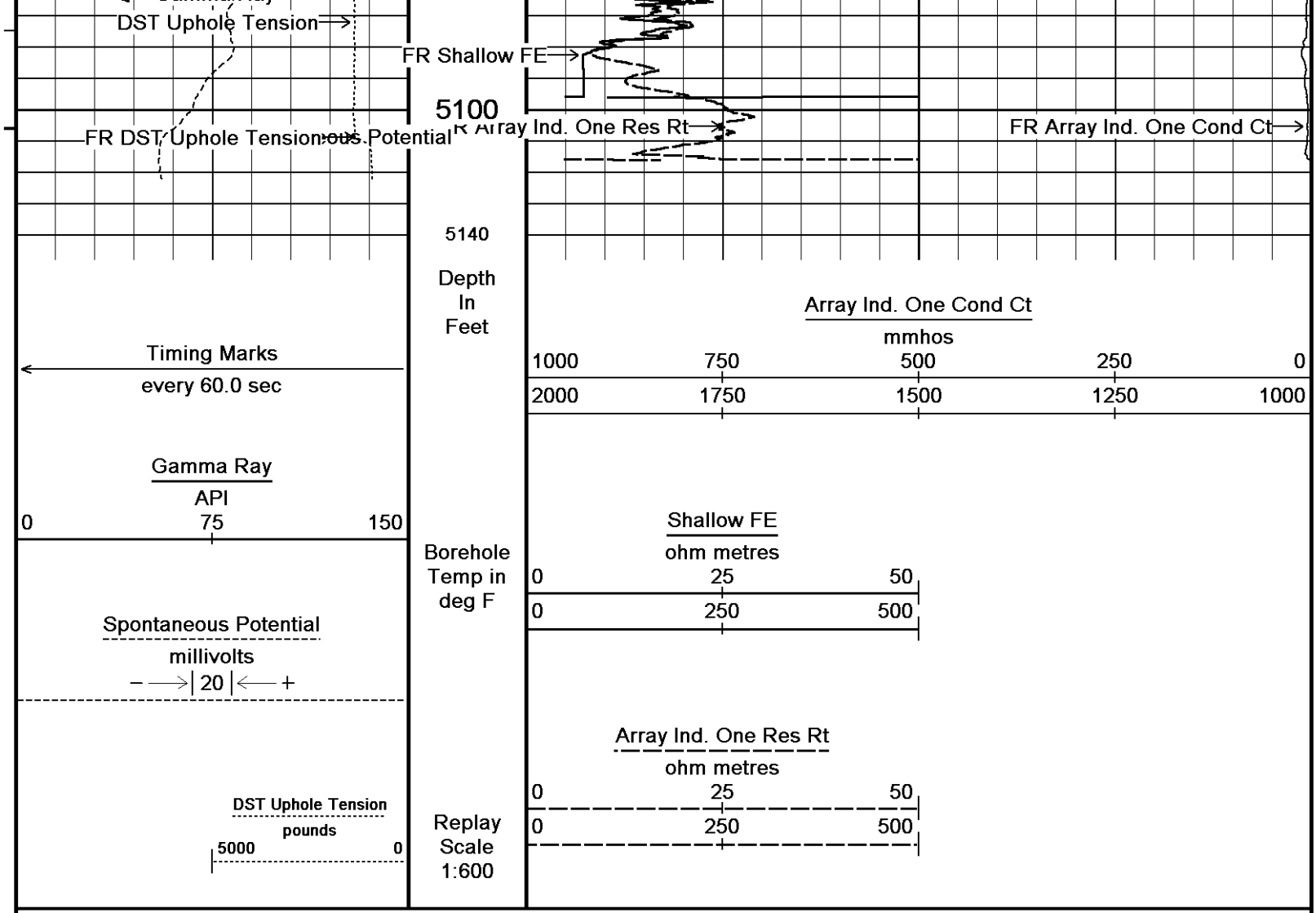

108°
2400
108°
2500
108°
2600
109°
2700
110°
2800


111°
2900
111°
3000
Array Ind. One Res Rt
Array Ind. One Cond Ct
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension
3100
112°
3200
112°
3300
113°
3400


113°
3500
114°
3600
115°
3700
115°
3800
115°
3900


116°
4000
Array Ind. One Res Rt
Array Ind. One Cond Ct
Shallow FE
Spontaneous Potential
116°
Gamma Ray
BST Uphole Tension
4100
117°
4200
117°
4300
118°
4400
118°
4500


119°
4600
120°
4700
120°
4800
121°
4900
122°
5000
Array Ind. One Res R
Shallow F
Array Ind. One Cond Ct
FR Gamma R
Spontaneous Potential
Gamma Ray



Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 07-JUN-2011 03:28
Filename: C:\Minimus 11.03.2789\Data\Comanche Bontrager 33-1\Comanche Bontrager 33-1_002.dta — Recorded on 07-JUN-2011 00:07
System Versions: Logged with 11.03.2789 Plotted with 11.03.2789

2 INCH MAIN

5 INCH MAIN

Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 07-JUN-2011 03:28
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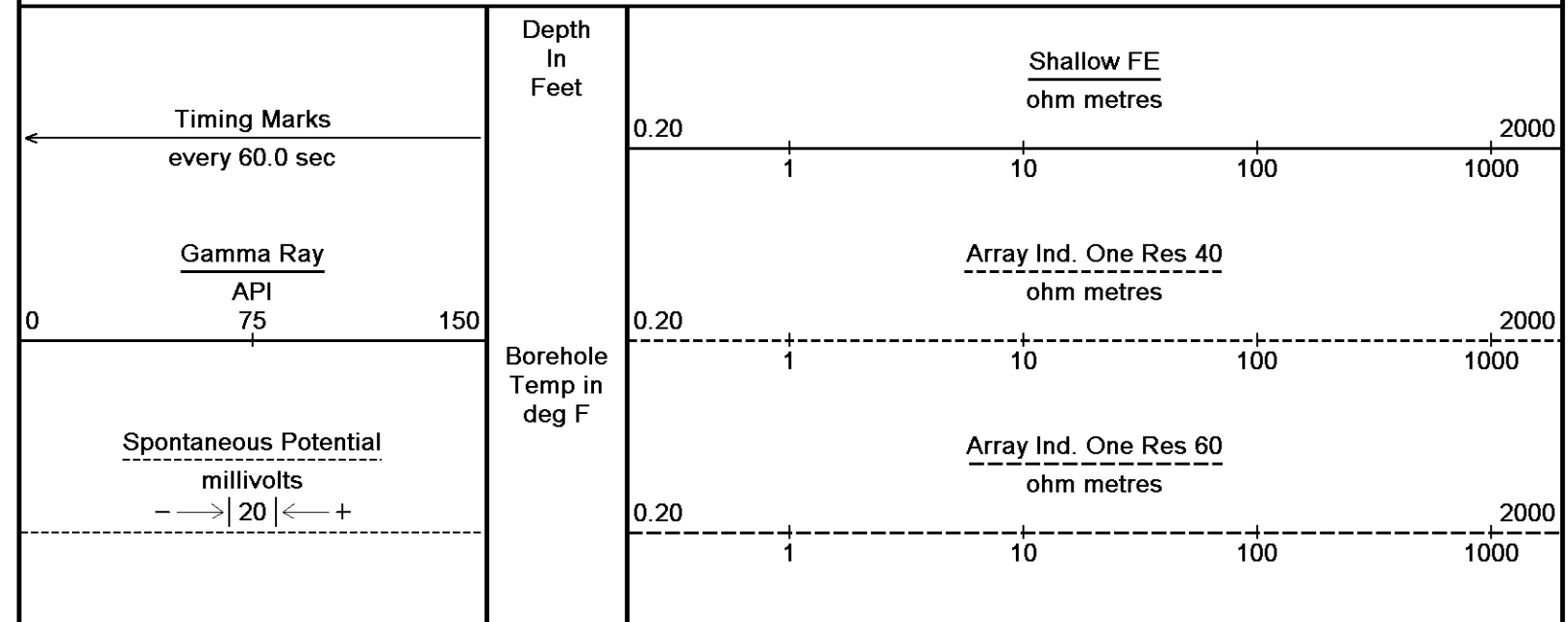
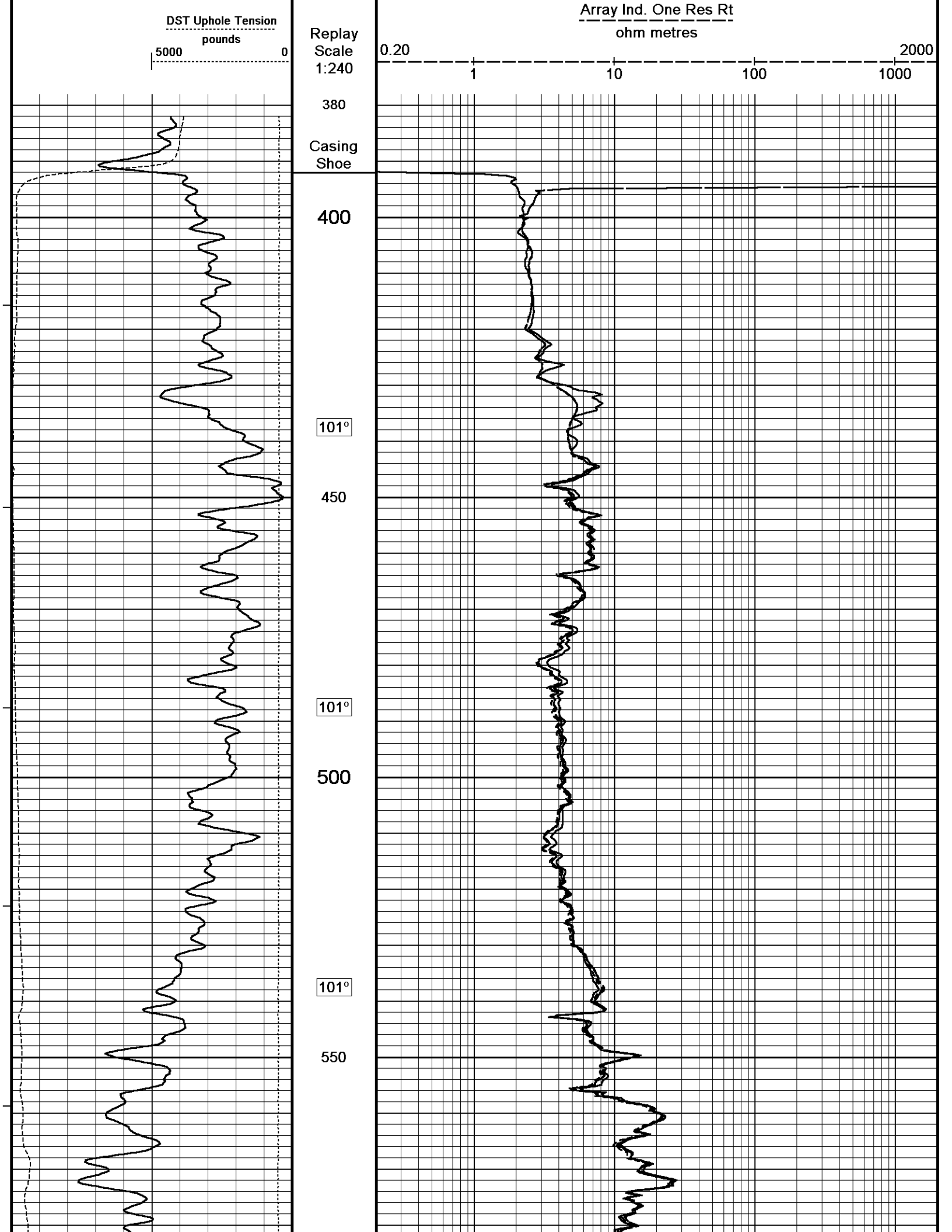
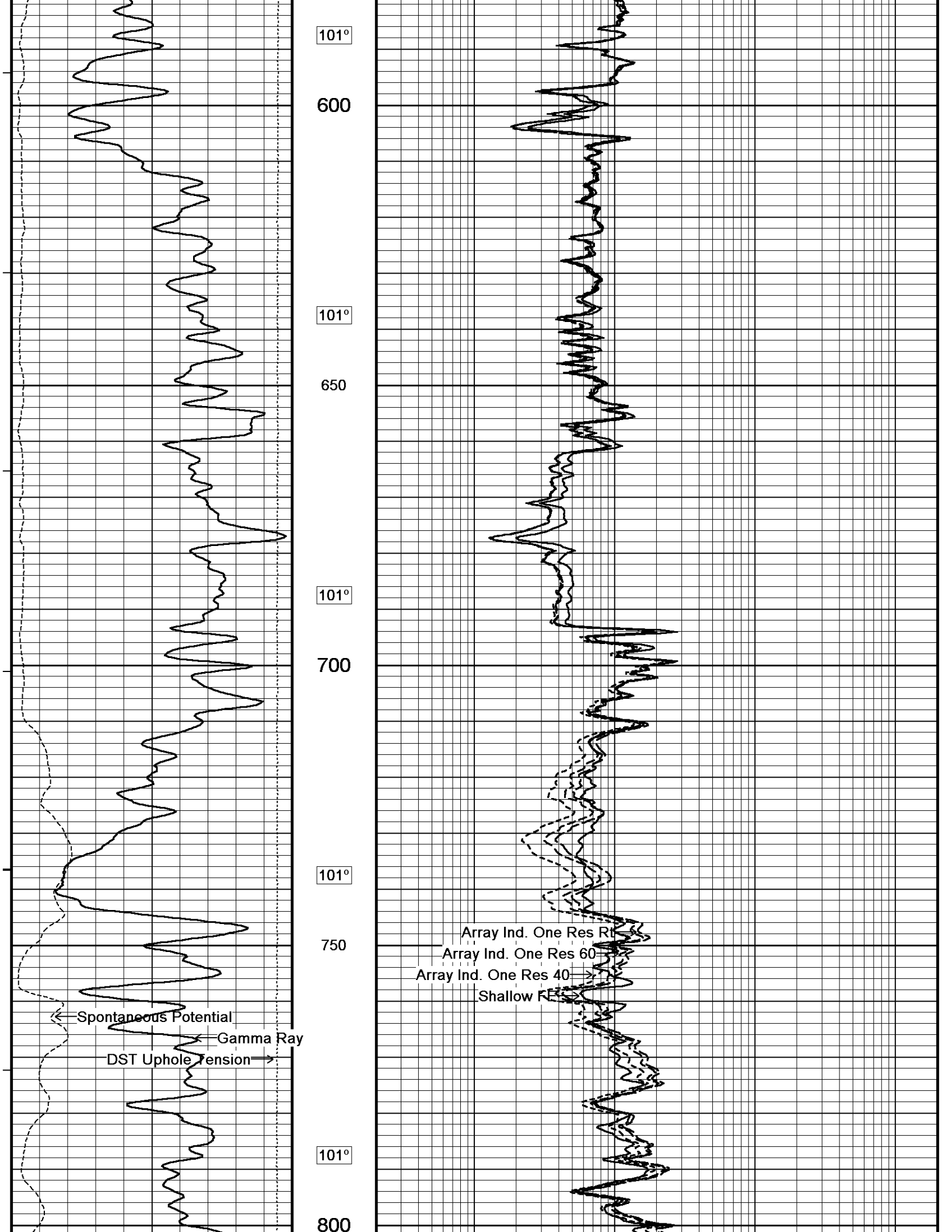
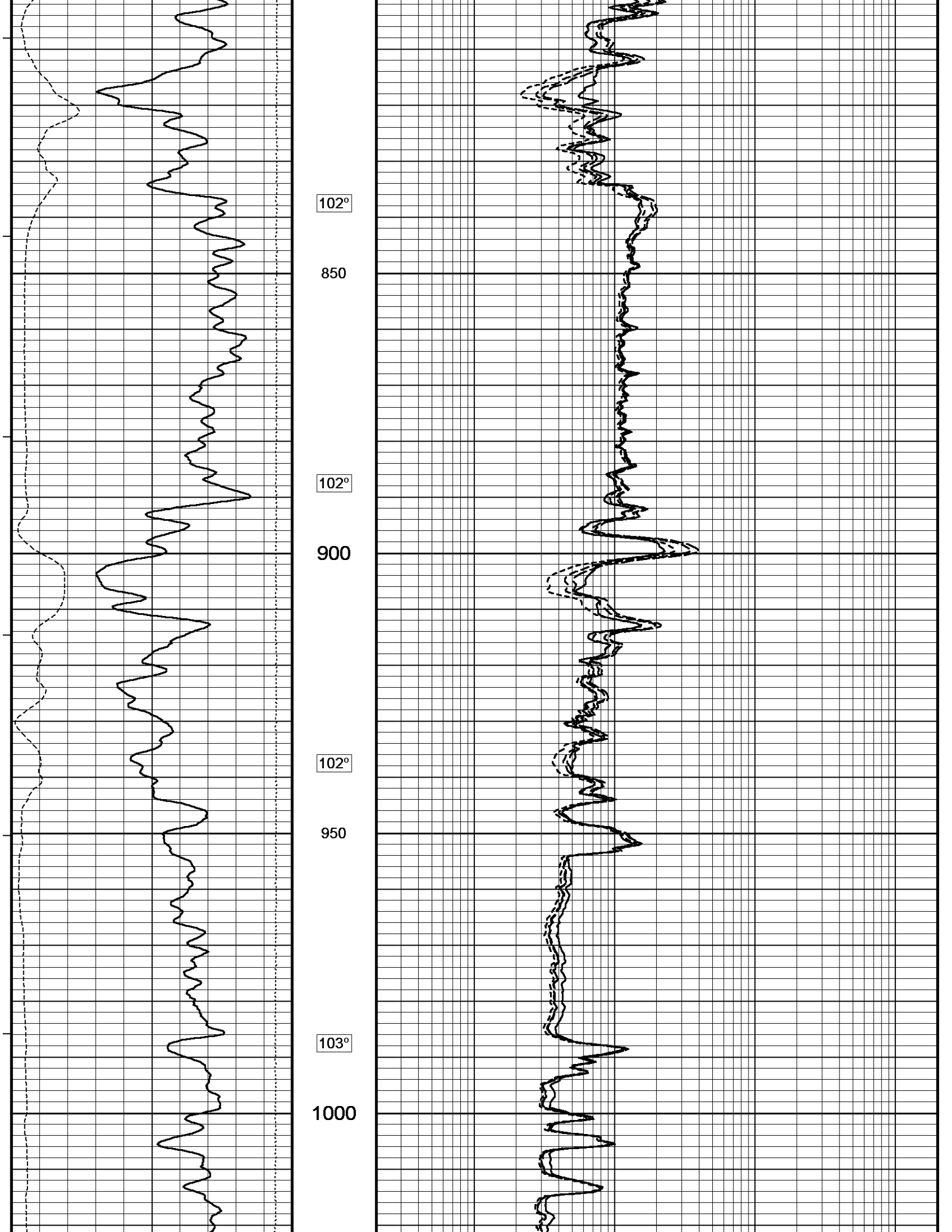
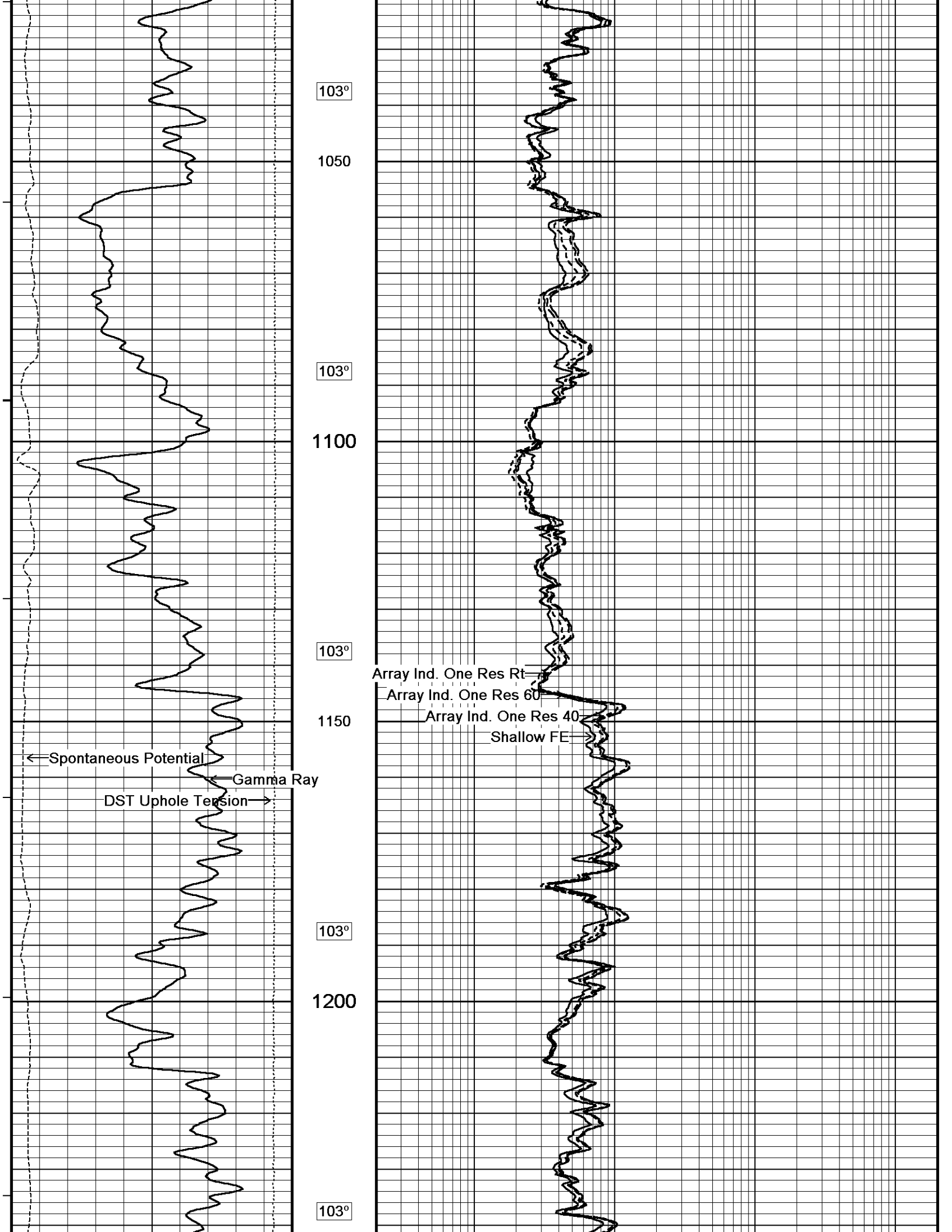
System Versions: Logged with 11.03.2789 Plotted with 11.03.2789

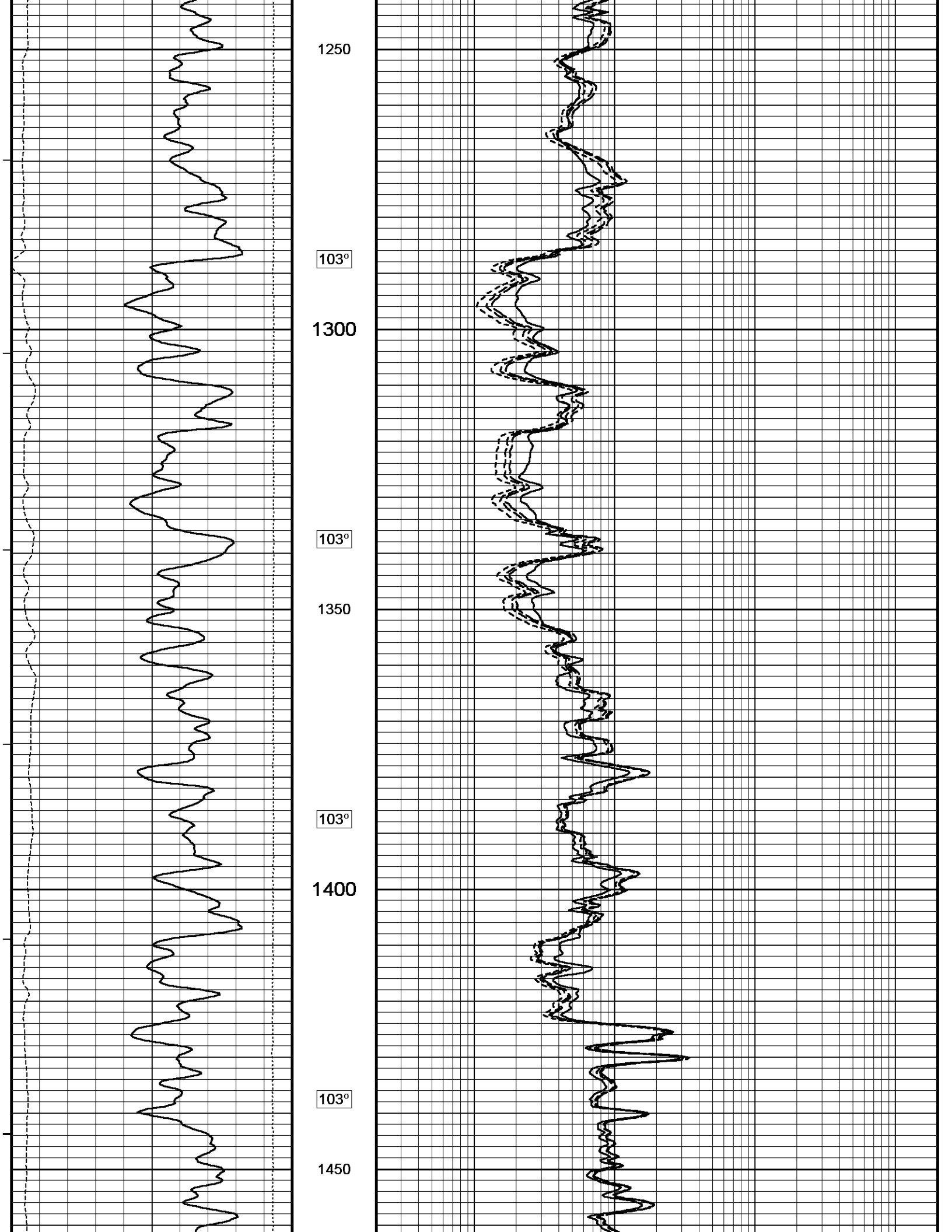


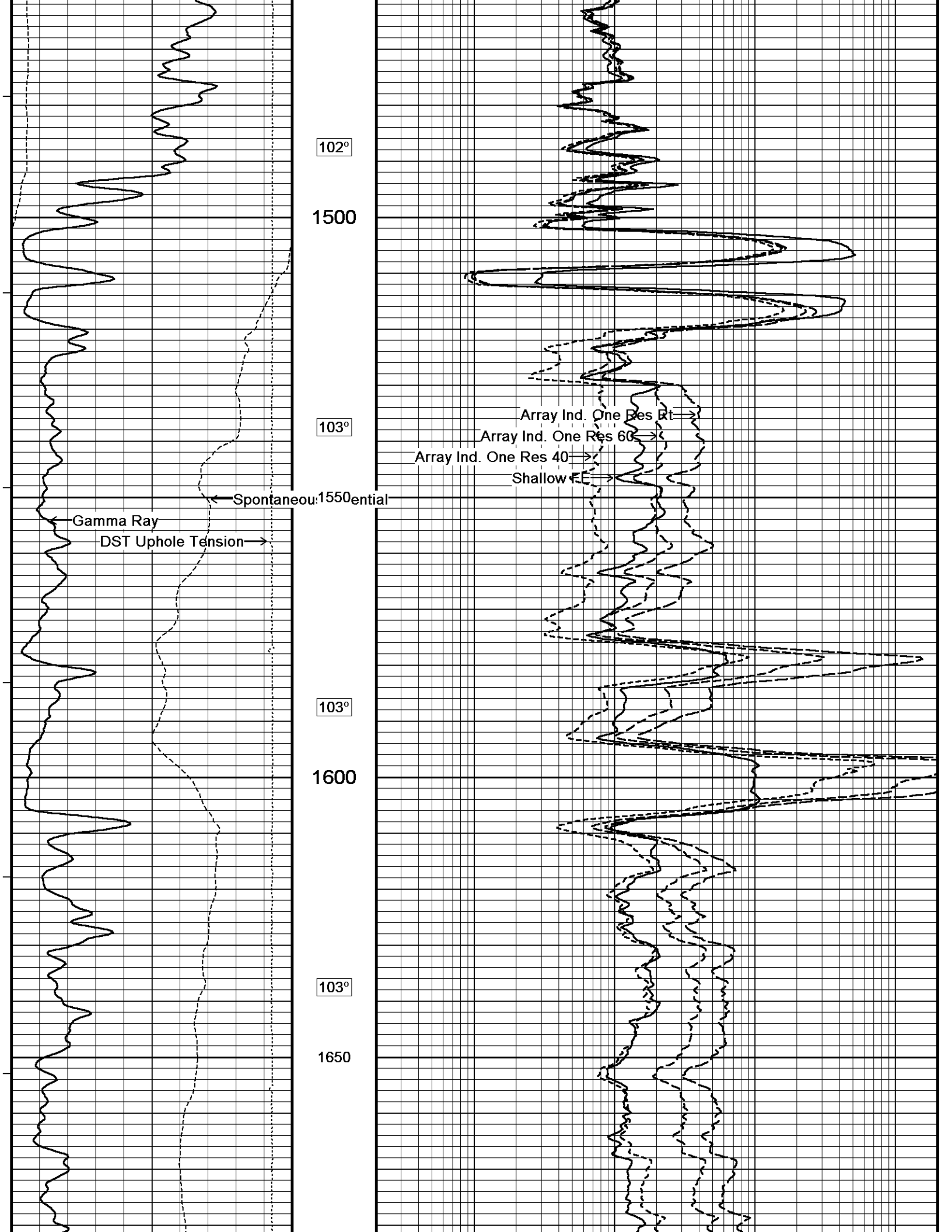

DST Uphole Tension
pounds
5000
0
Replay
Scale
1:240
380
Casing
Shoe
400
101°
450
101°
500
101°
550
Array Ind. One Res Rt
ohm metres
0.20
2000
1
10
100
1000

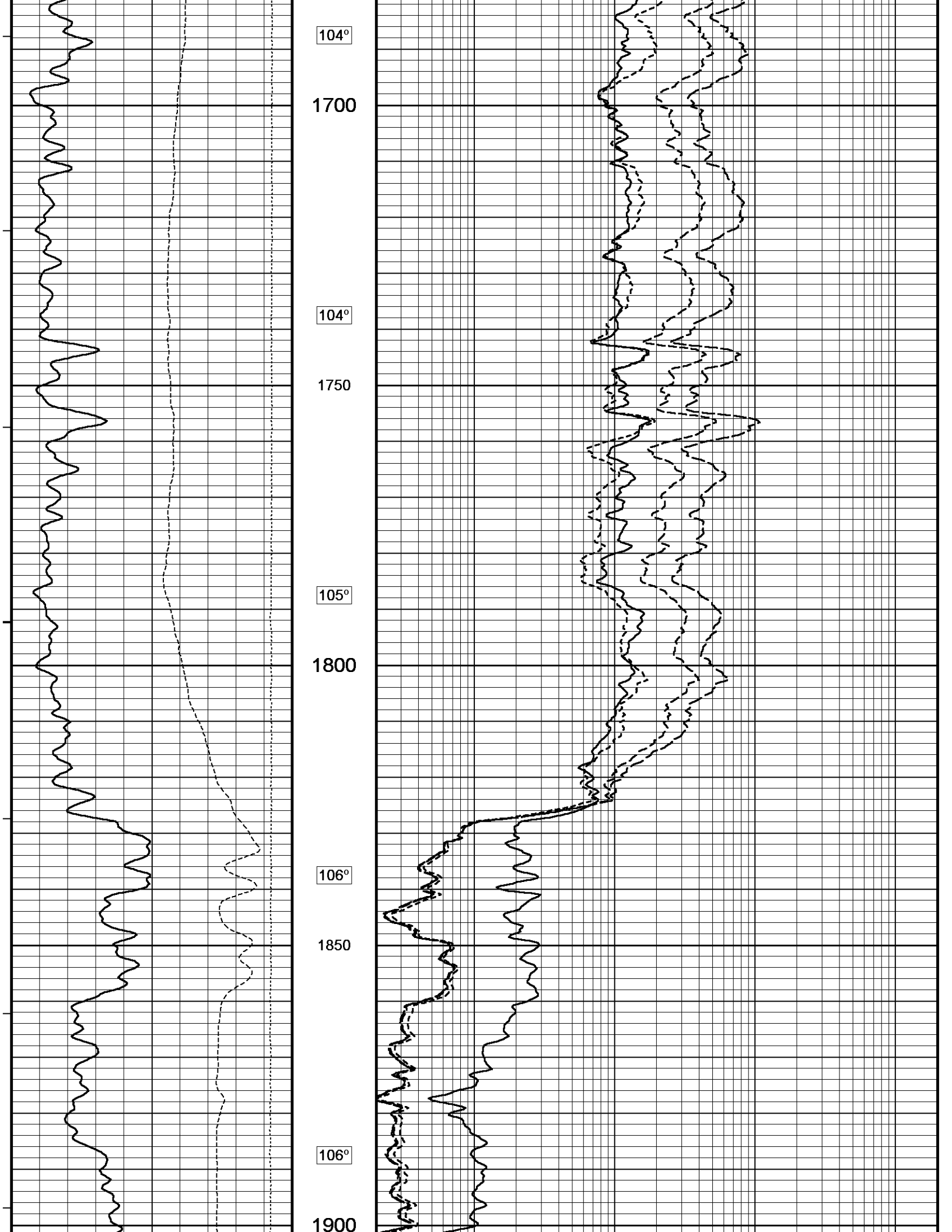

101°
600
101°
650
101°
700
101°
750
101°
800
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow Res
Spontaneous Potential
Gamma Ray
DST Uphole Tension

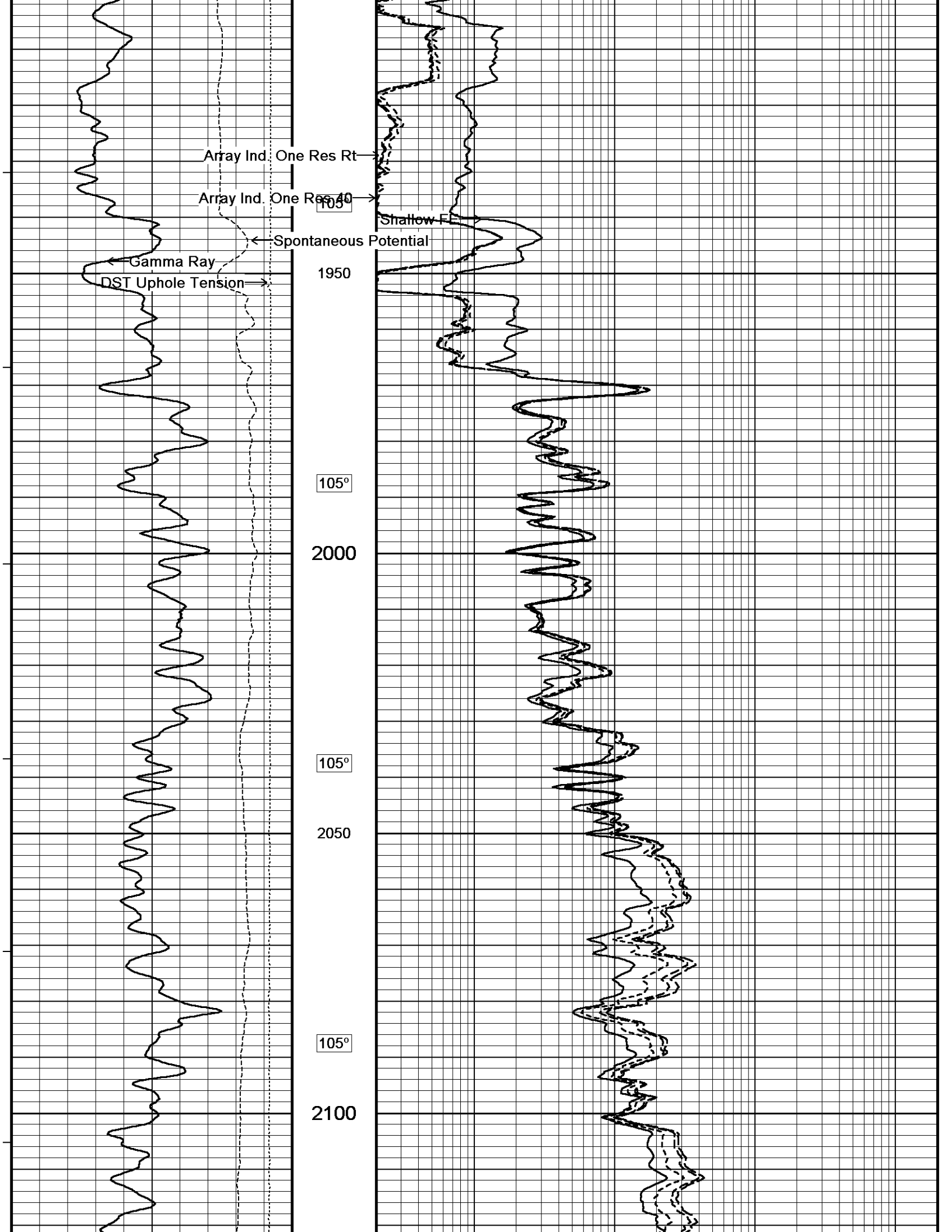

102°
850
102°
900
102°
950
103°
1000

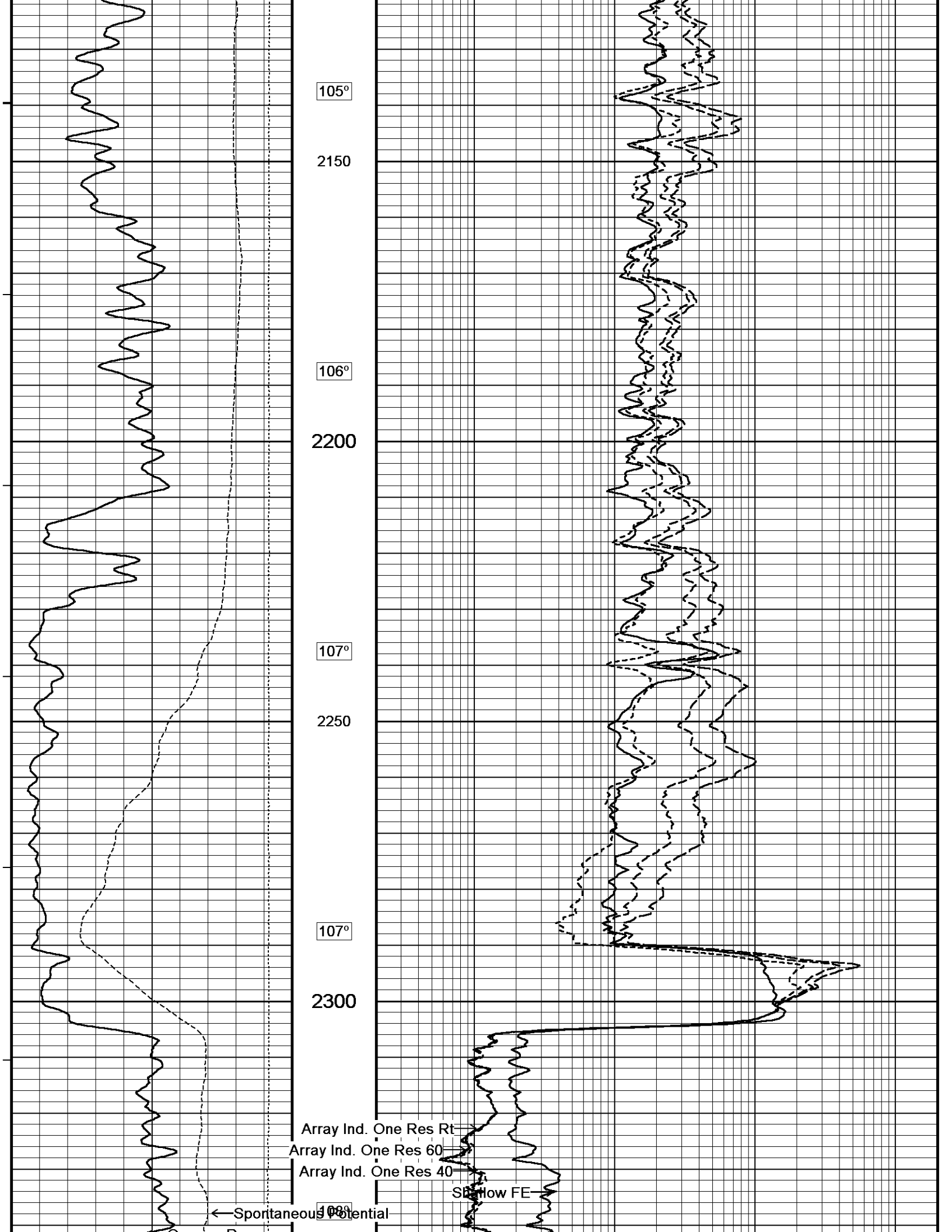

103°
1050
103°
1100
103°
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
1150
Spontaneous Potential
Gamma Ray
DST Uphole Tension
103°
1200
103°

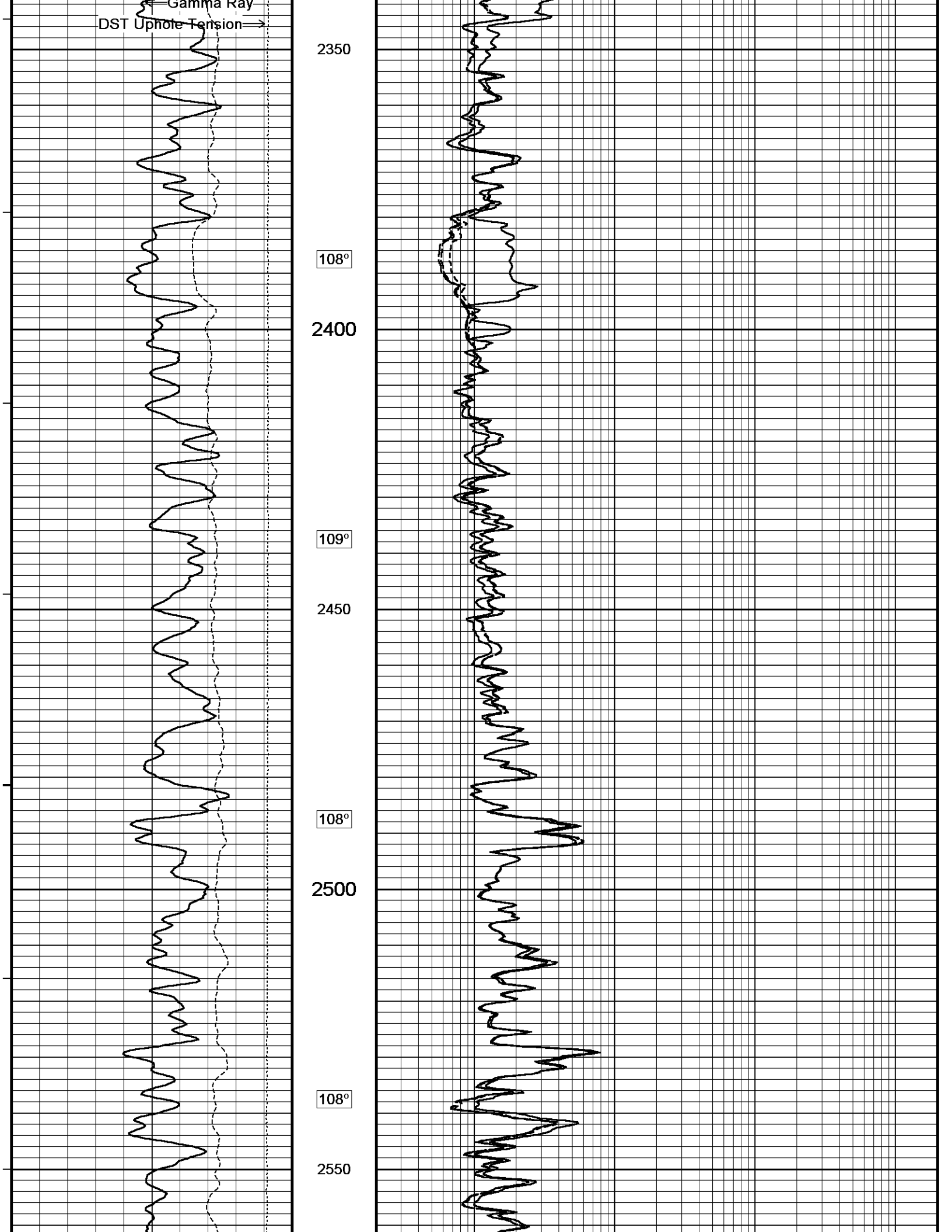

1250
103°
1300
103°
1350
103°
1400
103°
1450

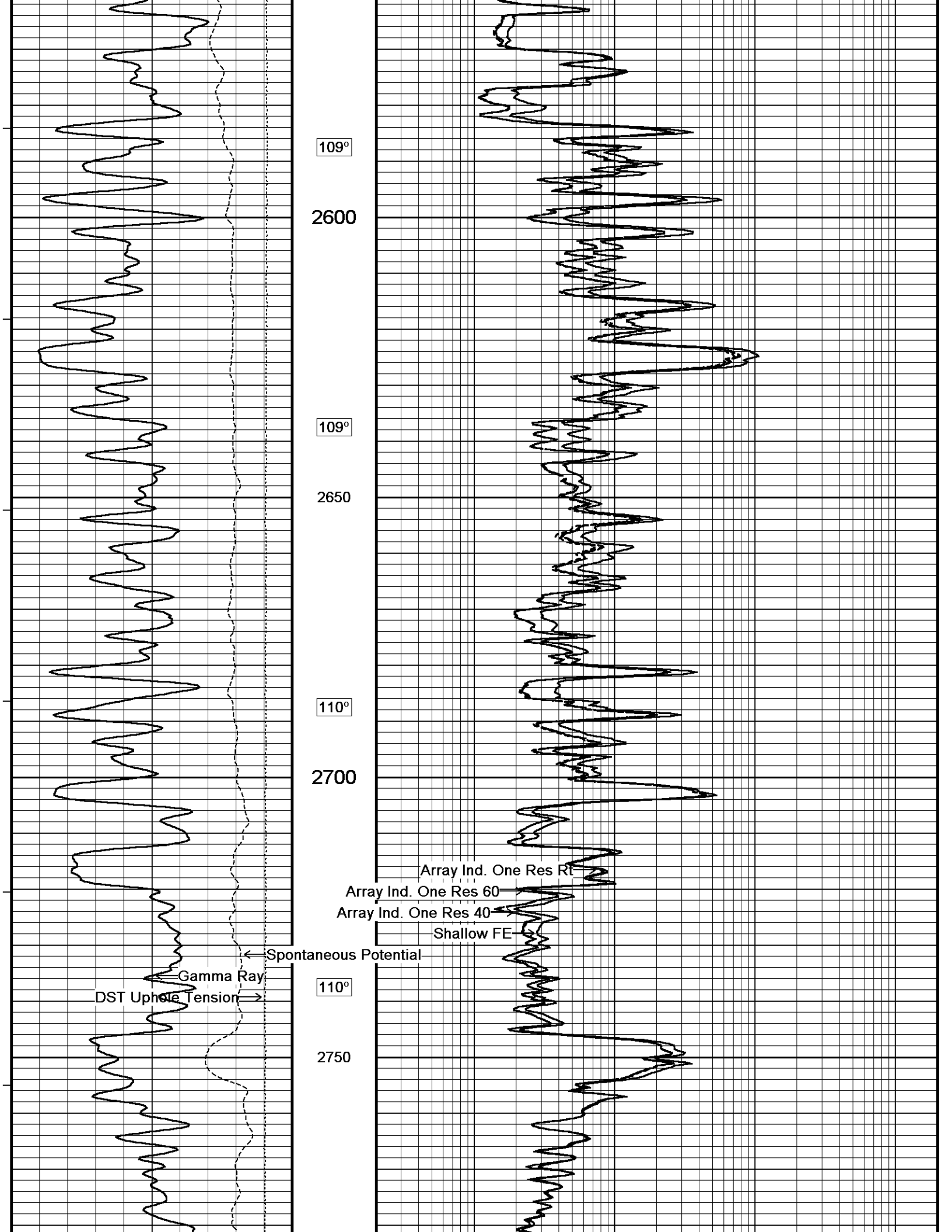

102°
1500
103°
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow F.E
Spontaneou
1550
ential
Gamma Ray
DST Uphole Tension
103°
1600
103°
1650

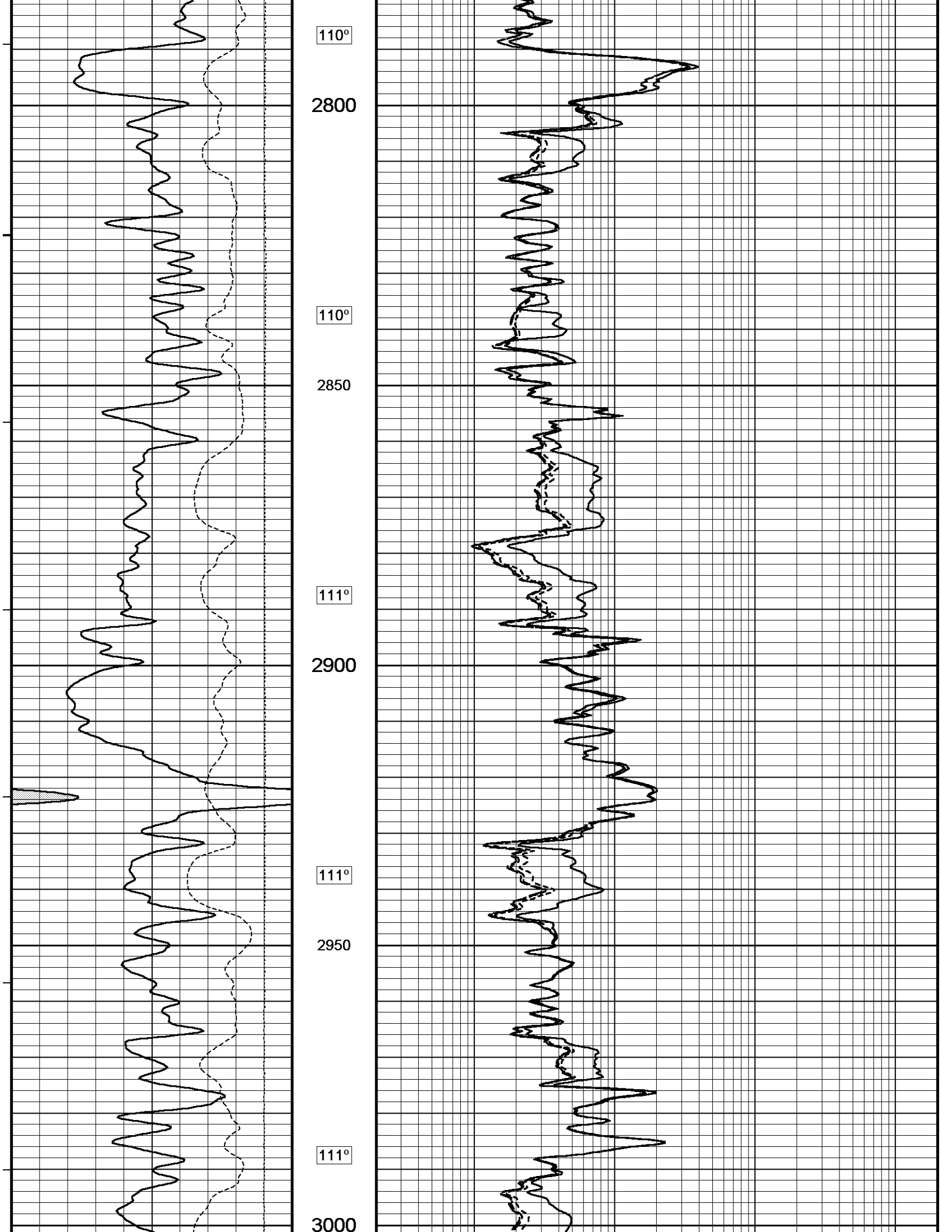

104°
1700
104°
1750
105°
1800
106°
1850
106°
1900

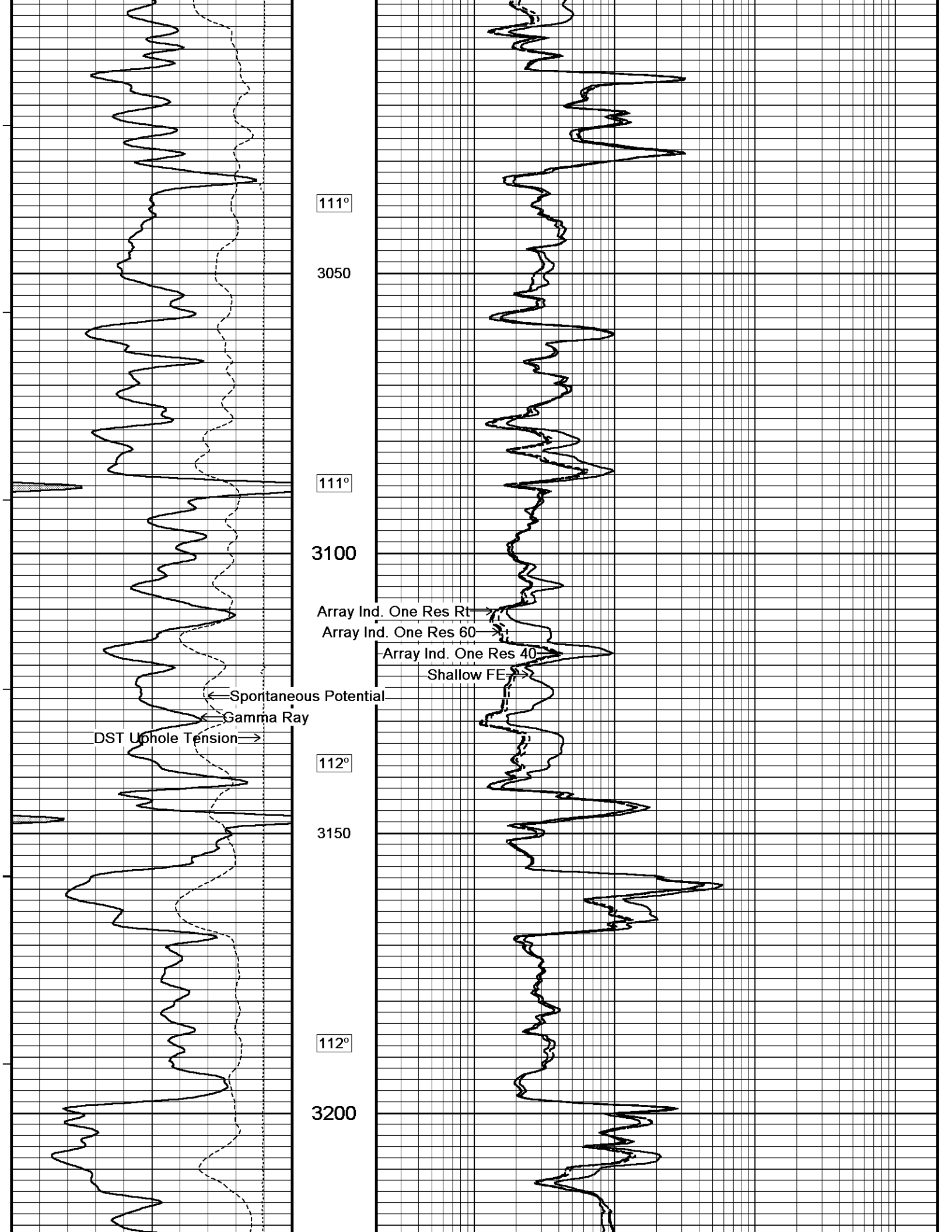

Array Ind. One Res Rt
Array Ind. One Res 40
105°
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension
1950
105°
2000
105°
2050
105°
2100

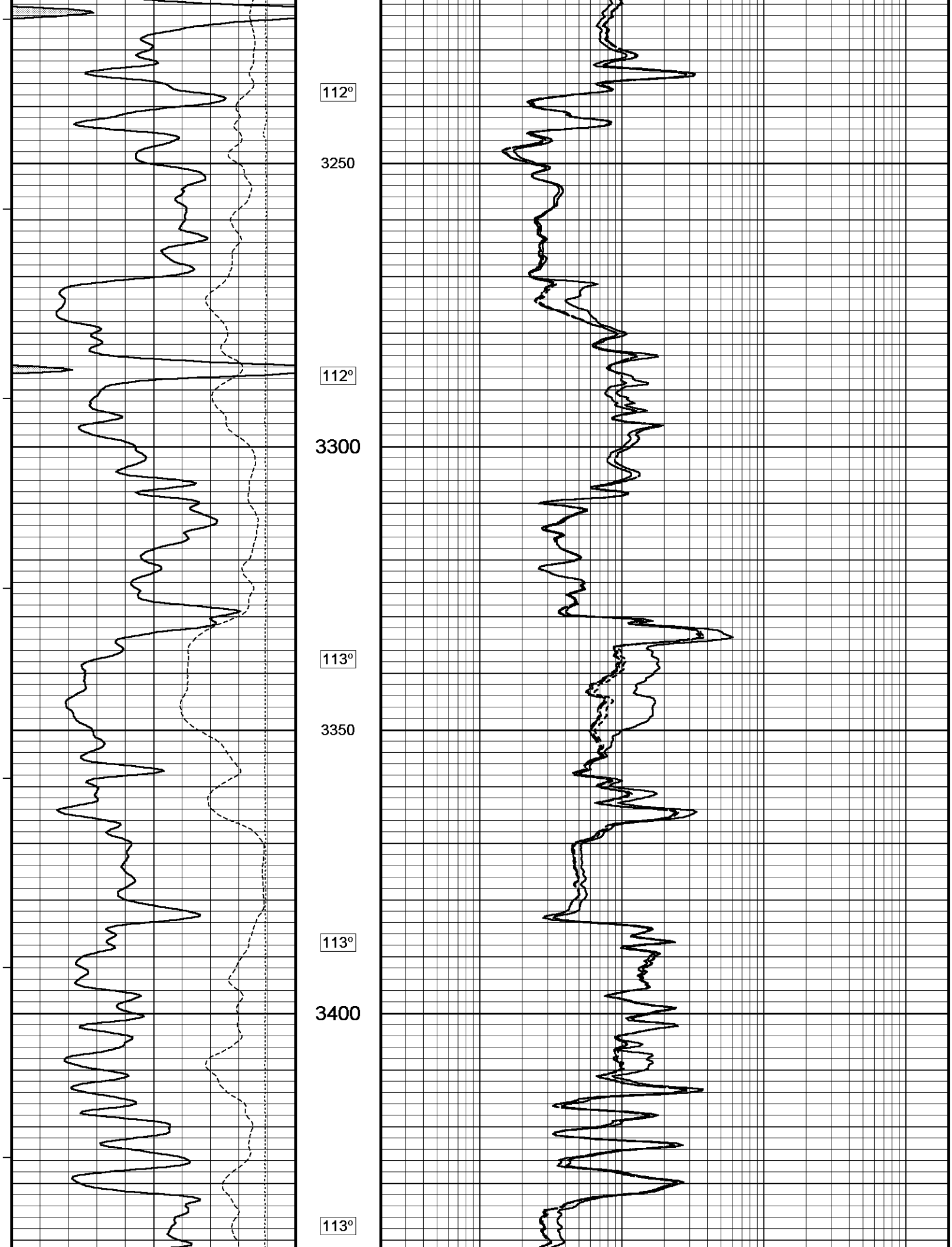

105°
2150
106°
2200
107°
2250
107°
2300
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
Spontaneous Potential

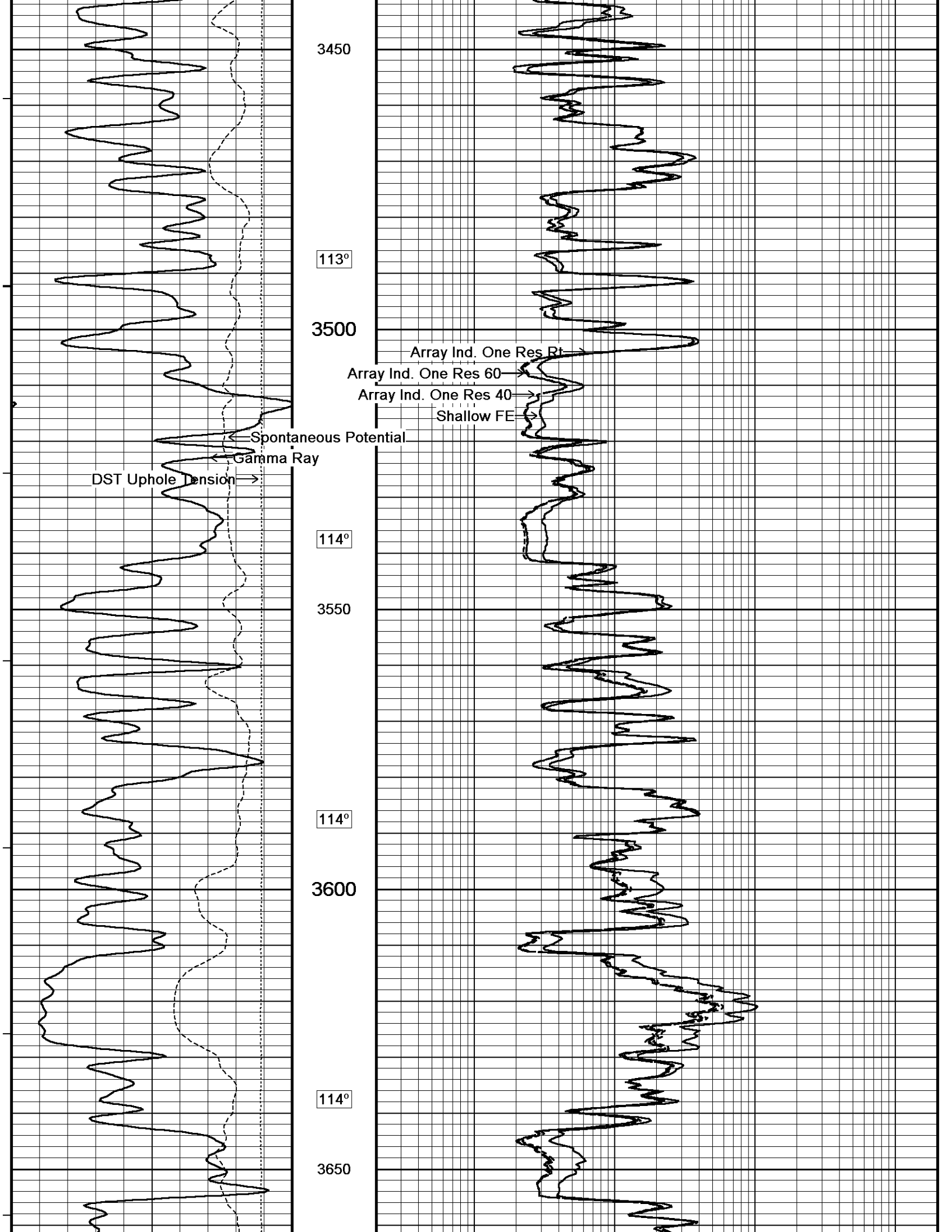

⟵Gamma Ray
DST Uphole Tension⟶
2350
108°
2400
109°
2450
108°
2500
108°
2550

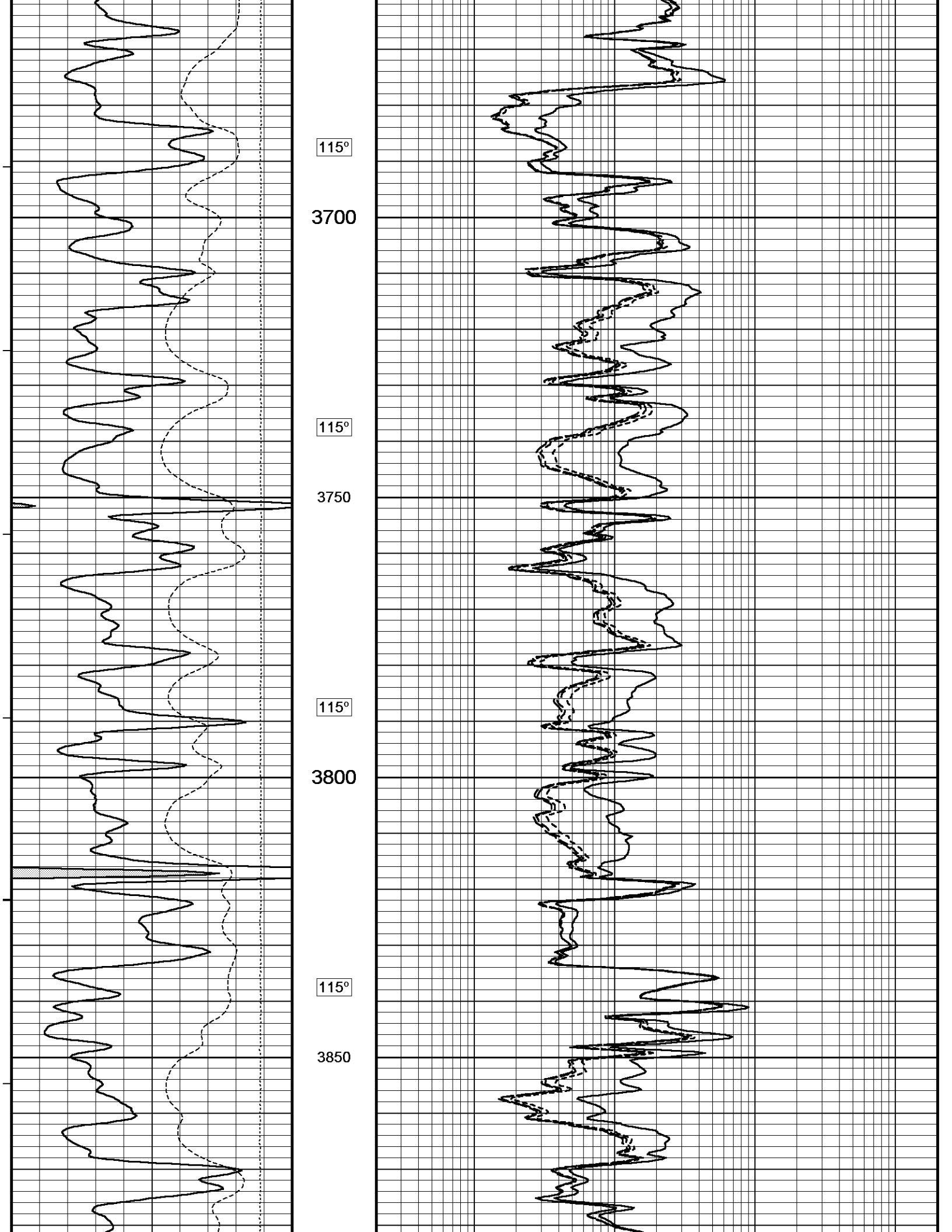

109°
2600
109°
2650
110°
2700
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension
110°
2750

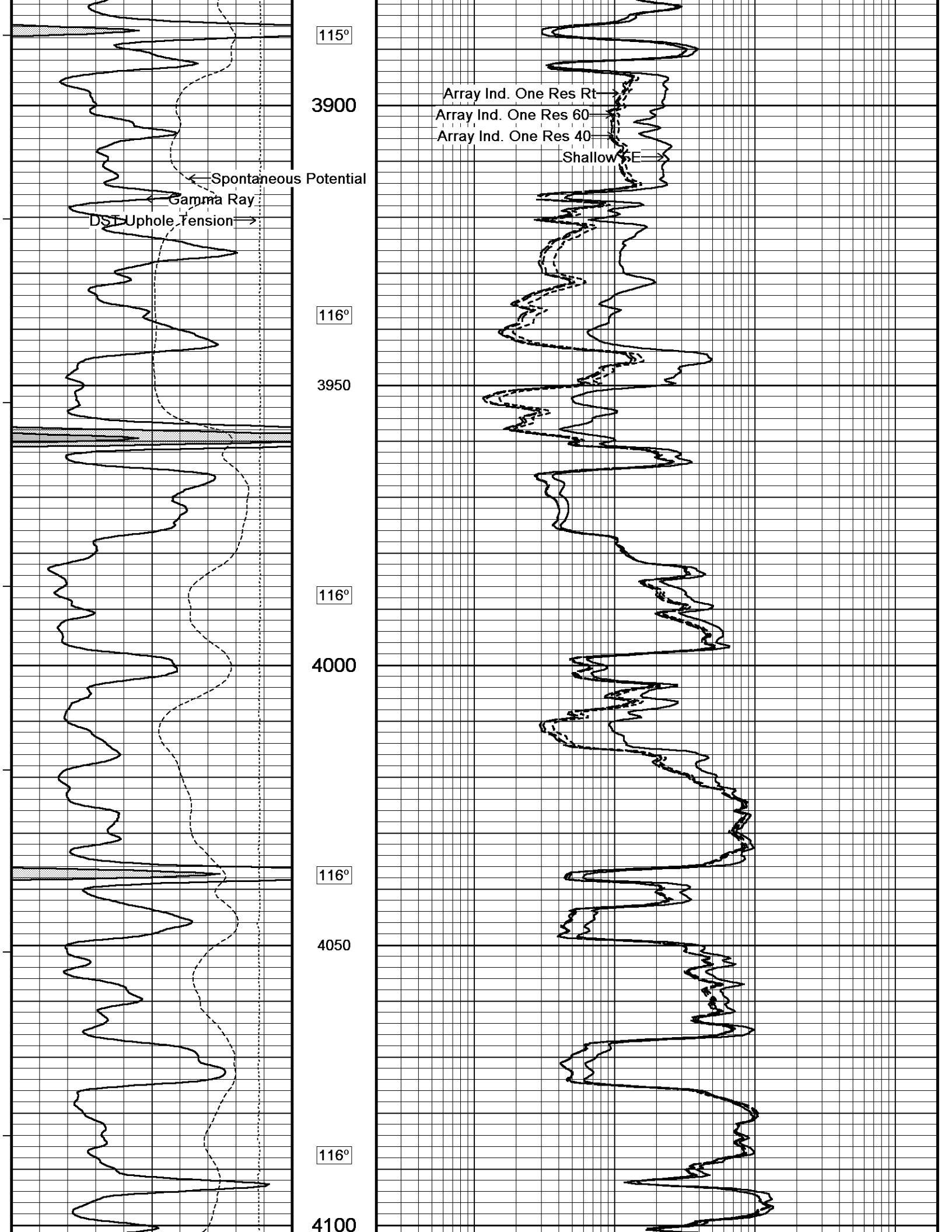

110°
2800
110°
2850
111°
2900
111°
2950
111°
3000

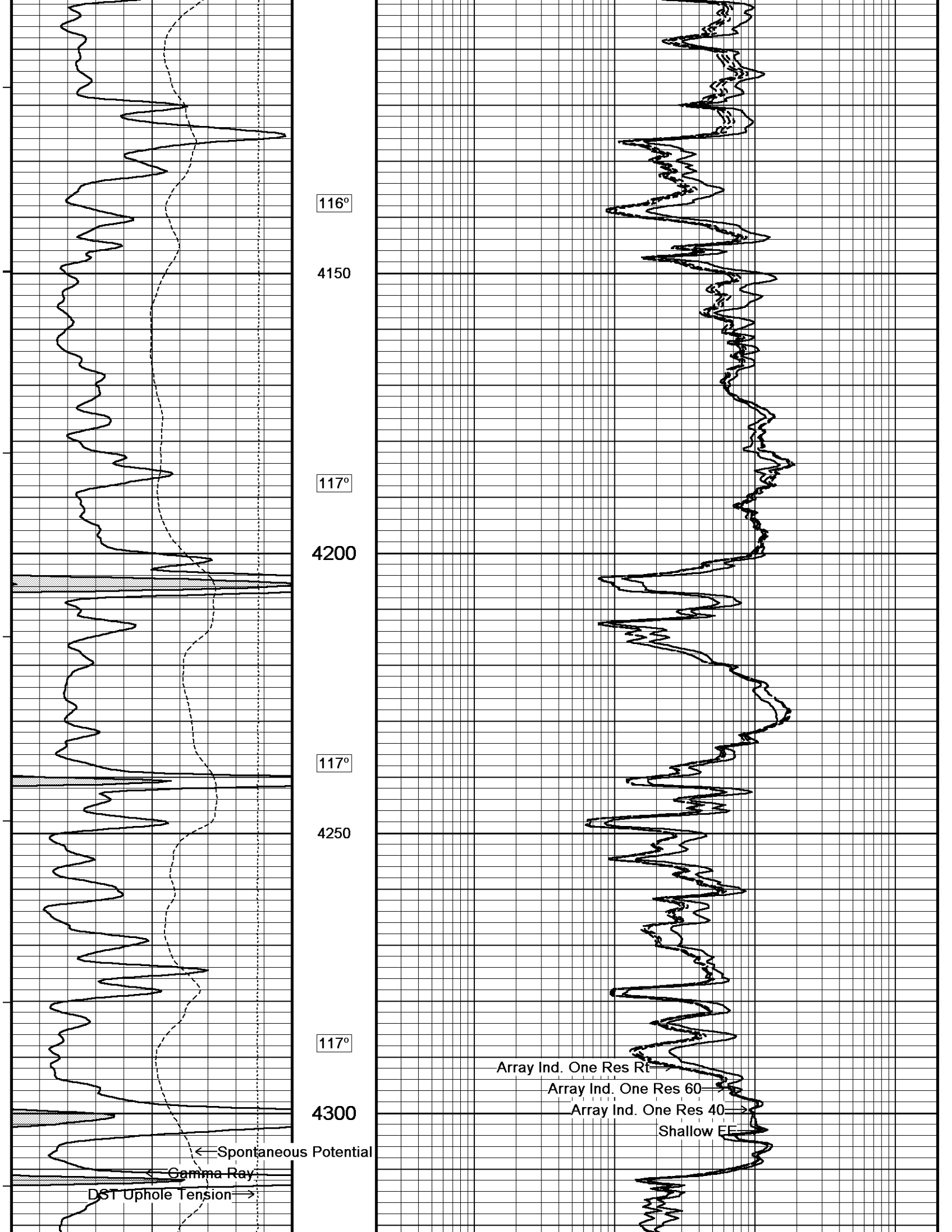

111°
3050
111°
3100
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
Sporitaneous Potential
Gamma Ray
DST Uphole Tension
112°
3150
112°
3200

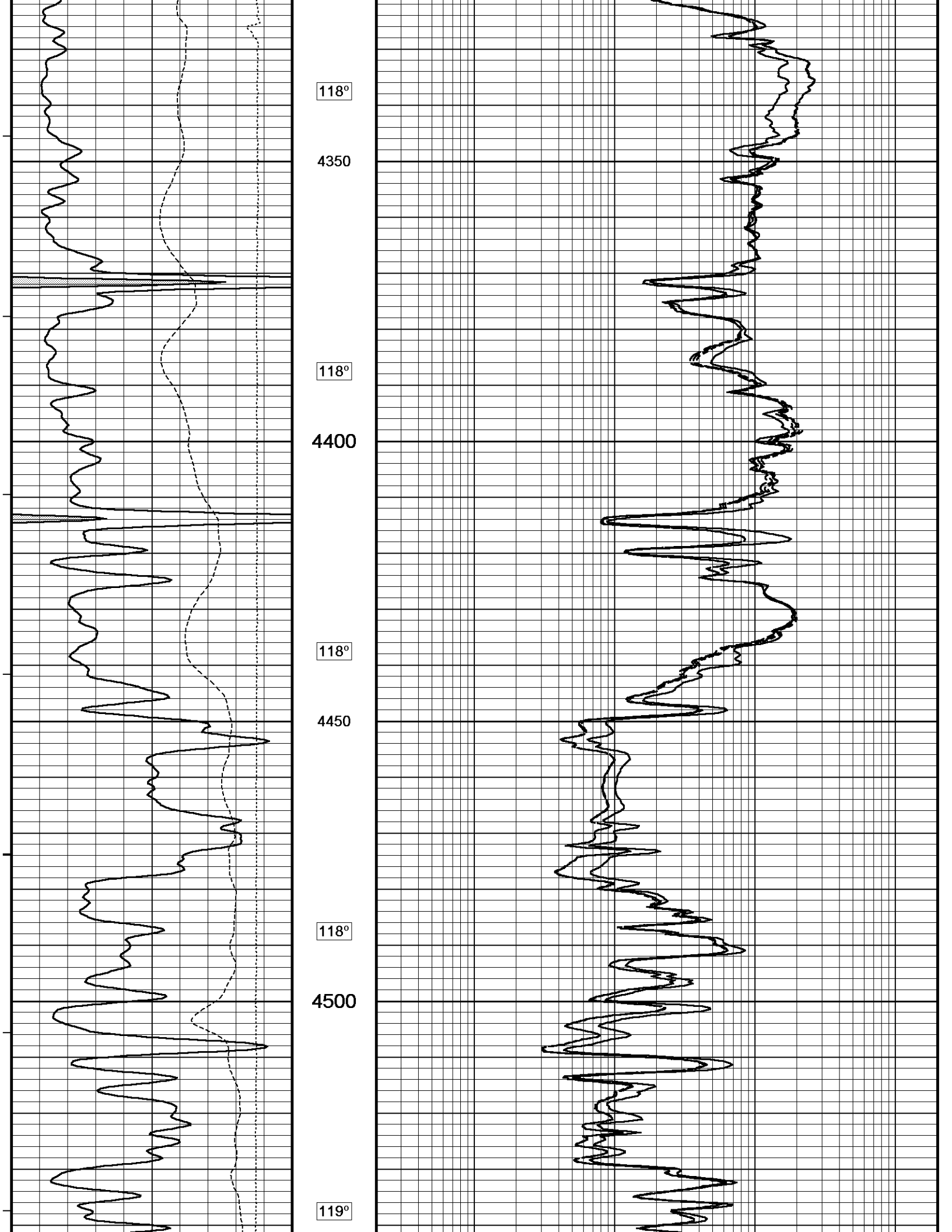

112°
3250
112°
3300
113°
3350
113°
3400
113°

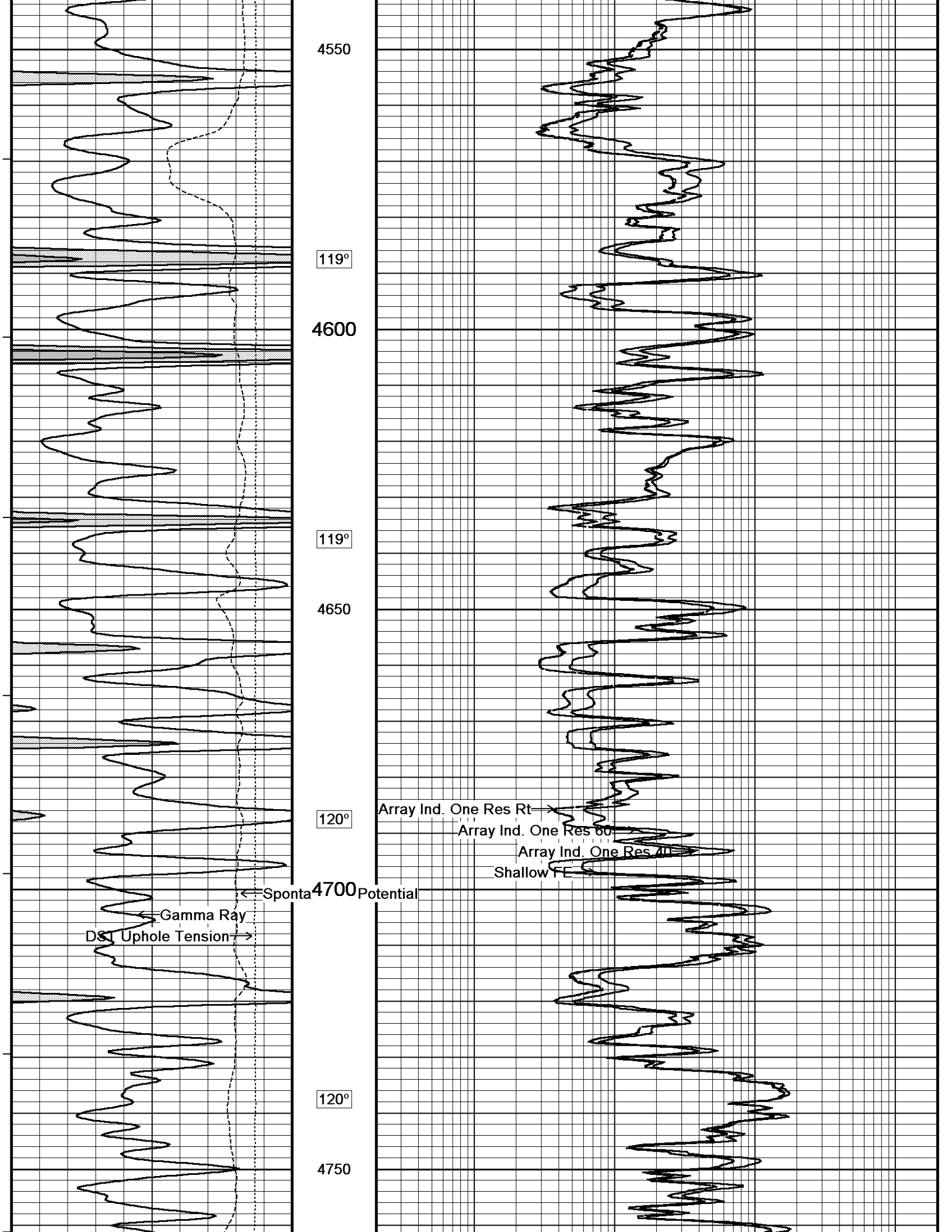

3450
113°
3500
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension
114°
3550
114°
3600
114°
3650

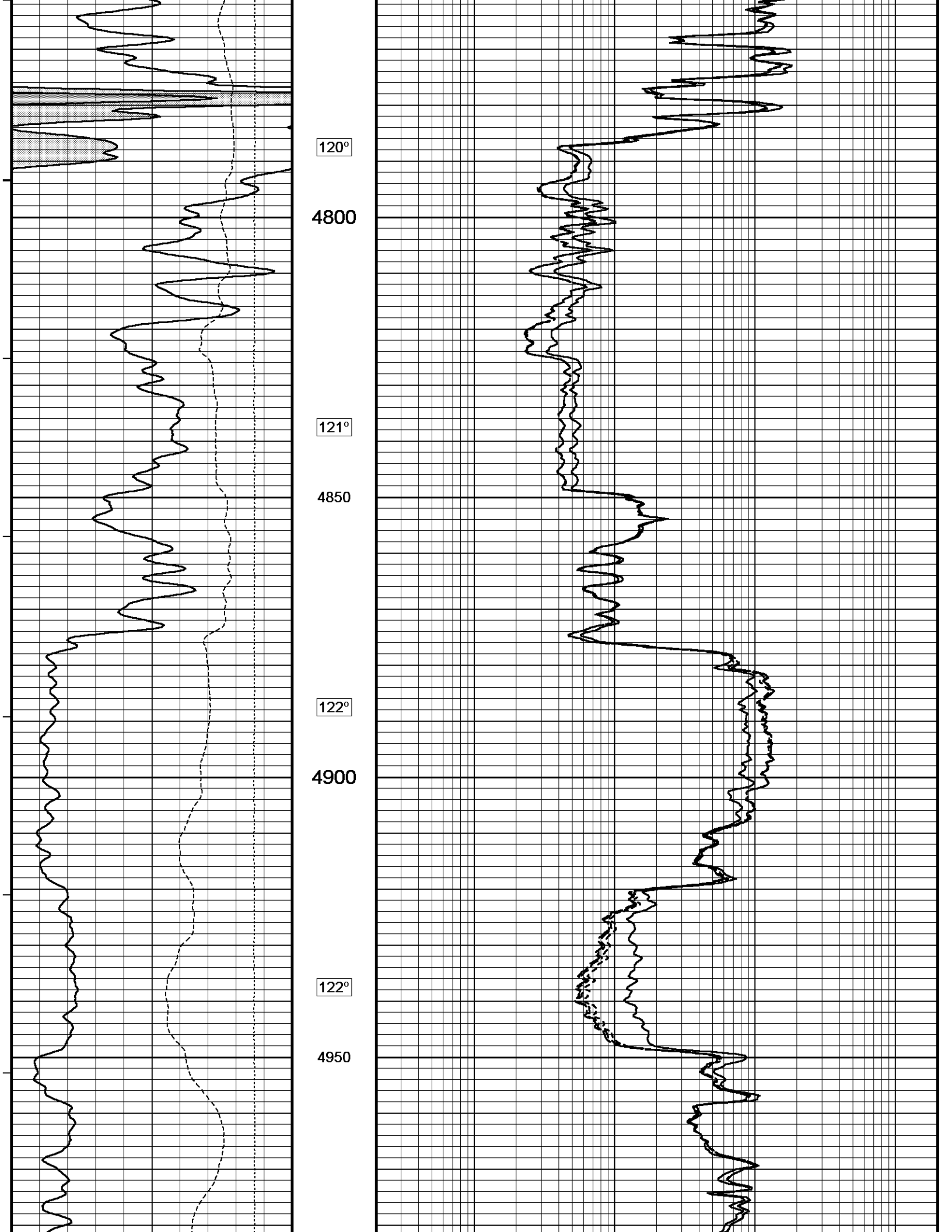

115°
3700
115°
3750
115°
3800
115°
3850

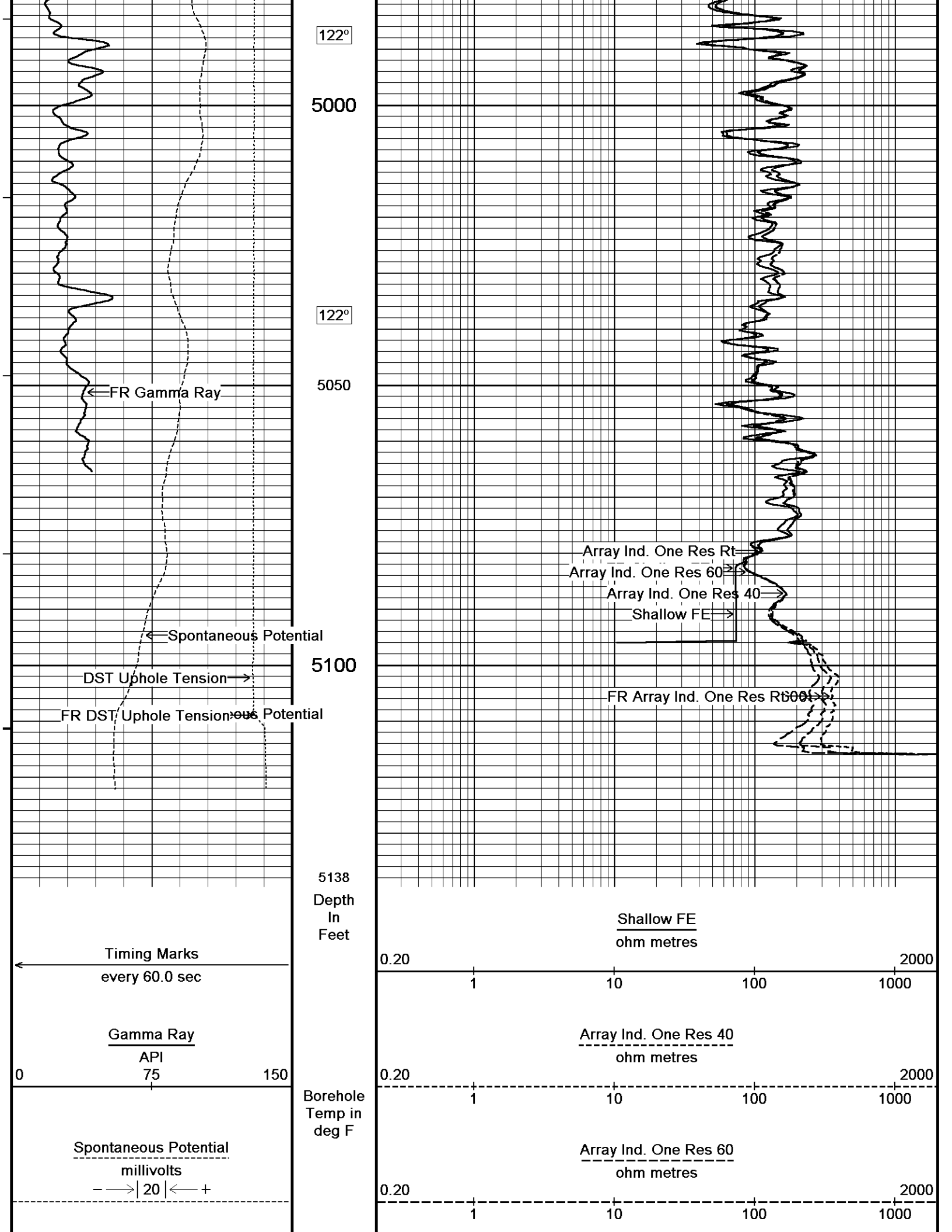

115°
3900
Spontaneous Potential
Gamma Ray
DST Uphole Tension
116°
3950
116°
4000
116°
4050
116°
4100
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow E


116°
4150
117°
4200
117°
4250
117°
4300
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension


118°
4350
118°
4400
118°
4450
118°
4500
119°


4550
119°
4600
119°
4650
120°
4700
120°
4750
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
Sponta
Potential
Gamma Ray
DST Uphole Tension


120°
4800
121°
4850
122°
4900
122°
4950


122°
5000
122°
5050
FR Gamma Ray
Spontaneous Potential
5100
DST Uphole Tension
FR DST Uphole Tension
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
FR Array Ind. One Res Rt
5138
Depth
In
Feet
Timing Marks
every 60.0 sec
Gamma Ray
API
0
75
150
Spontaneous Potential
millivolts
20
Borehole
Temp in
deg F
Shallow FE
ohm metres
0.20
2000
1
10
100
1000
Array Ind. One Res 40
ohm metres
0.20
2000
1
10
100
1000
Array Ind. One Res 60
ohm metres
0.20
2000
1
10
100
1000

DST Uphole Tension
pounds
5000 0

Replay
Scale
1:240

Array Ind. One Res Rt
ohm metres
0.20 2000
1 10 100 1000

Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 07-JUN-2011 03:28
Filename: C:\Minimus 11.03.2789\Data\Comanche Bontrager 33-1\Comanche Bontrager 33-1_002.dta
Recorded on 07-JUN-2011 00:07
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5 INCH MAIN

REPEAT SECTION

Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 07-JUN-2011 03:28
Filename: C:\Minimus 11.03.2789\Data\Comanche Bontrager 33-1\Comanche Bontrager 33-1_001.dta
Recorded on 06-JUN-2011 23:32
System Versions: Logged with 11.03.2789 Plotted with 11.03.2789

Timing Marks
every 60.0 sec

Gamma Ray
API
0 75 150

Spontaneous Potential
millivolts
– → | 20 | ← +

Depth
in
Feet

Borehole
Temp in
deg F

Shallow FE
ohm metres
0.20 2000
1 10 100 1000

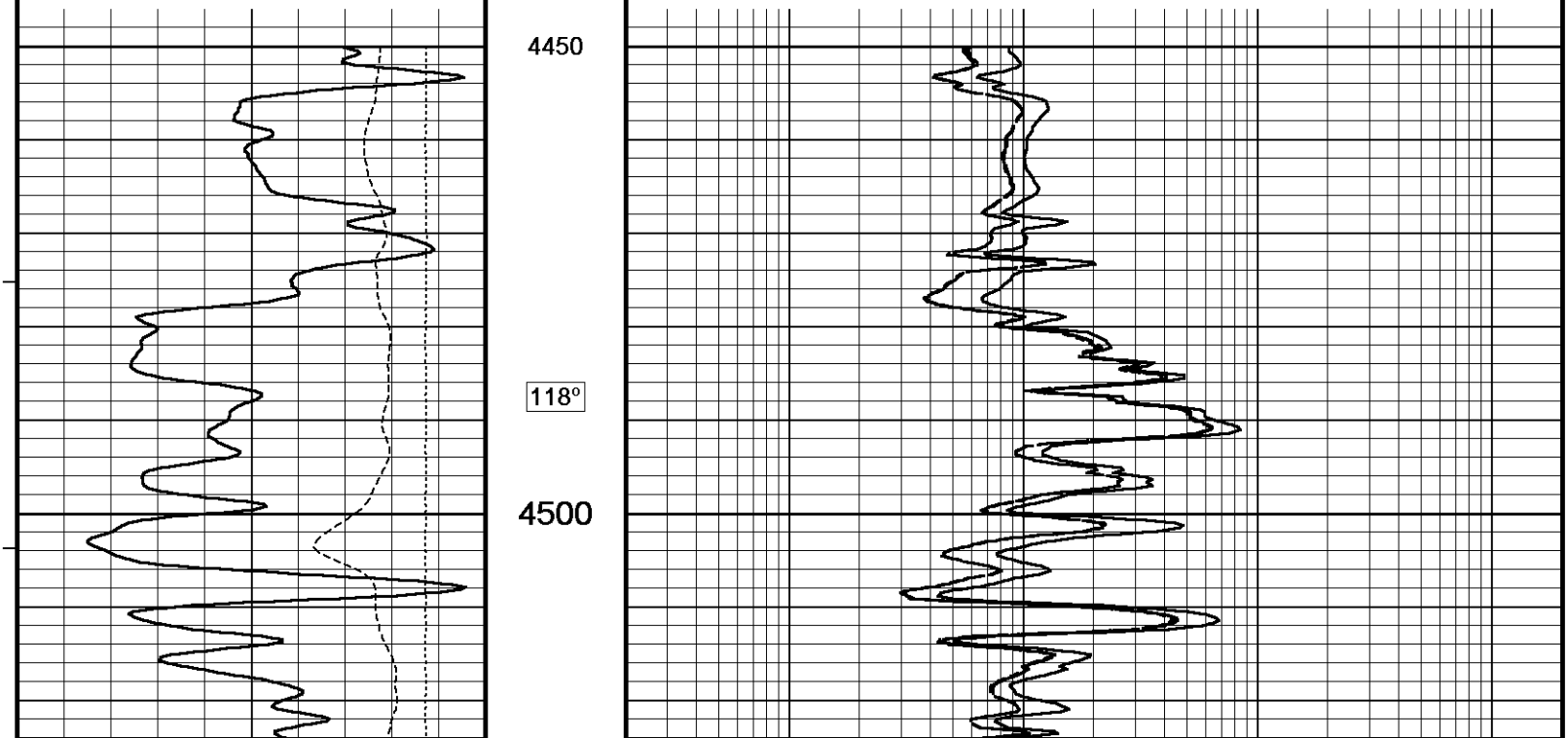
Array Ind. One Res 40
ohm metres
0.20 2000
1 10 100 1000

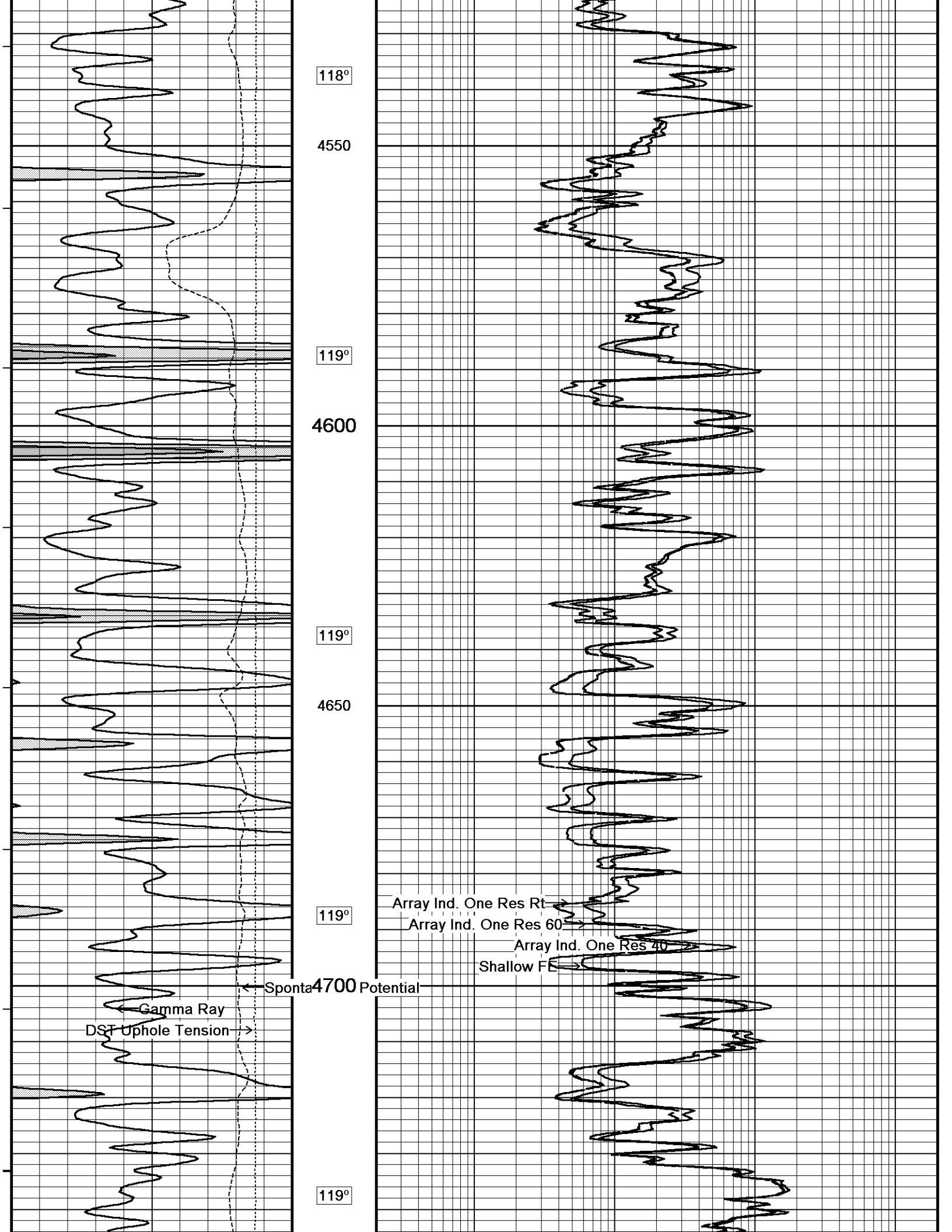
Array Ind. One Res 60
ohm metres
0.20 2000
1 10 100 1000

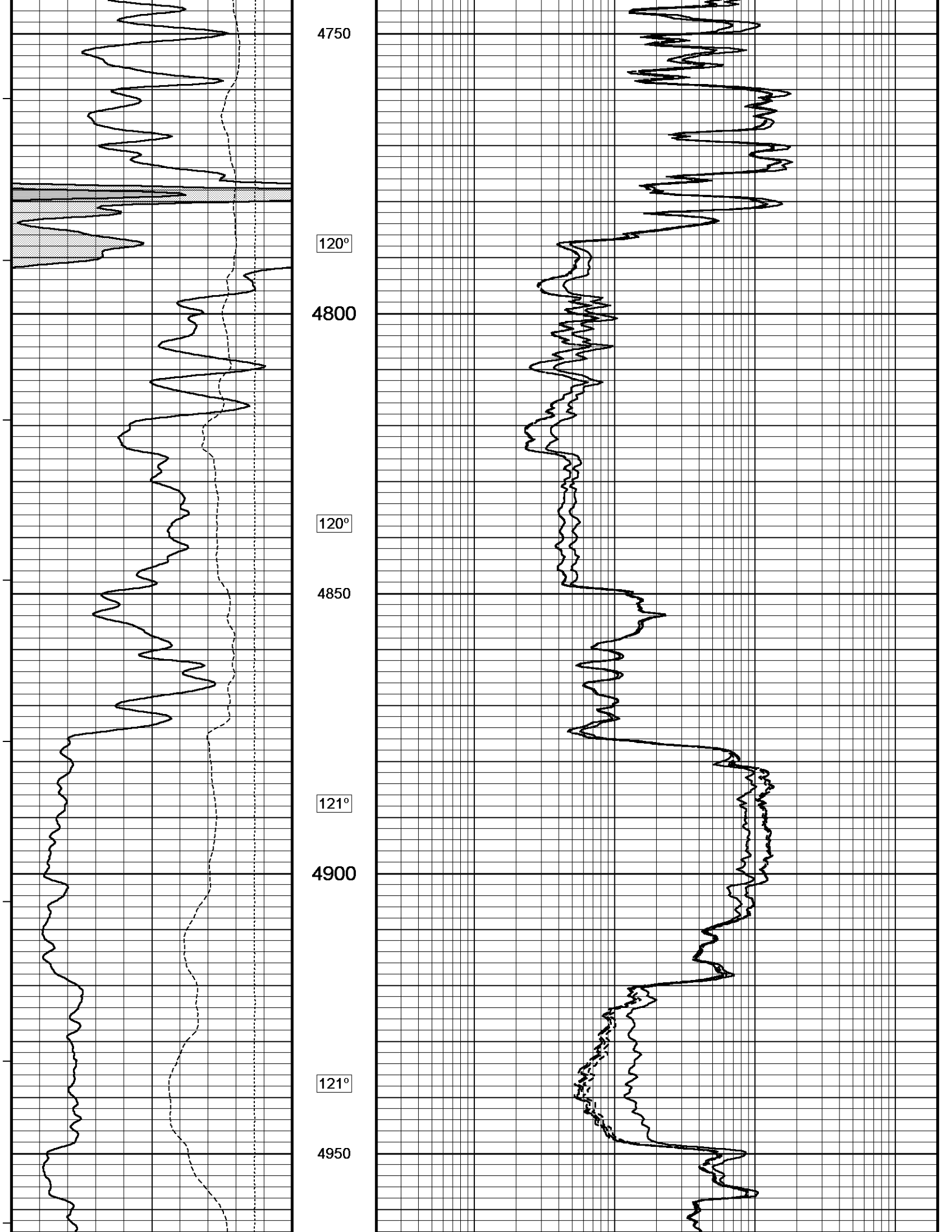
DST Uphole Tension
pounds
5000 0

Replay
Scale
1:240

Array Ind. One Res Rt
ohm metres
0.20 2000
1 10 100 1000




118°
4550
119°
4600
119°
4650
119°
4700
119°
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
Sponta Potential
Gamma Ray
DST Uphole Tension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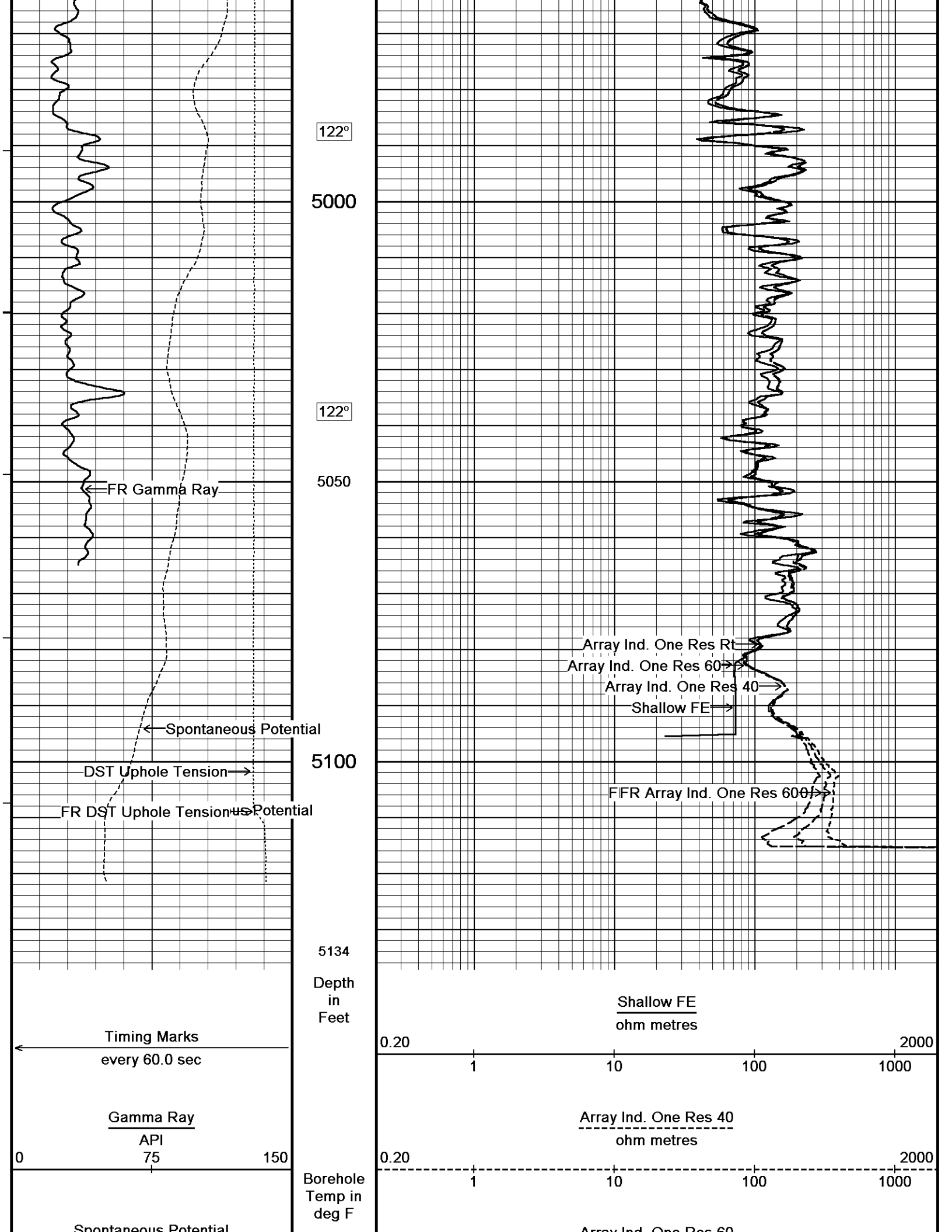
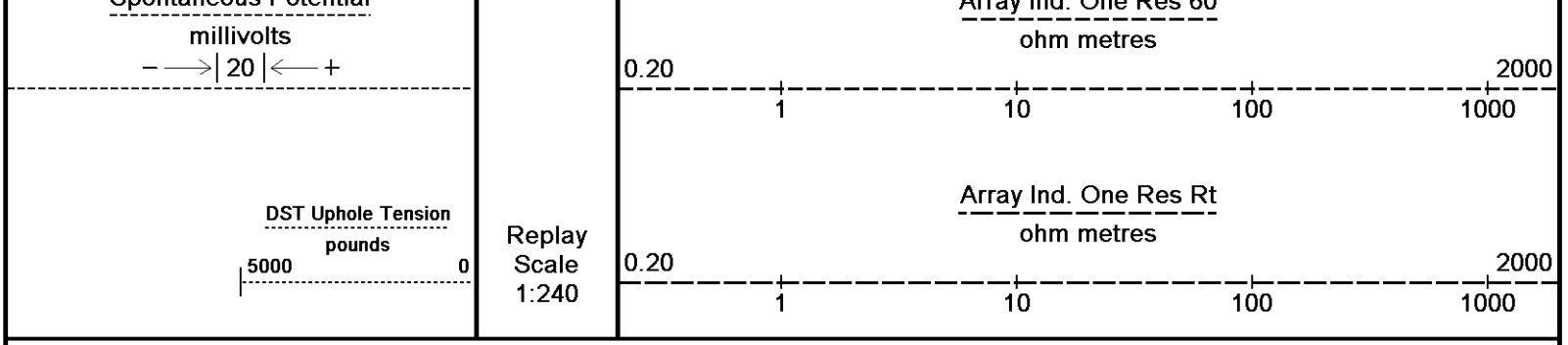
120°
4800
120°
4850
121°
4900
121°
4950


122°
5000
122°
5050
FR Gamma Ray
Spontaneous Potential
DST Uphole Tension
FR DST Uphole Tension
us
Potential
5100
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
FR Array Ind. One Res 60
5134
Depth in Feet
Timing Marks
every 60.0 sec
Gamma Ray
API
0
75
150
Borehole Temp in deg F
Shallow FE
ohm metres
0.20
1
10
100
1000
2000
Array Ind. One Res 40
ohm metres
0.20
1
10
100
1000
2000



Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 07-JUN-2011 03:28

Filename: C:\Minimus 11.03.2789\Data\Comanche Bontrager 33-1\Comanche Bontrager 33-1_001.dta — Recorded on 06-JUN-2011 23:32

System Versions: Logged with 11.03.2789 Plotted with 11.03.2789

REPEAT SECTION

BEFORE SURVEY CALIBRATION

C:\Minimus 11.03.2789\Data\Comanche Bontrager 33-1\Comanche Bontrager 33-1.dta

General Constants All 000

Last Edited on 06-JUN-2011,22:19

General Parameters		
Mud Resistivity	0.730	ohm-metres
Mud Resistivity Temperature	88.000	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	5.500	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 All 000

Field Calibration on 30-JUN-2010

Reading No	Measured	Calibrated (lbs)
1	14112.01	10.00
2	15164.79	427.00

Down-hole Tension Calibration SMS 0

Field Calibration on 30-JUN-2010

Reading No	Measured	Calibrated (lbs)
1	14112.01	10.00
2	15164.79	427.00

High Resolution Temperature Calibration MCG-C 139

Field Calibration on 03-SEP-2010,11:23

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

High Resolution Temperature Constants MCG-C 139

Last Edited on

Pre-filter Length	11

SP Calibration MCG-C 139

Field Calibration on 04-MAR-2011 06:37

	Measured	Calibrated (mV)
Reference 1	103.7	100.0
Reference 2	-96.9	-100.0

Gamma Calibration MCG-C 139

Field Calibration on 06-JUN-2011 19:22

	Measured	Calibrated (API)
Background	67	46
Calibrator (Gross)	1134	771
Calibrator (Net)	1067	725

Gamma Constants MCG-C 139

Last Edited on 11-APR-2011,15:01

Gamma Calibrator Number	grc38	
Mud Density	1.10	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Concentration of KCl	0.00	kppm

Micro Normal and Micro Inverse Calibration MML-A 16

Base Calibration on 11-MAR-2011 11:10
Field Check on 06-JUN-2011 19:13

Base Calibration

	Measured		Calibrated (ohm-m)	
Channel	Resistor 1	Resistor 2	Resistor 1	Resistor 2
Micro Normal	12.2	60.2	2.6	12.8
Micro Inverse	15.6	78.3	1.7	8.4

Channel	Base Check (ohm-m)	Field Check (ohm-m)
Micro Normal	32.1	32.1
Micro Inverse	16.3	16.3

Micro Normal and Micro Inverse Constants MML-A 16

Last Edited on 11-APR-2011,09:08

Pad Type	8-12 in Soft Rubber Inflatable 006-9011-159	
Micro Normal K Factor	0.5110	
Micro Inverse K Factor	0.3380	
Standoff Offset	N/A	inches

Caliper Calibration MML-A 16

Base Calibration on 11-MAR-2011 11:20
Field Calibration on 06-JUN-2011 19:12

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	13875	5.98
2	17350	7.97
3	20581	9.86
4	24656	11.92
5	0	0.00
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
6.00	5.98

Neutron Calibration MDN-A.B 66

Base Calibration on 11-MAR-2011 13:54
Field Check on 06-JUN-2011 19:17

Base Calibration

	Measured		Calibrated (cps)	
	Near	Far	Near	Far
	3091	97	3714	110
Ratio	31.957		33.764	

Field Calibrator at Base	Calibrated (cps)	
	1660	2371
Ratio	0.700	

Field Check	Calibrated (cps)	
	1682	2409
Ratio	0.698	

Neutron Constants MDN-A.B 66

Last Edited on 11-APR-2011,15:01

Neutron Source Id	P58125B	
Neutron Jig Number	5824NE	
Epithermal Neutron	No	
Caliper Source for Processing	Density Caliper	
Stand-off	0.00	inches
Mud Density	1.10	gm/cc
Limestone Sigma	7.10	cu
Sandstone Sigma	4.26	cu

Dolomite Sigma	4.70	cu
Formation Pressure Source	Constant Value	
Formation Pressure	0.00	kpsi
Temperature Source	Constant Value	
Temperature	68.00	degrees F
Mud Salinity	0.00	kppm
Formation Fluid Salinity Source	Constant Value	
Formation Fluid Salinity	0.00	kppm
Barite Mud Correction	Not Applied	

FE Calibration MFE-A.A 52

Base Calibration on 11-MAR-2011 10:55
Field Check on 06-JUN-2011 19:04

Base Calibration

	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	965.7	126.8
Base Check		279.9
Field Check		279.7

FE Constants MFE-A.A 52

Last Edited on 06-JUN-2011,22:20

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	0.5	inches

Sonic Constants MSS-A.A 40

Last Edited on

Maximum Boundary Contrast	100.00	micro-sec/ft
Fluid Transit Time	189.00	micro-sec/ft
Limestone Transit Time	47.50	micro-sec/ft
Sandstone Transit Time	55.50	micro-sec/ft
Dolomite Transit Time	43.50	micro-sec/ft
Sonic used for Porosities	3-5' Compensated	
Correction for Sonde Skew	Applied	
Cycle Stretch Algorithm	Applied	
MN3FT	0.00	micro-sec
MX3FT	1500.00	micro-sec
Hunt-Raymer Constant	83.13	micro-sec/ft
Sonde Mode	Compensated	
Hole Type	Open Hole	

Sonde Parameters

	Measured	Calibrated
Offset	0.0000	0.0000
Free Pipe	0.0000	0.0000

Peak Amplitude Source 0

Waveform	Start Time (micro-sec)	Width (micro-sec)	Pre Gain	Start Gain	Discriminator (mV)
3'	N/A	N/A	N/A	N/A	N/A
4'	N/A	N/A	N/A	N/A	N/A
5'	N/A	N/A	N/A	N/A	N/A
6'	N/A	N/A	N/A	N/A	N/A

Processed Fixed Gate Parameters

Waveform Used For Processing N/A

Start Time (micro-sec)	End Time (micro-sec)	Discriminator (mV)	Depth (m)
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	0.00	0.00	

Full Waveform Parameters

Use 3' Waveform to derive TR	No	
Use 4' Waveform to derive TR	No	
Use 5' Waveform to derive TR	No	
Use 6' Waveform to derive TR	No	
3' Waveform Discriminator Level	0.30	mV
4' Waveform Discriminator Level	0.30	mV
5' Waveform Discriminator Level	0.15	mV
6' Waveform Discriminator Level	0.15	mV
3' Waveform Filter	0	
4' Waveform Filter	0	
5' Waveform Filter	0	
6' Waveform Filter	0	
Semblance Level	0.50	
Semblance Window Width	120.00	micro-sec
Sonic 1 Despiker	100.00	micro-sec/ft
Sonic 2 Despiker	100.00	micro-sec/ft

High Resolution Temperature Calibration MAI-A.A 167

Field Calibration on 17-JAN-2011,18:32

	Measured	Calibrated(Deg F)
Lower	1.00	33.80
Upper	11.00	51.80

High Resolution Temperature Constants MAI-A.A 167

Last Edited on

Pre-filter Length	11

Induction Calibration MAI-A.A 167

Base Calibration on 11-MAR-2011,09:58
Field Check on 06-JUN-2011 19:29

Base Calibration

Test Loop Calibration

Channel	Measured Low	Measured High	Calibrated (mmho/m) Low	Calibrated (mmho/m) High
1	17.3	474.2	9.3	966.2
2	6.3	388.4	7.6	821.4
3	3.3	259.4	5.2	566.0
4	1.9	133.0	2.6	279.2
Array Temperature		76.8	Deg F	

Channel	Base Check (mmho/m) Low	Base Check (mmho/m) High	Field Check (mmho/m) Low	Field Check (mmho/m) High	
1	0.0	0.0	14.0	3836.6	
2	0.0	0.0	29.7	3474.1	
3	0.0	0.0	29.1	3050.3	
4	0.0	0.0	19.7	2079.6	
Deep	0.0	0.0	18.6	2046.9	
Medium	0.0	0.0	42.1	3987.8	
Shallow	0.0	0.0	43.3	5050.4	
Array Temperature		0.0		89.1	Deg F

Induction Constants MAI-A.A 167

Last Edited on 06-JUN-2011,22:20

Induction Model	RtAP-WBM	
Caliper for Borehole Corr.	Density Caliper	
Hole Size for Borehole Correction	N/A	inches
Tool Centred	No	
Stand-off Type	Fins	
Stand-off	0.50	inches
Number of Fins on Stand-off	8.0000	
Stand-off Fin Angle	45.00	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-B 35

Base Calibration on 11-MAR-2011 11:34
Field Calibration on 06-JUN-2011 19:06

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	17936	3.99
2	28079	5.98
3	38384	7.97
4	48048	9.86
5	59047	11.92
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
6.10	5.98

Photo Density Calibration MPD-B 35

Base Calibration on 11-MAR-2011 11:54
Field Check on 06-JUN-2011 19:11

Density Calibration

Base Calibration	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Reference 1	57876	27553	59556	30836
Reference 2	23524	2615	24941	2541

Field Check at Base

1175.2	1398.5

Field Check

1165.5	1389.2

PE Calibration

Base Calibration	Measured			Calibrated
	WS	WH	Ratio	Ratio
Background	211	1039		
Reference 1	21426	57673	0.375	0.371
Reference 2	6234	23377	0.270	0.272

Field Check at Base

211.2	1039.0

Field Check

208.1	1029.4

Density Constants MPD-B 35

Last Edited on 06-JUN-2011,22:13

Density Source Id	p50557b	
Nylon Calibrator Number	dnce695	
Aluminium Calibrator Number	dacd698	
Density Shoe Profile	8 inch	
Caliper Source for Processing	Density Caliper	
PE Correction to Density	Not Applied	
Mud Density	1.10	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)
2.71	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

DOWNHOLE EQUIPMENT

C:\Minimus 11.03.2789\Data\Comanche Bontrager 33-1\Comanche Bontrager 33-1.dta

Compact Comms Gamma
MCG-C 139 LG: 8.70 ft WT: 63.9 lb OD: 2.24 in

Compact Micro-log
MML-A 16 LG: 7.97 ft WT: 81.6 lb OD: 2.24 in

Compact Neutron
MDN-A.B 66 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

Compact Density/Caliper
MPD-B 35 LG: 9.59 ft WT: 90.4 lb OD: 2.45 in

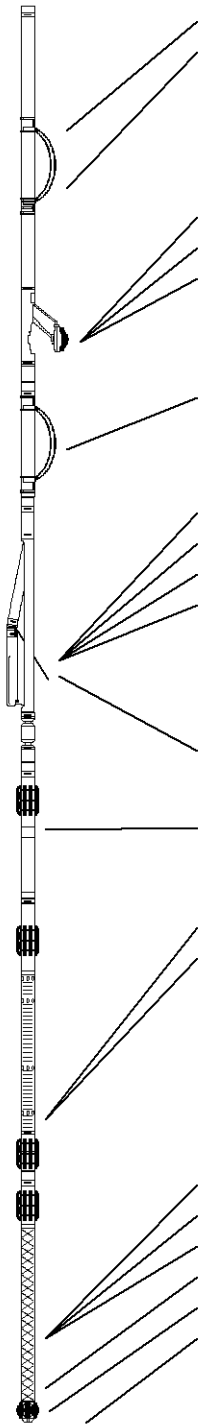
SKJ-D.A Compact Knuckle Joint
SKJ-D.A 36 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

Compact Focussed Electric
MFE-A.A 52 LG: 6.05 ft WT: 48.5 lb OD: 2.24 in

Compact Sonic
MSS-A.A 40 LG: 12.52 ft WT: 72.8 lb OD: 2.24 in

Compact Induction
MAI-A.A 167 LG: 10.81 ft WT: 48.5 lb OD: 2.24 in

Total Length: 62.84 ft Weight: 480.6 lb



57.56 ft	GRGC - Gamma Ray
54.65 ft	CGXT - MCG External Temperature
47.93 ft	MINV - Micro-inverse
47.93 ft	MNRL - Micro-normal
48.92 ft	MLTC - MML Caliper
43.13 ft	NPRL - Limestone Neutron Por.
35.89 ft	CLDC - Density Caliper
33.96 ft	DPRL - Limestone Density Por.
33.96 ft	DEN - Compensated Density
33.96 ft	DCOR - Density Correction
33.90 ft	PDPE - PE
26.24 ft	FEFE - Shallow FE
12.96 ft	DT35 - 3-5' Compensated Sonic
12.96 ft	SPRL - Wyllie Lime. Sonic Por.
3.34 ft	R40O - Array Ind. One Res 40
3.34 ft	RTAO - Array Ind. One Res Rt
3.34 ft	R60O - Array Ind. One Res 60
0.23 ft	SPCG - Spontaneous Potential
Tool Zero	(0.13ft from bottom)
-0.13 ft	SMTU - DST Uphole Tension

All measurements relative to tool zero.

COMPANY	COMANCHE RESOURCES CO. LLC
WELL	BONTRAGER 33-1
FIELD	WILDCAT
PROVINCE/COUNTY	SCOTT
COUNTRY/STATE	U.S.A./KANSAS

Elevation Kelly Bushing	3075.00	feet	First Reading	5106.00	feet
Elevation Drill Floor	3073.00	feet	Depth Driller	5104.00	feet
Elevation Ground Level	3064.00	feet	Depth Logger	5109.00	feet

Weatherford®

ARRAY INDUCTION
SHALLOW FOCUSSED
ELECTRIC LOG

Weatherford

ARRAY INDUCTION
SHALLOW FOCUSSED
ELECTRIC LOG

COMPANY COMANCHE RESOURCES CO. LLC
WELL BONTRAGER 33-1
FIELD WILDCAT
PROVINCE/COUNTY SCOTT
COUNTRY/STATE U.S.A./KANSAS
LOCATION 2640' FSL & 975' FWL
W2-E2-W2-W2

SEC	TWP	RGE	Other Services
33	19S	34W	MPD/MDN MML MSS

API Number 15-171-20798
Permit Number

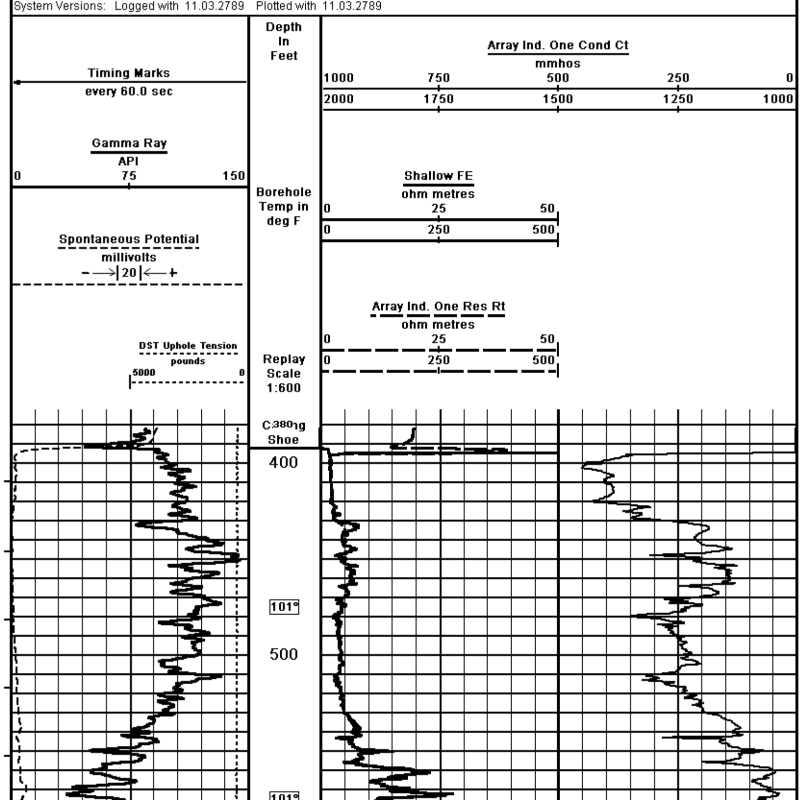
Permanent Datum G.L. Elevation 3064 feet
Log Measured From K.B. @ 11 FEET above Permanent Datum
Drilling Measured From K.B.

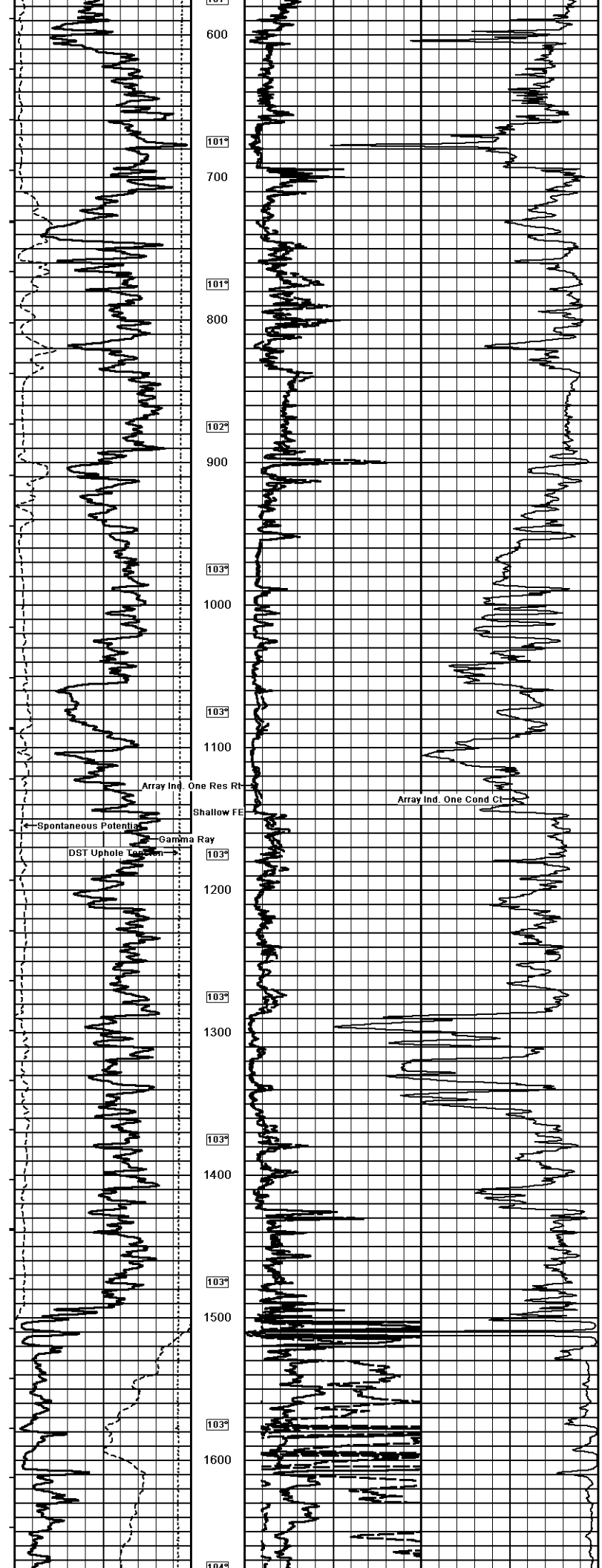
Elevations: feet
KB 3075.00
DF 3073.00
GL 3064.00

Date	07-JUN-2011		
Run Number	ONE		
Depth Driller	5104.00 feet		
Depth Logger	5109.00 feet		
First Reading	5106.00 feet		
Last Reading	392.00 feet		
Casing Driller	393.00 feet		
Casing Logger	392.00 feet		
Bit Size	7.875 inches		
Hole Fluid Type	CHEMICAL		
Density / Viscosity	9.20 lb/USg	60.00 CP	
PH / Fluid Loss	10.00	5.20 ml/30Min	
Sample Source	FLOWLINE		
Rm @ Measured Temp	0.73 @ 88.0 ohm-m		
Rmf @ Measured Temp	0.58 @ 88.0 ohm-m		
Rmc @ Measured Temp	0.88 @ 88.0 ohm-m		
Source Rmf / Rmc	CALC	CALC	
Rm @ BHT	0.53 @ 122.0 ohm-m		
Time Since Circulation	4 HOURS		
Max Recorded Temp	122.00 deg F		
Equipment Name	COMPACT		
Equipment / Base	13025	LIB	
Recorded By	A. SILL		L. SCOTT
Witnessed By	JIM SPELLMAN		JIM LEMASTER
S.O. #/JOB #	3531120		LB11-124

1 INCH MAIN

Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 07-JUN-2011 03:28
Filename: C:\Minimus 11.03.2789\Data\Comanche Bontrager 33-1\Comanche Bontrager 33-1_002.dta — Recorded on 07-JUN-2011 00:07
System Versions: Logged with 11.03.2789 Plotted with 11.03.2789




600
101°
700
101°
800
102°
900
103°
1000
103°
1100
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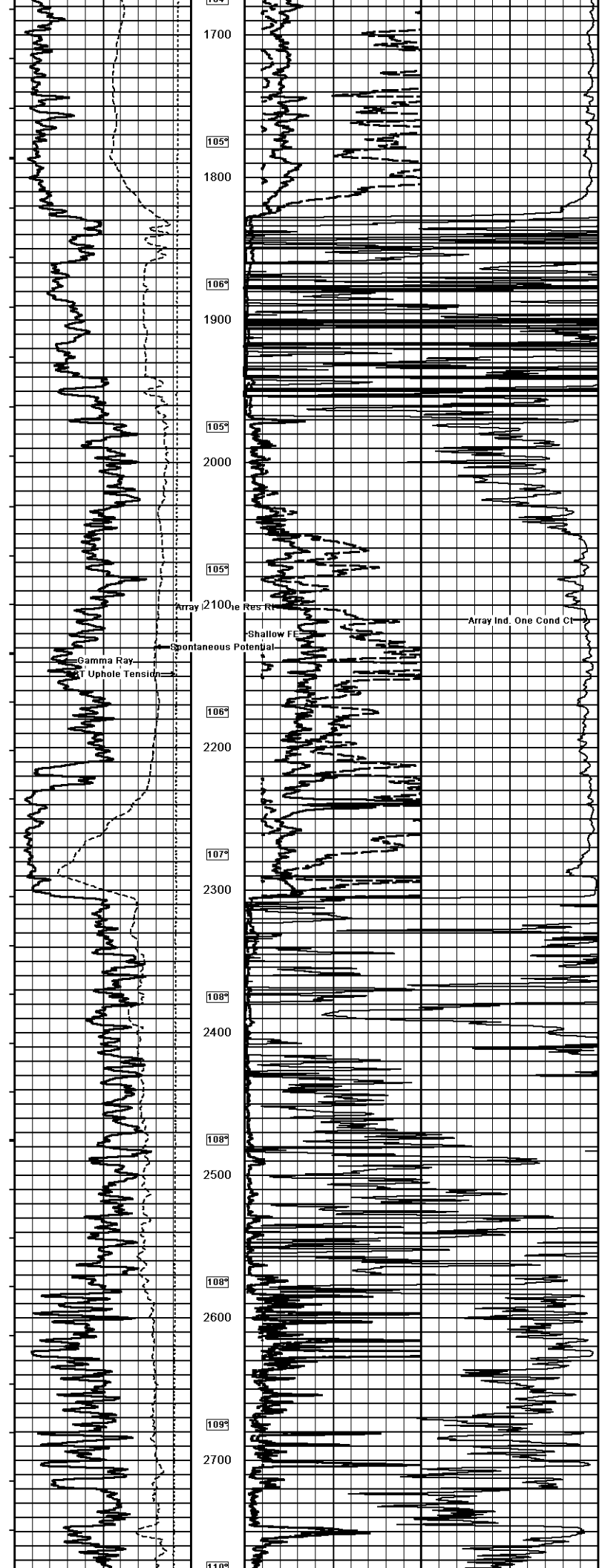
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension
103°
1200
103°
1300
103°
1400
103°
1500
103°
1600
Array Ind. One Cond Ct


1700
105°
1800
106°
1900
105°
2000
105°
2100
Array
e Res Rt
Shallow Fo
Spontaneous Potential
Gamma Ray
T Uphole Tension
Array Ind. One Cond Ct
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2200
107°
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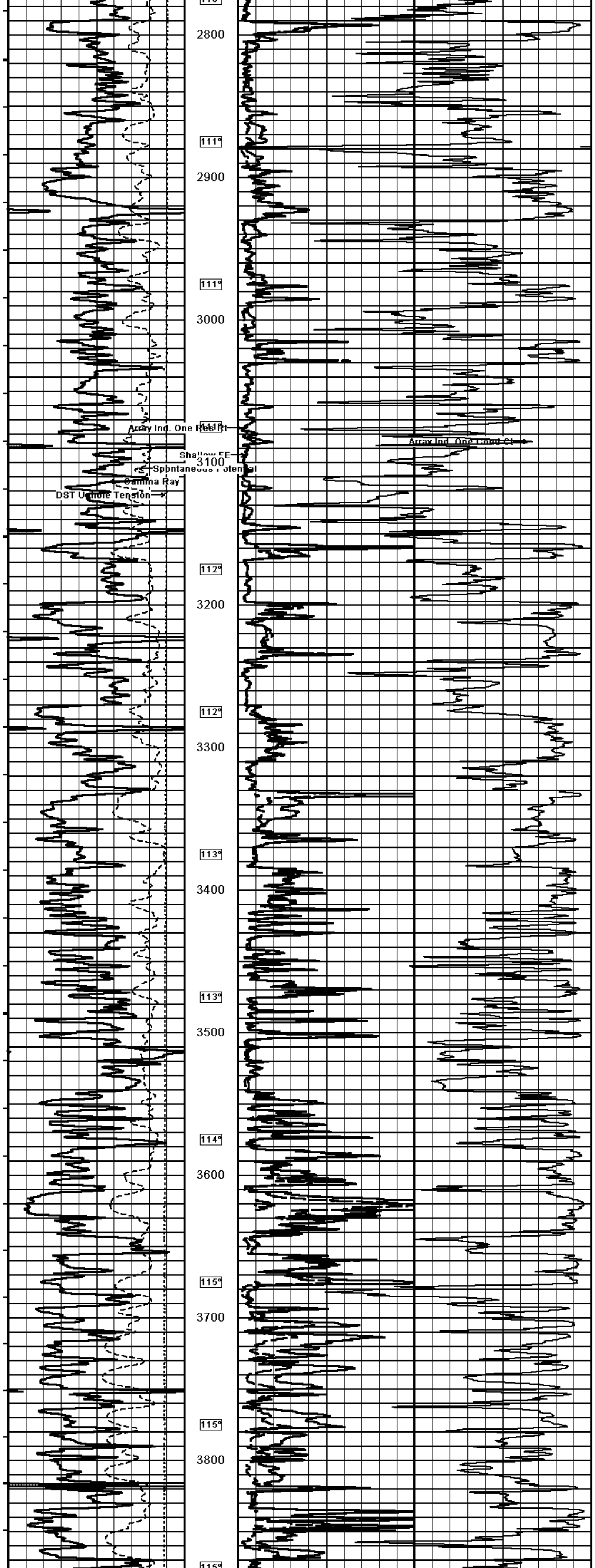
108°
2400
108°
2500
108°
2600
109°
2700
110°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111°
2900
111°
3000
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3100
Spontaneous Potential
Gamma Ray
DST Uphole Tension
Array Ind. One Cond Ct
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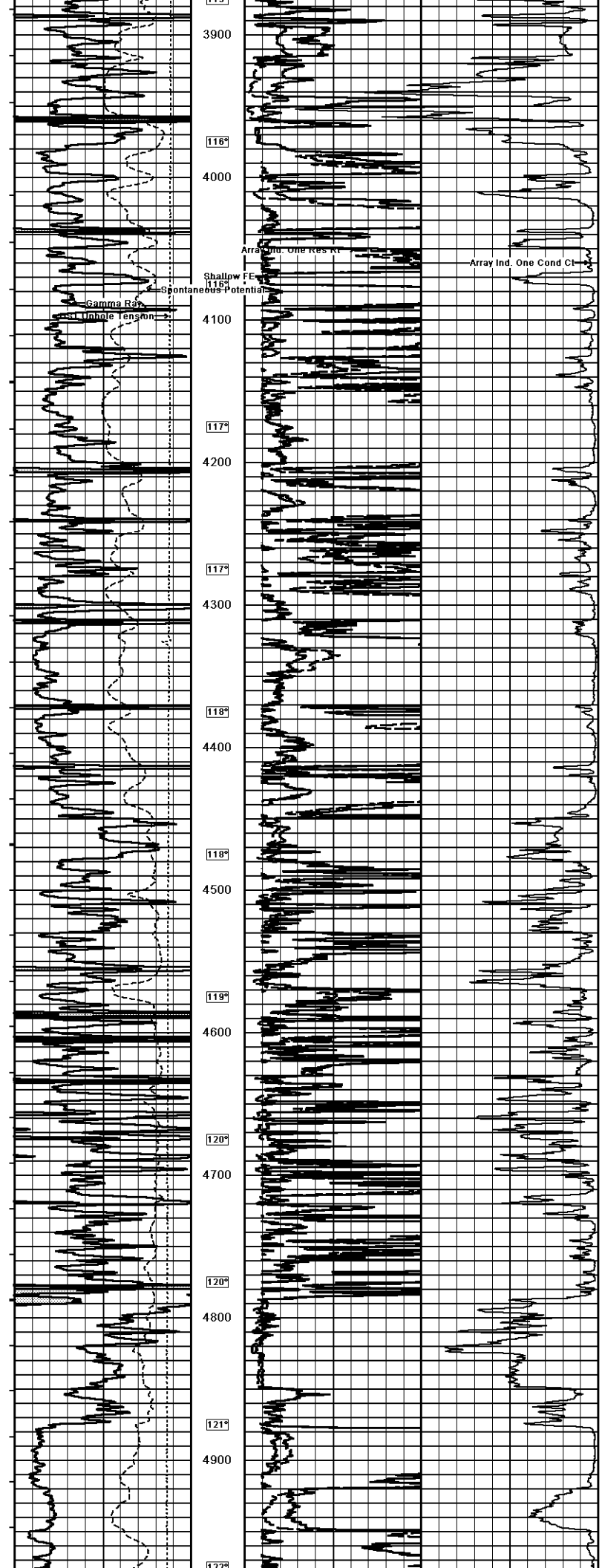
3200
112°
3300
113°
3400
113°
3500
114°
3600
115°
3700
115°
3800


3900
116°
4000
Array Ind. One Res Rt
Array Ind. One Cond Ct
Shallow FE
116°
Spontaneous Potential
Gamma Ray
Cal Uphole Tension
4100
117°
4200
117°
4300
118°
4400
118°
4500
119°
4600
120°
4700
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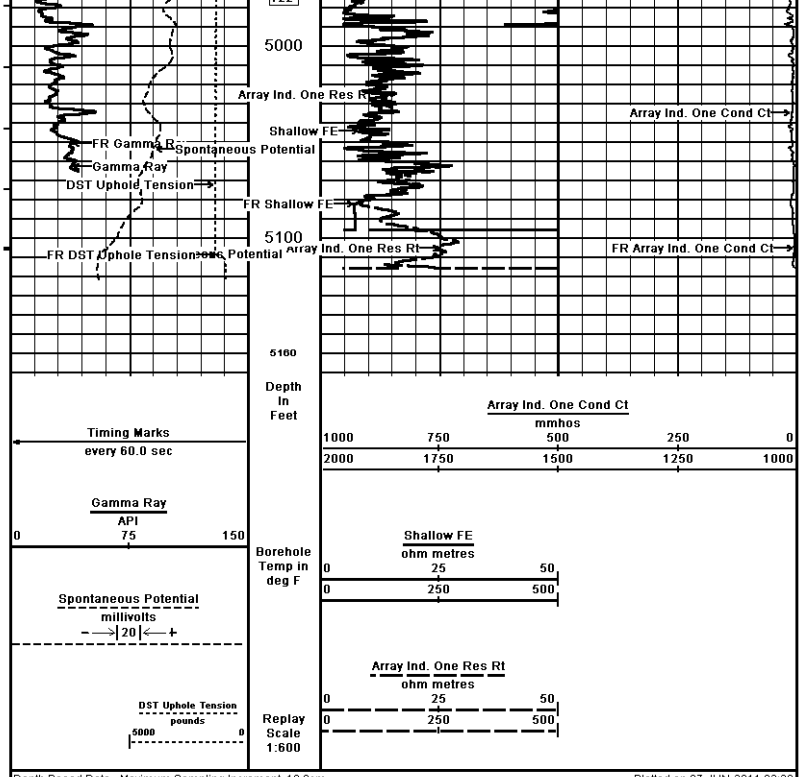

Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 07-JUN-2011 03:28
Filename: C:\Minimus 11.03.2789\Data\Comanche Bontrager 33-1\Comanche Bontrager 33-1_002.dta — Recorded on 07-JUN-2011 00:07
System Versions: Logged with 11.03.2789 Plotted with 11.03.2789

1 INCH MAIN

COMPANY	COMANCHE RESOURCES CO. LLC
WELL	BONTRAGER 33-1
FIELD	WILDCAT
PROVINCE/COUNTY	SCOTT
COUNTRY/STATE	U.S.A./KANSAS

Elevation Kelly Bushing	3075.00	feet	First Reading	5106.00	feet
Elevation Drill Floor	3073.00	feet	Depth Driller	5104.00	feet
Elevation Ground Level	3064.00	feet	Depth Logger	5109.00	feet

Weatherford

ARRAY INDUCTION
SHALLOW FOCUSSED
ELECTRIC LOG