Weatherford

ARRAY INDUCTION SHALLOW FOCUSED ELECTRIC LOG

COMPANY	SHAKESPEARE OIL CO., INC.
WELL	B4US #1-32
FIELD	WILDCAT
PROVINCE/COUNTY	SCOTT
COUNTRY/STATE	U.S.A. / KANSAS
LOCATION	335' FNL & 1440' FWL

SEC	TWP	RGE	Other Services
32	17S	33W	MPD/MDN MML MSS

Latitude
Longitude
API Number 15-171-21051

Permanent Datum GL, Elevation 3056 feet
Log Measured From KB
Drilling Measured From KB

Elevations:	feet
KB	3066.00
DF	3064.00
GL	3056.00

Date	10-MAY-2014		
Run Number	ONE		
Service Order	4558-86926003		
Depth Driller	4845.00 feet		
Depth Logger	4842.00 feet		
First Reading	4839.00 feet		
Last Reading	266.00 feet		
Casing Driller	270.00 feet		
Casing Logger	266.00 feet		
Bit Size	7.875 inches		
Hole Fluid Type	CHEMICAL		
Density / Viscosity	9.30 lb/USg	54.00 CP	
PH / Fluid Loss	10.50	8.00 ml/30Min	
Sample Source	FLOWLINE		
Rm @ Measured Temp	0.37 @ 93.0 ohm-m		
Rmf @ Measured Temp	0.30 @ 93.0 ohm-m		
Rmc @ Measured Temp	0.44 @ 93.0 ohm-m		
Source Rmf / Rmc	CALC	CALC	
Rm @ BHT	0.30 @115.0 ohm-m		
Time Since Circulation	4 HOURS		
Max Recorded Temp	115.00 deg F		
Equipment / Base	13244	LIB	
Recorded By	ADAM SILL		
Witnessed By	TIM PRIEST		
JOB #	LB14-140		

BOREHOLE RECORD

Last Edited: 10-MAY-2014 18:38

Bit Size inches	Depth From feet	Depth To feet
7.875	270.00	4845.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	8.625	0.00	270.00	24.00

REMARKS

- SOFTWARE ISSUE: WLS 13.08.2113.

- RUN ONE: MCG, MML, MDN, MPD, MFE, MSS, MAI RUN IN COMBINATION.
  - HARDWARE: DUAL BOWSPRING USED ON MDN.
  0.5 INCH STANDOFF USED ON MFE.
  TWO 0.5 INCH STANDOFFS USED ON MSS.
  0.5 INCH STANDOFF USED ON MAI.

- 2.71 G/CC LIMESTONE DENSITY MATRIX USED TO CALCULATE POROSITY.

- BOREHOLE RUGOSITY, TIGHT PULLS, AND WASHOUTS WILL AFFECT DATA QUALITY.

- ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST.

- TOTAL HOLE VOLUME FROM TD TO SURFACE CASING: 2321 CU.FT.

- ANNULAR HOLE VOLUME WITH 5.5 INCH PRODUCTION CASING FROM TD TO 3800 FEET: 227 CU.FT.

- RIG: H-D DRILLING #2.

- ENGINEER: A. SILL.

- OPERATOR: J. LaPOINT.

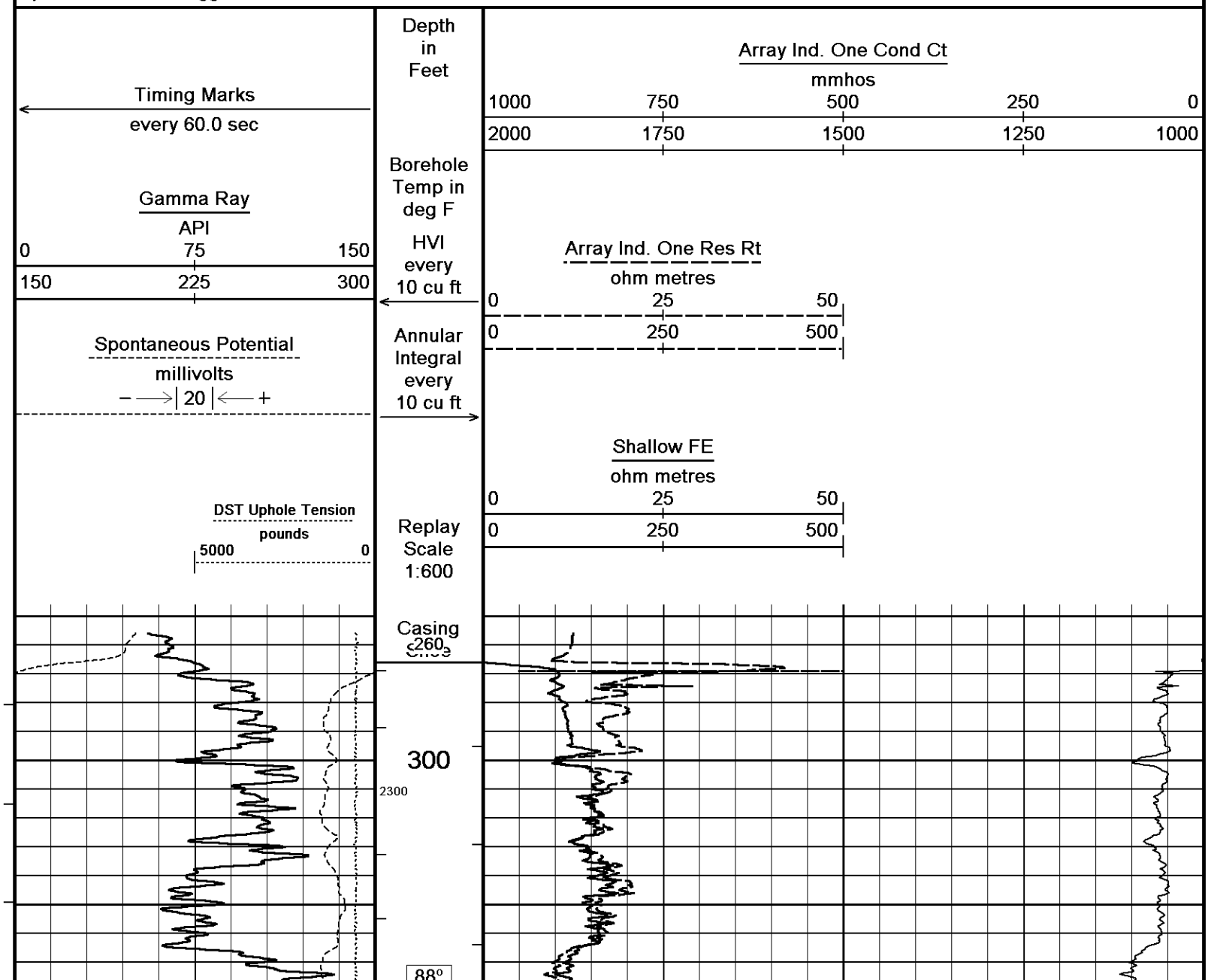
In interpreting, communicating or providing information and/or making recommendations, either written or oral, as to logs or test or other data, type or amount of material, or Work or other service to be furnished, or manner of performance, or in predicting results to be obtained, the Contractor will give the Company the benefit of the Contractor's best judgment based on its experience and will perform all such Work in a good and workmanlike manner. Any interpretation of test or other data, and any recommendation or reservoir description based upon such interpretations, are opinions based upon inferences from measurements and empirical relationships and assumptions, which inferences and assumptions are not infallible, and with respect to which professional engineers and analysts may differ. ACCORDINGLY ANY INTERPRETATION OR RECOMMENDATION RESULTING FROM THE SERVICES WILL BE AT THE SOLE RISK OF THE COMPANY, AND THE CONTRACTOR CANNOT AND DOES NOT WARRANT THE ACCURACY, CORRECTNESS OR COMPLETENESS OF ANY SUCH INTERPRETATION OR RECOMMENDATION, WHICH INTERPRETATIONS AND RECOMMENDATIONS SHOULD NOT, THEREFORE, UNDER ANY CIRCUMSTANCES BE RELIED UPON AS THE SOLE OR MAIN BASIS FOR ANY DRILLING, COMPLETION, WELL TREATMENT, PRODUCTION OR FINANCIAL DECISION, OR ANY PROCEDURE INVOLVING ANY RISK TO THE SAFETY OF ANY DRILLING ACTIVITY, DRILLING RIG OR ITS CREW OR ANY OTHER INDIVIDUAL. THE COMPANY HAS FULL RESPONSIBILITY FOR ALL DECISIONS CONCERNING THE SERVICES.

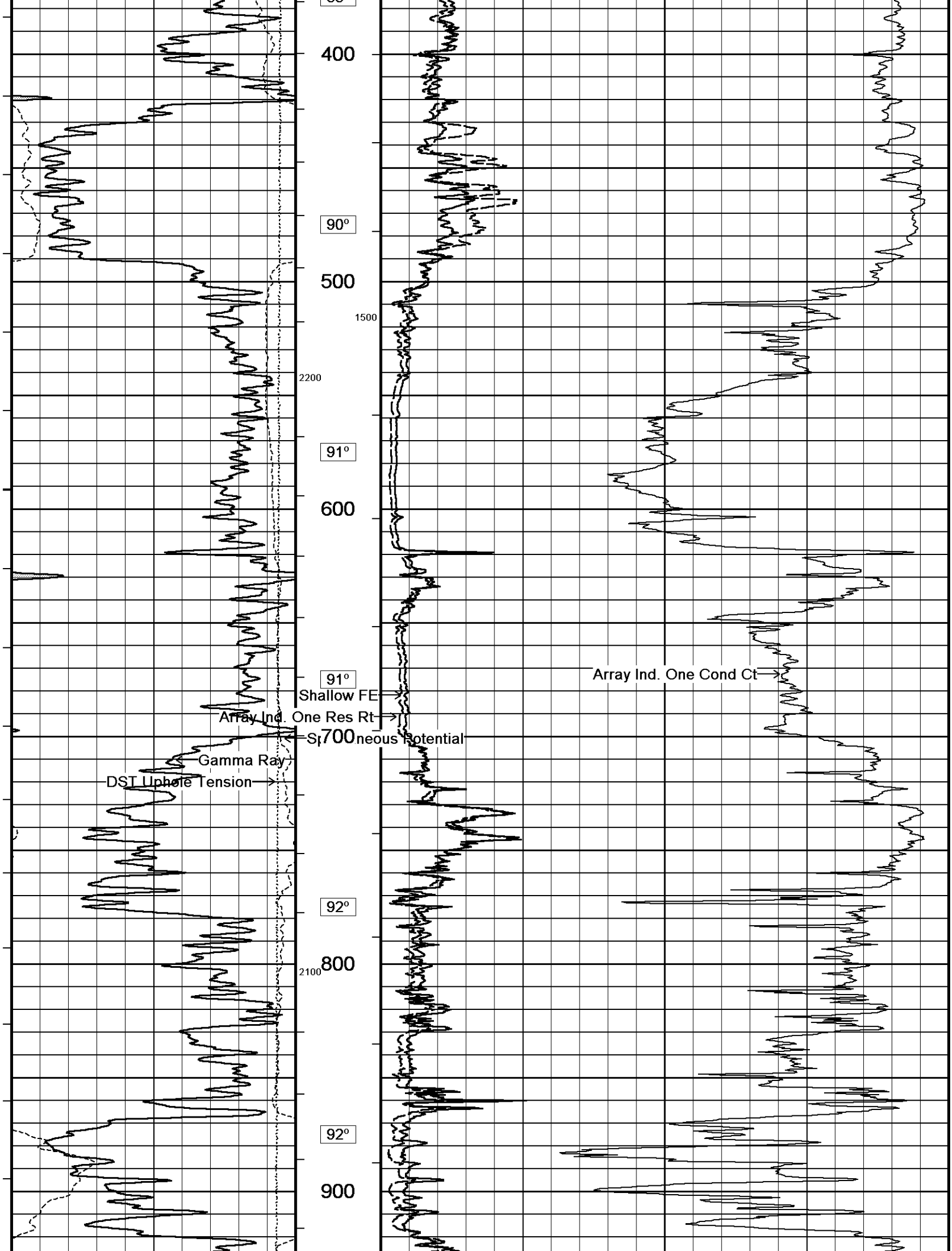
2 INCH MAIN

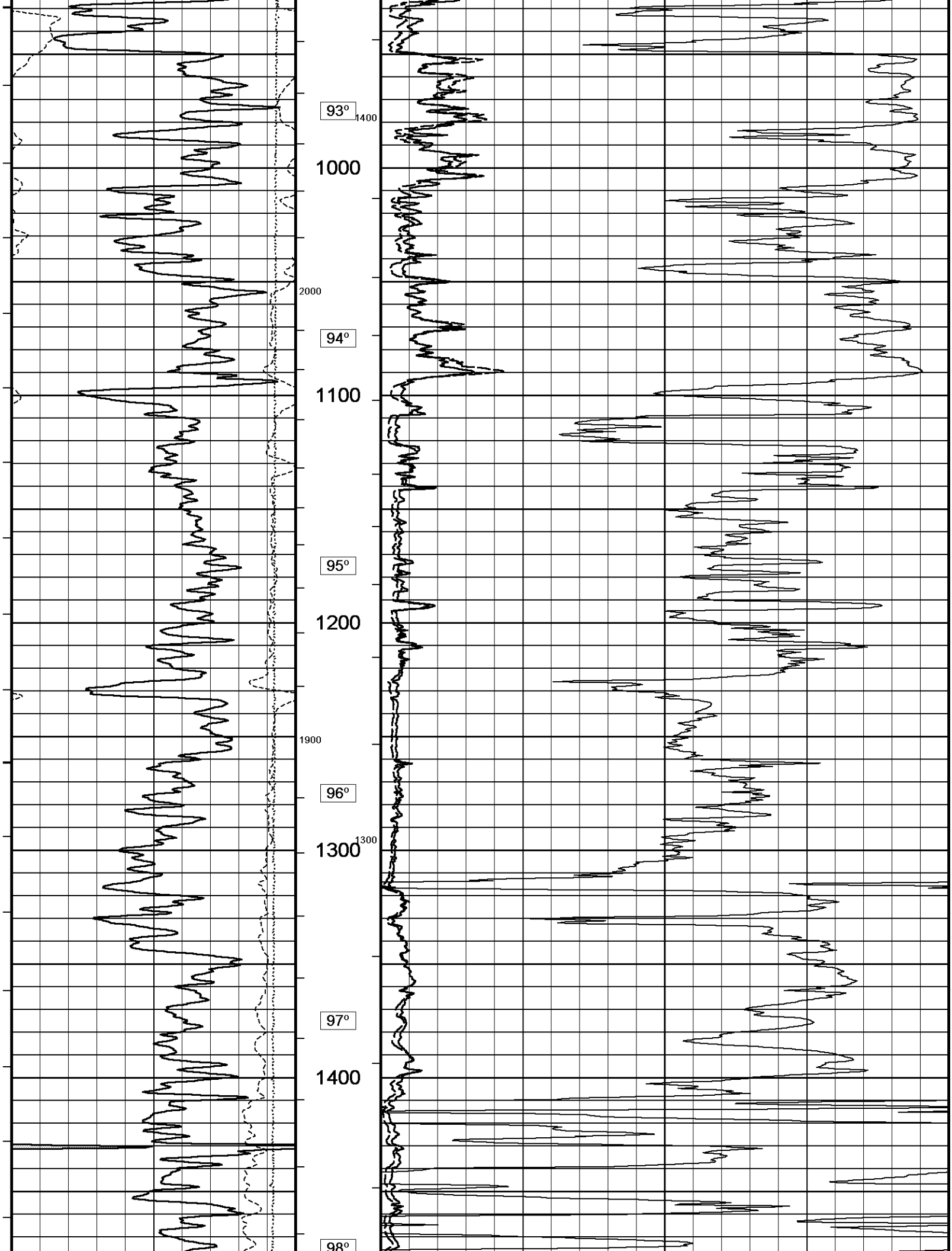
Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 11-MAY-2014 00:12

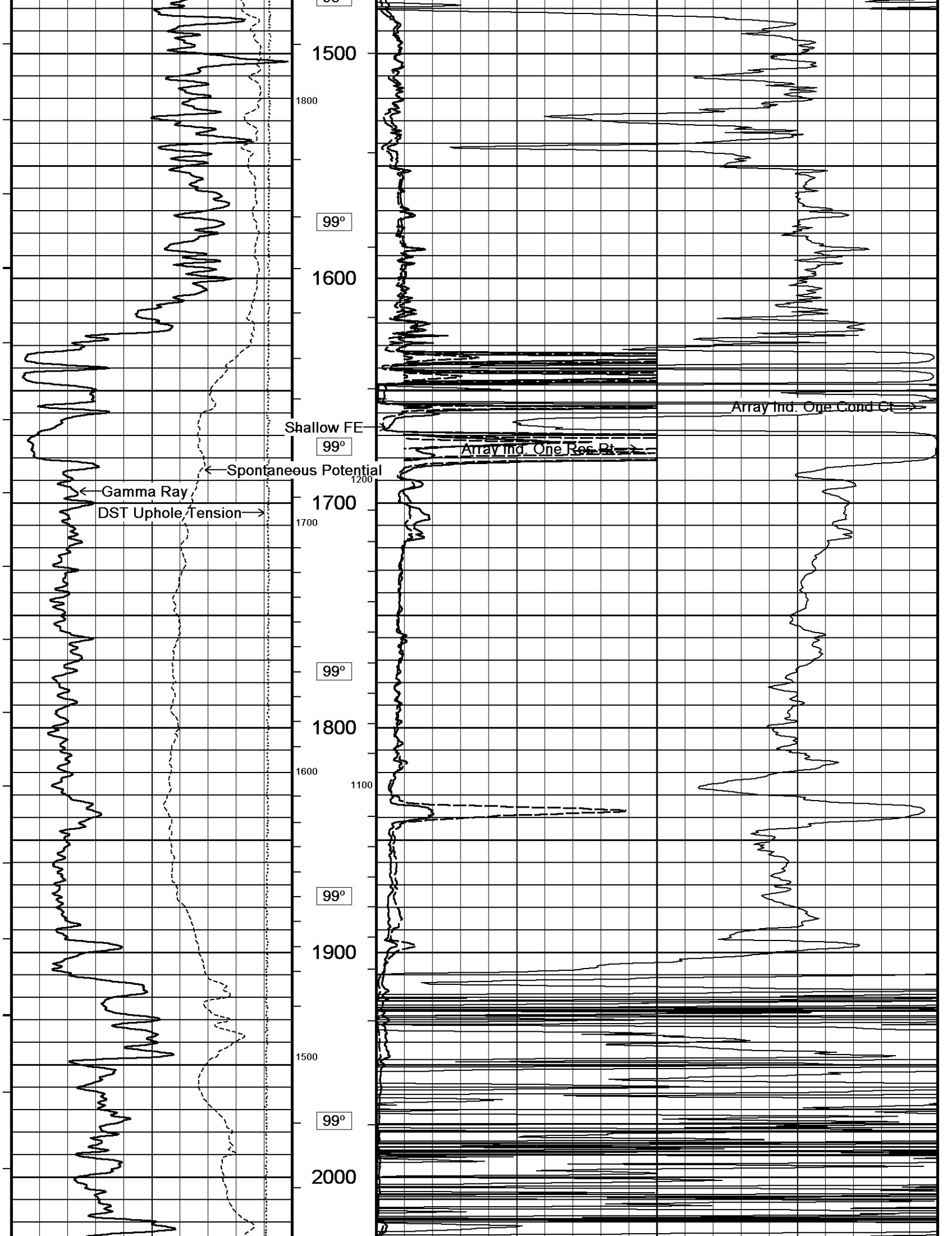
Filename: C:\Minimus 13.08.2113\Logs\Shakespeare B4US #1-32\Shakespeare B4US #1-32_002.dta — Recorded on 10-MAY-2014 21:00

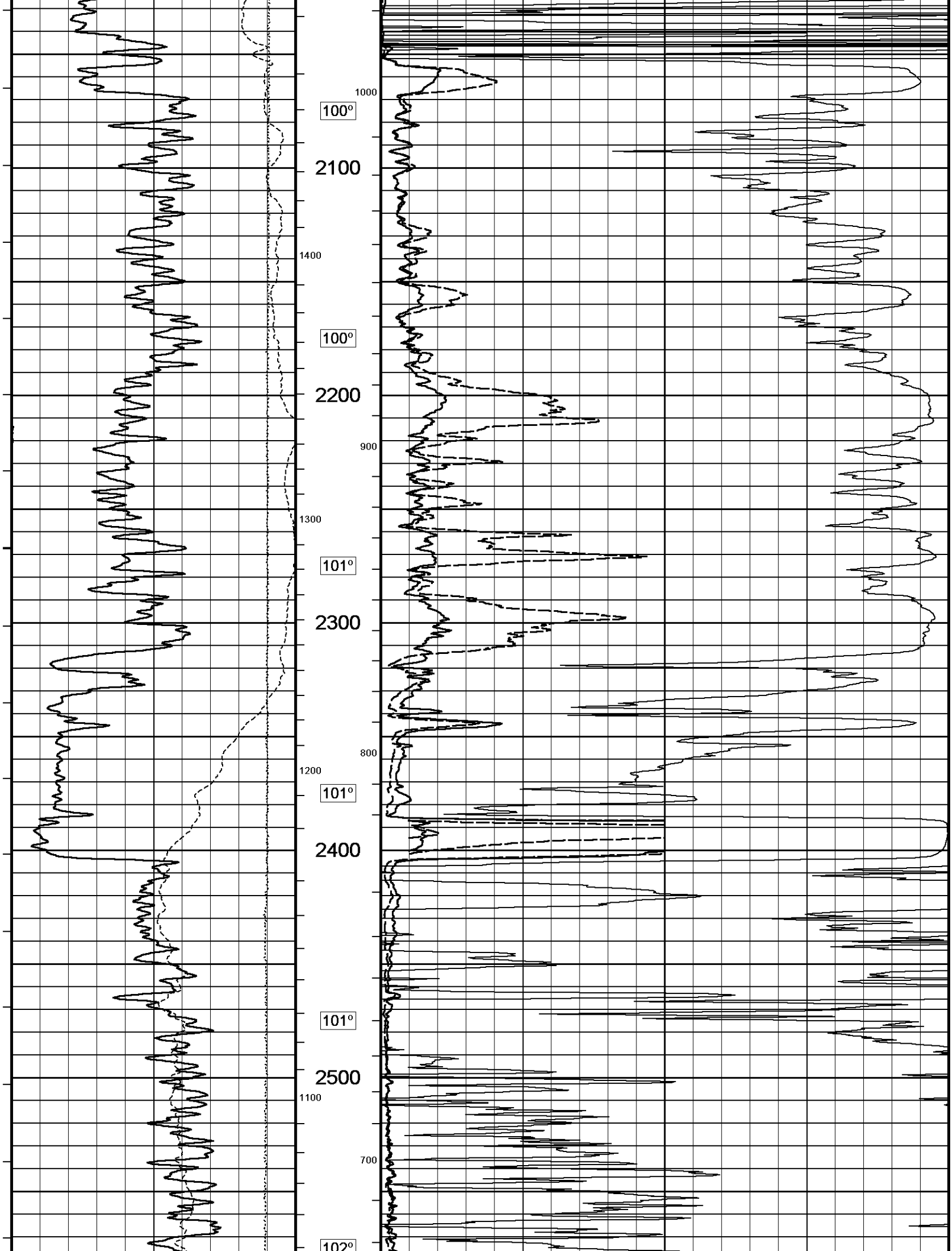
System Versions: Logged with 13.08.2113 Plotted with 13.08.2113

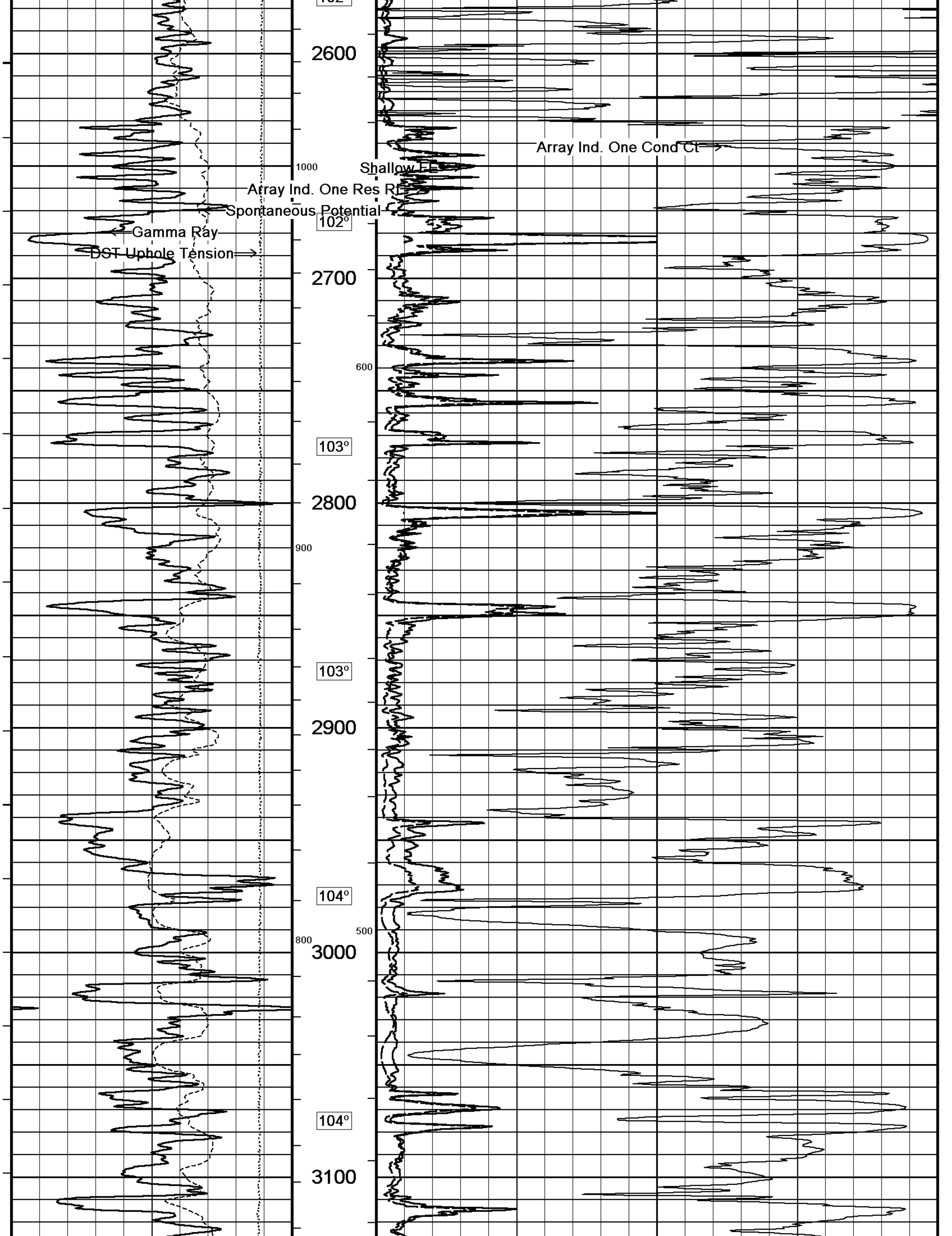


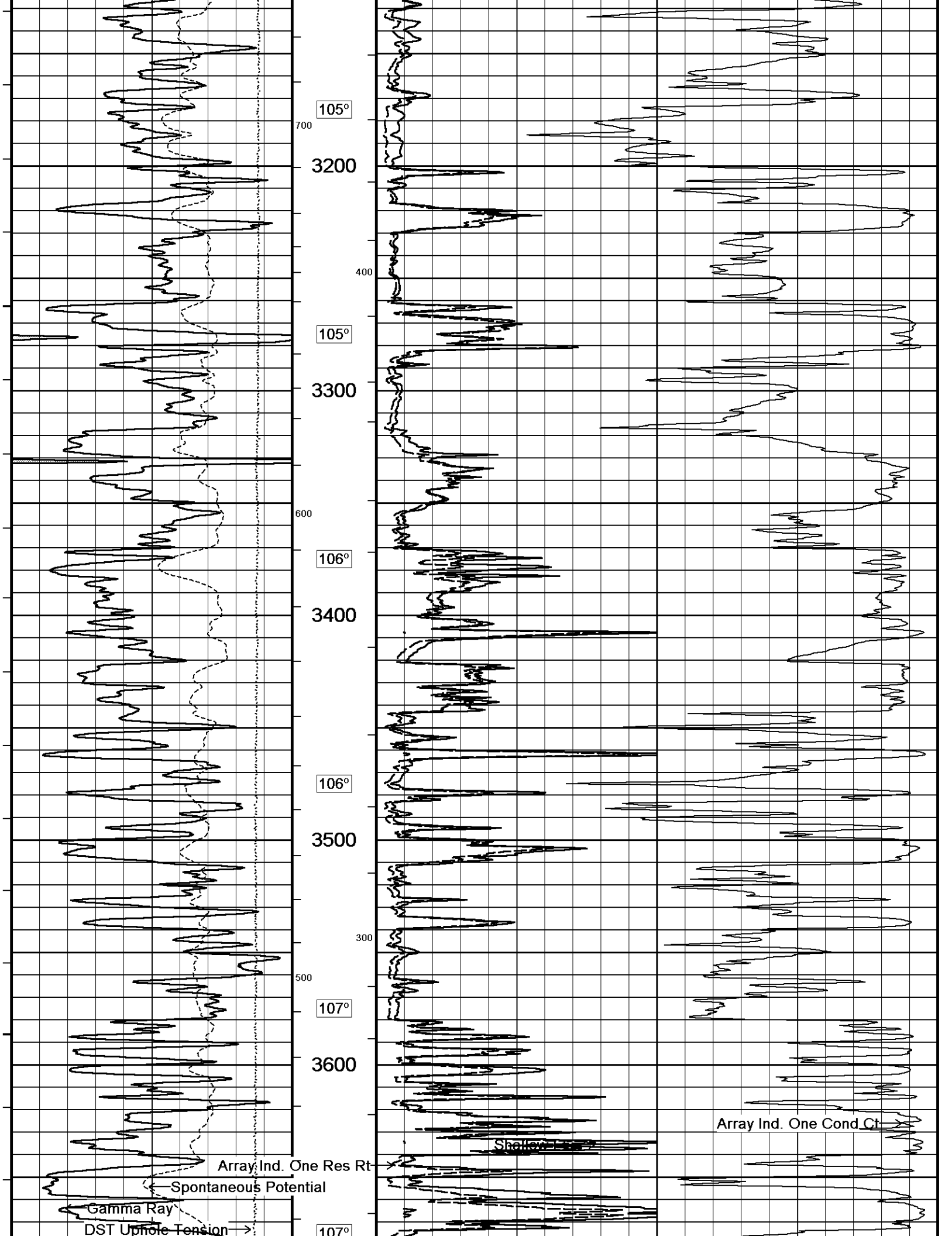

400
90°
500
1500
2200
91°
600
91°
Shallow FE
Array Ind. One Res Rt
700
Gamma Ray
DST Uphole Tension
92°
2100
800
92°
900
Array Ind. One Cond Ct

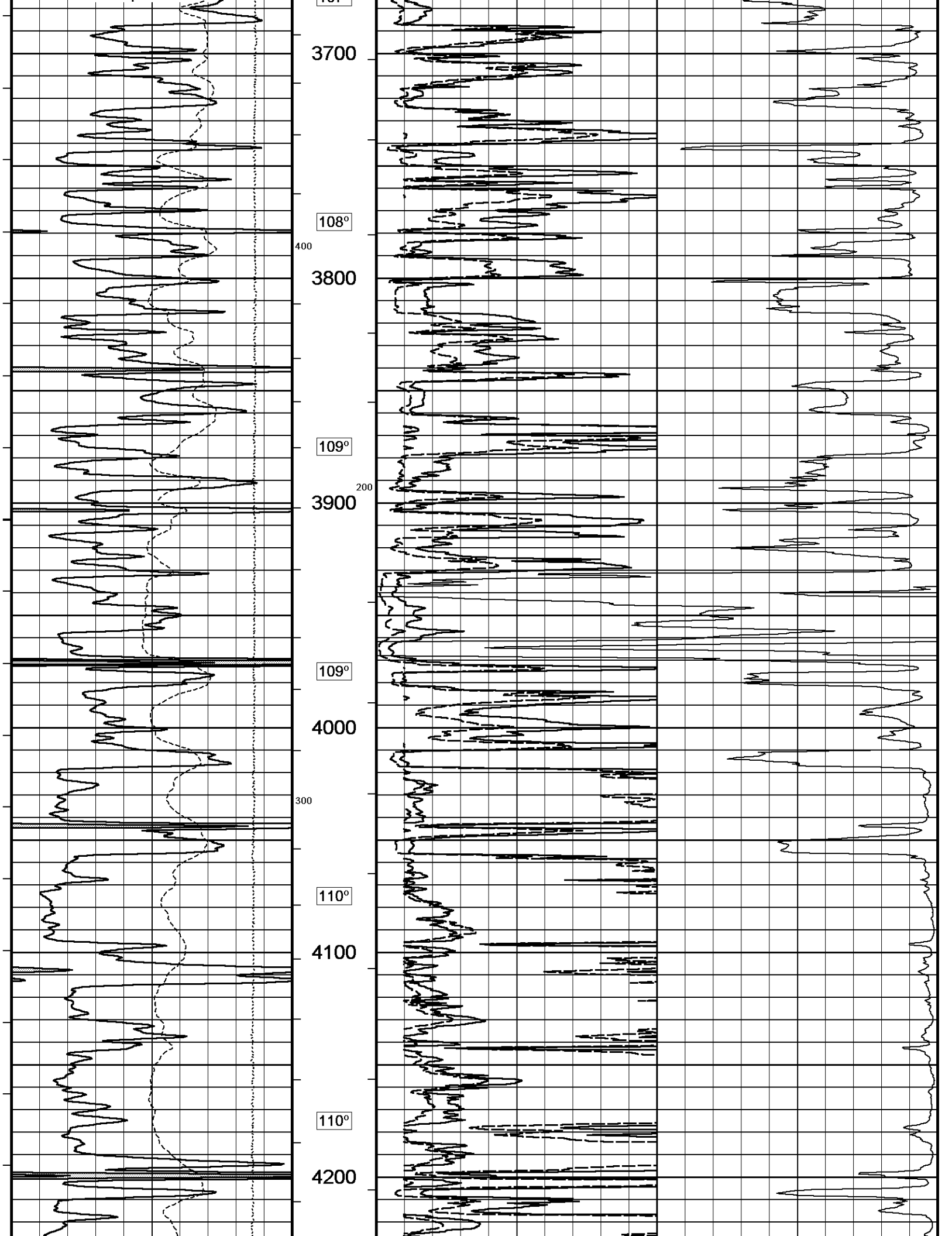

93°
1400
1000
2000
94°
1100
95°
1200
1900
96°
1300
1300
97°
1400
98°

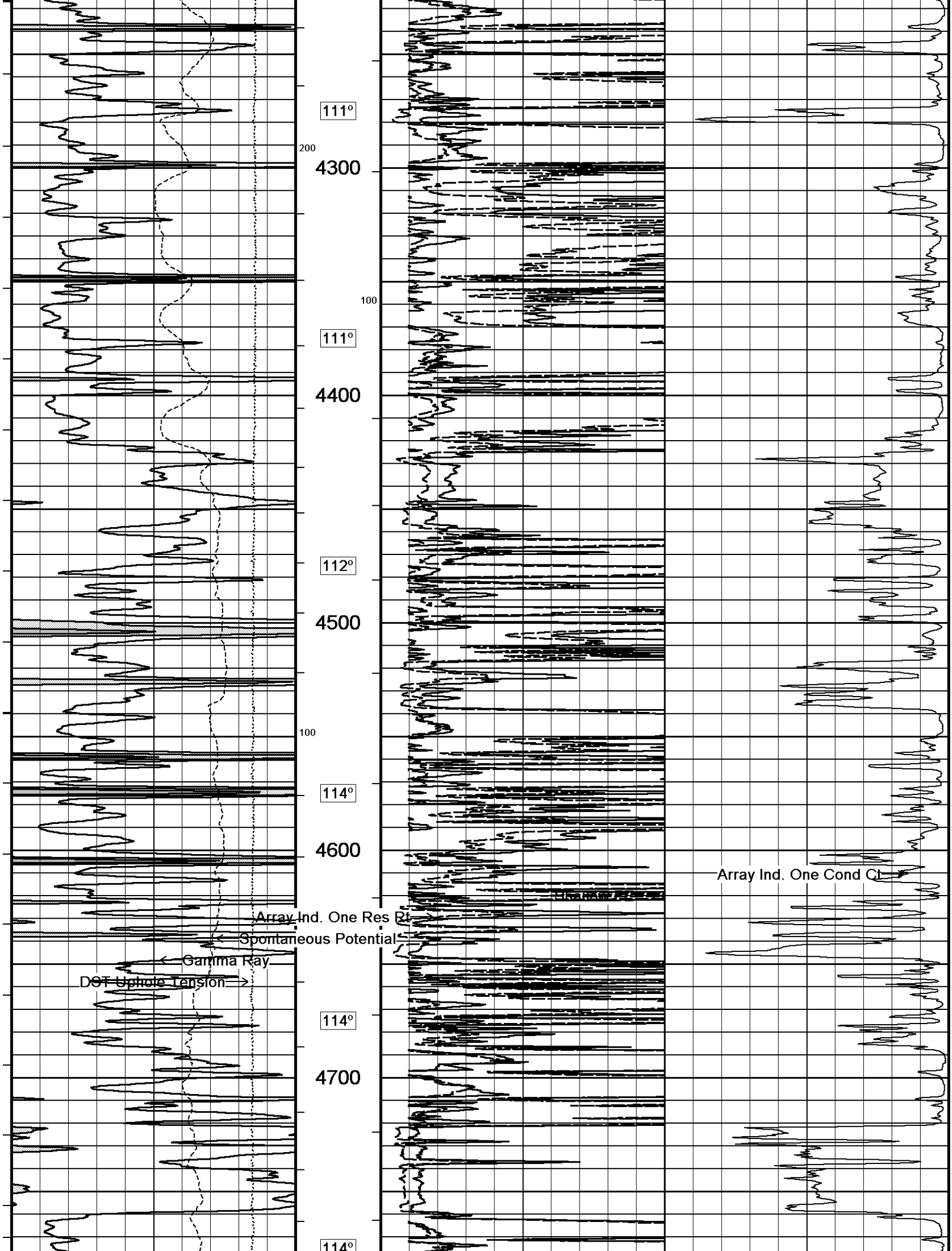

1500
1800
99°
1600
Shallow FE
99°
Spontaneous Potential
1200
Gamma Ray
DST Uphole Tension
1700
1700
99°
1800
1600
1100
99°
1900
1500
99°
2000
Array Ind. One Cond Ct
Array Ind. One Res Rt

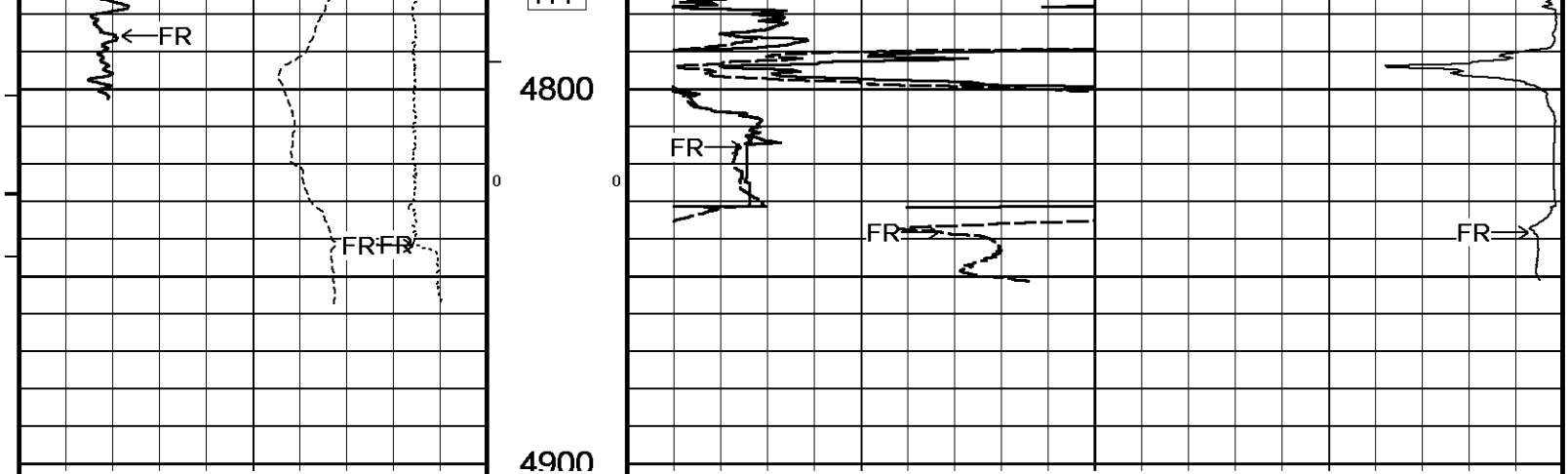

1000
100°
2100
1400
100°
2200
900
1300
101°
2300
800
1200
101°
2400
101°
2500
1100
700
102°


2600
Array Ind. One Cond Ct
1000
Shallow
Array Ind. One Res Rt
Spontaneous Potential
102°
Gamma Ray
DST Uphole Tension
2700
600
103°
2800
900
103°
2900
104°
800
500
3000
104°
3100


105°
700
3200
400
105°
3300
600
106°
3400
106°
3500
300
500
107°
3600
Array Ind. One Cond Ct
Shallow Cond
Array Ind. One Res Rt
Spontaneous Potential
Gamma Ray
DST Uphole Tension
107°


3700
108°
400
3800
109°
200
3900
109°
4000
300
110°
4100
110°
4200


111°
200
4300
100
111°
4400
112°
4500
100
114°
4600
Array Ind. One Cond Cl
Array Ind. One Res Rt
Spontaneous Potential
Gamma Ray
DOT Uphole Tension
114°
4700
114°



Depth in Feet

Timing Marks
every 60.0 sec

Gamma Ray
API
0 75 150
150 225 300

Spontaneous Potential
millivolts
− → | 20 | ← +

DST Uphole Tension
pounds
5000 0

Borehole Temp in deg F

HVI every 10 cu ft

Annular Integral every 10 cu ft

Replay Scale 1:600

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

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

Shallow FE
ohm metres
0 25 50
0 250 500

Depth Based Data - Maximum Sampling Increment 10.0cm
Filename: C:\Minimus 13.08.2113\Logs\Shakespeare B4US #1-32\Shakespeare B4US #1-32_002.dta
System Versions: Logged with 13.08.2113 Plotted with 13.08.2113

Plotted on 11-MAY-2014 00:12
Recorded on 10-MAY-2014 21:00

2 INCH MAIN

5 INCH MAIN

Depth Based Data - Maximum Sampling Increment 10.0cm
Filename: C:\Minimus 13.08.2113\Logs\Shakespeare B4US #1-32\Shakespeare B4US #1-32_002.dta
System Versions: Logged with 13.08.2113 Plotted with 13.08.2113

Plotted on 11-MAY-2014 00:12
Recorded on 10-MAY-2014 21:00

Depth in Feet

Timing Marks
every 60.0 sec

Gamma Ray
API
0 75 150
150 225 300

Borehole Temp in deg F

HVI every 10 cu ft

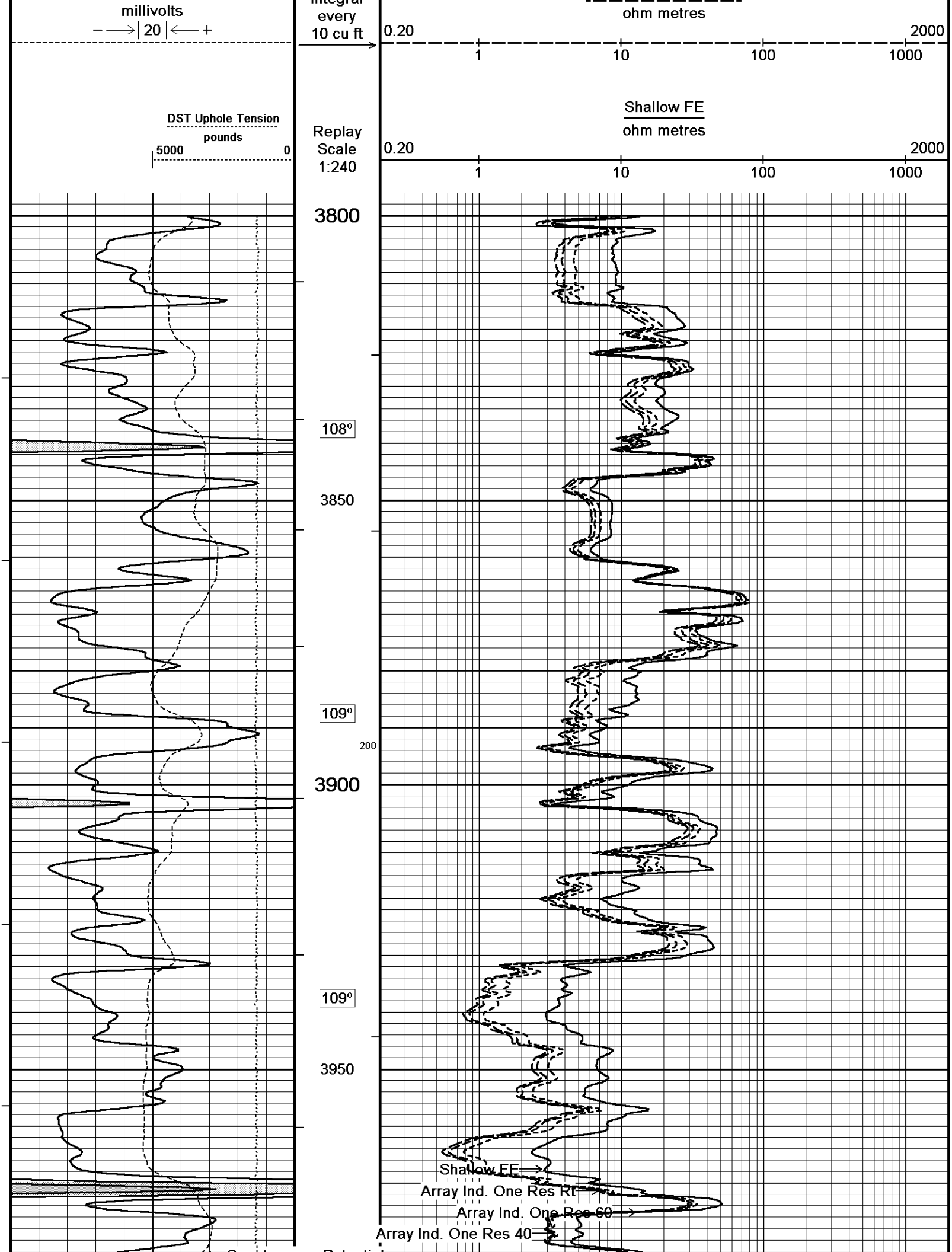
Annular Integral

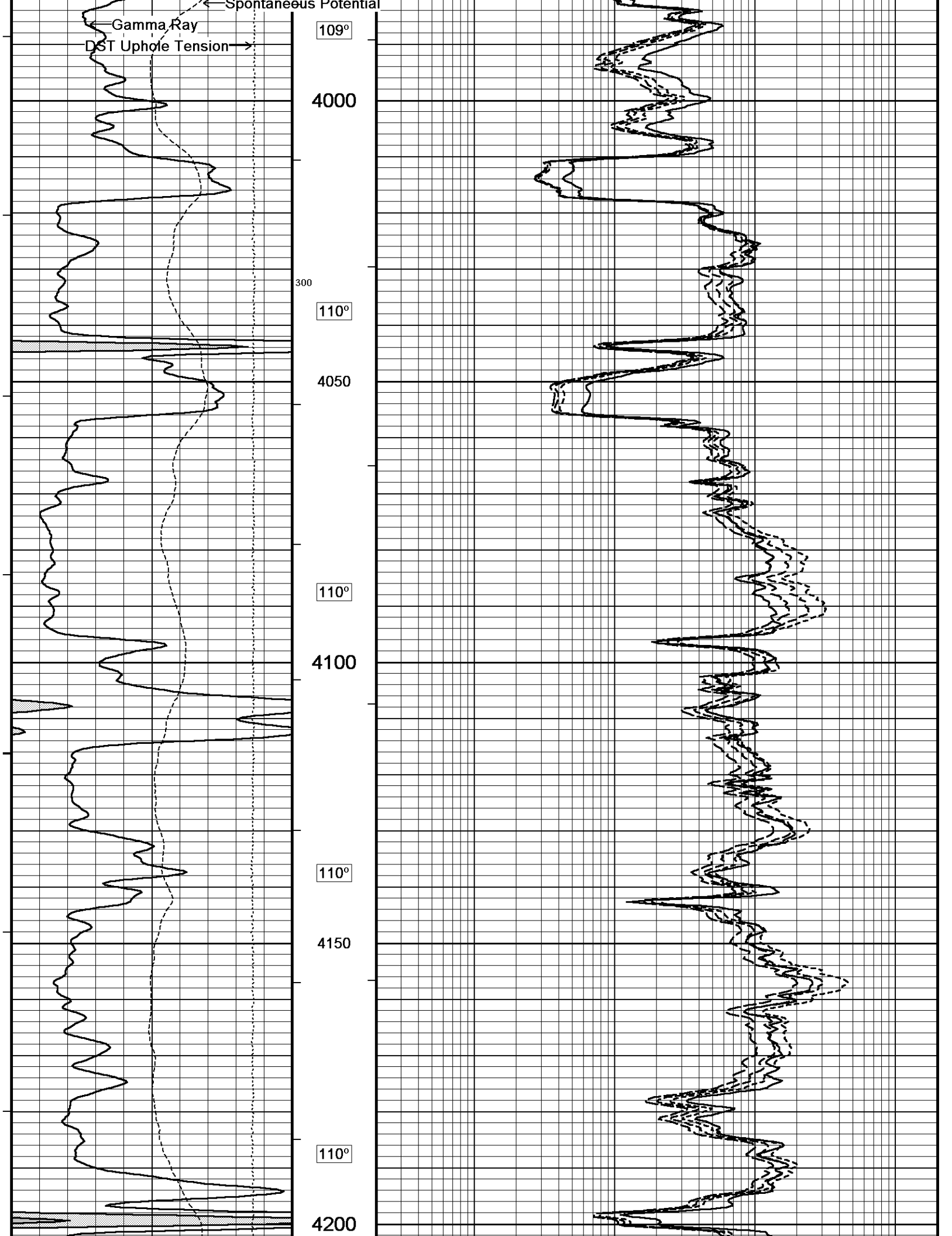
Spontaneous Potential

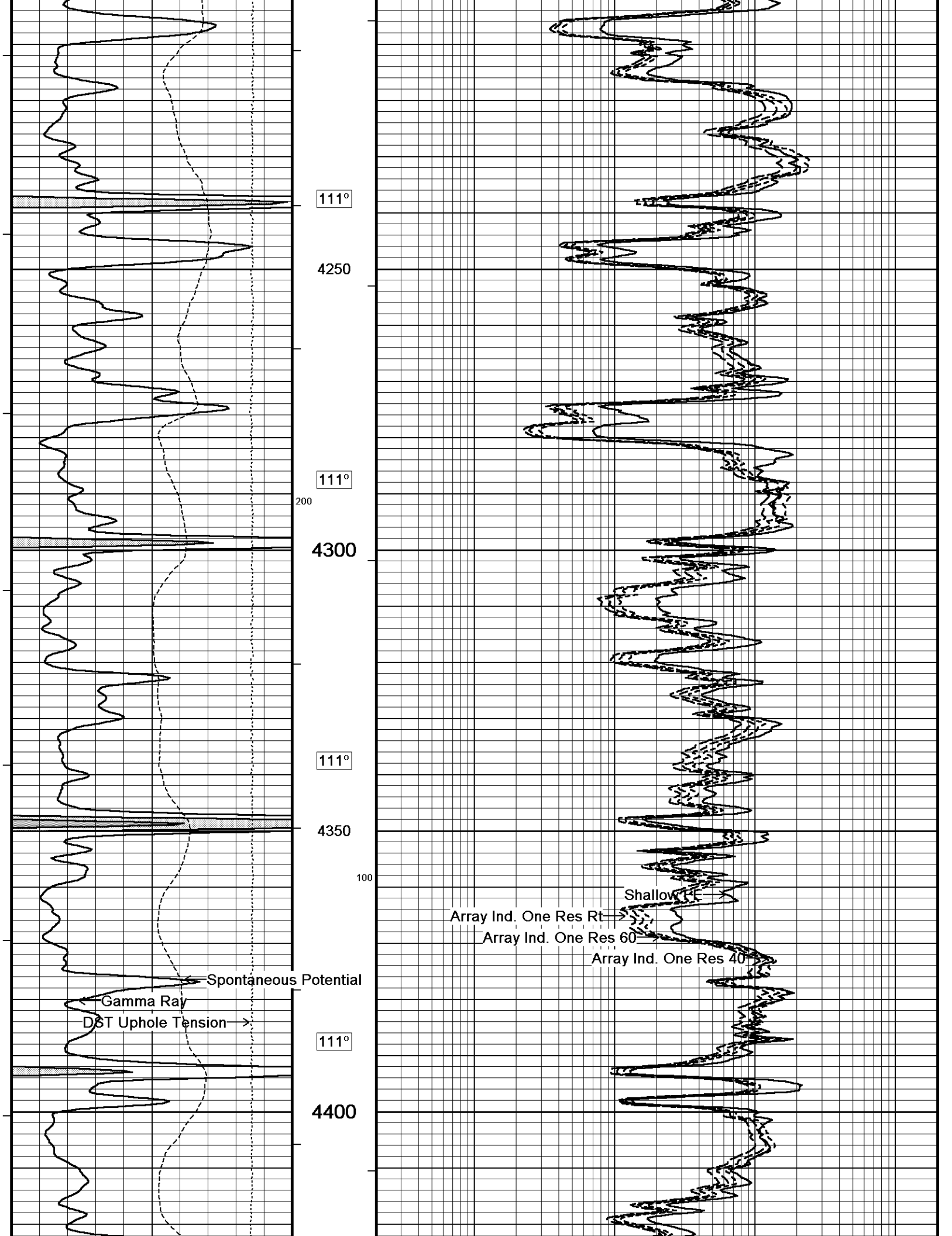
Array Ind. One Res 40
ohm metres
0.20 2000
1 10 100 1000

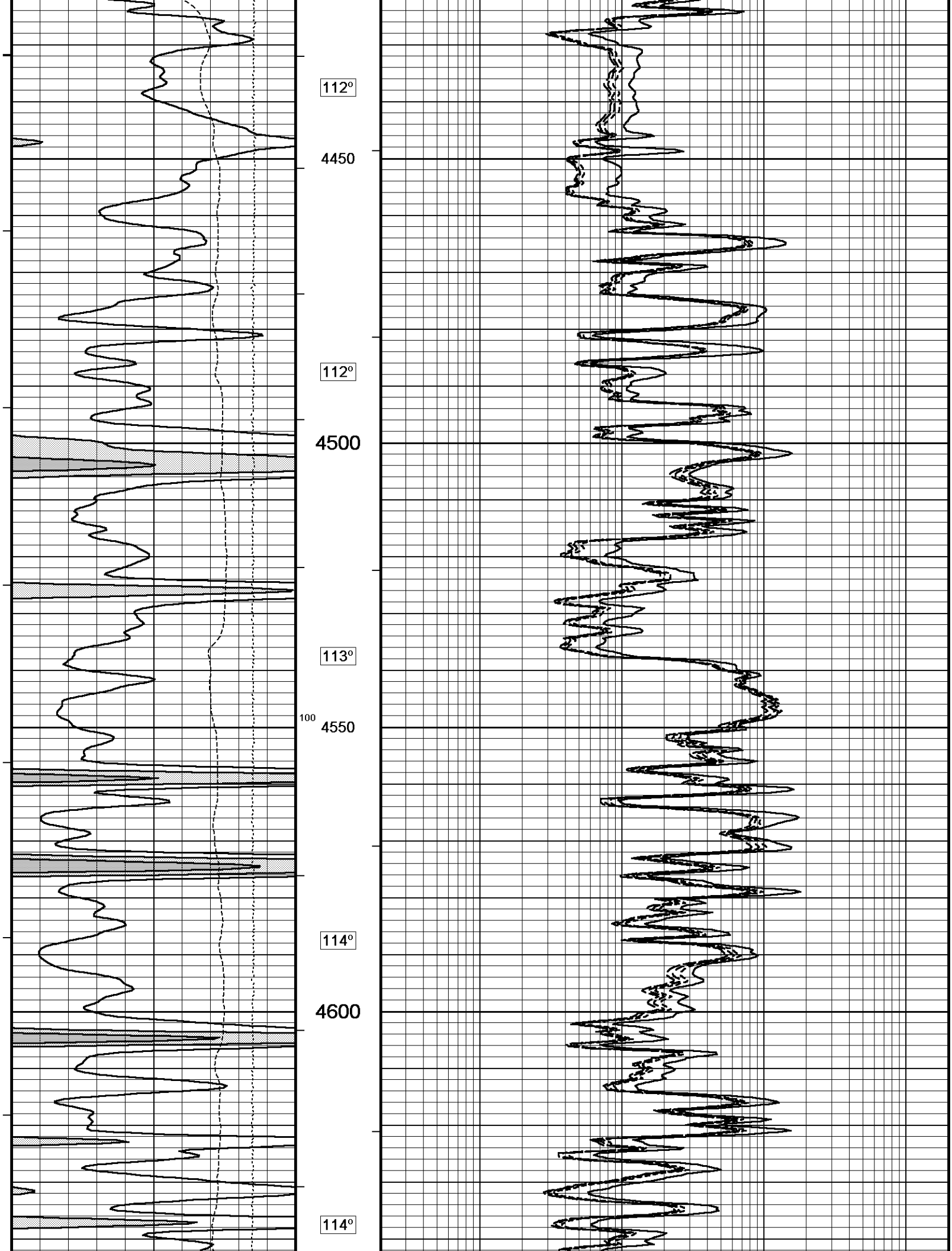
Array Ind. One Res 60
ohm metres
0.20 2000
1 10 100 1000

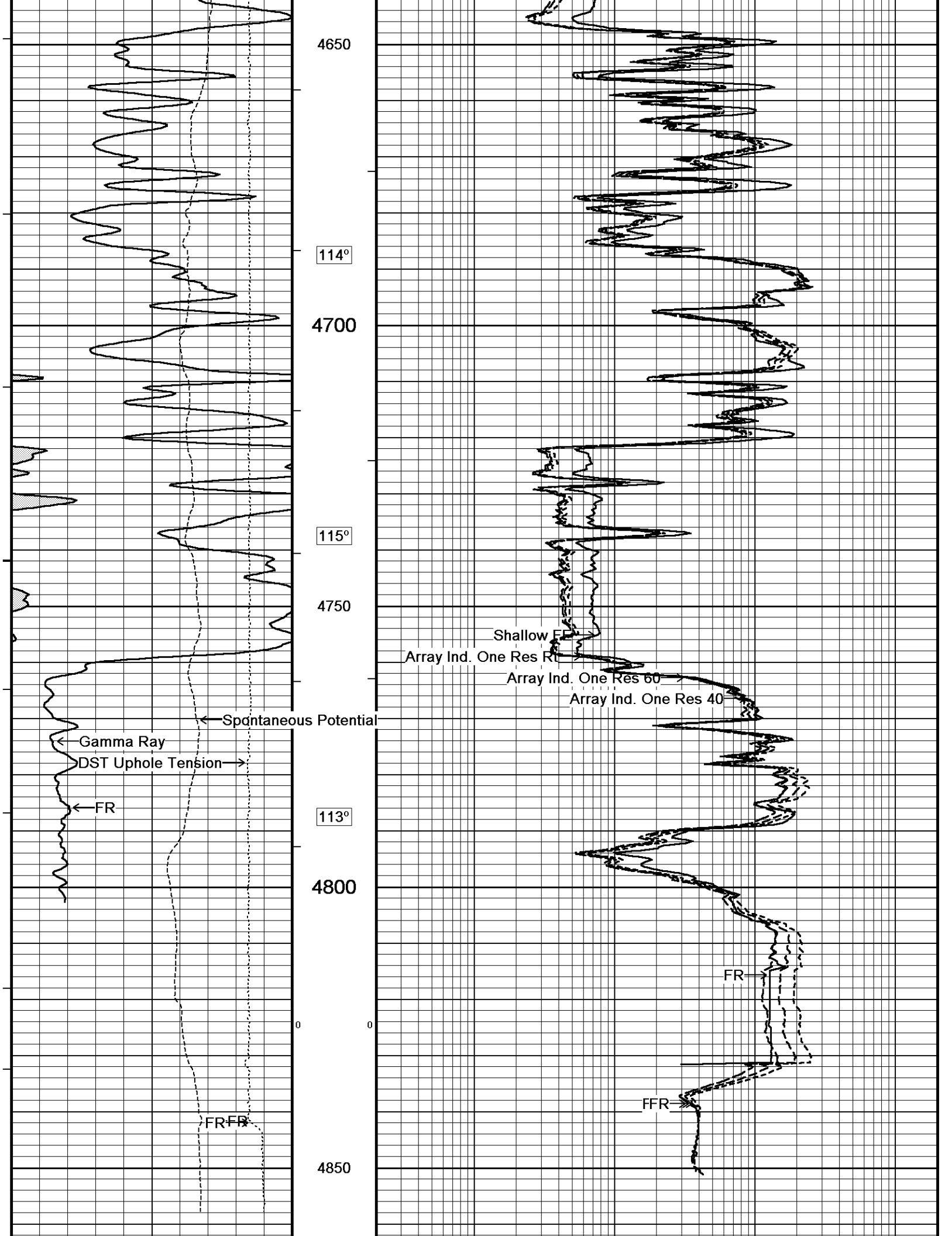
Array Ind. One Res Rt

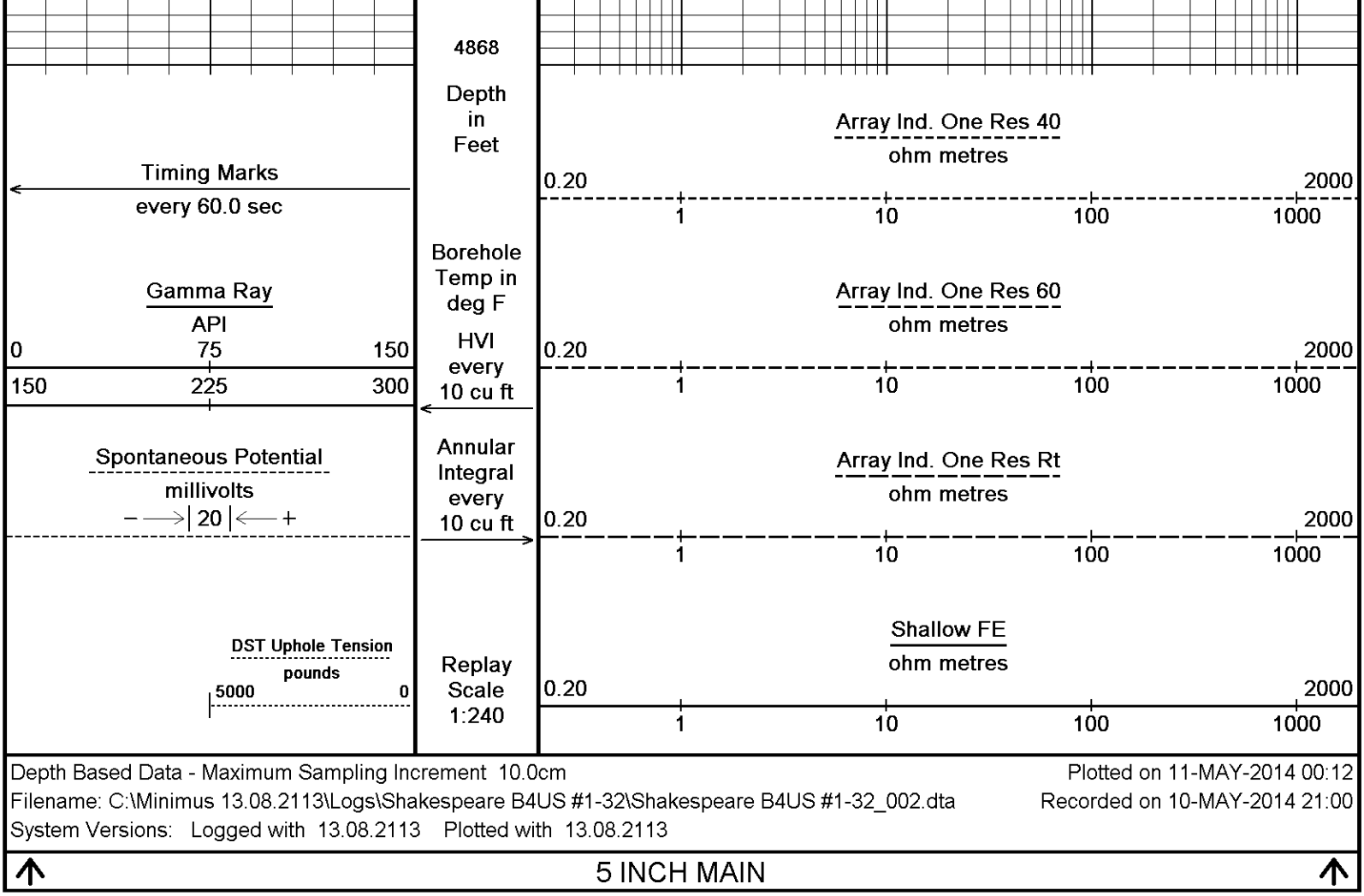

millivolts
– → | 20 | ← +
integral
every
10 cu ft
ohm metres
0.20
2000
1
10
100
1000
DST Uphole Tension
pounds
5000
0
Shallow FE
ohm metres
Replay
Scale
1:240
3800
108°
3850
109°
200
3900
109°
3950
Shallow FE
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40


Spontaneous Potential
Gamma Ray
DST Uphole Tension
109°
4000
300
110°
4050
110°
4100
110°
4150
110°
4200


111°
4250
111°
200
4300
111°
4350
100
111°
4400
Spontaneous Potential
Gamma Ray
DST Uphole Tension
Shallow LL
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40


112°
4450
112°
4500
113°
100
4550
114°
4600
114°


4650
114°
4700
115°
4750
113°
4800
4850
0
0
Shallow FE
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Spontaneous Potential
Gamma Ray
DST Uphole Tension
FR
FR
FR
FFR

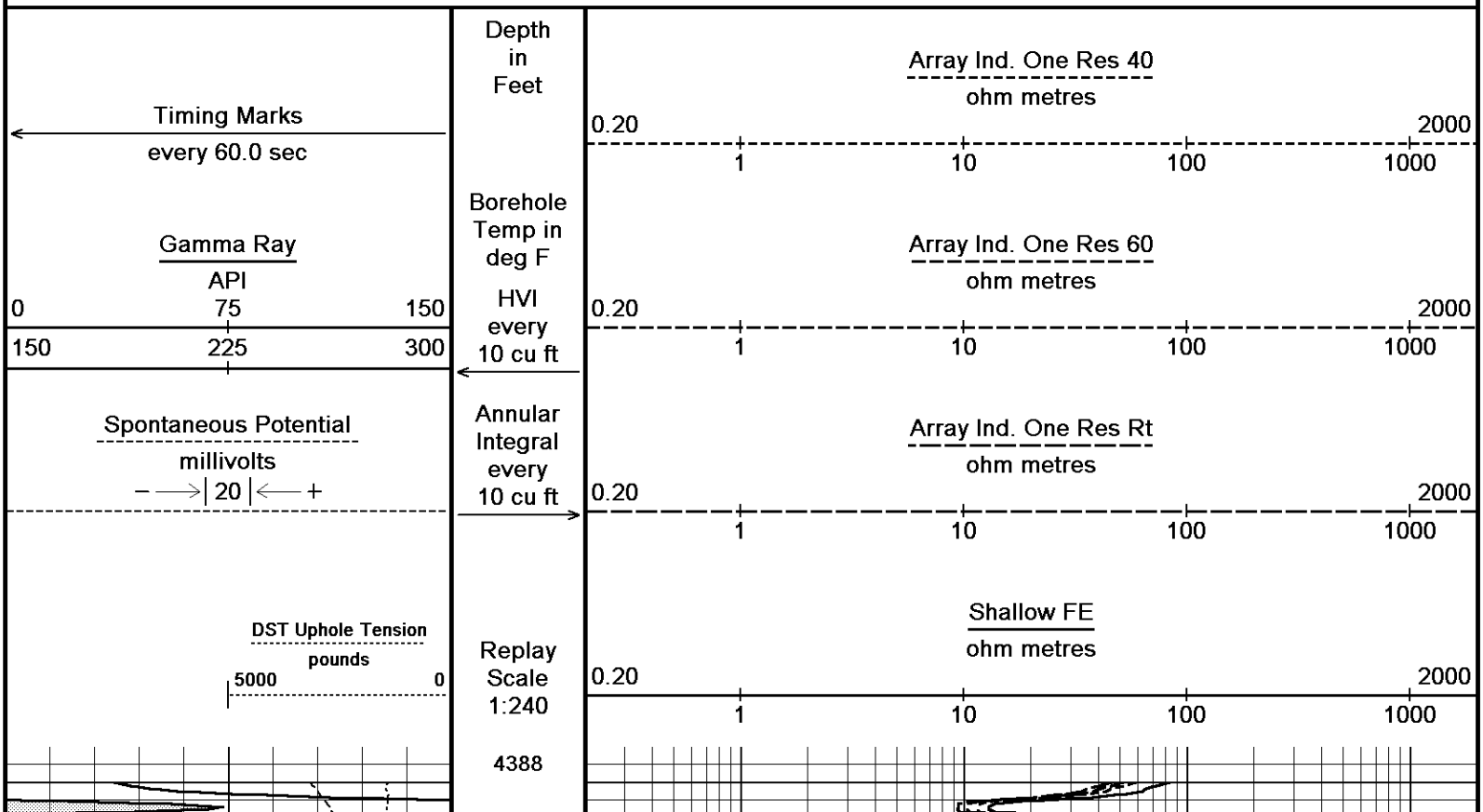


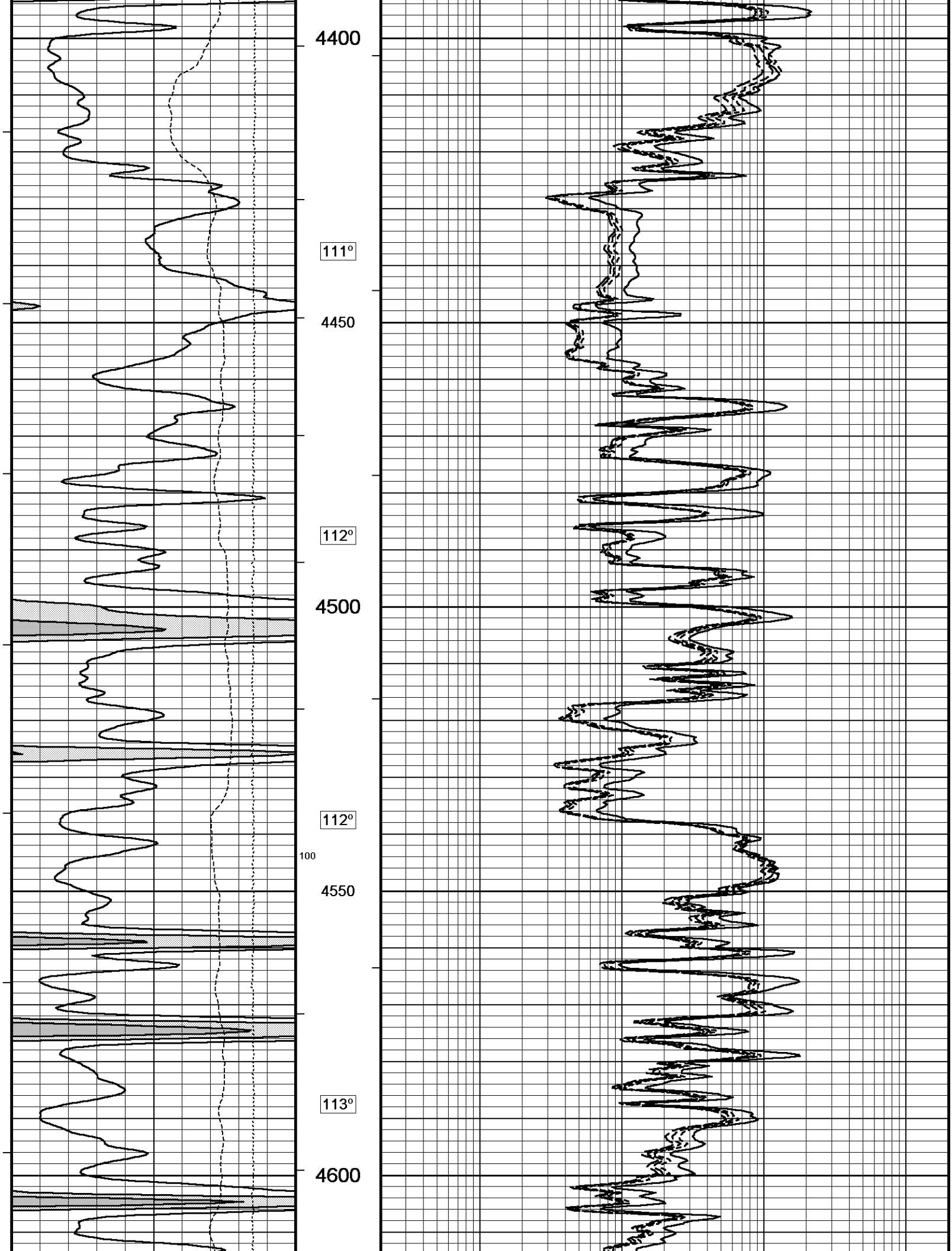
Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 11-MAY-2014 00:12
Filename: C:\Minimus 13.08.2113\Logs\Shakespeare B4US #1-32\Shakespeare B4US #1-32_002.dta — Recorded on 10-MAY-2014 21:00
System Versions: Logged with 13.08.2113 Plotted with 13.08.2113

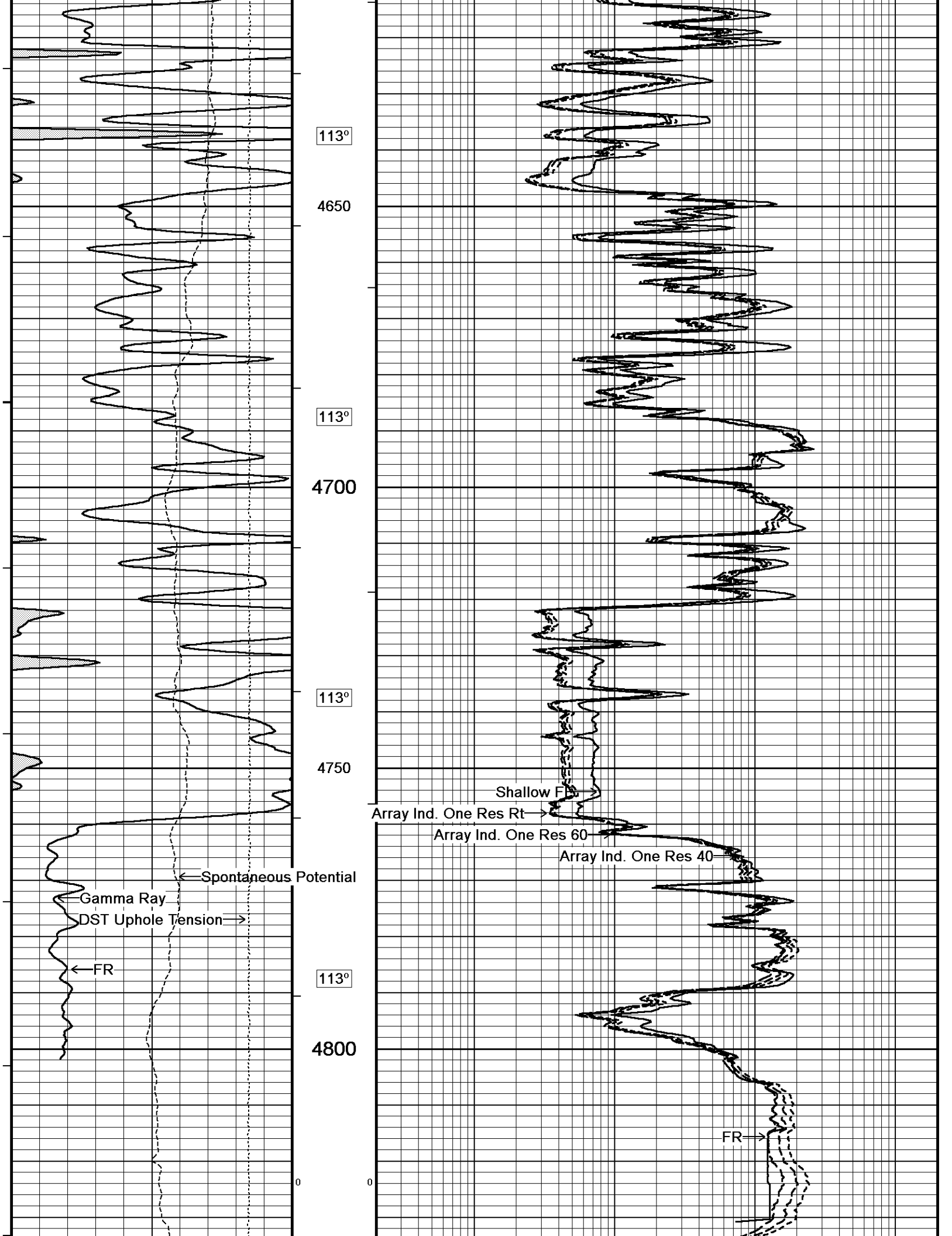
5 INCH MAIN

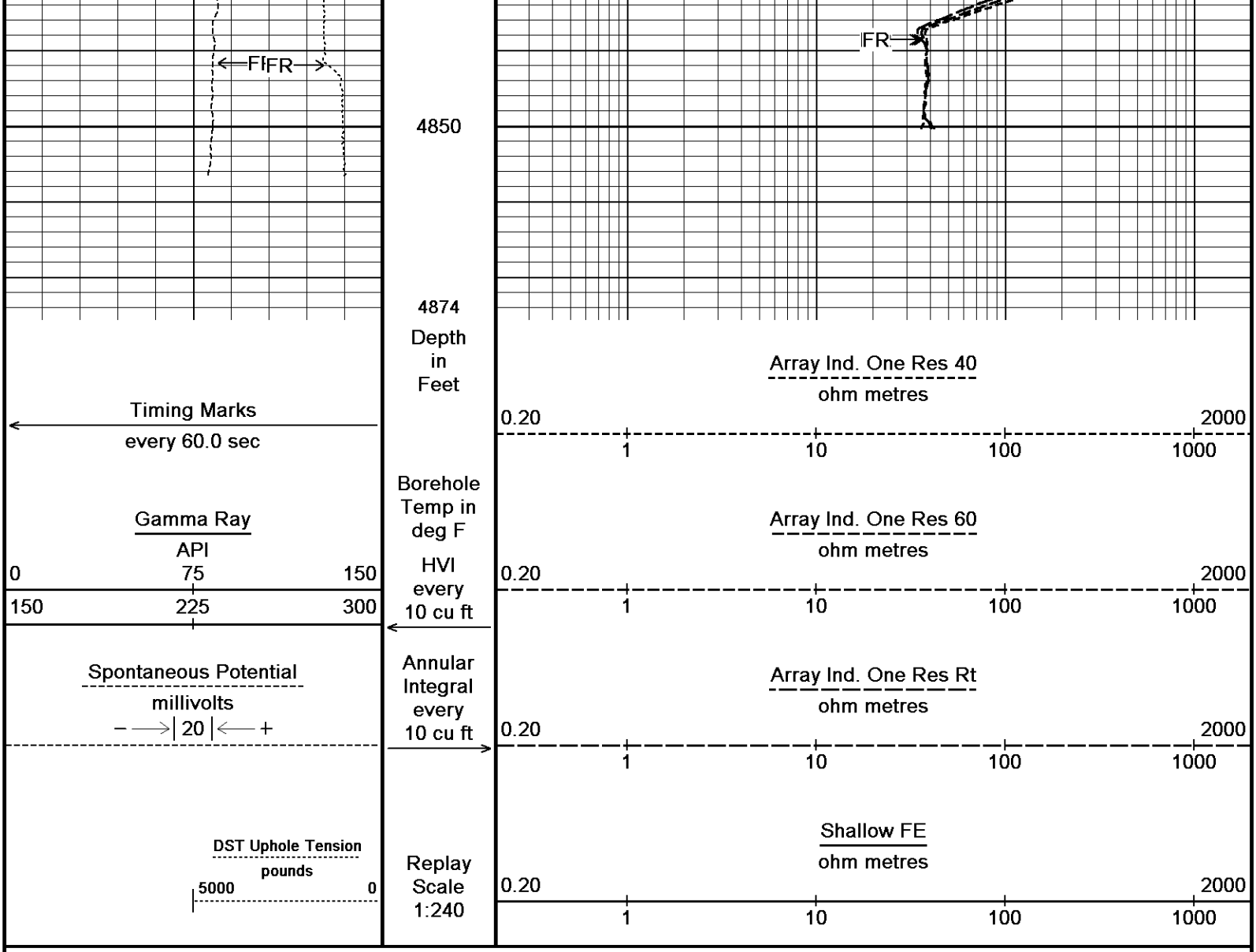
REPEAT SECTION

Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 11-MAY-2014 00:12
Filename: C:\Minimus 13.08.2113\Logs\Shakespeare B4US #1-32\Shakespeare B4US #1-32_001.dta — Recorded on 10-MAY-2014 20:32
System Versions: Logged with 13.08.2113 Plotted with 13.08.2113




4400
111°
4450
112°
4500
112°
100
4550
113°
4600


113°
4650
113°
4700
113°
4750
113°
4800
Spontaneous Potential
Gamma Ray
DST Uphole Tension
FR
Shallow FR
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
FR
0
0



Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 11-MAY-2014 00:12

Filename: C:\Minimus 13.08.2113\Logs\Shakespeare B4US #1-32\Shakespeare B4US #1-32_001.dta — Recorded on 10-MAY-2014 20:32

System Versions: Logged with 13.08.2113 Plotted with 13.08.2113

REPEAT SECTION

BEFORE SURVEY CALIBRATION

C:\Minimus 13.08.2113\Logs\Shakespeare B4US #1-32\Shakespeare B4US #1-32_001.dta

General Constants All 000 — Last Edited on 10-MAY-2014,20:10

General Parameters		
Mud Resistivity	0.370	ohm-metres
Mud Resistivity Temperature	93.000	degrees F
Water Level	0.000	feet
Borehole Fluid 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	MMR Caliper	
Rwa Parameters		
Porosity used	Base Density Porosity	
Resistivity used	Array Ind. One Res Rt	
RWA Constant A	0.610	
RWA Constant M	2.150	

SW/APOR Tool Source	0.000

Down-hole Tension Calibration SMS 0

Field Calibration on 06-MAY-2014 23:40

Reading No	Measured	Calibrated (lbs)
1	15071.71	0.00
2	15879.48	481.00

Gamma Calibration MCG-C 208

Field Calibration on 10-MAY-2014 11:35

	Measured	Calibrated (API)
Background	69	48
Calibrator (Gross)	1124	773
Calibrator (Net)	1055	725

Gamma Constants MCG-C 208

Last Edited on 10-MAY-2014,18:40

Gamma Calibrator Number	GRC038	
Mud Density	1.12	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Concentration of KCl		kppm
K Mud Type	Chloride	
K Mud Concentration	0.00	%

SP Calibration MCG-C 208

Field Calibration on 10-MAY-2014 11:38

	Measured	Calibrated (mV)
Reference 1	99.7	99.0
Reference 2	-97.7	-98.8

High Resolution Temperature Calibration MCG-C 208

Field Calibration on 23-JAN-2014,17:11

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

High Resolution Temperature Constants MCG-C 208

Last Edited on 23-JAN-2014,17:11

Pre-filter Length	11

Caliper Calibration MMR-C.A 248

Base Calibration on 10-MAY-2014 09:28
Field Calibration on 10-MAY-2014 09:30

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	13446	5.98
2	16585	7.97
3	19782	9.86
4	23693	11.92
5	0	0.00
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
7.99	7.97

Micro Normal and Micro Inverse Calibration MMR-C.A 248

Base Calibration on 10-MAY-2014 09:40
Field Check on 10-MAY-2014 09:43

Base Calibration

	Measured		Calibrated (ohm-m)	
Channel	Resistor 1	Resistor 2	Resistor 1	Resistor 2
Micro Normal	10.1	49.8	5.1	25.6
Micro Inverse	9.9	49.5	3.4	16.9

Channel	Base Check (ohm-m)	Field Check (ohm-m)
Micro Normal	93.6	93.6
Micro Inverse	62.2	62.2

Micro Normal and Micro Inverse Constants MMR-C.A 248

Last Edited on 23-JAN-2014,17:04

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	0.0000	inches

Neutron Calibration MDN-B.J 387

Base Calibration on 08-MAY-2014 14:03
Field Check on 08-MAY-2014 14:19

Base Calibration

	Measured		Calibrated (cps)	
	Near	Far	Near	Far
	2970	91	3714	110
Ratio	32.668		33.764	

Field Calibrator at Base

	Calibrated (cps)	
	1688	2486
Ratio	0.679	

Field Check

	Calibrated (cps)	
	1694	2467
Ratio	0.687	

Neutron Constants MDN-B.J 387

Last Edited on 10-MAY-2014,18:40

Neutron Source Id	P58125B	
Neutron Jig Number	5824NE	
Epithermal Neutron		
Caliper Source for Processing	Density Caliper	
Stand-off	0.00	inches
Mud Density	1.00	gm/cc
Limestone Sigma	7.10	cu
Sandstone Sigma	4.26	cu
Dolomite Sigma	4.70	cu
Formation Pressure Source	None	
Formation Pressure	N/A	kpsi
Temperature Source	Constant Value	
Temperature	68.00	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	

FE Calibration MFE-A.A 55

Base Calibration on 10-MAY-2014 09:55
Field Check on 10-MAY-2014 10:04

Base Calibration

	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	952.2	126.8
Base Check		281.3
Field Check		281.3

FE Constants MFE-A.A 55

Last Edited on 10-MAY-2014,18:39

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 73

Last Edited on 10-MAY-2014,18:39

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 Sonic	
Correction for Sonde Skew	Applied	
Cycle Stretch Algorithm	Applied	
MN3FT	N/A	micro-sec
MX3FT	N/A	micro-sec
Hunt-Raymer Constant	83.13	micro-sec/ft

Sonde Mode	Compensated
Hole Type	Open Hole

Sonde Parameters

	Measured	Calibrated
Offset	N/A	0.0000
Free Pipe	N/A	N/A

Peak Amplitude Source N/A

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)	N/A
N/A	N/A	N/A	
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	

Full Waveform Parameters

Use 3' Waveform to derive TR	N/A	
Use 4' Waveform to derive TR	N/A	
Use 5' Waveform to derive TR	N/A	
Use 6' Waveform to derive TR	N/A	
3' Waveform Discriminator Level	N/A	mV
4' Waveform Discriminator Level	N/A	mV
5' Waveform Discriminator Level	N/A	mV
6' Waveform Discriminator Level	N/A	mV
3' Waveform Filter	N/A	
4' Waveform Filter	N/A	
5' Waveform Filter	N/A	
6' Waveform Filter	N/A	
Semblance Level	N/A	
Semblance Window Width	N/A	micro-sec
Sonic 1 Despiker	N/A	N/A
Sonic 2 Despiker	N/A	N/A

Induction Calibration MAI-A.A 5

Base Calibration on 21-JAN-2014,09:50
Field Check on 09-MAY-2014 12:52

Base Calibration

Test Loop Calibration Channel	Measured Low	Measured High	Calibrated (mmho/m) Low	Calibrated (mmho/m) High
1	16.3	470.8	9.3	966.2
2	5.6	376.1	7.6	821.4
3	2.6	266.1	5.2	566.0
4	1.6	130.0	2.6	279.2

Array Temperature 71.1 Deg F

Channel	Base Check (mmho/m) Low	Base Check (mmho/m) High	Field Check (mmho/m) Low	Field Check (mmho/m) High
1	15.5	3863.1	15.5	3862.9
2	31.9	3590.9	31.9	3590.8
3	29.9	2971.4	29.9	2971.4
4	20.8	2126.1	20.8	2126.1
Deep	18.5	1912.1	18.5	1912.2
Medium	43.1	3861.3	43.1	3861.2
Shallow	47.4	5372.9	47.5	5372.7

Array Temperature 78.9 79.0 Deg F

Induction Constants MAI-A.A 5

Last Edited on 10-MAY-2014,18:39

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	

High Resolution Temperature Calibration MAI-A.A 5

Field Calibration on 21-JAN-2014,15:43

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

High Resolution Temperature Constants MAI-A.A 5

Last Edited on 09-MAY-2014,12:22

Pre-filter Length	11

Caliper Calibration MPD-D.A 480

Base Calibration on 08-MAY-2014 14:36
Field Calibration on 08-MAY-2014 14:37

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	17491	3.99
2	27463	5.98
3	37484	7.97
4	47415	9.86
5	58518	11.92
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
7.96	7.97

Photo Density Calibration MPD-D.A 480

Base Calibration on 08-MAY-2014 14:53
Field Check on 08-MAY-2014 15:00

Density Calibration

Base Calibration	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Background	1275	1464		
Reference 1	55908	26147	59556	30836
Reference 2	22982	2651	24941	2541

Field Check at Base

1274.5	1464.0

Field Check

1277.3	1470.9

PE Calibration

Base Calibration	Measured WS	Measured WH	Measured Ratio	Calibrated Ratio
Background	241	1140		
Reference 1	23265	55701	0.422	0.371
Reference 2	6806	22836	0.303	0.272

Field Check at Base

240.7	1139.6

Field Check

239.8	1141.3

Density Constants MPD-D.A 480

Last Edited on 10-MAY-2014,18:39

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	1.12	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 (m)
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 13.08.2113\Logs\Shakespeare B4US #1-32\Shakespeare B4US #1-32_001.dta

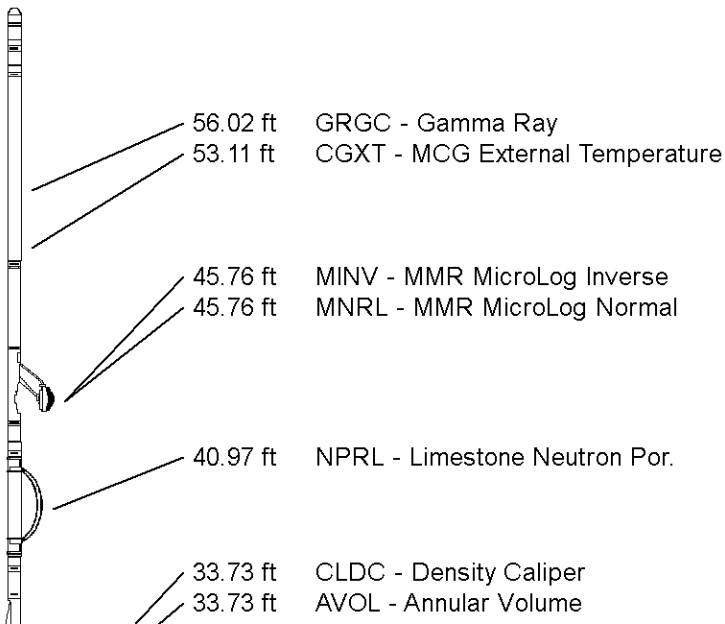
CBH-C, Cablehead, 11 pin
CBH-C 0 LG: 2.40 ft WT: 24.3 lb OD: 2.244 in

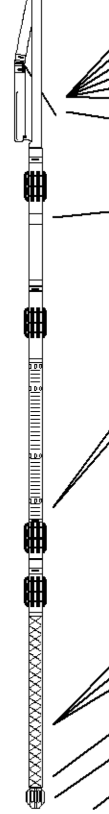
Compact Comms Gamma
MCG-C 208 LG: 8.70 ft WT: 63.9 lb OD: 2.244 in

Compact Micro-Resistivity
MMR-C.A 248 LG: 8.59 ft WT: 81.6 lb OD: 4.882 in

Compact Neutron
MDN-B.J 387 LG: 5.04 ft WT: 50.7 lb OD: 2.244 in

Compact Density/Caliper
MPD-D.A 480 LG: 9.59 ft WT: 90.4 lb OD: 2.449 in





33.73 ft HVOL - Hole Volume
31.80 ft DPRL - Limestone Density Por.
31.80 ft DEN - Compensated Density
31.80 ft DCOR - Density Correction
31.74 ft PDPE - PE

Compact Focussed Electric
MFE-A.A 55 LG: 6.05 ft WT: 48.5 lb OD: 2.244 in

26.24 ft FEFE - Shallow FE

Compact Sonic
MSS-A.A 73 LG: 12.52 ft WT: 72.8 lb OD: 2.244 in

12.96 ft SPRL - Wyllie Lime. Sonic Por.
12.96 ft DT35 - 3-5' Compensated Sonic

Compact Induction
MAI-A.A 5 LG: 10.81 ft WT: 48.5 lb OD: 2.244 in

Total Length: 63.70 ft Weight: 480.6 lb

3.34 ft R40O - Array Ind. One Res 40
3.34 ft R60O - Array Ind. One Res 60
3.34 ft RTAO - Array Ind. One Res Rt
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	SHAKESPEARE OIL CO., INC.
WELL	B4US #1-32
FIELD	WILDCAT
PROVINCE/COUNTY	SCOTT
COUNTRY/STATE	U.S.A. / KANSAS

Elevation Kelly Bushing	3066.00	feet	First Reading	4839.00	feet
Elevation Drill Floor	3064.00	feet	Depth Driller	4845.00	feet
Elevation Ground Level	3056.00	feet	Depth Logger	4842.00	feet

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ARRAY INDUCTION
SHALLOW FOCUSED
ELECTRIC LOG

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WELL	B4US #1-32
FIELD	WILDCAT
PROVINCE/COUNTY	SCOTT
COUNTRY/STATE	U.S.A. / KANSAS
LOCATION	335' FNL & 1440' FWL
SEC 32 TWP 17S RGE 33W	Other Services: MPD/MDN MSS MML
Latitude	
Longitude	
API Number	15-171-21051
Permanent Datum	GL, Elevation 3056 feet
Log Measured From	KB
Drilling Measured From	KB
Elevations:	feet KB 3066.00 DF 3064.00 GL 3056.00
Date	10-MAY-2014
Run Number	ONE
Service Order	4558-86926003
Depth Driller	4845.00 feet
Depth Logger	4842.00 feet
First Reading	4839.00 feet
Last Reading	266.00 feet
Casing Driller	270.00 feet
Casing Logger	266.00 feet
Bit Size	7.875 inches
Hole Fluid Type	CHEMICAL
Density / Viscosity	9.30 lb/USg 54.00 CP
PH / Fluid Loss	10.50 8.00 ml/30Min
Sample Source	FLOWLINE
Rm @ Measured Temp	0.37 @ 93.0 ohm-m
Rmf @ Measured Temp	0.30 @ 93.0 ohm-m
Rmc @ Measured Temp	0.44 @ 93.0 ohm-m
Source Rmf / Rmc	CALC CALC
Rm @ BHT	0.30 @ 115.0 ohm-m
Time Since Circulation	4 HOURS
Max Recorded Temp	115.00 deg F
Equipment / Base	13244 LIB
Recorded By	ADAM SILL
Witnessed By	TIM PRIEST
JOB #	LB14-140

1 INCH MAIN

PINCH MAIN

Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 11-MAY-2014 00:12
Filename: C:\Minimus 13.08.2113\Logs\Shakespeare B4US #1-32\Shakespeare B4US #1-32_002.dta
Recorded on 10-MAY-2014 21:00
System Versions: Logged with 13.08.2113 Plotted with 13.08.2113

Timing Marks
every 60.0 sec

Gamma Ray
API
0 75 150
150 225 300

Spontaneous Potential
millivolts
-20+

DST Uphole Tension
pounds
5000 0

Depth in Feet

Borehole Temp in deg F

HVI every 10 cu ft

Annular Integral every 10 cu ft

Replay Scale 1:600

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

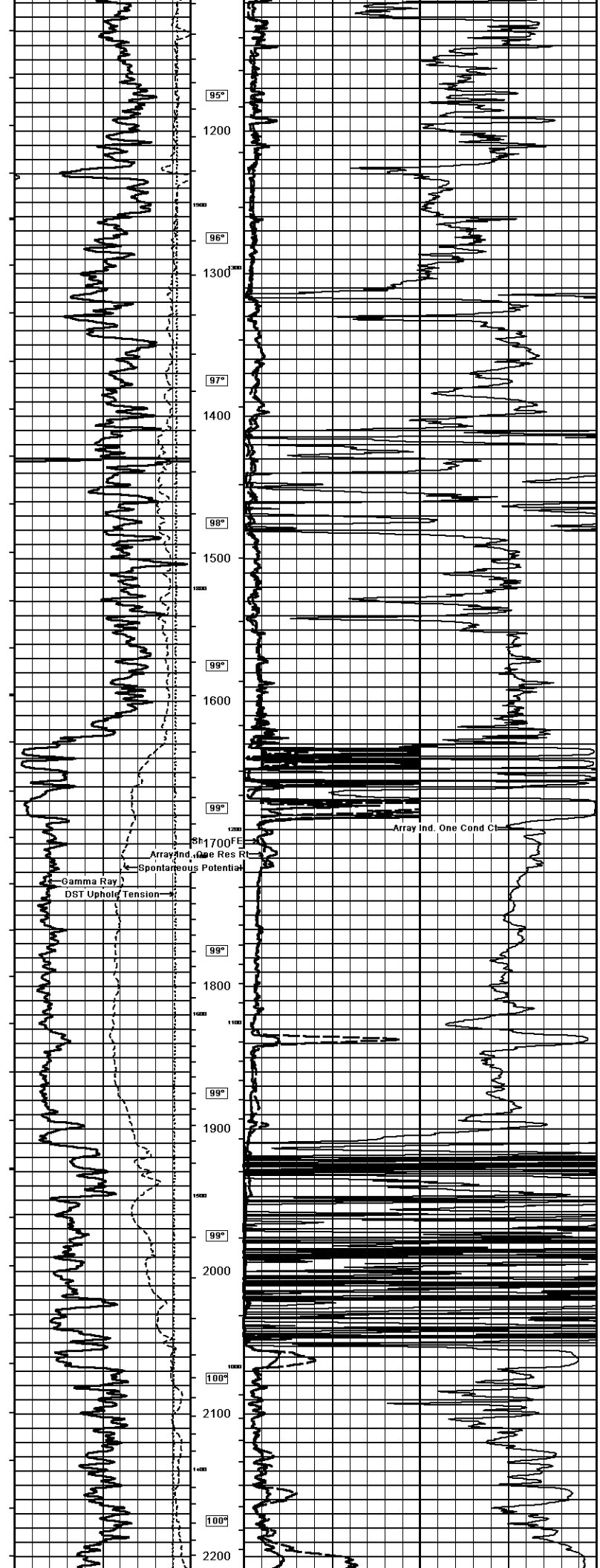
Array Ind. One Res Rt
ohm metres
0 25 50
0 250 500

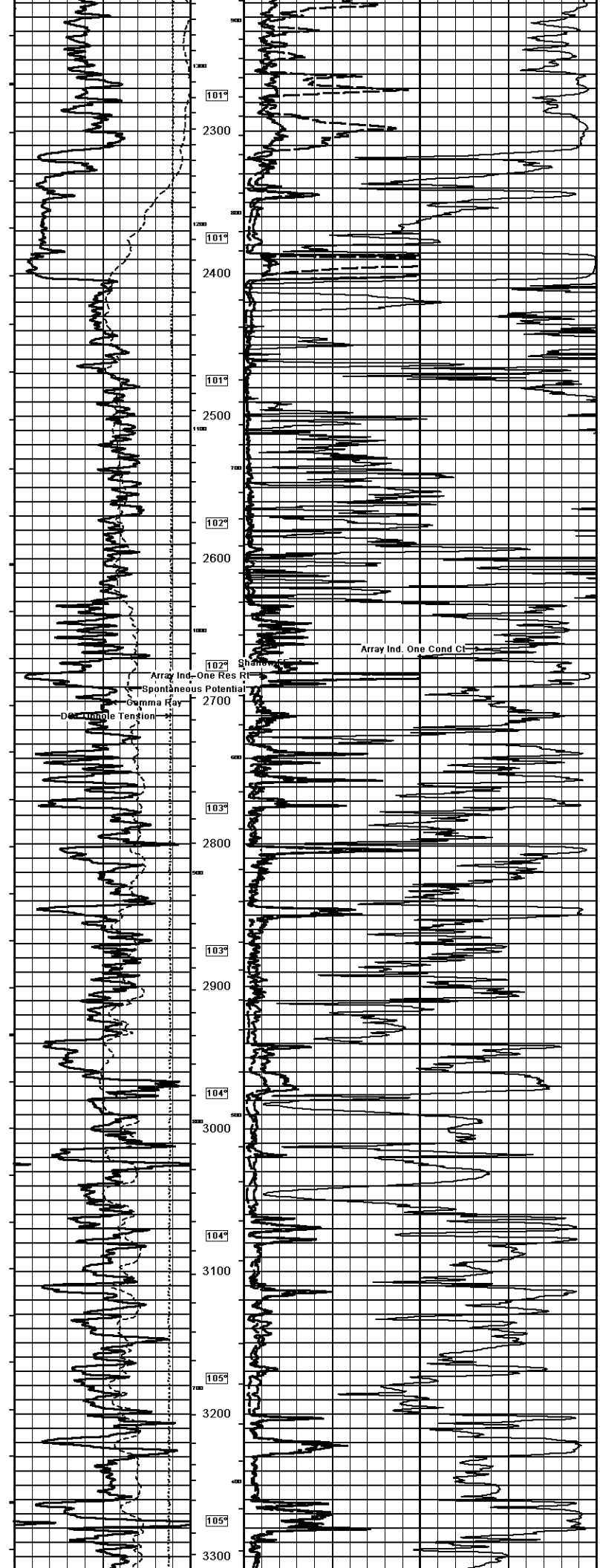
Shallow FE
ohm metres
0 25 50
0 250 500

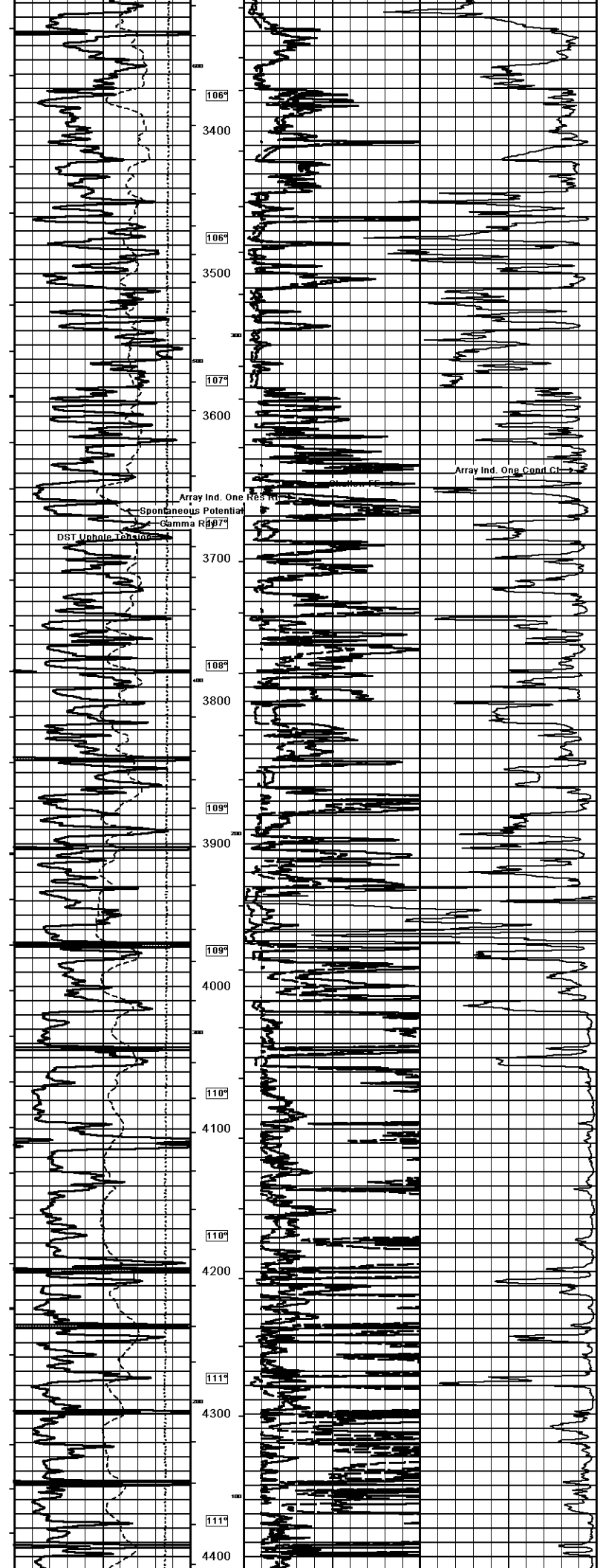
Casing
280

300
88°
400
90°
500
91°
600
91°
700
92°
800
92°
900
93°
1000
94°
1100

Array Ind. One Cond Ct
Shallow
Array Ind. One Res Rt
Spontaneous Potential
Gamma Ray
DST Uphole Tension


95°
1200
96°
1300
97°
1400
98°
1500
99°
1600
99°
1700
Array Ind. One Cond Ct
Array Ind. One Res Rt
Spontaneous Potential
Gamma Ray
DST Uphole Tension
99°
1800
99°
1900
99°
2000
100°
2100
100°
2200


101°
2300
101°
2400
101°
2500
102°
2600
Array Ind. One Cond Ct
102°
Array Ind. One Res Rt
Spontaneous Potential
Gamma Ray
Dev. Hole Tension
2700
103°
2800
103°
2900
104°
3000
104°
3100
105°
3200
105°
3300


Array Ind. One Res Rt
Spontaneous Potential
Gamma Ray
DST Uphole Tension
Array Ind. One Cond Ch
106°
106°
107°
107°
108°
109°
109°
110°
110°
111°
111°
3400
3500
3600
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3800
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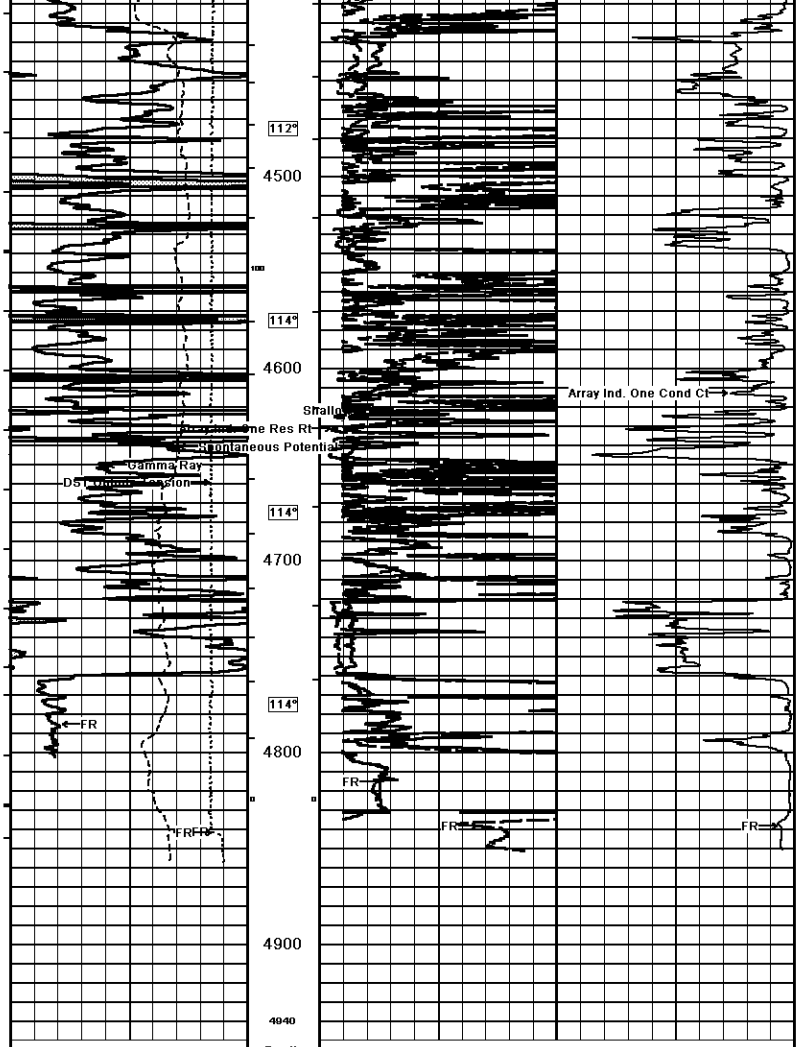
4100
4200
4300
4400



Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 11-MAY-2014 00:12

Filename: C:\Minimus 13.08.2113\Logs\Shakespeare B4US #1-32\Shakespeare B4US #1-32_002.dta — Recorded on 10-MAY-2014 21:00

System Versions: Logged with 13.08.2113 Plotted with 13.08.2113

1 INCH MAIN

COMPANY	SHAKESPEARE OIL CO., INC.
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