



Weatherford[®]

**ARRAY INDUCTION
SHALLOW FOCUSED
ELECTRIC LOG**

COMPANY				McCOY PETROLEUM CORPORATION			
WELL				SCHWAB "A" 1-7			
FIELD				WILDCAT			
PROVINCE/COUNTY				MEADE			
COUNTRY/STATE				U.S.A. / KANSAS			
LOCATION				1980' FSL & 330' FEL			
SEC 7	TWP 30S	RGE 30W	Other Services		MML		
Latitude		MPD/MDN					
Longitude							
API Number		15-119-21362					
Permanent Datum GL, Elevation 2814 feet				Elevations:			
Log Measured From KB				KB 2825.00			
Drilling Measured From KB				DF 2823.00			
				GL 2814.00			
Date	14-MAR-2014						
Run Number	ONE						
Service Order	7557-81970693						
Depth Driller	5550.00			feet			
Depth Logger	5549.00			feet			
First Reading	5546.00			feet			
Last Reading	4000.00			feet			
Casing Driller	1829.00			feet			
Casing Logger	1828.00			feet			
Bit Size	7.875			inches			
Hole Fluid Type	CHEMICAL						
Density / Viscosity	9.30	lb/USg	50.00	CP			
PH / Fluid Loss	10.50		8.80	ml/30Min			
Sample Source	FLOWLINE						
Rm @ Measured Temp	1.21 @ 93.0			ohm-m			
Rmf @ Measured Temp	0.97 @ 93.0			ohm-m			
Rmc @ Measured Temp	1.45 @ 93.0			ohm-m			
Source Rmf / Rmc	CALC		CALC				
Rm @ BHT	0.96 @ 117.0			ohm-m			
Time Since Circulation	3 HOURS						
Max Recorded Temp	117.00			deg F			
Equipment / Base	13244		LIB				
Recorded By	RUSSELL POGUE			JEFFREY RANDLE			
Witnessed By	DAVE WILLIAMS						
JOB #	LIB14-076						

BOREHOLE RECORD					Last Edited: 14-MAR-2014 03:04
Bit Size inches		Depth From feet		Depth To feet	
7.875		1829.00		5550.00	
CASING RECORD					
Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft	
SURFACE	8.625	0.00	1829.00	24.00	

REMARKS
- SOFTWARE ISSUE: WLS 13.08.211.
- RUN ONE: MCG, MML, MDN, MPD, MFE AND MAI RUN IN COMBINATION. - HARDWARE: DUAL BOWSPRING USED ON MDN. 0.5 INCH STANDOFF USED ON MFE. 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 4000 FEET: 529 CU.FT.
- ANNULAR HOLE VOLUME WITH 5.5 INCH PRODUCTION CASING FROM TD TO 4000 FEET: 275 CU.FT.
- RIG: STERLING DRILLING #2

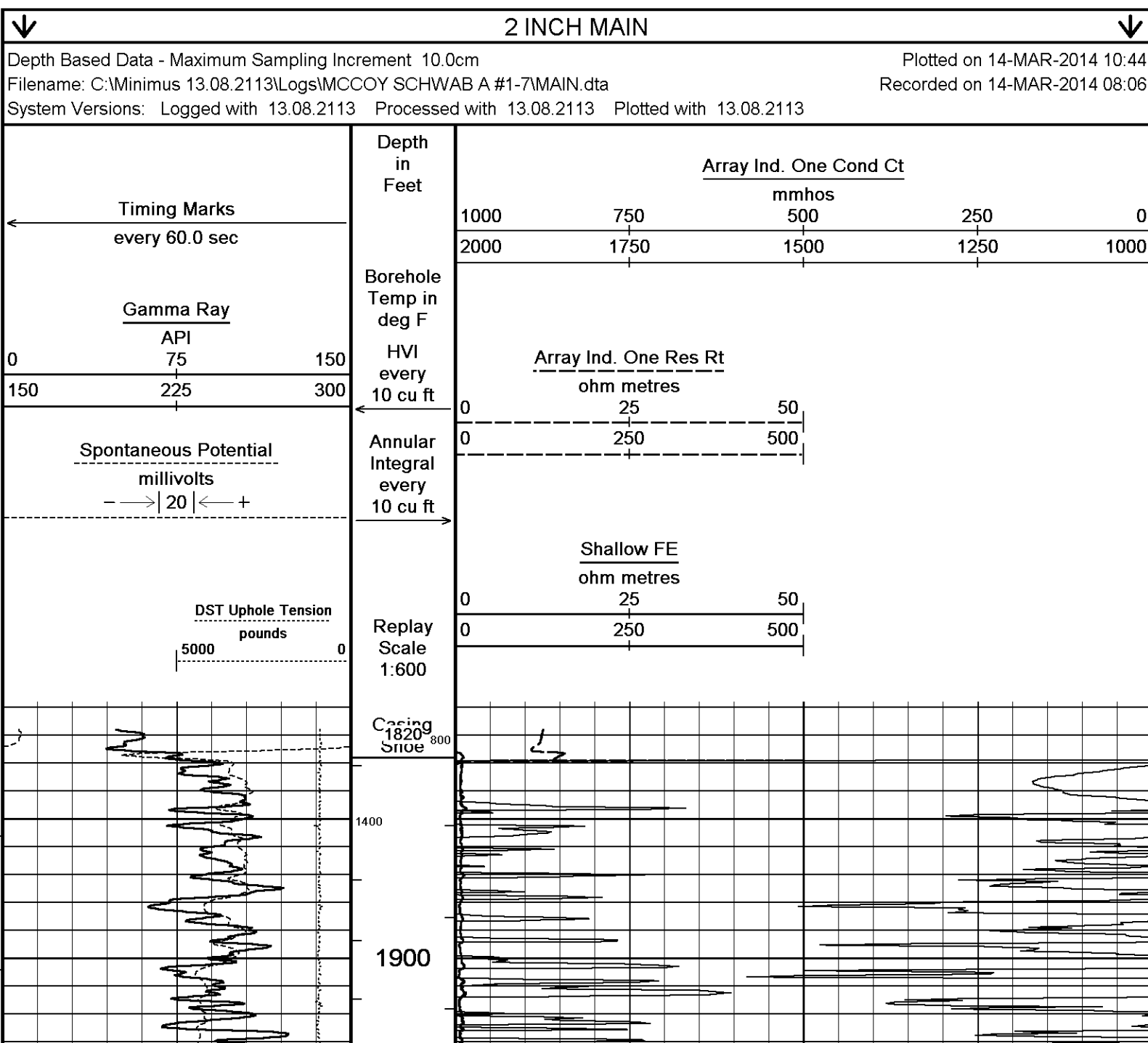
RIG: OPERING DRILLING #2:

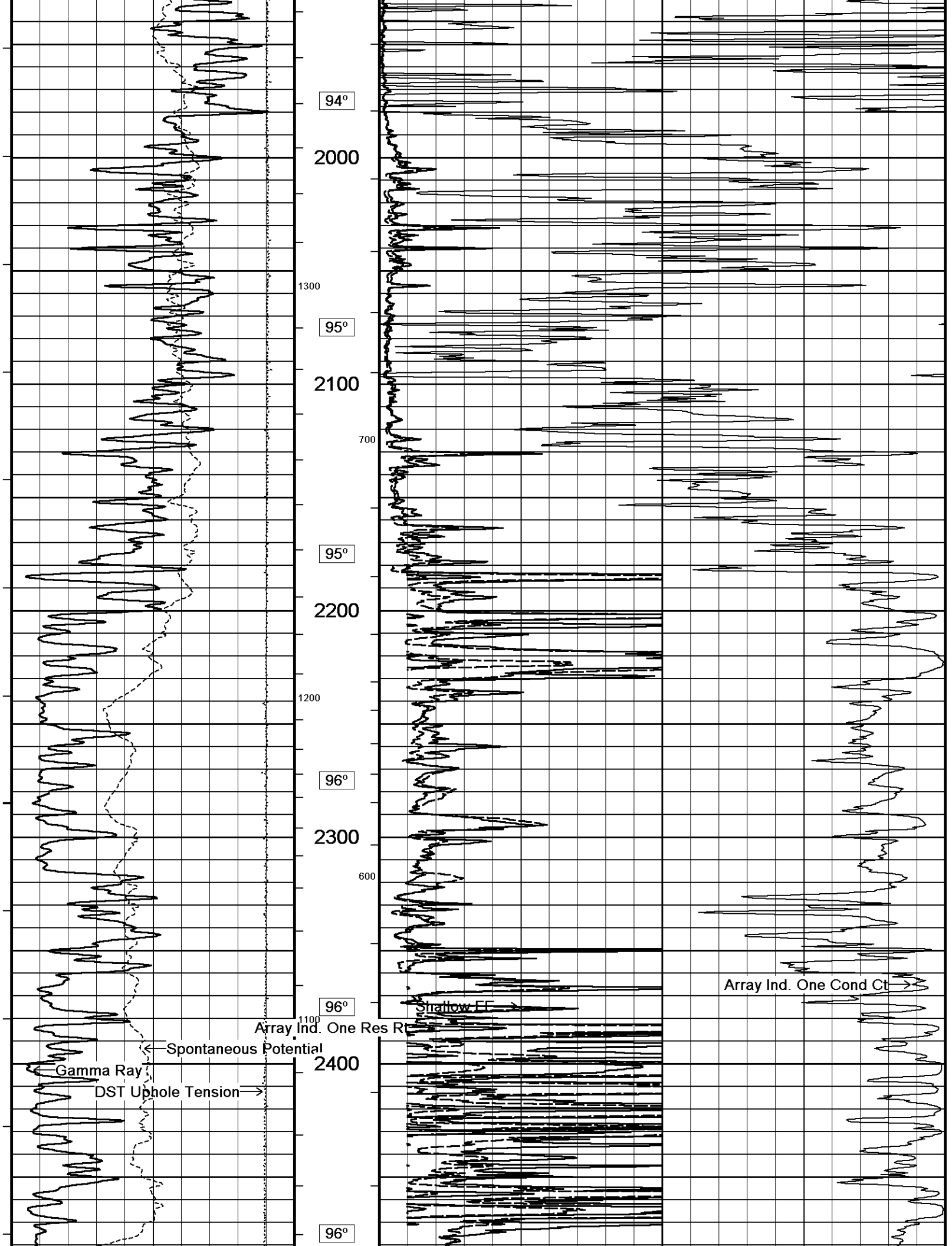
- ENGINEER: R. POGUE.

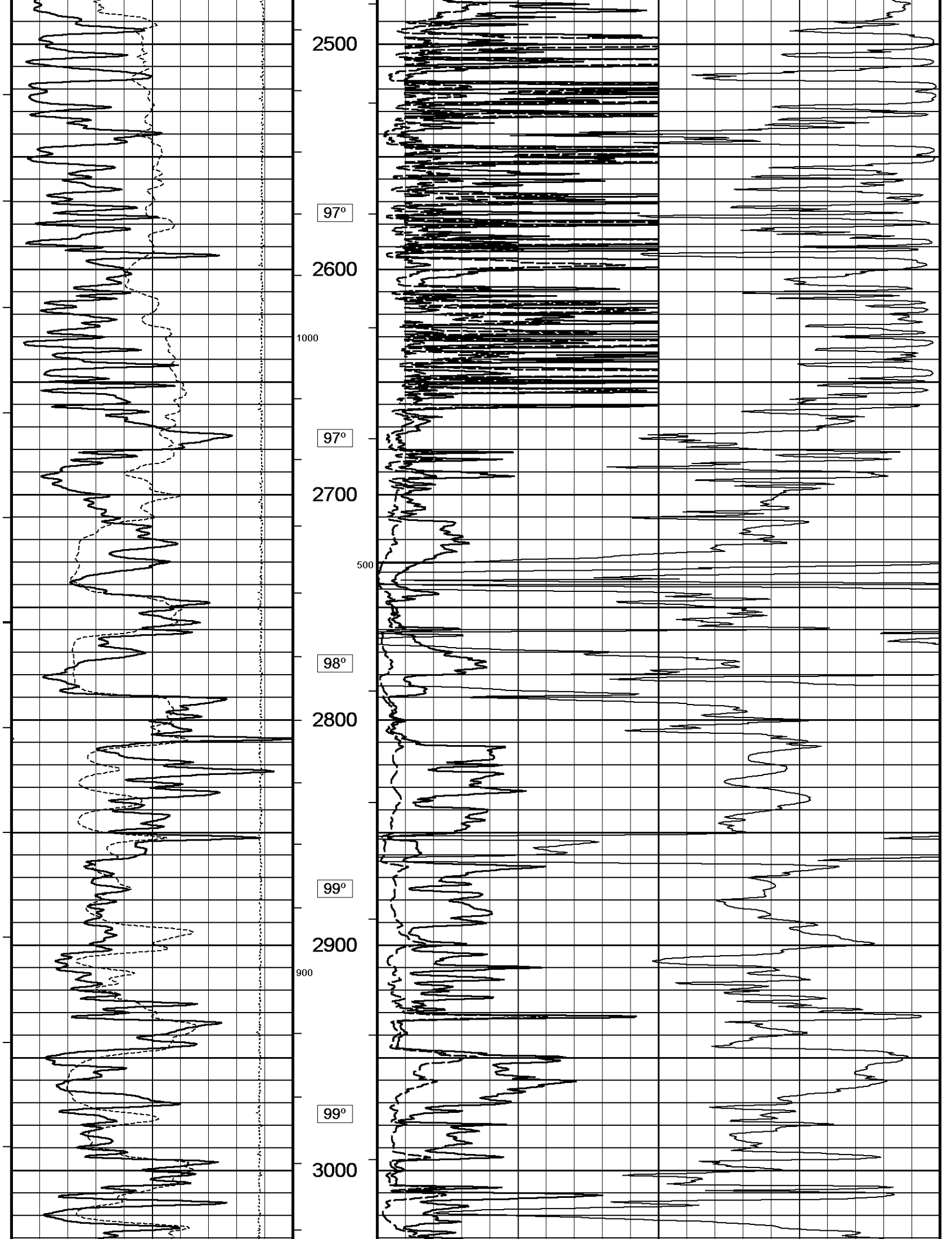
- JUNIOR FIELD ENGINEER: J. RANDLE.

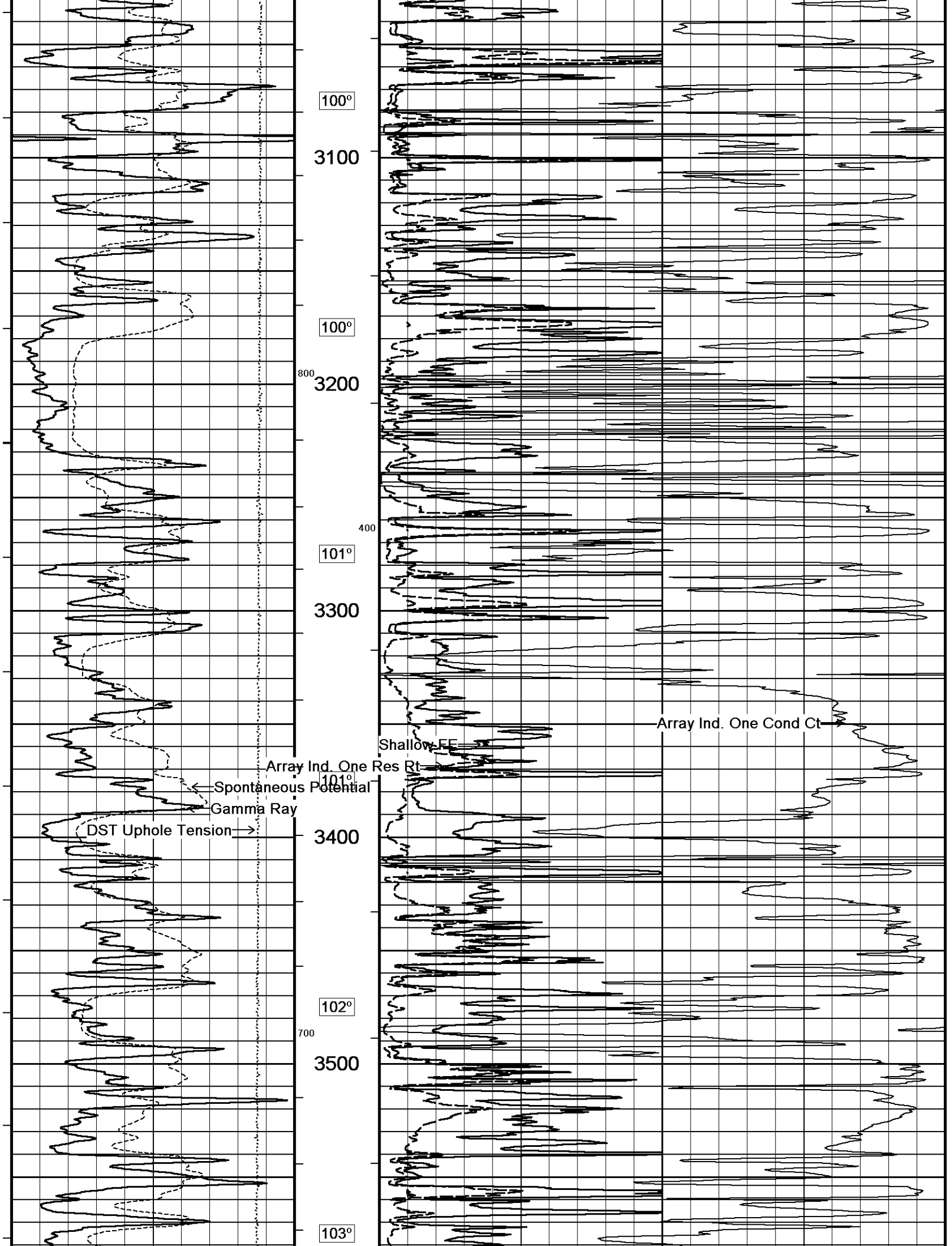
- OPERATOR: J. LaPOINT.

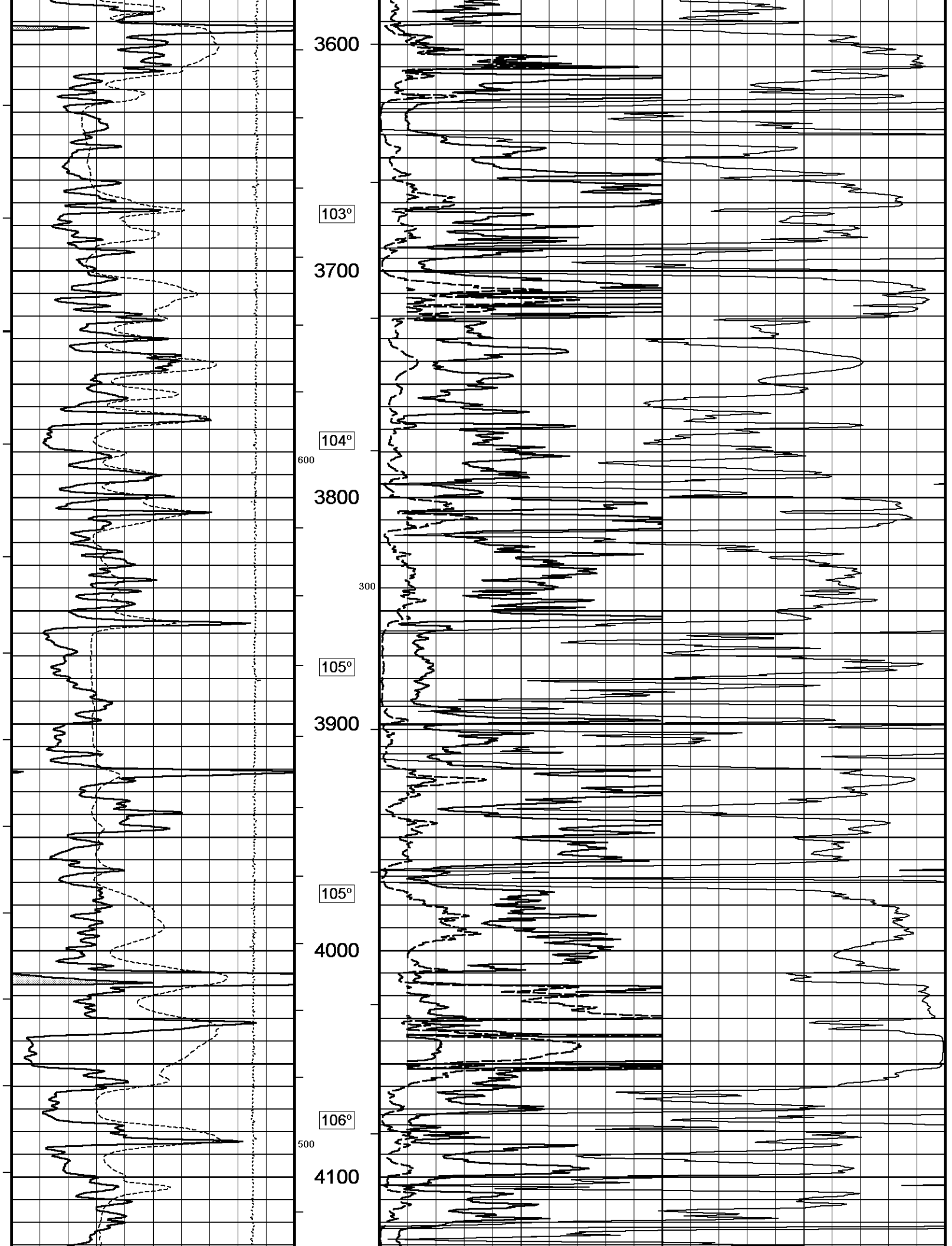
In interpreting, communicating or providing information and/or making recommendations, either written or oral, as to logs or test or other data, type or amount of material, or Work or other service to be furnished, or manner of performance, or in predicting results to be obtained, the Contractor will 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.

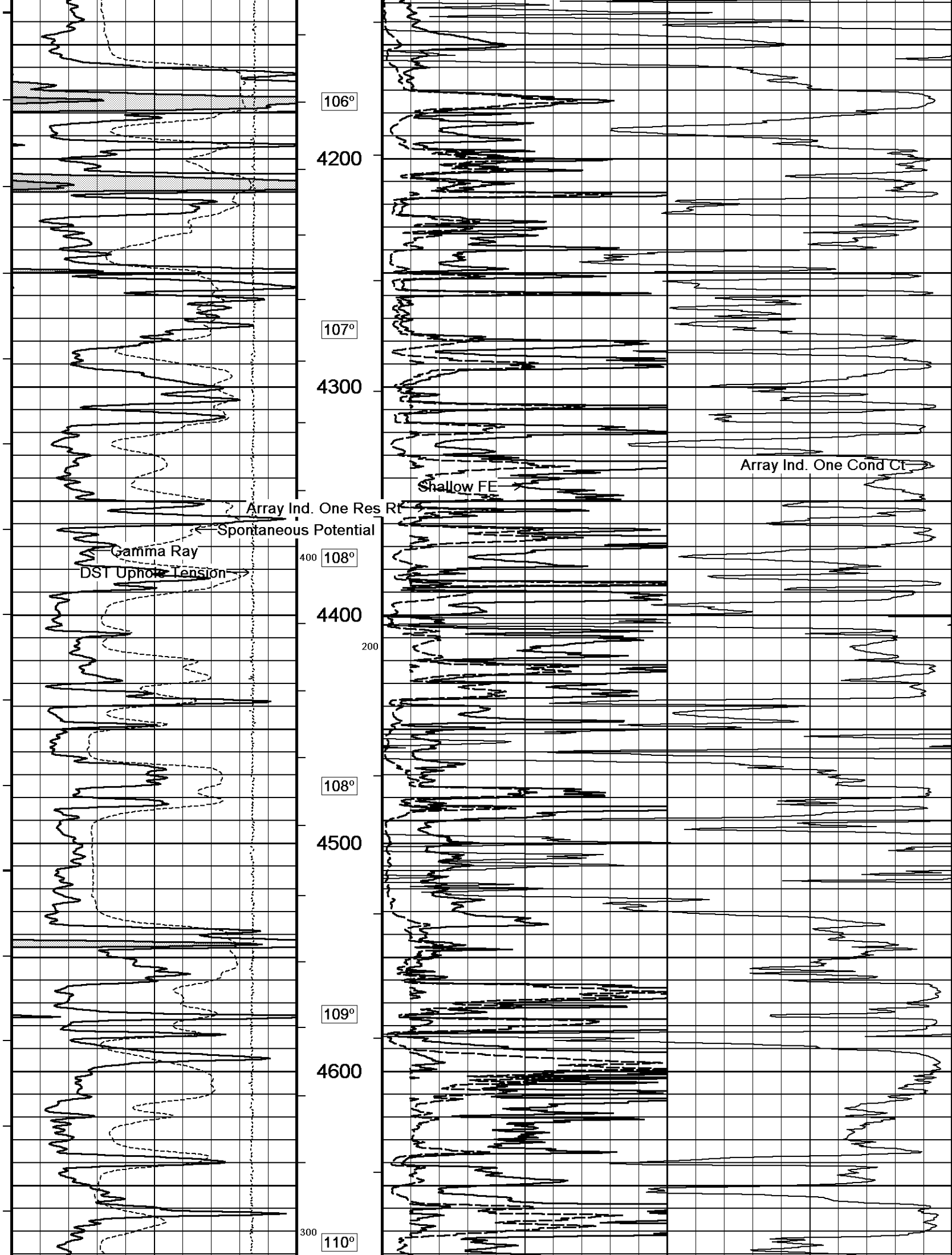


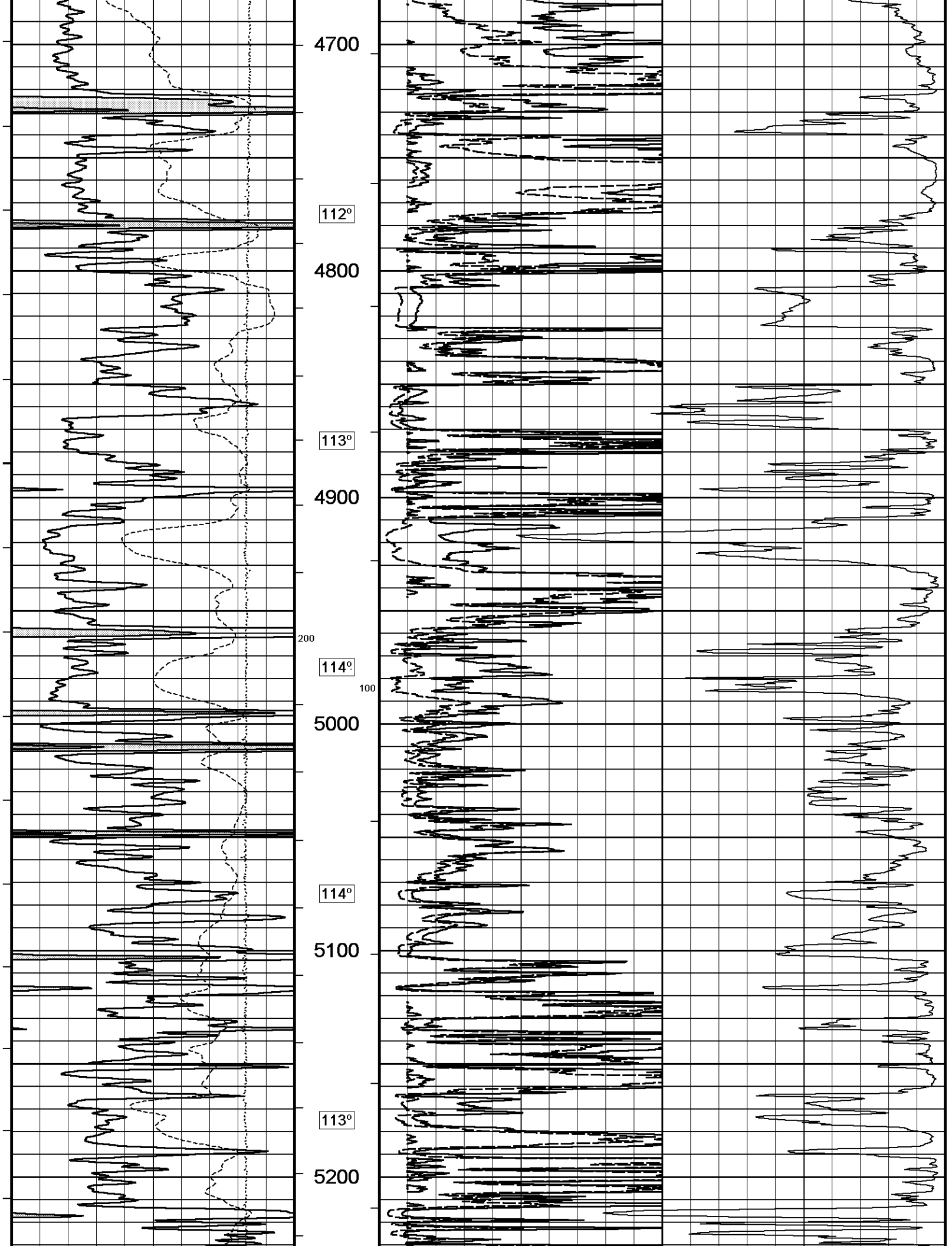


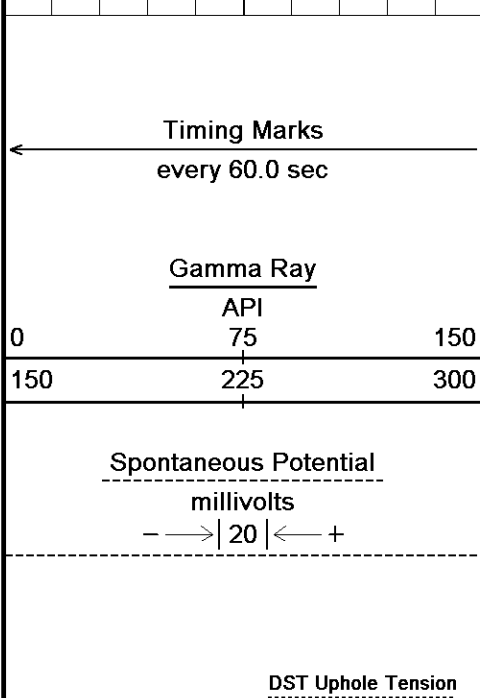
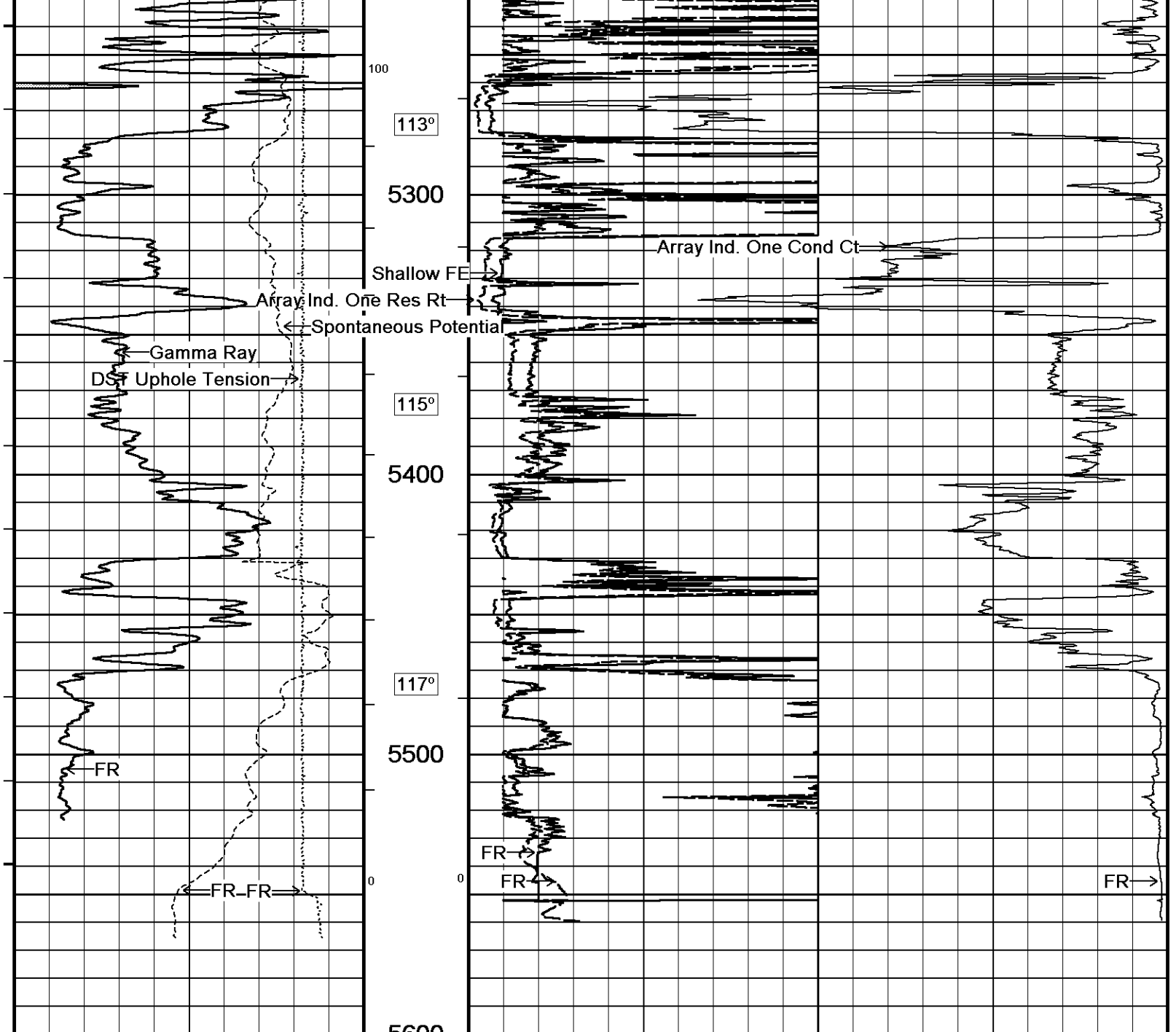












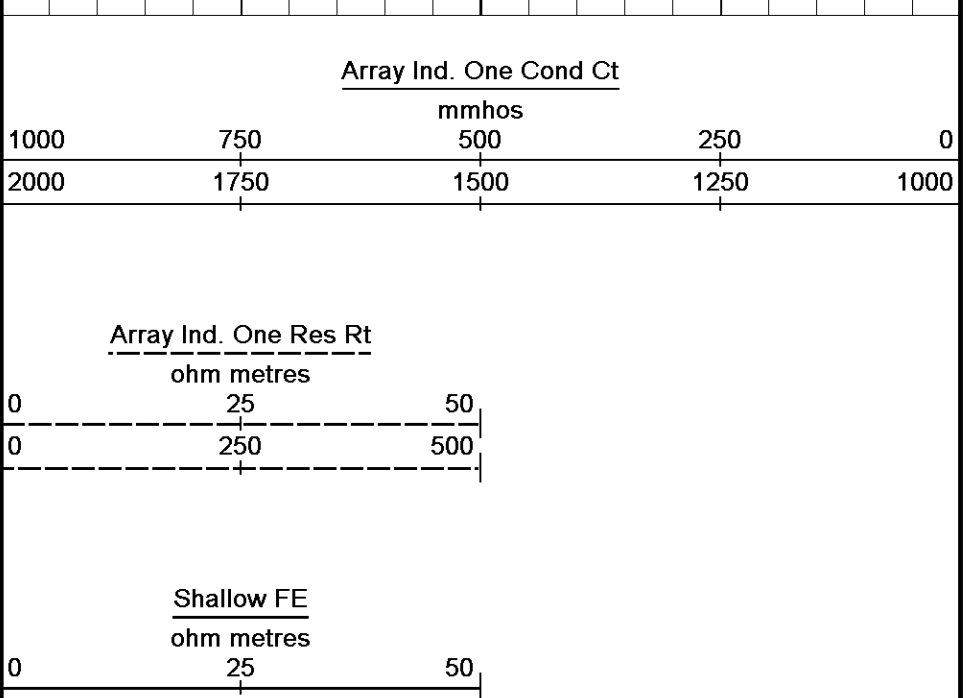
5600
Depth
in
Feet

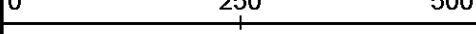
Borehole
Temp in
deg F

HVI
every
10 cu ft

Annular
Integral
every
10 cu ft

Replay





Plotted on 14-MAR-2014 10:44

Recorded on 14-MAR-2014 08:06

System Versions: Logged with 13.08.2113 Processed with 13.08.2113 Plotted with 13.08.2113



2 INCH MAIN



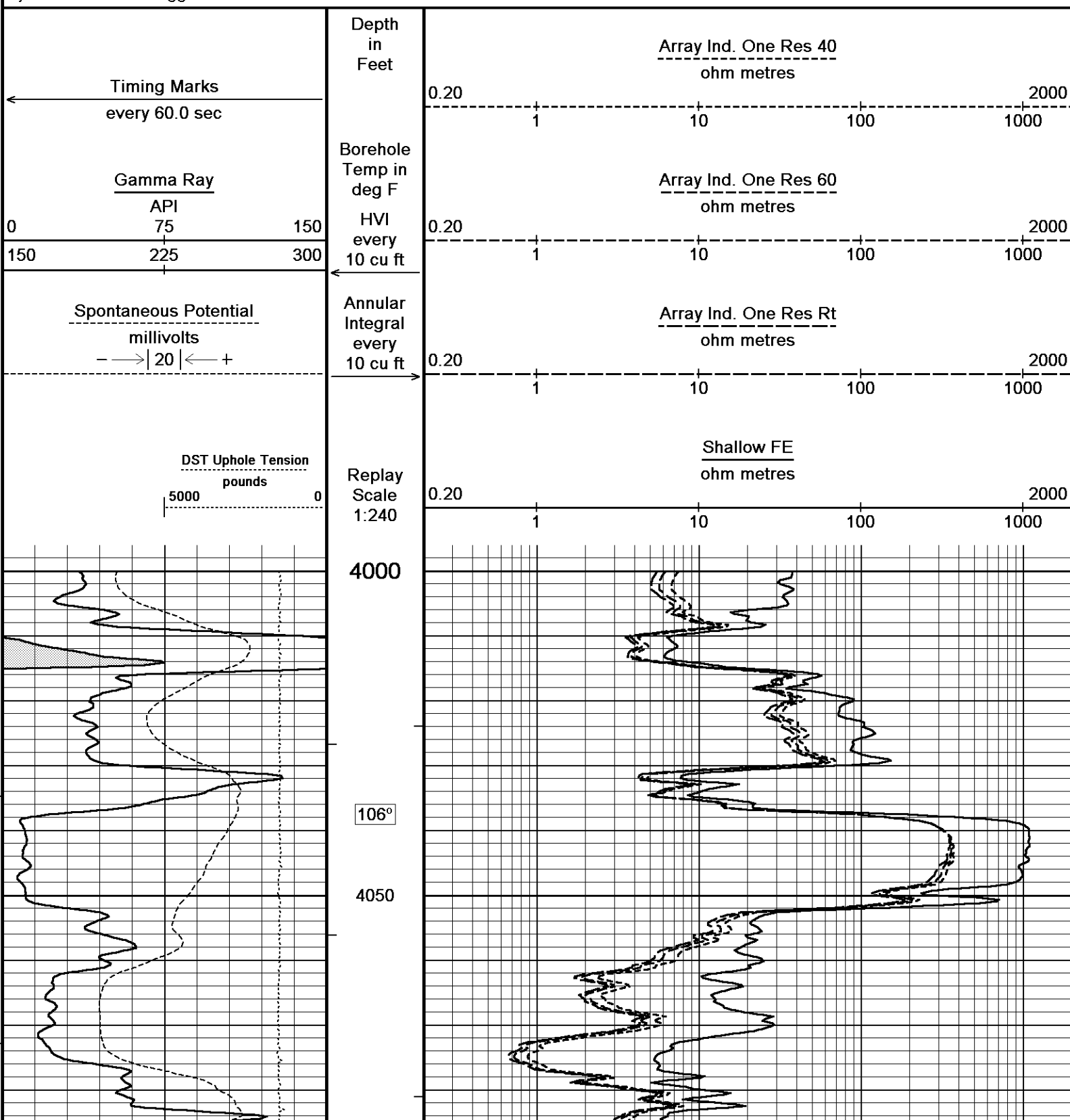
5 INCH MAIN

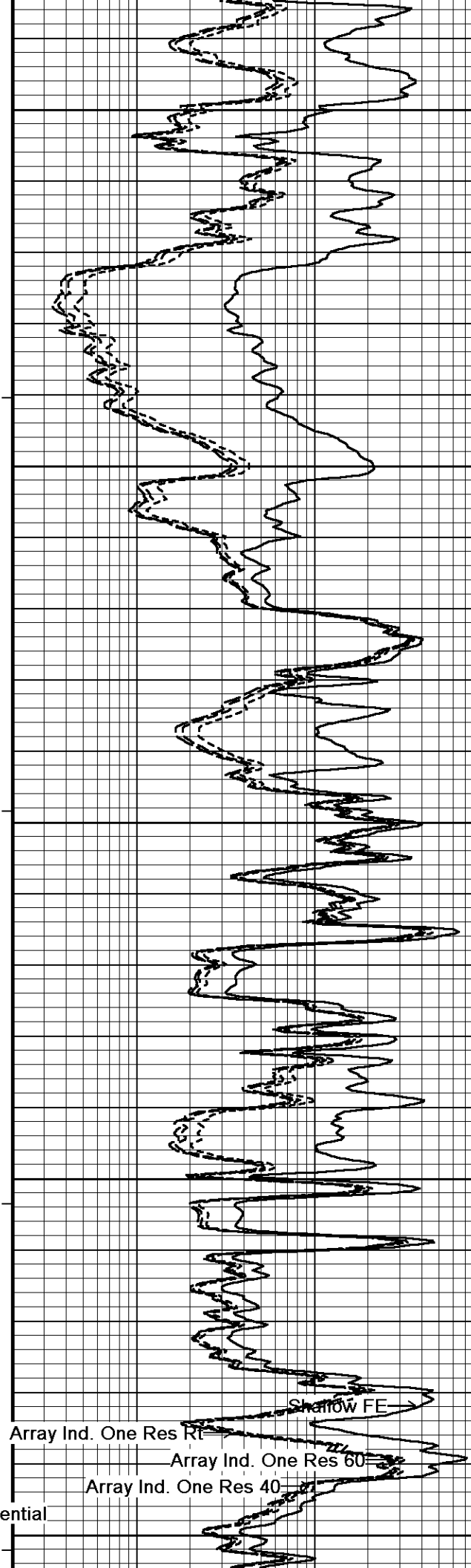
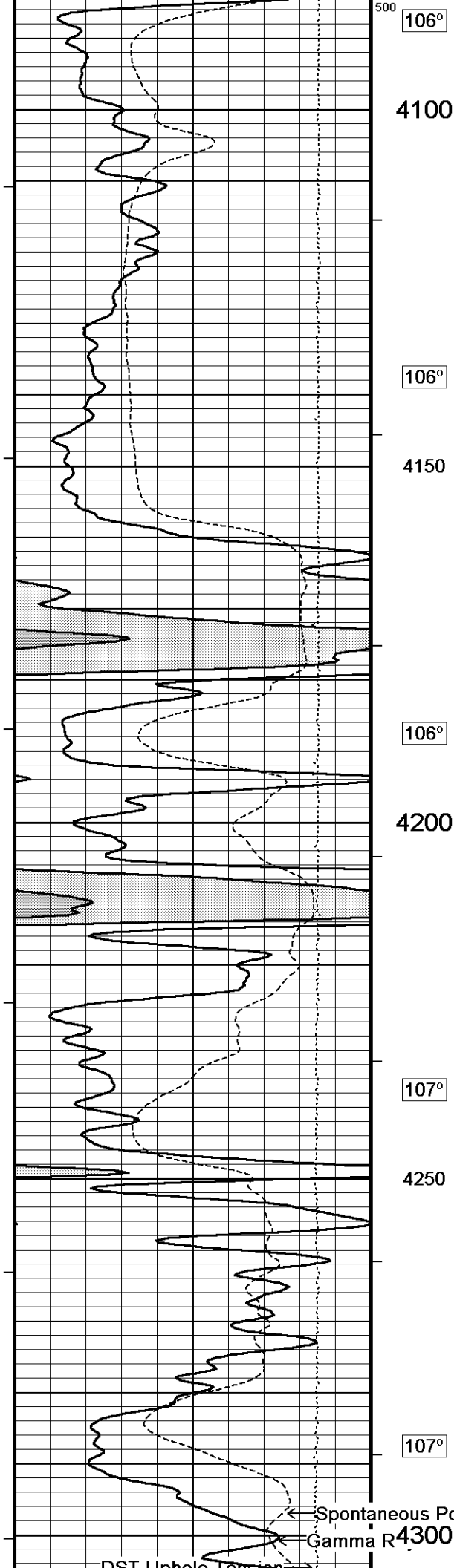


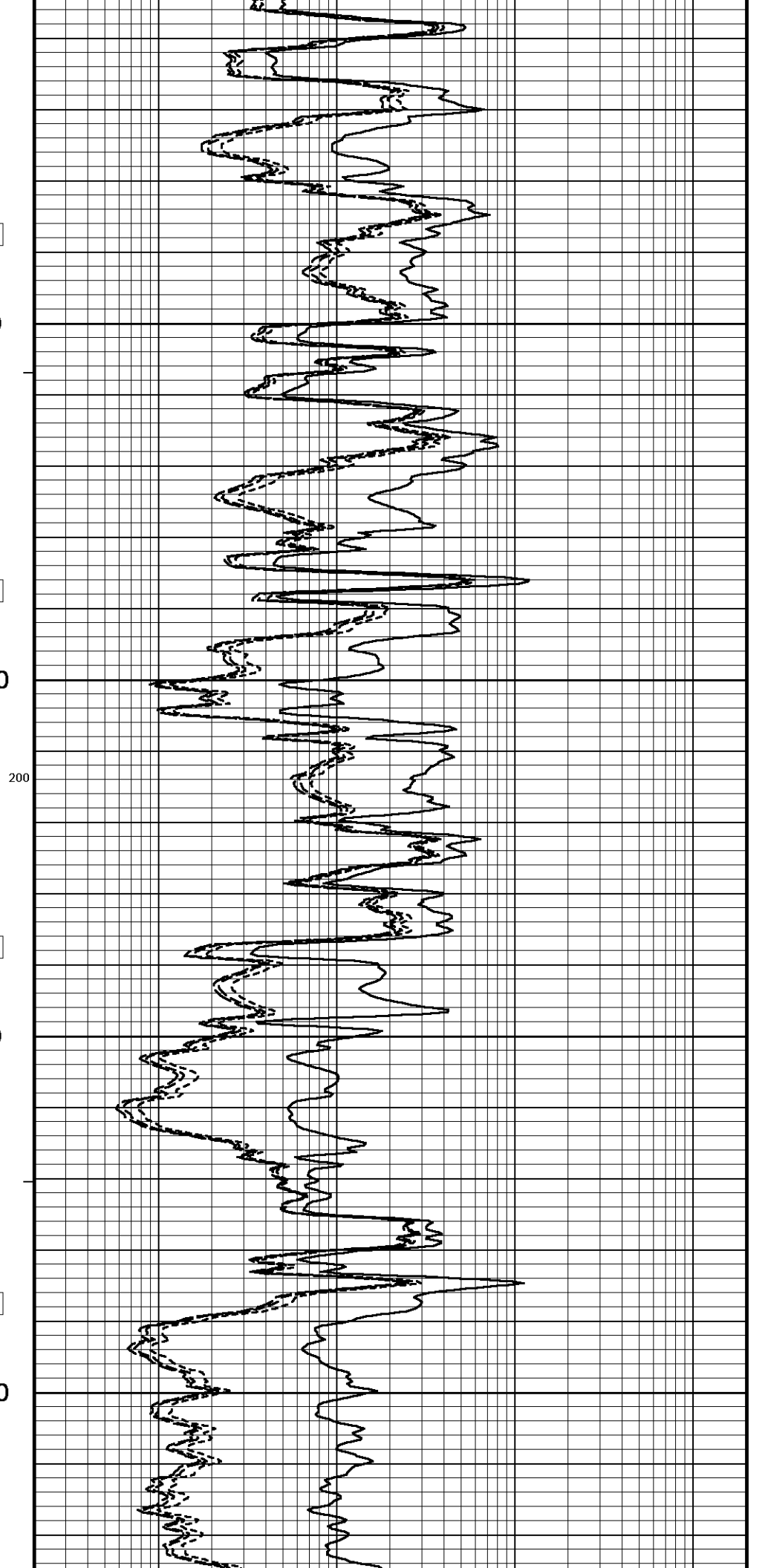
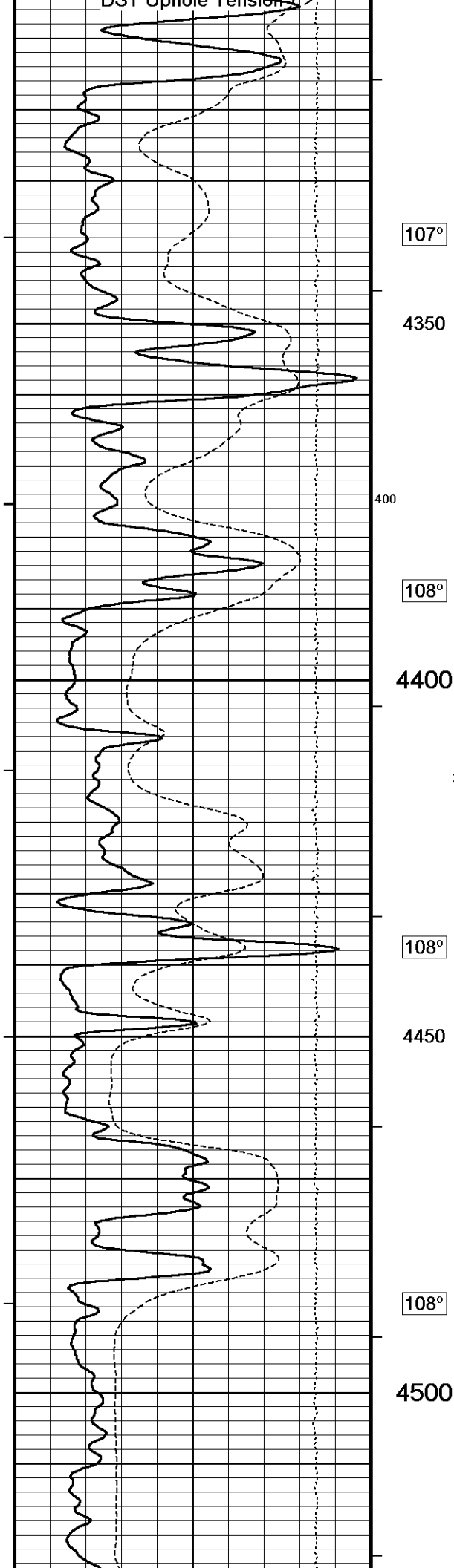
Plotted on 14-MAR-2014 10:44

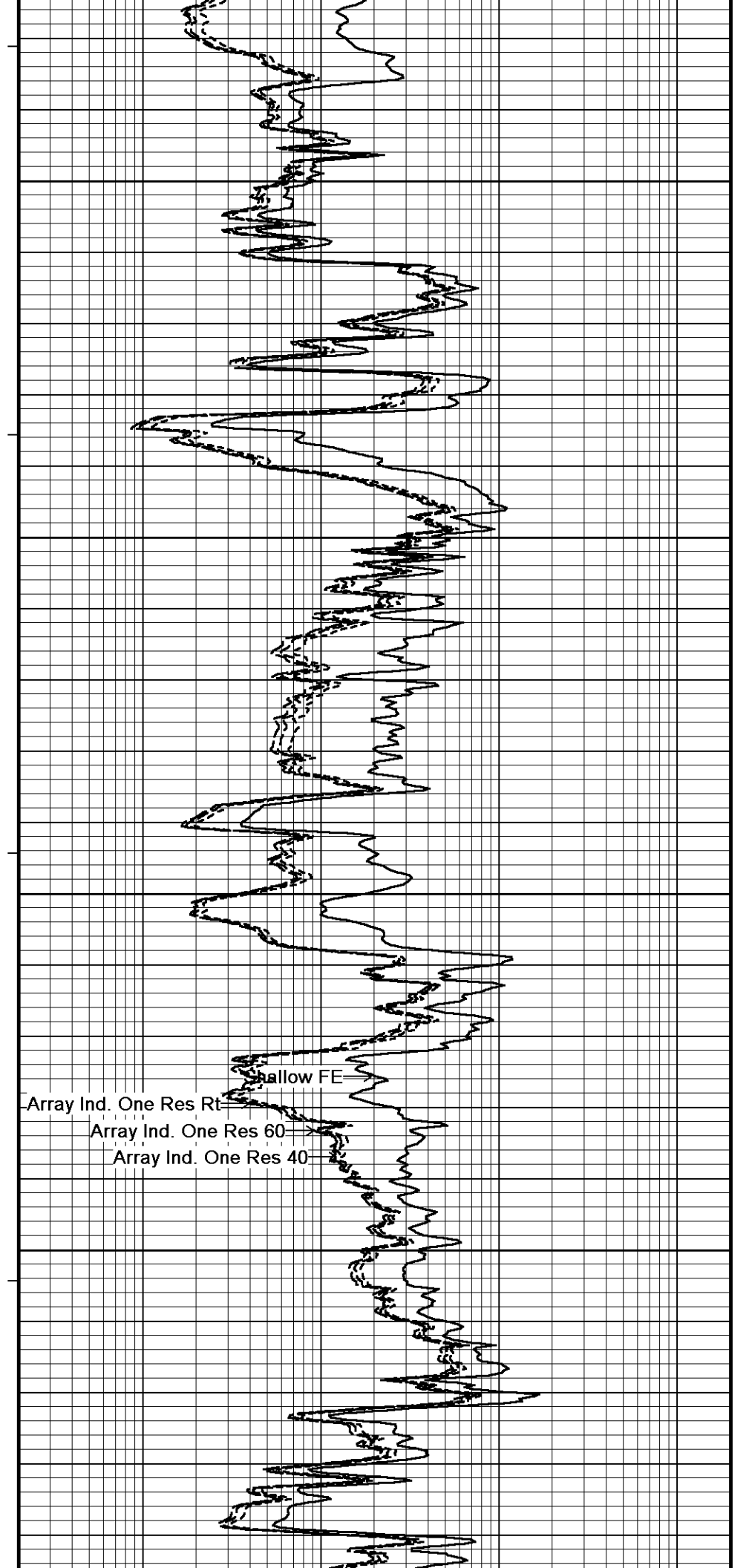
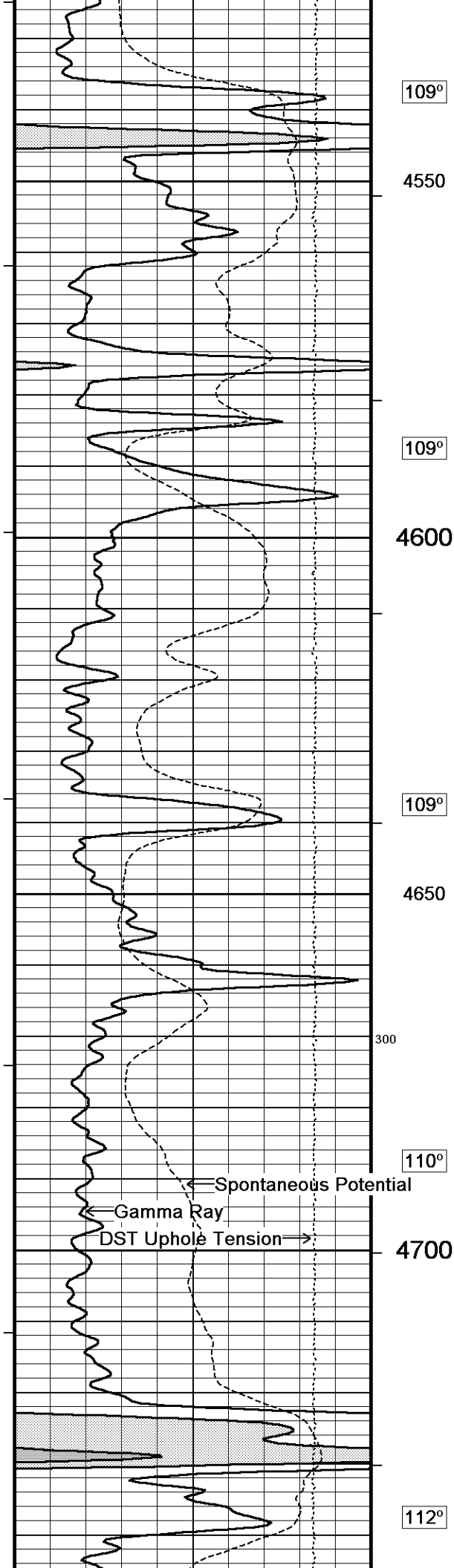
Recorded on 14-MAR-2014 08:06

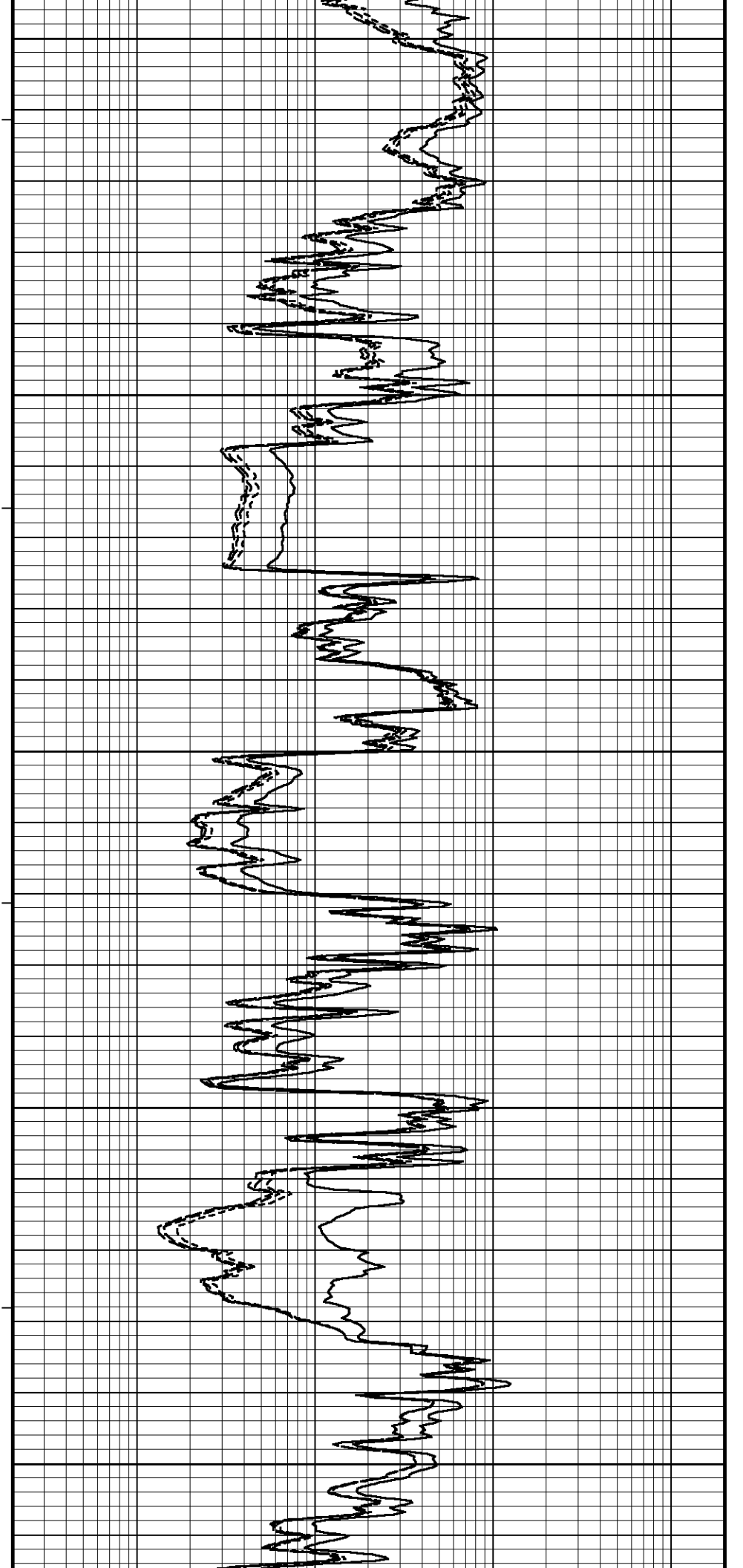
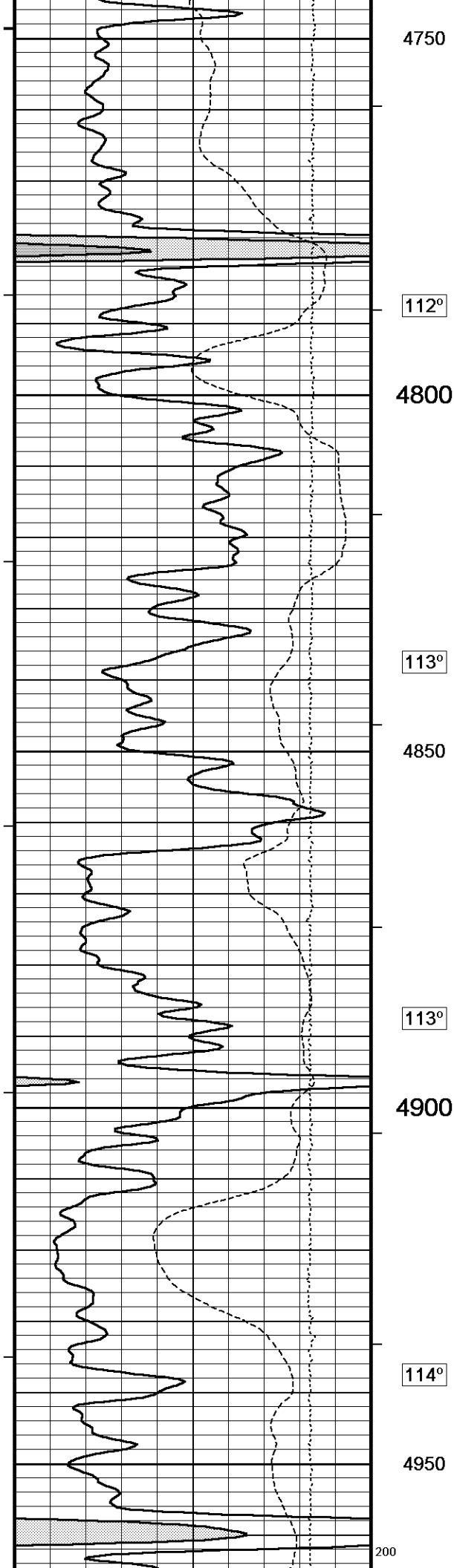
System Versions: Logged with 13.08.2113 Processed with 13.08.2113 Plotted with 13.08.2113

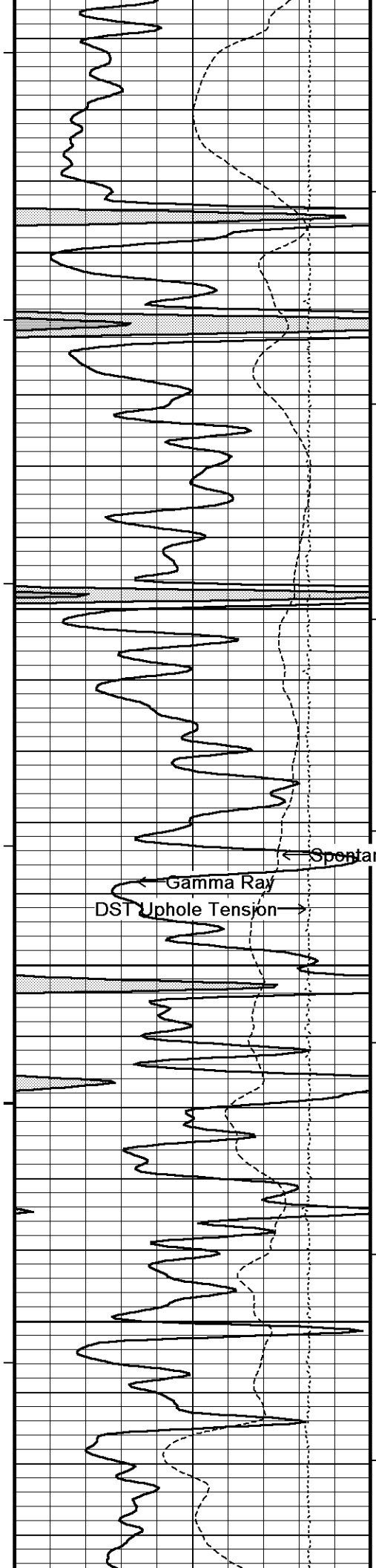












114°

5000

115°

5050

113°

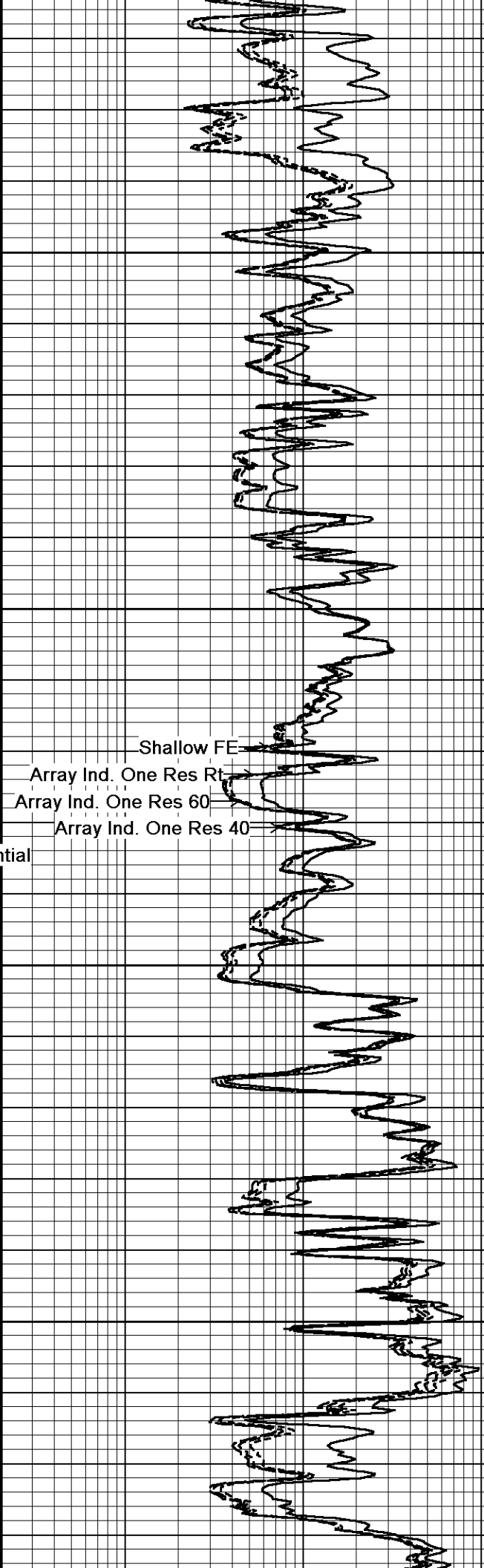
5100

112°

5150

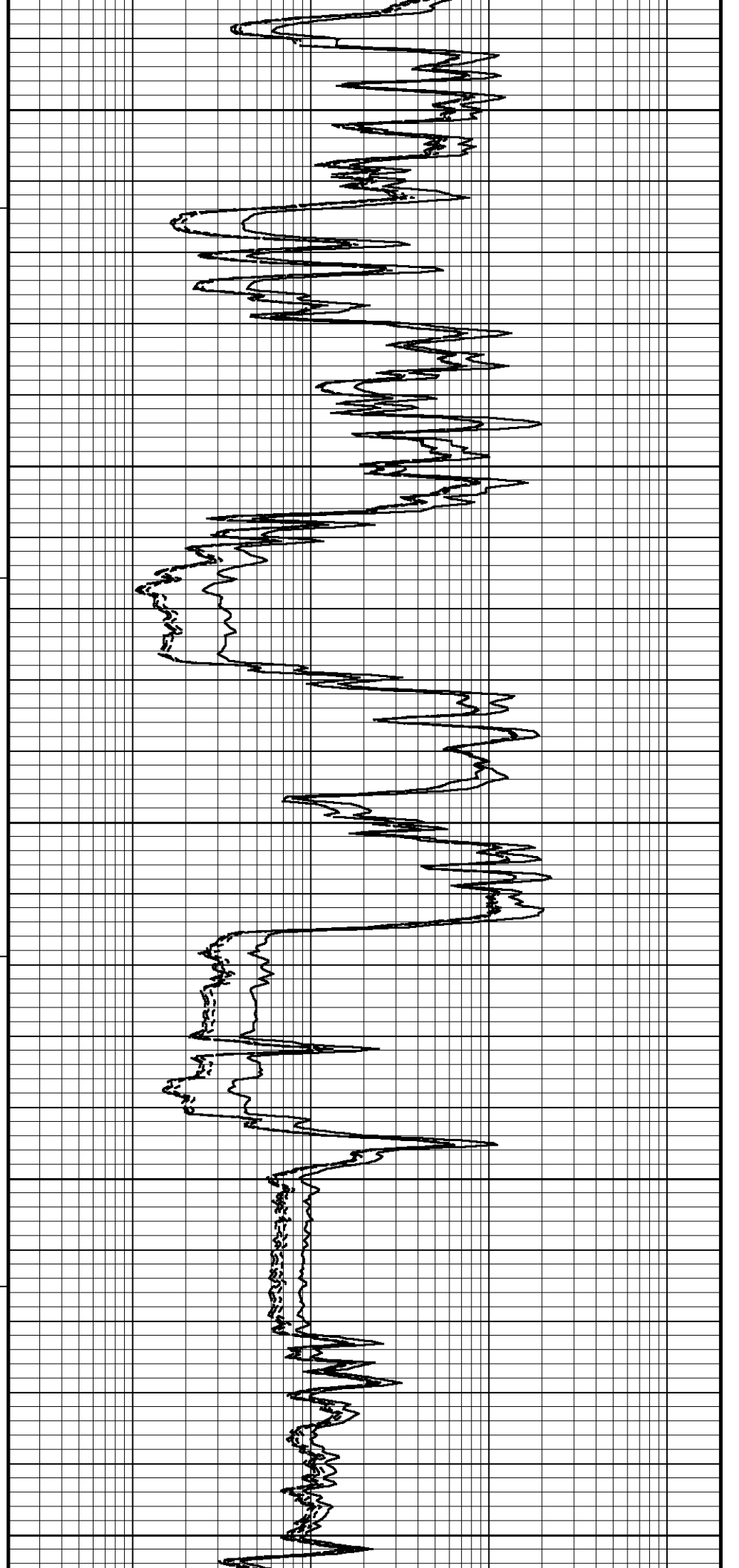
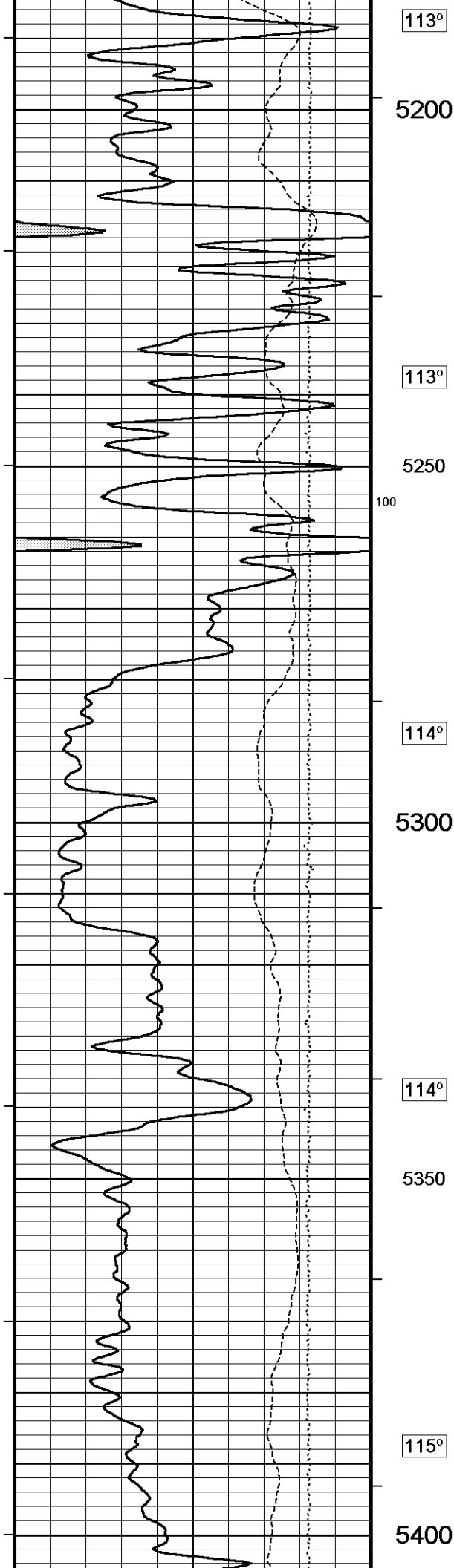
← Gamma Ray
DST Uphole Tension →

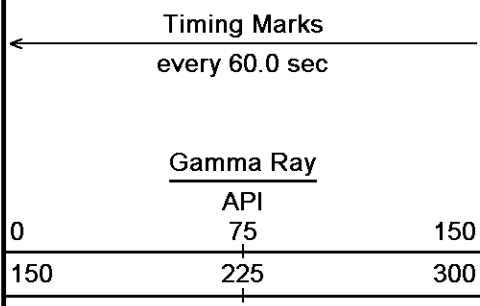
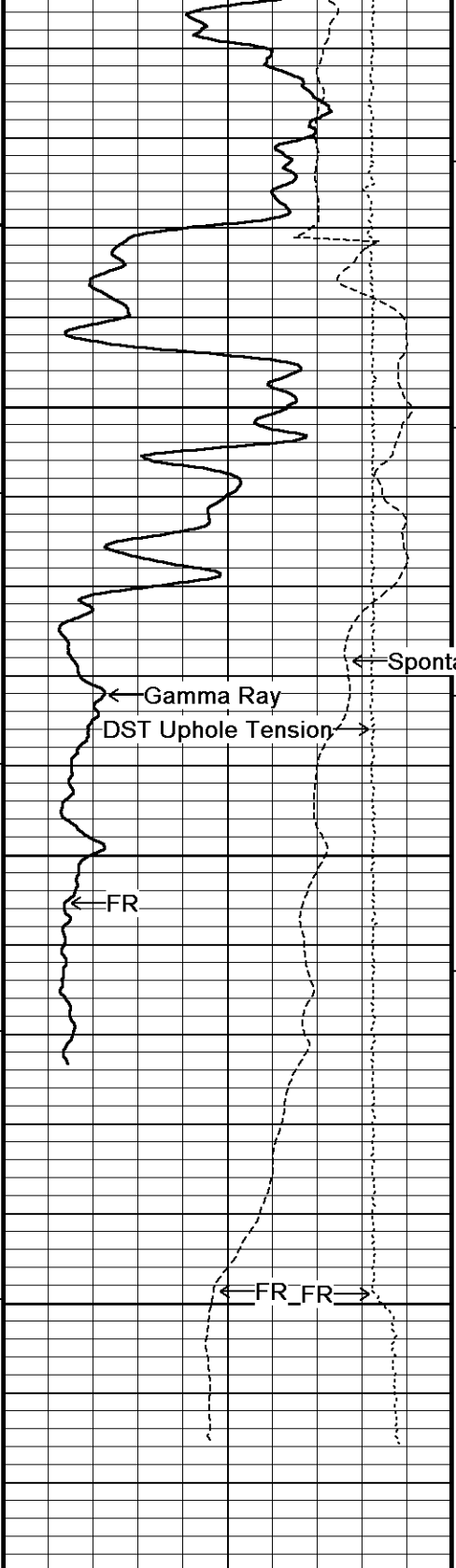
← Spontaneous Potential



100

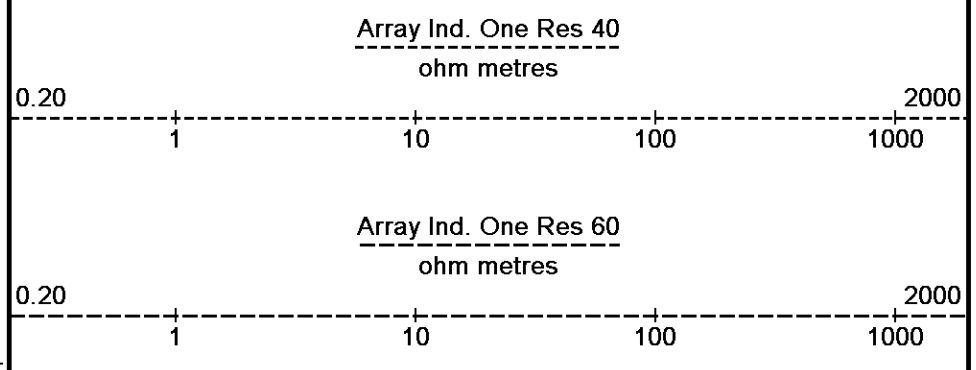
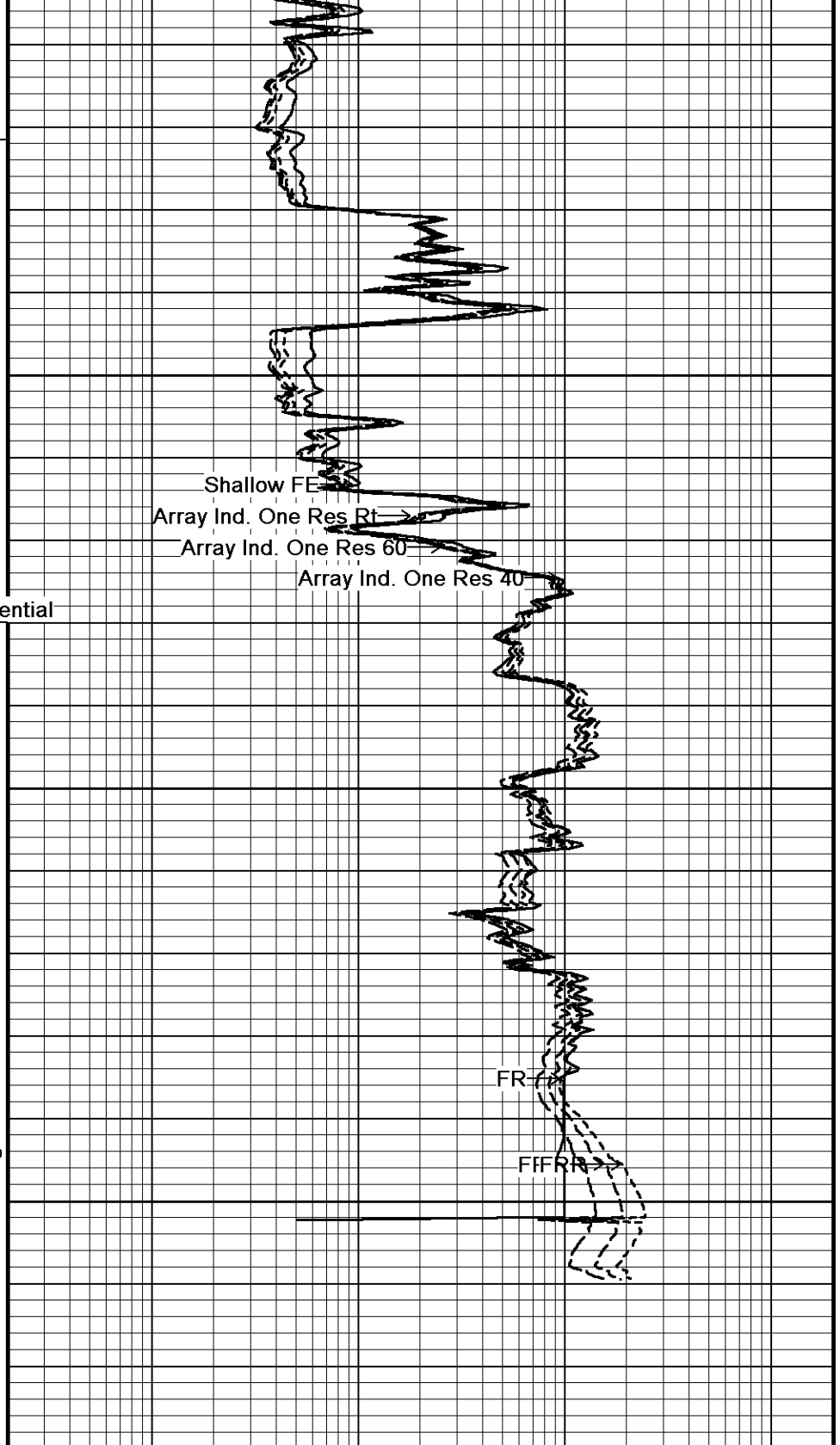
Shallow FE
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40

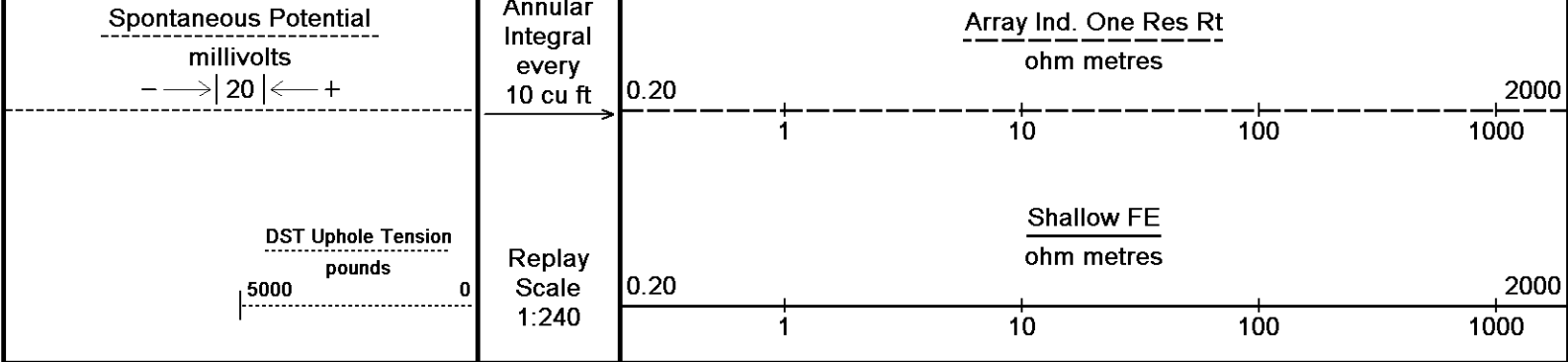




Borehole
Temp in
deg F

HVI
every
10 cu ft





Depth Based Data - Maximum Sampling Increment 10.0cm

Plotted on 14-MAR-2014 10:44

Filename: C:\Minimus 13.08.2113\Logs\MCCOY SCHWAB A #1-7\MAIN.dta

Recorded on 14-MAR-2014 08:06

System Versions: Logged with 13.08.2113 Processed with 13.08.2113 Plotted with 13.08.2113

↑

5 INCH MAIN

↑

↓

REPEAT SECTION

↓

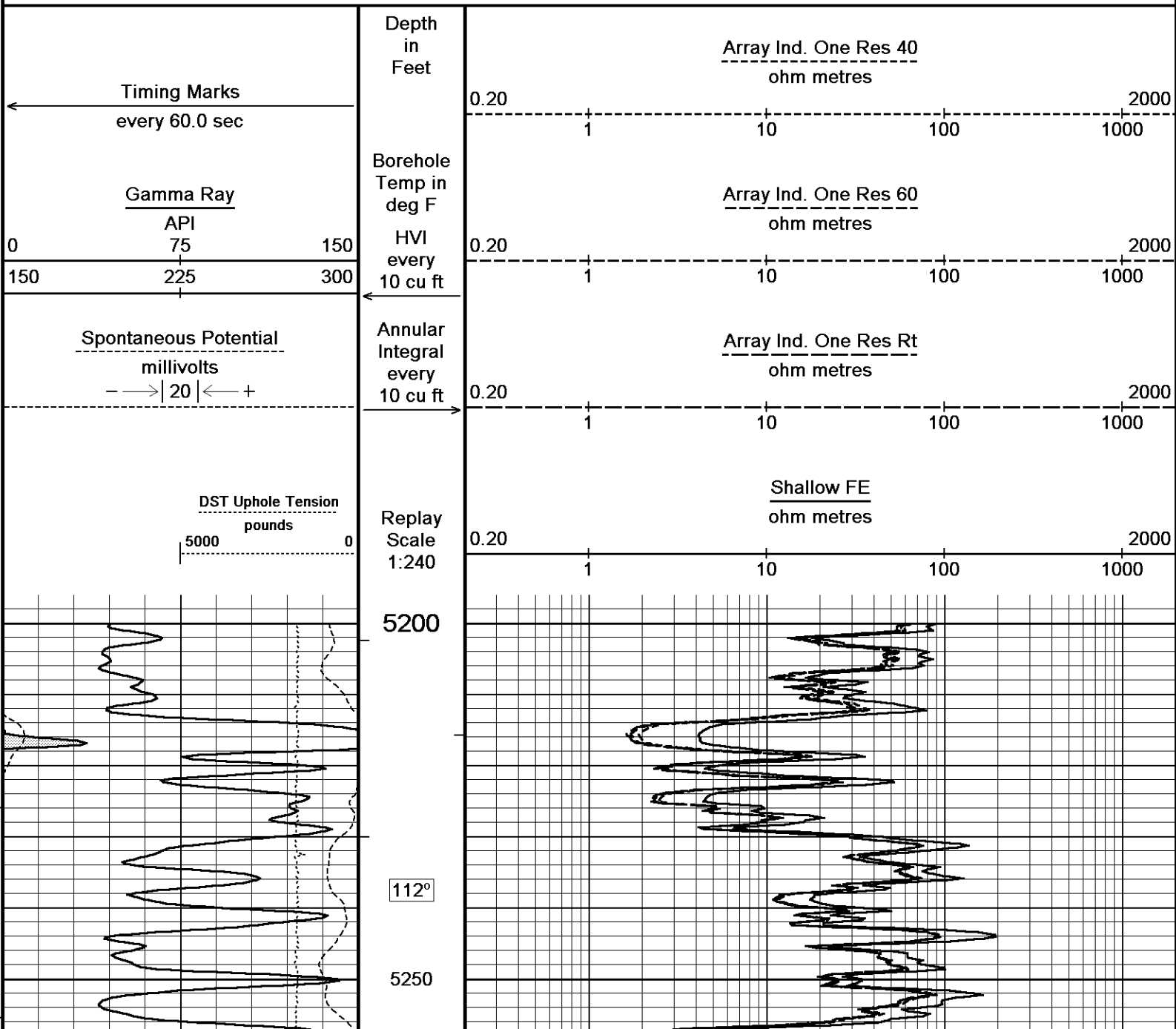
Depth Based Data - Maximum Sampling Increment 10.0cm

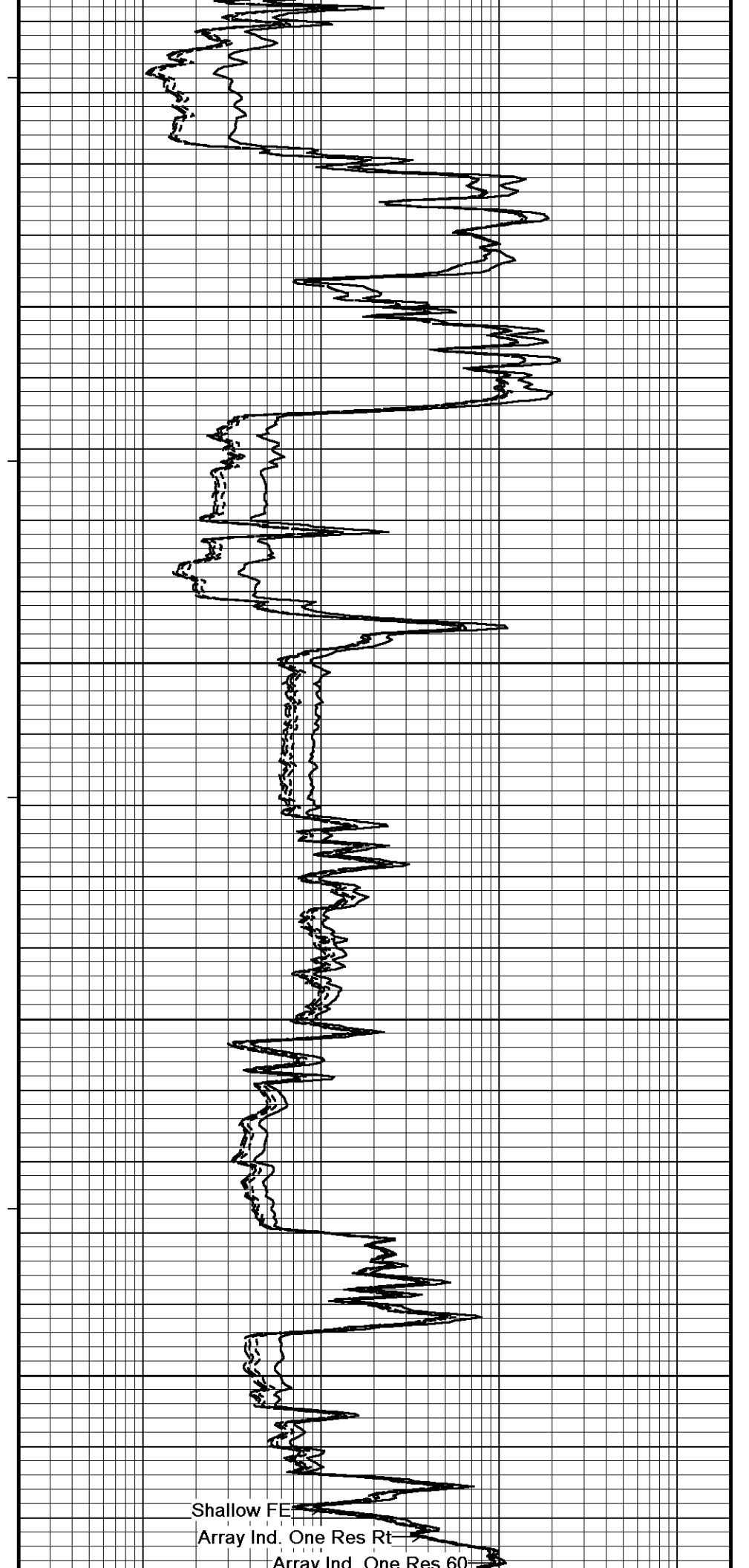
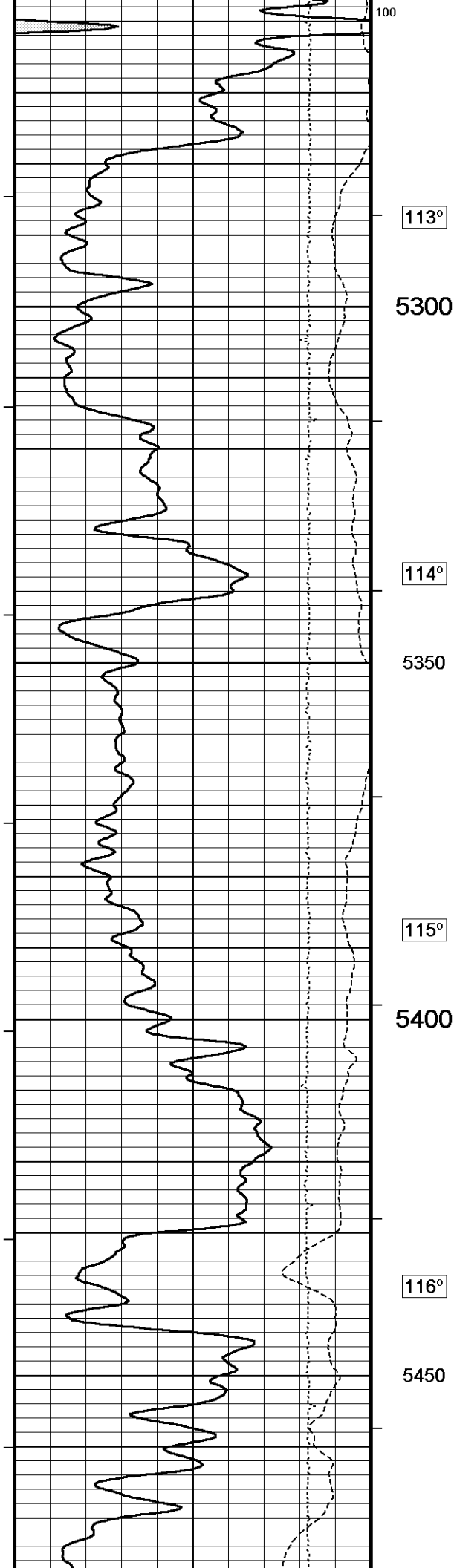
Plotted on 14-MAR-2014 10:44

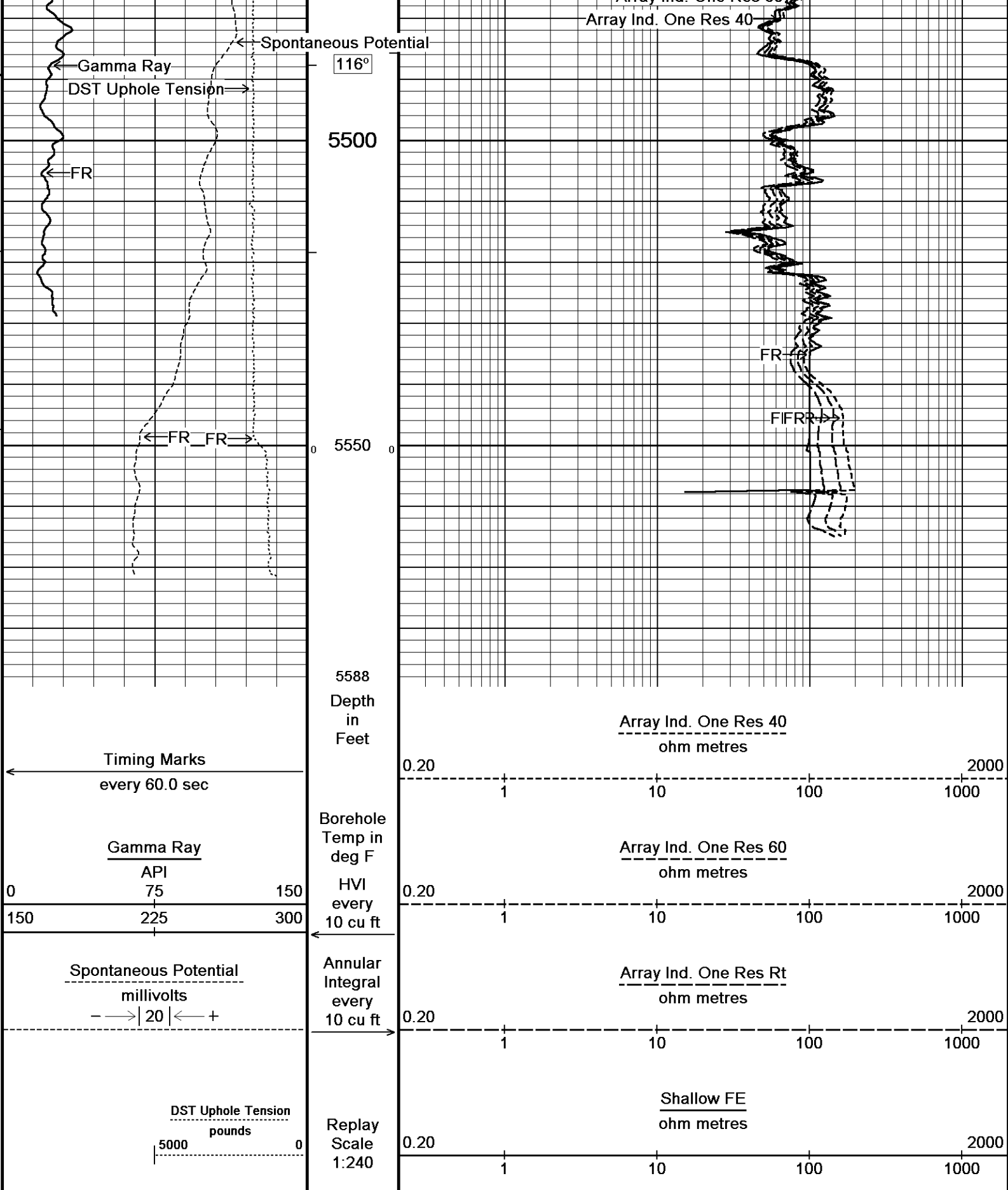
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Recorded on 14-MAR-2014 07:49

System Versions: Logged with 13.08.2113 Processed with 13.08.2113 Plotted with 13.08.2113







General Constants All 000

Last Edited on 14-MAR-2014,07:36

General Parameters

Mud Resistivity	1.210	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	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
SW/APOR Tool Source	0.000

Gamma Calibration MCG-C 150

Field Calibration on 12-MAR-2014 16:55

	Measured	Calibrated (API)
Background	69	47
Calibrator (Gross)	1144	772
Calibrator (Net)	1075	725

Gamma Constants MCG-C 150

Last Edited on 14-MAR-2014,03:09

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

High Resolution Temperature Calibration MCG-C 150

Field Calibration on 08-MAR-2014,10:59

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

High Resolution Temperature Constants MCG-C 150

Last Edited on 08-MAR-2014,10:59

Pre-filter Length	11
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FE Calibration MFE-A.A 55

Base Calibration on 21-JAN-2014 15:20

Field Check on 12-MAR-2014 17:04

Base Calibration

	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	951.8	126.8
Base Check		281.4
Field Check		281.5

FE Constants MFE-A.A 55

Last Edited on 14-MAR-2014,03:09

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

Induction Calibration MALA A 5

Base Calibration on 21-JAN-2014 09:50

Base Calibration

Test Loop Calibration

Channel	Measured		Calibrated (mmho/m)	
	Low	High	Low	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)		Field Check (mmho/m)	
	Low	High	Low	High
1			14.5	3864.5
2			31.7	3592.9
3			29.8	2973.4
4			20.8	2127.7
Deep			18.4	1913.6
Medium			43.1	3863.8
Shallow			47.1	5375.5

Array Temperature 61.3 Deg F

Induction Constants MAI-A.A 5

Last Edited on 12-MAR-2014,17:01

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 64

Base Calibration on 13-FEB-2014 15:49
Field Calibration on 12-MAR-2014 17:07

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	16976	3.99
2	26016	5.98
3	34528	7.97
4	42943	9.86

5
652224
N/A11.92
N/A

Field Calibration

Measured Caliper (in)
8.02Actual Caliper (in)
7.98

DOWNHOLE EQUIPMENT

C:\Minimus 13.08.2113\Logs\MCCOY SCHWAB A #1-7\MAIN.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 150 LG: 8.70 ft WT: 63.9 lb OD: 2.244 in

Compact Micro-Resistivity

MMR-A 11 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-B 64 LG: 9.59 ft WT: 90.4 lb OD: 2.449 in

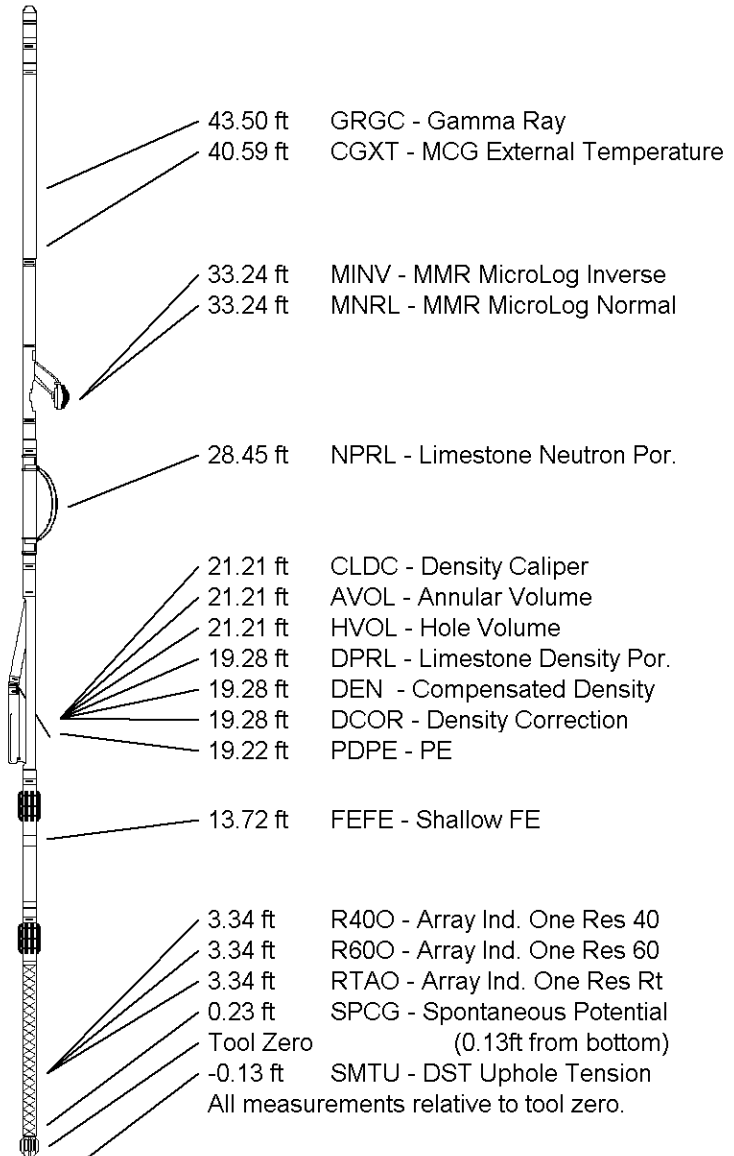
Compact Focussed Electric

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

Compact Induction

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

Total Length: 51.18 ft Weight: 407.9 lb



COMPANY

McCOY PETROLEUM CORPORATION

WELL

SCHWAB "A" 1-7

FIELD

WILDCAT

PROVINCE/COUNTY

MEADE

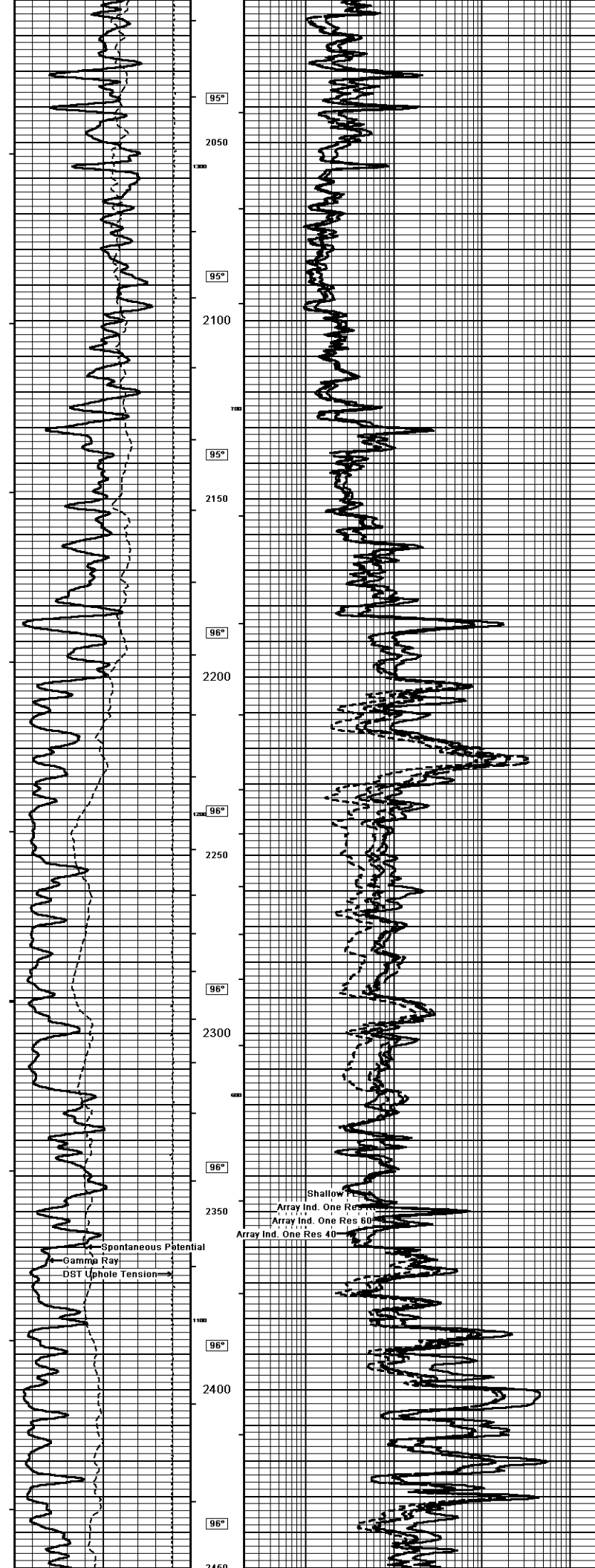
COUNTRY/STATE

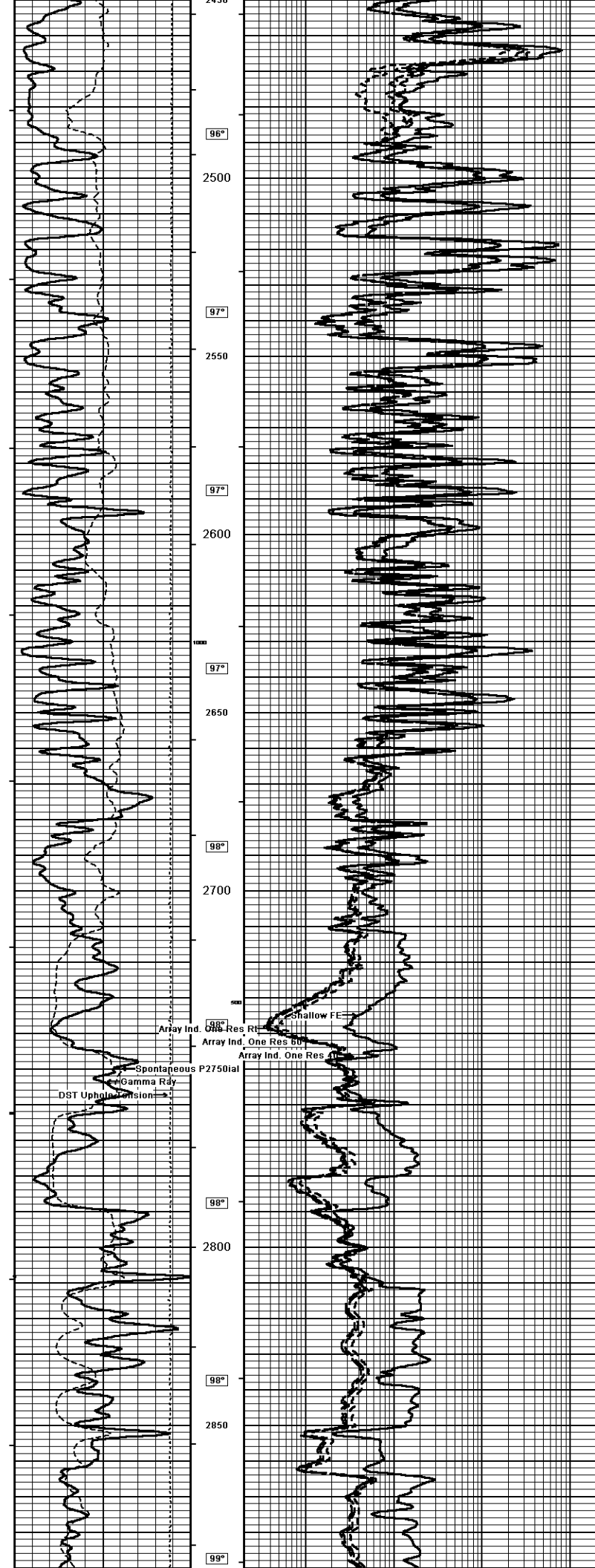
U.S.A. / KANSAS

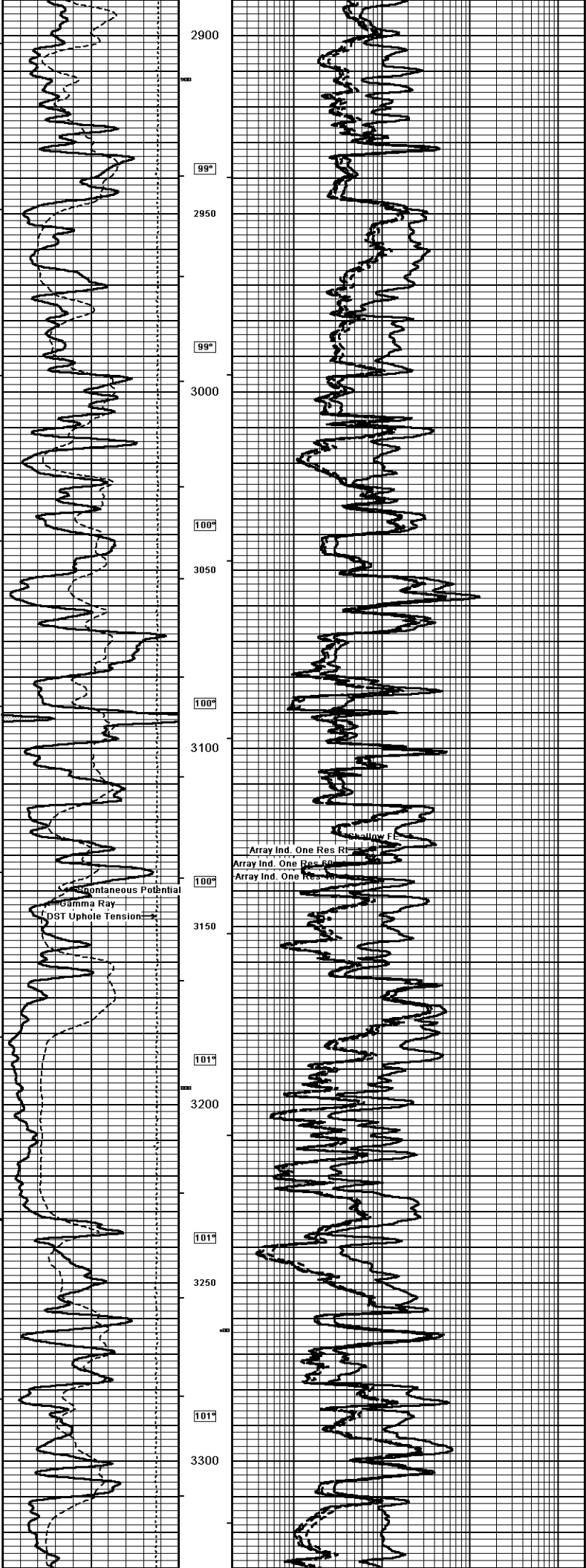
Elevation Kelly Bushing	2825.00	feet
Elevation Drill Floor	2823.00	feet
Elevation Ground Level	2814.00	feet

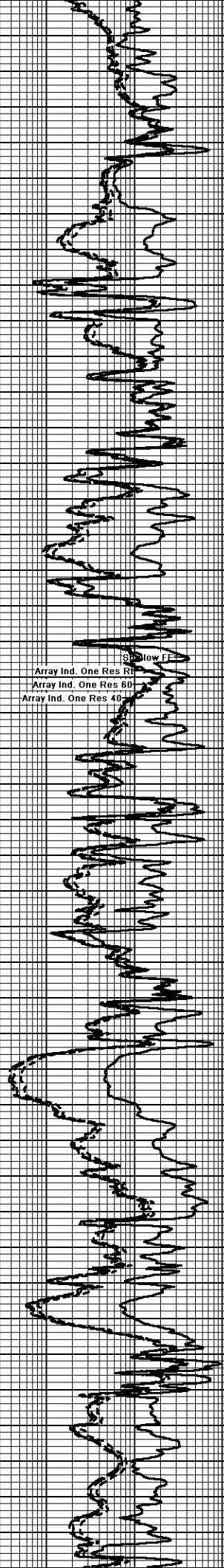
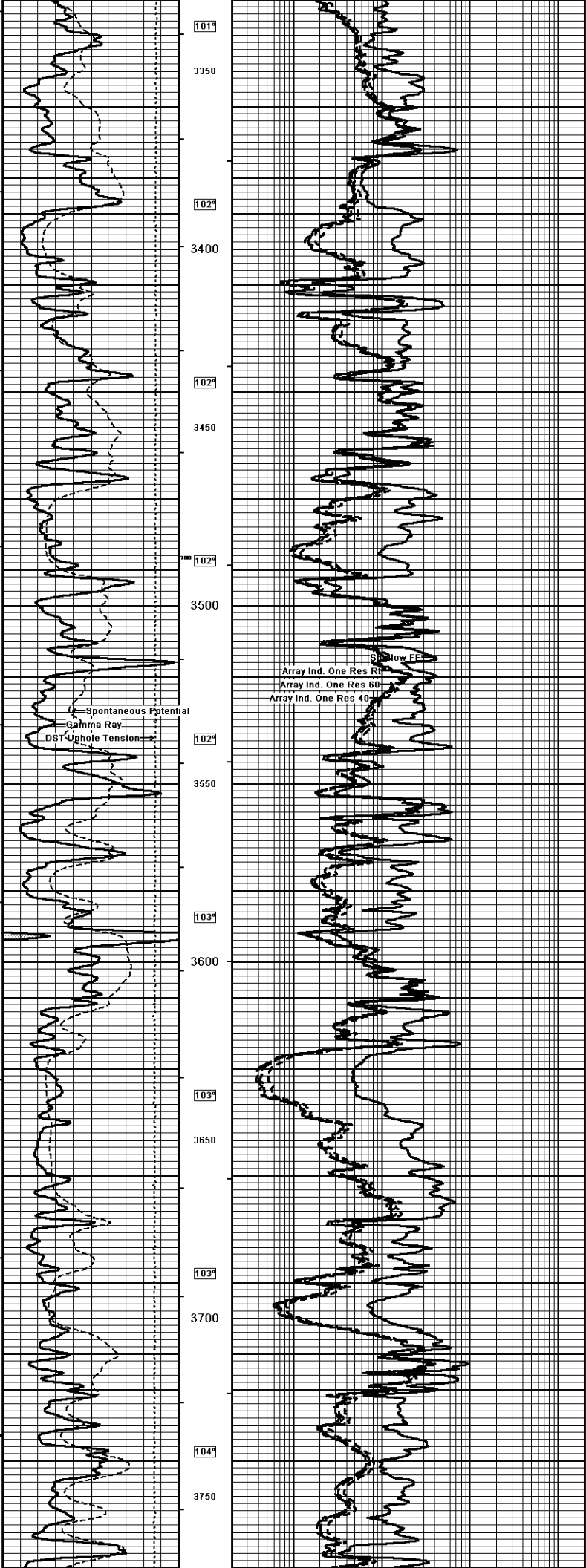
First Reading	5546.00	feet
Depth Driller	5550.00	feet
Depth Logger	5549.00	feet

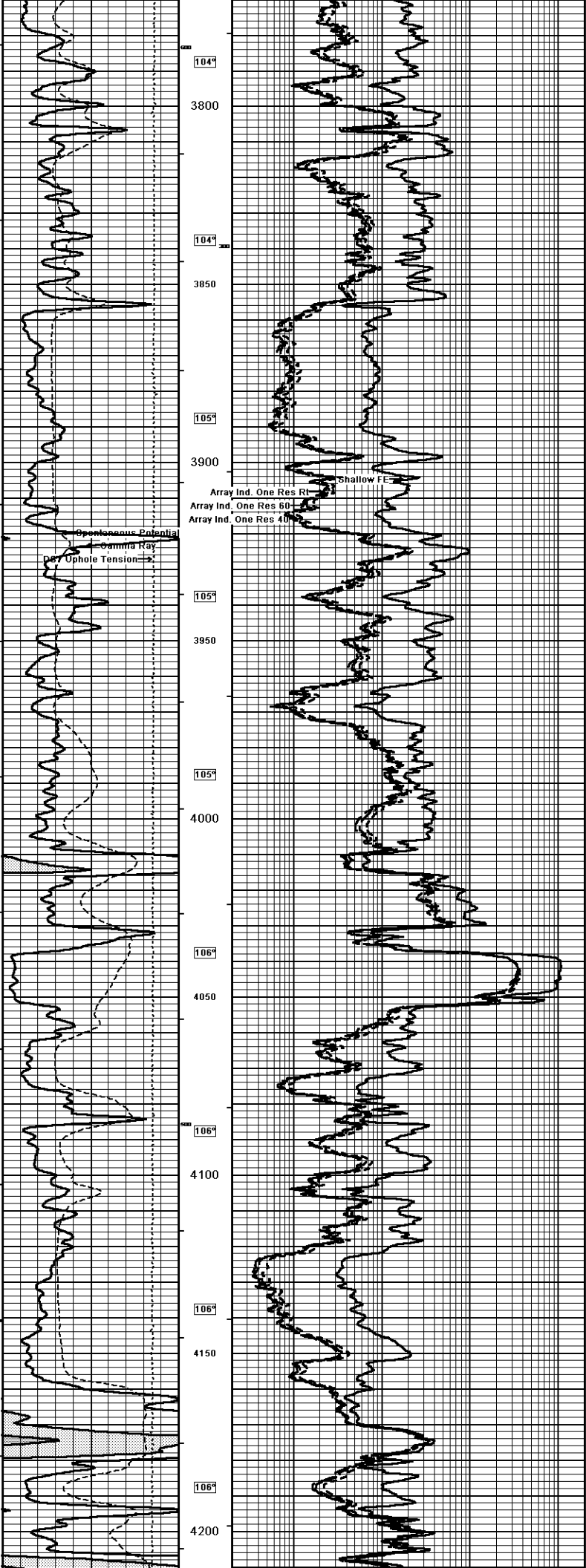
ARRAY INDUCTION
SHALLOW FOCUSED

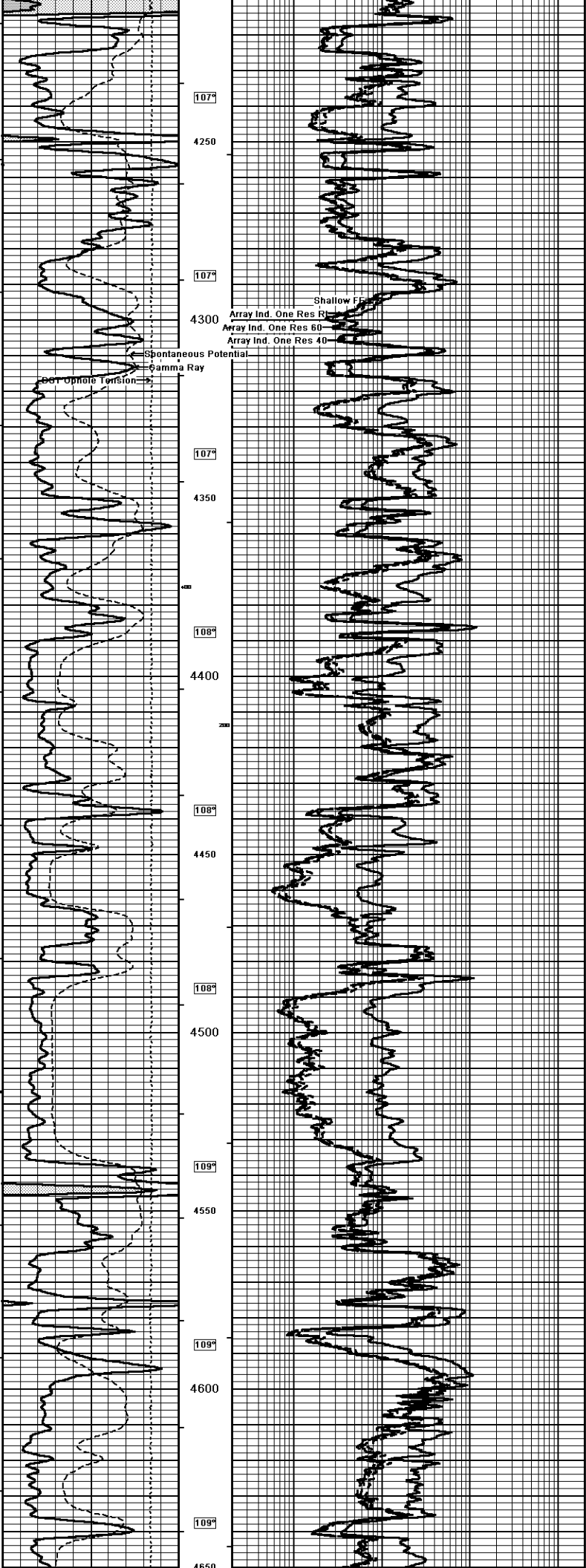


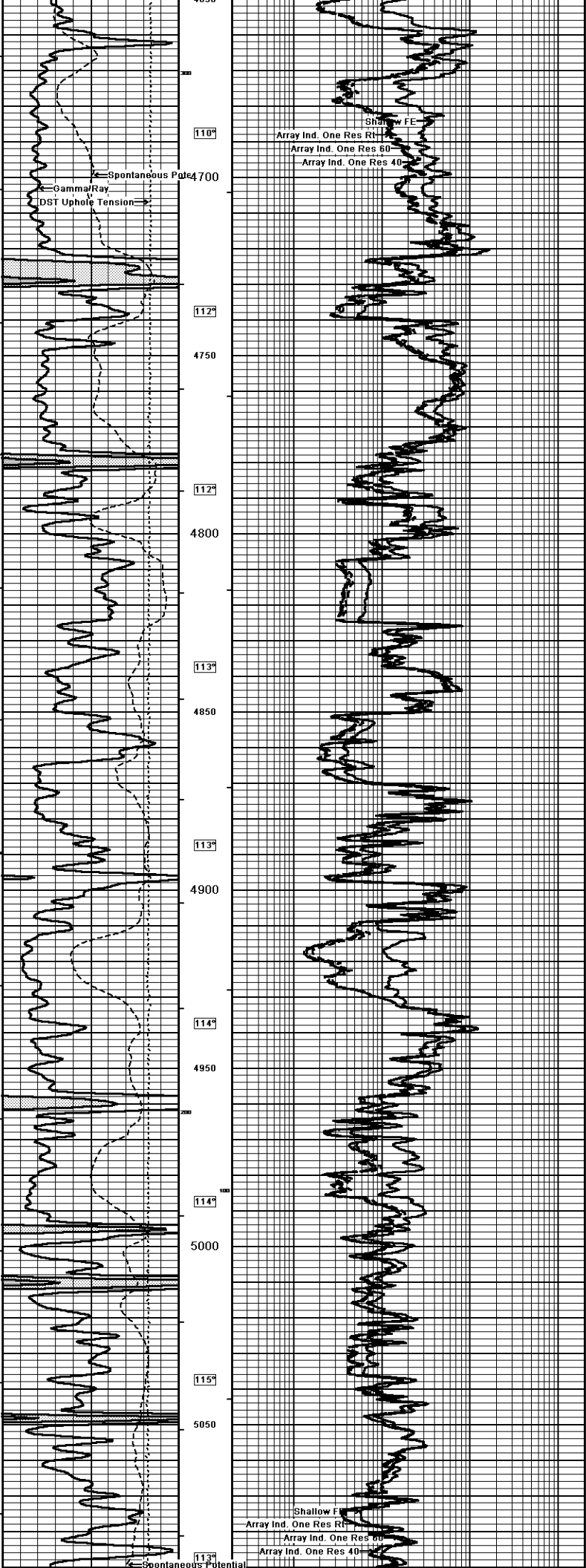


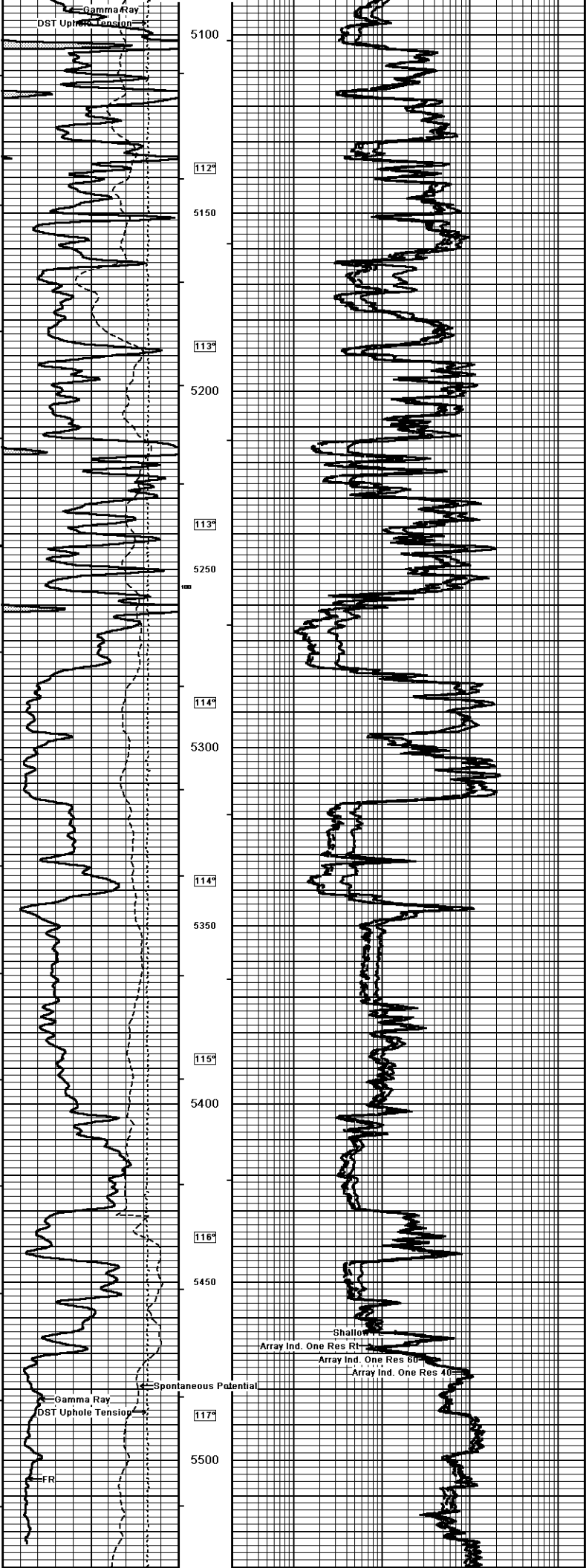


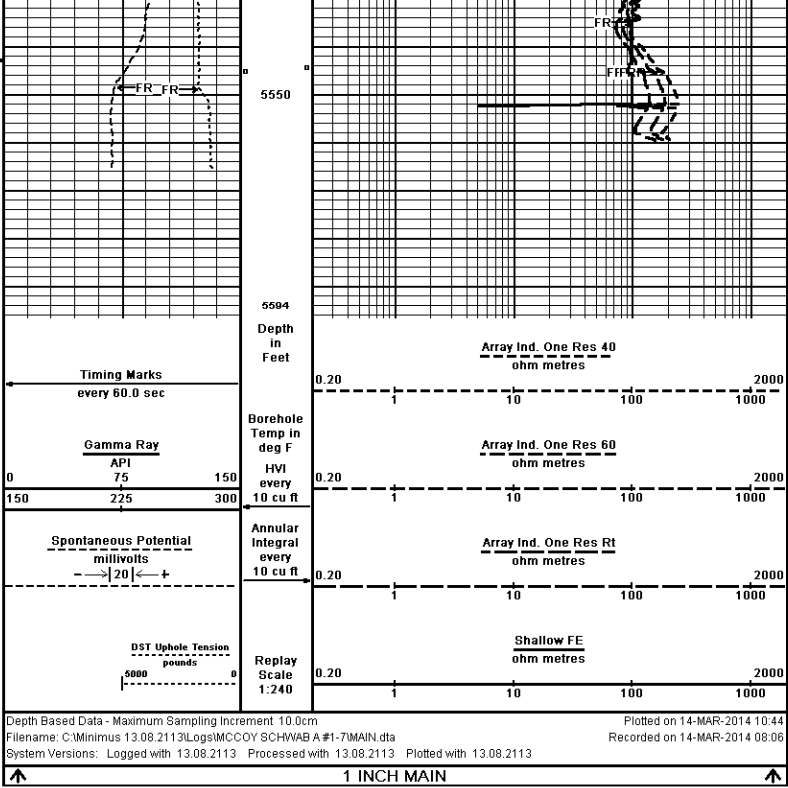












COMPANY		McCOY PETROLEUM CORPORATION			
WELL		SCHWAB "A" 1-7			
FIELD		WILDCAT			
PROVINCE/COUNTY		MEADE			
COUNTRY/STATE		U.S.A. / KANSAS			
Elevation Kelly Bushing	2825.00	feet	First Reading	5546.00	feet
Elevation Drill Floor	2823.00	feet	Depth Driller	5550.00	feet
Elevation Ground Level	2814.00	feet	Depth Logger	5549.00	feet
 Weatherford		ARRAY INDUCTION			
		SHALLOW FOCUSED			
		ELECTRIC LOG			