



Weatherford

ARRAY INDUCTION
SHALLOW FOCUSED
ELECTRIC LOG

COMPANY				McCOY PETROLEUM CORPORATION			
WELL				FITZGERALD 'A' #5-30			
FIELD				LETTE SE			
PROVINCE/COUNTY				HASKELL			
COUNTRY/STATE				UNITED STATES / KANSAS			
LOCATION				330' FNL & 1320' FEL			
SEC	TWP	RGE	Other Services				
30	30S	31W	MPD/MDN				
API Number		15-081-22027		MML			
Permit Number							
Permanent Datum G.L., Elevation feet							
Log Measured From KB							
Drilling Measured From K.B. @ 11 FEET							
Date	31-AUG-2013			Elevations: KB 2857.00 DF 2855.00 GL 2846.00			
Run Number	ONE						
Service Order	3541077						
Depth Driller	5700.00			feet			
Depth Logger	5701.00			feet			
First Reading	5698.00			feet			
Last Reading	182.00			feet			
Casing Driller	1821.00			feet			
Casing Logger	1821.00			feet			
Bit Size	7.880			inches			
Hole Fluid Type	CHEMICAL						
Density / Viscosity	9.00 lb/USg		72.00 CP				
PH / Fluid Loss	9.00		9.20 ml/30Min				
Sample Source	MUDPIT						
Rm @ Measured Temp	0.73 @ 75.0		ohm-m				
Rmf @ Measured Temp	0.58 @ 75.0		ohm-m				
Rmc @ Measured Temp	0.88 @ 75.0		ohm-m				
Source Rmf / Rmc	CALC	CALC					
Rm @ BHT	0.43 @128.0		ohm-m				
Time Since Circulation	4 HOURS						
Max Recorded Temp	128.00		deg F				
Equipment / Base	13096	LIB					
Recorded By	W. STAMBAUGH						
Witnessed By	DAVE WILLIAMS						
JOB#	LB13-245						

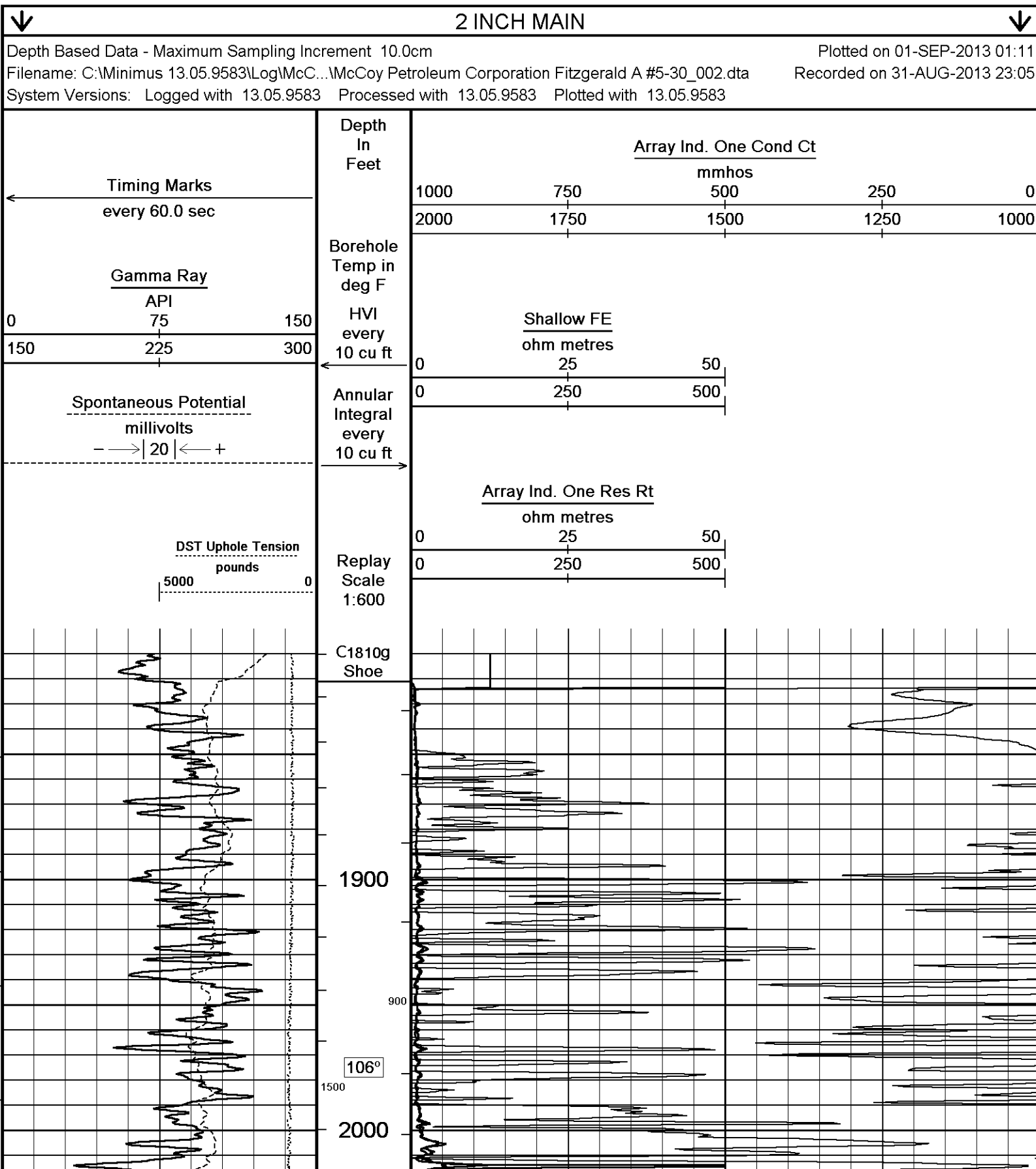
BOREHOLE RECORD					Last Edited: 31-AUG-2013 21:15
Bit Size inches		Depth From feet		Depth To feet	
7.880		1821.00		5700.00	
CASING RECORD					
Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft	
SURFACE	8.625	0.00	1821.00	24.00	

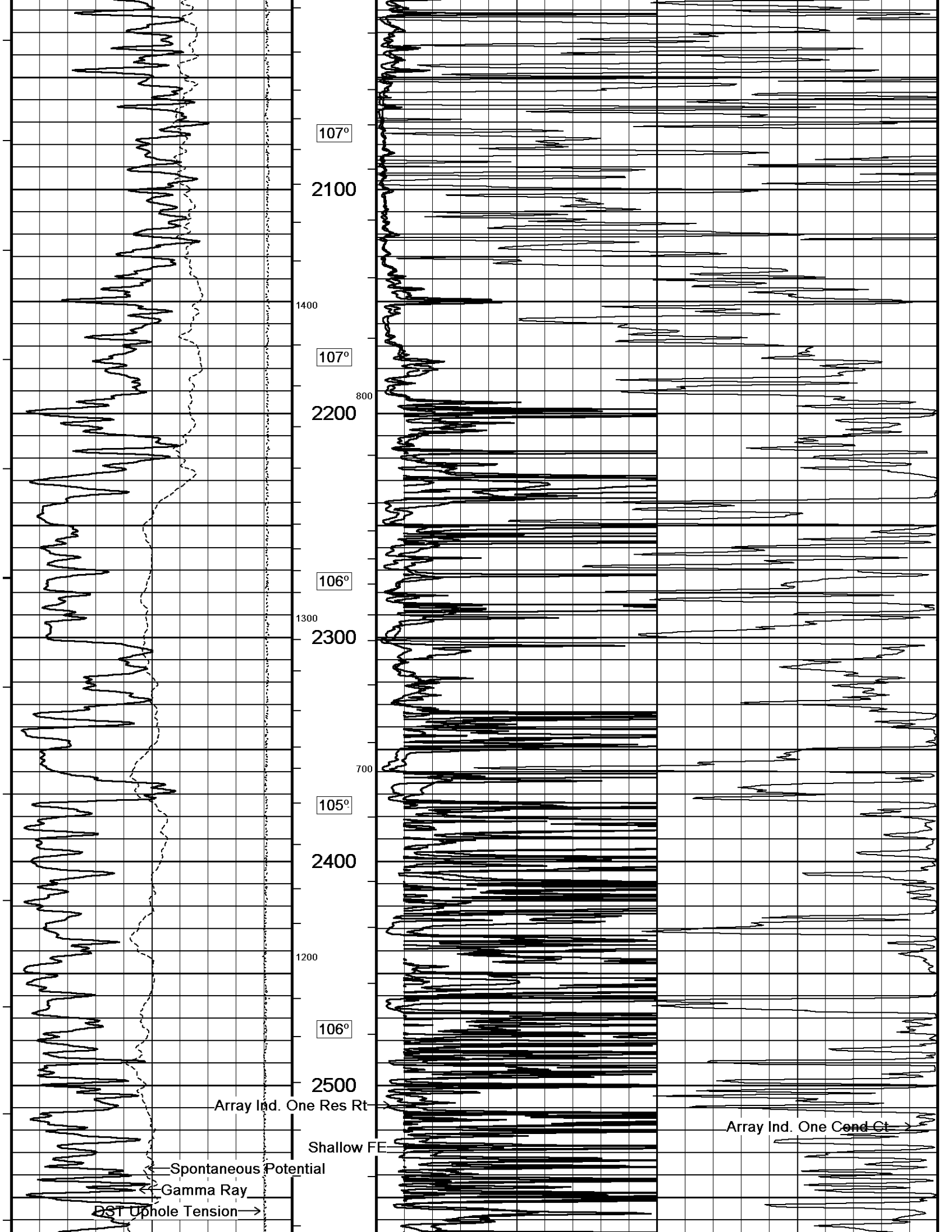
REMARKS
- SOFTWARE ISSUE: WLS 13.05.9583
MCG, MML, MDN, MPD, MFE, MAI RUN IN COMBINATION
- HARDWARE: DUAL BOWSPRING USED ON MDN
0.5 INCH STANDOFFS USED ON MAI and MFE
- 2.71 G/CC LIMESTONE DENSITY MATRIX USED TO CALCULATE POROSITY
- BOREHOLE RUGOSITY, TIGHT PULLS, AND WASHOUTS WILL AFFECT DATA QUALITY
- ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST
- TOTAL HOLE VOLUME FROM TD TO SURFACE CASING: 1590 CU.FT.
- ANNULAR HOLE VOLUME WITH 5.5 INCH PRODUCTION CASING FROM TD TO 4000 FEET: 320 CU.FT.
- RIG: STERLING DRILLING CO. RIG #2

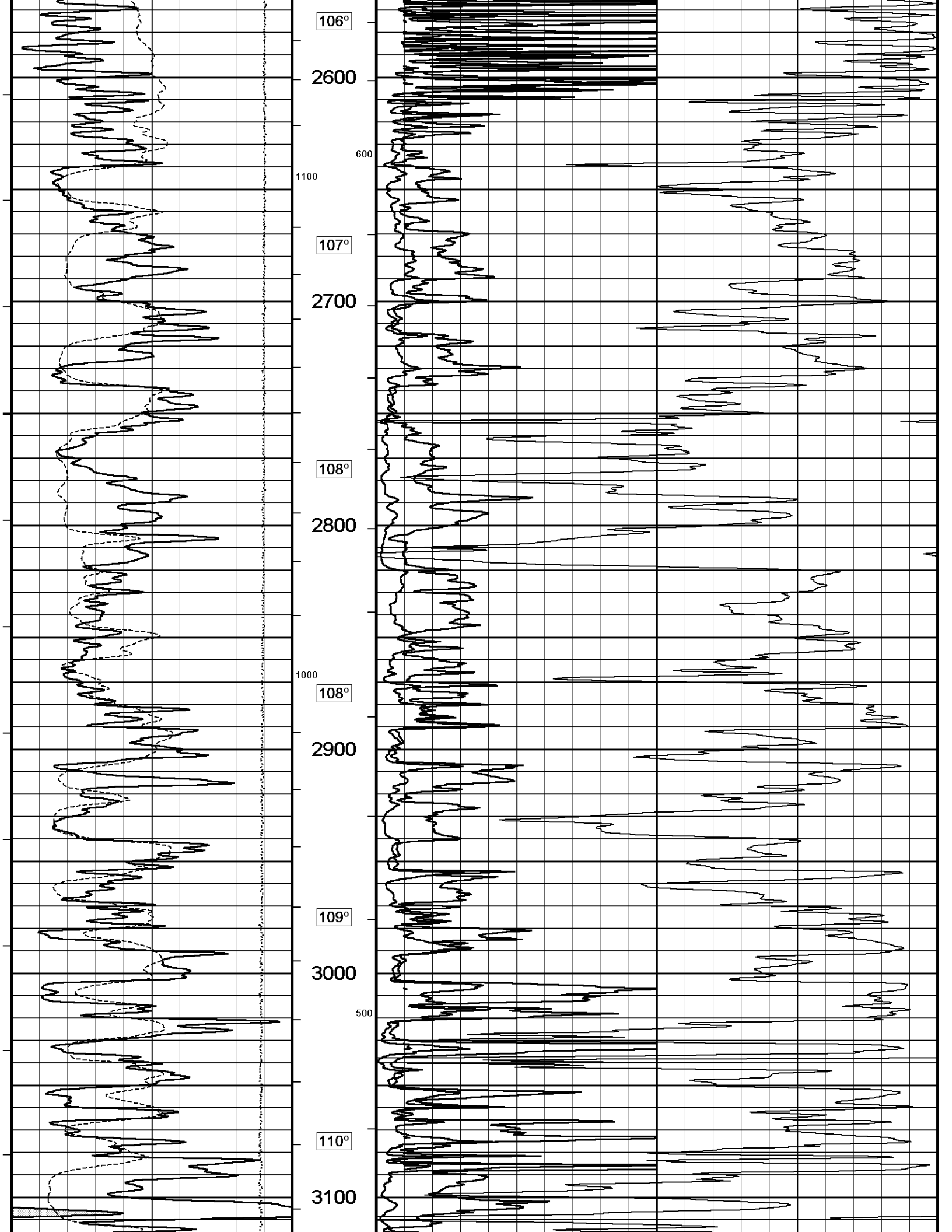
- ENGINEER: W. STAMBAUGH

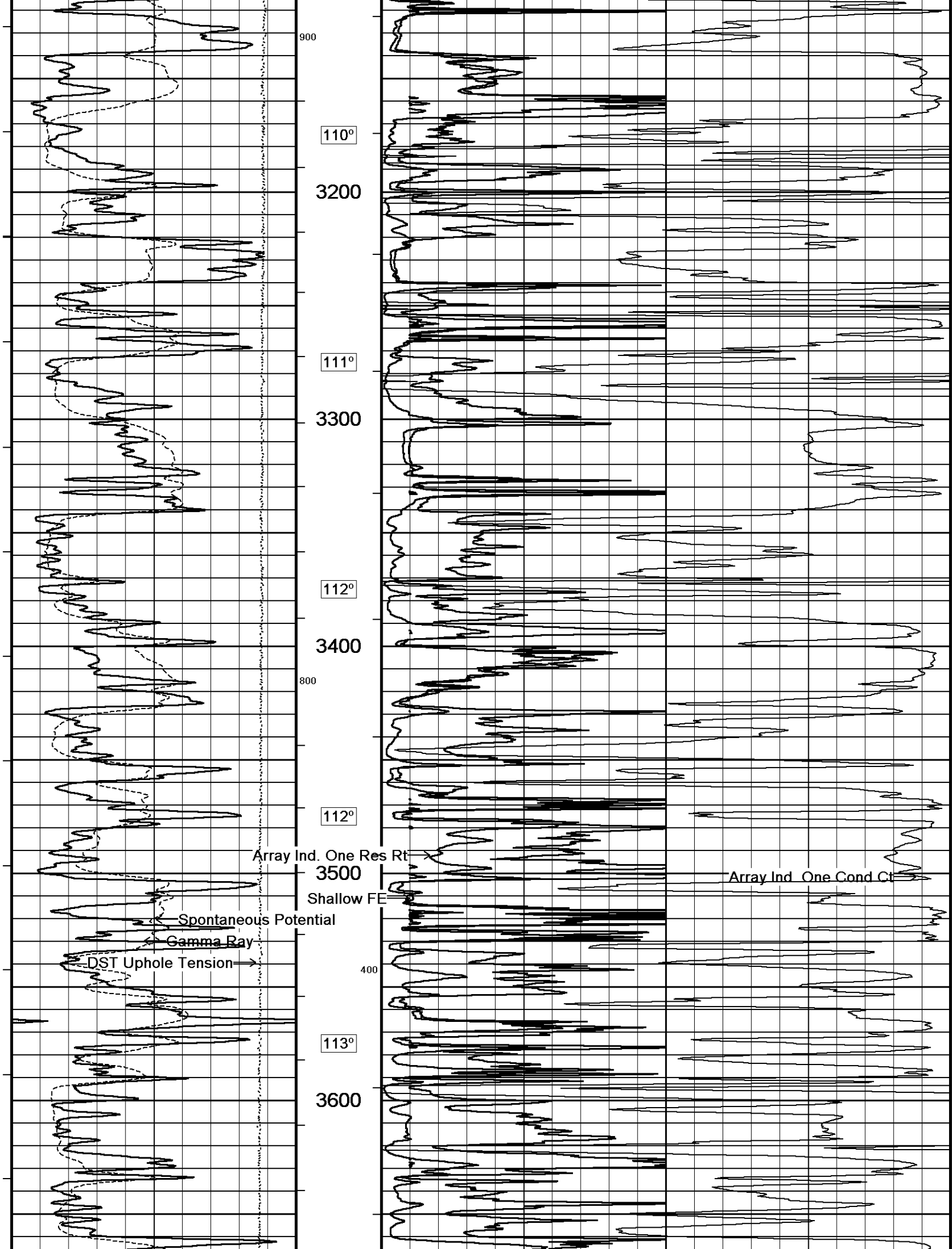
- OPERATOR: K. RINEHART

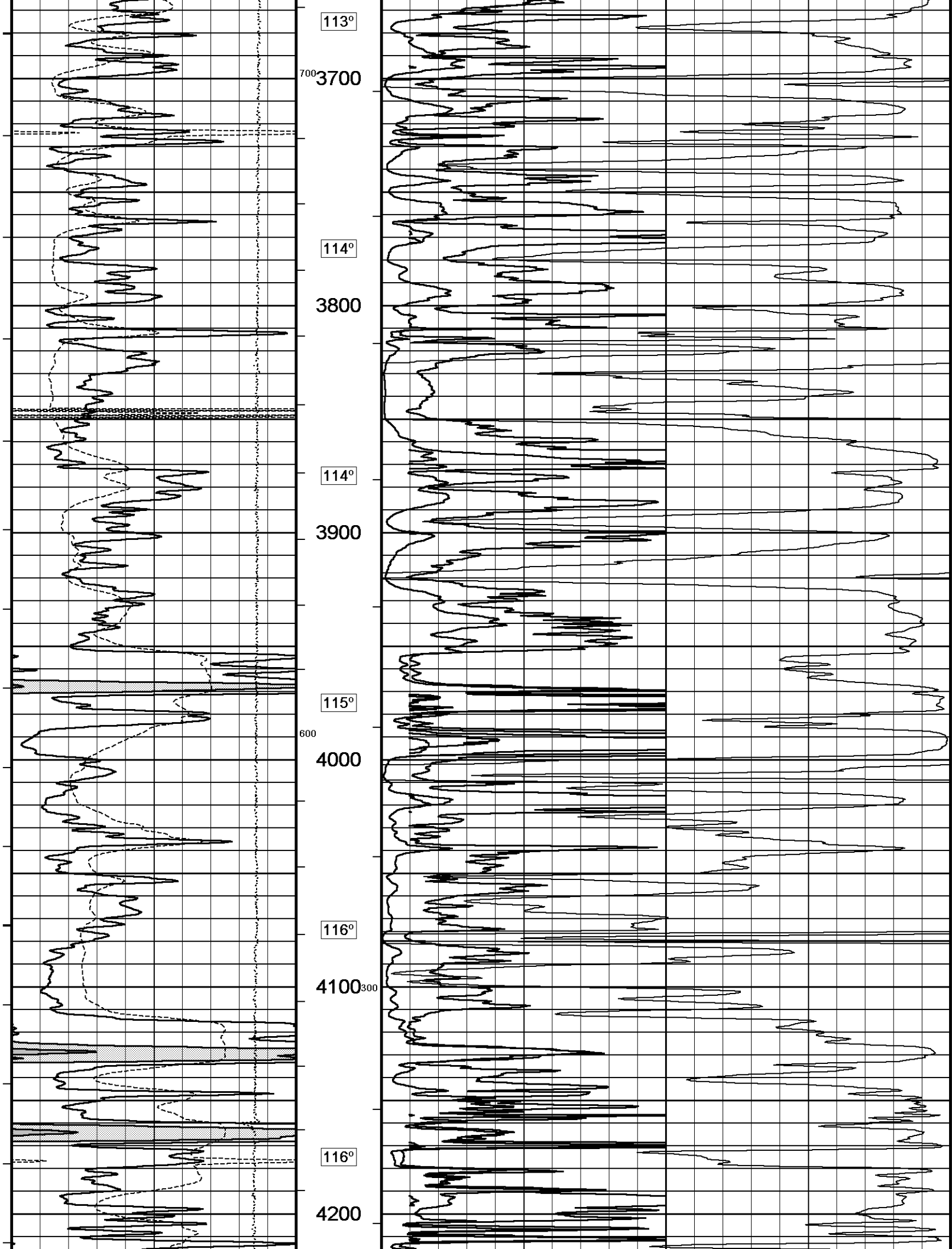
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs,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

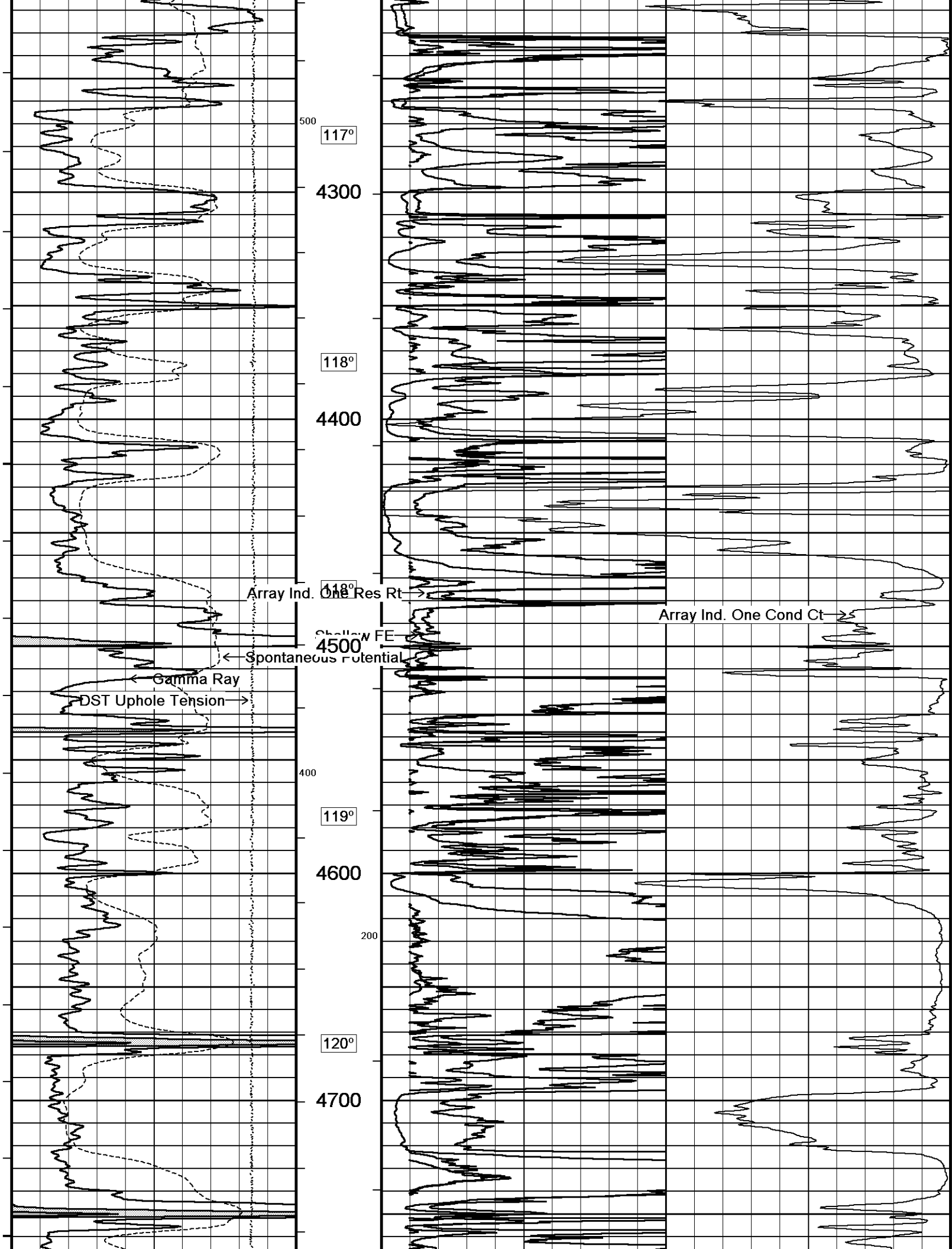


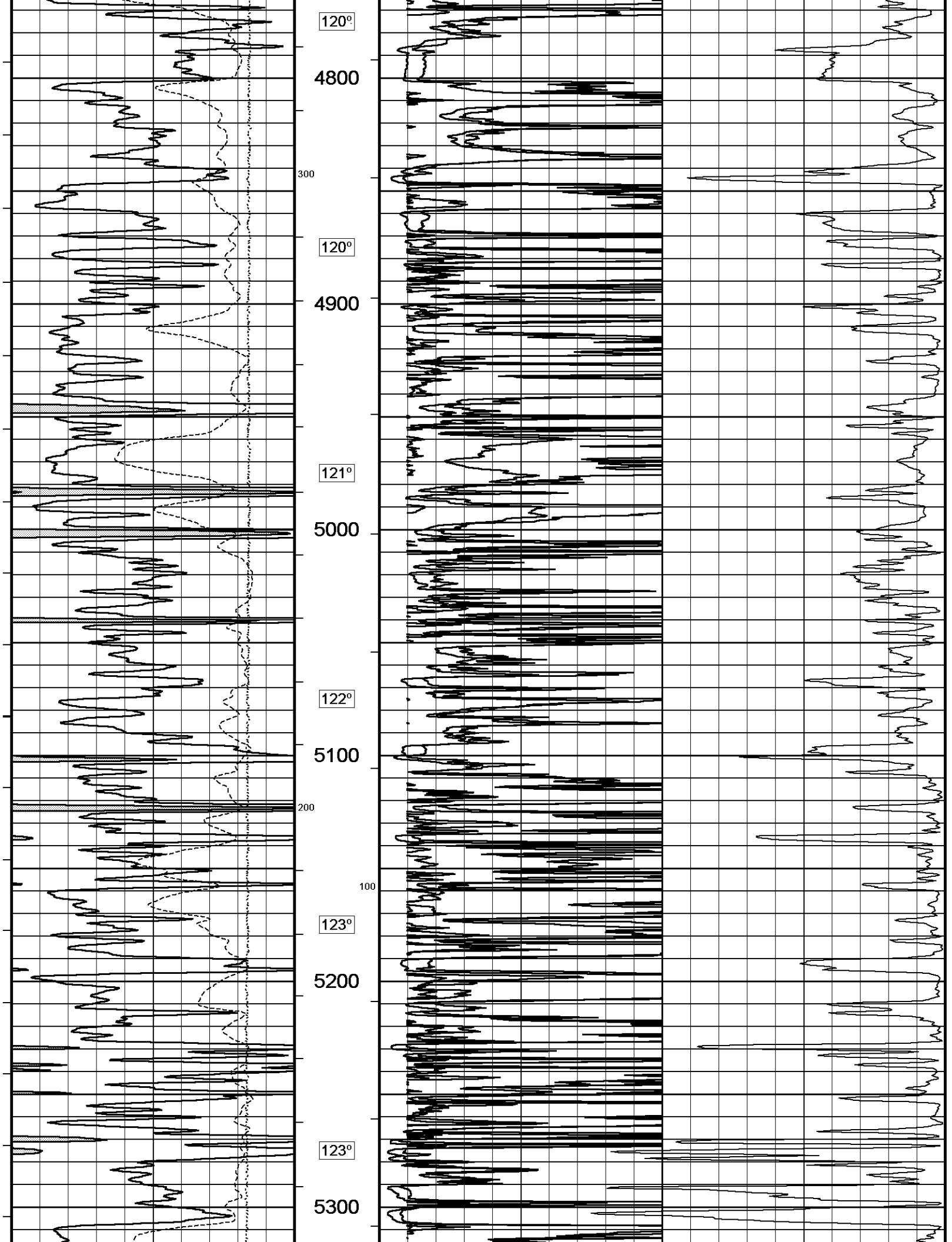


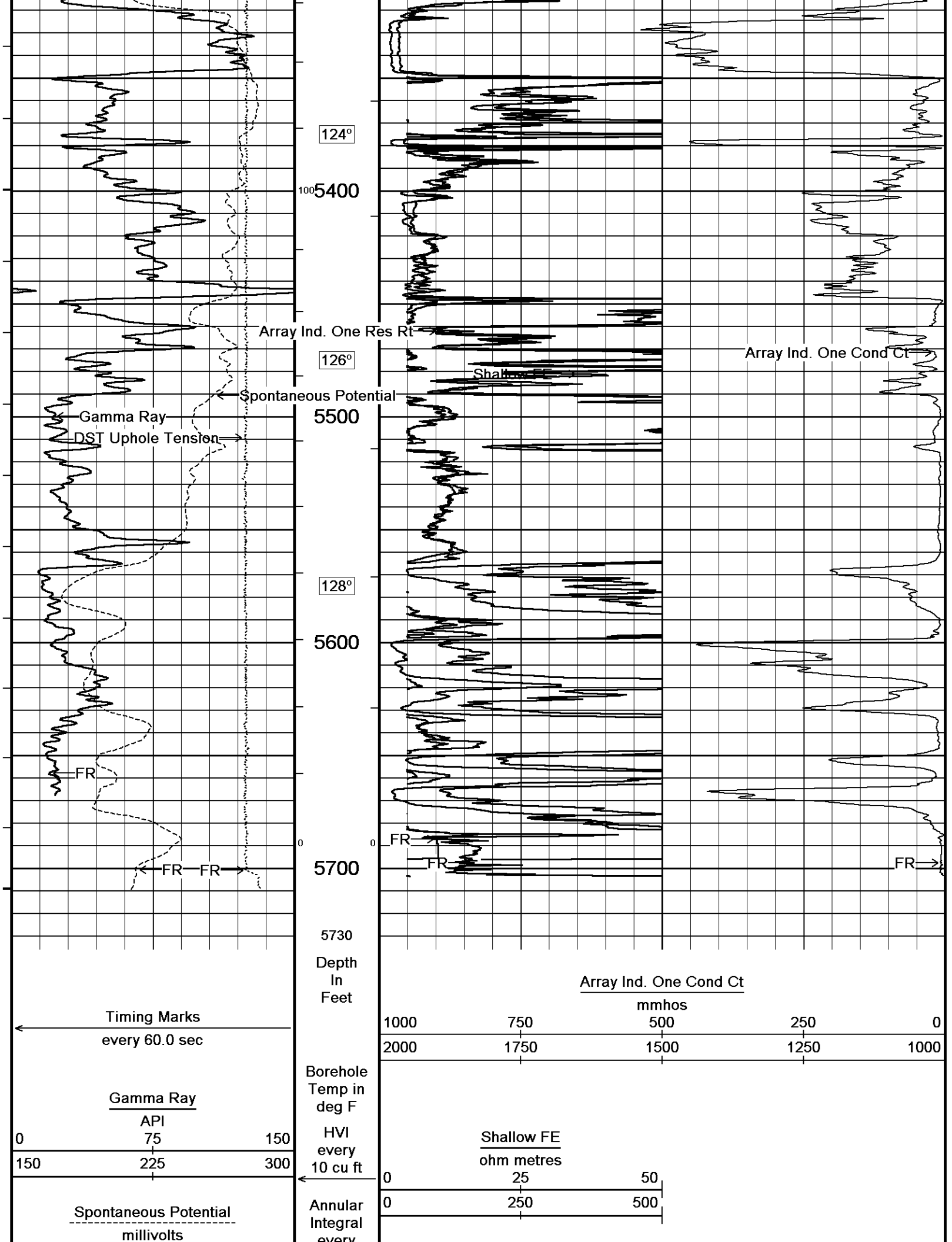


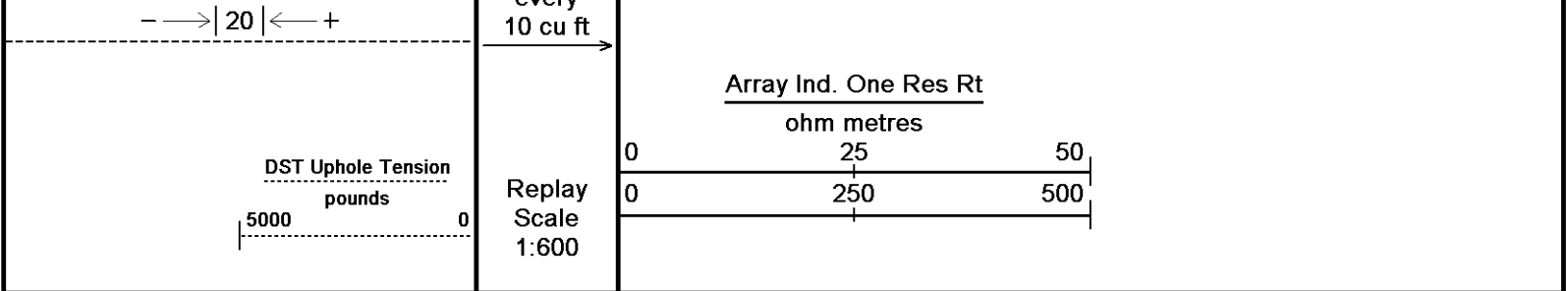










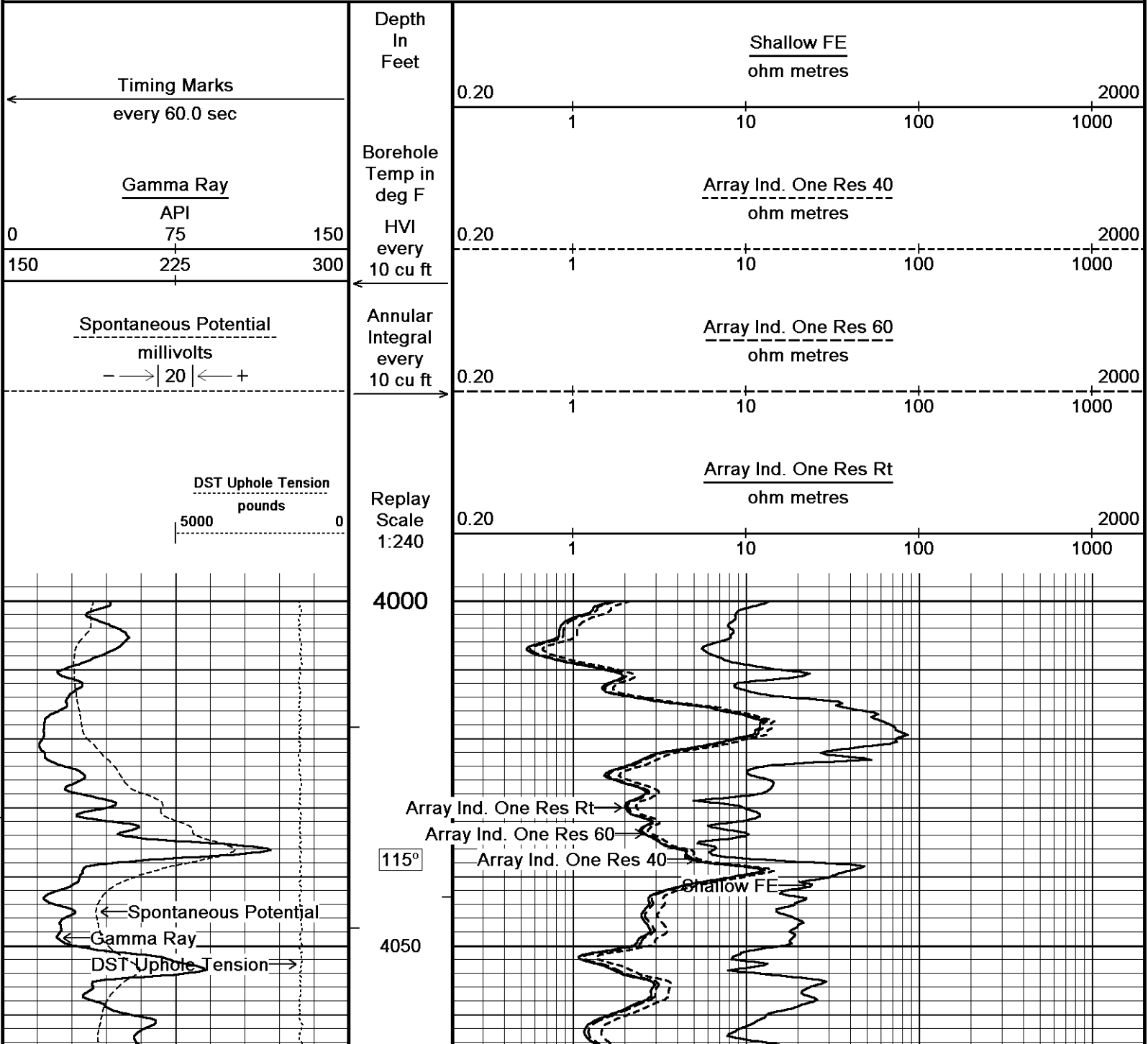


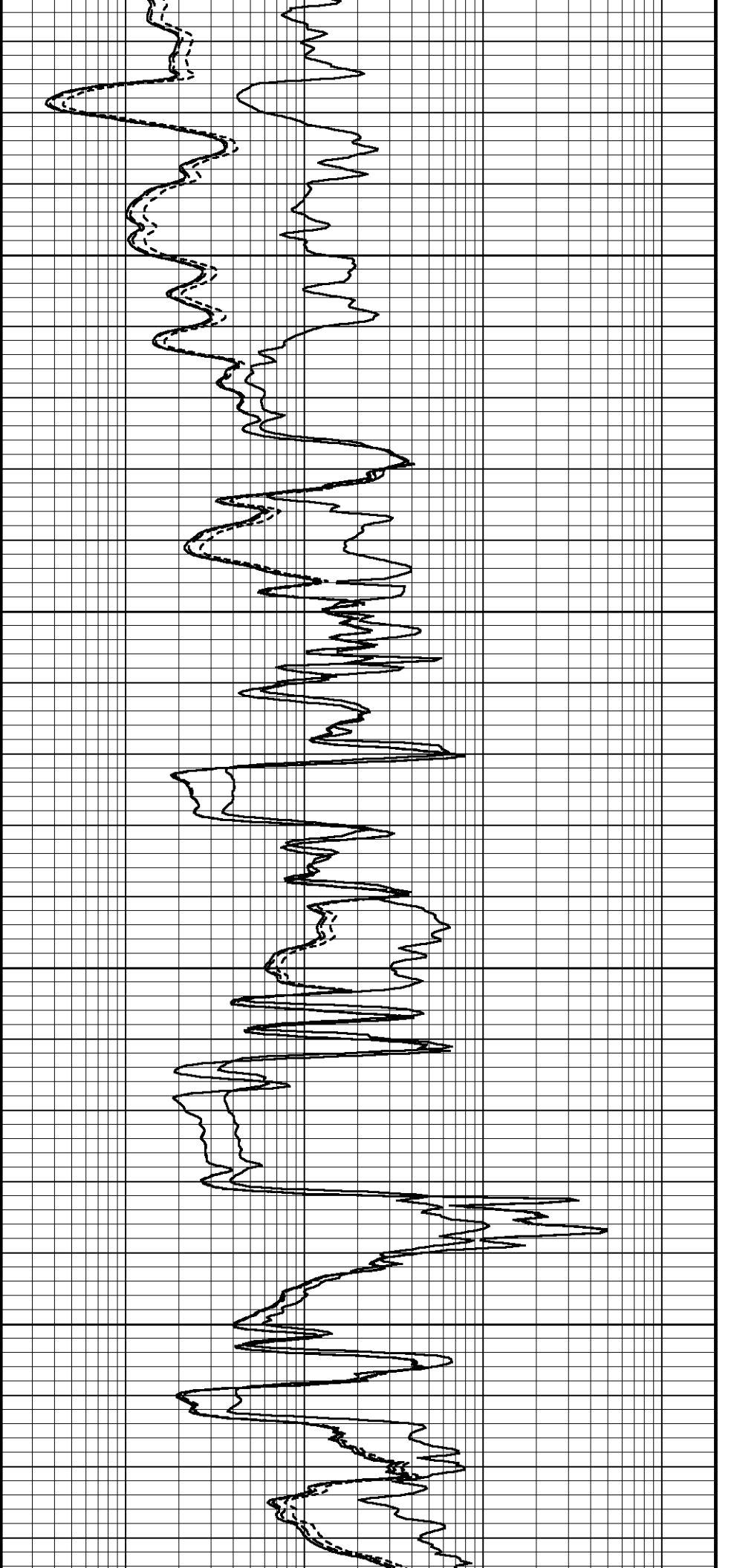
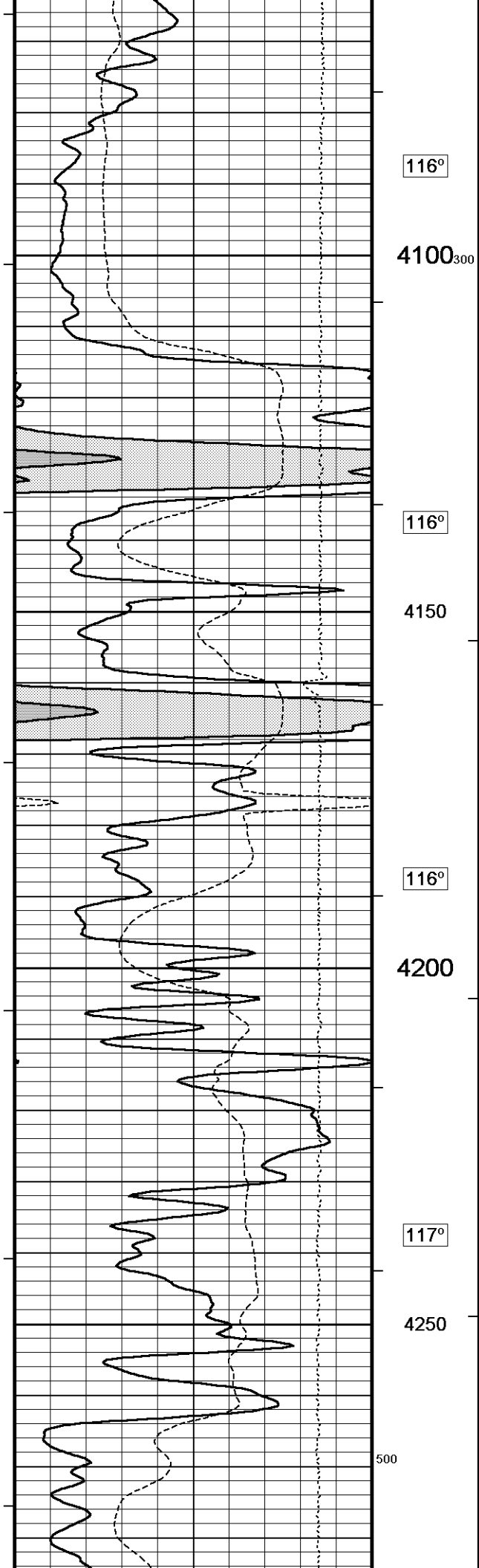
Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 01-SEP-2013 01:11
Filename: C:\Minimus 13.05.9583\Log\McC...McCoy Petroleum Corporation Fitzgerald A #5-30_002.dta Recorded on 31-AUG-2013 23:05
System Versions: Logged with 13.05.9583 Processed with 13.05.9583 Plotted with 13.05.9583

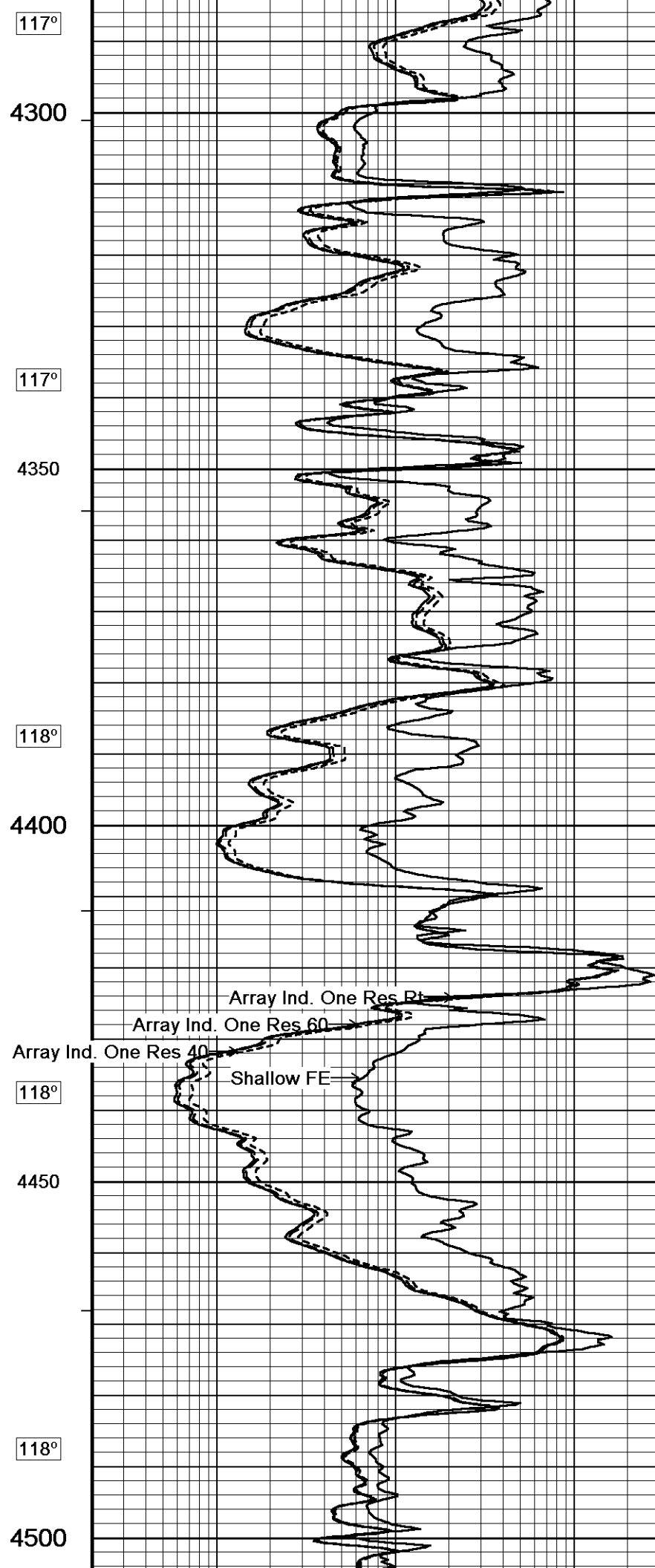
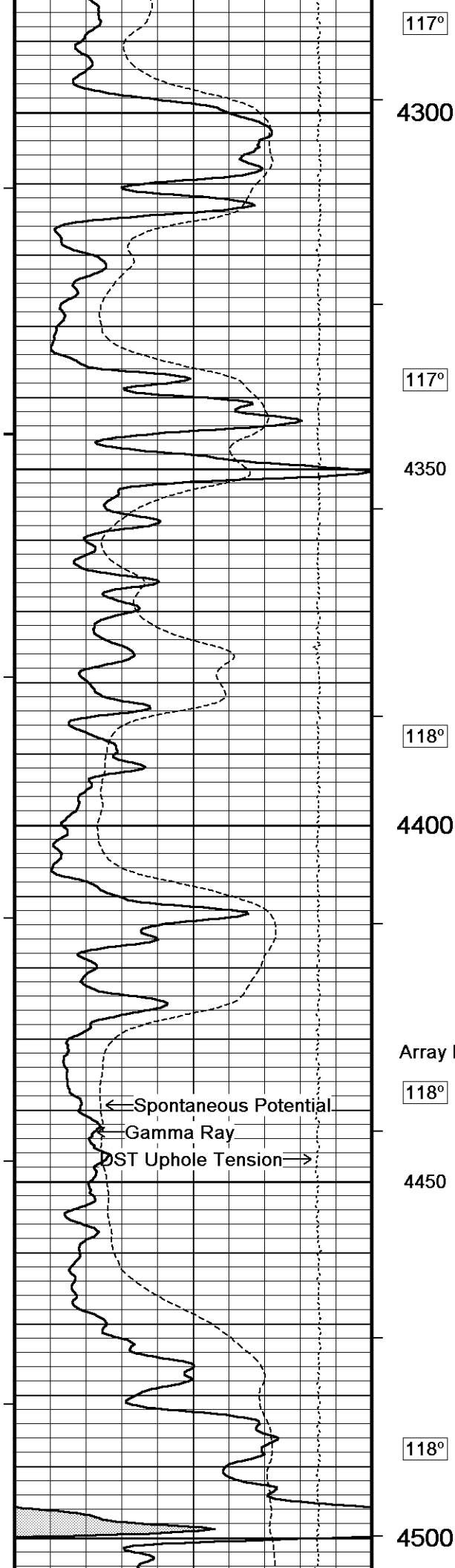
↑ 2 INCH MAIN ↑

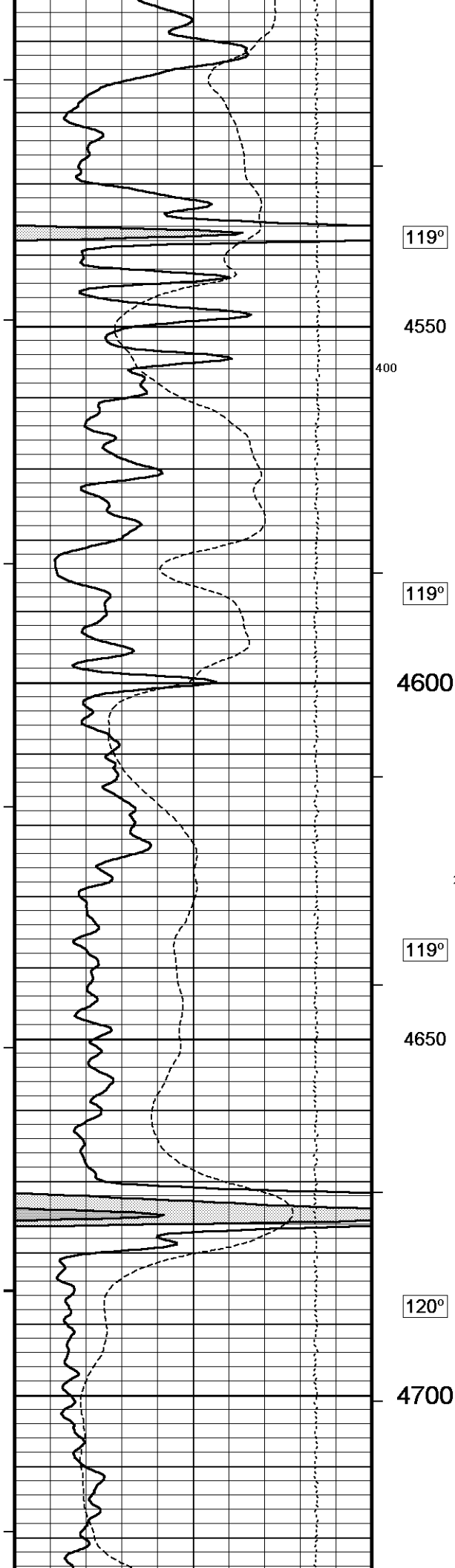
↓ 5 INCH MAIN ↓

Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 01-SEP-2013 01:11
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System Versions: Logged with 13.05.9583 Processed with 13.05.9583 Plotted with 13.05.9583









119°

4550

400

119°

4600

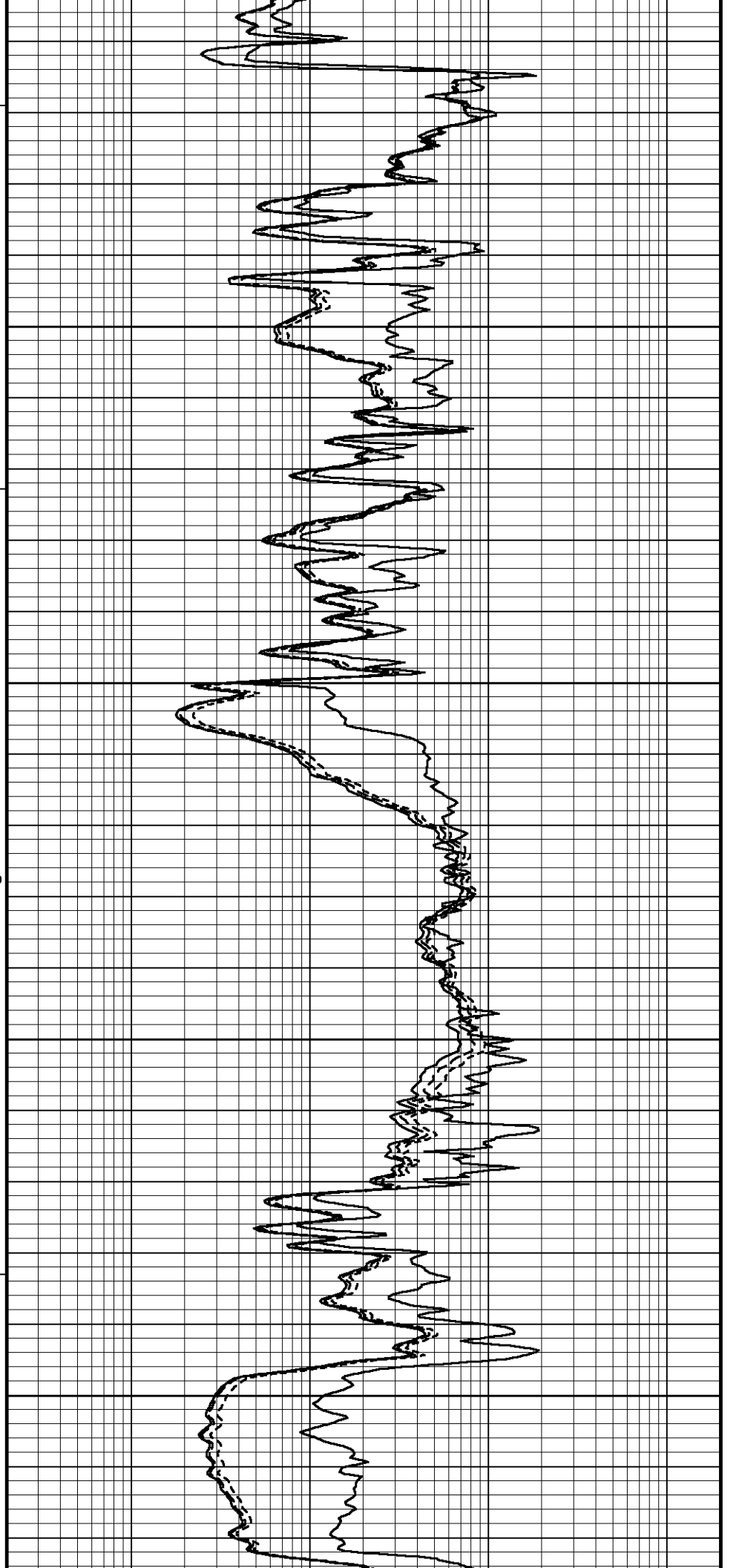
200

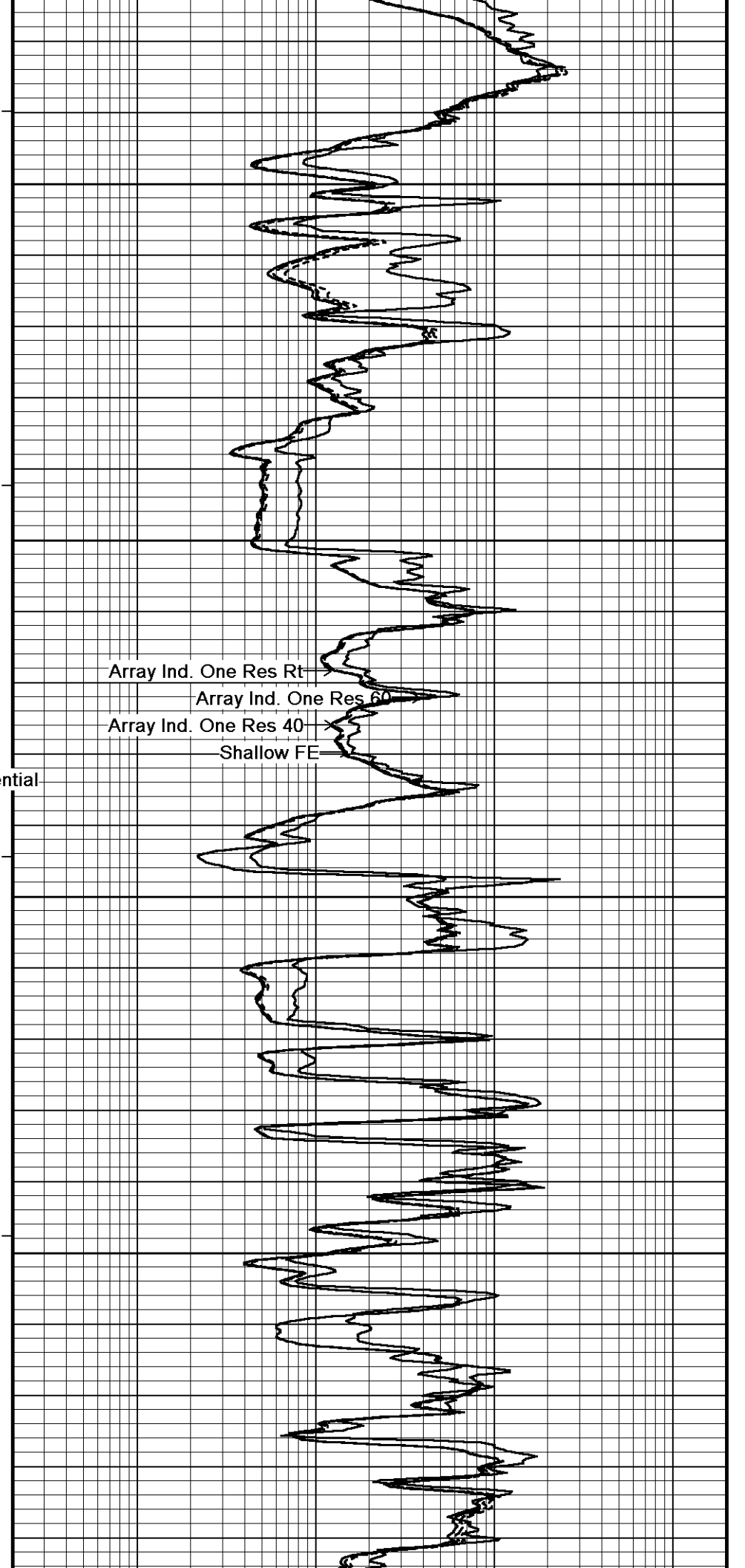
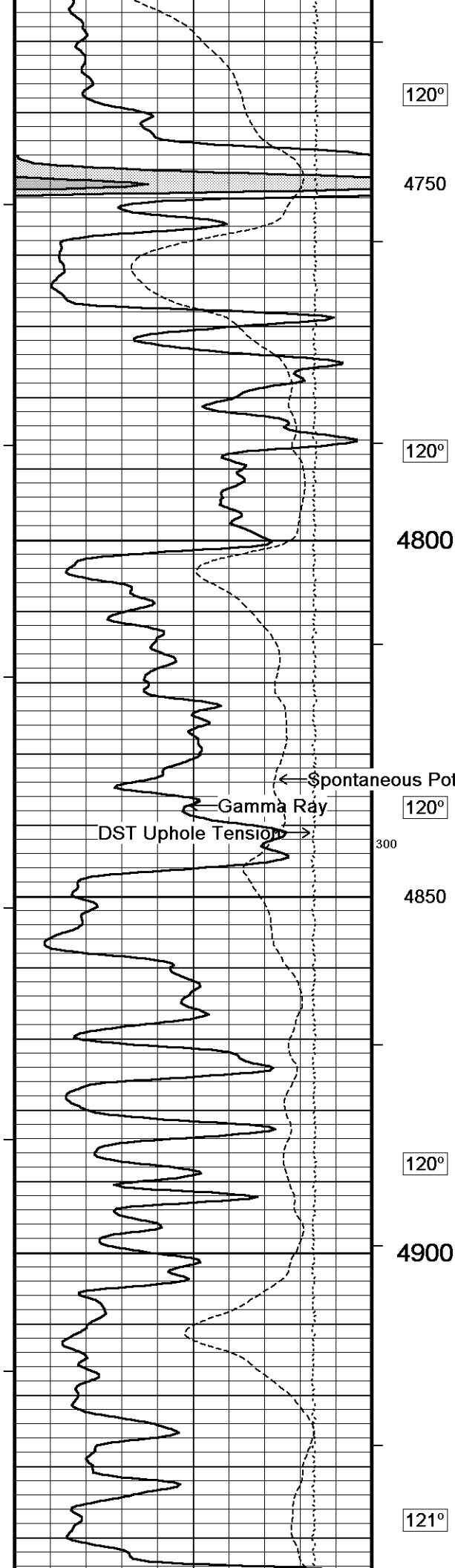
119°

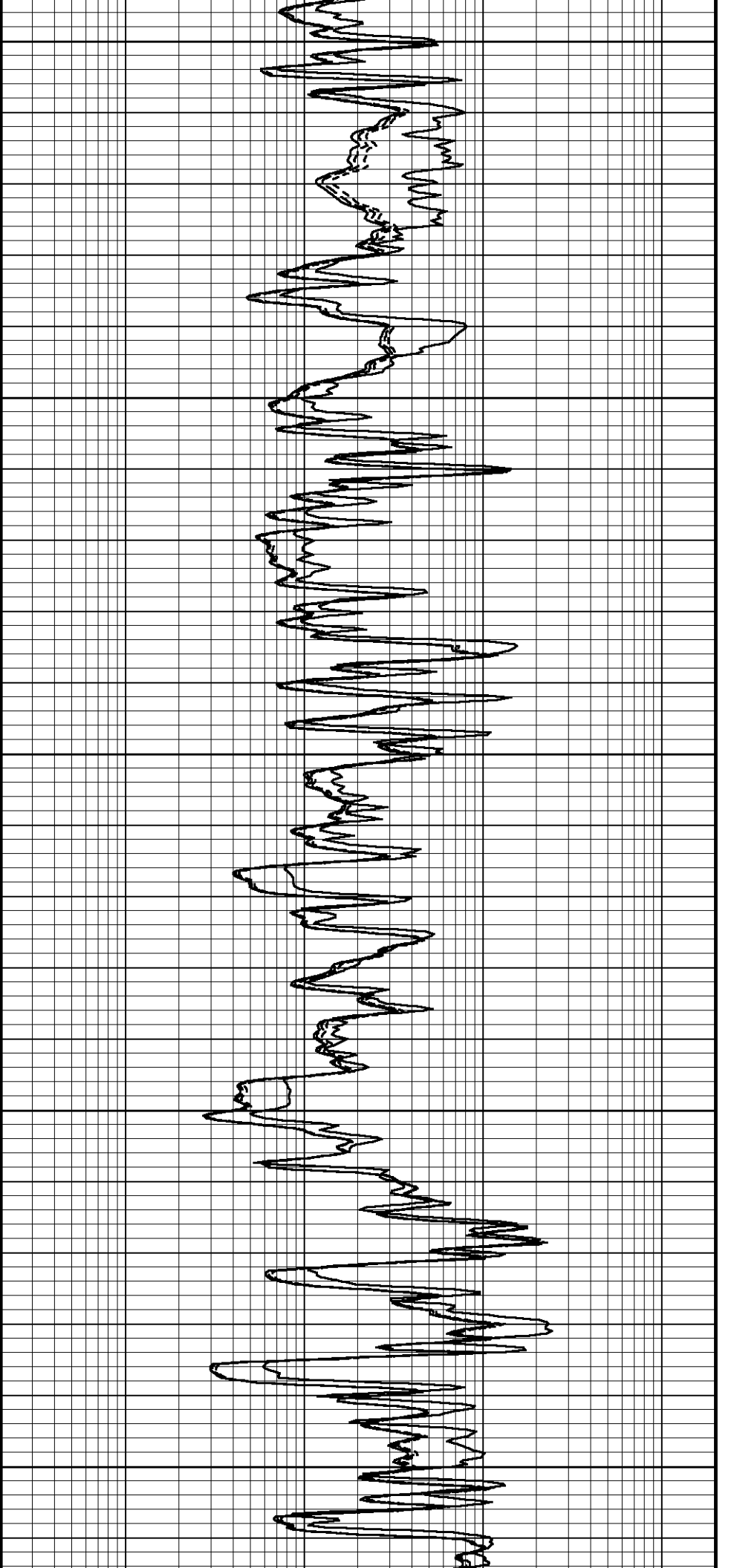
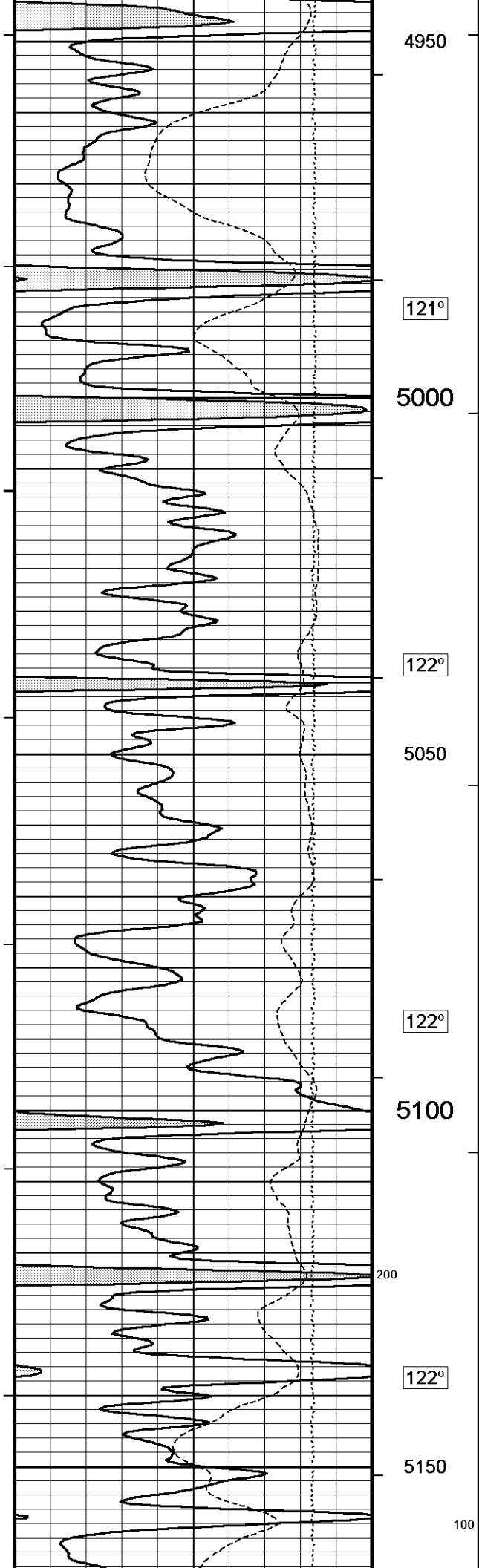
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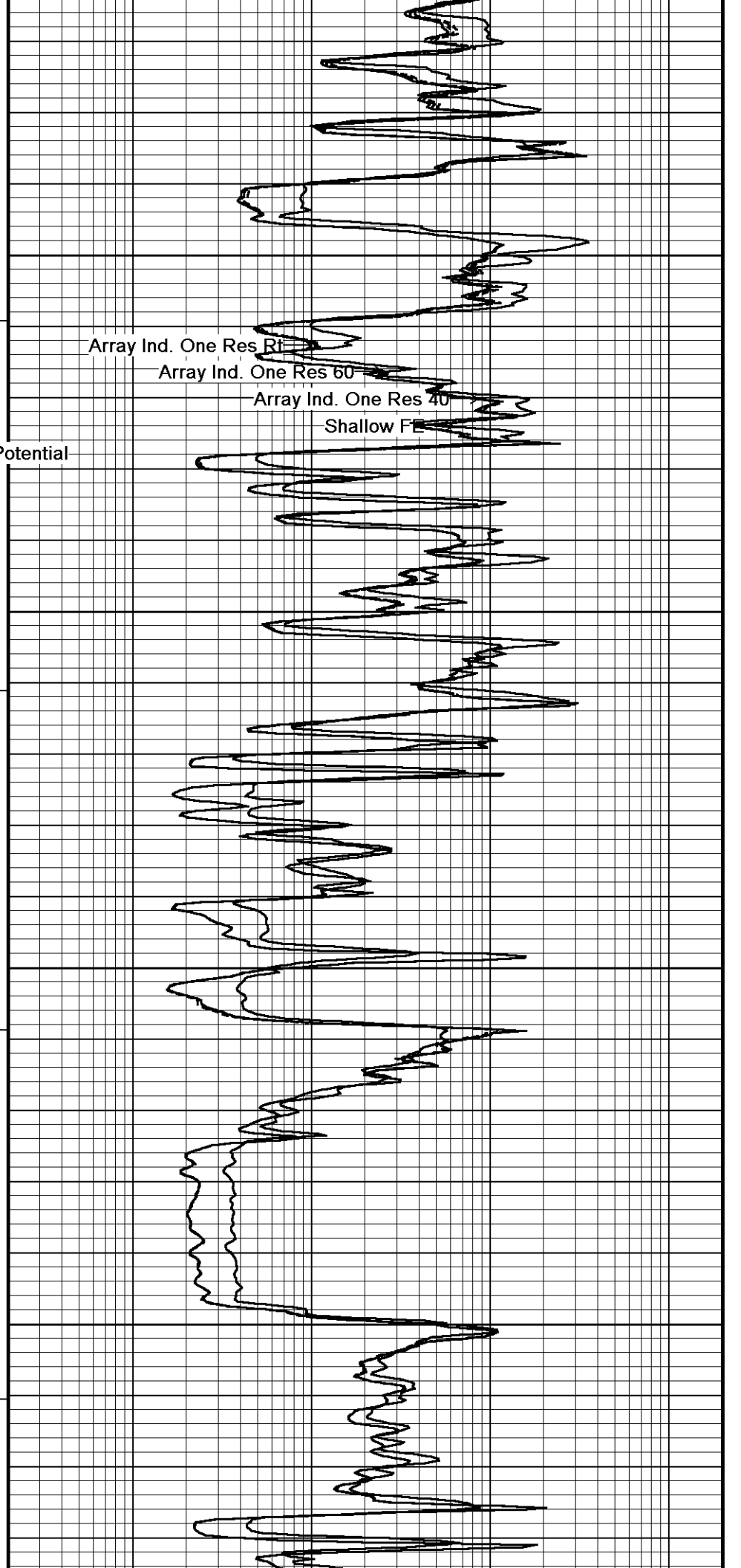
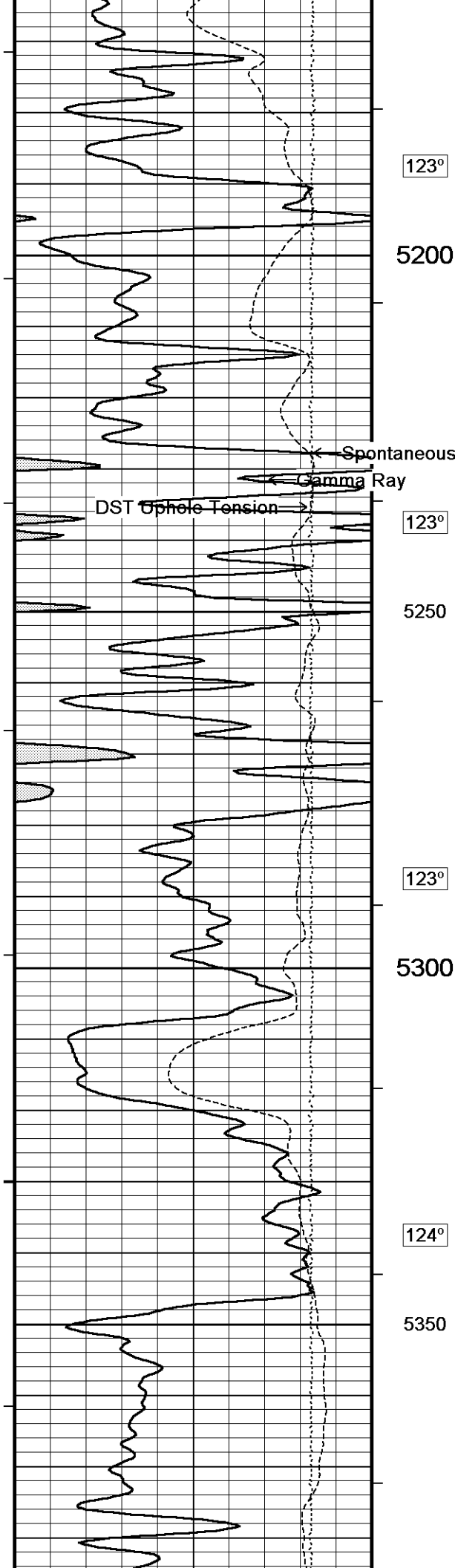
120°

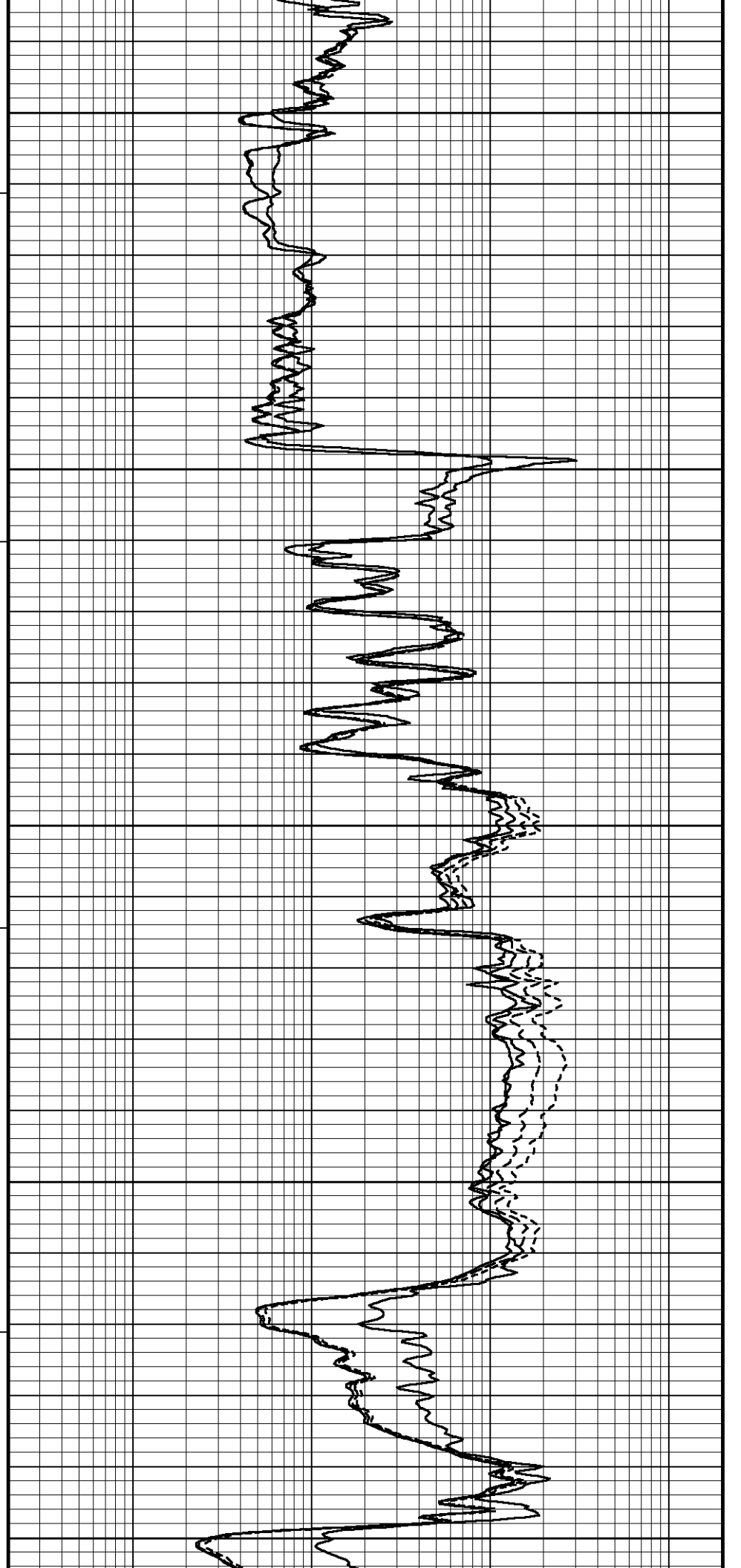
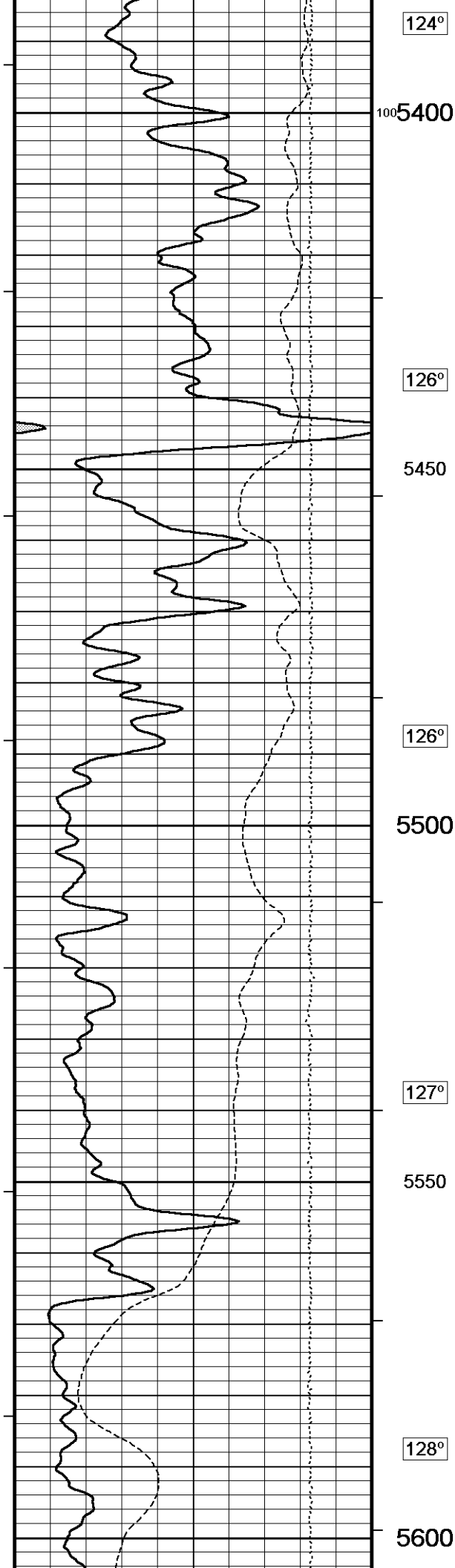
4700

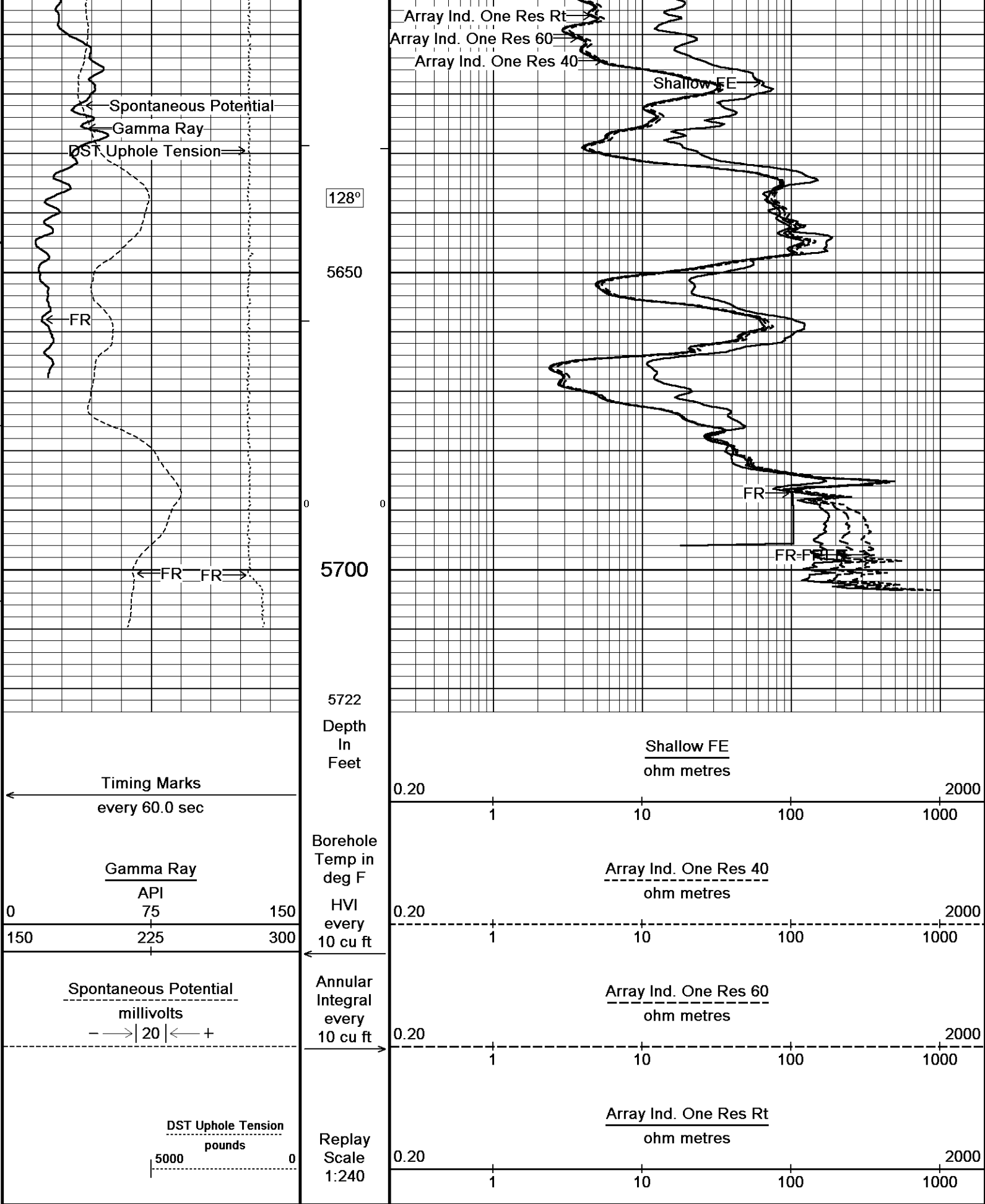


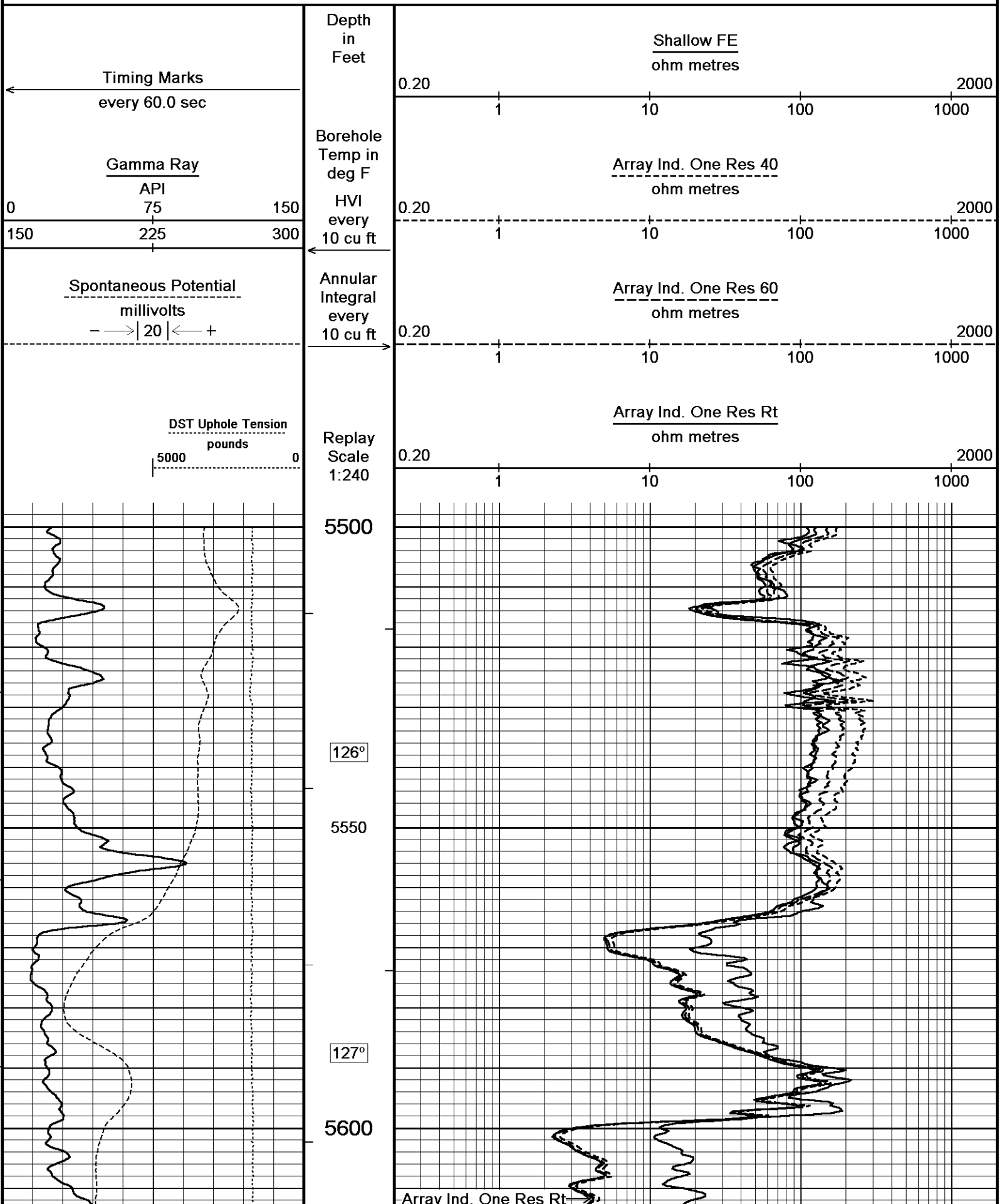


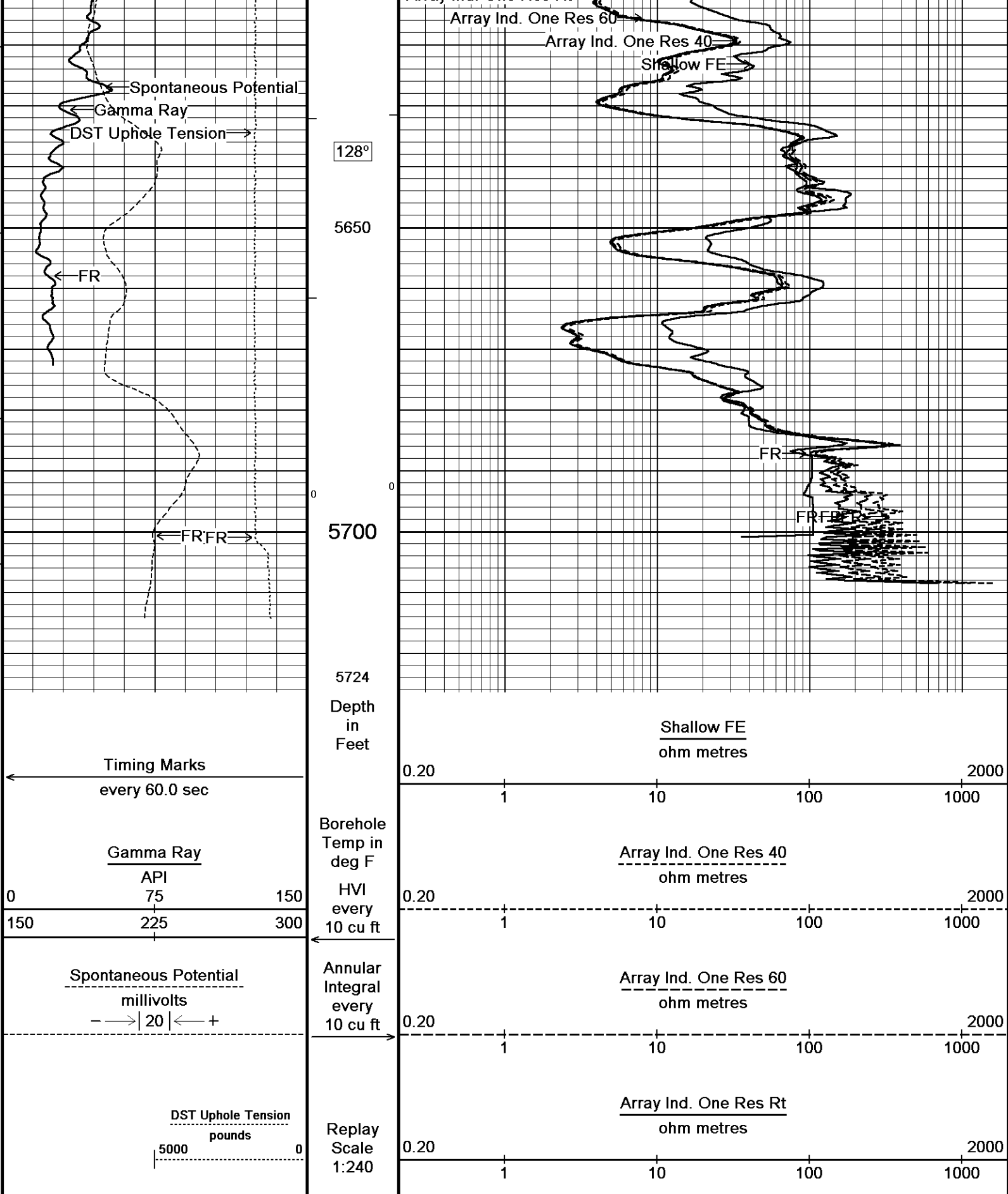












Depth Based Data - Maximum Sampling Increment 10.0cm
Filename: C:\Minimus 13.05.9583\Log\McC...McCoy Petroleum Corporation Fitzgerald A #5-30_001.dta
System Versions: Logged with 13.05.9583 Plotted with 13.05.9583

BEFORE SURVEY CALIBRATION

C:\Minimus 13.05.9583\Log\McCoy Petroleum Corporation Fitzgerald A ... \McCoy Petroleum Corporation Fitzgerald A #5-30_002.dta

General Constants All 000

Last Edited on 01-SEP-2013,01:04

General Parameters

Mud Resistivity	0.730	ohm-metres
Mud Resistivity Temperature	75.000	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	Density Caliper	

Rwa Parameters

Porosity used	Base Density Porosity
Resistivity used	Array Ind. Six Res Rt
RWA Constant A	1.000
RWA Constant M	2.000
SW/APOR Tool Source	0.000

Down-hole Tension Calibration SMS 0

Field Calibration on 31-AUG-2013 21:31

Reading No	Measured	Calibrated (lbs)
1	13296.02	0.00
2	13654.28	399.00

Gamma Calibration MCG-D.K 469

Field Calibration on 28-AUG-2013 10:03

	Measured	Calibrated (API)
Background	76	51
Calibrator (Gross)	1161	776
Calibrator (Net)	1085	725

Gamma Constants MCG-D.K 469

Last Edited on 31-AUG-2013,22:42

Gamma Calibrator Number	GRC38	
Mud Density	1.08	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Concentration of KCl		kppm
K Mud Type	Chloride	
K Mud Concentration	0.00	%

High Resolution Temperature Calibration MCG-D.K 469

Field Calibration on 18-AUG-2013,02:35

	Measured	Calibrated(Deg F)
Lower	50.00	50.00
Upper	100.00	100.00

High Resolution Temperature Constants MCG-D.K 469

Last Edited on 18-AUG-2013,02:35

Pre-filter Length	11
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SP Calibration MCG-D.K 469

Field Calibration on 18-AUG-2013,02:35

	Measured	Calibrated (mV)
Reference 1	105.8	100.0
Reference 2	-94.3	-100.0

Caliper Calibration MML-A 3

Base Calibration on 15-AUG-2013 08:50

Field Calibration on 28-AUG-2013 09:52

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	14887	5.98
2	18120	7.97
3	21042	9.86
4	25322	11.92
5	0	0.00
6	N/A	N/A

Field Calibration		Measured Caliper (in)		Actual Caliper (in)	
		6.02		5.98	
Micro Normal and Micro Inverse Calibration MML-A 3				Base Calibration on 15-AUG-2013 09:16 Field Check on 28-AUG-2013 09:39	
Base Calibration					
Channel	Resistor 1	Measured Resistor 2	Calibrated (ohm-m)	Resistor 1	Resistor 2
Micro Normal	12.3	60.3	5.0	25.0	
Micro Inverse	15.7	78.4	5.0	25.0	
Channel	Base Check (ohm-m)		Field Check (ohm-m)		
Micro Normal	62.9		62.9		
Micro Inverse	48.2		48.2		
Micro Normal and Micro Inverse Constants MML-A 3				Last Edited on 28-AUG-2013,09:38	
Pad Type	8-12 in Soft Rubber Inflatable 006-9011-159				
Micro Normal K Factor	1.0000				
Micro Inverse K Factor	1.0000				
Standoff Offset	N/A inches				
Neutron Calibration MDN-A.B 66				Base Calibration on 31-JUL-2013 10:25 Field Check on 28-AUG-2013 10:08	
Base Calibration					
	Near	Measured Far	Near	Calibrated (cps)	Far
	3180	99	3714	110	
Ratio	32.180		33.764		
Field Calibrator at Base			Calibrated (cps)		
			1617	2323	
Ratio	0.696				
Field Check			Calibrated (cps)		
			1626	2326	
Ratio	0.699				
Neutron Constants MDN-A.B 66				Last Edited on 28-AUG-2013,10:04	
Neutron Source Id	P0204NN				
Neutron Jig Number	5824NE				
Epithermal Neutron	No				
Caliper Source for Processing	Density Caliper				
Stand-off	0.00		inches		
Mud Density	1.00		gm/cc		
Limestone Sigma	7.10		cu		
Sandstone Sigma	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-B.J 353				Base Calibration on 15-AUG-2013 09:33 Field Check on 28-AUG-2013 09:38	
Base Calibration					
		Measured	Calibrated (ohm-m)		
Reference 1		0.0	0.0		
Reference 2		964.1	126.8		
Base Check	280.9				
Field Check	281.0				

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 MAI-A.A 167

Base Calibration on 19-APR-2013,13:41

Field Check on 28-AUG-2013 09:37

Base Calibration

Test Loop Calibration

Measured

Calibrated (mmho/m)

Channel	Low	High	Low	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
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Channel	Base Check (mmho/m)		Field Check (mmho/m)	
	Low	High	Low	High
1	0.0	0.0	13.8	3837.9
2	0.0	0.0	30.0	3475.3
3	0.0	0.0	29.5	3051.4
4	0.0	0.0	20.0	2080.5

Deep	18.9	2047.8
Medium	42.7	3989.1
Shallow	43.6	5051.9

Array Temperature	0.0	79.6	Deg F
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Induction Constants MAI-A.A 167

Last Edited on 28-AUG-2013,09:35

Induction Model	RtAP-NC	
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	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 Rt	0.00				
Source for Rxo	0.00				
High Resolution Temperature Calibration MAI-A.A 167			Field Calibration on 18-AUG-2013,02:21		
	Measured	Calibrated(Deg F)			
Lower	50.00	50.00			
Upper	75.00	75.00			
High Resolution Temperature Constants MAI-A.A 167			Last Edited on 18-AUG-2013,02:21		
Pre-filter Length	11				
Caliper Calibration MPD-B 64			Base Calibration on 15-AUG-2013 14:54 Field Calibration on 28-AUG-2013 09:48		
Base Calibration					
Reading No	Measured	Calibrator Size (in)			
1	16560	3.99			
2	24992	5.98			
3	32880	7.97			
4	41184	9.86			
5	50688	11.92			
6	N/A	N/A			
Field Calibration					
	Measured Caliper (in)	Actual Caliper (in)			
	5.89	5.98			
Photo Density Calibration MPD-B 64			Base Calibration on 15-AUG-2013 14:37 Field Check on 28-AUG-2013 09:43		
Density Calibration					
Base Calibration		Measured	Calibrated (sdu)		
	Near	Far	Near	Far	
Reference 1	60206	33560	59556	30836	
Reference 2	25378	2915	24941	2541	
Field Check at Base					
	1155.1	1345.7			
Field Check					
	1162.3	1348.4			
PE Calibration					
Base Calibration		Measured	Calibrated		
	WS	WH	Ratio	Ratio	
Background	211	1029			
Reference 1	22957	60005	0.386	0.371	
Reference 2	6904	25238	0.276	0.272	
Field Check at Base					
	211.2	1028.9			
Field Check					
	209.8	1033.7			
Density Constants MPD-B 64			Last Edited on 31-AUG-2013,22:42		
Density Source Id	18235B				
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	1.08	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
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0.00
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0.00
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DOWNHOLE EQUIPMENT

C:\Minimus 13.05.9583\Log\McCoy Petroleum Corporation Fitzgerald A ... \McCoy Petroleum Corporation Fitzgerald A #5-30_002.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

Compact Comms Gamma
MCG-D.K 469 LG: 8.70 ft WT: 63.9 lb OD: 2.24 in

Compact Micro-log
MML-A 3 LG: 7.97 ft WT: 81.6 lb OD: 2.24 in

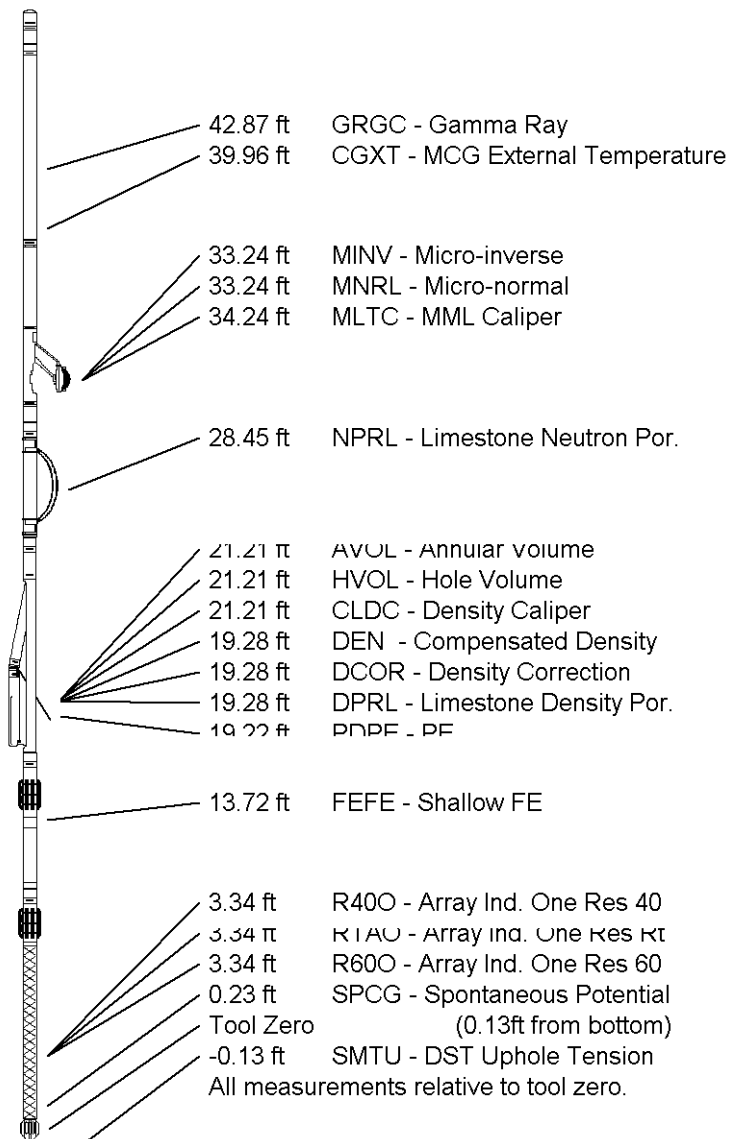
Compact Neutron
MDN-A.B 66 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

Compact Density/Caliper
MPD-B 64 LG: 9.59 ft WT: 90.4 lb OD: 2.45 in

Compact Focussed Electric
MFE-B.J 353 LG: 6.05 ft WT: 48.5 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: 49.73 ft Weight: 399.0 lb



COMPANY

McCOY PETROLEUM CORPORATION

WELL

FITZGERALD 'A' #5-30

FIELD

LETTE SE

PROVINCE/COUNTY

HASKELL

COUNTRY/STATE

UNITED STATES / KANSAS

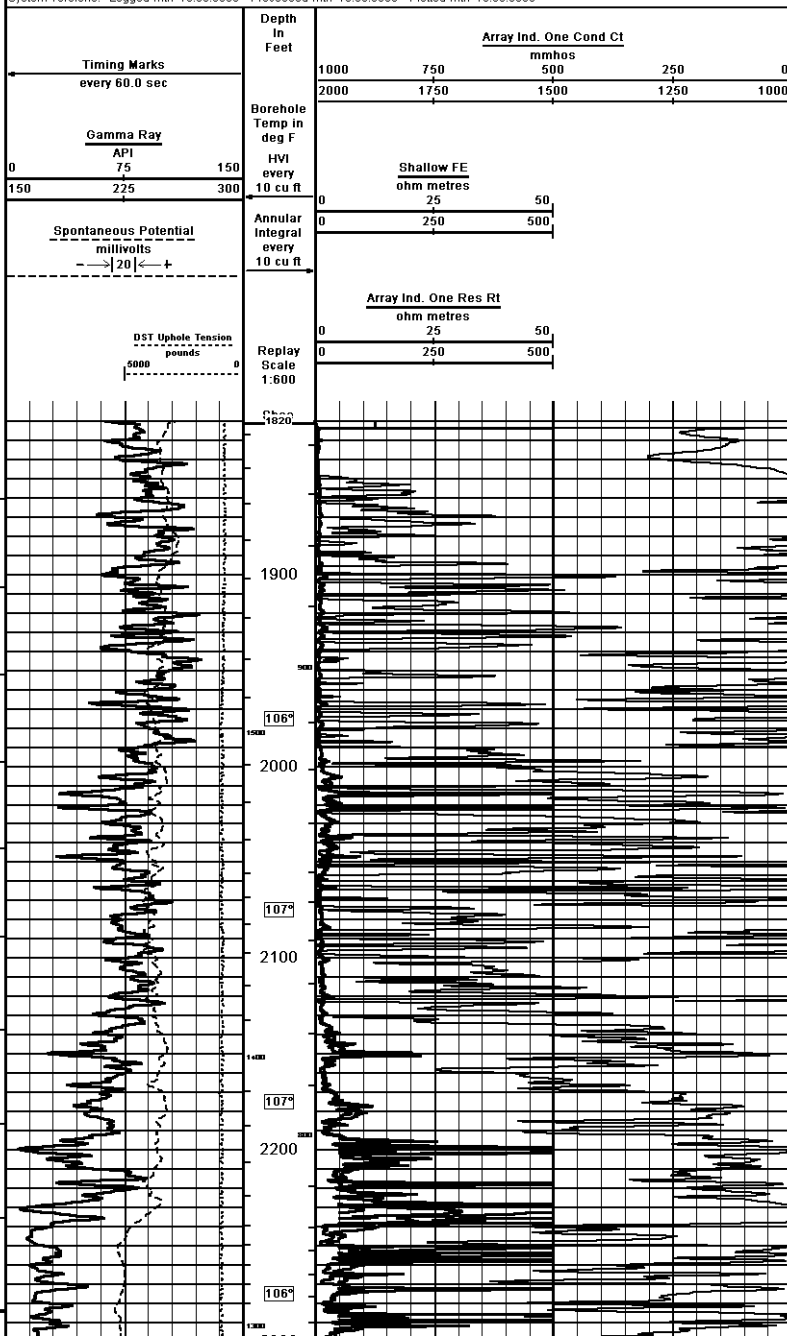
Elevation Kelly Bushing	2857.00	feet
Elevation Drill Floor	2855.00	feet
Elevation Ground Level	2846.00	feet

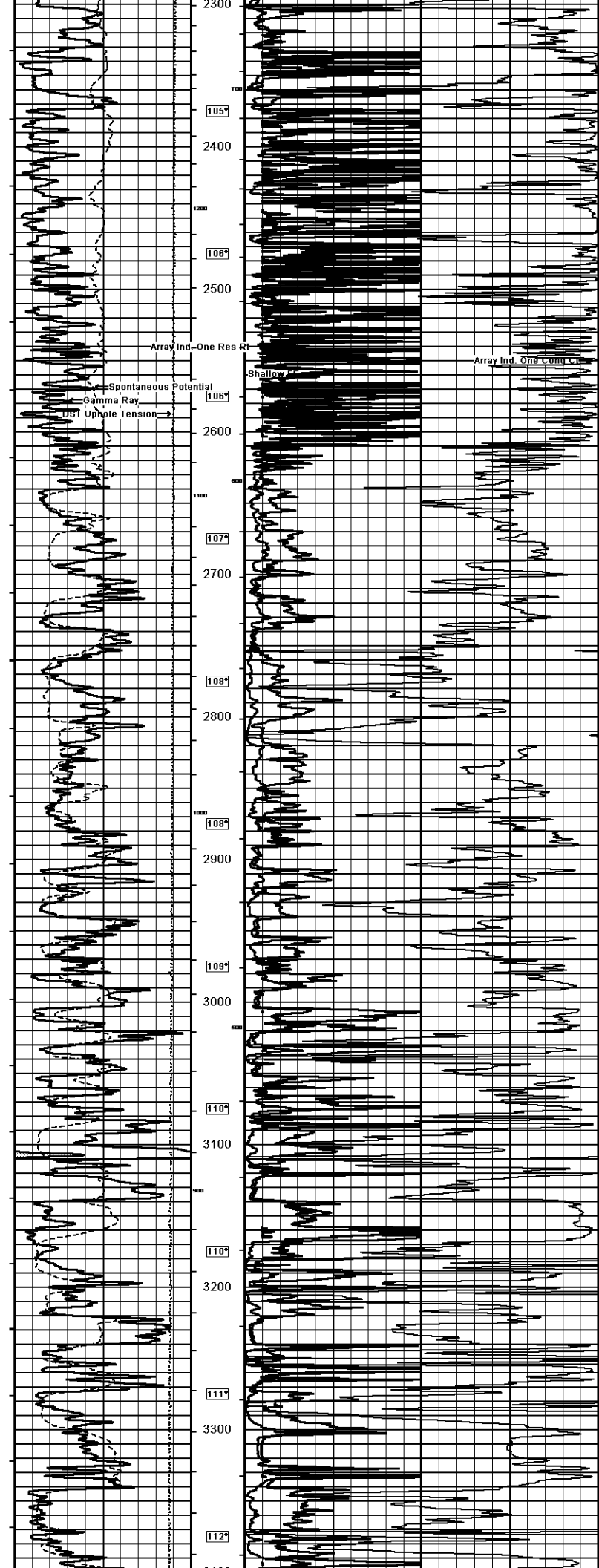
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Depth Driller	5700.00	feet
Depth Logger	5701.00	feet

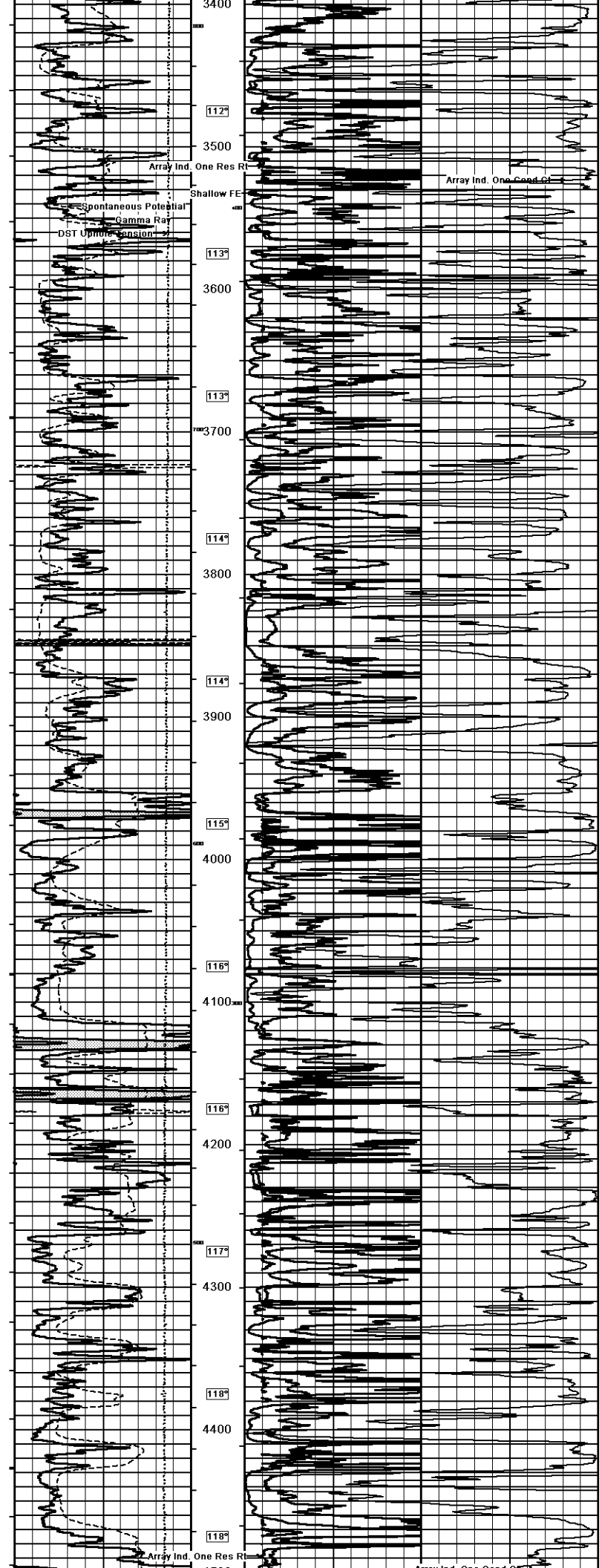


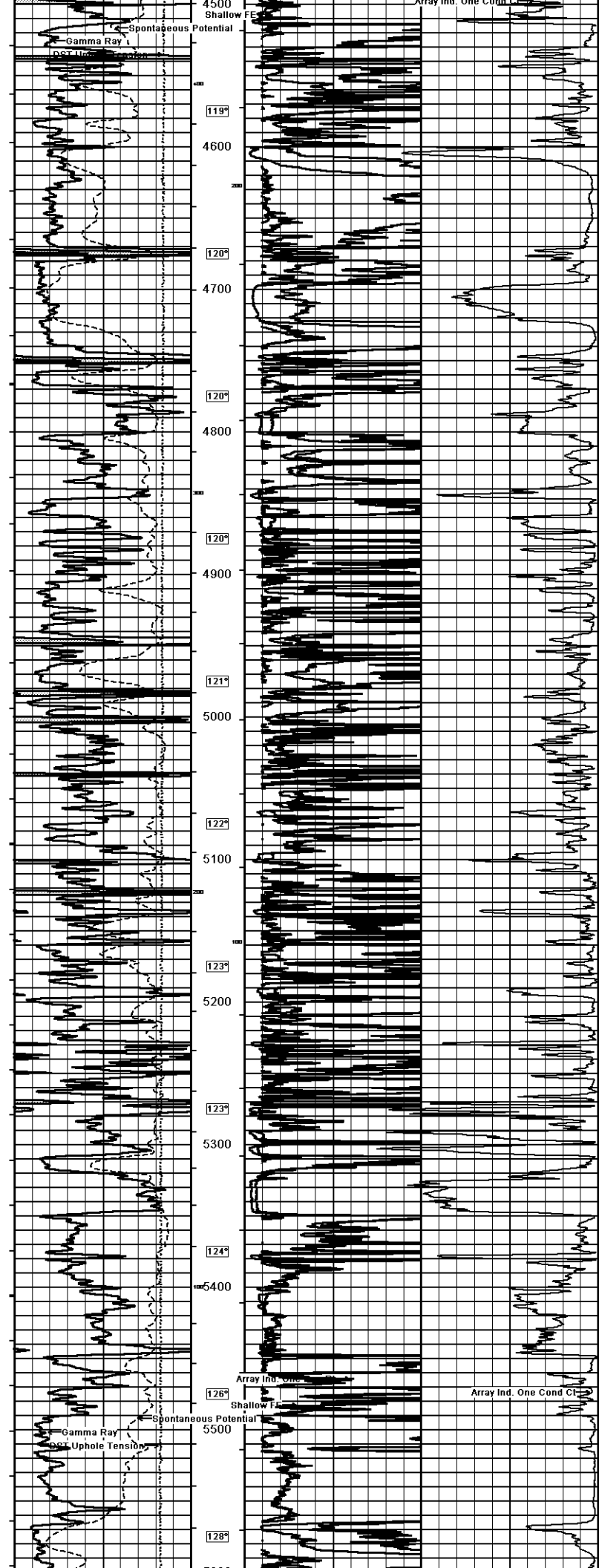
ARRAY INDUCTION
SHALLOW FOCUSED

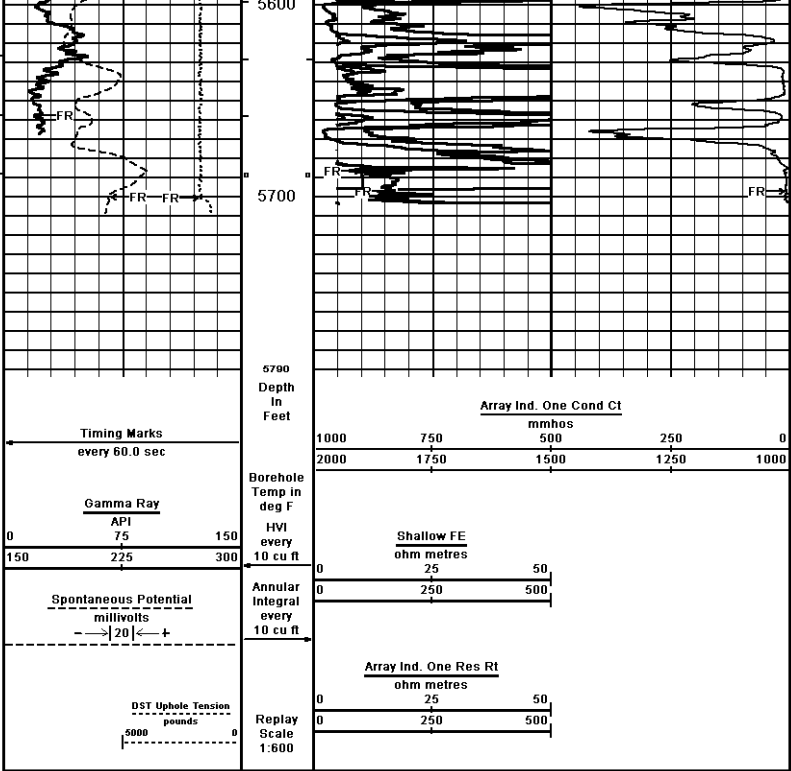
1 INCH MAIN	
Depth Based Data - Maximum Sampling Increment 10.0cm	Plotted on 01-SEP-2013 01:11
Filename: C:\Minimus 13.05.9583\Log\McCoy P. McCoy Petroleum Corporation Fitzgerald A #5-30_002.dta	Recorded on 31-AUG-2013 23:05
System Versions: Logged with: 13.05.9583 Processed with: 13.05.9583 Plotted with: 13.05.9583	











Depth Based Data - Maximum Sampling Increment 10.0cm
Filename: C:\Minimus 13.05.9583\Log\McCoy P...McCoy Petroleum Corporation Fitzgerald A #5-30_002.dta
System Versions: Logged with 13.05.9583 Processed with 13.05.9583 Plotted with 13.05.9583
Plotted on 01-SEP-2013 01:11
Recorded on 31-AUG-2013 23:05

1 INCH MAIN

COMPANY		McCOY PETROLEUM CORPORATION			
WELL		FITZGERALD 'A' #5-30			
FIELD		LETTE SE			
PROVINCE/COUNTY		HASKELL			
COUNTRY/STATE		UNITED STATES / KANSAS			
Elevation Kelly Bushing	2857.00	feet	First Reading	5698.00	feet
Elevation Drill Floor	2855.00	feet	Depth Driller	5700.00	feet
Elevation Ground Level	2846.00	feet	Depth Logger	5701.00	feet
 Weatherford			ARRAY INDUCTION		
			SHALLOW FOCUSED		
			ELECTRIC LOG		