



Weatherford

ARRAY INDUCTION
PHOTO DENSITY / NEUTRON
GAMMA RAY *TVD* LOG

COMPANY SMITH PRODUCTION COMPANY
WELL BOCAGE LANDS LLC ETAL #1 ST
FIELD LITTLE CHENIERE
PROVINCE/COUNTY CAMERON
COUNTRY/STATE U.S.A./LOUISIANA
LOCATION X = 1,491,222' Y = 426,189'

SEC 13 TWP 14S RGE 6W Other Services SWC-48
API Number 17023231490000
Permit Number 245864

Permanent Datum GL, Elevation 1 feet
Log Measured From KB Elevations: KB 18.00
Drilling Measured From KB DF 17.00
GL 1.00

Date	13-MAY-2013
Run Number	ONE
Service Order	3535931
Depth Driller	6002.00 feet
Depth Logger	5997.00 feet
First Reading	5997.00 feet
Last Reading	1211.00 feet
Casing Driller	1217.00 feet
Casing Logger	1211.00 feet
Bit Size	7.875 inches
Hole Fluid Type	WATER BASED
Density / Viscosity	9.30 lb/USg 47.00 CP
PH / Fluid Loss	7.80 ml/30Min
Sample Source	PIT
Rm @ Measured Temp	1.65 @ 78.0 ohm-m
Rmf @ Measured Temp	1.24 @ 78.0 ohm-m
Rmc @ Measured Temp	2.06 @ 78.0 ohm-m
Source Rmf / Rmc	CALC
Rm @ BHT	0.94 @139.0 ohm-m
Time Since Circulation	10 HOURS
Max Recorded Temp	139.00 deg F
Equipment / Base	13046 BRSD
Recorded By	M.ROMERO
Witnessed By	H.ANTIE
RIG	GUICHARD 5

BOREHOLE RECORD

Last Edited: 13-MAY-2013 02:51

Bit Size inches	Depth From feet	Depth To feet
7.875	1217.00	6002.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	8.625	0.00	1217.00	24.00

REMARKS

TRUE VERTICAL DEPTH LOG
 MAI / MFE / MPD / MDN / MCG / SHA RAN IN COMBINATION S.O. 3535931
 FINS RAN ON INDUCTION
 FINS RAN ON MFE
 DUAL BOWSPRINGS RAN ON NEUTRON
 STABILIZER RAN ON DENSITY
 DENSITY MATRIX (2.65g/cc)
 RWA = A - 0.62 M - 2.15
 CUSTOMER REQUESTED REPEAT PASS BE PERFORMED BELOW CASING DUE TO HOLE CONDITIONS
 ANNULAR VOLUME ASSUMES 5.5" PRODUCTION CASING
 ANNULAR CEMENT VOLUME APPROX 1157 CUBIC FEET
 CREW: M.ROMERO, C.COSTLEY, J.METTLEN
 THANK YOU FOR CHOOSING WEATHERFORD WIRELINE!!!

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.

TVD TABLE

Last Edited: 13-MAY-2013 03:11

Logged Depth feet	True Depth feet	Logged Depth feet	True Depth feet	Logged Depth feet	True Depth feet
1346.00	1346.00	2880.00	2821.65	4397.00	4240.08
1459.00	1459.00	2975.00	2910.57	4492.00	4328.10
1554.00	1553.99	3070.00	2999.56	4587.00	4416.15
1648.00	1647.96	3164.00	3087.52	4682.00	4504.36
1743.00	1742.81	3259.00	3176.33	4797.00	4610.87
1838.00	1837.39	3354.00	3265.23	4891.00	4697.59
1933.00	1931.53	3450.00	3355.21	4987.00	4785.79
2027.00	2023.60	3546.00	3445.39	5081.00	4871.80
2122.00	2114.10	3639.00	3532.89	5174.00	4956.86
2217.00	2202.64	3734.00	3622.05	5269.00	5043.64
2312.00	2291.03	3829.00	3711.06	5362.00	5128.50
2405.00	2377.68	3925.00	3800.74	5458.00	5215.93
2500.00	2466.31	4020.00	3889.13	5553.00	5302.34
2595.00	2555.07	4113.00	3975.72	5614.00	5357.80
2690.00	2643.91	4207.00	4063.24	6000.00	5708.77
2785.00	2732.75	4302.00	4151.78		

1" MAIN PASS TVD 1:1200

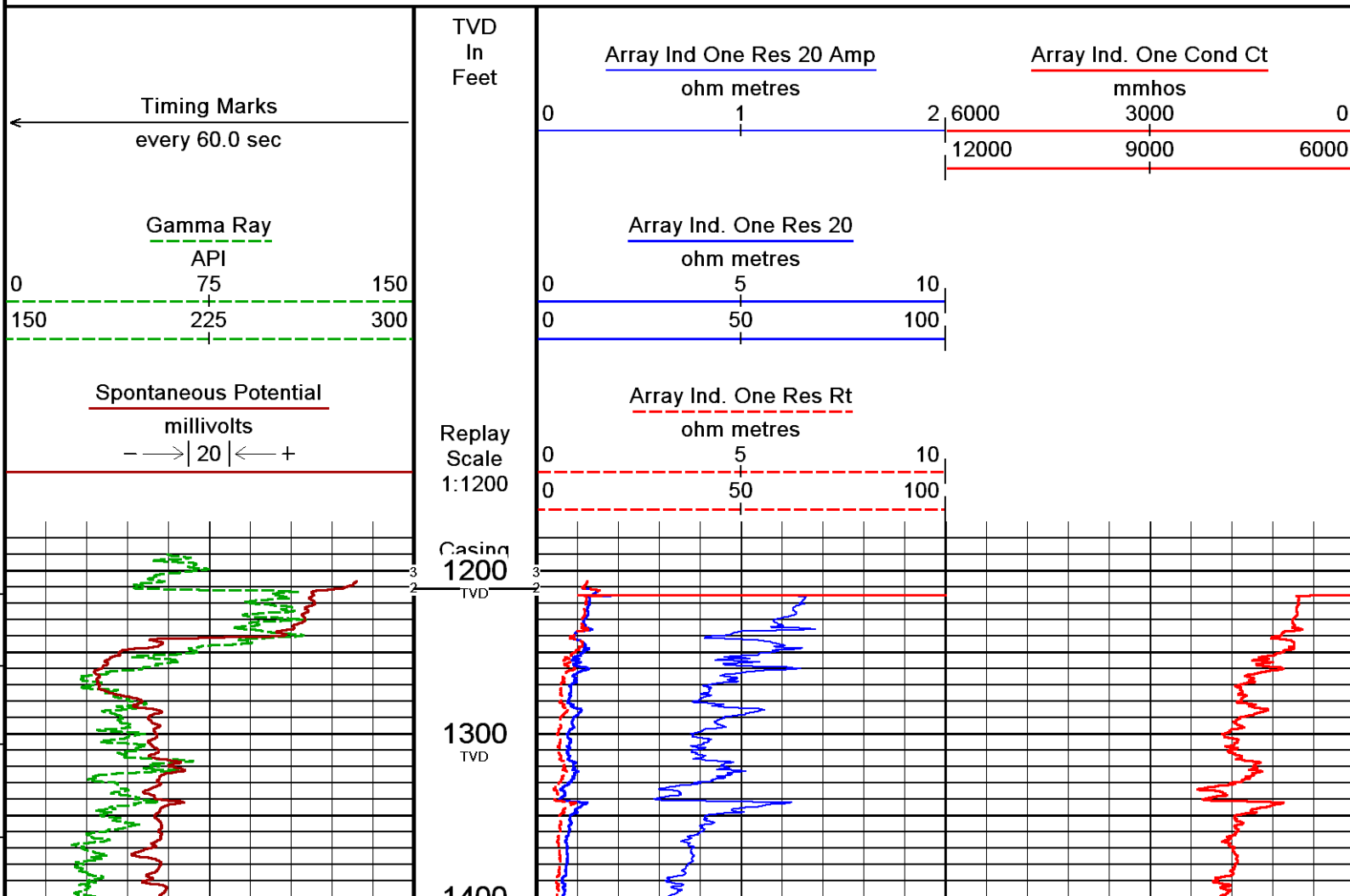
Depth Based Data - Maximum Sampling Increment 10.0cm

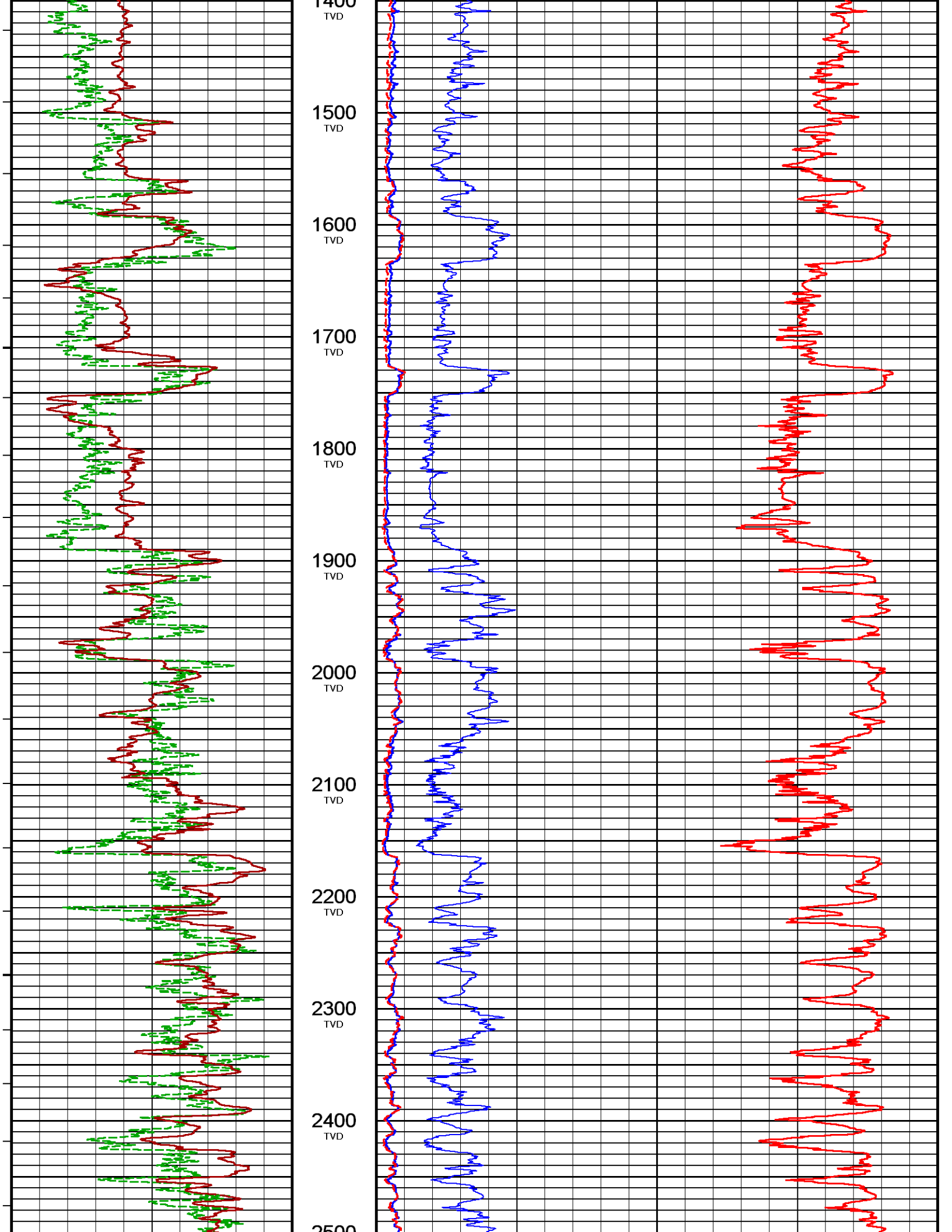
Plotted on 13-MAY-2013 03:36

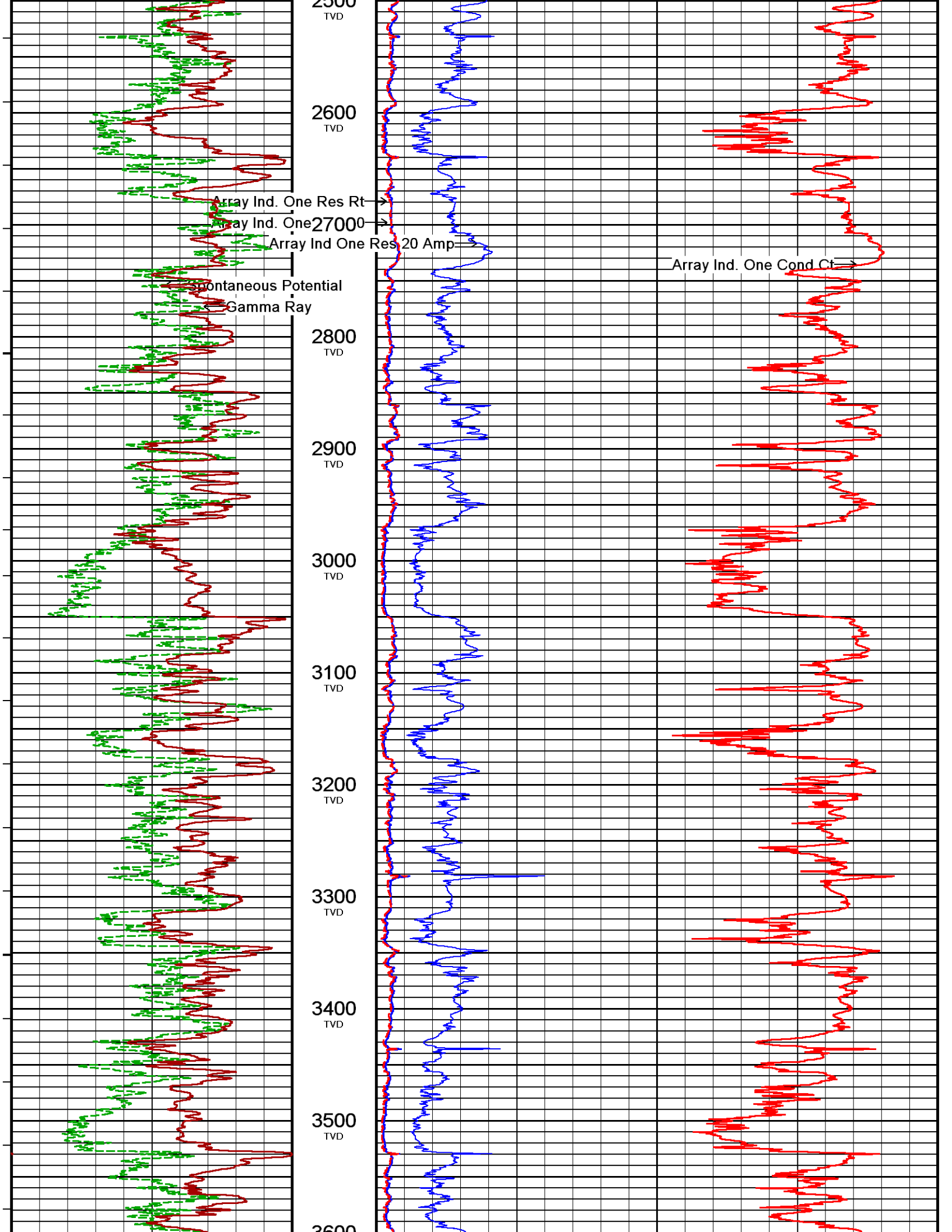
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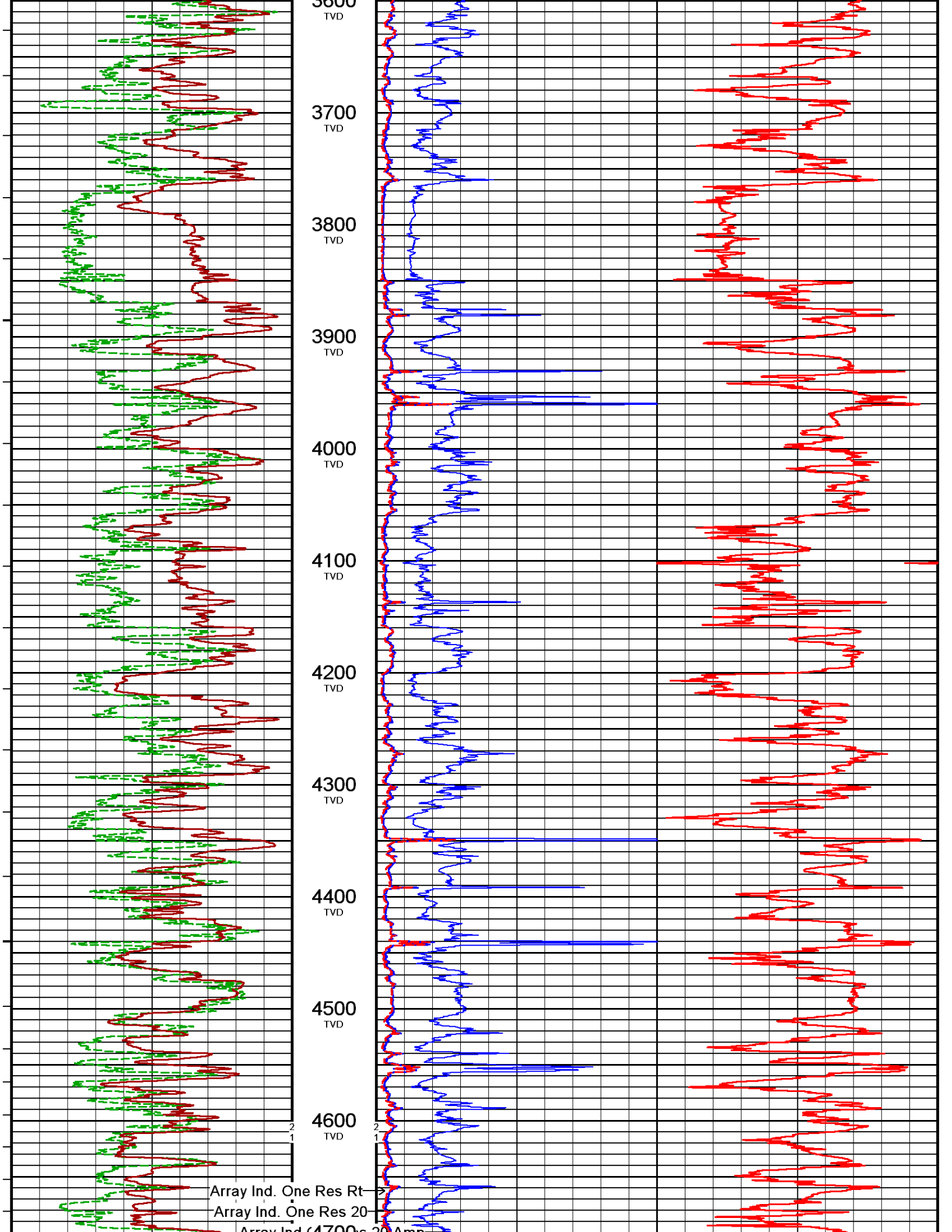
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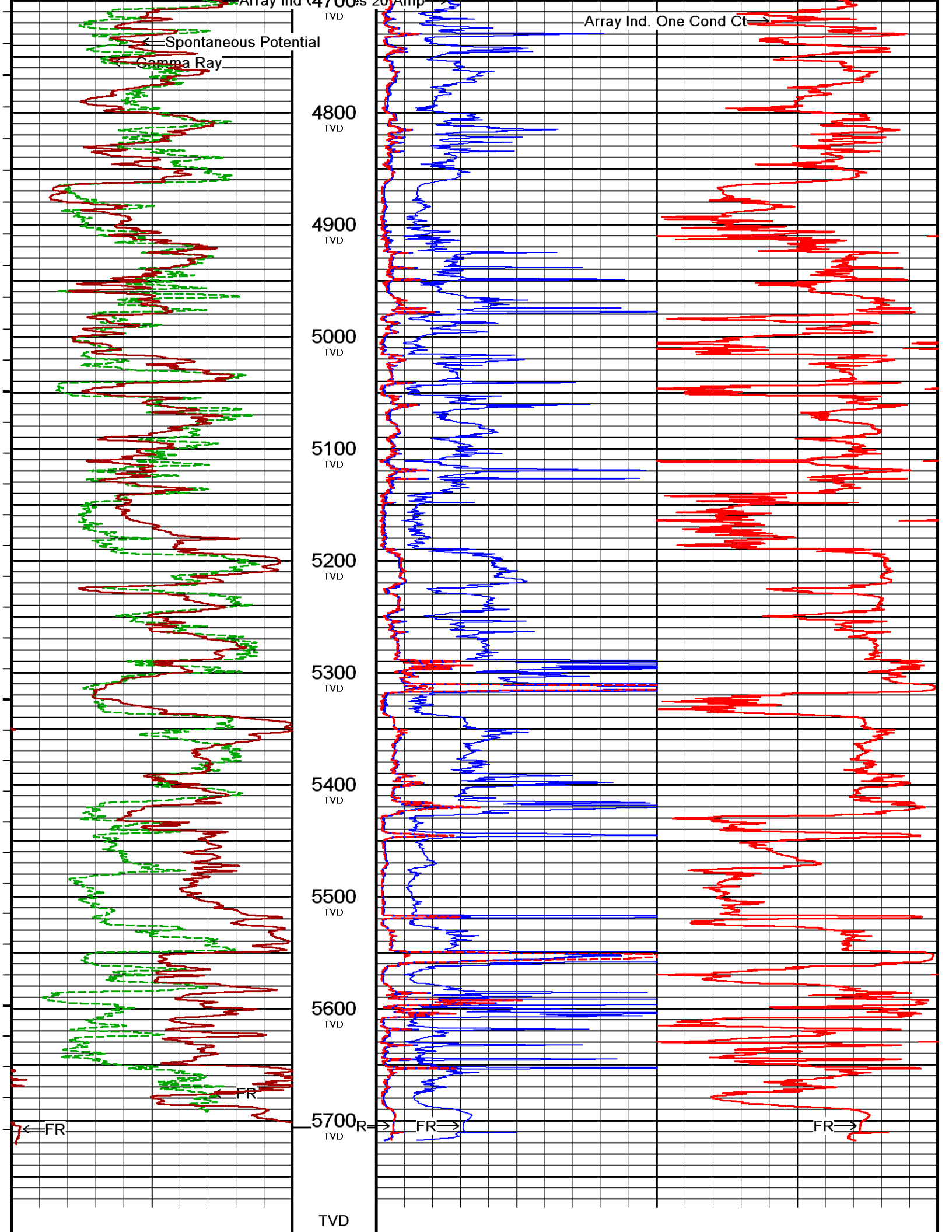
System Versions: Logged with 13.05.9583 Plotted with 13.05.9583

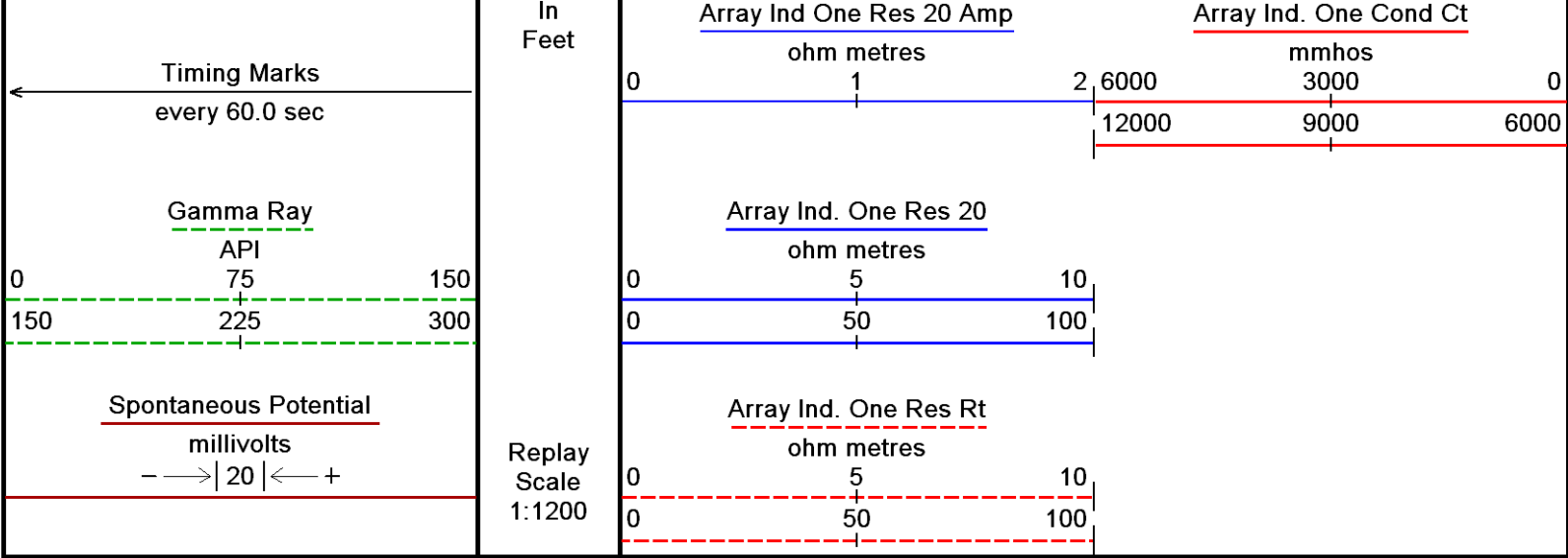










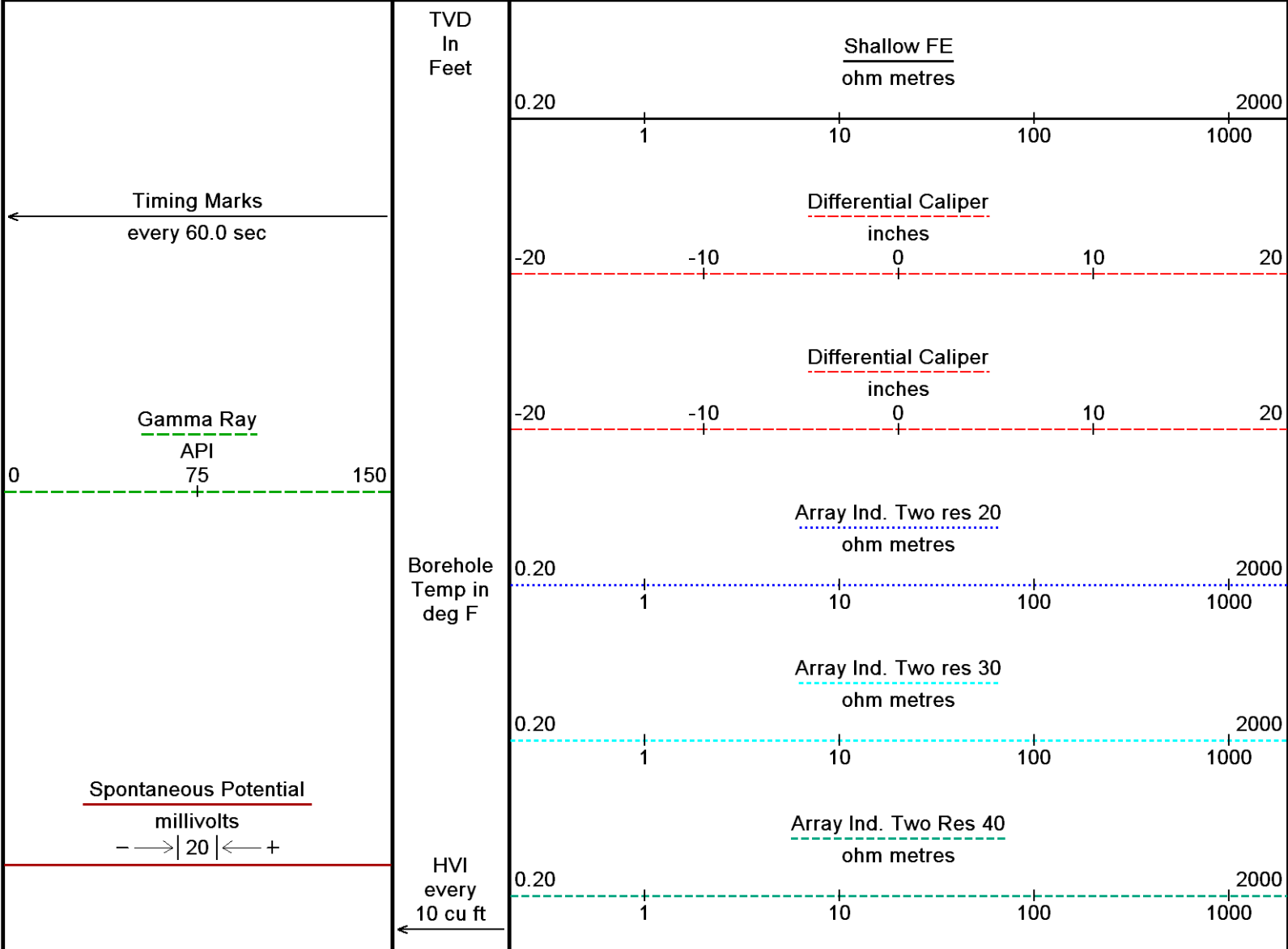


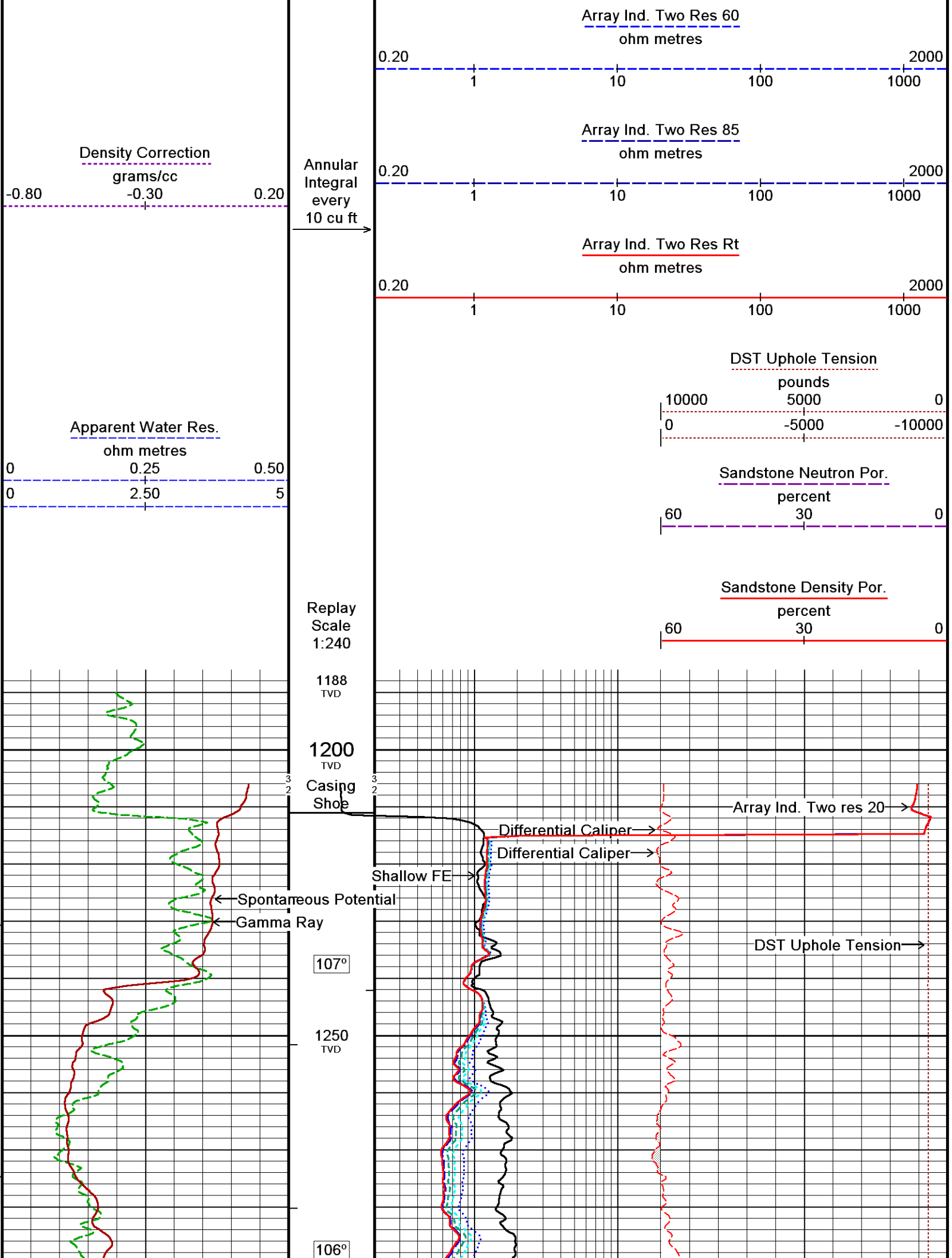
Depth Based Data - Maximum Sampling Increment 10.0cm
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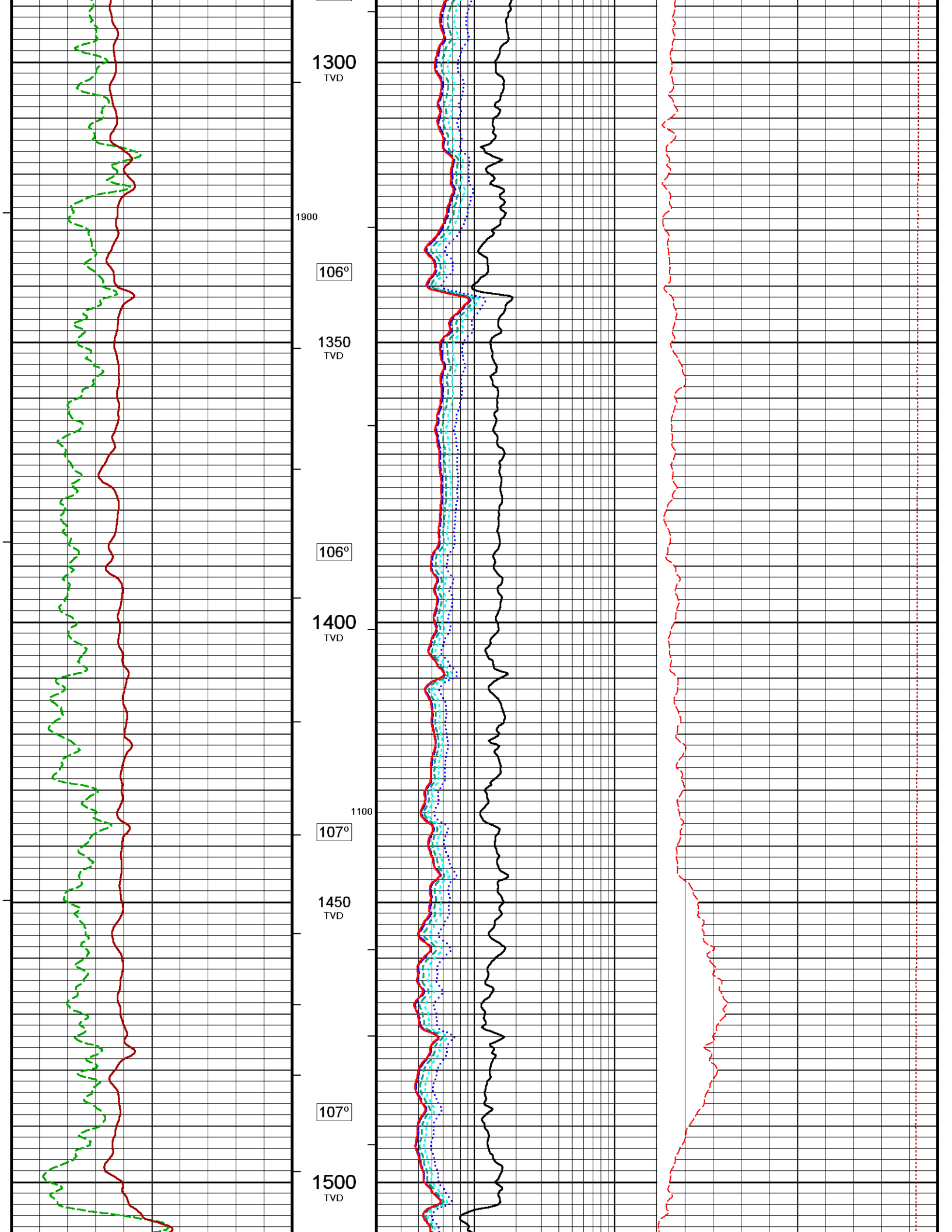
↑ 1" MAIN PASS TVD 1:1200 ↑

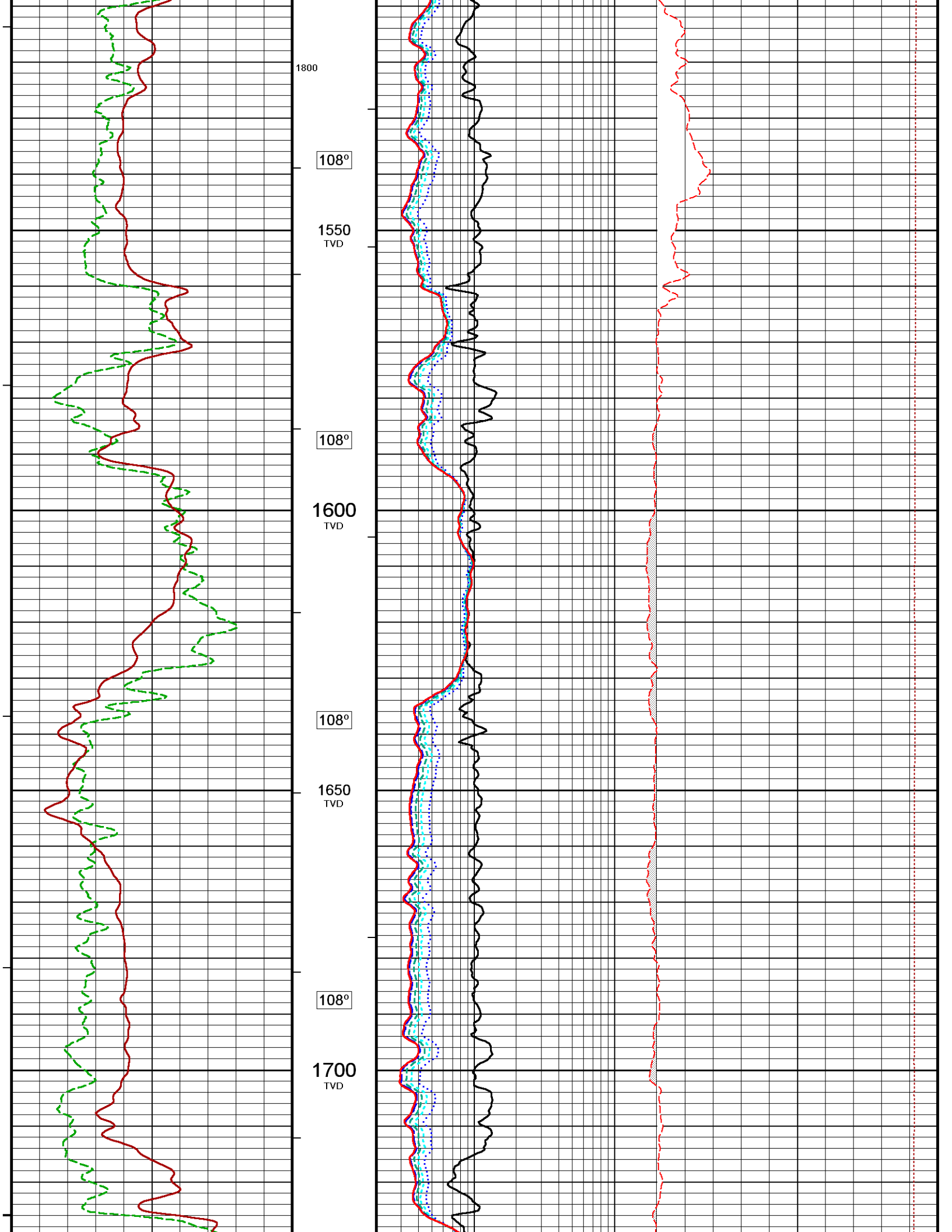
↓ 5" MAIN PASS TVD 1:240 ↓

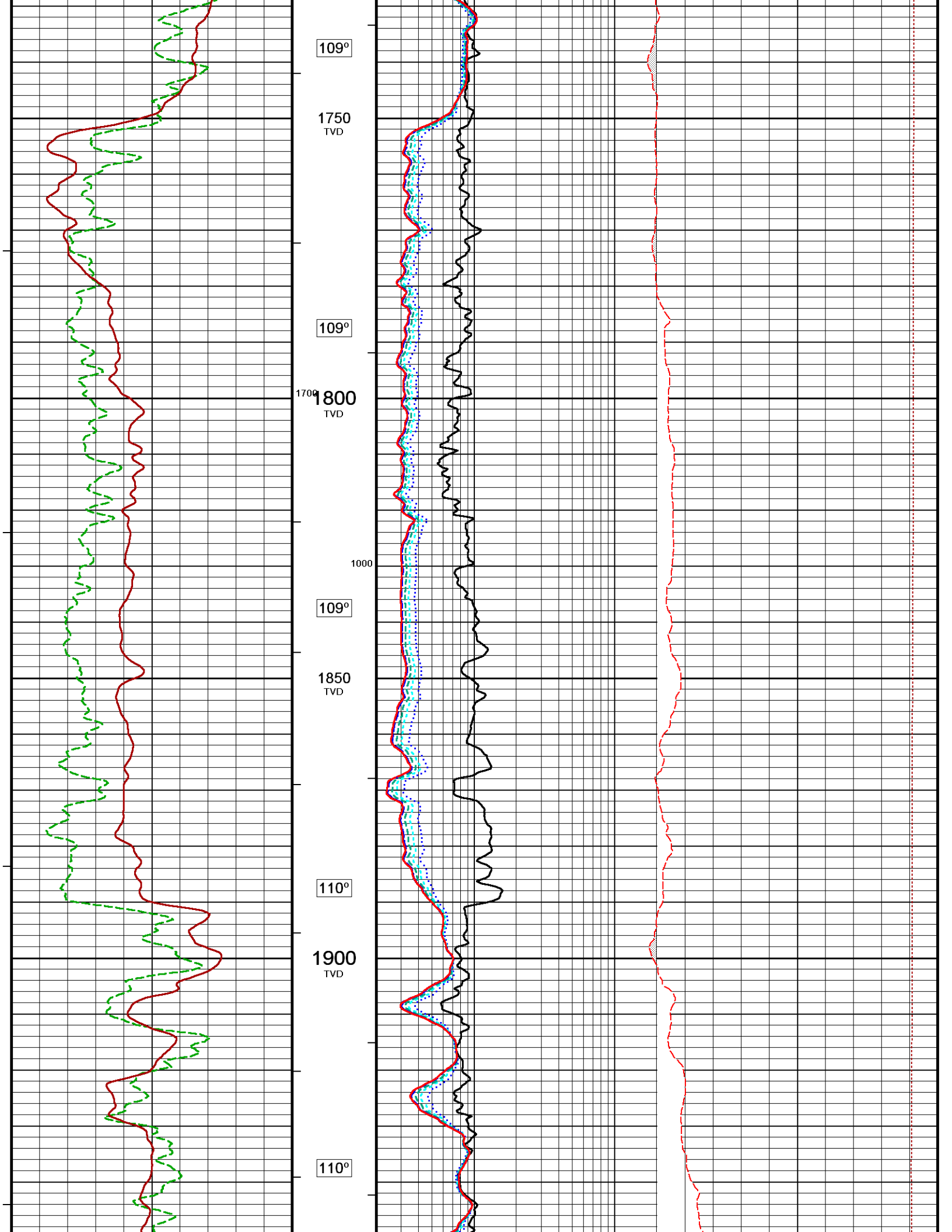
Depth Based Data - Maximum Sampling Increment 10.0cm
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 System Versions: Logged with 13.05.9583 Plotted with 13.05.9583

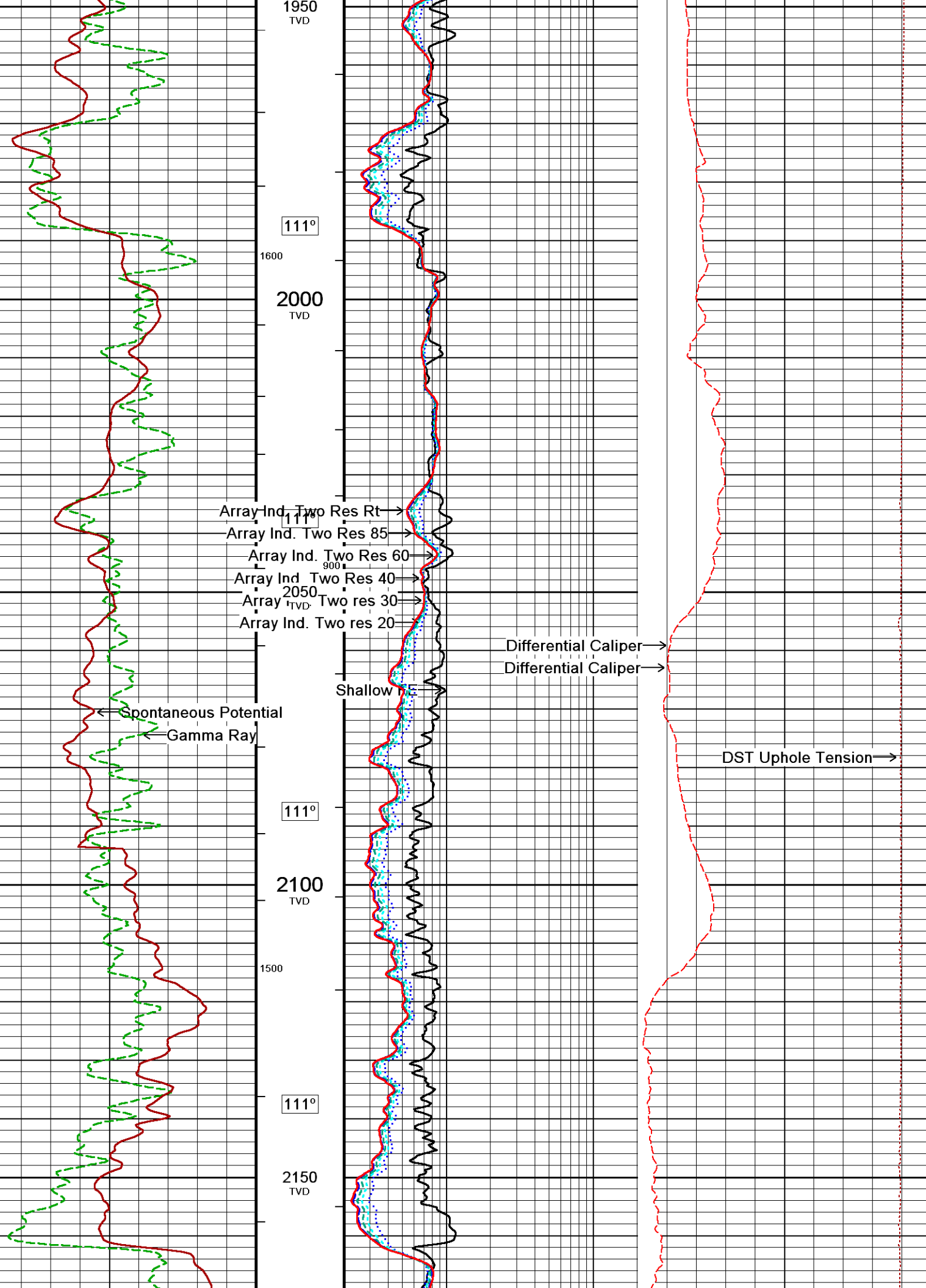


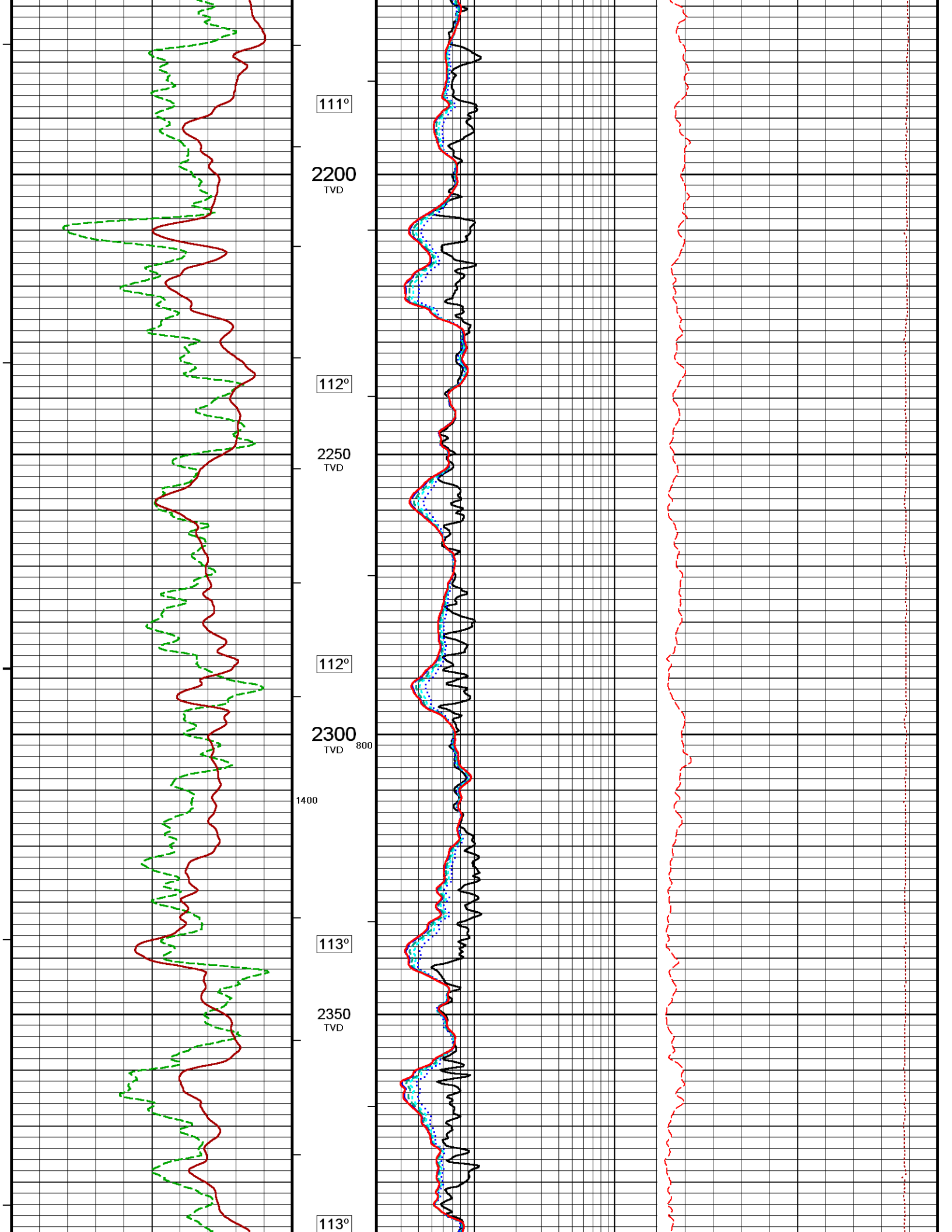


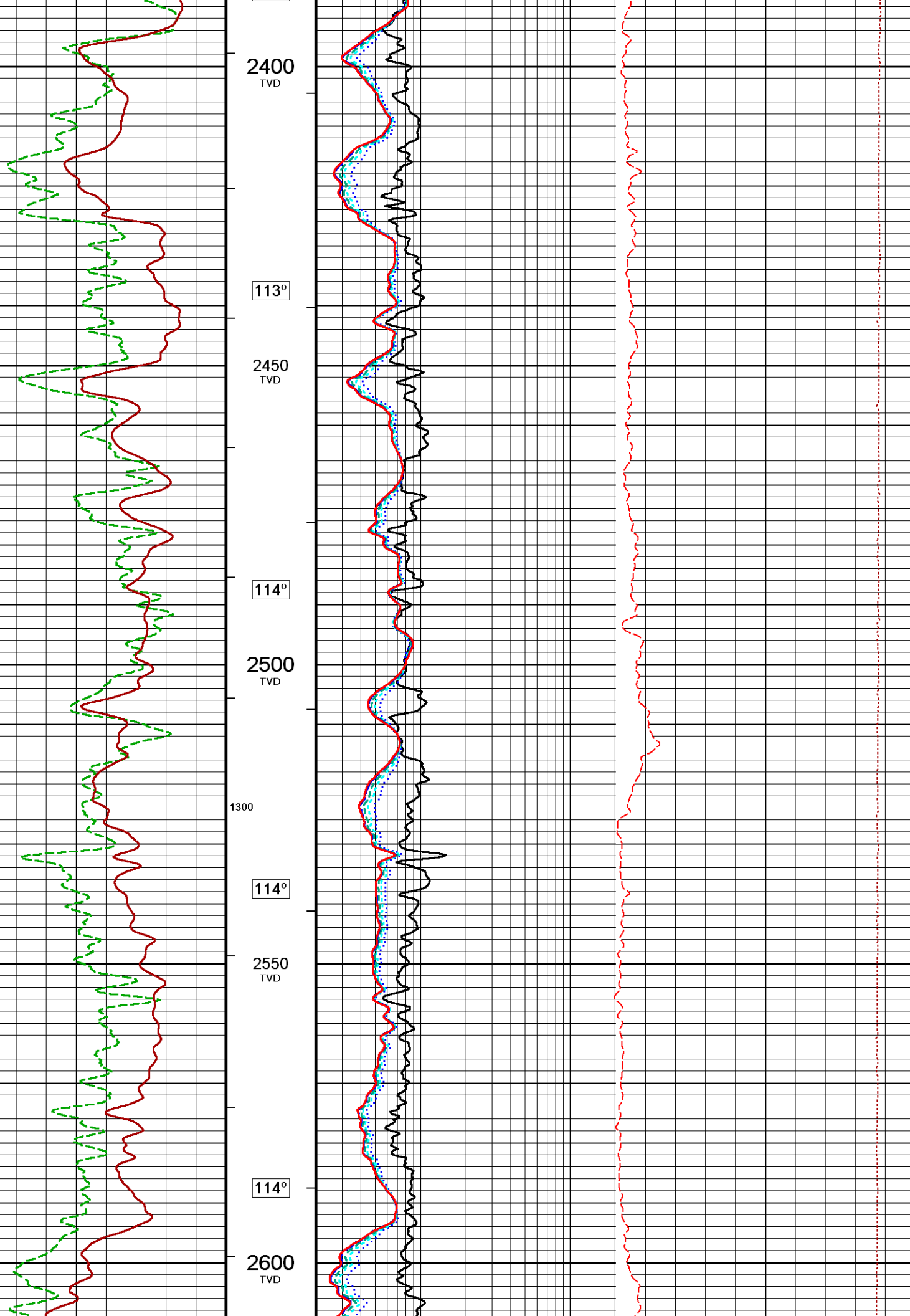


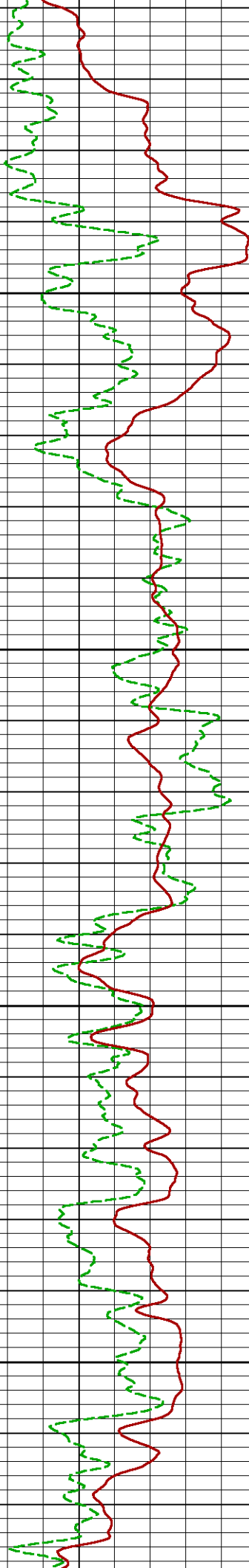












115°

2650
TVD

700

115°

2700
TVD

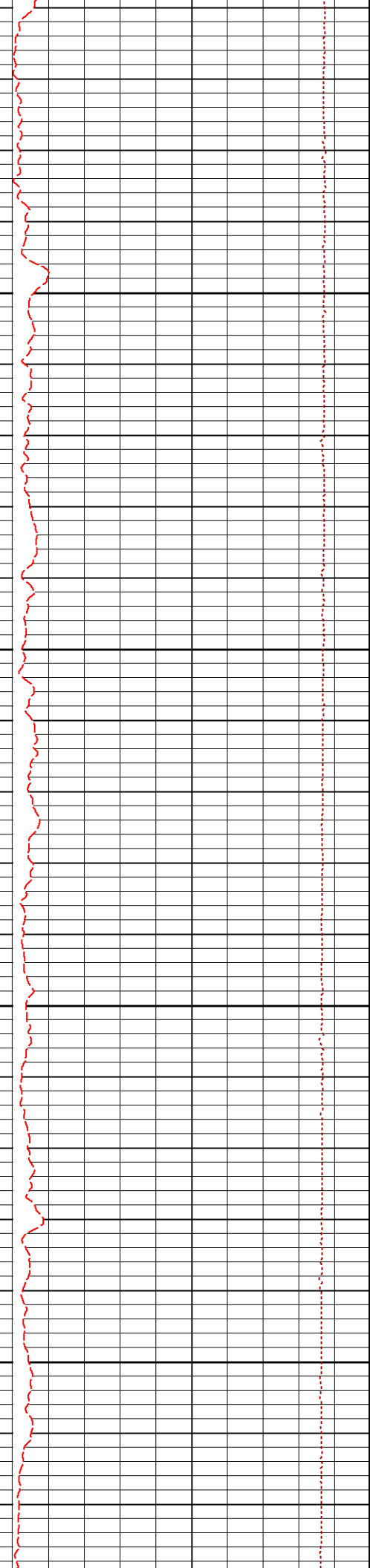
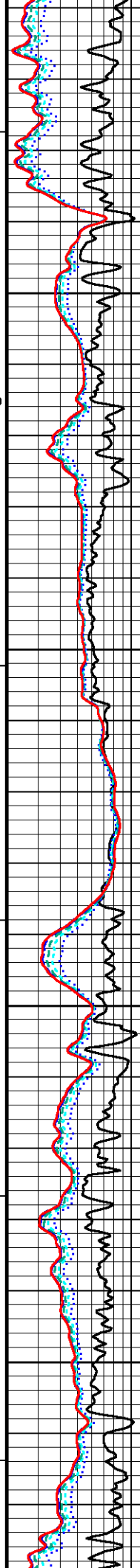
116°

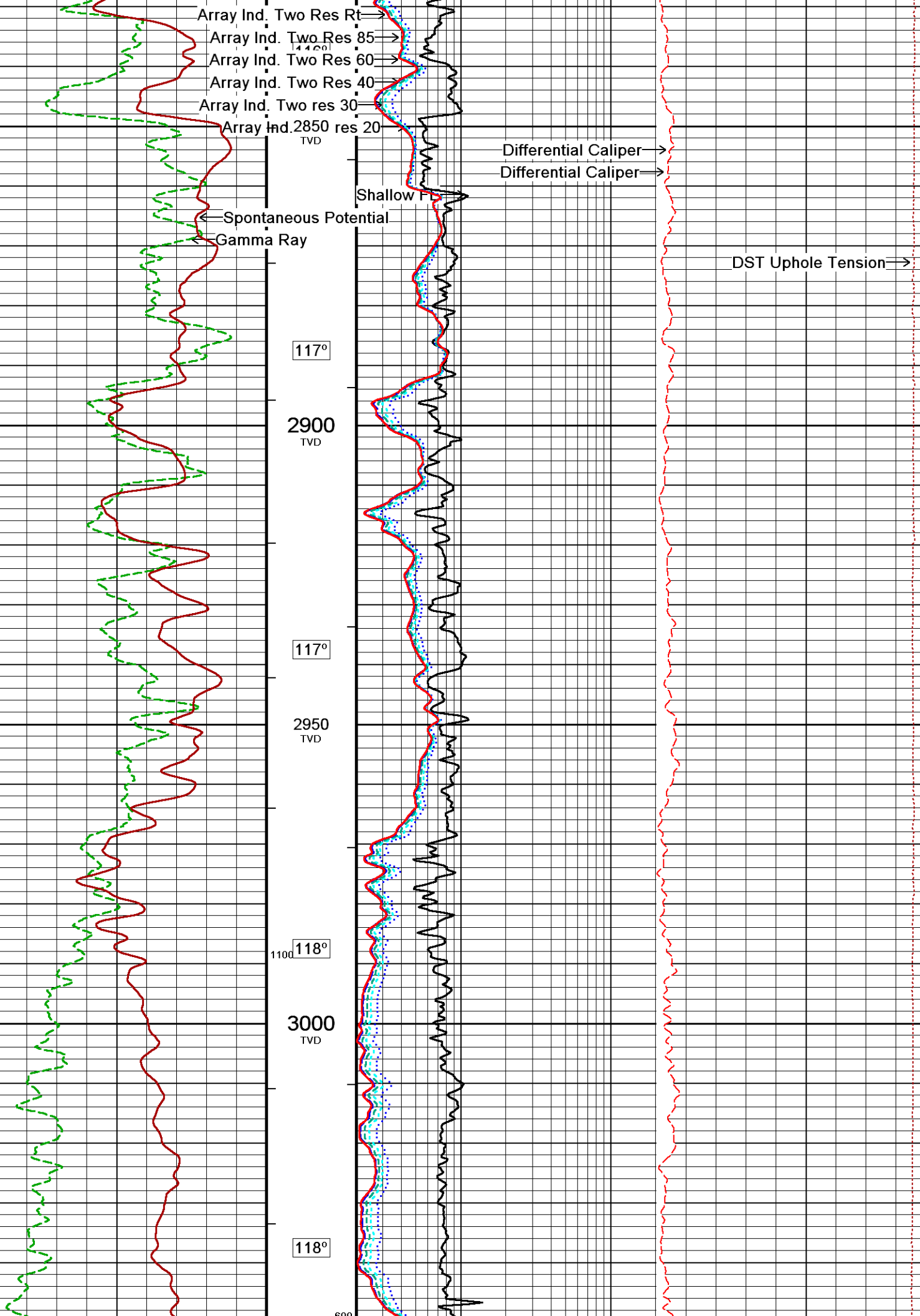
2750
TVD

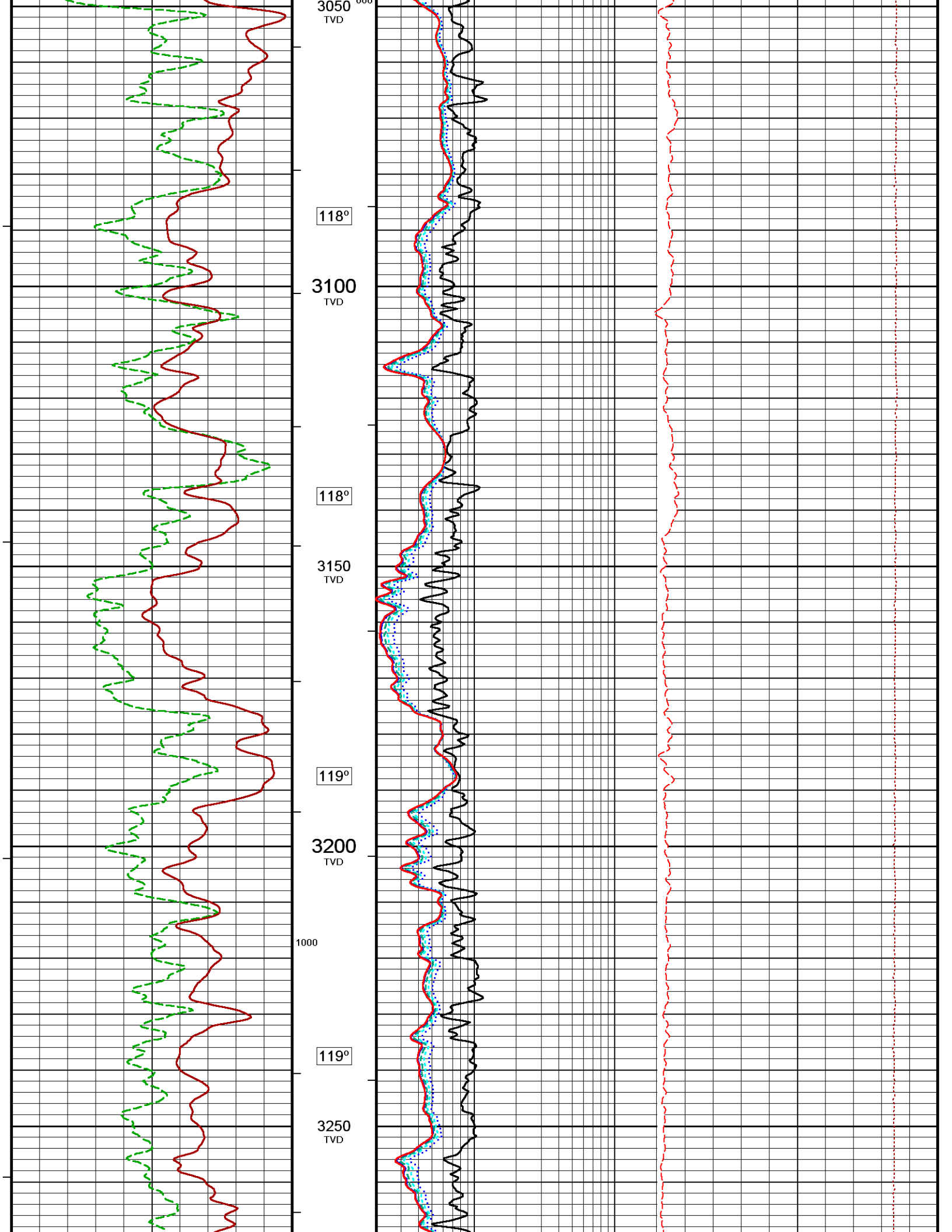
1200

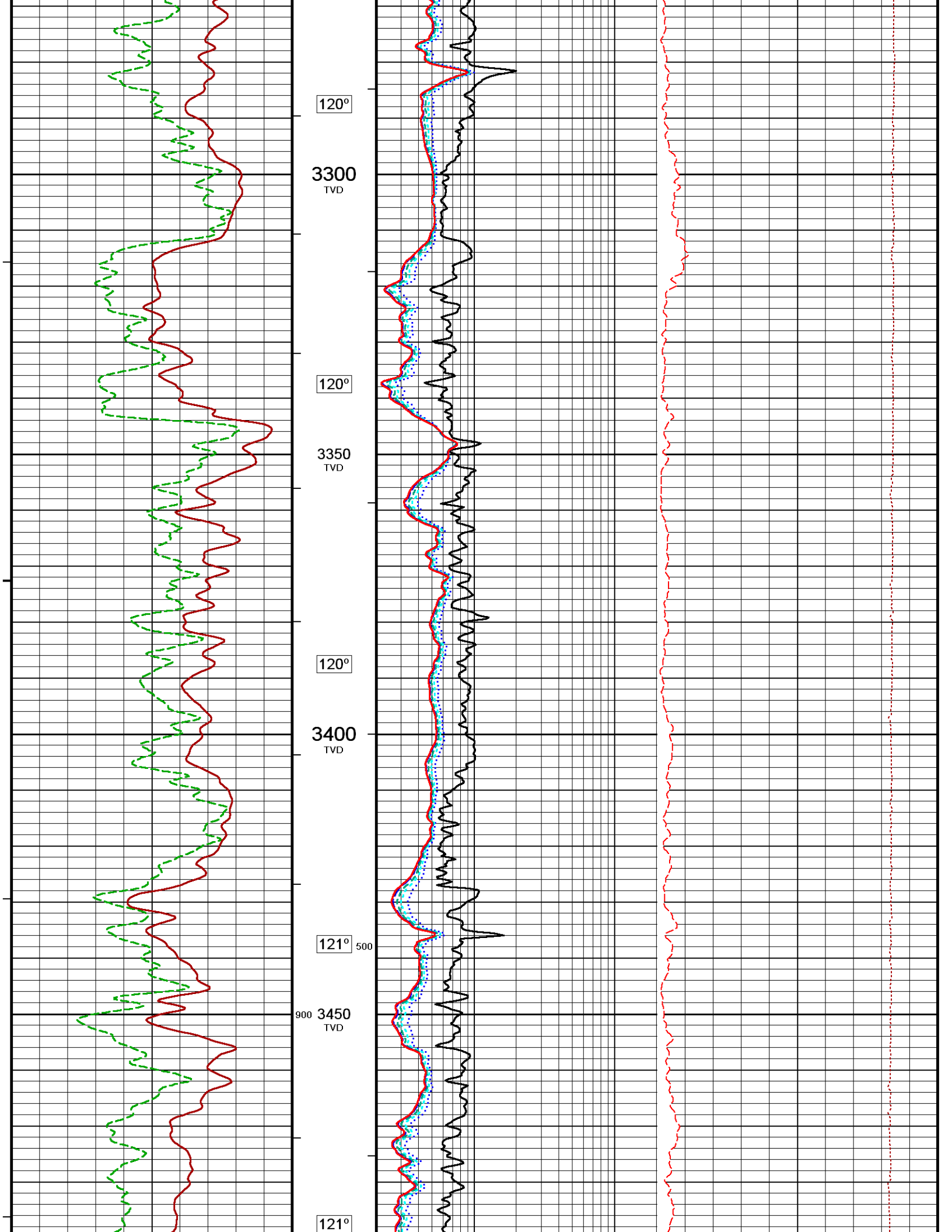
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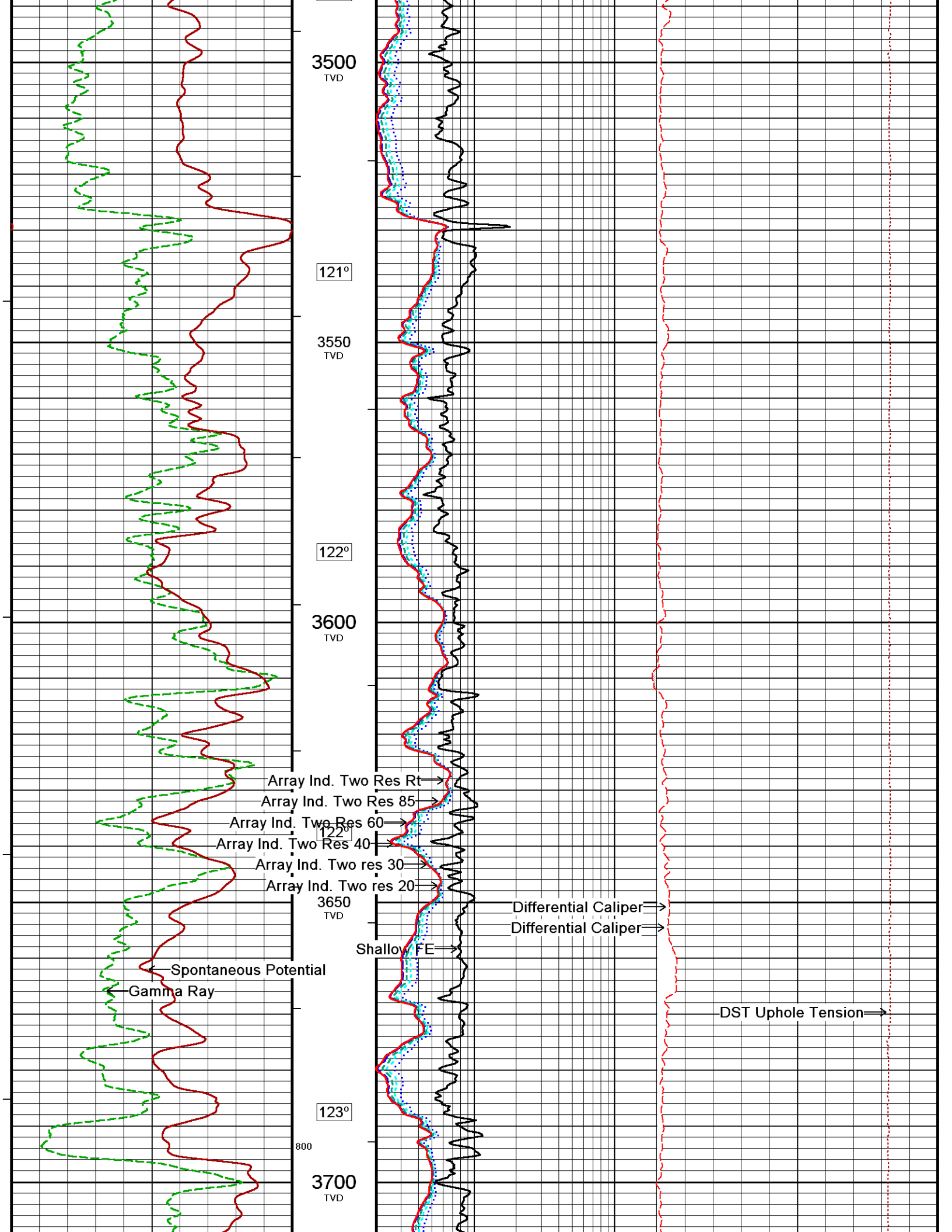
2800
TVD

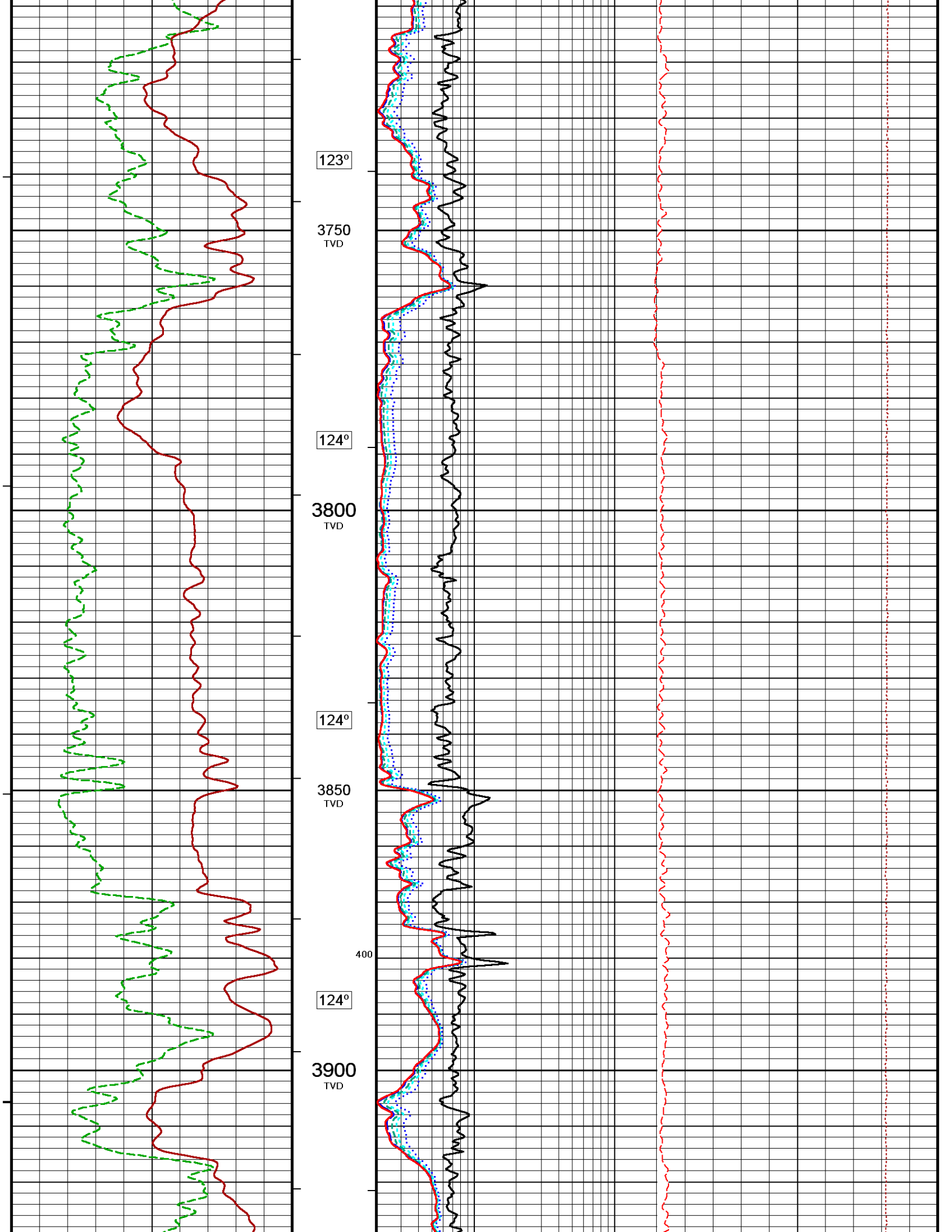


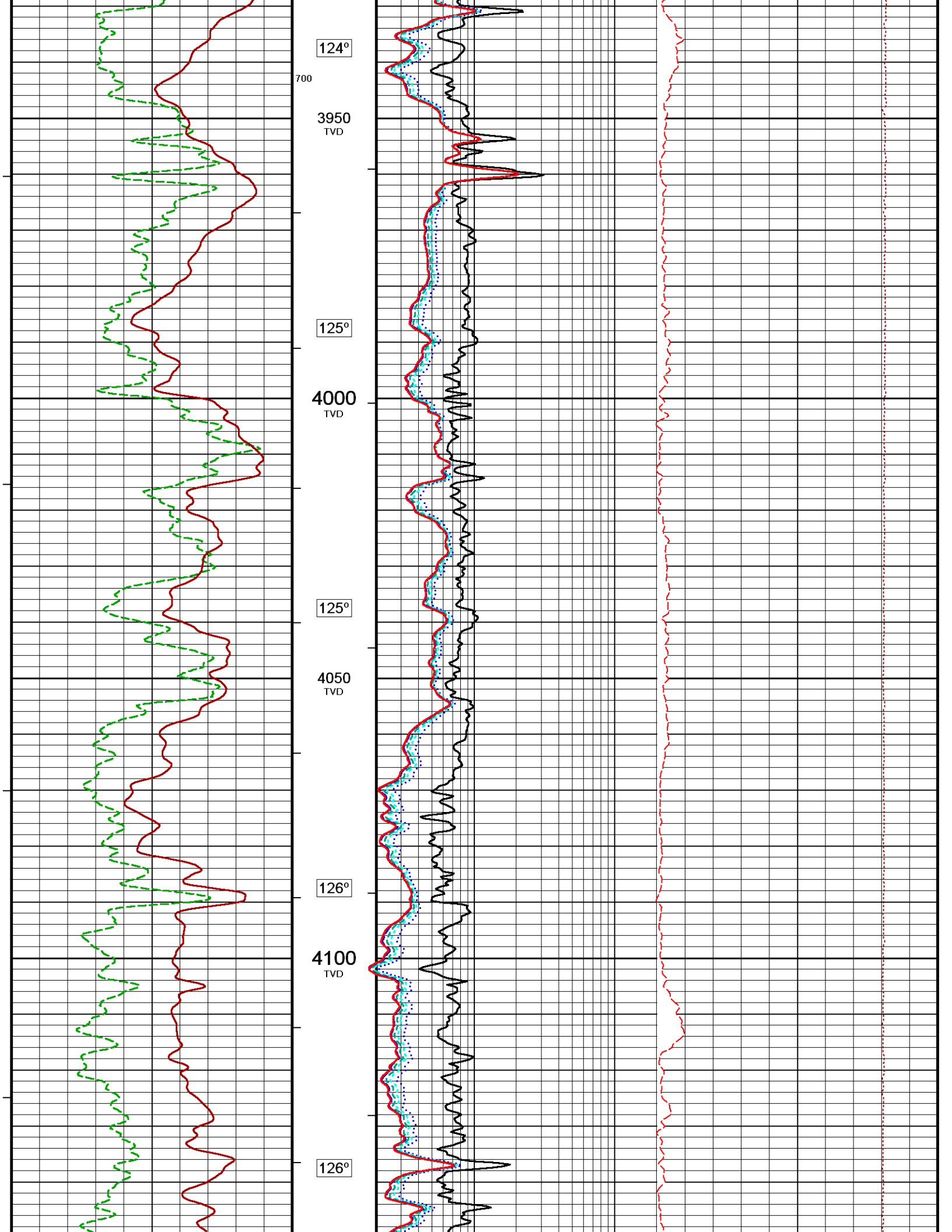


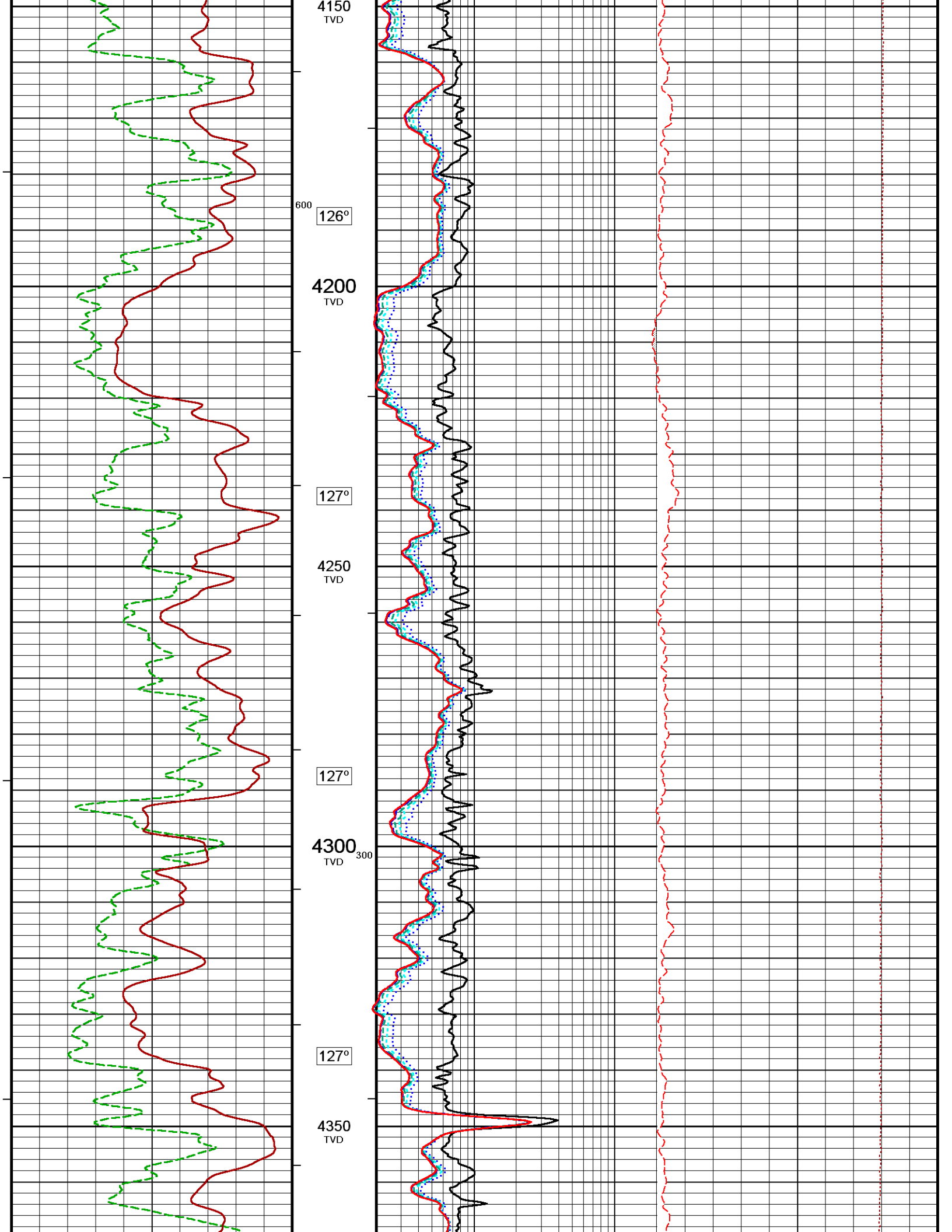


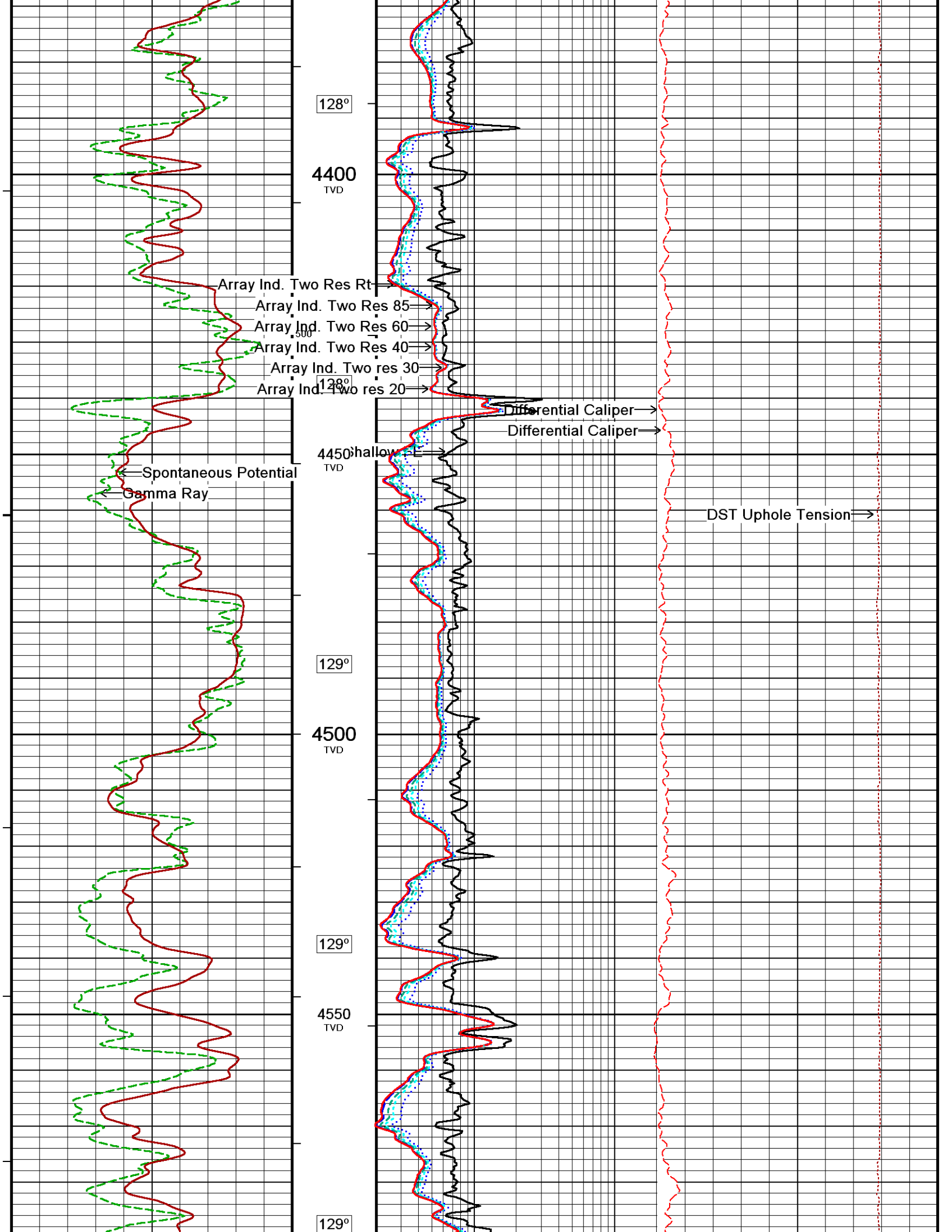


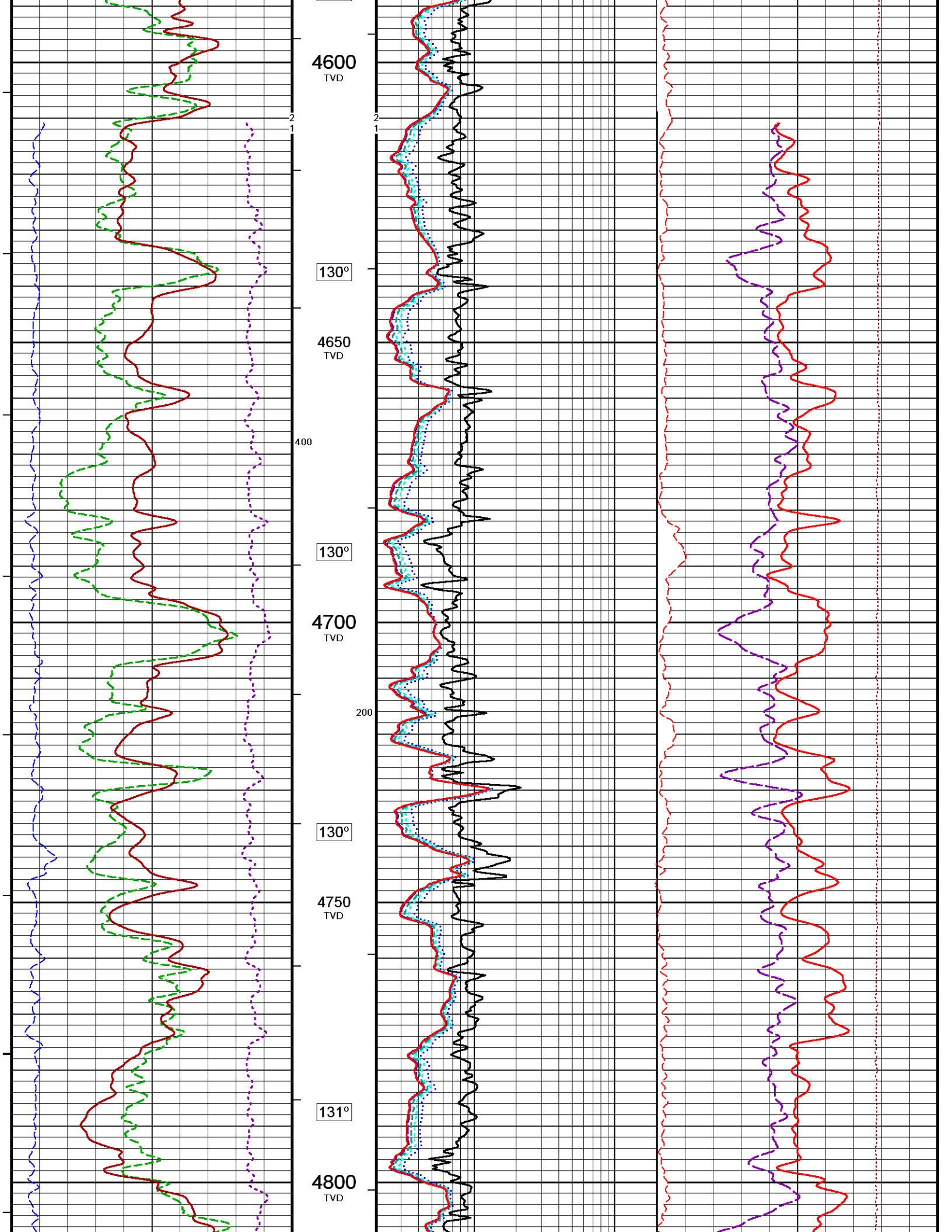


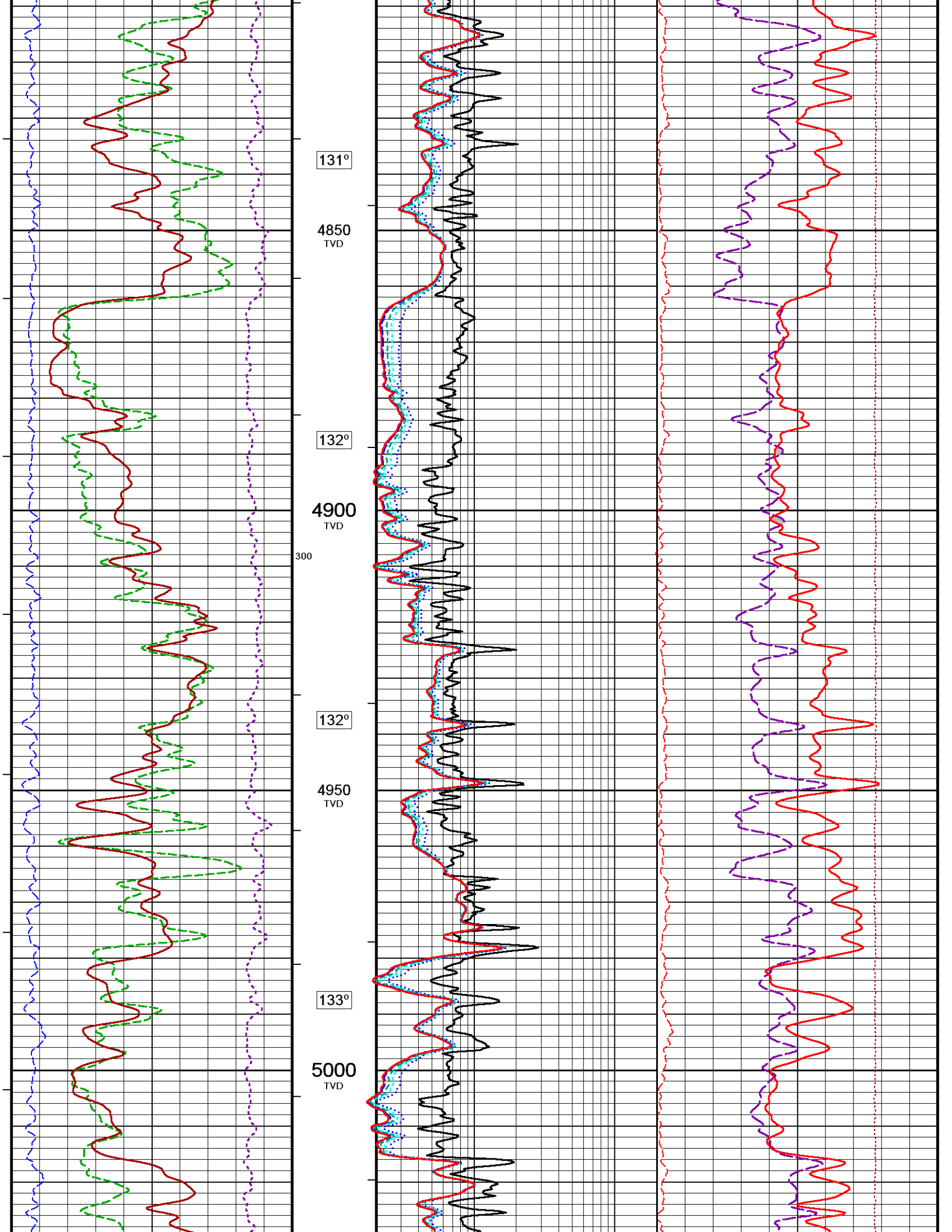


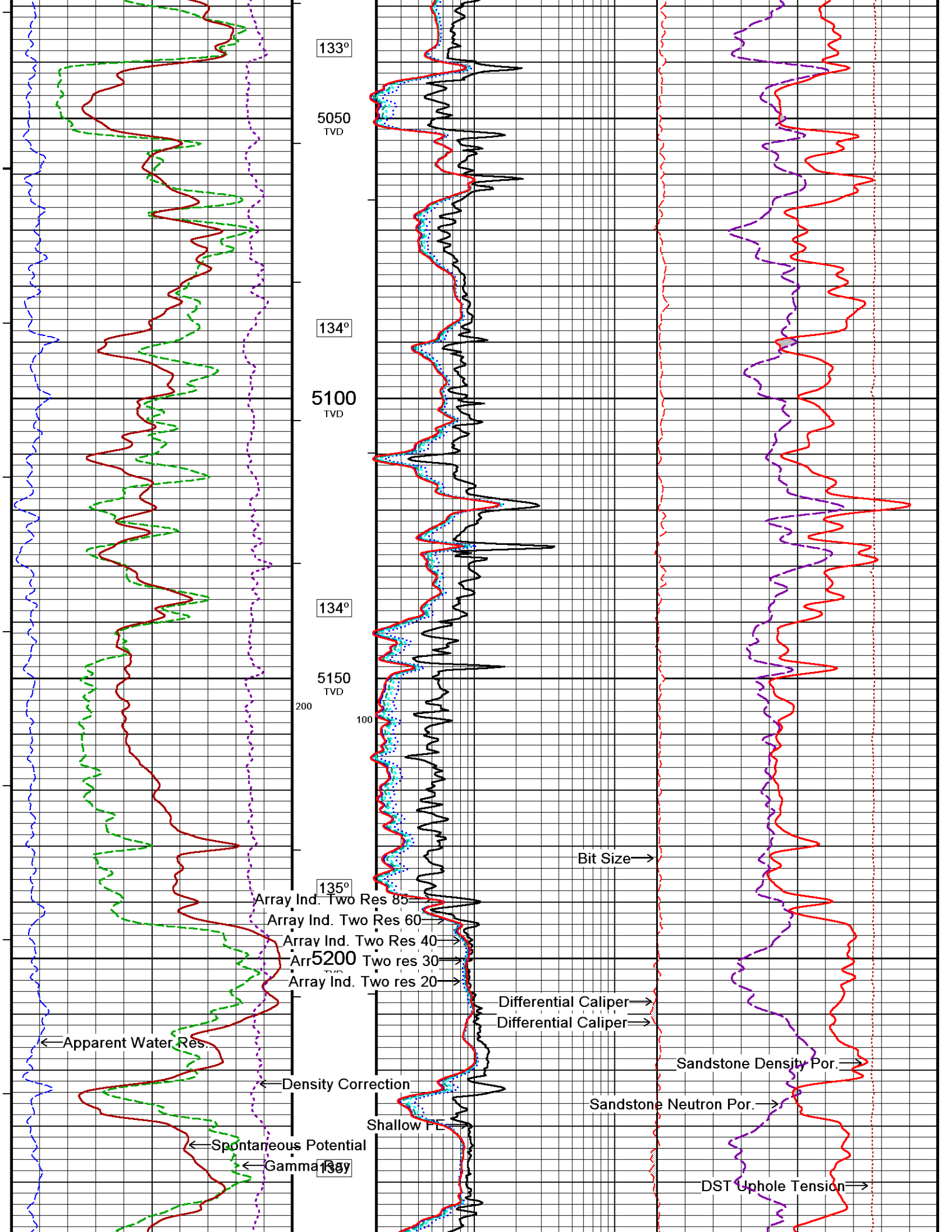


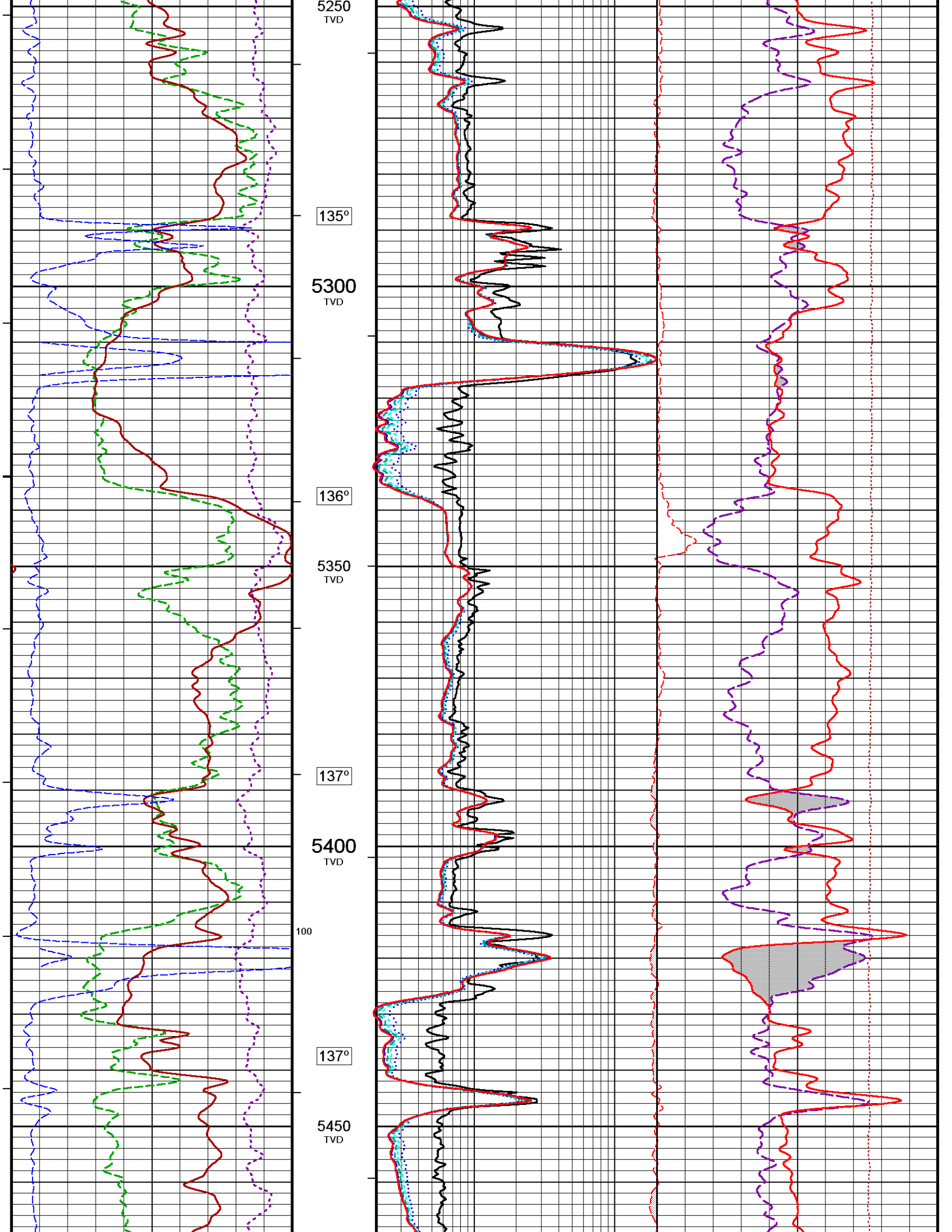


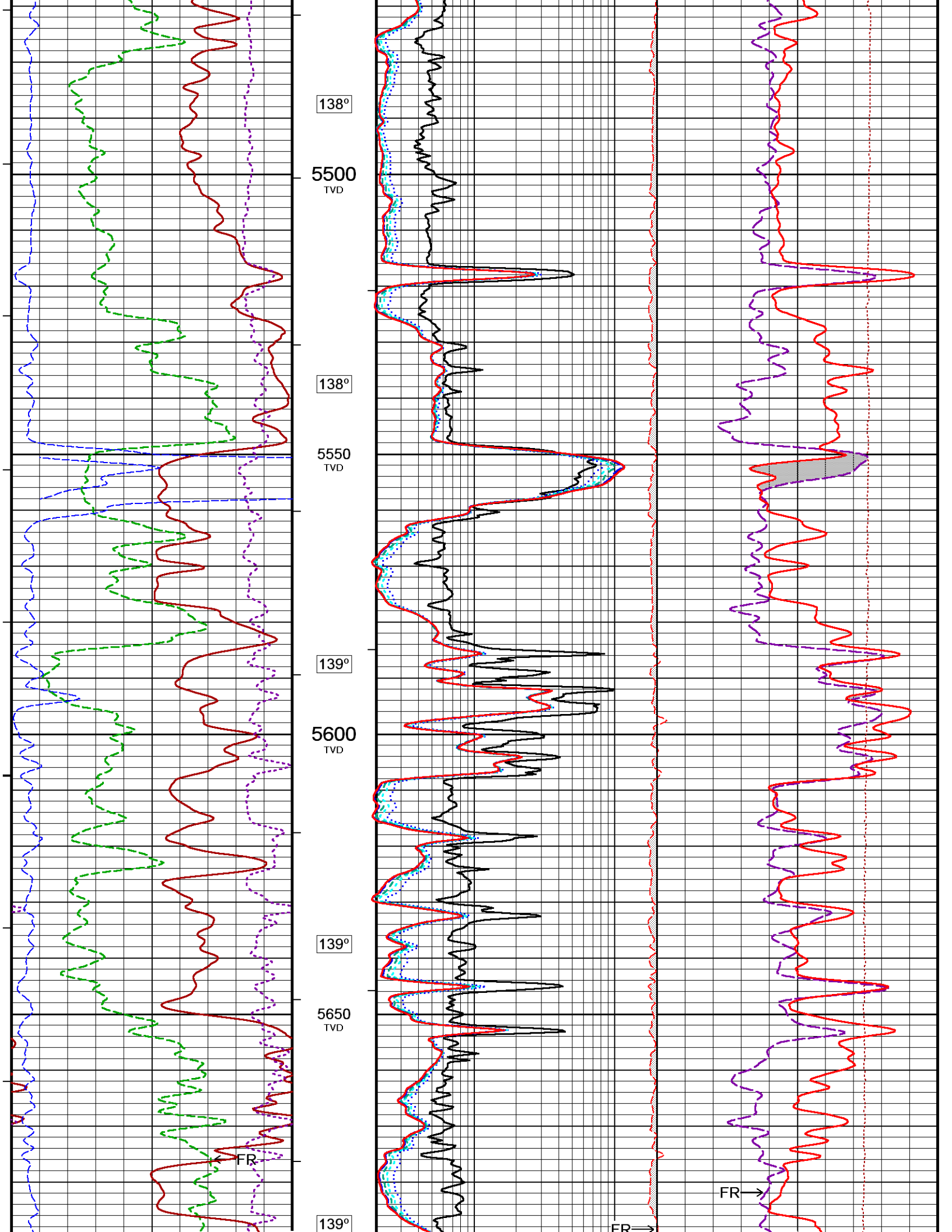


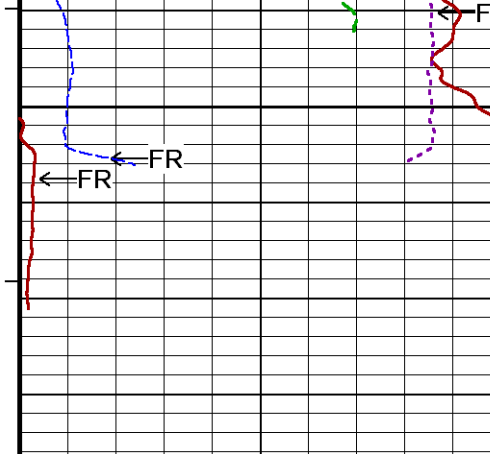




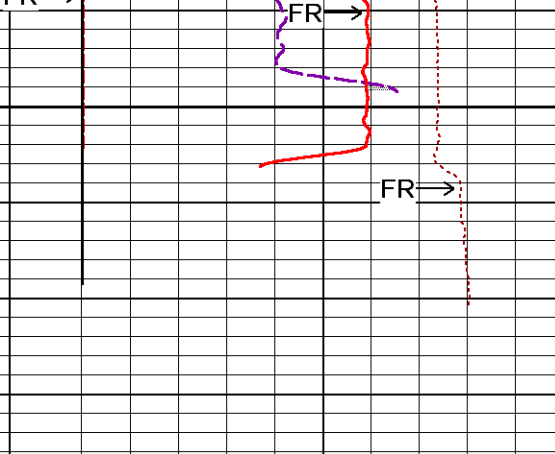
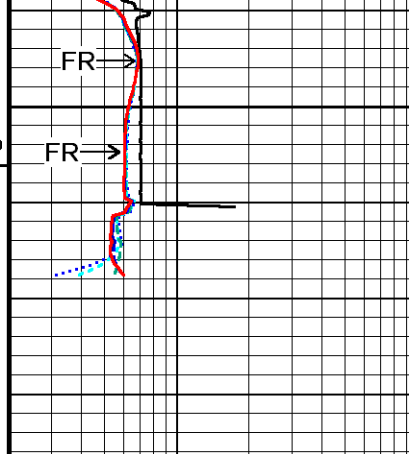




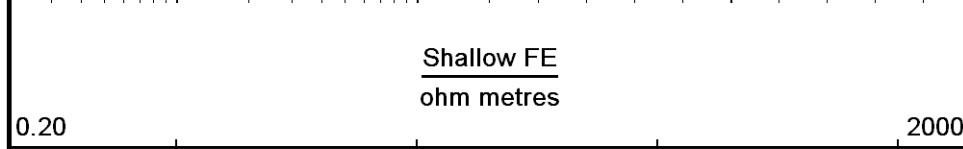




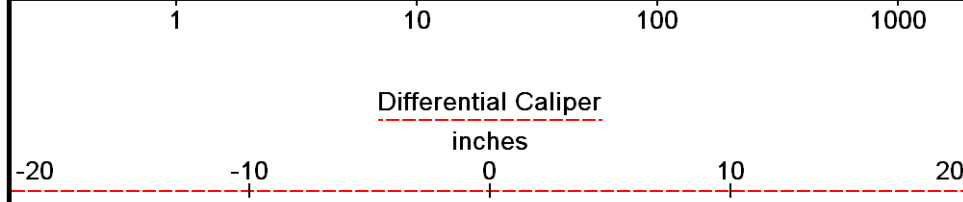
5700
TVD
TD



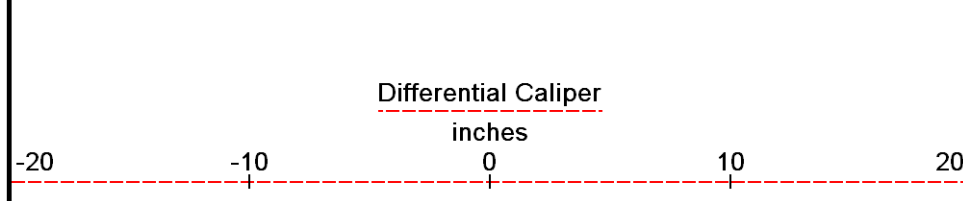
TVD
In
Feet



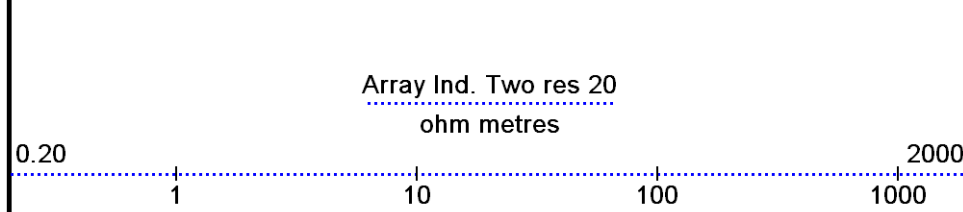
Timing Marks
every 60.0 sec



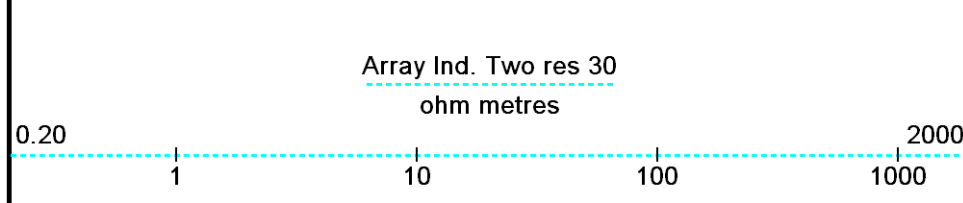
Gamma Ray
API
0 75 150



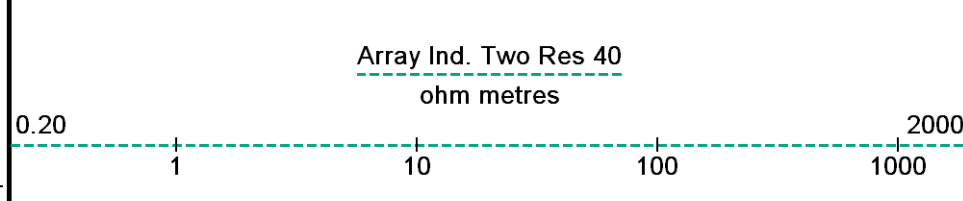
Borehole
Temp in
deg F



Spontaneous Potential
millivolts
- -> | 20 | <- +

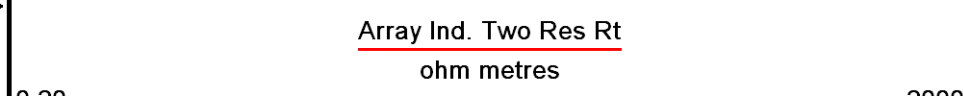
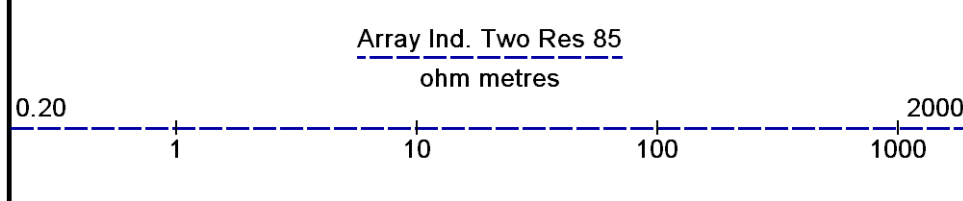
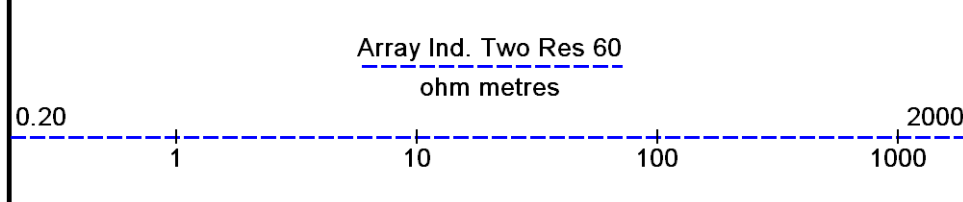


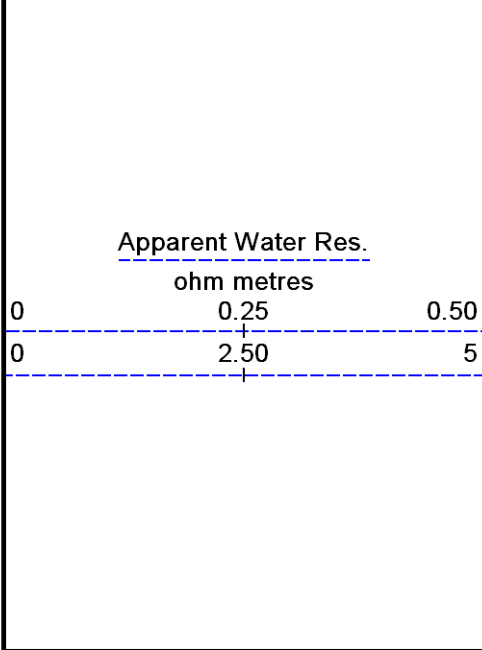
HVI
every
10 cu ft



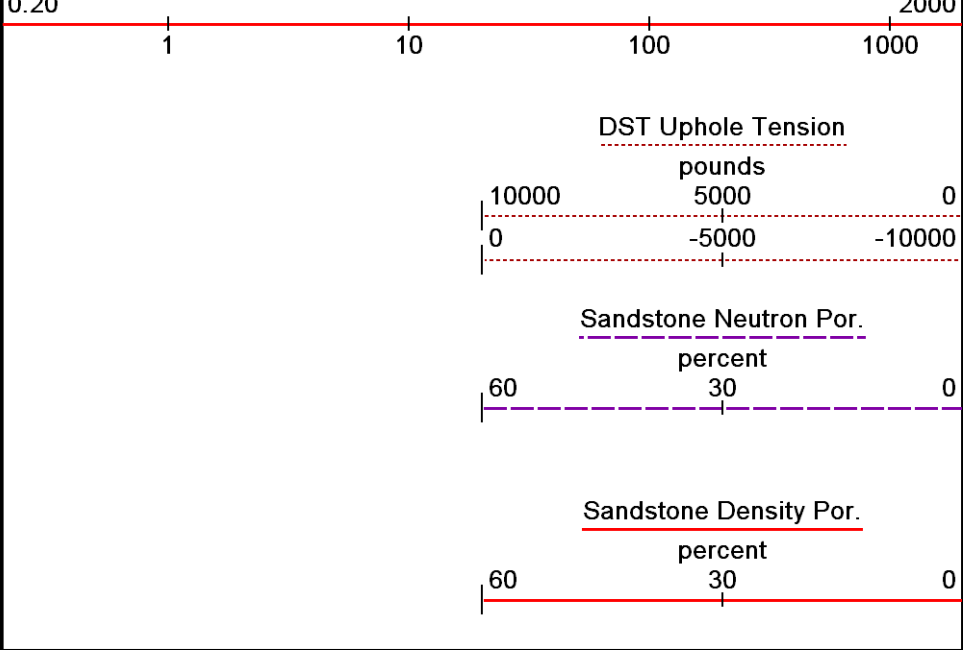
Density Correction
grams/cc
-0.80 -0.30 0.20

Annular
Integral
every
10 cu ft





Replay
Scale
1:240

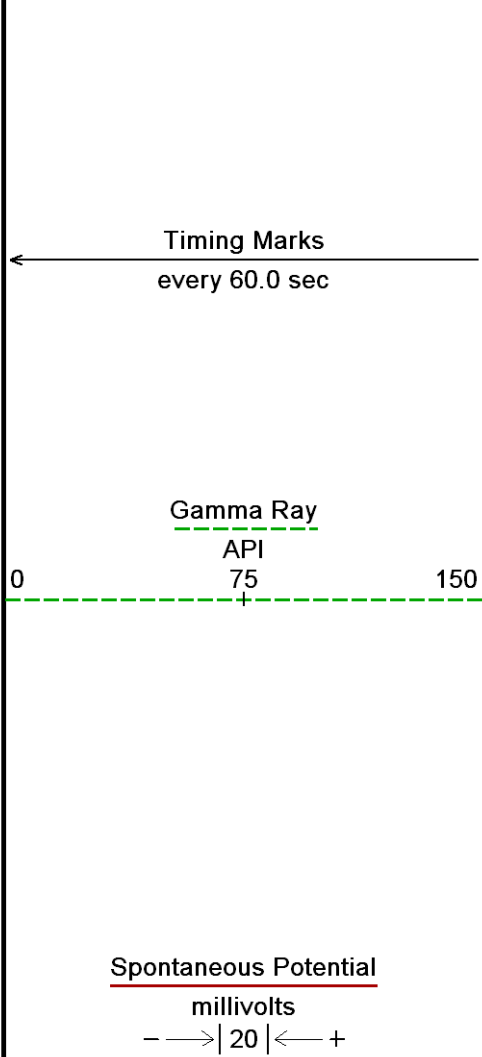


Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 13-MAY-2013 03:36
 Filename: C:\DATA\Smith Production Co\Bocage Lands LLC etal #1\uplog.dta Recorded on 13-MAY-2013 00:32
 System Versions: Logged with 13.05.9583 Plotted with 13.05.9583

5" MAIN PASS TVD 1:240

5" REPEAT PASS TVD 1:240

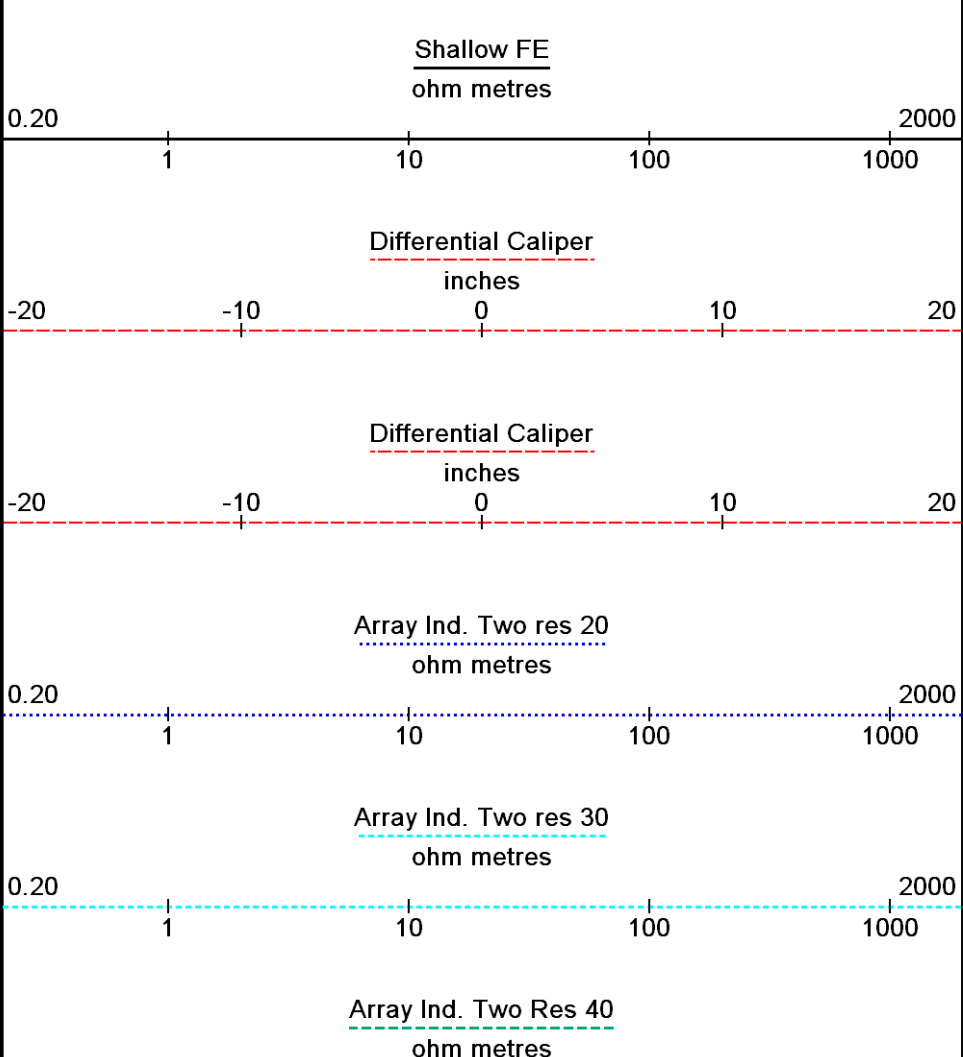
Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 13-MAY-2013 03:36
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 System Versions: Logged with 13.05.9583 Plotted with 13.05.9583

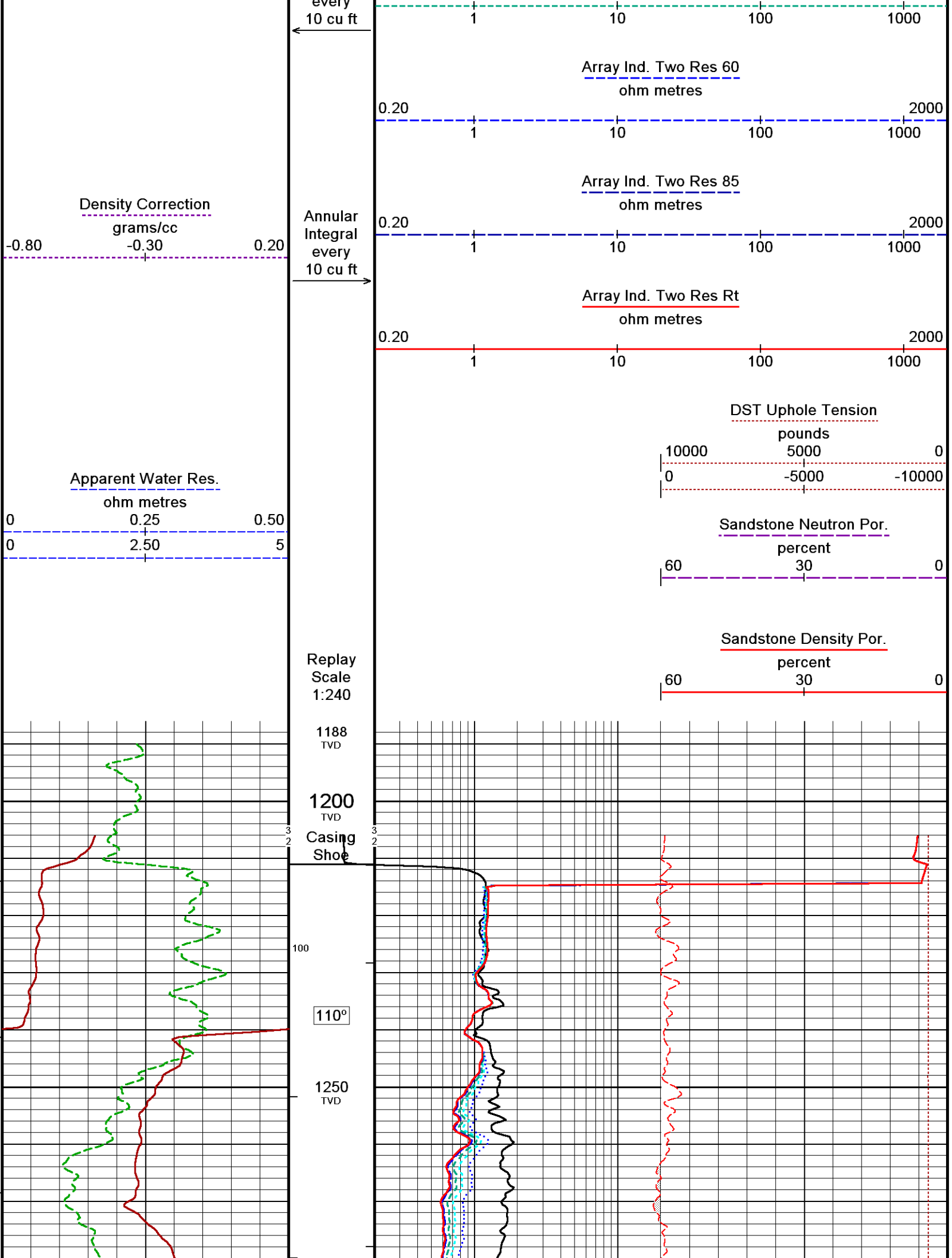


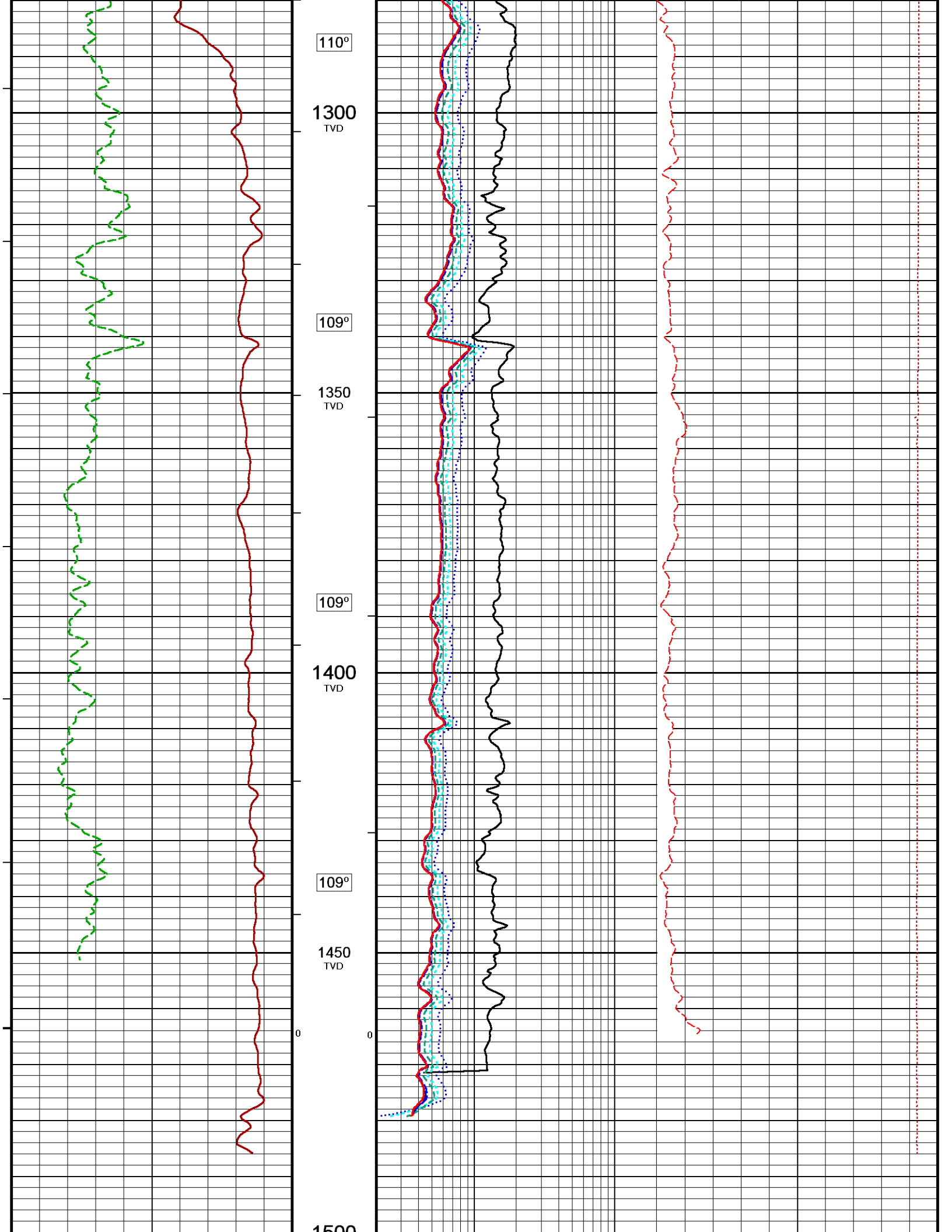
TVD
In
Feet

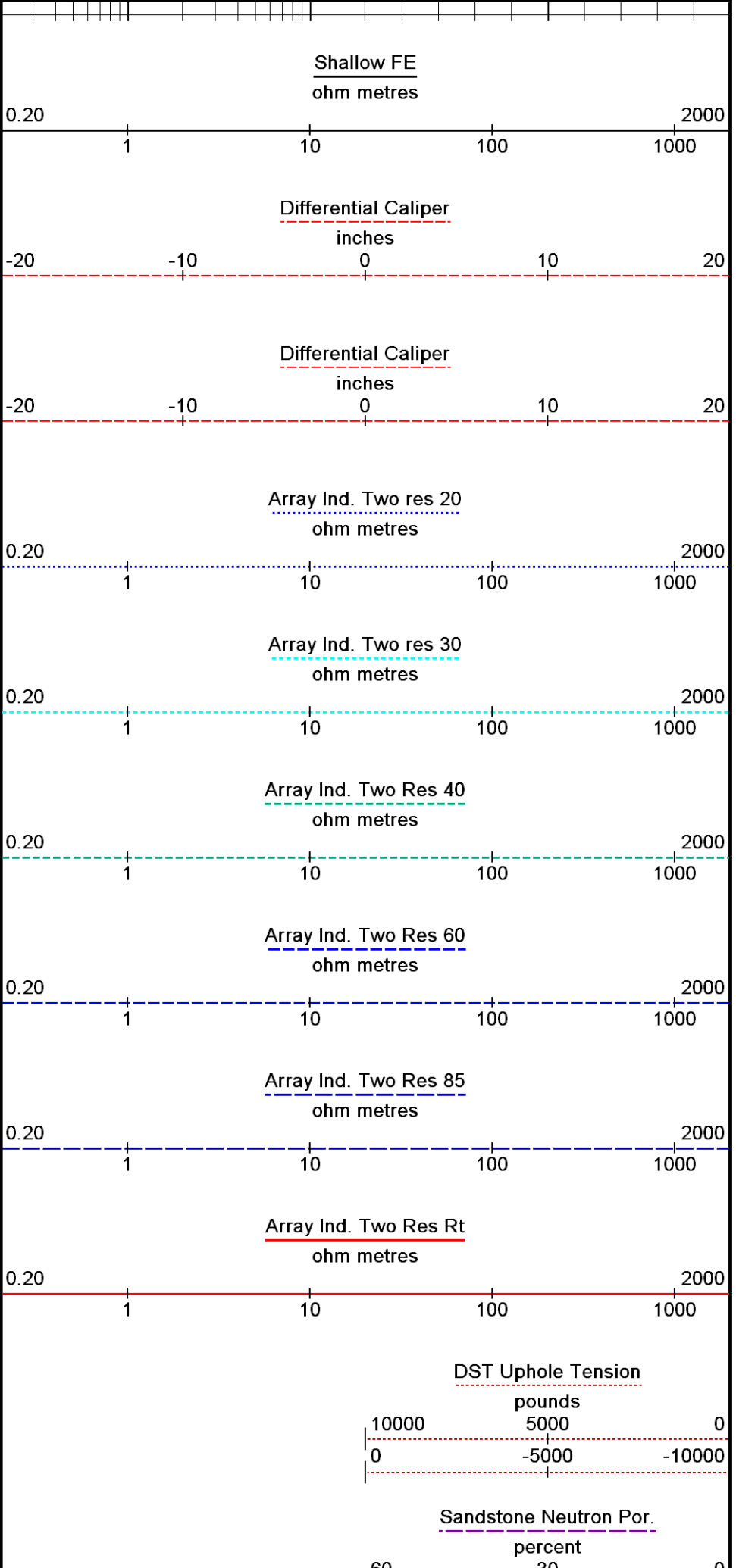
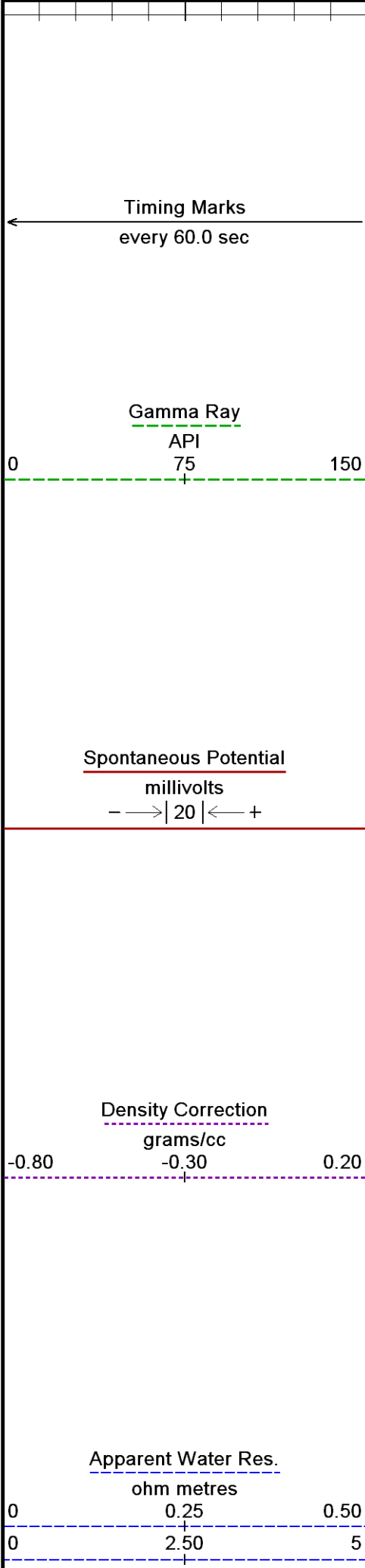
Borehole
Temp in
deg F

HVI





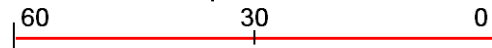




Replay
Scale
1:240

Sandstone Density Por.

percent



Depth Based Data - Maximum Sampling Increment 10.0cm

Plotted on 13-MAY-2013 03:36

Filename: C:\DATA\Smith Production Co\Bocage Lands LLC etal #1\casingcheck.dta

Recorded on 12-MAY-2013 23:09

System Versions: Logged with 13.05.9583 Plotted with 13.05.9583



5" REPEAT PASS TVD 1:240



BEFORE SURVEY CALIBRATION

C:\DATA\Smith Production Co\Bocage Lands LLC etal #1\uplog.dta

General Constants All 000

Last Edited on 12-MAY-2013,22:57

General Parameters

Mud Resistivity	1.650	ohm-metres
Mud Resistivity Temperature	78.000	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. Two Res Rt	
RWA Constant A	0.620	
RWA Constant M	2.150	
SW/APOR Tool Source	0.000	

Gamma Calibration MCG-D.A 233

Field Calibration on 12-MAY-2013,22:00

	Measured	Calibrated (API)
Background	50	34
Calibrator (Gross)	1185	798
Calibrator (Net)	1135	764

Gamma Constants MCG-D.A 233

Last Edited on 12-MAY-2013,21:59

Gamma Calibrator Number	GRC-039	
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-D.A 233

Field Calibration on 11-MAY-2011,10:36

	Measured	Calibrated (mV)
Reference 1	94.7	91.0
Reference 2	-88.3	-91.0

High Resolution Temperature Calibration MCG-D.A 233

Field Calibration on 16-AUG-2011,21:08

	Measured	Calibrated(Deg F)
Lower	10.00	10.00
Upper	100.00	100.00

High Resolution Temperature Constants MCG-D.A 233

Last Edited on 27-APR-2013,14:39

Pre-filter Length	11
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Base Calibration

	Measured		Calibrated (cps)	
	Near	Far	Near	Far
	2980	92	3714	110
Ratio	32.563		33.764	

Field Calibrator at Base

	Calibrated (cps)	
	1355	2027
Ratio	0.668	

Field Check

	Calibrated (cps)	
	1350	2023
Ratio	0.667	

Neutron Constants MDN-A.B 155

Last Edited on 12-MAY-2013,22:01

Neutron Source Id	514		
Neutron Jig Number	5822NE		
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	7.00	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	
Salinity Correction	Not Applied		
Formation Fluid Salinity Source	Constant Value		
Formation Fluid Salinity	0.00	kppm	
Barite Mud Correction	Not Applied		

FE Calibration MFE-A.A 137

Base Calibration on 11-MAY-2013 17:55
Field Check on 12-MAY-2013,22:01

Base Calibration

	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	979.7	126.8
Base Check	277.0	
Field Check	277.2	

FE Constants MFE-A.A 137

Last Edited on 12-MAY-2013,22:01

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-B.A 216

Base Calibration on 03-MAR-2012,20:50
Field Check on 12-MAY-2013,22:01

Base Calibration

Test Loop Calibration	Measured		Calibrated (mmho/m)	
	Low	High	Low	High
Channel 1	17.0	469.0	9.3	966.2
Channel 2	5.7	386.1	7.6	821.4
Channel 3	3.7	263.8	5.2	566.0
Channel 4	2.8	134.8	2.6	279.2

Array Temperature 75.9 Deg F

Channel	Base Check (mmho/m)		Field Check (mmho/m)	
	Low	High	Low	High
1	11.4	2882.0	11.4	2882.0

1	14.4	3883.8
2	30.8	3496.0
3	27.5	3007.4
4	17.6	2066.8
Deep	14.5	1985.9
Medium	41.8	3926.1
Shallow	49.4	5140.8
Array Temperature	92.9	Deg F

Induction Constants MAI-B.A 216

Last Edited on 12-MAY-2013,22:01

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	6.0000		
Stand-off Fin Angle	60.00	degrees	
Stand-off Fin Width	0.5000	inches	
Borehole Corr. Rm Source	Temperature Corr		
Temp. for Rm Corr.	MCG External Temperature		
Squasher Start	0.0020	mhos/metre	
Squasher Offset	N/A	mhos/metre	
Borehole Normalisation			
DRM1	0.0000	DRC1	0.0000
DRM2	0.0000	DRC2	0.0000
MRM1	0.0000	MRC1	0.0000
MRM2	0.0000	MRC2	0.0000
SRM1	0.0000	SRC1	0.0000
SRM2	0.0000	SRC2	0.0000
Calibration Site Corrections			
Channel 1	0.00	mmhos/metre	
Channel 2	0.00	mmhos/metre	
Channel 3	0.00	mmhos/metre	
Channel 4	0.00	mmhos/metre	
Apparent Porosity and Water Saturation Constants			
Archie Constant (A)	0.62		
Cementation Exponent (M)	2.15		
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-B.A 216

Field Calibration on 26-MAR-2012,09:50

	Measured	Calibrated(Deg F)
Lower	10.00	10.00
Upper	100.00	100.00

High Resolution Temperature Constants MAI-B.A 216

Last Edited on 15-AUG-2012,14:25

Pre-filter Length	11
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Caliper Calibration MPD-B 154

Base Calibration on 11-MAY-2013 16:46
Field Calibration on 12-MAY-2013,22:30

Base Calibration	Measured	Calibrator Size (in)
Reading No		
1	10848	4.00
2	17232	5.97
3	23728	7.96
4	29877	9.85
5	36896	11.91
6	N/A	N/A

Field Calibration

Measured Caliper (in)
7.95

Actual Caliper (in)
7.96

Photo Density Calibration MPD-B 154

Base Calibration on 11-MAY-2013 17:08
Field Check on 12-MAY-2013,22:01

Density Calibration

Base Calibration

	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Reference 1	51879	23160	59553	30910
Reference 2	21189	2435	25010	2543

Field Check at Base

1148.0 1374.5

Field Check

1149.8 1367.3

PE Calibration

Base Calibration

	WS	Measured		Ratio	Calibrated Ratio
		WH	Ratio		
Background	211	1025			
Reference 1	21613	51695	0.422		0.371
Reference 2	6167	21060	0.297		0.273

Field Check at Base

211.4 1024.8

Field Check

208.6 1027.6

Density Constants MPD-B 154

Last Edited on 12-MAY-2013,22:01

Density Source Id	259	
Nylon Calibrator Number	DNC-E662	
Aluminium Calibrator Number	DAC-D687	
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 (ft)
2.65	
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

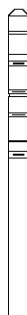
DOWNHOLE EQUIPMENT

C:\DATA\Smith Production Co\Bocage Lands LLC etal #1\uplog.dta

MCC-A 11C Tension Cablehead
MCC-A 1 LG: 2.40 ft WT: 19.8 lb OD: 2.24 in

11C-11B MTA-K.A Compact Tool Adaptor
MTA-K.A 109 LG: 1.53 ft WT: 13.2 lb OD: 2.24 in

Compact Comms Gamma
MCG-D.A 233 LG: 8.70 ft WT: 63.9 lb OD: 2.24 in



34.90 ft
32.00 ft

GRGC - Gamma Ray
CGXT - MCG External Temperature

Compact Neutron
MDN-A.B 155 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

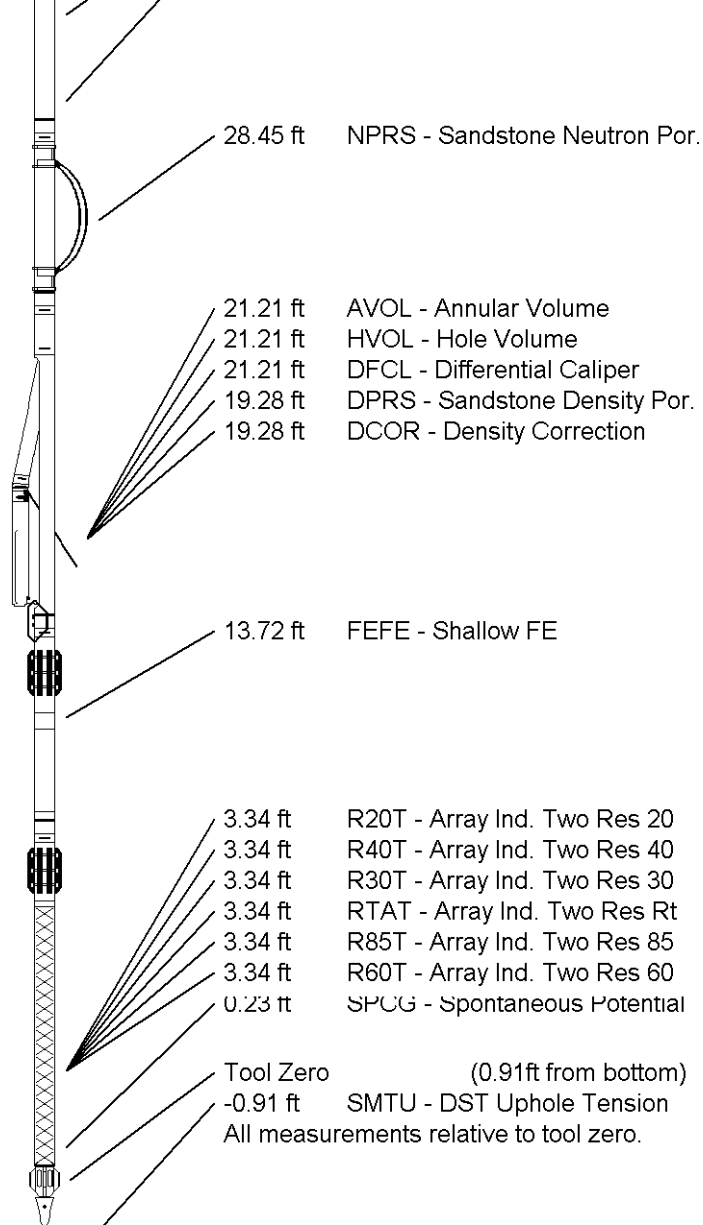
Compact Density/Caliper
MPD-B 154 LG: 9.59 ft WT: 90.4 lb OD: 2.45 in

Compact Focused Electric
MFE-A.A 137 LG: 6.05 ft WT: 48.5 lb OD: 2.24 in

Compact Induction
MAI-B.A 216 LG: 10.81 ft WT: 48.5 lb OD: 2.24 in

Compact Hole Finder
HFS 1 LG: 0.78 ft WT: 2.2 lb OD: 2.24 in

Total Length: 44.89 ft Weight: 337.3 lb



COMPANY	SMITH PRODUCTION COMPANY
WELL	BOCAGE LANDS LLC ETAL #1 ST
FIELD	LITTLE CHENIERE
PROVINCE/COUNTY	CAMERON
COUNTRY/STATE	U.S.A./LOUISIANA

Elevation Kelly Bushing	18.00	feet	First Reading	5997.00	feet
Elevation Drill Floor	17.00	feet	Depth Driller	6002.00	feet
Elevation Ground Level	1.00	feet	Depth Logger	5997.00	feet



Weatherford[®]

ARRAY INDUCTION
PHOTO DENSITY / NEUTRON
GAMMA RAY *TVD* LOG

