



**Weatherford**

**CML MESSENGER SHUTTLE  
COMPACT ARRAY INDUCTION LOG**

COMPANY SANDRIDGE ENERGY, INC.  
 WELL LAWYER 2629 1-30H  
 FIELD MONGER  
 PROVINCE/COUNTY GRAY  
 COUNTRY/STATE U.S.A. / KANSAS  
 LOCATION 200 FSL & 400 FEL

SEC TWP RGE Other Services  
 30 26S 29W  
 API Number 15-069-20384-01  
 Permit Number AFE DC12315

Permanent Datum G.L., Elevation 2754 feet  
 Log Measured From KB Elevations: 2774.00 feet  
 Drilling Measured From K.B. @ 20 FEET DF 2774.00  
 GL 2754.00

Date	17-AUG-2012
Run Number	one
Depth Driller	9447.00 feet
Depth Logger	9447.00 feet
First Reading	9380.00 feet
Last Reading	4000.00 feet
Casing Driller	5454.00 feet
Casing Logger	5454.00 feet
Bit Size	6.125 inches
Hole Fluid Type	WBM
Density / Viscosity	9.30 g/cc 36.00 CP
PH / Fluid Loss	9.50 4.50 ml/30Min
Sample Source	FLOWLINE
Rm @ Measured Temp	1.67 @ 82.0 ohm-m
Rmf @ Measured Temp	1.33 @ 82.0 ohm-m
Rmc @ Measured Temp	2.0 @ 82.0 ohm-m
Source Rmf / Rmc	CALC CALC
Rm @ BHT	1.08 @128.0 ohm-m
Time Since Circulation	1 HOUR
Max Recorded Temp	128.00 deg F
Equipment Name	COMPACT
Equipment / Base	18086 OKC
Recorded By	M.RICHINS
Witnessed By	W.SCOTT
S.O. # / AFE	3529536 DC 12315

**BOREHOLE RECORD**

Last Edited: 18-AUG-2012 12:26

Bit Size inches	Depth From feet	Depth To feet
8.750	0.00	5460.00
6.125	5460.00	9447.00

**CASING RECORD**

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
INTERMED	7.000	0.00	5454.00	26.00

**REMARKS**

TOOLS RAN: 200V MBS-119, MMSE168, MGS-140, MDN-427, MPD-167, MIE-174, MAI-213 RAN IN COMBINATION

HARDWARE: MAI: 0.5" STANDOFF USED ABOVE MAI, 0.5" STANDOFF (PINEAPPLE) USED BELOW MAI.

MDN: MIS-A DOUBLE BOWSPRING USED ABOVE MDN.

MPD: 4INCH PROFILE PLATE USED, MIS-A SINGLE BOWSPRING USED BELOW MPD

CMI: MIS-A CENTRALIZER RAN ABOVE AND BELOW CMI, AS WELL AS, OVERBODY CENTRALIZER

2.71 G/CC DENSITY MATRIX USED TO CALCULATE POROSITY

ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST.

DRILL PIPE DEPTH DURING DEPLOYMENT: 9331.26

LOGGING TOOL DEPTH AFTER DEPLOYMENT: 9432.73

ANNULAR HOLE VOLUME CALCULATED USING WITH 4.5 INCH PRODUCTION CASING

SERVICE ORDER # 3529536

RIG: LARIET #20

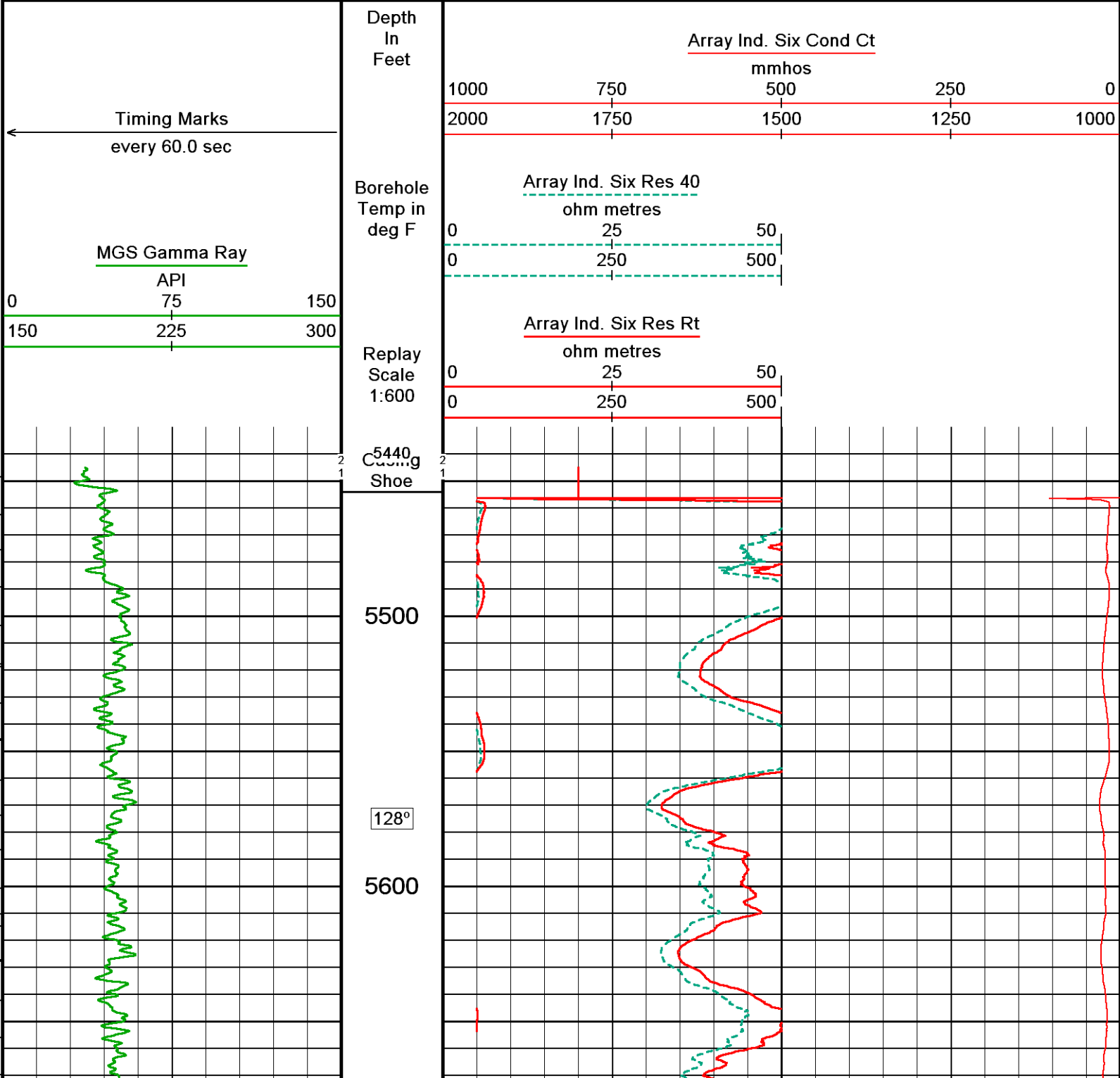
OPERATOR(S): A.ALLRED, J.GERDES

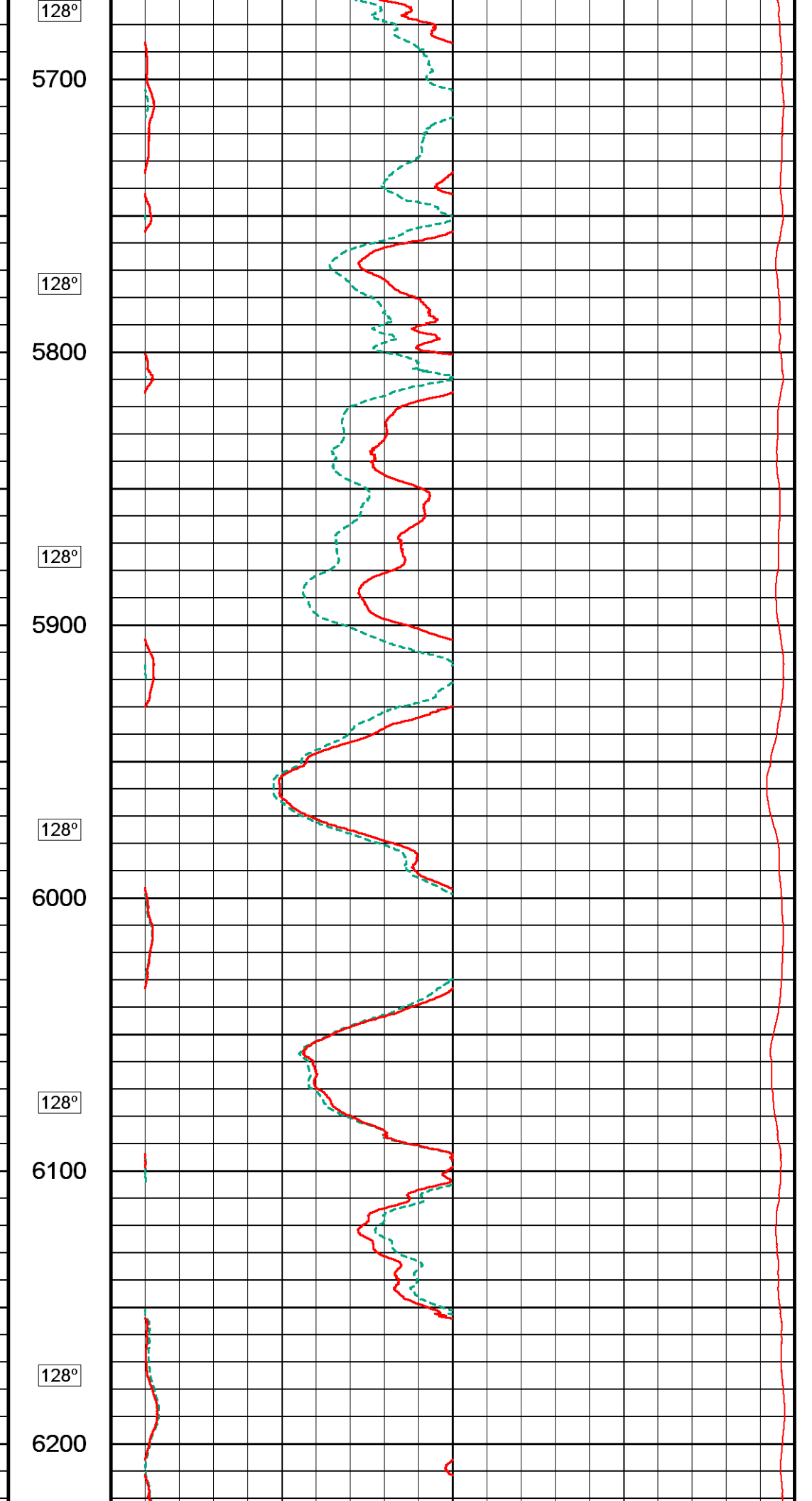
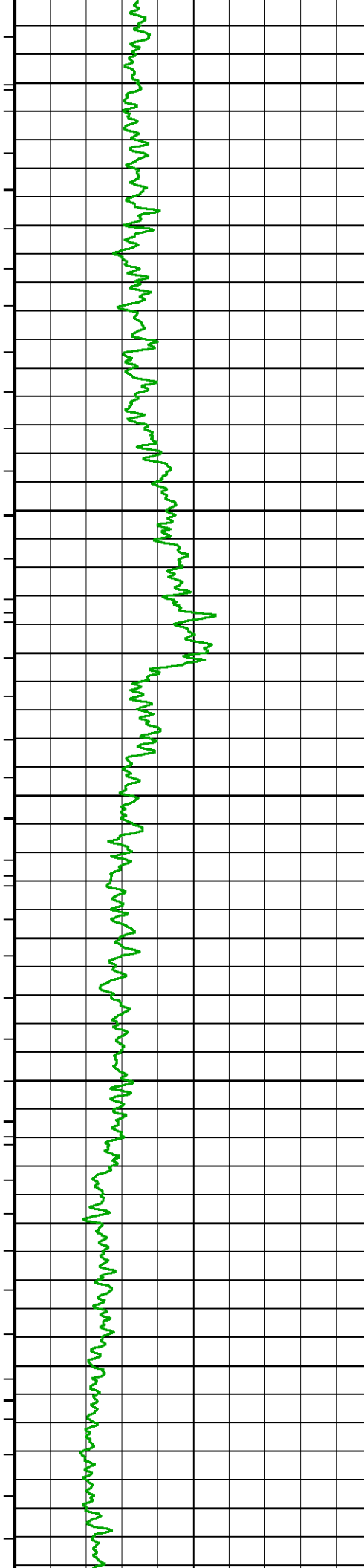
HOLE RUGOSITY MAY AFFECT LOG QUALITY.

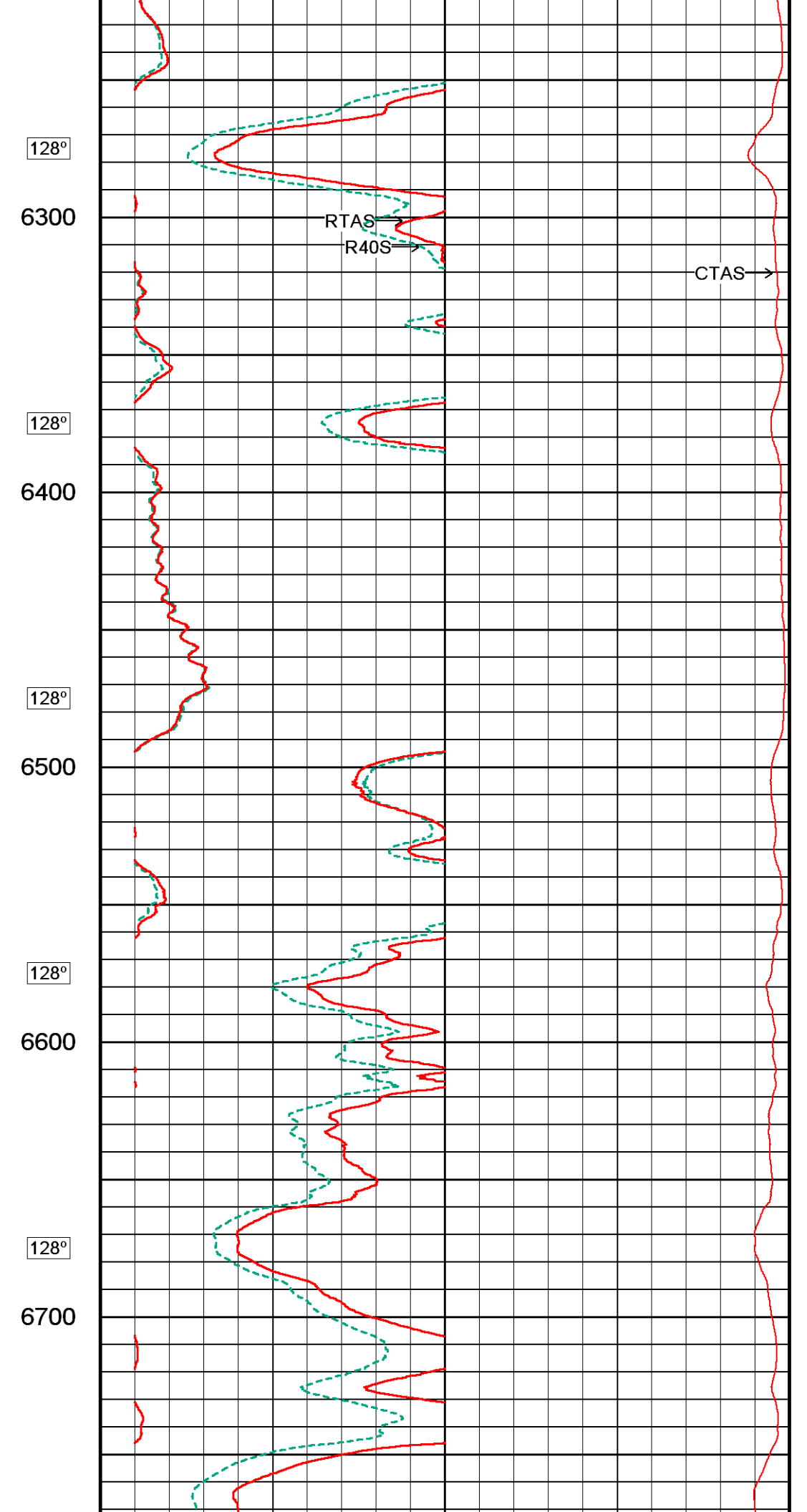
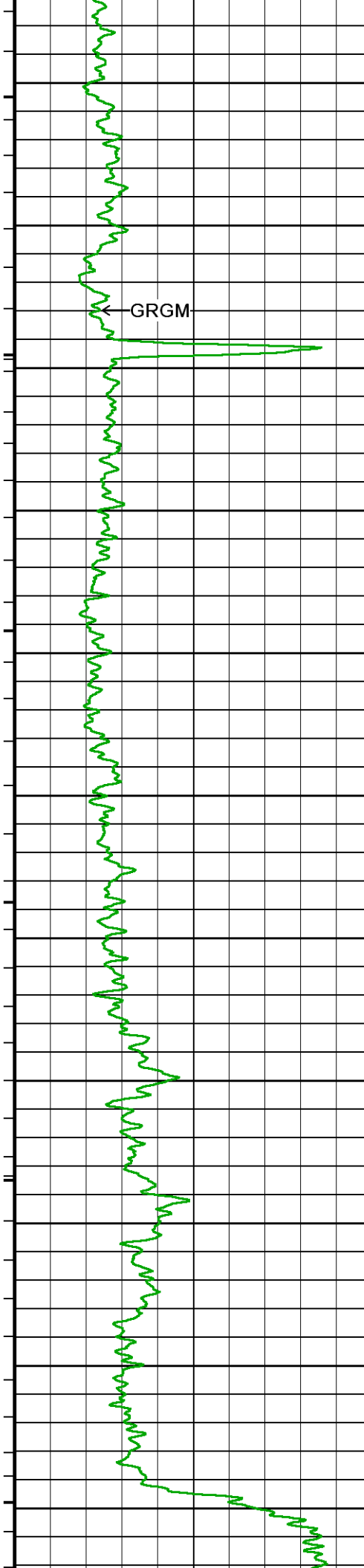
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs,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

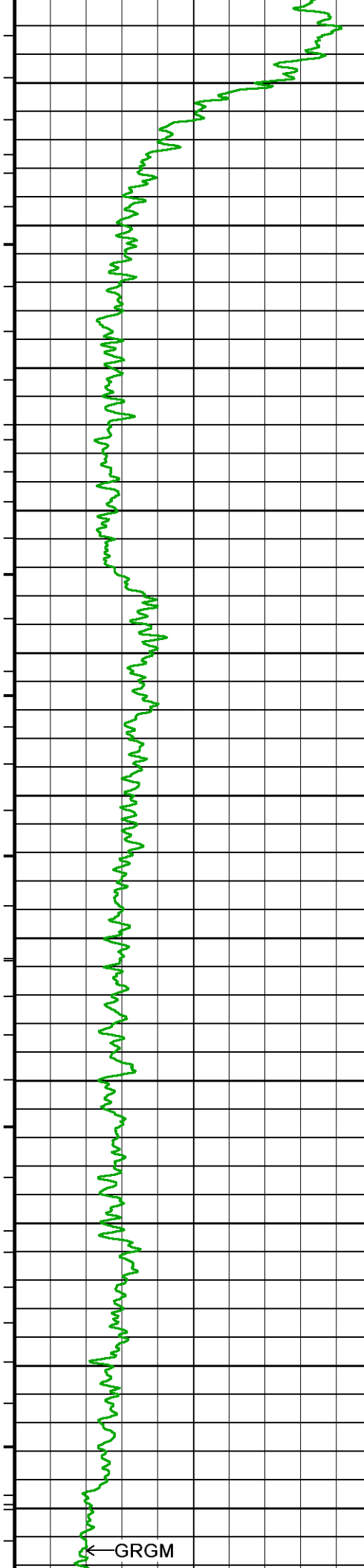
**2 INCH MAIN LOG**

Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 18-AUG-2012 17:37  
 Filename: C:\Logs\Sand Ridge\Lawyer 2629 1-30H\Lawyer 2629 1-30H Depth RtAP.dta Recorded on 18-AUG-2012 16:34  
 System Versions: Processed with 13.02.6600 Plotted with 13.02.6600

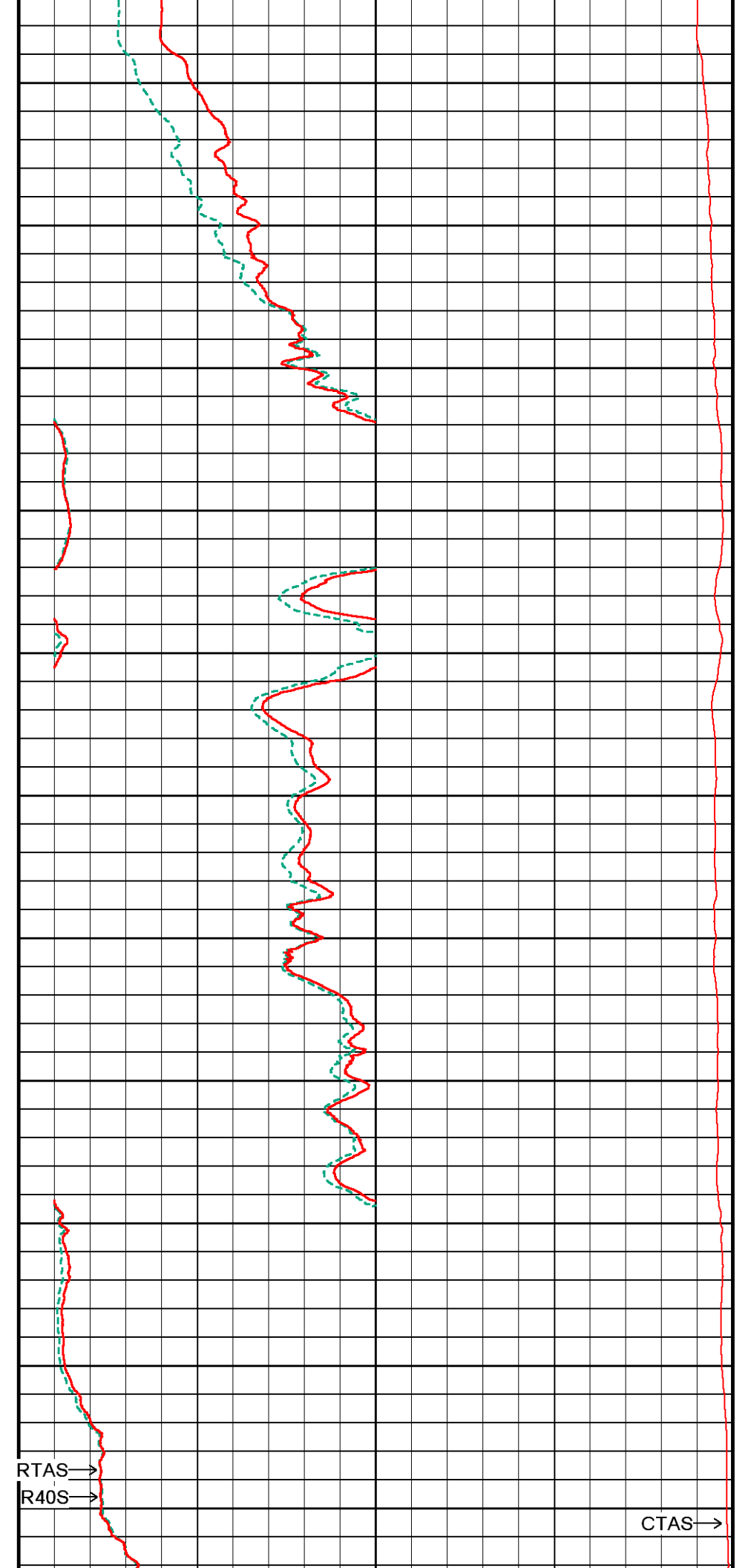


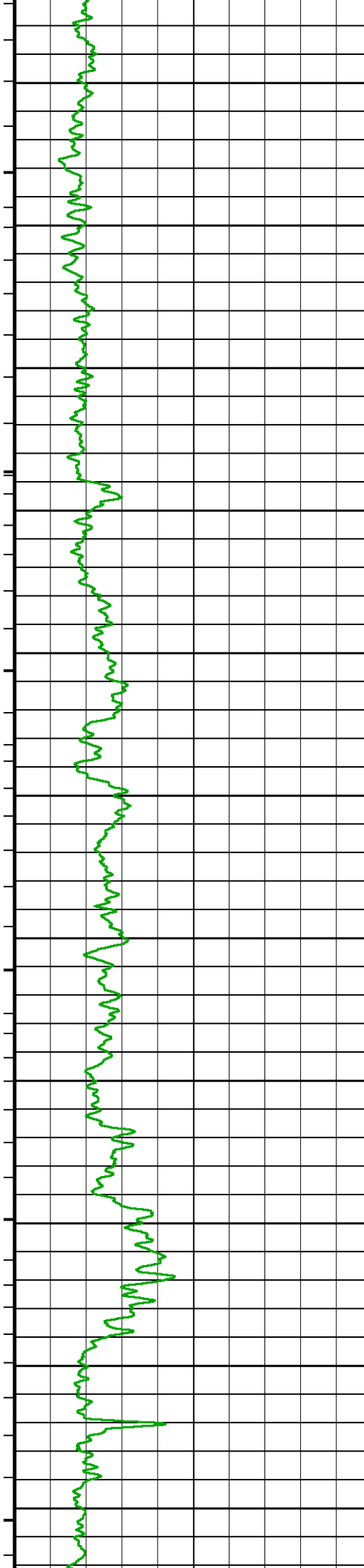






128°  
6800  
128°  
6900  
128°  
7000  
128°  
7100  
128°  
7200  
128°  
7300





128°

7400

128°

7500

128°

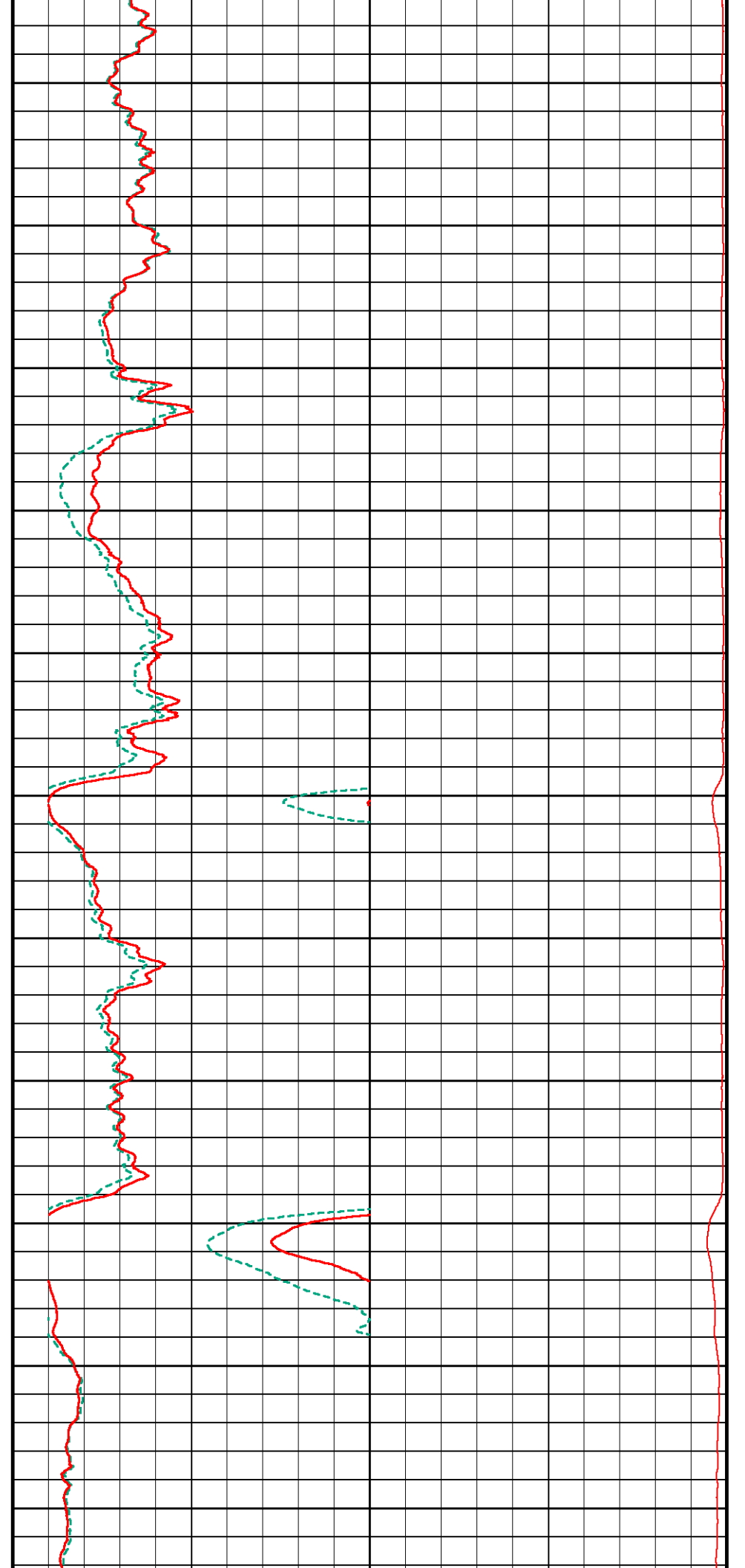
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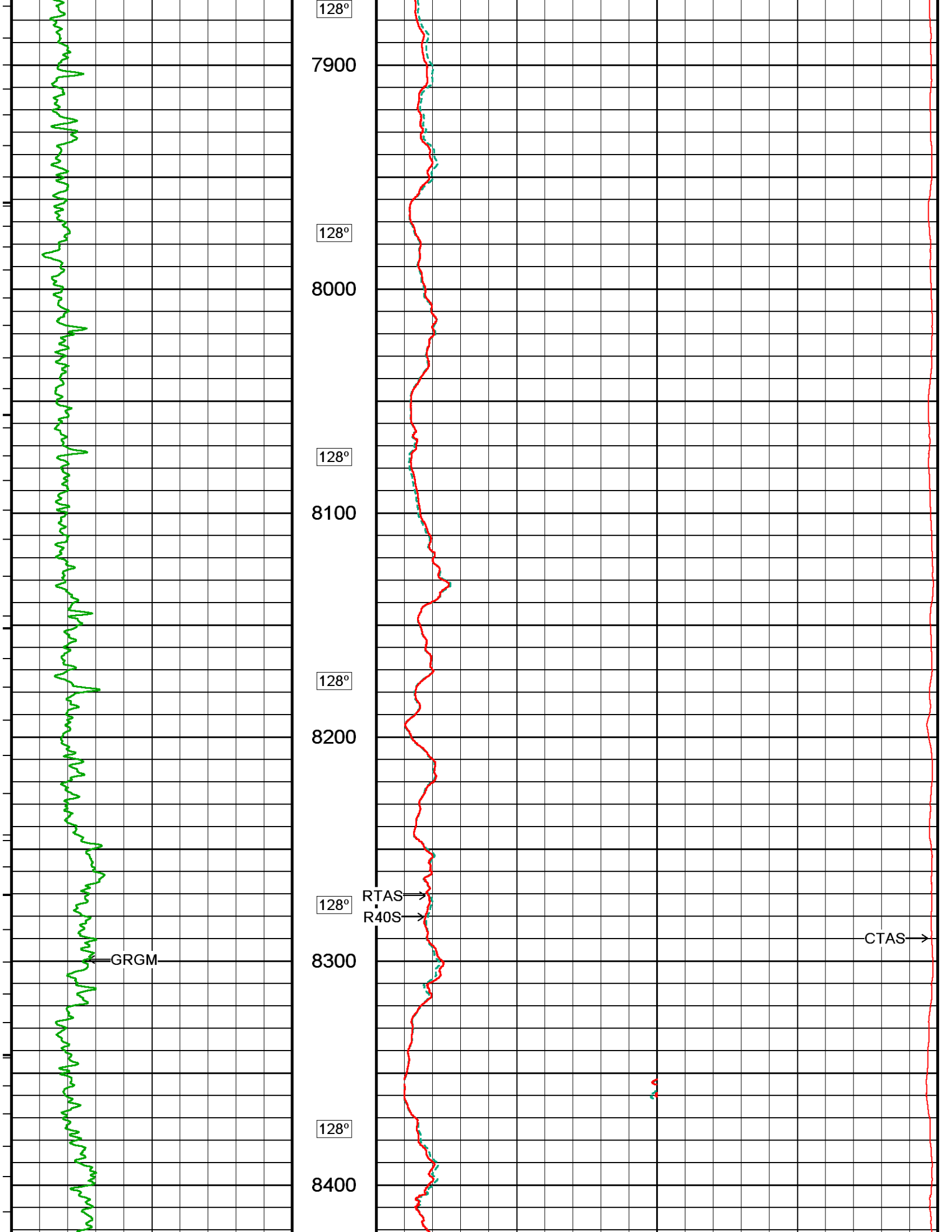
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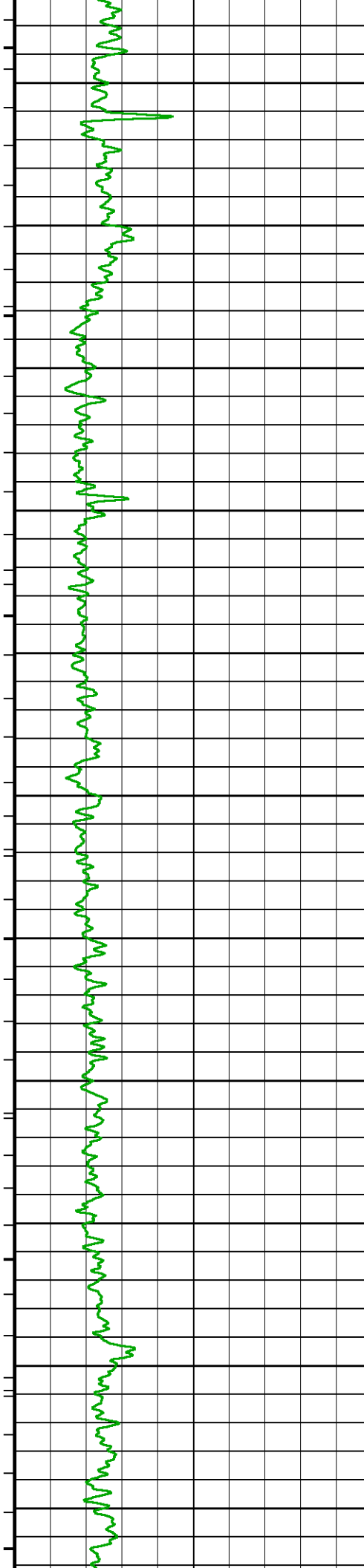
7700

128°

7800







128°

8500

128°

8600

128°

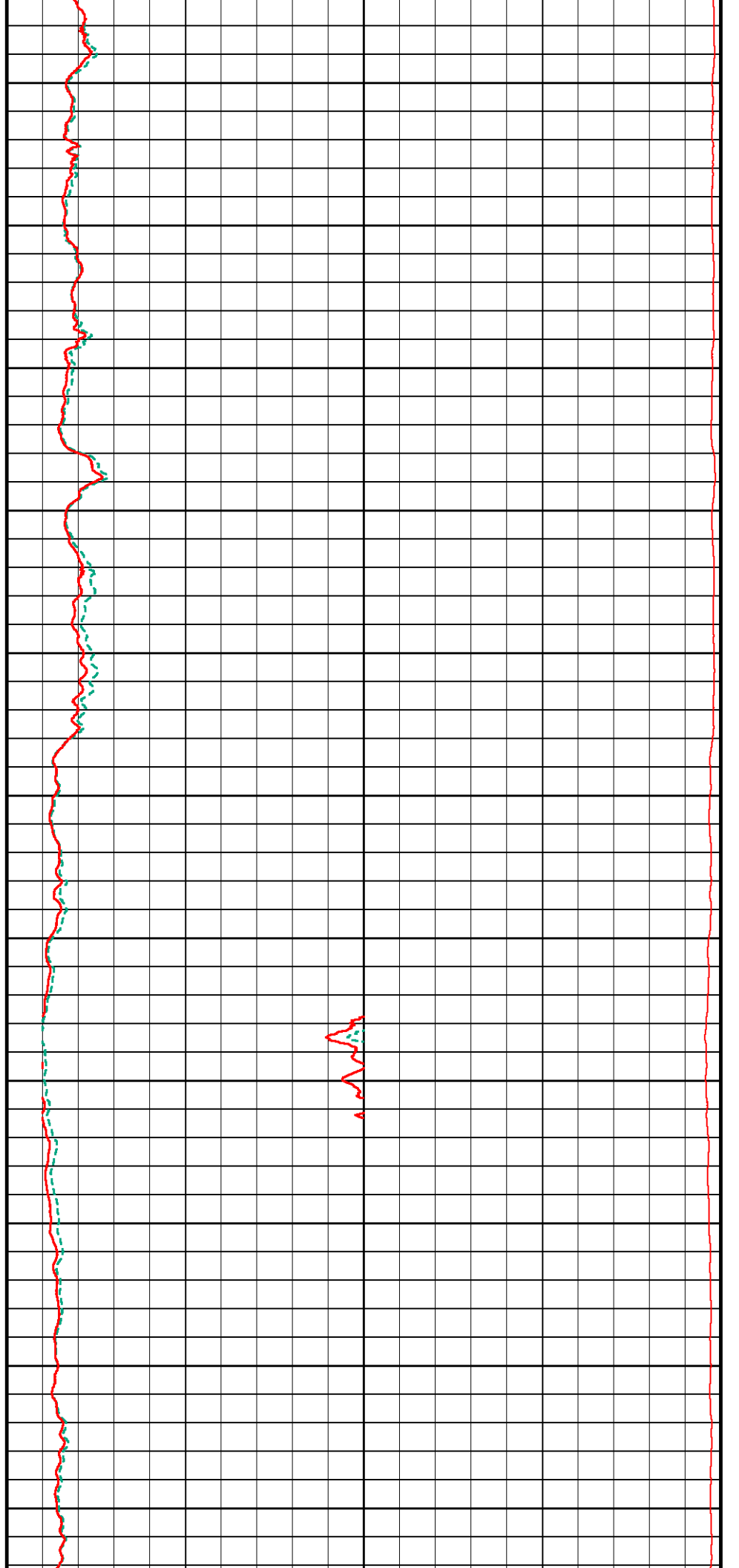
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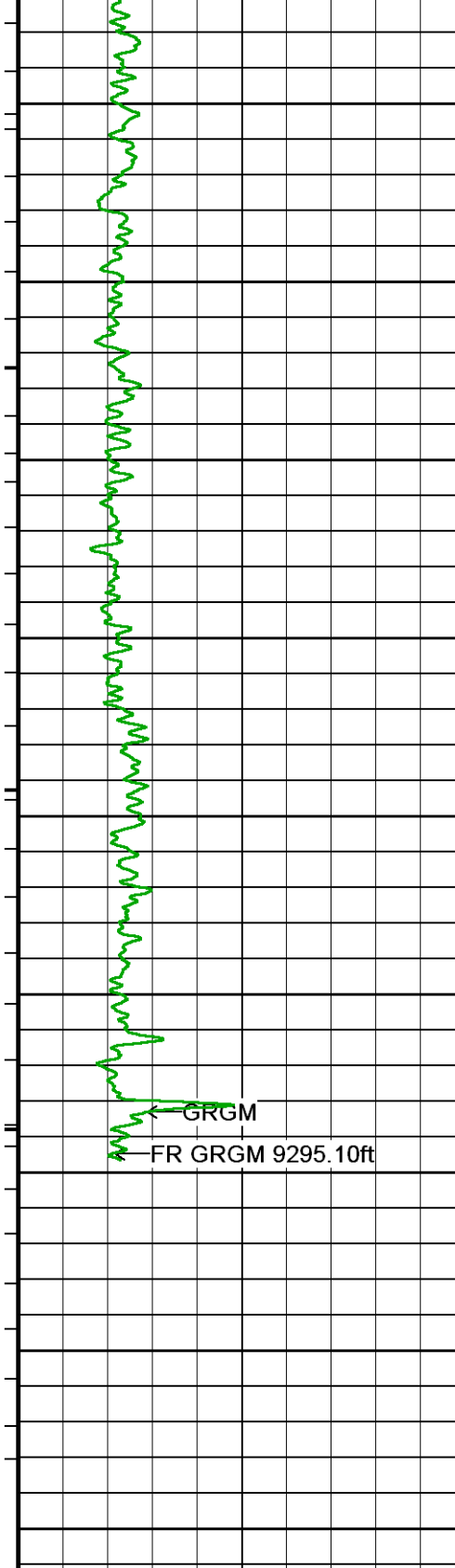
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8800

128°

8900





128°

9000

128°

9100

128°

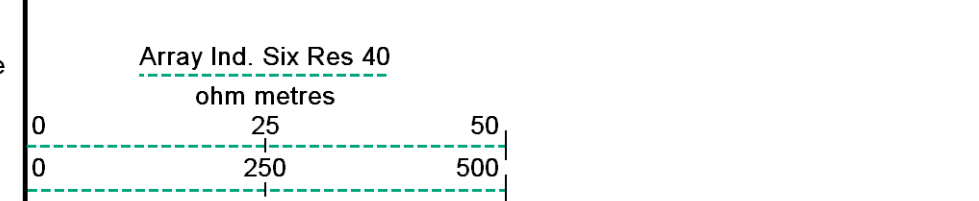
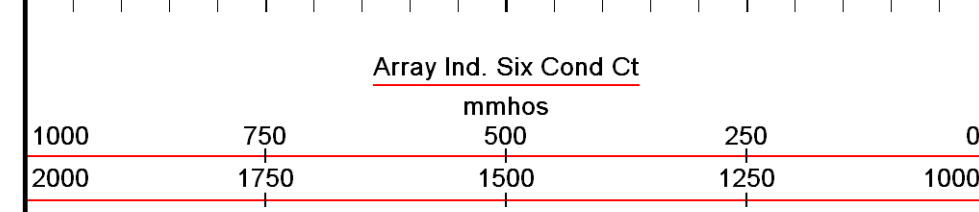
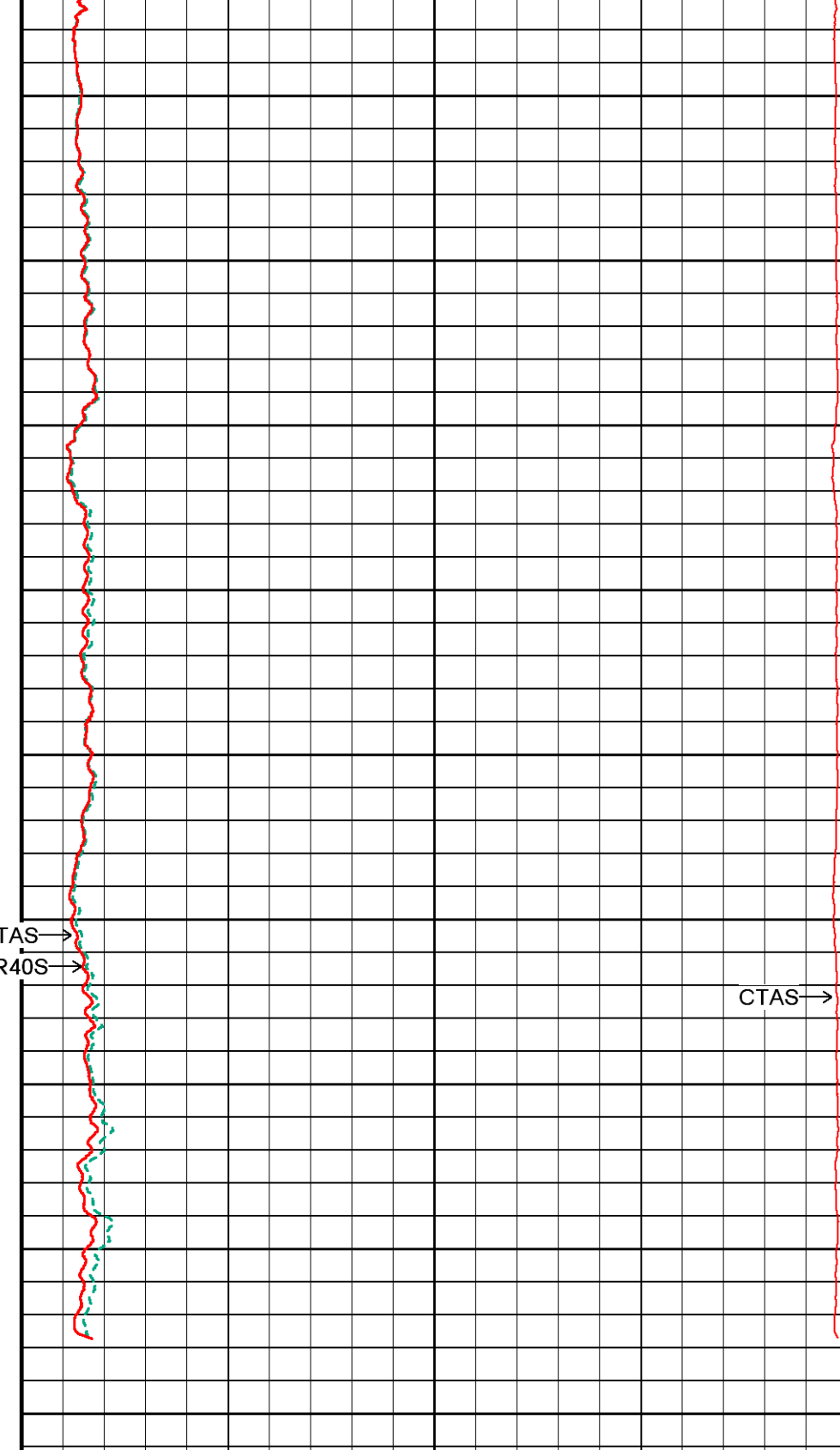
9200

128°

9300

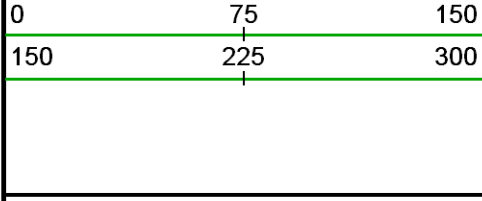
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Depth In Feet

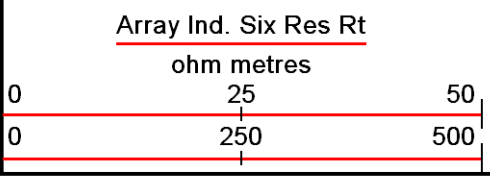


Timing Marks  
every 60.0 sec

Borehole  
Temp in  
deg F



Replay Scale 1:600

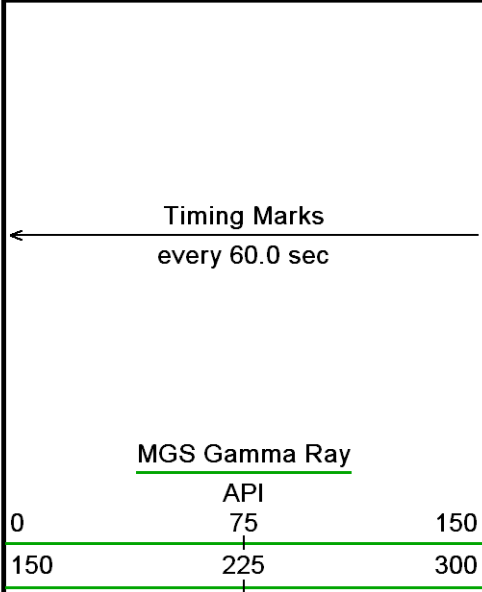


Depth Based Data - Maximum Sampling Increment 10.0cm  
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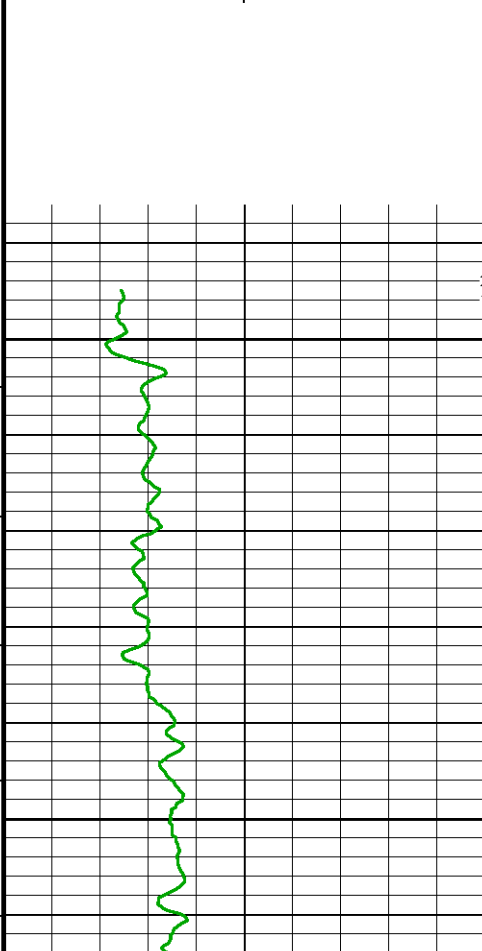
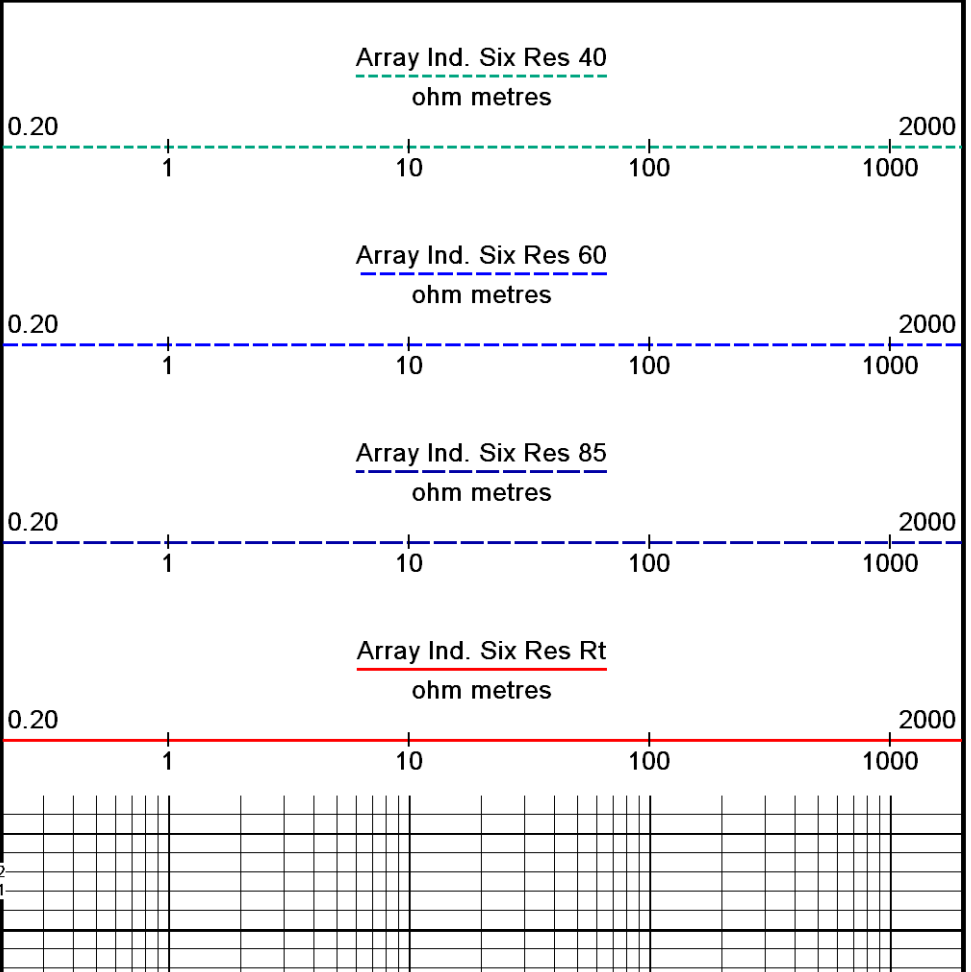
2 INCH MAIN LOG

5 INCH MAIN LOG

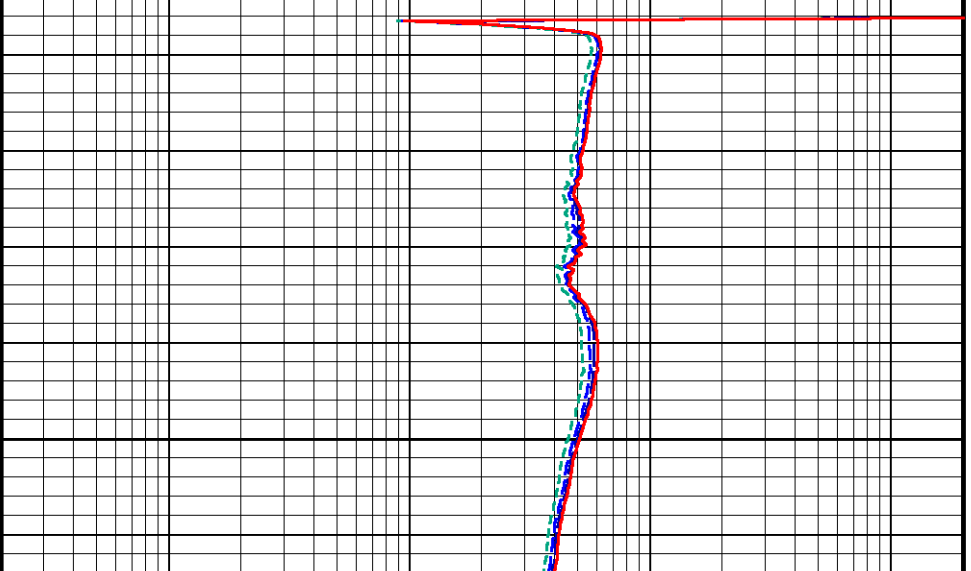
Depth Based Data - Maximum Sampling Increment 10.0cm  
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 Recorded on 18-AUG-2012 16:34  
 System Versions: Processed with 13.02.6600 Plotted with 13.02.6600

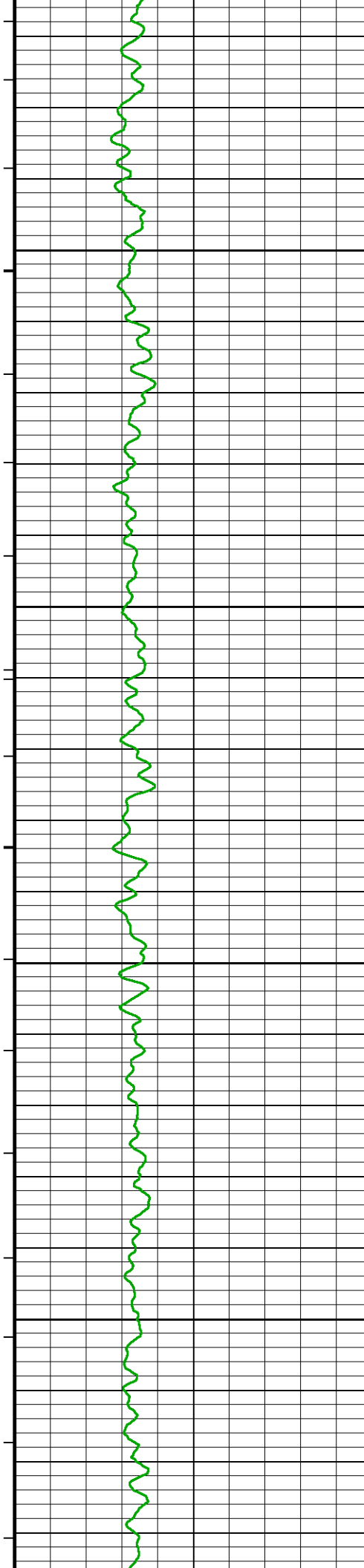


Depth In Feet  
 Borehole Temp in deg F  
 Replay Scale 1:240  
 5438  
 C54509 Shoe  
 5500



127°





128°

5550

128°

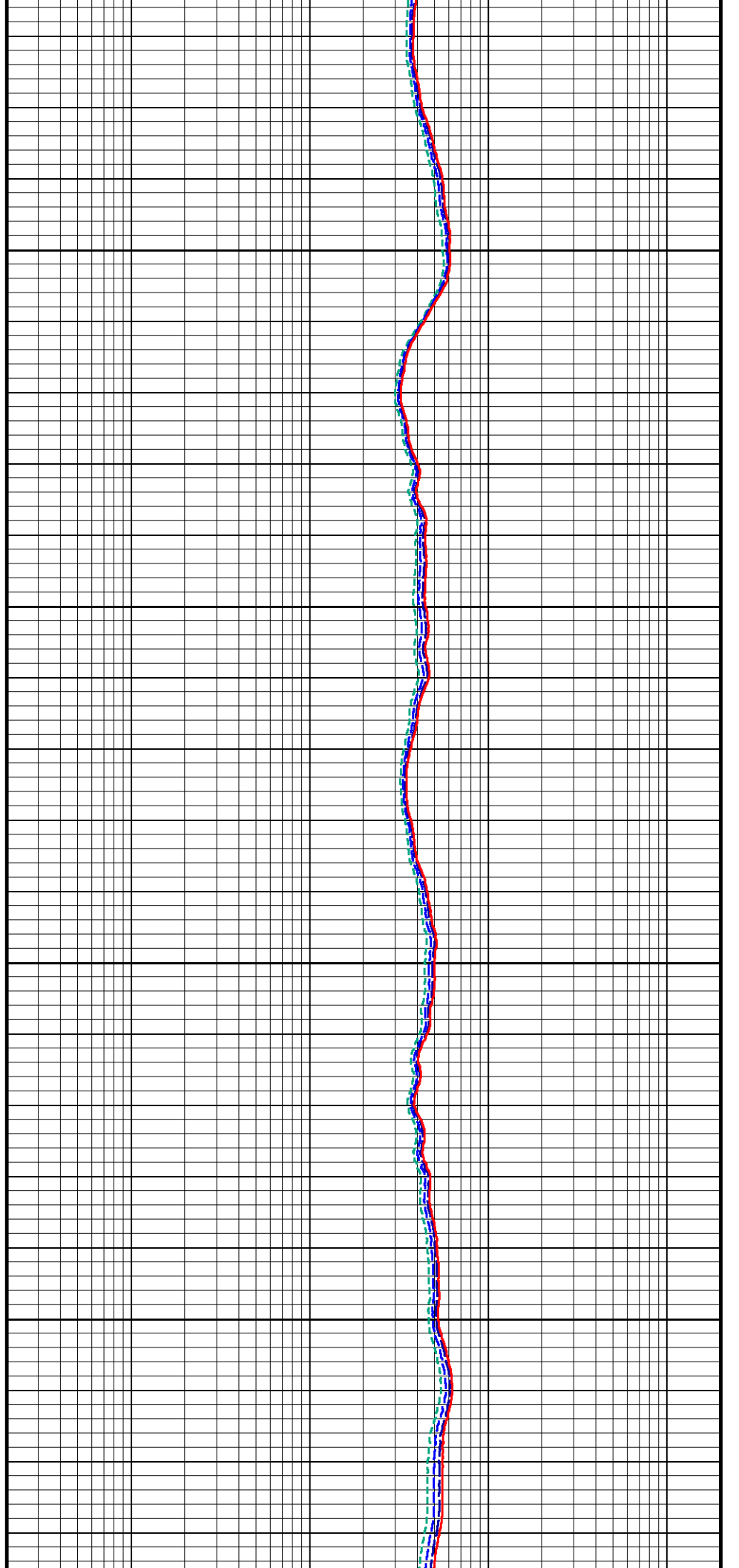
5600

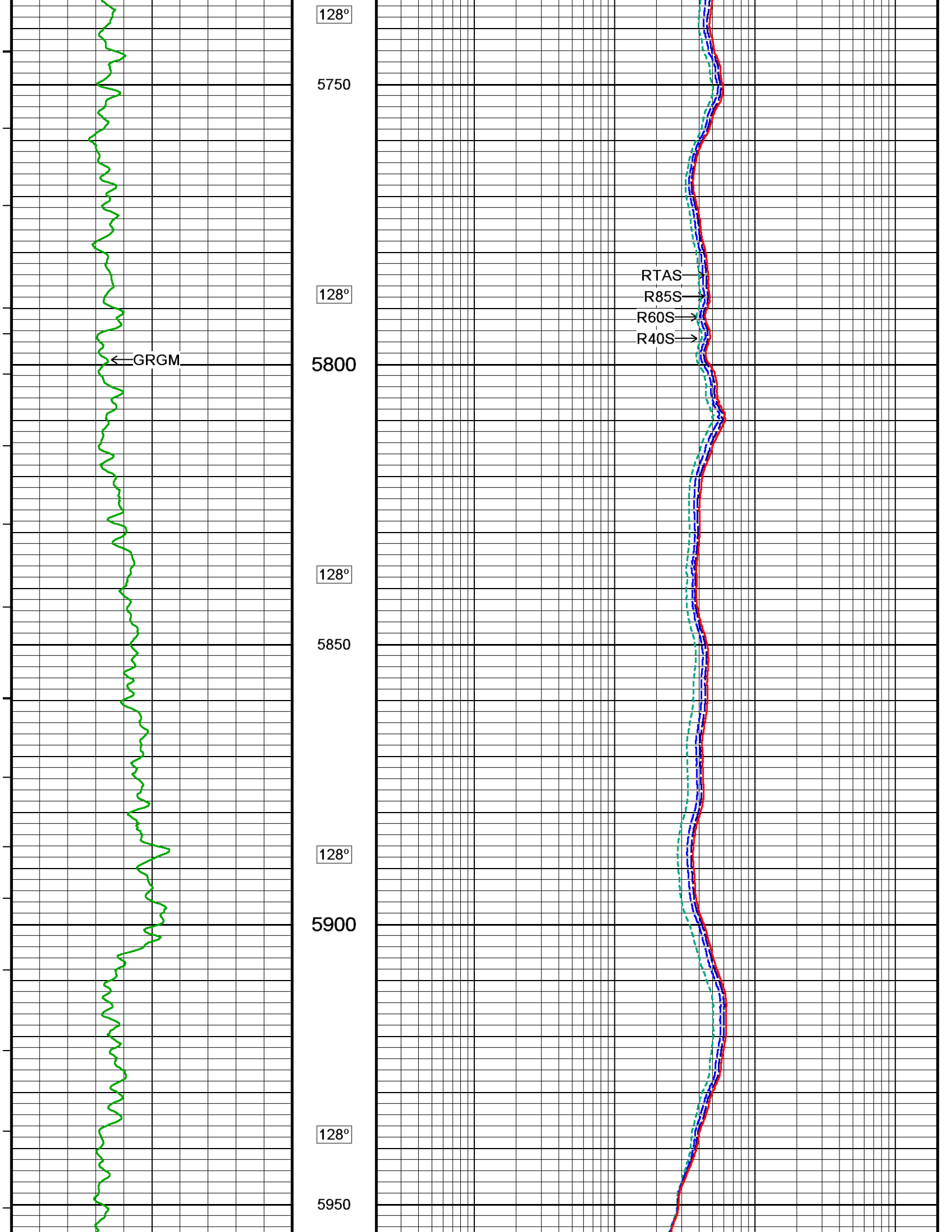
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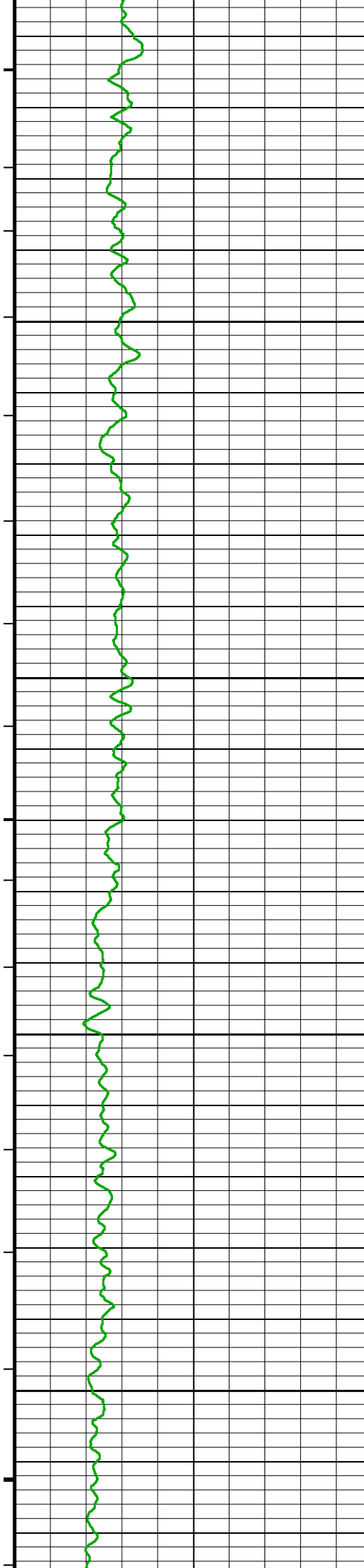
5650

128°

5700







128°

6000

128°

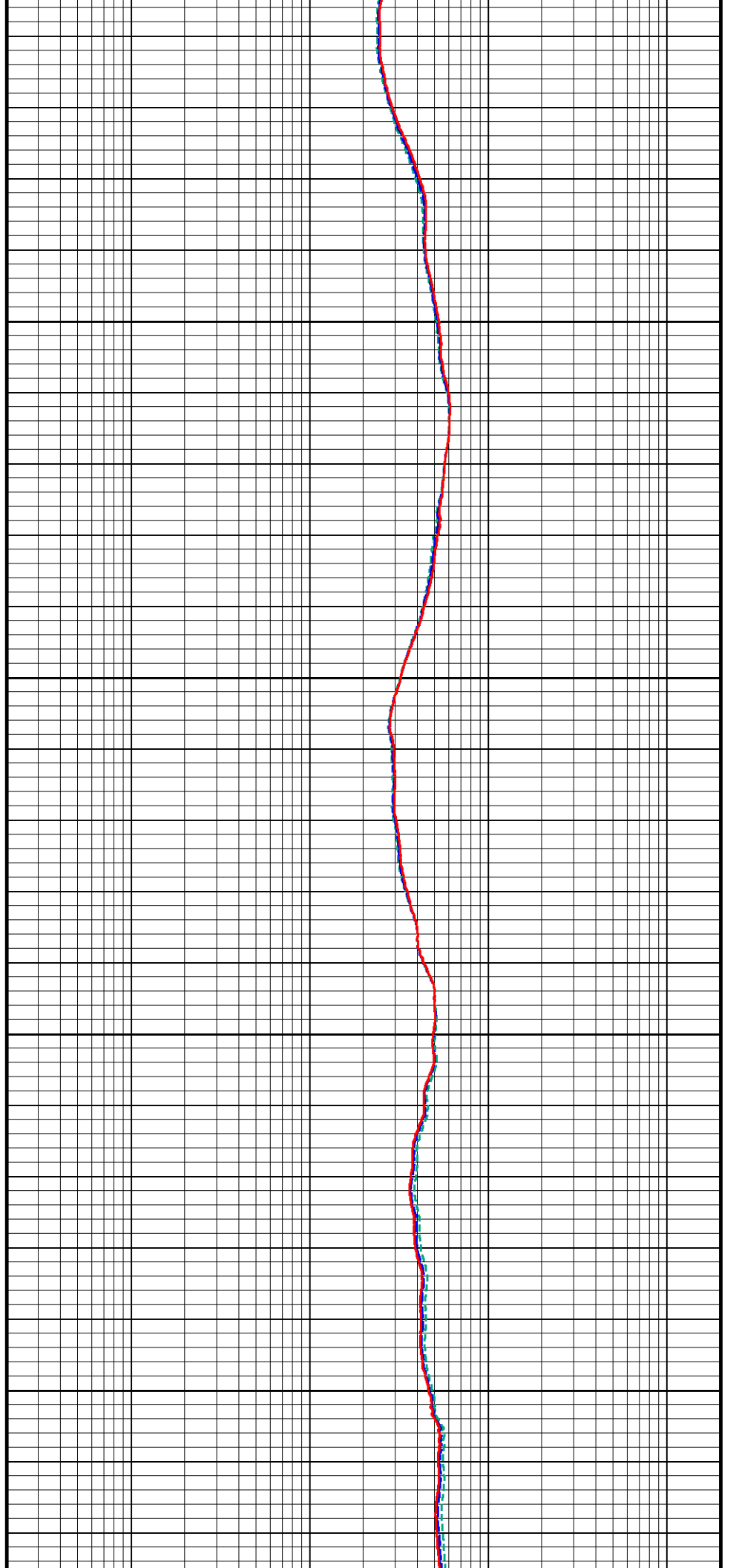
6050

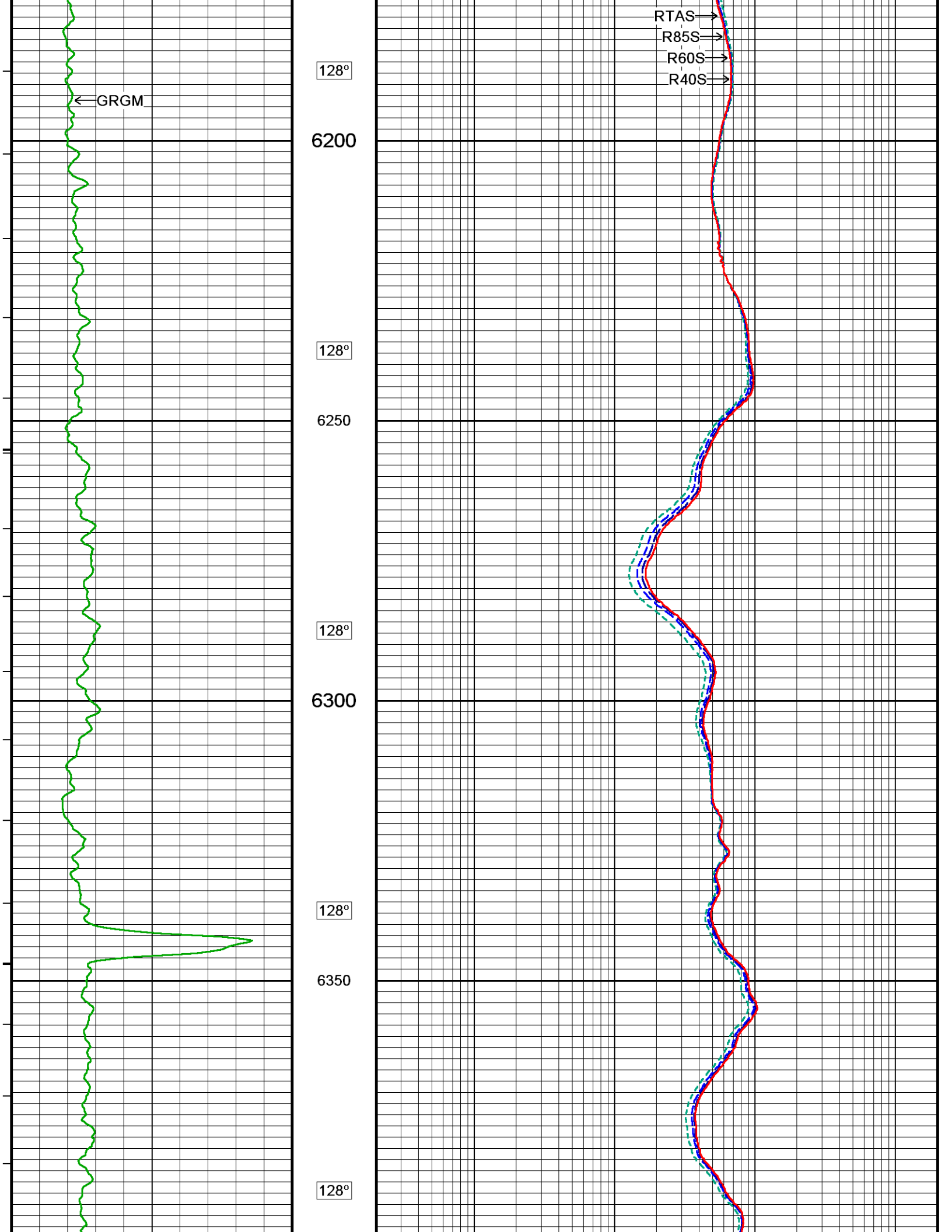
128°

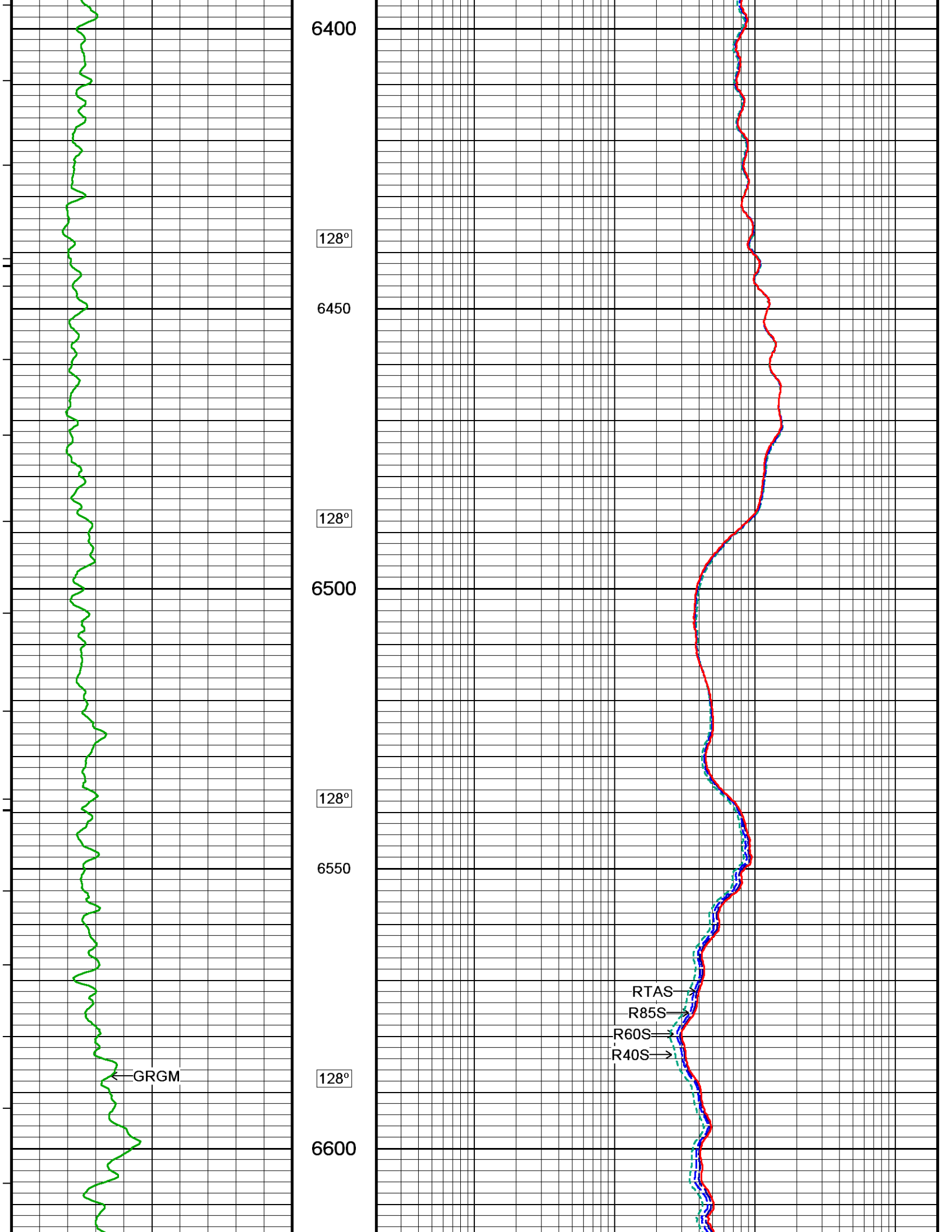
6100

128°

6150







6400

128°

6450

128°

6500

128°

6550

RTAS

R85S

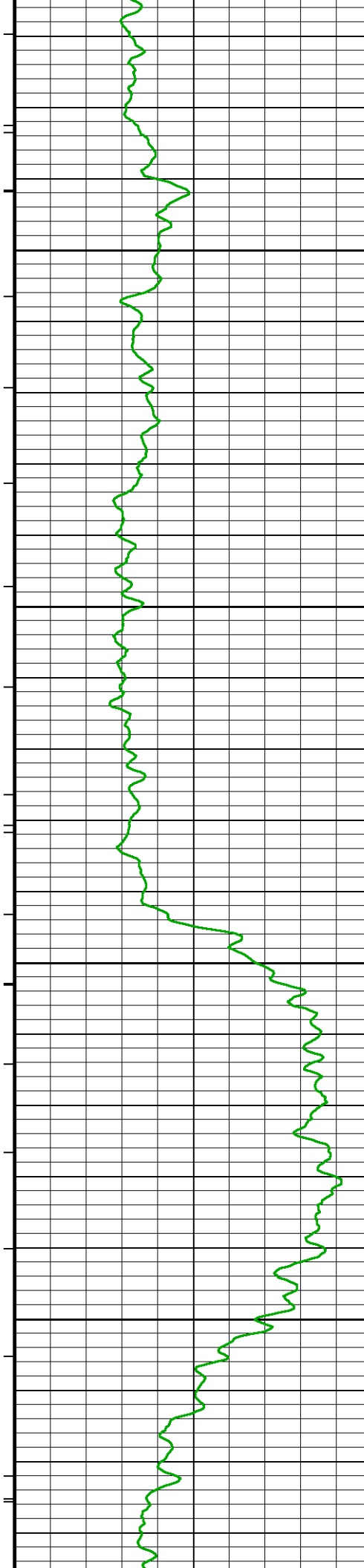
R60S

R40S

← GRGM

128°

6600



128°

6650

128°

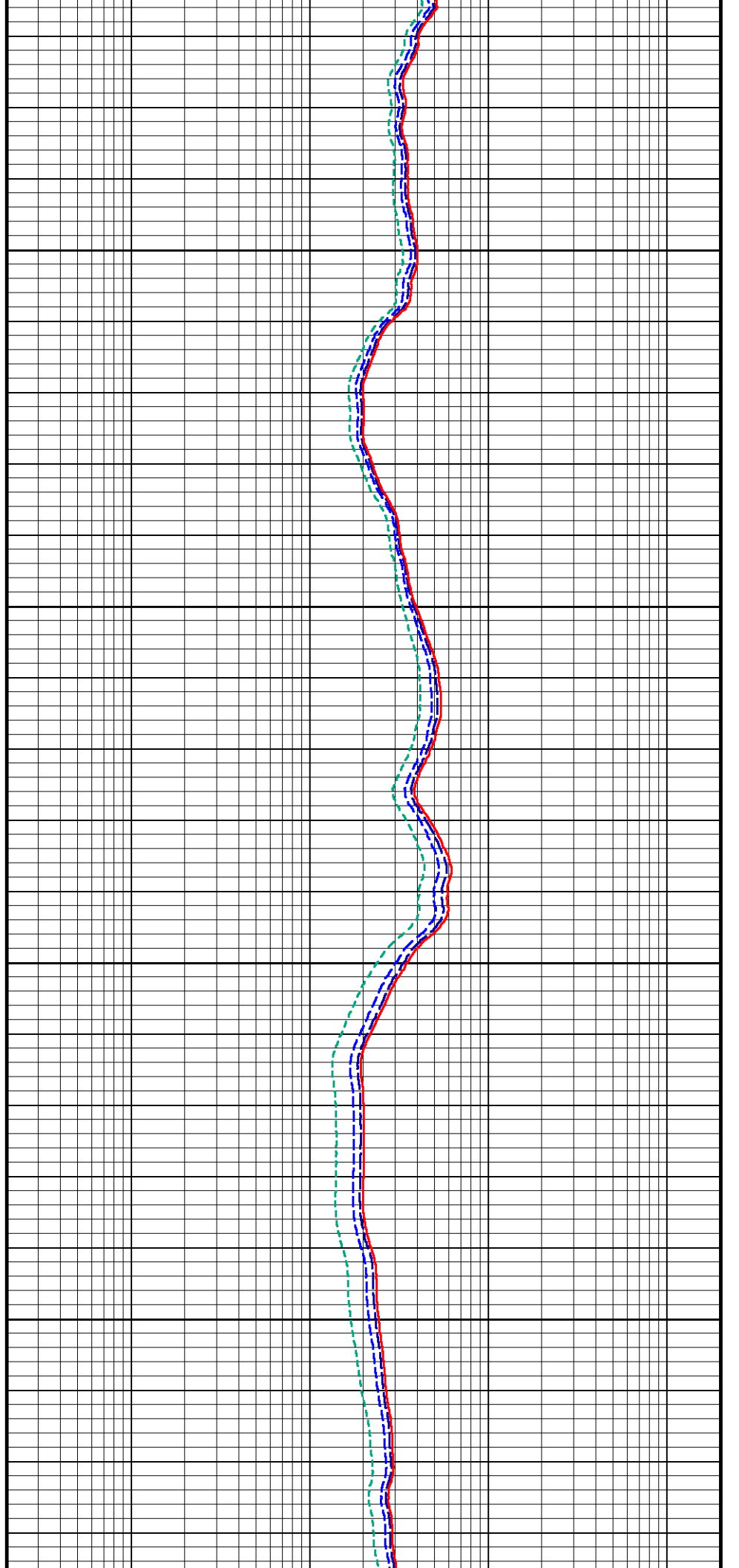
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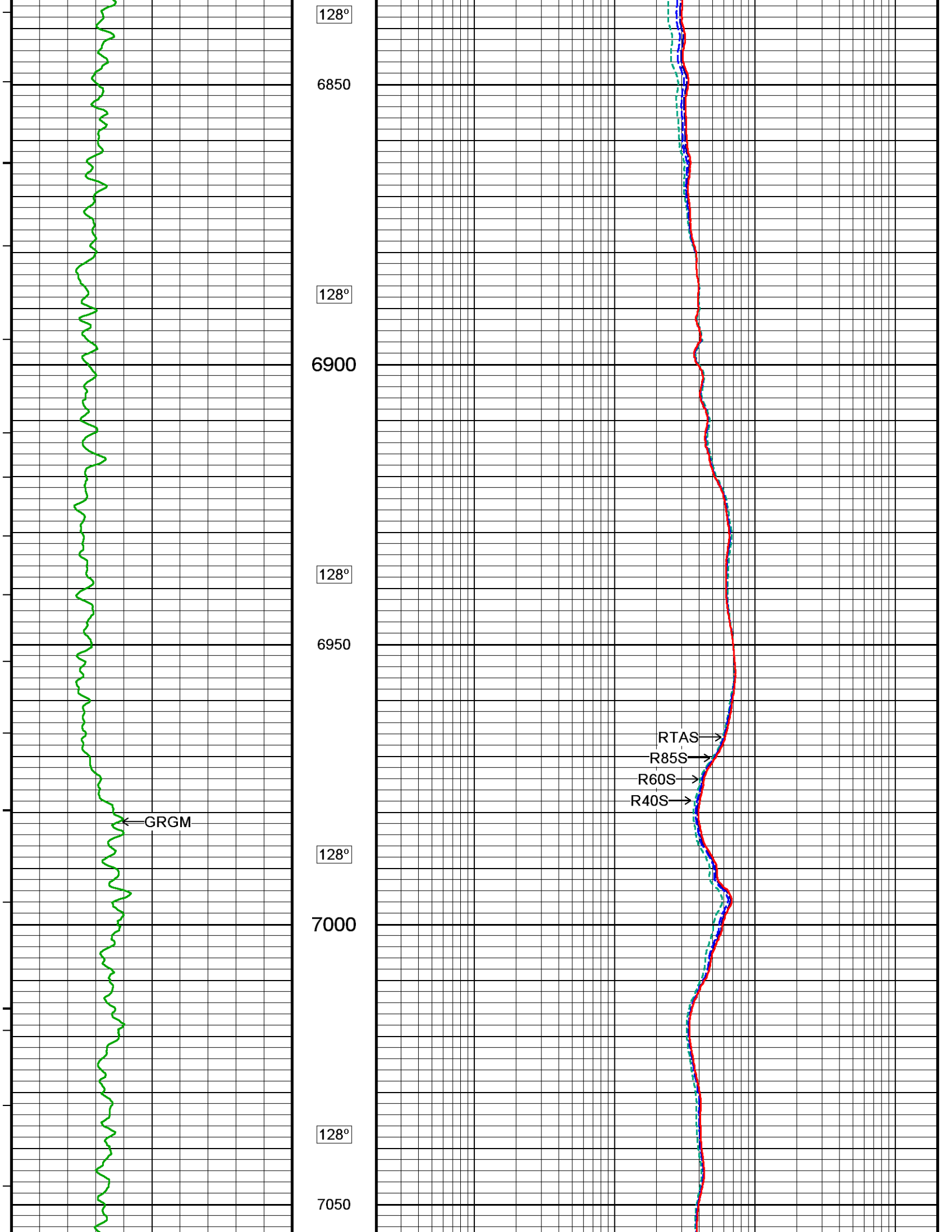
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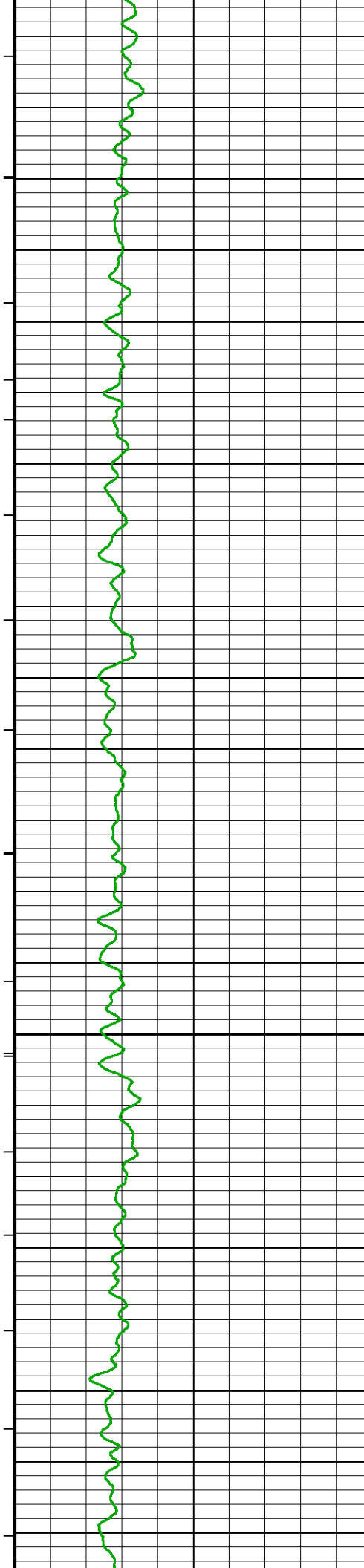
6750

128°

6800







128°

7100

128°

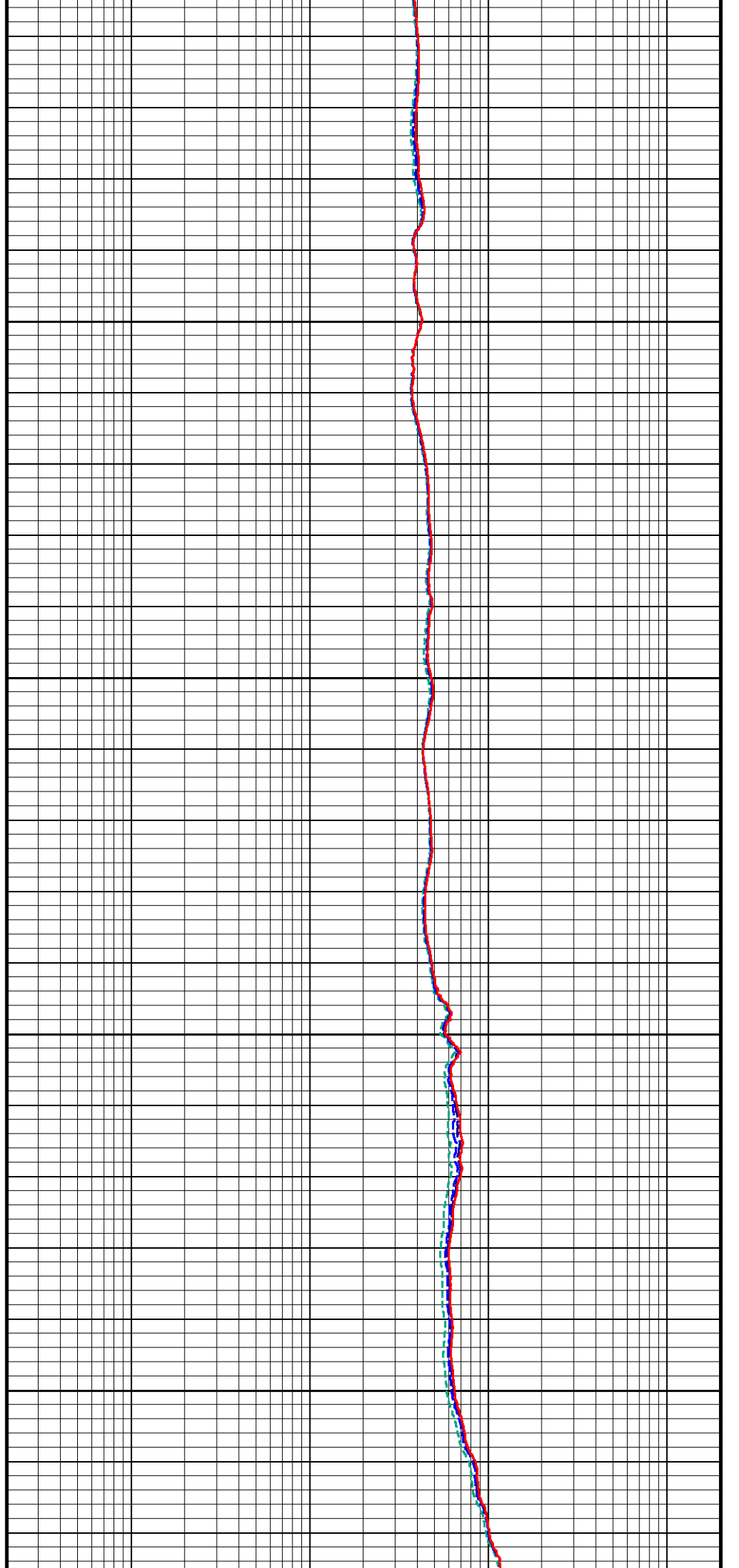
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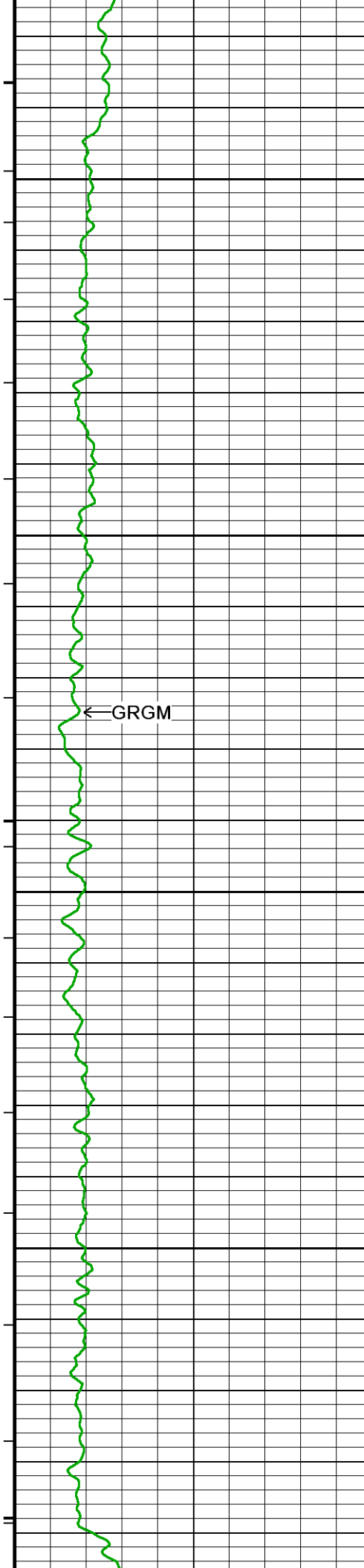
128°

7200

128°

7250





128°

7300

128°

7350

← GRGM

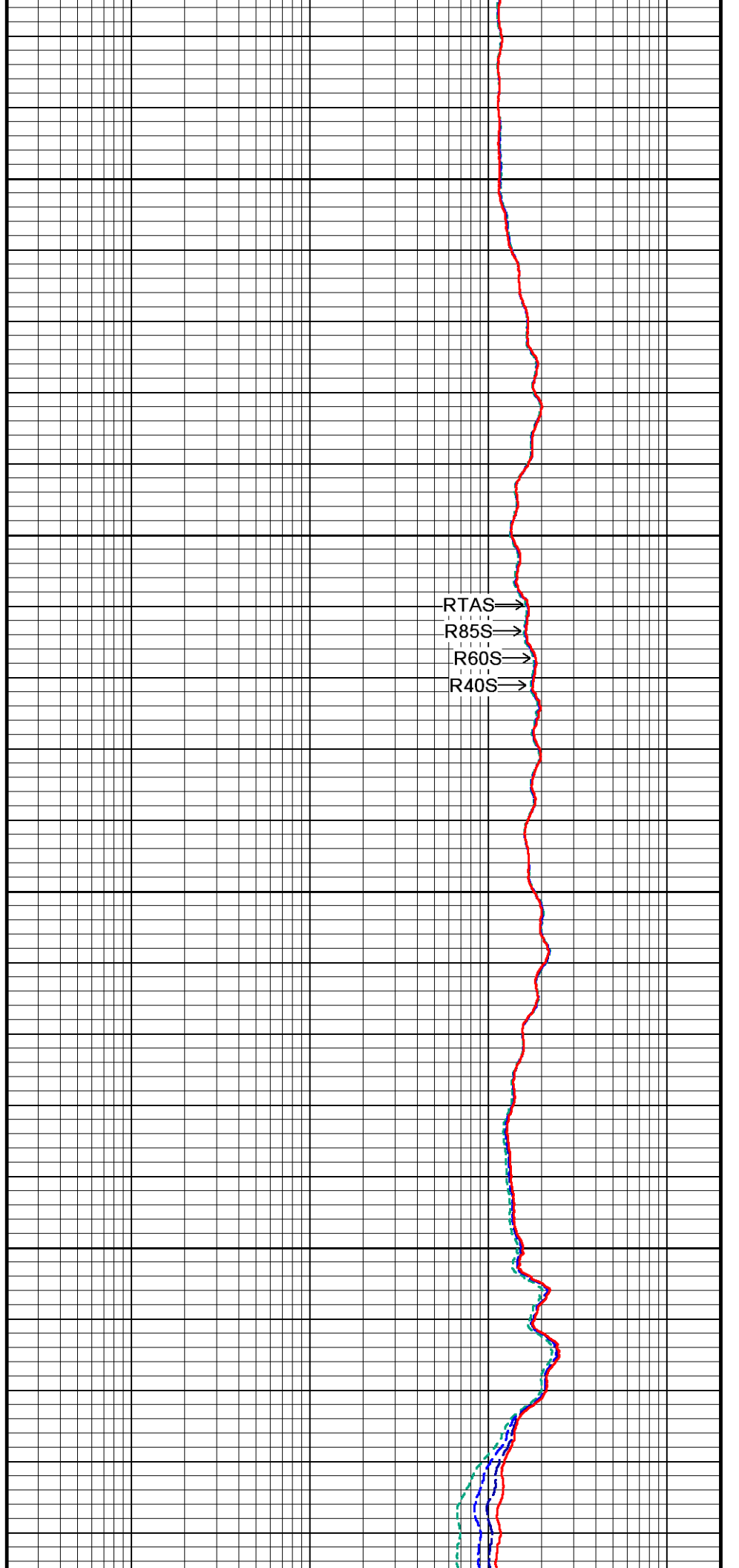
128°

7400

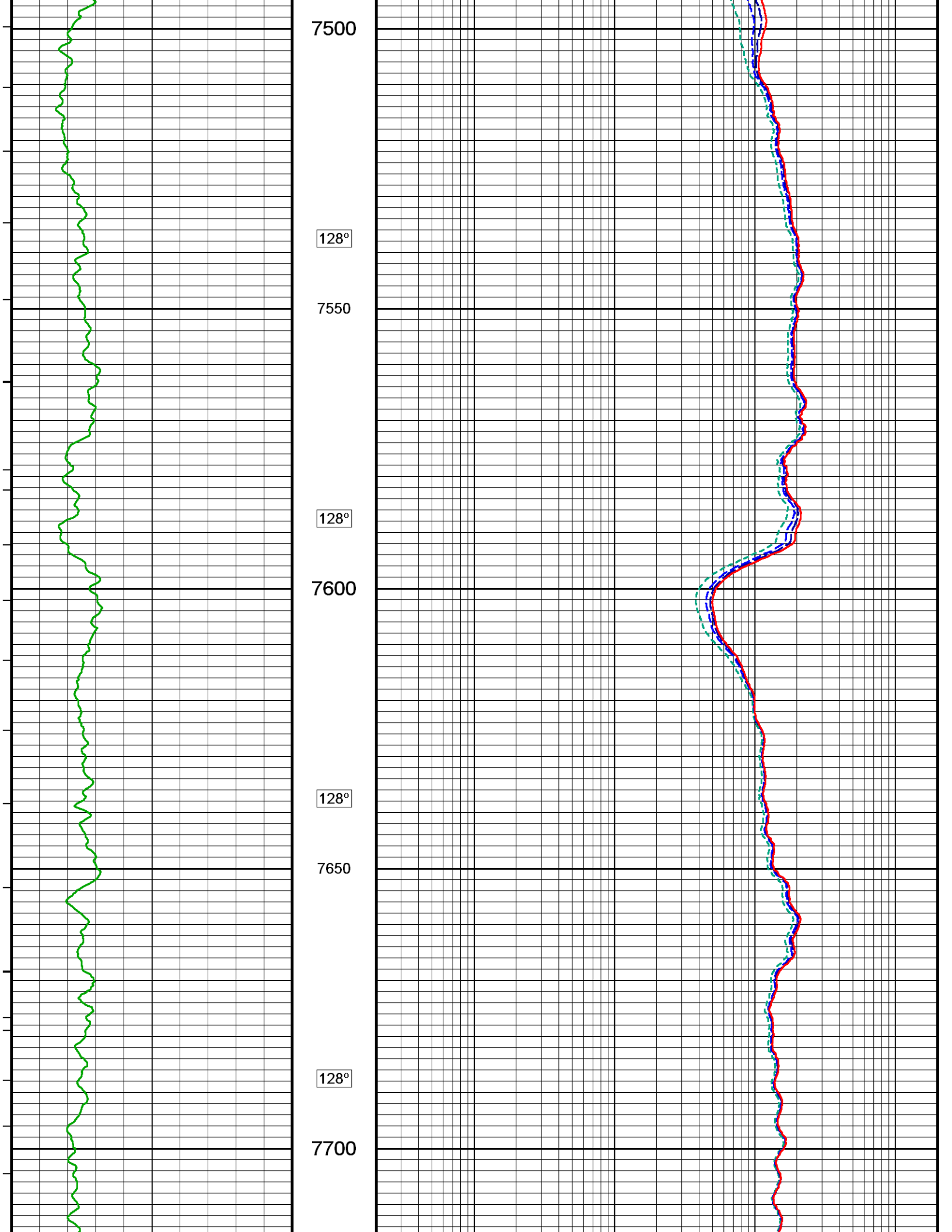
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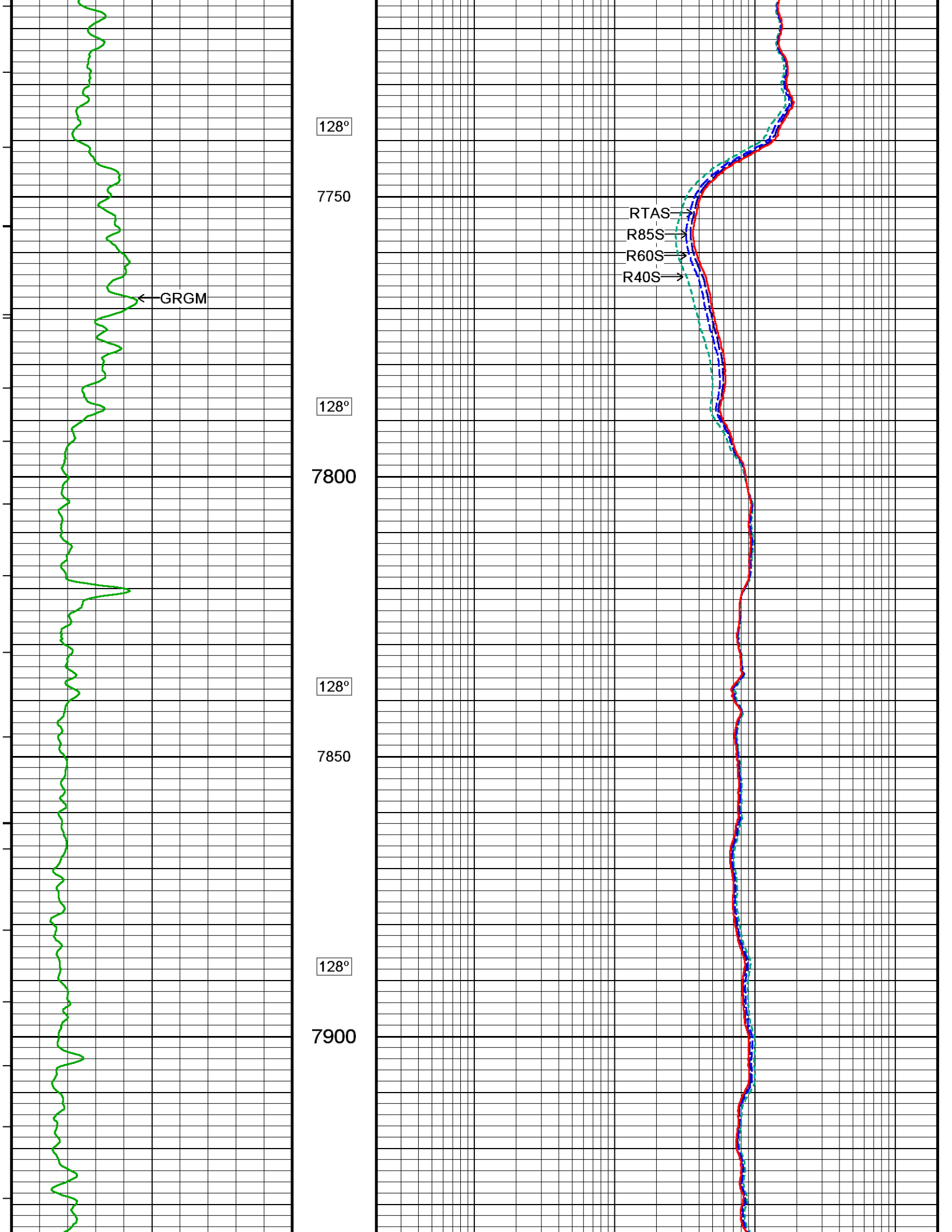
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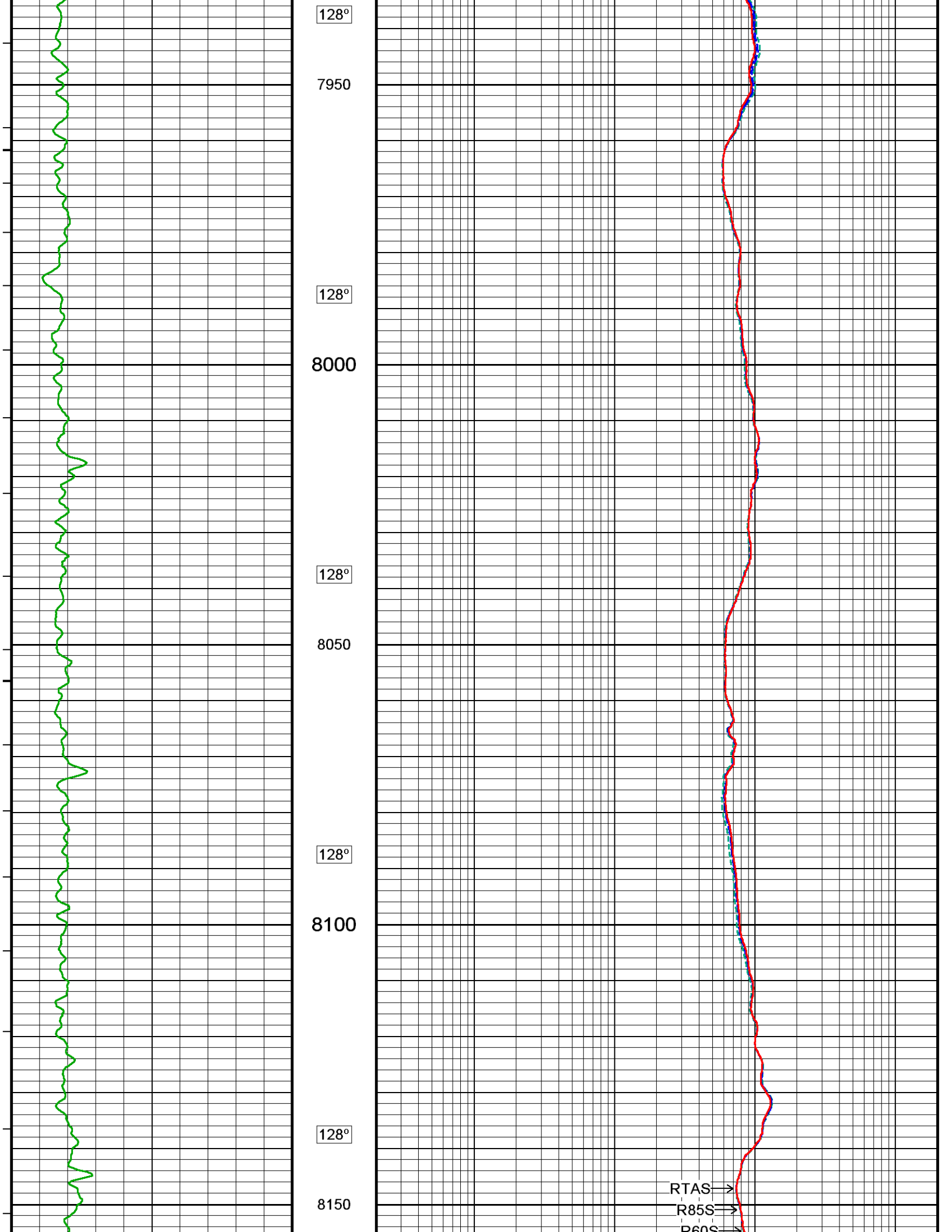
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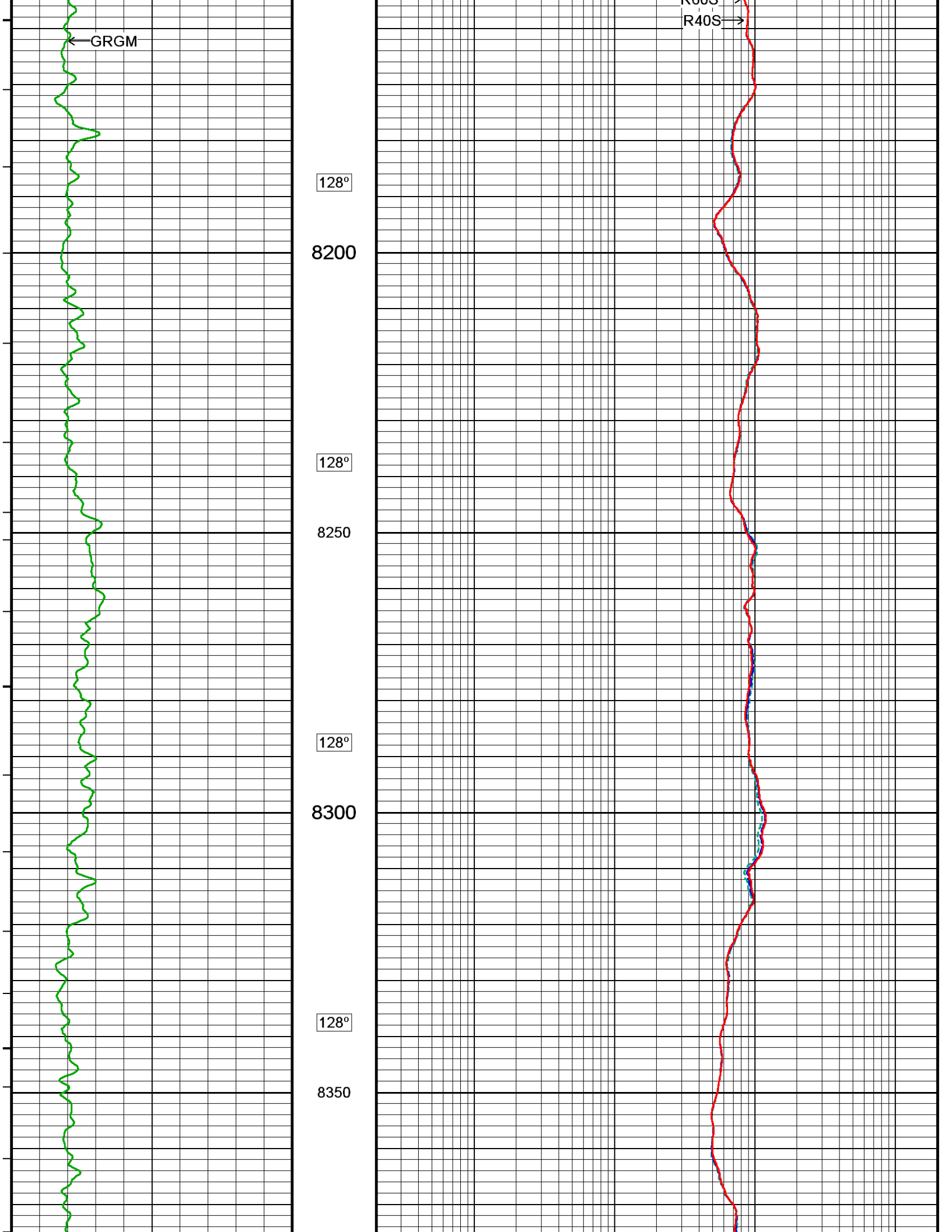


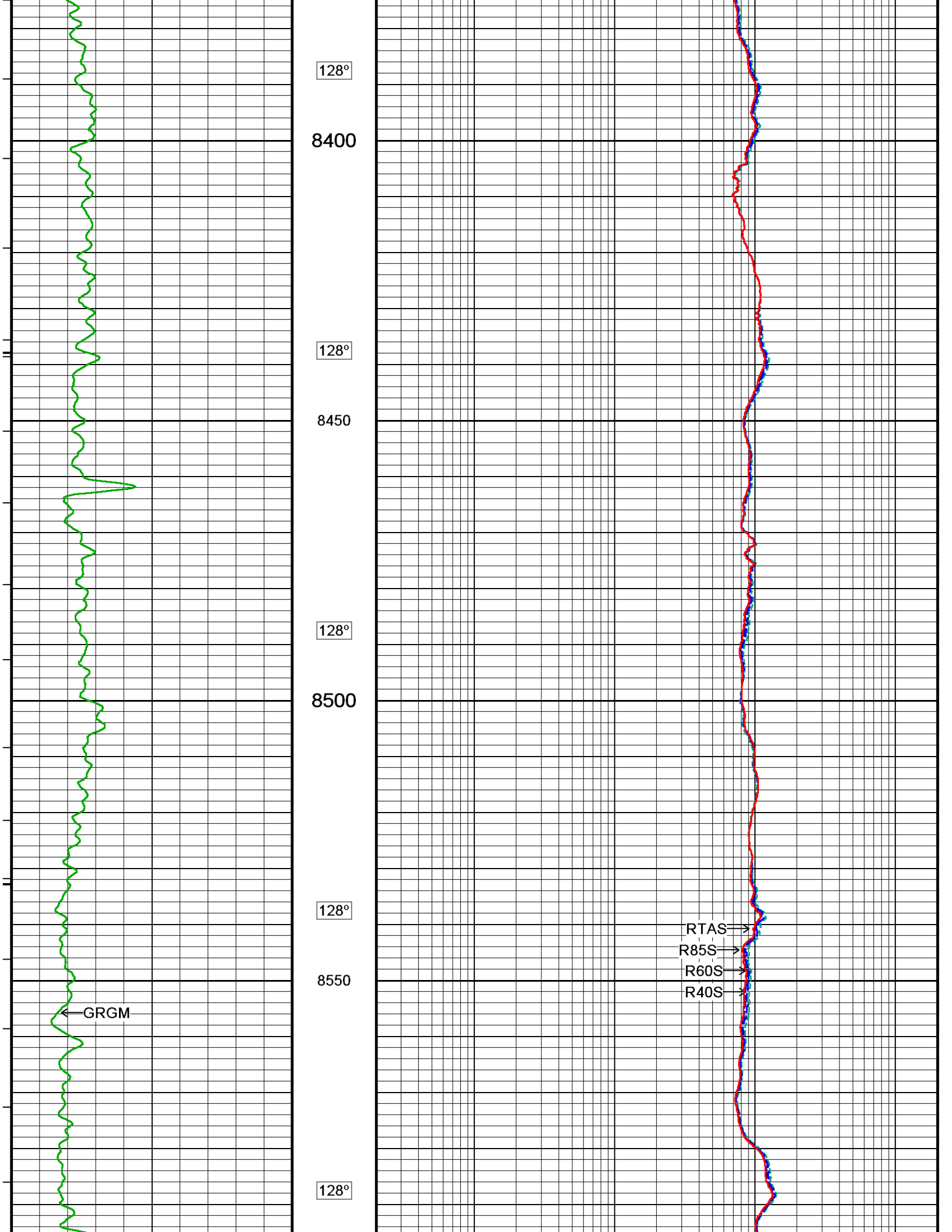
RTAS →  
R85S →  
R60S →  
R40S →











128°

8400

128°

8450

128°

8500

128°

8550

128°

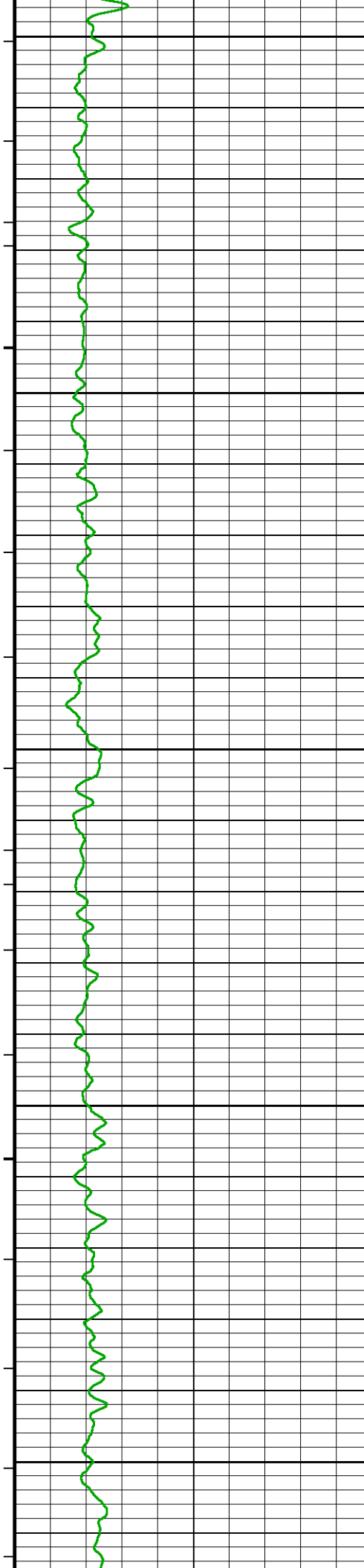
RTAS →

R85S →

R60S →

R40S →

← GRGM



8600

128°

8650

128°

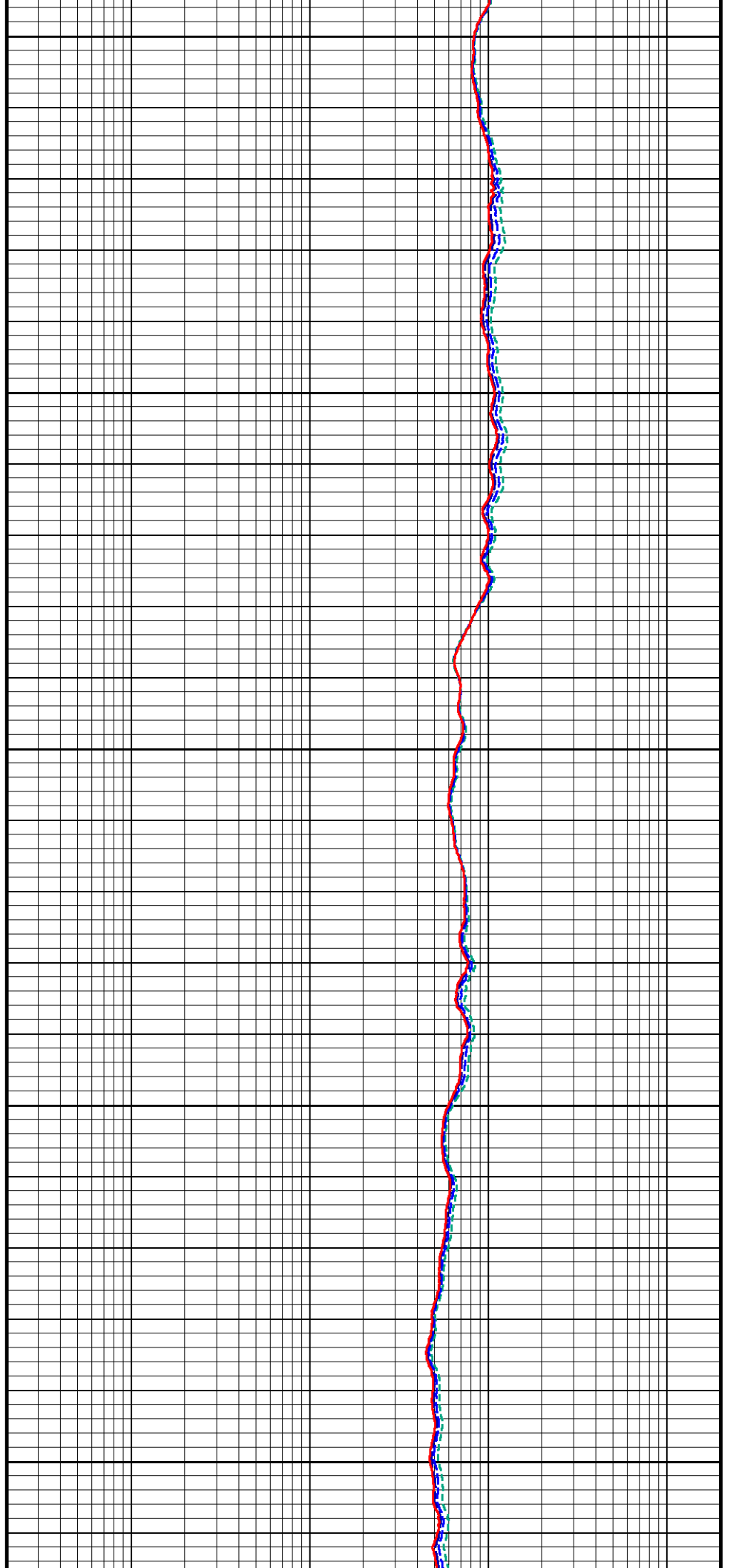
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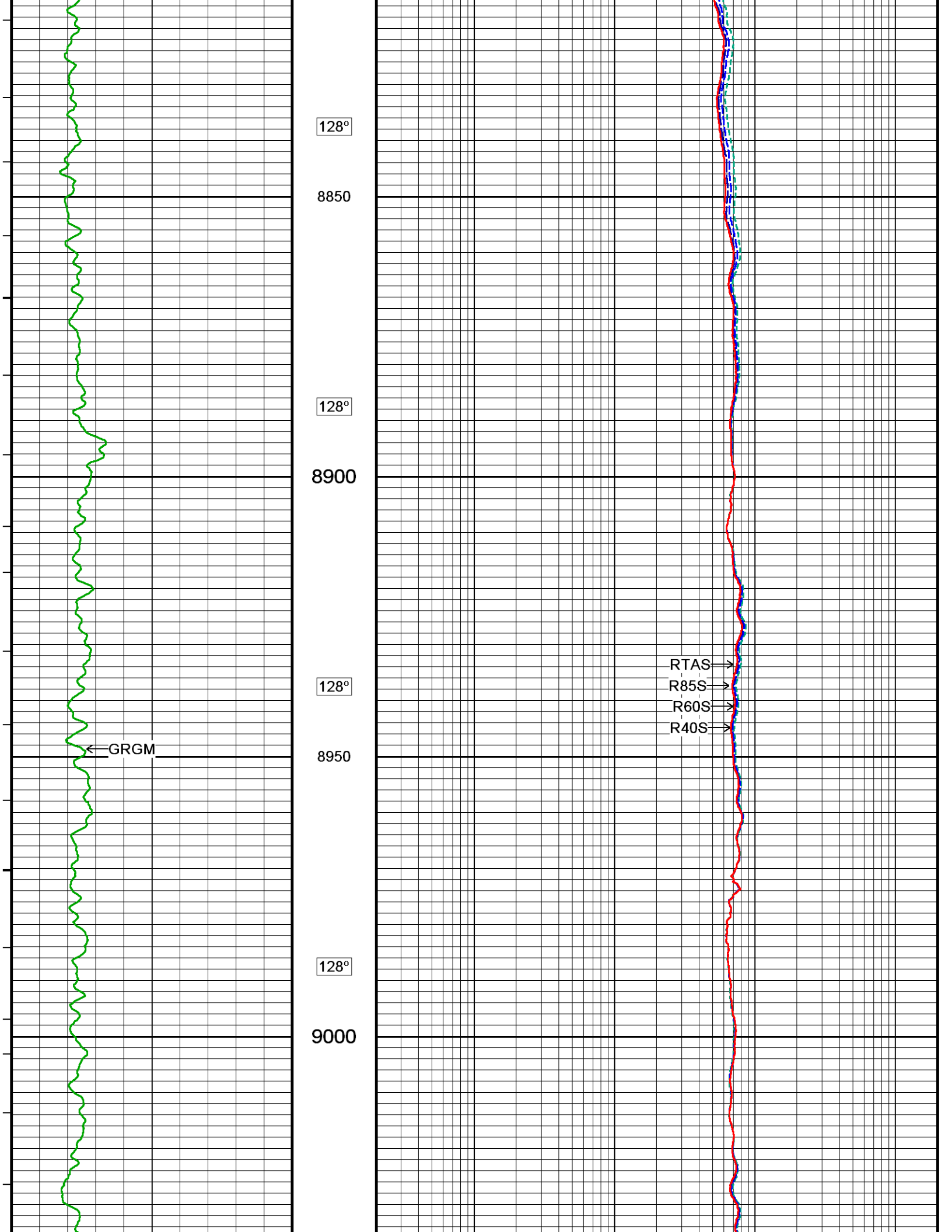
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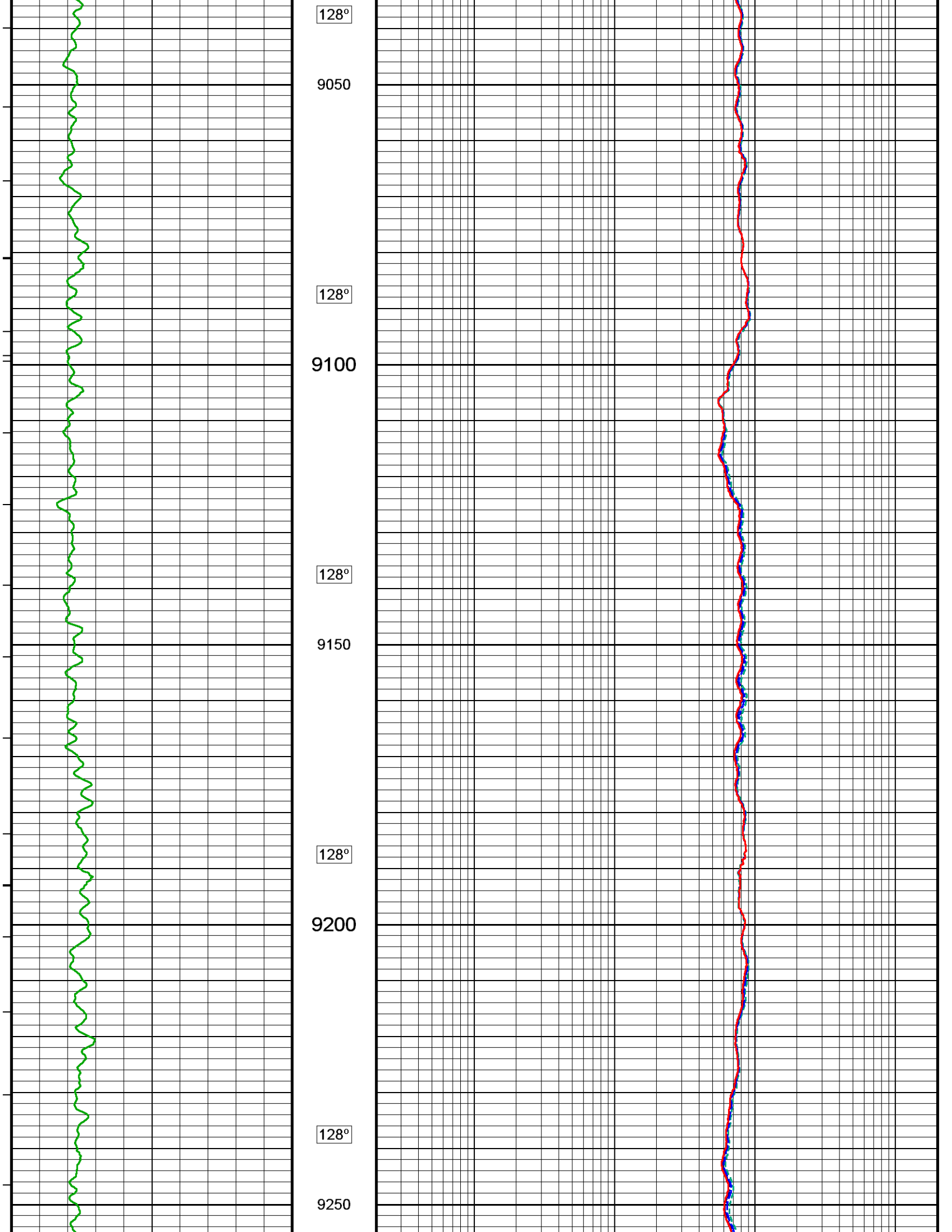
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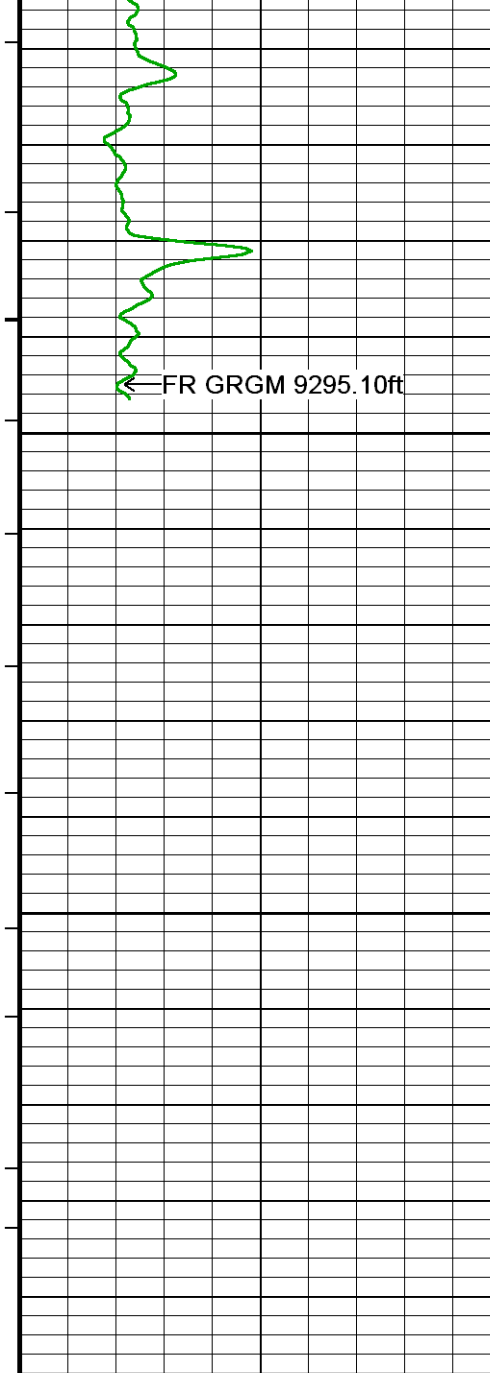
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8800







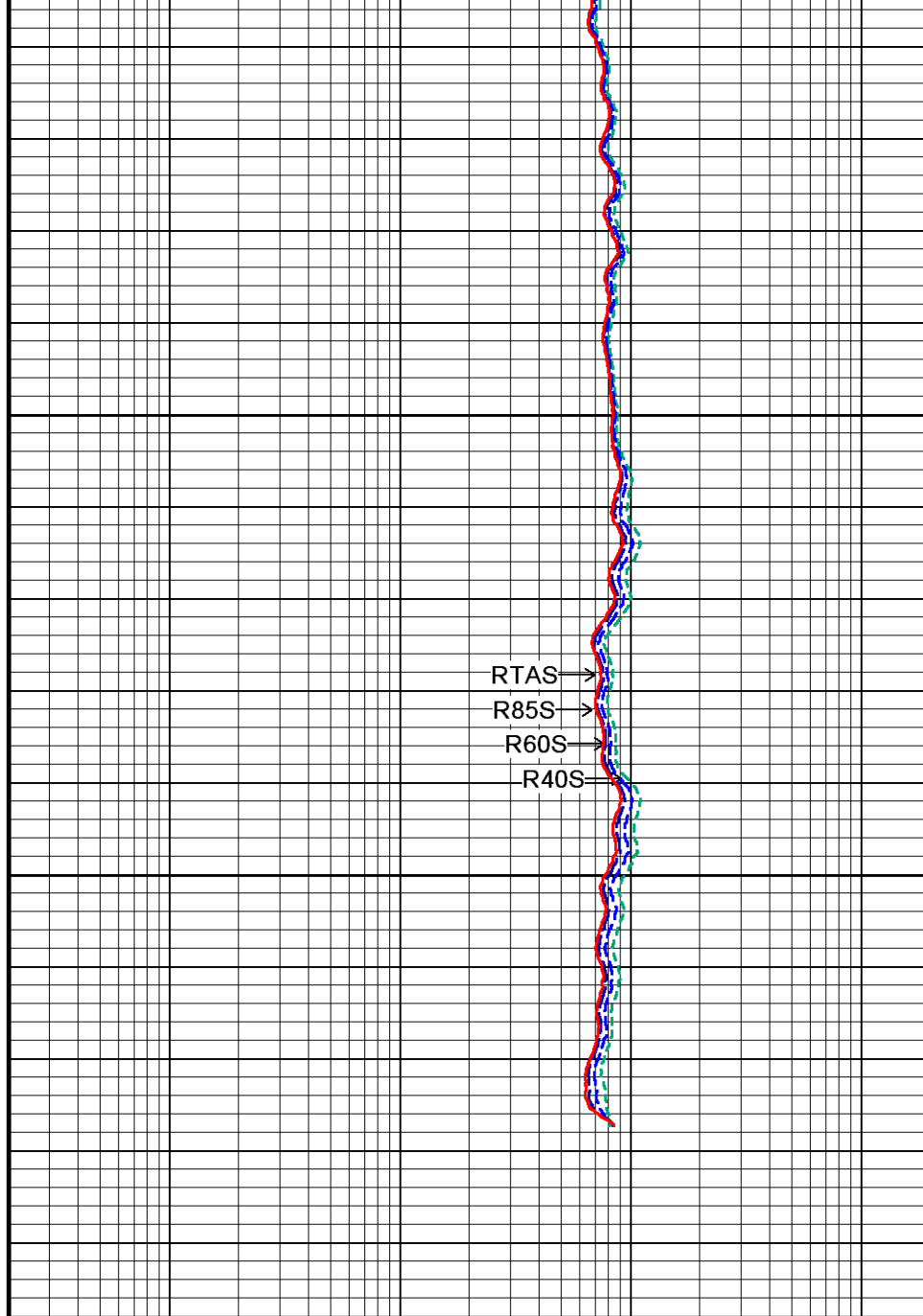


128°

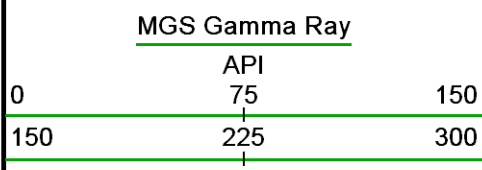
9300

9350

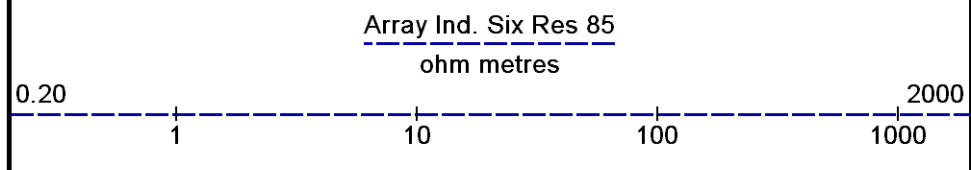
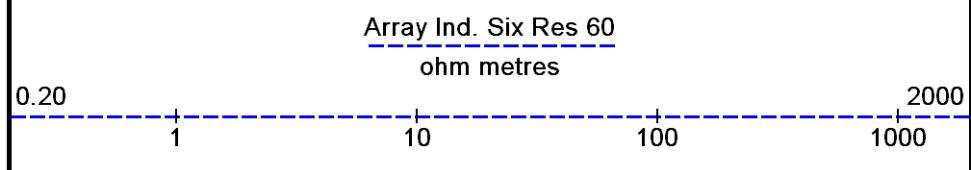
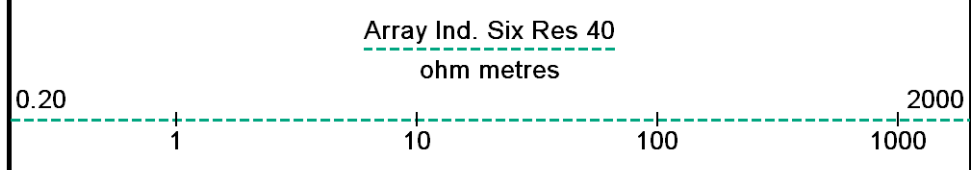
9400  
Depth  
In  
Feet



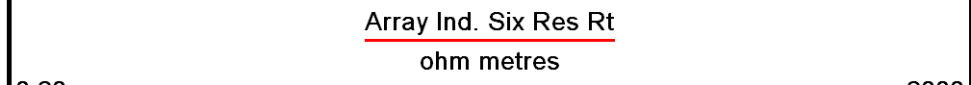
← Timing Marks  
every 60.0 sec



Borehole  
Temp in  
deg F



Replay



Scale  
1:240

0.20

1

10

100

1000

2000

Depth Based Data - Maximum Sampling Increment 10.0cm

Plotted on 18-AUG-2012 17:37

Filename: C:\Logs\Sand Ridge\Lawyer 2629 1-30H\Lawyer 2629 1-30H Depth RtAP.dta

Recorded on 18-AUG-2012 16:34

System Versions: Processed with 13.02.6600 Plotted with 13.02.6600



## 5 INCH MAIN LOG



## BEFORE SURVEY CALIBRATION

C:\Logs\Sand Ridge\Lawyer 2629 1-30H\Lawyer 2629 1-30H Depth RtAP.dta

## Down-hole Tension Calibration All 000

Field Calibration on 24-OCT-2010 03:34

Reading No	Measured	0
1	15659.85	0.00
2	15734.68	370.00

## General Constants All 000

Last Edited on 18-AUG-2012,17:28

## General Parameters

Mud Resistivity	1.670	ohm-metres
Mud Resistivity Temperature	82.000	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	4.500	inches
Caliper for Differential Caliper	None	

## Rwa Parameters

Porosity used	Base Density Porosity
Resistivity used	Array Ind. Six Res Rt
RWA Constant A	0.610
RWA Constant M	2.150

## Down-hole Tension Calibration SMS 0

Field Calibration on 17-JUL-2012 16:31

Reading No	Measured	0
1	15685.37	20.00
2	16738.51	350.00

## Strain Gauge Constants MMS-E.B 168

Last Edited on

Atmospheric Pressure	14.70	psi
Serial Number	0	
Calibration Date	000000000000	
Base Check Date		
Dead Weight Serial Number	0	
Dead Weight Gravitational Correction	1.0	

Temperature	75.0	150.0	250.0	350.0	degrees F			
Pressure psia	Inc.	Dec.	Inc.	Dec.	Inc.	Dec.	Inc.	Dec.
0.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2000.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4000.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
6000.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8000.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10000.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

## High Resolution Temperature Calibration MGS-C.J 118

Field Calibration on 17-AUG-2012,13:39

	Measured	Calibrated(Deg F)
Lower	10.00	10.00
Upper	50.00	50.00

## High Resolution Temperature Constants MGS-C.J 118

Last Edited on 17-AUG-2012,13:39

Pre-filter Length	11
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SP Calibration MGS-C.J 118

Field Calibration on 30-JUL-2012 09:47

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

Gamma Calibration MGS-C.J 118

Field Calibration on 17-AUG-2012 13:39

	Measured	Calibrated (API)
Background	195	170
Calibrator (Gross)	994	866
Calibrator (Net)	799	696

Gamma Constants MGS-C.J 118

Last Edited on 18-AUG-2012,14:07

Gamma Calibrator Number	GRC-210	
Mud Density	1.11	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Concentration of KCl	0.00	kppm

Neutron Calibration MDN-B.J 427

Base Calibration on 15-AUG-2012 10:14

Field Check on 17-AUG-2012 13:30

Base Calibration		Measured		Calibrated (cps)	
	Near	Far	Near	Far	
Ratio	3084	95	3714	110	
	32.548		33.764		
Field Calibrator at Base				Calibrated (cps)	
Ratio			2195	3216	
			0.682		
Field Check				Calibrated (cps)	
Ratio			2194	3217	
			0.682		

Neutron Constants MDN-B.J 427

Last Edited on 18-AUG-2012,15:00

Neutron Source Id	P62413B	
Neutron Jig Number	NJ6643	
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	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	

Imager Pad Check MIE-A.A 174

Field Check on 17-AUG-2012 15:13

Pad 1	20/20 Buttons Verified	Pad 5	20/20 Buttons Verified
Pad 2	24/24 Buttons Verified	Pad 6	24/24 Buttons Verified
Pad 3	20/20 Buttons Verified	Pad 7	20/20 Buttons Verified
Pad 4	24/24 Buttons Verified	Pad 8	24/24 Buttons Verified

Compact Micro Imager Constants MIE-A.A 174

Last Edited on 23-JUL-2012 04:36

Sonde Configuration	Imager Mode	degrees
Arm-Pad Kit	Normal Pads (12.25 in)	
Centre Pad 1 Rotational Offset	0.00	
Image/Borehole Ovality Reference	Azimuth of Pad 1	degrees
Non-Active Buttons	Omit	feet

Non Active Buttons	Omit	feet
Search Angle	0.00	feet
Correlation Interval	3.28	mAmp
Correlation Step	1.64	mAmp
Current Offset	0.0000	
Squasher Start	N/A	
Image Processing	Enabled	

Navigation Constants MIE-A.A 174 Last Edited on 18-AUG-2012,12:07

Magnetic Declination	6.11	degrees	East
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Magnetometer Parameters MIE-A.A 174

Date Of Last Magnetometer Calibration	30-JAN-2012,20:04		
Slope	X Magnetometer	Y Magnetometer	Z Magnetometer
Offset	-1.000000	-1.002889	-1.001936
	0.011223	-0.016605	0.011526

Magnetometer Constants MIE-A.A 174 Last Edited on

Magnetometer Calibrator Number	000
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Caliper Calibration MIE-A.A 174 Base Calibration on 17-AUG-2012 13:45  
Field Calibration on 17-AUG-2012 13:47

Base Calibration

Reading No	Pads 1-5 Meas.	Pads 3-7 Meas.	Calibrator Size (in)
1	26155	25409	5.96
2	36684	36365	7.98
3	46070	45823	9.86
4	57298	57576	11.88
5	0	0	0.00

Reading No	Pad 2 Meas.	Pad 4 Meas.	Pad 6 Meas.	Pad 8 Meas.	Calibrator Size (in)
1	25721	24369	24572	25678	5.96
2	35327	33981	32923	33748	7.98
3	43391	42060	40893	41954	9.86
4	52860	51963	50003	50831	11.88
5	0	0	0	0	0.00

Field Calibration

Measured Pads 1-5 Caliper(in)	Measured Pads 3-7 Caliper(in)	Actual Caliper(in)
5.97	6.09	5.96

Measured Pad 2 Caliper(in)	Measured Pad 4 Caliper(in)	Measured Pad 6 Caliper(in)	Measured Pad 8 Caliper(in)	Actual Caliper(in)
3.08	3.09	2.98	2.88	5.96

Caliper Constants MIE-A.A 174 Last Edited on 09-JUN-2012 15:57

Caliper Difference for BRKT	0.120	inches
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Accelerometer Parameters MIE-A.A 174

Date Of Last Accelerometer Calibration	21-JAN-2012,08:35		
Slope	X Accelerometer	Y Accelerometer	Z Accelerometer
Offset	-1.109668	-1.105512	-1.098022
	0.006256	-0.000537	0.012788

Accelerometer Constants MIE-A.A 174 Last Edited on 18-AUG-2012,11:53

Accelerometer Calibrator Number	000
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Accelerometer Temperature Characterisation

X Accelerometer

Serial Number	644			
Calibration Date	19-Aug-2008			
Bias(g)	B0	B1	B2	B3
	0.00000e+000	8.97681e-006	-1.88894e-008	1.27694e-010
Scale Factor(mA/g)	SF0	SF1	SF2	SF3
	3.00000e+000	2.72633e-004	2.24457e-007	1.11567e-009

Y Accelerometer

679

Serial Number	24-Aug-2008			
Calibration Date	24-Aug-2008			
	B0	B1	B2	B3
Bias(g)	0.00000e+000	2.76667e-005	-1.48113e-008	9.65949e-011
	SF0	SF1	SF2	SF3
Scale Factor(mA/g)	3.00000e+000	2.60693e-004	5.14448e-007	-1.83309e-010
Z Accelerometer				
Serial Number	687			
Calibration Date	30-Aug-2008			
	B0	B1	B2	B3
Bias(g)	0.00000e+000	-2.68884e-005	4.88649e-009	-1.07028e-011
	SF0	SF1	SF2	SF3
Scale Factor(mA/g)	3.00000e+000	2.65798e-004	2.86695e-007	9.16986e-010

High Resolution Temperature Calibration MAI-B.A 213			Field Calibration on 17-AUG-2012,13:19
	Measured	Calibrated(Deg F)	
Lower	10.00	10.00	
Upper	200.00	199.99	

High Resolution Temperature Constants MAI-B.A 213		Last Edited on 25-MAR-2012 02:19
Pre-filter Length	11	

Induction Calibration MAI-B.A 213			Base Calibration on 16-FEB-2012 09:25	
			Field Check on 17-AUG-2012 13:18	
Base Calibration				
Test Loop Calibration		Measured	Calibrated (mmho/m)	
Channel	Low	High	Low	High
1	16.8	462.4	9.3	966.2
2	6.2	381.7	7.6	821.4
3	3.6	254.8	5.2	566.0
4	2.3	132.3	2.6	279.2
Array Temperature	73.6		Deg F	
Channel	Base Check (mmho/m)		Field Check (mmho/m)	
	Low	High	Low	High
1	0.0	0.0	14.7	3934.4
2	0.0	0.0	30.3	3537.8
3	0.0	0.0	28.8	3112.7
4	0.0	0.0	19.0	2095.8
Deep	0.0	0.0	17.4	2077.8
Medium	0.0	0.0	42.4	4085.9
Shallow	0.0	0.0	45.5	5155.6
Array Temperature	0.0		83.0	Deg F

Induction Constants MAI-B.A 213		Last Edited on 18-AUG-2012,17:28	
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.	MGS 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 167

Base Calibration on 10-JUL-2012 13:55  
Field Calibration on 17-AUG-2012 13:21

Base Calibration		
Reading No	Measured	Calibrator Size (in)
1	14736	4.00
2	23040	5.96
3	30512	7.98
4	38576	9.86
5	47840	11.88
6	N/A	N/A
Field Calibration		
	Measured Caliper (in)	Actual Caliper (in)
	3.59	4.00

Photo Density Calibration MPD-B 167

Base Calibration on 15-AUG-2012 15:14  
Field Check on 17-AUG-2012 13:25

Density Calibration				
Base Calibration				
	Near	Measured Far	Calibrated (sdu) Near	Far
Reference 1	61861	31548	59720	30898
Reference 2	25222	3097	24621	2513
Field Check at Base				
	1211.7	1690.1		
Field Check				
	1210.0	1697.3		
PE Calibration				
Base Calibration				
	WS	Measured WH	Ratio	Calibrated Ratio
Background	220	1082		
Reference 1	23664	61651	0.387	0.370
Reference 2	6900	25085	0.278	0.271
Field Check at Base				
	220.5	1081.6		
Field Check				
	221.1	1084.8		

Density Constants MPD-B 167

Last Edited on 18-AUG-2012,14:07

Density Source Id	P74832B	
Nylon Calibrator Number	628	
Aluminium Calibrator Number	628	
Density Shoe Profile	4 inch	
Caliper Source for Processing	Density Caliper	
PE Correction to Density	Not Applied	
Mud Density	1.11	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	
0.00	0.00	

## DOWNHOLE EQUIPMENT

C:\Logs\Sand Ridge\Lawyer 2629 1-30H\Lawyer 2629 1-30H Depth RtAP.dta

Shuttle Running Tool 3.5" (SRT A)  
SRT-A 5 LG: 6.47 ft WT: 37.5 lb OD: 2.52 in

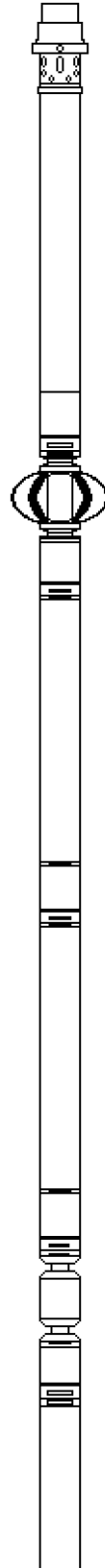
MIS-E.A Compact Inline Standoff sub  
MIS-E.A 365 LG: 2.14 ft WT: 15.4 lb OD: 2.24 in

Compact Linker 200V STD  
MLK-A 1 LG: 8.52 ft WT: 30.9 lb OD: 2.24 in

Compact Linker 400V EXT  
MLK-A 2 LG: 14.23 ft WT: 30.9 lb OD: 2.24 in

SKJ-E.A Compact Knuckle Joint  
SKJ-E.A 409 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

MBS-F.A 200v Compact Battery Sub  
MBS-F.A 119 LG: 17.06 ft WT: 123.5 lb OD: 2.24 in



Compact Memory Sub E.B  
MMS-E.B 168 LG: 5.20 ft WT: 37.5 lb OD: 2.24 in

Compact Tool Isolator sub.  
MTI-B.A 77 LG: 1.54 ft WT: 13.2 lb OD: 2.24 in

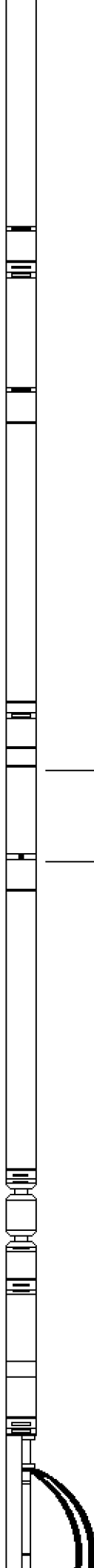
Compact Short Gamma  
MGS-C.J 118 LG: 3.41 ft WT: 24.3 lb OD: 2.24 in

Compact Collar Locator  
MCL-B.J 76 LG: 3.17 ft WT: 26.5 lb OD: 2.24 in

SKJ-E.B Compact Knuckle Joint  
SKJ-E.B 533 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

SHA-J.A Compact Swivel Head Adaptor  
SHA-J.A 314 LG: 2.30 ft WT: 22.0 lb OD: 2.24 in

MIS-D.A Compact Inline Bowspring sub  
MIS-D.A 434 LG: 5.70 ft WT: 33.1 lb OD: 2.24 in



87.90 ft GRGM - MGS Gamma Ray

85.92 ft GSXT - MGS External Temperature

Compact Neutron  
MDN-B.J 427 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

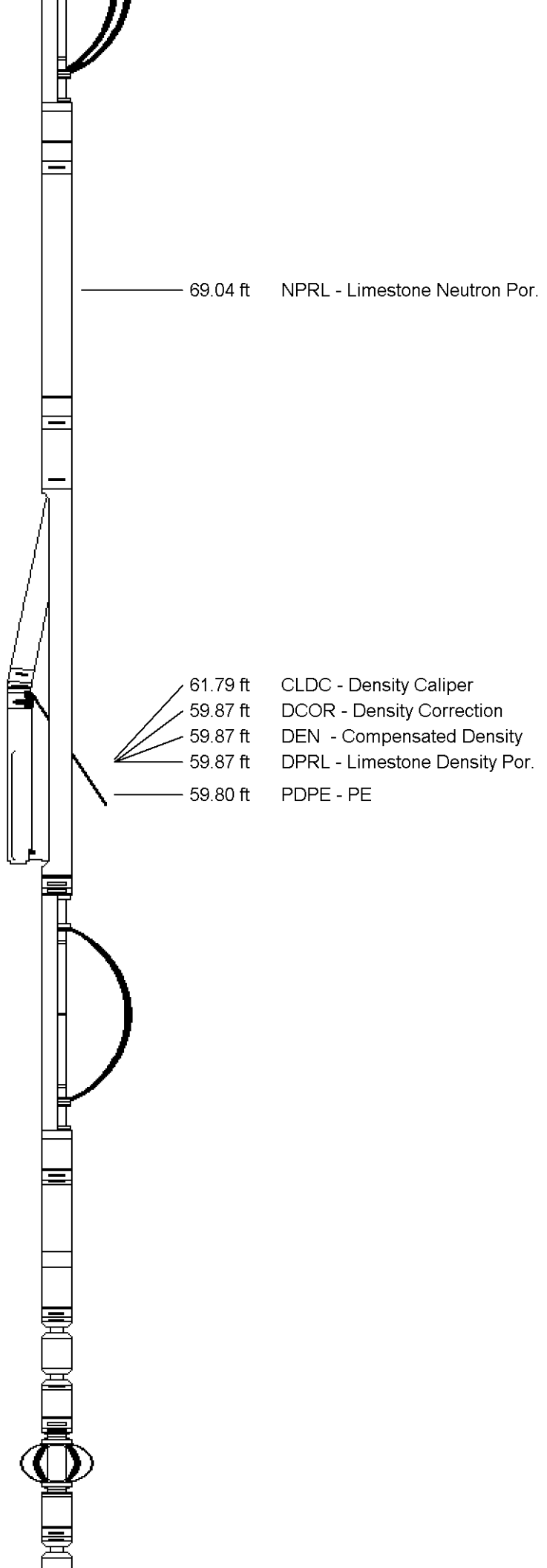
Compact Density/Caliper  
MPD-B 167 LG: 9.59 ft WT: 90.4 lb OD: 2.24 in

MIS-D.B Compact Inline Bowspring sub  
MIS-D.B 723 LG: 5.70 ft WT: 33.1 lb OD: 2.24 in

SHA-J.B Compact Swivel Head Adaptor  
SHA-J.B 572 LG: 2.30 ft WT: 22.0 lb OD: 2.24 in

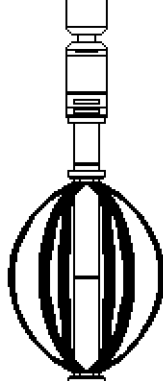
SKJ-D.A Compact Knuckle Joint  
SKJ-D.A 88 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

MIS-E.B Compact Inline Standoff sub  
MIS-E.B 691 LG: 2.14 ft WT: 15.4 lb OD: 2.24 in



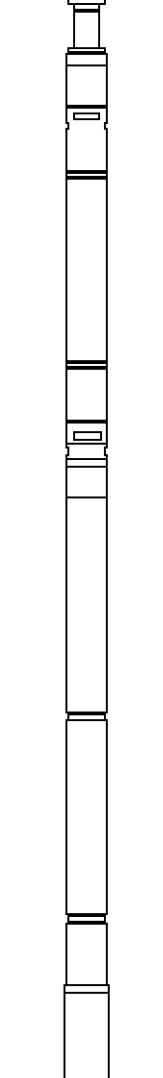
SKJ-D.A Compact Knuckle Joint  
SKJ-D.A 89 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

MIS-D.B Compact Inline Bowspring sub  
MIS-D.B 731 LG: 5.70 ft WT: 33.1 lb OD: 2.24 in

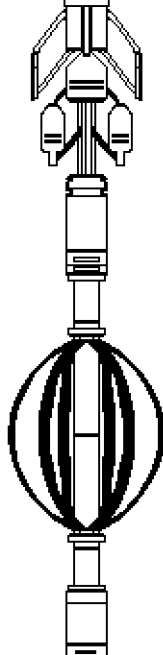


Compact MMI Memory Section  
MIM-A.A 174 LG: 4.65 ft WT: 26.5 lb OD: 2.24 in

Compact MMI Electrode Section  
MIE-A.A 174 LG: 13.96 ft WT: 99.2 lb OD: 4.09 in



MIS-D.A Compact Inline Bowspring sub  
MIS-D.A 296 LG: 5.70 ft WT: 33.1 lb OD: 2.24 in

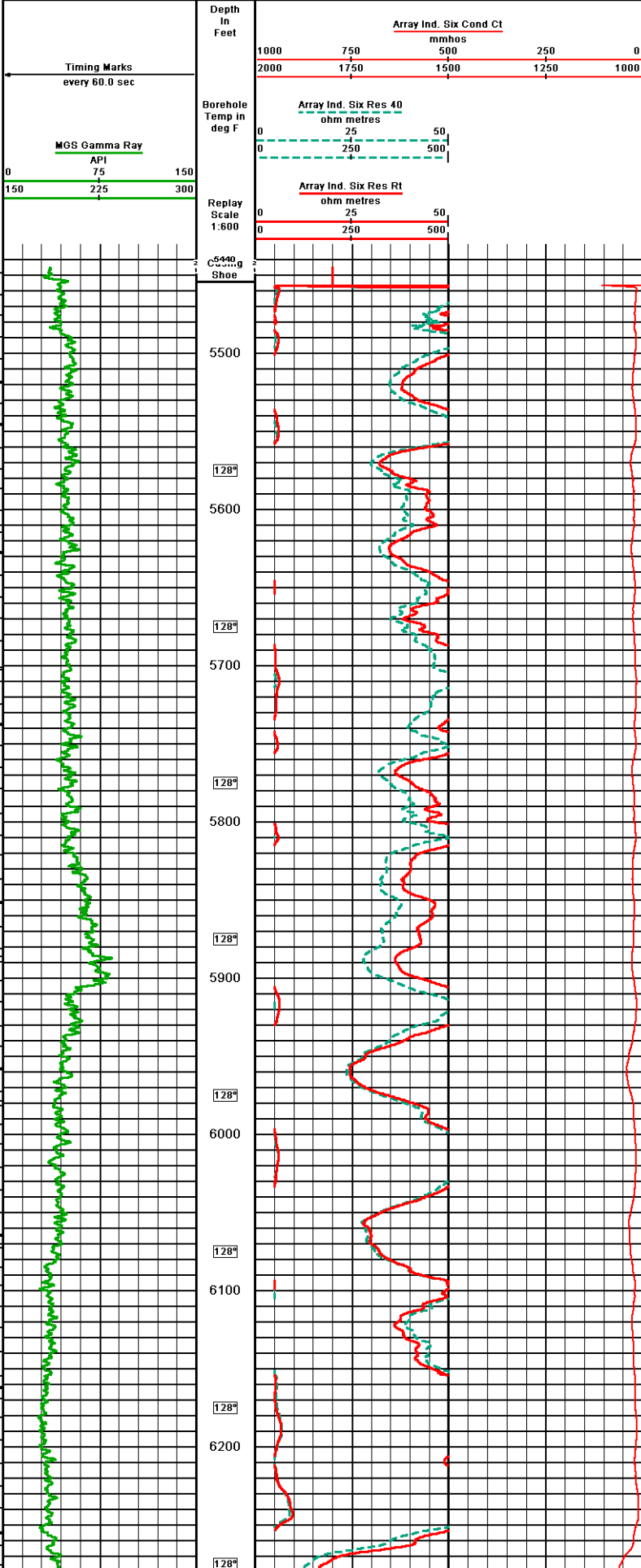


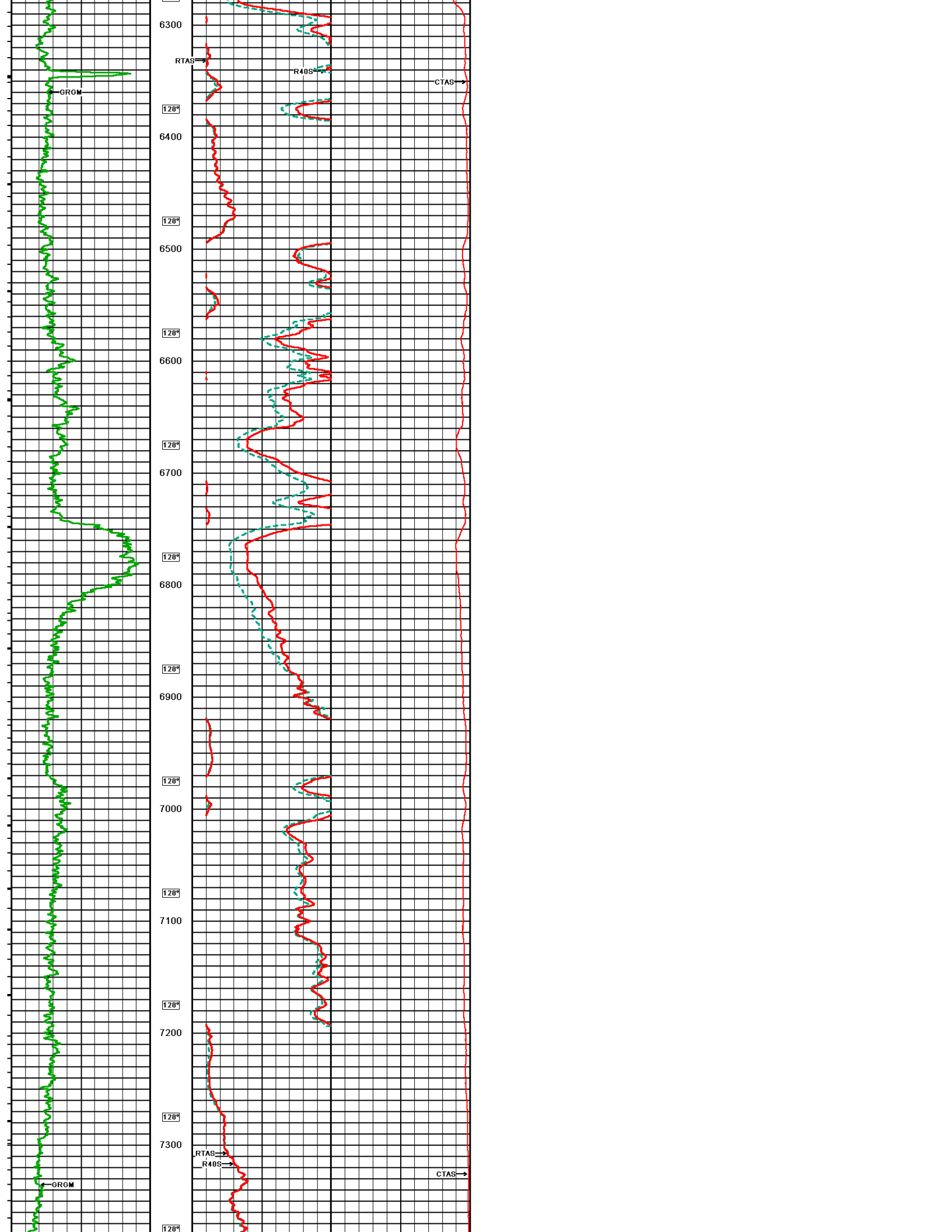


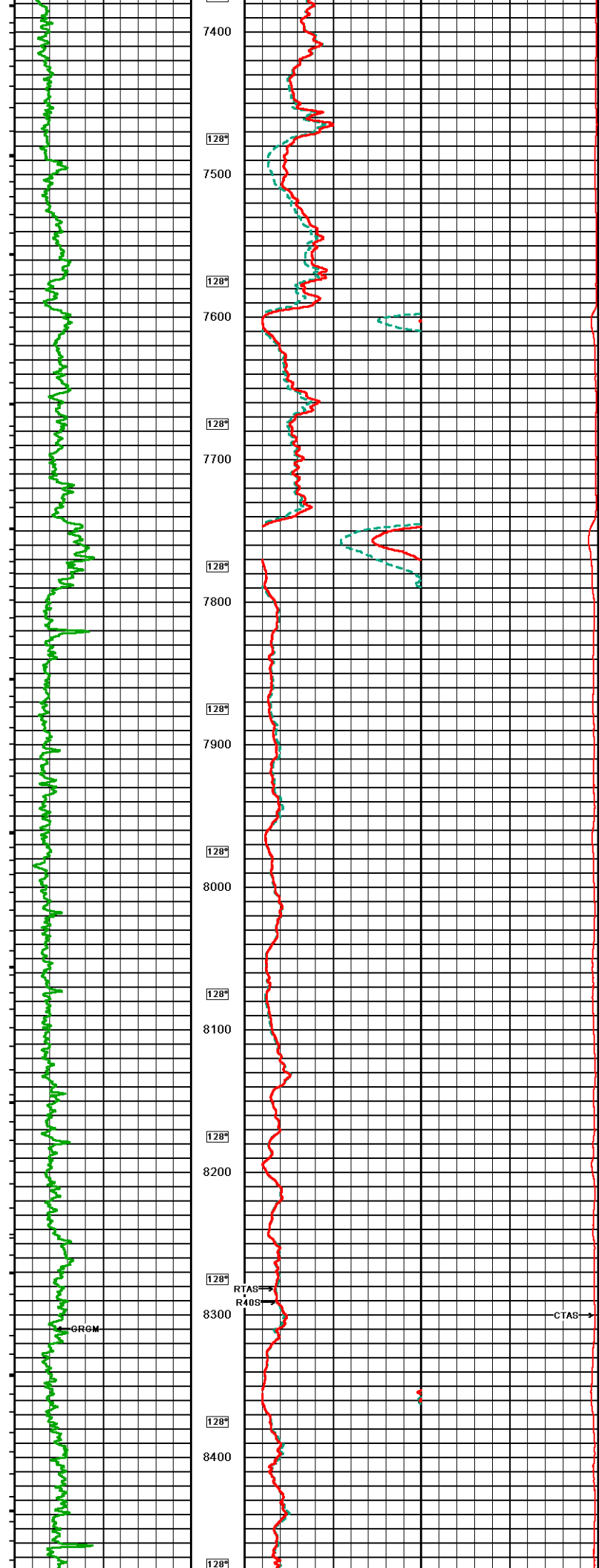
2774.00  
2774.00  
2774.00

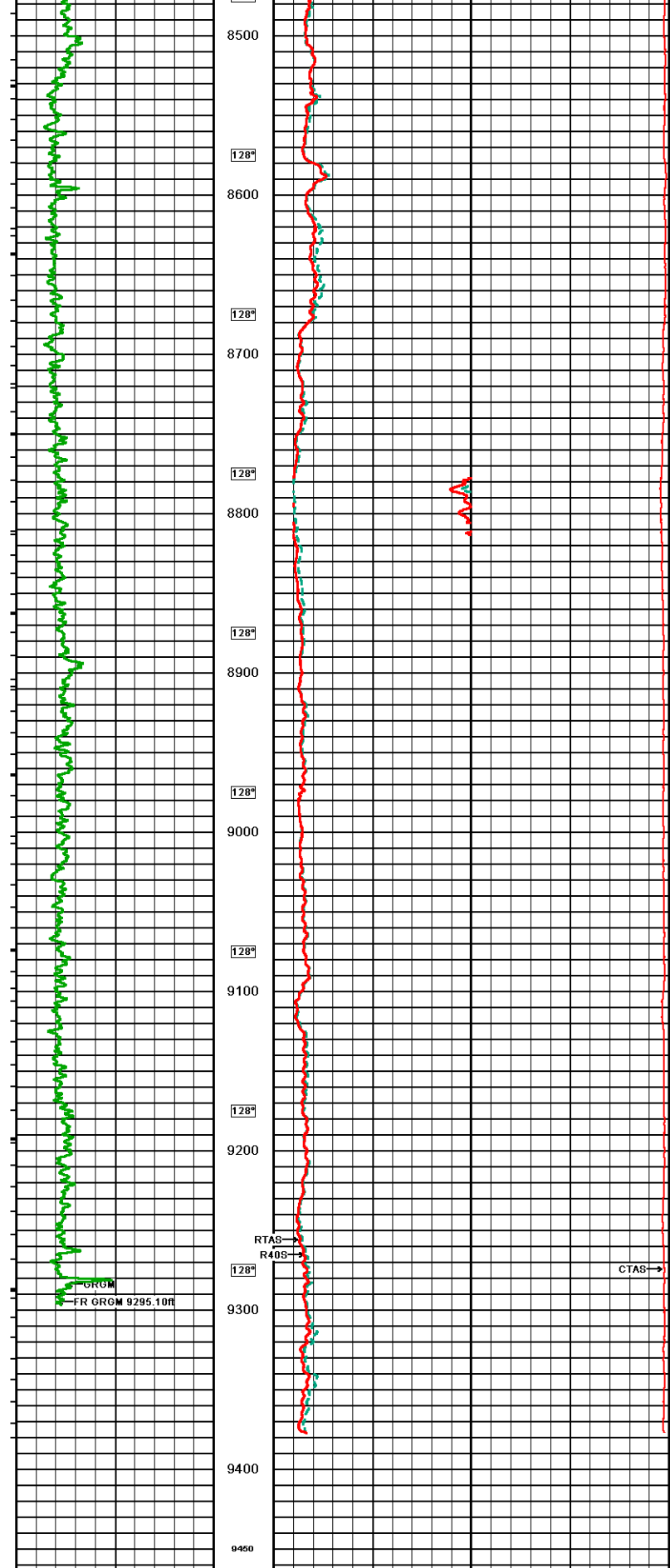
1 INCH MAIN LOG

Depth Based Data - Maximum Sampling Increment 10.0cm  
Plotted on 18-AUG-2012 17:37  
Filename: C:\Logs\Sand Ridge\Lawyer 2629 1-30H\Lawyer 2629 1-30H Depth RTP.dta  
Recorded on 18-AUG-2012 16:34  
System Versions: Processed with 13.02.6600 Plotted with 13.02.6600









Timing Marks  
every 60.0 sec

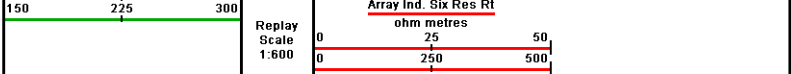
MGS Gamma Ray  
API  
0 75 150

Depth In Feet

Array Ind. Six Cond Ct  
mhos  
1000 750 500 250 0  
2000 1750 1500 1250 1000

Borehole Temp In deg F

Array Ind. Six Res 40  
ohm metres  
0 25 50  
0 250 500




Depth Based Data - Maximum Sampling Increment 10.0cm  
 Plotted on 18-AUG-2012 17:37  
 Filename: C:\Logs\Sand Ridge\Lawyer 2629 1-30H\Lawyer 2629 1-30H Depth RWP.dta  
 Recorded on 18-AUG-2012 16:34  
 System Versions: Processed with 13.02.6600 Plotted with 13.02.6600

↑ 1 INCH MAIN LOG ↑

COMPANY	SANDRIDGE ENERGY, INC.
WELL	LAWYER 2629 1-30H
FIELD	MONGER
PROVINCE/COUNTY	GRAY
COUNTRY/STATE	U.S.A. / KANSAS

Elevation Kelly Bushing	2774.00	feet	First Reading	9380.00	feet
Elevation Drill Floor	2774.00	feet	Depth Driller	9447.00	feet
Elevation Ground Level	2754.00	feet	Depth Logger	9447.00	feet



CML MESSENGER SHUTTLE  
 COMPACT ARRAY INDUCTION LOG