



Weatherford

**CML MESSENGER SHUTTLE
ARRAY INDUCTION
ELECTRIC LOG**

COMPANY	SANDRIDGE ENERGY		
WELL	JAMES 2922 1-13H		
FIELD	KINGSDOWN		
PROVINCE/COUNTY	FORD		
COUNTRY/STATE	USA / KANSAS		
LOCATION	NE NW NW NW 200' FNL & 400' FWL		
SEC	TWP 13 29S	RGE 22W	Other Services MDNMMPD
API Number	15-057-20867		CMI
Permit Number			
Permanent Datum GL, Elevation 2432 feet			Elevations: KB 2455.00 DF 2455.00 GL 2332.00
Log Measured From KB			
Drilling Measured From KB @ 23' AGL			
Date	19-JAN-2013		
Run Number	ONE		
Service Order	3539530		
Depth Driller	10210.00		
Depth Logger	10210.00		
First Reading	10188.00		
Last Reading	5660.00		
Casing Driller	5681.00		
Casing Logger	5680.00		
Bit Size	6.125		
Hole Fluid Type	WBM		
Density / Viscosity	9.30 lb/USg	35.00 CP	
PH / Fluid Loss	8.80	8.80	
Sample Source	FLOWLINE		
Rm @ Measured Temp	1.05 @ 74.3	ohm-m	
Rmf @ Measured Temp	0.84 @ 74.3	ohm-m	
Rmc @ Measured Temp	1.26 @ 74.3	ohm-m	
Source Rmf / Rmc	CALC	CALC	
Rm @ BHT	0.61 @133.0	ohm-m	
Time Since Circulation	18 HOURS		
Max Recorded Temp	133.00	deg F	
Equipment / Base	18077	OKC	
Recorded By	GUTHMUELLER		
Witnessed By	J BORELL		
AFE# DC 12646			

BOREHOLE RECORD			Last Edited: 19-JAN-2013 14:46	
Bit Size inches	Depth From feet	Depth To feet		
12.250	0.00	918.00		
8.750	918.00	5681.00		
6.125	5681.00	10210.00		
CASING RECORD				
Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURF	9.625	0.00	918.00	36.00
INTER	7.000	0.00	5681.00	26.00

REMARKS
LOGGED WITH WLS 13.04.8492
LOGGED USING MESSENGER SHUTTLE METHOD OF DEPLOYMENT AND MEMORY LOGGING SYSTEM DEPTHS SET BACK TO PIPE STRAP DEPTH AND COMPARED TO MWD DEPTHS
TOOLS RAN: SRT-69,SKJ-472,200V MBS-117,MMSE-157,MTI-076, MGS-142,MCL-063,SKJ-479,SHA-451,MIS-608, MDN-391, MPD-394,MIS-607, SHA-438, SKJ-479,MISD-707,MIM 251, MIE-233,MIS-160,MISB-597 MAI-170 RAN IN COMBINATION
HARDWARE: MAI: MIS-B 0.5" STANDOFF USED ABOVE MAI, 0.5" STAND-OFF RAN BELOW MAI MIE: MISD CENTRALIZERS USED ABOVE AND BELOW IMAGER MDN: MIS-A DOUBLE BOWSPRING USED ABOVE MDN. MPD: 4INCH PROFILE PLATE USED, MIS-A SINGLE BOWSPRING USED BELOW MPD
2.71 G/CC DENSITY MATRIX USED TO CALCULATE POROSITY ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST

ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST
CHLORIDES = 4000 PPM

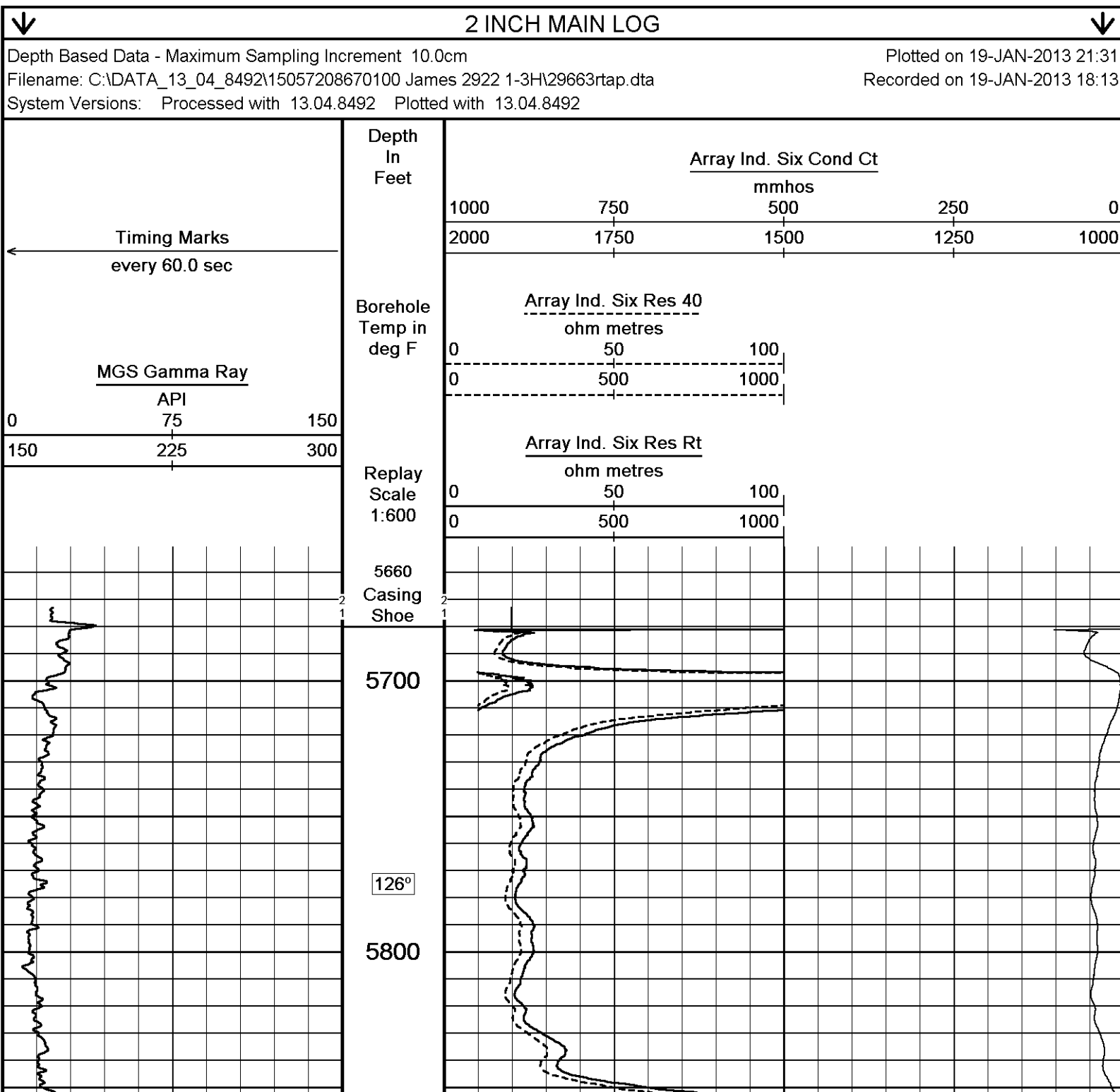
DRILL PIPE DEPTH DURING DEPLOYMENT: 10091
LOGGING TOOL DEPTH AFTER DEPLOYMENT: 10191

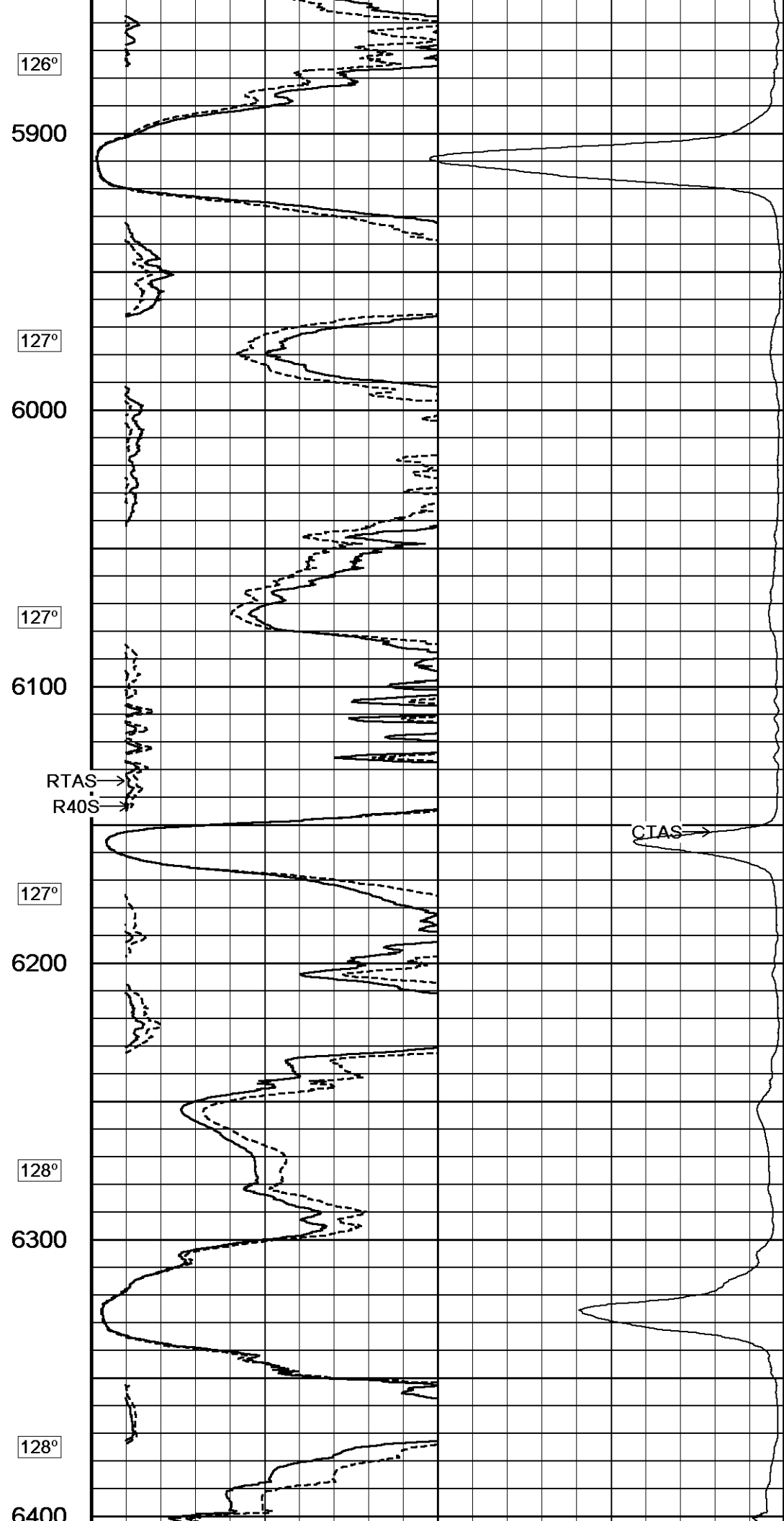
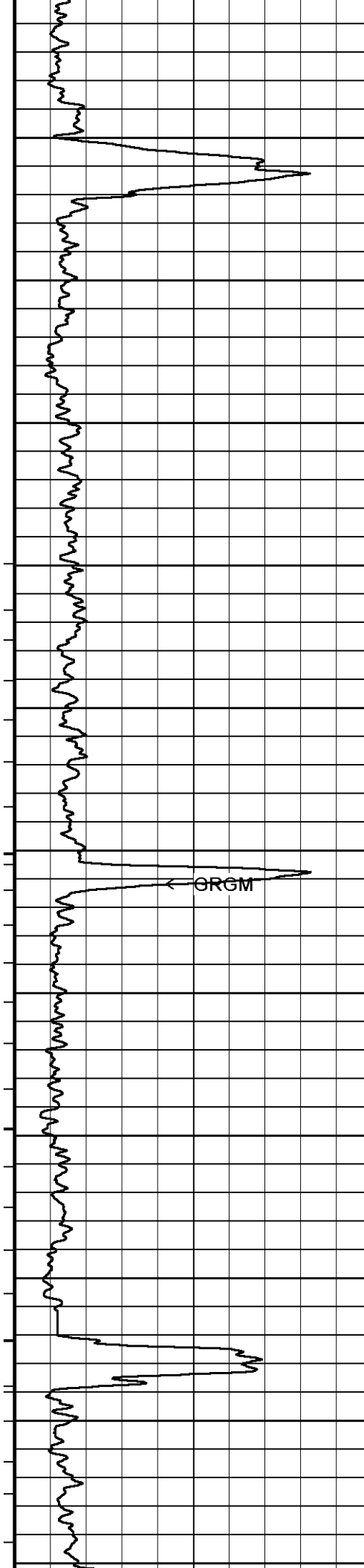
OPERATORS: R ROLLINS, J TURNER

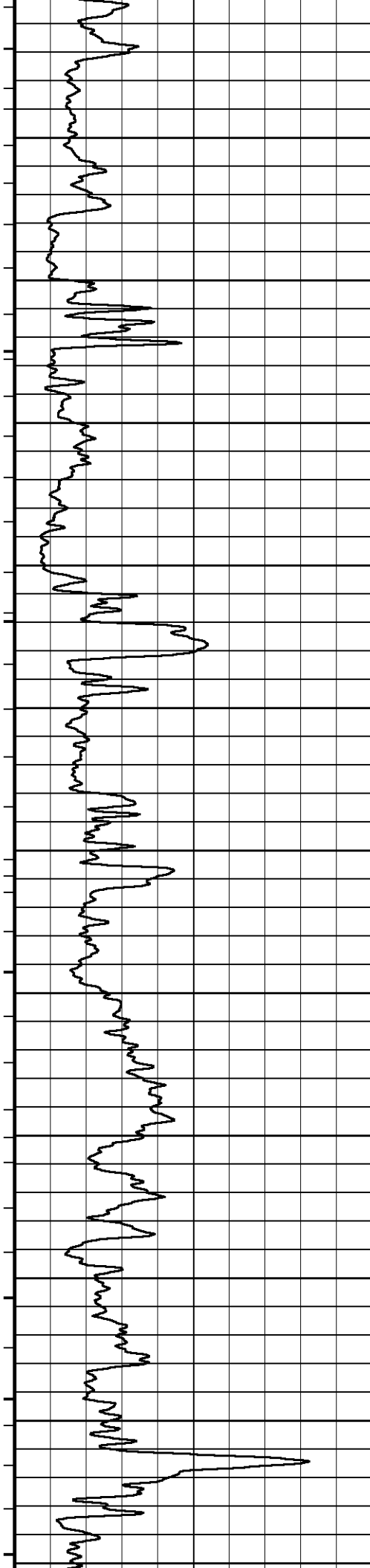
RIG: LARIAT #41

LOG RESPONSES EFFECTED BY HOLE RUGOSITY

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.







6400

128°

6500

129°

6600

129°

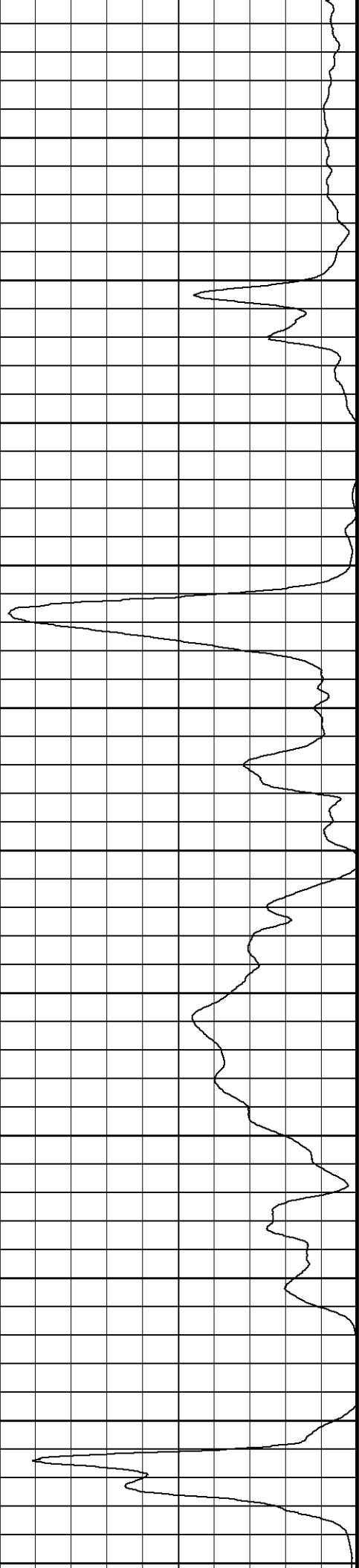
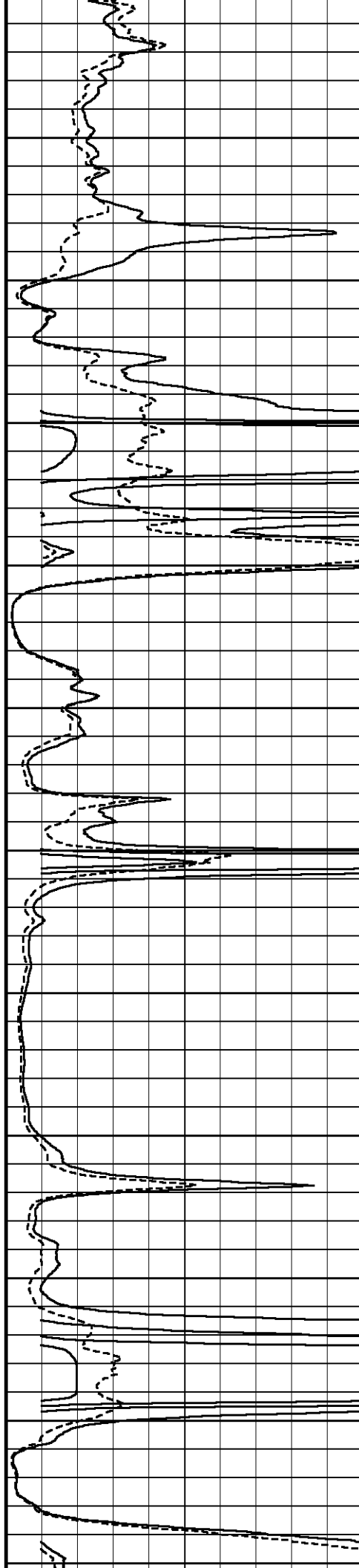
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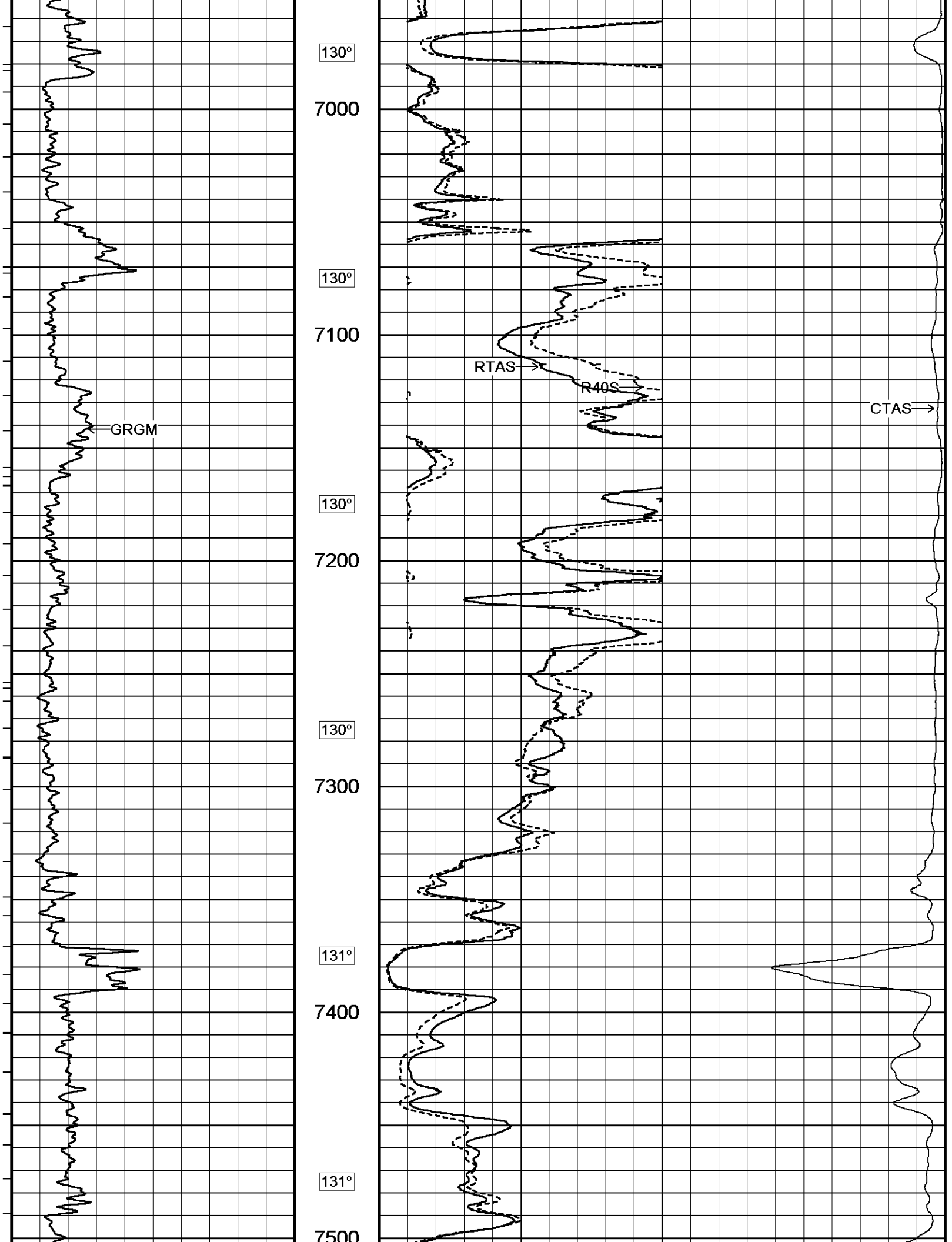
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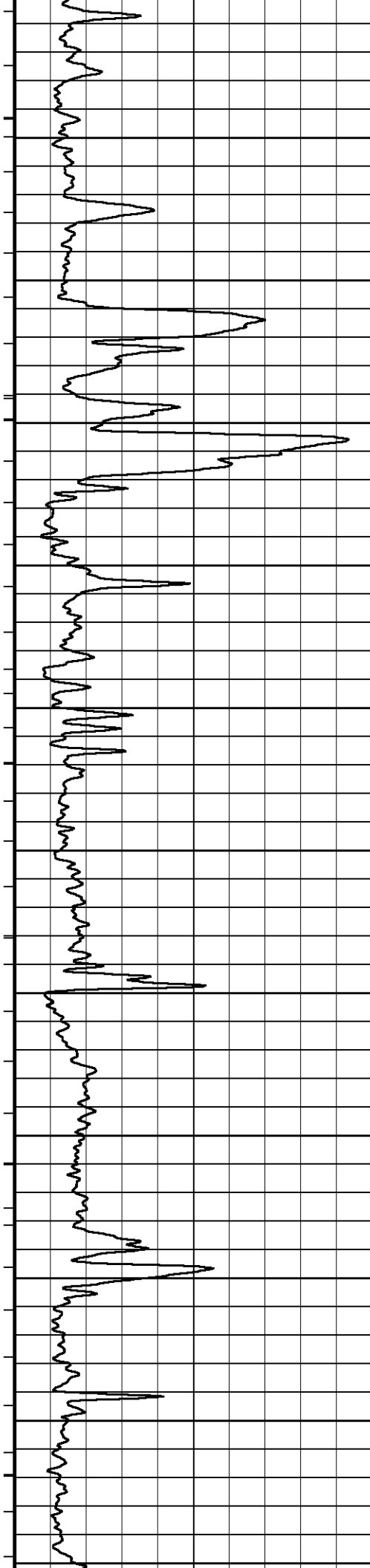
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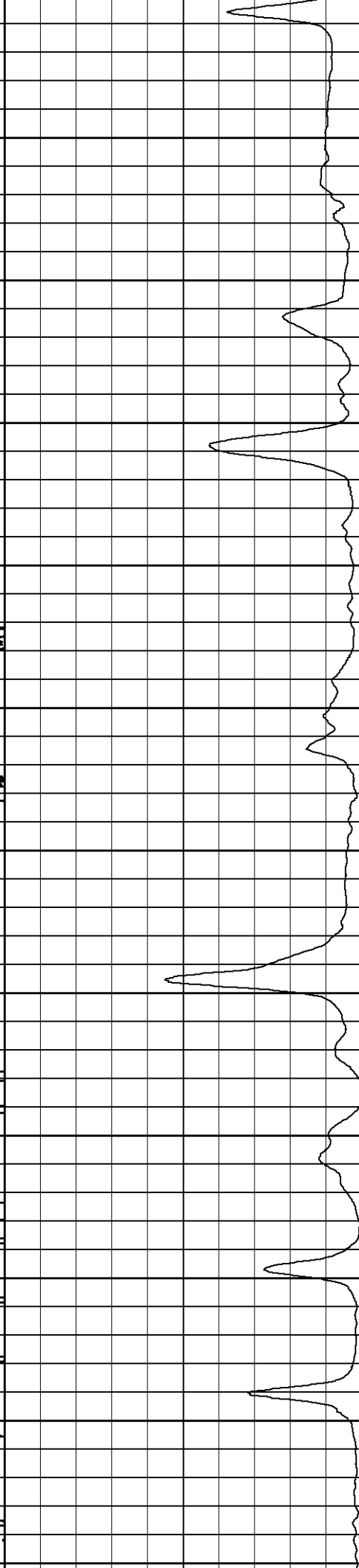
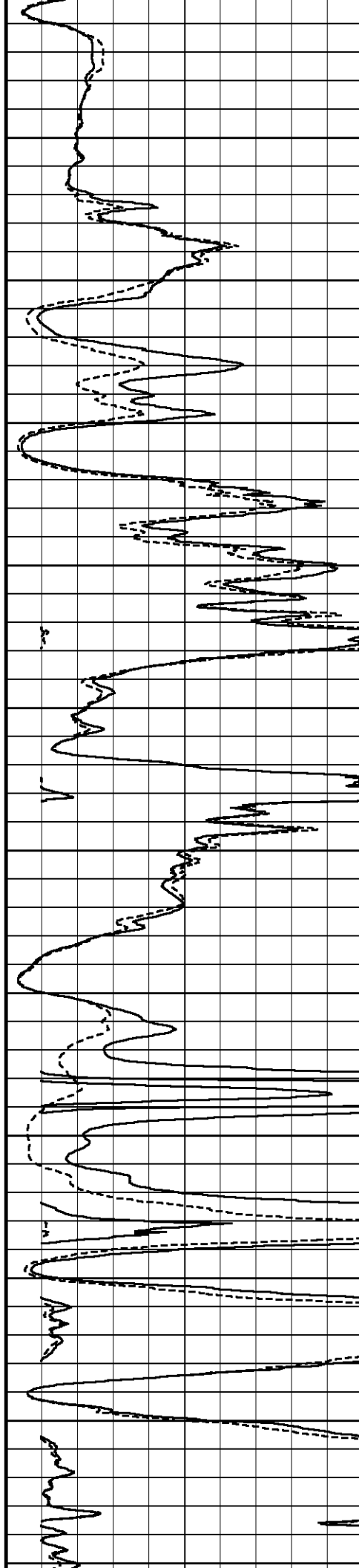
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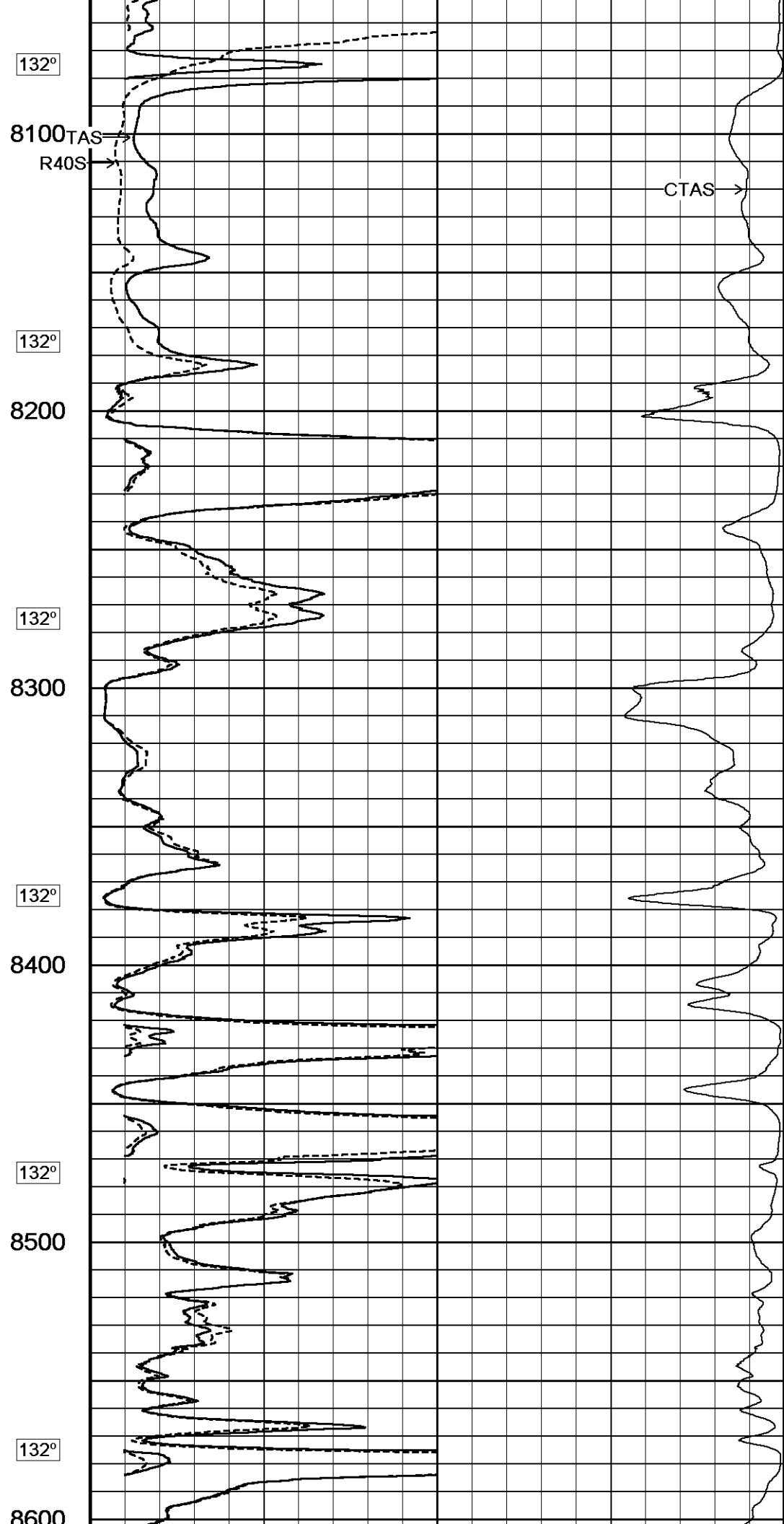
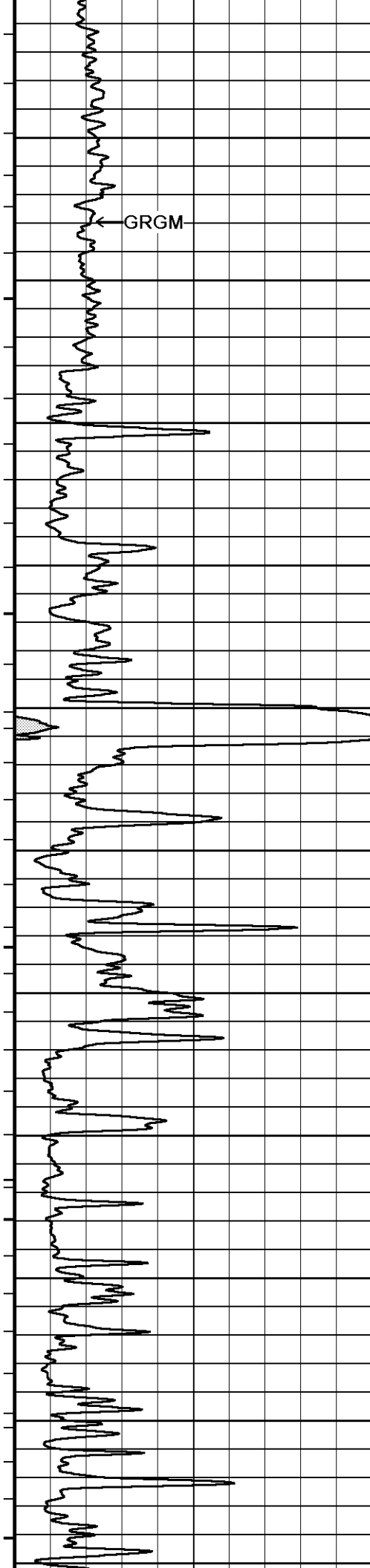


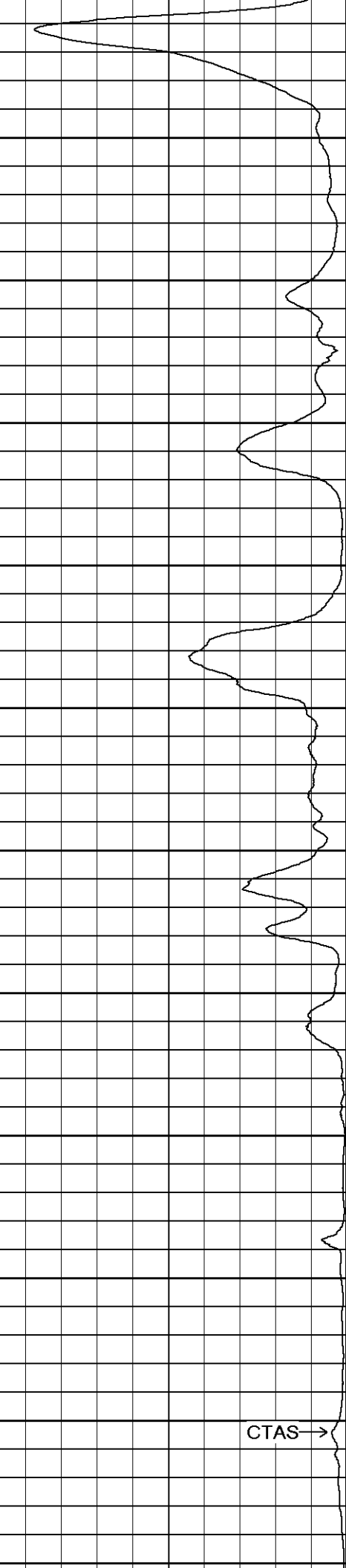
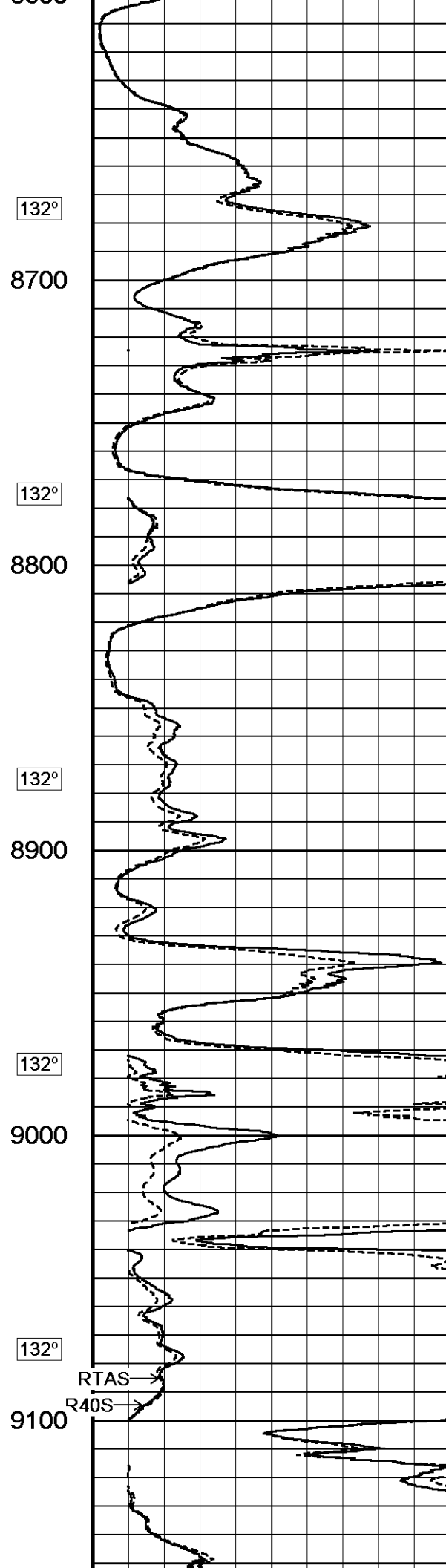
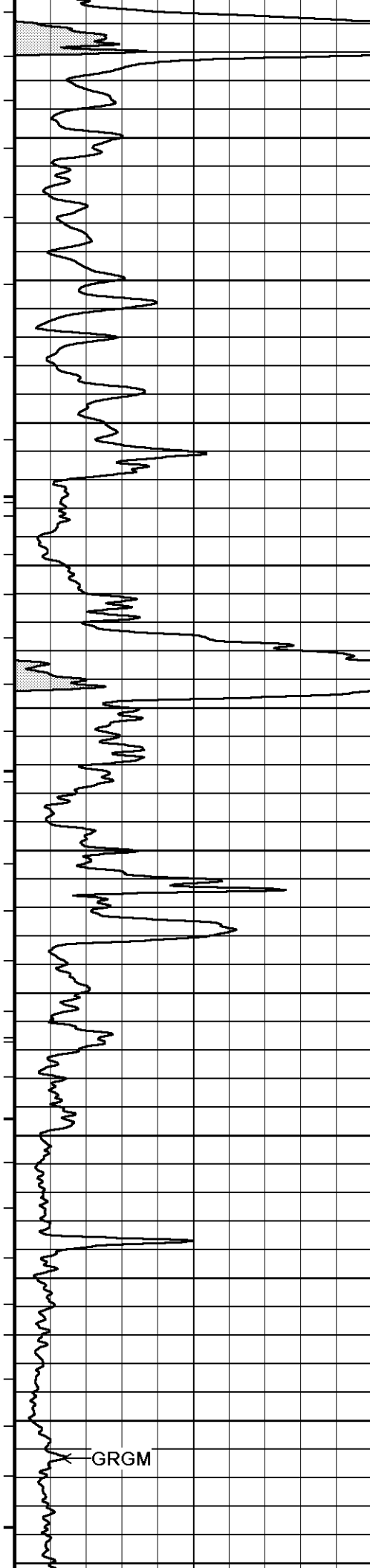


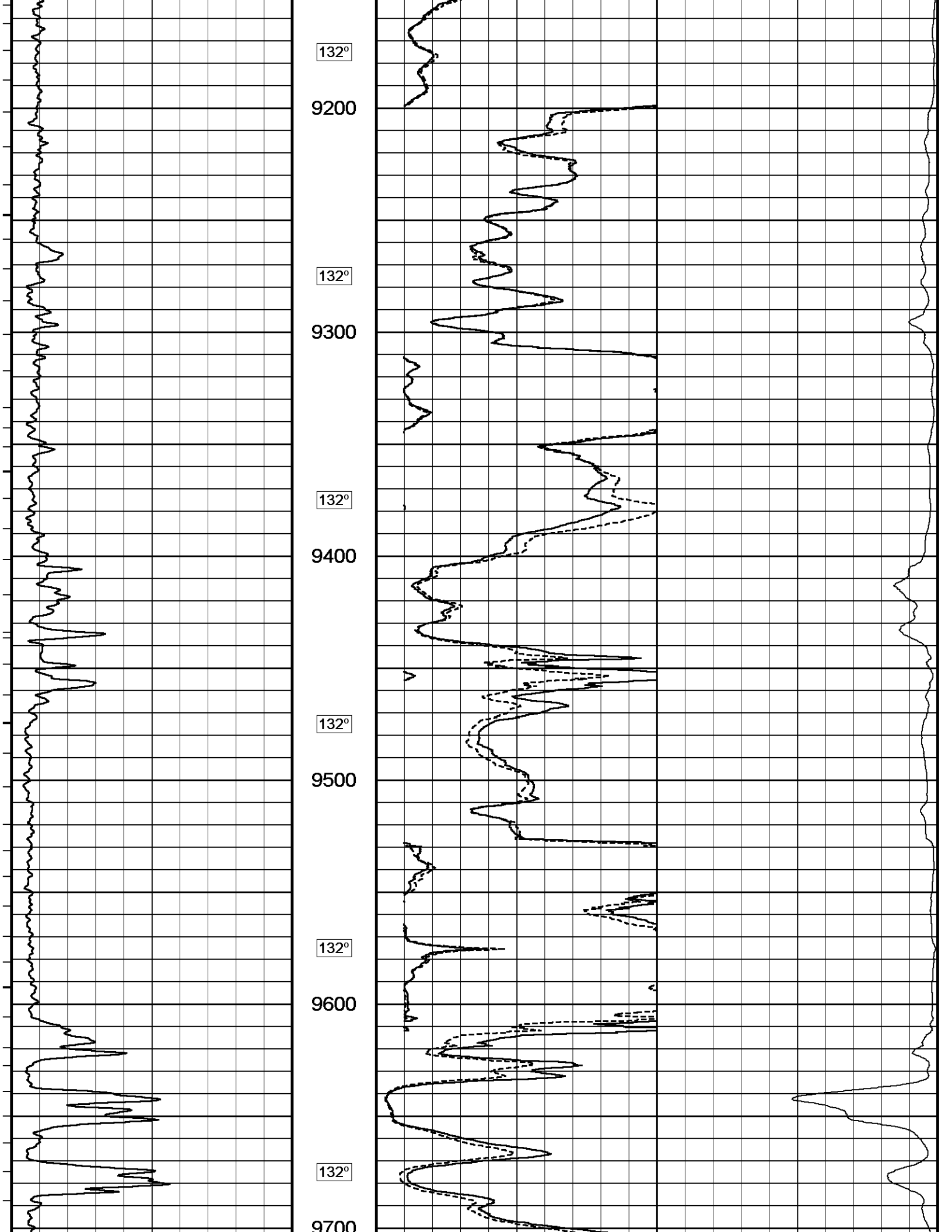


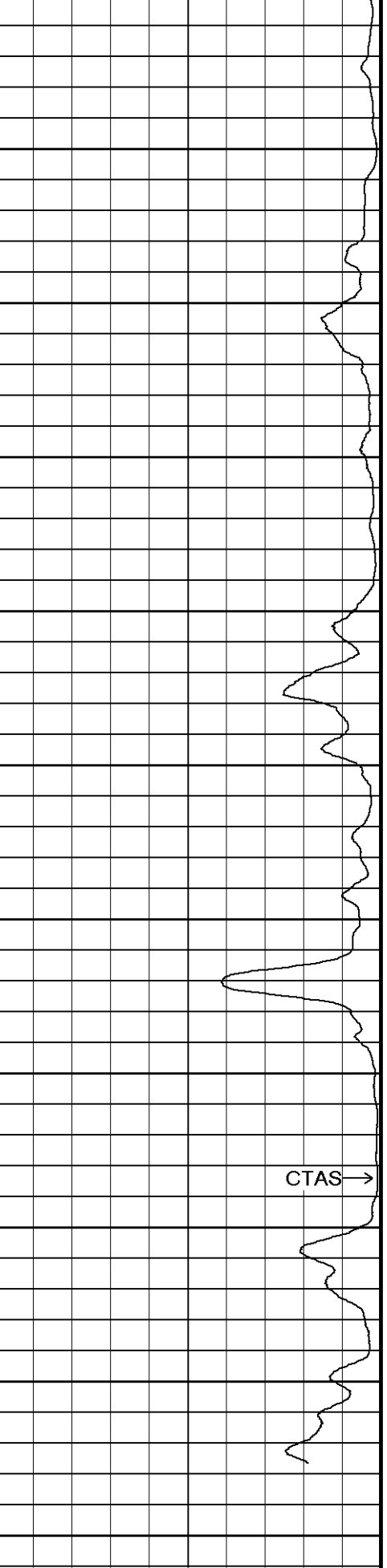
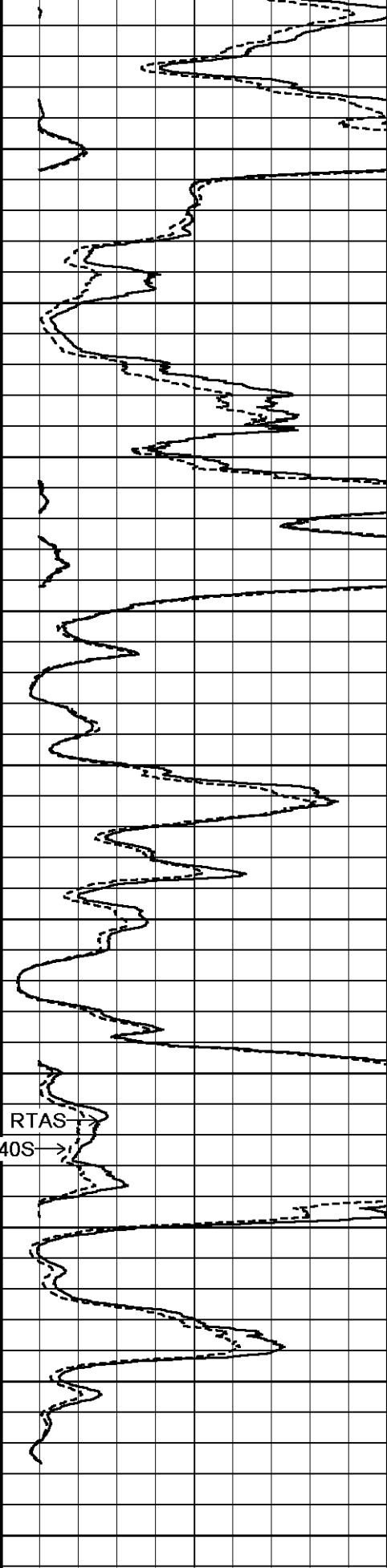
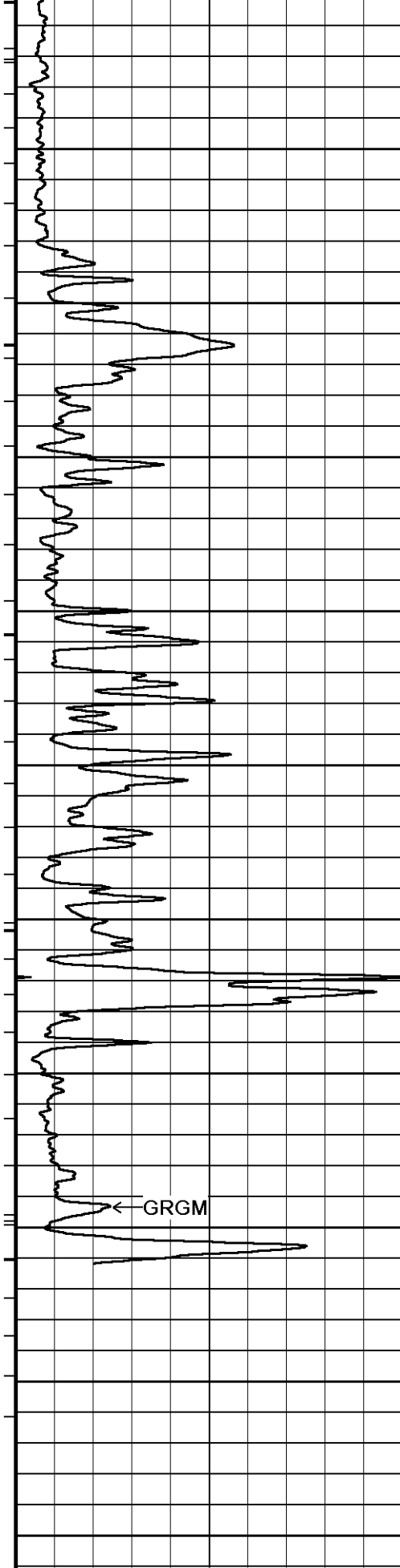
7550
131°
7600
131°
7700
132°
7800
131°
7900
132°
8000











GRGM ←

RTAS →

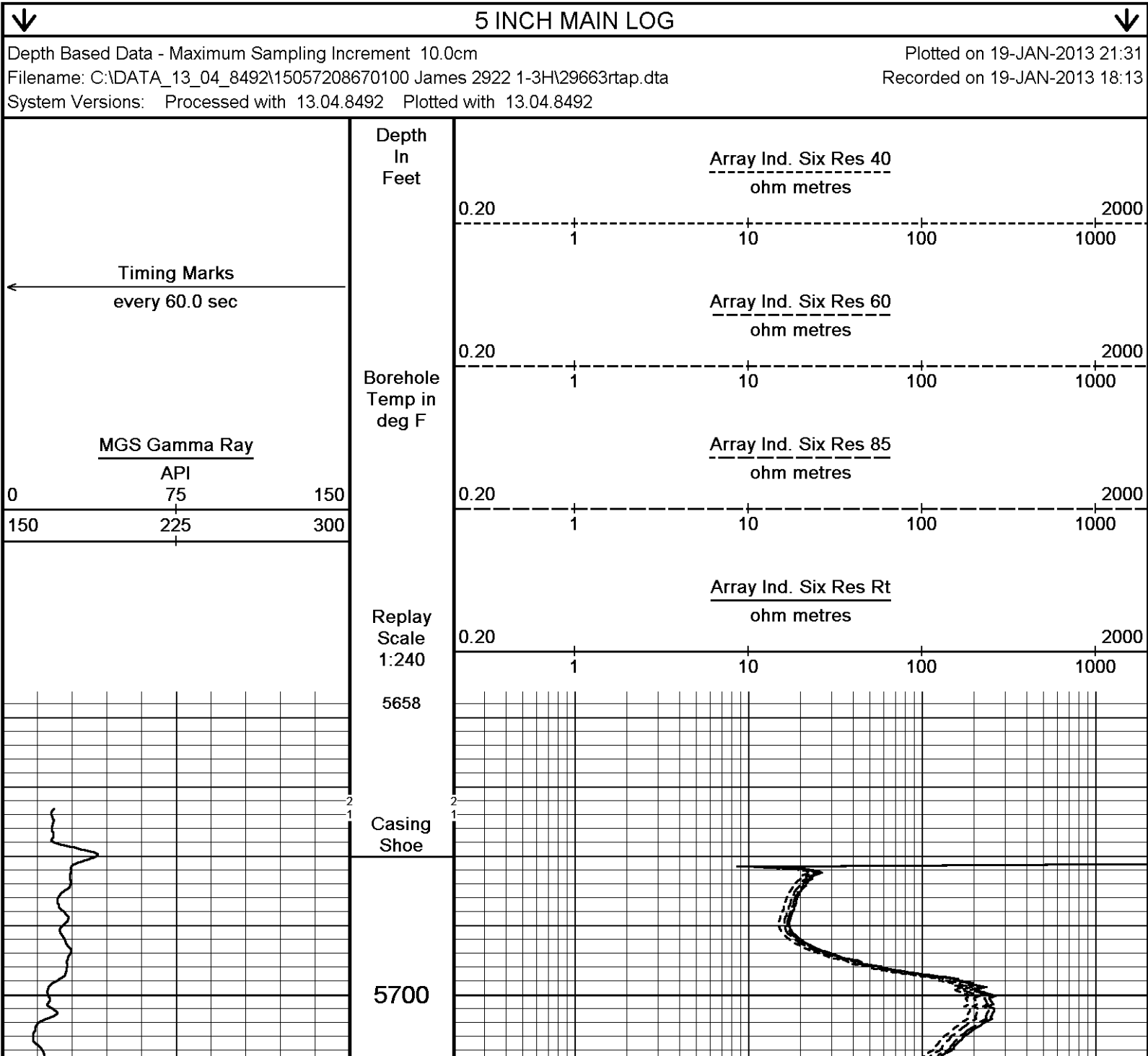
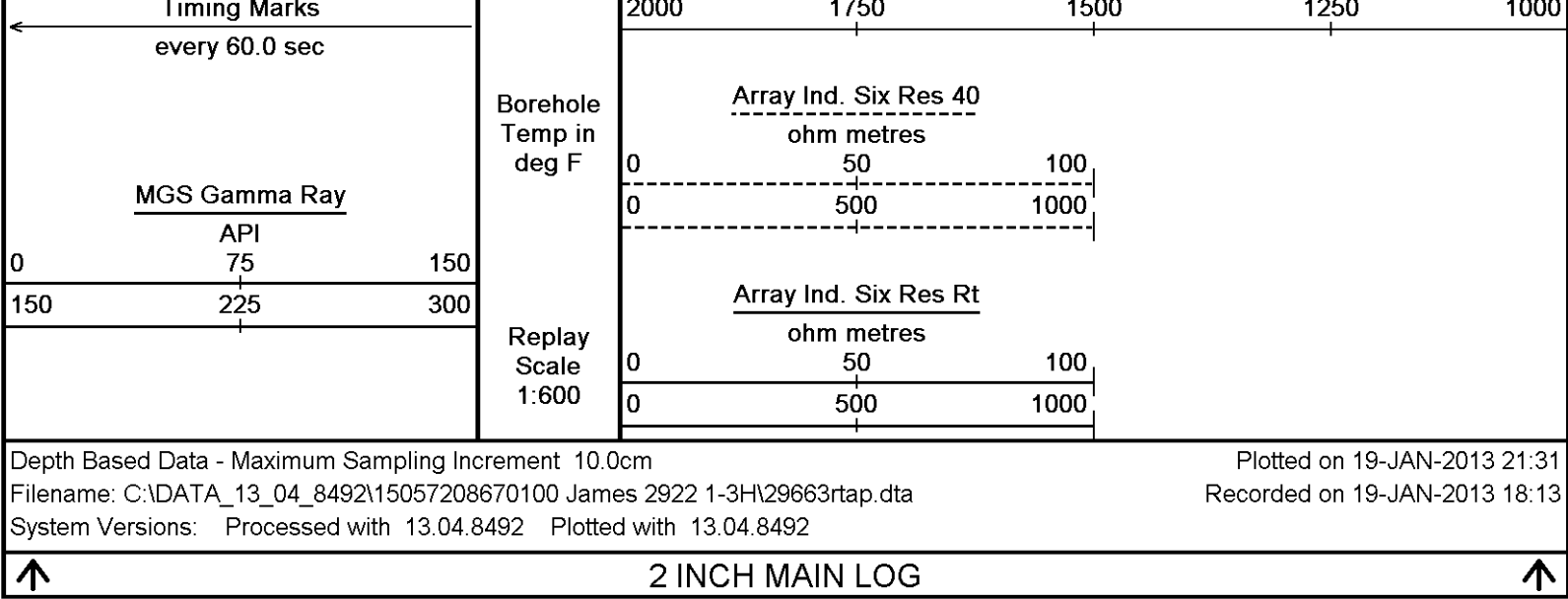
132° R40S →

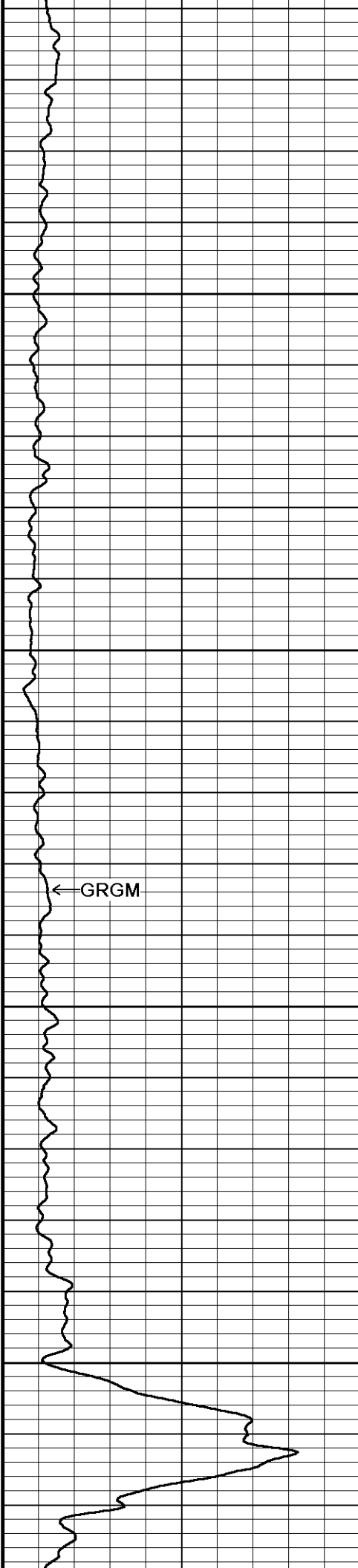
CTAS →

Depth
In
Feet

Array Ind. Six Cond Ct

1000 750 500 250 0





126°

5750

126°

5800

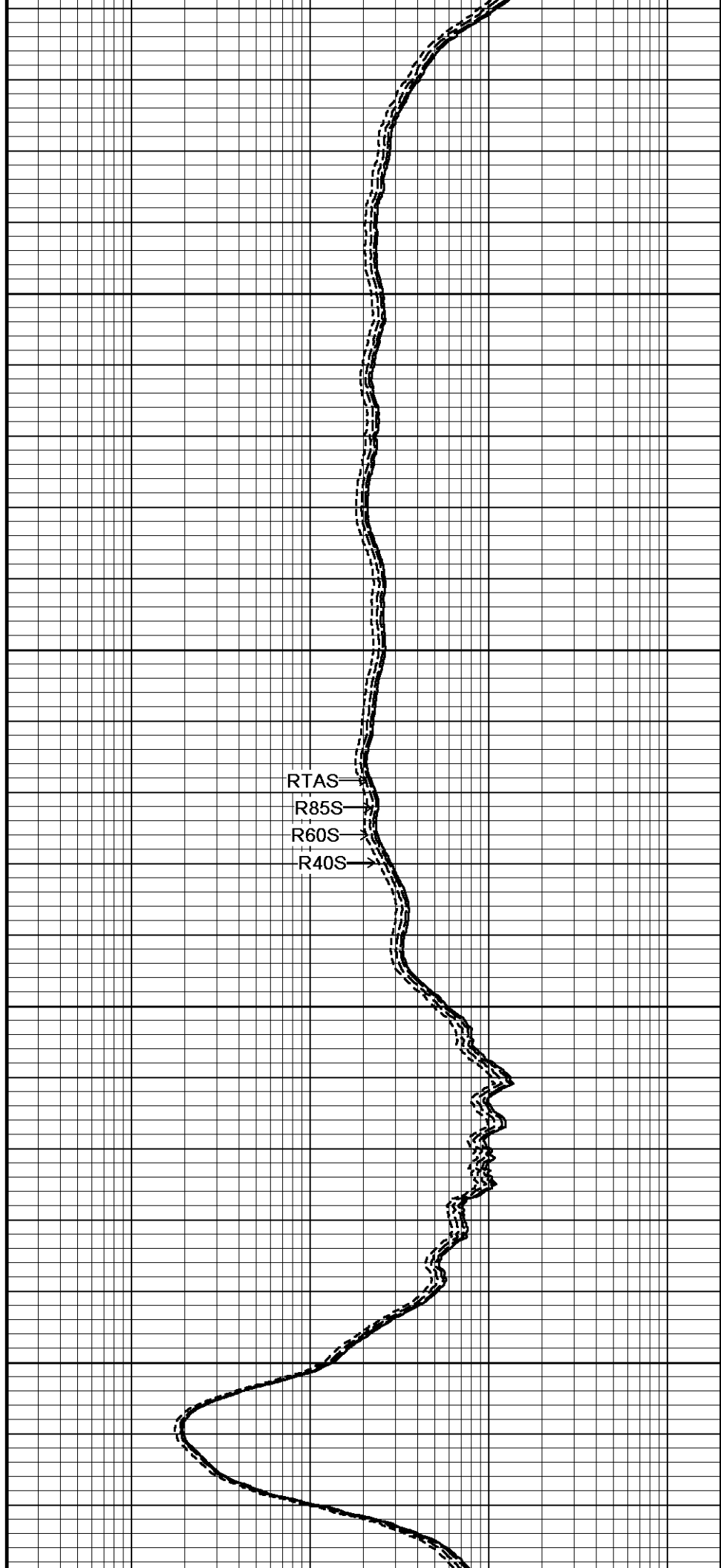
← GRGM

126°

5850

126°

5900

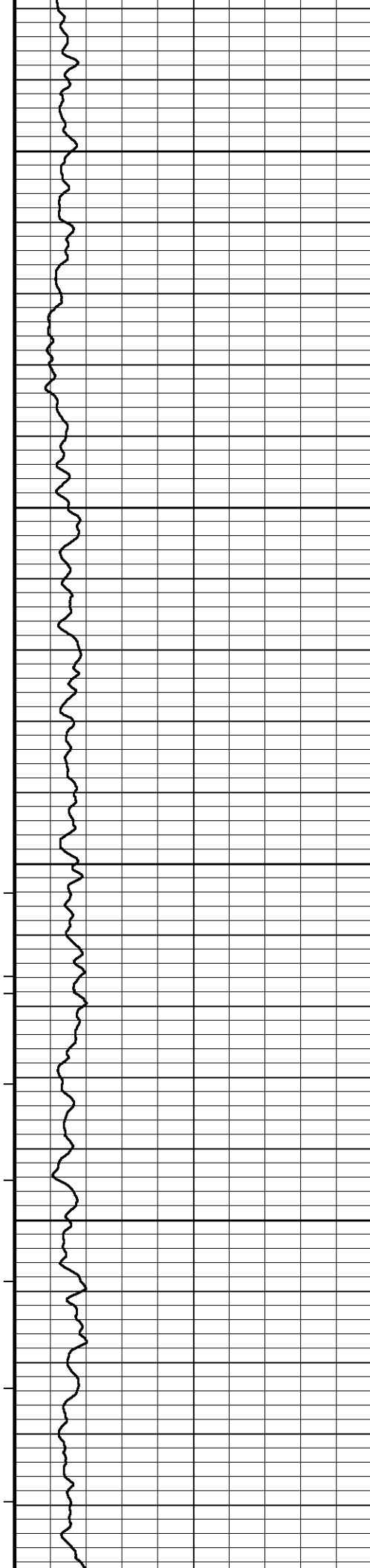


RTAS

R85S

R60S

R40S



127°

5950

127°

6000

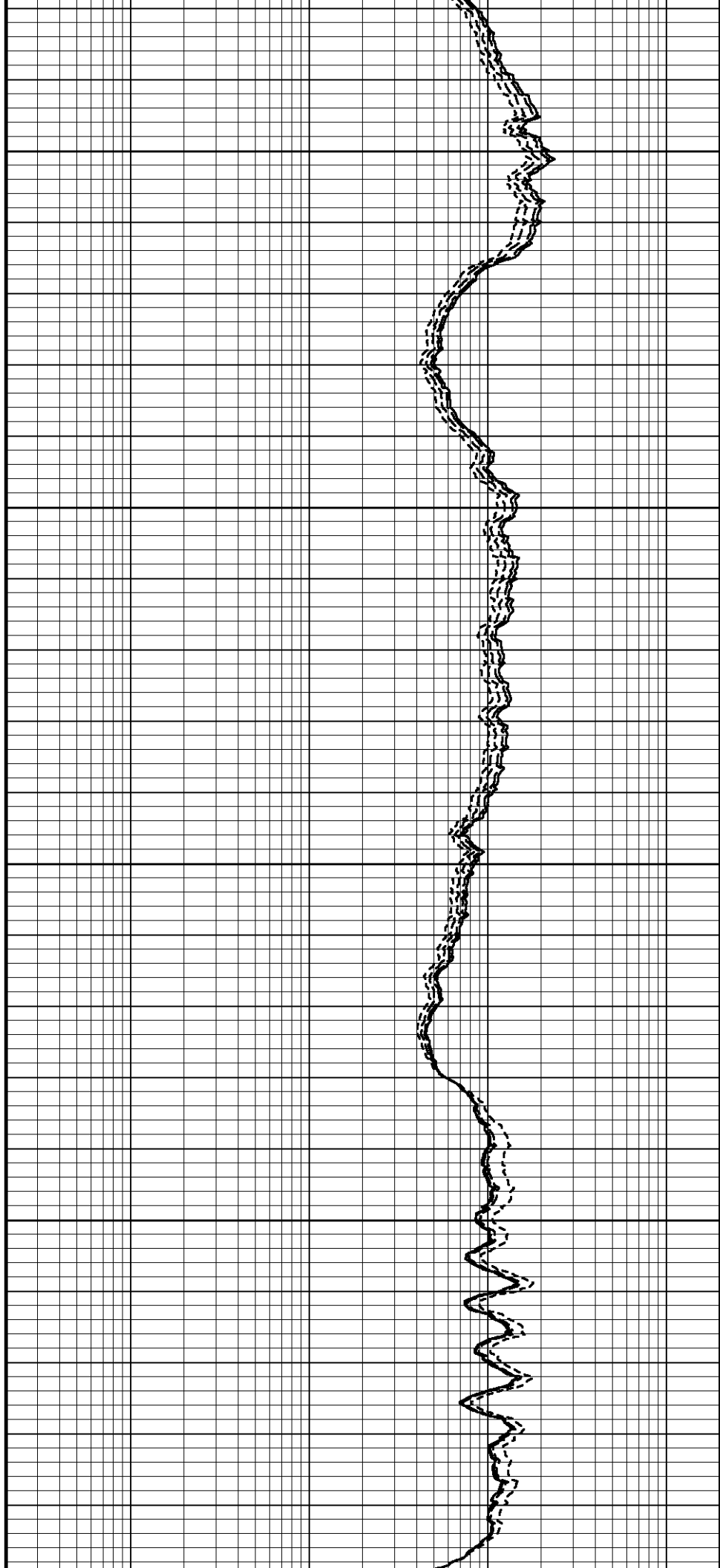
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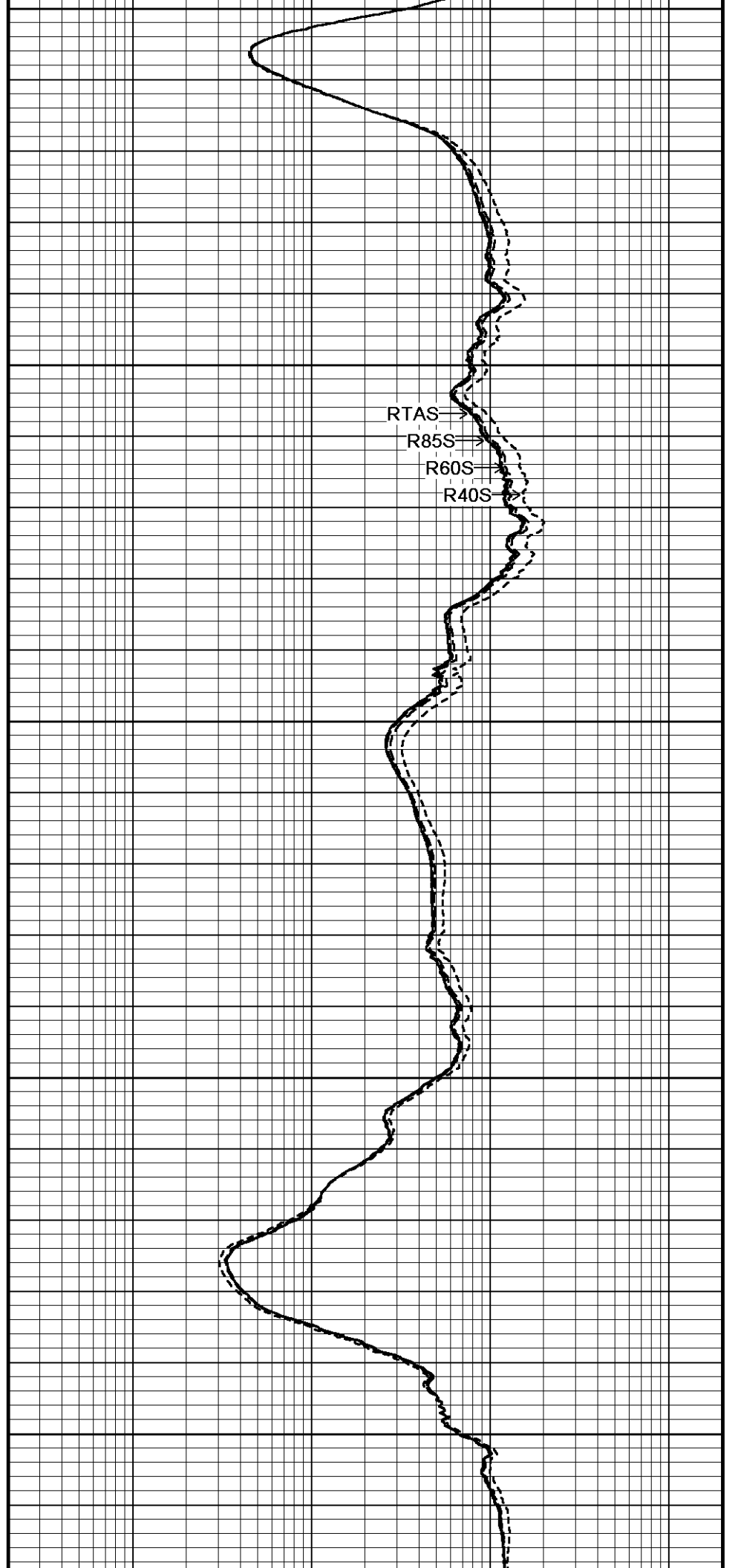
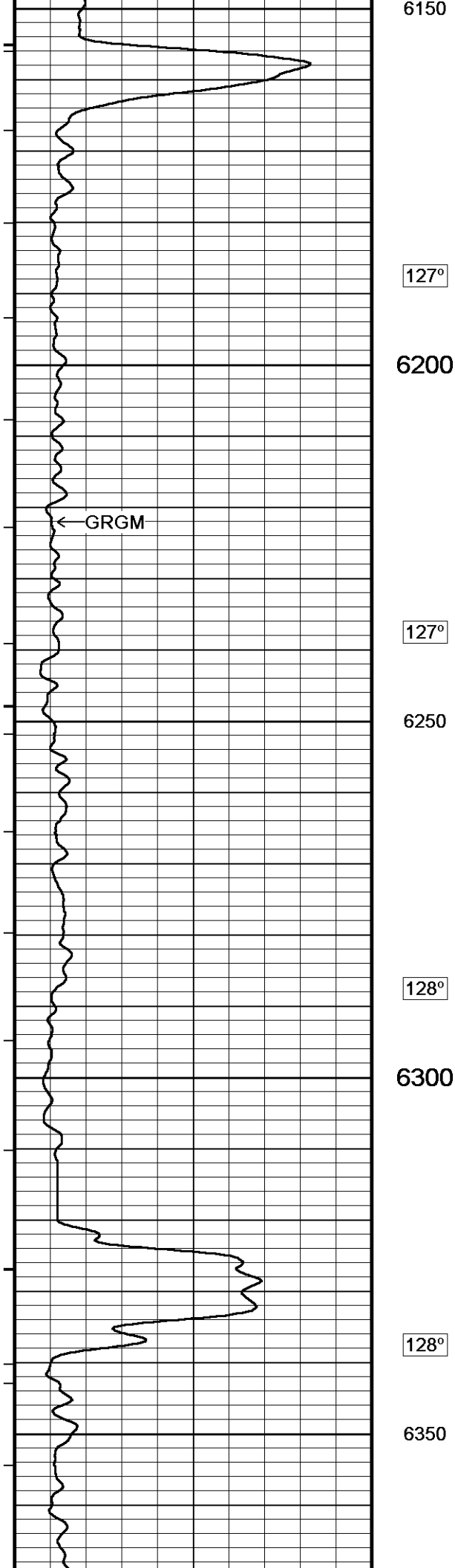
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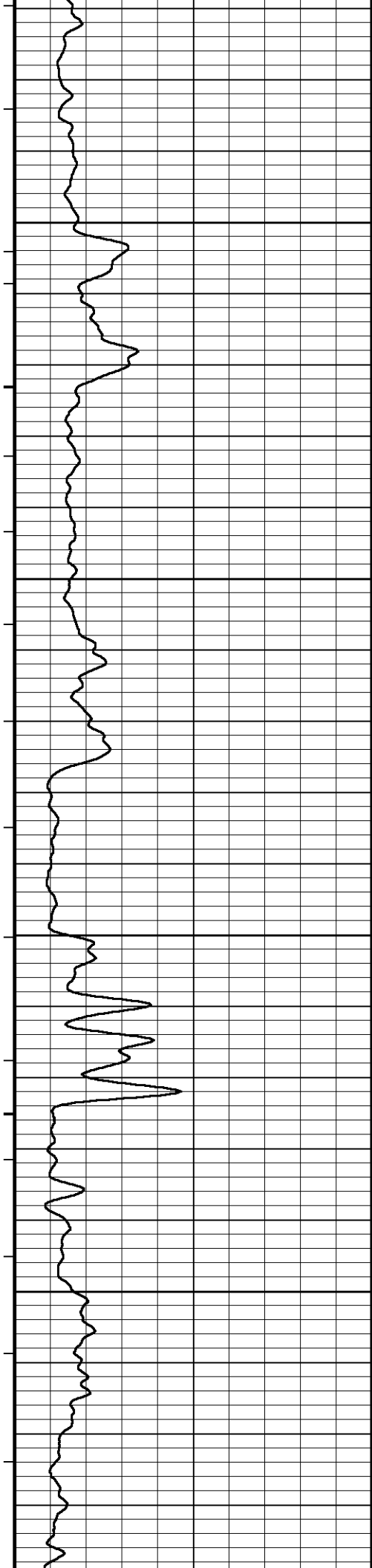
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6100

127°







128°

6400

128°

6450

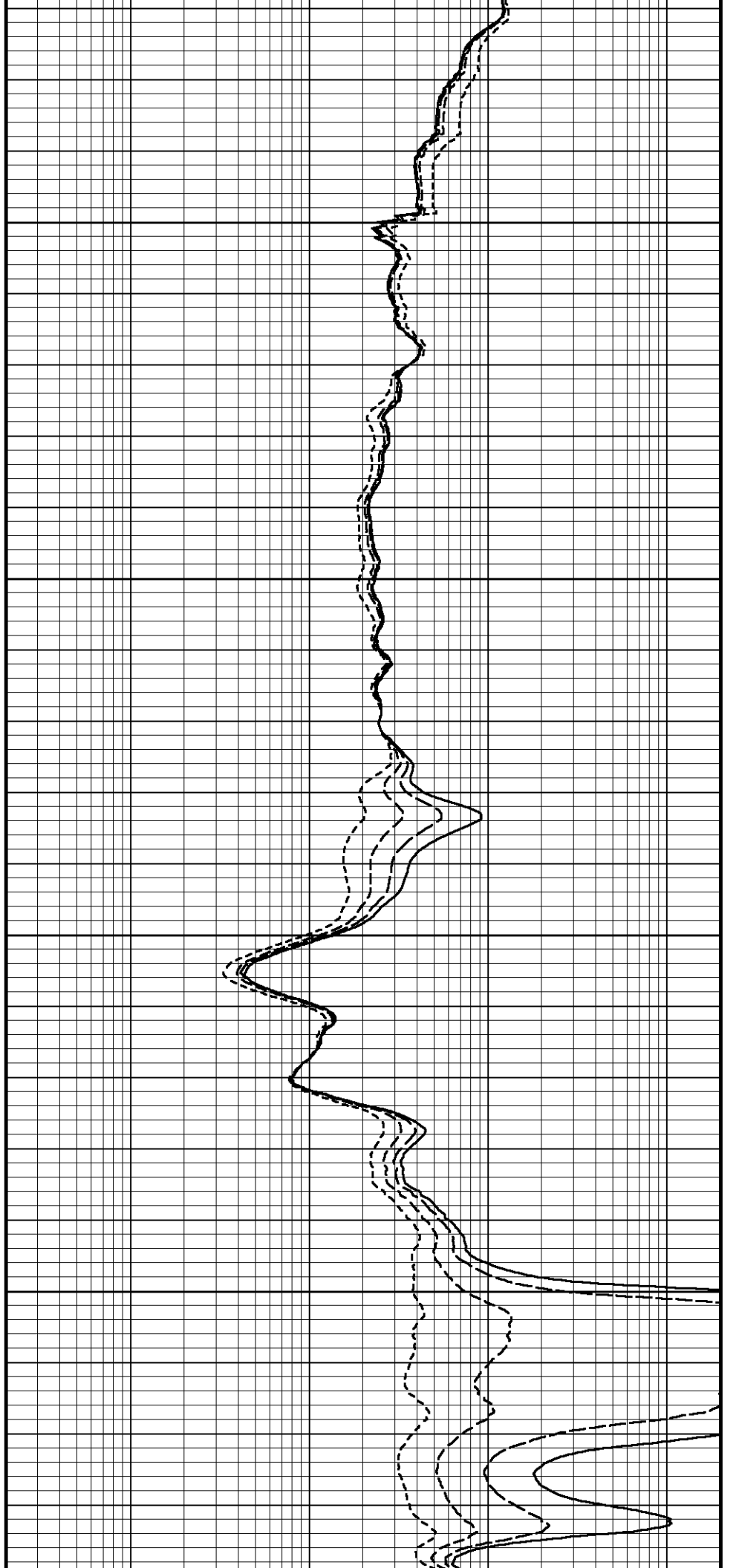
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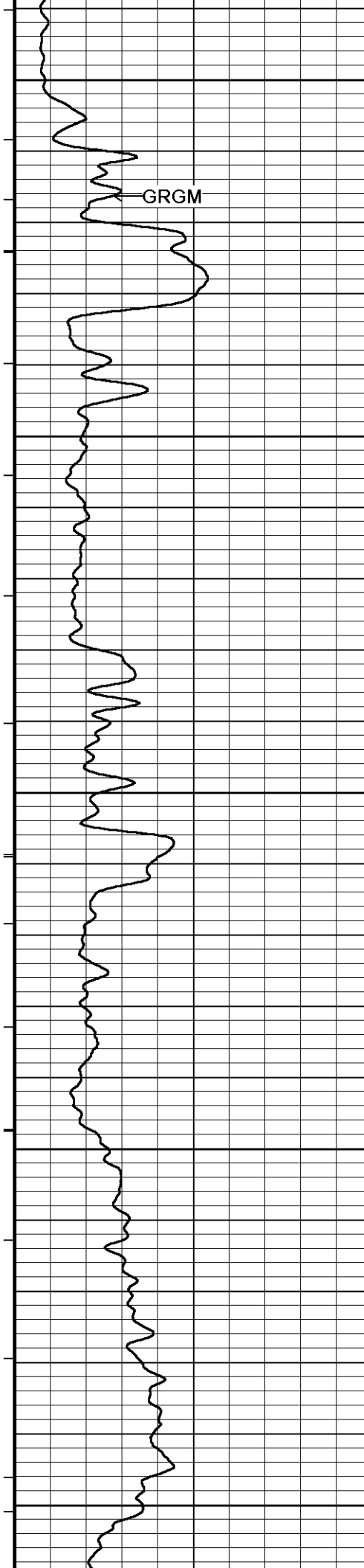
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128°

6550

129°





6600

129°

6650

129°

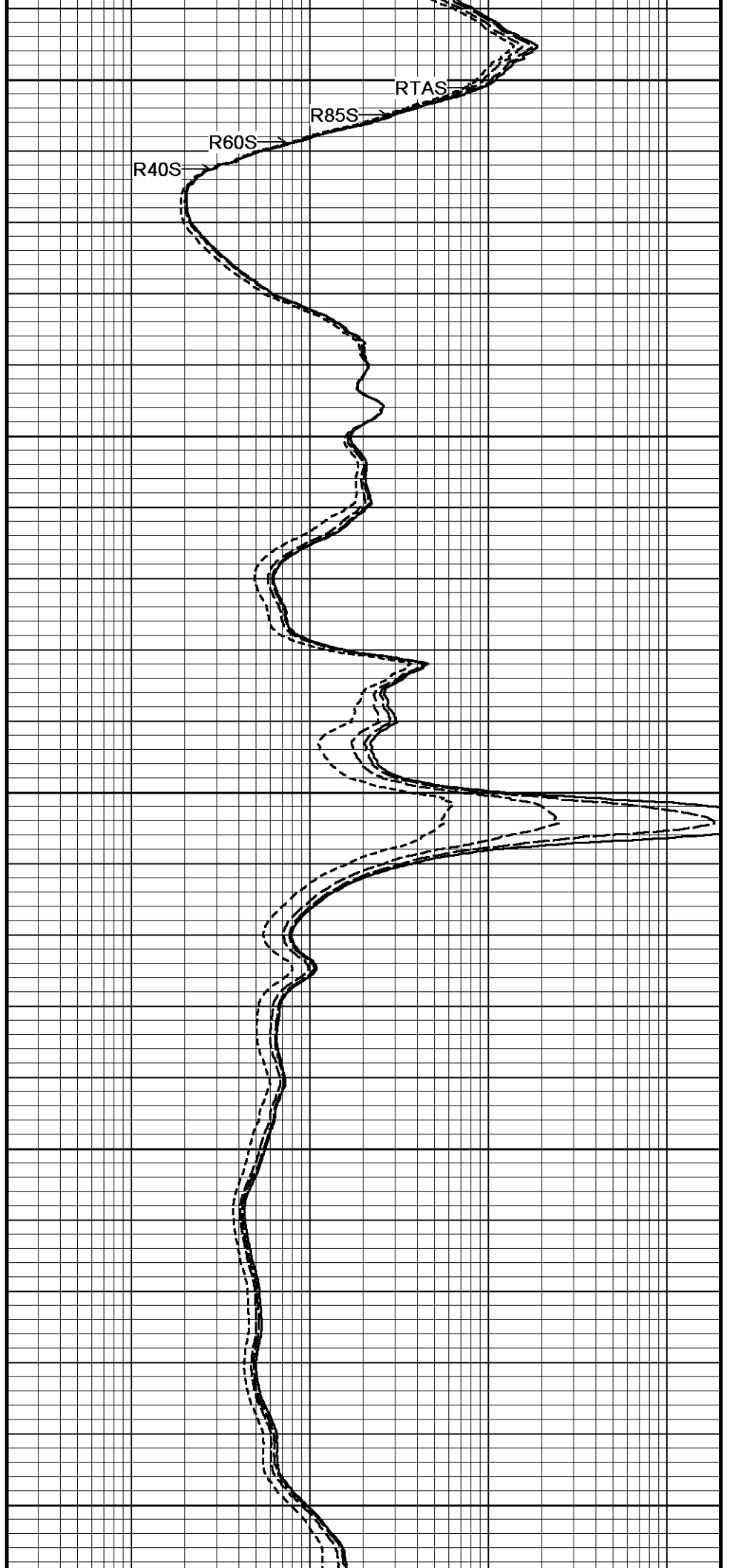
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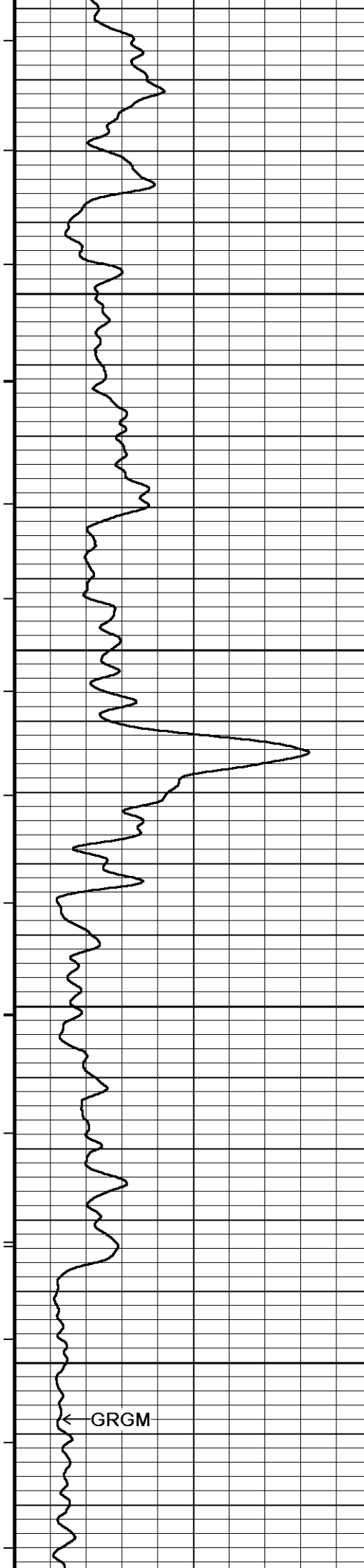
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6750

129°

6800





129°

6850

129°

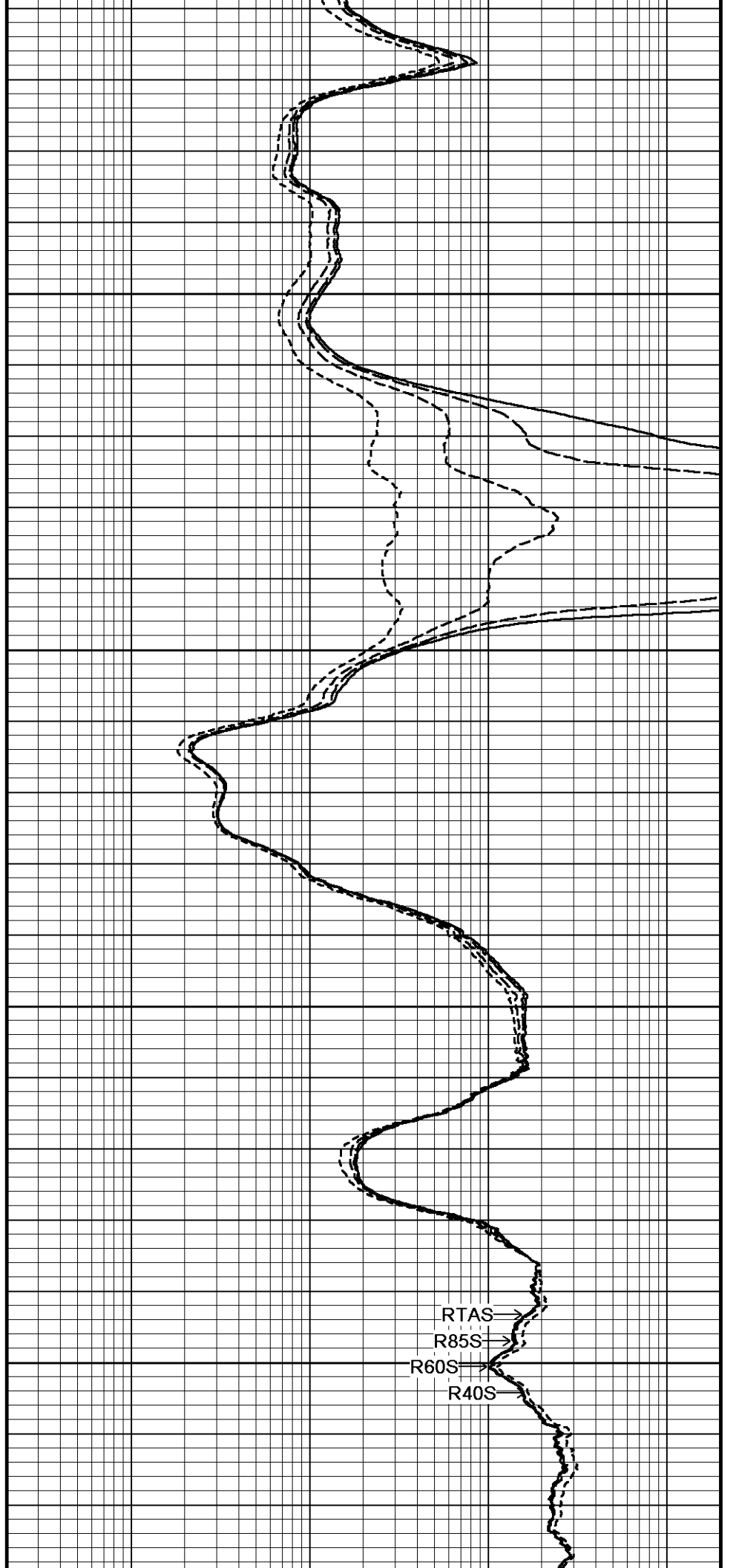
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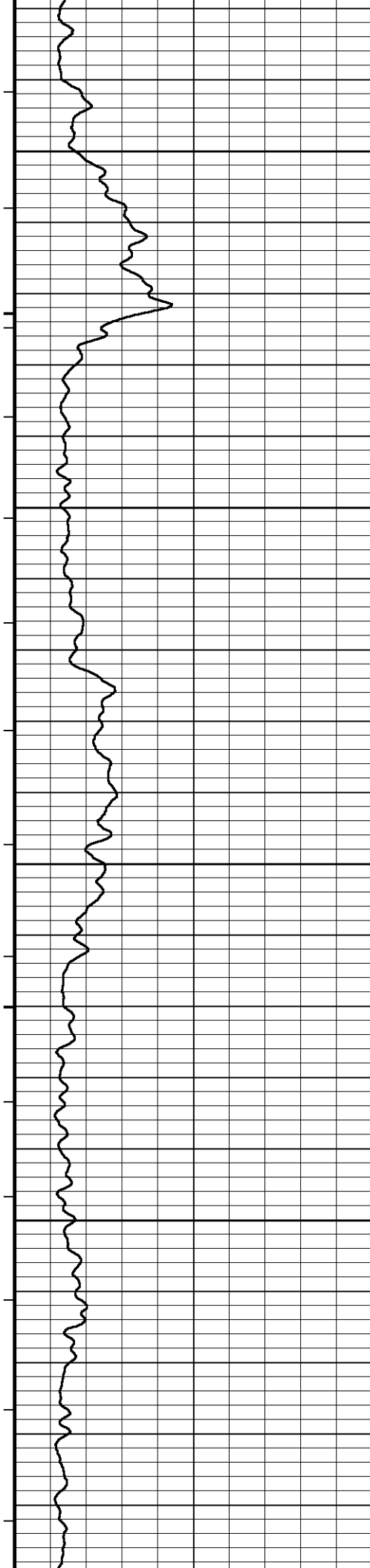
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6950

130°

7000





130°

7050

130°

7100

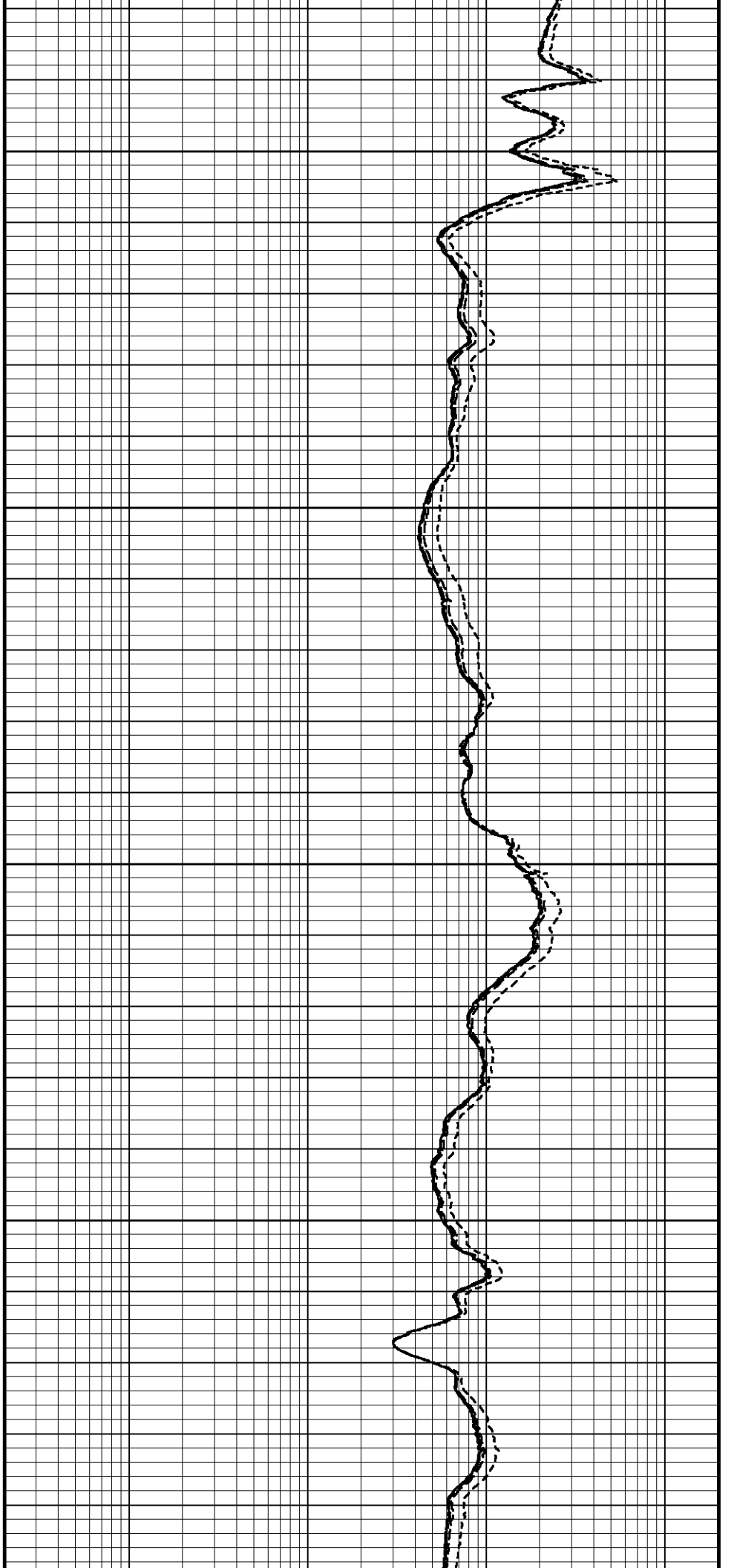
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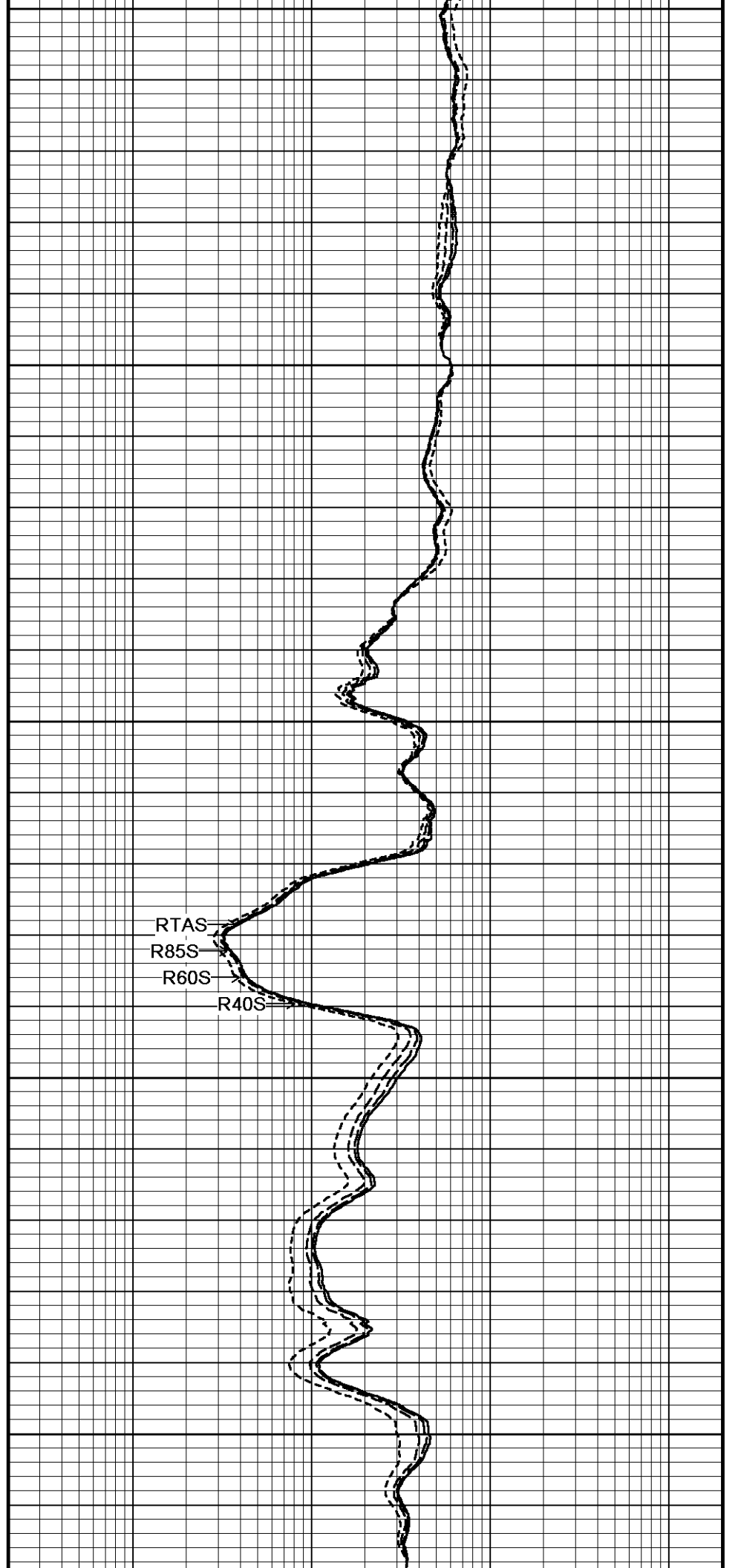
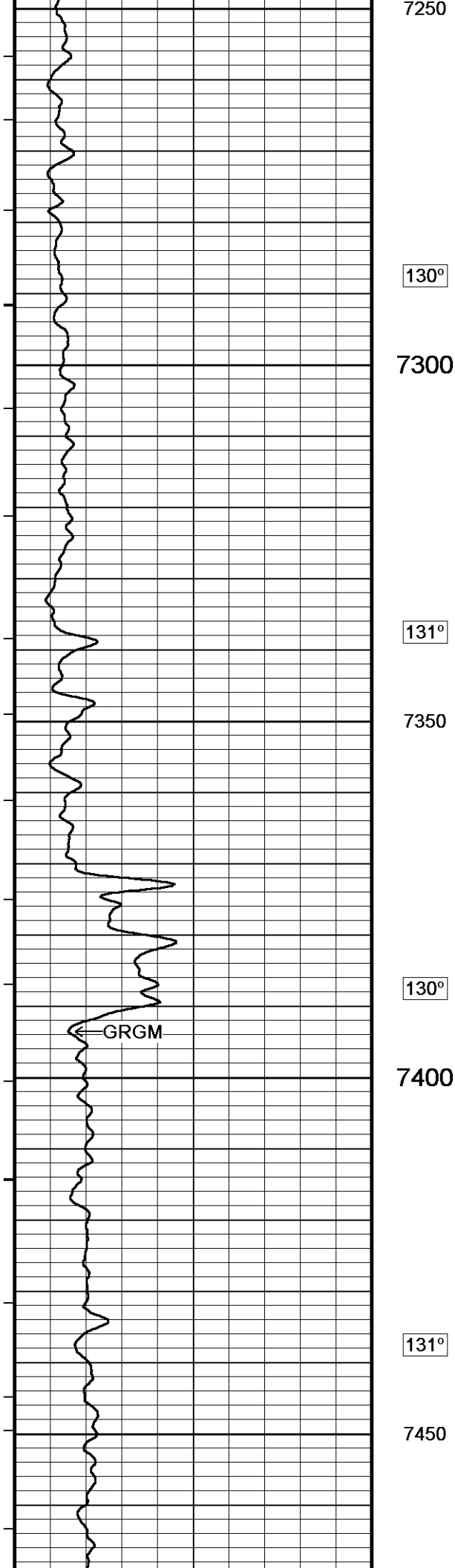
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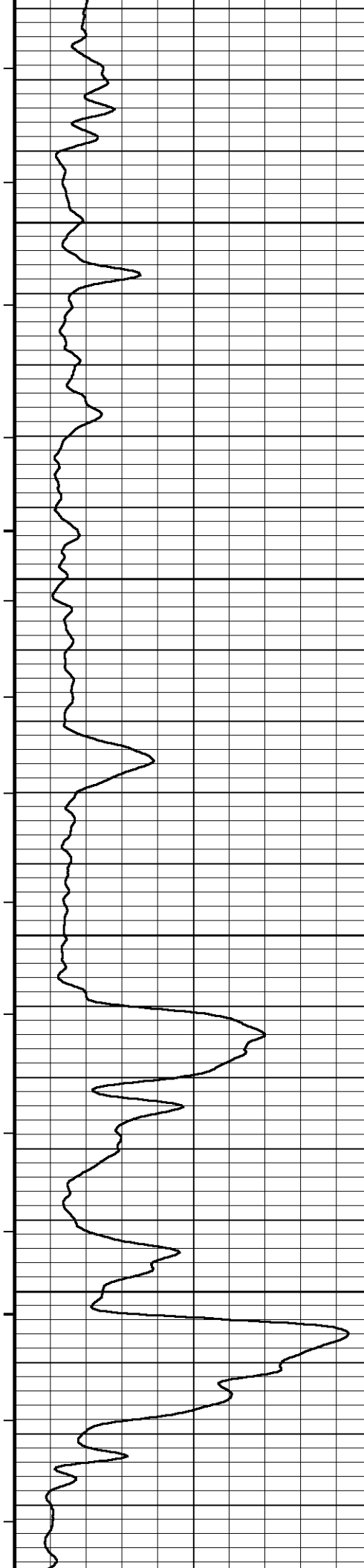
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7200

130°







131°

7500

131°

7550

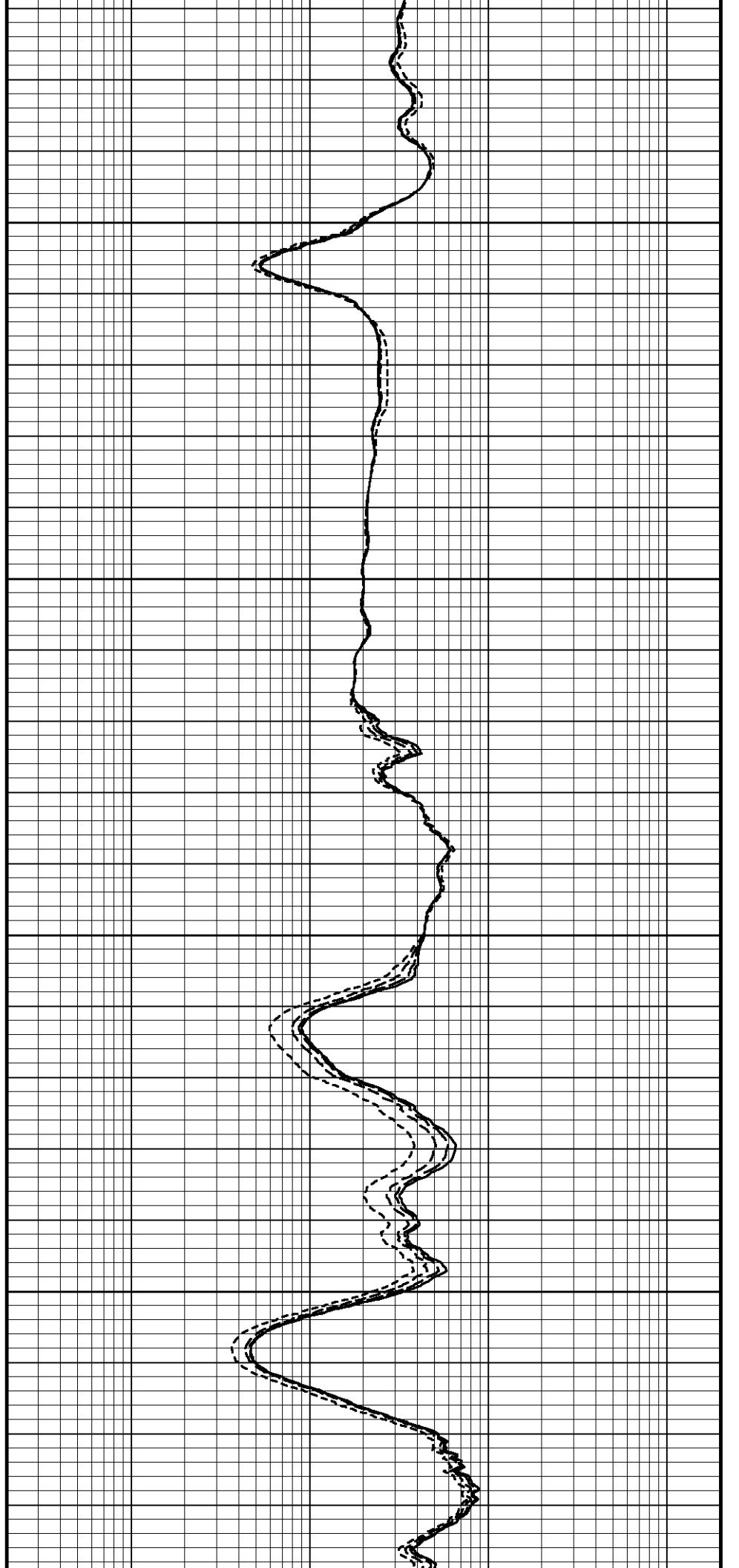
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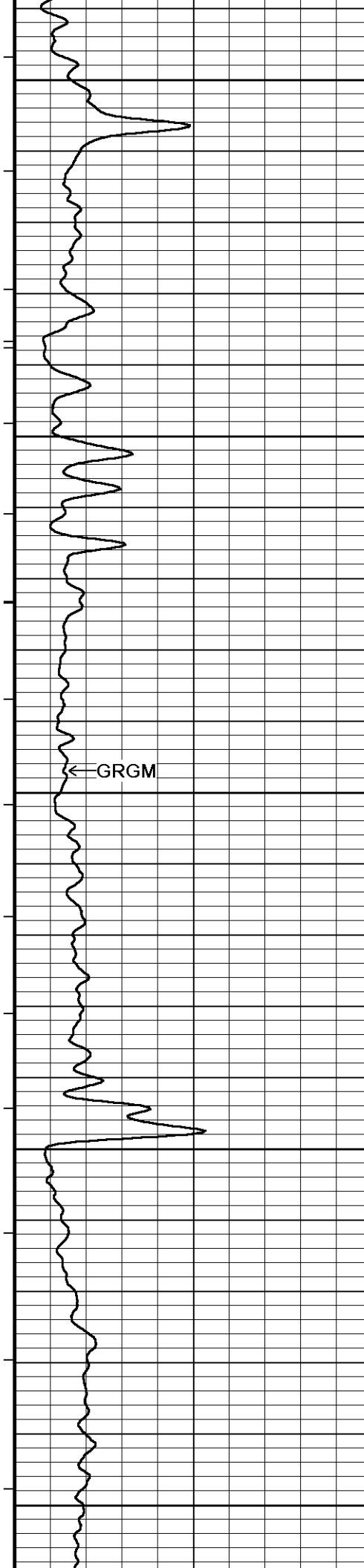
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131°

7650

131°





7700

131°

7750

131°

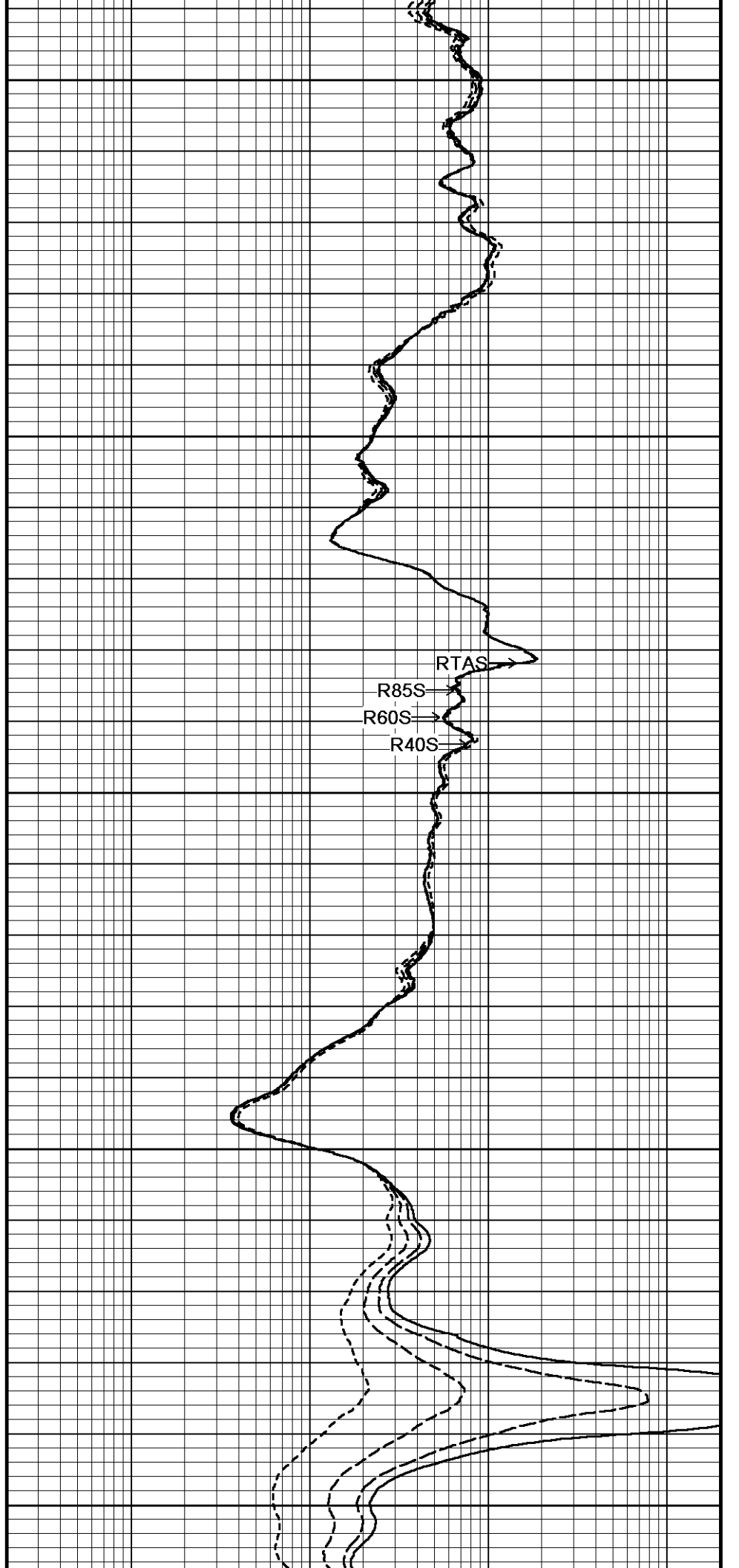
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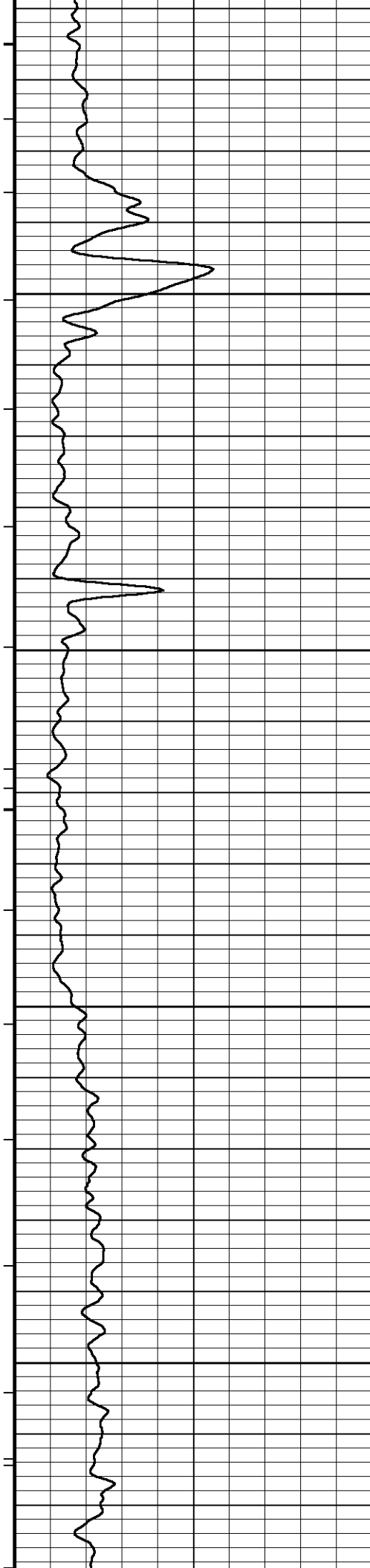
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7850

131°

7900





131°

7950

132°

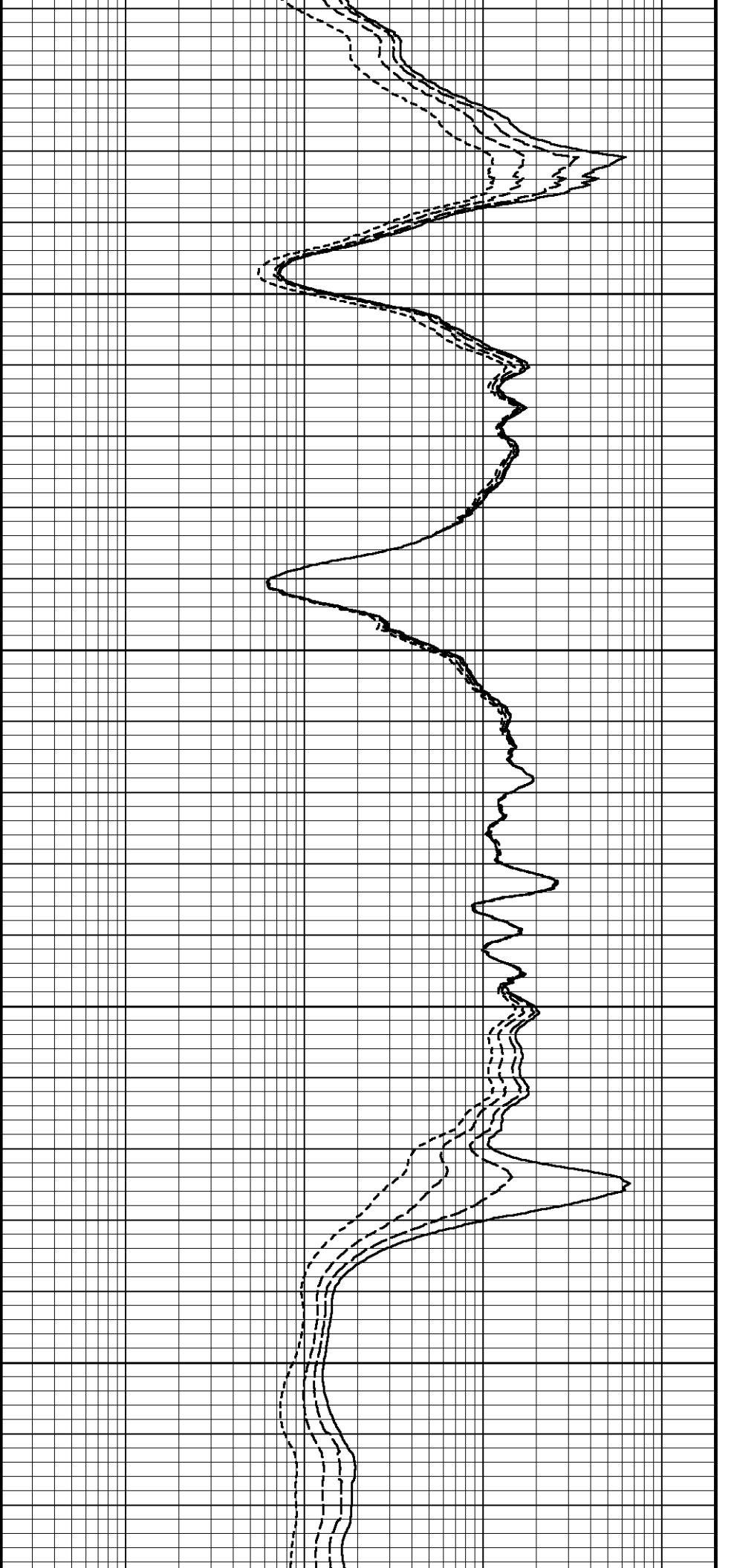
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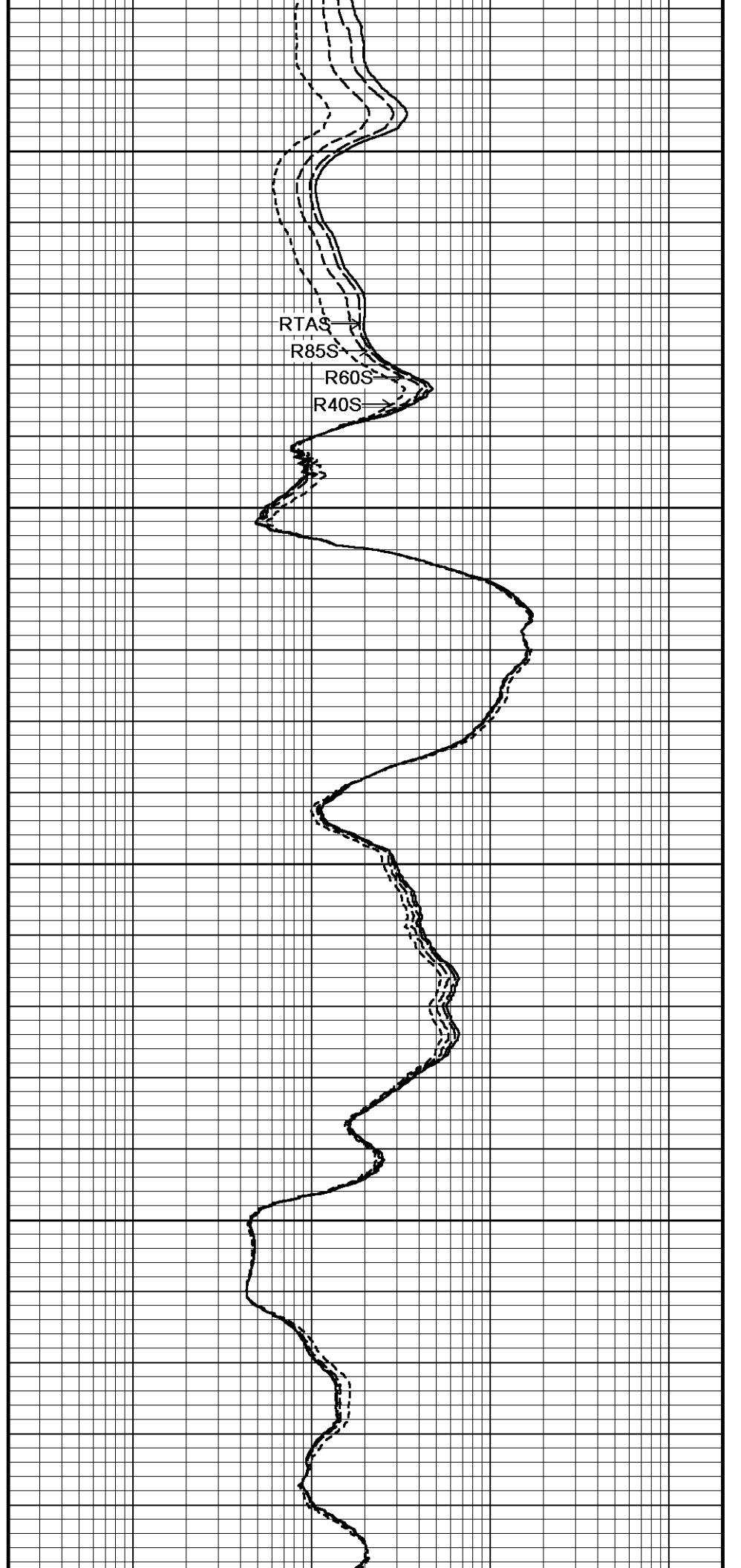
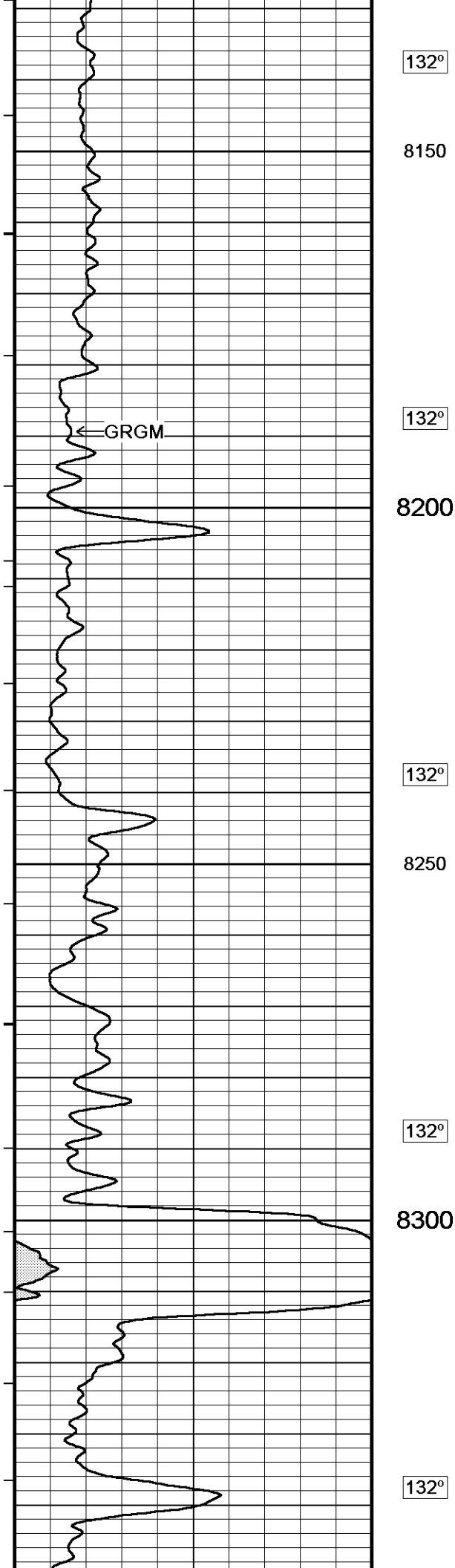
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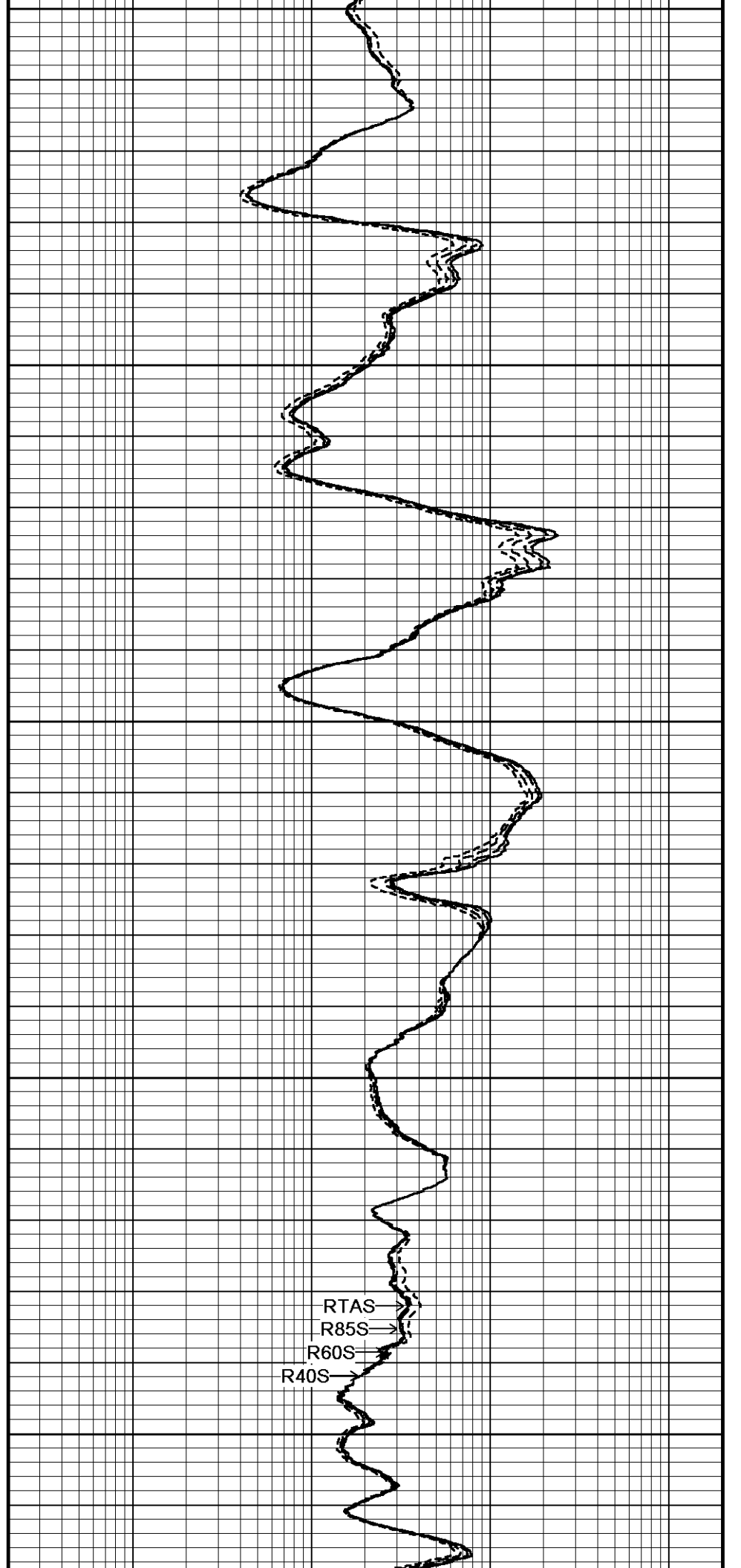
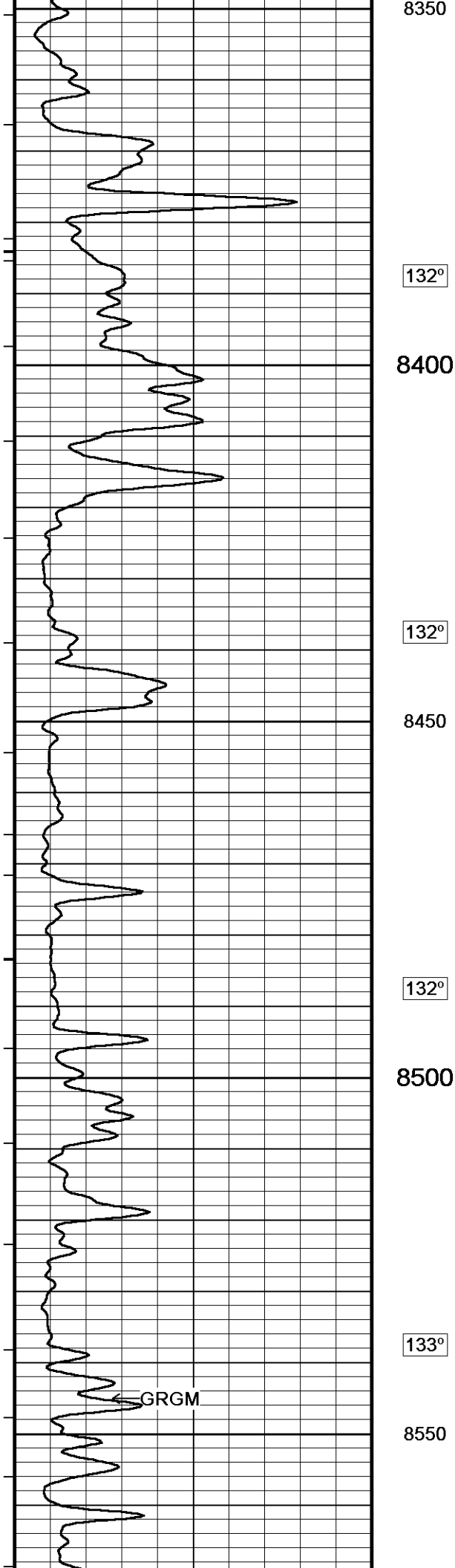
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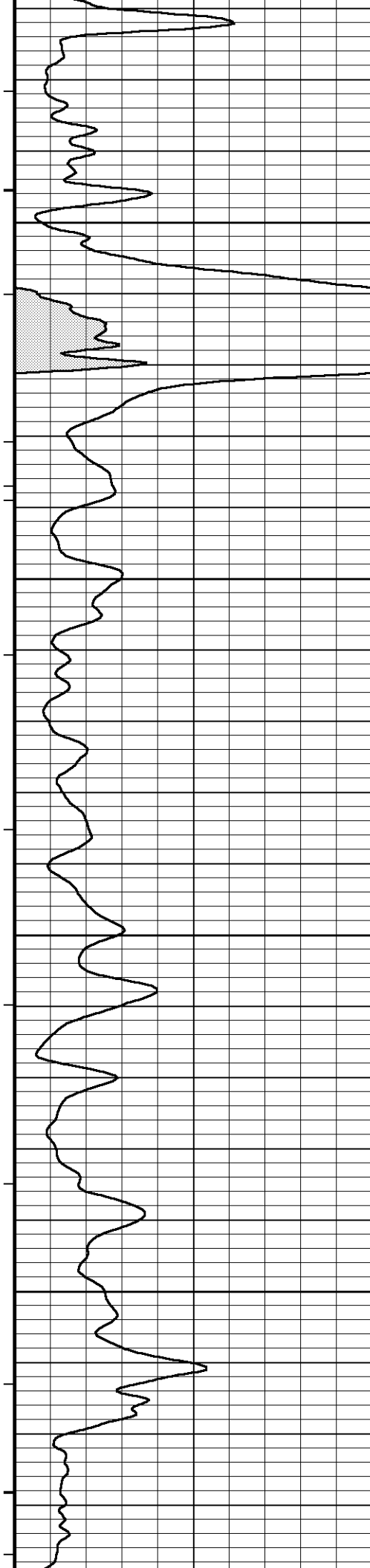
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8100









132°

8600

132°

8650

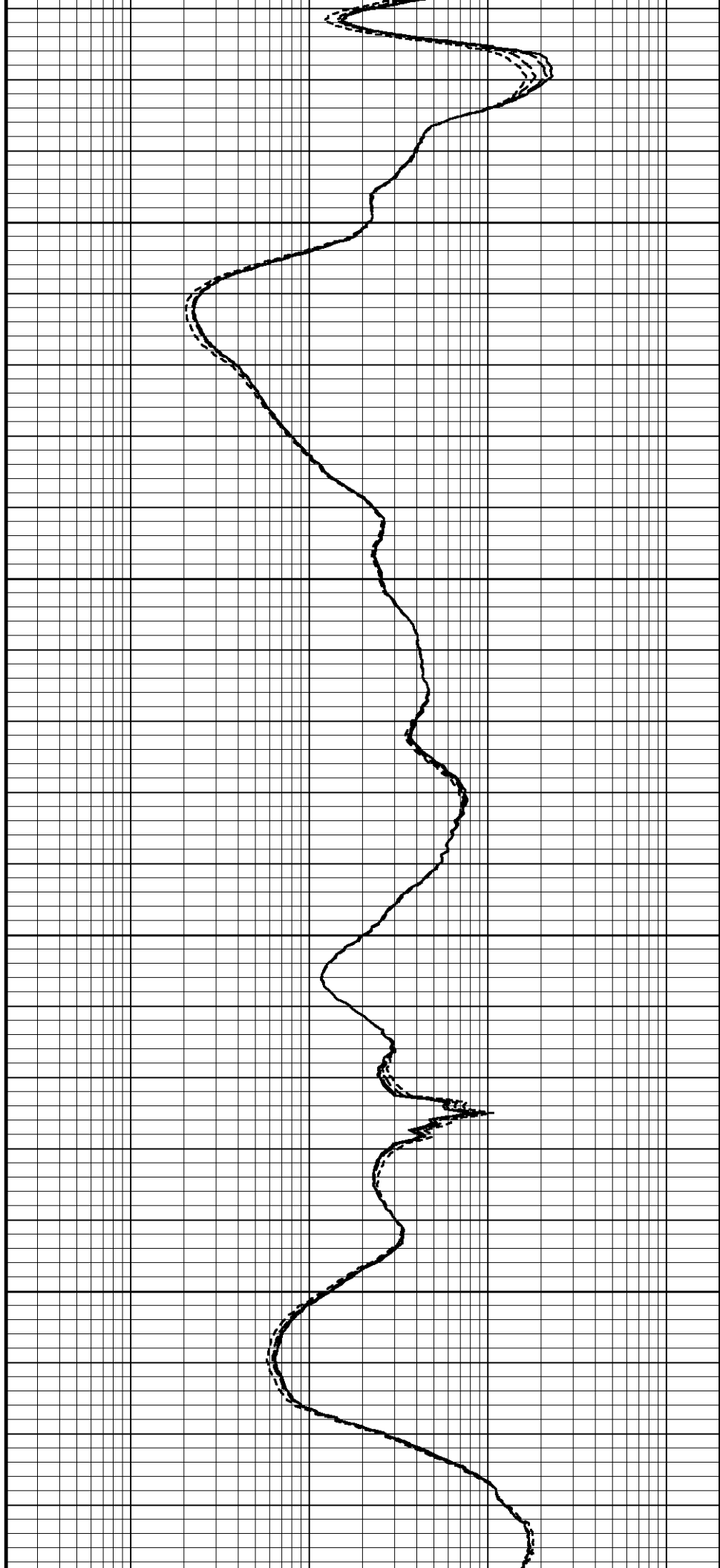
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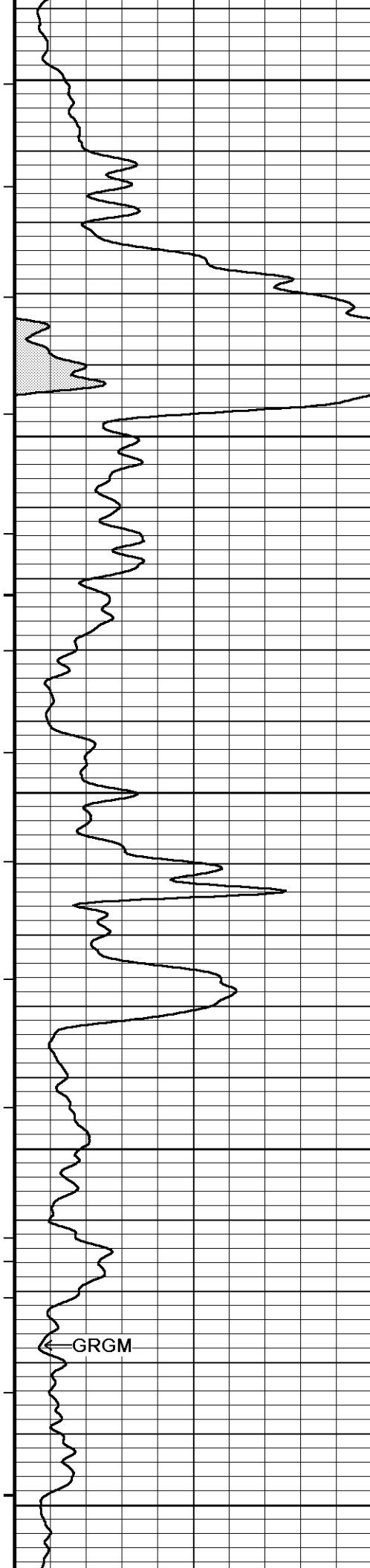
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133°

8750

132°





8800

132°

8850

132°

8900

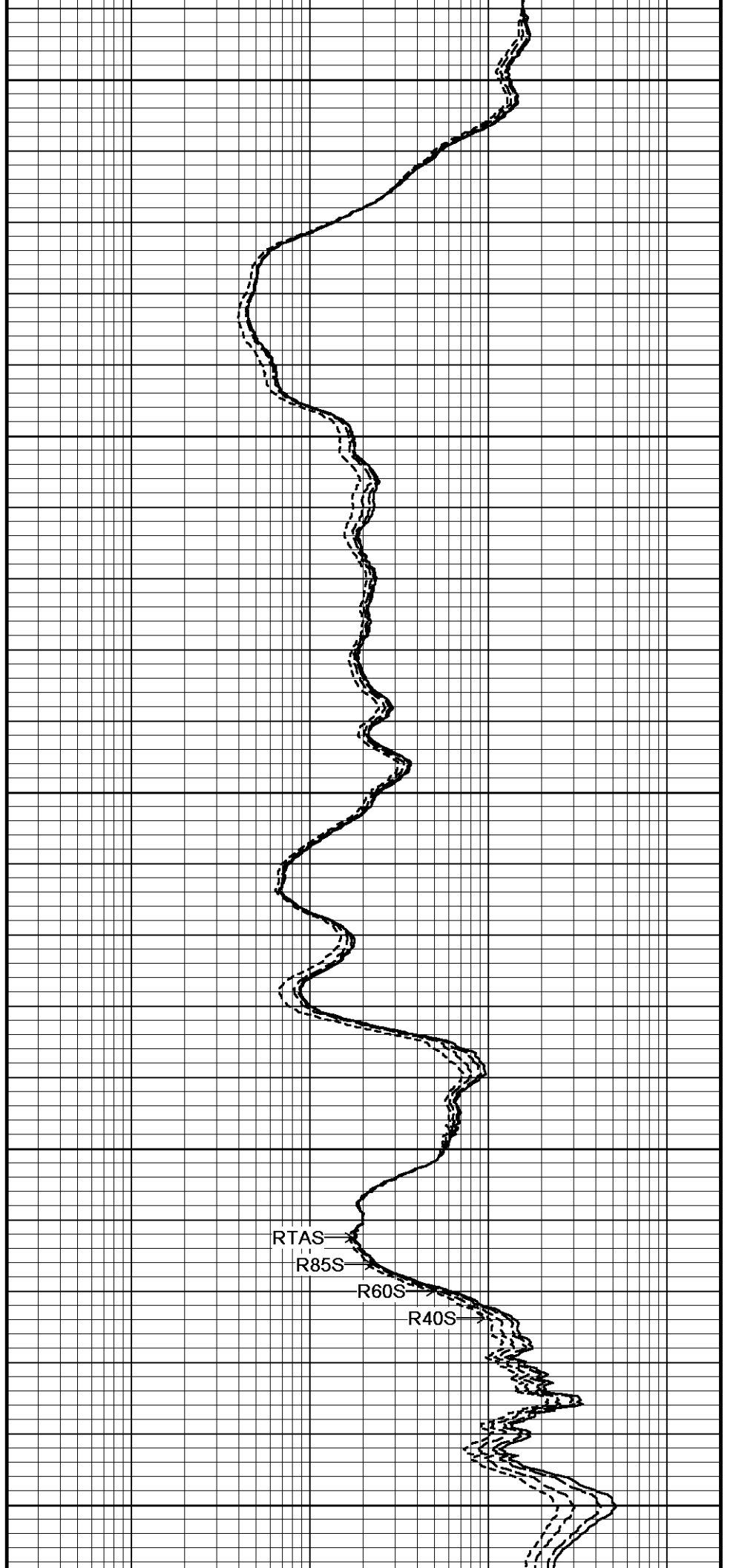
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8950

GRGM

132°

9000

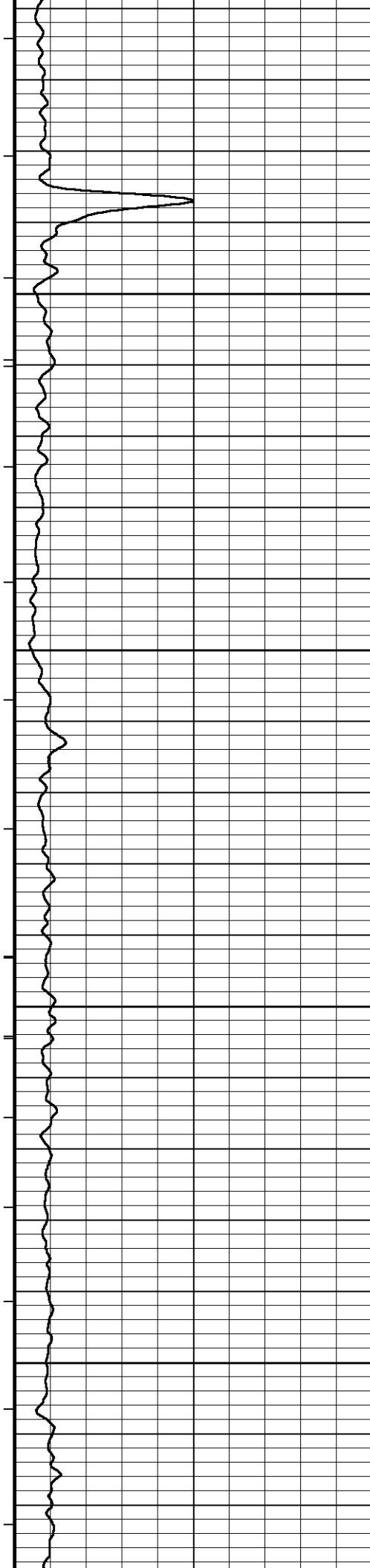


RTAS

R85S

R60S

R40S



132°

9050

132°

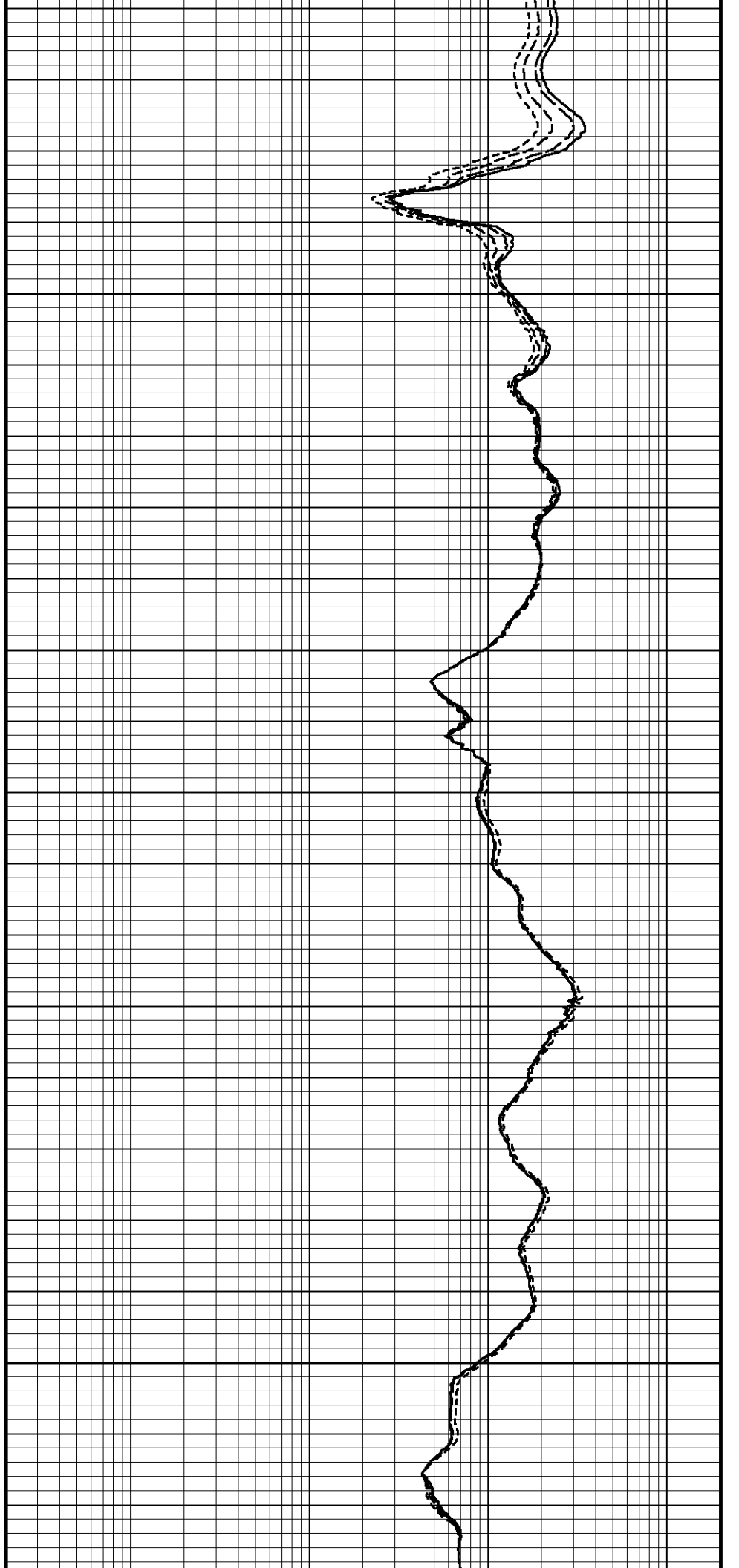
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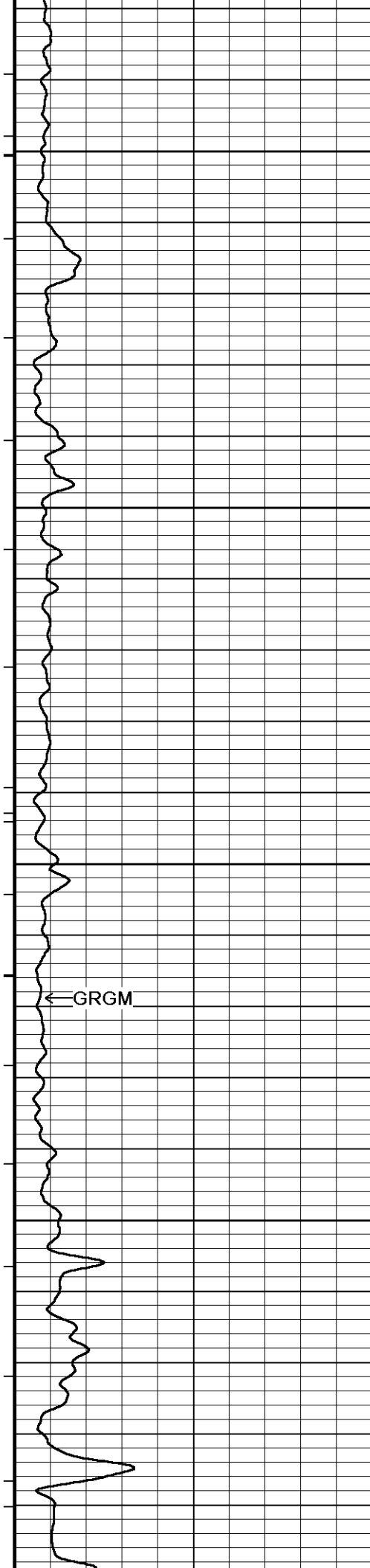
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9150

132°

9200





133°

9250

132°

9300

132°

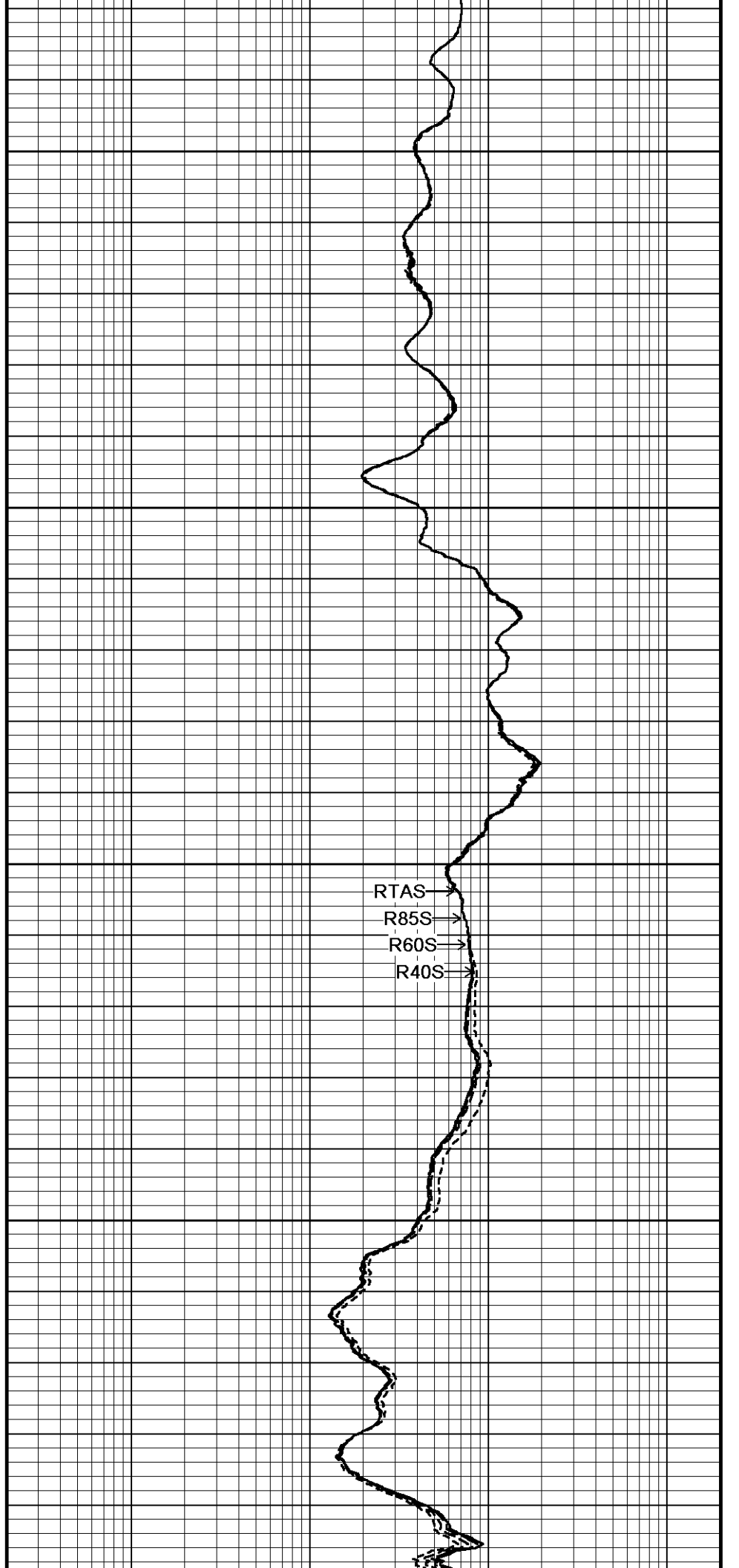
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← GRGM

132°

9400

132°

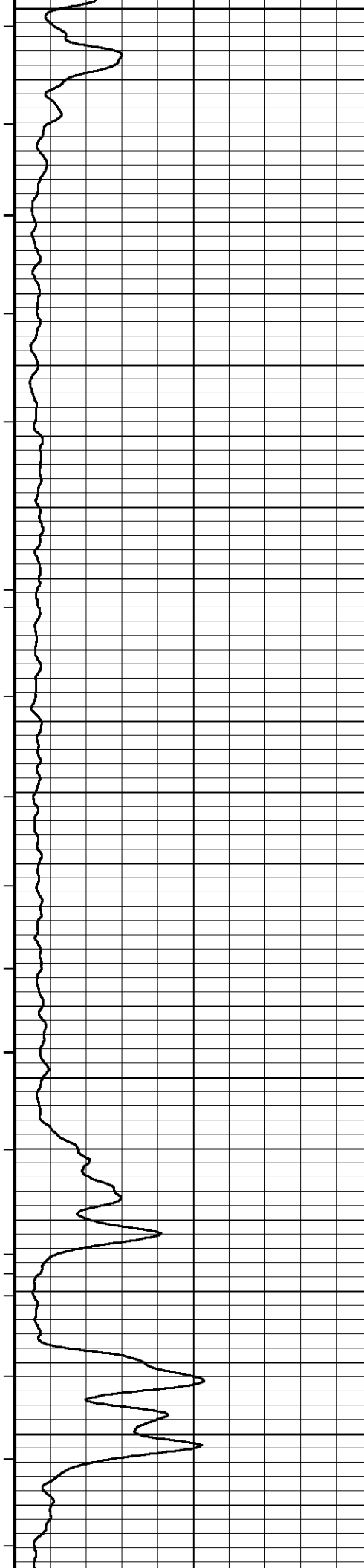


RTAS →

R85S →

R60S →

R40S →



9450

132°

9500

132°

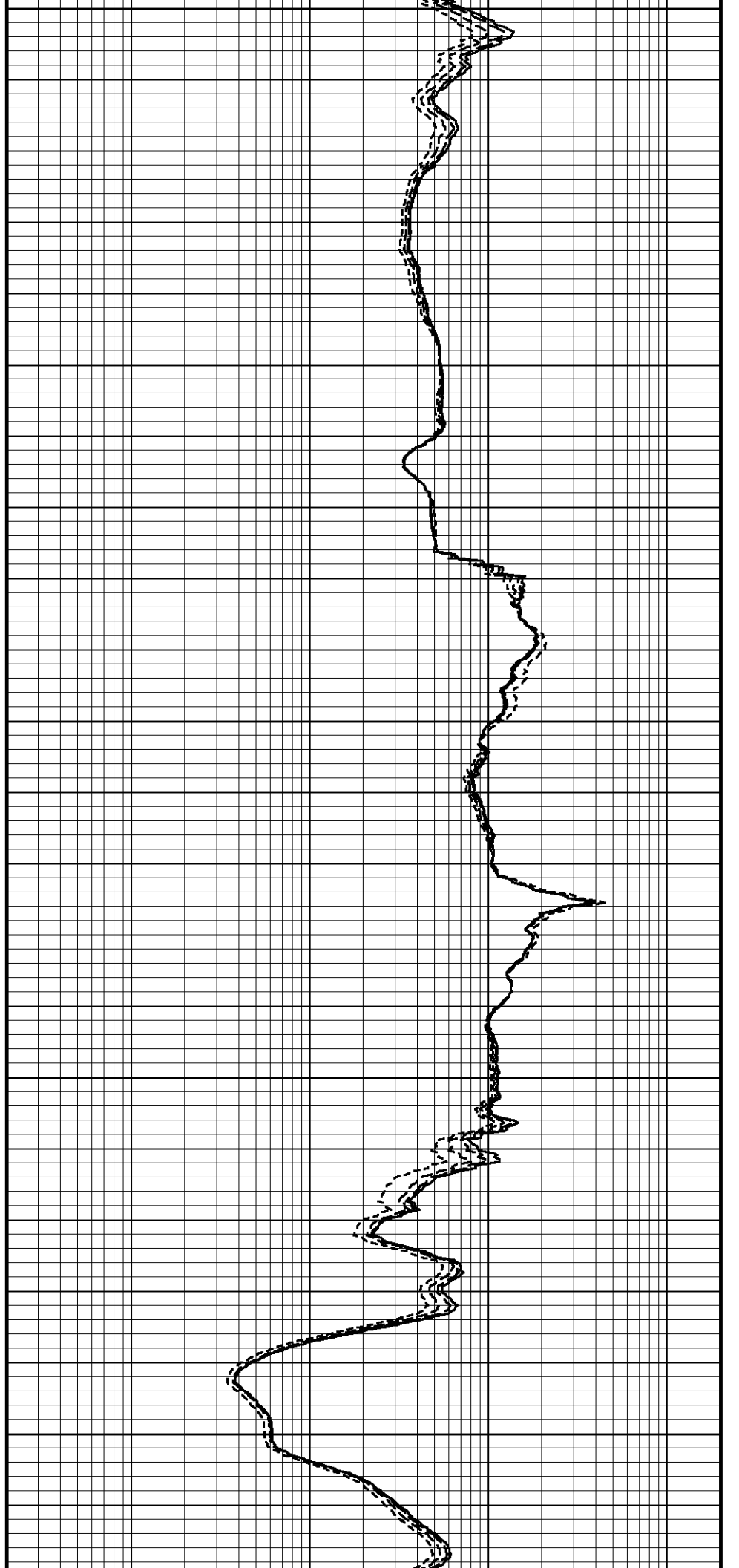
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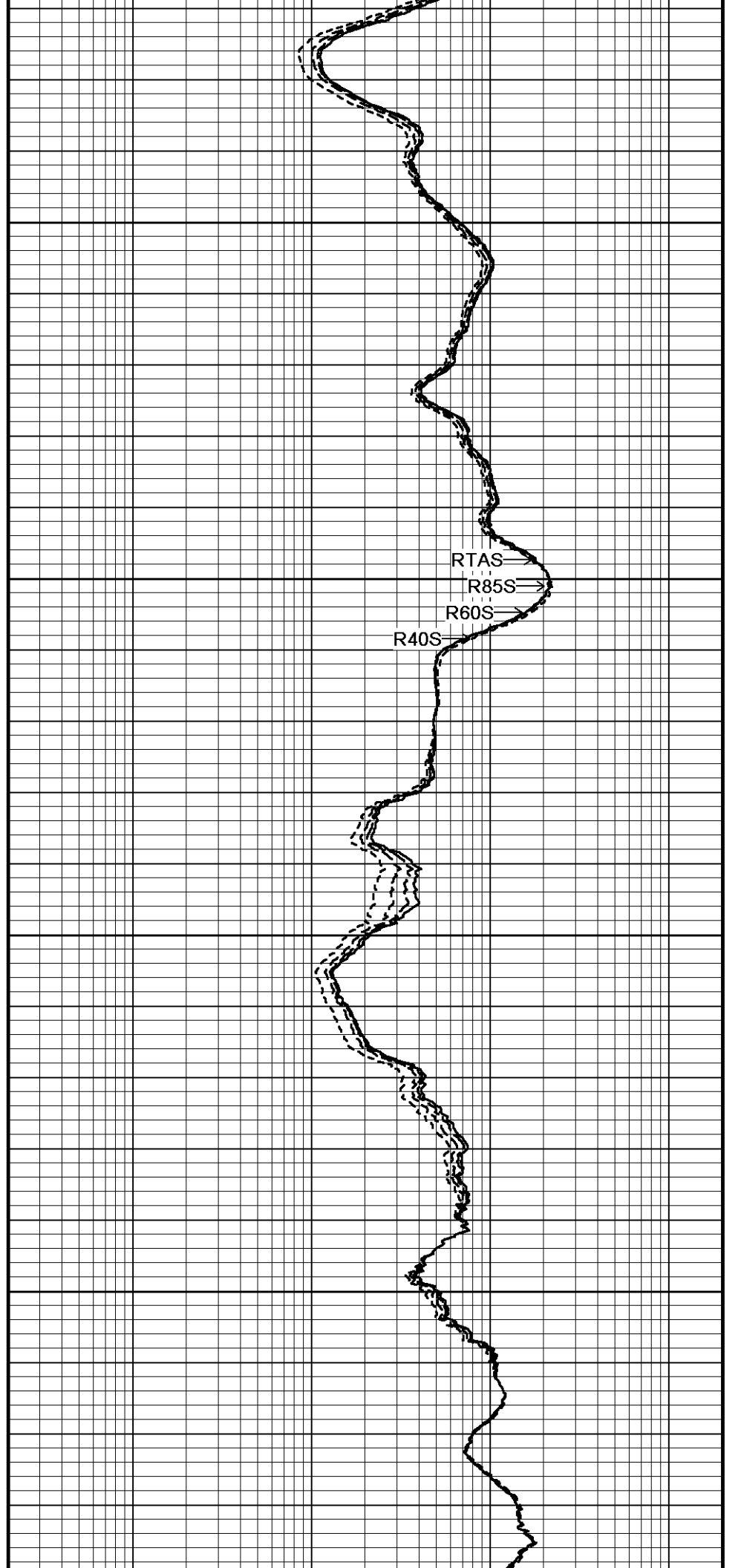
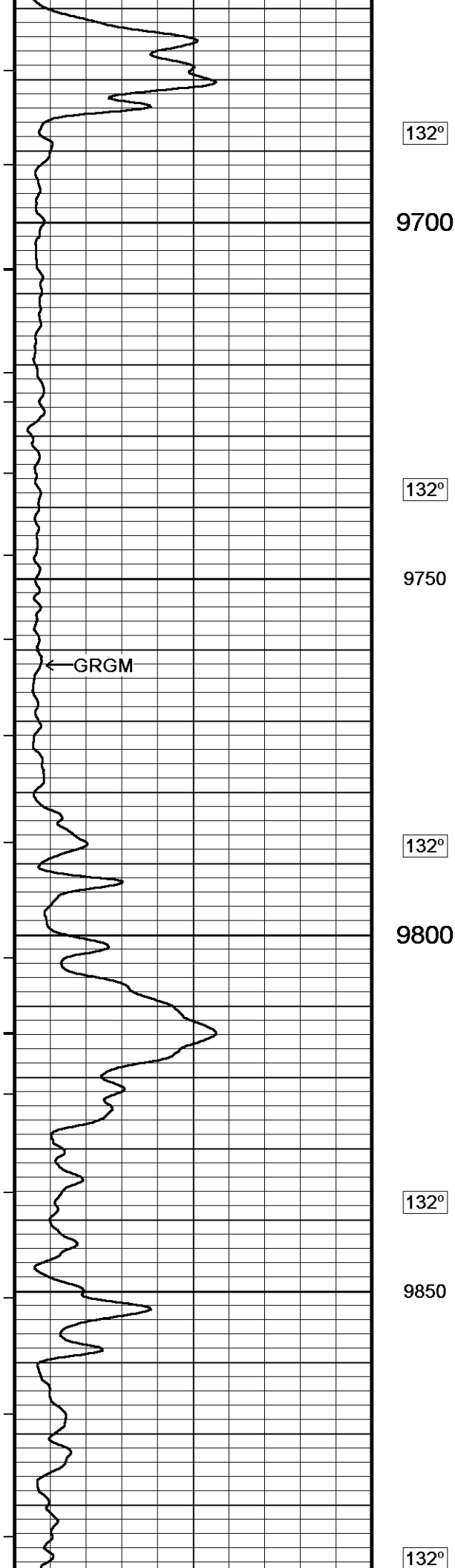
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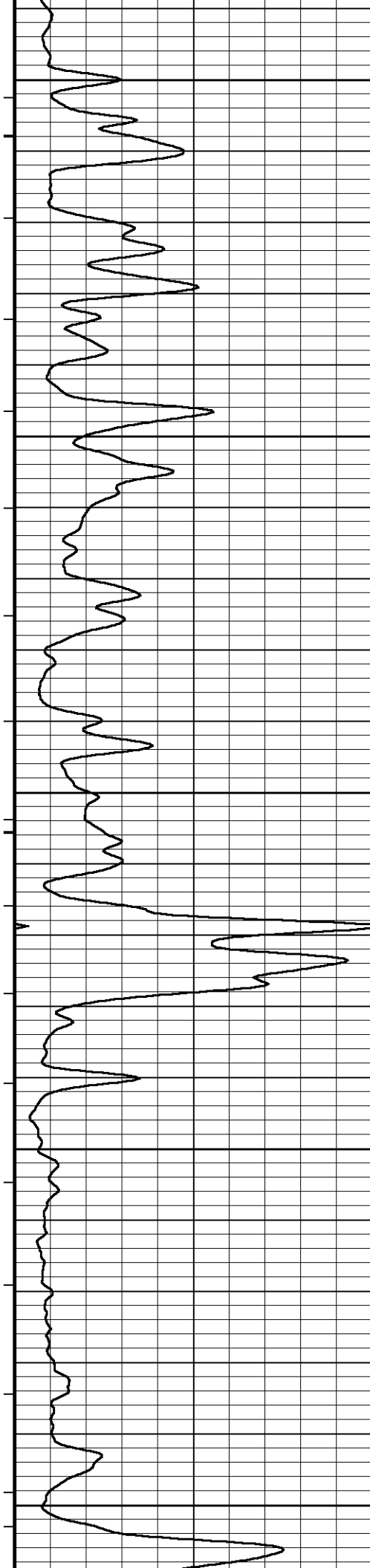
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9650







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9950

132°

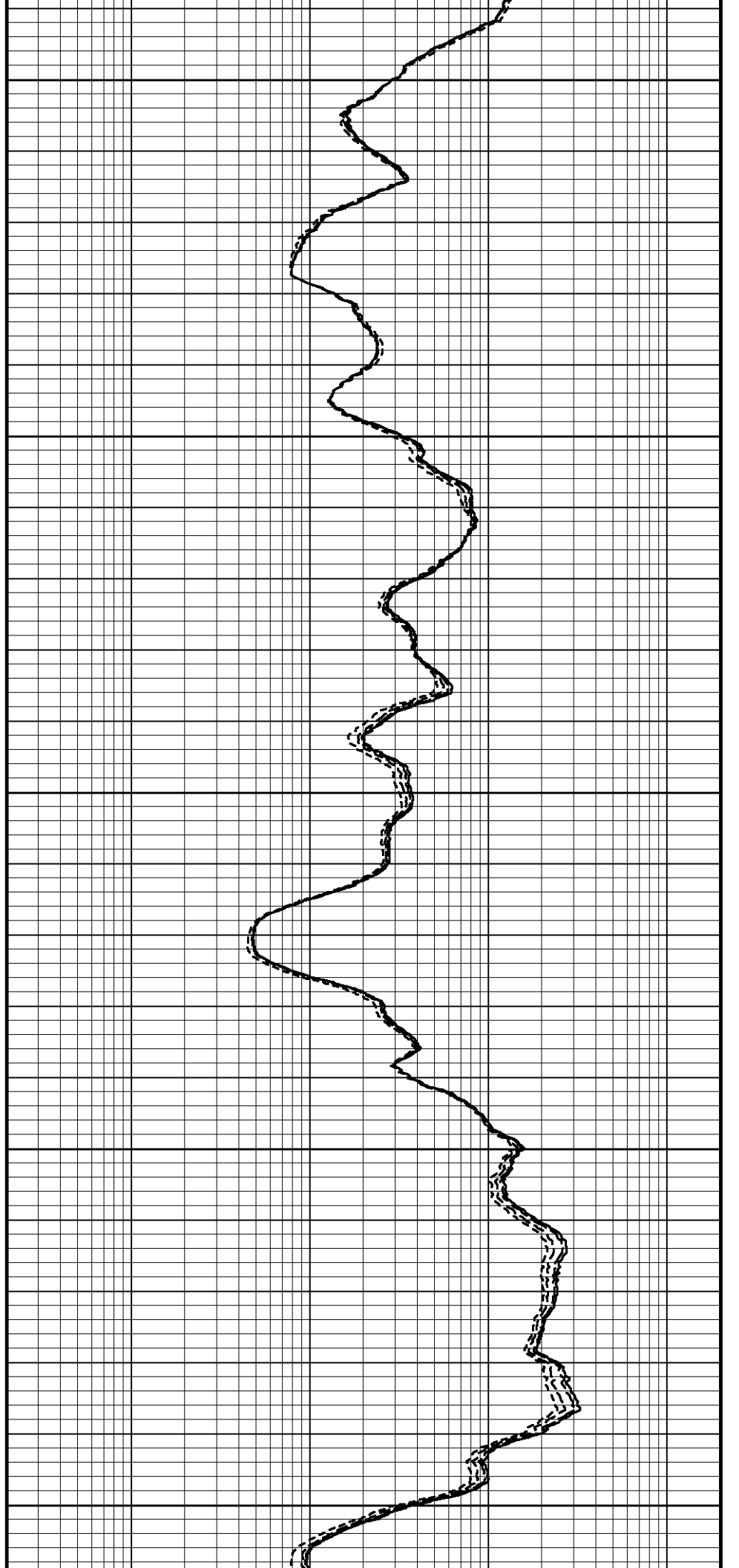
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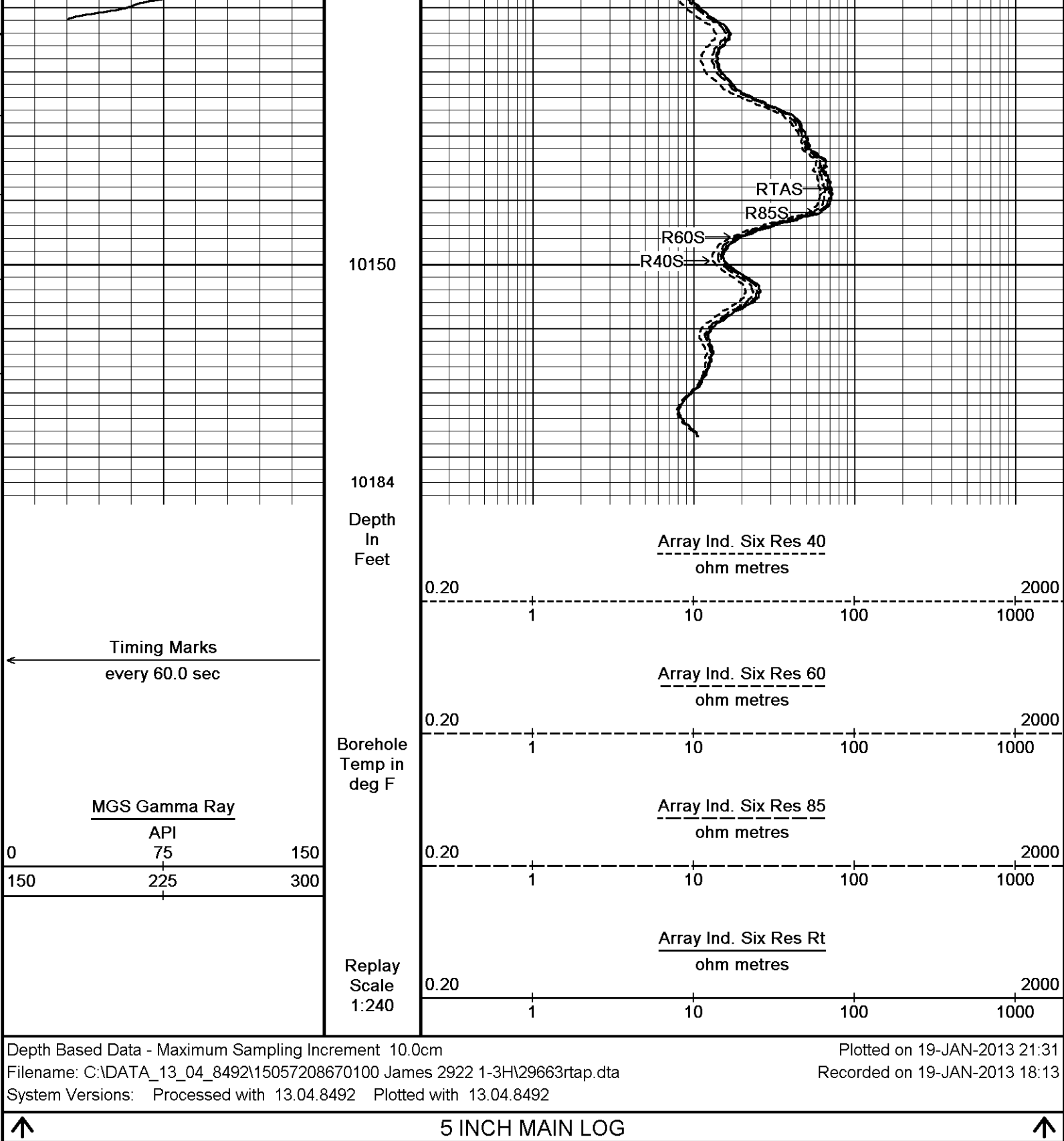
132°

10050

133°

10100





BEFORE SURVEY CALIBRATION

C:\DATA_13_04_8492\15057208670100 James 2922 1-3H\29663rtap.dta

General Constants All 000

Last Edited on 19-JAN-2013,19:59

General Parameters

Mud Resistivity	1.050	ohm-metres
Mud Resistivity Temperature	74.300	degrees F
Water Level	0.000	feet
Borehole Fluid Processing	Wet Hole	

Hole (Annulus) Volume and Differential Caliper Parameters

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

Strain Gauge Constants MMS-E.B 157

Last Edited on 13-DEC-2012,07:44

Atmospheric Pressure	14.70	psi						
Serial Number	260625							
Calibration Date	17-Sep-2010							
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	0.298	0.299	0.302	0.302	0.301	0.302	0.295	0.296
3000.0	5.475	5.479	5.479	5.481	5.477	5.478	5.466	5.469
6000.0	10.663	10.668	10.666	10.670	10.662	10.666	10.649	10.655
9000.0	15.860	15.867	15.863	15.870	15.858	15.864	15.843	15.850
12000.0	21.070	21.076	21.074	21.078	21.068	21.072	21.050	21.055
15000.0	26.293		26.298		26.291		26.272	

MMS Parameters MMS-E.B 157

Last Edited on 18-JAN-2013 12:58

Logging Parameters

Firmware Version	2v40	
Caliper Open On	MAI	
Caliper Open Delay		minutes
Caliper Closed On	Unknown	
Caliper Closed Delay	N/A	minutes
Sample Rate	1.00	seconds
Use Deep Sleep	No	
Delay Deep Sleep	N/A	
Deep Sleep Wake Time	N/A	minutes
Deep Sleep Wake on Temperature	N/A	
Deep Sleep Wake Temperature	N/A	degrees C
Deep Sleep Wake on Pressure	N/A	
Deep Sleep Wake Pressure	N/A	psi
MMI Pad Pressure	8.0	

Release Parameters

Pulse Duration Base Level	10.0	seconds
Pulse Duration Transition Time	60.0	seconds
Pulse Duration Status Pulse From	20.0	seconds
Pulse Duration Caliper Close From	145.0	seconds
Pulse Duration Caliper Open From	150.0	seconds
Pulse Duration Release Pulse From	215.0	seconds
Pulse Duration Release Pulse To	280.0	seconds
Pulse Release Duration	240.0	seconds
Pulse Discriminator Pressure Band	124.0	seconds
Pulse Pressure Discriminator	275.0	seconds
Use Negative Pulsing	No	
Good Status Reply Open Hole	65535.0	seconds
Good Status Reply Cased Hole	20.0	seconds
Bad Status Reply	60.0	seconds
Status Pulse To	80.0	seconds
Caliper Close To		seconds
Caliper Open To	210.0	seconds

Configuration

MMS,MGS,MDN,MPD,MPD,MIM,MIE,MAI

SP Calibration MGS-C.J 142			Field Calibration on 18-JAN-2013,11:54		
	Measured	Calibrated (mV)			
Reference 1	100.0	100.0			
Reference 2	-100.0	-100.0			
High Resolution Temperature Calibration MGS-C.J 142			Field Calibration on 18-JAN-2013,11:54		
	Measured	Calibrated(Deg F)			
Lower	0.00	0.00			
Upper	0.00	0.00			
High Resolution Temperature Constants MGS-C.J 142			Last Edited on 18-JAN-2013,11:54		
Pre-filter Length	11				
Gamma Calibration MGS-C.J 142			Field Calibration on 18-JAN-2013 12:14		
	Measured	Calibrated (API)			
Background	45	32			
Calibrator (Gross)	1033	728			
Calibrator (Net)	988	696			
Gamma Constants MGS-C.J 142			Last Edited on 19-JAN-2013,08:18		
Gamma Calibrator Number	036				
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 391			Base Calibration on 02-JAN-2013 14:51 Field Check on 18-JAN-2013 12:08		
Base Calibration					
	Measured		Calibrated (cps)		
	Near	Far	Near	Far	
	3090	94	3714	110	
Ratio	32.975		33.764		
Field Calibrator at Base					
			Calibrated (cps)		
			2305	2968	
Ratio	0.777				
Field Check					
			Calibrated (cps)		
			2172	3286	
Ratio	0.702				
Neutron Constants MDN-B.J 391			Last Edited on 19-JAN-2013,08:18		
Neutron Source Id	N1055				
Neutron Jig Number	N639				
Epithermal Neutron	No				
Caliper Source for Processing	Density Caliper				
Stand-off	0.00	inches			
Mud Density	1.11	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	MGS External Temperature				
Temperature	N/A	degrees F			
Mud Salinity	4.40	kppm			
Salinity Correction	Not Applied				
Formation Fluid Salinity Source	None				
Formation Fluid Salinity	N/A	kppm			
Barite Mud Correction	Not Applied				
Accelerometer Parameters MIE-A.J 233					
Date Of Last Accelerometer Calibration	11-JUL-2012,16:04				
	X Accelerometer	Y Accelerometer		Z Accelerometer	
Slope	1.102264	1.116460		1.106207	

Slope	-1.103264	-1.116469	-1.106207
Offset	0.010635	0.006475	0.004891

Accelerometer Constants MIE-A.J 233			Last Edited on 22-NOV-2011,16:08		
Accelerometer Calibrator Number		000			
Accelerometer Temperature Characterisation					
X Accelerometer					
Serial Number		1057			
Calibration Date		27-Apr-2011			
	B0	B1	B2	B3	
Bias(g)	0.00000e+000	2.82020e-006	-3.02029e-008	1.94332e-010	
	SF0	SF1	SF2	SF3	
Scale Factor(mA/g)	3.00000e+000	2.77285e-004	1.89104e-007	1.67186e-009	
Y Accelerometer					
Serial Number		1073			
Calibration Date		02-May-2011			
	B0	B1	B2	B3	
Bias(g)	0.00000e+000	-1.04005e-005	2.19294e-008	-1.31489e-010	
	SF0	SF1	SF2	SF3	
Scale Factor(mA/g)	3.00000e+000	2.69223e-004	2.39527e-007	9.12553e-010	
Z Accelerometer					
Serial Number		977			
Calibration Date		20-Jan-2011			
	B0	B1	B2	B3	
Bias(g)	0.00000e+000	1.86594e-005	1.00709e-008	3.83419e-011	
	SF0	SF1	SF2	SF3	
Scale Factor(mA/g)	3.00000e+000	2.74913e-004	2.75506e-007	1.29284e-009	

Magnetometer Parameters MIE-A.J 233				
Date Of Last Magnetometer Calibration	28-NOV-2012,18:05			
	X Magnetometer	Y Magnetometer	Z Magnetometer	
Slope	-1.000000	-1.001739	-0.998267	
Offset	-0.005746	-0.010400	0.000941	

Magnetometer Constants MIE-A.J 233		Last Edited on	
Magnetometer Calibrator Number	000		

Caliper Calibration MIE-A.J 233			Base Calibration on 01-NOV-2012 10:00		
			Field Calibration on 18-JAN-2013 11:43		
Base Calibration					
Reading No	Pads 1-5 Meas.	Pads 3-7 Meas.	Calibrator Size (in)		
1	25679	25739	5.96		
2	35915	36008	7.98		
3	46506	46000	9.94		
4	57157	56744	11.90		
5	0	0	0.00		
Reading No	Pad 2 Meas.	Pad 4 Meas.	Pad 6 Meas.	Pad 8 Meas.	Calibrator Size (in)
1	25012	23737	24714	24965	5.96
2	33803	31518	33070	34667	7.98
3	44175	40604	40196	42684	9.94
4	55750	49119	47448	52854	11.90
5	0	0	0	0	0.00
Field Calibration					
	Measured	Measured	Actual		
	Pads 1-5 Caliper(in)	Pads 3-7 Caliper(in)	Caliper(in)		
	7.96	8.48	8.03		
	Measured	Measured	Measured	Measured	Actual
	Pad 2 Caliper(in)	Pad 4 Caliper(in)	Pad 6 Caliper(in)	Pad 8 Caliper(in)	Caliper(in)
	4.12	4.34	4.29	3.89	8.03

Caliper Constants MIE-A.J 233		Last Edited on 01-NOV-2012,09:11		
Caliper Difference for BRKT	0.120	inches		

Imager Pad Check MIE-A.J 233	Field Check on			
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Pad 1	Pad Not Tested	Pad 5	Pad Not Tested
Pad 2	Pad Not Tested	Pad 6	Pad Not Tested
Pad 3	Pad Not Tested	Pad 7	Pad Not Tested
Pad 4	Pad Not Tested	Pad 8	Pad Not Tested

Compact Micro Imager Constants MIE-A.J 233

Last Edited on 10-MAY-2012,08:37

Sonde Configuration	Imager Mode
Arm-Pad Kit	Normal Pads (12.25 in)
Arm-Pad Kit Serial Number	
Centre Pad 1 Rotational Offset	0.00 degrees
Image/Borehole Ovality Reference	Azimuth of Pad 1
Non Active Buttons	Omit
Search Angle	30.00 degrees
Correlation Interval	3.28 feet
Correlation Step	1.64 feet
Current Offset	0.0000 mAmp
Squasher Start	N/A mAmp
Image Processing	Enabled

Navigation Constants MIE-A.J 233

Last Edited on 18-JAN-2013,11:46

Magnetic Declination	5.74 degrees East
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High Resolution Temperature Calibration MAI-A.A 170

Field Calibration on 14-JAN-2013,12:49

	Measured	Calibrated(Deg F)
Lower	0.00	10.00
Upper	100.00	100.00

High Resolution Temperature Constants MAI-A.A 170

Last Edited on 14-JAN-2013,12:49

Pre-filter Length	11
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Induction Calibration MAI-A.A 170

Base Calibration on 02-FEB-2012 17:42

Field Check on 18-JAN-2013 11:30

Base Calibration					
Test Loop Calibration		Measured		Calibrated (mmho/m)	
Channel	Low	High	Low	High	
1	17.7	487.1	9.3	966.2	
2	6.2	384.7	7.6	821.4	
3	3.7	266.1	5.2	566.0	
4	2.2	136.5	2.6	279.2	
Array Temperature	72.1		Deg F		
Channel		Base Check (mmho/m)		Field Check (mmho/m)	
		Low	High	Low	High
1				10.1	3750.9
2				29.6	3529.2
3				27.3	2996.9
4				18.6	2042.5
Deep				15.5	1905.0
Medium				41.1	3981.2
Shallow				45.9	5290.9
Array Temperature			40.8		Deg F

Induction Constants MAI-A.A 170

Last Edited on 19-JAN-2013,19:59

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

Squasher Offset

N/A

mmhos/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	

Photo Density Calibration MPD-C.J 394

Base Calibration on 02-JAN-2013 13:20

Field Check on 18-JAN-2013 11:53

Density Calibration

Base Calibration	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Reference 1	52312	25766	59869	31110
Reference 2	21569	2501	24557	2522

Field Check at Base

1066.7 1302.0

Field Check

1065.4 1305.8

PE Calibration

Base Calibration	WS	Measured		Calibrated
		WH	Ratio	Ratio
Background	192	947		
Reference 1	20819	52122	0.403	0.369
Reference 2	5899	21442	0.278	0.271

Field Check at Base

192.4 946.7

Field Check

192.4 945.9

Density Constants MPD-C.J 394

Last Edited on 19-JAN-2013,08:17

Density Source Id	236	
Nylon Calibrator Number	633	
Aluminium Calibrator Number	633	
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

Caliper Calibration MPD-C.J 394

Base Calibration on 02-JAN-2013 13:28
Field Calibration on 18-JAN-2013 11:49

Base Calibration		
Reading No	Measured	Calibrator Size (in)
1	16928	4.02
2	25088	6.00
3	33568	8.03
4	41376	10.02
5	50656	12.01
6	N/A	N/A

Field Calibration		
	Measured Caliper (in)	Actual Caliper (in)
	5.96	5.96

DOWNHOLE EQUIPMENT

C:\DATA_13_04_8492\15057208670100 James 2922 1-3H\29663rtap.dta

Shuttle Running Tool 3.5")
SRT-A.A 69 LG: 6.62 ft WT: 37.5 lb OD: 2.52 in

SKJ-E.B Compact Knuckle Joint
SKJ-E.B 472 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

Spacer
MLK-A 2 LG: 14.23 ft WT: 30.9 lb OD: 2.24 in

Spacer
MLK-A 3 LG: 14.23 ft WT: 30.9 lb OD: 2.24 in



MBS-G.A 200v Compact Battery Sub
MBS-G.A 117 LG: 17.06 ft WT: 123.5 lb OD: 2.24 in

Compact Memory Sub E.B
MMS-E.B 157 LG: 5.20 ft WT: 37.5 lb OD: 2.24 in

Compact Tool Isolator sub.
MTI-B.A 76 LG: 1.54 ft WT: 13.2 lb OD: 2.24 in

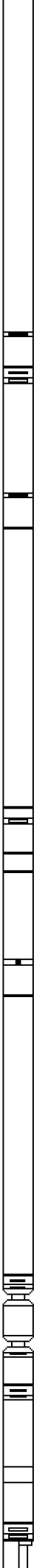
Compact Short Gamma
MGS-C.J 142 LG: 3.41 ft WT: 24.3 lb OD: 2.24 in

Compact Collar Locator
MCL-B.J 63 LG: 3.17 ft WT: 26.5 lb OD: 2.24 in

SKJ-E.B Compact Knuckle Joint
SKJ-E.B 479 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

SHA-J.A Compact Swivel Head Adaptor
SHA-J.A 451 LG: 2.30 ft WT: 22.0 lb OD: 2.24 in

MIS-D.B Compact In-line Downspring sub



89.57 ft GRGM - MGS Gamma Ray

85.56 ft GCSL - MCL C. Collar Locator

81.59 ft GSXT - MGS External Temperature

MIS-D.B Compact Inline Bowspring sub
MIS-D.B 608 LG: 5.70 ft WT: 33.1 lb OD: 2.24 in

Compact Neutron
MDN-B.J 391 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

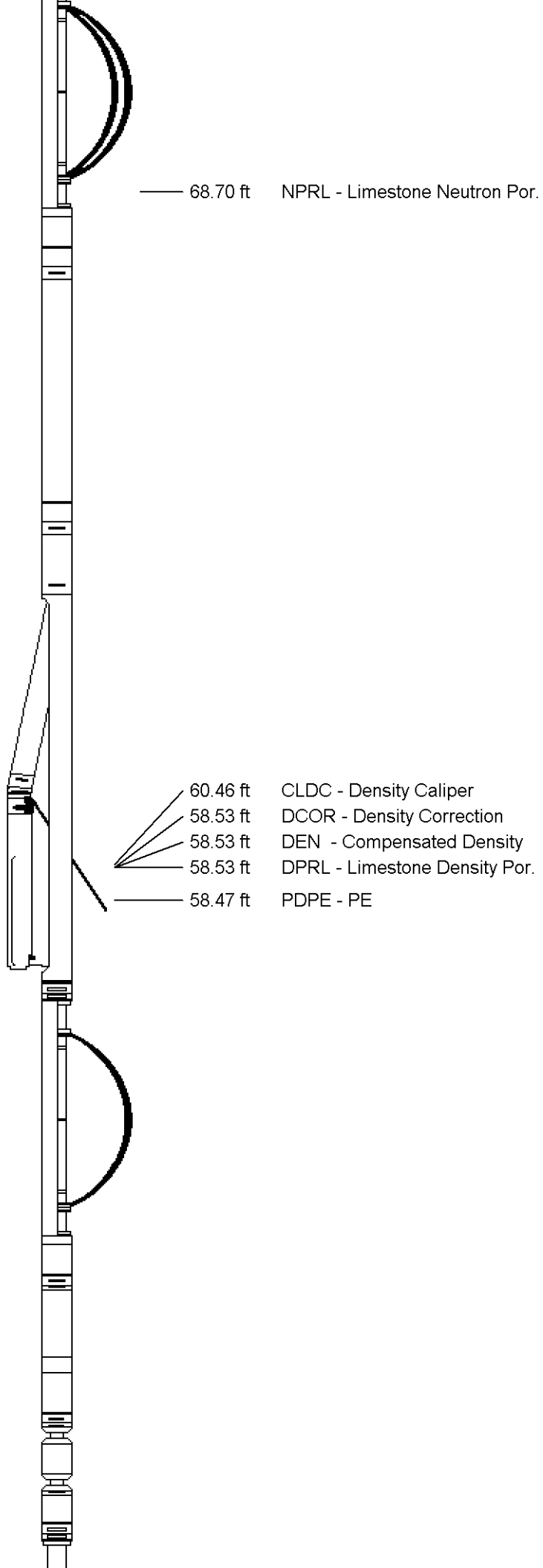
Compact Density/Caliper
MPD-C.J 394 LG: 9.59 ft WT: 90.4 lb OD: 2.24 in

MIS-D.B Compact Inline Bowspring sub
MIS-D.B 607 LG: 5.70 ft WT: 33.1 lb OD: 2.24 in

SHA-J.A Compact Swivel Head Adaptor
SHA-J.A 438 LG: 2.30 ft WT: 22.0 lb OD: 2.24 in

SKJ-E.B Compact Knuckle Joint
SKJ-E.B 478 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

MIS-D.B Compact Inline Bowspring sub

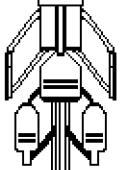
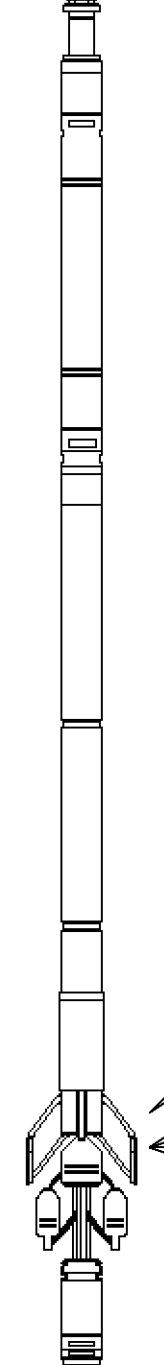


MIS-D.B Compact Inline Bowspring sub
MIS-D.B 707 LG: 5.70 ft WT: 33.1 lb OD: 2.24 in



Compact MMI Memory Section
MIM-B.A 251 LG: 4.65 ft WT: 26.5 lb OD: 2.24 in

Compact MMI Electrode Section
MIE-A.J 233 LG: 13.96 ft WT: 99.2 lb OD: 4.09 in

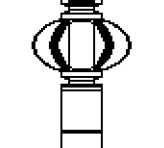


- 20.89 ft IECX - MIE Caliper X
- 20.89 ft IECY - MIE Caliper Y
- 20.37 ft IEC2 - MIE Caliper 2
- 20.37 ft IEC6 - MIE Caliper 6
- 20.37 ft IEC8 - MIE Caliper 8
- 20.37 ft IEC4 - MIE Caliper 4

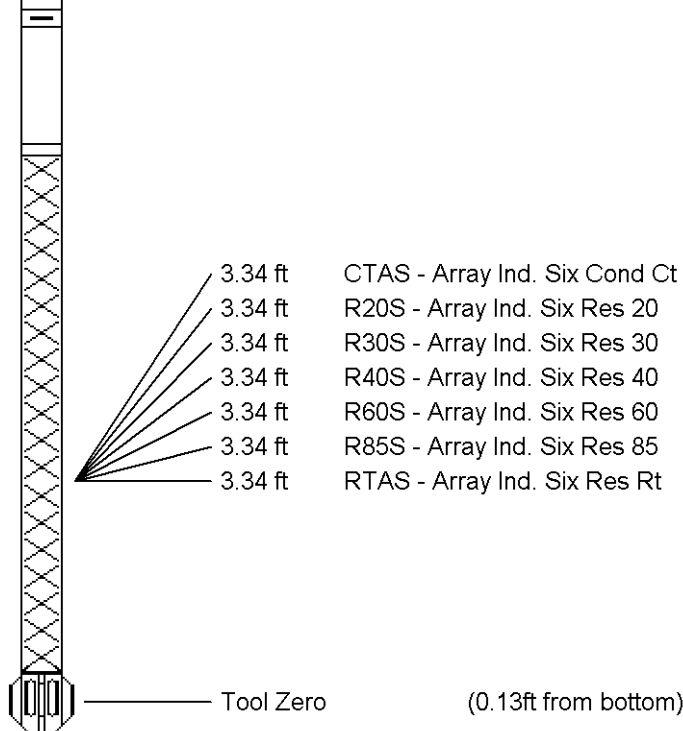
MIS-A.A Compact Inline Bowspring sub
MIS-A.A 160 LG: 5.70 ft WT: 33.1 lb OD: 2.24 in



MIS-E.B Compact Inline Standoff sub
MIS-E.B 597 LG: 2.14 ft WT: 15.4 lb OD: 2.24 in



MAI-A.A 170 LG: 10.81 ft WT: 48.5 lb OD: 2.24 in



All measurements relative to tool zero.

Elevation Kelly Bushing	2455.00	feet	First Reading	10188.00	feet
Elevation Drill Floor	2455.00	feet	Depth Driller	10210.00	feet
Elevation Ground Level	2332.00	feet	Depth Logger	10210.00	feet



CML MESSENGER SHUTTLE ARRAY INDUCTION ELECTRIC LOG

Weatherford®

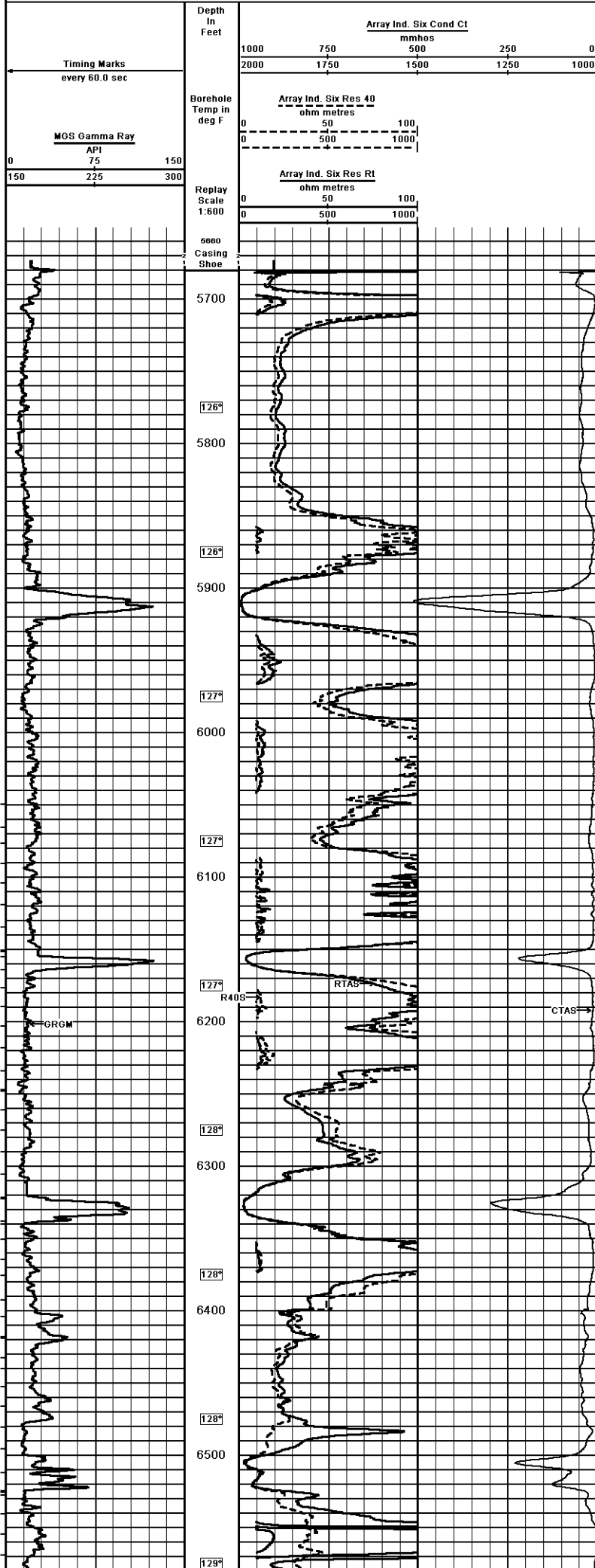
Weatherford

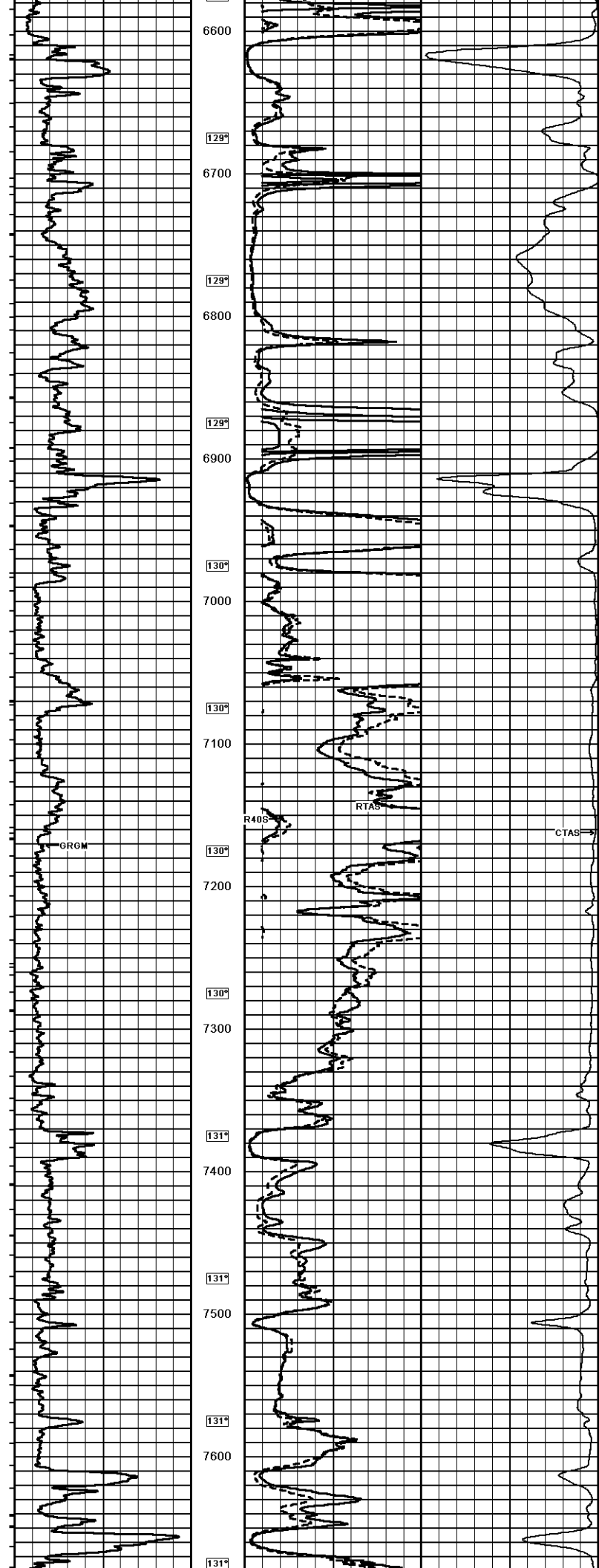
CML MESSENGER SHUTTLE

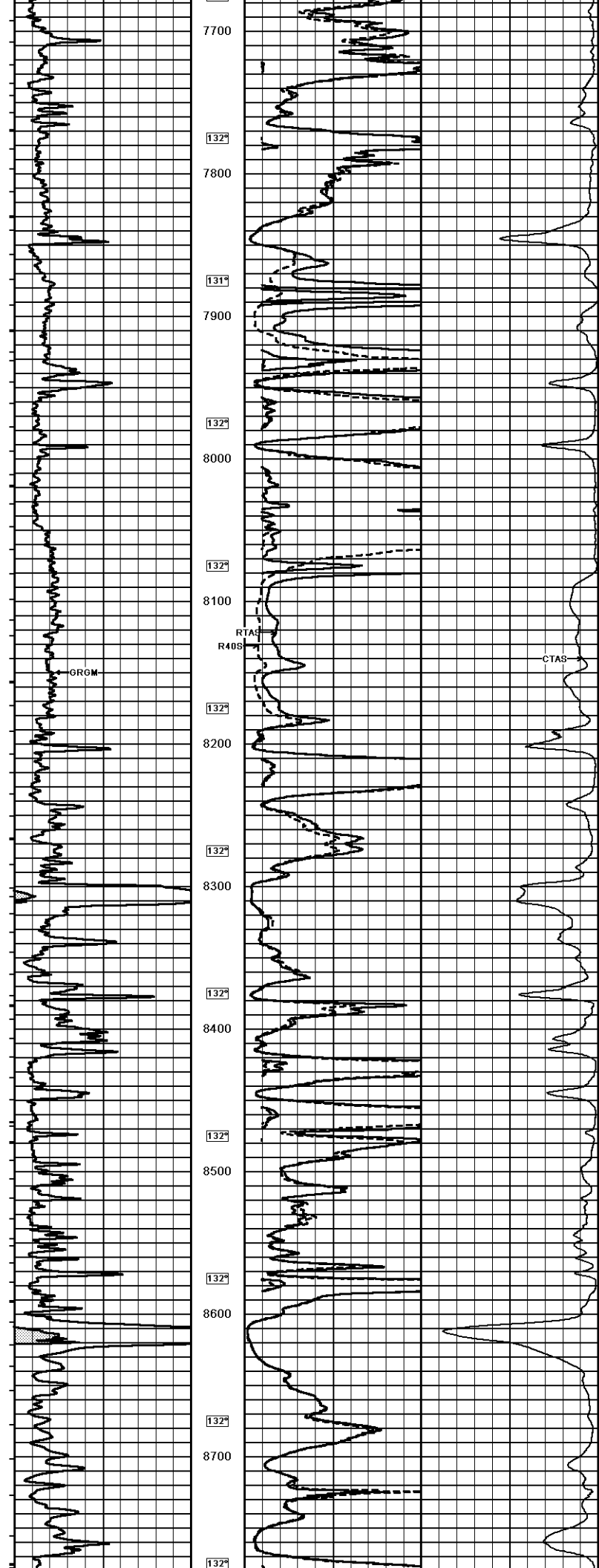
ARRAY INDUCTION

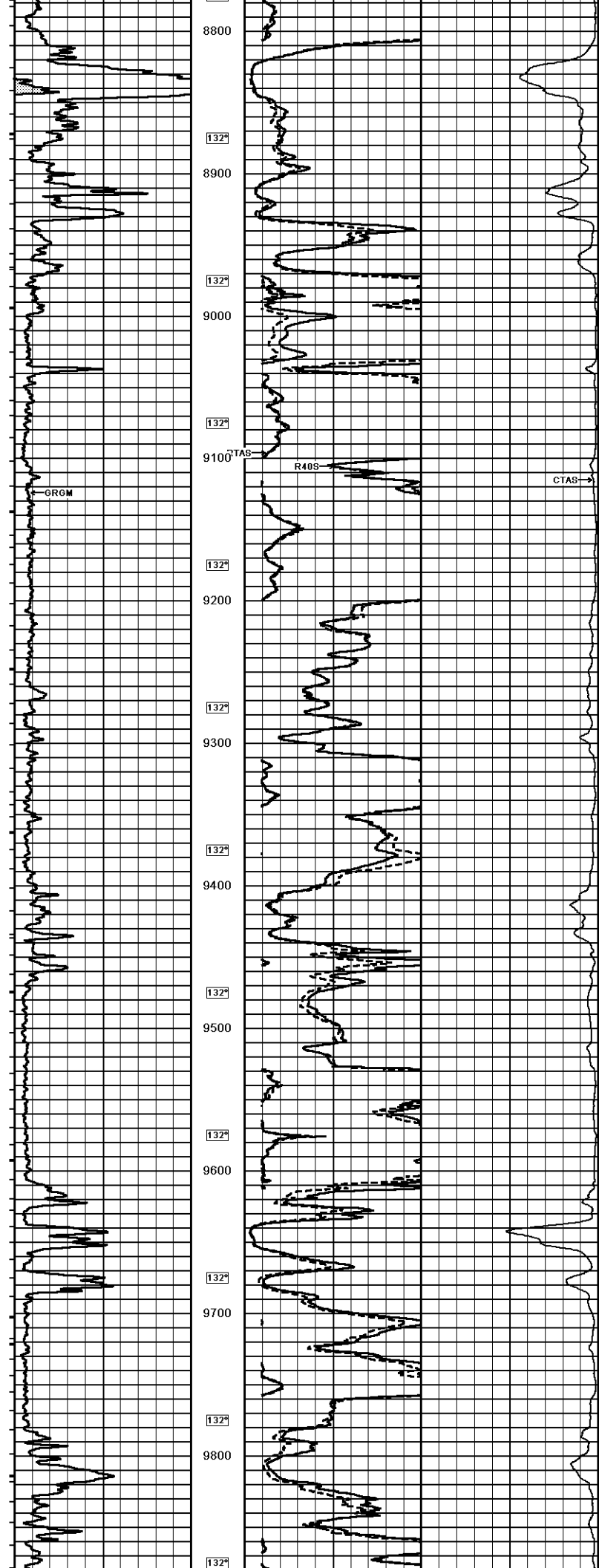
ELECTRIC LOG

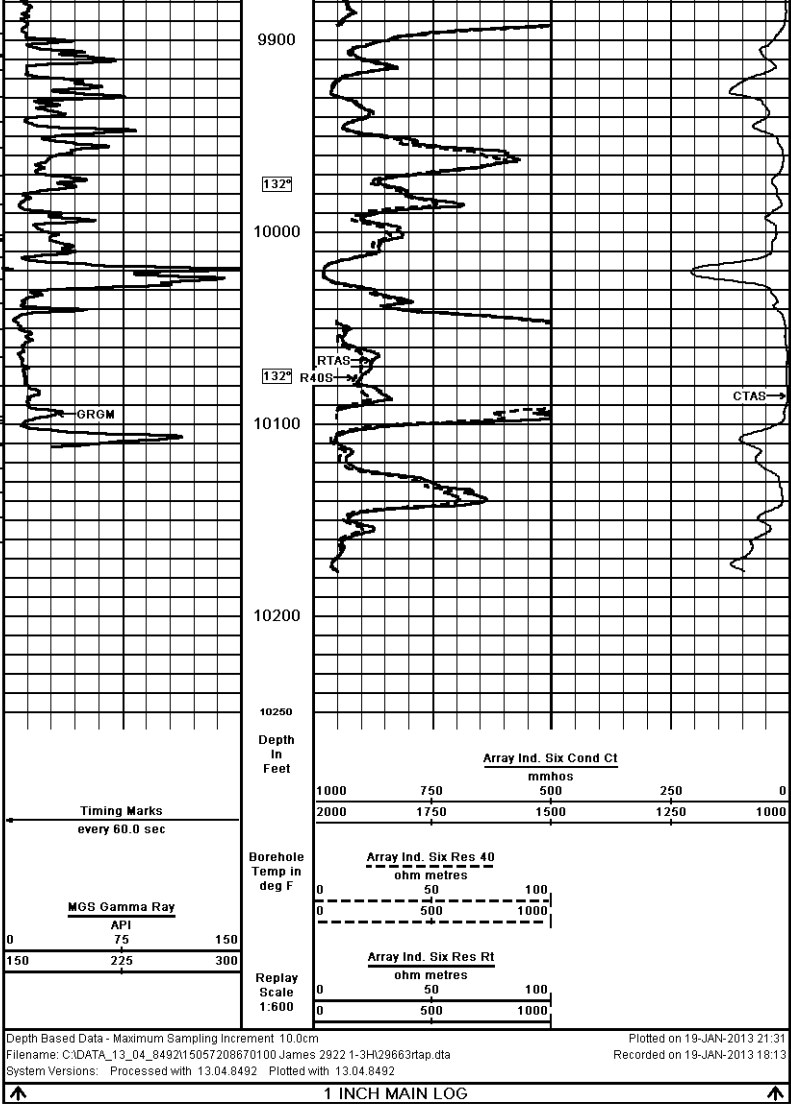
COMPANY		SANDRIDGE ENERGY	
WELL		JAMES 2922 1-13H	
FIELD		KINGSDOWN	
PROVINCE/COUNTRY		FORD	
COUNTRY/STATE		USA / KANSAS	
LOCATION		NE NW NW NW	
		200' FNL & 400' FWL	
SEC.	TYPE	Rate	Other Services
13	29S	12W	MD/NR/PD
API Number	Permit Number	CML	
Measured Datum (GL Elevation 2432 feet) Log Measured From (FB) Drilling Measured From (FB @ 23' AGL)			
Date		19-JAN-2013	
Run Number	ONE		
Service Order	35393530		
Depth Driller	102710.00		
Depth Logger	102710.00		
First Reading	10188.00		
Last Reading	5660.00		
Casing Driller	5660.00		
Casing Logger	5660.00		
Bit Size	6.125		
Flow Fluid Type	WBM		
Density/Viscosity	9.30	lbbl/sg	lbbl/sg
PH / Fluid Loss	8.80		CP
Sample Source	FLOWLINE		
Rtn @ Measured Temp	1.06 @ 74.3	min-m	
Rtn @ Measured Temp	0.84 @ 74.3	min-m	
Rtn @ Measured Temp	1.26 @ 74.3	min-m	
Source Rtn1 Rtn	CALC	min-m	
Rtn @ BHT	0.61 @ 133.0	min-m	
Time Since Circulation	18 HOURS		
Max Recorded Temp	133.00	deg F	
Equipment Base	18077	IDPC	
Recorded By	GUTHMUELLER		
Witnessed By	J BORELL		
WTF DOC 1246			
		Elevations: KBG 2455.00 DFL 2455.00 GL 2352.00	











COMPANY		SANDRIDGE ENERGY			
WELL		JAMES 2922 1-13H			
FIELD		KINGSDOWN			
PROVINCE/COUNTY		FORD			
COUNTRY/STATE		USA / KANSAS			
Elevation Kelly Bushing	2455.00	feet	First Reading	10188.00	feet
Elevation Drill Floor	2455.00	feet	Depth Driller	10210.00	feet
Elevation Ground Level	2332.00	feet	Depth Logger	10210.00	feet
		CML MESSENGER SHUTTLE			
Weatherford		ARRAY INDUCTION			
		ELECTRIC LOG			