



**Weatherford**<sup>®</sup>

**CML IMPULSE SHUTTLE  
ARRAY INDUCTION**

COMPANY	SANDRIDGE ENERGY		
WELL	JAMES 3318 1-13H		
FIELD	COLLIER FLAT		
PROVINCE/COUNTY	COMANCHE		
COUNTRY/STATE	U.S.A. / KANSAS		
LOCATION	200' FSL & 1780' FEL		
SEC	TWP	RGE	Other Services
13	33S	18W	MPD/MDN
API Number	15-033-21662		
Permit Number			
Permanent Datum G.L., Elevation	1890 feet		
Log Measured From	KB		
Drilling Measured From	K.B. @ 19.5 FEET		
Date	29-AUG-2012		
Run Number	ONE		
Depth Driller	9550.00	feet	Elevations: KB 1909.50
Depth Logger	9550.00	feet	DF 1909.50
First Reading	9516.00	feet	GL 1890.00
Last Reading	5620.00	feet	
Casing Driller	5620.00	feet	
Casing Logger	5620.00	feet	
Bit Size	6.125	inches	
Hole Fluid Type	WBM		
Density / Viscosity	8.50	g/cc	
PH / Fluid Loss	11.00		
Sample Source	FLOWLINE		
Rm @ Measured Temp	0.92 @ 81.0	ohm-m	
Rmf @ Measured Temp	0.74 @ 81.0	ohm-m	
Rmc @ Measured Temp	1.10 @ 81.0	ohm-m	
Source Rmf / Rmc	CALC	CALC	
Rm @ BHT	0.57 @ 131.0	ohm-m	
Time Since Circulation	1 HOUR		
Max Recorded Temp	131.00	deg F	
Equipment Name	COMPACT		
Equipment / Base	18077	OKC	
Recorded By	STEVEN TOTTEY		
Witnessed By	KATHY GENTRY		
S.O. #	3536736		

**BOREHOLE RECORD**

Last Edited: 30-AUG-2012 03:11

Bit Size inches	Depth From feet	Depth To feet
6.125	5620.00	9550.00

**CASING RECORD**

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
INTER	7.000	0.00	5620.00	23.00

**REMARKS**

TOOLS RAN: 200V SRT-69,MBS-115,SKJ-207,MMSE158,SHA-167,MTI-061,  
MGS-136,MCL-069,SKJ-479,SHA-431,MIS-606,MDN-391,MPD-394,MIS-275,SHA-434,SKJ-478,MISB 336, MFE-175,MISB-336,MAI-392 RAN  
IN COMBINATION

HARDWARE: MAI: MIS-B 0.5" STANDOFF USED ABOVE MAI, ISA 0.5" STANDOFF USED BELOW MAI.  
| 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.

DRILL PIPE DEPTH DURING DEPLOYMENT: 9431  
LOGGING TOOL DEPTH AFTER DEPLOYMENT: 9521

ANNULAR HOLE VOLUME CALCULATED USING WITH 4.5 INCH PRODUCTION CASING

SERVICE ORDER # 3536736

RIG: LARIAT 38

OPERATOR(S): G. GARCIA AND R. CASPARIAN

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

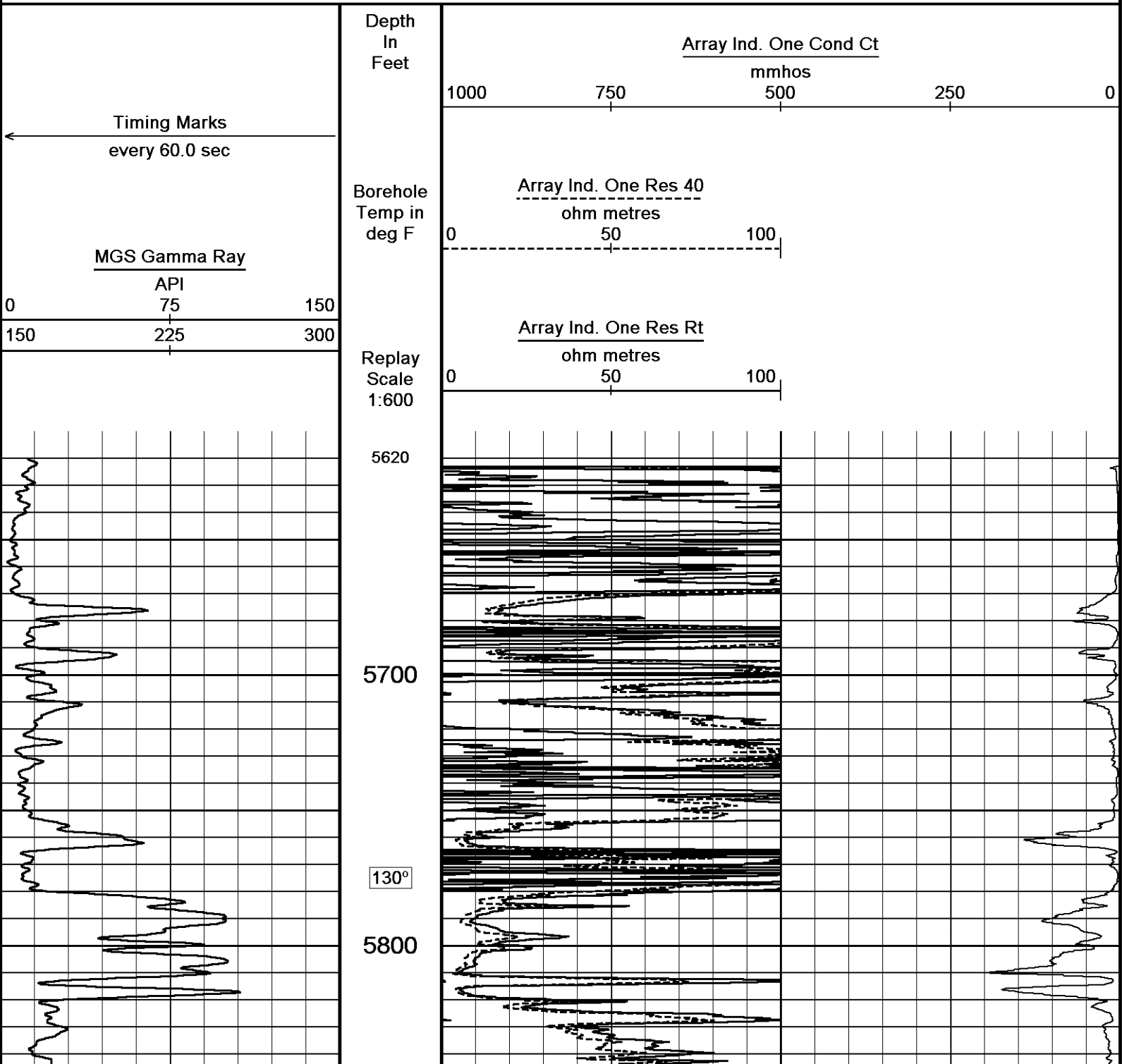
Depth Based Data - Maximum Sampling Increment 10.0cm

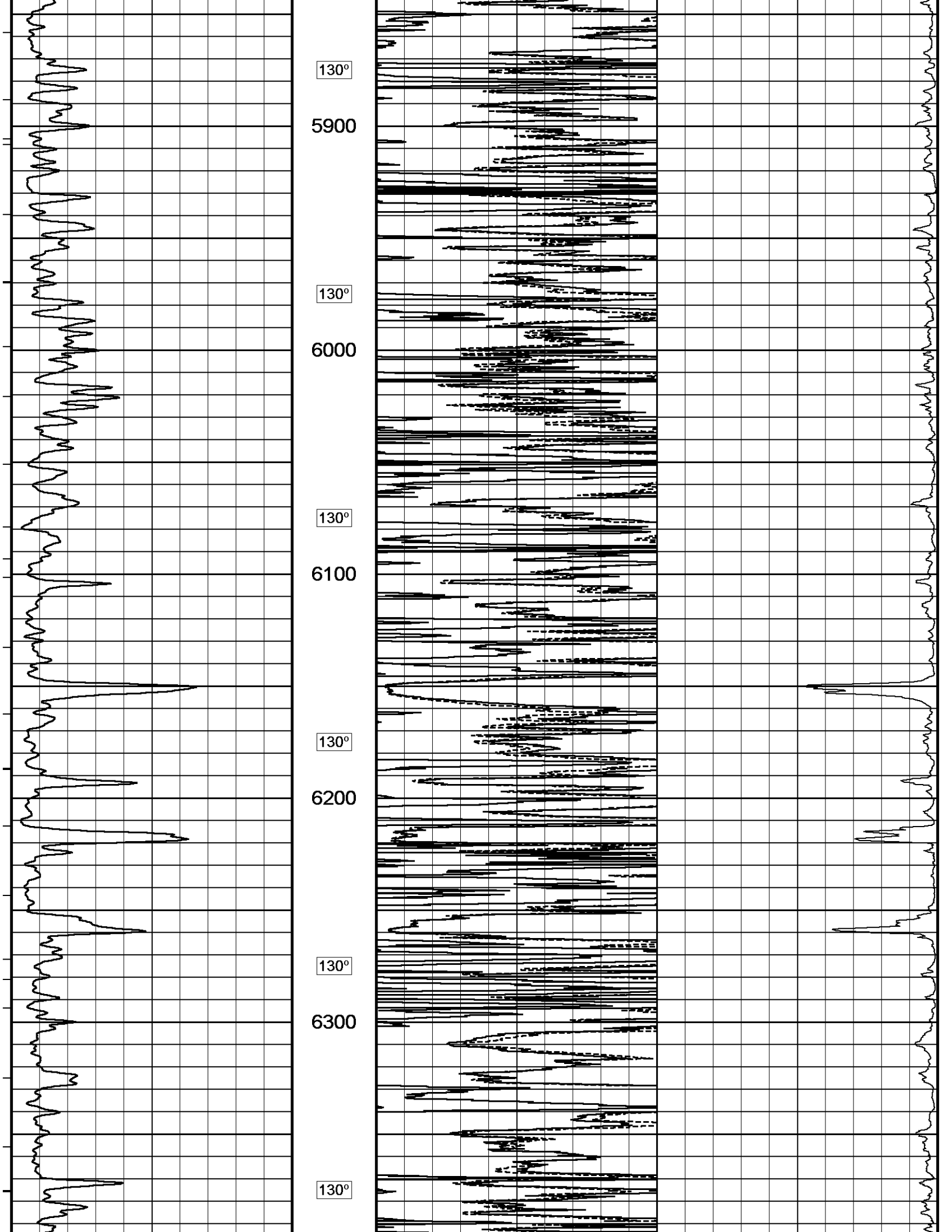
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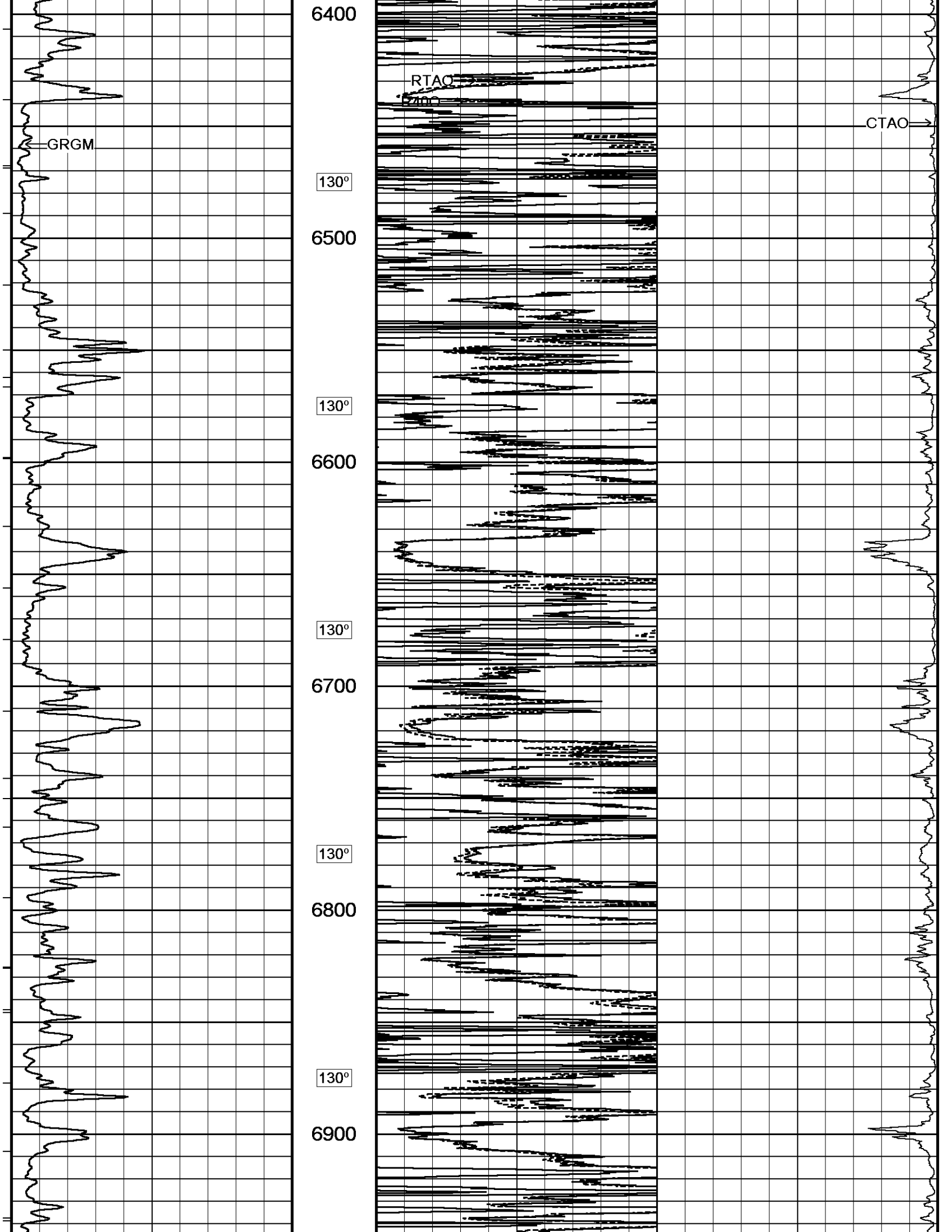
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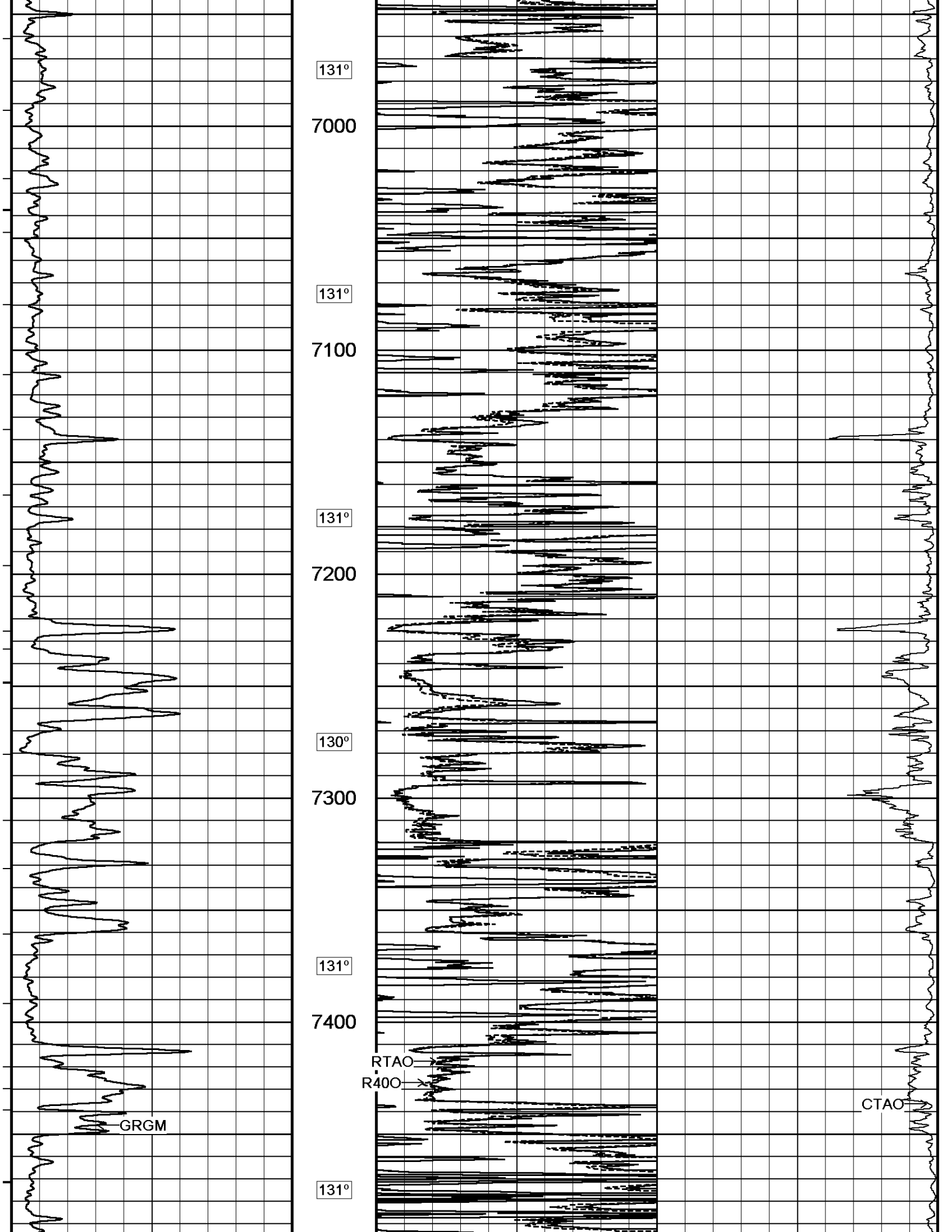
Recorded on 30-AUG-2012 02:49

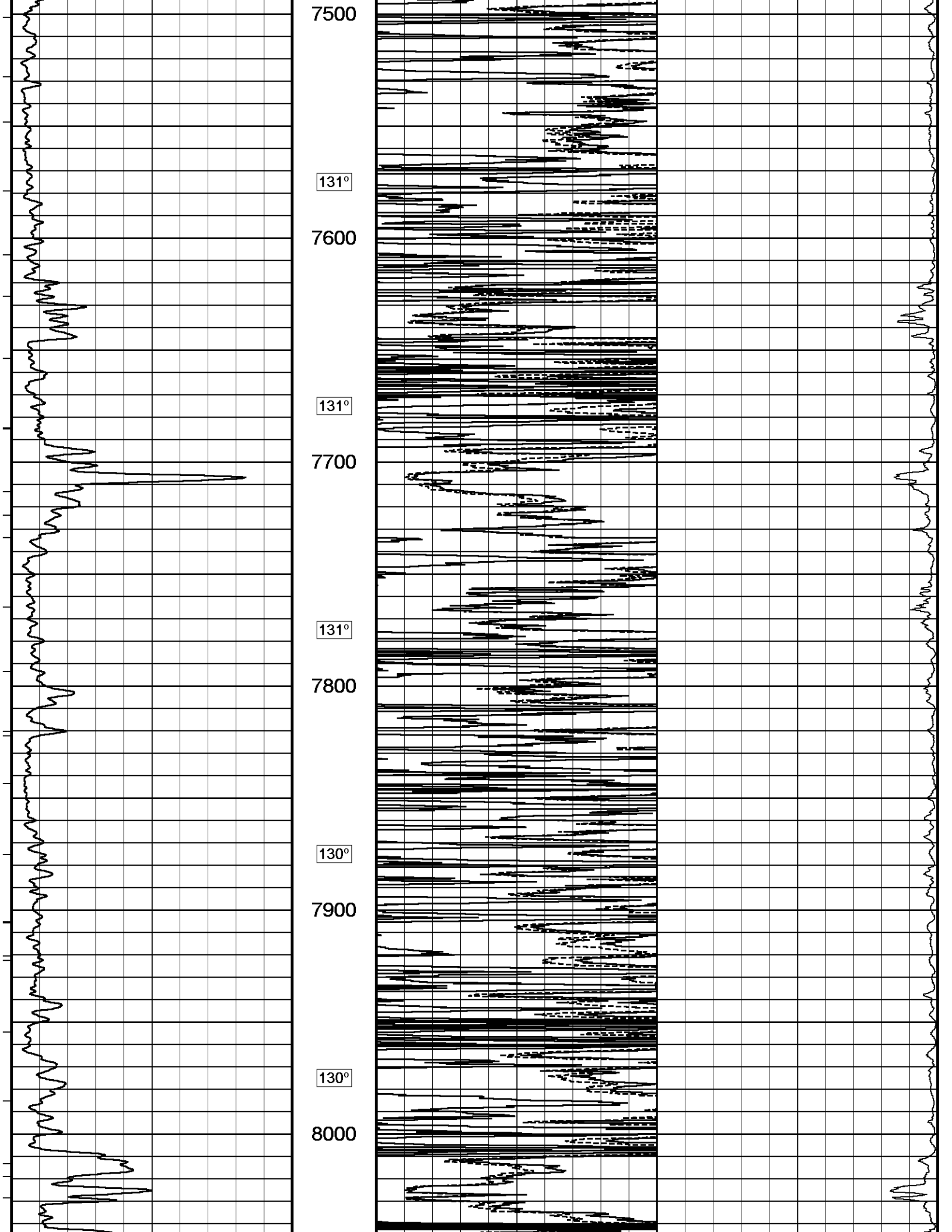
System Versions: Processed with 13.02.6600 Plotted with 13.02.6600

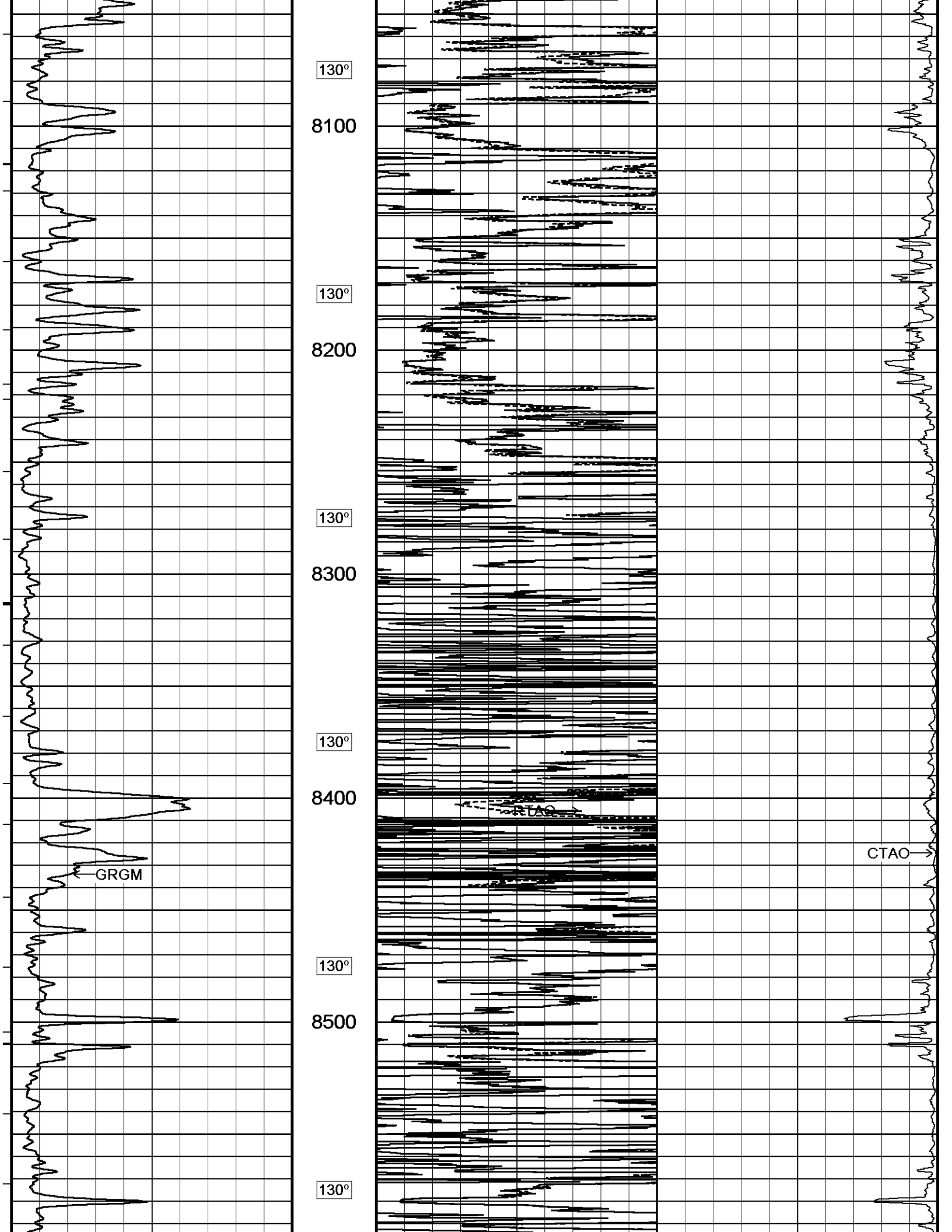


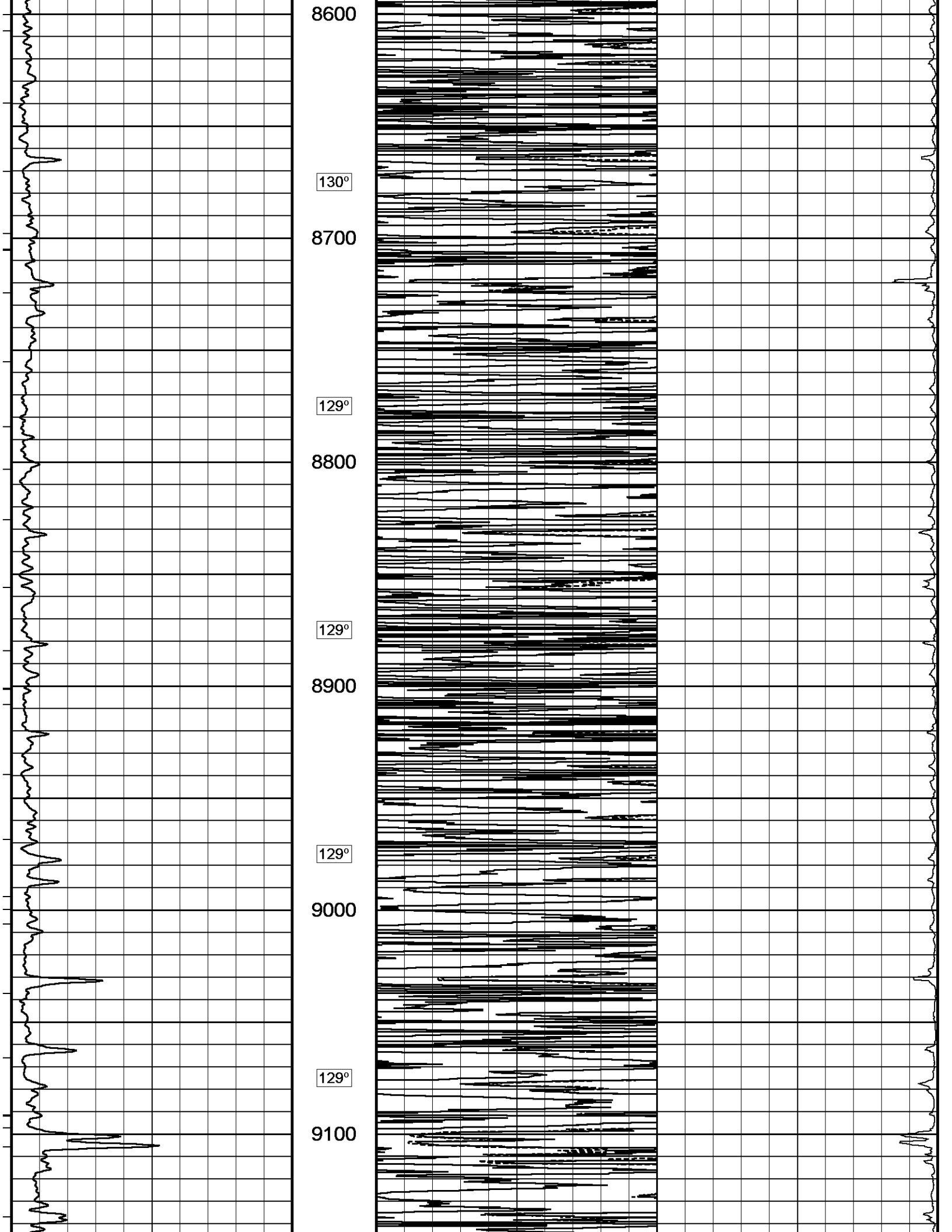


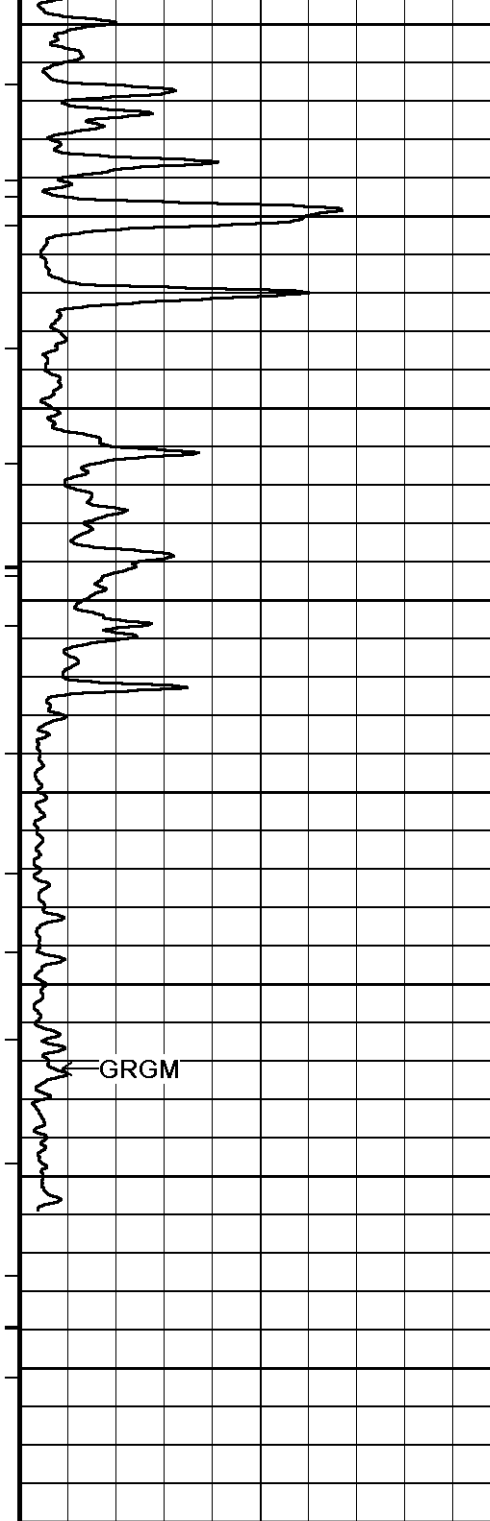












129°

9200

129°

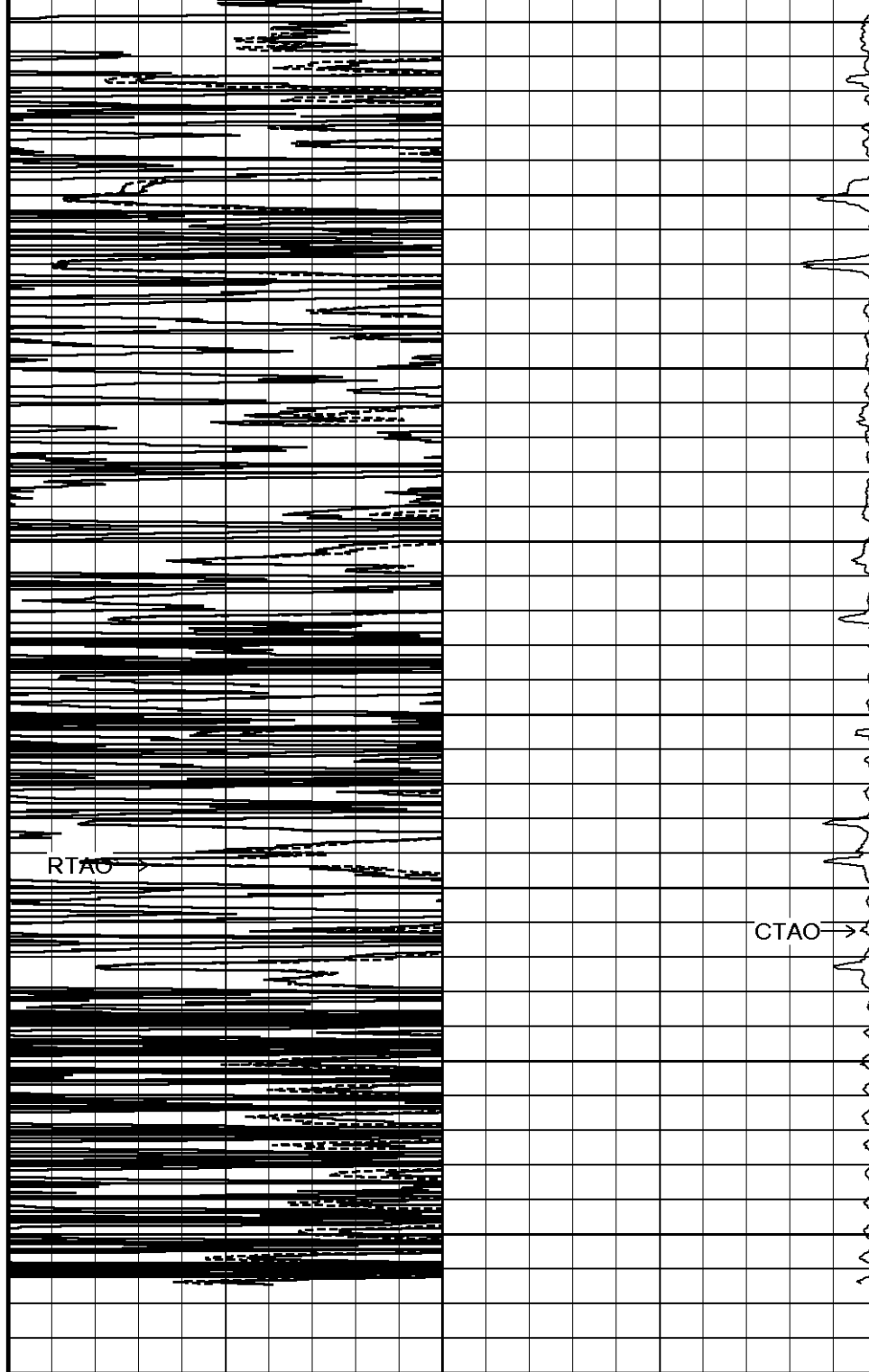
9300

129°

9400

9500

9540  
Depth  
In  
Feet



GRGM

RTAO →

CTAO →

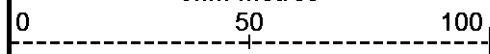
Timing Marks  
every 60.0 sec

MGs Gamma Ray

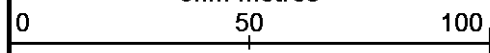
0	75	150
150	225	300

Borehole  
Temp in  
deg F

Array Ind. One Res 40  
ohm metres

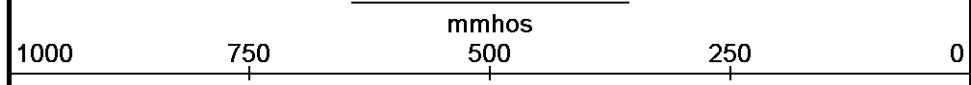


Array Ind. One Res Rt  
ohm metres



Replay  
Scale  
1:600

Array Ind. One Cond Ct





### 2 INCH MAIN LOG



**Timing Marks**  
every 60.0 sec

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**MGS Gamma Ray**

0	API	150
	75	
150	225	300

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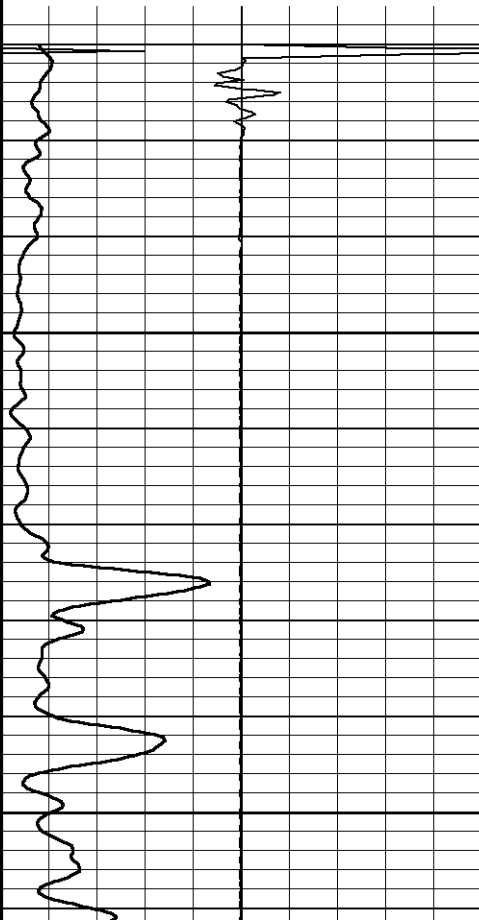
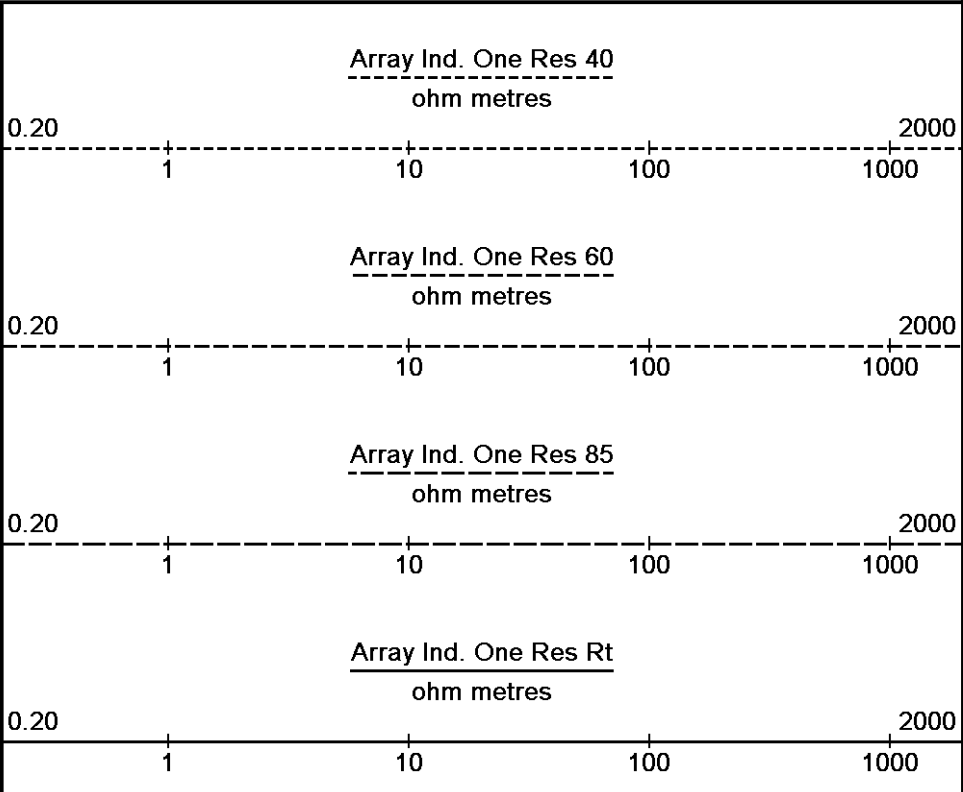
**MCL C. Collar Locator**

-10000	0	10000
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Depth  
In  
Feet

Borehole  
Temp in  
deg F

Replay  
Scale  
1:240

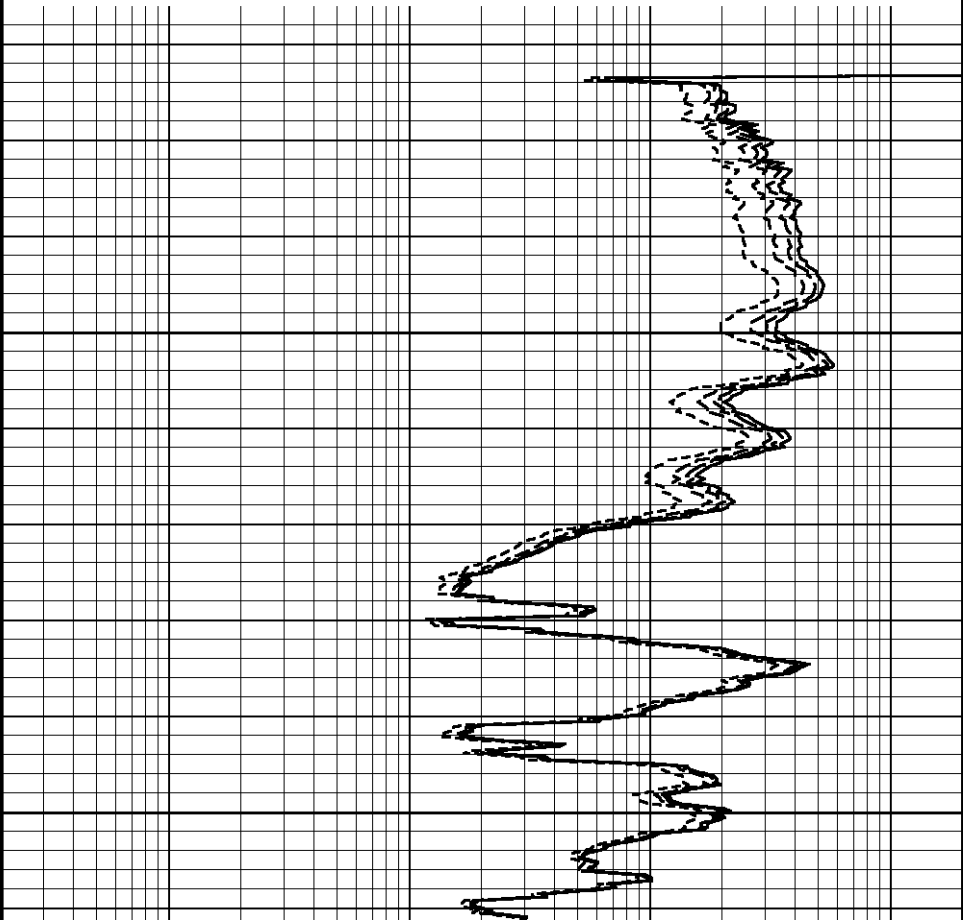


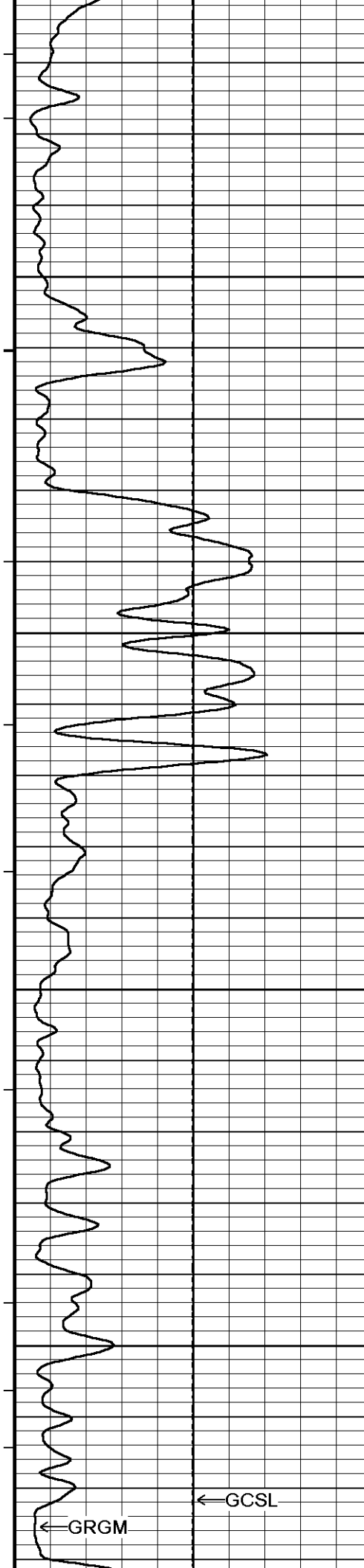
5618

5650

130°

5700





130°

5750

130°

5800

130°

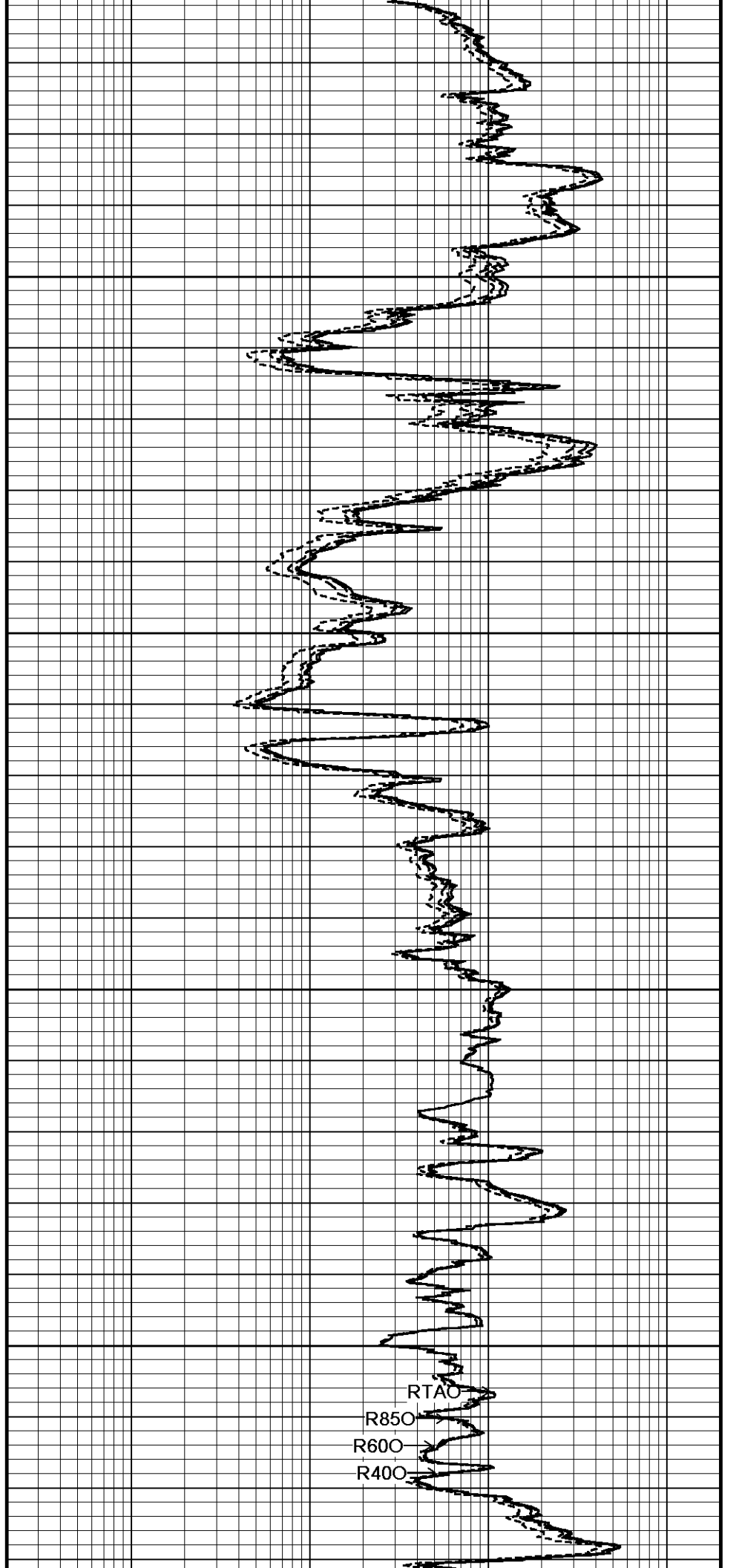
5850

130°

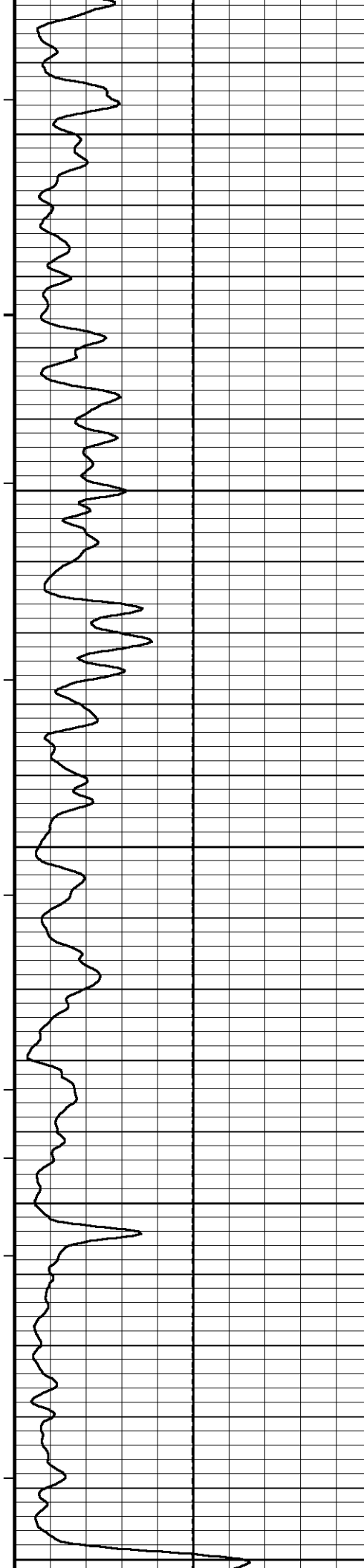
5900

← GRGM

← GCSL



RTAO  
R850  
R600  
R400



130°

5950

130°

6000

130°

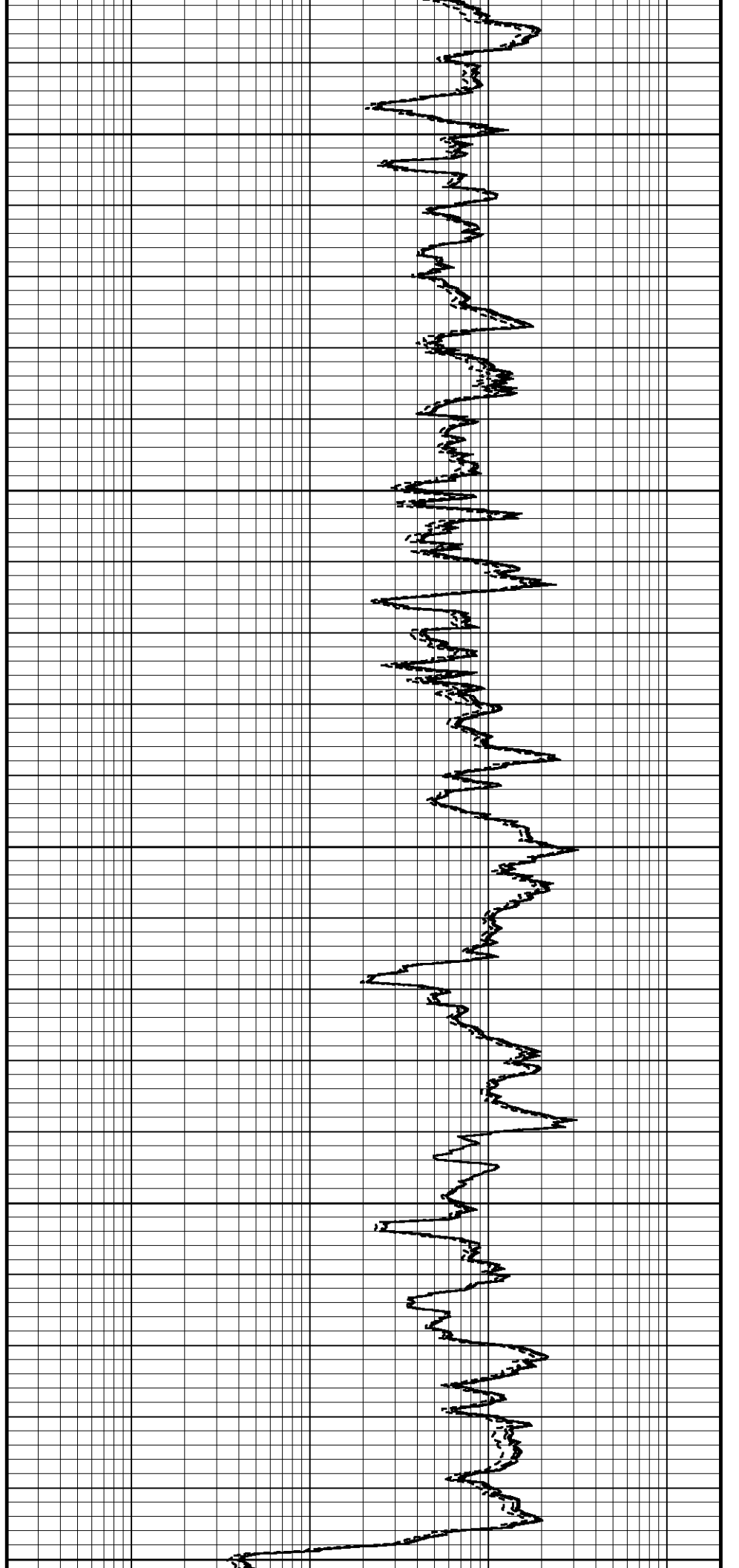
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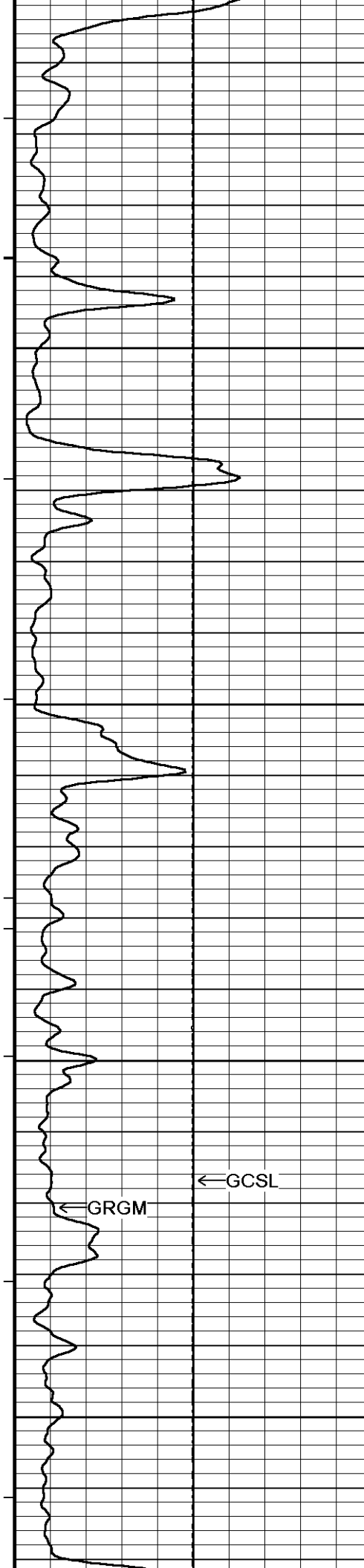
130°

6100

130°

6150





130°

6200

130°

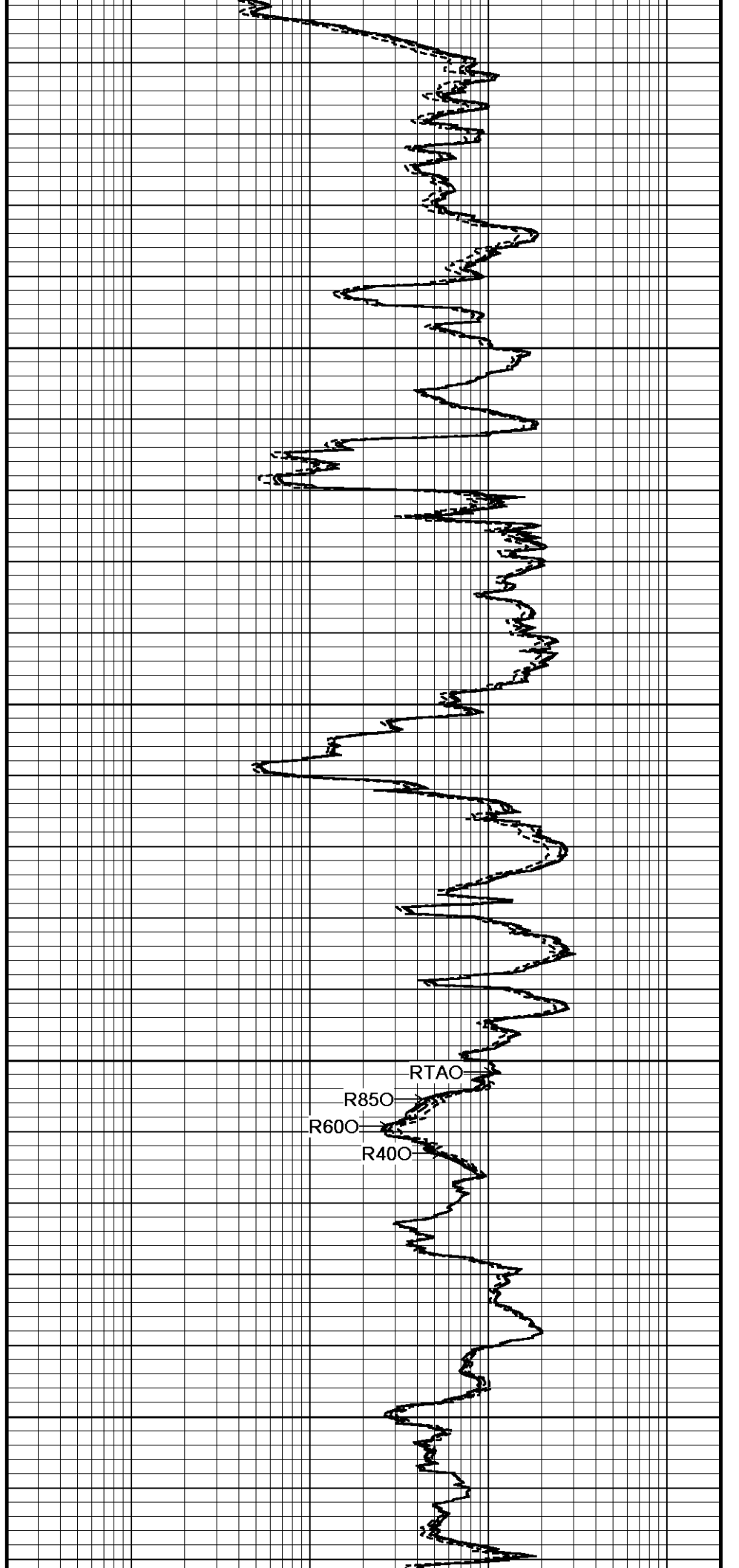
6250

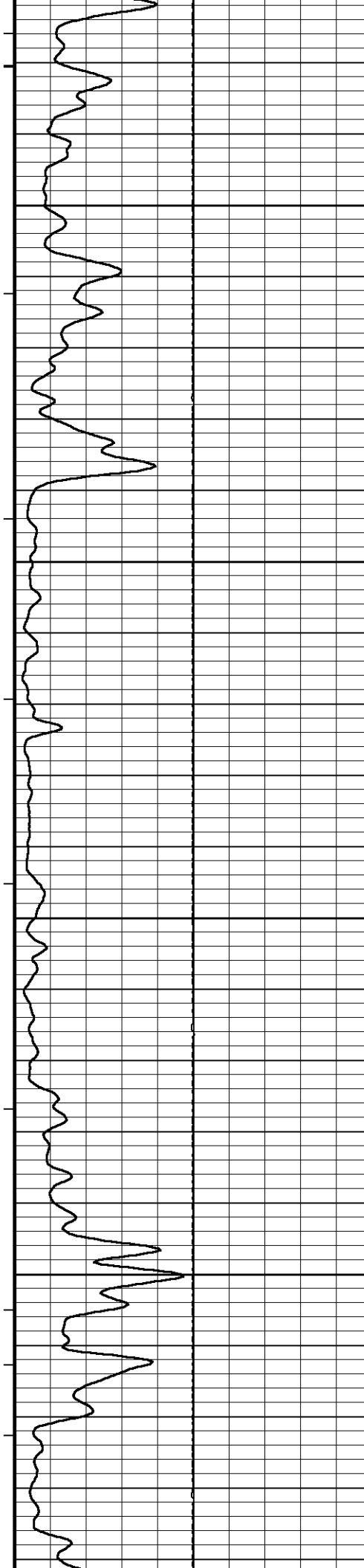
130°

6300

130°

6350





130°

6400

130°

6450

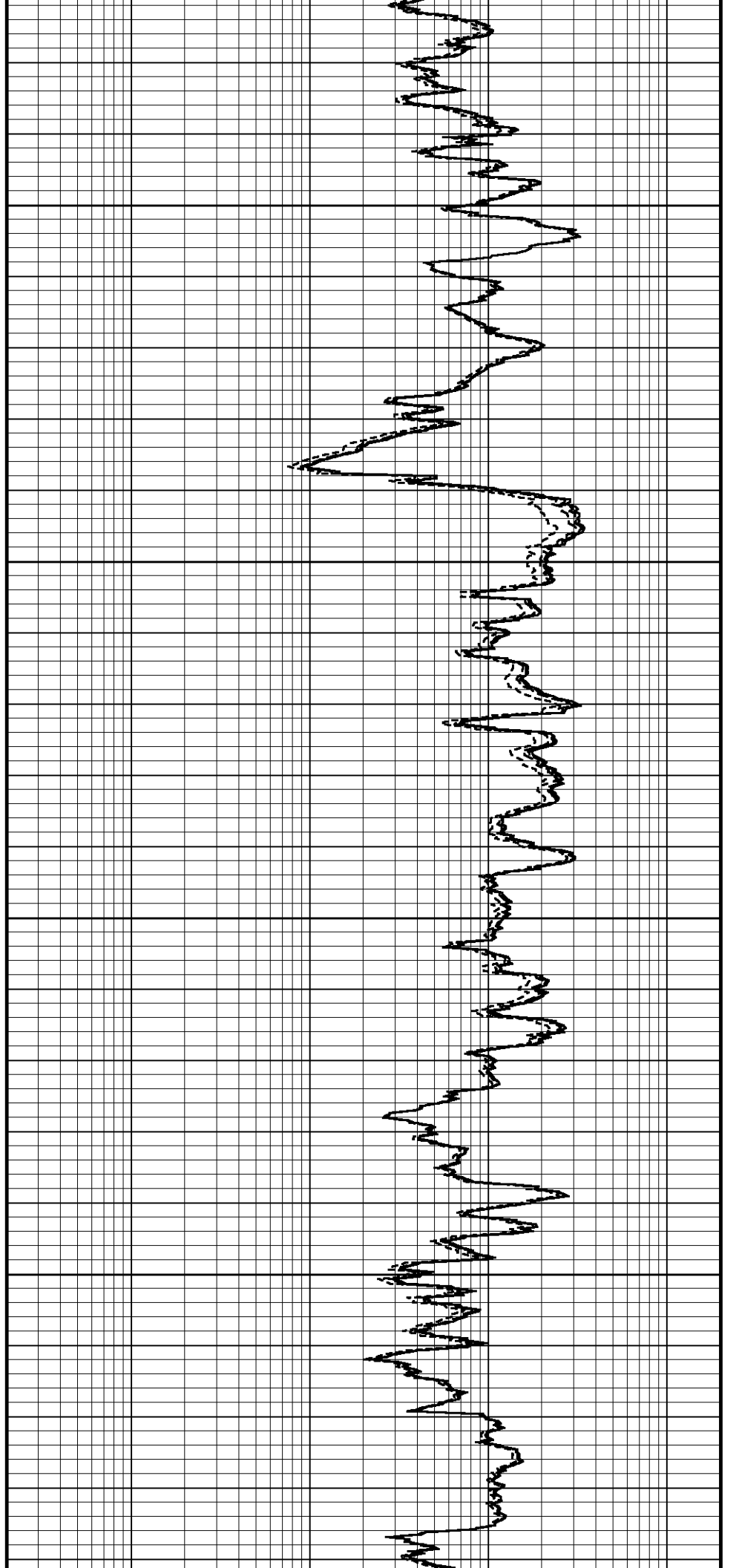
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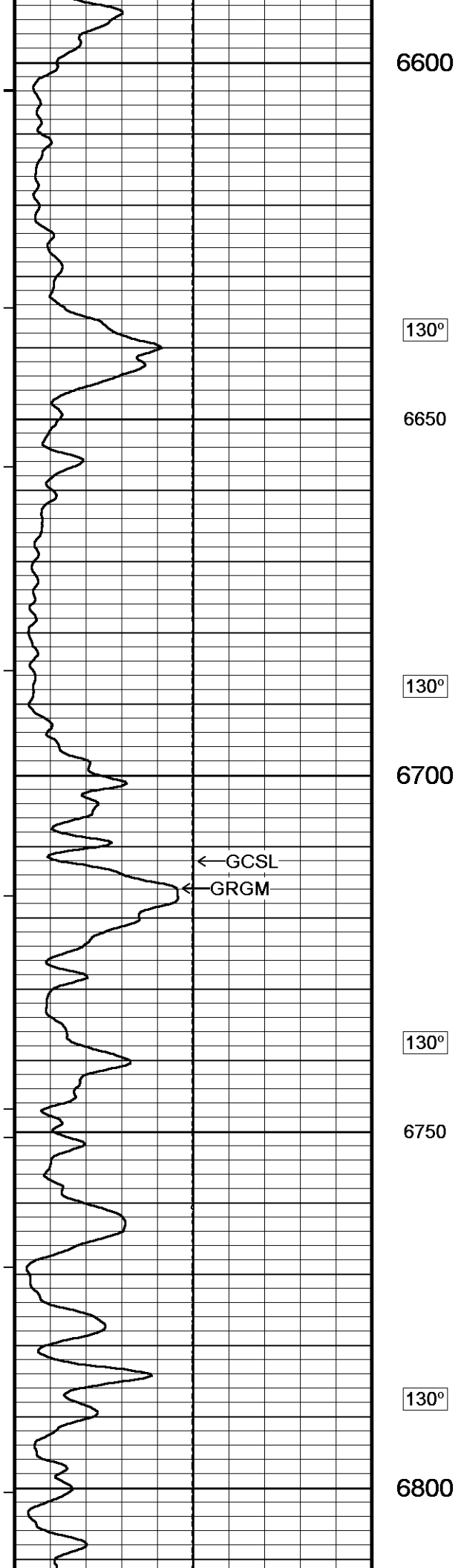
6500

130°

6550

130°





6600

130°

6650

130°

6700

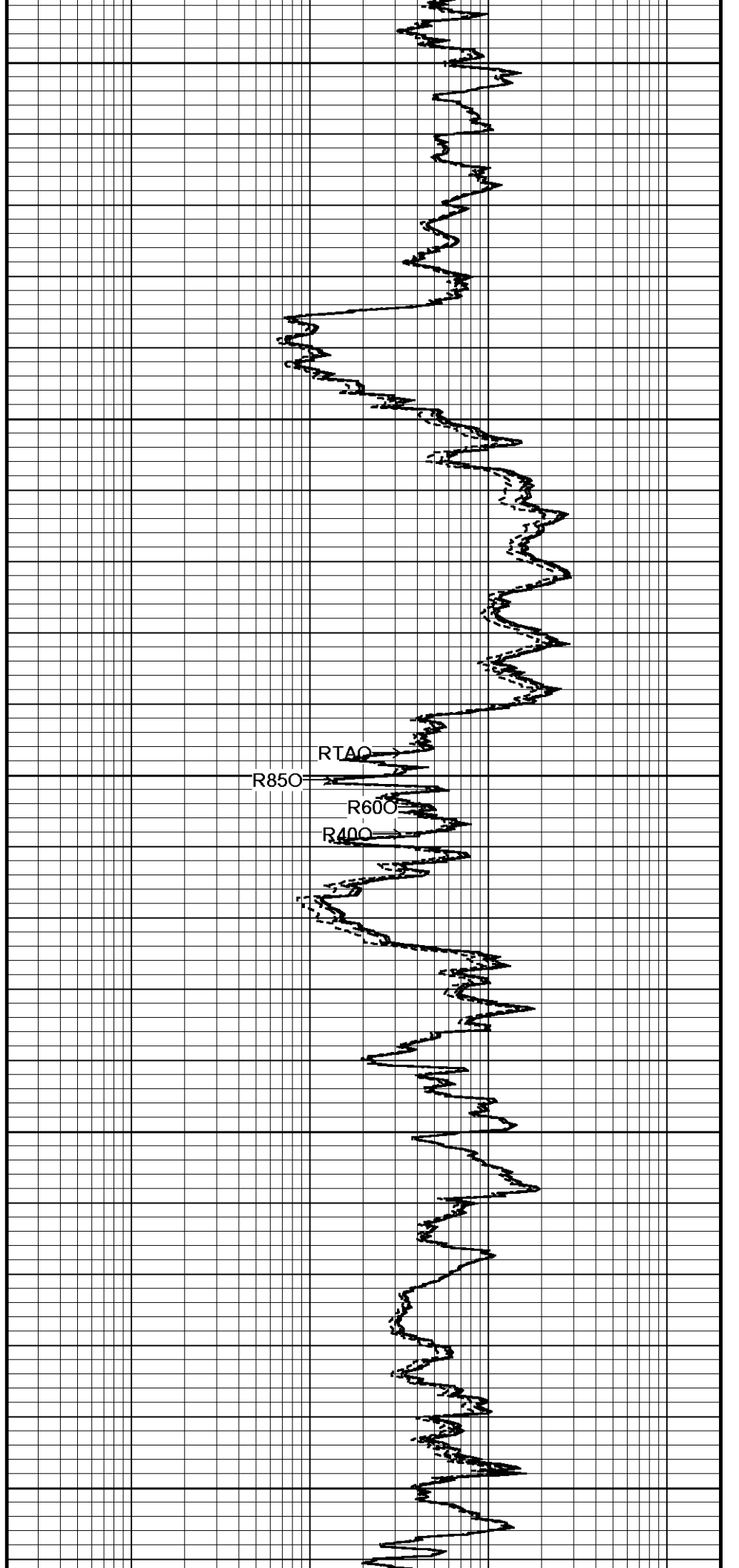
← GCSL  
← GRGM

130°

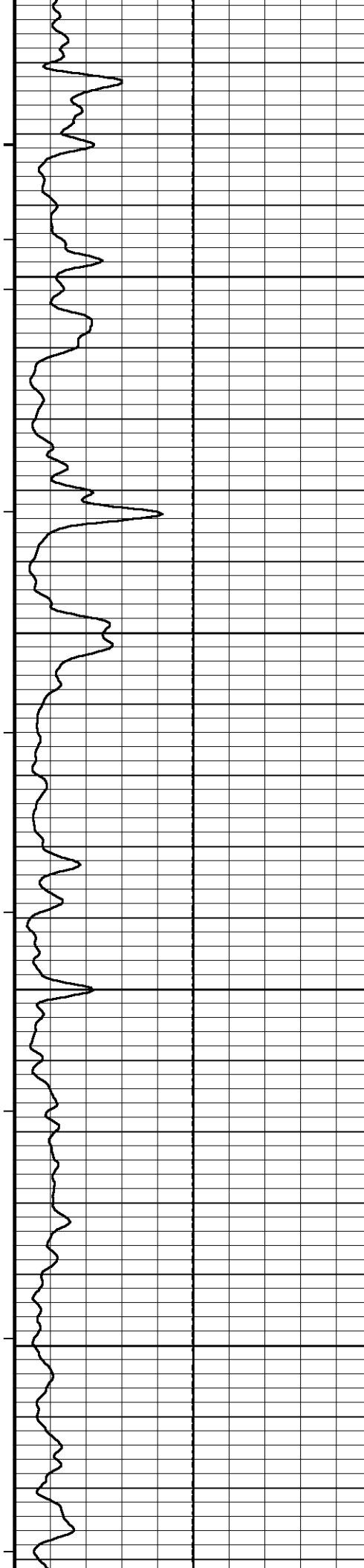
6750

130°

6800



RTAQ  
R850  
R600  
R400



130°

6850

130°

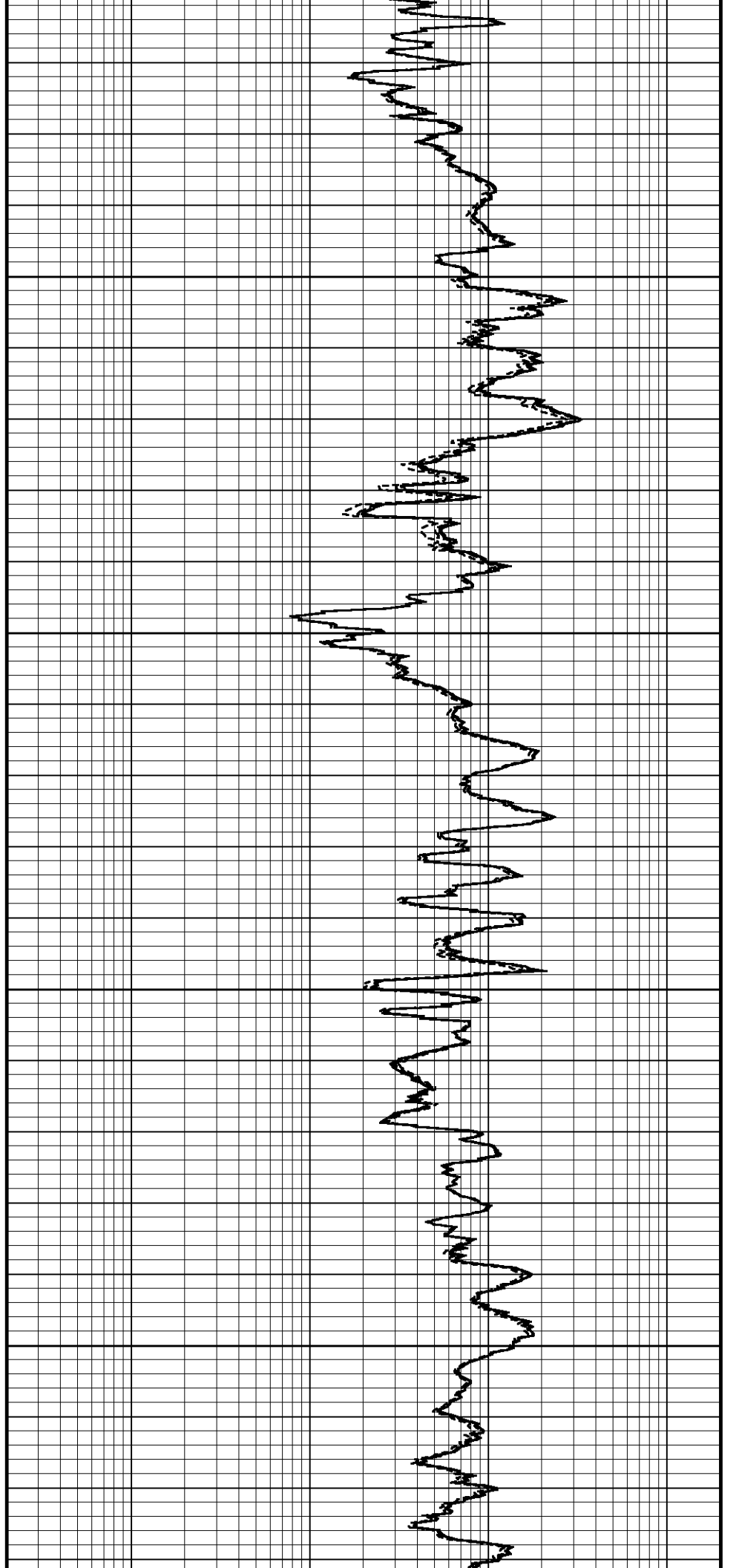
6900

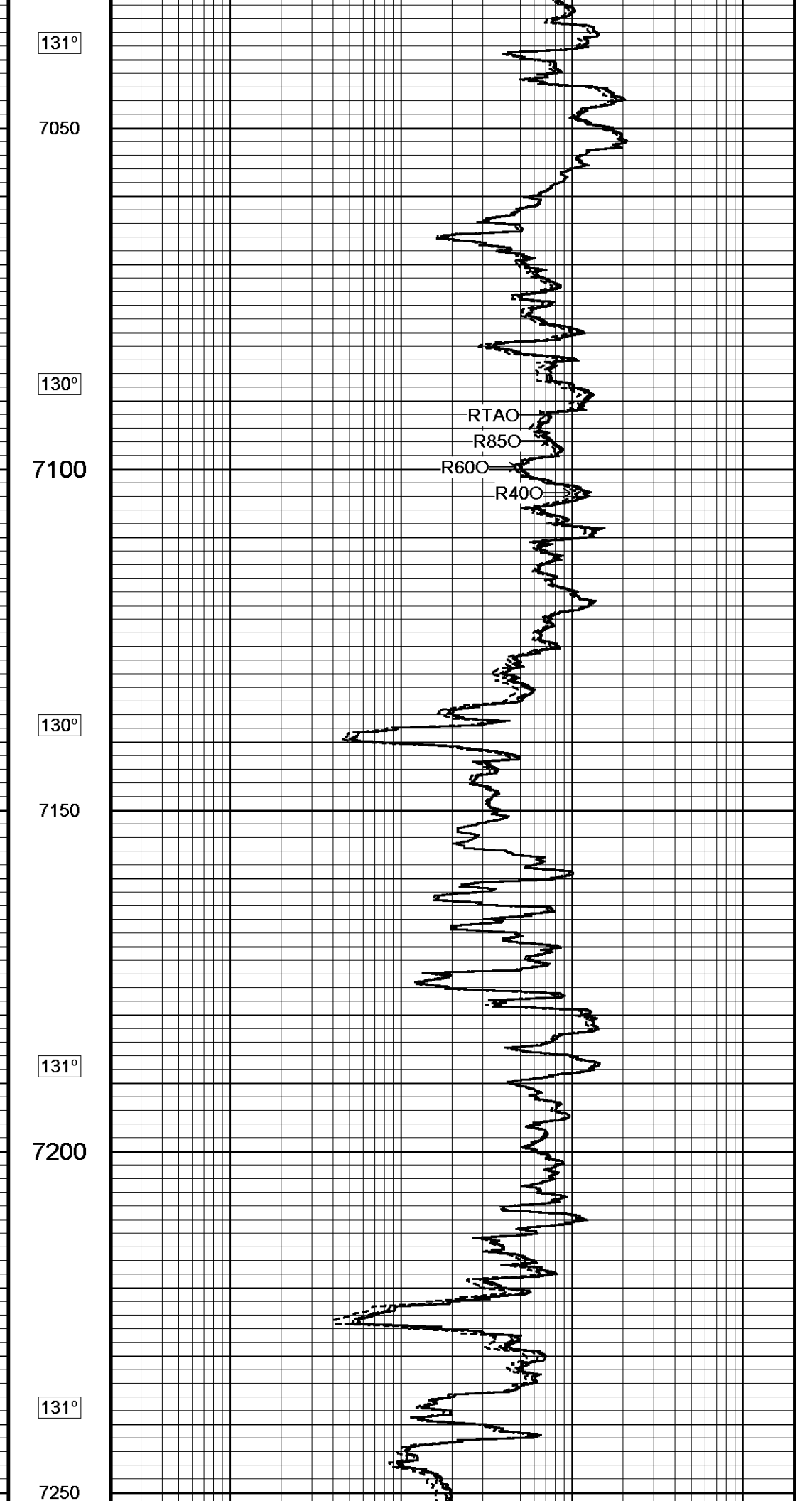
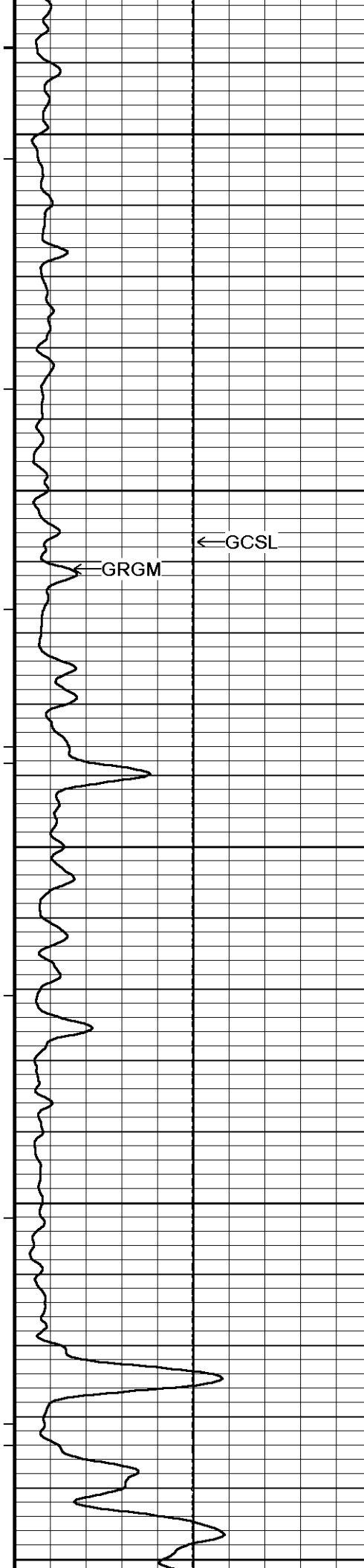
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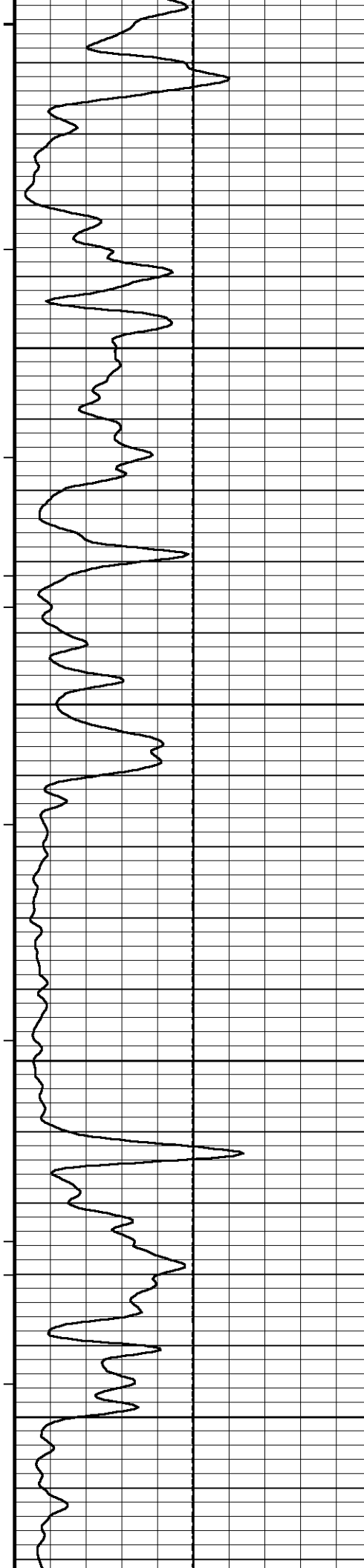
6950

130°

7000







130°

7300

131°

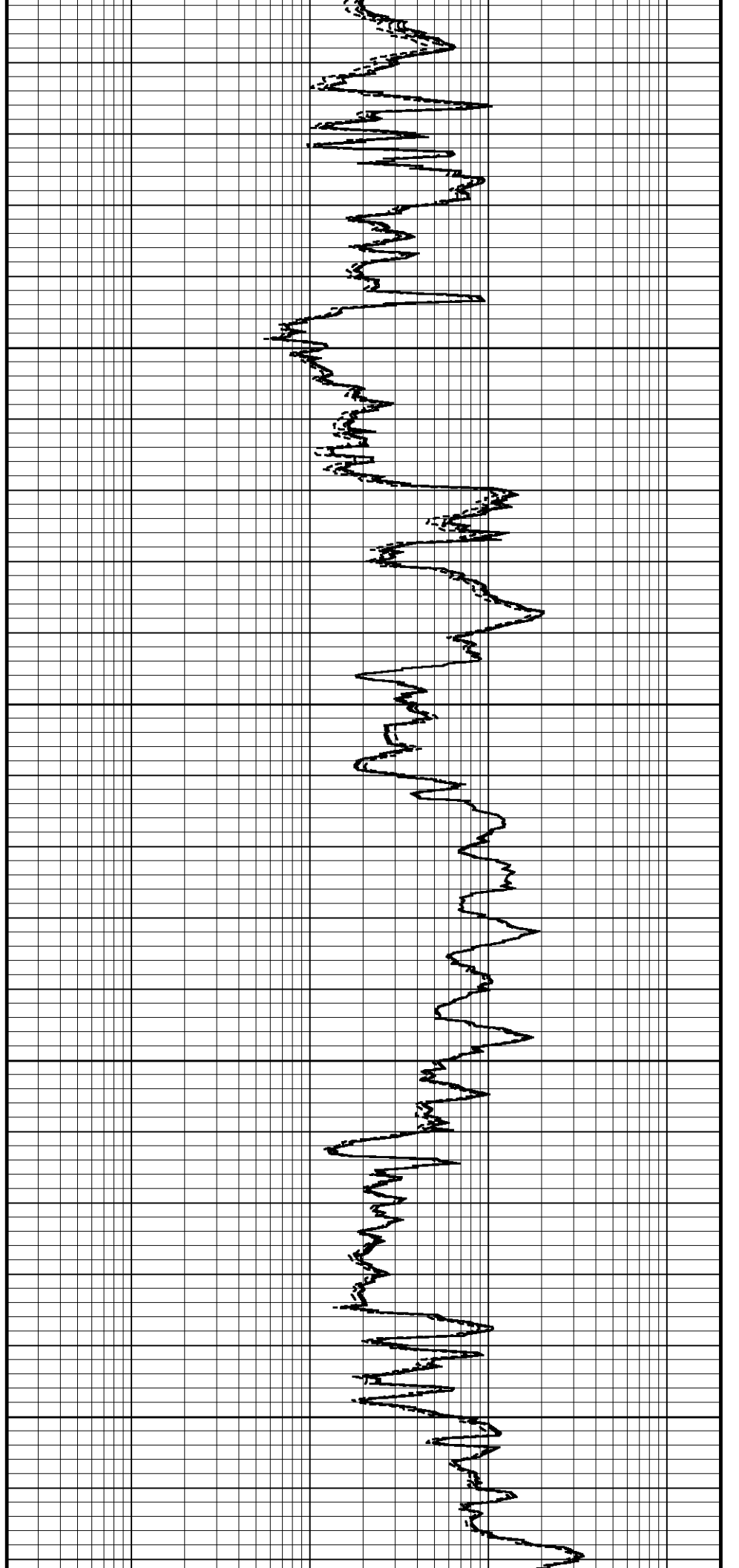
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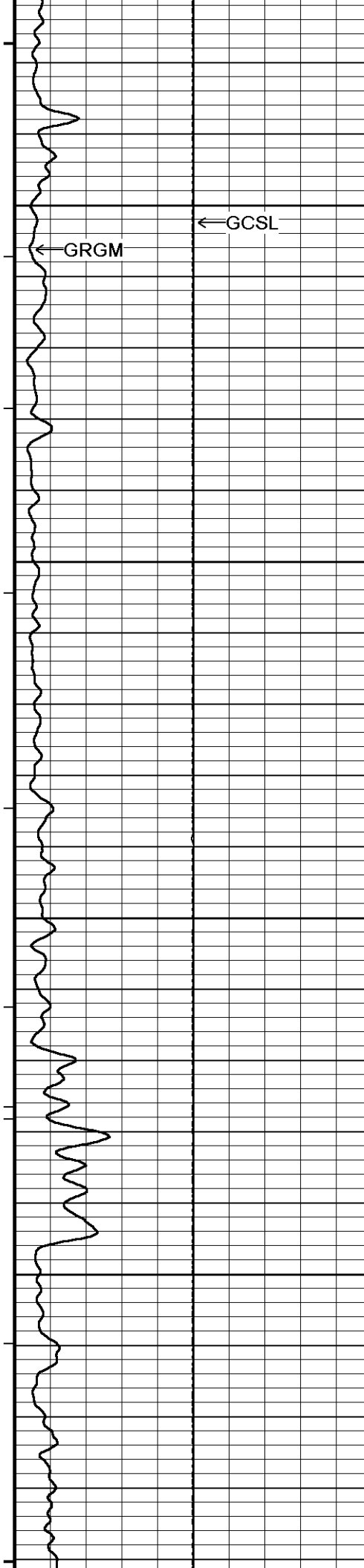
131°

7400

131°

7450





131°

7500

131°

7550

131°

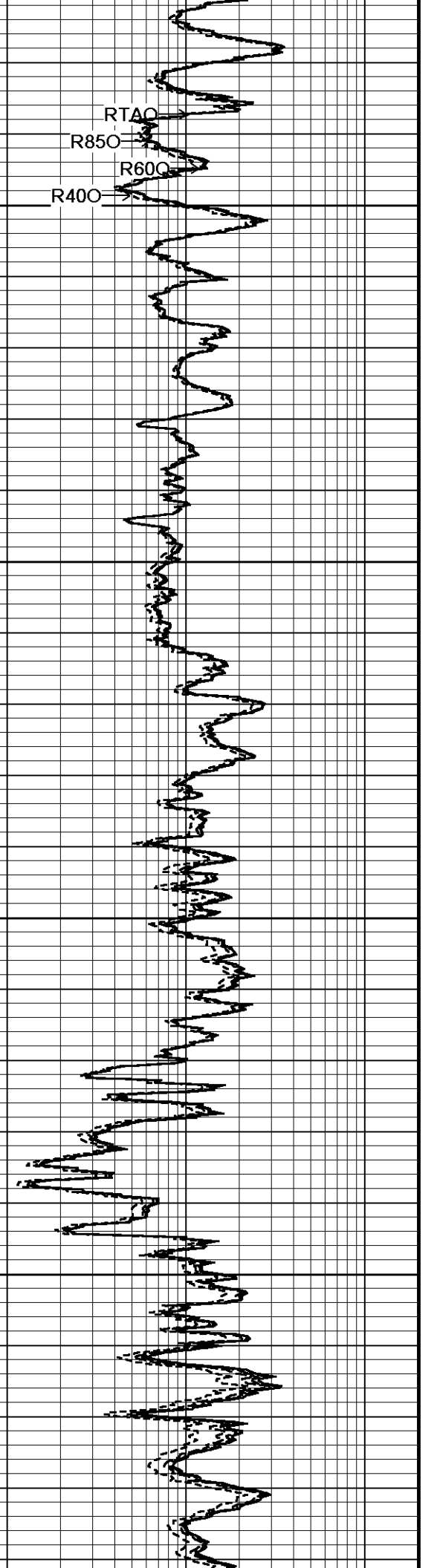
7600

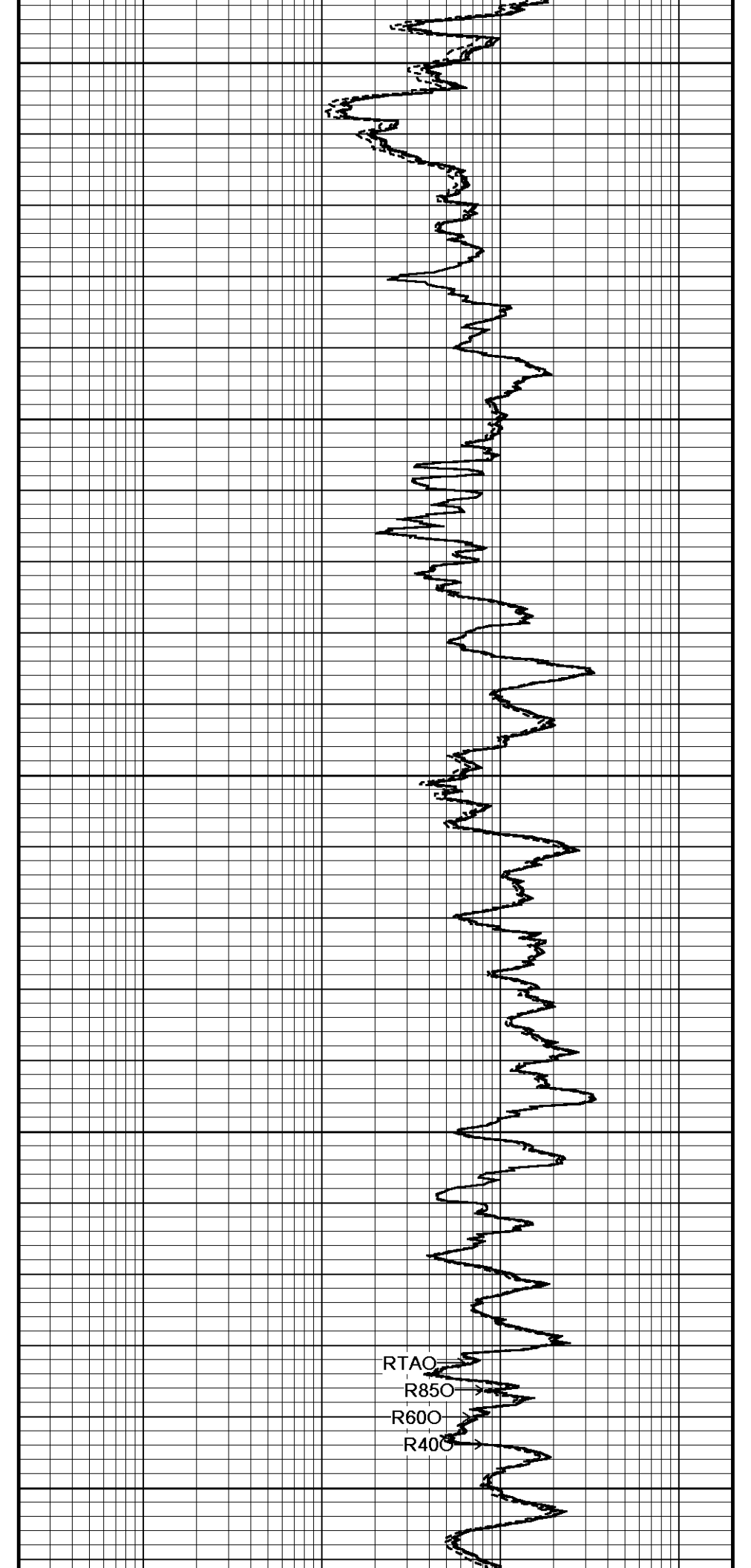
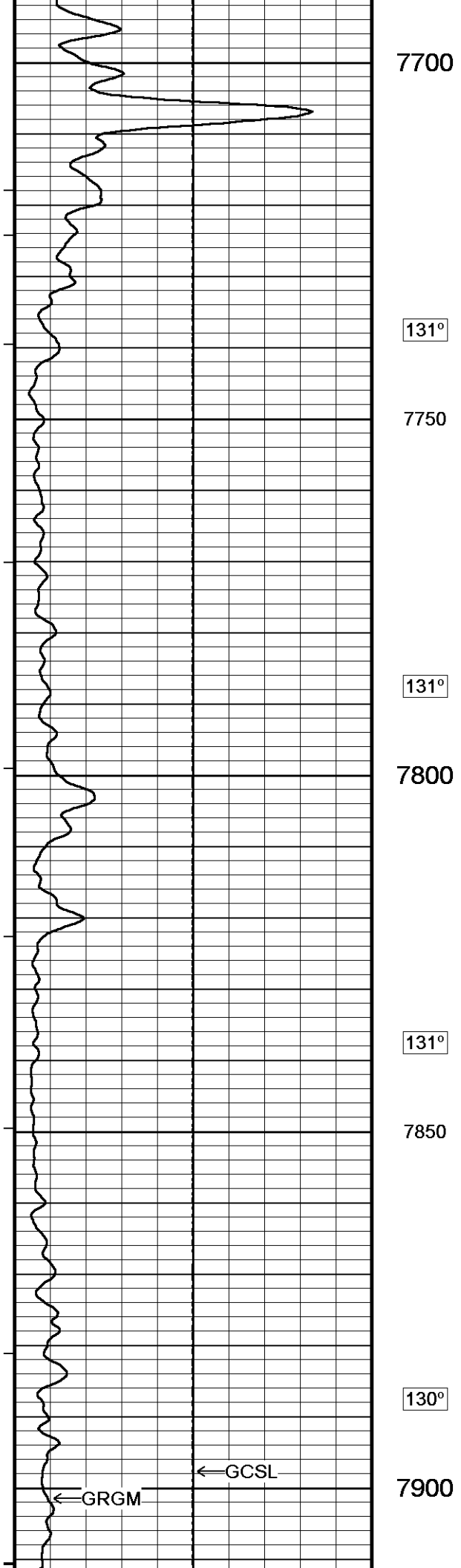
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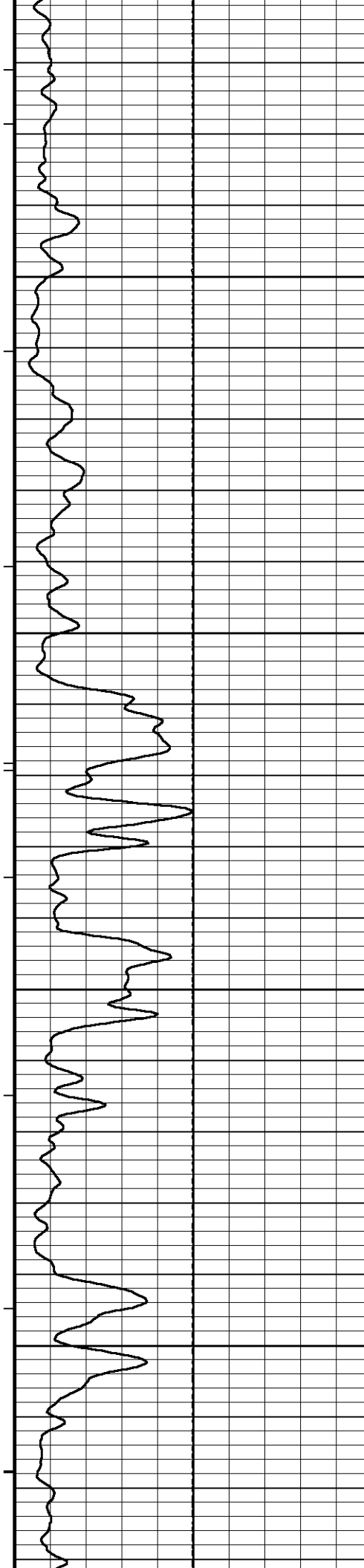
7650

131°

RTAO  
R850  
R600  
R400







130°

7950

130°

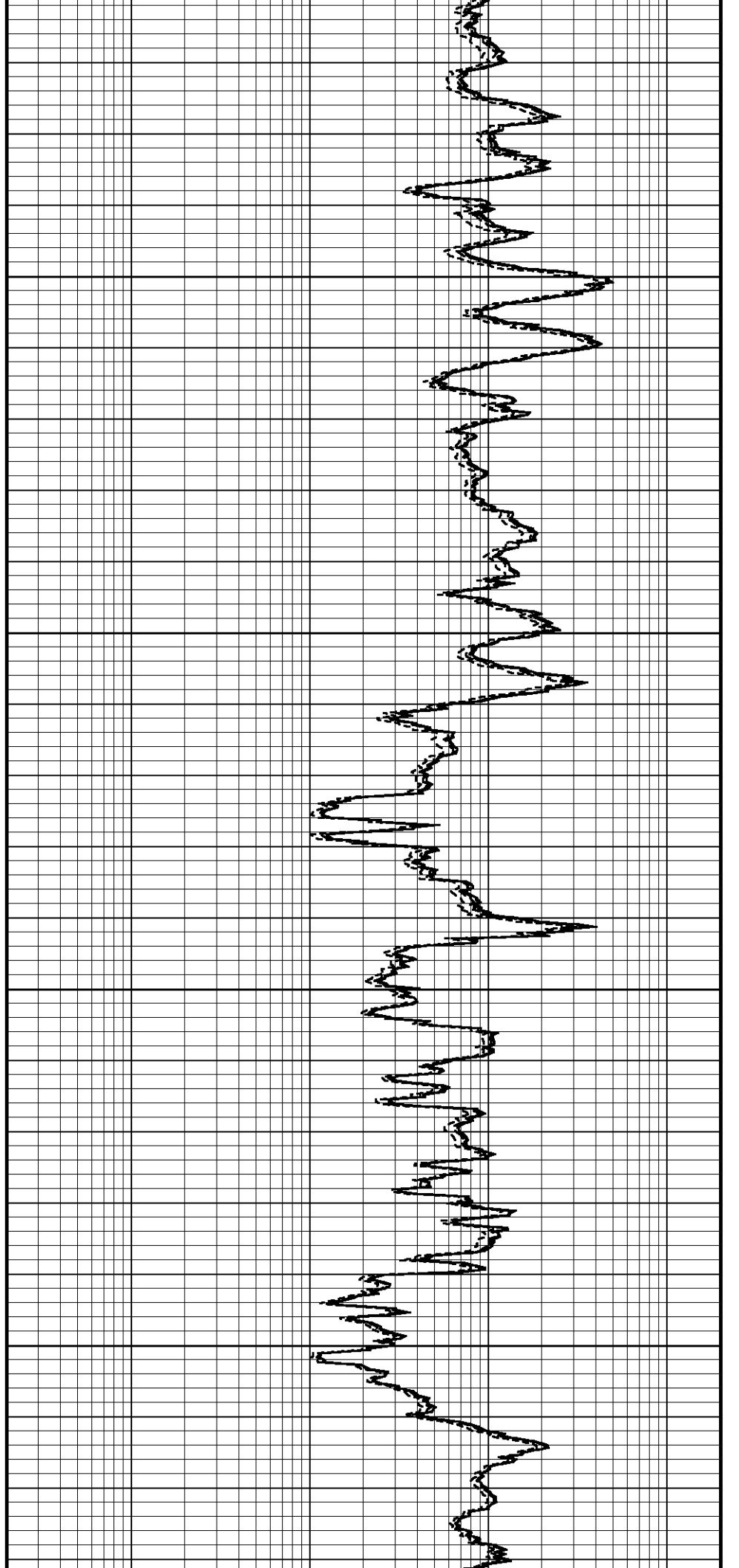
8000

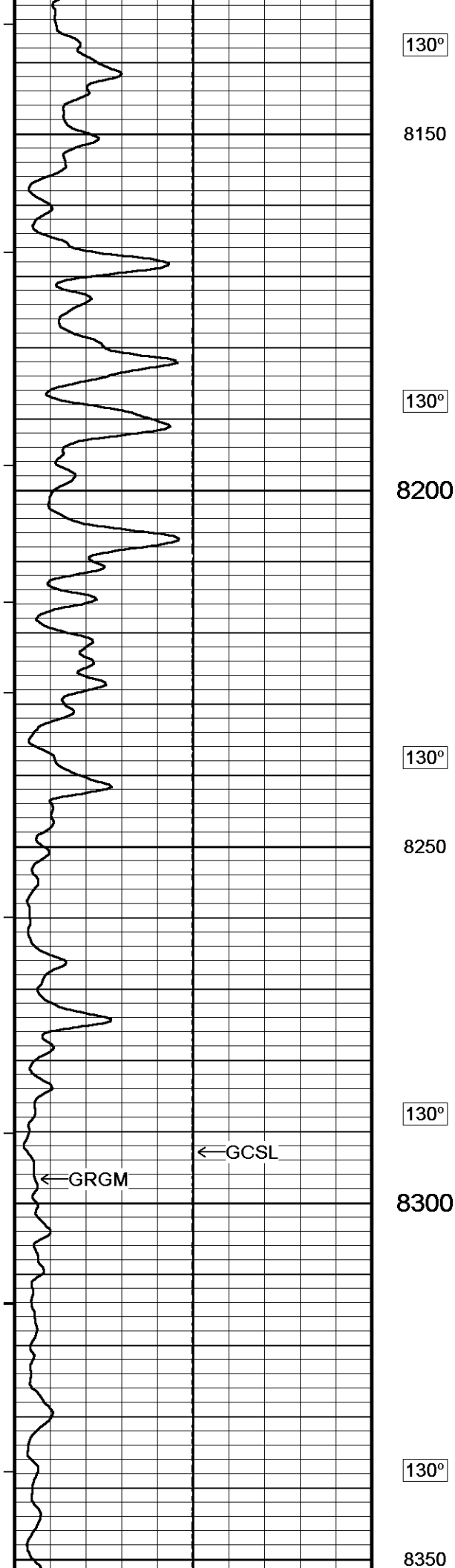
130°

8050

130°

8100





130°

8150

130°

8200

130°

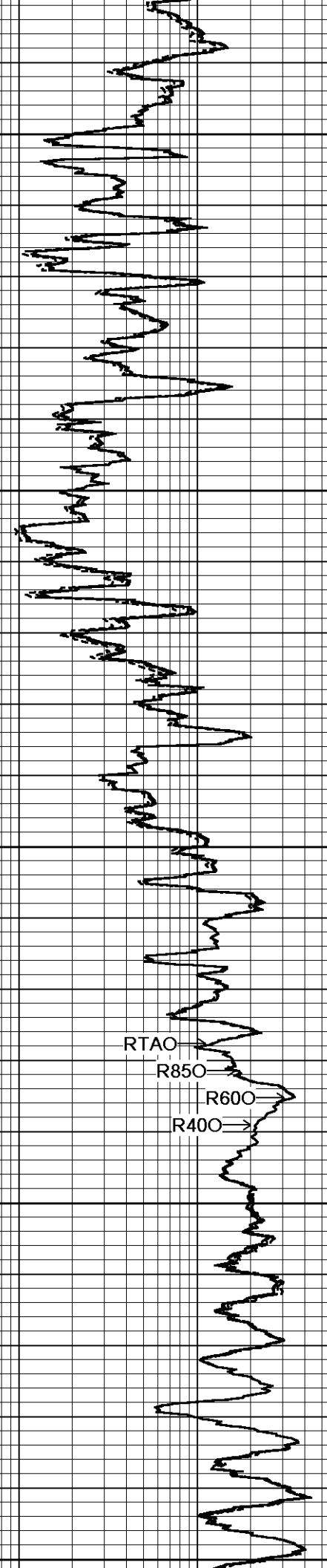
8250

130°

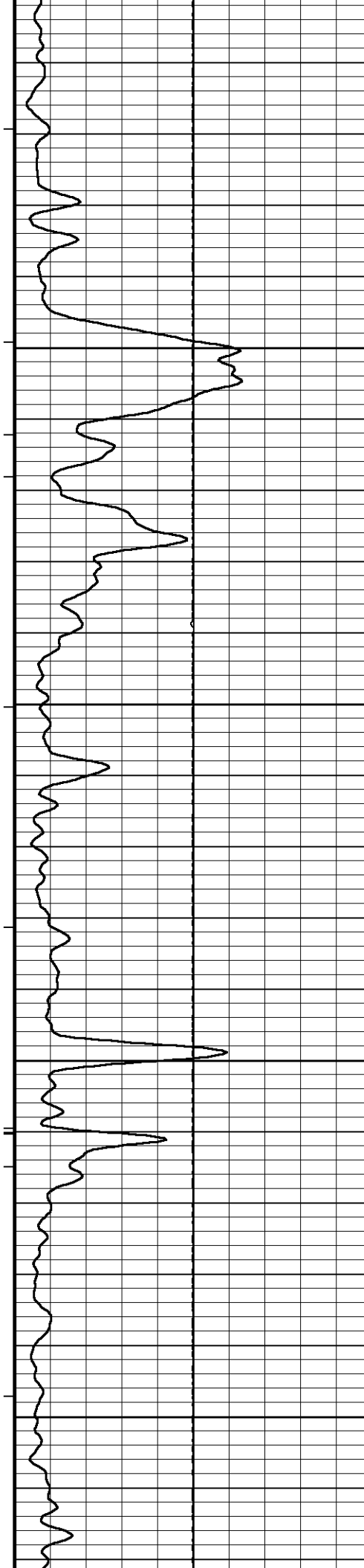
8300

130°

8350



RTAO  
R850  
R600  
R400



130°

8400

130°

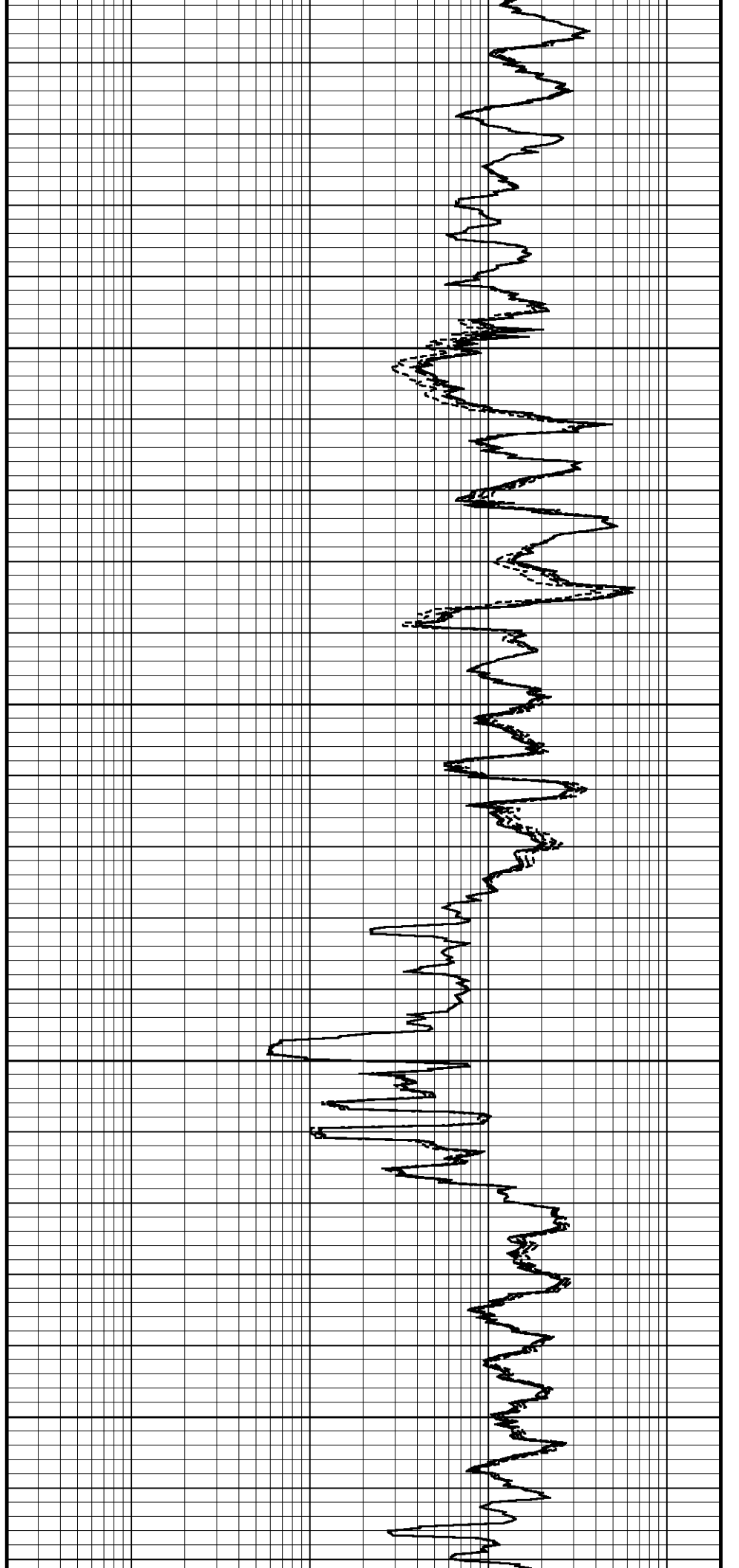
8450

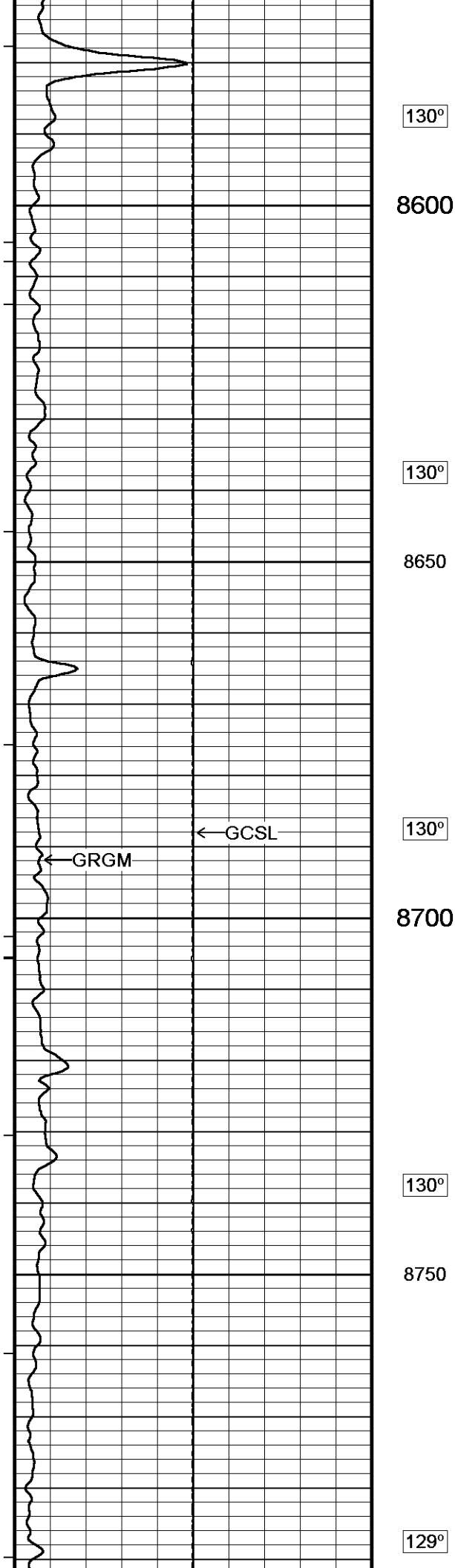
130°

8500

130°

8550





130°

8600

130°

8650

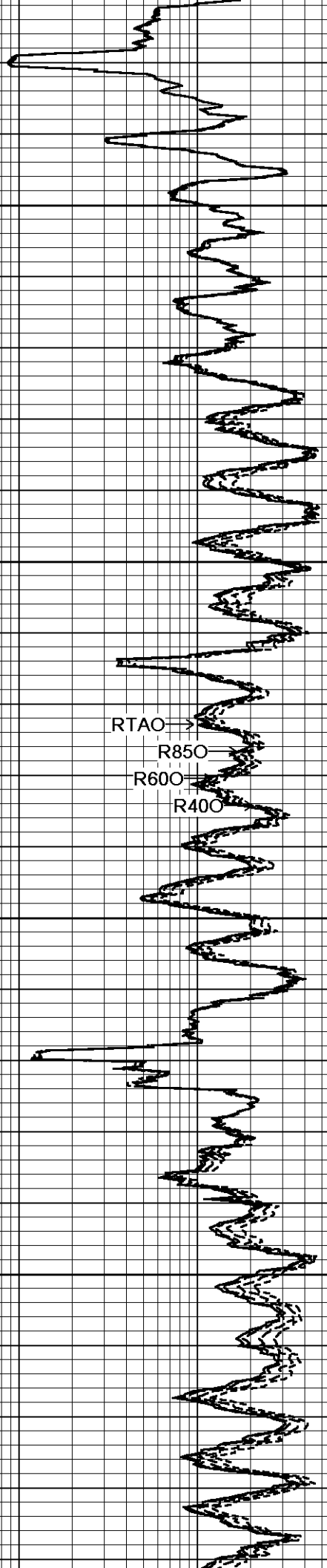
130°

8700

130°

8750

129°

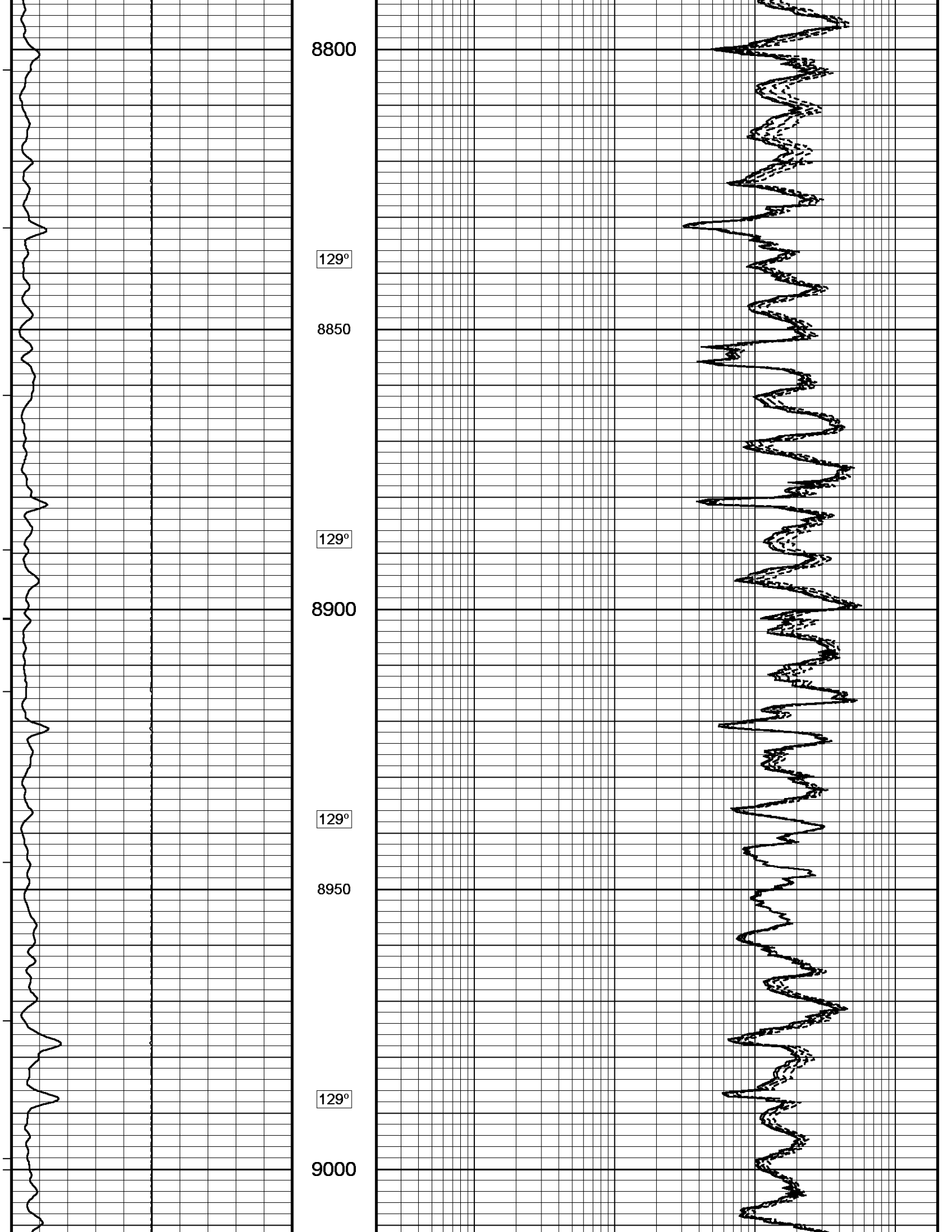


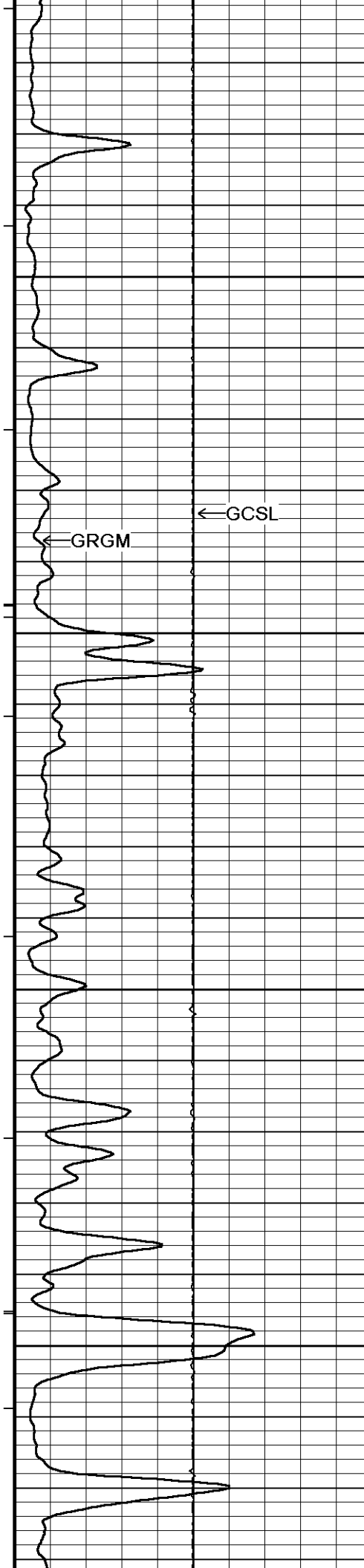
RTAO →

R850 →

R600 →

R400 →





129°

9050

129°

9100

129°

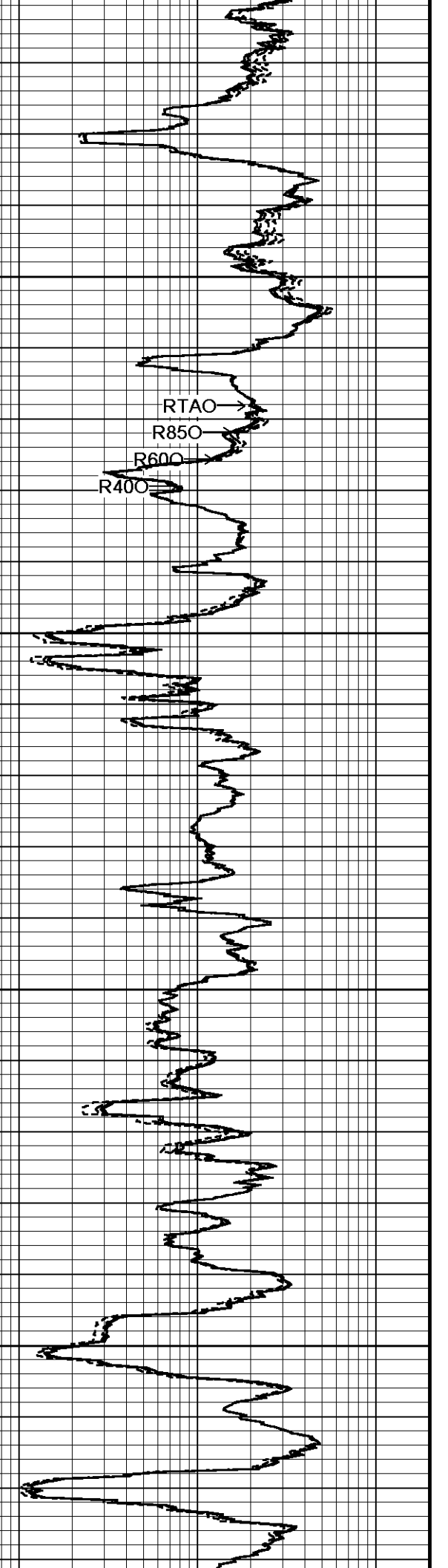
9150

129°

9200

← GCSL

← GRGM

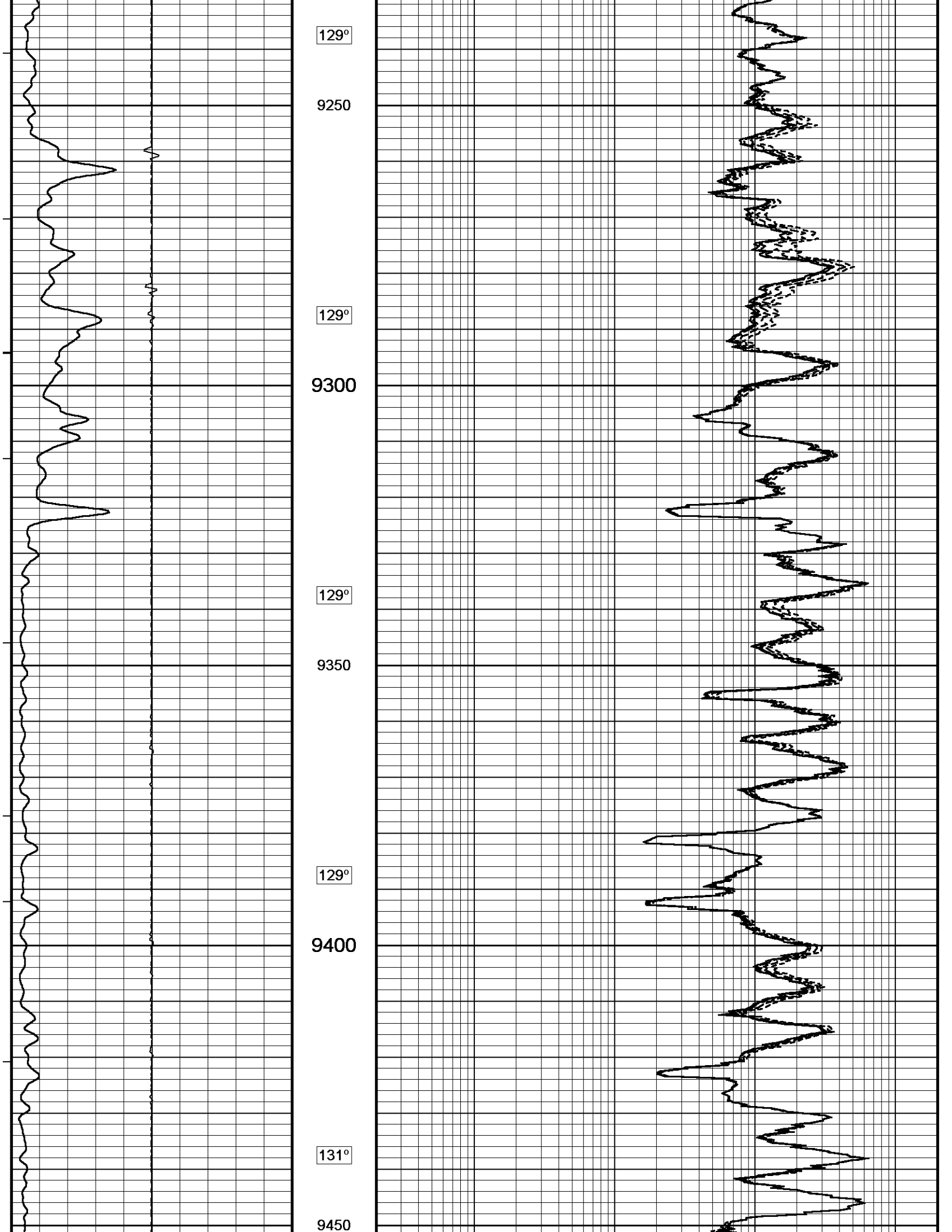


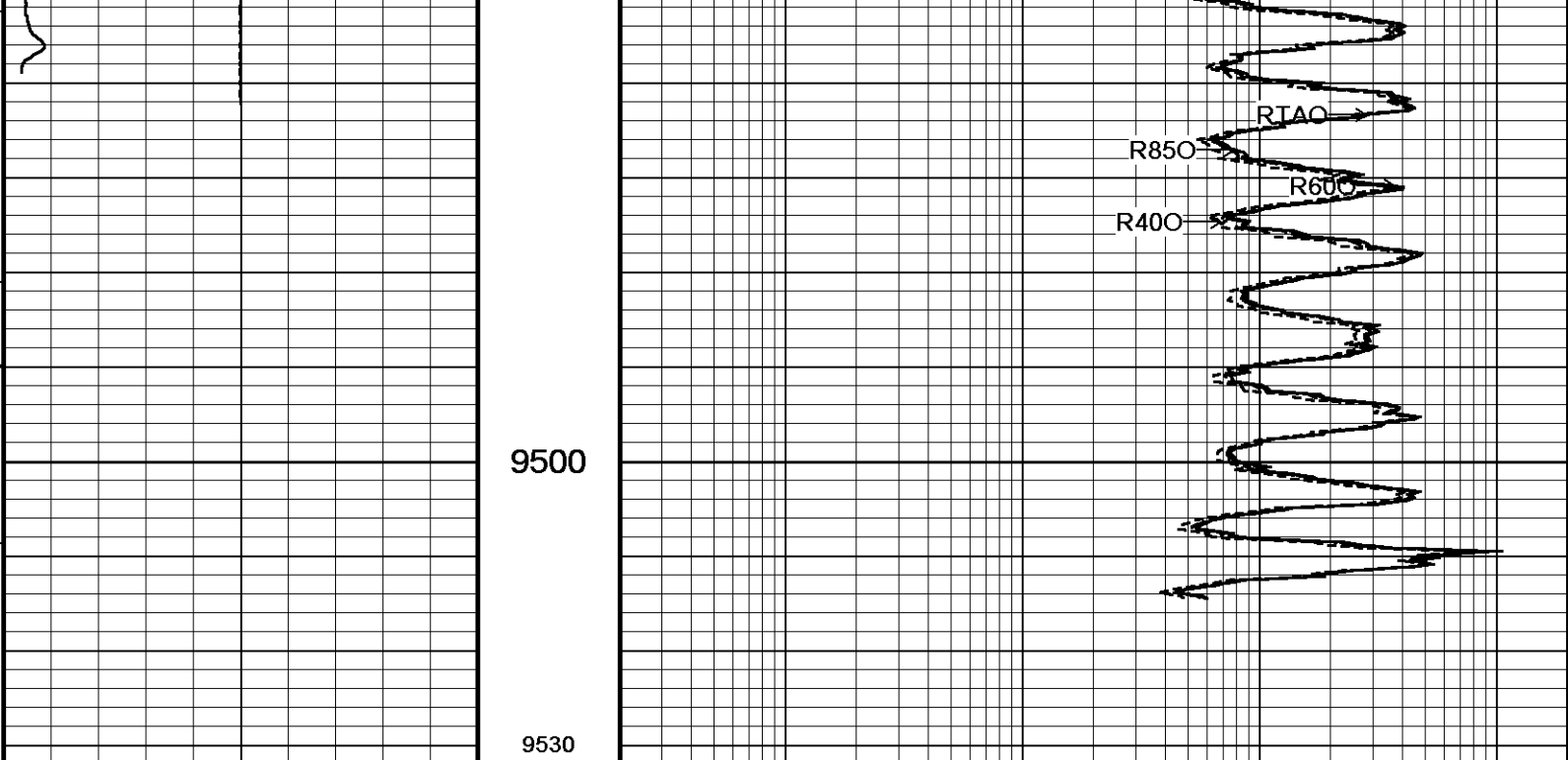
RTAO →

R850 →

R600 →

R400 →





9500

9530

Depth  
In  
Feet

← Timing Marks  
every 60.0 sec

MGS Gamma Ray

0	API	150
	75	
150	225	300

MCL C. Collar Locator

-10000	0	10000
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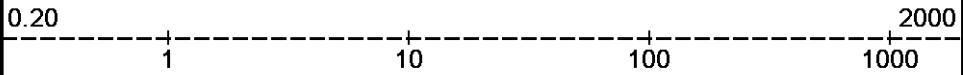
Borehole  
Temp in  
deg F

Replay  
Scale  
1:240

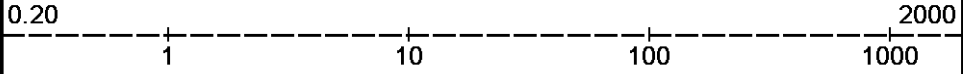
Array Ind. One Res 40  
ohm metres



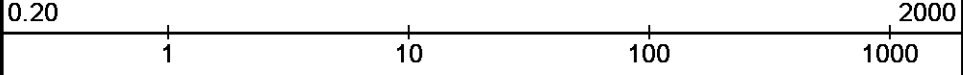
Array Ind. One Res 60  
ohm metres



Array Ind. One Res 85  
ohm metres



Array Ind. One Res Rt  
ohm metres



Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 30-AUG-2012 03:37

Filename: C:\Data\SANDRIDGE JAMES 3318 1-... \SANDRIDGE JAMES 3318 1-13H RTAP DEPTH.dta Recorded on 30-AUG-2012 02:49

System Versions: Processed with 13.02.6600 Plotted with 13.02.6600



BEFORE SURVEY CALIBRATION

C:\Data\SANDRIDGE JAMES 3318 1-13H\SANDRIDGE JAMES 3318 1-13H RTAP DEPTH.dta

General Constants All 000 Last Edited on 29-AUG-2012,01:31

General Parameters

Mud Resistivity	0.800	ohm-metres
Mud Resistivity Temperature	80.000	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 Density Caliper

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

Strain Gauge Constants SER-B.A 166

Last Edited on 19-JUL-2012,23:30

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
	Inc.	Dec.	Inc.	Dec.	Inc.	Dec.	Inc.	Dec.	
Pressure psia									
0.0	0.000	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	0.000
4000.0	0.000	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	0.000
8000.0	0.000	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		

Strain Gauge Constants MMS-E.B 157

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
	Inc.	Dec.	Inc.	Dec.	Inc.	Dec.	Inc.	Dec.	
Pressure psia									
0.0	0.000	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	0.000
4000.0	0.000	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	0.000
8000.0	0.000	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		

High Resolution Temperature Calibration MGS-C.J 142

Field Calibration on 06-AUG-2012,04:44

	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

Pre-filter Length 11

SP Calibration MGS-C.J 142

Field Calibration on 06-AUG-2012,04:44

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

Gamma Calibration MGS-C.J 142

Field Calibration on 27-AUG-2012,14:07

	Measured	Calibrated (API)
Background	39	27
Calibrator (Gross)	1048	723
Calibrator (Net)	1009	696

Gamma Constants MGS-C.J 142

Last Edited on 23-AUG-2012,05:22

Gamma Calibrator Number	036	
Mud Density	1.04	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 27-AUG-2012,14:07  
Field Check on

Base Calibration

	Measured		Calibrated (cps)	
	Near	Far	Near	Far
	3186	96	3714	110
Ratio	33.156		33.764	

Field Calibrator at Base

	Calibrated (cps)	
	2267	3463
Ratio	0.655	

Field Check

	Calibrated (cps)	
	0	0
Ratio	0.000	

Neutron Constants MDN-B.J 391

Last Edited on 22-AUG-2012,23:24

Neutron Source Id	N1055	
Neutron Jig Number	N639	
Epithermal Neutron	No	
Caliper Source for Processing	Density Caliper	
Stand-off	0.00	inches
Mud Density	1.00	gm/cc
Limestone Sigma	7.10	cu
Sandstone Sigma	4.26	cu
Dolomite Sigma	4.70	cu
Formation Pressure Source	Constant Value	
Formation Pressure	1.80	kpsi
Temperature Source	MGS External Temperature	
Temperature	N/A	degrees F
Mud Salinity	3.67	kppm
Salinity Correction	Applied	
Formation Fluid Salinity Source	Constant Value	
Formation Fluid Salinity	140.00	kppm
Barite Mud Correction	Not Applied	

FE Calibration MFE-B.J 363

Base Calibration on 29-JUN-2012 13:12  
Field Check on 29-AUG-2012 10:43

Base Calibration

	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	963.1	126.8

Base Check	281.8
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Field Check	282.0
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FE Constants MFE-B.J 363

Last Edited on 07-AUG-2012,15:08

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.	MGS External Temperature	
Stand-off	0.5	inches

Induction Calibration MAI-B.J 427

Base Calibration on 20-AUG-2012,13:38  
Field Check on 29-AUG-2012 10:42

Base Calibration

Test Loop Calibration		Measured		Calibrated (mmho/m)	
Channel	Low	High	Low	High	
1	14.4	434.9	9.3	966.2	
2	5.8	355.4	7.6	821.4	
3	2.7	244.4	5.2	566.0	

4	1.8	129.3	2.6	279.2
Array Temperature		75.0	Deg F	
Channel	Base Check (mmho/m)		Field Check (mmho/m)	
	Low	High	Low	High
1	0.0	0.0	19.8	4140.2
2	0.0	0.0	32.3	3768.4
3	0.0	0.0	31.4	3208.4
4	0.0	0.0	20.1	2122.4
Deep	0.0	0.0	19.7	2018.9
Medium	0.0	0.0	45.5	4287.0
Shallow	0.0	0.0	47.6	5676.0
Array Temperature		0.0	82.8	Deg F

Induction Constants MAI-B.J 427		Last Edited on 30-AUG-2012,03:06	
Induction Model	RtAP-WBM		
Caliper for Borehole Corr.	Constant Value		
Hole Size for Borehole Correction	6.125	inches	
Tool Centred	No		
Stand-off Type	Fins		
Stand-off	0.00	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	Constant Value		
Temp. for Rm Corr.	N/A		
Squasher Start	0.0060	mhos/metre	
Squasher Offset	N/A		
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		

High Resolution Temperature Calibration MAI-B.J 427		Field Calibration on 20-AUG-2012,14:27	
	Measured	Calibrated(Deg F)	
Lower	50.00	50.00	
Upper	100.00	100.00	

High Resolution Temperature Constants MAI-B.J 427		Last Edited on 20-AUG-2012,14:27	
Pre-filter Length	11		

Caliper Calibration MPD-B 166		Base Calibration on 20-JUL-2012,11:40	
		Field Calibration on 08-AUG-2012,15:14	
Base Calibration			
Reading No	Measured	Calibrator Size (in)	
1	11102	4.02	
2	20537	5.96	

3	30848	8.03
4	41232	10.02
5	51982	12.01
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
6.27	6.08

Photo Density Calibration MPD-B 166

Base Calibration on 20-JUL-2012,10:36  
Field Check on 27-AUG-2012 14:07

Density Calibration

Base Calibration	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Reference 1	49845	22463	59869	31110
Reference 2	20737	2400	24557	2522

Field Check at Base

1190.7	1364.5
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Field Check

1179.5	1358.2
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PE Calibration

Base Calibration	WS	Measured		Calibrated
		WH	Ratio	Ratio
Background	215	1064		
Reference 1	19934	49660	0.406	0.369
Reference 2	5690	20604	0.280	0.271

Field Check at Base

215.4	1064.3
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Field Check

216.1	1056.1
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Density Constants MPD-B 166

Last Edited on 23-AUG-2012,05:23

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	1.04	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	0.02	gm/cc
Density Z/A Correction	Hybrid	
Matrix density (gm/cc)	Depth (m)	
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	

DOWNHOLE EQUIPMENT

C:\Data\SANDRIDGE JAMES 3318 1-13H\SANDRIDGE JAMES 3318 1-13H RTAP DEPTH.dta

Shuttle Mechanical Release (SMR A)  
SMR-A 148 LG: 8.53 ft WT: 77.2 lb OD: 2.52 in



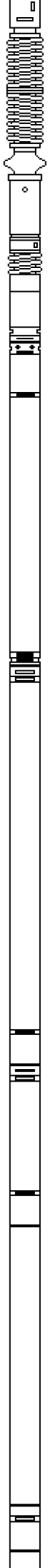
Shuttle Electrical Release  
SER-B.A 166 LG: 6.90 ft WT: 50.7 lb OD: 2.24 in

MBS-F.A 200v Compact Battery Sub  
MBS-F.A 135 LG: 10.61 ft WT: 70.5 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 68 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

61.76 ft GRGM - MGS Gamma Ray

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

59.77 ft GSXT - MGS External Temperature

SKJ-E.B Compact Knuckle Joint  
SKJ-E.B 474 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

SHA-J.A Compact Swivel Head Adaptor  
SHA-J.A 432 LG: 2.30 ft WT: 22.0 lb OD: 2.24 in

MIS-A.A Compact Inline Bowspring sub  
MIS-A.A 62 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

42.89 ft NPRL - Limestone Neutron Por.

Compact Density/Caliper  
MPD-B 166 LG: 9.59 ft WT: 90.4 lb OD: 2.24 in

35.65 ft CLDC - Density Caliper

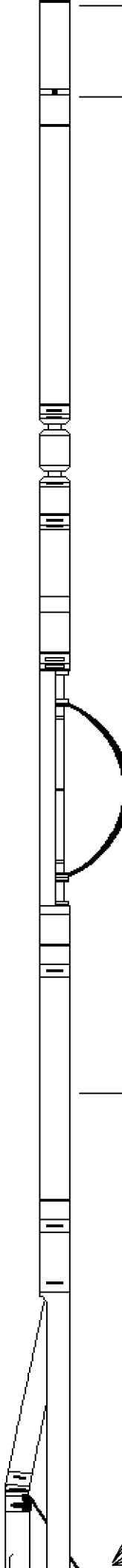
35.65 ft HVOL - Hole Volume

35.65 ft AVOL - Annular Volume

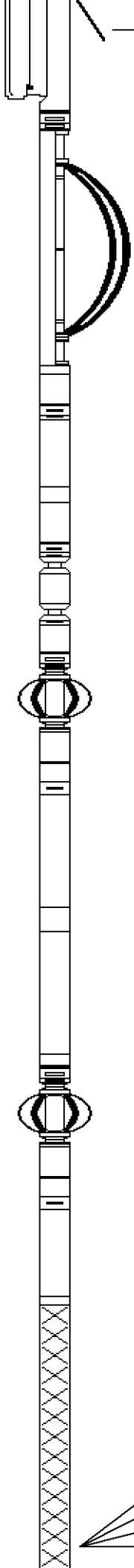
33.72 ft DCOR - Density Correction

33.72 ft DEN - Compensated Density

33.72 ft DPRL - Limestone Density Por.



33.72 ft DP RE - Emulsion Density Por.  
33.65 ft PDPE - PE



MIS-A.A Compact Inline Bowspring sub  
MIS-A.A 275 LG: 5.70 ft WT: 33.1 lb OD: 2.24 in

SHA-J.A Compact Swivel Head Adaptor  
SHA-J.A 434 LG: 2.30 ft WT: 22.0 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

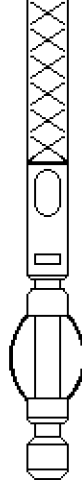
MIS-E.B Compact Inline Standoff sub  
MIS-E.B 575 LG: 2.14 ft WT: 15.4 lb OD: 2.24 in

Compact Focussed Electric  
MFE-B.J 363 LG: 6.05 ft WT: 48.5 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

Compact Induction  
MAI-B.J 427 LG: 12.52 ft WT: 48.5 lb OD: 2.24 in

3.34 ft R40S - Array Ind. Six Res 40  
3.34 ft R60S - Array Ind. Six Res 60  
3.34 ft R85S - Array Ind. Six Res 85  
3.34 ft RTAS - Array Ind. Six Res Rt



Tool Zero

(1.84ft from bottom)

Total Length: 97.17 ft Weight: 727.5 lb

All measurements relative to tool zero.

**COMPANY** SANDRIDGE ENERGY  
**WELL** JAMES 3318 1-13H  
**FIELD** COLLIER FLAT  
**PROVINCE/COUNTY** COMANCHE  
**COUNTRY/STATE** U.S.A. / KANSAS

Elevation Kelly Bushing	1909.50	feet	First Reading	9516.00	feet
Elevation Drill Floor	1909.50	feet	Depth Driller	9550.00	feet
Elevation Ground Level	1890.00	feet	Depth Logger	9550.00	feet



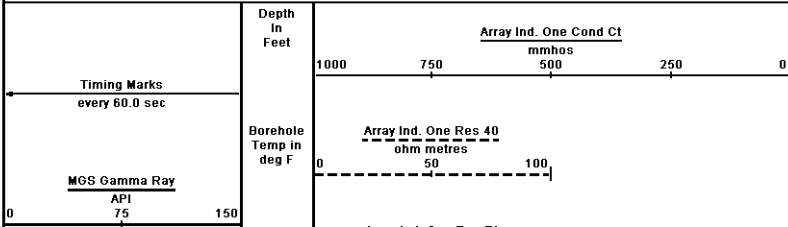
**CML IMPULSE SHUTTLE  
 ARRAY INDUCTION**

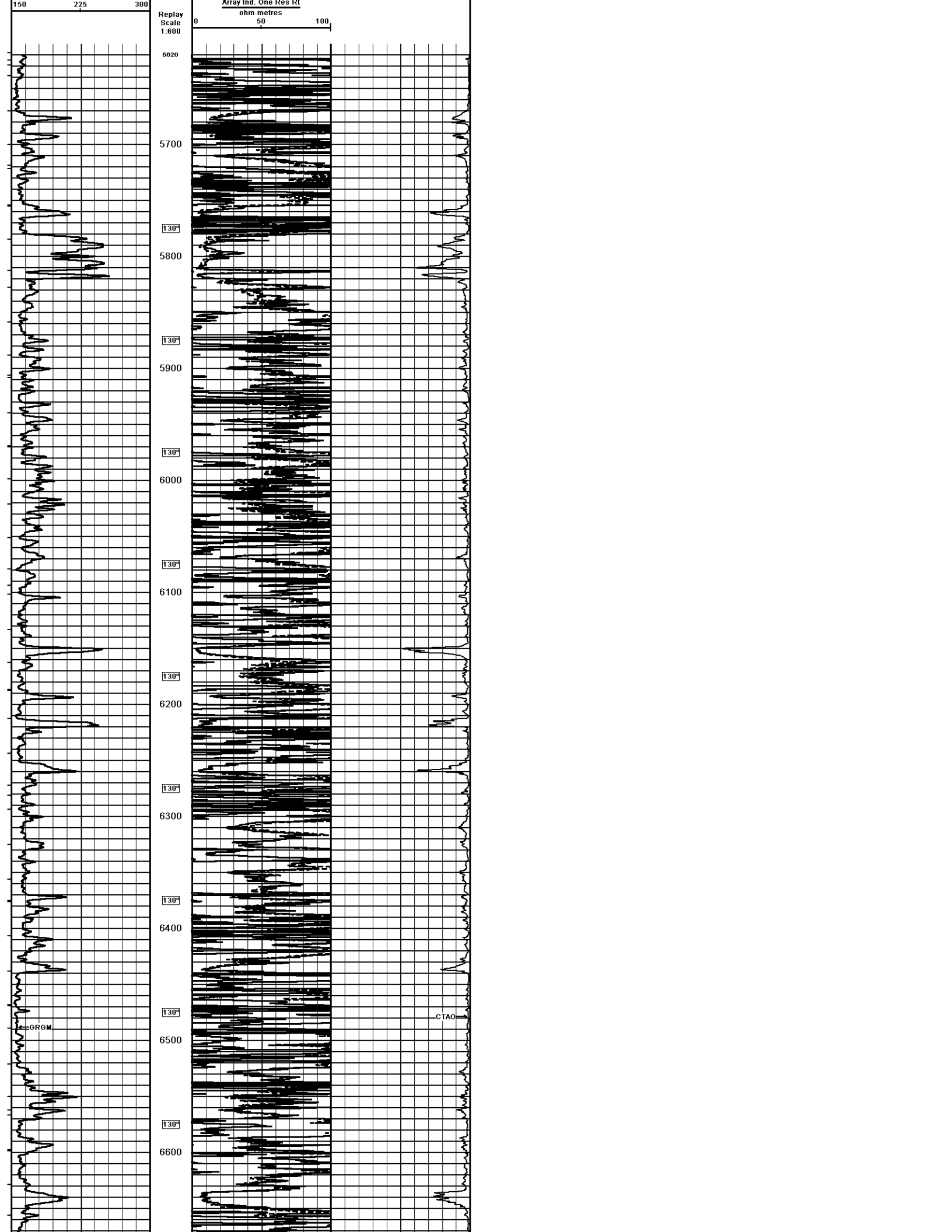
**Weatherford®**

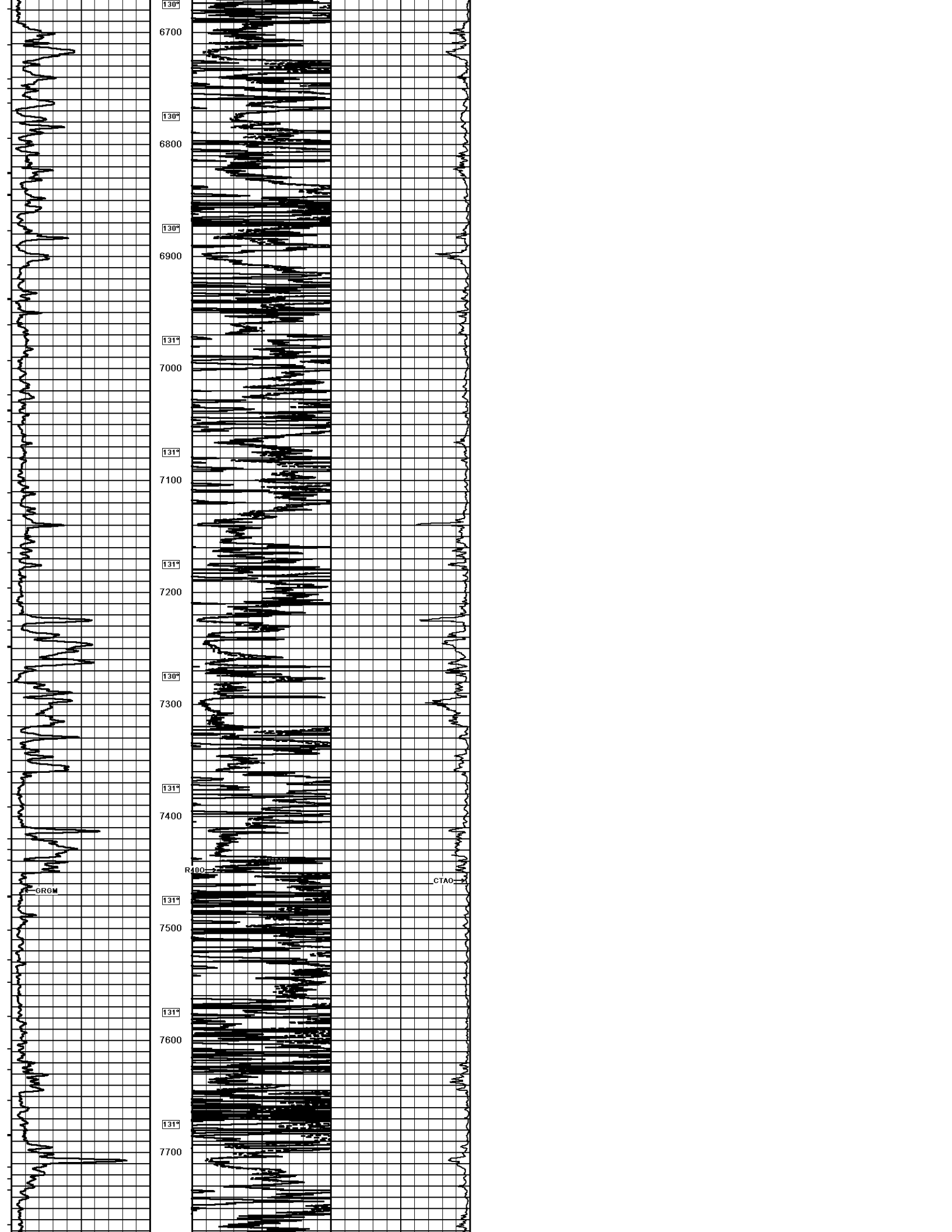
<b>Weatherford</b>		<b>CML IMPULSE SHUTTLE ARRAY INDUCTION</b>	
COMPANY	SANDRIDGE ENERGY	LOG NUMBER	15-03321892
WELL	JAMES 3318 1-13H	PERMIT DRAIN G.L. ELEVATION	1890 feet
FIELD	COLLIER FLAT	LOG MEASURED FROM	K.B. @ 19.5 FEET
PROVINCE/COUNTY	COMANCHE	DRILLING MEASURED FROM	K.B. @ 19.5 FEET
COUNTRY/STATE	U.S.A. / KANSAS	DATE	28-AUG-2012
LOCATION	200' FSL & 1780' FEL	Run Number	ONE
SEC 13	FACE	Depth Driller	9550.00 feet
TYPE 33S	18W	Depth Logger	9550.00 feet
LOG NUMBER	15-03321892	First Reading	9516.00 feet
PERMIT DRAIN G.L. ELEVATION	1890 feet	Last Reading	9520.00 feet
LOG MEASURED FROM	K.B. @ 19.5 FEET	Casing Driller	5920.00 feet
DRILLING MEASURED FROM	K.B. @ 19.5 FEET	Casing Logger	5920.00 feet
DATE	28-AUG-2012	Bit Size	6.175 inches
Run Number	ONE	Hole Fluid Type	WBM
Depth Driller	9550.00 feet	Hole Fluid Viscosity	8.50 cP@3
Depth Logger	9550.00 feet	pH / Fluid Loss	11.00
First Reading	9516.00 feet	Sample Source	FLOWLINE
Last Reading	9520.00 feet	Rm @ Measured Temp	0.92 @ 81.0 ohm-m
Casing Driller	5920.00 feet	Rm @ Measured Temp	0.74 @ 81.0 ohm-m
Casing Logger	5920.00 feet	Rm @ Measured Temp	1.10 @ 81.0 ohm-m
Bit Size	6.175 inches	Rm @ Measured Temp	0.57 @ 31.0 ohm-m
Hole Fluid Type	WBM	Time Since Circulation	1 HOUR
Hole Fluid Viscosity	8.50 cP@3	Max Recorded Temp	131.00 deg F
pH / Fluid Loss	11.00	Equipment Name	COMFACT
Sample Source	FLOWLINE	Equipment Base	1807
Rm @ Measured Temp	0.92 @ 81.0 ohm-m	Recorded By	STEVEN TOTTER
Rm @ Measured Temp	0.74 @ 81.0 ohm-m	Accessed By	ICATH/GENTRY
Rm @ Measured Temp	1.10 @ 81.0 ohm-m	LOG #	3380/36
Rm @ Measured Temp	0.57 @ 31.0 ohm-m		
Time Since Circulation	1 HOUR		
Max Recorded Temp	131.00 deg F		
Equipment Name	COMFACT		
Equipment Base	1807		
Recorded By	STEVEN TOTTER		
Accessed By	ICATH/GENTRY		
LOG #	3380/36		

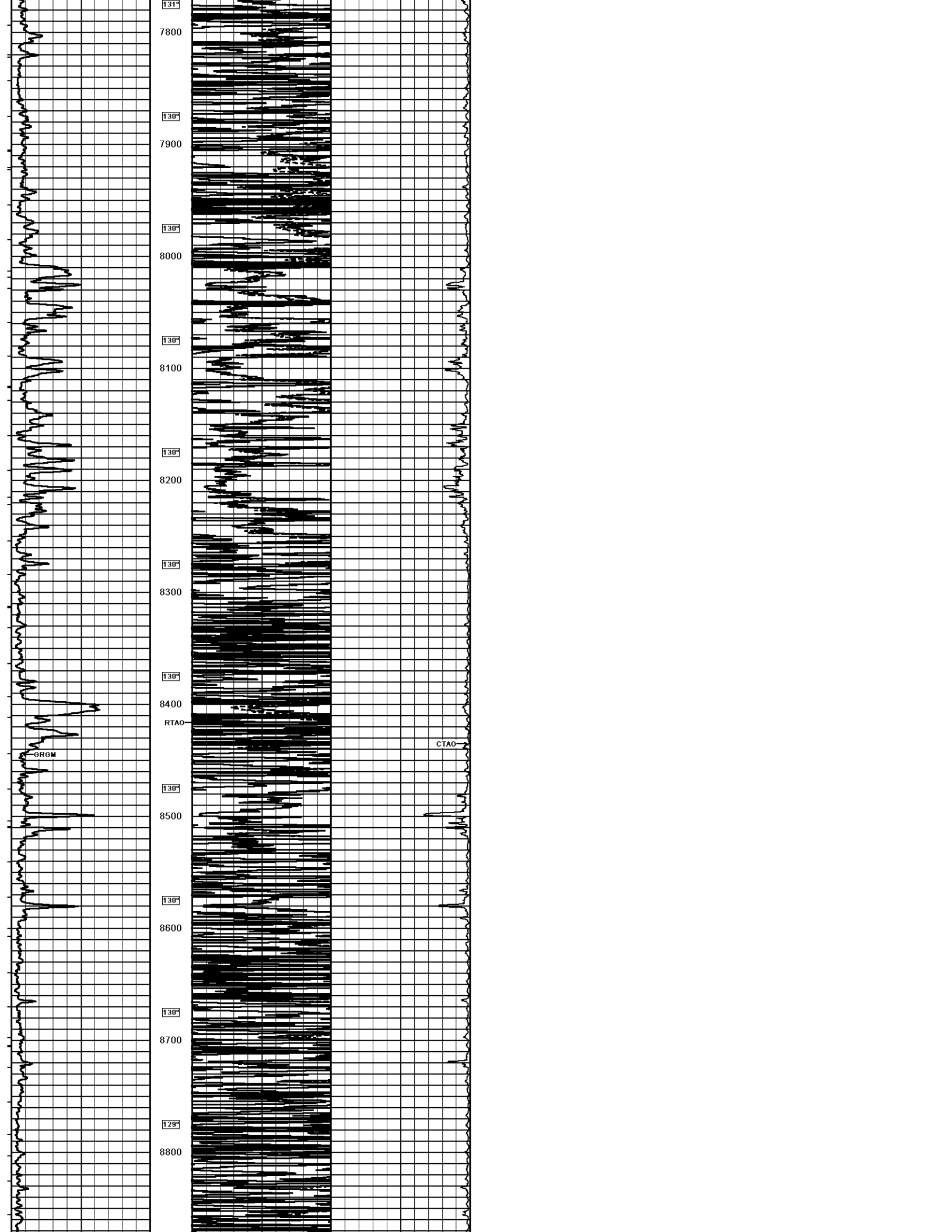
**1 INCH MAIN LOG**

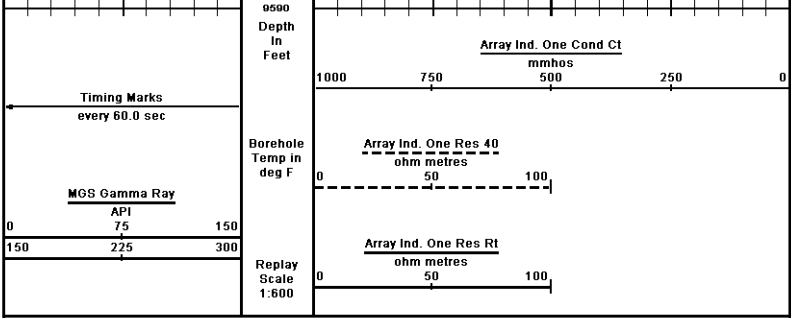
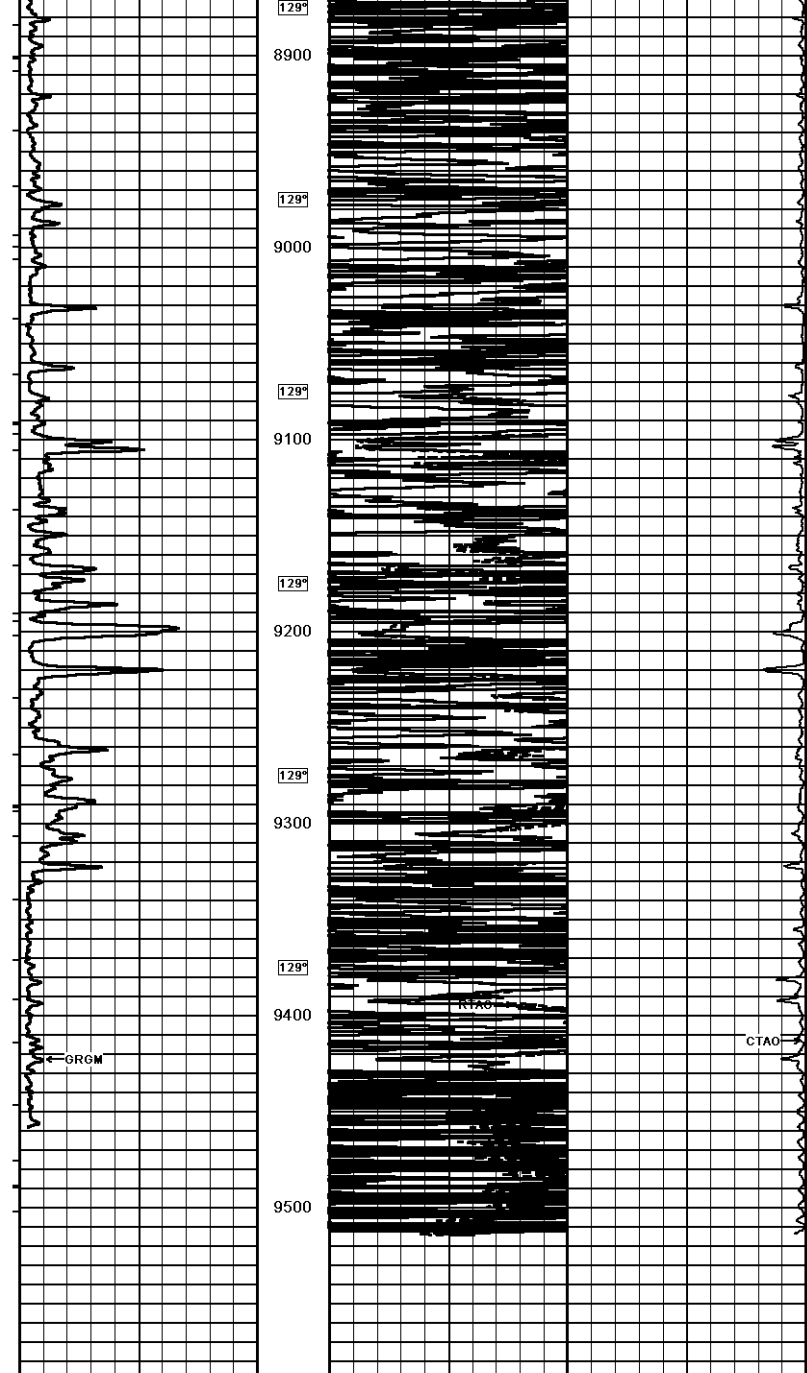
Depth Based Data - Maximum Sampling Increment 10.0cm  
 Plotted on 30-AUG-2012 03:37  
 Filename: C:\Data\SANDRIDGE JAMES 3318 1-13H\SANDRIDGE JAMES 3318 1-13H RTAP DEPTH.dta  
 Recorded on 30-AUG-2012 02:49  
 System Versions: Processed with 13.02.6600 Plotted with 13.02.6600












Depth Based Data - Maximum Sampling Increment 10.0cm  
 Plotted on 30-AUG-2012 03:37  
 Filename: C:\Data\SANDRIDGE JAMES 3318 1-13H\SANDRIDGE JAMES 3318 1-13H RTAP DEPTH.dta  
 Recorded on 30-AUG-2012 02:49  
 System Versions: Processed with 13.02.6600 Plotted with 13.02.6600

↑ 1 INCH MAIN LOG ↑

COMPANY	SANDRIDGE ENERGY				
WELL	JAMES 3318 1-13H				
FIELD	COLLIER FLAT				
PROVINCE/COUNTY	COMANCHE				
COUNTRY/STATE	U.S.A. / KANSAS				
Elevation Kelly Bushing	1909.50	feet	First Reading	9516.00	feet
Elevation Drill Floor	1909.50	feet	Depth Driller	9550.00	feet
Elevation Ground Level	1890.00	feet	Depth Logger	9550.00	feet



CML IMPULSE SHUTTLE  
 ARRAY INDUCTION

