Weatherford®

CML MESSENGER SHUTTLE
ARRAY INDUCTION

COMPANY	Sandridge Energy
WELL	Lorimer 2330 1-9H
FIELD	Finney
PROVINCE/COUNTY	Finney
COUNTRY/STATE	U,S,A, / Kansas
LOCATION	200' FNL & 400' FWL

SEC	TWP	RGE	Other Services
9	23s	30w	MPD/MDN

API Number 15-055-22174
Permit Number

Permanent Datum G.L., Elevation 2843 feet
Log Measured From KB
Drilling Measured From K.B. @ 20 FEET

Elevations:	feet
KB	2863.00
DF	2862.00
GL	2843.00

Date	11-SEP-2012			
Run Number	ONE			
Depth Driller	9242.00	feet		
Depth Logger	9242.00	feet		
First Reading	9175.00	feet		
Last Reading	5189.00	feet		
Casing Driller	5189.00	feet		
Casing Logger	5189.00	feet		
Bit Size	6.125	inches		
Hole Fluid Type	WBM			
Density / Viscosity	8.40 g/c3		29.00 CP	
PH / Fluid Loss	8.50			
Sample Source	flowline			
Rm @ Measured Temp	0.75 @ 82.0	ohm-m		
Rmf @ Measured Temp	0.60 @ 82.0	ohm-m		
Rmc @ Measured Temp	0.90 @ 82.0	ohm-m		
Source Rmf / Rmc	CALC		CALC	
Rm @ BHT	0.46 @135.0	ohm-m		
Time Since Circulation	1 HOUR			
Max Recorded Temp	135.00	deg F		
Equipment Name	COMPACT			
Equipment / Base	18077		OKC	
Recorded By	STEVEN TOTTEY			
Witnessed By	OSCAR ESPARZA			
S.O. # / JOB#	3536740		DC12143	

BOREHOLE RECORD

Last Edited: 11-SEP-2012 02:23

Bit Size inches	Depth From feet	Depth To feet
6.125	5189.00	9242.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
inter	7.000	0.00	5189.00	23.00

REMARKS

DRILL PIPE DEPTH DURING DEPLOYMENT: 9077
LOGGING TOOL DEPTH AFTER DEPLOYMENT: 9181

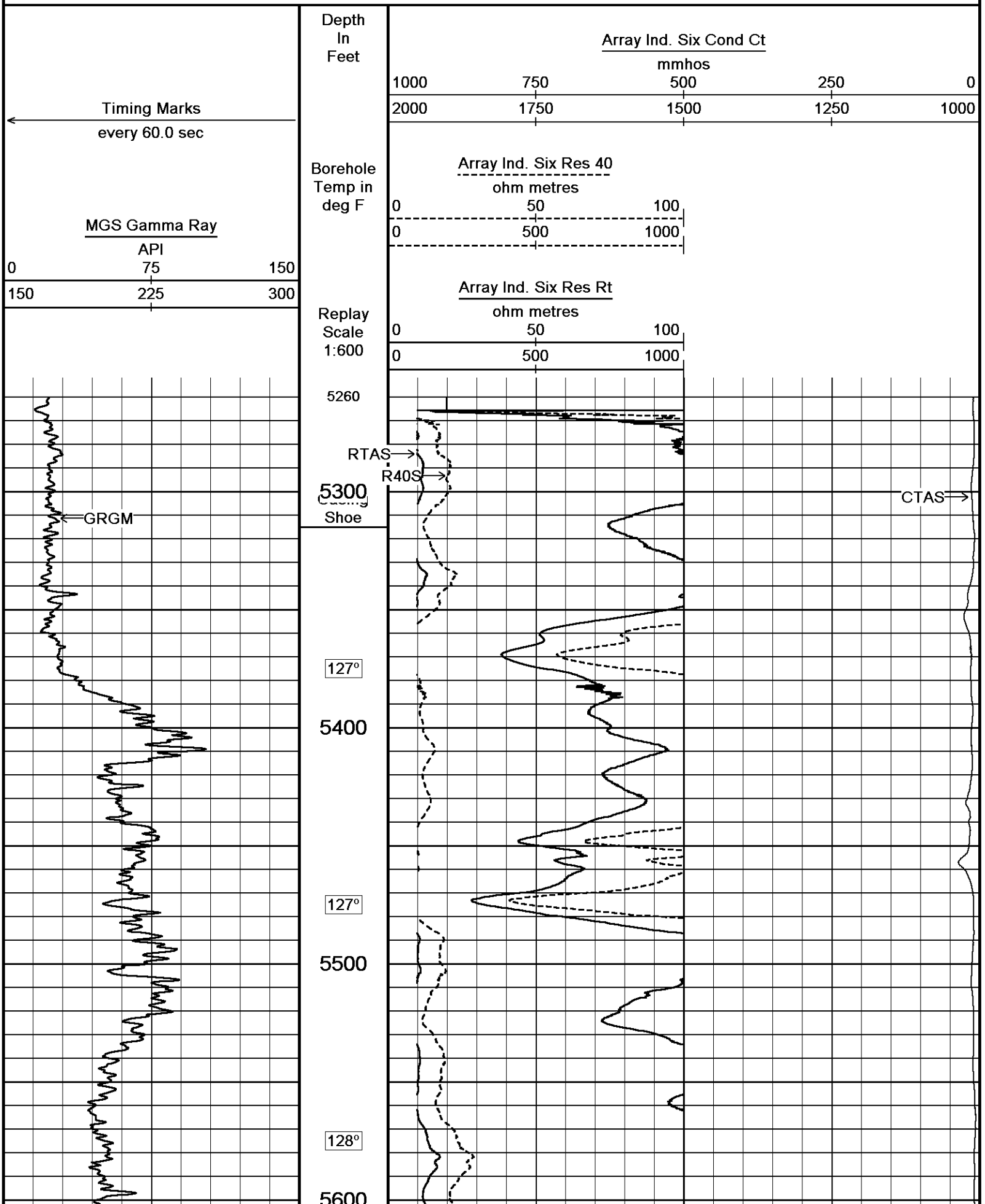
4'5" PRODUCTION CASING USED TO CALCULATE AHV

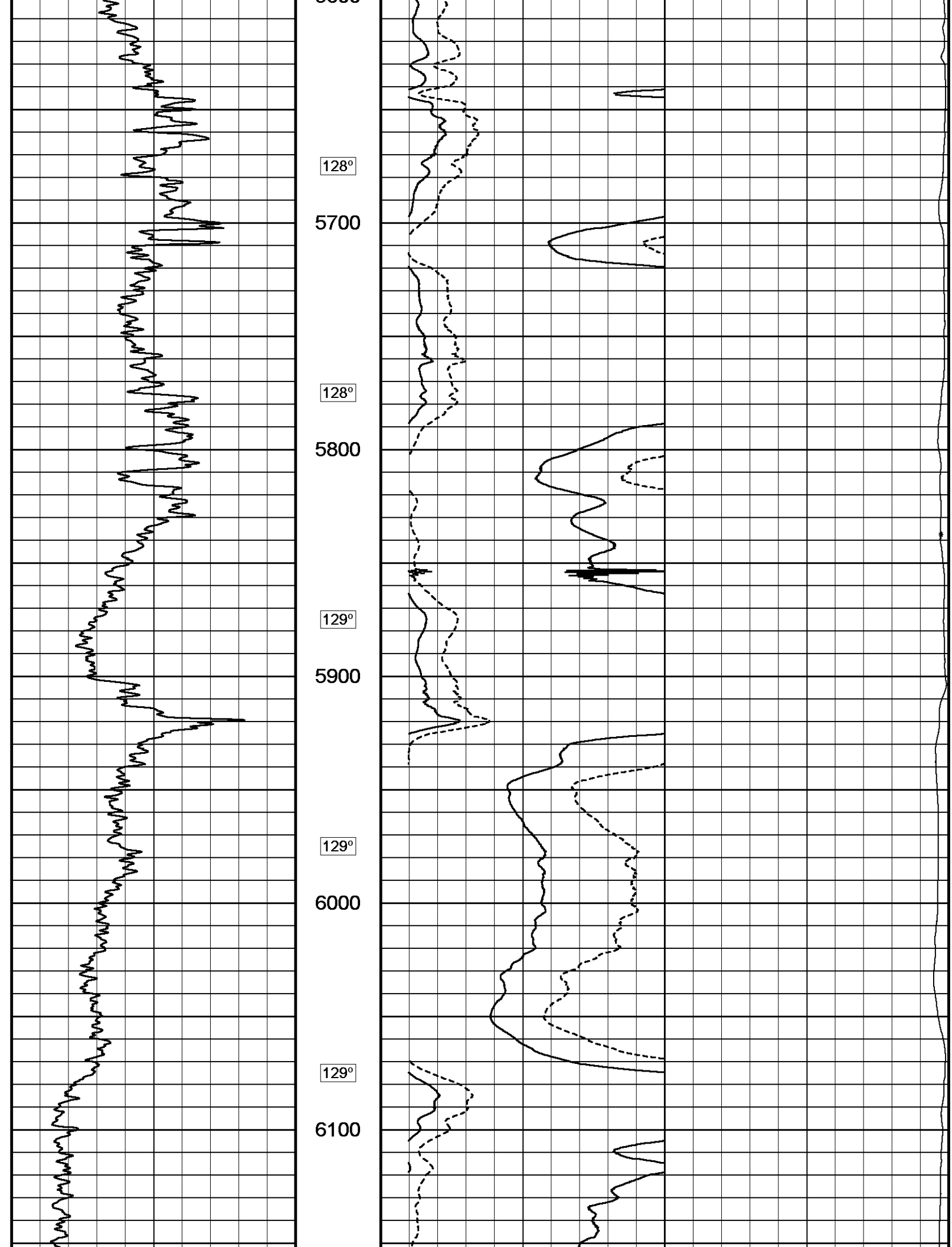
OPERATORS: S. WORLEY _J. TURNER
S.O: 3536740

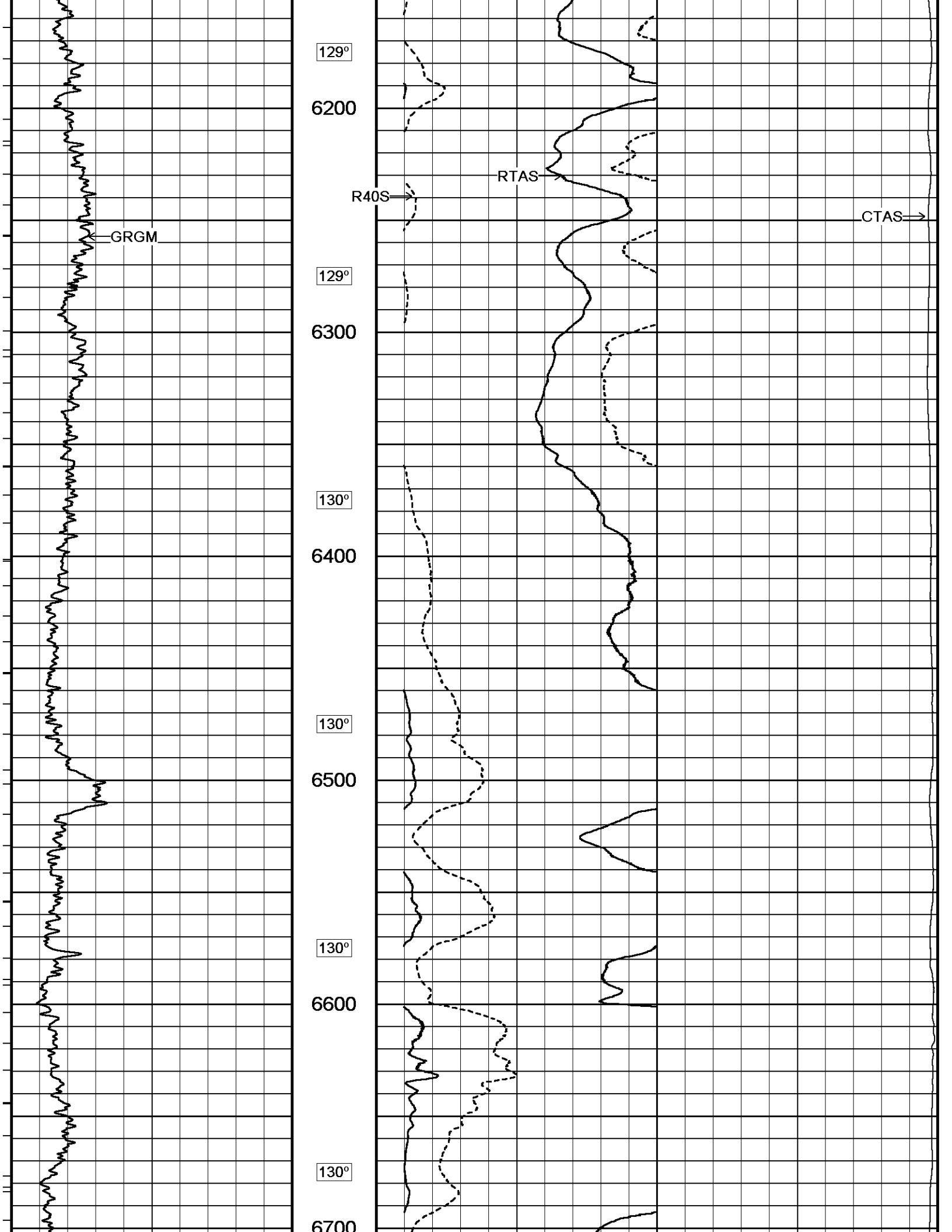
2 INCH MAIN LOG

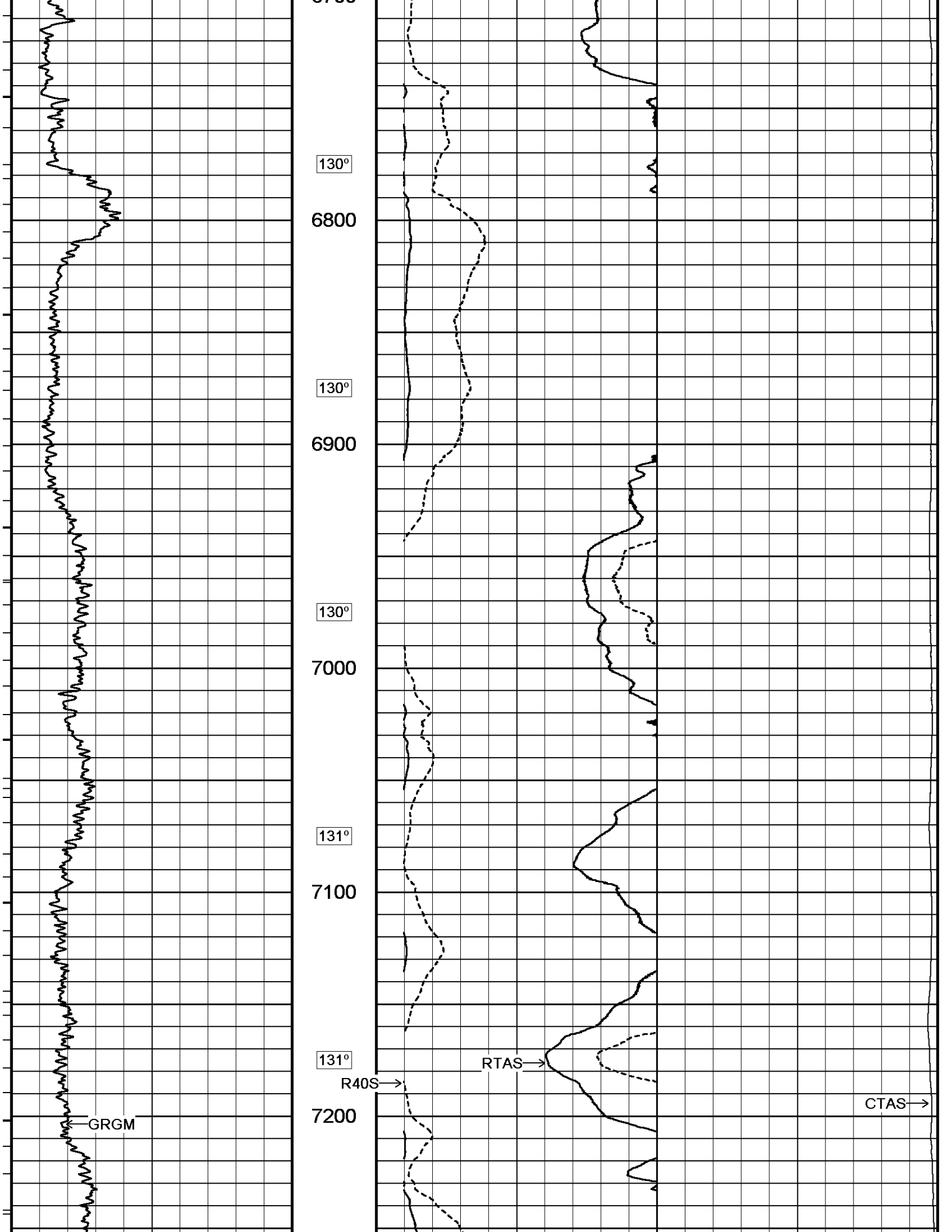
Depth Based Data - Maximum Sampling Increment 10.0cm
Filename: C:\Program Files\Weatherford\WLS 13.02\lorimer\RTPA LORIMER.dta
System Versions: Processed with 13.02.6600 Plotted with 13.02.6600

Plotted on 12-SEP-2012 19:24
Recorded on 11-SEP-2012 06:29




128°
5700
128°
5800
129°
5900
129°
6000
129°
6100


129°
6200
RTAS
R40S
CTAS
GRGM
129°
6300
130°
6400
130°
6500
130°
6600
130°
6700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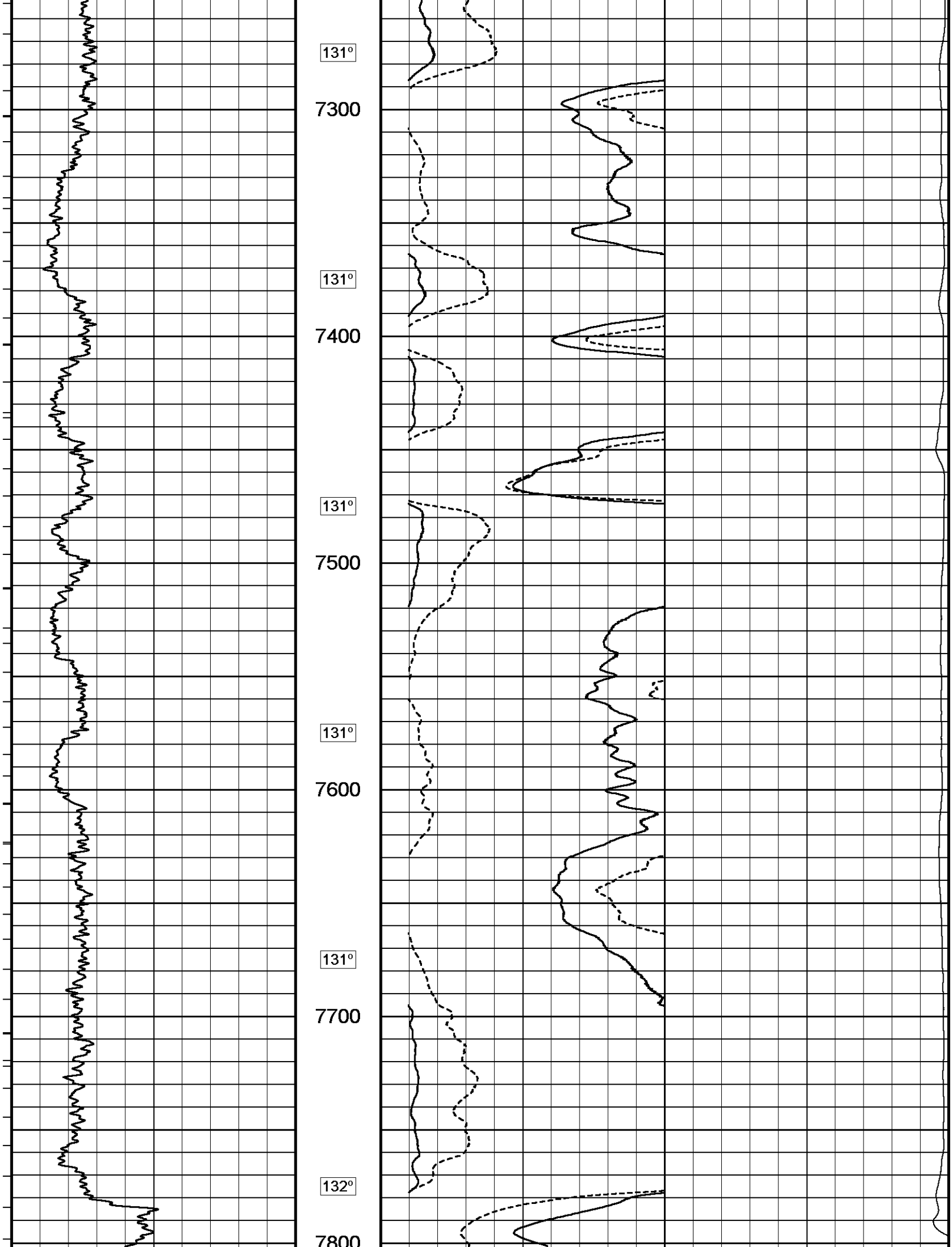
6800
130°
6900
130°
7000
131°
7100
131°
RTAS
R40S
7200
CTAS
GRGM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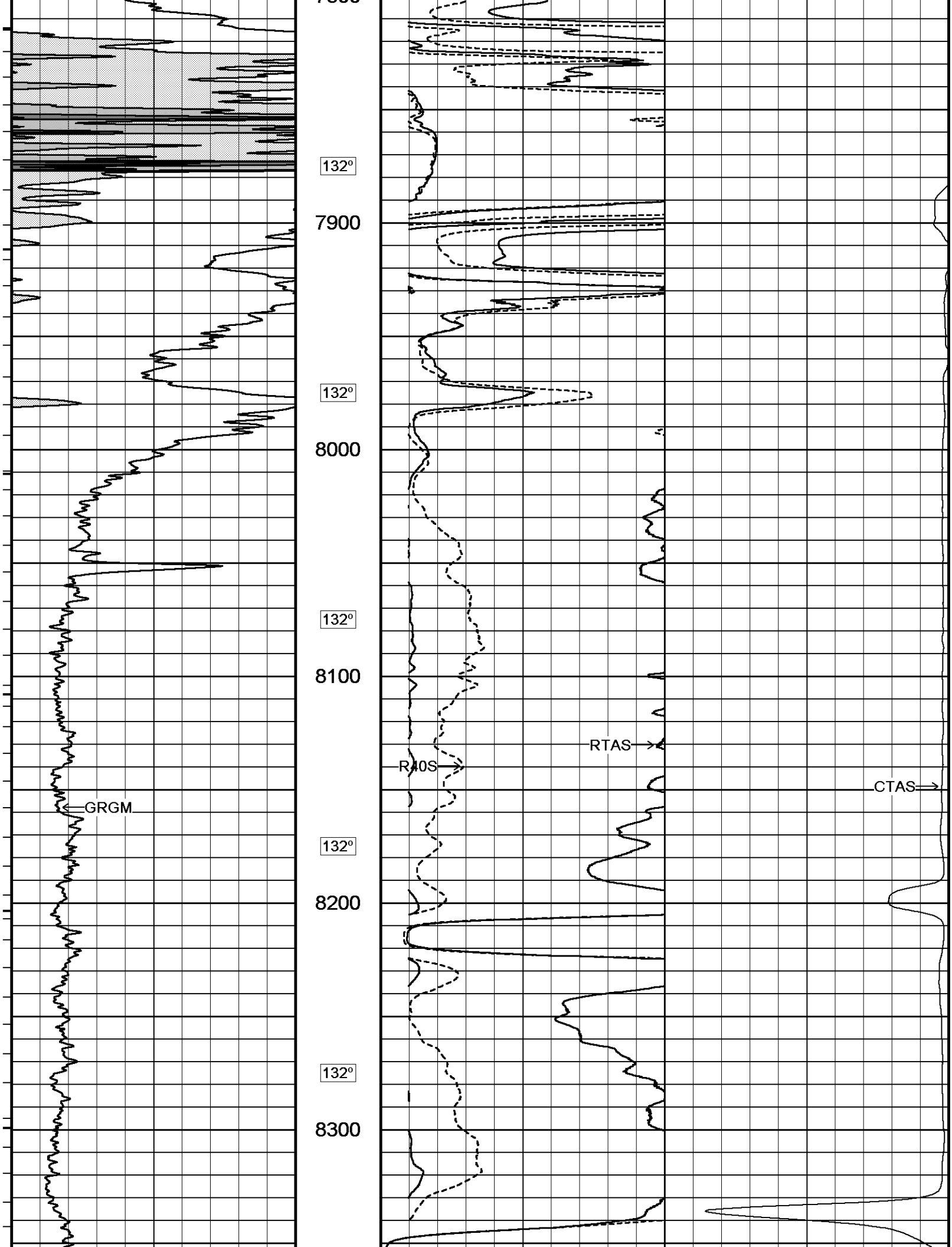
7300
131°
7400
131°
7500
131°
7600
131°
7700
132°
7800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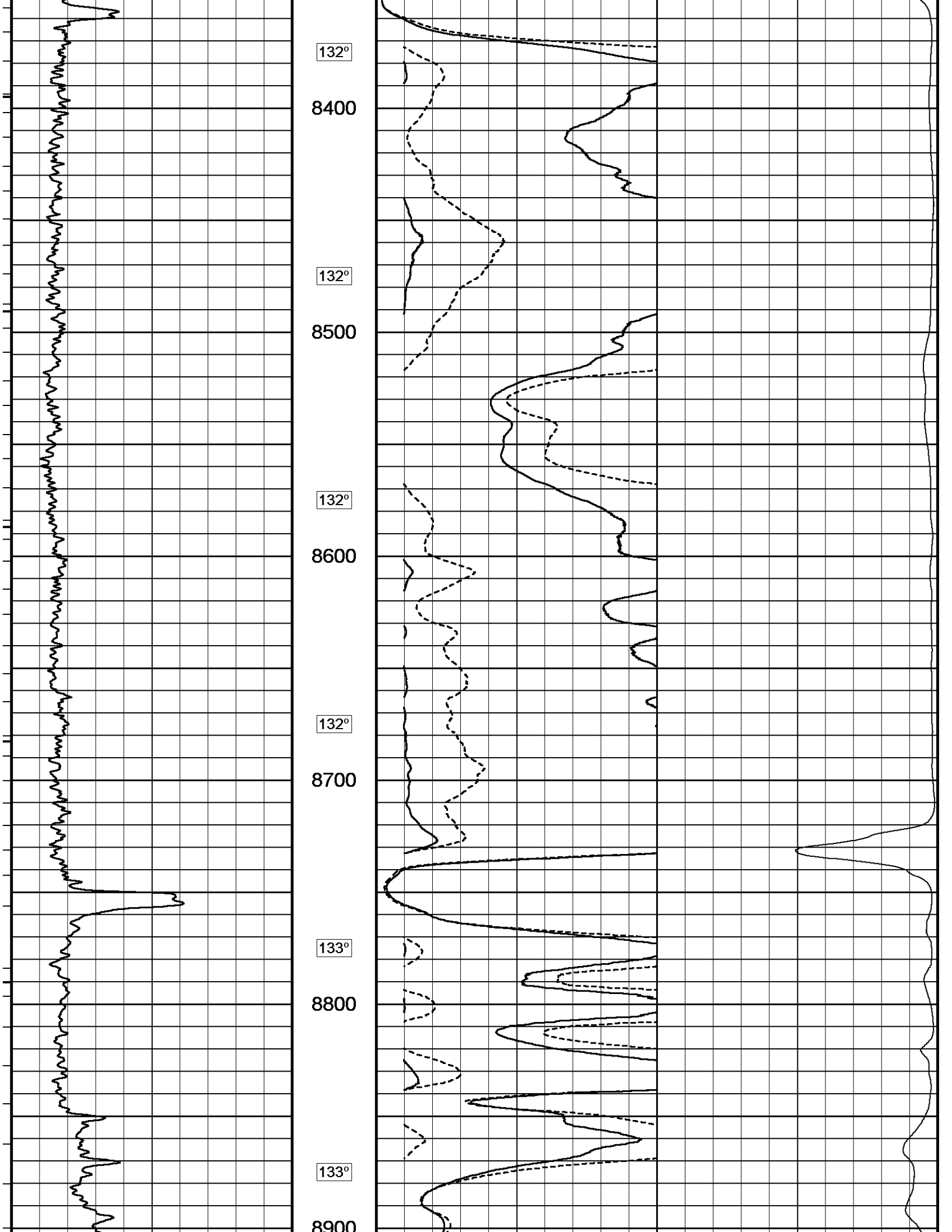
132°
8000
132°
8100
RTAS
R40S
CTAS
GRGM
132°
8200
132°
8300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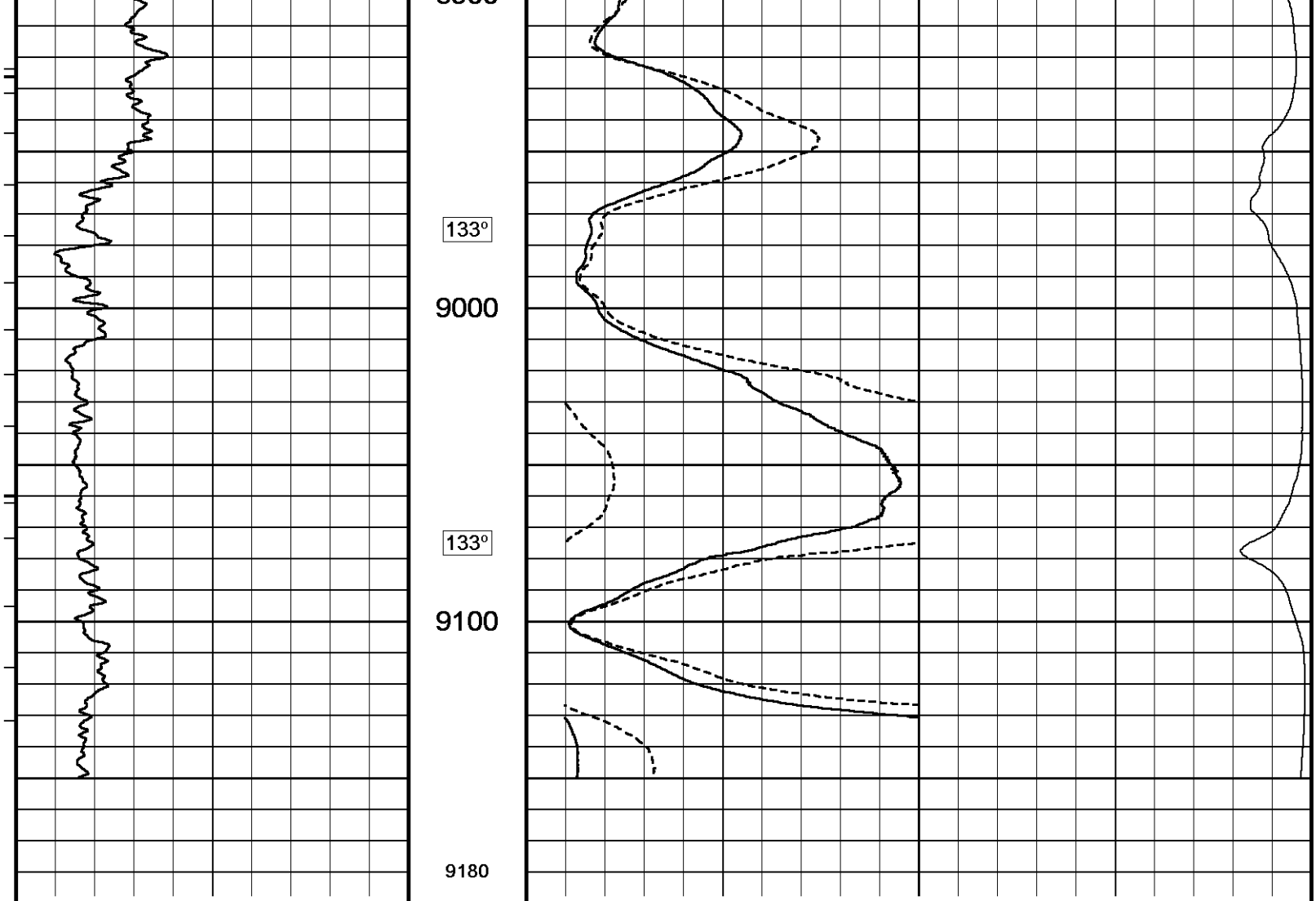
8400
132°
8500
132°
8600
132°
8700
133°
8800
133°
8900



Depth In Feet

Timing Marks
every 60.0 sec

MGS Gamma Ray
API
0 75 150
150 225 300

Borehole Temp in deg F

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

Array Ind. Six Res 40
ohm metres
0 50 100
0 500 1000

Array Ind. Six Res Rt
ohm metres
0 50 100
0 500 1000

Replay Scale 1:600

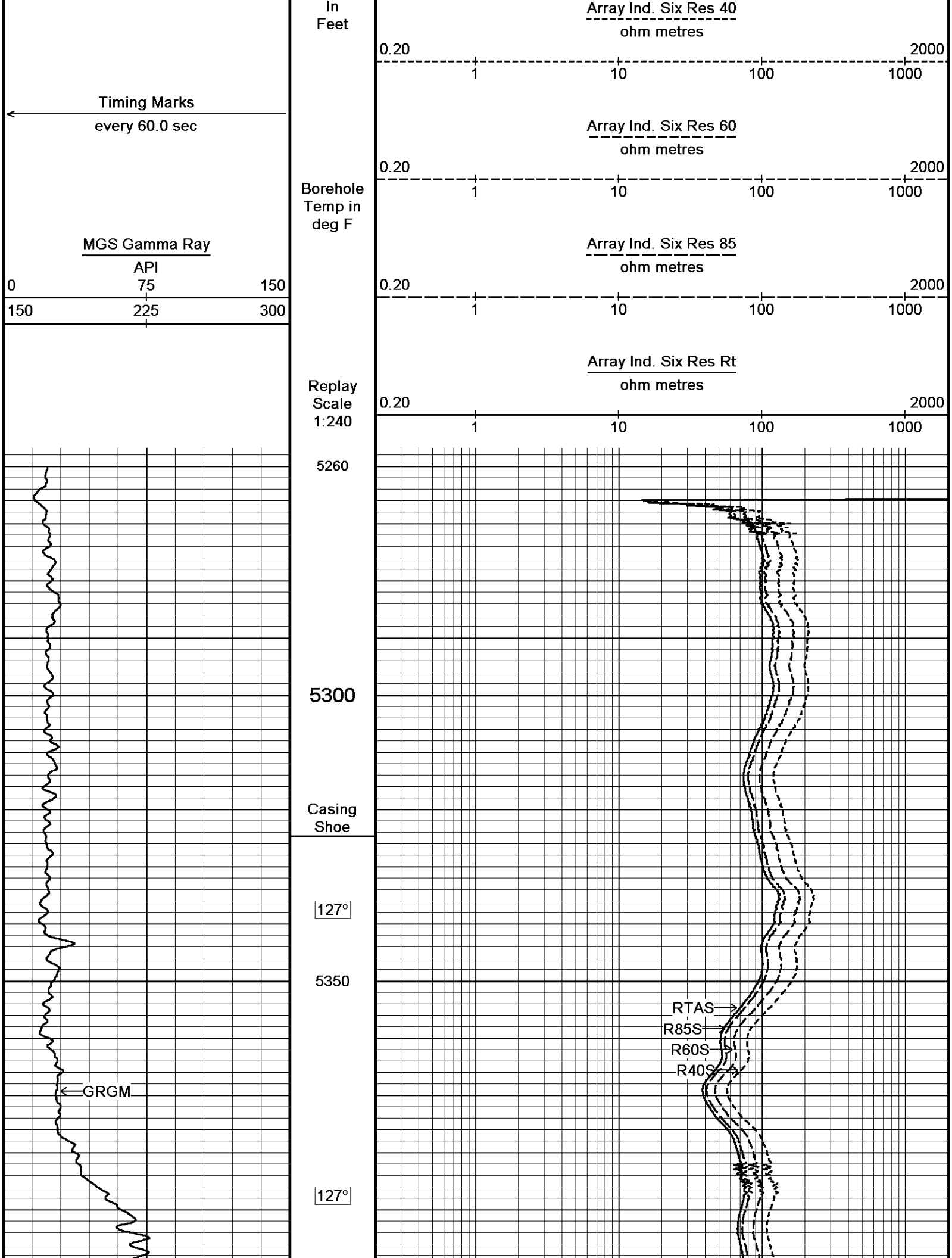
Depth Based Data - Maximum Sampling Increment 10.0cm
Filename: C:\Program Files\Weatherford\WLS 13.02\lorimer\RTPA LORIMER.dta
System Versions: Processed with 13.02.6600 Plotted with 13.02.6600
Plotted on 12-SEP-2012 19:24
Recorded on 11-SEP-2012 06:29

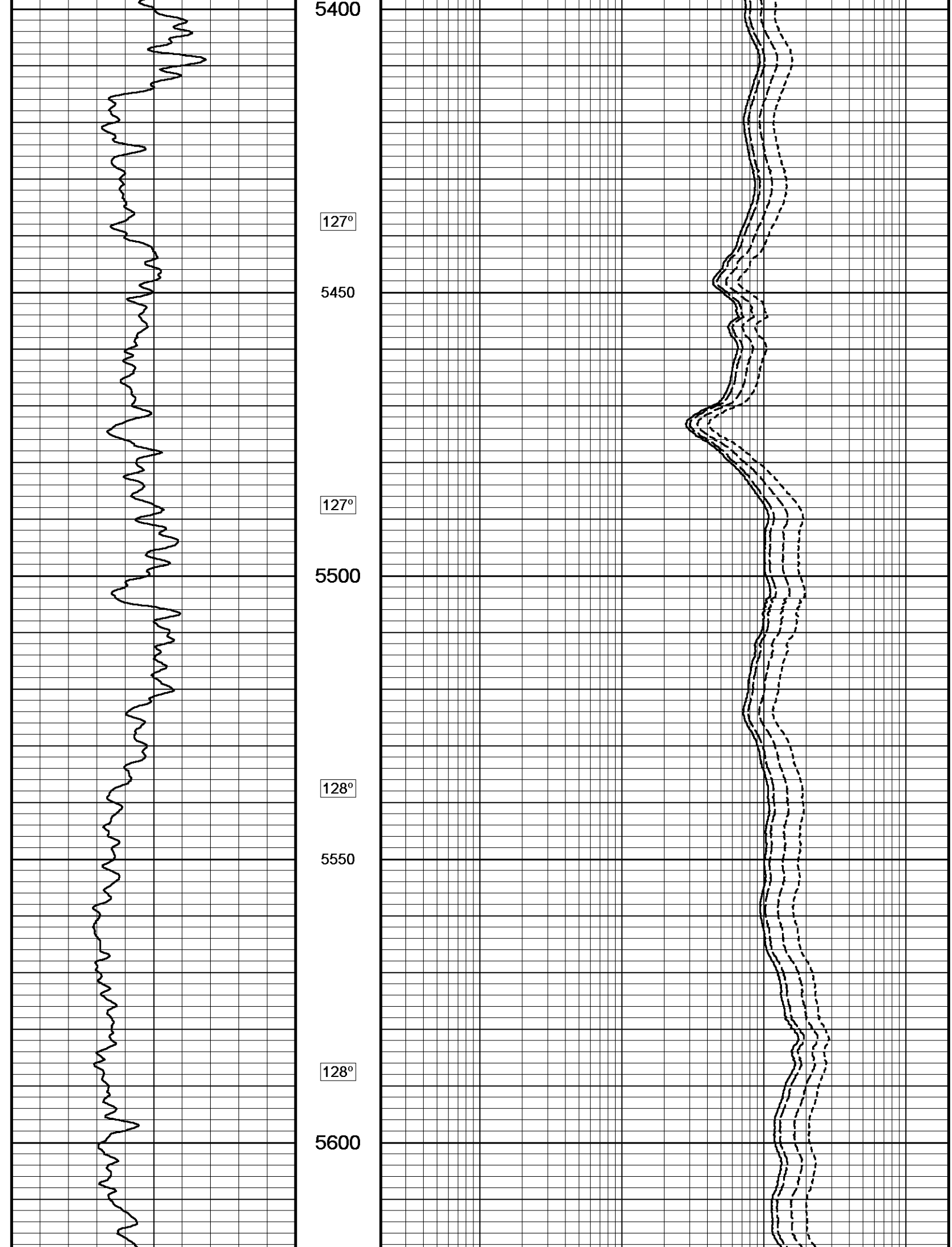
2 INCH MAIN LOG

5 inch main

Depth Based Data - Maximum Sampling Increment 10.0cm
Filename: C:\Program Files\Weatherford\WLS 13.02\lorimer\RTPA LORIMER.dta
System Versions: Processed with 13.02.6600 Plotted with 13.02.6600
Plotted on 12-SEP-2012 19:24
Recorded on 11-SEP-2012 06:29

Depth


In
Feet
Timing Marks
every 60.0 sec
MGS Gamma Ray
API
0
75
150
150
225
300
Borehole
Temp in
deg F
Replay
Scale
1:240
5260
5300
Casing
Shoe
127°
5350
127°
GRGM
Array Ind. Six Res 40
ohm metres
0.20
2000
1
10
100
1000
Array Ind. Six Res 60
ohm metres
0.20
2000
1
10
100
1000
Array Ind. Six Res 85
ohm metres
0.20
2000
1
10
100
1000
Array Ind. Six Res Rt
ohm metres
0.20
2000
1
10
100
1000
RTAS
R85S
R60S
R40S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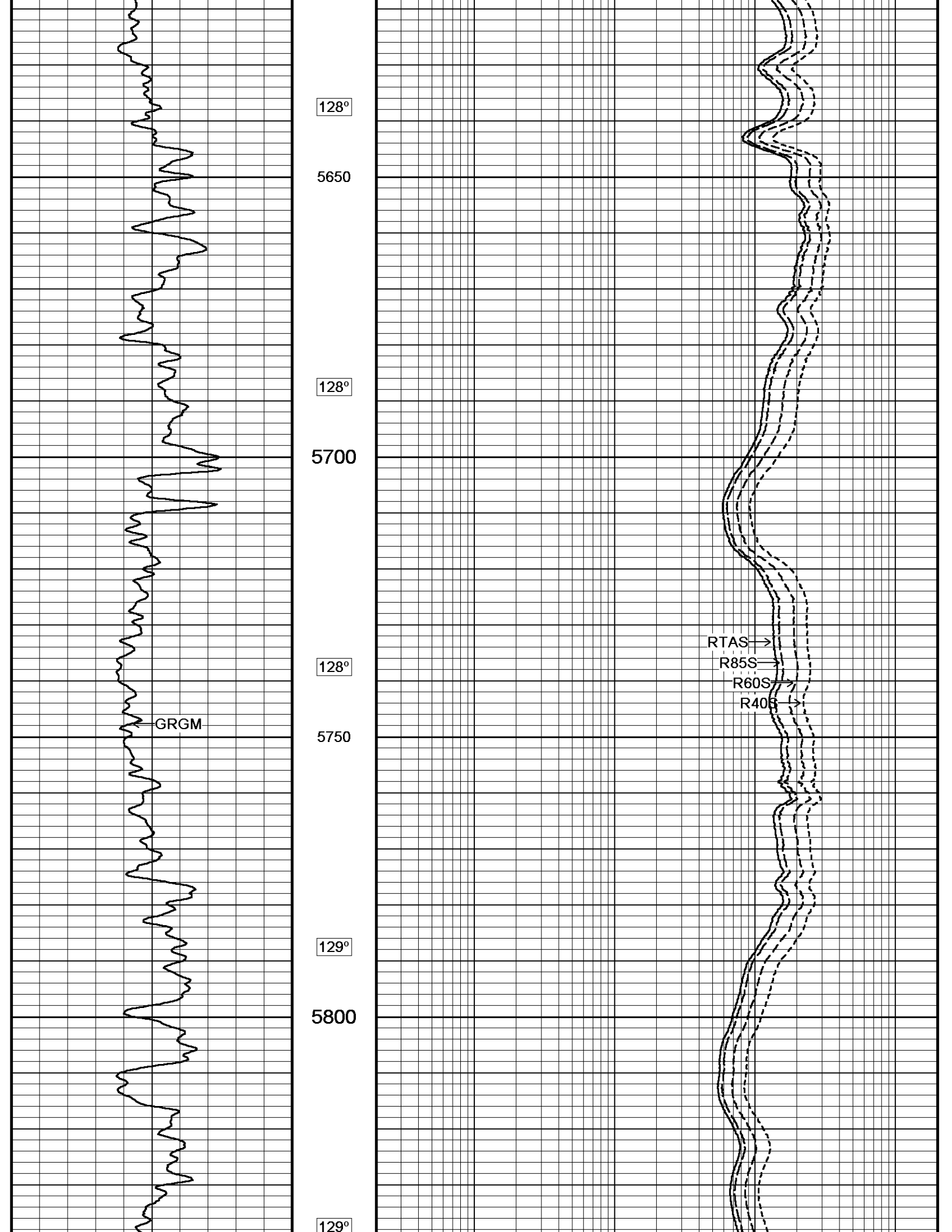
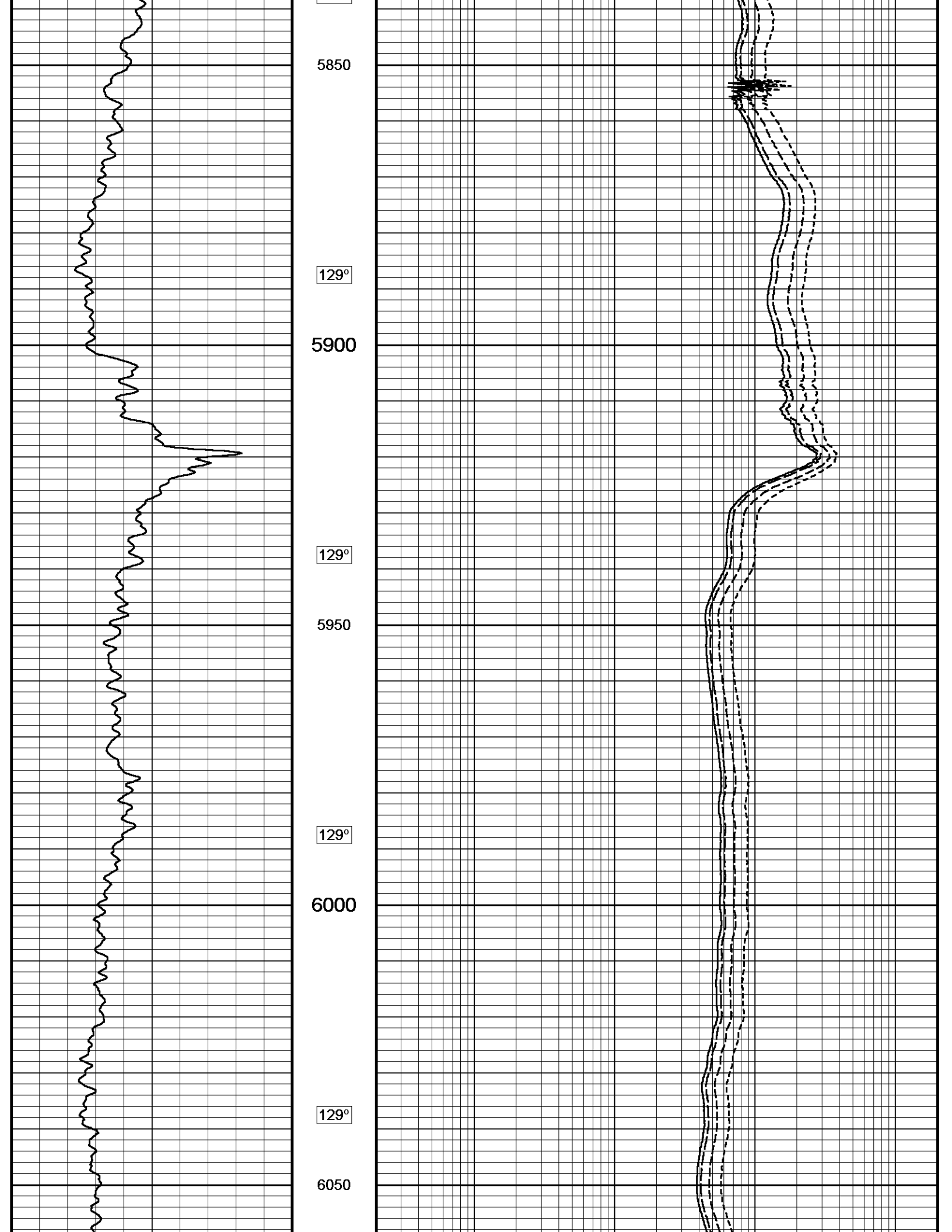
127°
5450
127°
5500
128°
5550
128°
5600


128°
5650
128°
5700
128°
GRGM
5750
129°
5800
129°
RTAS
R85S
R60S
R40S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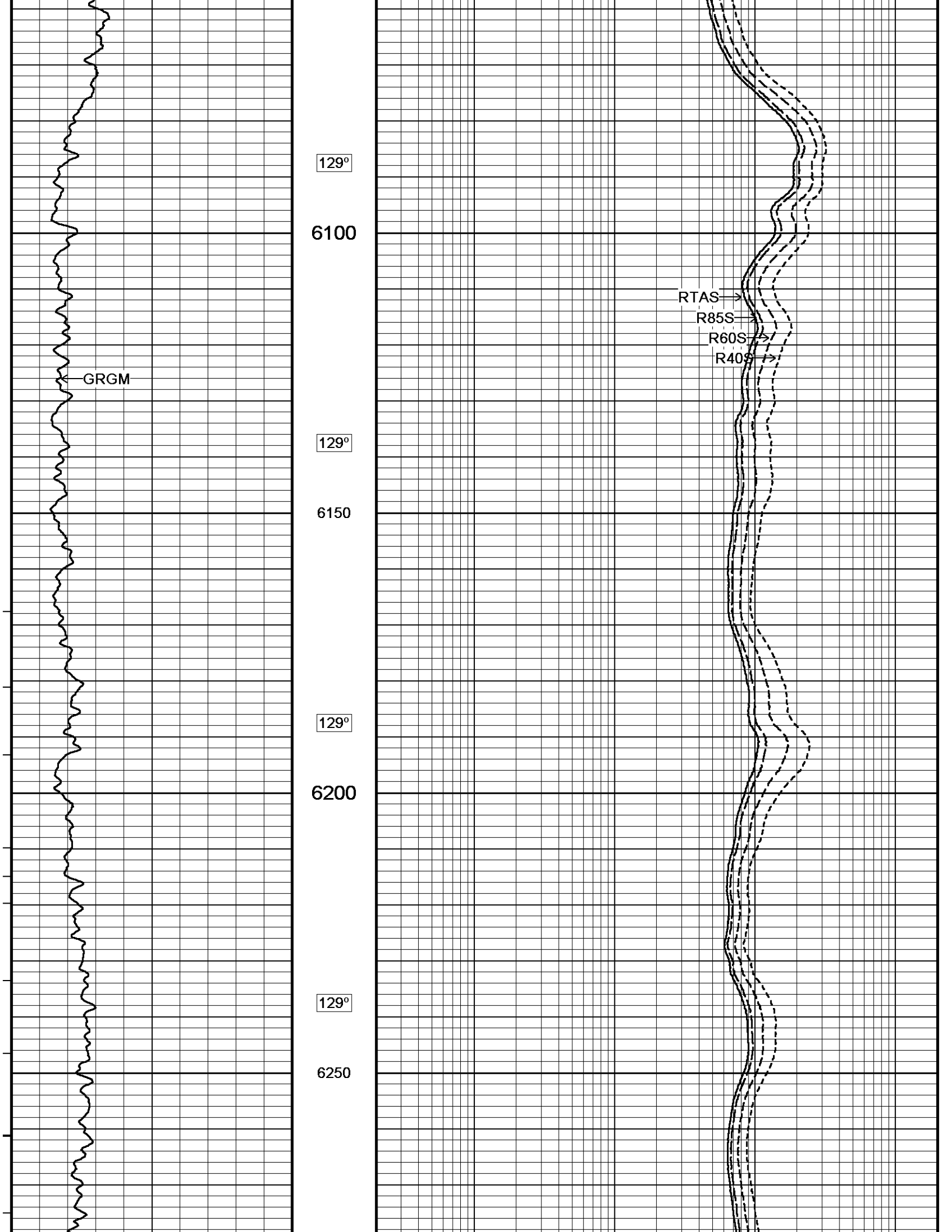
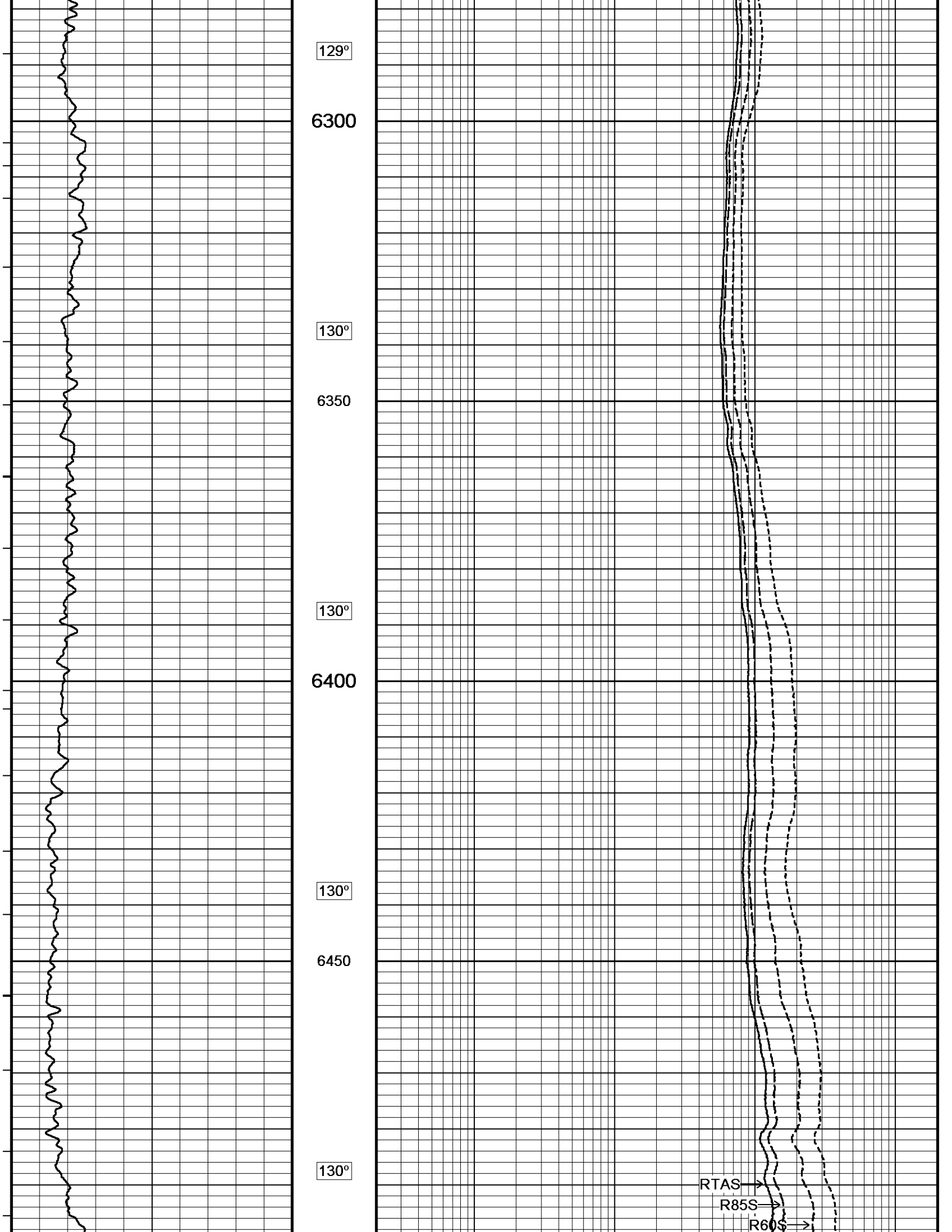
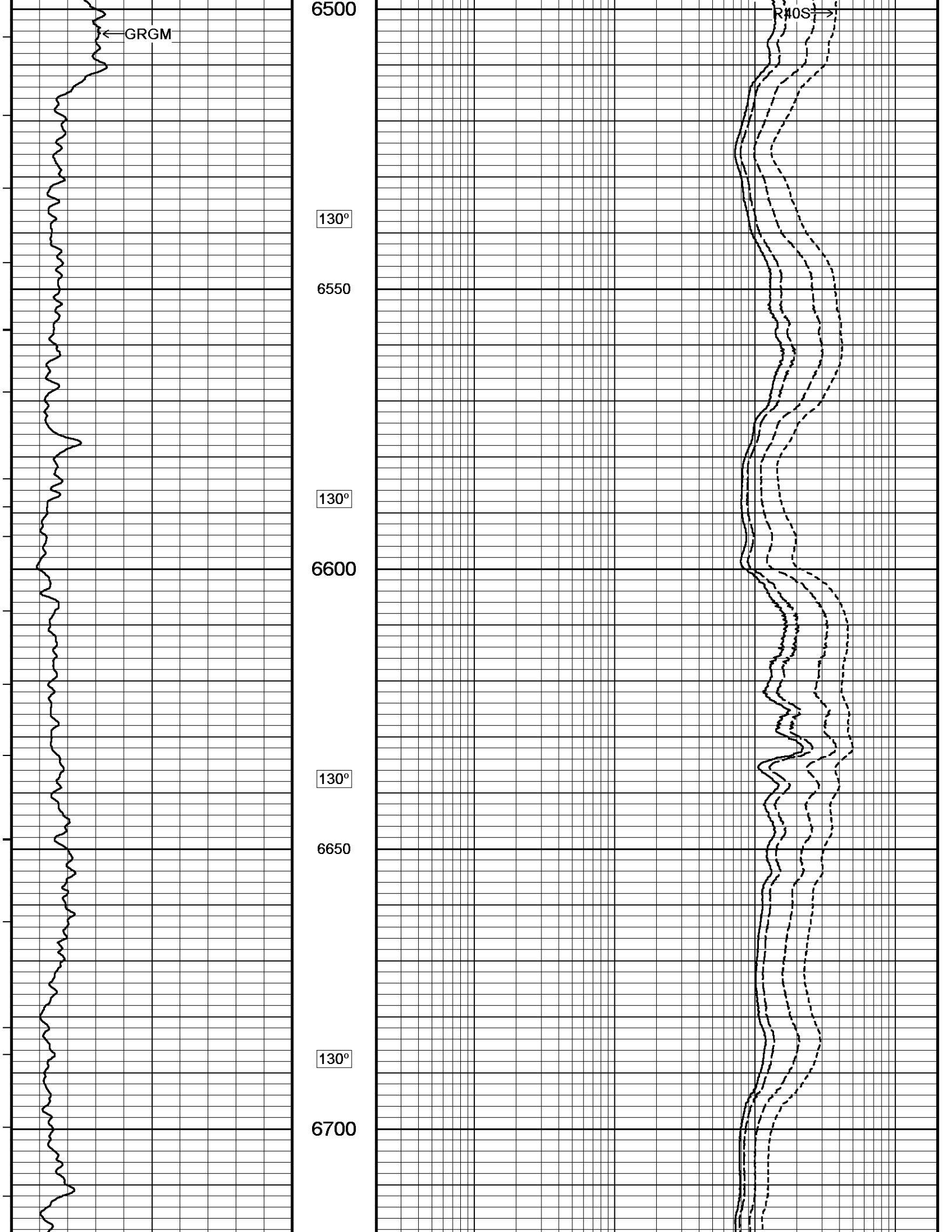
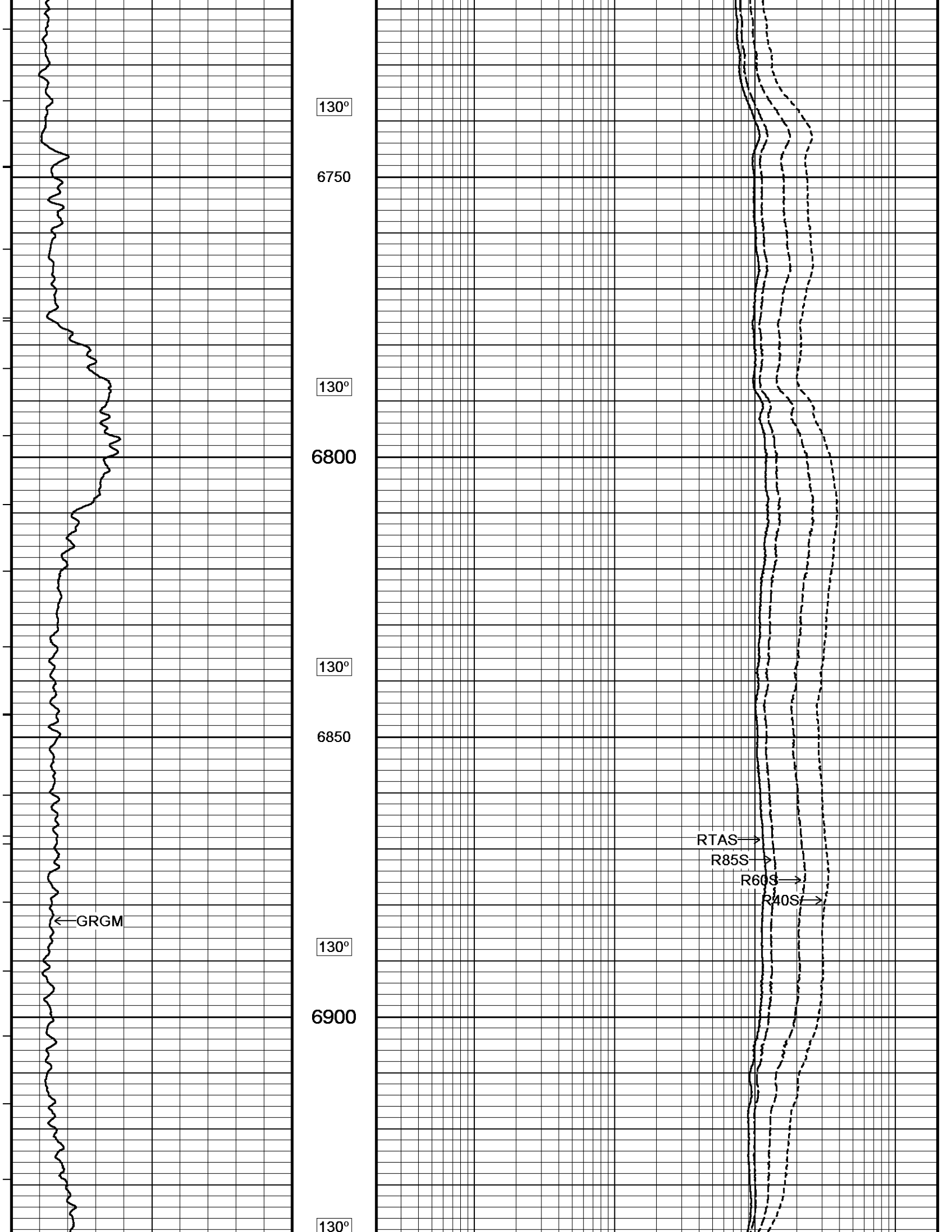
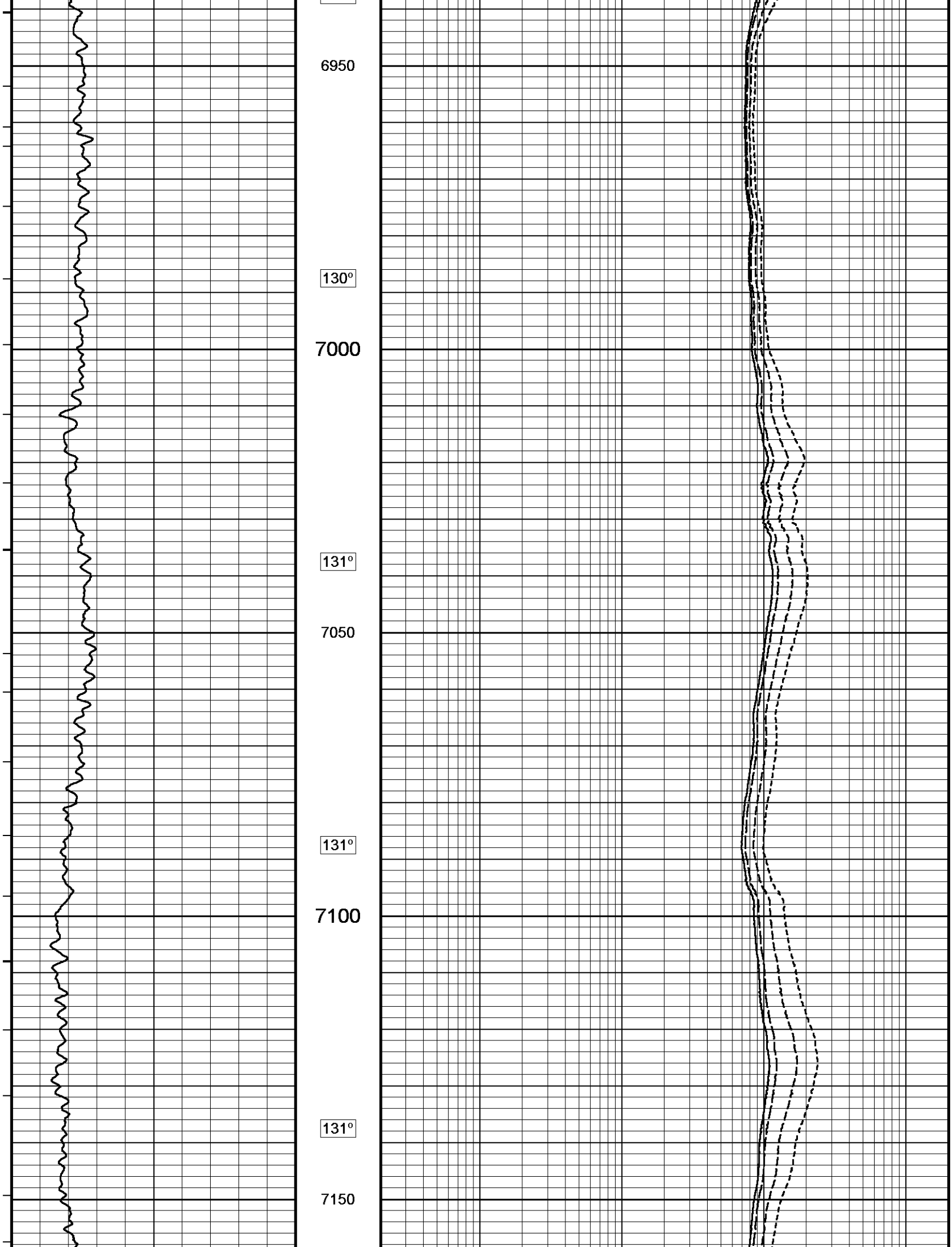
129°
5900
129°
5950
129°
6000
129°
6050

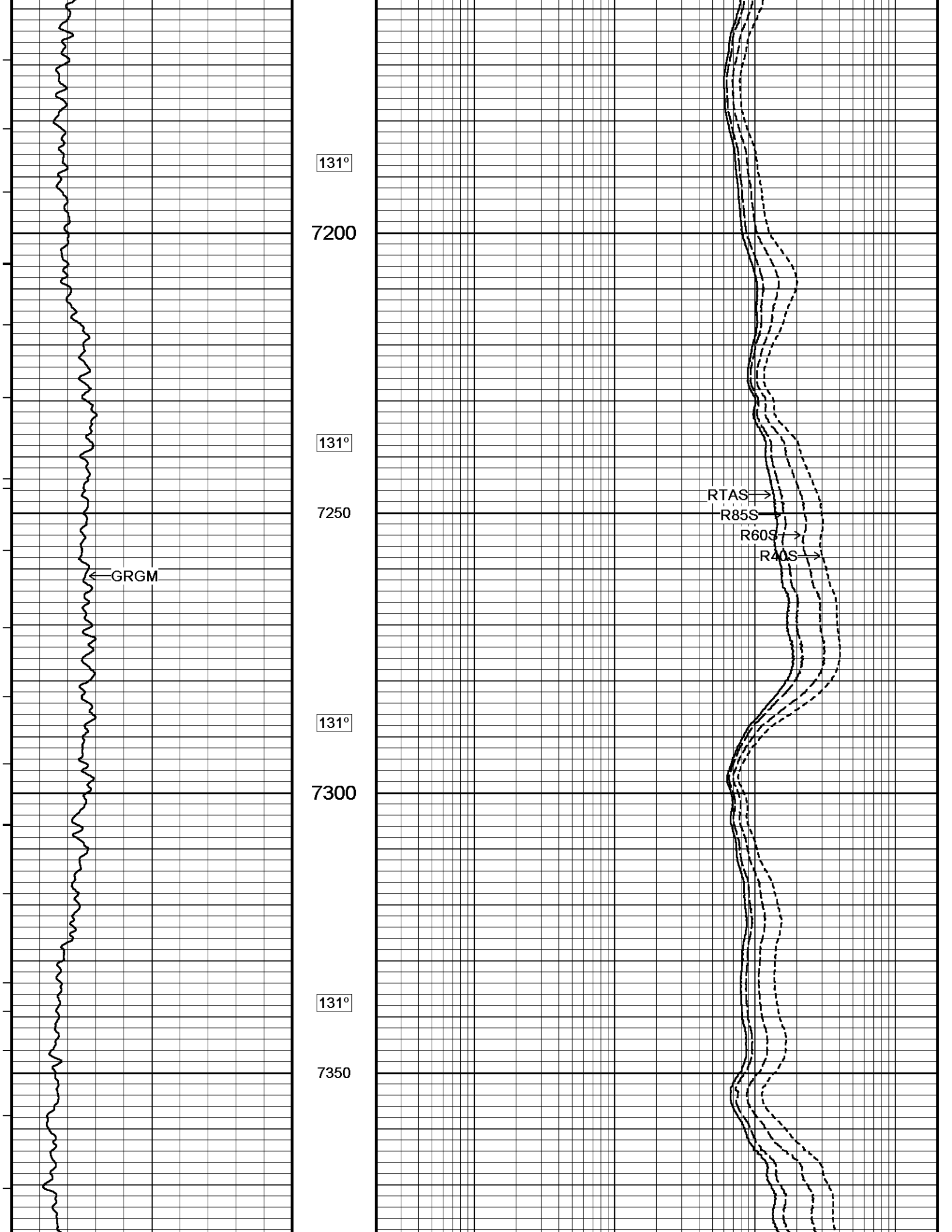

129°
6100
GRGM
RTAS
R85S
R60S
R40S
129°
6150
129°
6200
129°
6250

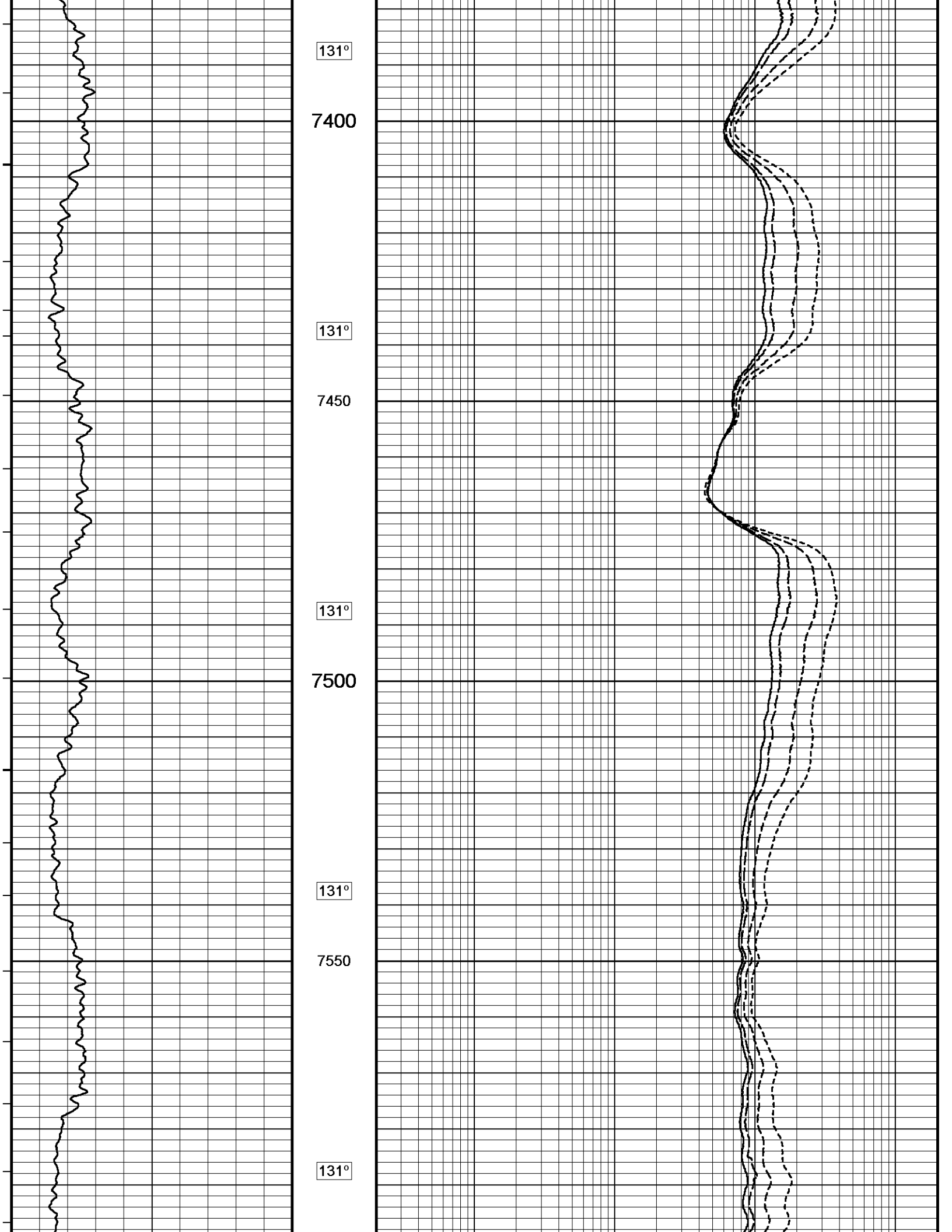

129°
6300
130°
6350
130°
6400
130°
6450
130°
RTAS
R85S
R60S

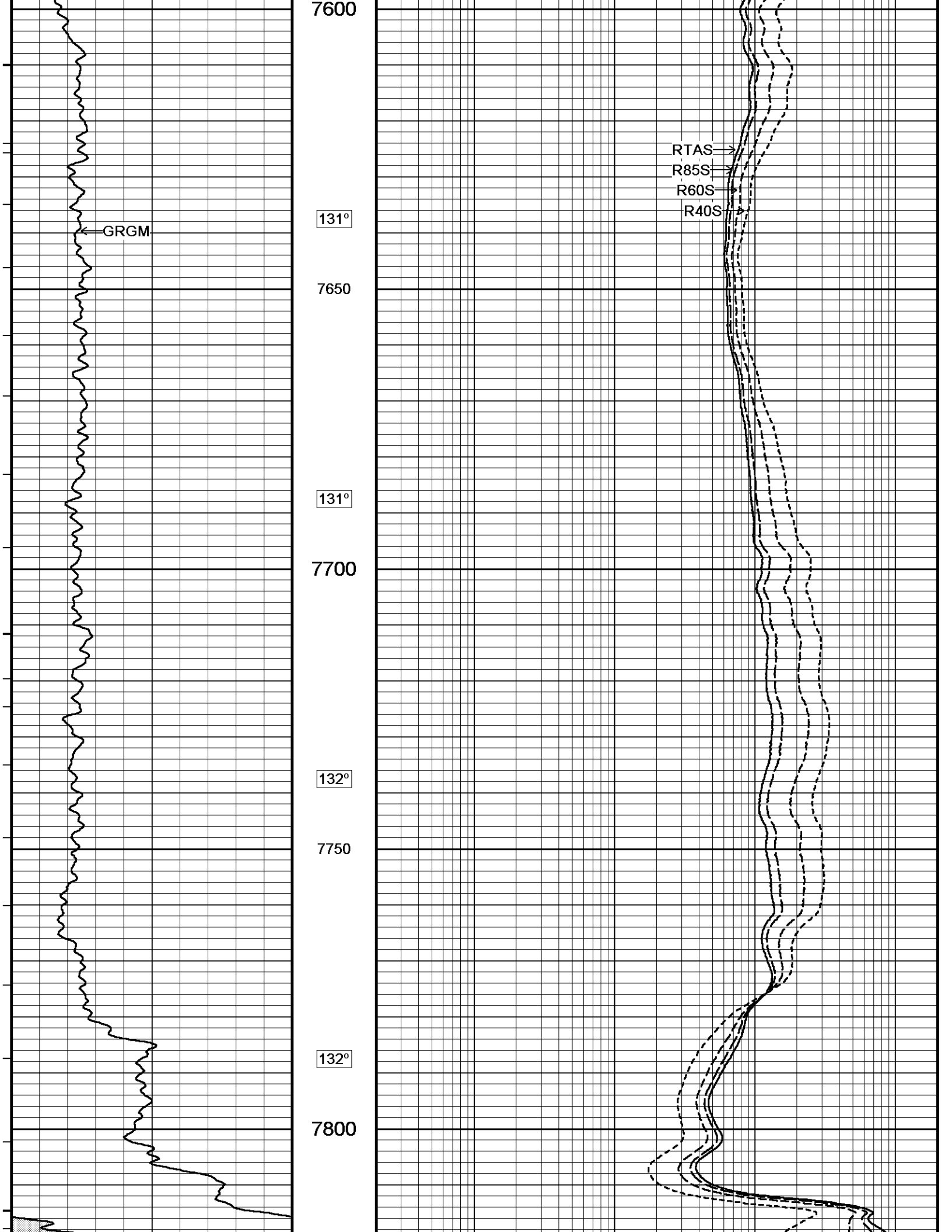

GRGM
6500
130°
6550
130°
6600
130°
6650
130°
6700
R40S

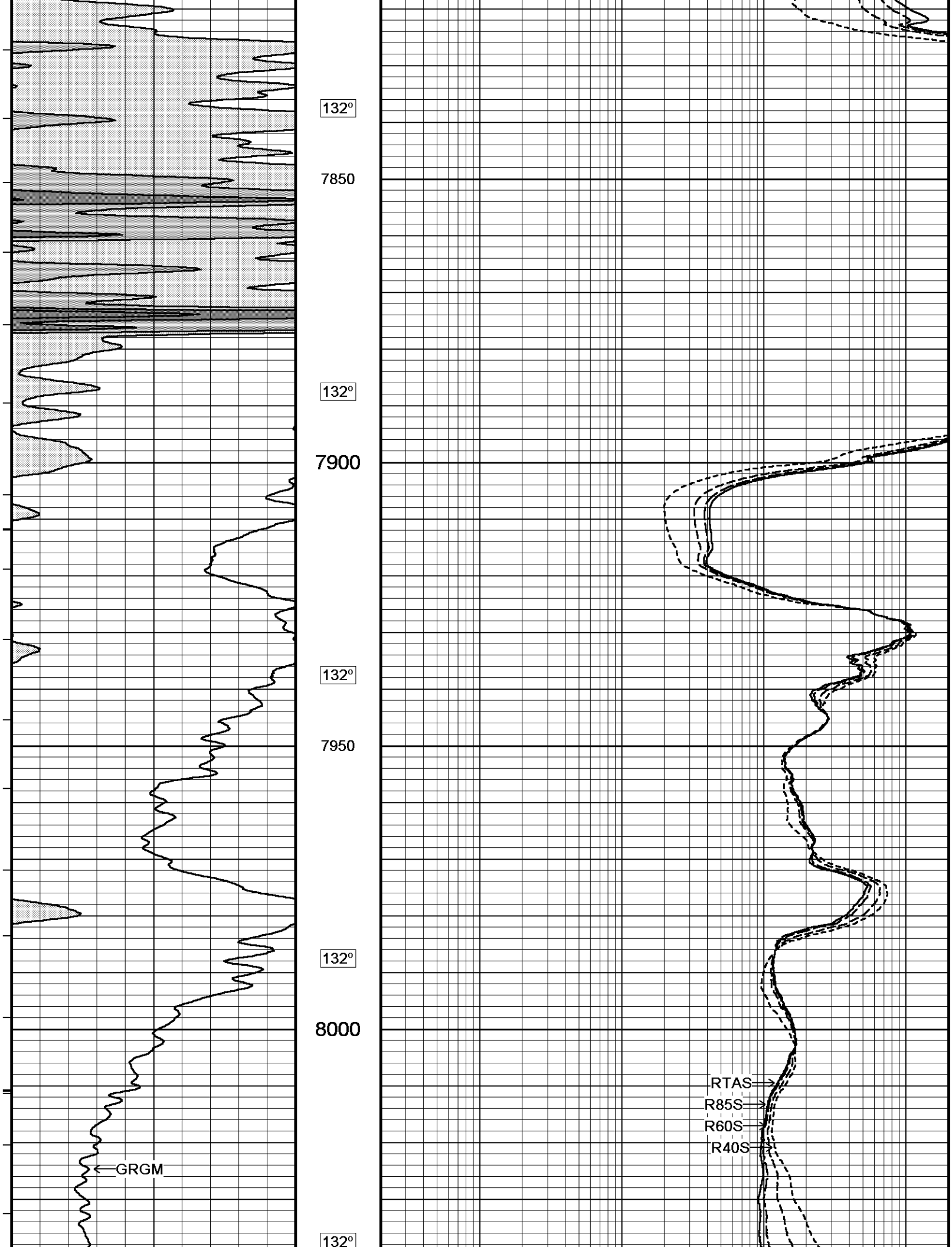

130°
6750
130°
6800
130°
6850
RTAS
R85S
R60S
R40S
GRGM
130°
6900
130°

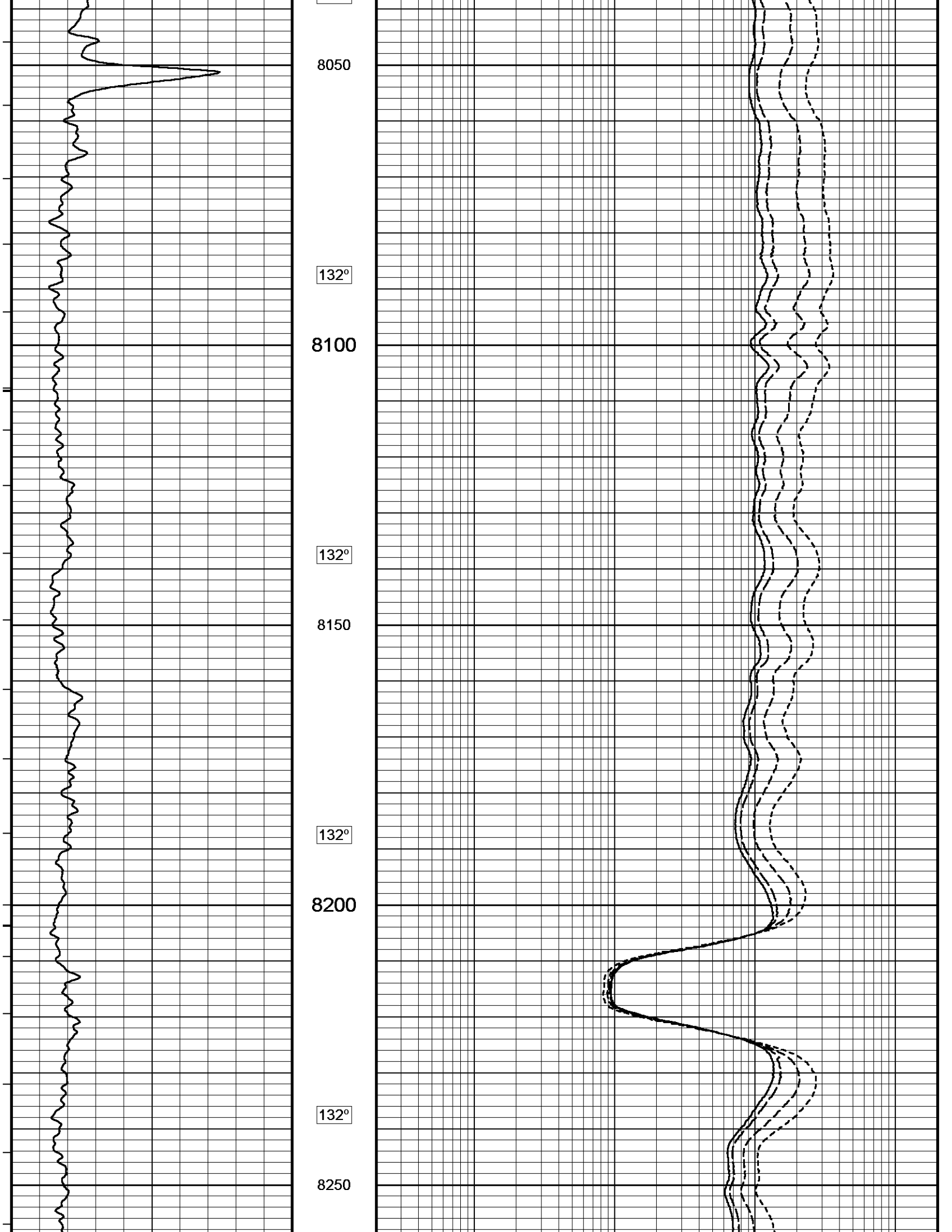

6950
130°
7000
131°
7050
131°
7100
131°
7150


131°
7200
131°
7250
131°
7300
131°
7350
GRGM
RTAS
R85S
R60S
R40S


131°
7400
131°
7450
131°
7500
131°
7550
131°


7600
GRGM
131°
7650
131°
7700
132°
7750
132°
7800
RTAS
R85S
R60S
R40S


132°
7850
132°
7900
132°
7950
132°
8000
132°
GRGM
RTAS
R85S
R60S
R40S


8050
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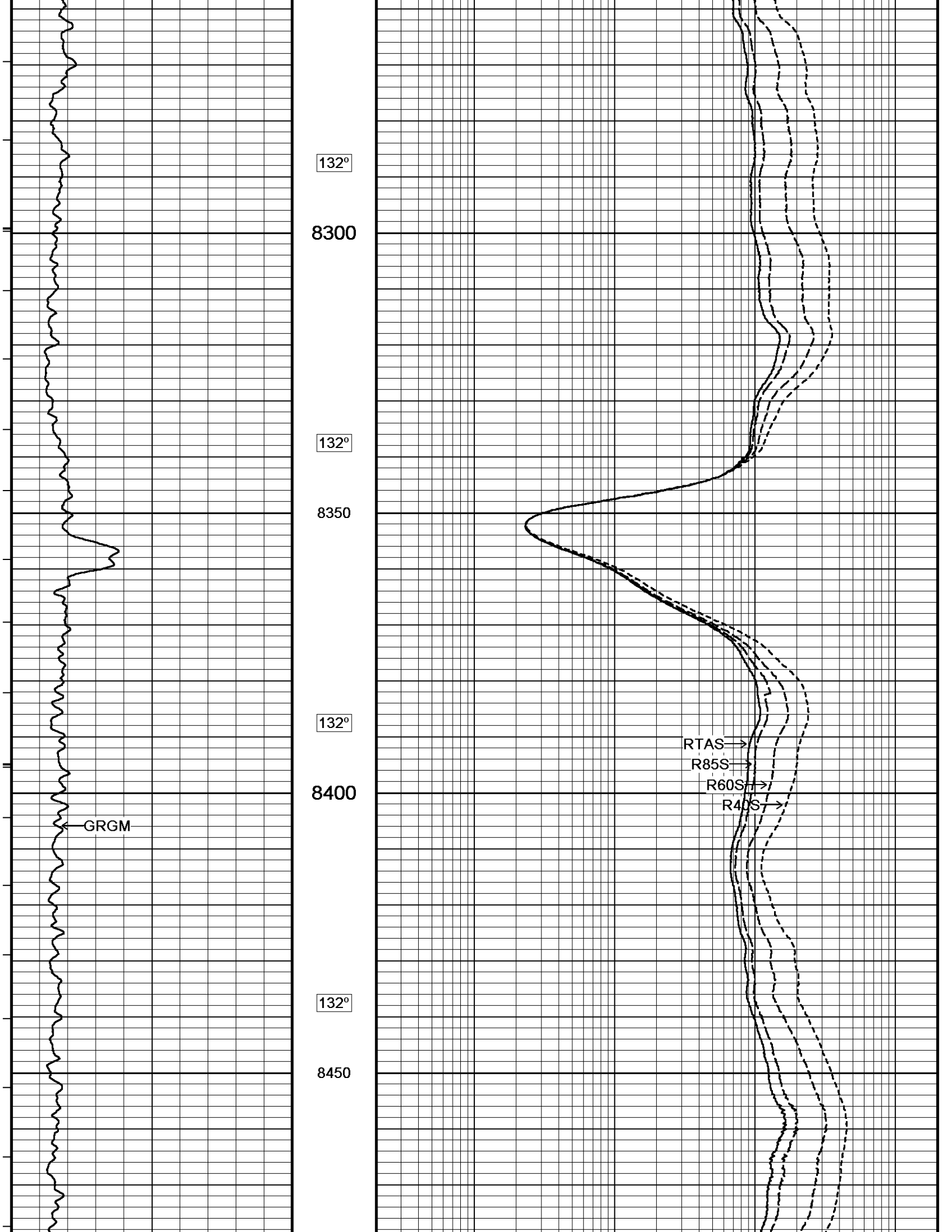
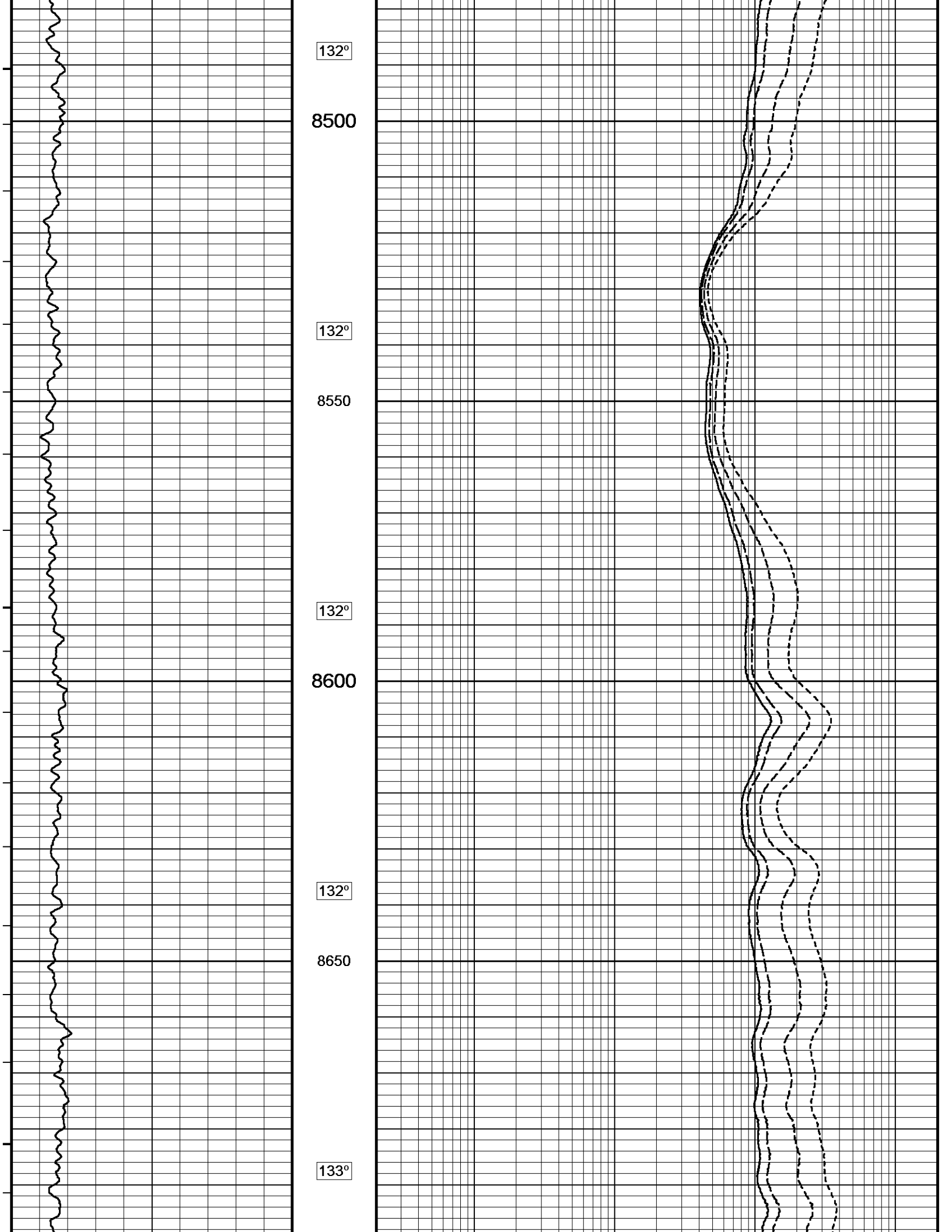
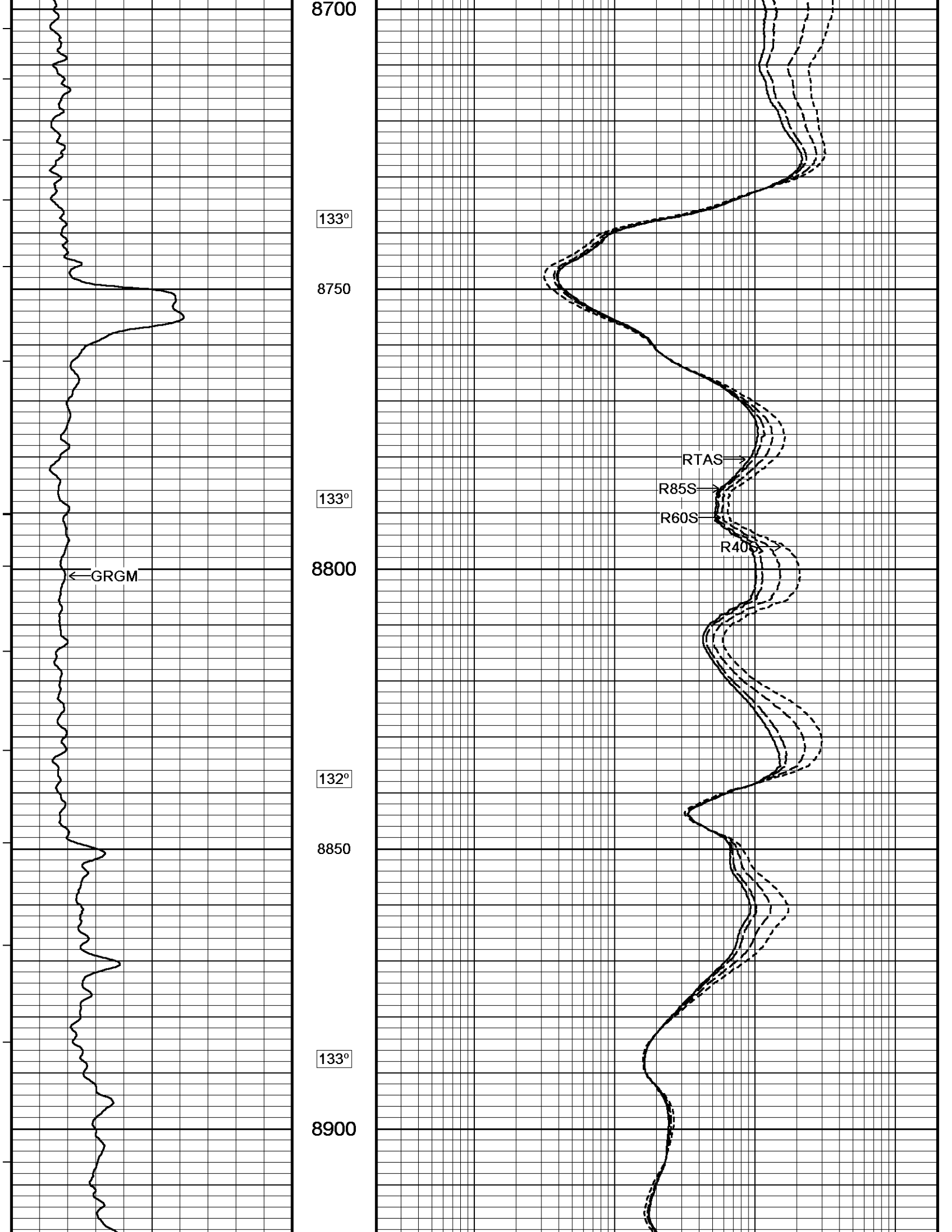
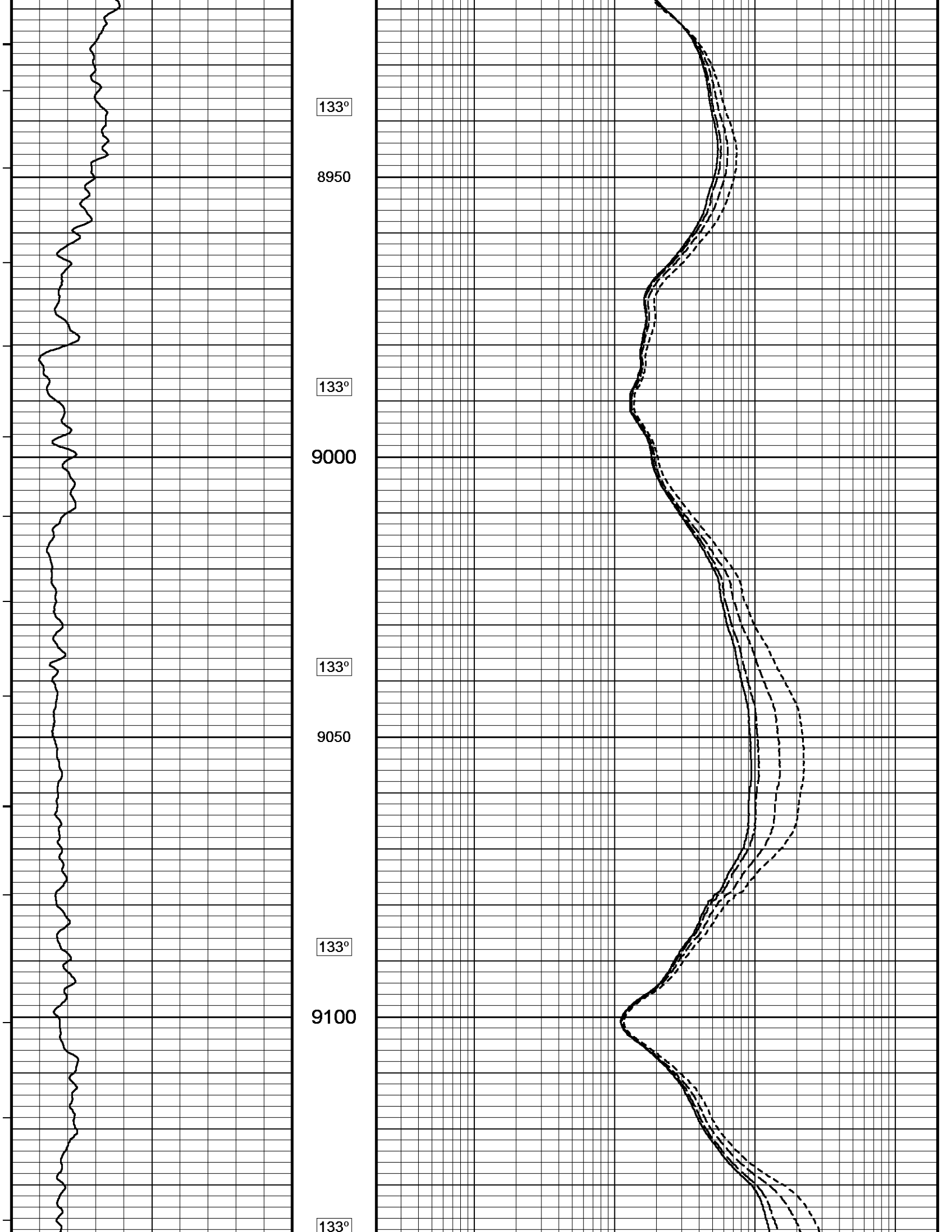
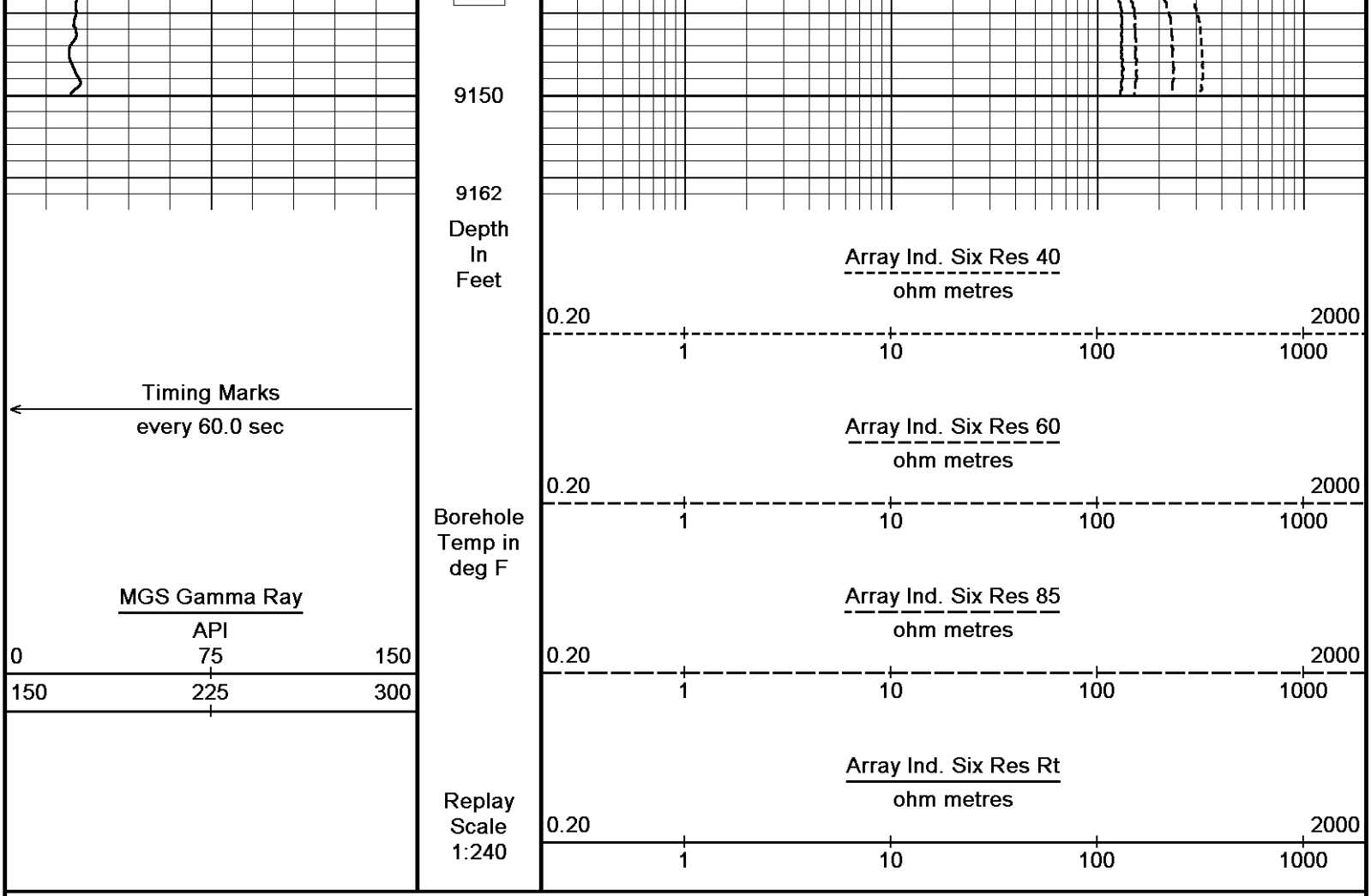
8100
132°
8150
132°
8200
132°
8250


132°
8300
132°
8350
132°
8400
132°
8450
GRGM
RTAS
R85S
R60S
R40S


132°
8500
132°
8550
132°
8600
132°
8650
133°


8700
133°
8750
RTAS
R85S
R60S
R40S
133°
GRGM
8800
132°
8850
133°
8900


133°
8950
133°
9000
133°
9050
133°
9100
133°



Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 12-SEP-2012 19:24

Filename: C:\Program Files\Weatherford\WLS 13.02\lorimer\RTPA LORIMER.dta — Recorded on 11-SEP-2012 06:29

System Versions: Processed with 13.02.6600 Plotted with 13.02.6600

5 inch main

BEFORE SURVEY CALIBRATION

C:\Program Files\Weatherford\WLS 13.02\lorimer\LORIMER 2330 1-9h DEPTH RTAP.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 MMS-E.B 166

Last Edited on 23-AUG-2012,00:24

Atmospheric Pressure	14.70	psi
Serial Number	262005	
Calibration Date	04-Jan-2011	

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	0.096	0.097	0.113	0.113	0.129	0.129	0.138	0.139
3000.0	5.275	5.280	5.290	5.294	5.303	5.306	5.307	5.310
6000.0	10.464	10.472	10.478	10.485	10.488	10.494	10.487	10.494
9000.0	15.664	15.672	15.676	15.684	15.683	15.691	15.679	15.687
12000.0	20.876	20.882	20.888	20.893	20.892	20.898	20.885	20.890
15000.0	26.101		26.111		26.114		26.103	

MMS Parameters MMS-E.B 166

Last Edited on 31-AUG-2011 11:09

Logging Parameters

Firmware Version	2v40	
Caliper Open On	MAI	
Caliper Open Delay	0.0	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	0.0	

Release Parameters

Pulse Duration Base Level	10.0	seconds
Pulse Duration Transition Time	5.0	seconds
Pulse Duration Status Pulse From	10.0	seconds
Pulse Duration Caliper Close From	35.0	seconds
Pulse Duration Caliper Open From	50.0	seconds
Pulse Duration Release Pulse From	70.0	seconds
Pulse Duration Release Pulse To	100.0	seconds
Pulse Release Duration	30.0	seconds
Pulse Discriminator Pressure Band	96.0	seconds
Pulse Pressure Discriminator	213.0	seconds
Use Negative Pulsing	No	
Good Status Reply Open Hole	65535.0	seconds
Good Status Reply Cased Hole	10.0	seconds
Bad Status Reply	25.0	seconds
Status Pulse To	15.0	seconds
Caliper Close To	0.0	seconds
Caliper Open To	55.0	seconds

Configuration

MMS,MPD,MPD,MAI

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 09-SEP-2012,21:04

	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 09-SEP-2012,21:04
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	

Accelerometer Parameters MIE-A.A 205

Date Of Last Accelerometer Calibration 22-OCT-2010,09:57

	X Accelerometer	Y Accelerometer	Z Accelerometer
Slope	-1.102577	-1.095892	-1.099279
Offset	0.005245	0.001380	-0.006964

Accelerometer Constants MIE-A.A 205

Last Edited on 23-AUG-2011,16:00

Accelerometer Calibrator Number 000

Accelerometer Temperature Characterisation

X Accelerometer

Serial Number	829			
Calibration Date	18-Mar-2009			
	B0	B1	B2	B3
Bias(g)	0.00000e+000	3.85446e-005	-3.97712e-008	1.22710e-010
	SF0	SF1	SF2	SF3
Scale Factor(mA/g)	3.00000e+000	2.75555e-004	4.16325e-007	4.80125e-010

Y Accelerometer

Serial Number	901

Calibration Date	12-Apr-2010			
	B0	B1	B2	B3
Bias(g)	0.00000e+000	1.24151e-005	-6.79414e-009	7.96660e-011
	SF0	SF1	SF2	SF3
Scale Factor(mA/g)	3.00000e+000	2.38432e-004	6.40058e-007	-1.92725e-010

Z Accelerometer

Serial Number	890			
Calibration Date	10-Apr-2010			
	B0	B1	B2	B3
Bias(g)	0.00000e+000	9.15265e-006	-6.81619e-009	1.46787e-010
	SF0	SF1	SF2	SF3
Scale Factor(mA/g)	3.00000e+000	2.78599e-004	2.72844e-007	9.01795e-010

Caliper Calibration MIE-A.A 205

Base Calibration on 23-AUG-2011,16:16
Field Calibration on

Base Calibration

Reading No	Pads 1-5 Meas.	Pads 3-7 Meas.	Calibrator Size (in)
1	27006	26164	5.96
2	37039	36625	7.97
3	46872	46116	9.84
4	58291	57849	11.91
5	0	0	0.00

Reading No	Pad 2 Meas.	Pad 4 Meas.	Pad 6 Meas.	Pad 8 Meas.	Calibrator Size (in)
1	25116	23882	25036	24789	5.96
2	33940	32930	33993	33467	7.97
3	41946	41141	42331	41802	9.84
4	51857	51034	52212	51630	11.91
5	0	0	0	0	0.00

Field Calibration

Measured Pads 1-5 Caliper(in)	Measured Pads 3-7 Caliper(in)	Actual Caliper(in)
0.00	0.00	0.00

Measured Pad 2 Caliper(in)	Measured Pad 4 Caliper(in)	Measured Pad 6 Caliper(in)	Measured Pad 8 Caliper(in)	Actual Caliper(in)
0.00	0.00	0.00	0.00	0.00

Caliper Constants MIE-A.A 205

Last Edited on 23-AUG-2011,15:34

Caliper Difference for BRKT	0.120	inches

Magnetometer Parameters MIE-A.A 205

Date Of Last Magnetometer Calibration 23-AUG-2011,16:14

	X Magnetometer	Y Magnetometer	Z Magnetometer
Slope	-1.000000	-1.009681	-1.005139
Offset	0.010971	-0.020272	0.014048

Magnetometer Constants MIE-A.A 205

Last Edited on

Magnetometer Calibrator Number	000

Navigation Constants MIE-A.A 205

Last Edited on 23-AUG-2011,16:02

Magnetic Declination	5.00	degrees	East

Compact Micro Imager Constants MIE-A.A 205

Last Edited on

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	metres
Search Angle	0.00	metres
Correlation Interval	1.00	mAmp
Correlation Step	0.50	mAmp
Current Offset	0.0000	
Squasher Start	0.0500	
Image Processing	Enabled	

Induction Calibration MAI-B.J 427

Base Calibration on 20-AUG-2012,13:38

Field Check on 09-SEP-2012 20:58

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	18.4	4139.1
2	0.0	0.0	31.2	3767.8
3	0.0	0.0	30.4	3207.8
4	0.0	0.0	19.4	2121.8
Deep	0.0	0.0	19.0	2018.3
Medium	0.0	0.0	44.2	4286.7
Shallow	0.0	0.0	46.0	5675.6
Array Temperature	0.0		81.0	Deg F

Induction Constants MAI-B.J 427

Last Edited on 11-SEP-2012,06:46

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	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	

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 09-SEP-2012 21:04

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

Field Check

1183.9	1358.5

PE Calibration

Base Calibration	Measured			Calibrated
	WS	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

Field Check

215.7	1059.6

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

DOWNHOLE EQUIPMENT

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

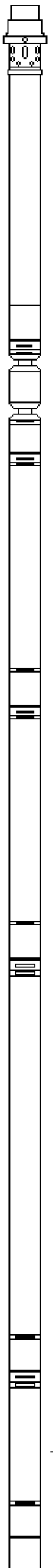
SKJ-E.B Compact Knuckle Joint
SKJ-E.B 459 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

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

Spacer - Empty Battery
MLK-A 1 LG: 14.23 ft WT: 30.9 lb OD: 2.24 in

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

Compact Memory Sub E.B
MMS-E.B 166 LG: 5.20 ft WT: 37.5 lb OD: 2.24 in



88.57 ft GRGM - MGS Gamma Ray

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

81.59 ft GSXT - MGS External Temperature

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 431 LG: 2.30 ft WT: 22.0 lb OD: 2.24 in

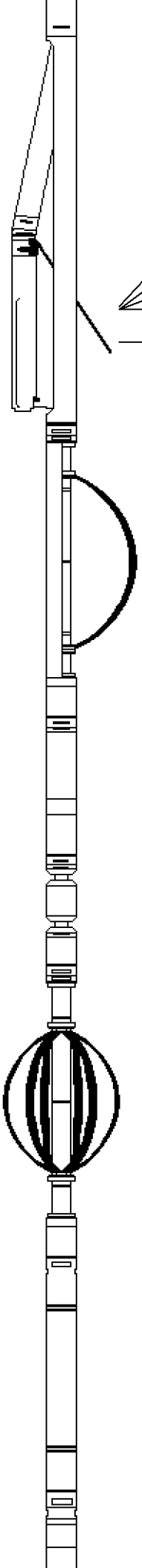
MIS-D.A Compact Inline Bowspring sub
MIS-D.A 310 LG: 5.70 ft WT: 33.1 lb OD: 2.24 in

67.70 ft NPRL - Limestone Neutron Por.

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

Compact Density/Caliper

MPD-B 166 LG: 9.59 ft WT: 90.4 lb OD: 2.24 in



57.46 ft CLDC - Density Caliper
55.53 ft DCOR - Density Correction
55.53 ft DEN - Compensated Density
55.53 ft DPRL - Limestone Density Por.
55.47 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 474 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

MIS-D.B Compact Inline Bowspring sub
MIS-D.B 593 LG: 5.70 ft WT: 33.1 lb OD: 2.24 in

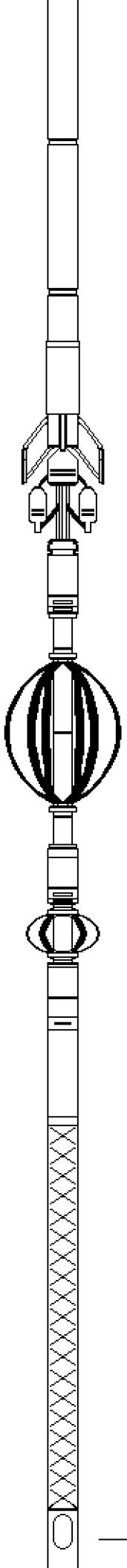
Compact MMI Memory Section
MIM-A.J 251 LG: 4.65 ft WT: 26.5 lb OD: 2.24 in

Compact MMI Electrode Section
MIE-A.A 205 LG: 13.96 ft WT: 99.2 lb OD: 4.09 in

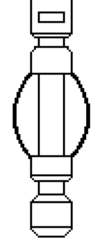
MIS-D.B Compact Inline Bowspring sub
MIS-D.B 603 LG: 5.70 ft WT: 33.1 lb OD: 2.24 in

MIS-E.A Compact Inline Standoff sub
MIS-E.A 337 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



Tool Zero (1.84ft from bottom)



Total Length: 147.25 ft Weight: 903.9 lb All measurements relative to tool zero.

COMPANY	Sandridge Energy
WELL	Lorimer 2330 1-9H
FIELD	Finney
PROVINCE/COUNTY	Finney
COUNTRY/STATE	U,S,A, / Kansas

Elevation Kelly Bushing	2863.00	feet	First Reading	9175.00	feet
Elevation Drill Floor	2862.00	feet	Depth Driller	9242.00	feet
Elevation Ground Level	2843.00	feet	Depth Logger	9242.00	feet

Weatherford®

CML MESSENGER SHUTTLE
ARRAY INDUCTION

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CML MESSENGER SHUTTLE
ARRAY INDUCTION

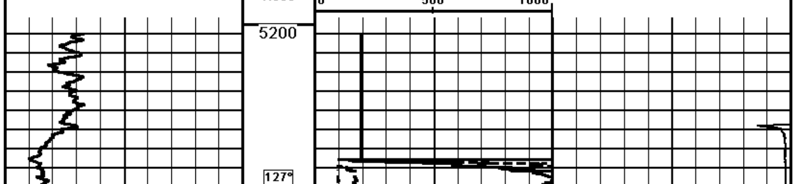
COMPANY	Sandridge Energy		
WELL	Lorimer 2330 1-9H		
FIELD	Finney		
PROVINCE/COUNTY	Finney		
COUNTRY/STATE	U,S,A, / Kansas		
LOCATION	200' FNL & 400' FWL	Other Services	MPD/MDN
SEC 9	TWP 23s	RGE 30w	
API Number	15-055-22174		
Permit Number			
Permanent Datum G.L., Elevation 2843 feet		Elevations:	feet
Log Measured From KB		KB	2863.00
Drilling Measured From K.B. @ 20 FEET		DF	2862.00
		GL	2843.00

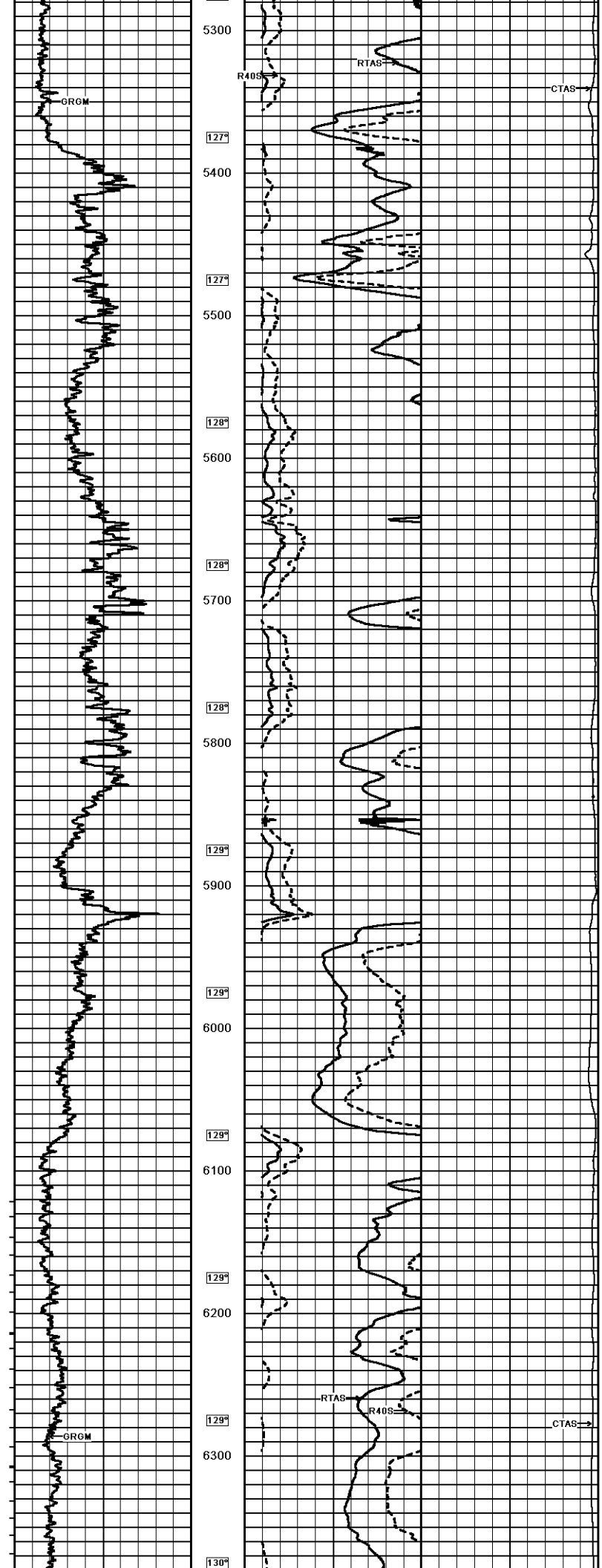
Date	11-SEP-2012		
Run Number	ONE		
Depth Driller	9242.00	feet	
Depth Logger	9242.00	feet	
First Reading	9175.00	feet	
Last Reading	5189.00	feet	
Casing Driller	5189.00	feet	
Casing Logger	5189.00	feet	
Bit Size	6.125	inches	
Hole Fluid Type	WBM		
Density / Viscosity	8.40 g/c3	29.00 CP	
PH / Fluid Loss	8.50		
Sample Source	flowline		
Rm @ Measured Temp	0.75 @ 82.0	ohm-m	
Rmf @ Measured Temp	0.60 @ 82.0	ohm-m	
Rmc @ Measured Temp	0.90 @ 82.0	ohm-m	
Source Rmf / Rmc	CALC	CALC	
Rm @ BHT	0.46 @ 135.0	ohm-m	
Time Since Circulation	1 HOUR		
Max Recorded Temp	135.00	deg F	
Equipment Name	COMPACT		
Equipment / Base	18077	OKC	
Recorded By	STEVEN TOTTEY		
Witnessed By	OSCAR ESPARZA		
S.O. # / JOB#	3536740		DC12143

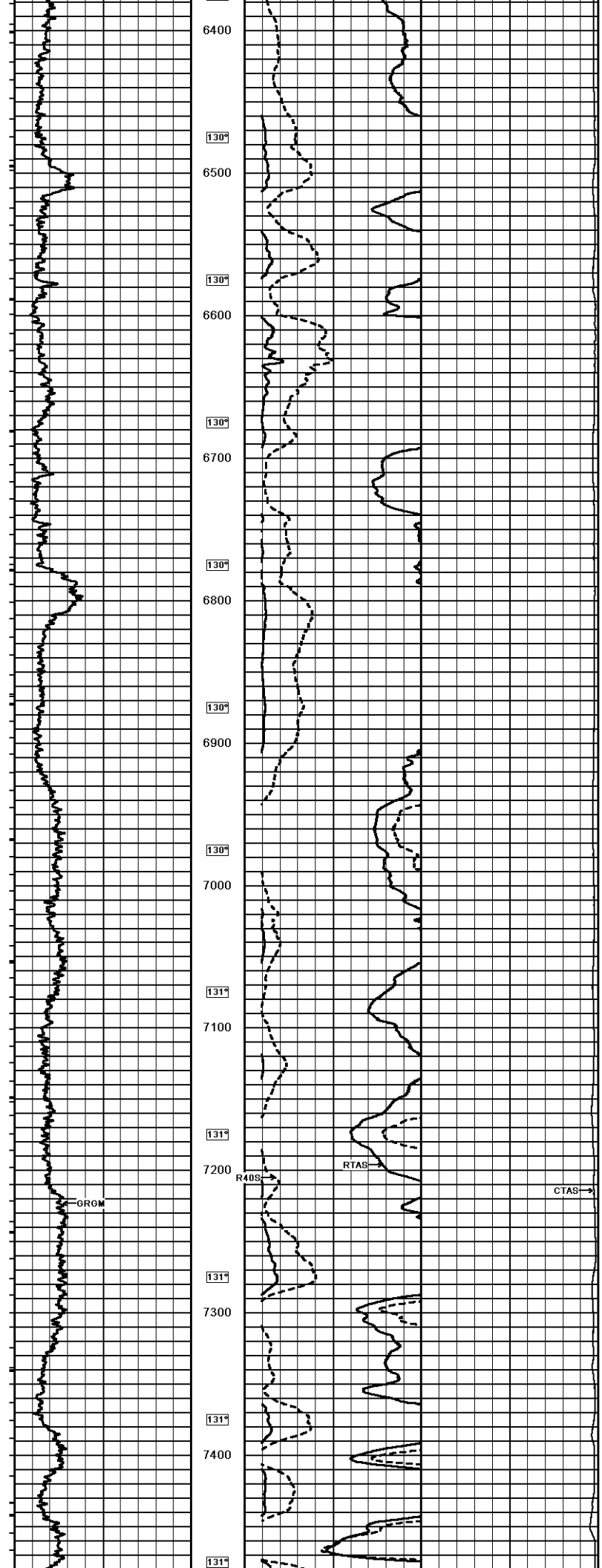
1 INCH MAIN LOG

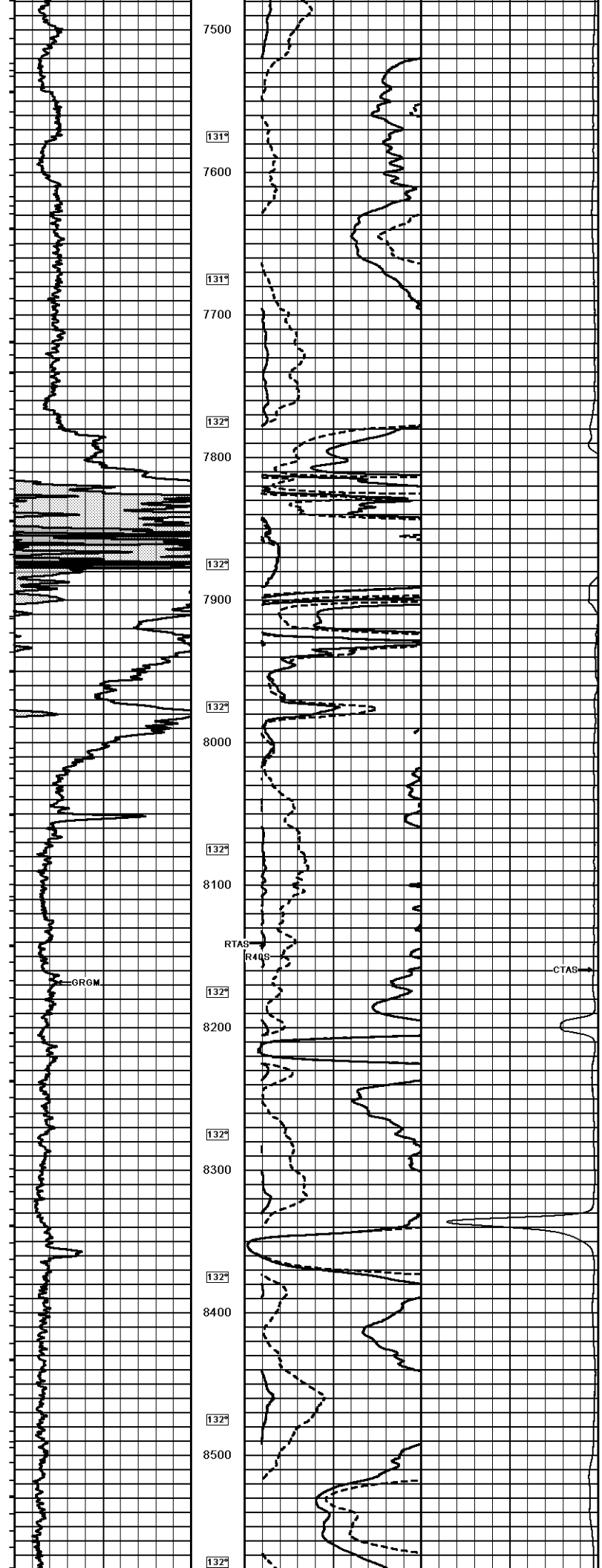
Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 12-SEP-2012 19:24
Filename: C:\Program Files\Weatherford\WLS 13.02\lorimer\RTPA LORIMER.dta — Recorded on 11-SEP-2012 06:29
System Versions: Processed with 13.02.6600 Plotted with 13.02.6600

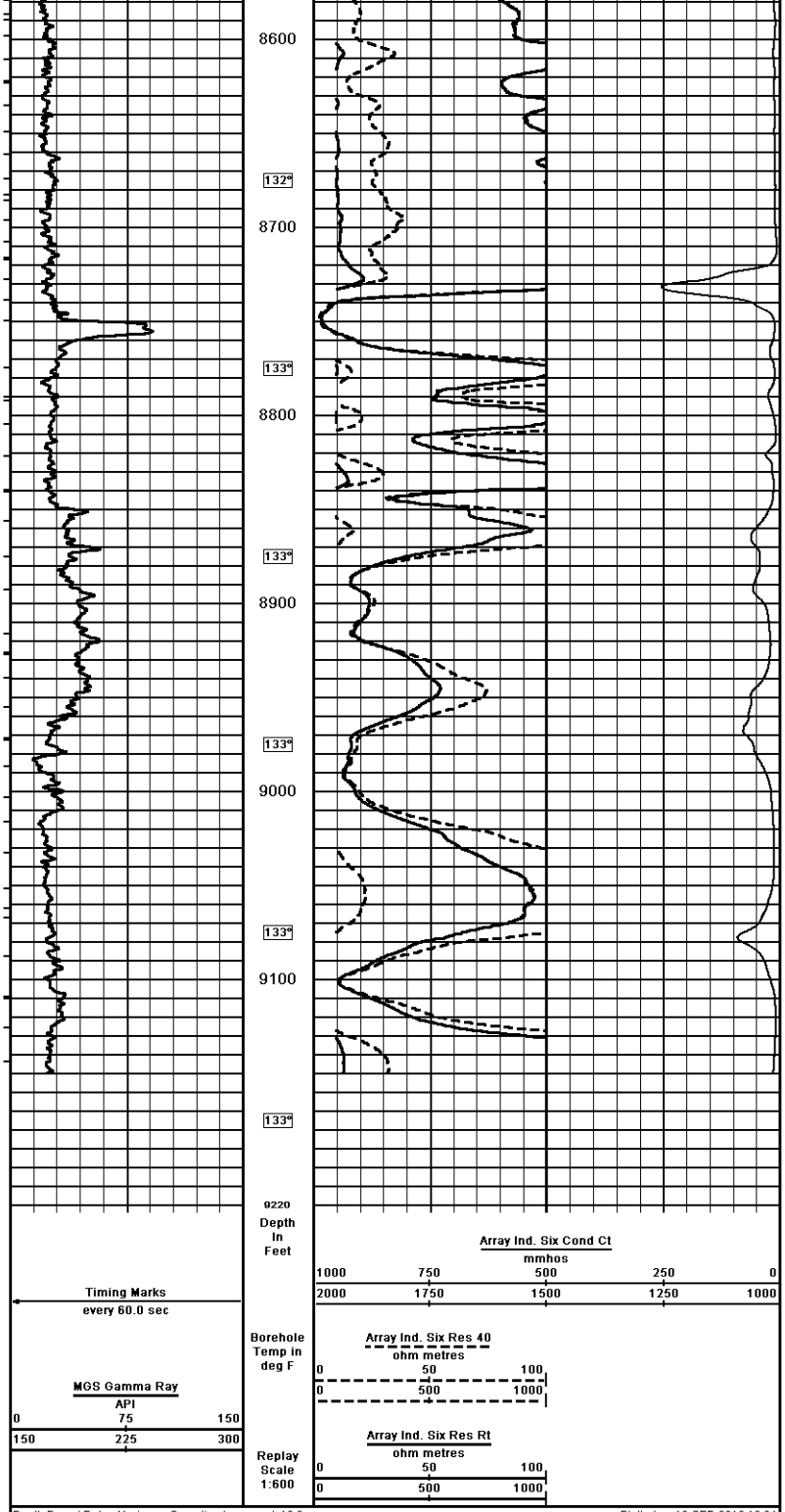
Track 1	Depth	Track 2
Timing Marks every 60.0 sec	Depth In Feet	Array Ind. Six Cond Ct mmhos 1000 — 750 — 500 — 250 — 0; 2000 — 1750 — 1500 — 1250 — 1000
MGS Gamma Ray API 0 — 75 — 150; 150 — 225 — 300	Borehole Temp in deg F	Array Ind. Six Res 40 ohm metres 0 — 50 — 100; 0 — 500 — 1000
	Replay Scale 1:600	Array Ind. Six Res Rt ohm metres 0 — 50 — 100; 0 — 500 — 1000




GRGM
5300
RTAS
R40S
CTAS
127"
5400
127"
5500
128"
5600
128"
5700
128"
5800
129"
5900
129"
6000
129"
6100
129"
6200
RTAS
R40S
129"
CTAS
GRGM
6300
130"


6400
130°
6500
130°
6600
130°
6700
130°
6800
130°
6900
130°
7000
131°
7100
131°
7200
131°
7300
131°
7400
131°
GRGM
R40S
RTAS
CTAS


7500
131°
7600
131°
7700
132°
7800
132°
7900
132°
8000
132°
8100
RTAS
R40S
GRGM
CTAS
132°
8200
132°
8300
132°
8400
132°
8500
132°



Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 12-SEP-2012 19:24
Filename: C:\Program Files\Weatherford\WLS 13.02\lorimer\RTPA LORIMER.dta — Recorded on 11-SEP-2012 06:29
System Versions: Processed with 13.02.6600 Plotted with 13.02.6600

1 INCH MAIN LOG

COMPANY	Sandridge Energy
WELL	Lorimer 2330 1-9H
FIELD	Finney
PROVINCE/COUNTY	Finney
COUNTRY/STATE	U,S,A, / Kansas

Elevation Kelly Bushing	2863.00	feet	First Reading	9175.00	feet
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ARRAY INDUCTION