Weatherford®

CML MESSENGER SHUTTLE
ARRAY INDUCTION
ELECTRIC LOG

COMPANY	SANDRIDGE ENERGY
WELL	FRUSHER 1-15H
FIELD	GOEBEL
PROVINCE/COUNTY	HODGEMAN
COUNTRY/STATE	USA / KANSAS
LOCATION	SW SE SE SE
	200' FSL & 350' FEL

SEC	TWP	RGE	Other Services
15	21S	24W	MDN/MPD

API Number 15-083-21781
Permit Number

Permanent Datum G.L., Elevation 2337 feet
Log Measured From DF
Drilling Measured From D.F. 21FEET

Elevations:	feet
KB	2358.00
DF	2358.00
GL	2337.00

Date	06-FEB-2013			
Run Number	ONE			
Service Order	3539396			
Depth Driller	8095.00	feet		
Depth Logger	7700.00	feet		
First Reading	7795.00	feet		
Last Reading	4950.00	feet		
Casing Driller	4993.00	feet		
Casing Logger	4993.00	feet		
Bit Size	6.125	inches		
Hole Fluid Type	WATER			
Density / Viscosity	9.80 lb/USg	40.00 CP		
PH / Fluid Loss	11.00	8.40 ml/30Min		
Sample Source	FLOWLINE			
Rm @ Measured Temp	0.36 @ 64.6	ohm-m		
Rmf @ Measured Temp	0.29 @ 64.6	ohm-m		
Rmc @ Measured Temp	0.43 @ 64.6	ohm-m		
Source Rmf / Rmc	CALC	CALC		
Rm @ BHT	0.19 @131.0	ohm-m		
Time Since Circulation	18 HOURS			
Max Recorded Temp	131.00	deg F		
Equipment / Base	18006	OKC		
Recorded By	GUTHMUELLER			
Witnessed By	W SCOTT			
AFE # DC11968				

BOREHOLE RECORD

Last Edited: 09-FEB-2013 14:13

Bit Size inches	Depth From feet	Depth To feet
12.250	0.00	1260.00
8.750	1260.00	4993.00
6.125	4993.00	8095.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURF	9.625	0.00	1260.00	36.00
INTER	7.000	0.00	4993.00	26.00

REMARKS

LOGGED WITH WLS VER 13.04.8492 SOFTWARE

WELL LOGGED USING MESSENGER METHOD OF DEPLOYMENT, AND MEMORY LOGGING SYSTEM

TD NOT LOGGED DUE TO HOLE CONDITIONS

HARDWARE: MAI: ISA STANDOFF BELOW, 0.5" MISB STANDOFF ABOVE
MPD: 4"PROFILE PLATE, MIS-A SINGLE SPRING DECENTRALIZER BELOW
MDN: MISD DOUBLE SPRING DECENTRALIZER RAN ABOVE

2.71 G/CC DENSITY MATRIX USED TOCALCULATE POROSITY
ALL INTERVALS LOGGED AND SCALED PER CUSTOMER REQUEST

DRILL PIPE DEPTH DURING DEPLOYMENT: 7600
LOGGING TOOL DEPTH AFTER DEPLOYMENT: 7600

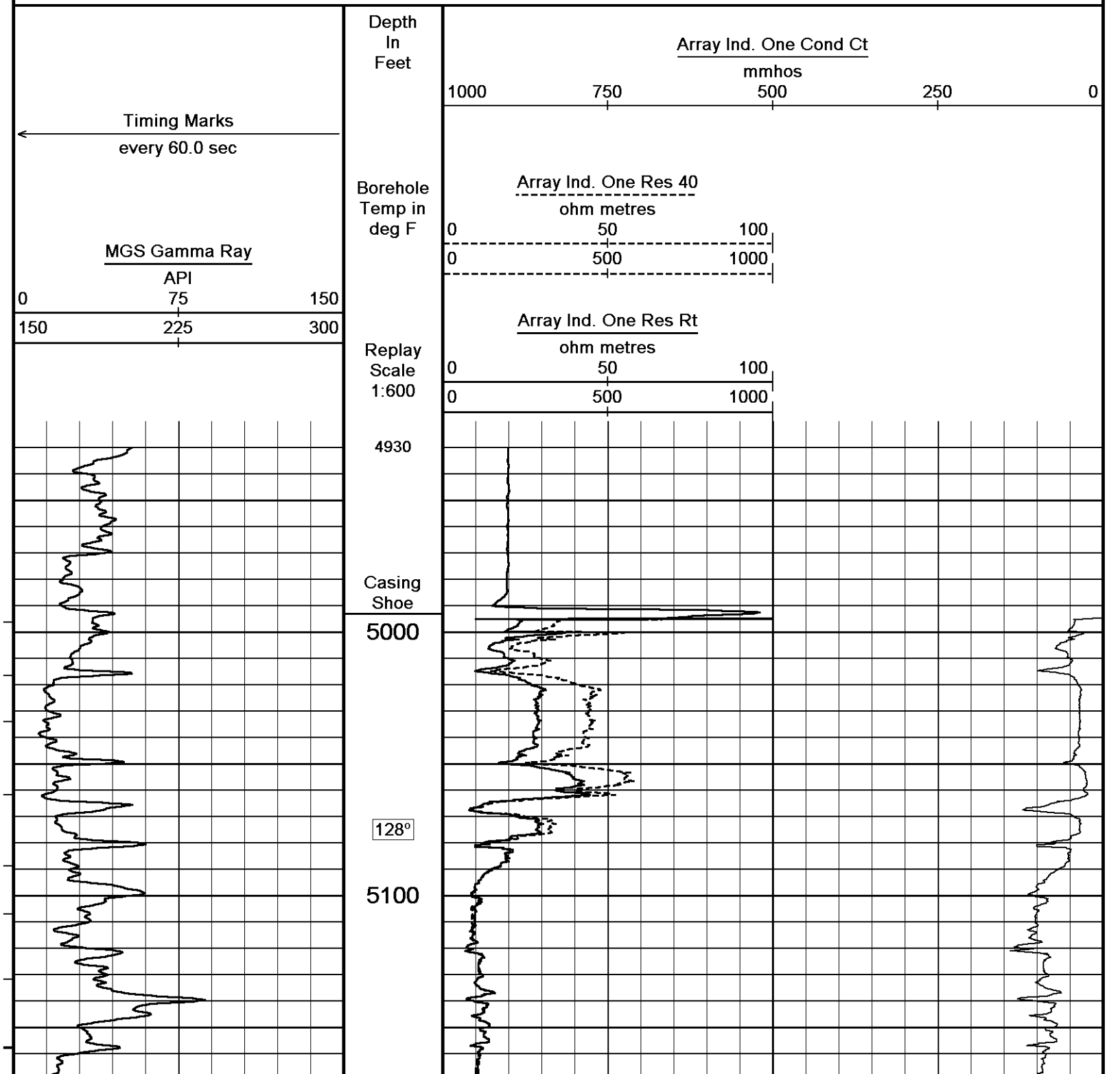
LOGGING TOOL DEPTH AFTER DEPLOYMENT: 7690

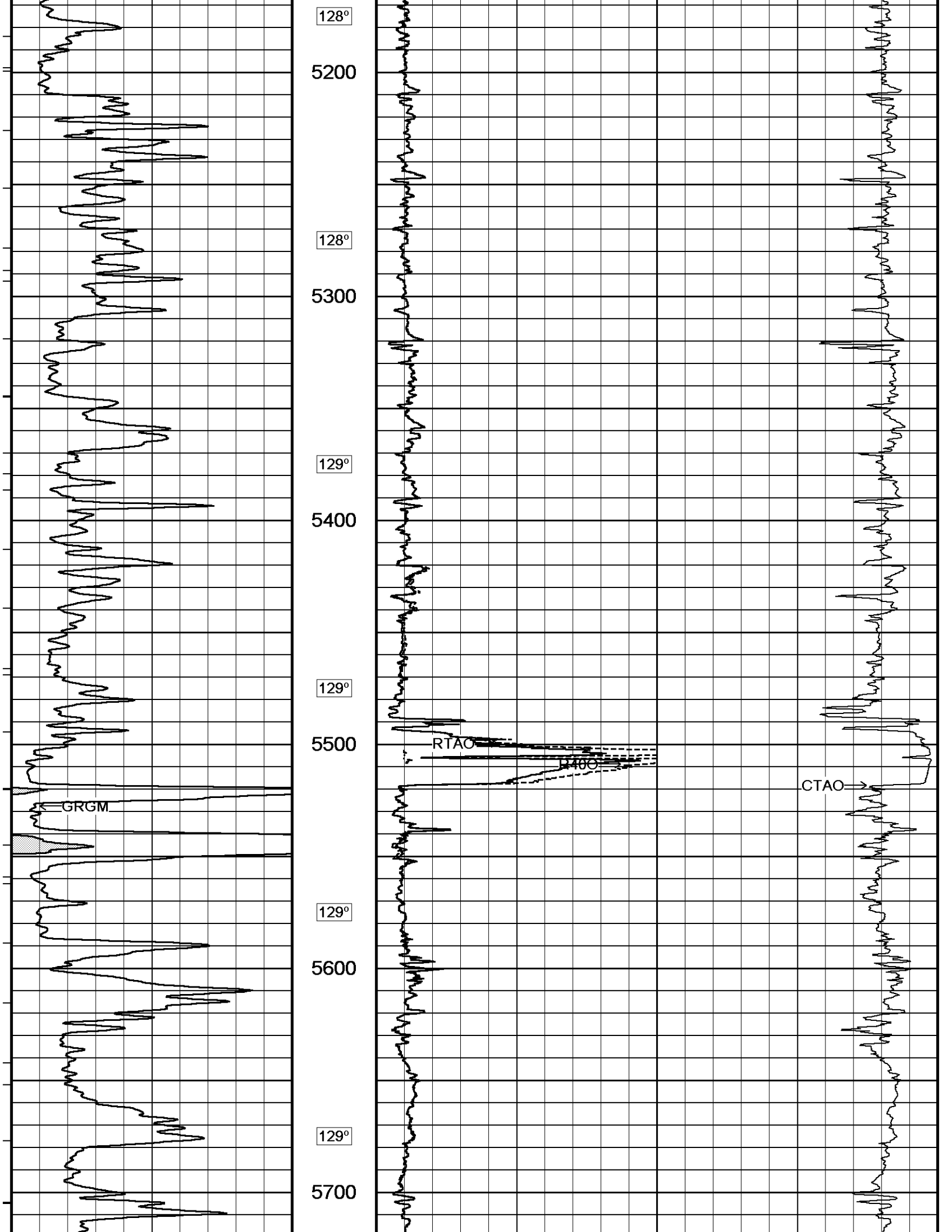
SERVICE ORDER: 3539396
RIG: LARIAT 3

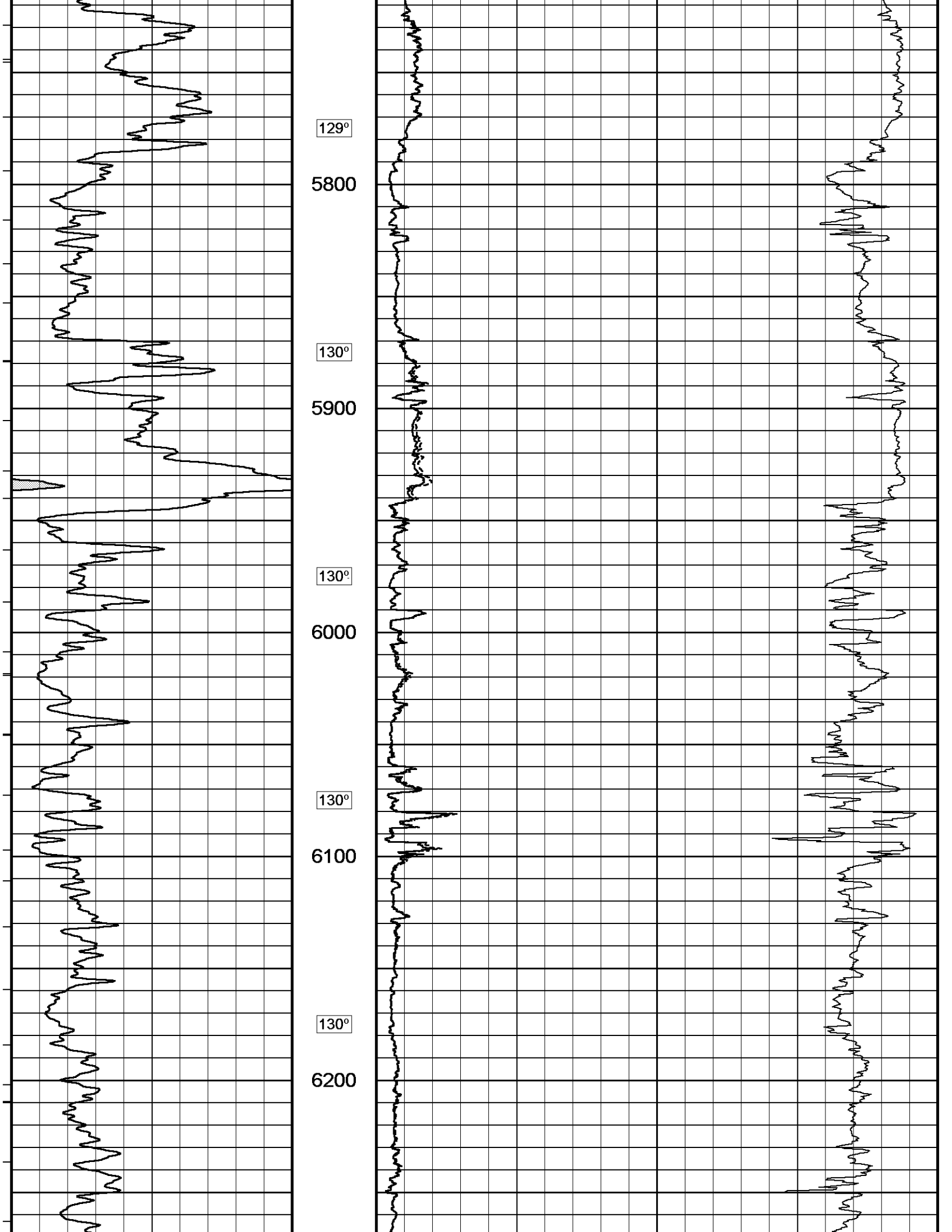
OPERATORS: B. BALLINGER, P BURGER

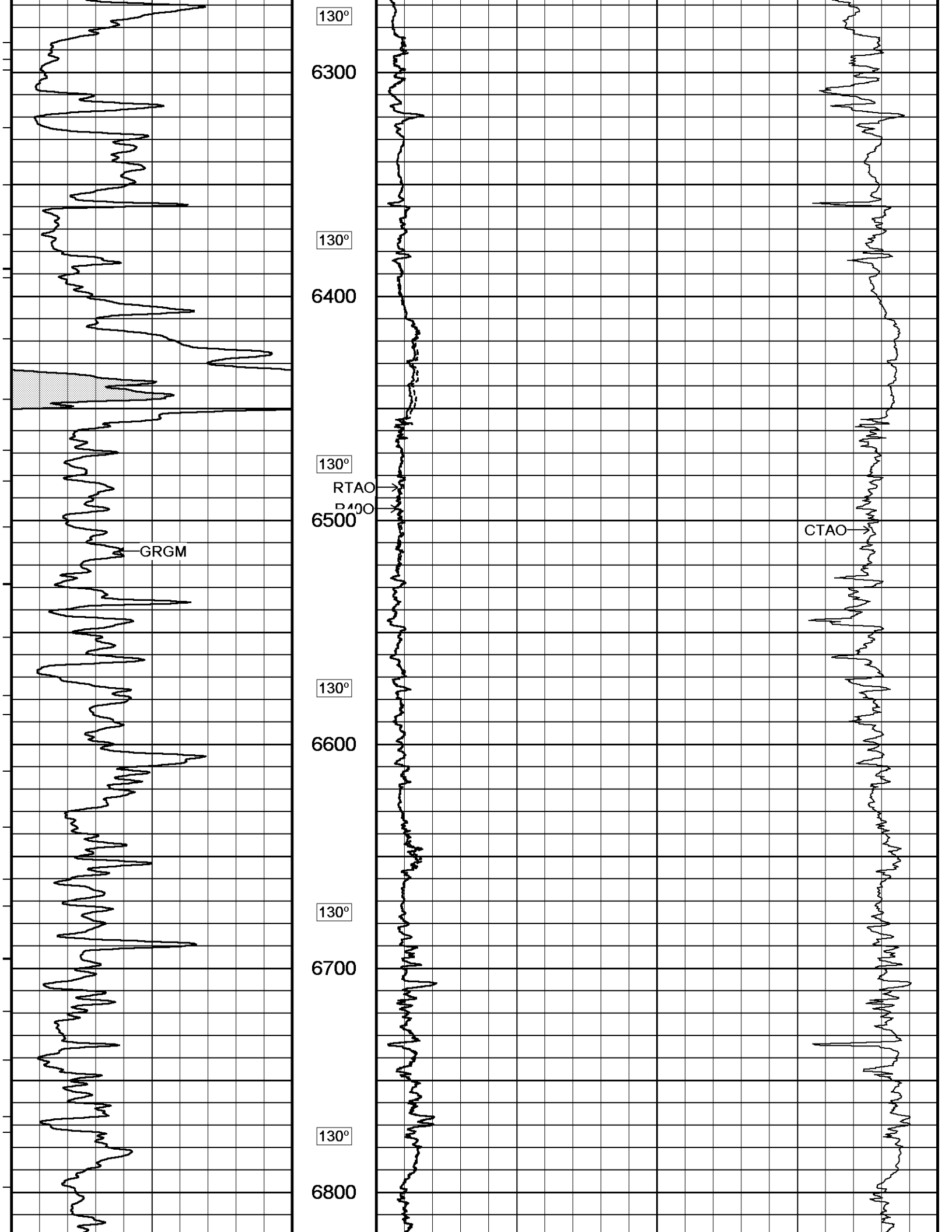
2 INCH MAIN LOG

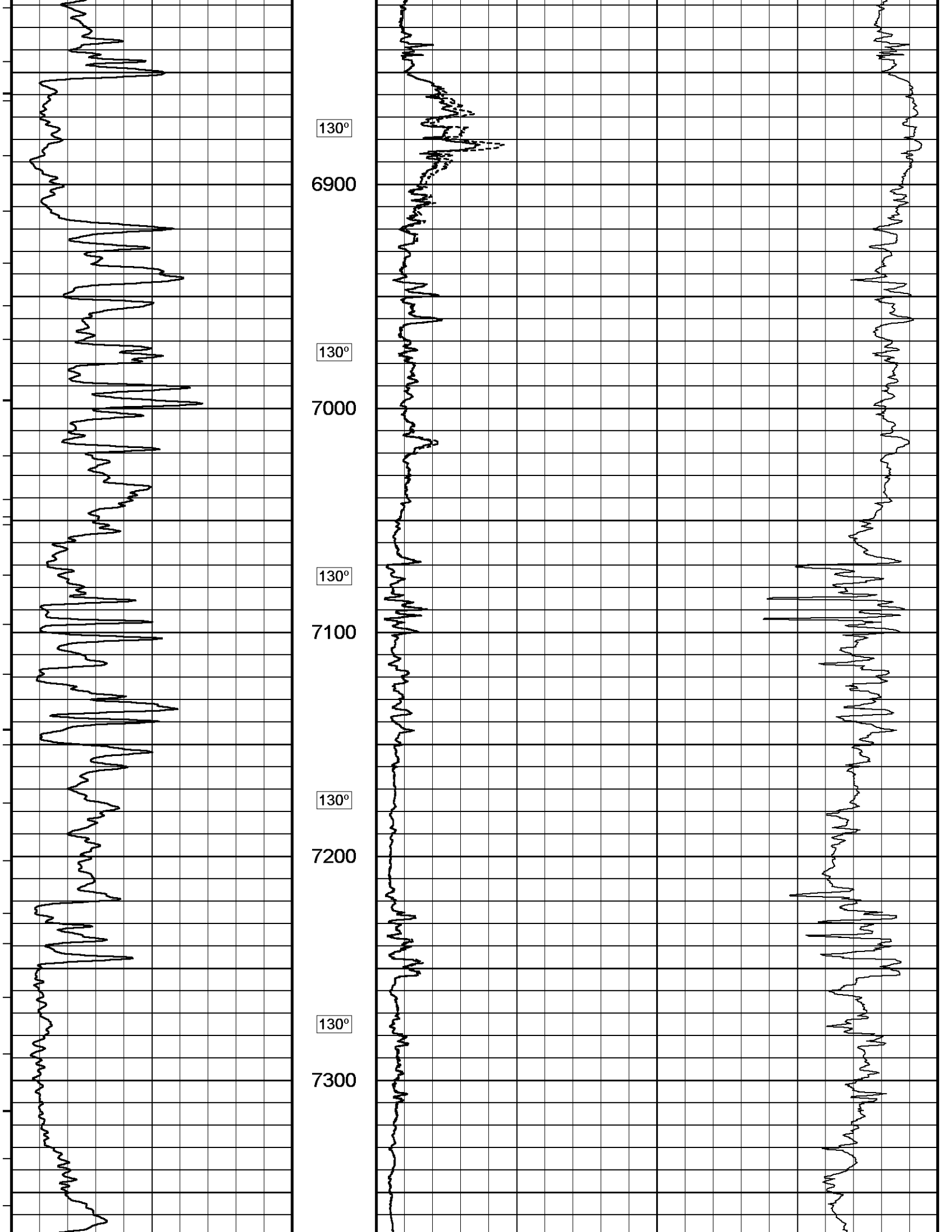
Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 11-FEB-2013 01:58
Filename: C:\13_04_8723 WLS\DATA\15083218710100 Frusher 1-15H\22851RTAP.dta
Recorded on 11-FEB-2013 00:45
System Versions: Processed with 13.04.8723 Plotted with 13.04.8723

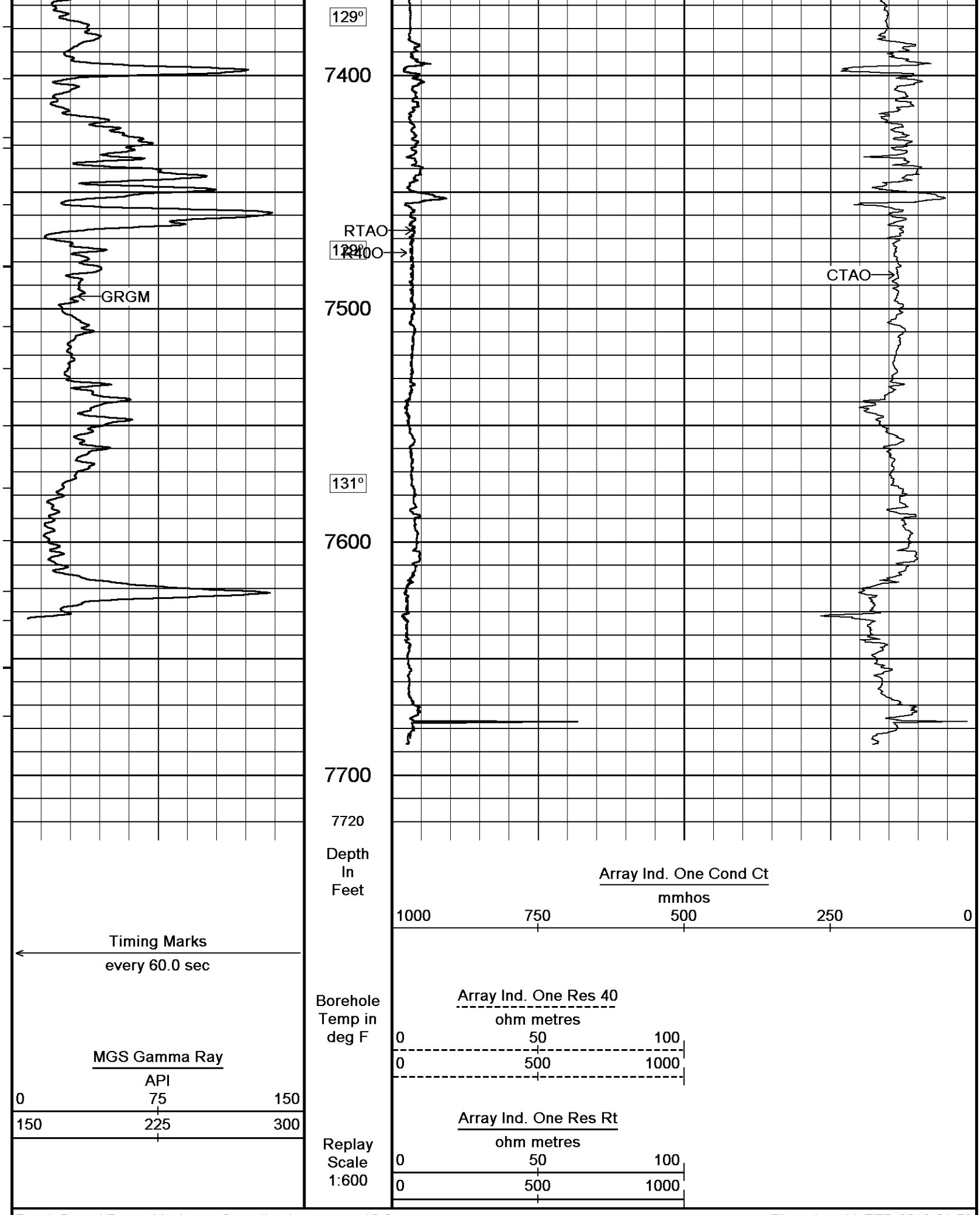



128°
5200
128°
5300
129°
5400
129°
5500
RTAO
R40O
CTAO
GRGM
129°
5600
129°
5700


129°
5800
130°
5900
130°
6000
130°
6100
130°
6200


130°
6300
130°
6400
130°
RTAO
6500
CTAO
GRGM
130°
6600
130°
6700
130°
6800


130°
6900
130°
7000
130°
7100
130°
7200
130°
7300



Depth Based Data - Maximum Sampling Increment 10.0cm

Plotted on 11-FEB-2013 01:58

Filename: C:\13_04_8723 WLS\DATA\15083218710100 Frusher 1-15H\22851RTAP.dta

Recorded on 11-FEB-2013 00:45

System Versions: Processed with 13.04.8723 Plotted with 13.04.8723

2 INCH MAIN LOG

5 INCH MAIN LOG

Depth Based Data - Maximum Sampling Increment 10.0cm
Filename: C:\13_04_8723 WLS\DATA\15083218710100 Frusher 1-15H\22851RTAP.dta
System Versions: Processed with 13.04.8723 Plotted with 13.04.8723

Plotted on 11-FEB-2013 01:58
Recorded on 11-FEB-2013 00:45

Timing Marks
every 60.0 sec

MGS Gamma Ray
API
0 75 150
150 225 300

Depth In Feet

Borehole Temp in deg F

Replay Scale 1:240

Array Ind. One Res 40
ohm metres
0.20 1 10 100 1000 2000

Array Ind. One Res 60
ohm metres
0.20 1 10 100 1000 2000

Array Ind. One Res 85
ohm metres
0.20 1 10 100 1000 2000

Array Ind. One Res Rt
ohm metres
0.20 1 10 100 1000 2000

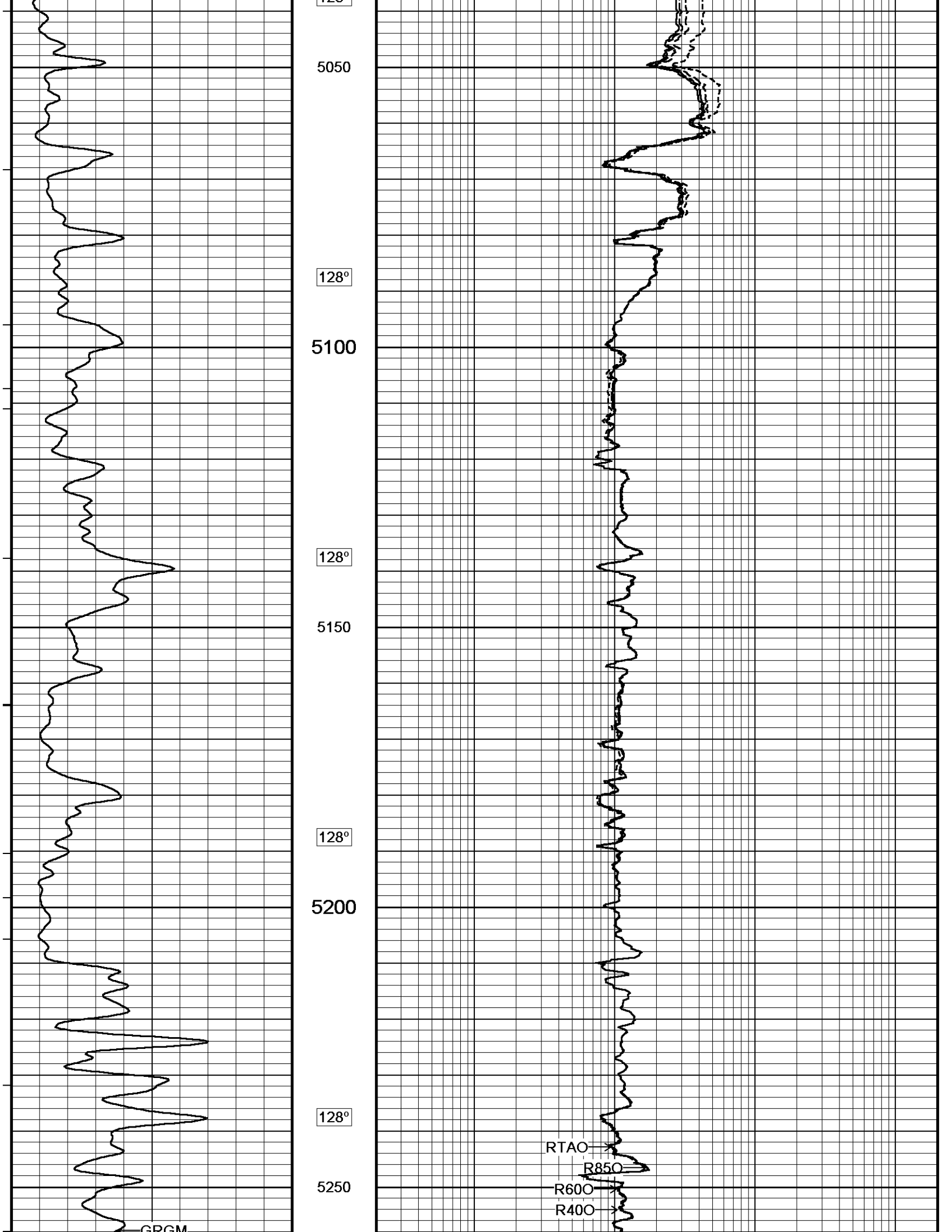
4928

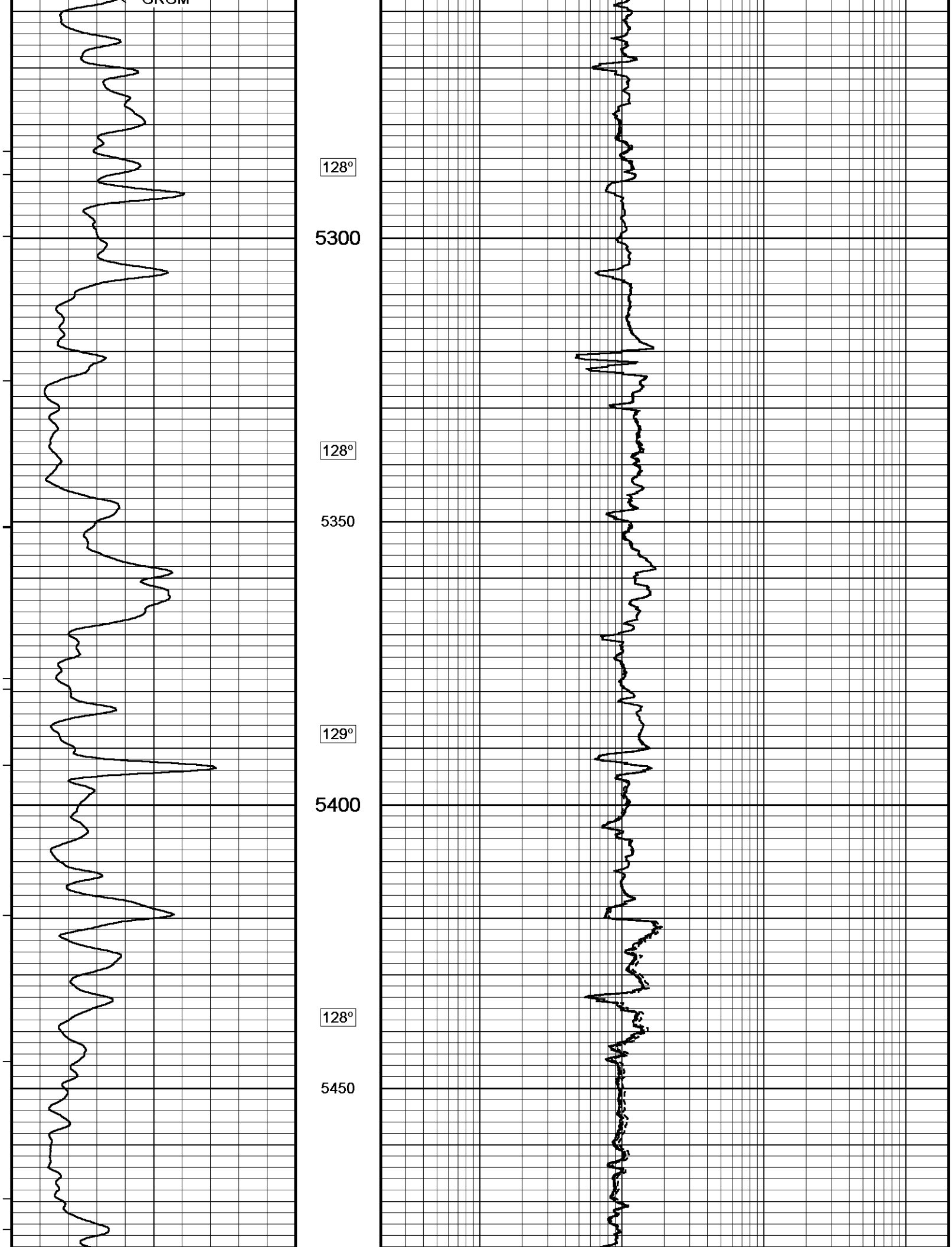
4950

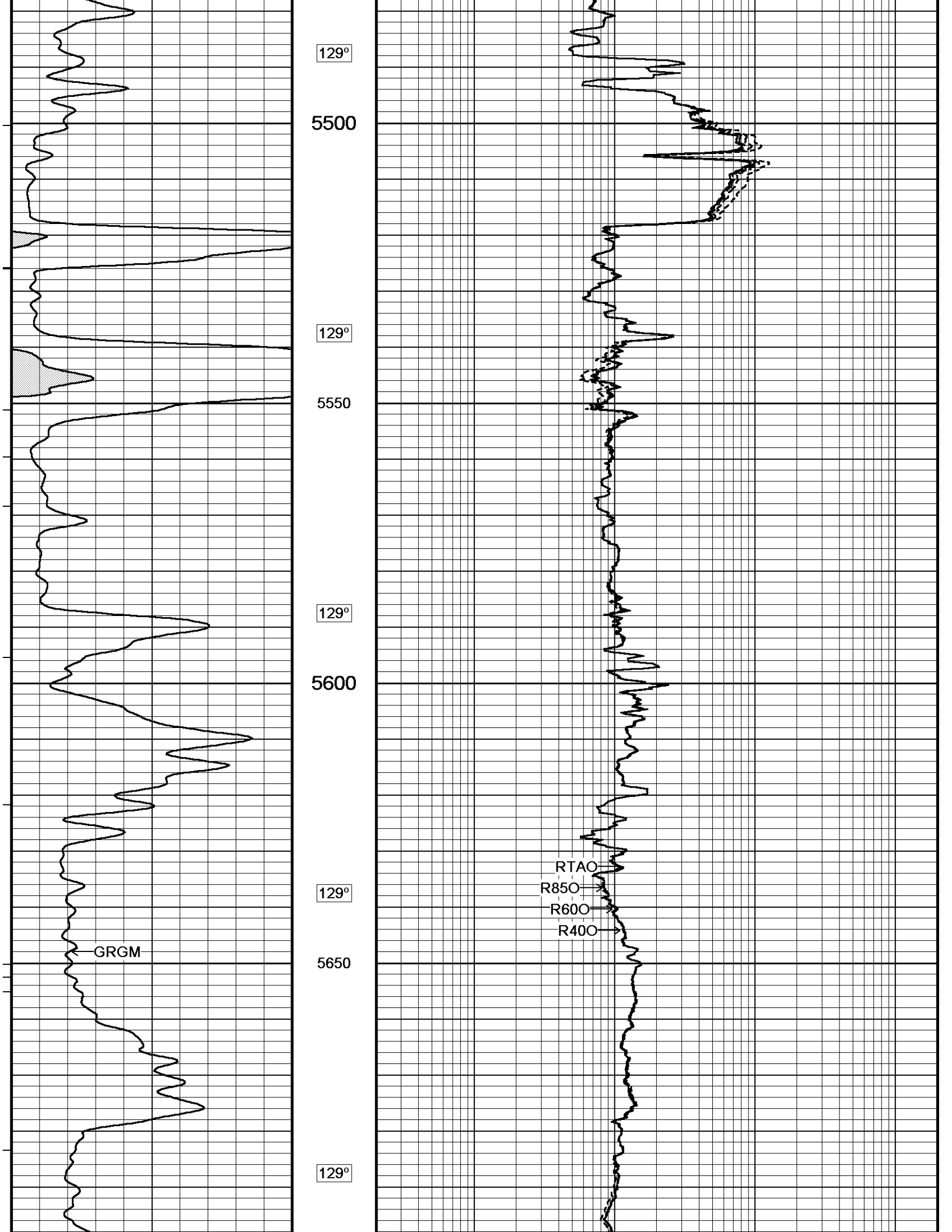
127°
Casing Shoe

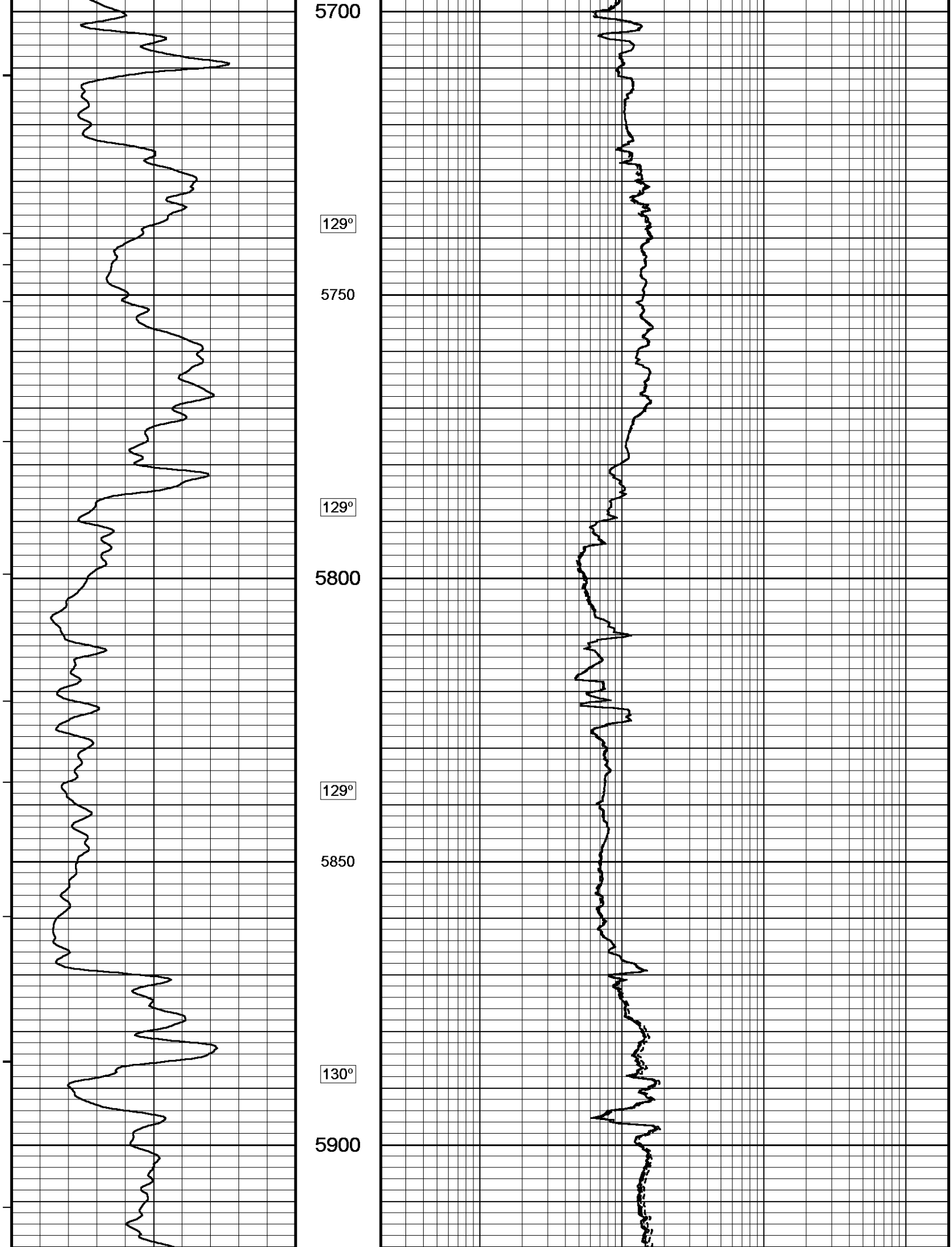
5000

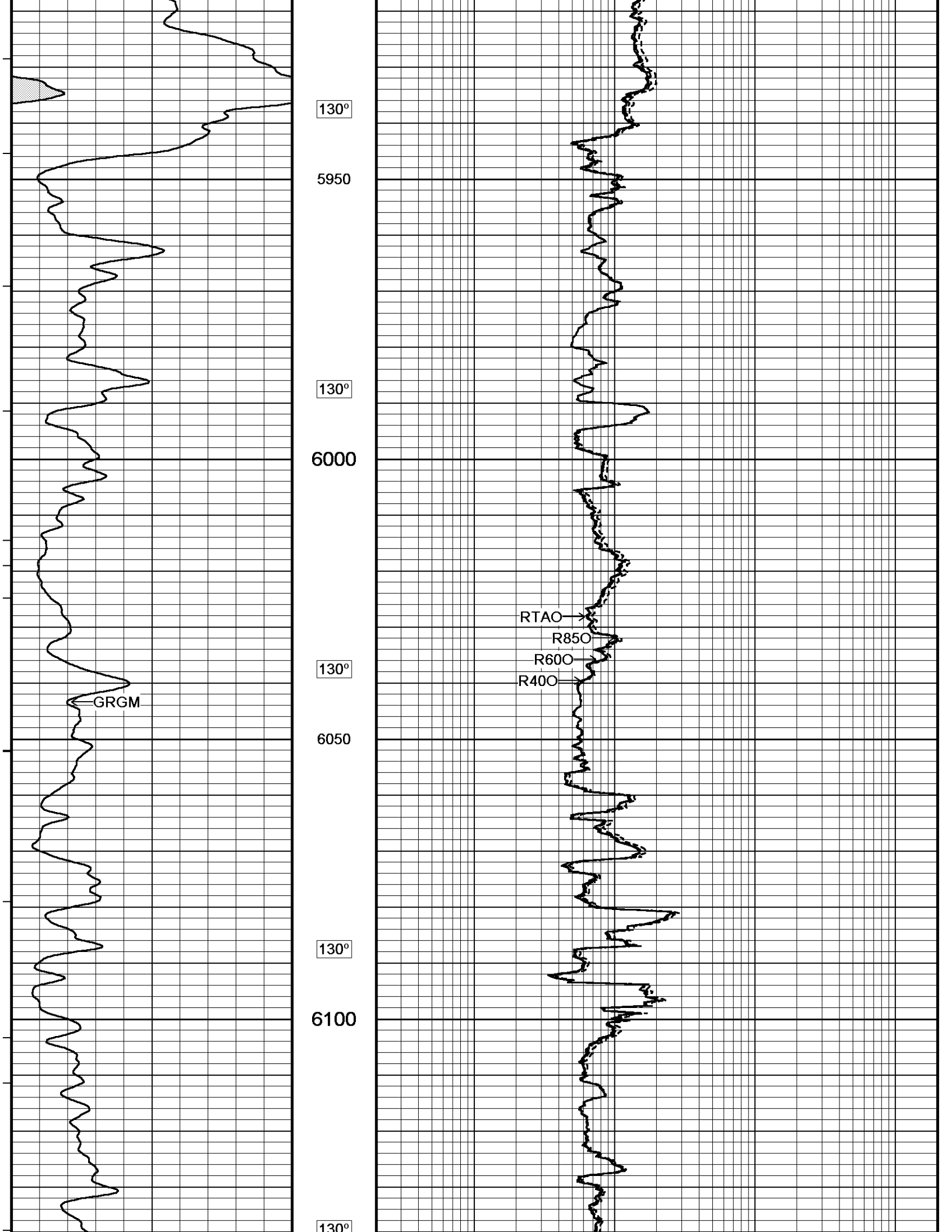
128°

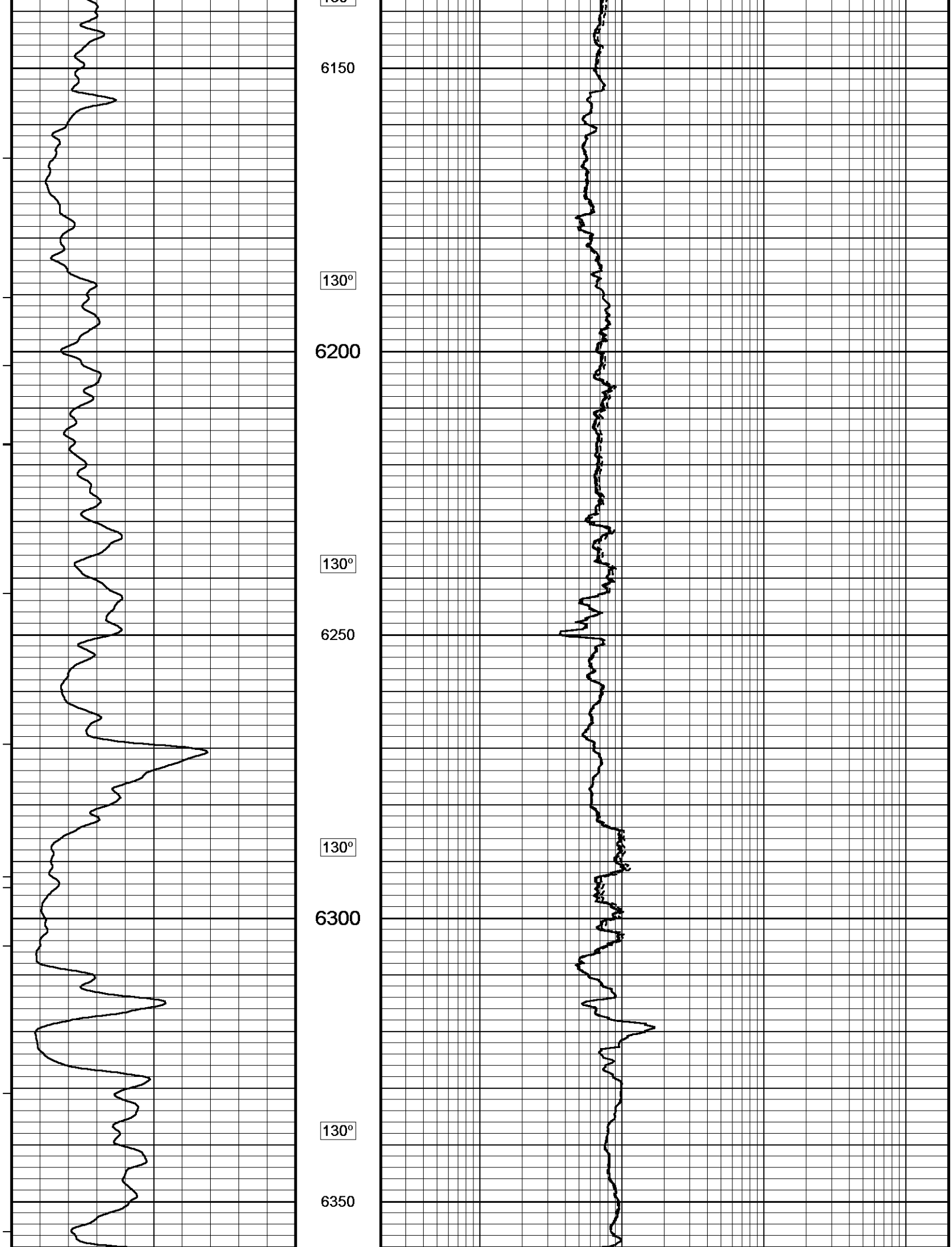

5050
128°
5100
128°
5150
128°
5200
128°
5250
GRGM
RTAO
R85O
R60O
R40O

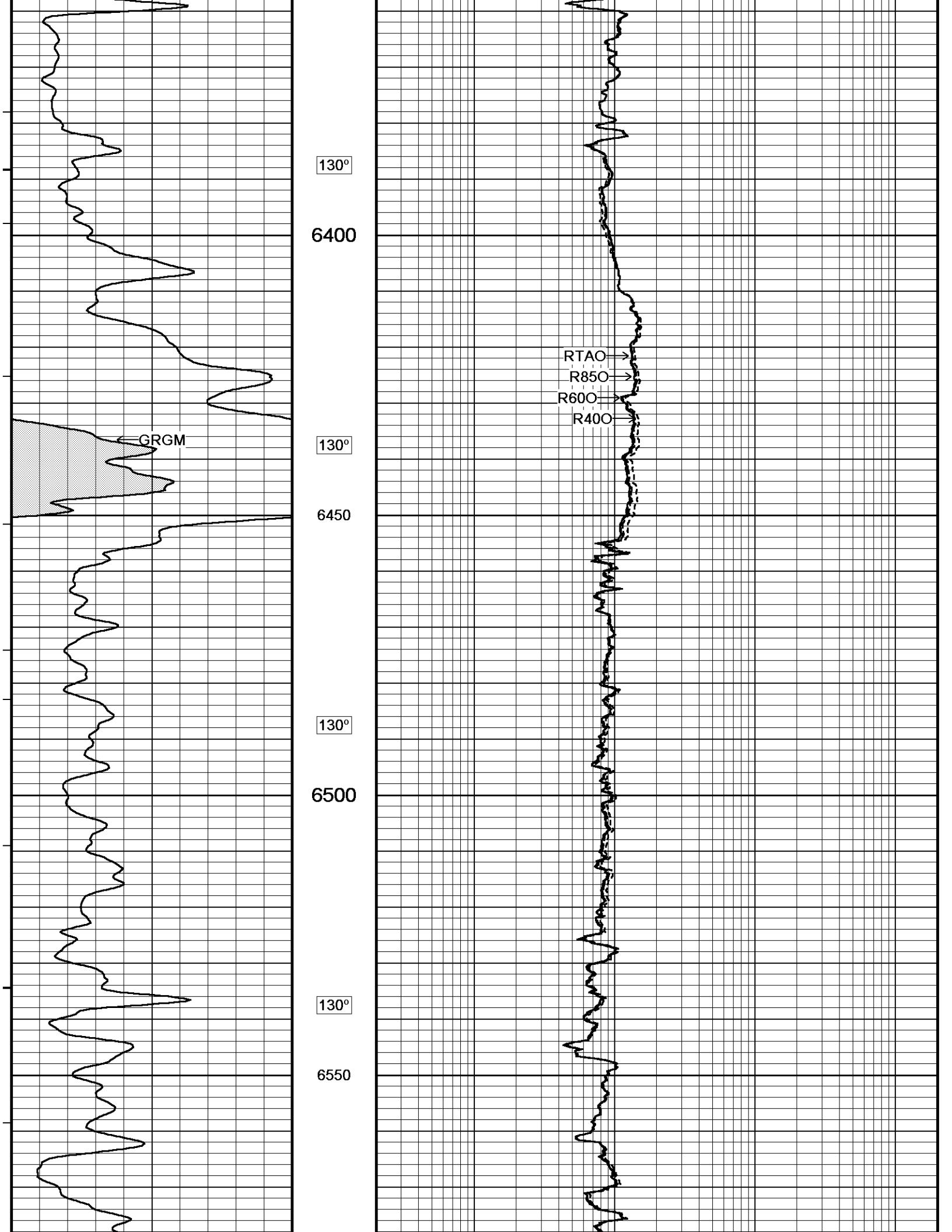

GROM
128°
5300
128°
5350
129°
5400
128°
5450

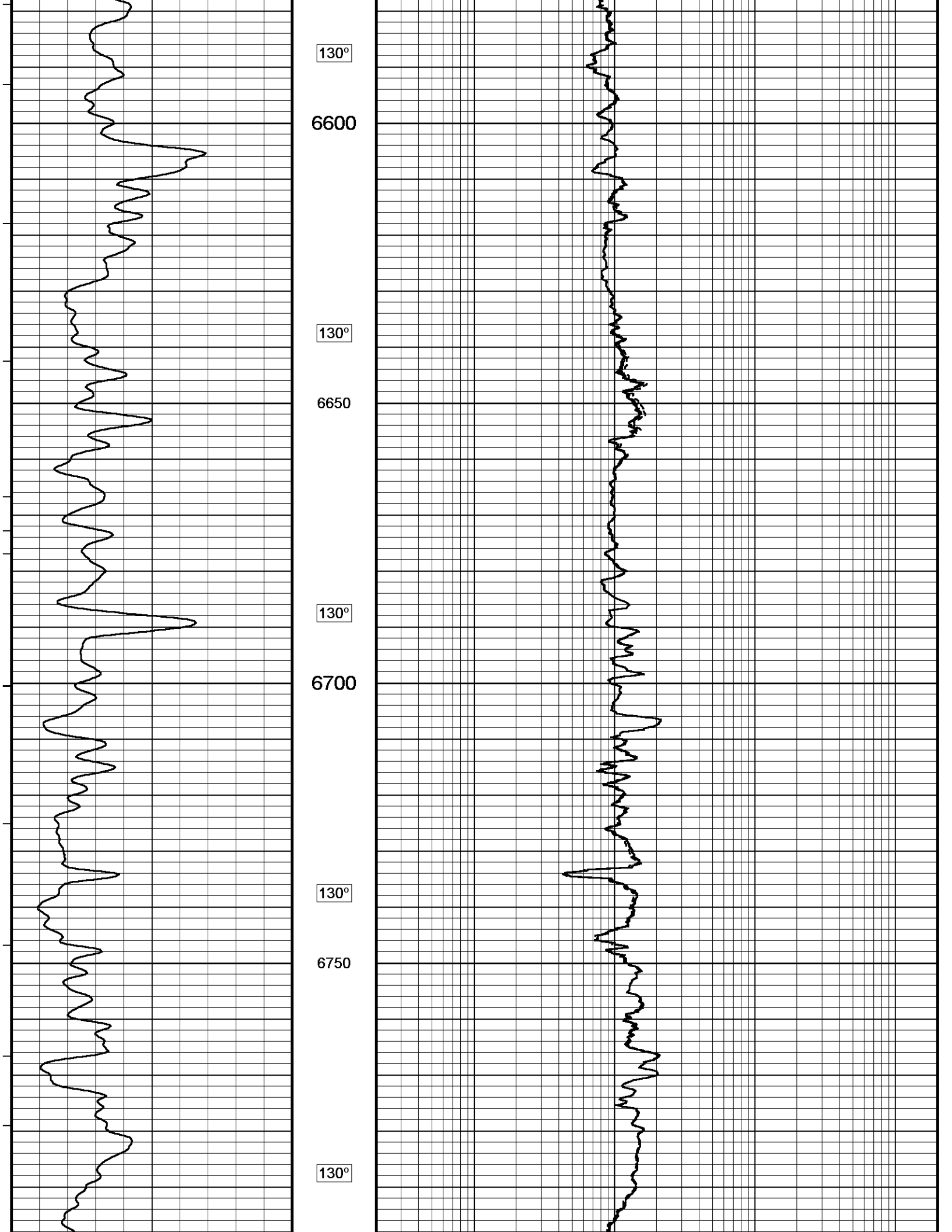

129°
5500
129°
5550
129°
5600
RTAO
R85O
R60O
R40O
129°
GRGM
5650
129°

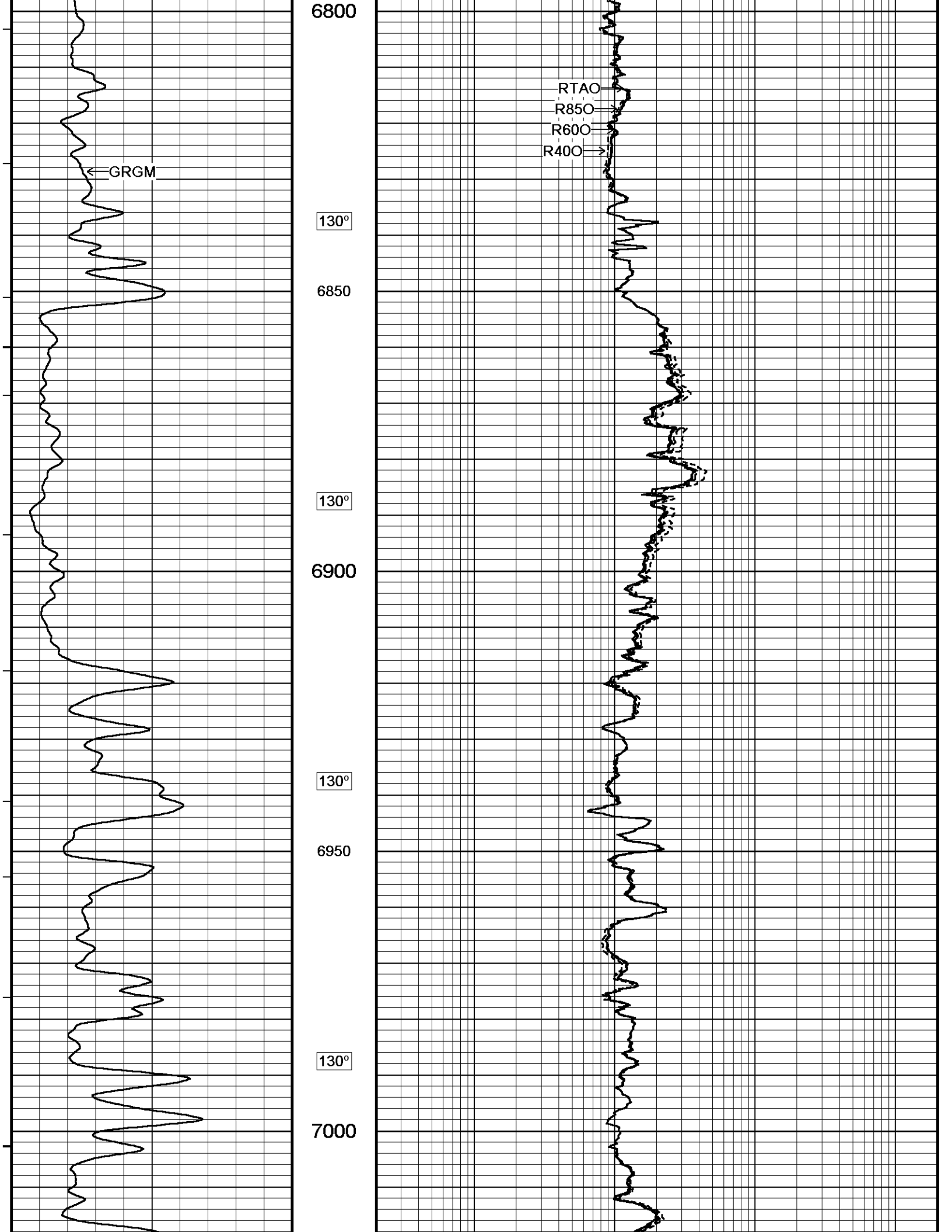

5700
129°
5750
129°
5800
129°
5850
130°
5900

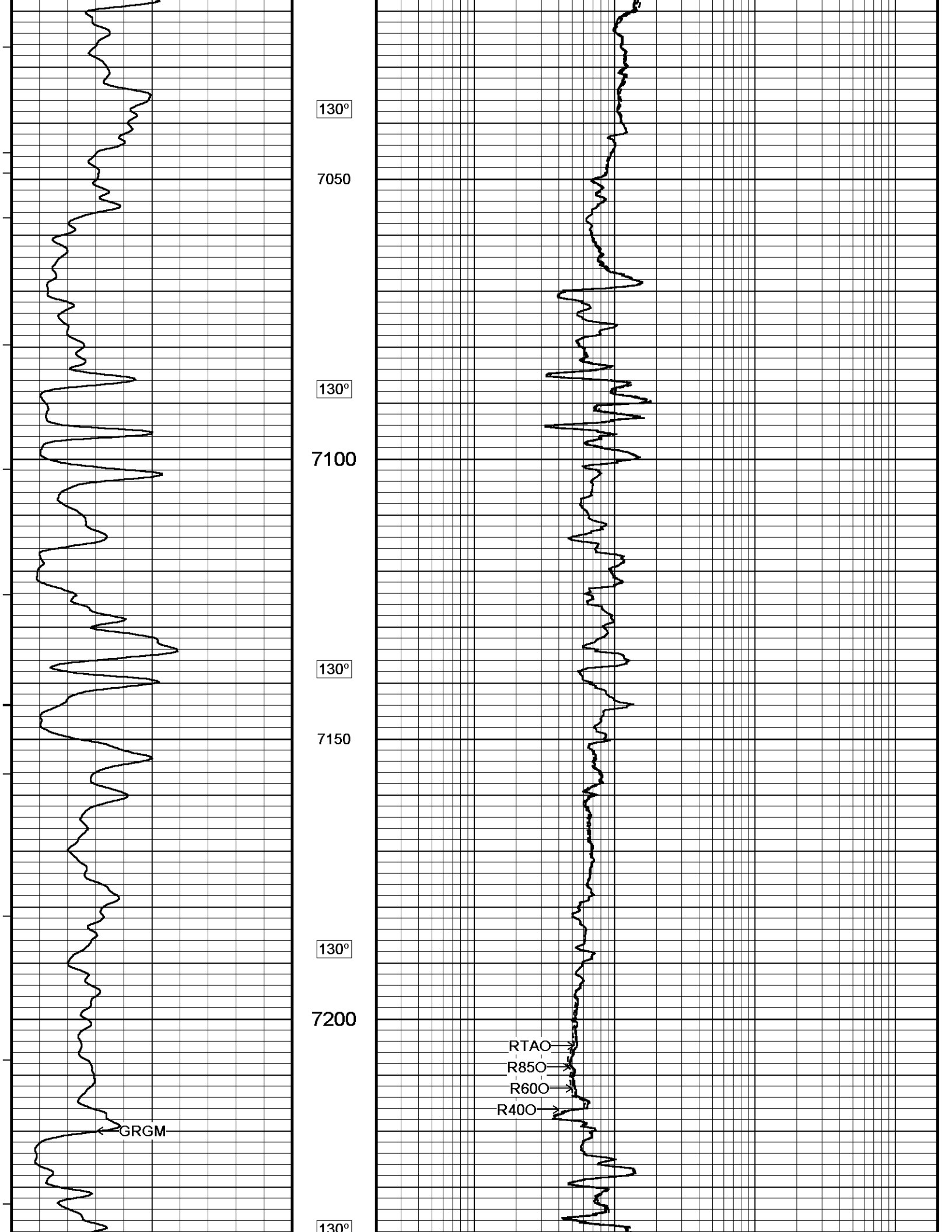

130°
5950
130°
6000
RTAO
R85O
R60O
R40O
130°
GRGM
6050
130°
6100
130°

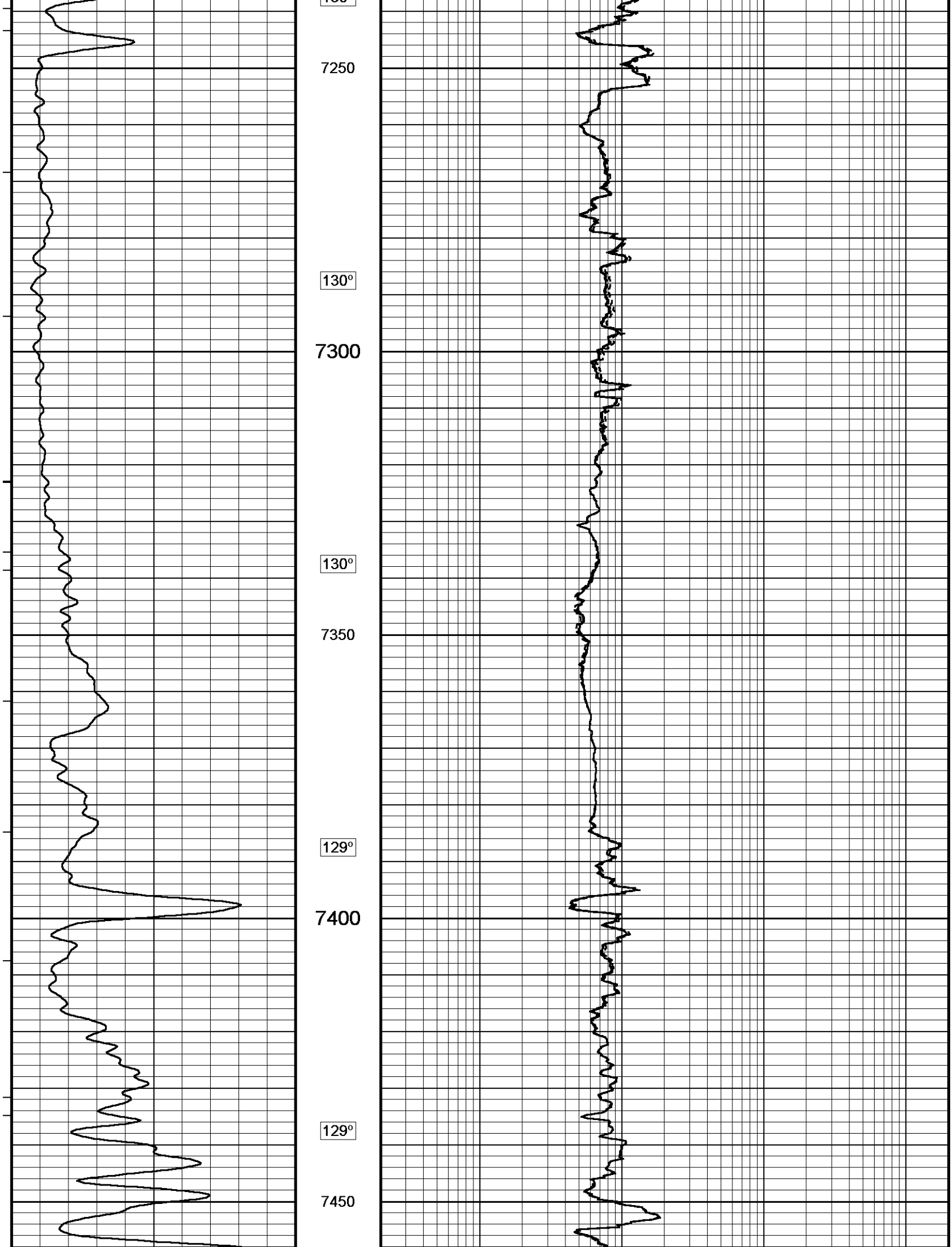

6150
130°
6200
130°
6250
130°
6300
130°
6350

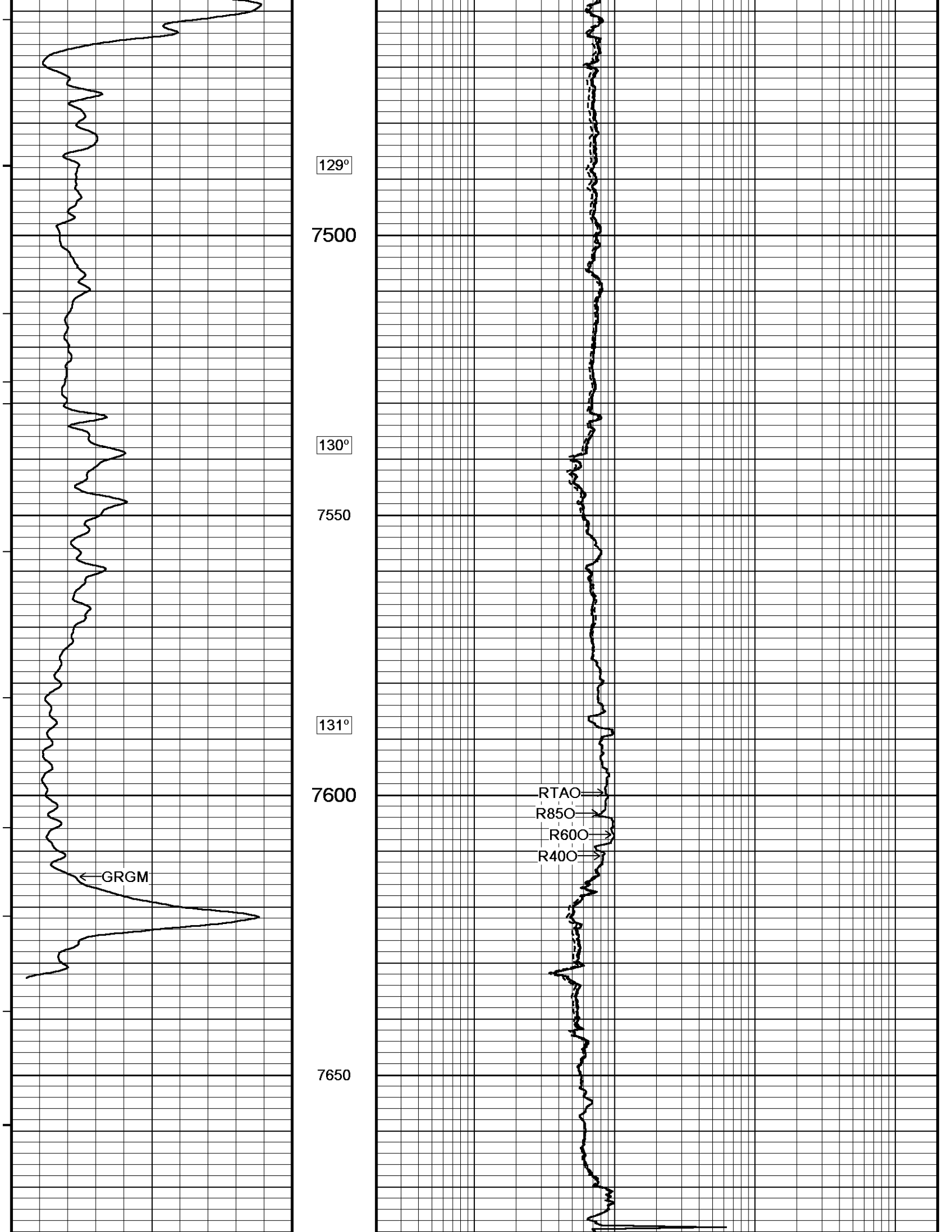

130°
6400
RTAO
R85O
R60O
R40O
GRGM
130°
6450
130°
6500
130°
6550

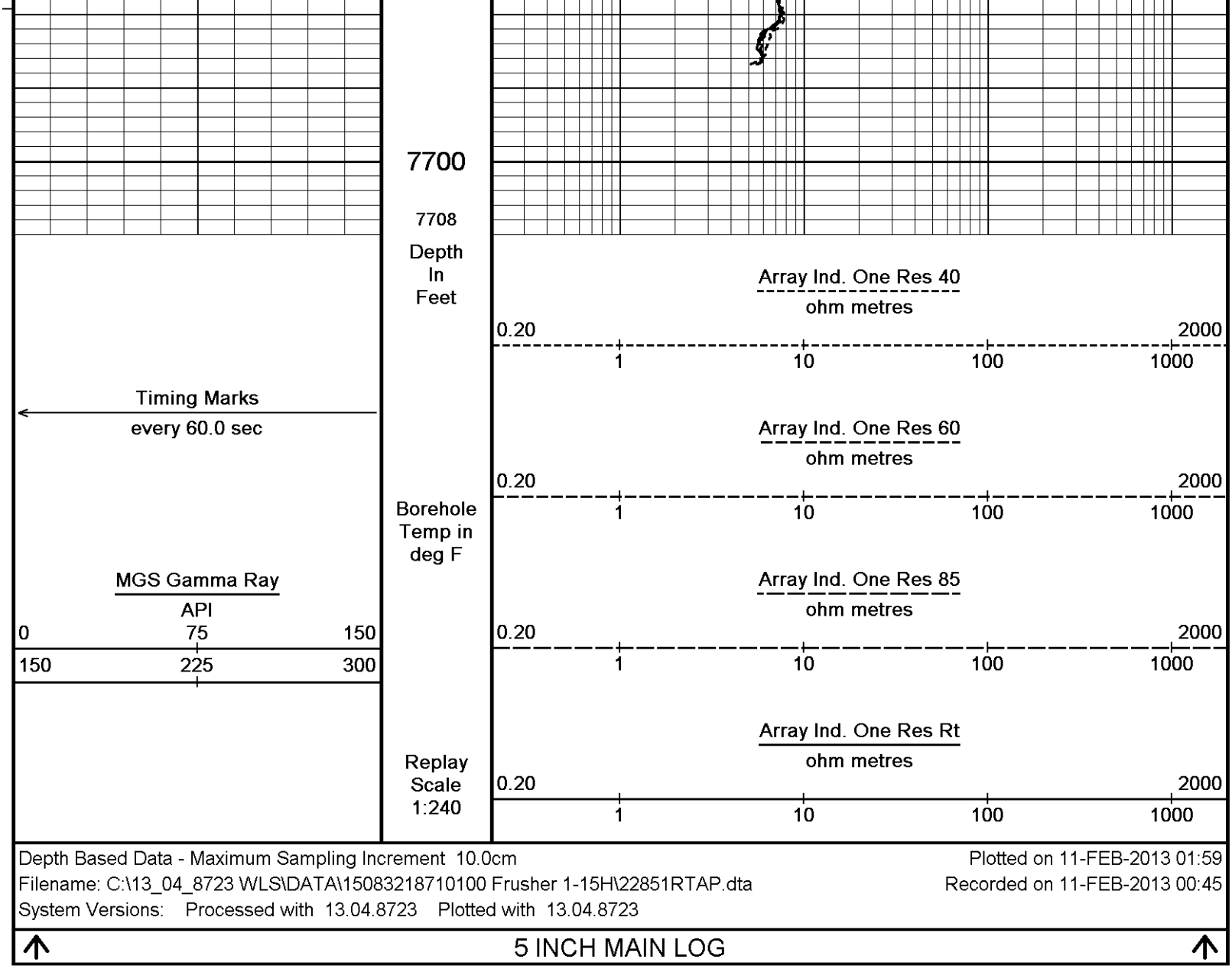

130°
6600
130°
6650
130°
6700
130°
6750
130°


6800
RTAO
R85O
R60O
R40O
GRGM
130°
6850
130°
6900
130°
6950
130°
7000


130°
7050
130°
7100
130°
7150
130°
7200
130°
GRGM
RTAO
R85O
R60O
R40O


7250
130°
7300
130°
7350
129°
7400
129°
7450


129°
7500
130°
7550
131°
7600
7650
GRGM
RTAO
R85O
R60O
R40O



Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 11-FEB-2013 01:59
Filename: C:\13_04_8723 WLS\DATA\15083218710100 Frusher 1-15H\22851RTAP.dta — Recorded on 11-FEB-2013 00:45
System Versions: Processed with 13.04.8723 Plotted with 13.04.8723

5 INCH MAIN LOG

BEFORE SURVEY CALIBRATION

C:\13_04_8723 WLS\DATA\15083218710100 Frusher 1-15H\22851RTAP.dta

Down-hole Tension Calibration All 000

Field Calibration on 24-FEB-2009 00:00

Reading No	Measured	
1	14953.75	0.00
2	17846.38	1500.00

General Constants All 000

Last Edited on 11-FEB-2013,00:58

General Parameters		
Mud Resistivity	0.360	ohm-metres
Mud Resistivity Temperature	64.600	degrees F
Water Level	0.000	feet
Borehole Fluid Processing	Wet Hole	
Hole/Annular Volume and Differential Caliper Parameters		
HVOL Method	Single Caliper	
HVOL Caliper 1	Density Caliper	
HVOL Caliper 2	N/A	
Annular Volume Diameter	4.500	inches
Caliper for Differential Caliper	None	
Rwa Parameters		
Porosity used	Limestone Density Por.	
Resistivity used	Array Ind. One Res Rt	

Resistivity used	Array Ind. Calc Res Rt
RWA Constant A	0.610
RWA Constant M	2.150

Down-hole Tension Calibration SMS 0

Field Calibration on 07-FEB-2006 14:19

Reading No	Measured	
1	16292.42	0.00
2	17072.79	420.00

Strain Gauge Constants MMS-E.B 167

Last Edited on 02-FEB-2013,08:19

Atmospheric Pressure	14.70	psi
Serial Number	262784	
Calibration Date	21-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	0.038	0.038	0.049	0.049	0.063	0.063	0.077	0.078
3000.0	5.218	5.220	5.230	5.232	5.244	5.246	5.257	5.259
6000.0	10.409	10.412	10.422	10.425	10.436	10.440	10.447	10.452
9000.0	15.610	15.615	15.623	15.628	15.638	15.643	15.650	15.656
12000.0	20.823	20.826	20.837	20.841	20.853	20.857	20.866	20.869
15000.0	26.048		26.064		26.081		26.093	

MMS Parameters MMS-E.B 167

Last Edited on 10-FEB-2013 09:29

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	0.0	

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	15787.0	seconds
Pulse Pressure Discriminator	36189.0	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,MFE,MAI

High Resolution Temperature Calibration MGS-C.J 136

Field Calibration on 02-FEB-2013,08:07

	Measured	Calibrated(Deg F)
Lower	0.00	0.00

Lower	0.00	0.00
Upper	0.00	0.00

High Resolution Temperature Constants MGS-C.J 136

Last Edited on 02-FEB-2013,08:07

Pre-filter Length	11

SP Calibration MGS-C.J 136

Field Calibration on 02-FEB-2013,08:08

	Measured	Calibrated (mV)
Reference 1	102.2	98.7
Reference 2	-94.7	-98.3

Gamma Calibration MGS-C.J 136

Field Calibration on 02-FEB-2013 08:12

	Measured	Calibrated (API)
Background	172	125
Calibrator (Gross)	1910	1386
Calibrator (Net)	1738	1261

Gamma Constants MGS-C.J 136

Last Edited on 09-FEB-2013,09:51

Gamma Calibrator Number	BLUE	
Mud Density	1.16	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Concentration of KCl	0.00	kppm

Neutron Calibration MDN-B.J 390

Base Calibration on 07-JAN-2013 16:04
Field Check on 02-FEB-2013 08:19

Base Calibration

	Measured		Calibrated (cps)	
	Near	Far	Near	Far
	2954	90	3714	110
Ratio	32.847		33.764	

Field Calibrator at Base

	Calibrated (cps)	
	1273	1896
Ratio	0.671	

Field Check

	Calibrated (cps)	
	1288	1856
Ratio	0.667	

Neutron Constants MDN-B.J 390

Last Edited on 09-FEB-2013,09:51

Neutron Source Id	p33312b	
Neutron Jig Number	blue	
Epithermal Neutron	No	
Caliper Source for Processing	Density Caliper	
Stand-off	0.00	inches
Mud Density	1.16	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	0.00	kppm
Salinity Correction	Not Applied	
Formation Fluid Salinity Source	None	
Formation Fluid Salinity	N/A	kppm
Barite Mud Correction	Not Applied	

FE Calibration MFE-B.J 359

Base Calibration on 07-JAN-2013 10:22
Field Check on 09-FEB-2013 09:40

Base Calibration

	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	967.3	126.8
Base Check		278.7

Field Check	279.1

FE Constants MFE-B.J 359

Last Edited on 09-FEB-2013,09:39

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-A.A 158

Base Calibration on 07-JAN-2013 10:26
Field Check on 09-FEB-2013 09:38

Base Calibration

Test Loop Calibration

Channel	Measured Low	Measured High	Calibrated (mmho/m) Low	Calibrated (mmho/m) High
1	17.2	475.3	9.3	966.2
2	6.1	381.2	7.6	821.4
3	3.8	265.2	5.2	566.0
4	2.7	132.2	2.6	279.2

Array Temperature 22.3 Deg F

Channel	Base Check (mmho/m) Low	Base Check (mmho/m) High	Field Check (mmho/m) Low	Field Check (mmho/m) High
1			11.1	3818.0
2			29.9	3534.8
3			27.3	2985.3
4			18.1	2100.3
Deep			15.0	1946.3
Medium			41.4	3892.6
Shallow			47.1	5242.5

Array Temperature 42.4 Deg F

Induction Constants MAI-A.A 158

Last Edited on 11-FEB-2013,00:58

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	0.0000	
Stand-off Fin Angle	60.00	degrees
Stand-off Fin Width	0.0000	inches
Borehole Corr. Rm Source	Temperature Corr	
Temp. for Rm Corr.	MGS External Temperature	
Squasher Start	0.0020	mhos/metre
Squasher Offset	N/A	mhos/metre

Borehole Normalisation

DRM1	0.0000	DRC1	0.0000
DRM2	0.0000	DRC2	0.0000
MRM1	0.0000	MRC1	0.0000
MRM2	0.0000	MRC2	0.0000
SRM1	0.0000	SRC1	0.0000
SRM2	0.0000	SRC2	0.0000

Calibration Site Corrections

Channel 1	0.00	mmhos/metre
Channel 2	0.00	mmhos/metre
Channel 3	0.00	mmhos/metre
Channel 4	0.00	mmhos/metre

Apparent Porosity and Water Saturation Constants

Archie Constant (A)	1.00	
Cementation Exponent (M)	2.00	
Saturation Exponent (N)	2.00	
Saturation of Water for Apor	100.00	percent
Resistivity of Water for Apor and Sw	0.05	ohm-m

Resistivity of 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-A.A 158

Field Calibration on 02-FEB-2013,07:51

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

High Resolution Temperature Constants MAI-A.A 158

Last Edited on 02-FEB-2013,07:51

Pre-filter Length	11

Caliper Calibration MPD-C.J 435

Base Calibration on 07-JAN-2013 10:39
Field Calibration on 09-FEB-2013 09:42

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	16608	4.01
2	26160	5.96
3	36208	7.98
4	45936	9.86
5	56688	11.88
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
5.94	5.96

Photo Density Calibration MPD-C.J 435

Base Calibration on 07-JAN-2013 15:06
Field Check on 09-FEB-2013 09:47

Density Calibration

Base Calibration	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Reference 1	56419	27206	59869	31110
Reference 2	23392	2610	24557	2522

Field Check at Base

1291.0	1337.1

Field Check

1287.5	1338.2

PE Calibration

Base Calibration	Measured			Calibrated
	WS	WH	Ratio	Ratio
Background	233	1153		
Reference 1	22844	56212	0.411	0.369
Reference 2	6353	23241	0.277	0.271

Field Check at Base

233.0	1152.9

Field Check

234.4	1149.1

Density Constants MPD-C.J 435

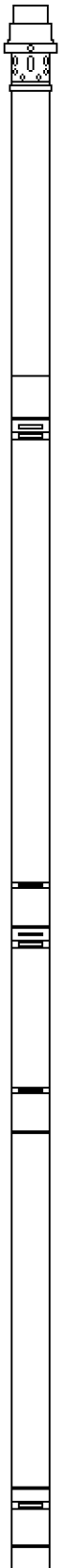
Last Edited on 09-FEB-2013,09:52

Density Source Id	p21137b	
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	1.16	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	

DOWNHOLE EQUIPMENT

C:\13_04_8723 WLS\DATA\15083218710100 Frusher 1-15H\22851RTAP.dta



Shuttle Running Tool 3.5")
SRT-A.A 70 LG: 6.62 ft WT: 37.5 lb OD: 2.52 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 167 LG: 5.20 ft WT: 37.5 lb OD: 2.24 in

Compact Tool Isolator sub.
MTI-B.A 67 LG: 1.54 ft WT: 13.2 lb OD: 2.24 in

Compact Short Gamma

MGS-C.J 136 LG: 3.41 ft WT: 24.3 lb OD: 2.24 in

62.19 ft GRGM - MGS Gamma Ray

60.21 ft GSXT - MGS External Temperature

Compact Collar Locator
MCL-B.J 60 LG: 3.17 ft WT: 26.5 lb OD: 2.24 in

58.19 ft GCSL - MCL C. Collar Locator

SKJ-D.A Compact Knuckle Joint
SKJ-D.A 42 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

SHA-J.A Compact Swivel Head Adaptor
SHA-J.A 454 LG: 2.30 ft WT: 22.0 lb OD: 2.24 in

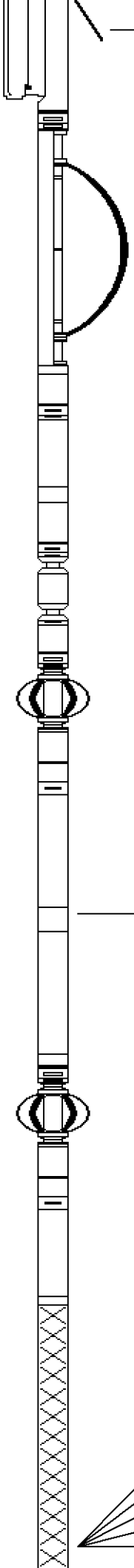
MIS-A.A Compact Inline Bowspring sub
MIS-A.A 260 LG: 5.70 ft WT: 33.1 lb OD: 2.24 in

Compact Neutron
MDN-B.J 390 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

43.33 ft NPRL - Limestone Neutron Por.

Compact Density/Caliper
MPD-C.J 435 LG: 9.59 ft WT: 90.4 lb OD: 2.24 in

36.09 ft CLDC - Density Caliper
36.09 ft HVOL - Hole Volume
36.09 ft AVOL - Annular Volume
34.16 ft DCOR - Density Correction
34.16 ft DEN - Compensated Density
34.16 ft DPRL - Limestone Density Por.



34.09 ft PDPE - PE

MIS-A.A Compact Inline Bowspring sub
MIS-A.A 15 LG: 5.70 ft WT: 33.1 lb OD: 2.24 in

SHA-F Compact Swivel Head Adaptor
SHA-F 33 LG: 2.74 ft WT: 26.5 lb OD: 2.24 in

SKJ-D.A Compact Knuckle Joint
SKJ-D.A 41 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

MIS-B Compact Inline Standoff sub
MIS-B 26 LG: 2.14 ft WT: 15.4 lb OD: 2.24 in

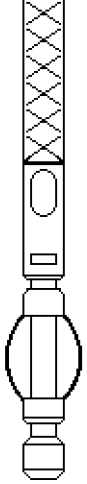
Compact Focussed Electric
MFE-B.J 359 LG: 6.05 ft WT: 48.5 lb OD: 2.24 in

15.86 ft FEFE - Shallow FE

MIS-B Compact Inline Standoff sub
MIS-B 27 LG: 2.14 ft WT: 15.4 lb OD: 2.24 in

Compact Induction
MAI-A.A 158 LG: 12.52 ft WT: 48.5 lb OD: 2.24 in

3.34 ft CTAO - Array Ind. One Cond Ct
3.34 ft R40O - Array Ind. One Res 40
3.34 ft R60O - Array Ind. One Res 60
3.34 ft R85O - Array Ind. One Res 85
3.34 ft RTAO - Array Ind. One Res Rt



Tool Zero (1.84ft from bottom)

Total Length: 95.25 ft Weight: 694.5 lb All measurements relative to tool zero.

COMPANY	SANDRIDGE ENERGY
WELL	FRUSHER 1-15H
FIELD	GOEBEL
PROVINCE/COUNTY	HODGEMAN
COUNTRY/STATE	USA / KANSAS

Elevation Kelly Bushing	2358.00	feet	First Reading	7795.00	feet
Elevation Drill Floor	2358.00	feet	Depth Driller	8095.00	feet
Elevation Ground Level	2337.00	feet	Depth Logger	7700.00	feet

Weatherford®

CML MESSENGER SHUTTLE
ARRAY INDUCTION
ELECTRIC LOG

Weatherford

CML MESSENGER SHUTTLE
ARRAY INDUCTION
ELECTRIC LOG

COMPANY SANDRIDGE ENERGY
WELL FRUSHER 1-15H
FIELD GOEBEL
PROVINCE/COUNTY HODGEMAN
COUNTRY/STATE USA / KANSAS
LOCATION SW SE SE SE 200' FSL & 350' FEL

SEC 15 | TWP 21S | RGE 24W | Other Services MDNMPD

API Number
Permit Number 15-083-21781
Permanent Datum G.L. Elevation 2337 feet
Log Measured From D.F. 21FEET
Drilling Measured From D.F. 21FEET

	Elevations:	feet
KB		2358.00
DF		2358.00
GL		2337.00

Date	06-FEB-2013		
Run Number	ONE		
Service Order	3539396		
Depth Driller	8095.00	feet	
Depth Logger	7700.00	feet	
First Reading	7795.00	feet	
Last Reading	4950.00	feet	
Casing Driller	4993.00	feet	
Casing Logger	4993.00	feet	
Bit Size	6.125	inches	
Hole Fluid Type	WATER		
Density/Viscosity	9.80	lbUSg	40.00 CP
PH / Fluid Loss	11.00	8.40 ml/30Min	
Sample Source	FLOWLINE		
Rm @ Measured Temp	0.36 @ 64.6	ohm-m	
Rmf @ Measured Temp	0.29 @ 64.6	ohm-m	
Rmc @ Measured Temp	0.43 @ 64.6	ohm-m	
Source Rmf / Rmc	CALC		
Rm @ BHT	0.19 @ 131.0	ohm-m	
Time Since Circulation	18 HOURS		
Max Recorded Temp	131.00	deg F	
Equipment / Base	18006	OKC	
Recorded By	GUTHMUELLER		
Witnessed By	W SCOTT		

eFE # DC11968

1 INCH MAIN LOG

Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 11-FEB-2013 01:59
Filename: C:\13_04_8723 WLS\DATA\15083218710100 Frusher 1-15H\22851RTAP.dta
Recorded on 11-FEB-2013 00:45
System Versions: Processed with 13.04.8723 Plotted with 13.04.8723

Timing Marks
every 60.0 sec

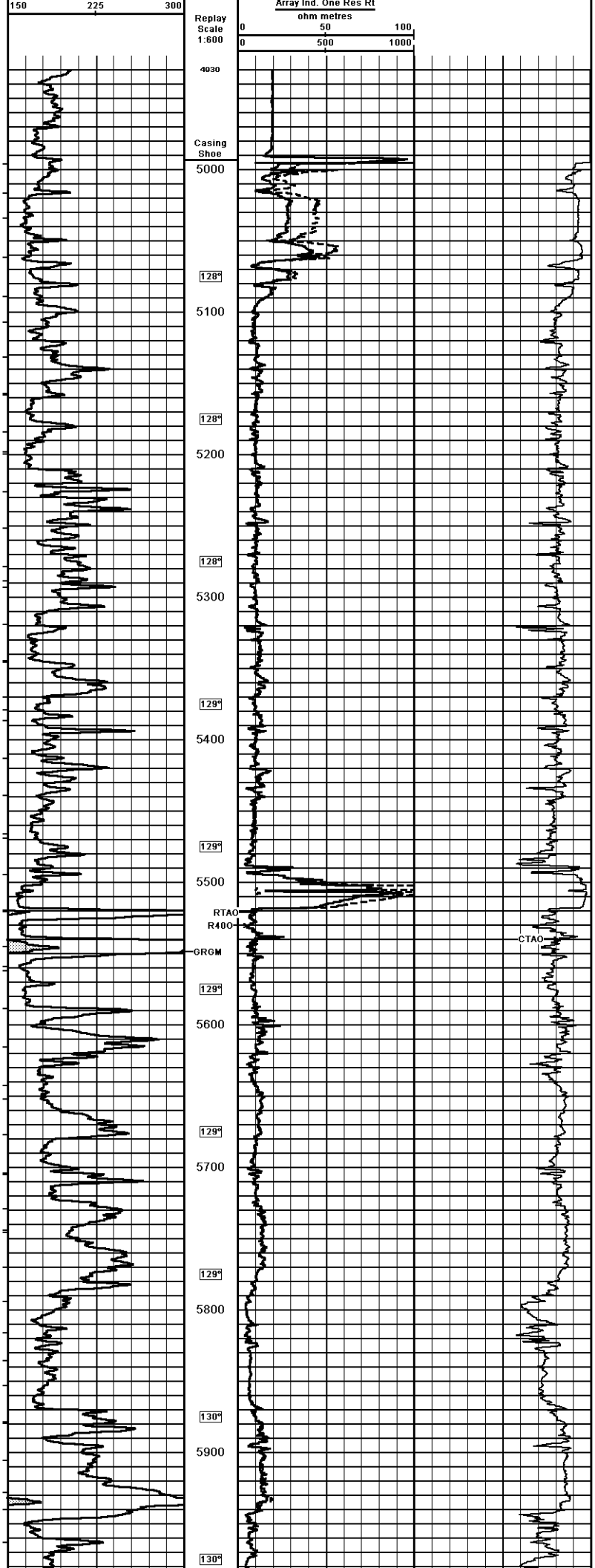
MGS Gamma Ray
API
0 75 150

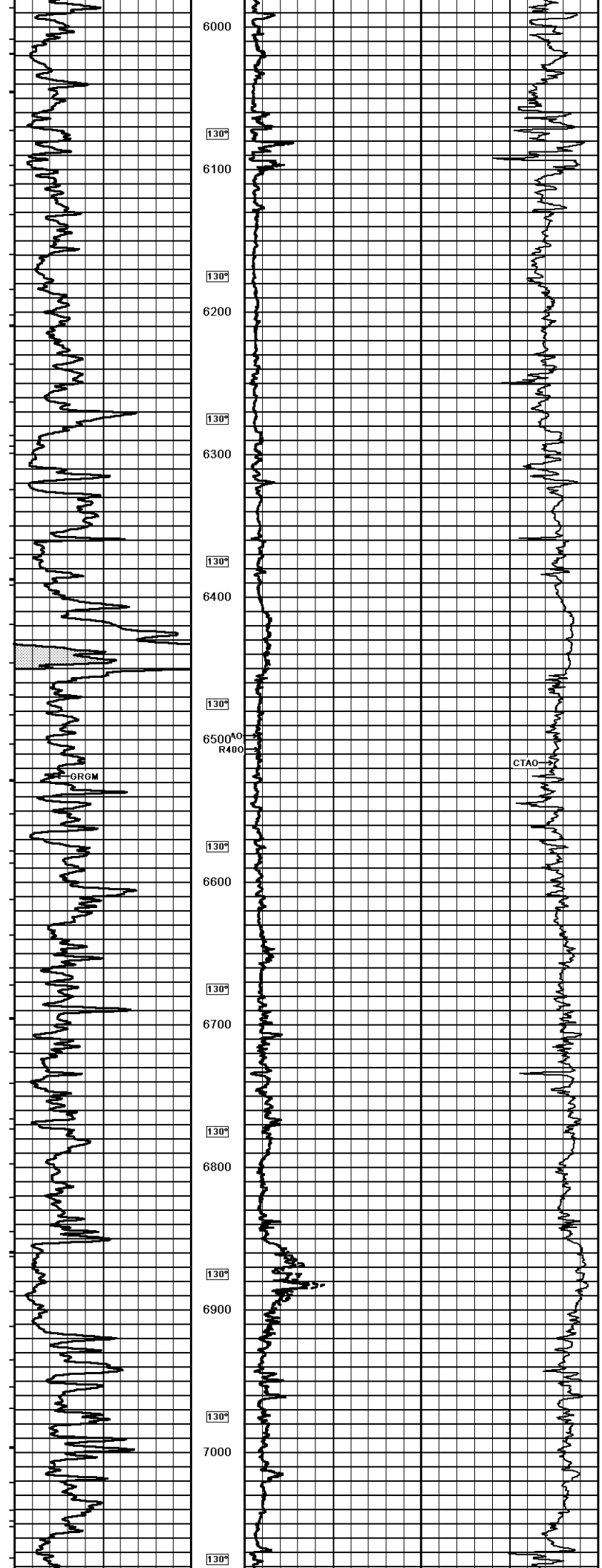
Depth In Feet

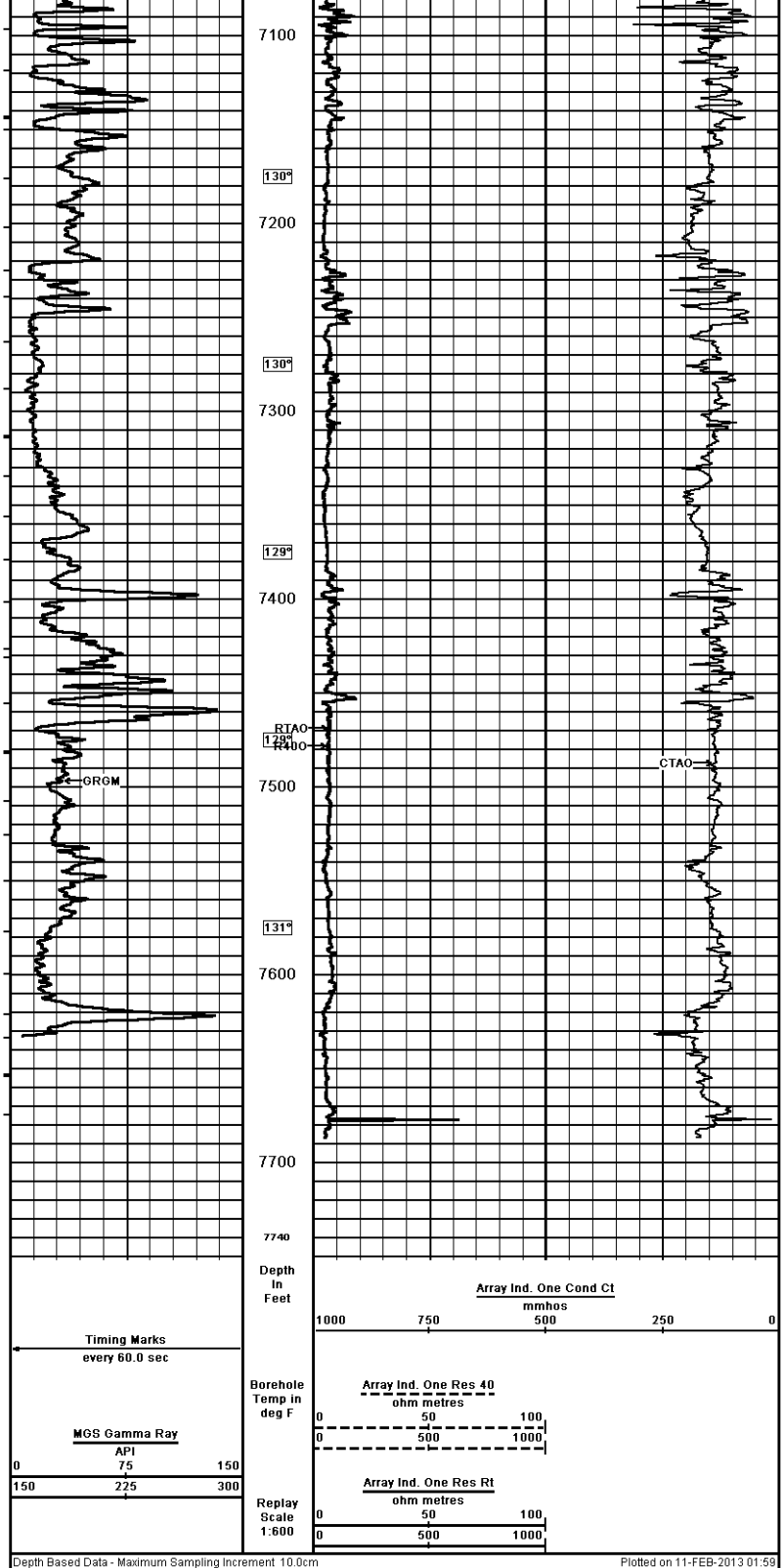
Borehole Temp in deg F

Array Ind. One Cond Ct
mmhos
1000 750 500 250 0

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


150
225
300
Replay
Scale
1:600
Array Ind. One Res Rt
ohm metres
0
50
100
0
500
1000
4930
Casing
Shoe
5000
128°
5100
128°
5200
128°
5300
129°
5400
129°
5500
RTAO
R40O
GRGM
CTAO
129°
5600
129°
5700
129°
5800
130°
5900
130°


6000
130°
6100
130°
6200
130°
6300
130°
6400
130°
6500
AO
R400
GRGM
CTAO
130°
6600
130°
6700
130°
6800
130°
6900
130°
7000
130°



Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 11-FEB-2013 01:59

Filename: C:\13_04_8723 WLS\DATA\15083218710100 Frusher 1-15H\22851RTAP.dta — Recorded on 11-FEB-2013 00:45

System Versions: Processed with 13.04.8723 Plotted with 13.04.8723

1 INCH MAIN LOG

COMPANY	SANDRIDGE ENERGY
WELL	FRUSHER 1-15H
FIELD	GOEBEL
PROVINCE/COUNTY	HODGEMAN
COUNTRY/STATE	USA / KANSAS

Elevation Kelly Bushing	2358.00	feet	First Reading	7795.00	feet
Elevation Drill Floor	2358.00	feet	Depth Driller	8095.00	feet
Elevation Ground Level	2337.00	feet	Depth Logger	7700.00	feet

Weatherford

CML MESSENGER SHUTTLE
ARRAY INDUCTION
ELECTRIC LOG