MICRORESISTIVITY LOG

COMPANY	O'BRIEN ENERGY RESOURCES CORP.
WELL	ANGELL #2-13
FIELD	ANGELL
PROVINCE/COUNTY	MEADE
COUNTRY/STATE	U.S.A. / KANSAS
LOCATION	2305' FSL & 1320' FEL

SEC 13	TWP 32S	RGE 30W	Other Services
Latitude			MAI/MFE MPD/MDN
Longitude			
API Number	15-119-21376		

Permanent Datum GL, Elevation 2724 feet
Log Measured From KB
Drilling Measured From KB @ 11 FEET

Elevations:	feet
KB	2735.00
DF	2733.00
GL	2724.00

Date	27-OCT-2014			
Run Number	ONE			
Service Order	4558-101569280			
Depth Driller	6400.00	feet		
Depth Logger	6405.00	feet		
First Reading	6372.00	feet		
Last Reading	4000.00	feet		
Casing Driller	1493.00	feet		
Casing Logger	1492.00	feet		
Bit Size	7.875	inches		
Hole Fluid Type	CHEMICAL			
Density / Viscosity	9.20 lb/USg	54.00 CP		
PH / Fluid Loss	9.50	8.80 ml/30Min		
Sample Source	FLOWLINE			
Rm @ Measured Temp	0.87 @ 92.0	ohm-m		
Rmf @ Measured Temp	0.70 @ 92.0	ohm-m		
Rmc @ Measured Temp	1.0 @ 92.0	ohm-m		
Source Rmf / Rmc	CALC	CALC		
Rm @ BHT	0.61 @131.0	ohm-m		
Time Since Circulation	5 HOURS			
Max Recorded Temp	131.00	deg F		
Equipment / Base	13096	LIB		
Recorded By	ADAM SILL			
Witnessed By	ROGER PEARSON		PETER DEBENHAM	
JOB #	LB14-332			

BOREHOLE RECORD

Last Edited: 27-OCT-2014 02:31

Bit Size inches	Depth From feet	Depth To feet
7.875	1493.00	6400.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	8.625	0.00	1493.00	24.00

REMARKS

- SOFTWARE ISSUE: WLS 14.03.4558.
- RUN ONE: MCG, MML, MDN, MPD, MFE, MAI RUN IN COMBINATION.
  - HARDWARE: DUAL BOWSPRING USED ON MDN.
  0.5 INCH STANDOFF USED ON MFE.
  0.5 INCH STANDOFF USED ON MAI.
- 2.71 G/CC LIMESTONE DENSITY MATRIX USED TO CALCULATE POROSITY.
- BOREHOLE RUGOSITY, TIGHT PULLS, AND WASHOUTS WILL AFFECT DATA QUALITY.
- ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST.
- TOTAL HOLE VOLUME FROM TD TO SURFACE CASING: 1844 CU.FT.
- ANNULAR HOLE VOLUME WITH 4.5 INCH PRODUCTION CASING FROM TD TO 4000 FEET: 528 CU.FT.
- RIG: DUKE #10

- ENGINEER: A. SILL.

- OPERATOR: J. DUNLAP, N. ADAME.

5 INCH MAIN

Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 27-OCT-2014 09:13

Filename: C:\Minimus 14.03.4558\Log Data\O'Brien Resour...\O'Brien Resources Angell #2-13 Main.dta — Recorded on 27-OCT-2014 06:10

System Versions: Logged with 14.03.4558 Processed with 14.03.4558 Plotted with 14.03.4558

Timing Marks
every 60.0 sec

Gamma Ray
API
0 75 150
150 225 300

Spontaneous Potential
millivolts
– → | 20 | ← +

Bit Size
inches
6 11 16

MML Caliper
inches
6 11 16

DST Uphole Tension
pounds
5000 0

Depth in Feet

Borehole Temp in deg F

HVI every 10 cu ft

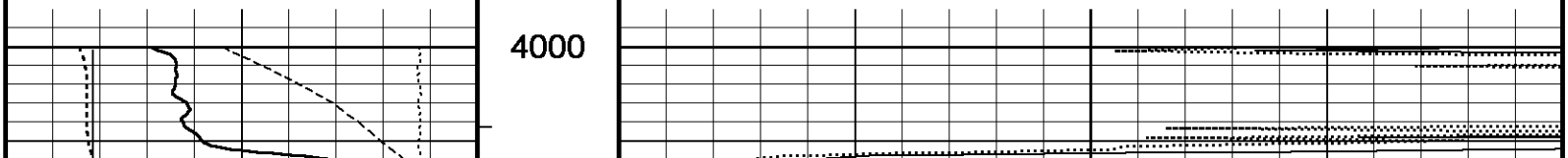
Annular Integral every 10 cu ft

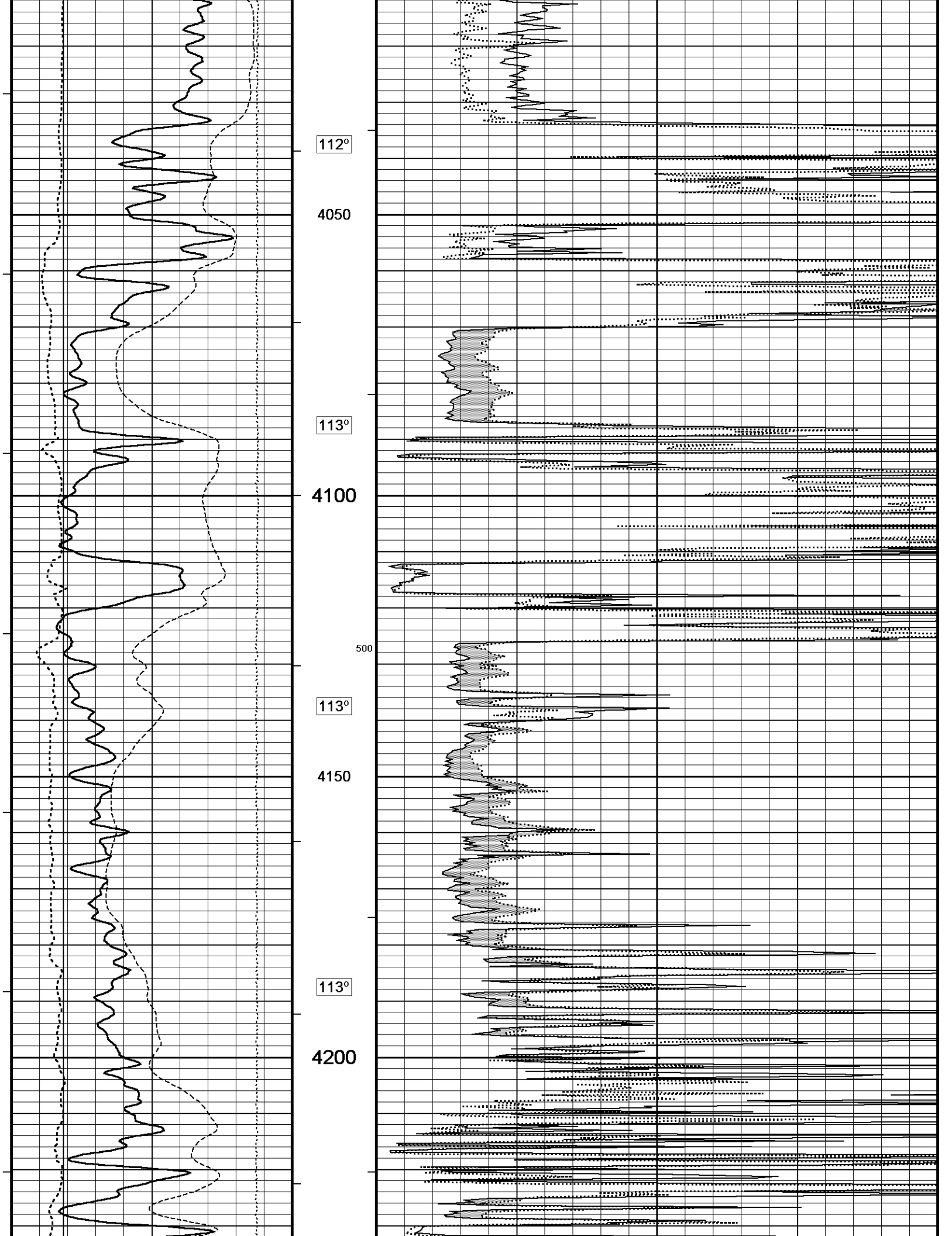
Replay Scale 1:240

4000

MMR MicroLog Normal
ohm metres
0 10 20 30 40

MMR MicroLog Inverse
ohm metres
0 10 20 30 40

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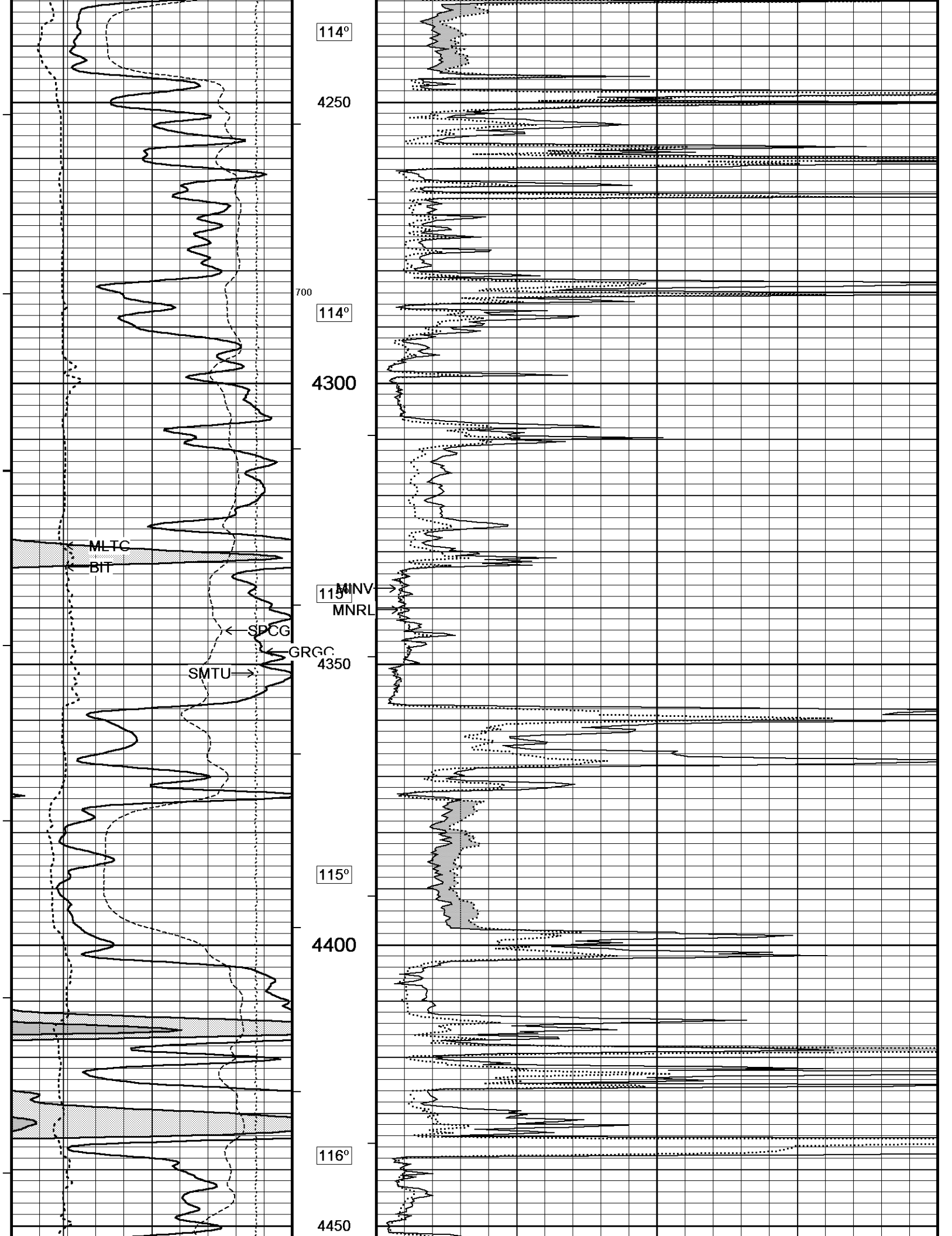
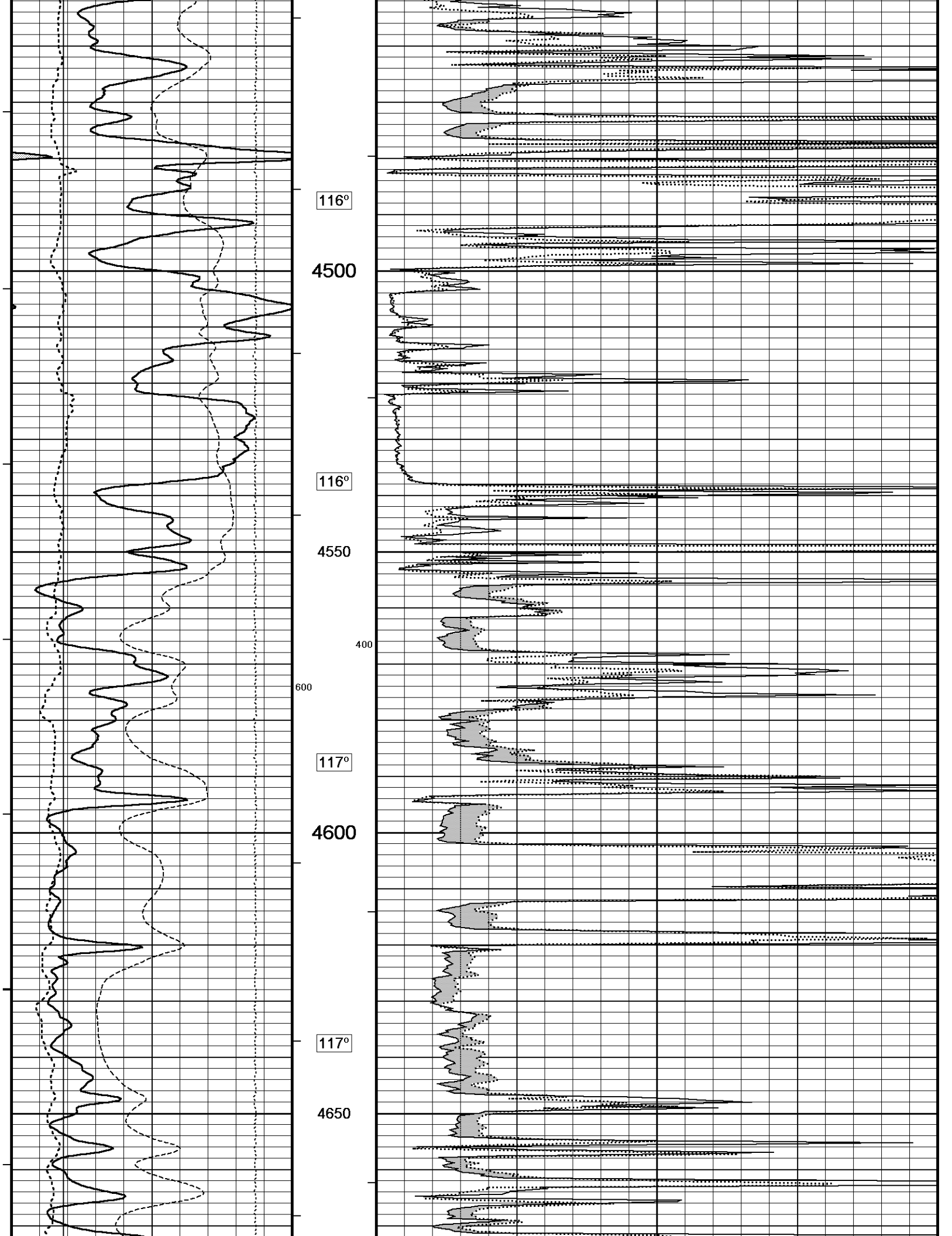
4050
113°
4100
500
113°
4150
113°
4200


114°
4250
700
114°
4300
MLTC
BIT
115°
MINV
MNRL
SPCG
GRGC
4350
SMTU
115°
4400
116°
4450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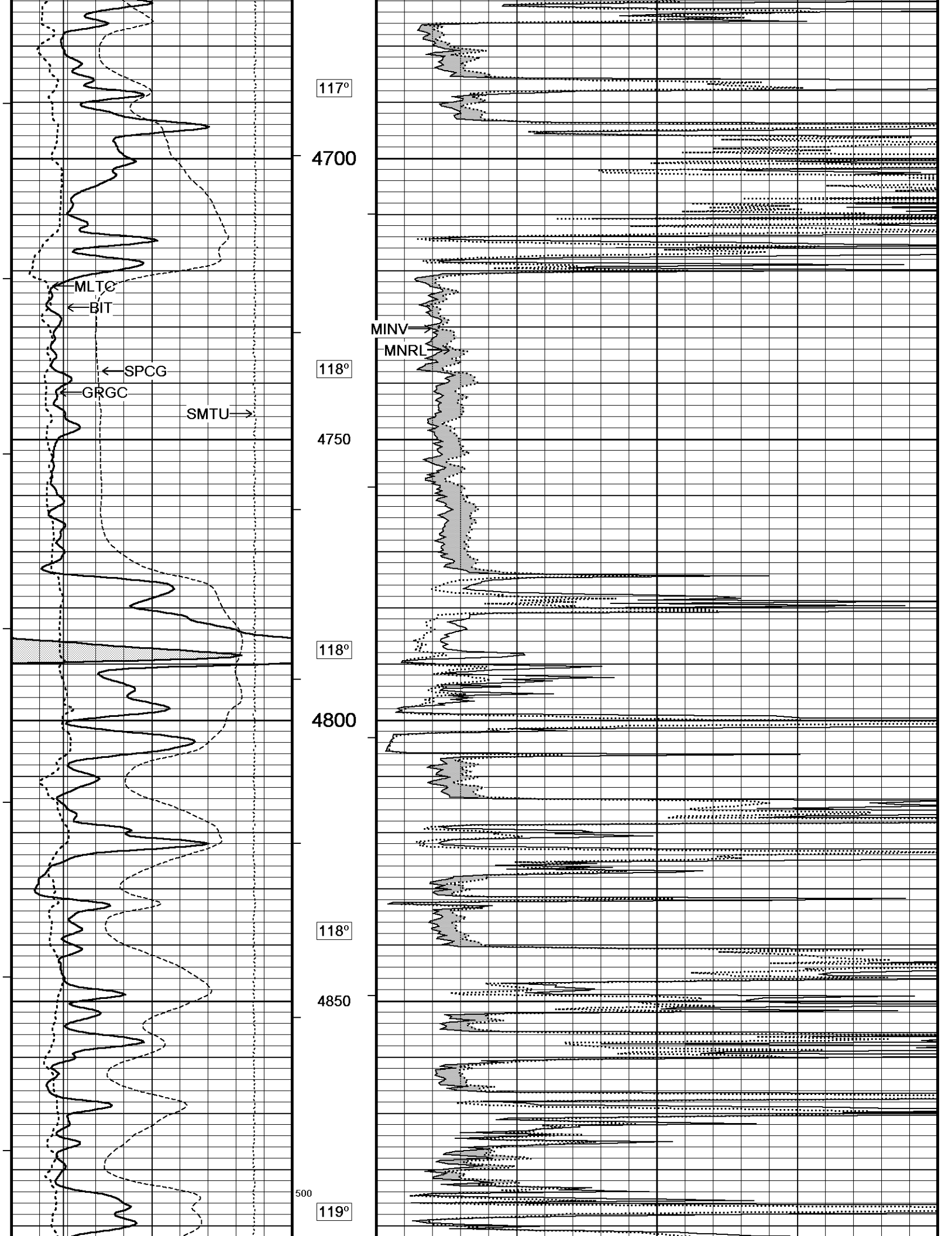
4500
116°
4550
400
600
117°
4600
117°
4650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4700
MLTC
BIT
MINV
MNRL
SPCG
GRGC
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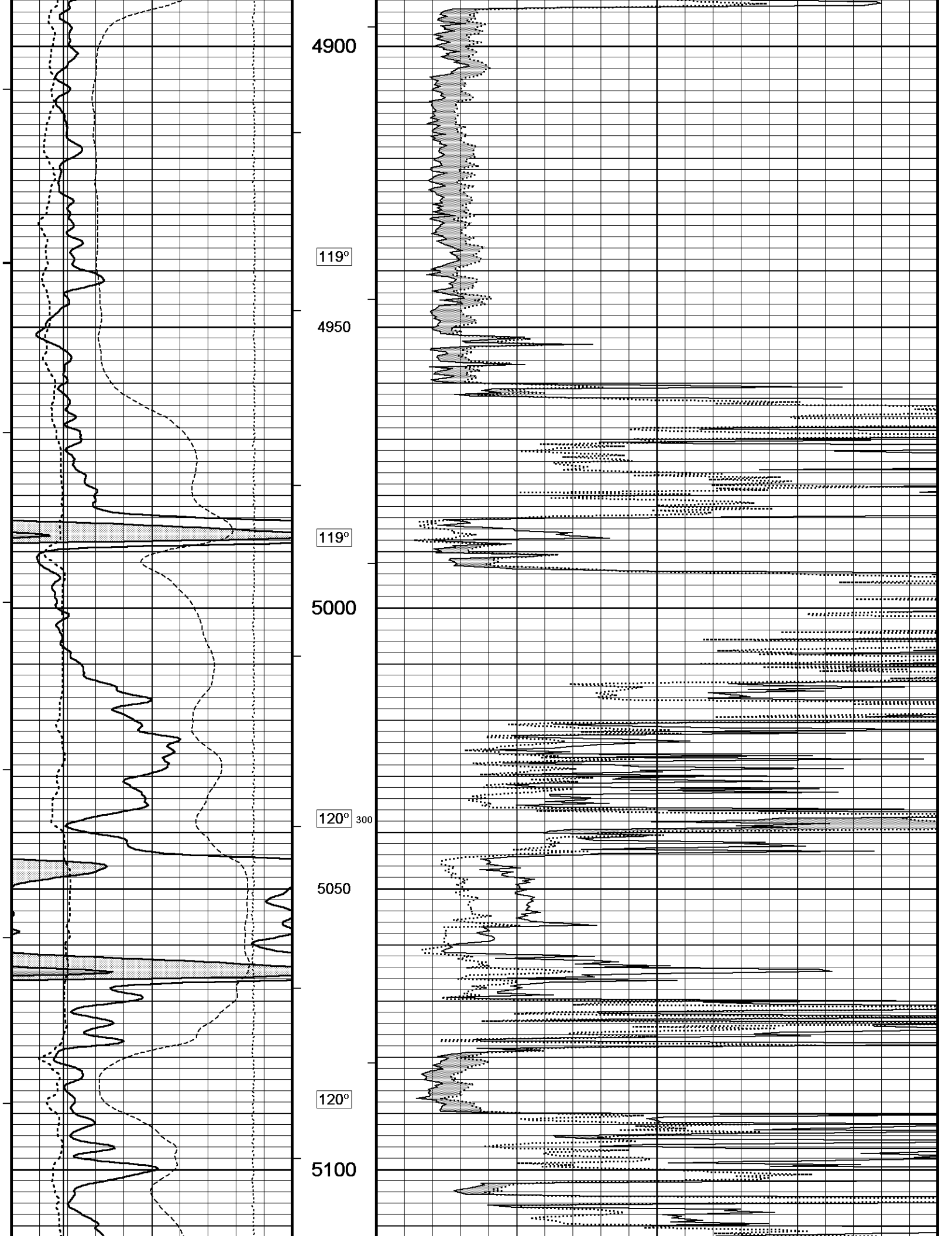
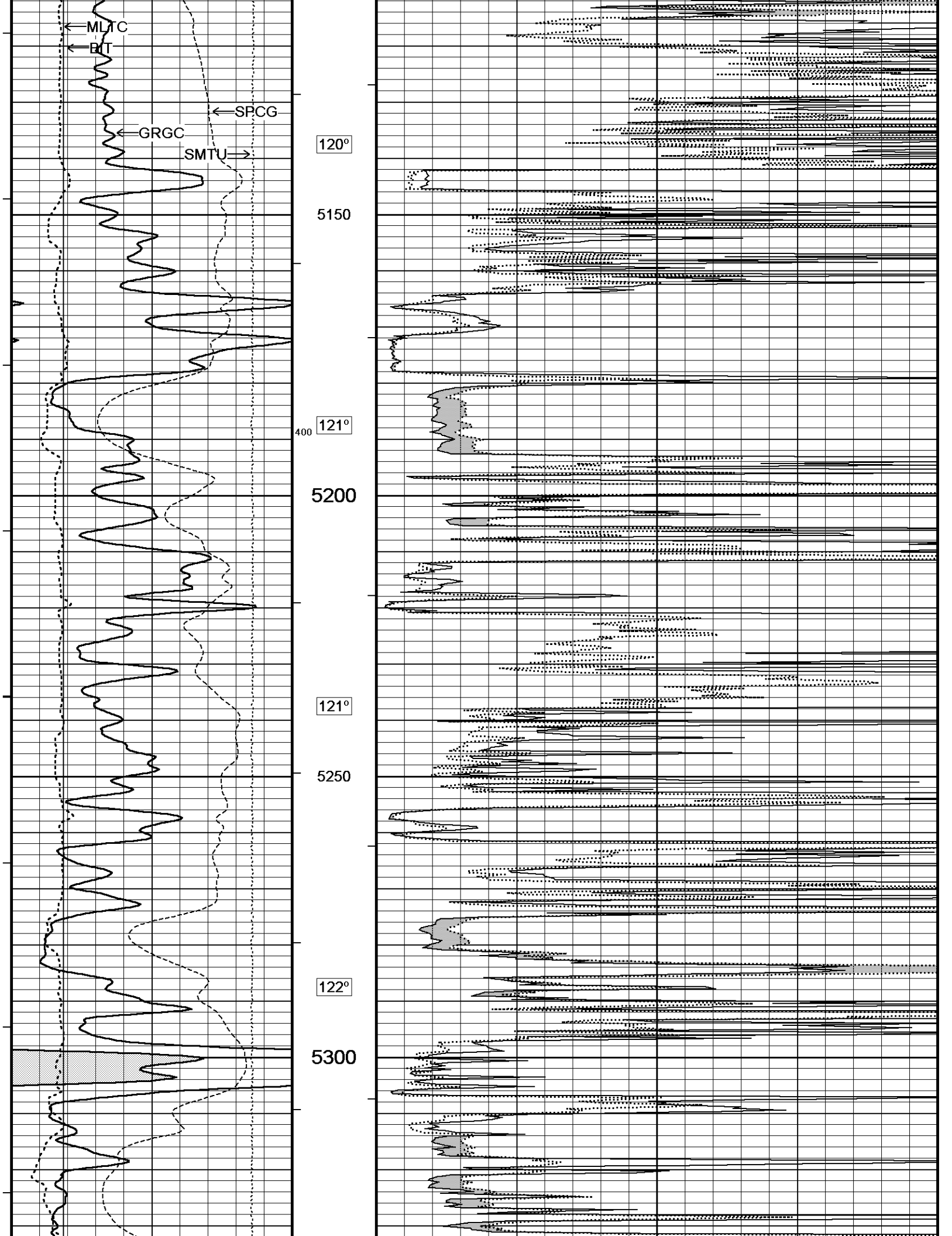
SMTU
4750
118°
4800
118°
4850
500
119°


4900
119°
4950
119°
5000
120°
300
5050
120°
5100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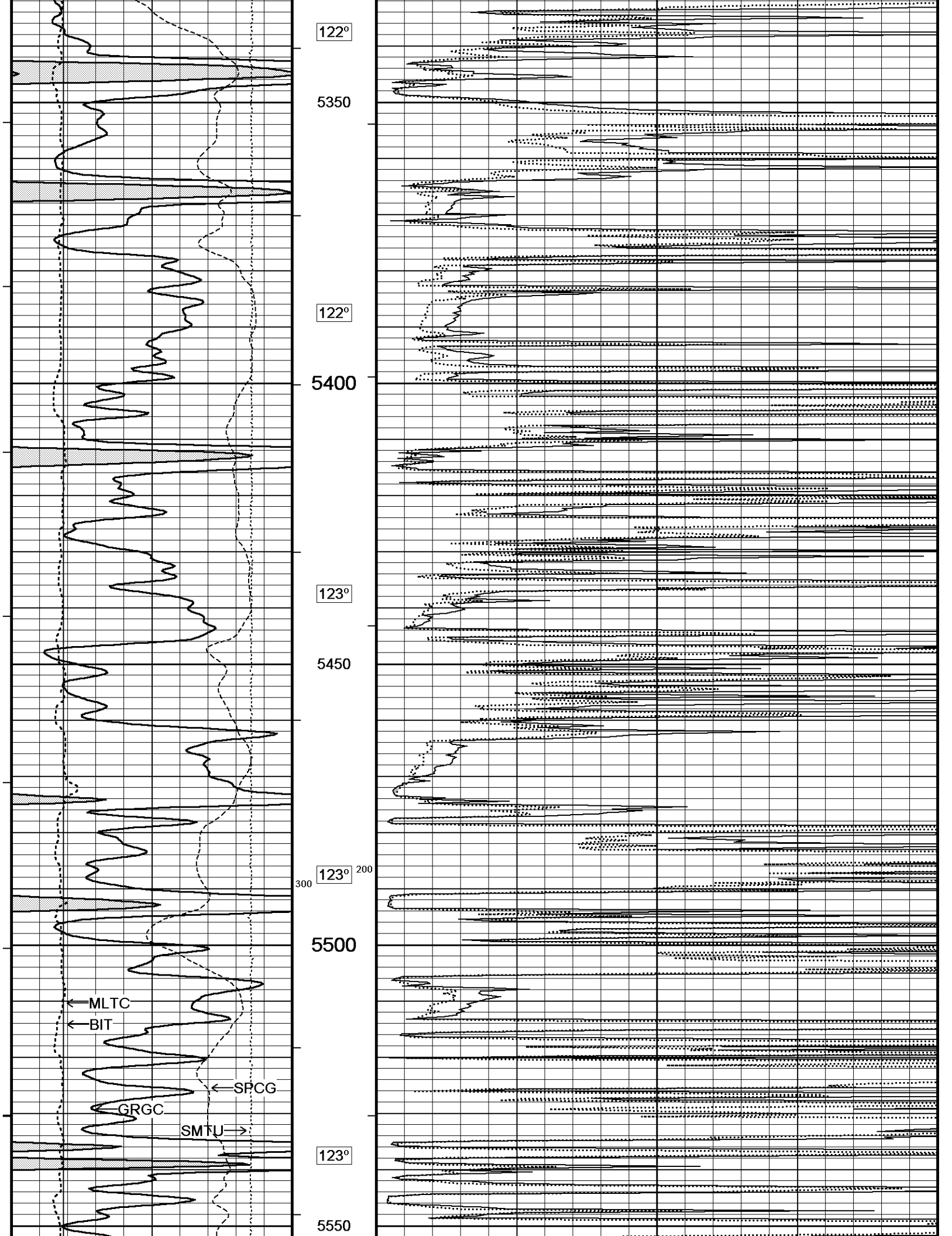
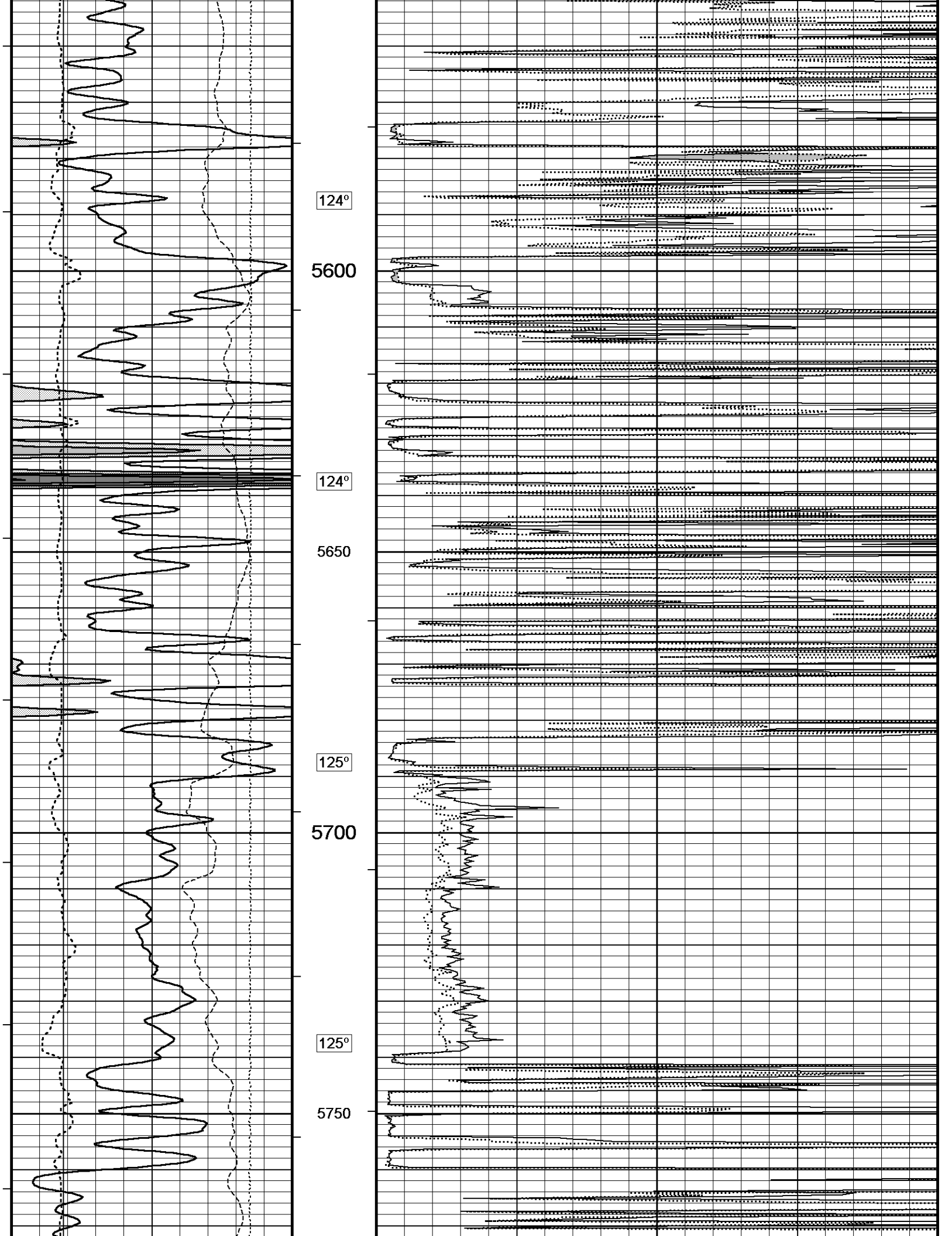
BIT
SPCG
GRGC
SMTU
120°
5150
121°
400
5200
121°
5250
122°
5300


122°
5350
122°
5400
123°
5450
300
123°
200
5500
MLTC
BIT
SPCG
GRGC
SMTU
123°
5550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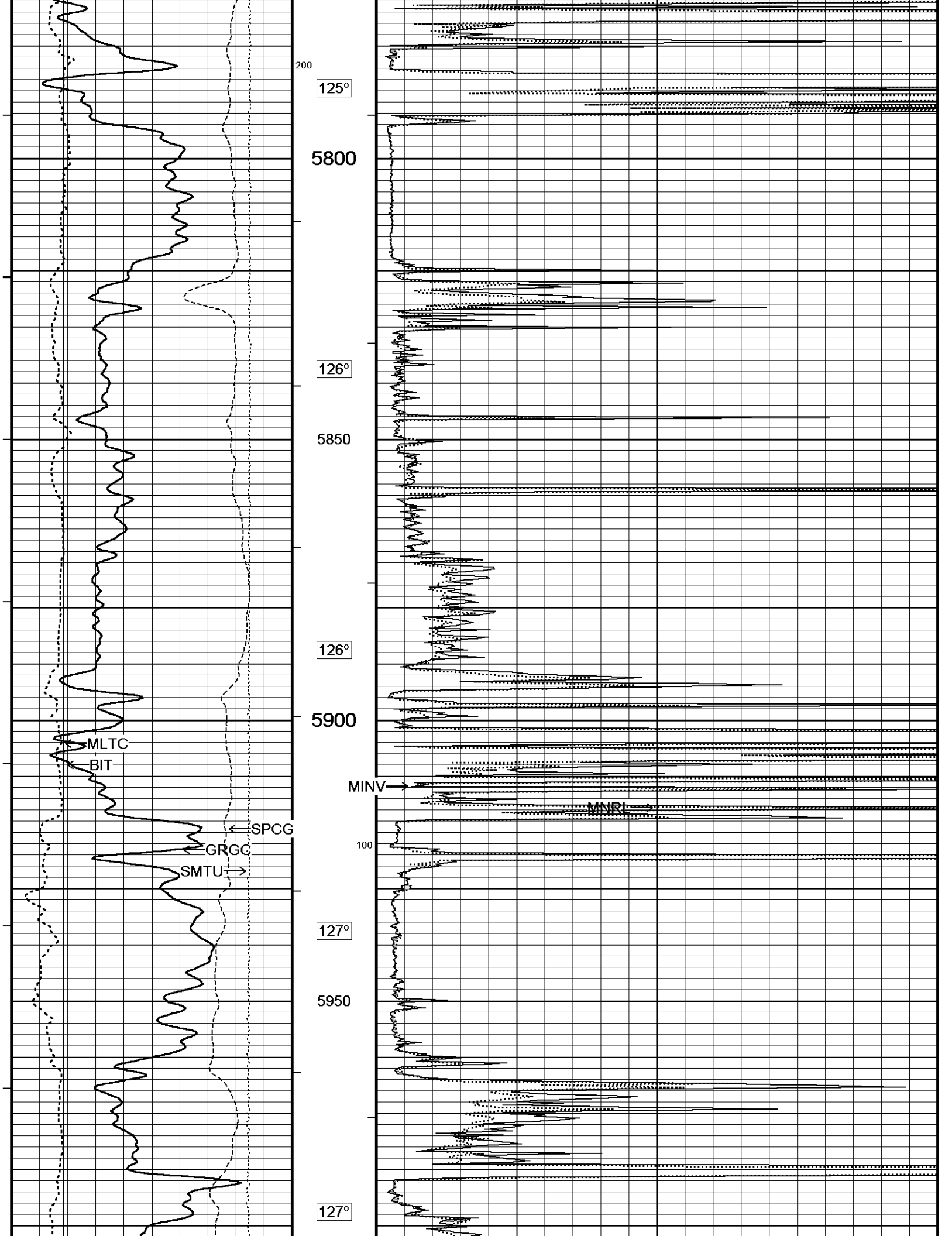
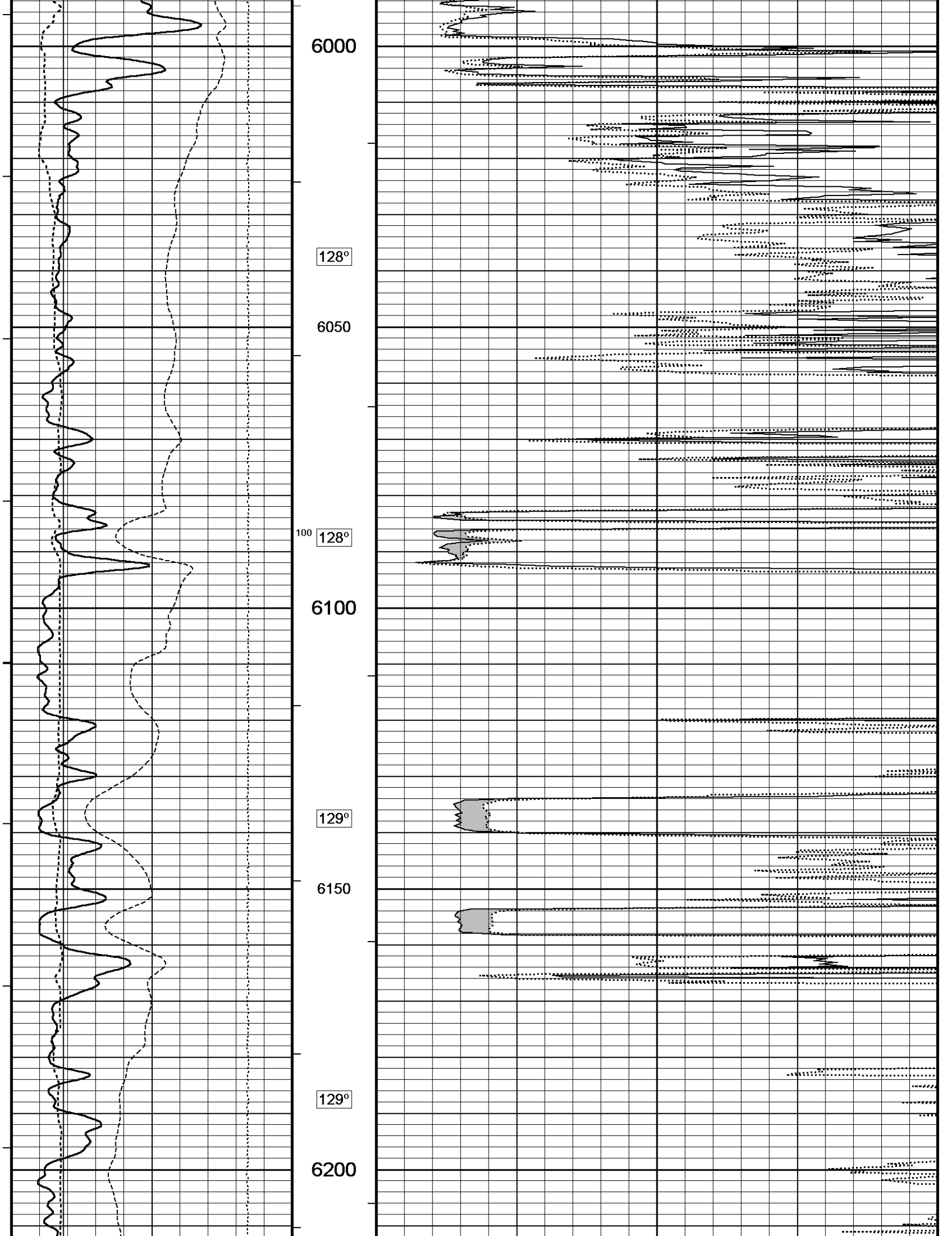
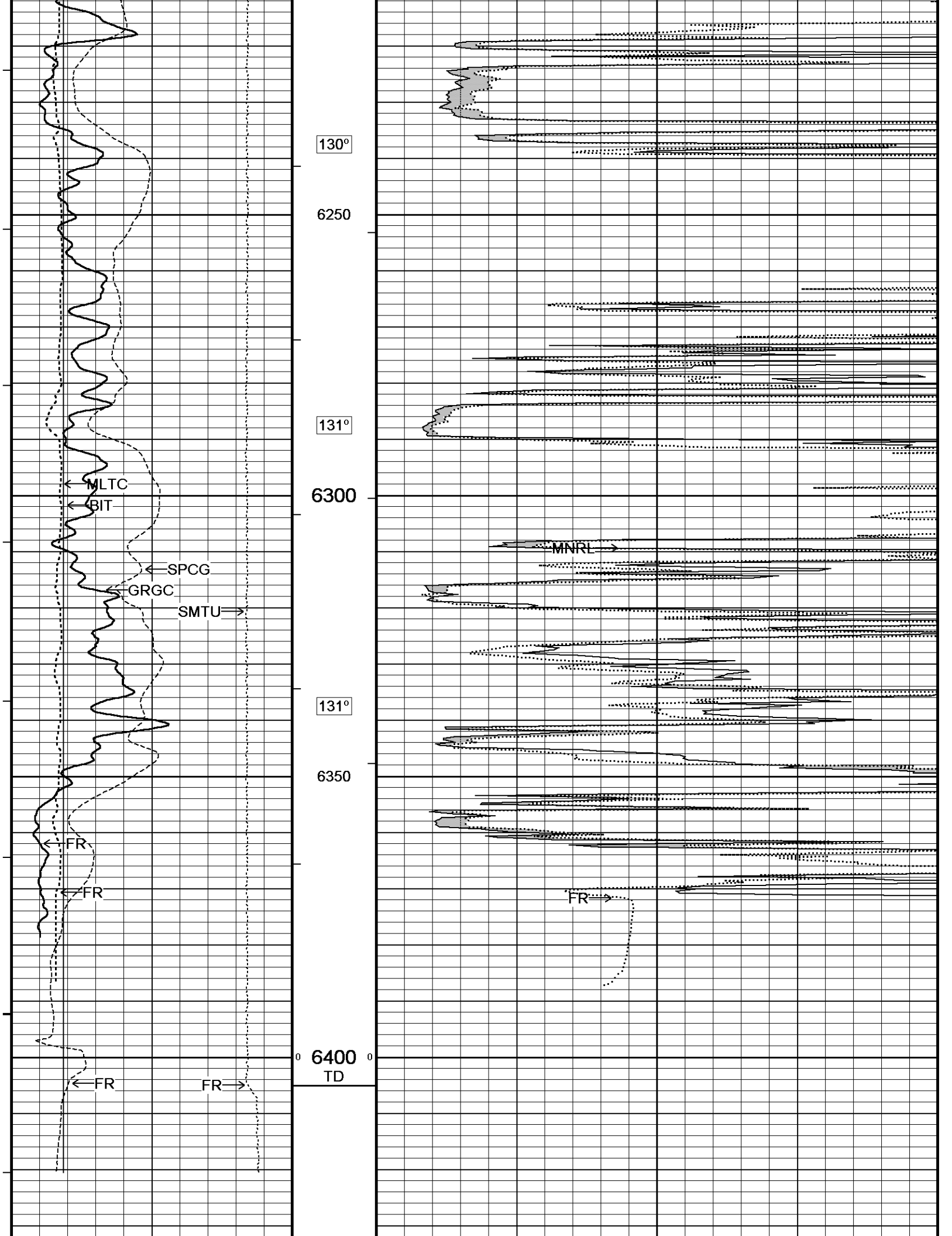
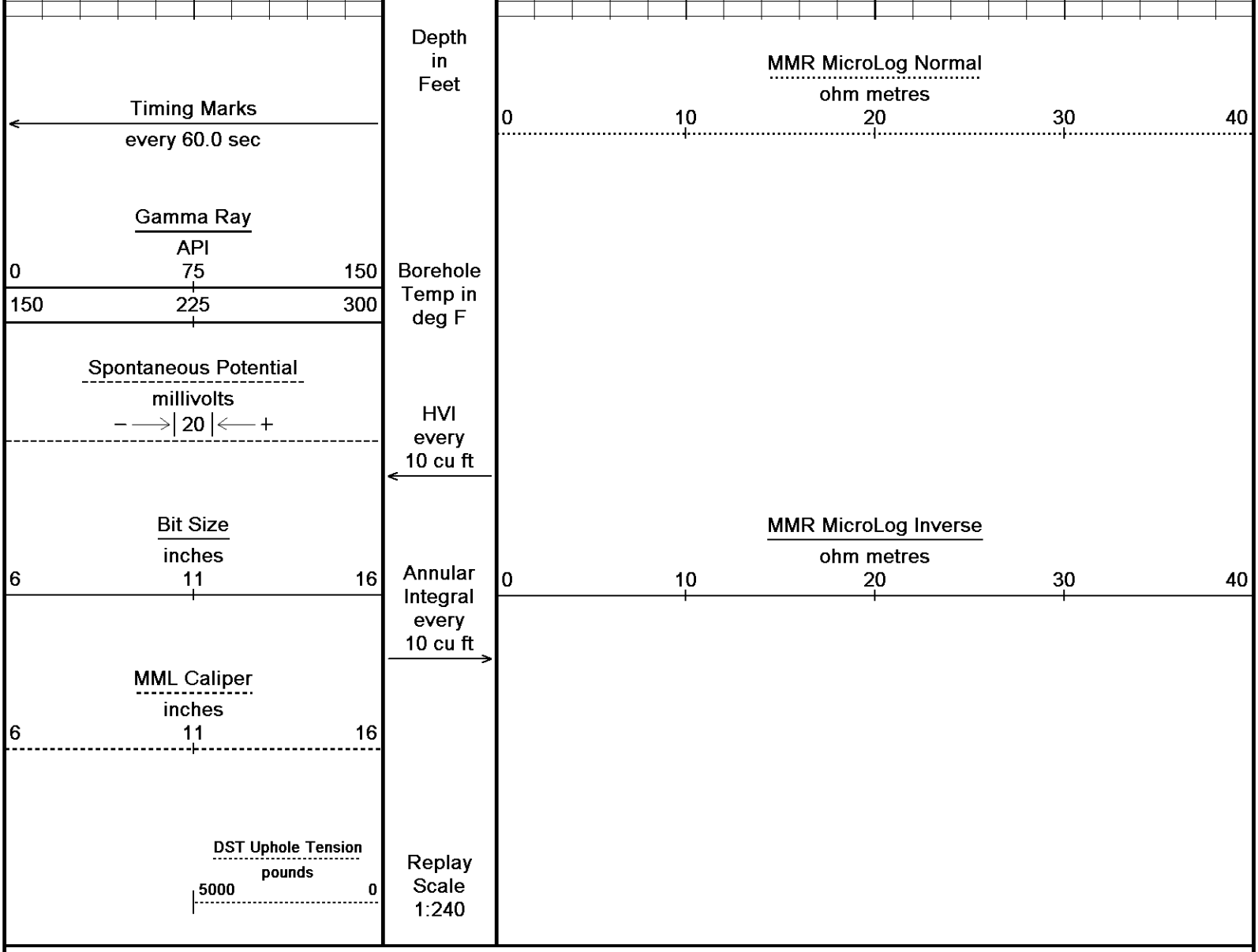
124°
5650
125°
5700
125°
5750


200
125°
5800
126°
5850
126°
5900
MLTC
BIT
MINV
MNRL
SPCG
GRGC
SMTU
100
127°
5950
127°


6000
128°
6050
100
128°
6100
129°
6150
129°
6200


130°
6250
131°
6300
131°
6350
6400
TD
MLTC
BIT
SPCG
GRGC
SMTU
FR
FR
FR
FR
MNRL
FR

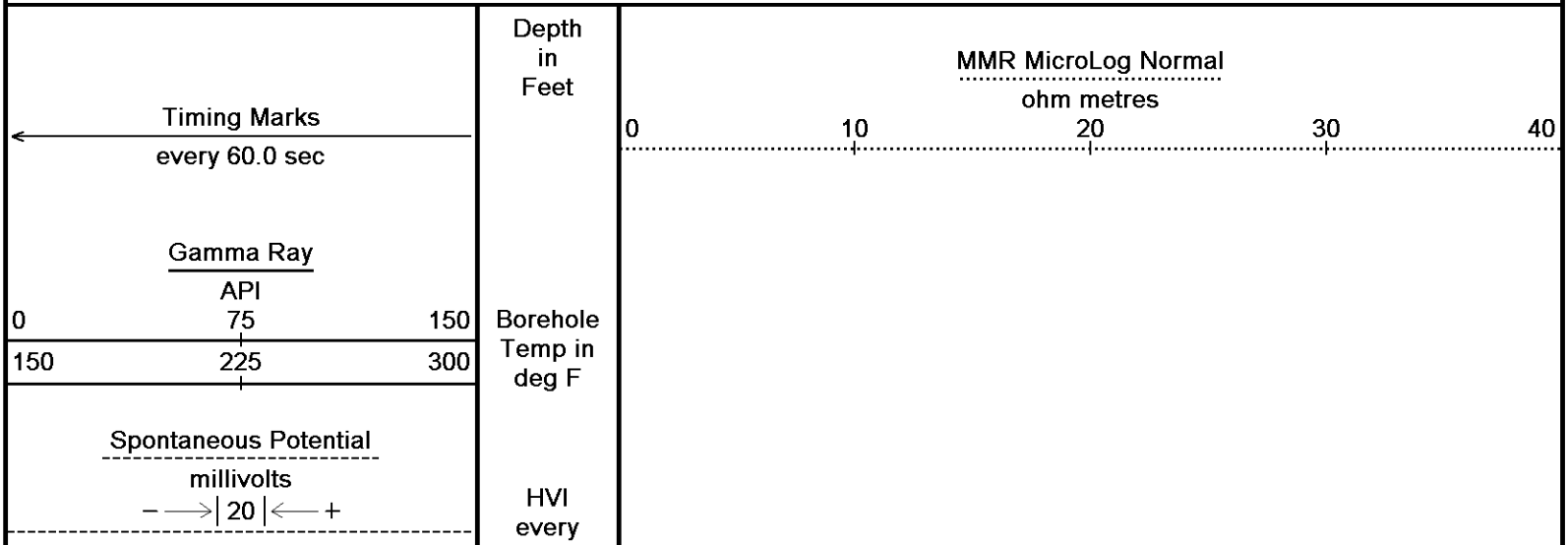


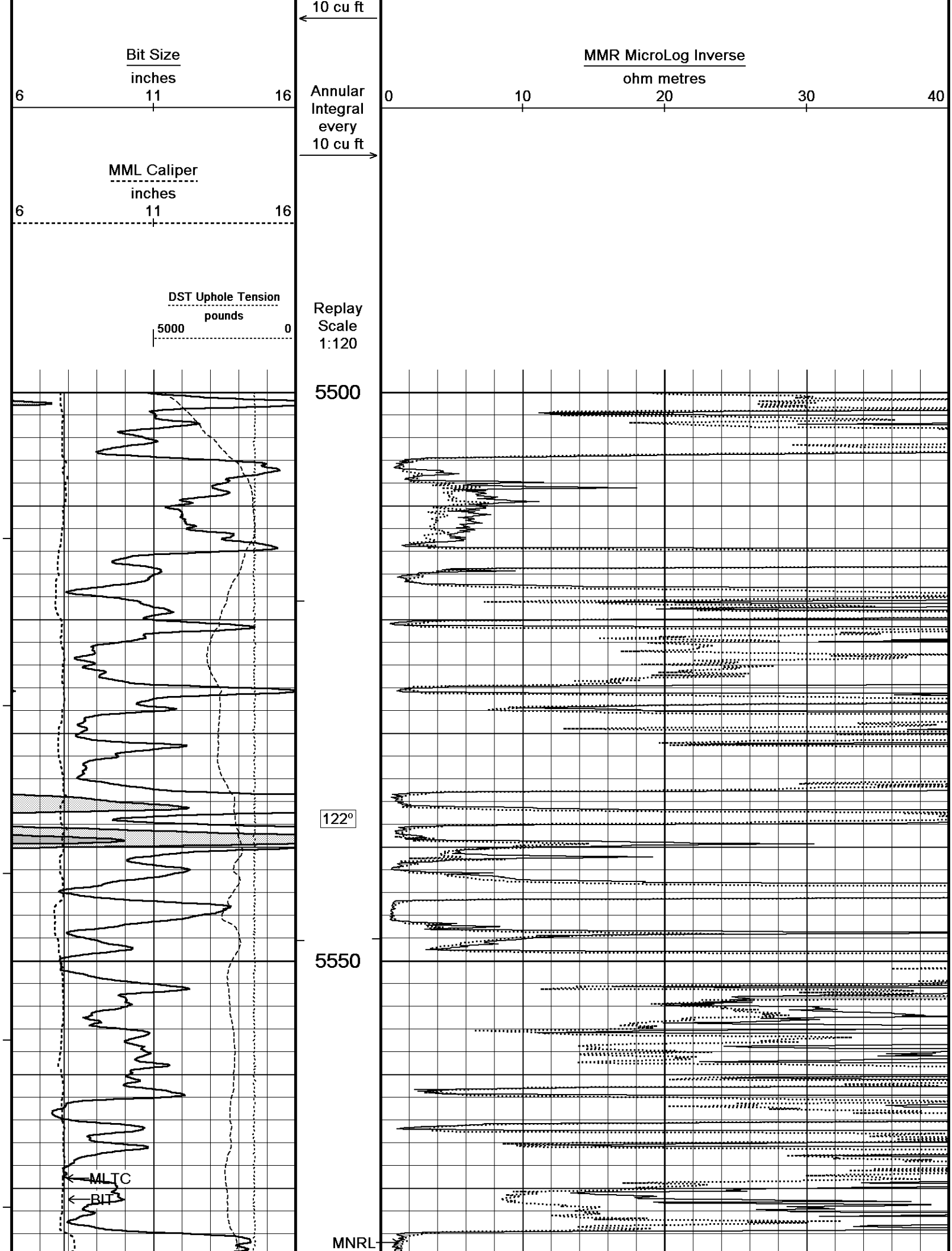
Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 27-OCT-2014 09:13
Filename: C:\Minimus 14.03.4558\Log Data\O'Brien Resour...\O'Brien Resources Angell #2-13 Main.dta — Recorded on 27-OCT-2014 06:10
System Versions: Logged with 14.03.4558 Processed with 14.03.4558 Plotted with 14.03.4558

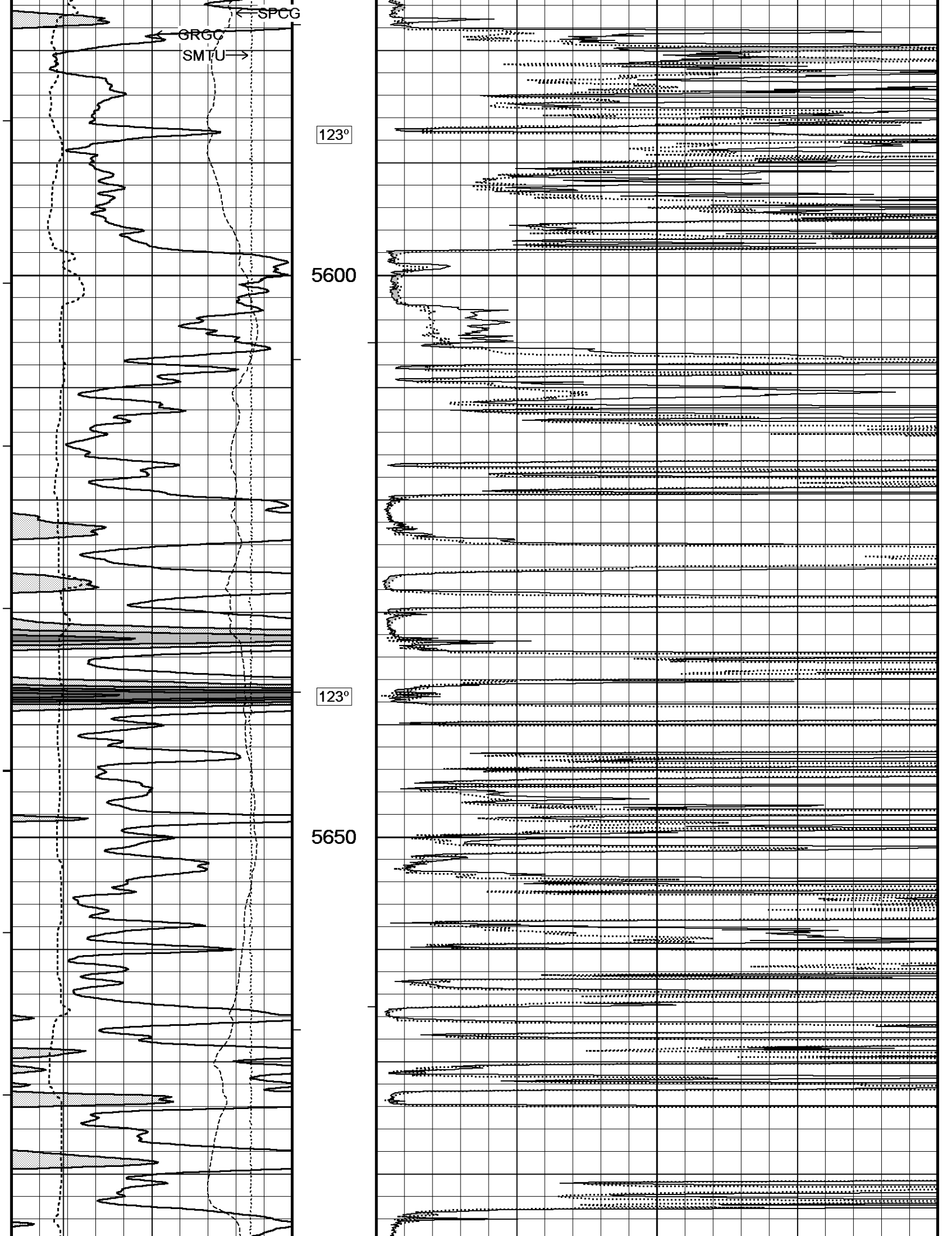
5 INCH MAIN

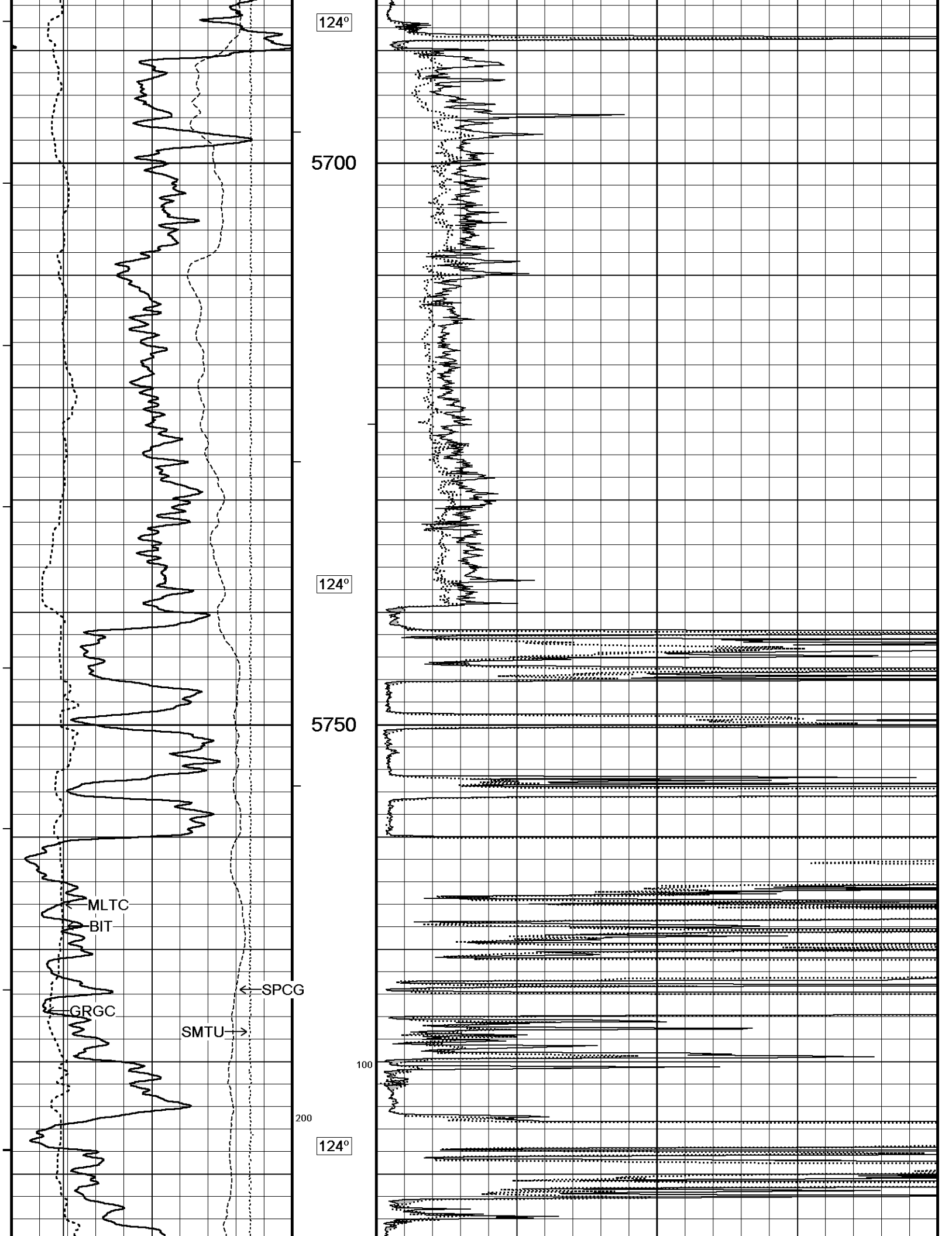
10 INCH HIGH RESOLUTION

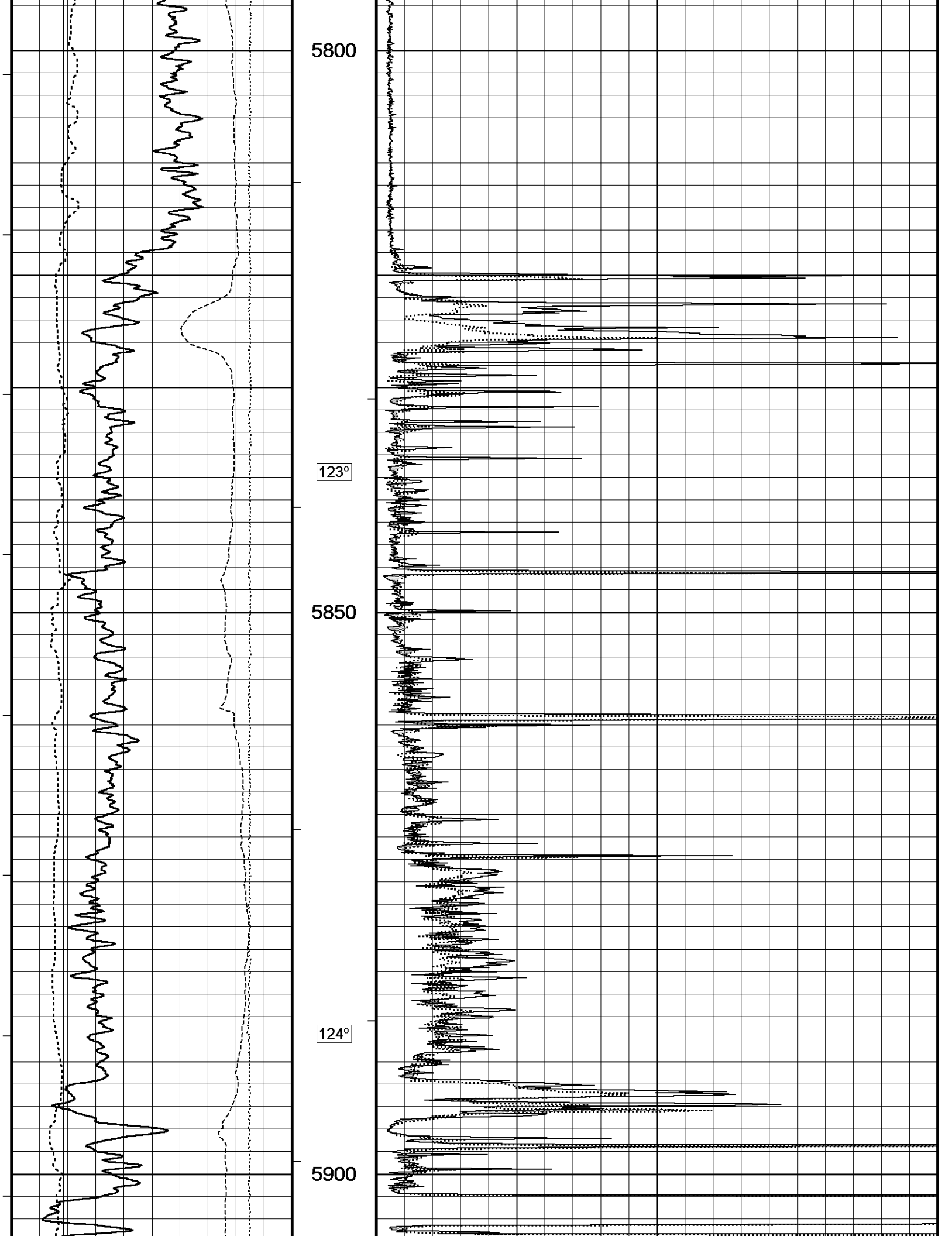
Depth Based Data - Maximum Sampling Increment 2.5cm — Plotted on 27-OCT-2014 09:13
Filename: C:\Minimus 14.03.4558\Log Data\O'Brien Resourc...\O'Brien Resources Angell #2-13_002.dta — Recorded on 27-OCT-2014 04:40
System Versions: Logged with 14.03.4558 Plotted with 14.03.4558

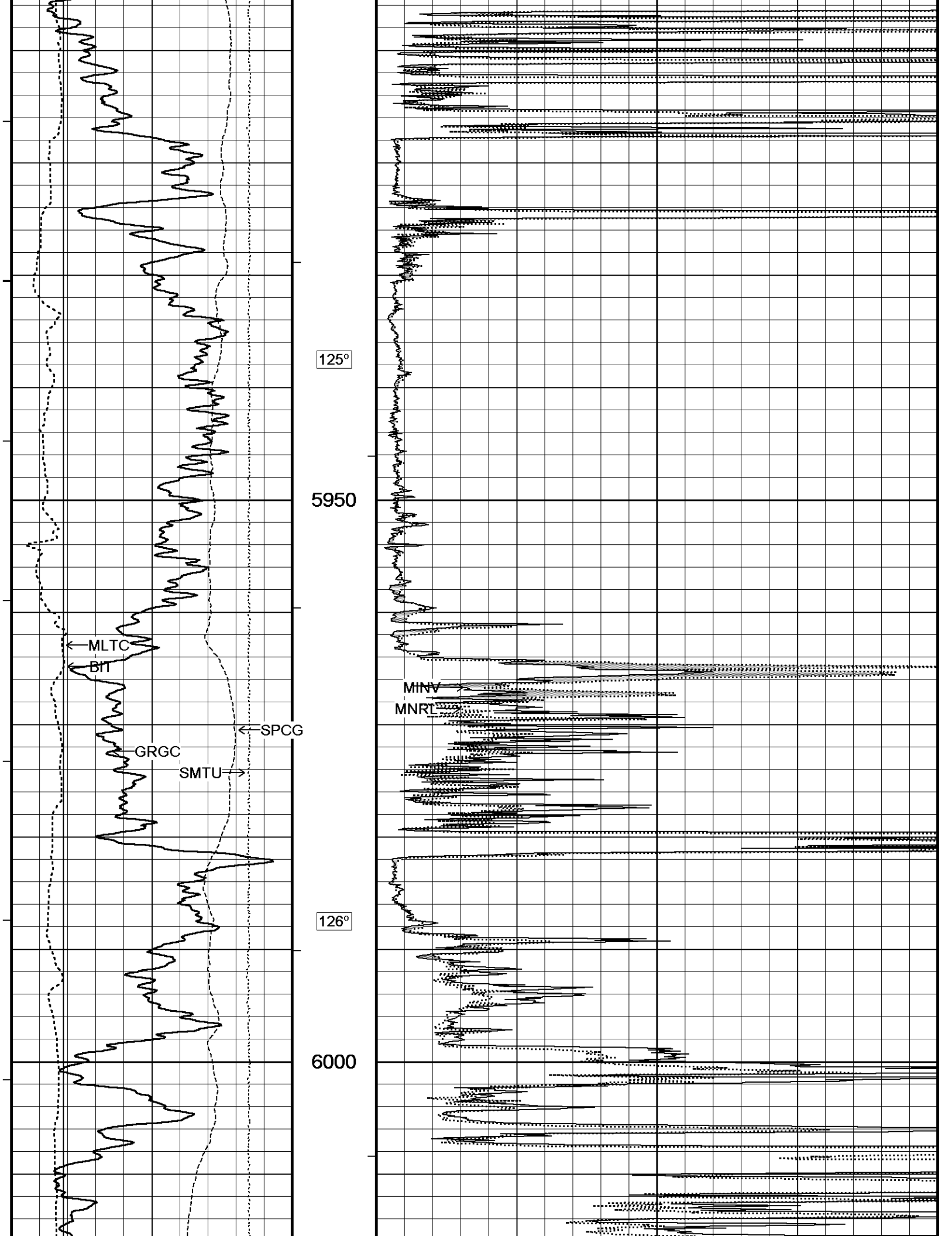


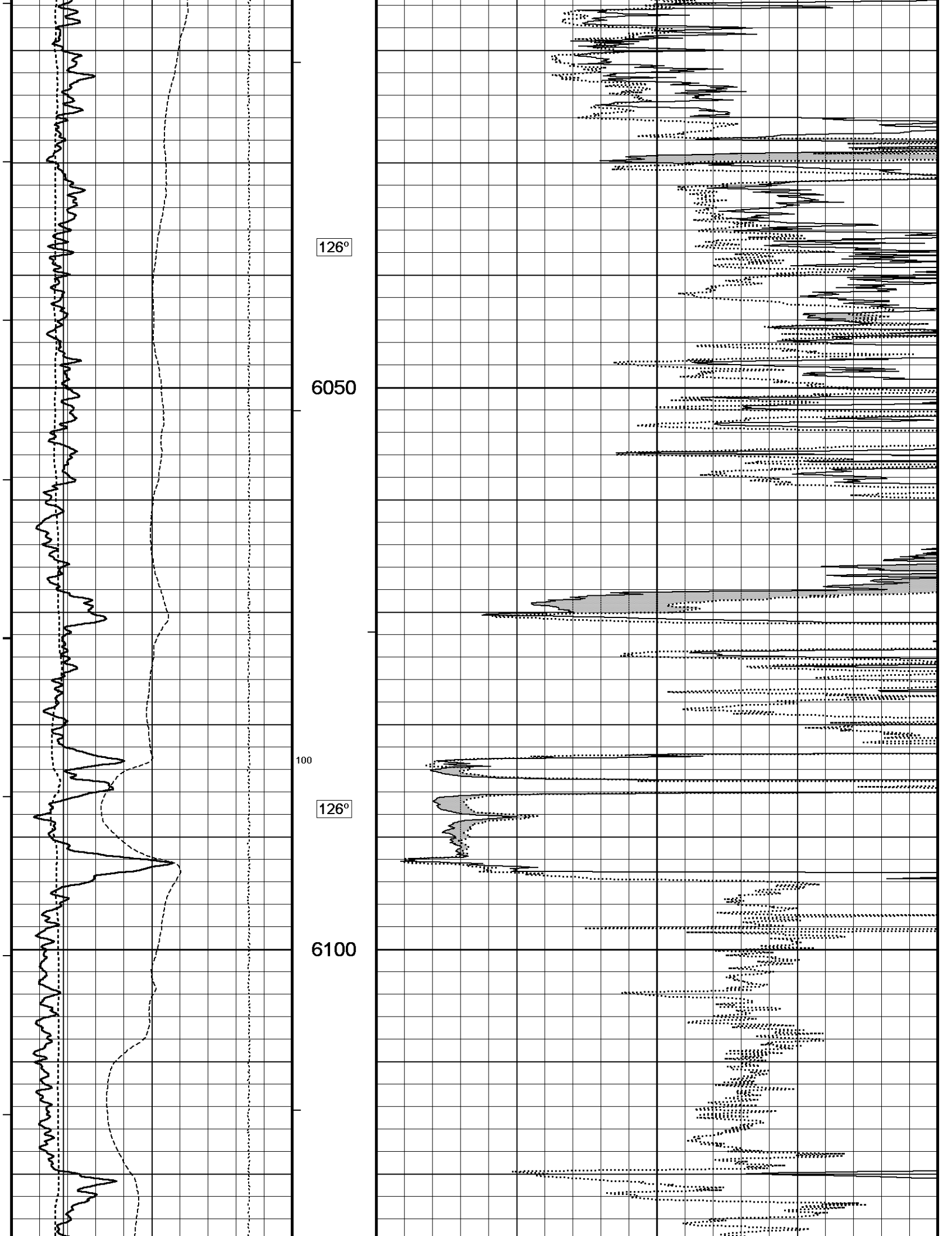

10 cu ft
Bit Size
inches
6
11
16
Annular
Integral
every
10 cu ft
MMR MicroLog Inverse
ohm metres
0
10
20
30
40
MML Caliper
inches
6
11
16
DST Uphole Tension
pounds
5000
0
Replay
Scale
1:120
5500
122°
5550
MLTC
BIT
MNRL

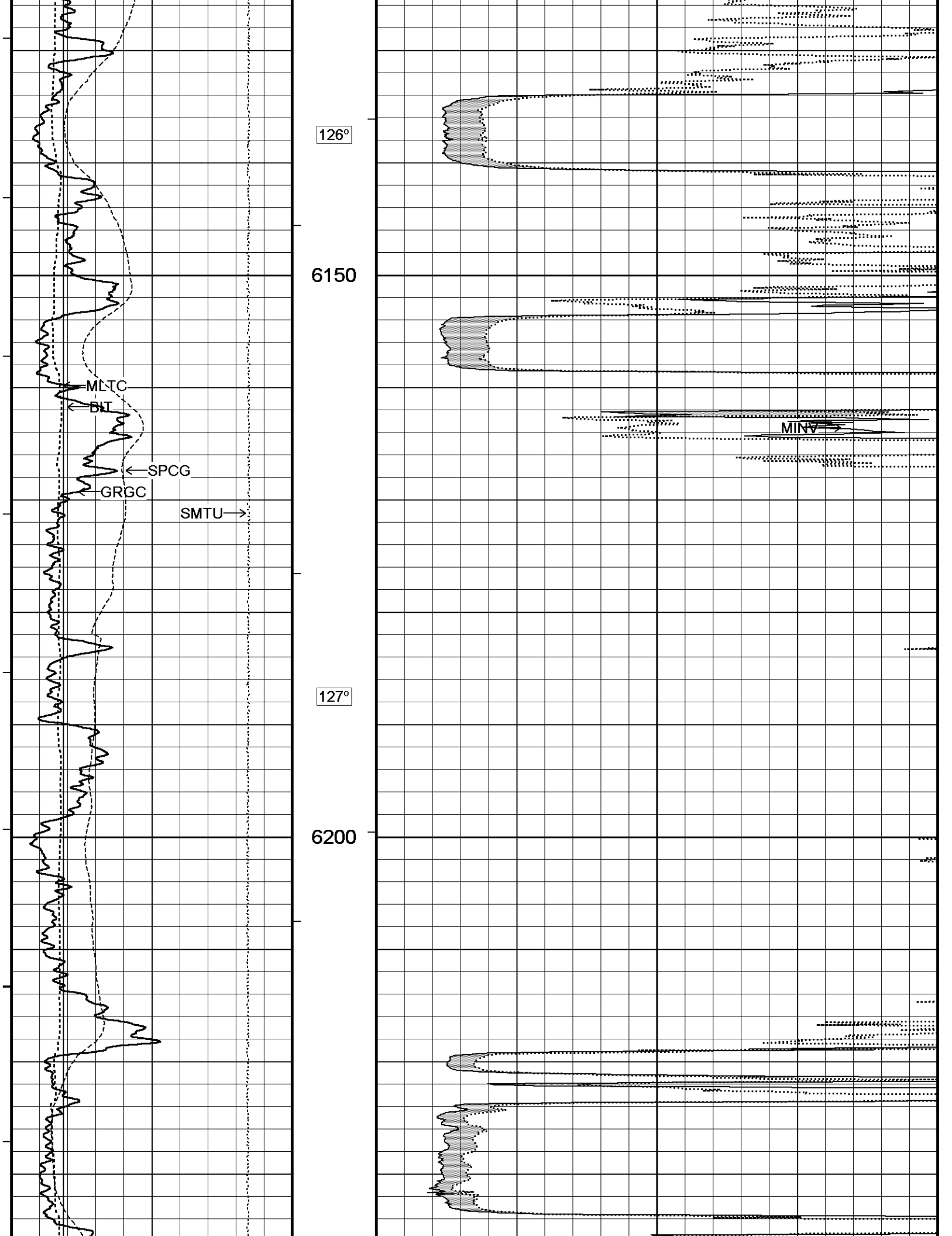

SPCG
GRGC
SMTU
123°
5600
123°
5650

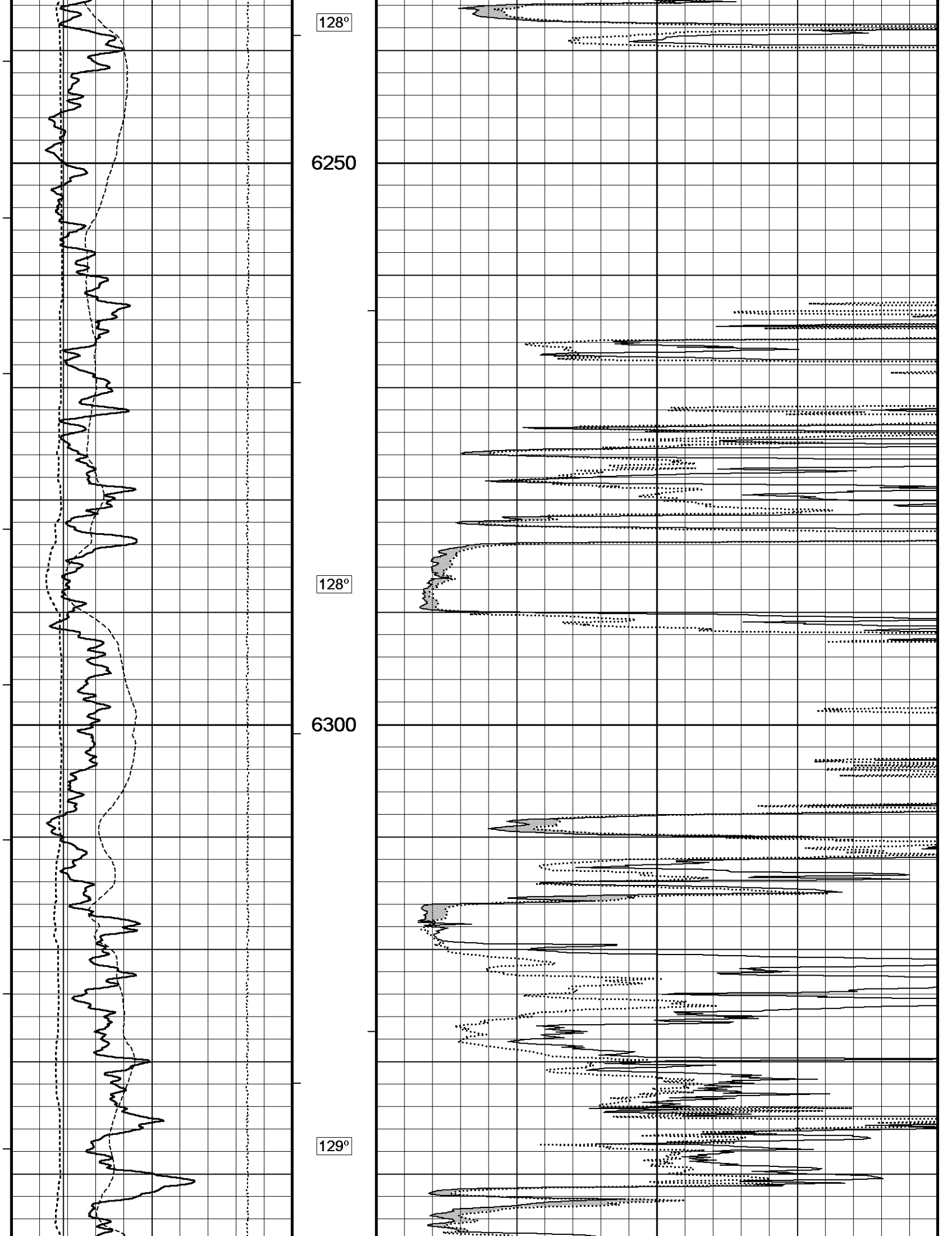

124°
5700
124°
5750
MLTC
BIT
SPCG
GRGC
SMTU
100
200
124°

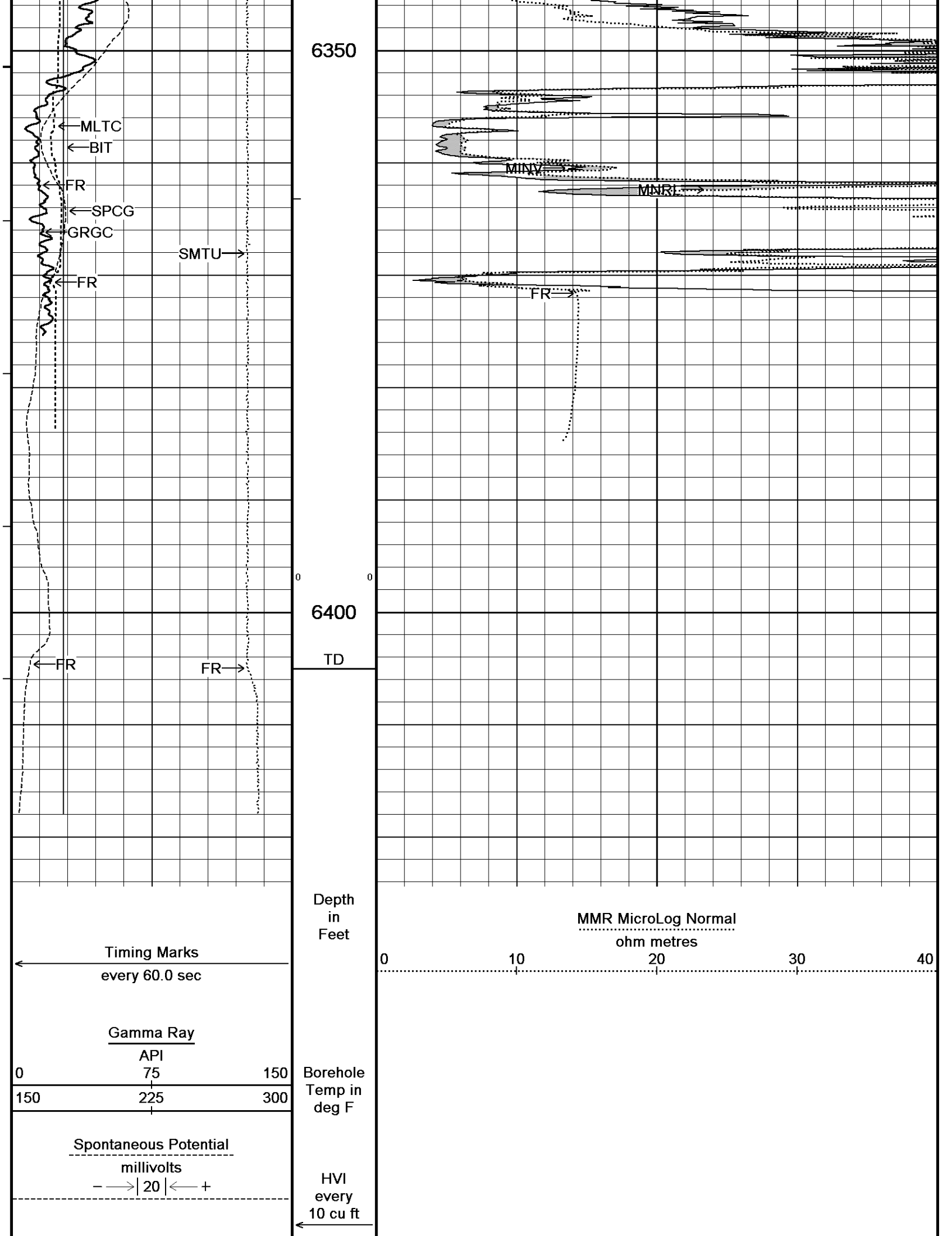

5800
123°
5850
124°
5900

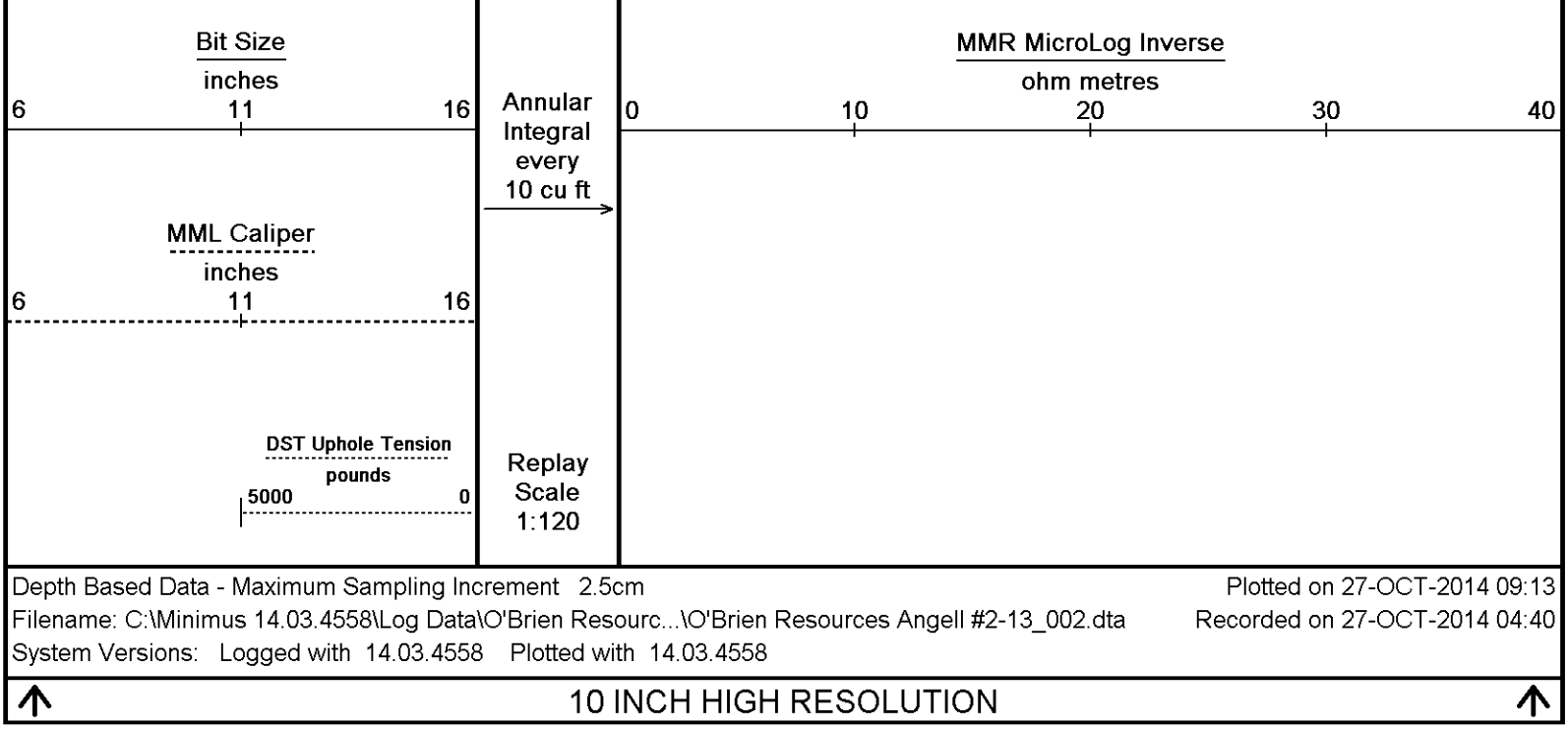

125°
5950
MLTC
BIT
SPCG
GRGC
SMTU
MINV
MNRL
126°
6000


126°
6050
100
126°
6100


126°
6150
MLTC
BIT
SPCG
GRGC
SMTU
MINV
127°
6200


128°
6250
128°
6300
129°


6350
MLTC
BIT
FR
SPCG
GRGC
SMTU
FR
MINV
MNRL
FR
0
0
6400
TD
FR
FR
Depth
in
Feet
MMR MicroLog Normal
ohm metres
0
10
20
30
40
Timing Marks
every 60.0 sec
Gamma Ray
API
0
75
150
150
225
300
Borehole
Temp in
deg F
Spontaneous Potential
millivolts
– 20 +
HVI
every
10 cu ft

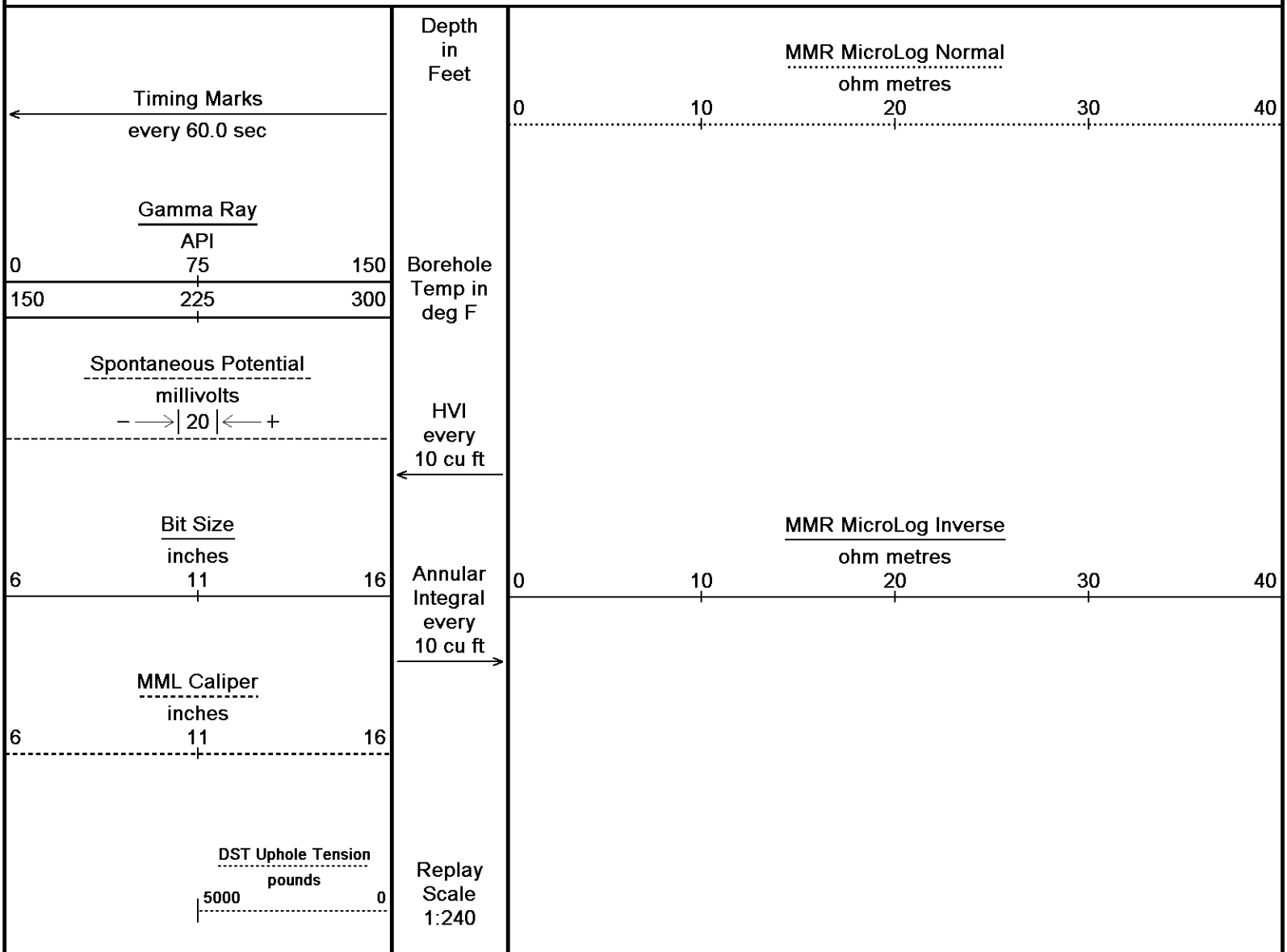


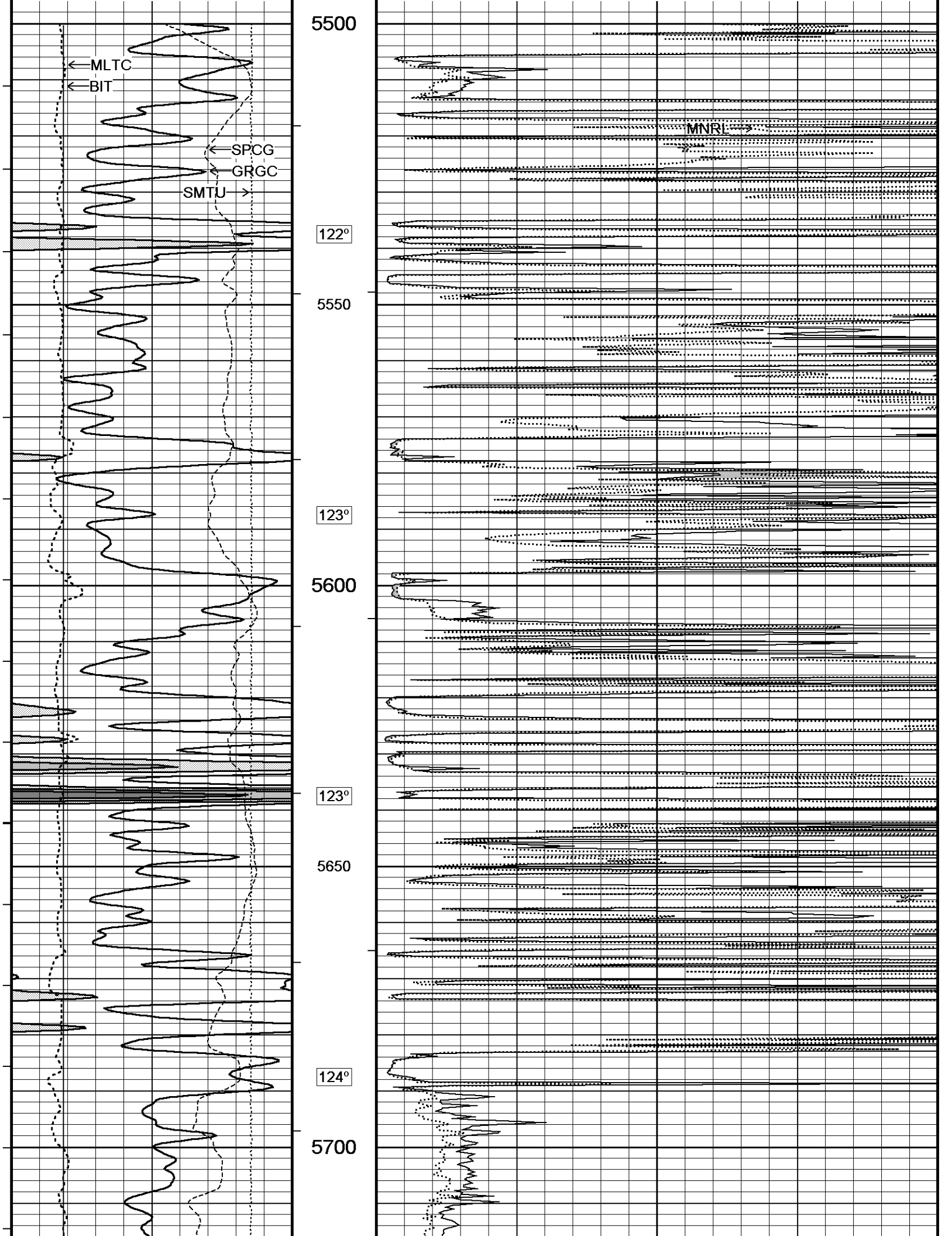
Depth Based Data - Maximum Sampling Increment 2.5cm — Plotted on 27-OCT-2014 09:13
Filename: C:\Minimus 14.03.4558\Log Data\O'Brien Resourc...\O'Brien Resources Angell #2-13_002.dta — Recorded on 27-OCT-2014 04:40
System Versions: Logged with 14.03.4558 Plotted with 14.03.4558

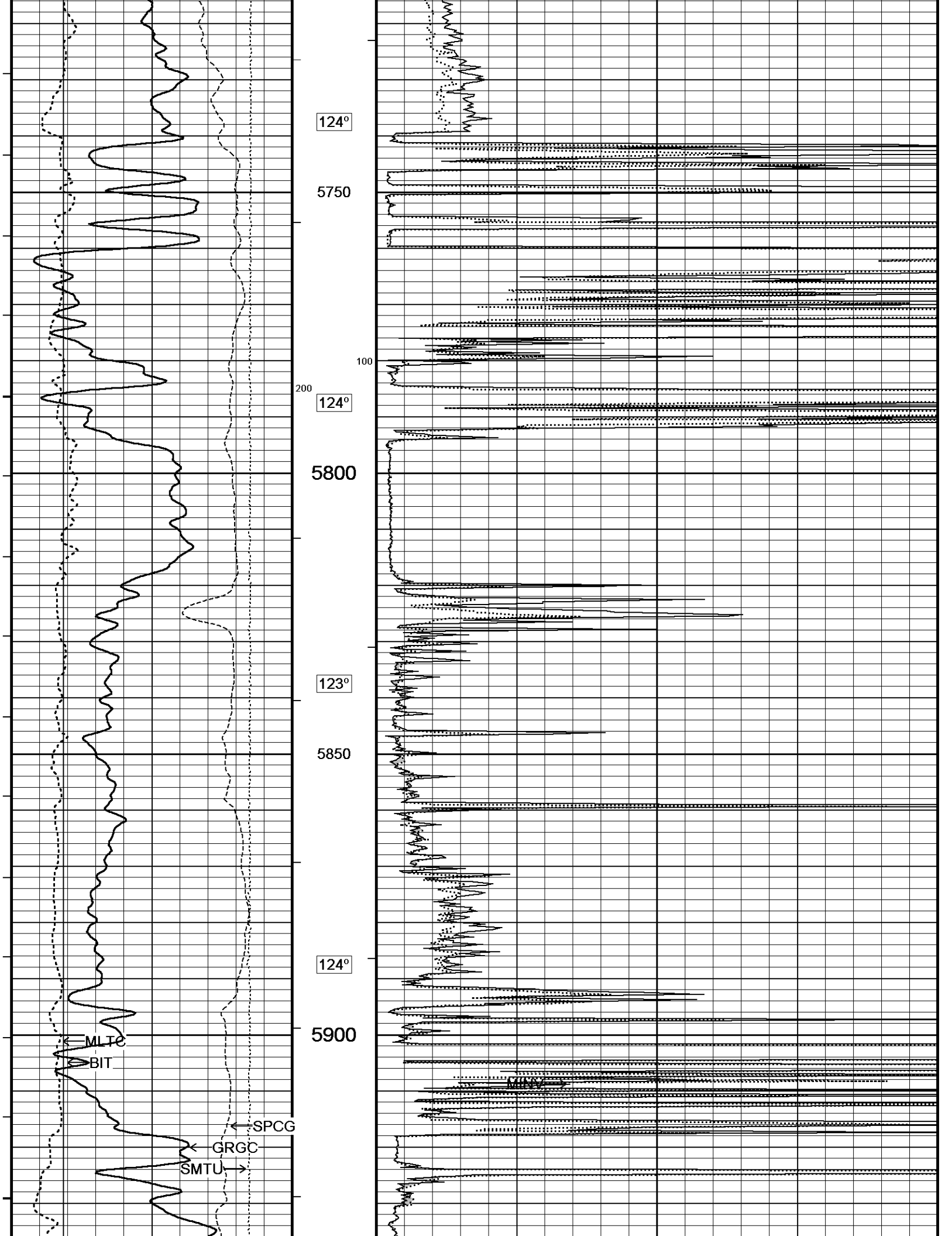
10 INCH HIGH RESOLUTION

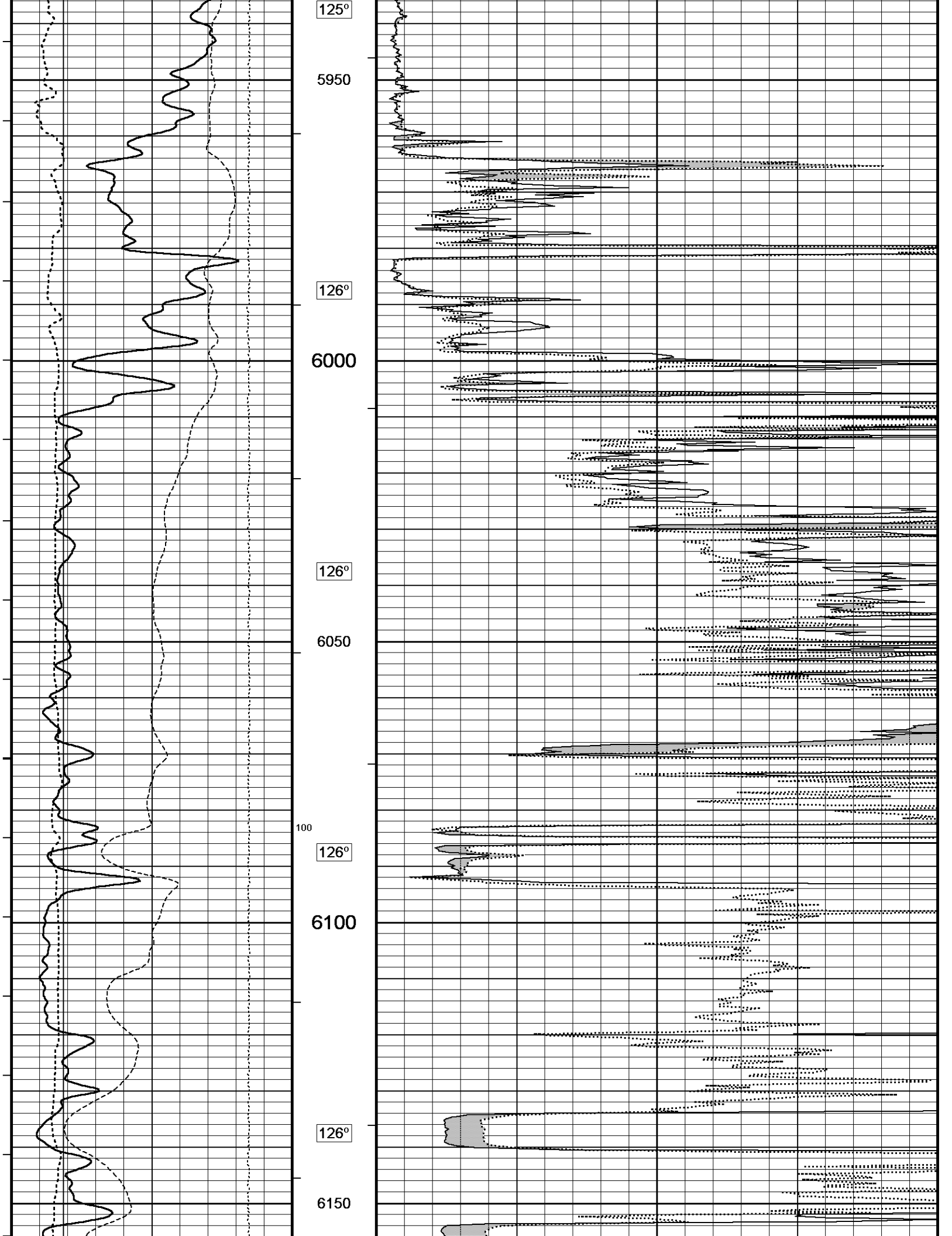
REPEAT SECTION

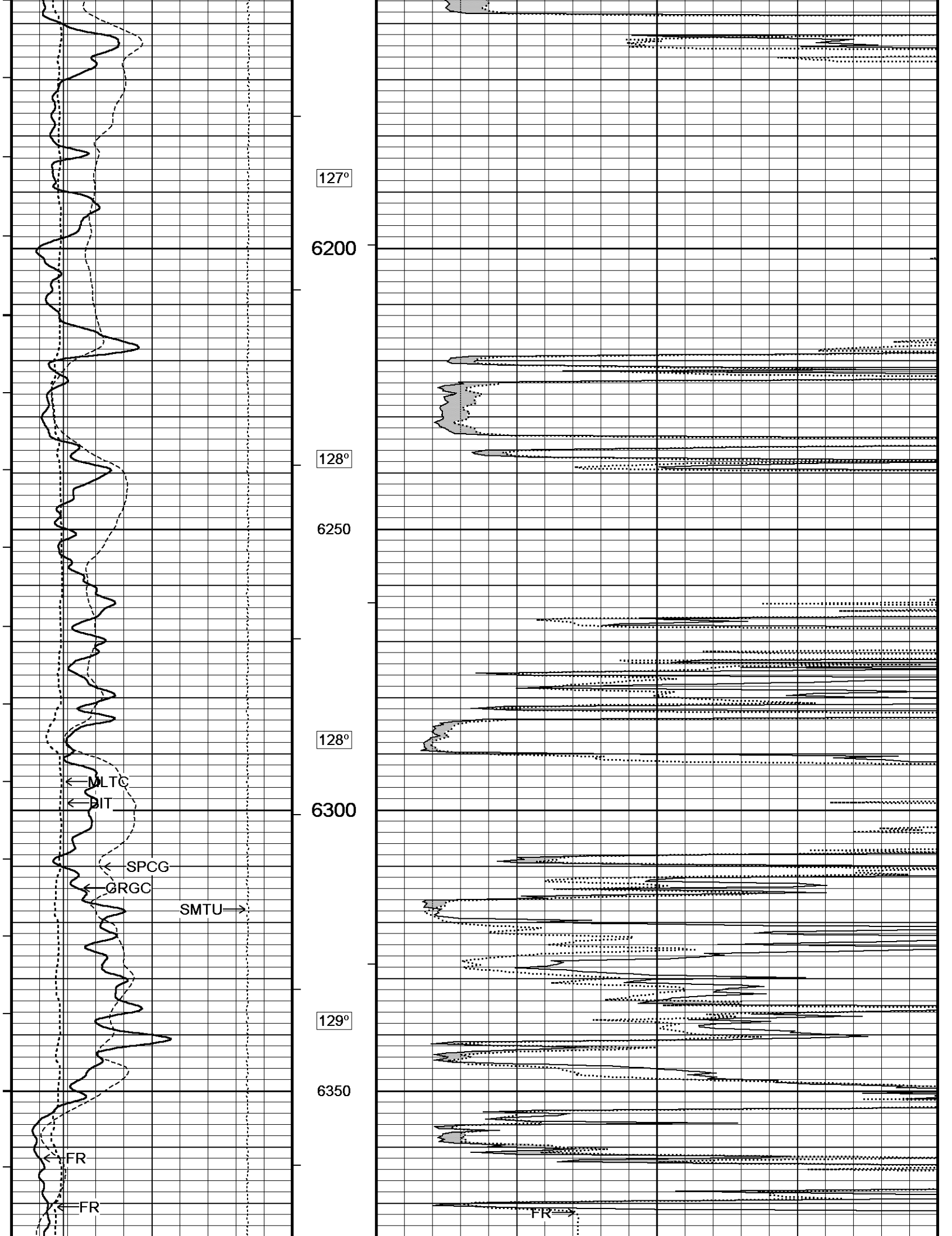
Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 27-OCT-2014 09:13
Filename: C:\Minimus 14.03.4558\Log Data\O'Brien Resourc...\O'Brien Resources Angell #2-13_003.dta — Recorded on 27-OCT-2014 04:40
System Versions: Logged with 14.03.4558 Processed with 14.03.4558 Plotted with 14.03.4558

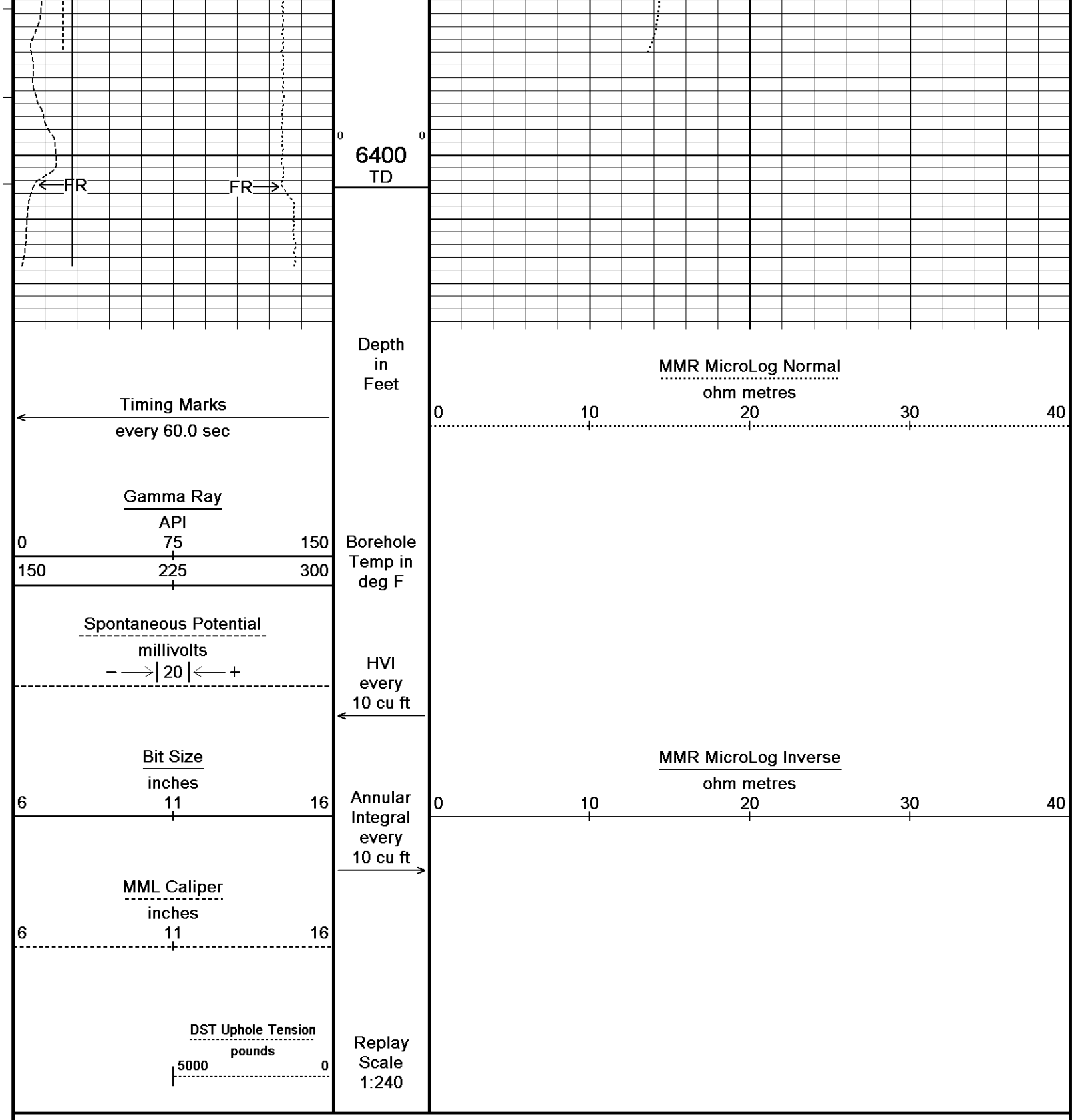



MLTC
BIT
SPCG
GRGC
SMTU
MNRL
5500
122°
5550
123°
5600
123°
5650
124°
5700


124°
5750
100
200
124°
5800
123°
5850
124°
5900
MLTC
BIT
SPCG
GRGC
SMTU
MRES


125°
5950
126°
6000
126°
6050
100
126°
6100
126°
6150


127°
6200
128°
6250
128°
MLTC
DIT
6300
SPCG
GRGC
SMTU
129°
6350
FR
FR
FR



Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 27-OCT-2014 09:13

Filename: C:\Minimus 14.03.4558\Log Data\O'Brien Resourc...\O'Brien Resources Angell #2-13_003.dta — Recorded on 27-OCT-2014 04:40

System Versions: Logged with 14.03.4558 Processed with 14.03.4558 Plotted with 14.03.4558

REPEAT SECTION

BEFORE SURVEY CALIBRATION

C:\Minimus 14.03.4558\Log Data\O'Brien Resources Angell #2-13\O'Brien Resources Angell #2-13 Main.dta

General Constants All 000 — Last Edited on 27-OCT-2014,08:56

General Parameters

Mud Resistivity	0.870	ohm-metres
Mud Resistivity Temperature	92.000	degrees F

Mud Resistivity Temperature	92.000	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	Crossplot Porosity	
Resistivity used	Array Ind. One Res Rt	
RWA Constant A	0.610	
RWA Constant M	2.150	
SW/APOR Tool Source	0.000	

Down-hole Tension Calibration SMS 0

Field Calibration on 21-OCT-2014 01:30

Reading No	Measured	Calibrated (lbs)
1	15337.05	0.00
2	16392.20	583.00

Gamma Calibration MCG-B 39

Field Calibration on 20-OCT-2014 11:27

	Measured	Calibrated (API)
Background	69	47
Calibrator (Gross)	1136	772
Calibrator (Net)	1067	725

Gamma Calibration Tolerances MCG-B 39

Ratio	1.471	1.40 1.475 1.55	Counts/API

Gamma Constants MCG-B 39

Last Edited on 27-OCT-2014,02:35

Gamma Calibrator Number	GRC038	
GRC-M Calibrator Jig in Use?	NO	
Inactive Background Jig in Use?	NO	
Mud Density	1.10	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Concentration of KCl		kppm
K Mud Type	Chloride	
K Mud Concentration	0.00	%

SP Calibration MCG-B 39

Field Calibration on 25-SEP-2014 12:11

	Measured	Calibrated (mV)
Reference 1	102.6	99.9
Reference 2	-97.9	-100.0

High Resolution Temperature Calibration MCG-B 39

Field Calibration on 02-MAY-2014,08:37

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

High Resolution Temperature Constants MCG-B 39

Last Edited on 28-AUG-2014,01:02

Pre-filter Length	11

Caliper Calibration MML-A 3

Base Calibration on 24-OCT-2014 14:47
Field Calibration on 24-OCT-2014 14:52

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	15153	5.98
2	18429	7.97
3	21713	9.86
4	25537	11.92
5	0	0.00
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
7.98	7.97

Caliper Calibration Tolerances MML-A 3

Short Arm Field Cal. 7.98 in (7.77 | 7.97 | 8.17)

Micro Normal and Micro Inverse Calibration MML-A 3

Base Calibration on 24-OCT-2014 15:09
Field Check on 24-OCT-2014 15:12

Base Calibration

Channel	Measured Resistor 1	Measured Resistor 2	Calibrated (ohm-m) Resistor 1	Calibrated (ohm-m) Resistor 2
Micro Normal	10.0	49.9	5.1	25.6
Micro Inverse	10.0	49.9	3.4	16.9

Channel	Base Check (ohm-m)	Field Check (ohm-m)
Micro Normal	77.4	77.4
Micro Inverse	51.3	51.3

Micro Normal & Micro Inverse Calibration Tolerance MML-A 3

Micro Normal Res. 1 10.0 ohm (-5% | 10.0 | +5%)
Micro Normal Res. 2 49.9 ohm (-5% | 50.0 | +5%)
Micro Inverse Res. 1 10.0 ohm (-5% | 10.0 | +5%)
Micro Inverse Res. 2 49.9 ohm (-5% | 50.0 | +5%)

Micro Normal Base Check 77.4 ohm-m (-2% | 77.28 | +2%)
Micro Inverse Base Check 51.3 ohm-m (-2% | 51.19 | +2%)

Micro Normal Field Check 77.4 ohm-m (-2% | 77.4 | +2%)
Micro Inverse Field Check 51.3 ohm-m (-2% | 51.3 | +2%)

Micro Normal and Micro Inverse Constants MML-A 3

Last Edited on 27-OCT-2014,02:35

Pad Type	8-12 in Soft Rubber Inflatable 006-9011-159	
Micro Normal K Factor	0.5110	
Micro Inverse K Factor	0.3380	
Standoff Offset	N/A	inches

Neutron Calibration MDN-A.B 152

Base Calibration on 24-OCT-2014 12:40
Field Check on 24-OCT-2014 13:09

Base Calibration

	Measured Near	Measured Far	Calibrated (cps) Near	Calibrated (cps) Far
	2866	87	3714	110
Ratio	33.093		33.764	

Field Calibrator at Base

	Calibrated (cps) Near	Calibrated (cps) Far
	1779	2659
Ratio	0.669	

Field Check

	Calibrated (cps) Near	Calibrated (cps) Far
	1781	2643
Ratio	0.674	

Neutron Calibration Tolerances MDN-A.B 152

Near Reading 2866 cps (-25% | 3500 | +25%)
Far Reading 87 cps (-50% | 106 | +50%)
Ratio 33.093 (-5% | 33 | +5%)

Base Check 0.669 (0.65 | 0.7 | 0.75)

Field Check 0.674 (0.649 | 0.669 | 0.689)

Neutron Constants MDN-A.B 152

Last Edited on 27-OCT-2014,02:59

Neutron Source Id	P0204NN
Neutron Jig Number	5824NE
Air Hole Processing	Legacy

Air Hole Processing	Legacy	
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	None	
Formation Pressure	N/A	kpsi
Temperature Source	Constant Value	
Temperature	68.00	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 353

Base Calibration on 24-OCT-2014 15:33
Field Check on 24-OCT-2014 15:39

Base Calibration

	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	964.2	126.8
Base Check		281.0
Field Check		281.0

FE Calibration Tolerances MFE-B.J 353

Reference 2	964.2	-3% 980.0 +3%	ohm
Base Check	281.0	-2% 277.0 +2%	ohm-m
Field Check	281.0	-2% 281.0 +2%	ohm-m

FE Constants MFE-B.J 353

Last Edited on 27-OCT-2014,02:34

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.	MCG External Temperature	
Stand-off	0.5	inches

Induction Calibration MAI-A.A 111

Base Calibration on 05-AUG-2014,09:34
Field Check on 24-OCT-2014 11:13

Base Calibration

Test Loop Calibration

Channel	Measured Low	Measured High	Calibrated (mmho/m) Low	Calibrated (mmho/m) High
1	17.6	473.6	9.3	966.2
2	6.4	385.9	7.6	821.4
3	3.2	264.0	5.2	566.0
4	2.1	135.5	2.6	279.2

Array Temperature 23.0 Deg F

Test Loop Calibration Verified

Channel	Base Check (mmho/m) Low	Base Check (mmho/m) High	Field Check (mmho/m) Low	Field Check (mmho/m) High
1			13.0	3870.7
2			30.0	3524.8
3			29.1	3018.3
4			19.1	2056.2
Deep			17.8	1960.0
Medium			43.1	3972.5
Shallow			44.6	5228.2

Array Temperature 81.6 Deg F

Induction Calibration Tolerances MAI-A.A 111

Low Conductivity 1	17.6	13.0 / 17.0 / 21.0	mmho/m	High Conductivity 1	473.6	430.0 / 475.0 / 520.0	mmho/m
Low Conductivity 2	6.4	4.5 / 6.0 / 7.5	mmho/m	High Conductivity 2	385.9	345.0 / 385.0 / 425.0	mmho/m
Low Conductivity 3	3.2	1.0 / 3.5 / 6.0	mmho/m	High Conductivity 3	264.0	240.0 / 260.0 / 280.0	mmho/m
Low Conductivity 4	2.1	0.0 / 2.0 / 4.0	mmho/m	High Conductivity 4	135.5	120.0 / 135.0 / 150.0	mmho/m
Background Vx 1	0.0	-110.0 / -32.5 / 45.0	mmho/m	Phase Check Loop 1	0.0	-2.0 / 0.0 / 2.0	%
Background Vx 2	0.0	-35.0 / 20.0 / 75.0	mmho/m	Phase Check Loop 2	0.0	-2.0 / 0.0 / 2.0	%
Background Vx 3	0.0	-60.0 / 2.5 / 65.0	mmho/m	Phase Check Loop 3	0.0	-2.0 / 0.0 / 2.0	%
Background Vx 4	0.0	-50.0 / -17.5 / 15.0	mmho/m	Phase Check Loop 4	0.0	-2.0 / 0.0 / 2.0	%

Induction Constants MAI-A.A 111

Last Edited on 27-OCT-2014,02:33

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	8.0000	
Stand-off Fin Angle	45.00	degrees
Stand-off Fin Width	0.5000	inches
Borehole Corr. Rm Source	Temperature Corr	
Temp. for Rm Corr.	MCG External Temperature	
Squasher Start	0.0020	mhos/metre
Squasher Offset	N/A	mhos/metre

Borehole Normalisation

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

Calibration Site Corrections

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

Apparent Porosity and Water Saturation Constants

Archie Constant (A)	1.00	
Cementation Exponent (M)	2.00	
Saturation Exponent (N)	2.00	
Saturation of Water for Apor	100.00	percent
Resistivity of Water for Apor and Sw	0.05	ohm-m
Resistivity of Mud Filtrate for Sw	0.00	ohm-m
Source for Rt	0.00	
Source for Rxo	0.00	

High Resolution Temperature Calibration MAI-A.A 111

Field Calibration on 20-JUN-2014,09:22

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

High Resolution Temperature Constants MAI-A.A 111

Last Edited on 26-JUN-2014,15:06

Pre-filter Length	11

Caliper Calibration MPD-C.A 216

Base Calibration on 24-OCT-2014 11:23
Field Calibration on 24-OCT-2014 11:25

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	18960	3.99
2	28807	5.98
3	38852	7.97

3	38852	7.97
4	48518	9.86
5	59792	11.92
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
7.99	7.97

Caliper Calibration Tolerances MPD-C.A 216

Short Arm Field Cal. 7.99 in

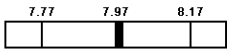


Photo Density Calibration MPD-C.A 216

Base Calibration on 24-OCT-2014 11:46
Field Check on 24-OCT-2014 11:53

Density Calibration

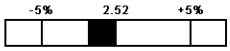
Base Calibration	Measured Near	Measured Far	Calibrated (sdu) Near	Calibrated (sdu) Far
Background	1094	1297		
Reference 1	59838	31173	59556	30836
Reference 2	24858	2730	24941	2541
Field Check at Base	1094.4	1296.6		
Field Check	1096.6	1297.3		

PE Calibration

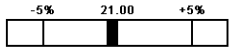
Base Calibration	WS	Measured WH	Ratio	Calibrated Ratio
Background	201	974		
Reference 1	25019	59646	0.423	0.371
Reference 2	7097	24723	0.290	0.272
Field Check at Base	201.2	973.6		
Field Check	199.1	973.5		

Photo Density Calibration Tolerances MPD-C.A 216

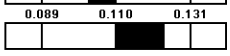
Near Density Ratio 2.47



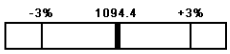
Far Density Ratio 20.84



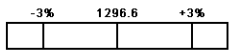
PE Calibration 0.124



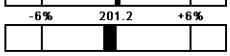
Near Den. Field Check 1096.6



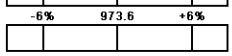
Far Den. Field Check 1297.3



PE WS Field Check 199.1



PE WH Field Check 973.5



Density Constants MPD-C.A 216

Last Edited on 27-OCT-2014,02:35

Density Source Id	18235B	
Nylon Calibrator Number	DNCE695	
Aluminium Calibrator Number	DACD698	
Density Shoe Profile	8 inch	
Caliper Source for Processing	Density Caliper	
PE Correction to Density	Not Applied	
Mud Density	1.10	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 (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	

DOWNHOLE EQUIPMENT

C:\Minimus 14.03.4558\Log Data\O'Brien Resources Angell #2-13\O'Brien Resources Angell #2-13 Main.dta

CBH-C, Cablehead, 11 pin
CBH-C 0 LG: 2.40 ft WT: 24.3 lb OD: 2.244 in

Compact Comms Gamma
MCG-B 39 LG: 8.70 ft WT: 63.9 lb OD: 2.244 in

Compact Micro-log
MML-A 3 LG: 7.97 ft WT: 81.6 lb OD: 2.240 in

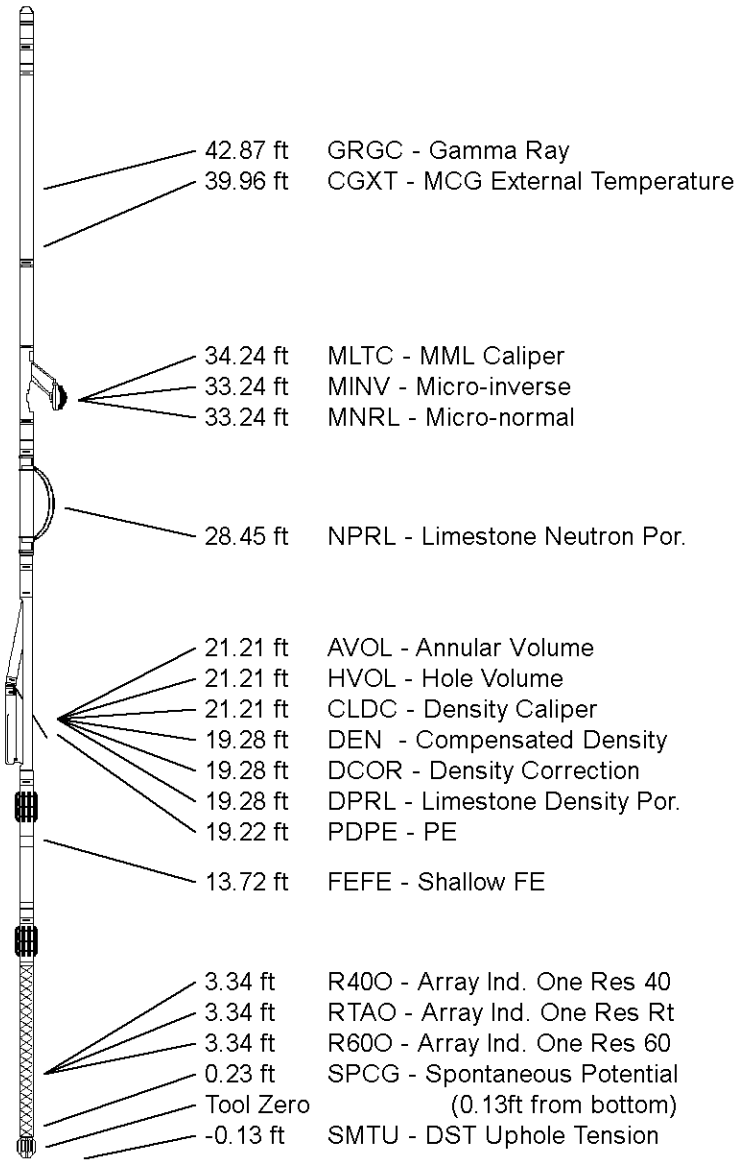
Compact Neutron
MDN-A.B 152 LG: 5.04 ft WT: 50.7 lb OD: 2.244 in

Compact Density/Caliper
MPD-C.A 216 LG: 9.59 ft WT: 90.4 lb OD: 2.449 in

Compact Focussed Electric
MFE-B.J 353 LG: 6.05 ft WT: 48.5 lb OD: 2.244 in

Compact Induction
MAI-A.A 111 LG: 10.81 ft WT: 48.5 lb OD: 2.244 in

Total Length: 50.55 ft Weight: 407.9 lb



COMPANY	O'BRIEN ENERGY RESOURCES CORP.
WELL	ANGELL #2-13
FIELD	ANGELL
PROVINCE/COUNTY	MEADE
COUNTRY/STATE	U.S.A. / KANSAS

Elevation Kelly Bushing	2735.00	feet	First Reading	6372.00	feet
Elevation Drill Floor	2733.00	feet	Depth Driller	6400.00	feet
Elevation Ground Level	2724.00	feet	Depth Logger	6405.00	feet

Weatherford®

MICRORESISTIVITY LOG