Schlumberger

Company: **Lamont Doherty**

Well: **Expedition 335 Site U1256D**
Field: **Superfast Spreading Crust IV**
Rig: **Joides Resolution** Ocean: **Pacific Ocean**

Rig: Joides Resolution
Field: Superfast Spreading Crust IV
Location:
Well: Expedition 335 Site U1256D
Company: Lamont Doherty

High Resolution Laterolog Array
Caliper
Gamma Ray

LOCATION

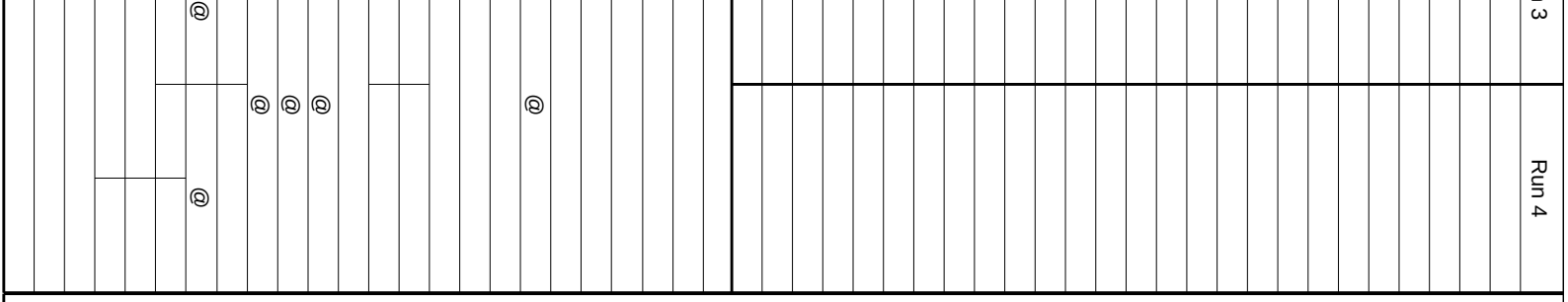
Elev.: K.B. −3656.00 m
G.L. 0.00 m
D.F. −3656.00 m

Permanent Datum: Mean Sea Level Elev.: 0.00 m
Log Measured From: Rig Floor −3656.00 m above Perm. Datum
Drilling Measured From: Rig Floor

API Serial No.	Max. Hole Devi. 5 deg	Longitude 91* 56.0612 W	Latitude 6* 44.1631 N

	Run 1	Run 2	Run
Logging Date	26−May−2011		
Run Number	One		
Depth Driller	1520 m		
Schlumberger Depth	1524 m		
Bottom Log Interval	1512 m		
Top Log Interval	150 m		
Casing Driller Size @ Depth	16.000 in @ 269 m	@	@
Casing Schlumberger	269 m		
Bit Size	9.875 in		
Type Fluid In Hole	Sea water		
MUD Density / Viscosity	1 g/cm3		
MUD Fluid Loss / PH			
MUD Source Of Sample			
RM @ Measured Temperature	@	@	@
RMF @ Measured Temperature	@	@	@
RMC @ Measured Temperature	@	@	@
Source RMF / RMC			
RM @ MRT / RMF @ MRT	@ 80 / @ 80	@ / @	@ / @
Maximum Recorded Temperatures	80 degC		
Circulation Stopped / Time	26−May−2011 / 18:00		
Logger On Bottom / Time	27−May−2011 / 2:00		
Unit Number / Location	625003 / Webster, TX		
Recorded By	K. Swain		
Witnessed By	G. Guerin, N. Zakharova		

	Run 1	Run 2	Run
Logging Date			
Run Number			
Depth Driller			
Schlumberger Depth			
Bottom Log Interval			
Top Log Interval			
Casing Driller Size @ Depth	@		
Casing Schlumberger			
Bit Size			
Type Fluid In Hole			
MUD Density / Viscosity			
MUD Fluid Loss / PH			
MUD Source Of Sample			
RM @ Measured Temperature	@		
RMF @ Measured Temperature	@		
RMC @ Measured Temperature	@		
Source RMF / RMC			
RM @ MRT / RMF @ MRT	@ / @		
Maximum Recorded Temperatures			
Circulation Stopped / Time			
Logger On Bottom / Time			
Unit Number / Location			
Recorded By			
Witnessed By			



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OTHER SERVICES1	OTHER SERVICES2
OS1:	OS1:
OS2: HLDS/APS	OS2:
OS3: MTT	OS3:
OS4:	OS4:
OS5:	OS5:

REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
All logs referenced to Sea Floor in this print.	
Original files downlog47 and uplog50.dlis recorded from rig floor depth.	
Casing and sea floor depth information provided by IODP/LDEO.	
APS turned off on downlog and caliper LCAL closed on downlog.	
Hole top section logged in ODP leg 206 and Exp 309, 312.	
Log correlated to 16 inch casing at 269 m for both down and uplogs.	
At 4850mbrf or 1209mbsf, uplog speed increased to 3600ft/hr from 900ft/hr.	
Downlog flipped and used for repeat as a 2nd uplog was not made due	
to difficulty in opening the caliper.	
HRLT utilized Inversion for uplog with LCAL as input. Downlog used BS as input.	
Toolsketch shows layout of tools, with note that the HRLA was	
centralized using 2 MCD centralizers above/below the HRLA.	
The remaining upper part of the tool was eccentralized with an ILE bowspring	
for the APS and caliper with HLDS. 4 AH184 knuckle joints were utilized	
between HLDS and the top MCD centralizer to eliminate issues between	
centralized and eccentralized tools.	
HRLT RLA1,2 and RXO removed from print. Data affected by large hole, RM/RT	

RUN 1	RUN 2
SERVICE ORDER #:	SERVICE ORDER #:
PROGRAM VERSION: 17C0−154	PROGRAM VERSION:
FLUID LEVEL:	FLUID LEVEL:

LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION

RUN 1

SURFACE EQUIPMENT

SFT−281 1
SFT−178 1
WITM (EDTS)−A 1

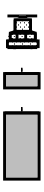
DOWNHOLE EQUIPMENT

LEH−MT 101

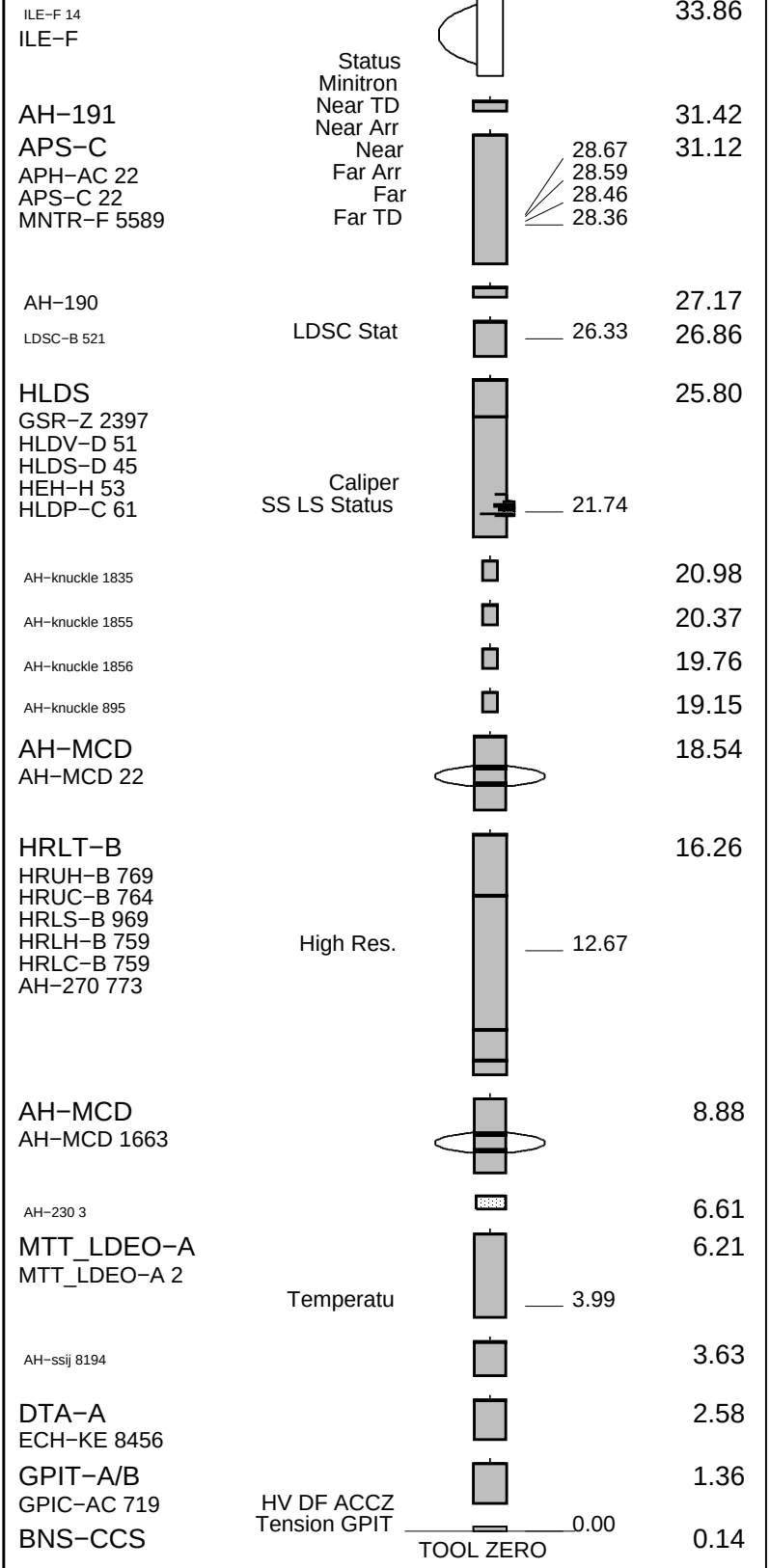
AH−369

EDTC−B
EDTH−B 8303
EDTC−B 8317

MDSB_EDTC
Mud Tempe
CTEM
Gamma Ray
TelStatus
EDTCB Ele

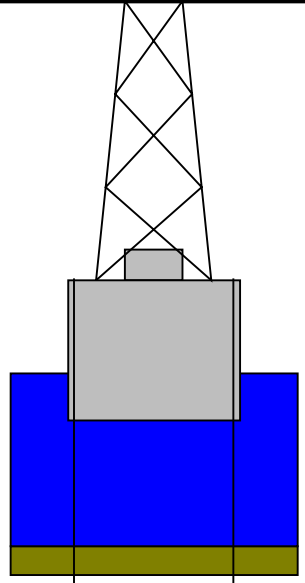


RUN 2



MAXIMUM STRING DIAMETER 4.50 IN
MEASUREMENTS RELATIVE TO TOOL ZERO
ALL LENGTHS IN METERS

Production String	(in) OD	ID	(m) MD	Well Schematic	(m) MD	(in) OD	ID	Casing String

Derrick Floor Elevation			−3656			−3656	5.500	Casing String
Mean Sea Level			0					
						0.0	9.875	Borehole Segment
						269	5.500	Casing Shoe

Company: Lamont Doherty | Well: Expedition 335 Site U1256D

Input DLIS Files

DEFAULT	MTT_LDEO_HRLA_LDL_050LUP	FN:53	PRODUCER	27−May−2011 08:48	5168.6 M	3872.8 M

Output DLIS Files

DEFAULT	MTT_LDEO_HRLA_LDL_067PUP	FN:8	PRODUCER	08−Jun−2011 17:47	1527.8 M	231.8 M

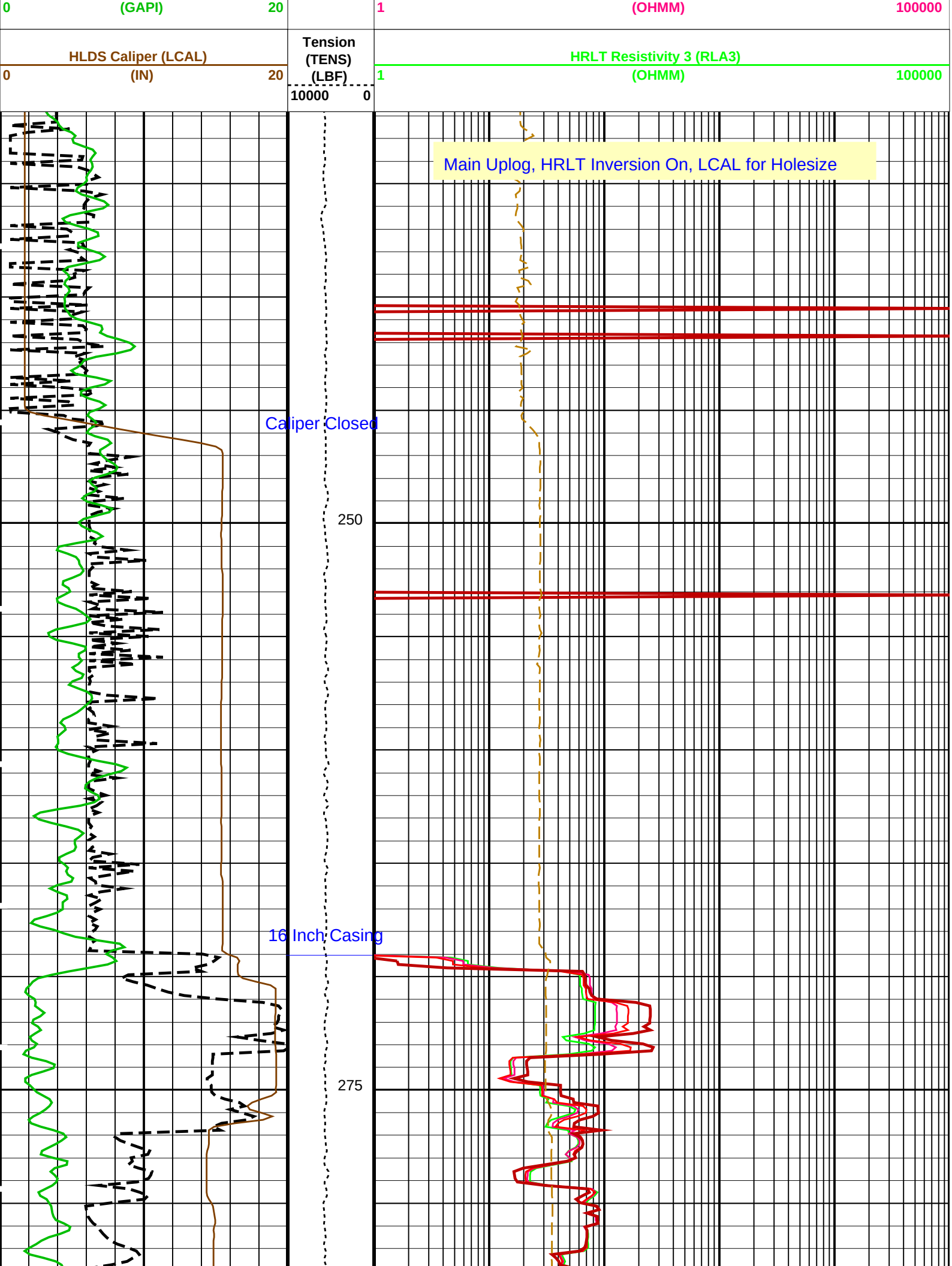
OP System Version: 17C0−154

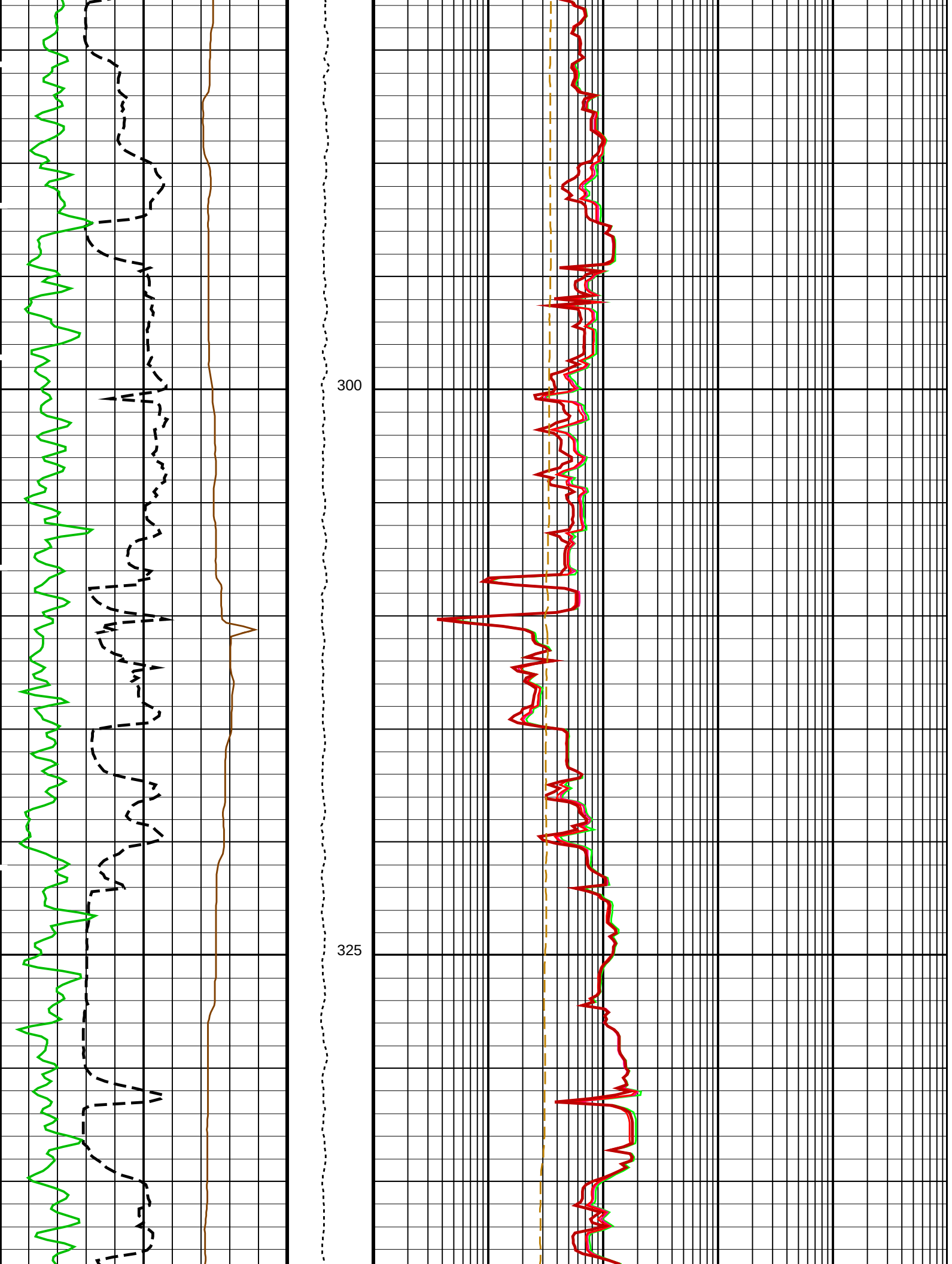
GPIT−A/B	SRPC−3971−Q1_2010_OP17	DTA−A	17C0−154
MTT_LDEO−A	17C0−154	HRLT−B	SRPC−3971−Q1_2010_OP17
HLDS	SPC−3961−OP17_NUCL	LDSC−B	SPC−3961−OP17_NUCL
APS−C	SPC−3961−OP17_NUCL	EDTC−B	SRPC−3971−Q1_2010_OP17

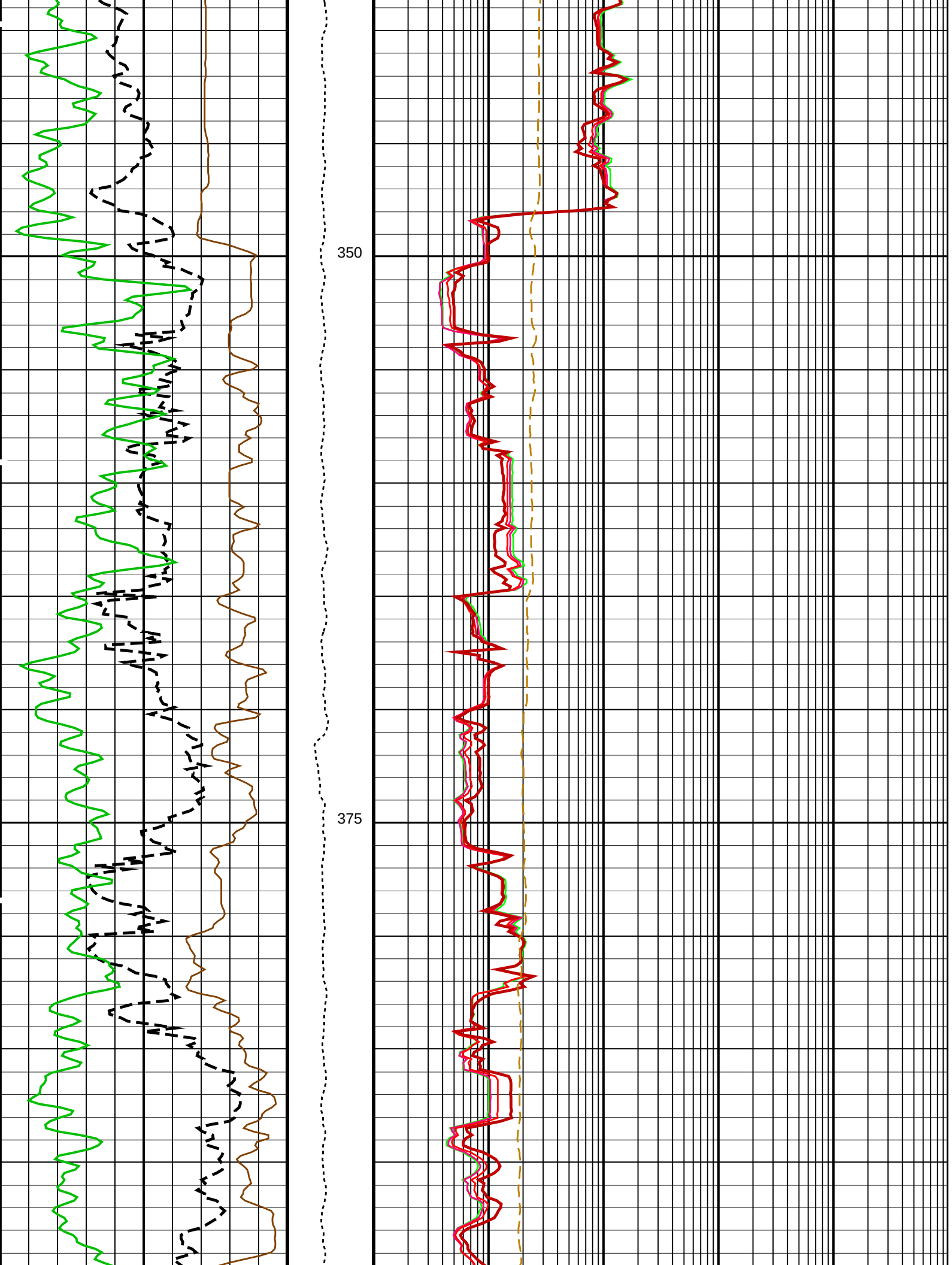
PIP SUMMARY

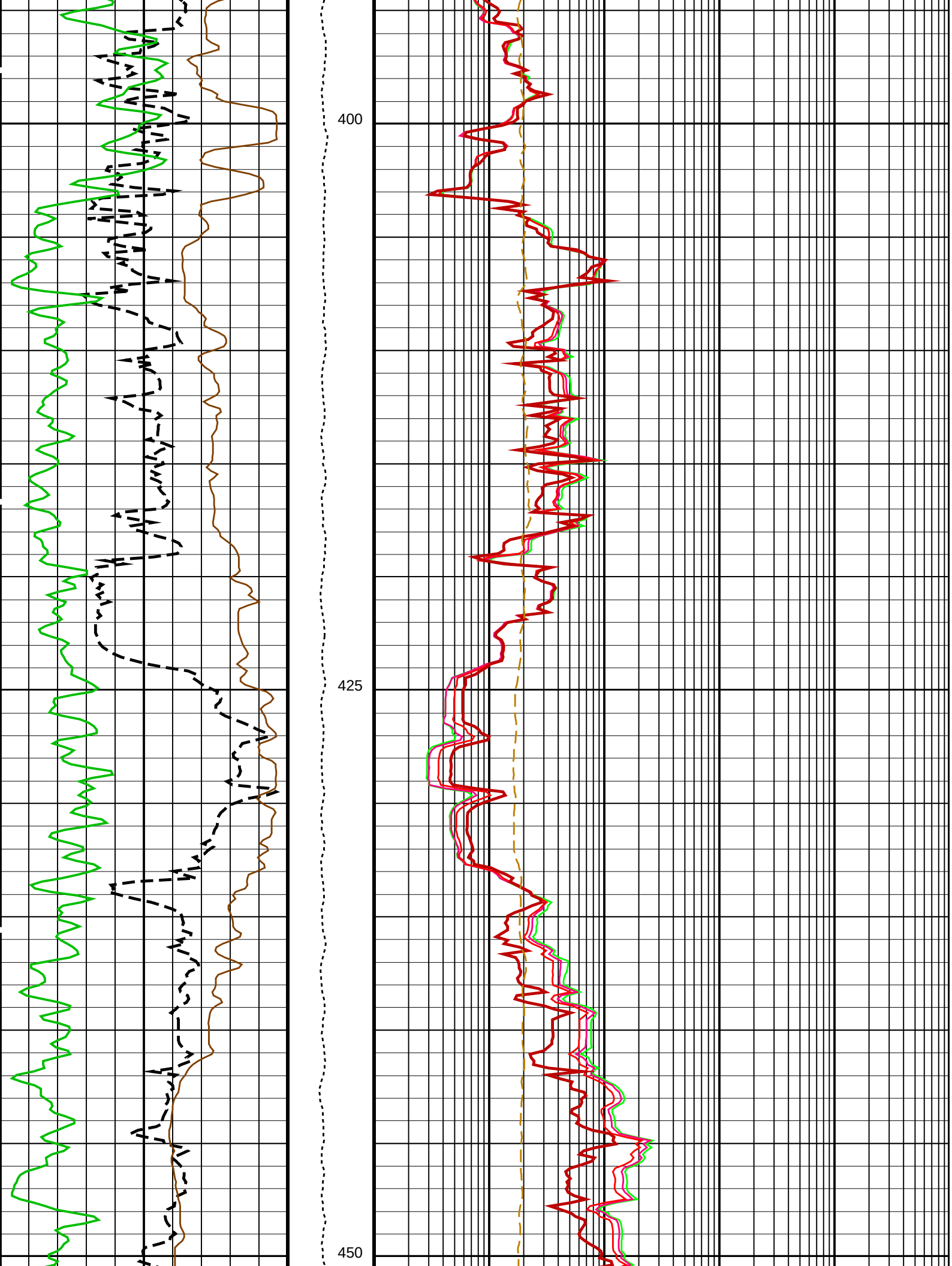
Time Mark Every 60 S

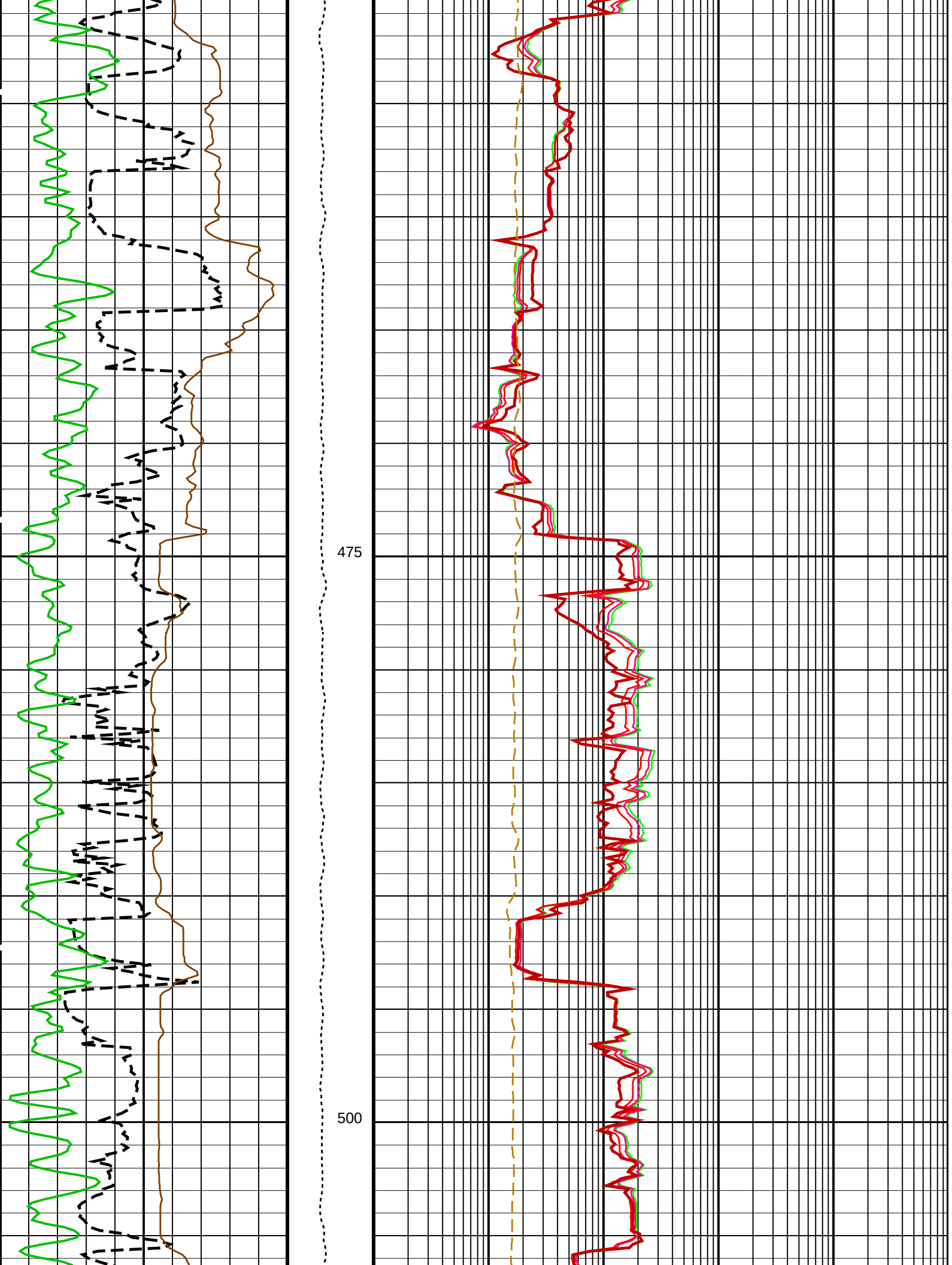
	HRLT True Resistivity (RT_HRLT)	
	1 (OHMM) 100000	
	HRLT Mud Resistivity (RM_HRLT)	
	0.01 (OHMM) 1000	
Invasion Diameter (DI_HRLT)	HRLT Resistivity 5 (RLA5)	
0 (IN) 50	1 (OHMM) 100000	
Gamma Ray (GR_EDTC)	HRLT Resistivity 4 (RLA4)	

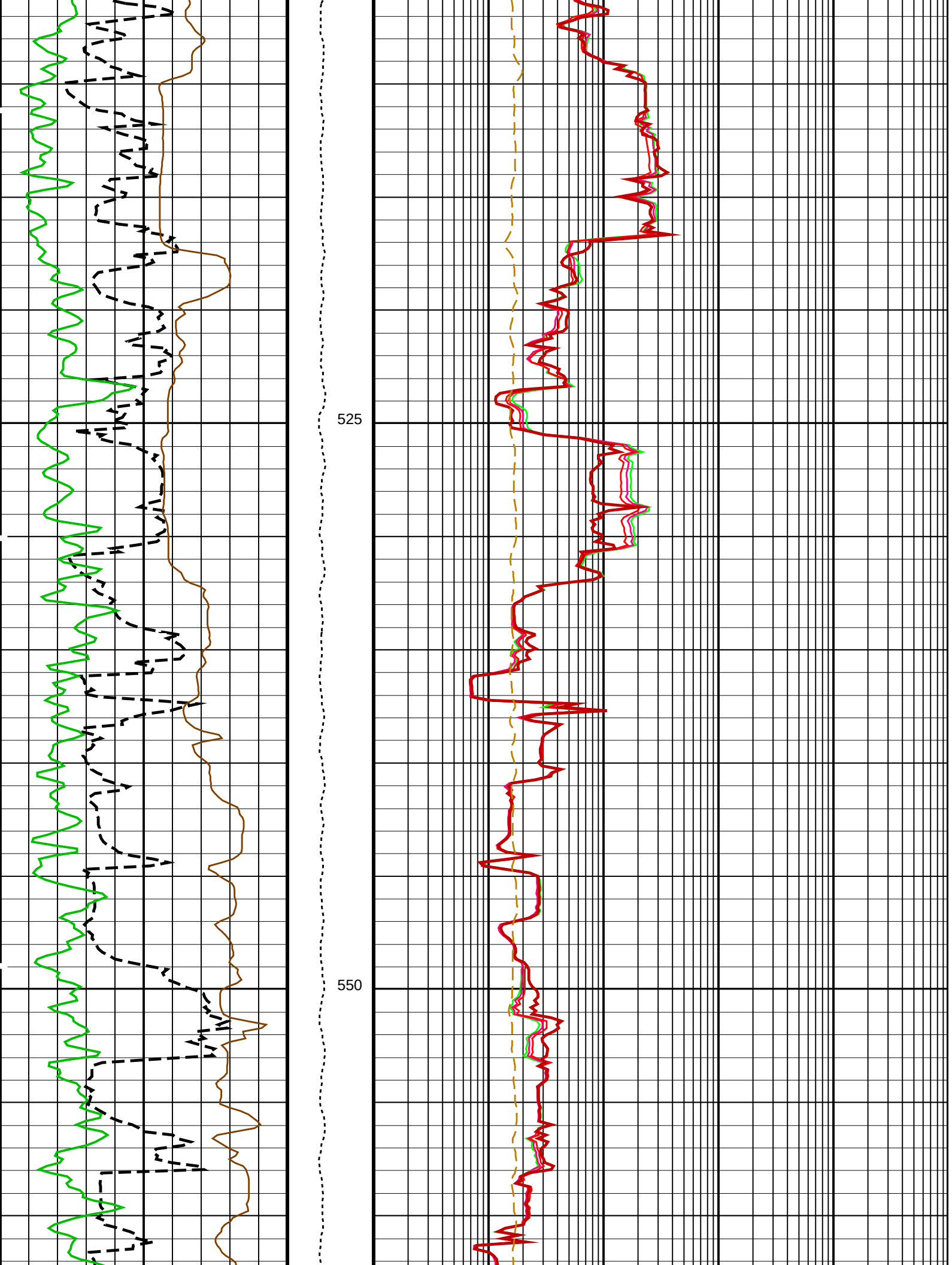

0
(GAPI)
20
1
(OHMM)
100000
HLDS Caliper (LCAL)
0
(IN)
20
Tension
(TENS)
(LBF)
10000
0
HRLT Resistivity 3 (RLA3)
1
(OHMM)
100000
Main Uplog, HRLT Inversion On, LCAL for Holesize
Caliper Closed
250
16 Inch Casing
275

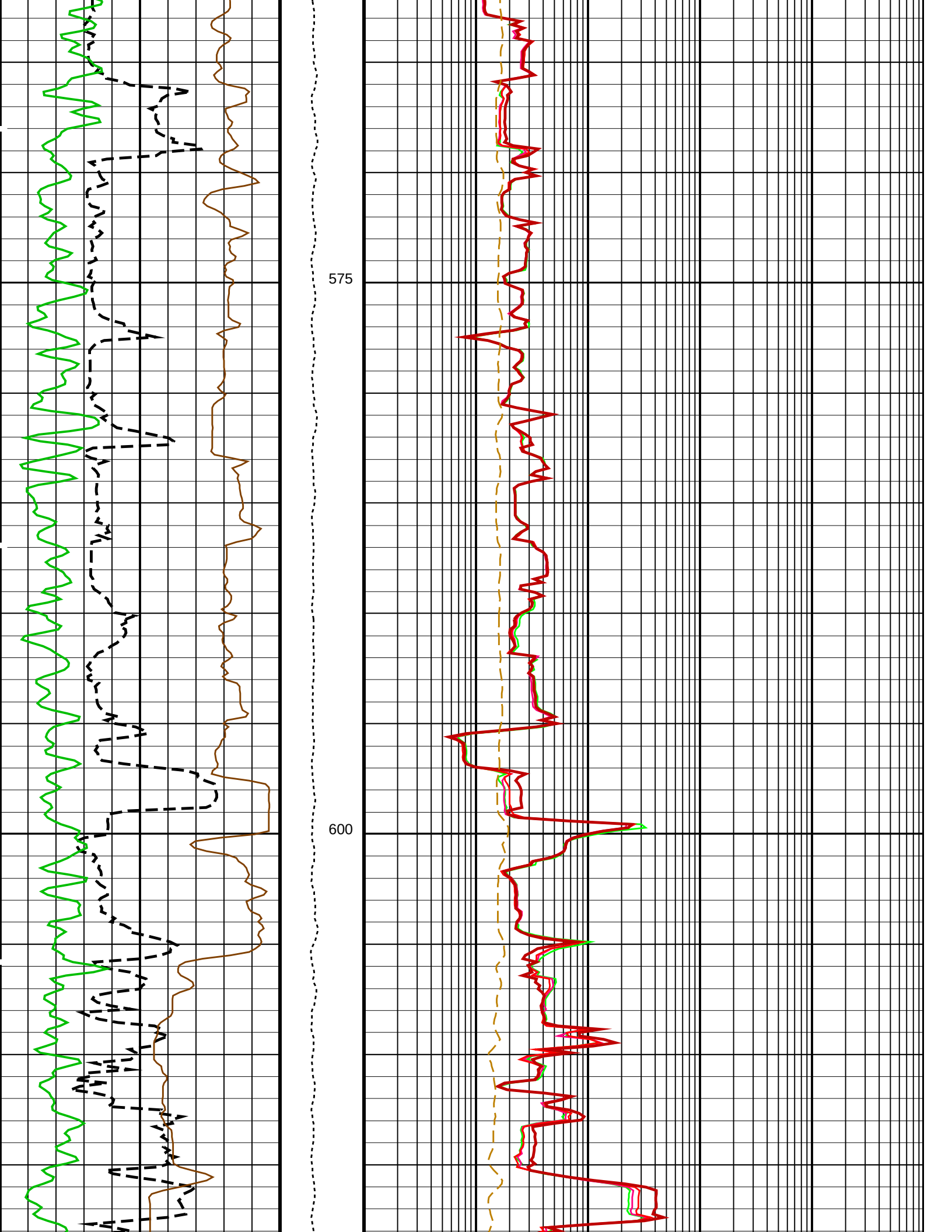

300
325

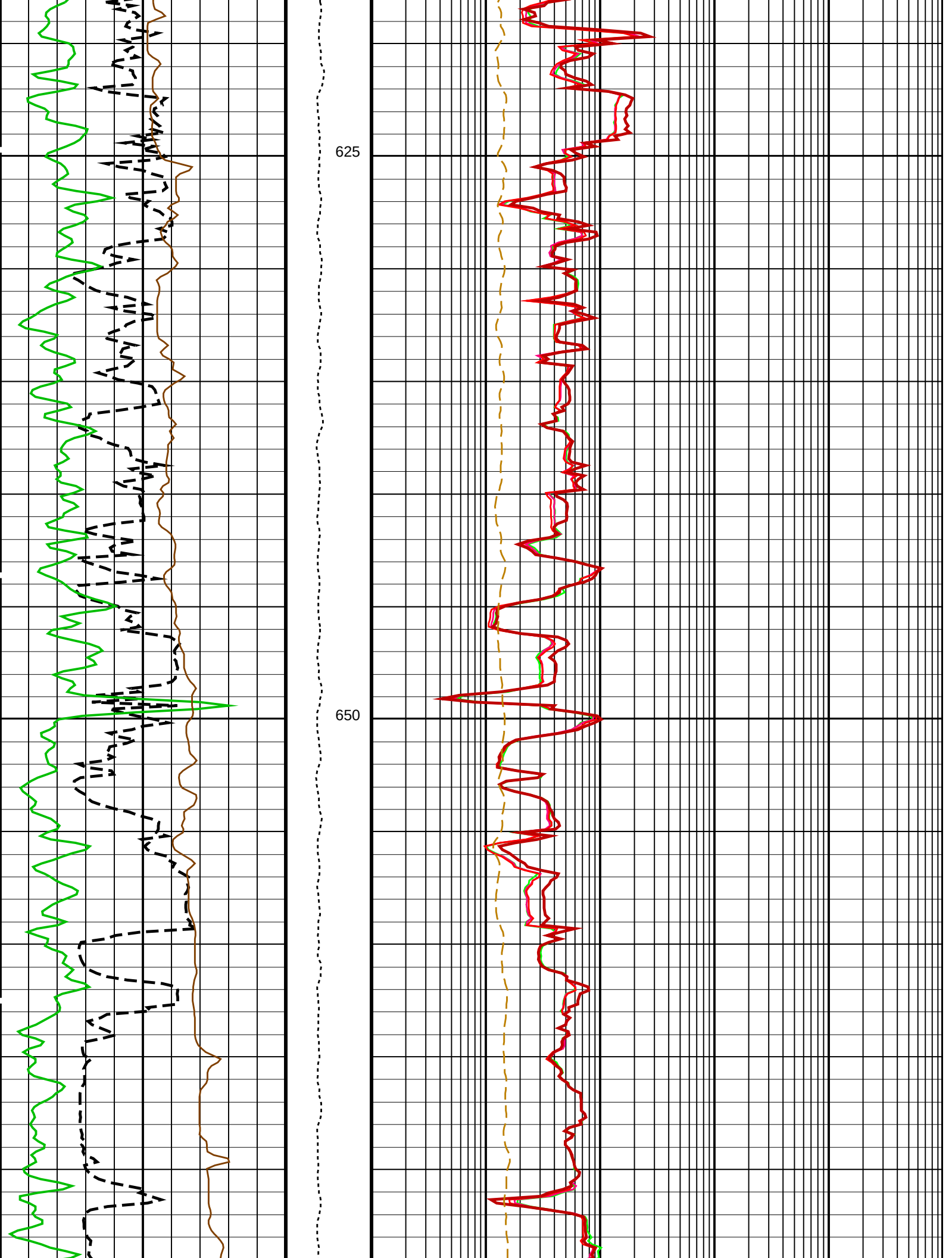

350
375

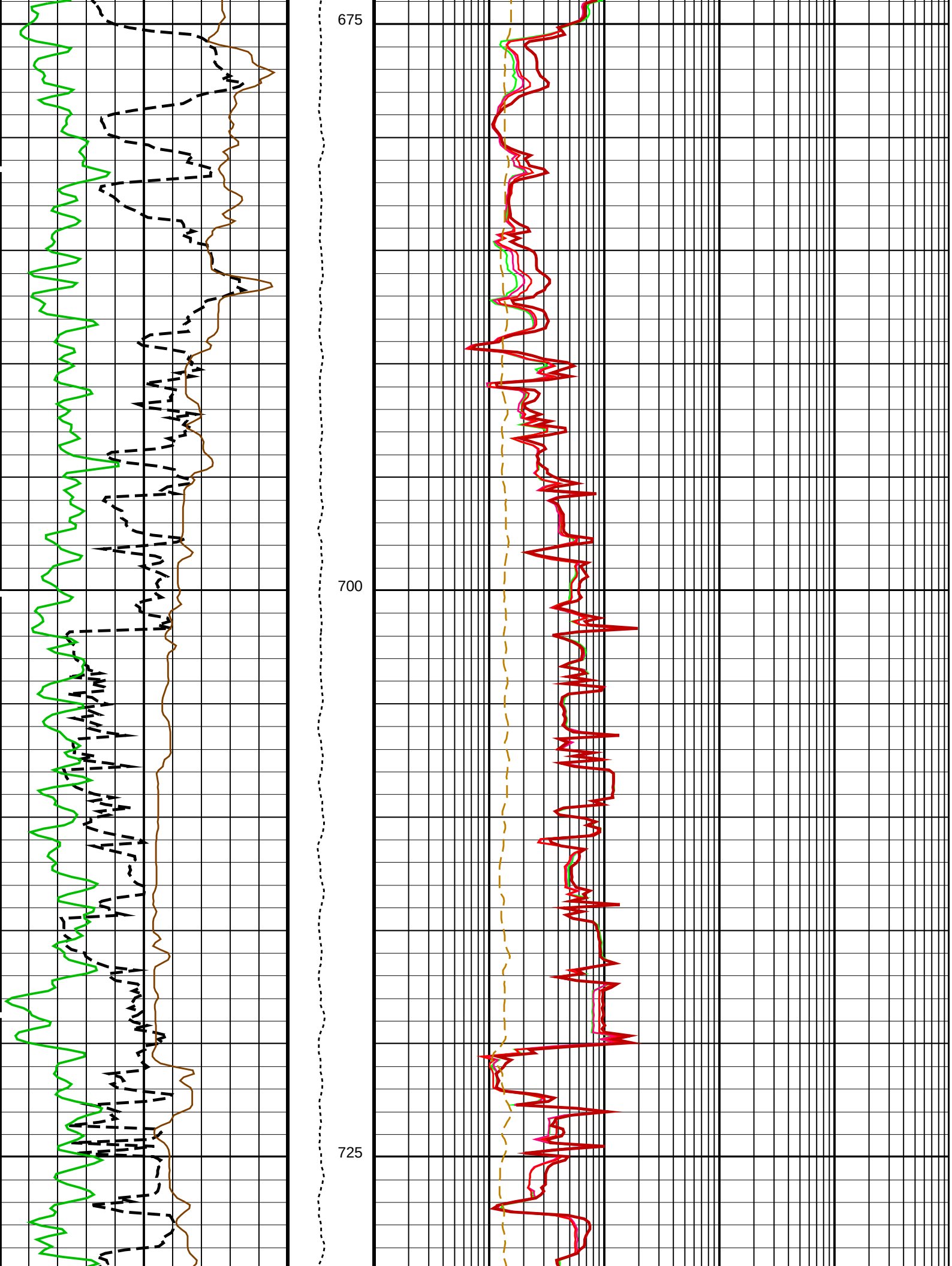

400
425
450

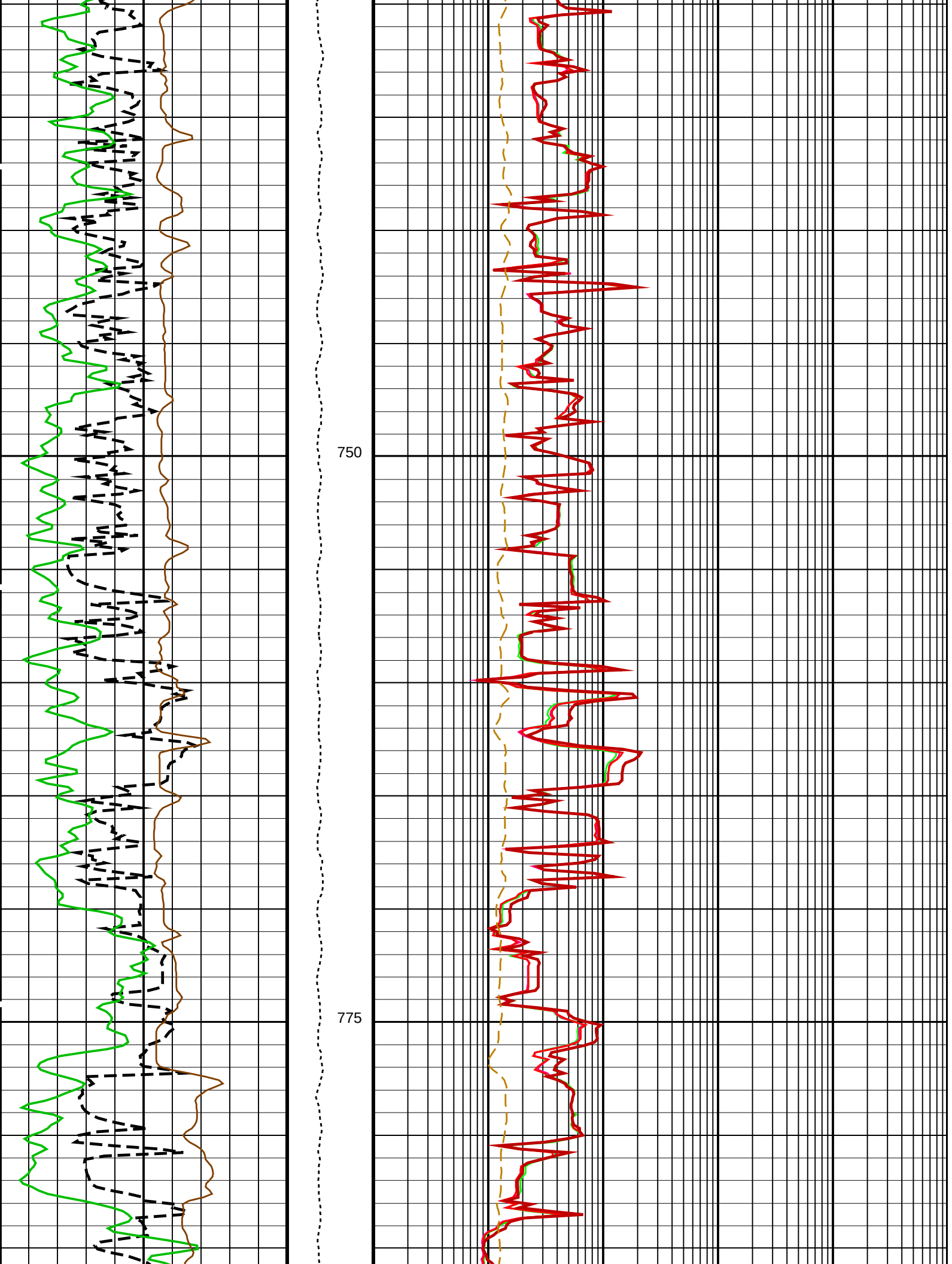

475
500

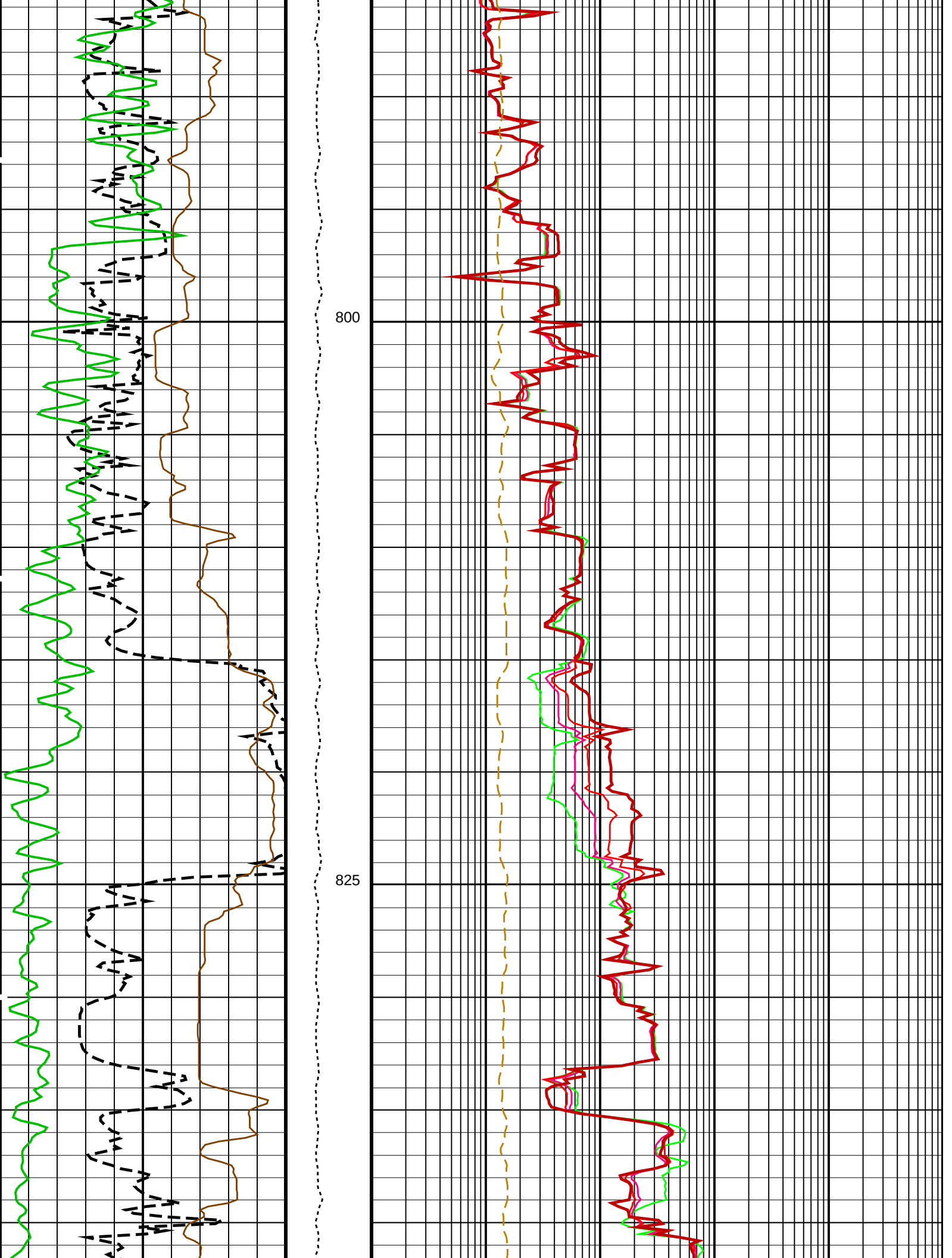

525
550

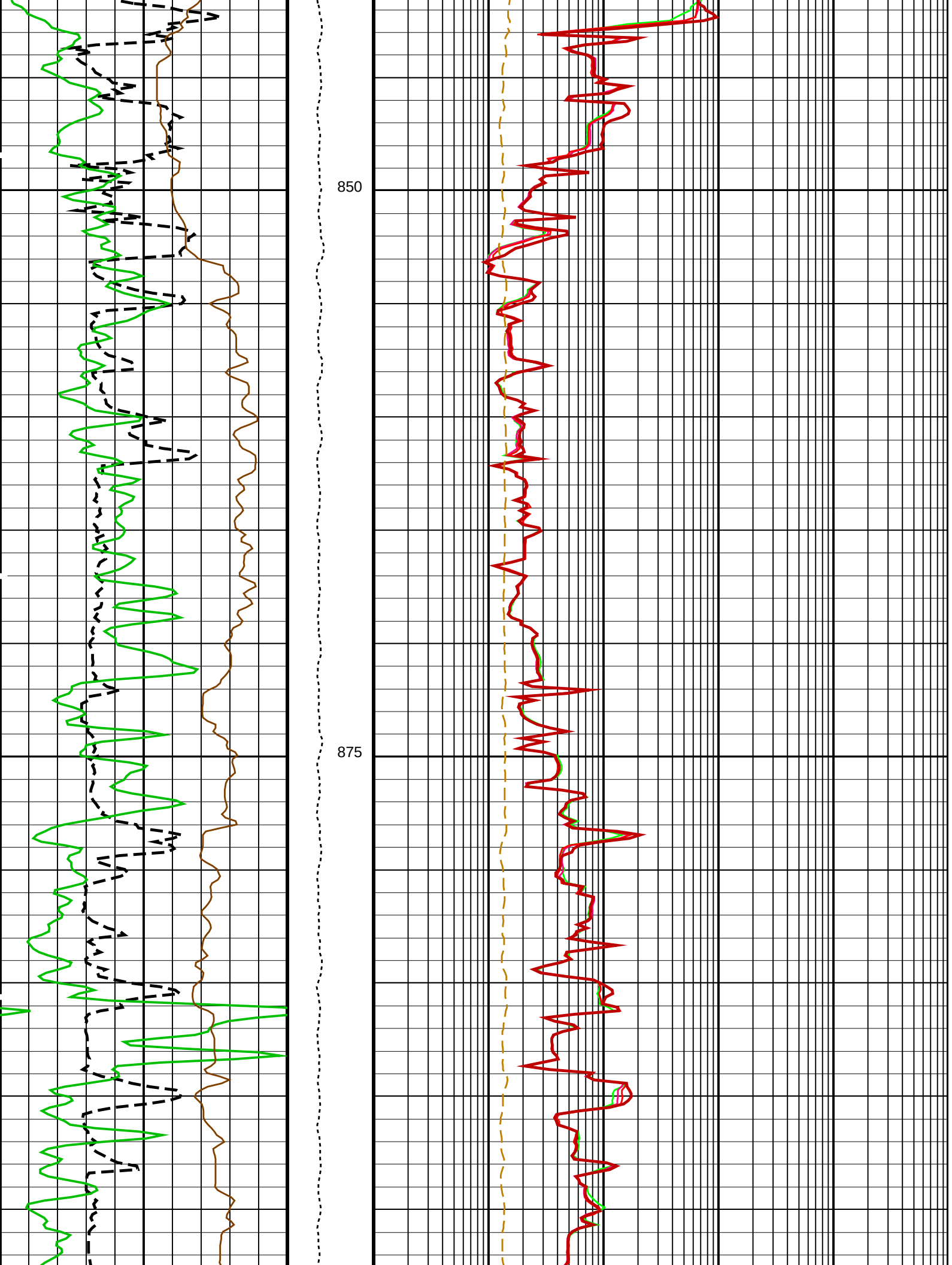

575
600

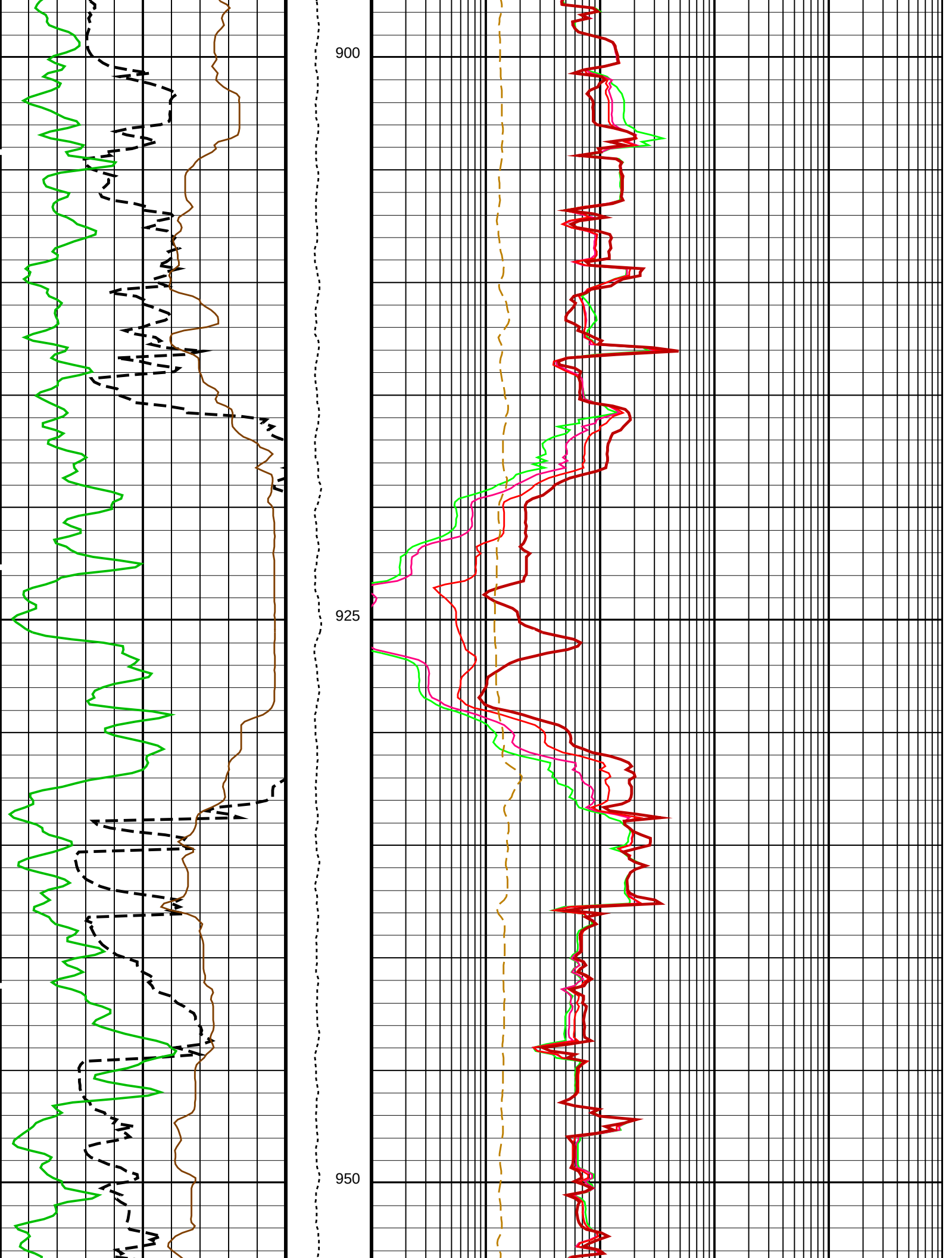

625
650

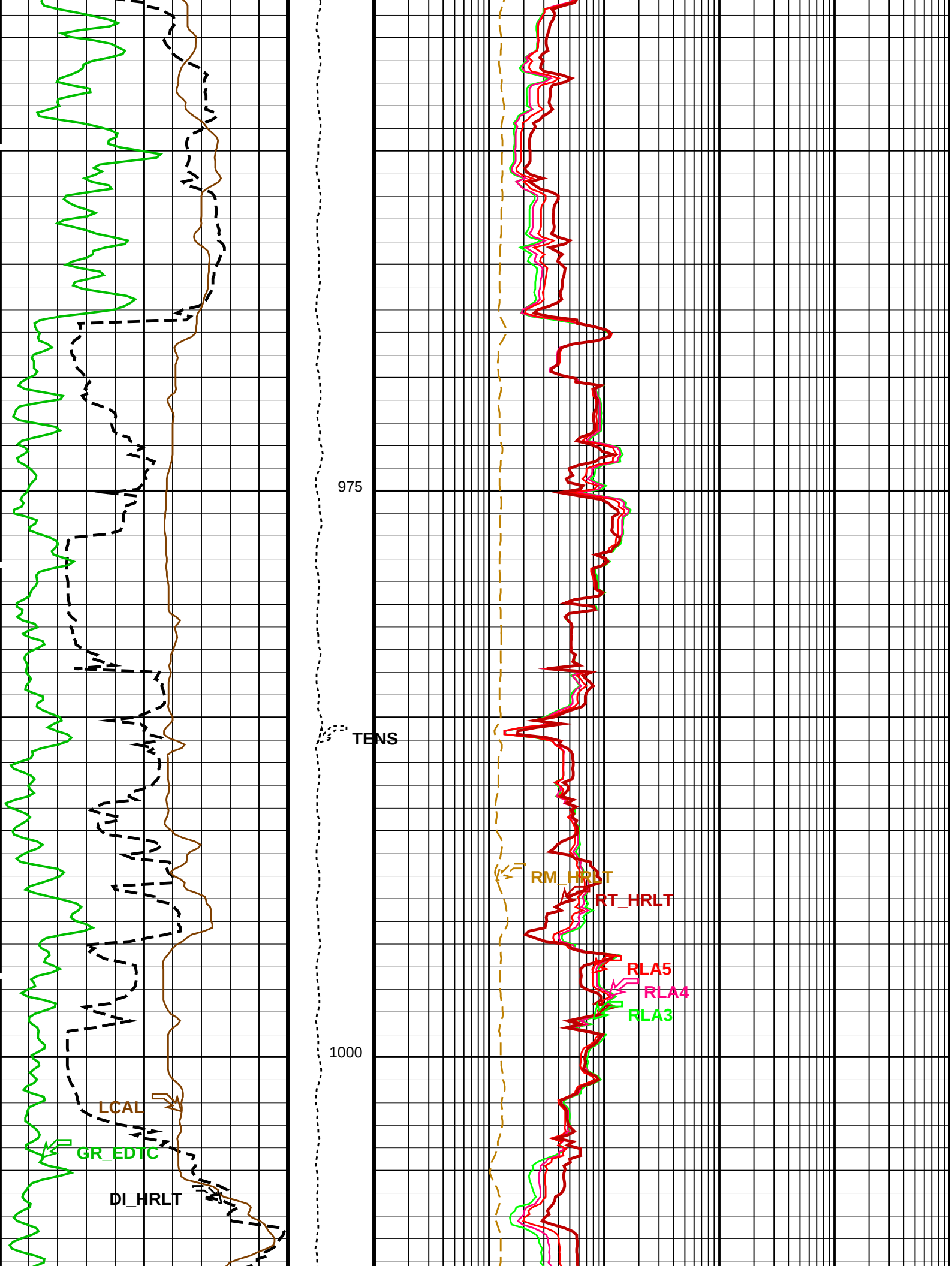

675
700
725

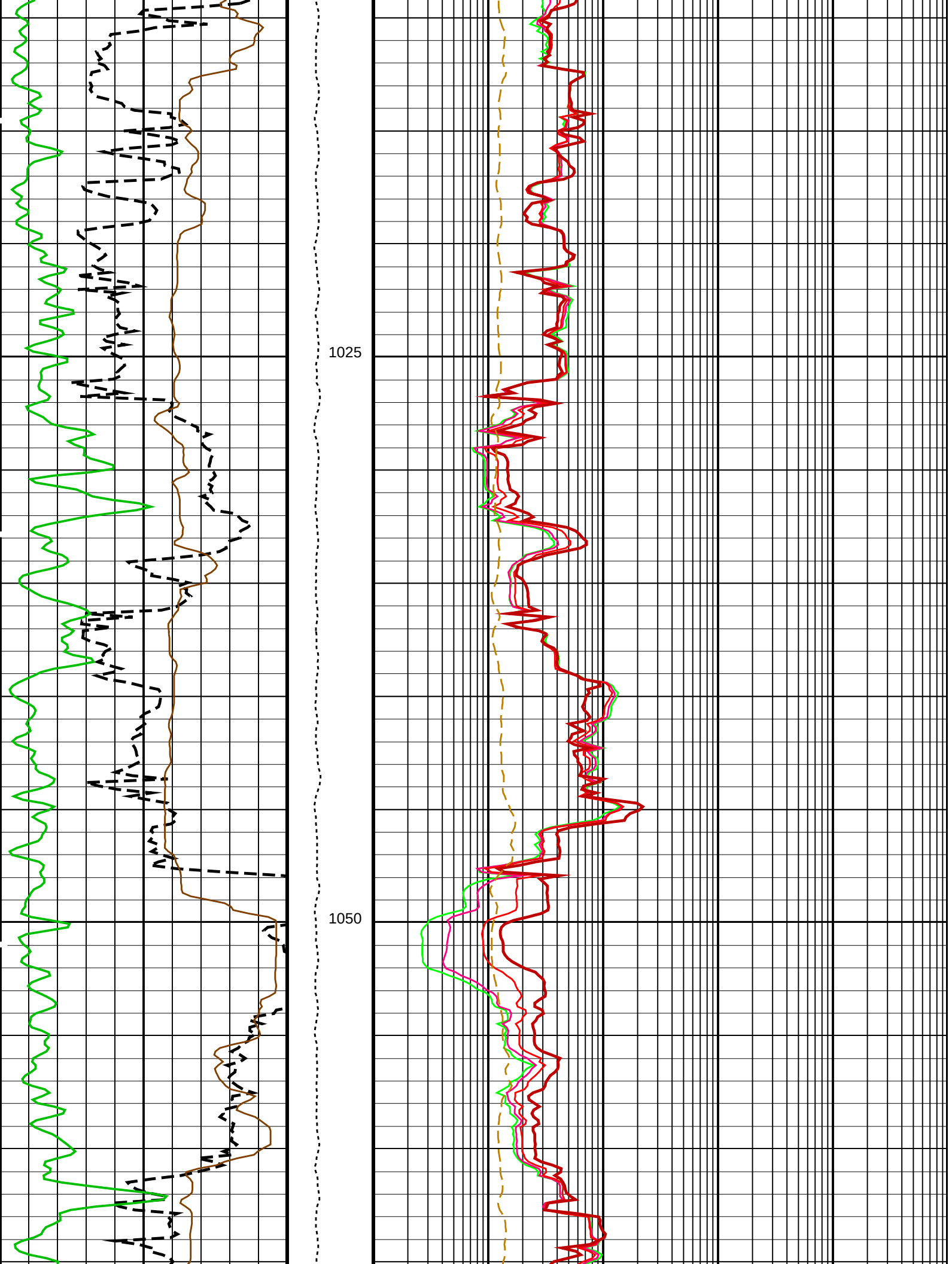

750
775

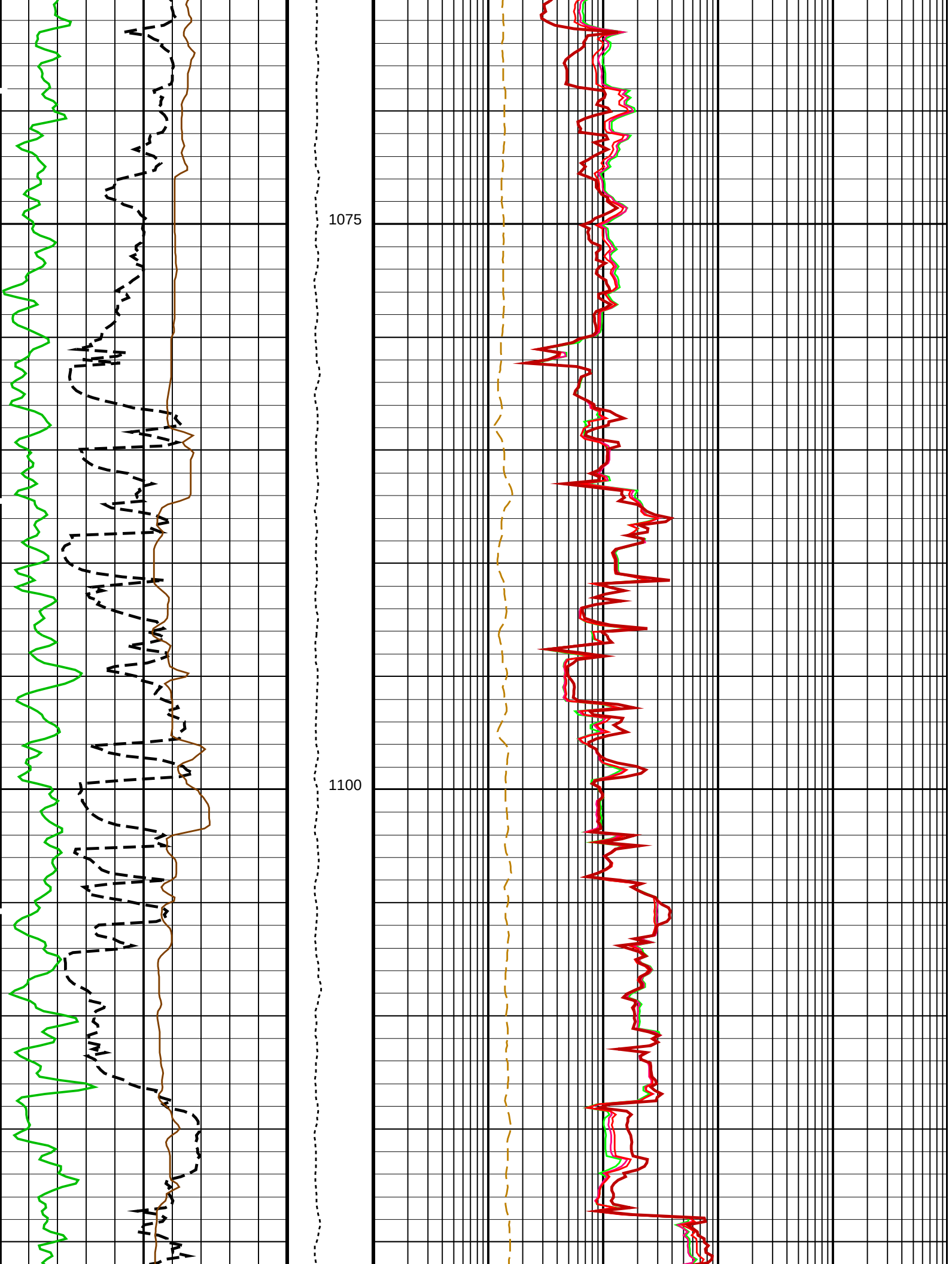

800
825

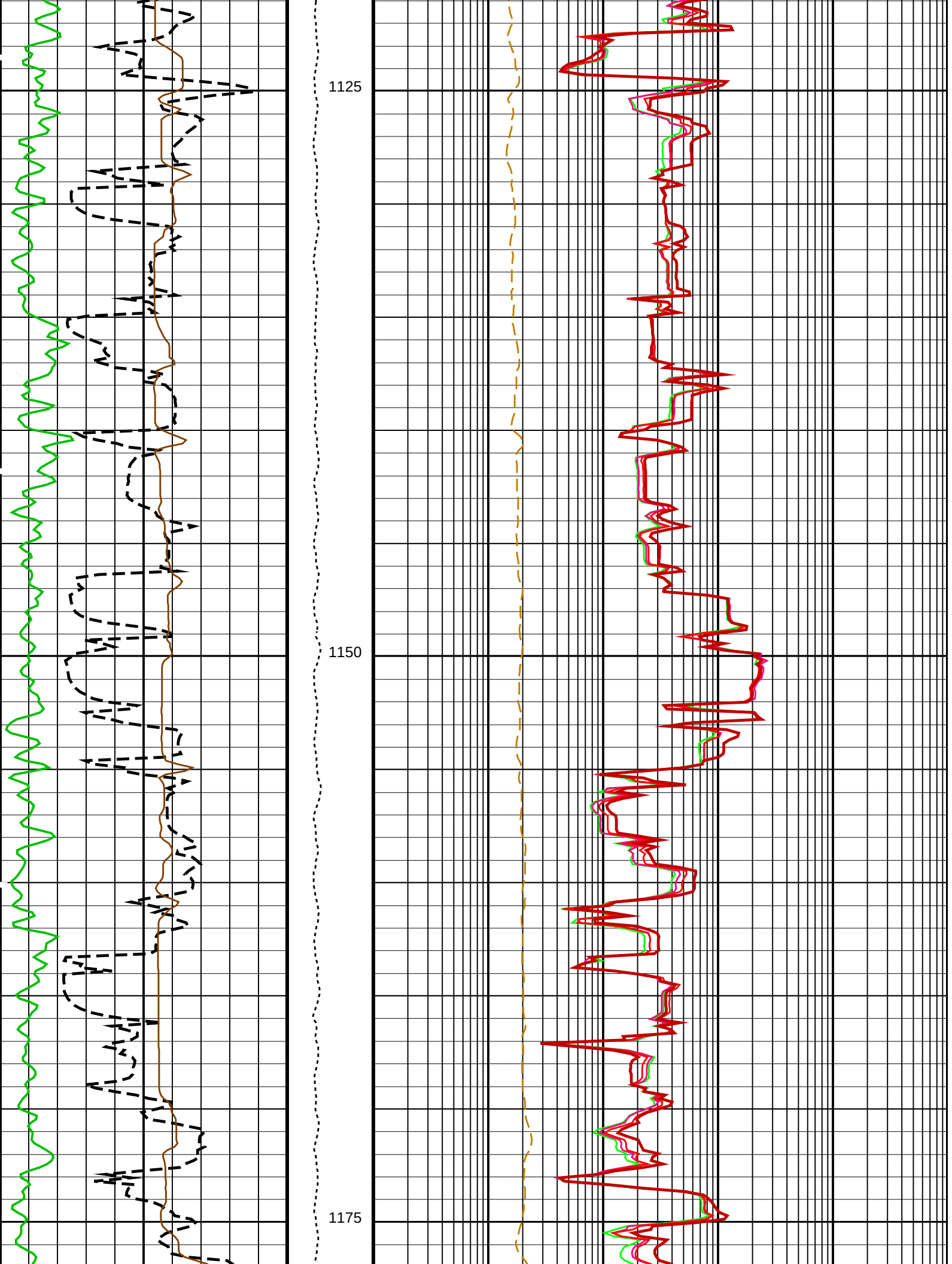

850
875

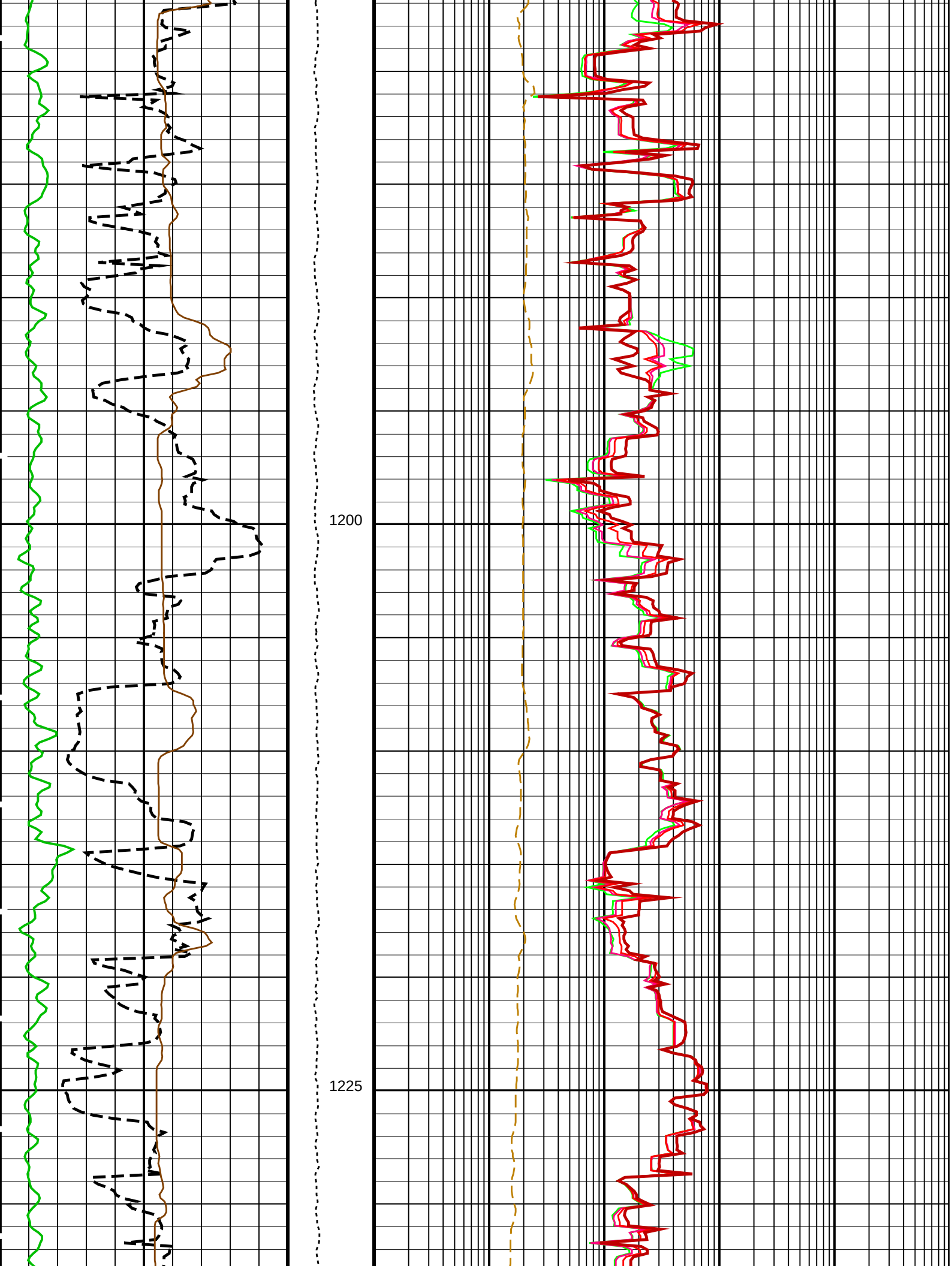

900
925
950


975
TENS
RM_HRLT
RT_HRLT
RLA5
RLA4
RLA3
1000
LCAL
GR_EDTC
DI_HRLT


1025
1050


1075
1100


1125
1150
1175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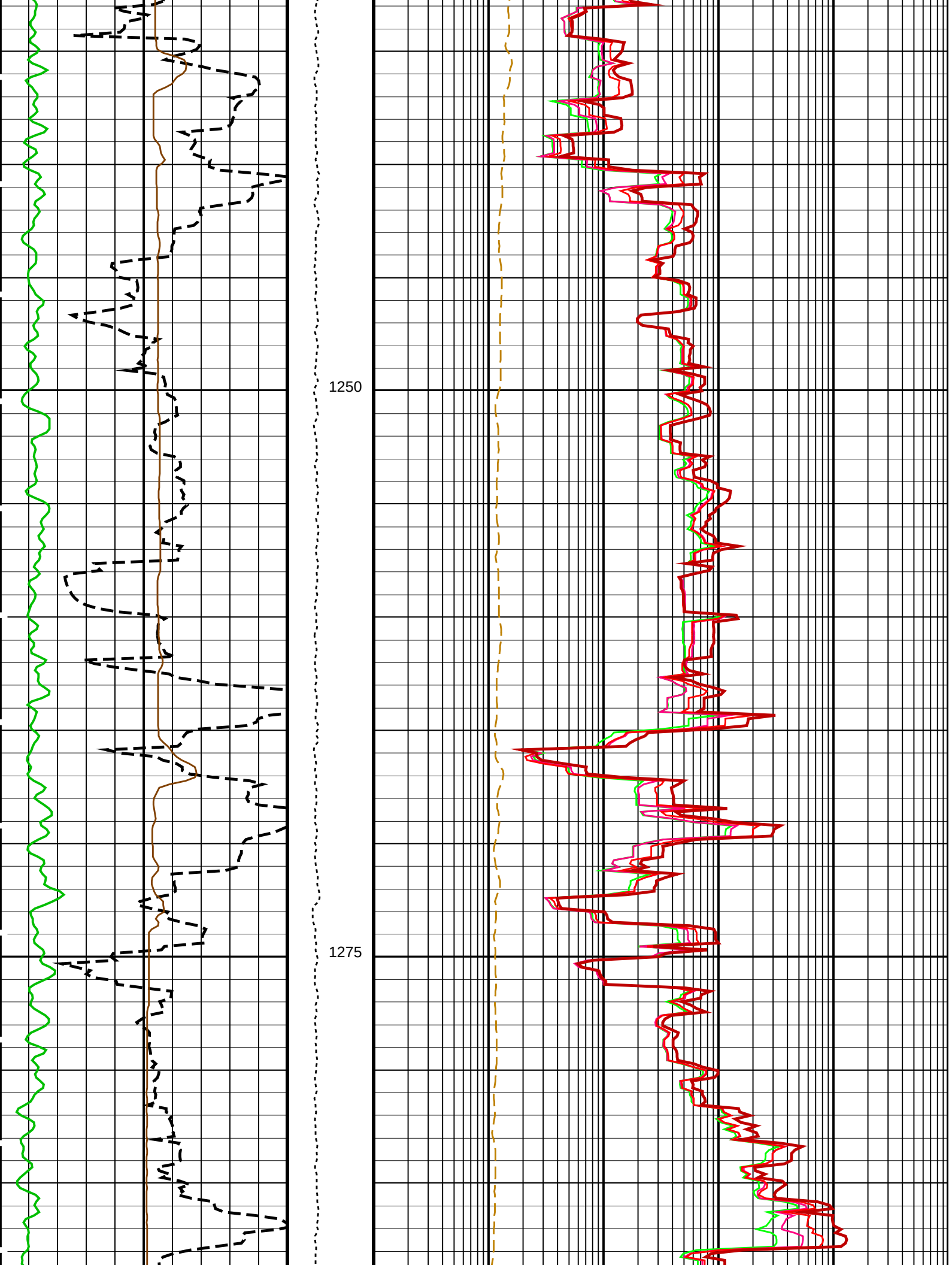
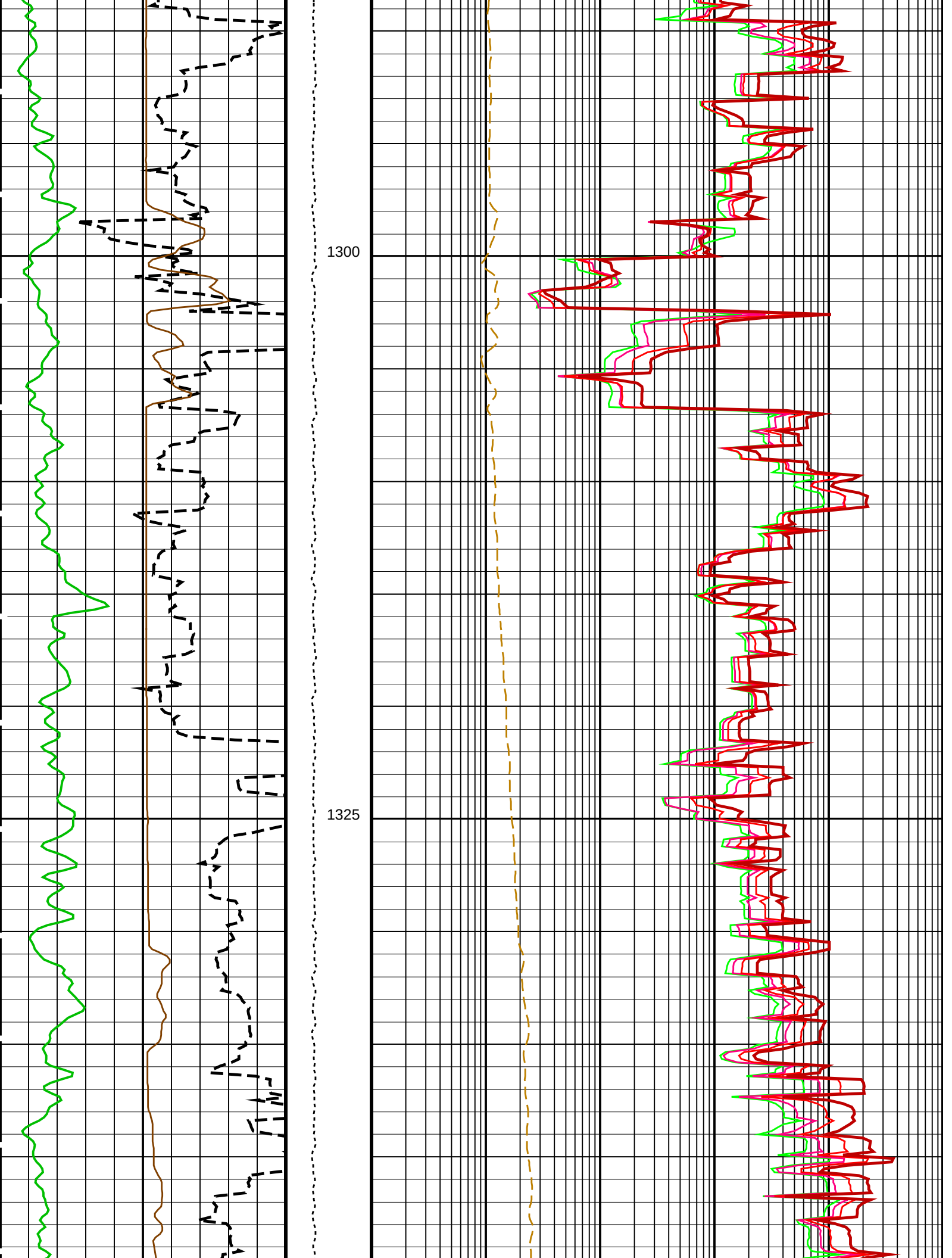
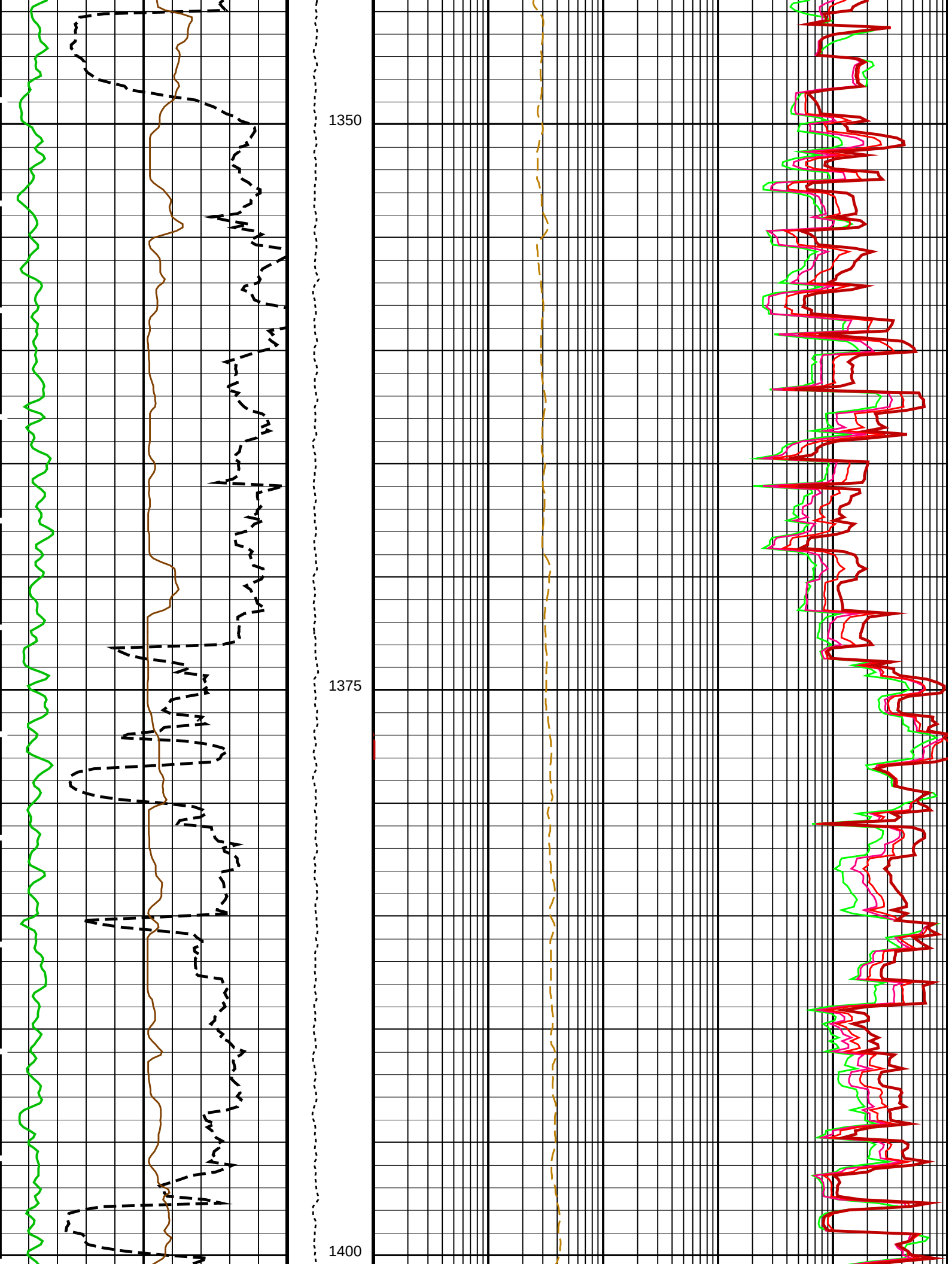
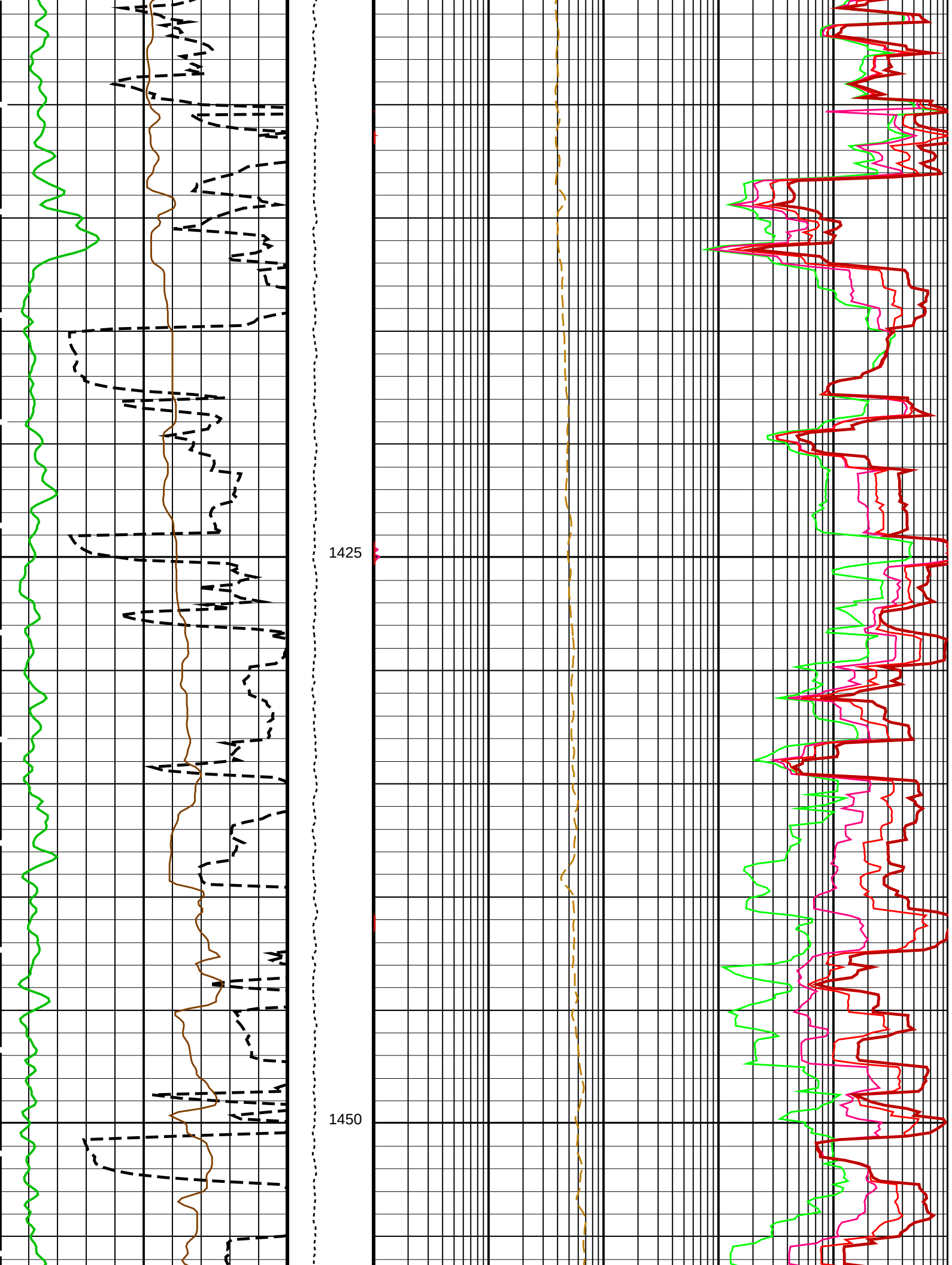
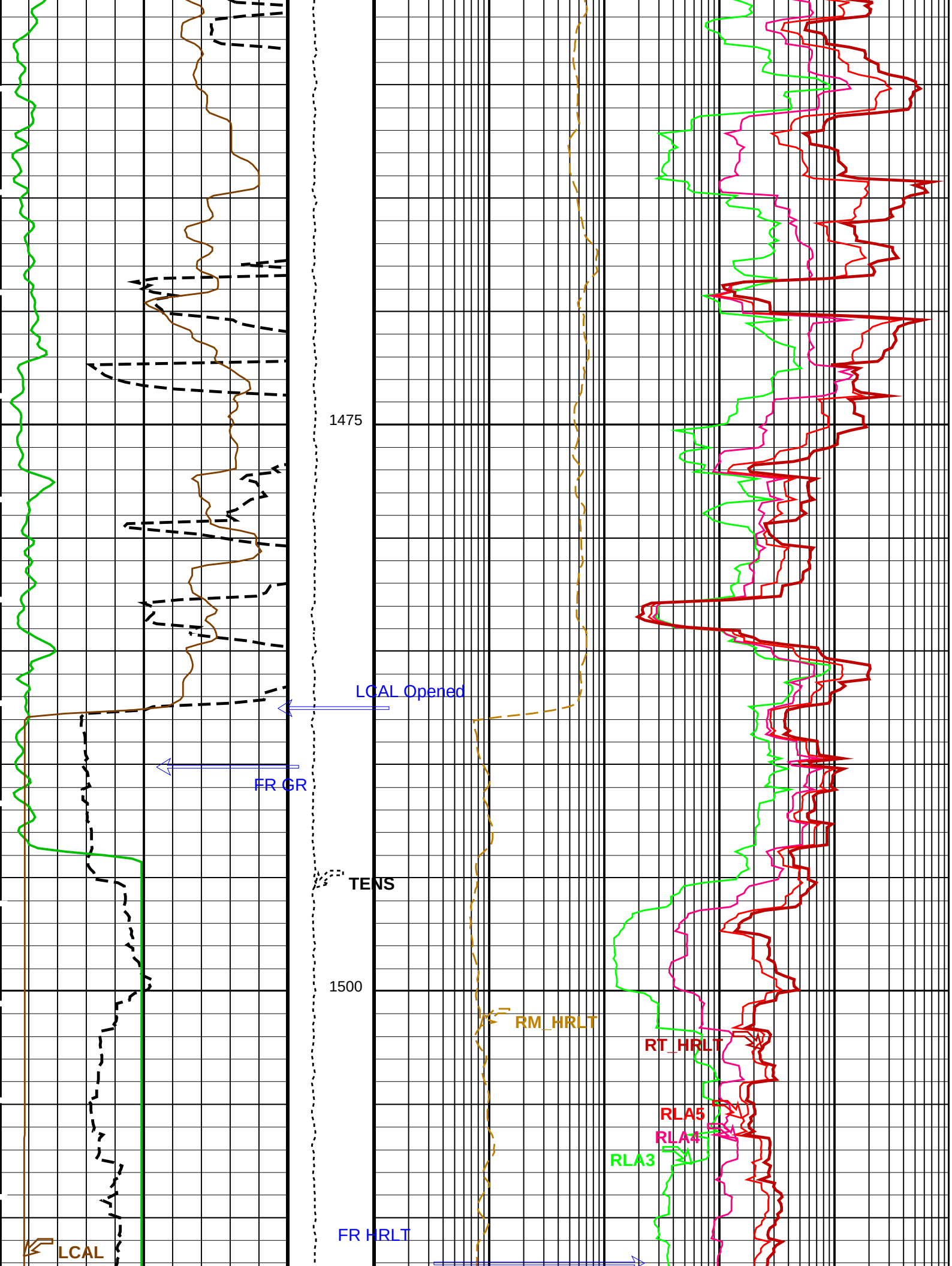
1225

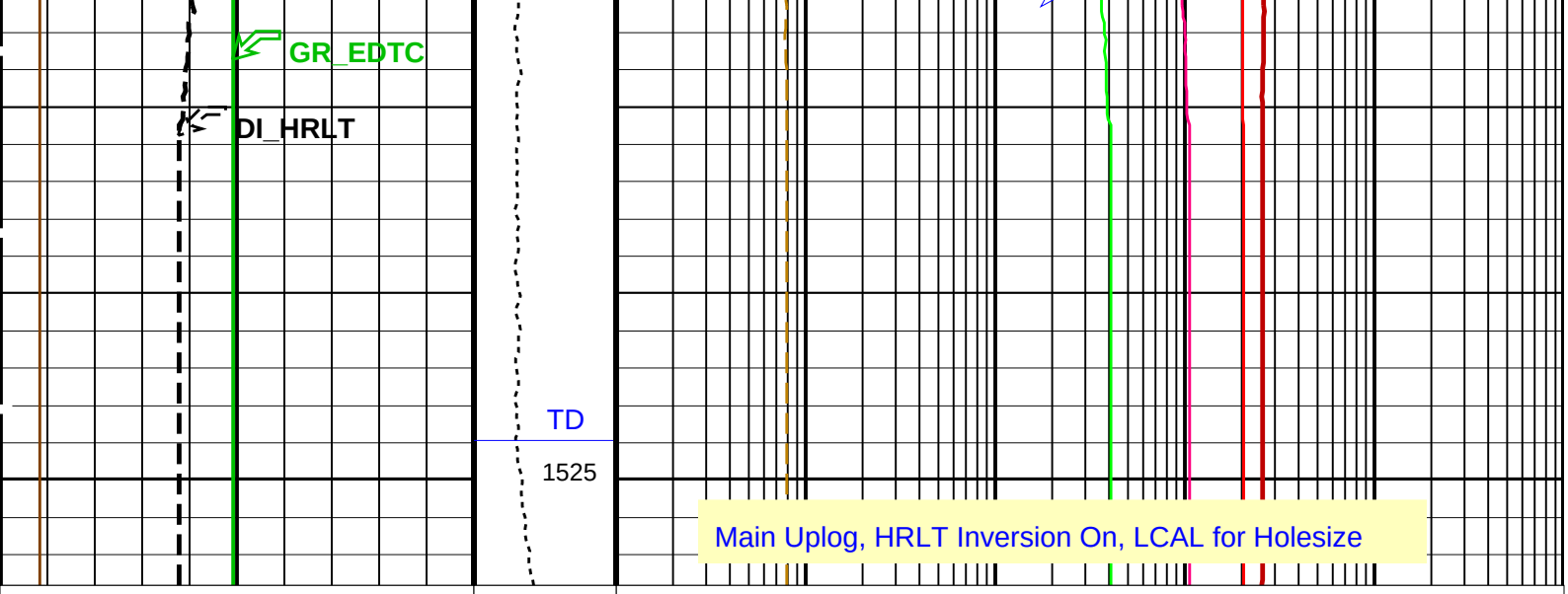

1250
1275


1300
1325


1350
1375
1400


1425
1450


1475
LCAL Opened
FR GR
TENS
1500
RM_HRLT
RT_HRLT
RLA5
RLA4
RLA3
FR HRLT
LCAL



HLDS Caliper (LCAL)	Tension (TENS)	HRLT Resistivity 3 (RLA3)
0 (IN) 20	(LBF) 10000 0	1 (OHMM) 100000
Gamma Ray (GR_EDTC)		**HRLT Resistivity 4 (RLA4)**
0 (GAPI) 20		1 (OHMM) 100000
Invasion Diameter (DI_HRLT)		**HRLT Resistivity 5 (RLA5)**
0 (IN) 50		1 (OHMM) 100000
		HRLT Mud Resistivity (RM_HRLT)
		0.01 (OHMM) 1000
		HRLT True Resistivity (RT_HRLT)
		1 (OHMM) 100000

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	HRLT−B: High Resolution Laterolog Array − B		
BHT	Bottom Hole Temperature (used in calculations)	80	DEGC
GCSE	Generalized Caliper Selection	LCAL	
GGRD	Geothermal Gradient	0.018227	DC/M
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
KFAC_HRLT	HRLT K Factor Option	SONDE	
PROCINV	Inversion Selection	ON	
PROCMFL	Inversion Micro−Resistivity Selection	NO_EXTERNAL_RXO	
PROCMSO	Mechanical Standoff Fin Size	0	IN
PROCRM	Processing Mud Resistivity Select	HRLT_Compute	
PROCSPO	Sonde Position	Centered	
SHT	Surface Hole Temperature	20	DEGC
	APS−C: Accelerator−Porosity Tool		
BHT	Bottom Hole Temperature (used in calculations)	80	DEGC
GCSE	Generalized Caliper Selection	LCAL	
GGRD	Geothermal Gradient	0.018227	DC/M
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
SHT	Surface Hole Temperature	20	DEGC
	EDTC−B: Enhanced DTS Cartridge		
BHT	Bottom Hole Temperature (used in calculations)	80	DEGC
GCSE	Generalized Caliper Selection	LCAL	
GGRD	Geothermal Gradient	0.018227	DC/M
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
SHT	Surface Hole Temperature	20	DEGC
	System and Miscellaneous		
BS	Bit Size	9.875	IN
DO	Depth Offset for Playback	−3641.0	M
MST	Mud Sample Temperature	−50000.00	DEGC
PP	Playback Processing	NORMAL	

TD	Total Depth	5170	M

Format: HRLT Vertical Scale: 1:200 Graphics File Created: 08−Jun−2011 17:47

OP System Version: 17C0−154

GPIT−A/B	SRPC−3971−Q1_2010_OP17	DTA−A	17C0−154
MTT_LDEO−A	17C0−154	HRLT−B	SRPC−3971−Q1_2010_OP17
HLDS	SPC−3961−OP17_NUCL	LDSC−B	SPC−3961−OP17_NUCL
APS−C	SPC−3961−OP17_NUCL	EDTC−B	SRPC−3971−Q1_2010_OP17

Input DLIS Files

DEFAULT	MTT_LDEO_HRLA_LDL_050LUP	FN:53	PRODUCER	27−May−2011 08:48	5168.6 M	3872.8 M

Output DLIS Files

DEFAULT	MTT_LDEO_HRLA_LDL_067PUP	FN:8	PRODUCER	08−Jun−2011 17:47		

Company: Lamont Doherty Well: Expedition 335 Site U1256D

Input DLIS Files

DEFAULT	Flip_MTT_LDEO_HRLA_060LUP		PRODUCER	08−Jun−2011 15:58	5098.8 M	3793.2 M

Output DLIS Files

DEFAULT	MTT_LDEO_HRLA_LDL_066PUP	FN:7	PRODUCER	08−Jun−2011 16:15	1440.9 M	149.2 M

OP System Version: 17C0−154

GPIT−A/B	SRPC−3971−Q1_2010_OP17	DTA−A	17C0−154
MTT_LDEO−A	17C0−154	HRLT−B	SRPC−3971−Q1_2010_OP17
HLDS	SPC−3961−OP17_NUCL	LDSC−B	SPC−3961−OP17_NUCL
APS−C	SPC−3961−OP17_NUCL	EDTC−B	SRPC−3971−Q1_2010_OP17

PIP SUMMARY

Time Mark Every 60 S

HRLT Mud Resistivity (RM_HRLT)
0.01 (OHMM) 1000

HRLT Resistivity 5 (RLA5)
1 (OHMM) 100000

Gamma Ray (GR_EDTC)
0 (GAPI) 20

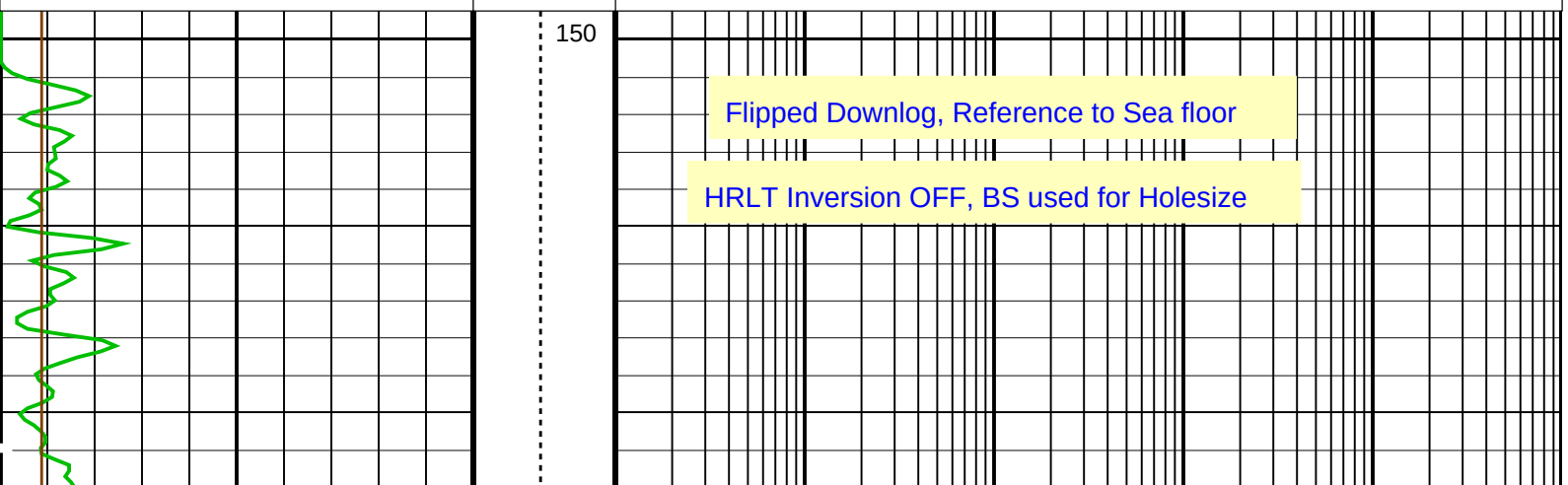
HRLT Resistivity 4 (RLA4)
1 (OHMM) 100000

HLDS Caliper (LCAL)
0 (IN) 20

Tension (TENS) (LBF)
10000 0

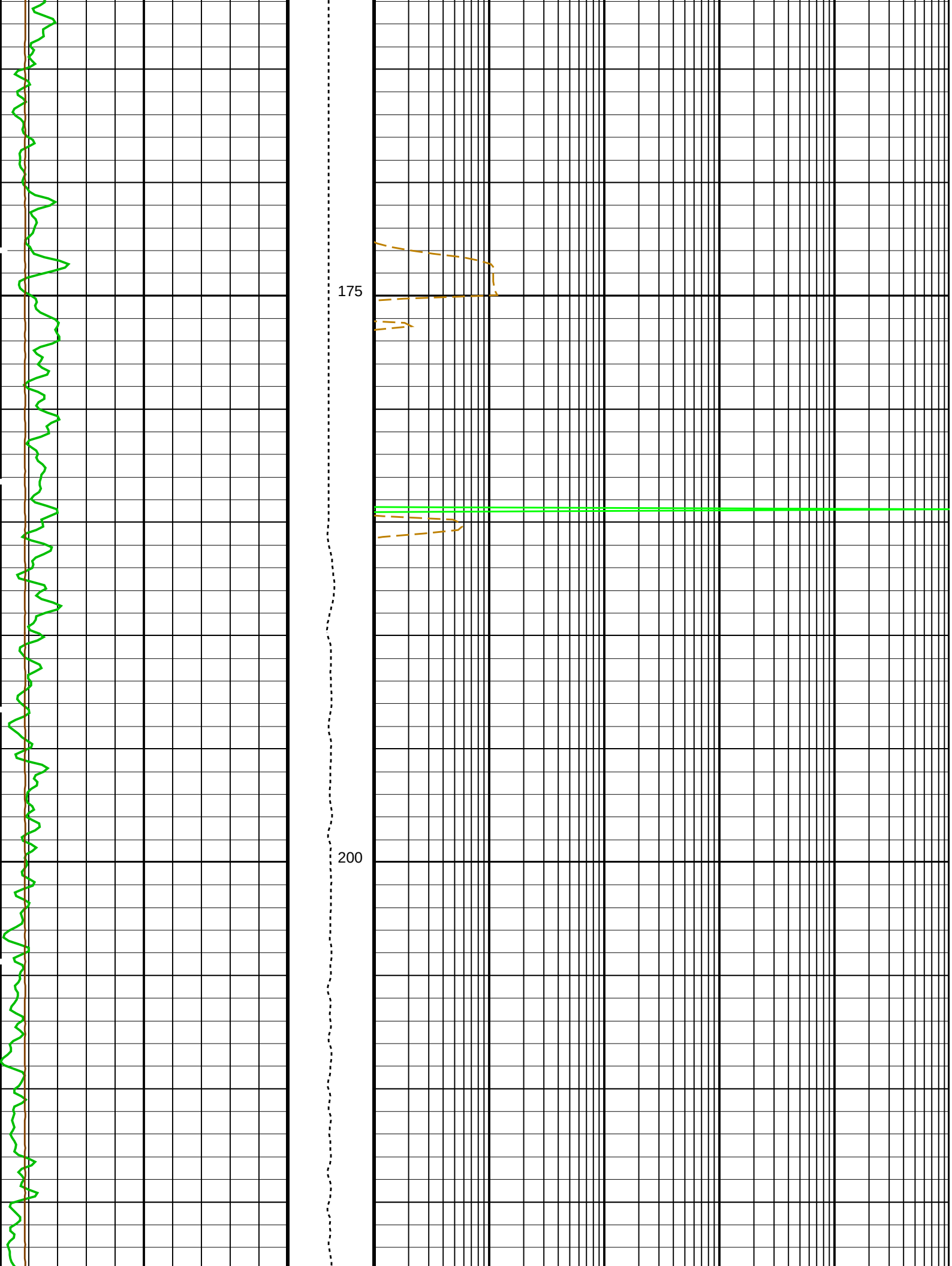
HRLT Resistivity 3 (RLA3)
1 (OHMM) 100000

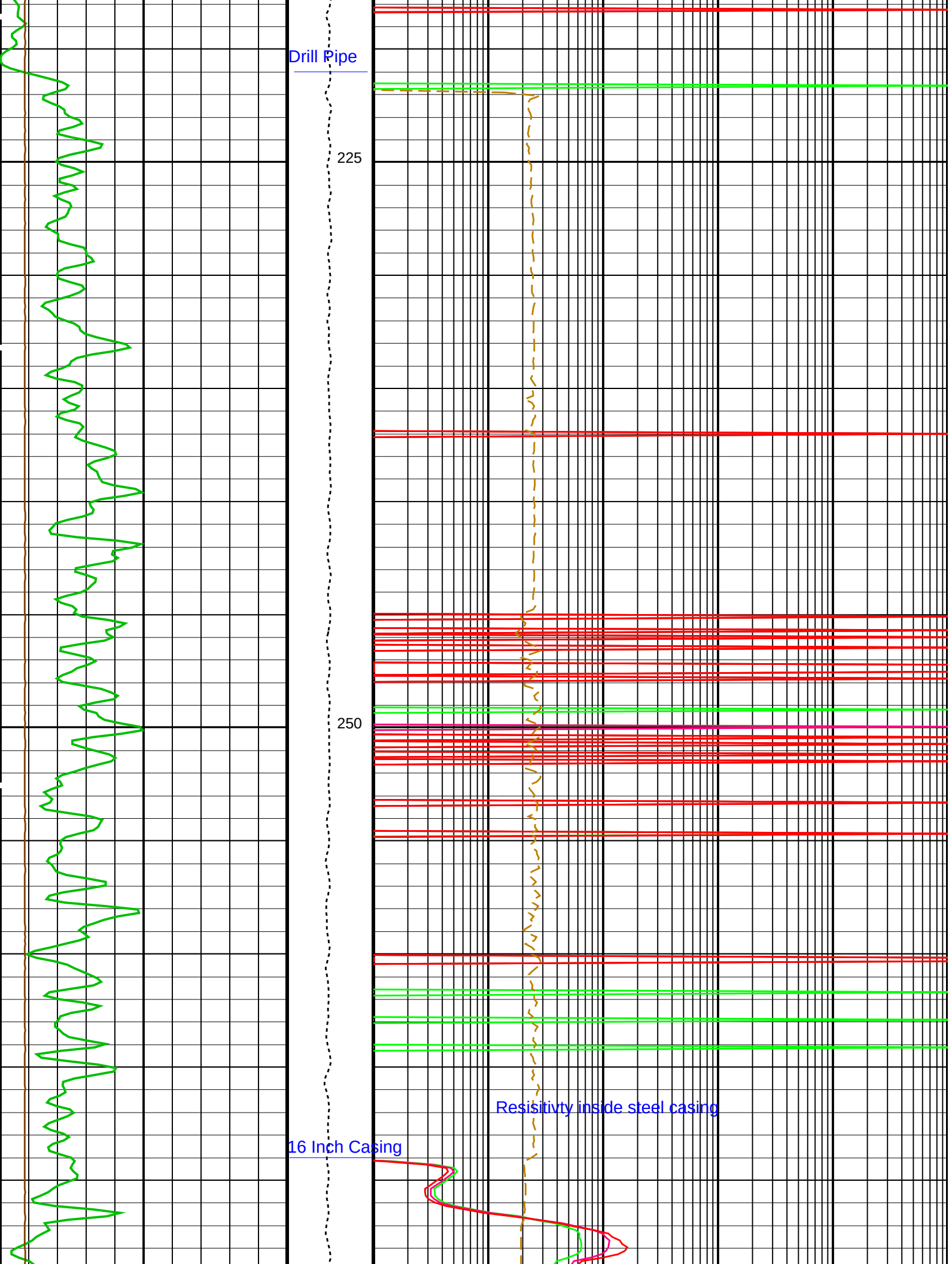
150

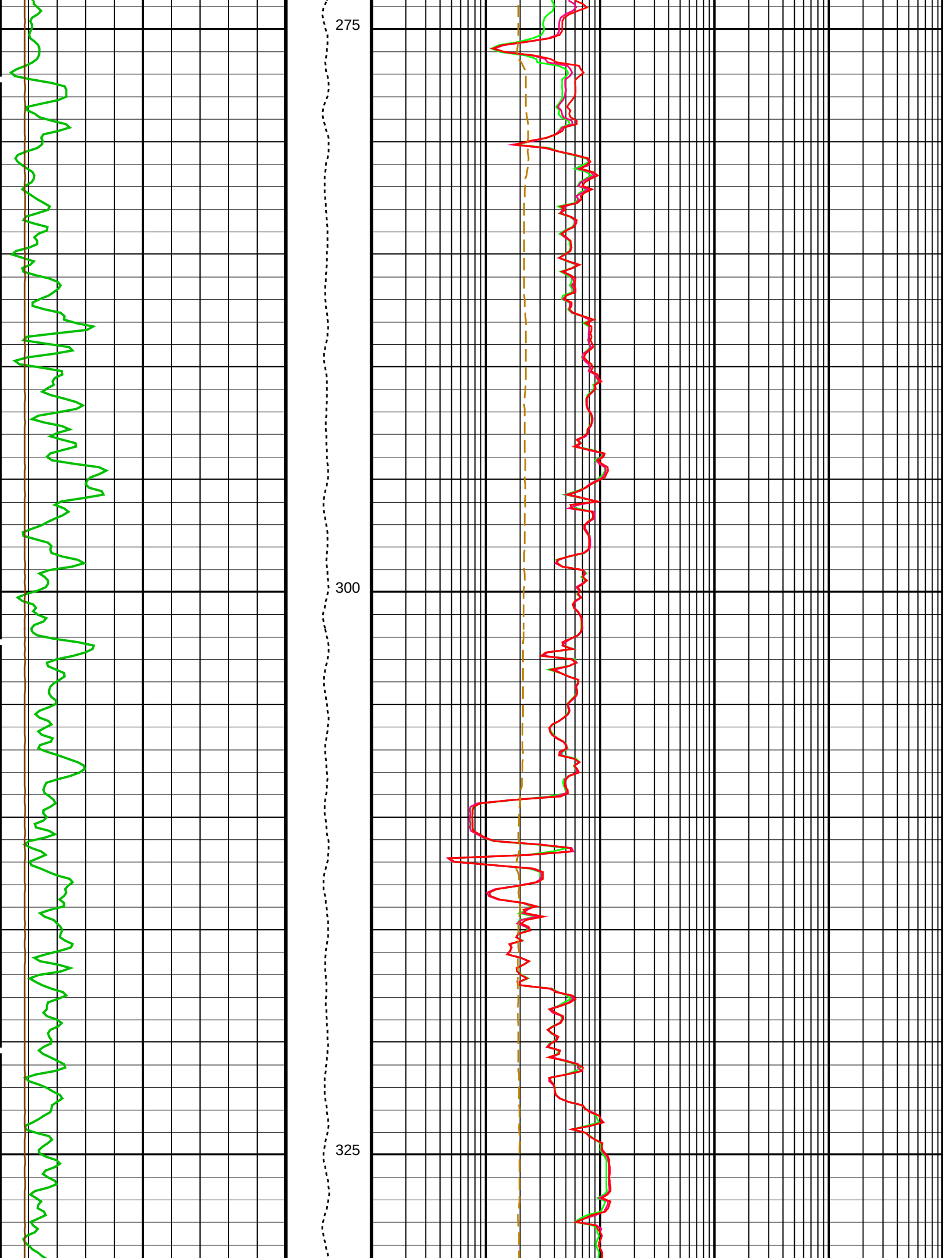


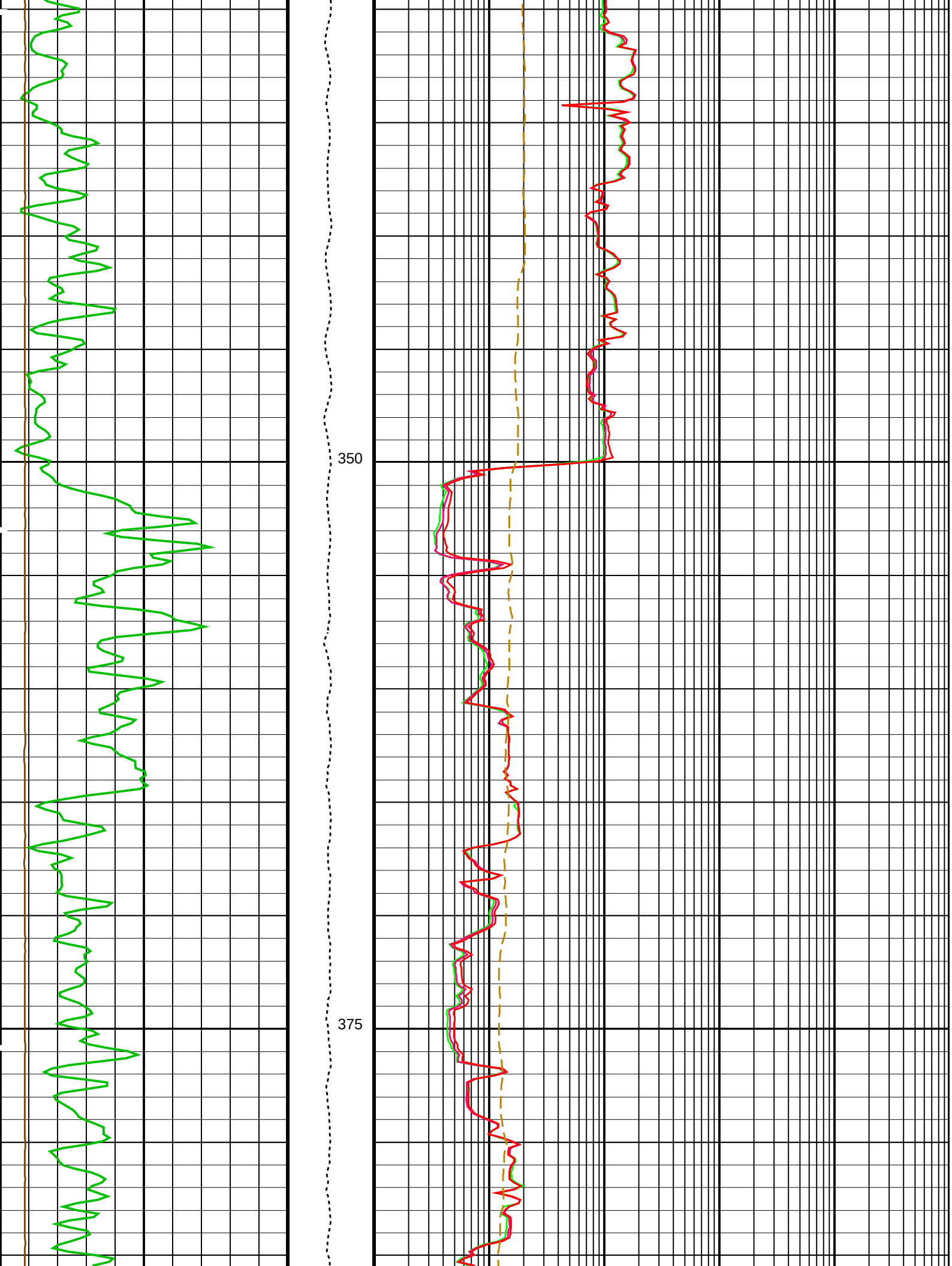
Flipped Downlog, Reference to Sea floor

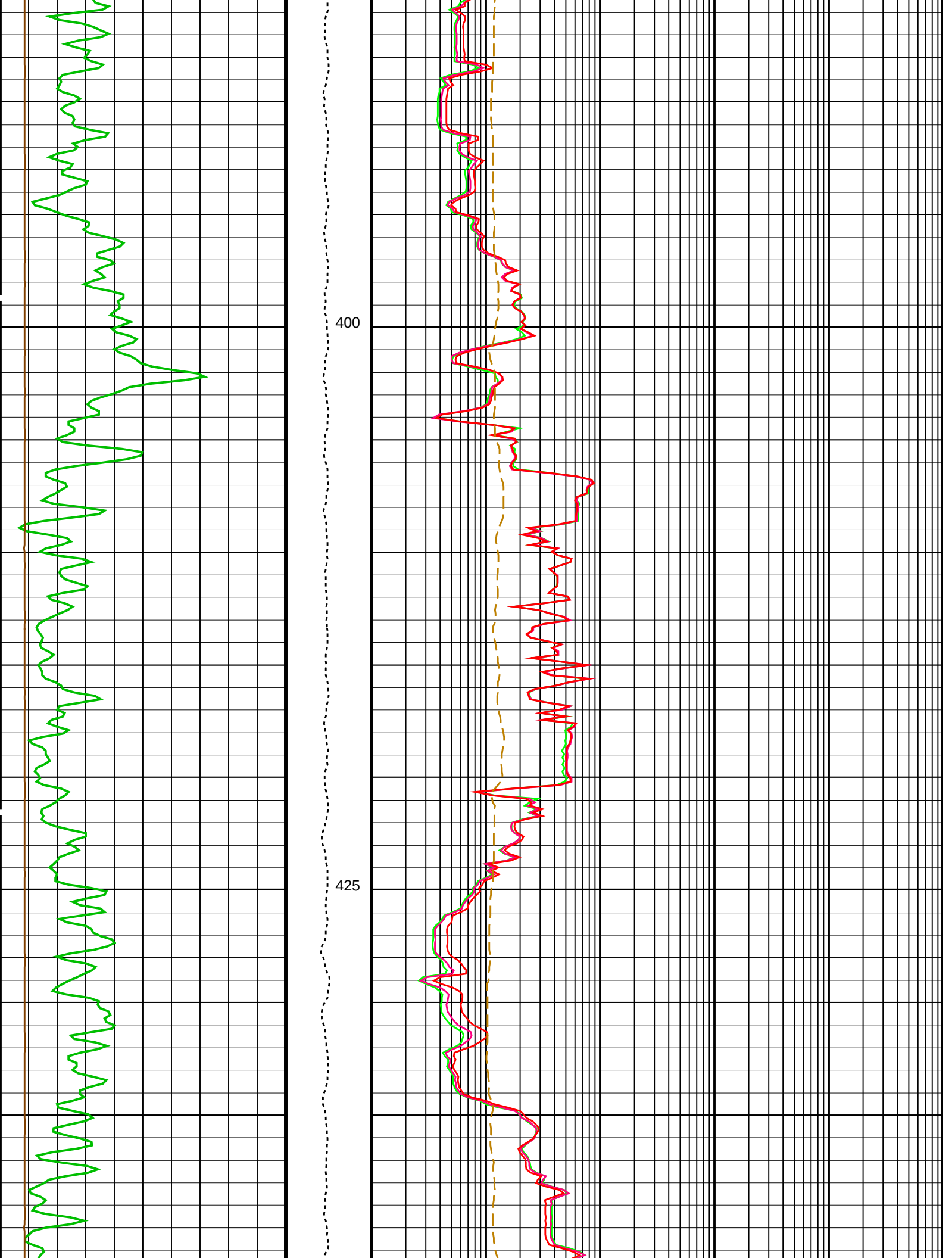
HRLT Inversion OFF, BS used for Holesize

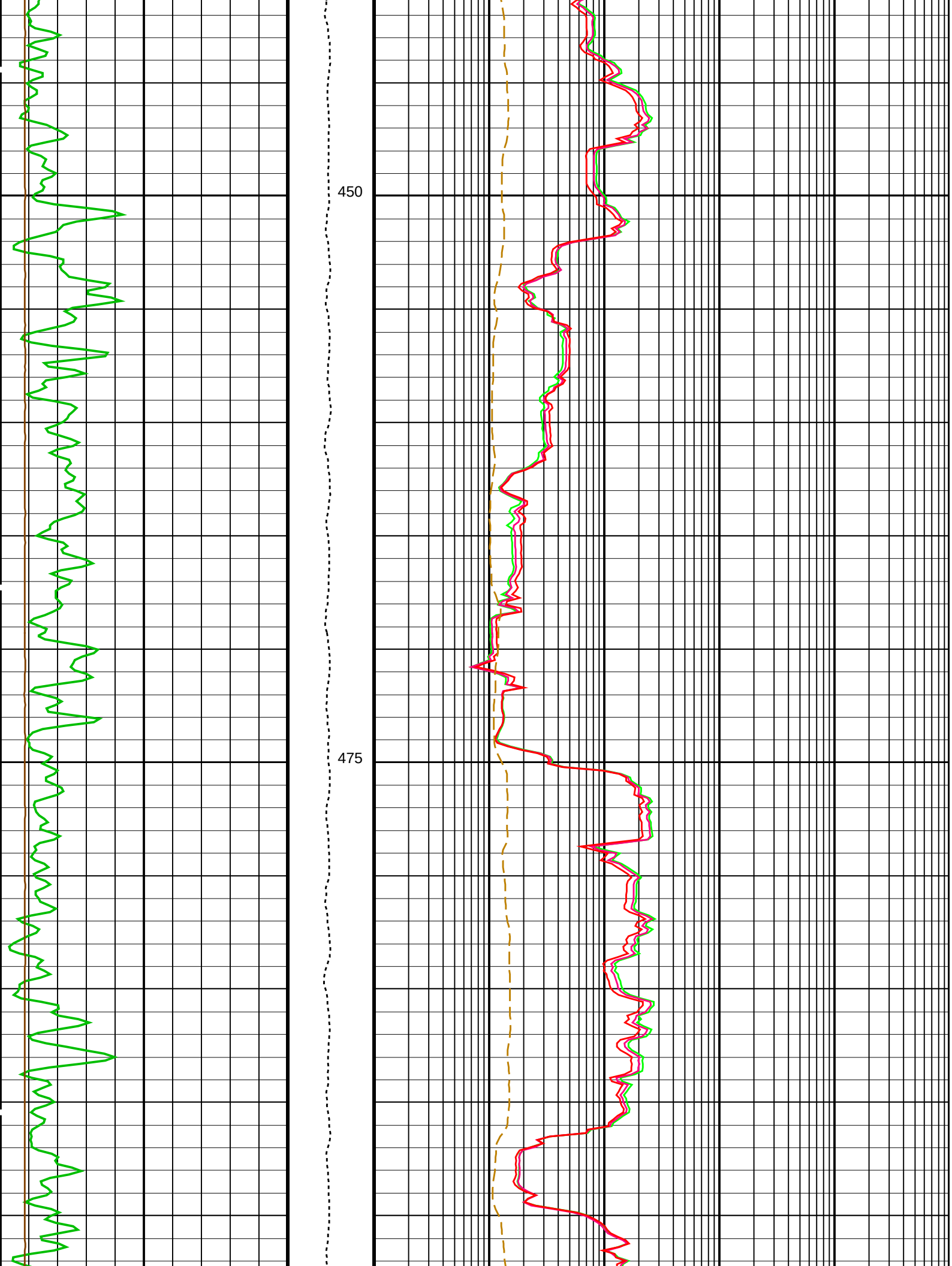

175
200

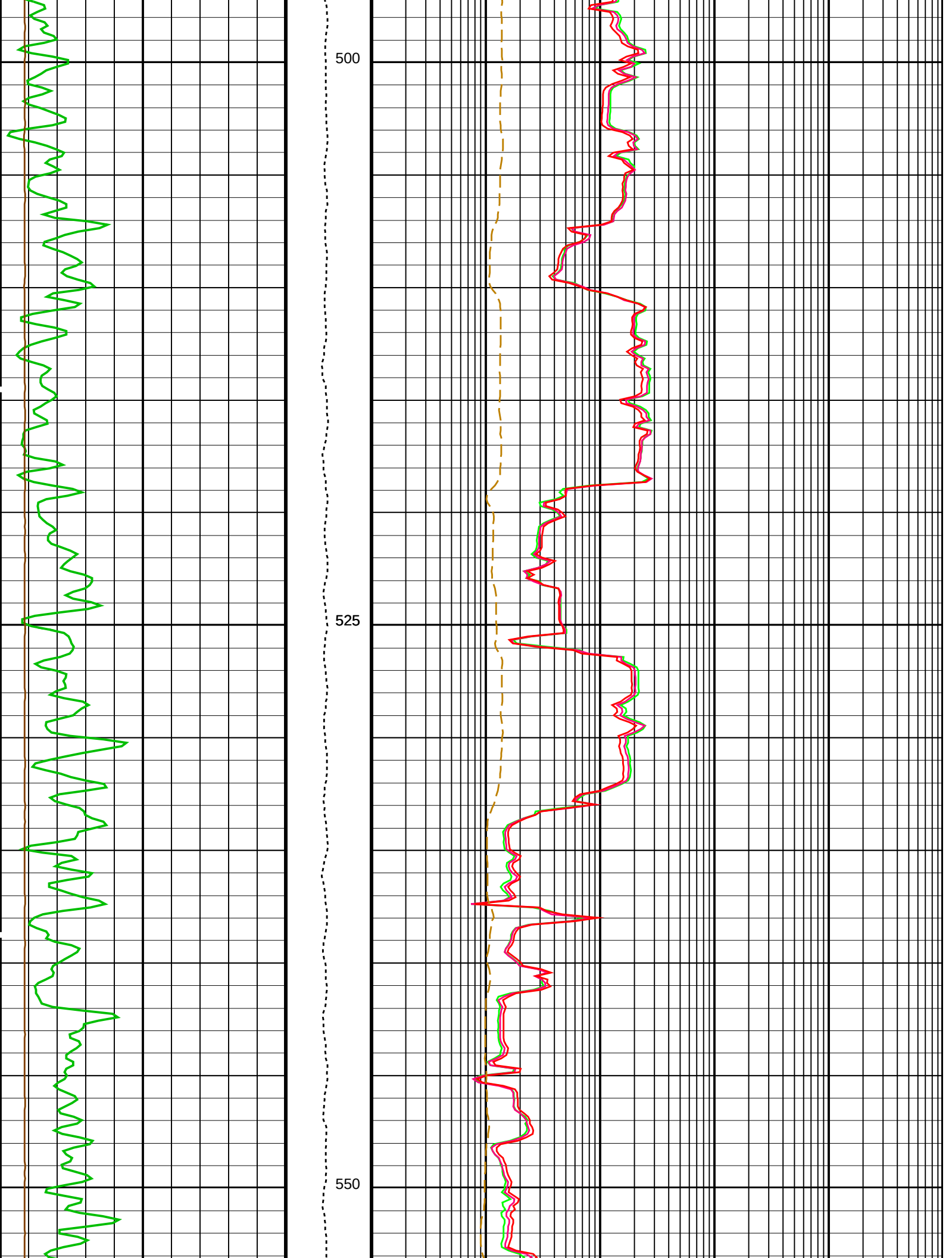

Drill Pipe
225
250
Resisitivty inside steel casing
16 Inch Casing

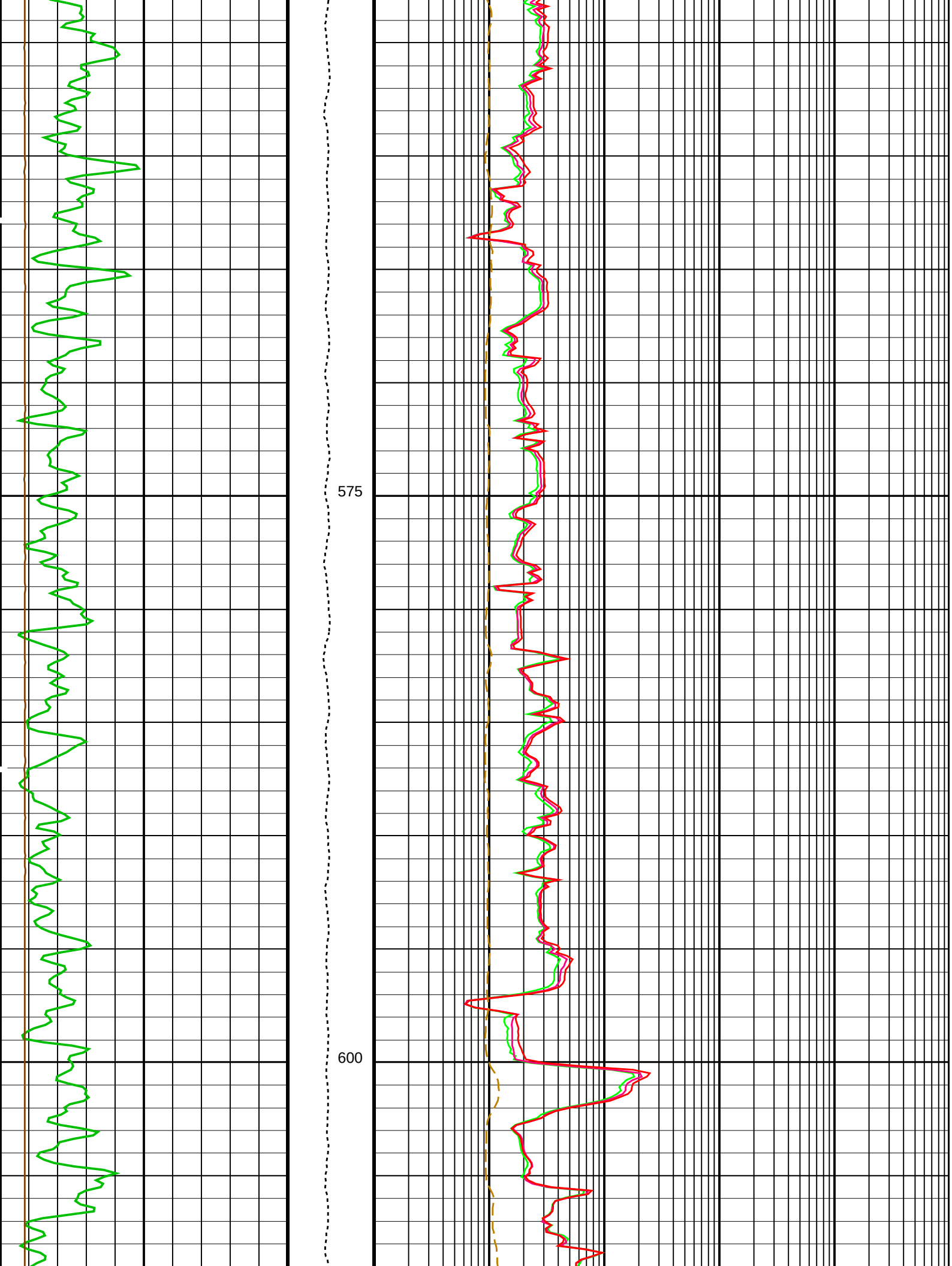

275
300
325

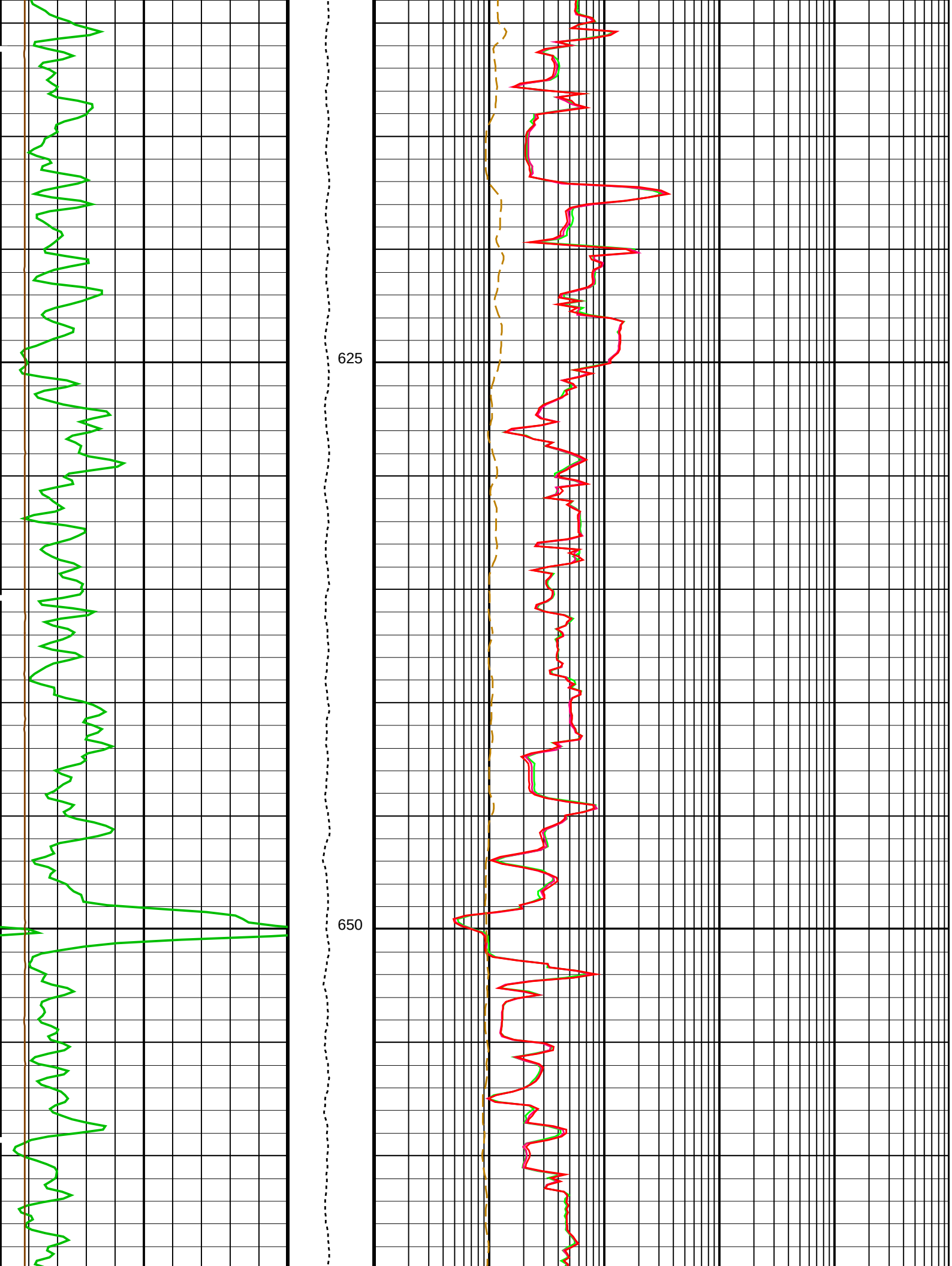

350
375

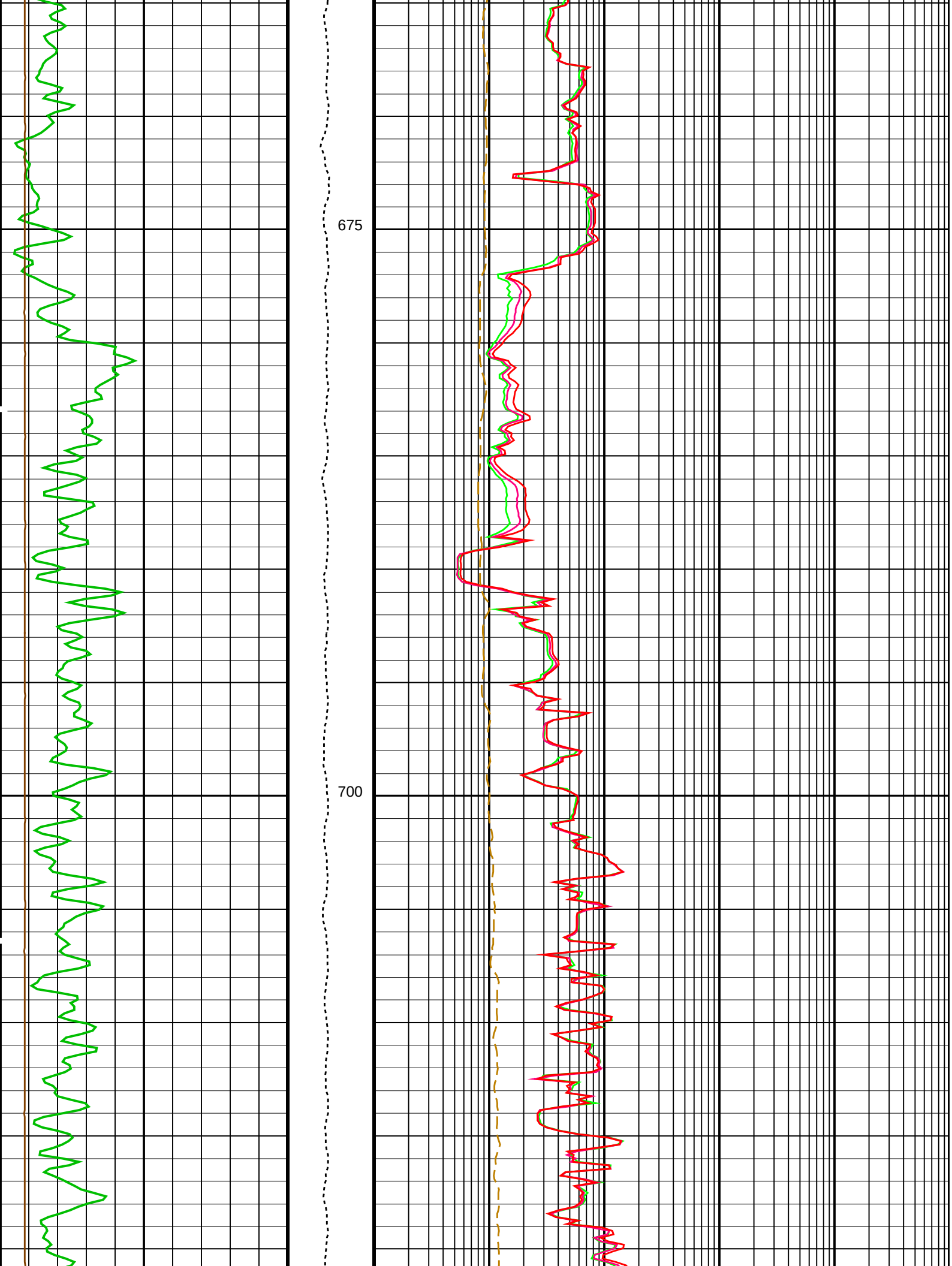

400
425

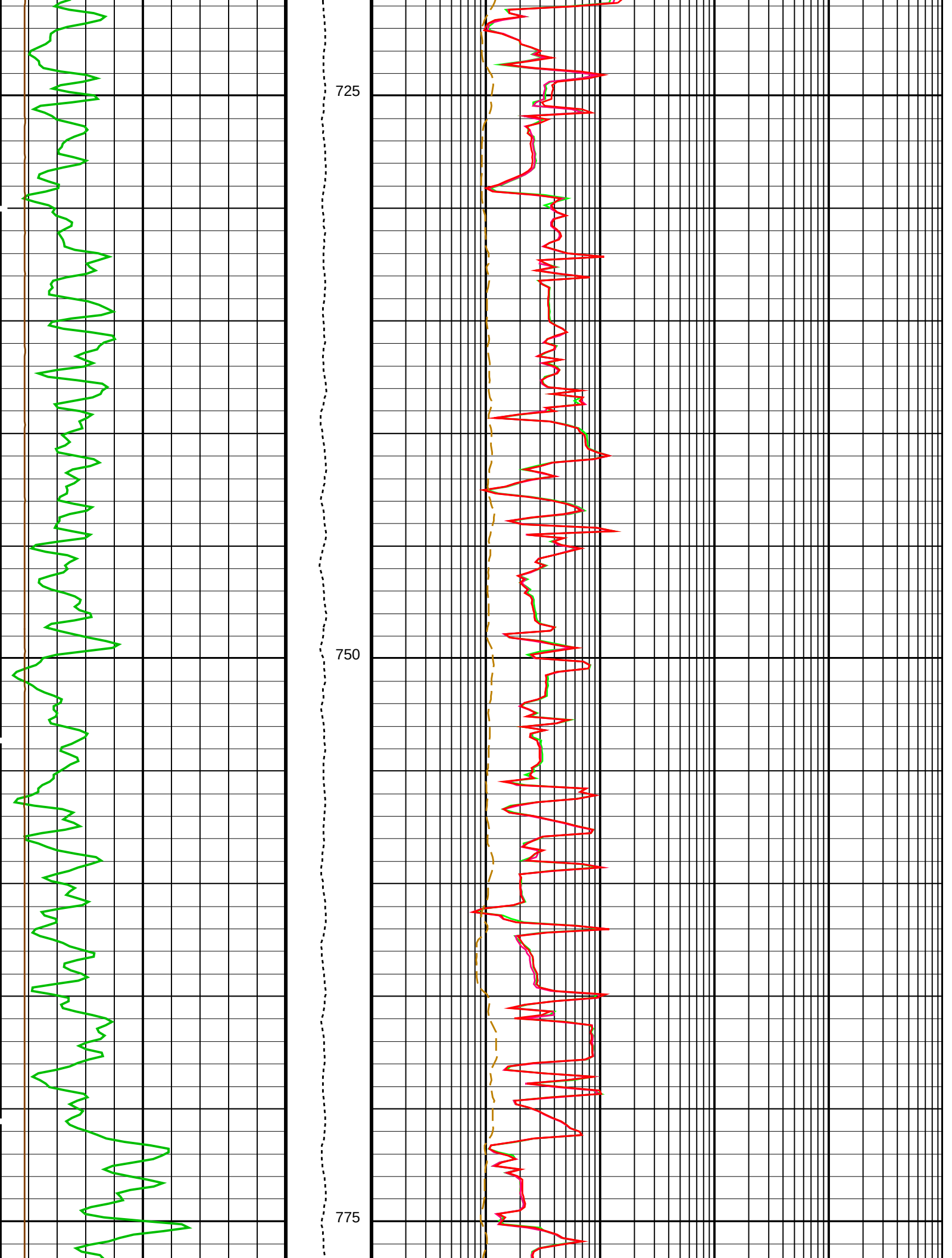

450
475

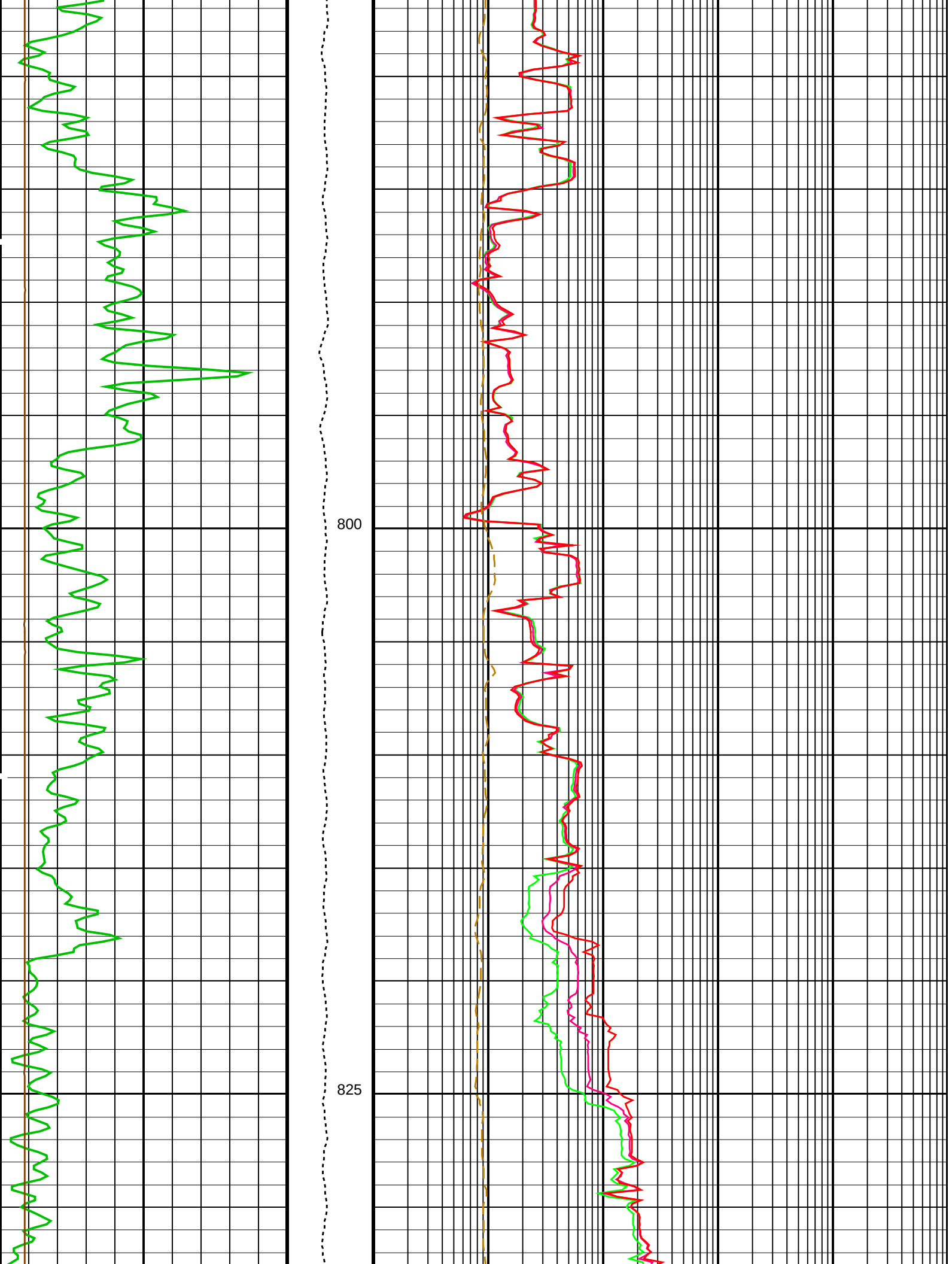

500
525
550

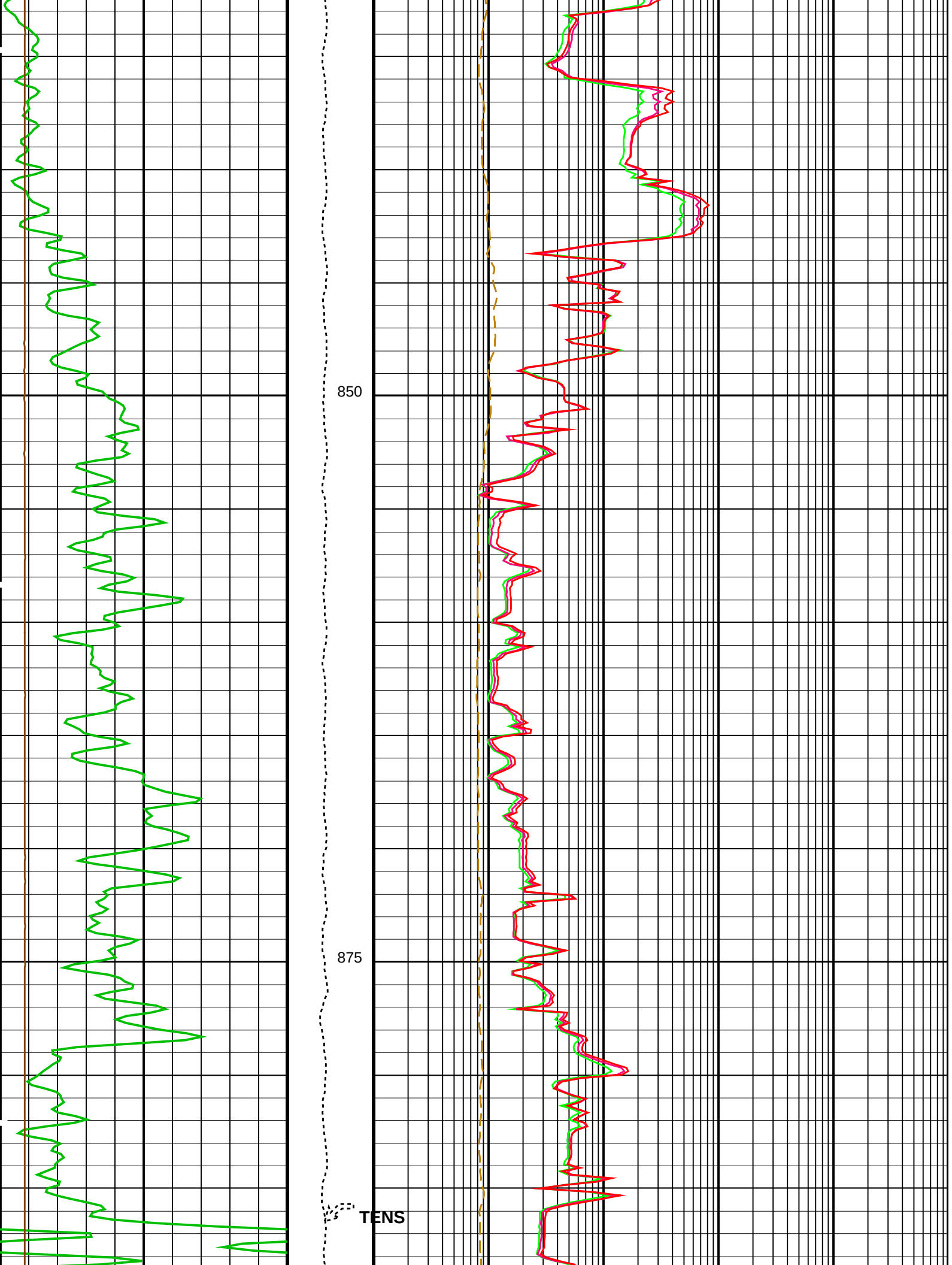

575
600

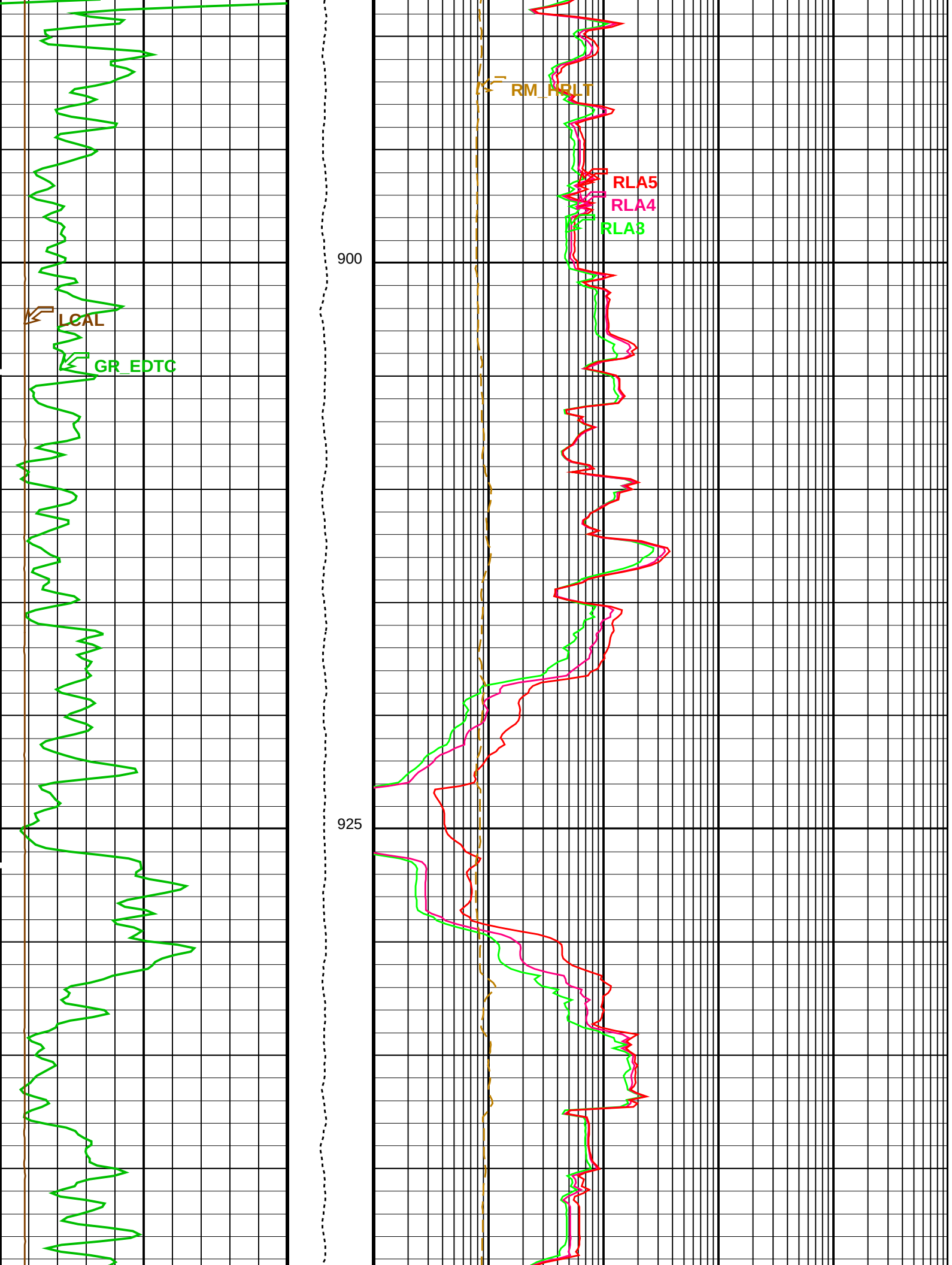

625
650

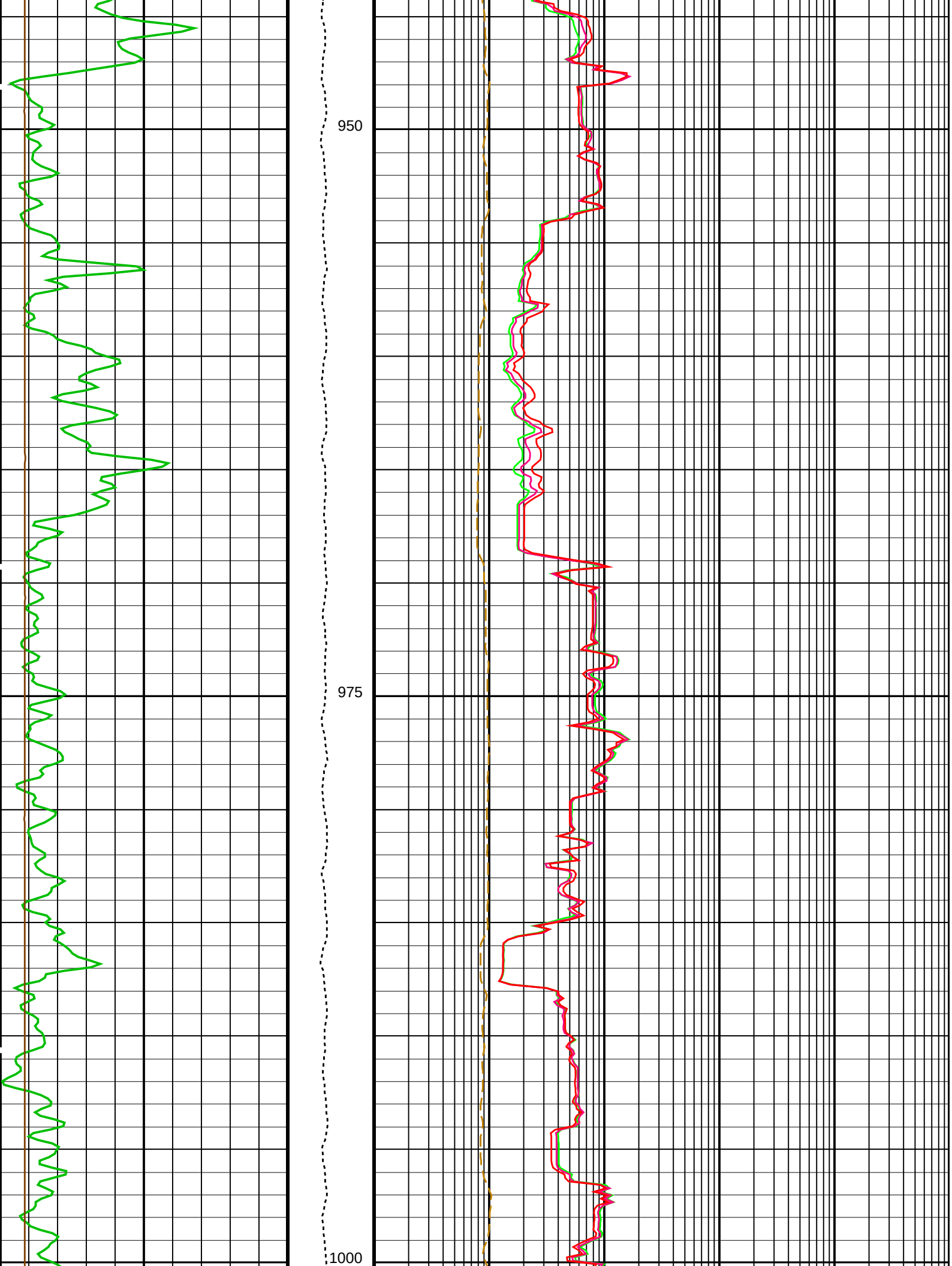

675
700

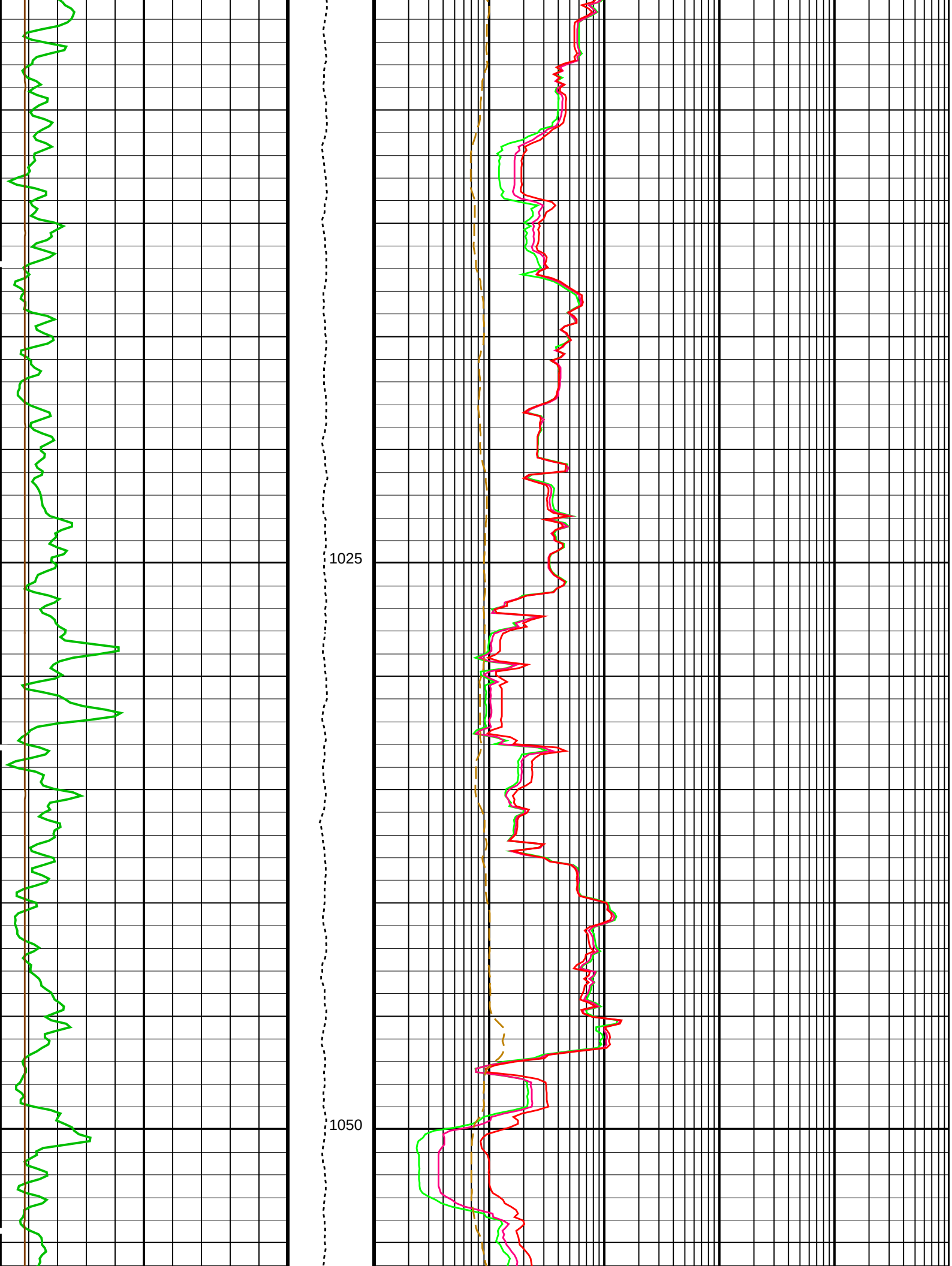

725
750
775

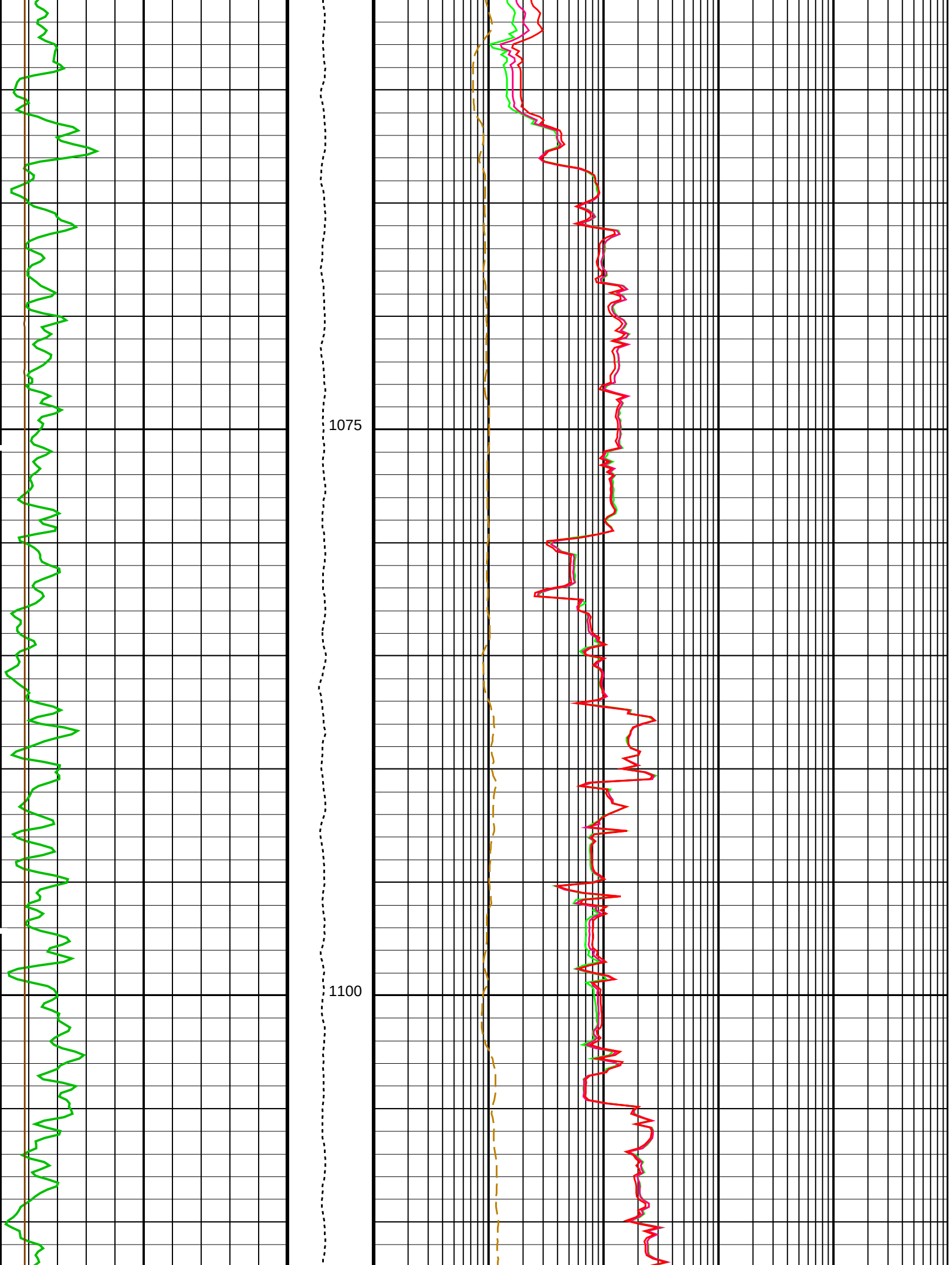

800
825

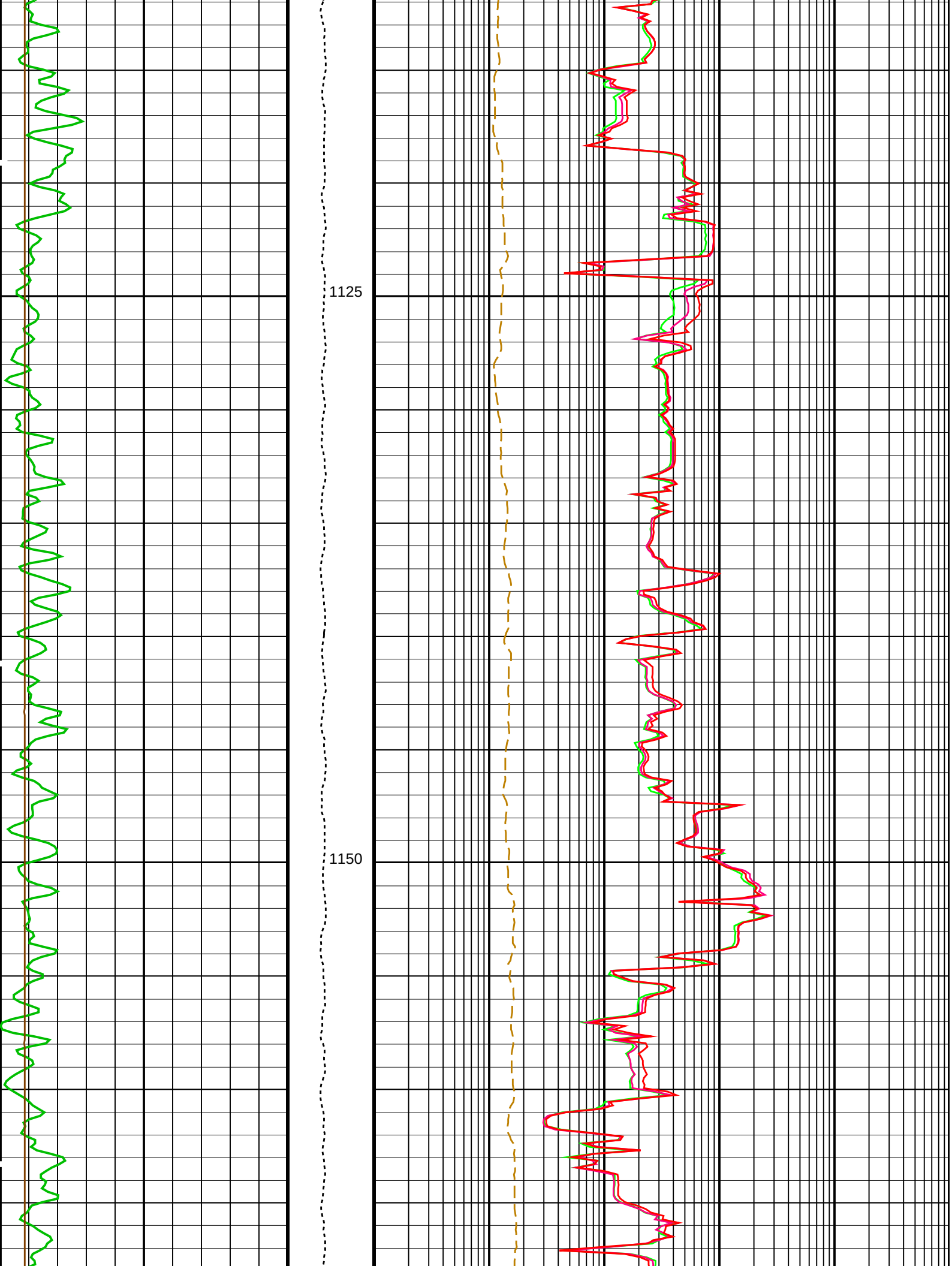

850
875
TENS

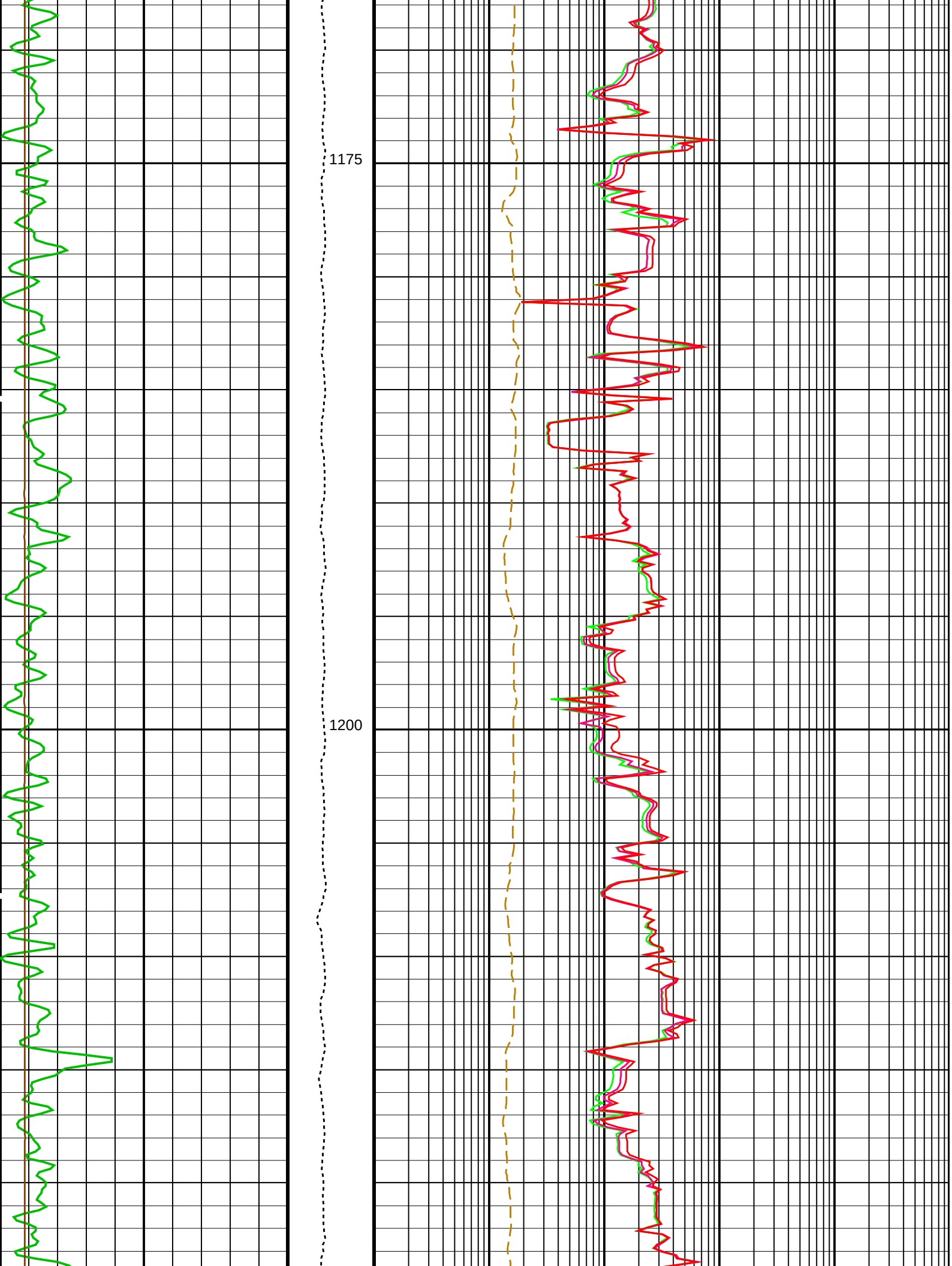

RM_HRLT
RLA5
RLA4
RLA3
900
LCAL
GR_EDTC
925

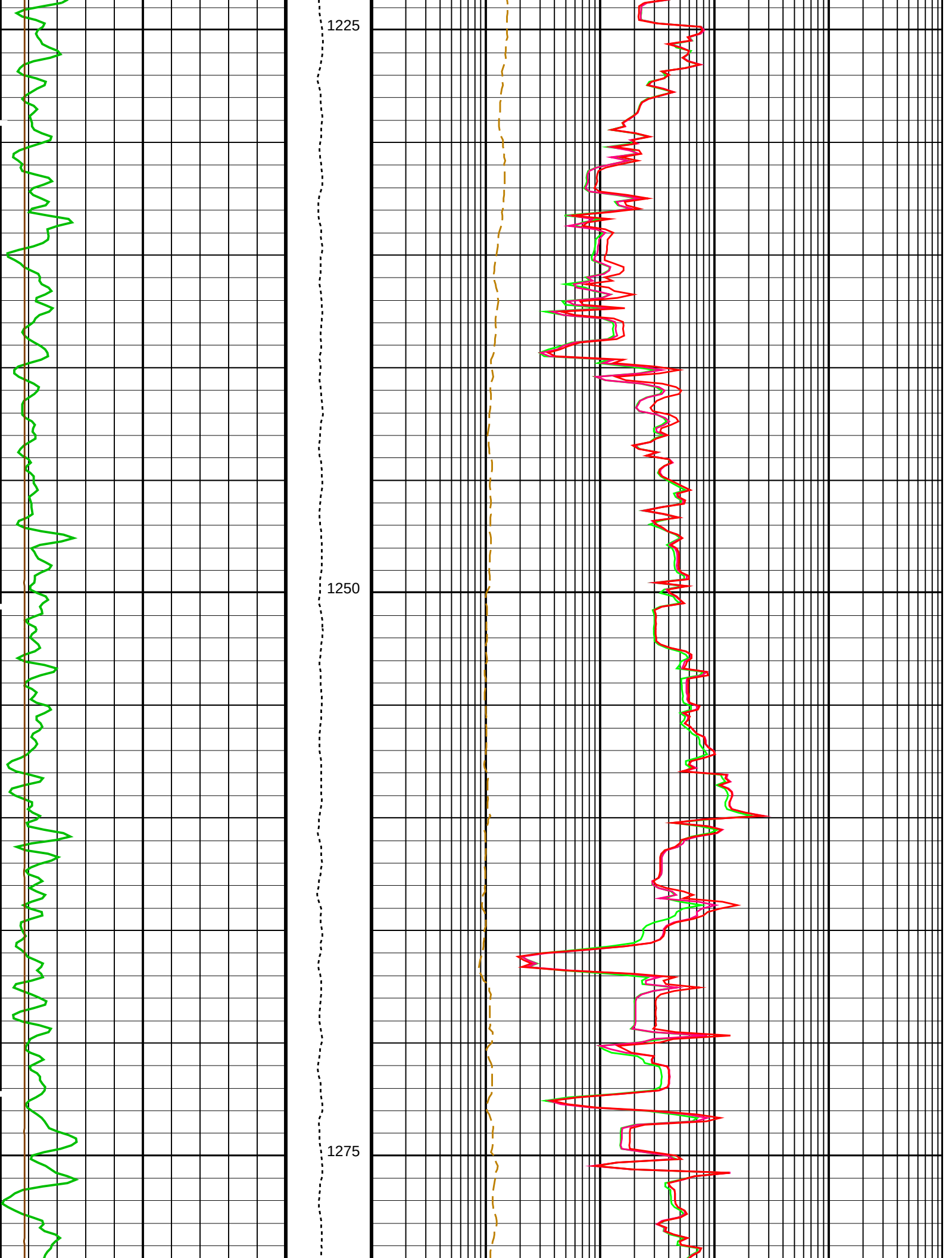

950
975
1000

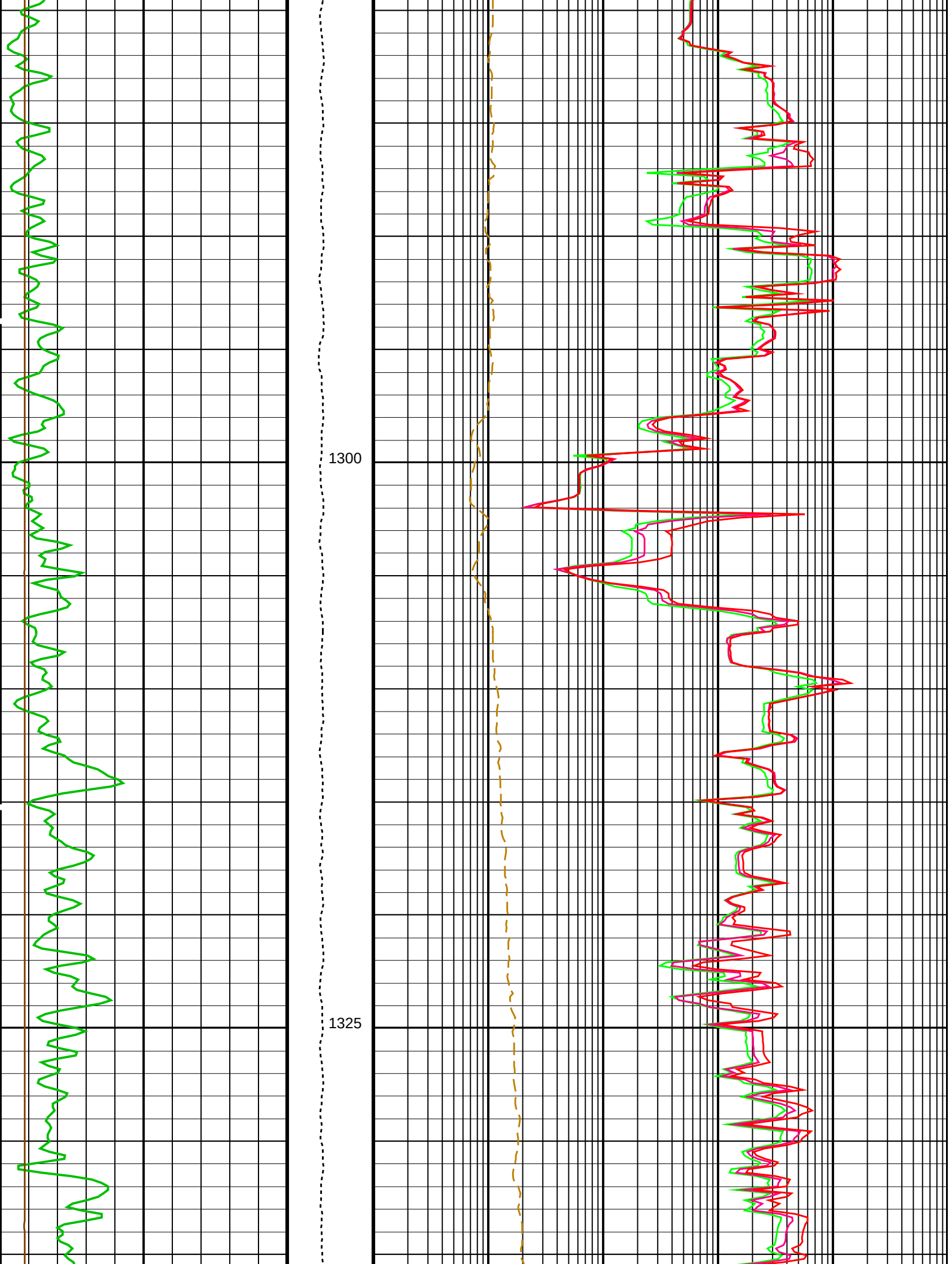

1025
1050

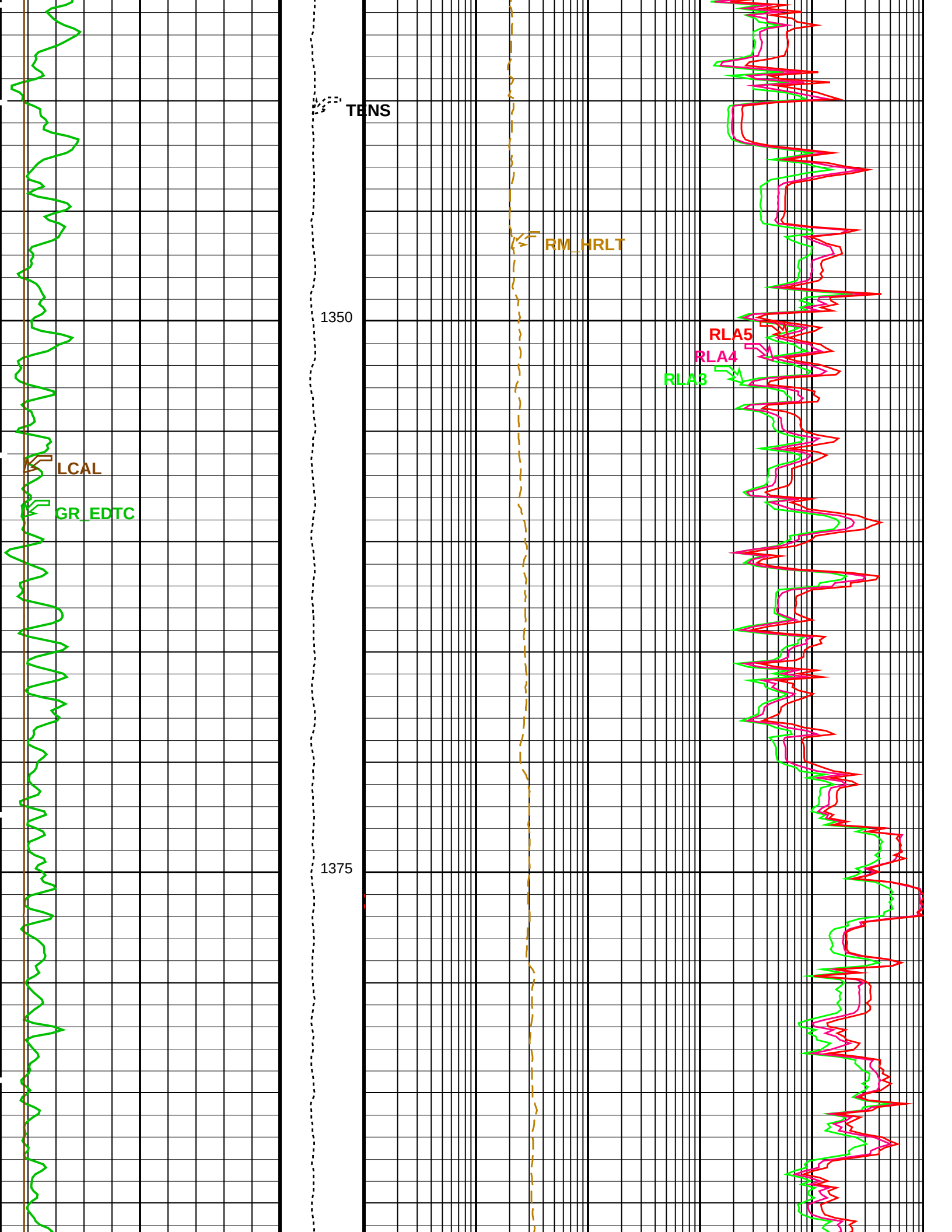

1075
1100

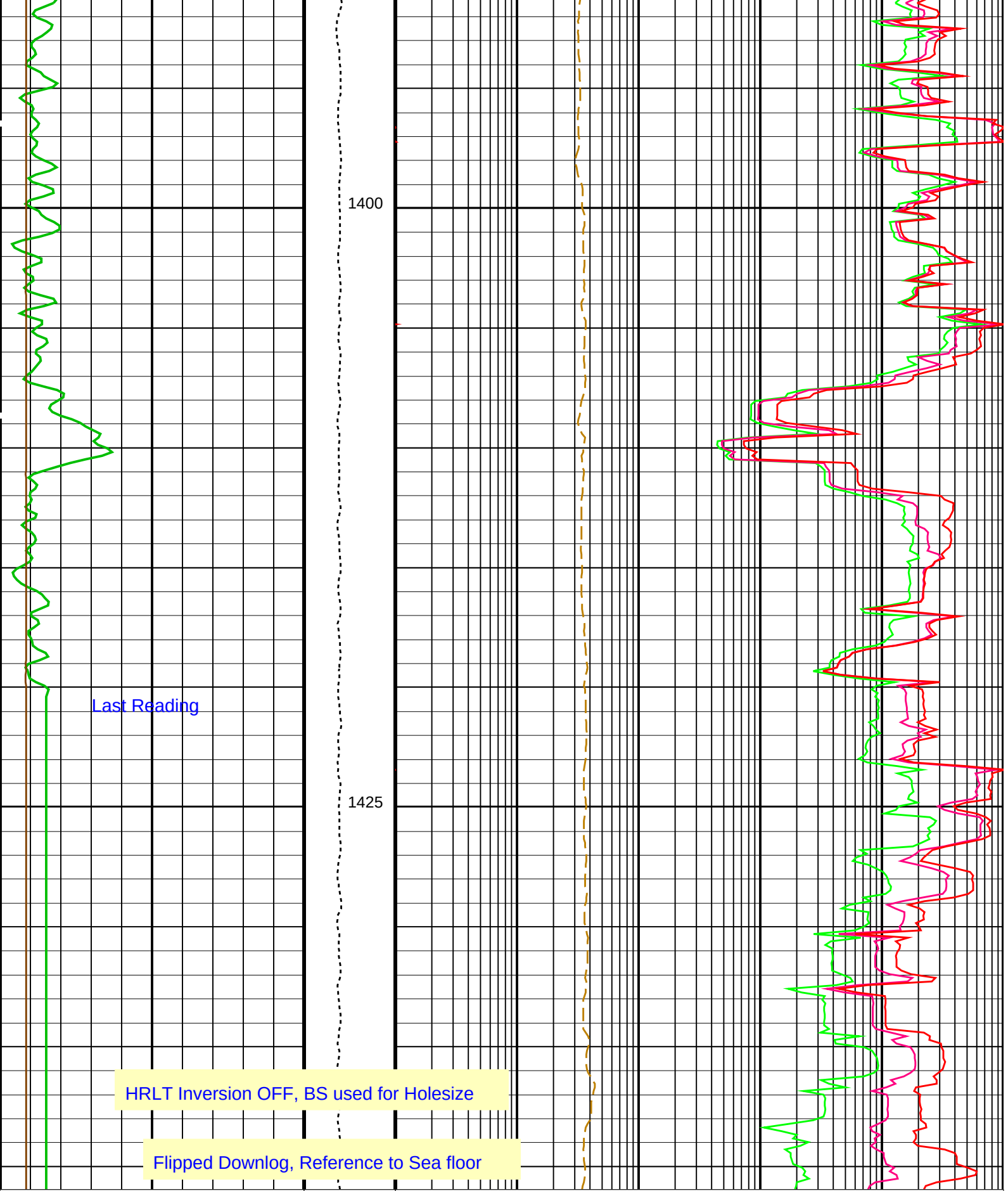

1125
1150


1175
1200


1225
1250
1275


1300
1325


TENS
RM_HRLT
1350
RLA5
RLA4
RLA3
LCAL
GR_EDTC
1375



HLDS Caliper (LCAL)	Tension (TENS)	HRLT Resistivity 3 (RLA3)
0 (IN) 20	(LBF) 10000 0	1 (OHMM) 100000
Gamma Ray (GR_EDTC)		HRLT Resistivity 4 (RLA4)
0 (GAPI) 20		1 (OHMM) 100000

HRLT Resistivity 5 (RLA5)		
1	(OHMM)	100000
HRLT Mud Resistivity (RM_HRLT)		
0.01	(OHMM)	1000

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	HRLT−B: High Resolution Laterolog Array − B		
BHT	Bottom Hole Temperature (used in calculations)	80	DEGC
GCSE	Generalized Caliper Selection	BS	
GGRD	Geothermal Gradient	0.018227	DC/M
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
KFAC_HRLT	HRLT K Factor Option	SONDE	
PROCINV	Inversion Selection	OFF	
PROCMFL	Inversion Micro−Resistivity Selection	NO_EXTERNAL_RXO	
PROCMSO	Mechanical Standoff Fin Size	0	IN
PROCRM	Processing Mud Resistivity Select	HRLT_Compute	
PROCSPO	Sonde Position	Centered	
SHT	Surface Hole Temperature	20	DEGC
	APS−C: Accelerator−Porosity Tool		
BHT	Bottom Hole Temperature (used in calculations)	80	DEGC
GCSE	Generalized Caliper Selection	BS	
GGRD	Geothermal Gradient	0.018227	DC/M
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
SHT	Surface Hole Temperature	20	DEGC
	EDTC−B: Enhanced DTS Cartridge		
BHT	Bottom Hole Temperature (used in calculations)	80	DEGC
GCSE	Generalized Caliper Selection	BS	
GGRD	Geothermal Gradient	0.018227	DC/M
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
SHT	Surface Hole Temperature	20	DEGC
	System and Miscellaneous		
BS	Bit Size	9.875	IN
DO	Depth Offset for Playback	−3644.0	M
MST	Mud Sample Temperature	−50000.00	DEGC
PP	Playback Processing	NORMAL	
TD	Total Depth	5170	M

Format: HRLT **Vertical Scale: 1:200** **Graphics File Created: 08−Jun−2011 16:15**

OP System Version: 17C0−154

GPIT−A/B	SRPC−3971−Q1_2010_OP17	DTA−A	17C0−154
MTT_LDEO−A	17C0−154	HRLT−B	SRPC−3971−Q1_2010_OP17
HLDS	SPC−3961−OP17_NUCL	LDSC−B	SPC−3961−OP17_NUCL
APS−C	SPC−3961−OP17_NUCL	EDTC−B	SRPC−3971−Q1_2010_OP17

Input DLIS Files

DEFAULT	Flip_MTT_LDEO_HRLA_060LUP		PRODUCER	08−Jun−2011 15:58	5098.8 M	3793.2 M

Output DLIS Files

DEFAULT	MTT_LDEO_HRLA_LDL_066PUP	FN:7	PRODUCER	08−Jun−2011 16:15	

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
General Purpose Inclinometer Wellsite Calibration − CROUZET ACCELEROMETER PROM HAS BEEN READ CORRECTLY							
Before: 27−May−2011 4:18							
TEMPERATURE REFERENCE :	N/A	N/A	20	N/A	N/A	N/A	DEGC
YEAR OF CALIBRATION :	N/A	N/A	92	N/A	N/A	N/A	

MONTH OF CALIBRATION :	N/A	N/A	10	N/A	N/A	N/A	
SERIAL NUMBER :	N/A	N/A	448	N/A	N/A	N/A	

General Purpose Inclinometer Wellsite Calibration − CROUZET MAGNETOMETER PROM HAS BEEN READ CORRECTLY
Before: 27−May−2011 4:18

TEMPERATURE REFERENCE :	N/A	N/A	19	N/A	N/A	N/A	DEGC
YEAR OF CALIBRATION :	N/A	N/A	99	N/A	N/A	N/A	
MONTH OF CALIBRATION :	N/A	N/A	12	N/A	N/A	N/A	
SERIAL NUMBER :	N/A	N/A	428	N/A	N/A	N/A	

High Resolution Laterolog Array − B Wellsite Calibration − HRLT M01
Before: 27−May−2011 8:45 After: 27−May−2011 12:33

HRLT M0−M1 Voltage Plus − 0	0	N/A	−317.7	−318.8	−1.120	9.681	UV
HRLT M0−M1 Voltage Plus − 1	0	N/A	−338.9	−335.0	3.970	9.681	UV
HRLT M0−M1 Voltage Plus − 2	0	N/A	−336.4	−335.4	1.043	9.681	UV
HRLT M0−M1 Voltage Plus − 3	0	N/A	−338.7	−338.7	0.006348	9.681	UV
HRLT M0−M1 Voltage Plus − 4	0	N/A	−324.9	−326.0	−1.162	9.681	UV
HRLT M0−M1 Voltage Plus − 5	0	N/A	−320.9	−322.0	−1.096	9.681	UV
HRLT M0−M1 Voltage Plus − 6	0	N/A	328.9	326.9	−1.960	9.681	UV
HRLT M0−M1 Voltage Plus − 7	0	N/A	−322.7	−322.7	0	9.681	UV

High Resolution Laterolog Array − B Wellsite Calibration − HRLT M12
Before: 27−May−2011 8:45 After: 27−May−2011 12:33

HRLT M1−M2 Voltage Plus − 0	0	N/A	1766	1755	−11.42	53.42	UV
HRLT M1−M2 Voltage Plus − 1	0	N/A	1871	1841	−30.80	53.42	UV
HRLT M1−M2 Voltage Plus − 2	0	N/A	1856	1839	−17.62	53.42	UV
HRLT M1−M2 Voltage Plus − 3	0	N/A	1873	1858	−15.07	53.42	UV
HRLT M1−M2 Voltage Plus − 4	0	N/A	1802	1791	−11.02	53.42	UV
HRLT M1−M2 Voltage Plus − 5	0	N/A	1782	1770	−12.46	53.42	UV
HRLT M1−M2 Voltage Plus − 6	0	N/A	−1822	−1804	18.37	53.42	UV
HRLT M1−M2 Voltage Plus − 7	0	N/A	1781	1781	0	53.42	UV

High Resolution Laterolog Array − B Wellsite Calibration − HRLT M23
Before: 27−May−2011 8:45 After: 27−May−2011 12:33

HRLT M2−M3 Voltage Plus − 0	0	N/A	1752	1740	−11.53	53.42	UV
HRLT M2−M3 Voltage Plus − 1	0	N/A	1871	1838	−33.40	53.42	UV
HRLT M2−M3 Voltage Plus − 2	0	N/A	1856	1837	−19.38	53.42	UV
HRLT M2−M3 Voltage Plus − 3	0	N/A	1876	1860	−16.02	53.42	UV
HRLT M2−M3 Voltage Plus − 4	0	N/A	1798	1786	−11.38	53.42	UV
HRLT M2−M3 Voltage Plus − 5	0	N/A	1779	1767	−12.62	53.42	UV
HRLT M2−M3 Voltage Plus − 6	0	N/A	−1811	−1790	21.05	53.42	UV
HRLT M2−M3 Voltage Plus − 7	0	N/A	1781	1781	0	53.42	UV

High Resolution Laterolog Array − B Wellsite Calibration − HRLT V34
Before: 27−May−2011 8:45 After: 27−May−2011 12:33

HRLT A3−A4 Voltage Plus − 0	0	N/A	68720	68450	−276.0	2100	UV
HRLT A3−A4 Voltage Plus − 1	0	N/A	73170	72070	−1103	2100	UV
HRLT A3−A4 Voltage Plus − 2	0	N/A	72900	72340	−552.1	2100	UV
HRLT A3−A4 Voltage Plus − 3	0	N/A	73940	73510	−427.3	2100	UV
HRLT A3−A4 Voltage Plus − 4	0	N/A	70830	70570	−257.4	2100	UV
HRLT A3−A4 Voltage Plus − 5	0	N/A	70110	69800	−304.8	2100	UV
HRLT A3−A4 Voltage Plus − 6	0	N/A	−69800	−69190	610.2	2100	UV
HRLT A3−A4 Voltage Plus − 7	0	N/A	70000	70000	0	2100	UV

High Resolution Laterolog Array − B Wellsite Calibration − HRLT V45
Before: 27−May−2011 8:45 After: 27−May−2011 12:33

HRLT A4−A5 Voltage Plus − 0	0	N/A	68970	68730	−237.7	2100	UV
HRLT A4−A5 Voltage Plus − 1	0	N/A	73520	72470	−1049	2100	UV
HRLT A4−A5 Voltage Plus − 2	0	N/A	73230	72710	−515.9	2100	UV
HRLT A4−A5 Voltage Plus − 3	0	N/A	74260	73870	−395.4	2100	UV
HRLT A4−A5 Voltage Plus − 4	0	N/A	71090	70870	−221.3	2100	UV
HRLT A4−A5 Voltage Plus − 5	0	N/A	70360	70090	−272.5	2100	UV
HRLT A4−A5 Voltage Plus − 6	0	N/A	−70150	−69580	571.2	2100	UV
HRLT A4−A5 Voltage Plus − 7	0	N/A	70000	70000	0	2100	UV

High Resolution Laterolog Array − B Wellsite Calibration − HRLT V56
Before: 27−May−2011 8:45 After: 27−May−2011 12:33

HRLT A5−A6 Voltage Plus − 0	0	N/A	68870	68630	−244.0	2100	UV
HRLT A5−A6 Voltage Plus − 1	0	N/A	73240	72170	−1066	2100	UV
HRLT A5−A6 Voltage Plus − 2	0	N/A	72990	72460	−530.7	2100	UV
HRLT A5−A6 Voltage Plus − 3	0	N/A	74060	73660	−396.2	2100	UV
HRLT A5−A6 Voltage Plus − 4	0	N/A	70950	70730	−220.6	2100	UV
HRLT A5−A6 Voltage Plus − 5	0	N/A	70250	69970	−271.2	2100	UV
HRLT A5−A6 Voltage Plus − 6	0	N/A	−69890	−69280	606.8	2100	UV
HRLT A5−A6 Voltage Plus − 7	0	N/A	70000	70000	0	2100	UV

High Resolution Laterolog Array − B Wellsite Calibration − HRLT VTP
Before: 27−May−2011 8:45 After: 27−May−2011 12:33

HRLT Torpedo−M0 Voltage − 0	0	N/A	−68570	−68310	260.6	2100	UV
HRLT Torpedo−M0 Voltage − 1	0	N/A	−73610	−72520	1087	2100	UV
HRLT Torpedo−M0 Voltage − 2	0	N/A	−73330	−72800	529.5	2100	UV
HRLT Torpedo−M0 Voltage − 3	0	N/A	−74380	−73960	417.4	2100	UV

HRLT Torpedo−M0 Voltage − 4	0	N/A	−71190	−70930	257.9	2100	UV
HRLT Torpedo−M0 Voltage − 5	0	N/A	−70430	−70120	311.0	2100	UV
HRLT Torpedo−M0 Voltage − 6	0	N/A	70170	69590	−586.3	2100	UV
HRLT Torpedo−M0 Voltage − 7	0	N/A	−70000	−70000	0	2100	UV

High Resolution Laterolog Array − B Wellsite Calibration − HRLT VBD
Before: 27−May−2011 8:45 After: 27−May−2011 12:33

HRLT Bridle#9−M0 Voltage − 0	0	N/A	−68570	−68300	269.6	2100	UV
HRLT Bridle#9−M0 Voltage − 1	0	N/A	−73590	−72500	1084	2100	UV
HRLT Bridle#9−M0 Voltage − 2	0	N/A	−73310	−72770	539.6	2100	UV
HRLT Bridle#9−M0 Voltage − 3	0	N/A	−74370	−73940	428.9	2100	UV
HRLT Bridle#9−M0 Voltage − 4	0	N/A	−71190	−70930	264.9	2100	UV
HRLT Bridle#9−M0 Voltage − 5	0	N/A	−70440	−70130	314.7	2100	UV
HRLT Bridle#9−M0 Voltage − 6	0	N/A	70150	69550	−597.0	2100	UV
HRLT Bridle#9−M0 Voltage − 7	0	N/A	−70000	−70000	0	2100	UV

High Resolution Laterolog Array − B Wellsite Calibration − HRLT ISO
Before: 27−May−2011 8:45 After: 27−May−2011 12:33

HRLT Source Current Plus − 0	0	N/A	285.9	284.8	−1.066	8.520	UA
HRLT Source Current Plus − 1	0	N/A	281.1	281.1	0	8.520	UA
HRLT Source Current Plus − 2	0	N/A	281.1	281.1	0	8.520	UA
HRLT Source Current Plus − 3	0	N/A	281.1	281.1	0	8.520	UA
HRLT Source Current Plus − 4	0	N/A	281.1	281.1	0	8.520	UA
HRLT Source Current Plus − 5	0	N/A	281.1	281.1	0	8.520	UA
HRLT Source Current Plus − 6	0	N/A	281.1	281.1	0	8.520	UA
HRLT Source Current Plus − 7	0	N/A	281.1	281.1	0	8.520	UA

High Resolution Laterolog Array − B Wellsite Calibration − HRLT MV
Before: 27−May−2011 8:45 After: 27−May−2011 12:33

HRLT Vertical Voltage Pl − 0	0	N/A	−322.8	−321.3	1.506	9.681	UV
HRLT Vertical Voltage Pl − 1	0	N/A	−333.9	−329.0	4.915	9.681	UV
HRLT Vertical Voltage Pl − 2	0	N/A	−331.4	−328.6	2.723	9.681	UV
HRLT Vertical Voltage Pl − 3	0	N/A	−332.5	−330.5	2.034	9.681	UV
HRLT Vertical Voltage Pl − 4	0	N/A	−317.0	−315.7	1.317	9.681	UV
HRLT Vertical Voltage Pl − 5	0	N/A	−328.5	−326.9	1.616	9.681	UV
HRLT Vertical Voltage Pl − 6	0	N/A	336.9	334.0	−2.925	9.681	UV
HRLT Vertical Voltage Pl − 7	0	N/A	−322.7	−322.7	0	9.681	UV

Hostile Litho−Density Sonde Wellsite Calibration − Background Measurement
Master: 7−Apr−2011 5:00 Before: 17−Apr−2011 20:21 After: 27−May−2011 13:15

SS Cs Resolution Bkg	9.000	8.421	8.552	8.381	−0.1705	1.800	%
LS Cs Resolution Bkg	9.000	8.647	8.637	8.635	−0.001844	1.800	%
LSW1 Background	100.0	73.32	72.16	72.44	0.2852	0.03000	CPS
LSW2 Background	100.0	67.30	65.90	66.11	0.2139	0.03000	CPS
LSW3 Background	200.0	149.6	148.2	149.6	1.430	0.03000	CPS
LSW4 Background	250.0	182.5	182.4	180.1	−2.311	0.03000	CPS
LSW5 Background	600.0	412.6	411.5	410.6	−0.8688	0.03000	CPS
SSW1 Background	100.0	73.02	72.78	71.75	−1.032	0.03000	CPS
SSW2 Background	200.0	124.5	124.2	124.3	0.1552	0.03000	CPS
SSW3 Background	500.0	331.6	329.1	330.7	1.533	0.03000	CPS
SSW4 Background	270.0	176.9	177.0	176.0	−1.033	0.03000	CPS
SSW5 Background	200.0	128.6	126.6	126.4	−0.2029	0.03000	CPS

Hostile Litho−Density Sonde Wellsite Calibration − Aluminum Measurement
Master: 7−Apr−2011 5:35

LSW1 Aluminum	600.0	528.0	N/A	N/A	N/A	N/A	CPS
LSW2 Aluminum	900.0	780.2	N/A	N/A	N/A	N/A	CPS
LSW3 Aluminum	1100	954.5	N/A	N/A	N/A	N/A	CPS
LSW4 Aluminum	580.0	479.7	N/A	N/A	N/A	N/A	CPS
LSW5 Aluminum	570.0	447.8	N/A	N/A	N/A	N/A	CPS
SSW1 Aluminum	2800	2247	N/A	N/A	N/A	N/A	CPS
SSW2 Aluminum	8000	6431	N/A	N/A	N/A	N/A	CPS
SSW3 Aluminum	11600	9367	N/A	N/A	N/A	N/A	CPS
SSW4 Aluminum	5000	3952	N/A	N/A	N/A	N/A	CPS
SSW5 Aluminum	660.0	528.3	N/A	N/A	N/A	N/A	CPS

Hostile Litho−Density Sonde Wellsite Calibration − Lithology Measurement
Master: 7−Apr−2011 5:20

LSW1 Iron	400.0	370.3	N/A	N/A	N/A	N/A	CPS
LSW2 Iron	730.0	645.6	N/A	N/A	N/A	N/A	CPS
LSW3 Iron	1000	866.1	N/A	N/A	N/A	N/A	CPS
LSW4 Iron	520.0	449.2	N/A	N/A	N/A	N/A	CPS
LSW5 Iron	470.0	418.0	N/A	N/A	N/A	N/A	CPS
SSW1 Iron	2100	1722	N/A	N/A	N/A	N/A	CPS
SSW2 Iron	6800	5519	N/A	N/A	N/A	N/A	CPS
SSW3 Iron	10800	8788	N/A	N/A	N/A	N/A	CPS
SSW4 Iron	4600	3729	N/A	N/A	N/A	N/A	CPS
SSW5 Iron	580.0	487.2	N/A	N/A	N/A	N/A	CPS

Hostile Litho−Density Sonde Wellsite Calibration − Caliper Calibration
Before: 17−Apr−2011 20:29

HLDS Caliper Small Ring	11.88	N/A	13.46	N/A	N/A	N/A	IN
HLDS Caliper Large Ring	15.19	N/A	16.89	N/A	N/A	N/A	IN

Accelerator−Porosity Tool Wellsite Calibration − Detector Background
Master: 8−Apr−2011 5:40 Before: 27−May−2011 5:18 After: 27−May−2011 12:57

Near Det Bkg Cntrate	30.00	33.54	31.97	33.15	1.185	N/A	CPS
Far Det Bkg Cntrate	30.00	32.81	33.85	33.01	−0.8422	N/A	CPS
Array−1 Det Bkg Cntrate	30.00	29.03	30.64	29.81	−0.8284	N/A	CPS
Array−2 Det Bkg Cntrate	30.00	30.21	30.41	29.45	−0.9609	N/A	CPS
Array Therm Det Bkg Cntrate	30.00	32.80	32.21	31.09	−1.117	N/A	CPS

Accelerator−Porosity Tool Wellsite Calibration − Calibration Ratios
Master: 8−Apr−2011 5:40

Near/Far Calibration Ratio	0.9250	0.8835	N/A	N/A	N/A	N/A	
Near/Array Calibration Ratio	1.030	1.057	N/A	N/A	N/A	N/A	
Near/Array Cal Ratio Up/Down	1.000	1.003	N/A	N/A	N/A	N/A	

Accelerator−Porosity Tool Wellsite Calibration − Tank Check
Master: 8−Apr−2011 5:41

Array−1 Standoff Porosity	11.75	11.34	N/A	N/A	N/A	N/A	PU
Array−2 Standoff Porosity	11.75	11.41	N/A	N/A	N/A	N/A	PU
Average Slowing Down Time	6.000	5.888	N/A	N/A	N/A	N/A	US
Array−1 SDT Ratio Up/Down	1.000	0.9889	N/A	N/A	N/A	N/A	
Array−2 SDT Ratio Up/Down	1.000	0.9810	N/A	N/A	N/A	N/A	
Sigma Formation	27.50	26.90	N/A	N/A	N/A	N/A	CU

Accelerator−Porosity Tool Wellsite Calibration − CCR7 signal boxes
Master: 8−Apr−2011 4:59

Near Detector Plateau Setting	1650	1732	N/A	N/A	N/A	N/A	V
Far Detector Plateau Setting	2000	2114	N/A	N/A	N/A	N/A	V
Array Detector Plateau Setting	2000	1964	N/A	N/A	N/A	N/A	V

Enhanced DTS Cartridge Wellsite Calibration − EDTC Accelerometer Calibration
Before: 27−May−2011 4:20

EDTC Z−Axis Acceleration	9.810	N/A	9.728	N/A	N/A	N/A	M/S2

Enhanced DTS Cartridge Wellsite Calibration − Detector Calibration
Before: Calibration out of date 30−Apr−2011 23:52

Gamma Ray (Jig − Bkg)	159.0	N/A	159.0	N/A	N/A	14.45	GAPI
Gamma Ray (Calibrated)	164.0	N/A	164.0	N/A	N/A	15.00	GAPI

Accelerator−Porosity Tool − Detector Plateau Settings :

Near Detector Plateau Setting 1732 V
Far Detector Plateau Setting 2114 V
Array Detector Plateau Setting 1964 V

General Purpose Inclinometer / Equipment Identification

Primary Equipment:		
GPIT Cartridge − AC	GPIC − AC	719
Auxiliary Equipment:		
GPIT Housing	GPIH − A	2864

High Resolution Laterolog Array − B / Equipment Identification

Primary Equipment:		
HRLT Sonde	HRLS − B	969
Auxiliary Equipment:		
HRLT lower Housing	HRLH − B	759
HRLT Lower Cartridge	HRLC − B	759
HRLT upper Housing	HRUH − B	769
HRLT Upper Cartridge	HRUC − B	764

High Resolution Laterolog Array − B Wellsite Calibration
HRLT M01

Idx	Phase	HRLT M0−M1 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		−317.7	−322.7	−280.7	−379.7

0	After	−318.8			
1	Before	−338.9	−322.7	−280.7	−379.7
	After	−335.0			
2	Before	−336.4	−322.7	−280.7	−379.7
	After	−335.4			
3	Before	−338.7	−322.7	−280.7	−379.7
	After	−338.7			
4	Before	−324.9	−322.7	−280.7	−379.7
	After	−326.0			
5	Before	−320.9	−322.7	−280.7	−379.7
	After	−322.0			
6	Before	328.9	322.7	379.7	280.7
	After	326.9			
7	Before	−322.7	−322.7	−280.7	−379.7
	After	−322.7			
	(Minimum) (Nominal) (Maximum)				

Before: 27−May−2011 8:45

After: 27−May−2011 12:33

High Resolution Laterolog Array − B Wellsite Calibration

HRLT M12

Idx	Phase	HRLT M1−M2 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		1766	1781	2095	1549
	After		1755			
1	Before		1871	1781	2095	1549
	After		1841			
2	Before		1856	1781	2095	1549
	After		1839			
3	Before		1873	1781	2095	1549
	After		1858			
4	Before		1802	1781	2095	1549
	After		1791			
5	Before		1782	1781	2095	1549
	After		1770			
6	Before		−1822	−1781	−1549	−2095
	After		−1804			
7	Before		1781	1781	2095	1549
	After		1781			
	(Minimum) (Nominal) (Maximum)					

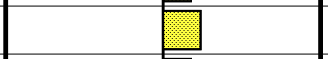
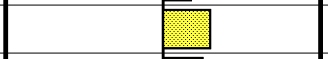
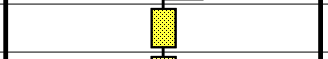
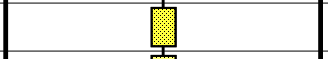
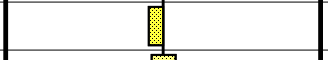
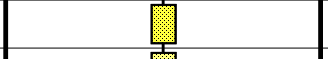
Before: 27−May−2011 8:45

After: 27−May−2011 12:33

High Resolution Laterolog Array − B Wellsite Calibration

HRLT M23

Idx	Phase	HRLT M2−M3 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		1752	1781	2095	1549
	After		1740			
1	Before		1871			

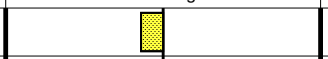
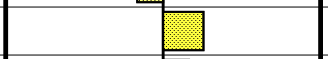
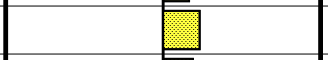
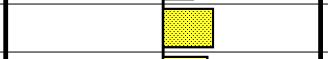
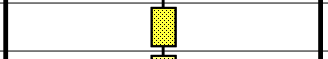
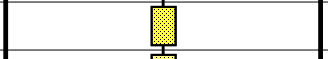
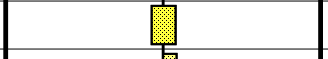
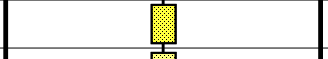
1	After		1838	1781	2095	1549
2	Before		1856	1781	2095	1549
	After		1837			
3	Before		1876	1781	2095	1549
	After		1860			
4	Before		1798	1781	2095	1549
	After		1786			
5	Before		1779	1781	2095	1549
	After		1767			
6	Before		−1811	−1781	−1549	−2095
	After		−1790			
7	Before		1781	1781	2095	1549
	After		1781			
	(Minimum) (Nominal) (Maximum)					

Before: 27−May−2011 8:45

After: 27−May−2011 12:33

High Resolution Laterolog Array − B Wellsite Calibration

HRLT V34

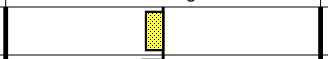
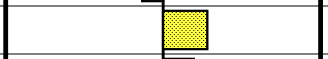
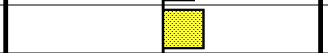
Idx	Phase	HRLT A3−A4 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		68720	70000	82360	60900
	After		68450			
1	Before		73170	70000	82360	60900
	After		72070			
2	Before		72900	70000	82360	60900
	After		72340			
3	Before		73940	70000	82360	60900
	After		73510			
4	Before		70830	70000	82360	60900
	After		70570			
5	Before		70110	70000	82360	60900
	After		69800			
6	Before		−69800	−70000	−60900	−82360
	After		−69190			
7	Before		70000	70000	82360	60900
	After		70000			
	(Minimum) (Nominal) (Maximum)					

Before: 27−May−2011 8:45

After: 27−May−2011 12:33

High Resolution Laterolog Array − B Wellsite Calibration

HRLT V45

Idx	Phase	HRLT A4−A5 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		68970	70000	82360	60900
	After		68730			
1	Before		73520	70000	82360	60900
	After		72470			
	Before		73230			

2	After	72710	70000	82360	60900
3	Before	74260	70000	82360	60900
	After	73870			
4	Before	71090	70000	82360	60900
	After	70870			
5	Before	70360	70000	82360	60900
	After	70090			
6	Before	−70150	−70000	−60900	−82360
	After	−69580			
7	Before	70000	70000	82360	60900
	After	70000			
	(Minimum) (Nominal) (Maximum)				

Before: 27−May−2011 8:45

After: 27−May−2011 12:33

High Resolution Laterolog Array − B Wellsite Calibration

HRLT V56

Idx	Phase	HRLT A5−A6 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		68870	70000	82360	60900
	After		68630			
1	Before		73240	70000	82360	60900
	After		72170			
2	Before		72990	70000	82360	60900
	After		72460			
3	Before		74060	70000	82360	60900
	After		73660			
4	Before		70950	70000	82360	60900
	After		70730			
5	Before		70250	70000	82360	60900
	After		69970			
6	Before		−69890	−70000	−60900	−82360
	After		−69280			
7	Before		70000	70000	82360	60900
	After		70000			
	(Minimum) (Nominal) (Maximum)					

Before: 27−May−2011 8:45

After: 27−May−2011 12:33

High Resolution Laterolog Array − B Wellsite Calibration

HRLT VTP

Idx	Phase	HRLT Torpedo−M0 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		−68570	−70000	−60900	−82360
	After		−68310			
1	Before		−73610	−70000	−60900	−82360
	After		−72520			
2	Before		−73330	−70000	−60900	−82360
	After		−72800			
	Before		−74380			

3	After	−73960	−70000	−60900	−82360
4	Before	−71190	−70000	−60900	−82360
	After	−70930			
5	Before	−70430	−70000	−60900	−82360
	After	−70120			
6	Before	70170	70000	82360	60900
	After	69590			
7	Before	−70000	−70000	−60900	−82360
	After	−70000			
	(Minimum) (Nominal) (Maximum)				

Before: 27−May−2011 8:45

After: 27−May−2011 12:33

High Resolution Laterolog Array − B Wellsite Calibration

HRLT VBD

Idx	Phase	HRLT Bridle#9−M0 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		−68570	−70000	−60900	−82360
	After		−68300			
1	Before		−73590	−70000	−60900	−82360
	After		−72500			
2	Before		−73310	−70000	−60900	−82360
	After		−72770			
3	Before		−74370	−70000	−60900	−82360
	After		−73940			
4	Before		−71190	−70000	−60900	−82360
	After		−70930			
5	Before		−70440	−70000	−60900	−82360
	After		−70130			
6	Before		70150	70000	82360	60900
	After		69550			
7	Before		−70000	−70000	−60900	−82360
	After		−70000			
	(Minimum) (Nominal) (Maximum)					

Before: 27−May−2011 8:45

After: 27−May−2011 12:33

High Resolution Laterolog Array − B Wellsite Calibration

HRLT ISO

Idx	Phase	HRLT Source Current Plus UA	Value	Nominal	Maximum	Minimum
0	Before		285.9	284.0	334.1	247.0
	After		284.8			
1	Before		281.1	281.1	330.7	244.4
	After		281.1			
2	Before		281.1	281.1	330.7	244.4
	After		281.1			
3	Before		281.1	281.1	330.7	244.4
	After		281.1			
	Before		281.1			

4	After	281.1	281.1	330.7	244.4
5	Before	281.1	281.1	330.7	244.4
	After	281.1			
6	Before	281.1	281.1	330.7	244.4
	After	281.1			
7	Before	281.1	281.1	330.7	244.4
	After	281.1			
	(Minimum) (Nominal) (Maximum)				

Before: 27−May−2011 8:45

After: 27−May−2011 12:33

High Resolution Laterolog Array − B Wellsite Calibration

HRLT MV

Idx	Phase	HRLT Vertical Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		−322.8	−322.7	−280.7	−379.7
	After		−321.3			
1	Before		−333.9	−322.7	−280.7	−379.7
	After		−329.0			
2	Before		−331.4	−322.7	−280.7	−379.7
	After		−328.6			
3	Before		−332.5	−322.7	−280.7	−379.7
	After		−330.5			
4	Before		−317.0	−322.7	−280.7	−379.7
	After		−315.7			
5	Before		−328.5	−322.7	−280.7	−379.7
	After		−326.9			
6	Before		336.9	322.7	379.7	280.7
	After		334.0			
7	Before		−322.7	−322.7	−280.7	−379.7
	After		−322.7			
	(Minimum) (Nominal) (Maximum)					

Before: 27−May−2011 8:45

After: 27−May−2011 12:33

Hostile Litho−Density Sonde / Equipment Identification

Primary Equipment:

Hostile Litho Density Sonde	HLDS − D	45
Hostile Litho Density High Voltage	HLDV − D	51
Gamma Source Radioactive	GSR − Z	2397

Auxiliary Equipment:

Hostile Litho Density Pad	HLDP − C	61
Hostile Litho Density High Voltage Housi	HEH − H	53

Litho−Density Spectroscopy Cartridge − B / Equipment Identification

Primary Equipment:

LDSC Cartridge	LDSC − B	521

Auxiliary Equipment:

LDSC Housing	LDSH − A	319

Accelerator−Porosity Tool / Equipment Identification

Primary Equipment:		
Accelerator−Porosity Sonde	APS − C	22
APS Minitron	MNTR − F	5589
Auxiliary Equipment:		
Accelerator−Porosity Housing	APH − AC	22
APS Calibration Water Tank	SFT − 178	1
APS Aluminum Calibrator Sleeve	SFT − 281	1

Enhanced DTS Cartridge / Equipment Identification

Primary Equipment:		
EDTC Gamma Ray Detector	EDTG − A/B	8305
Enhanced DTS Cartridge	EDTC − B	8317
Auxiliary Equipment:		
EDTC Housing	EDTH − B	8303

Enhanced DTS Cartridge Wellsite Calibration

EDTC Accelerometer Calibration

Phase	EDTC Z−Axis Acceleration M/S2	Value
Before		9.728

9.610 (Minimum)	9.810 (Nominal)	10.01 (Maximum)

Before: 27−May−2011 4:20

Enhanced DTS Cartridge Wellsite Calibration

Detector Calibration

Phase	Gamma Ray Background GAPI	Value
Before		6.630

0 (Minimum)	30.00 (Nominal)	120.0 (Maximum)

Phase	Gamma Ray (Jig − Bkg) GAPI	Value
Before		159.0

144.5 (Minimum)	159.0 (Nominal)	173.5 (Maximum)

Phase	Gamma Ray (Calibrated) GAPI	Value
Before		164.0

149.0 (Minimum)	164.0 (Nominal)	179.0 (Maximum)

Before: Calibration out of date 30−Apr−2011 23:52

Company: **Lamont Doherty**

Schlumberger

Well: **Expedition 335 Site U1256D**
Field: **Superfast Spreading Crust IV**
Rig: **Joides Resolution**
Ocean: **Pacific Ocean**

High Resolution Laterolog Array
Caliper
Gamma Ray