Comp

Well:
Field:
Rig:

Rig:	Hunt #2
Field:	Wildcat
Location:	PEP 157

Logging Da	
Run Numb	
Depth Drill	
Schlumber	
Bottom Lo	
Top Log In	
Casing Dri	
Casing Sc	
Bit Size	
Type Fluid	
MUD Density	
MUD Fluid Loss	
MUD Source Of	
RM @ Mea	
RMF @ Me	
RMC @ M	
Source RM	
RM @ MR	
Maximum	
Circulation	
Logger On	
Unit Numb	
Recorded	
Witnessed	

Schlumberger

any: **Lakes Oil N.L.**

Trifon 2
Wildcat
Hunt #2 Country: **Australia**

HALS(/HRLA) − BHC − PE)
2498.9 − 1260 m
1:200 Scale

Well: Trifon 2
Company: Lakes Oil N.L.

LOCATION

PEP 157
516803 E
5760387 N

Elev.: K.B. 28.4 m
G.L. 25 m
D.F. 28.4 m

Permanent Datum: MEAN SEA LEVEL
Log Measured From: Kelly Bushing
Drilling Measured From: Kelly Bushing

Elev.: 0 m
28.4 m above Perm. Datum

State:	Max. Well Deviation	Longitude	Latitude
Victoria	5 deg	147* 11' 30" E	38* 18' 15.5" S

						Run 1	Run 2	Run 3	
ate		3−Aug−2004							Logging Date
er		1							Run Number
er		2500 m							Depth Driller
ger Depth		2501.2 m							Schlumberger Depth
g Interval		2498.9 m							Bottom Log Interval
terval		1260 m							Top Log Interval
ller Size @ Depth		7.000 in	@	1265 m	@		@		@ Casing Driller Size @ Depth
hlumberger		1260 m							Casing Schlumberger
		6.125 in							Bit Size
In Hole		KCL PHPA							Type Fluid In Hole
	Viscosity	1.1 g/cm3	37 s						MUD Density / Viscosity
s	PH		8.7						MUD Fluid Loss / PH
f Sample		Pit							Source Of Sample
asured Temperature		0.290 ohm.m	@	14 degC	@		@		@ RM @ Measured Temperature
easured Temperature		0.218 ohm.m	@	14 degC	@		@		@ RMF @ Measured Temperature
easured Temperature		0.435 ohm.m	@	14 degC	@		@		@ RMC @ Measured Temperature
MF	RMC	Calculated	Calculated						Source RMF / RMC
T	RMF @ MRT	0.098 @ 85	0.073 @ 85		@	@	@	@	@ RM @ MRT / RMF @ MRT
Recorded Temperatures		85 degC	85						Maximum Recorded Temperatures
Stopped	Time	3−Aug−2004		14:30					Circulation Stopped / Time
Bottom	Time	3−Aug−2004		21:30					Logger On Bottom / Time
er	Location	3170	QEA						Unit Number / Location
By		Ian Thomas							Recorded By
By		Mr Tim O'Brien							Witnessed By

@

Run 4

DEPTH SUMMARY LISTING

Date Created: 4−AUG−2004 2:54:48

Depth System Equipment

Depth Measuring Device		Tension Device		Logging Cable	
Type:	IDW−B	Type:	CMTD−B/A	Type:	7−42V−XS
Serial Number:	1933	Serial Number:	2268	Serial Number:	73069
Calibration Date:	dd−mmm−yyyy	Calibration Date:	16−Jul−04	Length:	4500.07 M
Calibrator Serial Number:	−50000	Calibrator Serial Number:	1050		
Calibration Cable Type:	7−42V−XS	Calibration Gain:	0.87	Conveyance Method:	Wireline
Wheel Correction 1:	−2	Calibration Offset:	326.00	Rig Type:	LAND
Wheel Correction 2:	−2				

Depth Control Parameters

Log Sequence:	First Log In the Well
Rig Up Length At Surface:	63.28 M
Rig Up Length At Bottom:	63.01 M
Rig Up Length Correction:	0.27 M
Stretch Correction:	0.70 M
Tool Zero Check At Surface:	0.10 M

Depth Control Remarks

1. This is the first run in hole
2. All Schlumberger depth control procedures followed
3.
4.
5.
6.

OTHER SERVICES1
OS1:
OS2:
OS3:
OS4:
OS5:

REMARKS: RUN NUMBER 1
This is the first run in hole
Tool run with 0.5 in standoffs as per tool sketch
HGNS run eccentralised using bowspring

Due to failure of Deep Resistivity Sensor on HALS tool HRLA was run as a second run and the resistivity data
merged to this log, information for second run in hole is presented on log MCFL − HRLA −GR log dated 4 Aug 2004
.
Log recorded in Hi−resolution from TD to Casing Shoe
Maximum temperature recorded from thermometers in LEH−QT
Mud resistivity found from mud sample
Mud filtrate and mudcake resistivities calculated using Schlumberger chart Gen 7
No barite was used in the mud

No barite was used in the mud

Neutron porosity data corrected for hole size, borehole salinity, mud weight and pressure/temperature

Caliper Check in Casing reads 6.28" (nominal 6.276")

Sonic check in casing reads 57 us/ft

RUN 1			RUN 2		
SERVICE ORDER #:			SERVICE ORDER #:		
PROGRAM VERSION:		12C0−301	PROGRAM VERSION:		
FLUID LEVEL:			FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

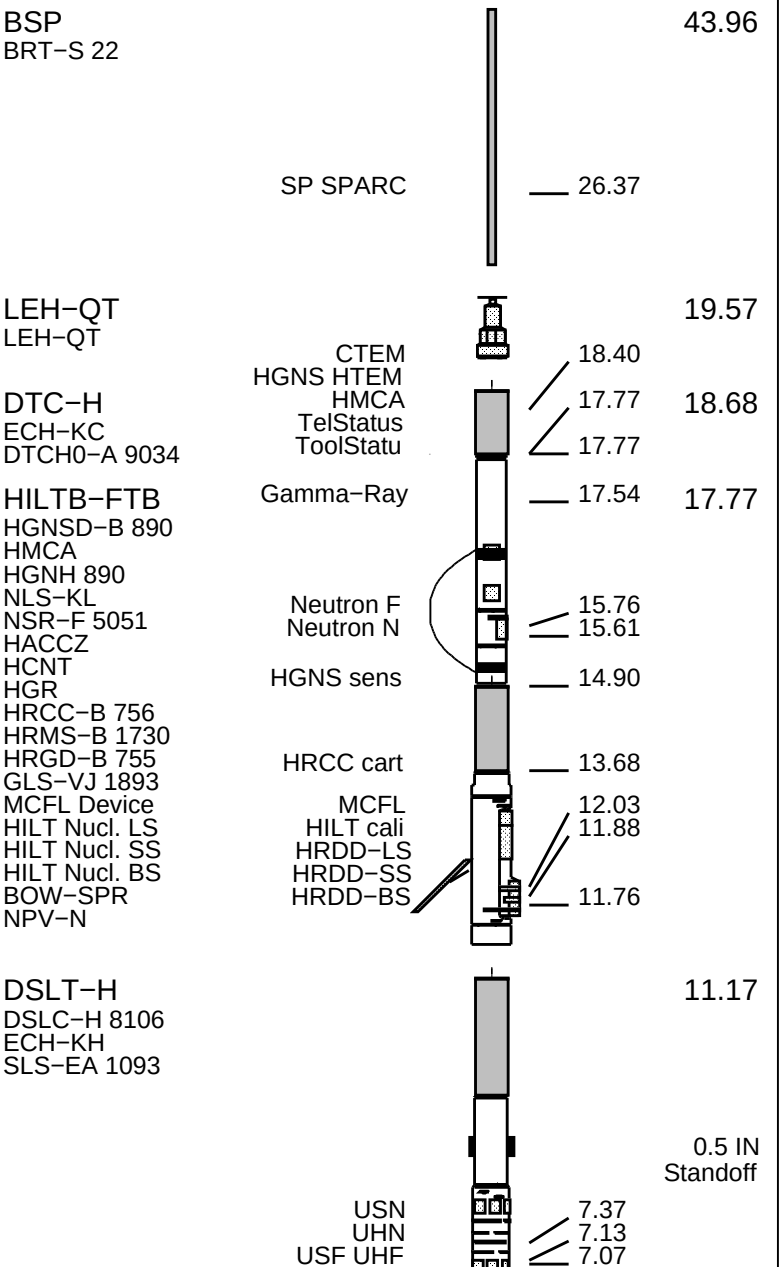
EQUIPMENT DESCRIPTION

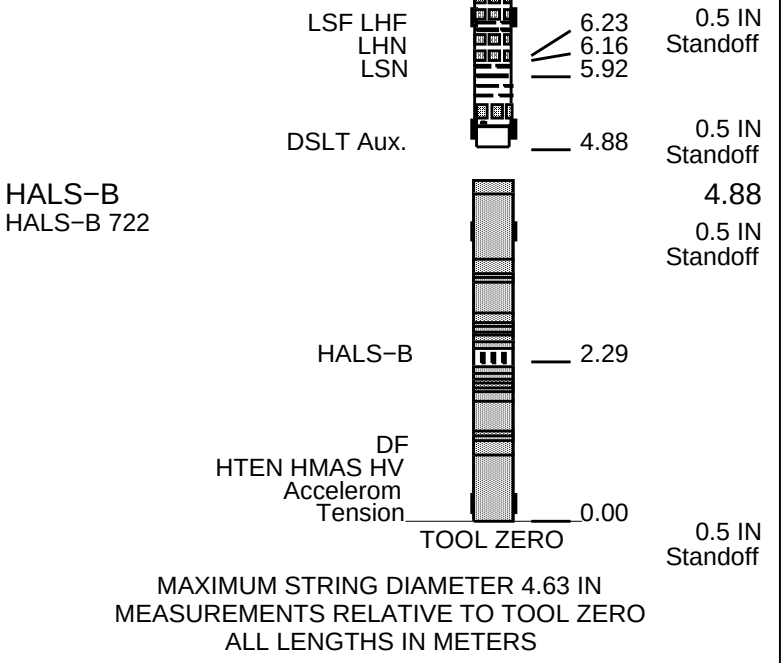
RUN 1 RUN 2

SURFACE EQUIPMENT

LCM−AA
GSR−U/Y
NCT−B
CNB−AB
NCS−VB
WITM (DTS)−A

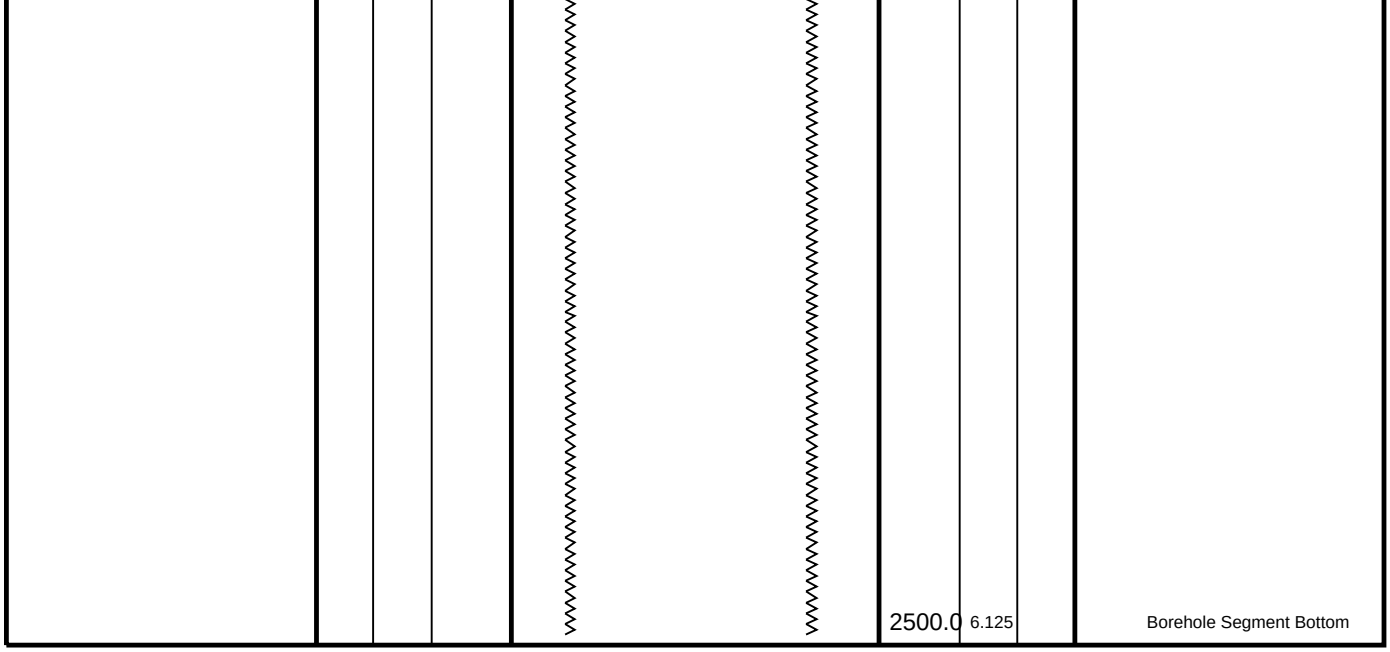
DOWNHOLE EQUIPMENT





MAXIMUM STRING DIAMETER 4.63 IN
MEASUREMENTS RELATIVE TO TOOL ZERO
ALL LENGTHS IN METERS

Production String	(in) OD	(in) ID	(m) MD	Well Schematic	(m) MD	(in) OD	(in) ID	Casing String
					0.0	7.000		Casing String
					1265.0	7.000		Casing Shoe
					1265.0	6.125		Borehole Segment



Schlumberger

Resistivity−Sonic−Density−Porosity
High Resolution, 1:200 Scale

MAXIS Field Log

Company: Lakes Oil N.L. **Well: Trifon 2**

Input DLIS Files

DEFAULT	**MERGE_HALS_SONIC_035**	**FN:1**	**PRODUCER**	**04−Aug−2004 11:55**	**2505.9 M**	**1213.0 M**

Output DLIS Files

DEFAULT	**HALS_SONIC_TLD_MCFL_037PUP**	**FN:51**	**PRODUCER**	**04−Aug−2004 12:09**	**2505.9 M**	**1250.4 M**

Integrated Hole/Cement Volume Summary

Hole Volume = 39.99 M3

Cement Volume = 27.27 M3 (assuming 4.50 IN casing O.D.)

Computed from 2500.0 M to 1260.0 M using data channel(s) HCAL

OP System Version: 12C0−301

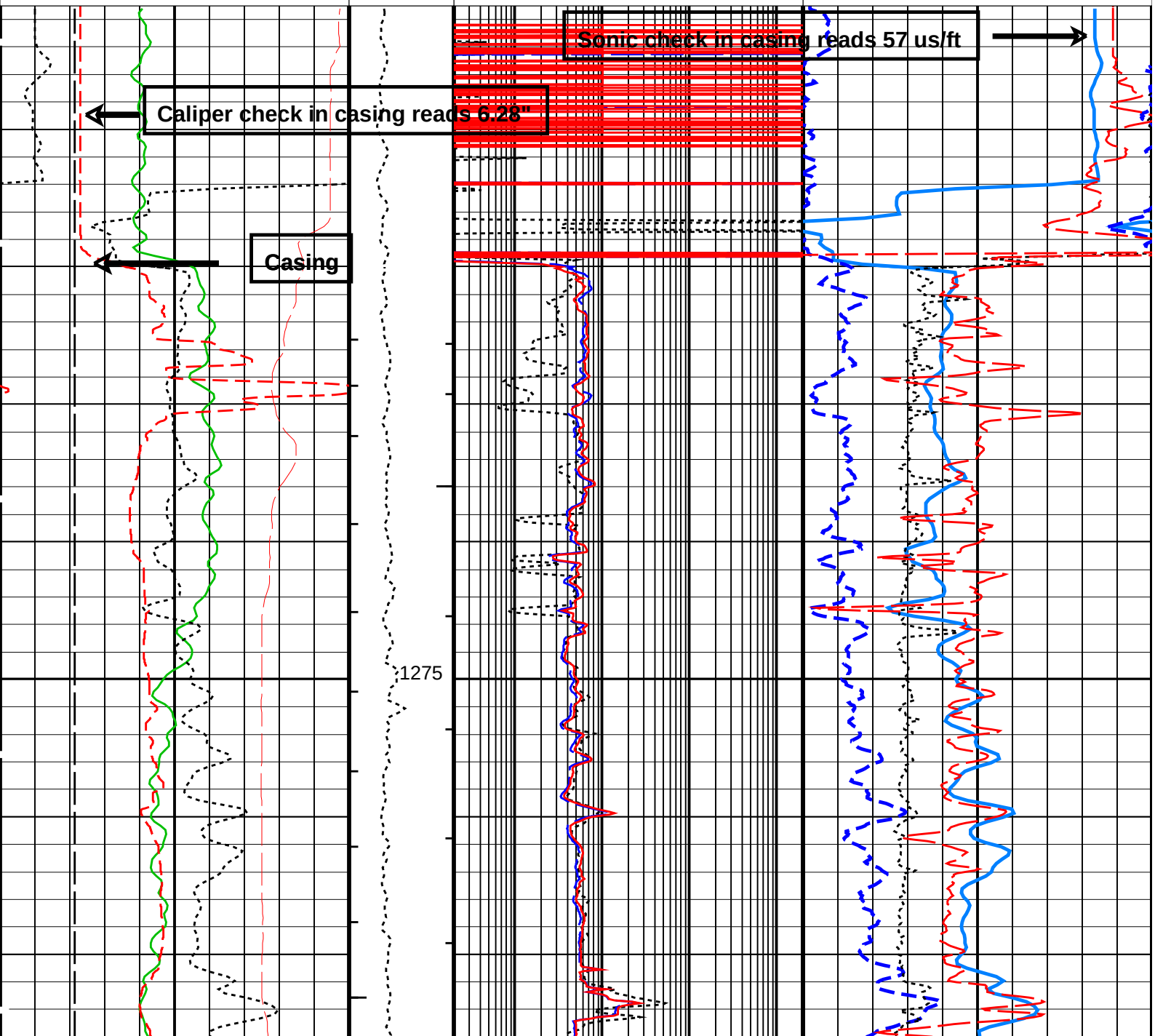
MCM

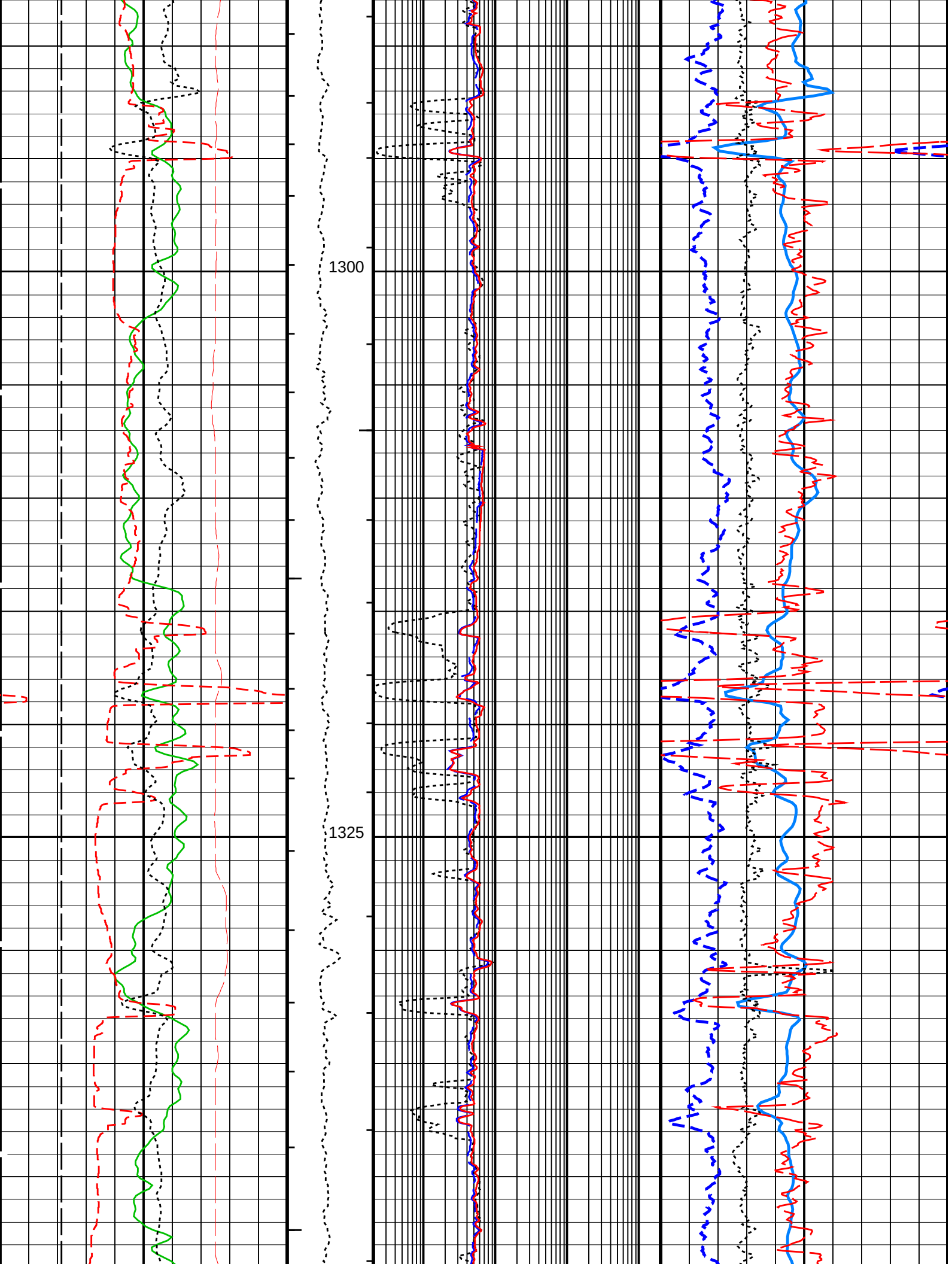
HALS−B	**12C0−301**	**DSLT−H**	**12C0−301**
HILTB−FTB	**12C0−301**	**DTC−H**	**12C0−301**
BSP	**12C0−301**		

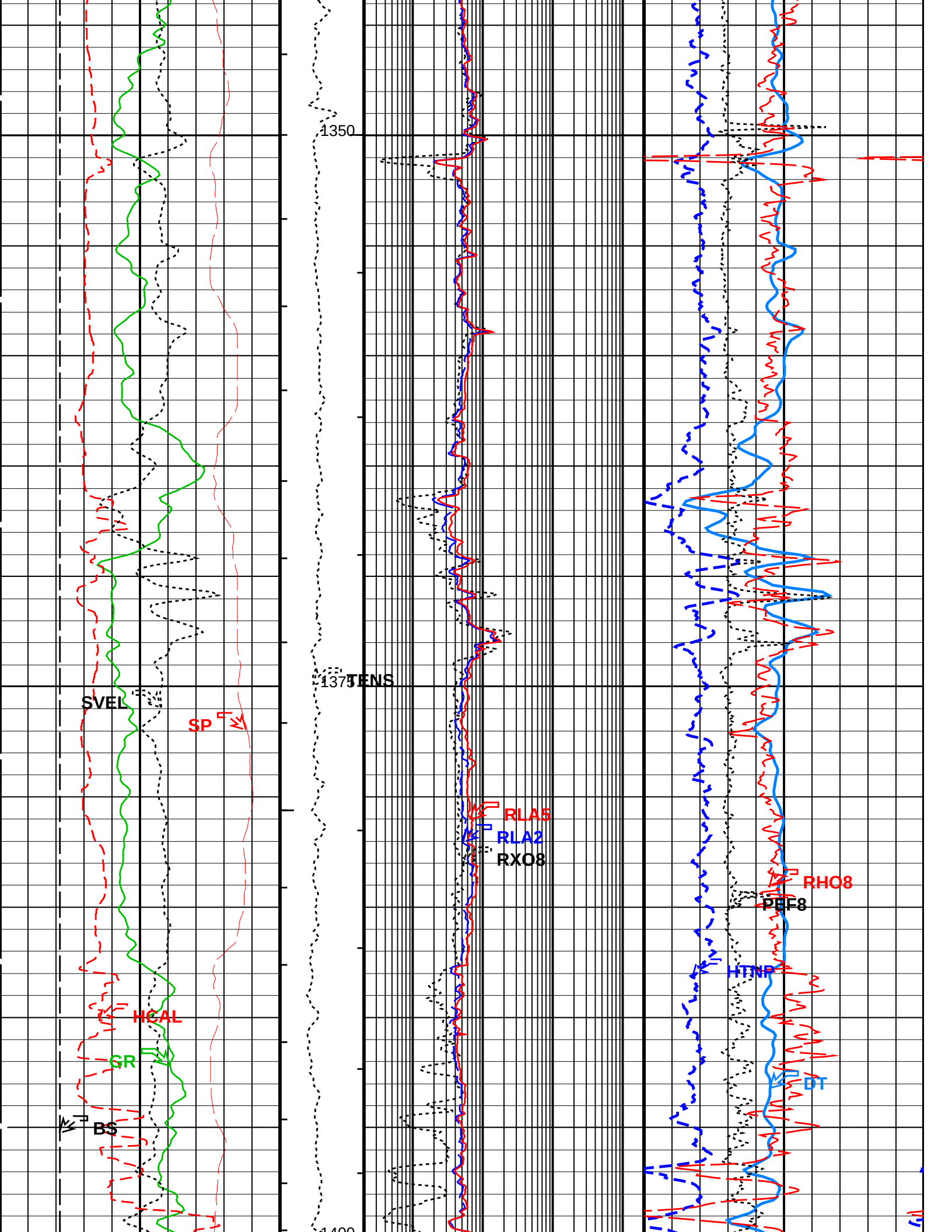
PIP SUMMARY

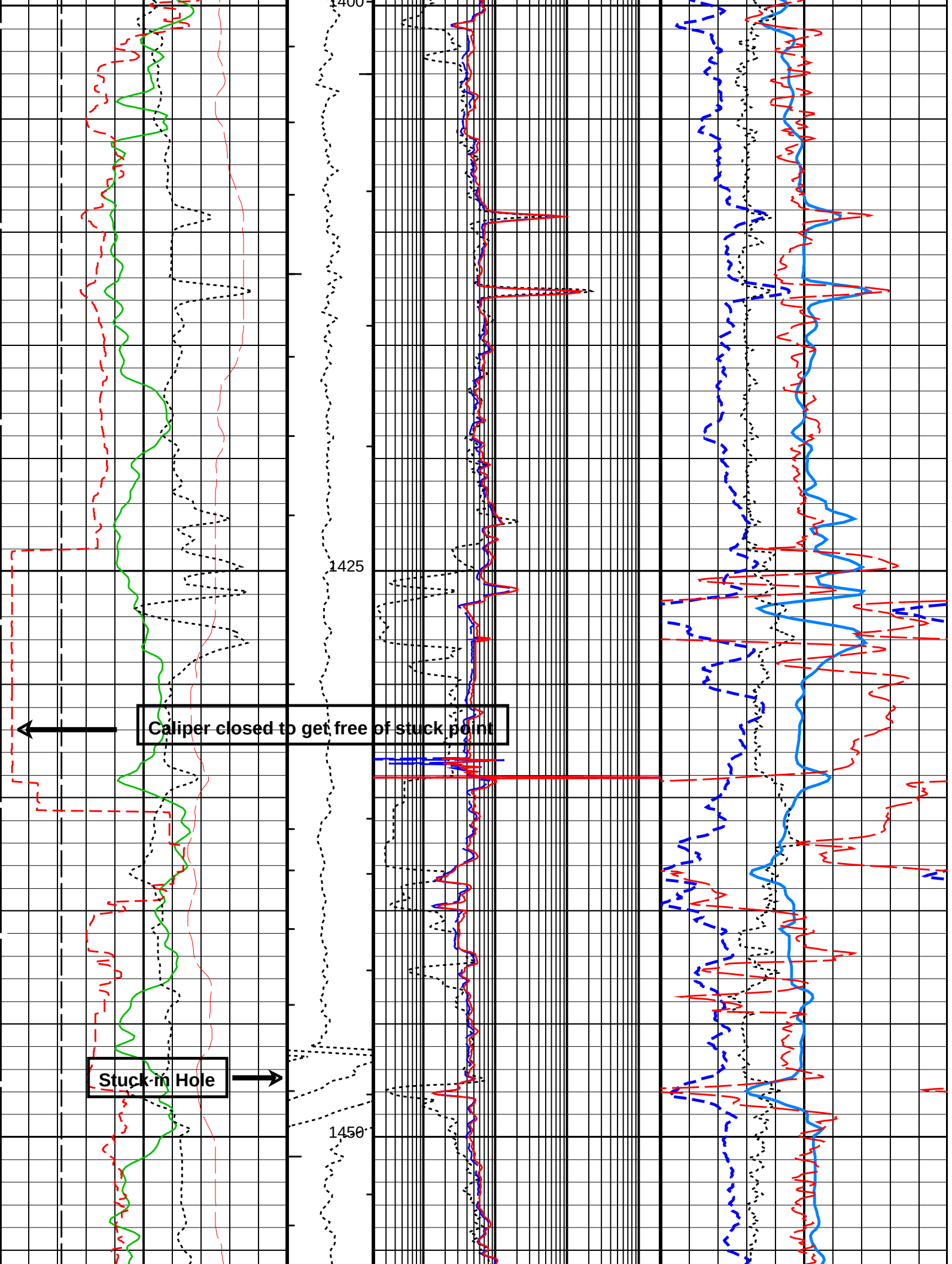
Integrated Hole Volume Minor Pip Every 0.1 M3
Integrated Hole Volume Major Pip Every 1 M3
Integrated Cement Volume Minor Pip Every 0.1 M3
Integrated Cement Volume Major Pip Every 1 M3
Time Mark Every 60 S

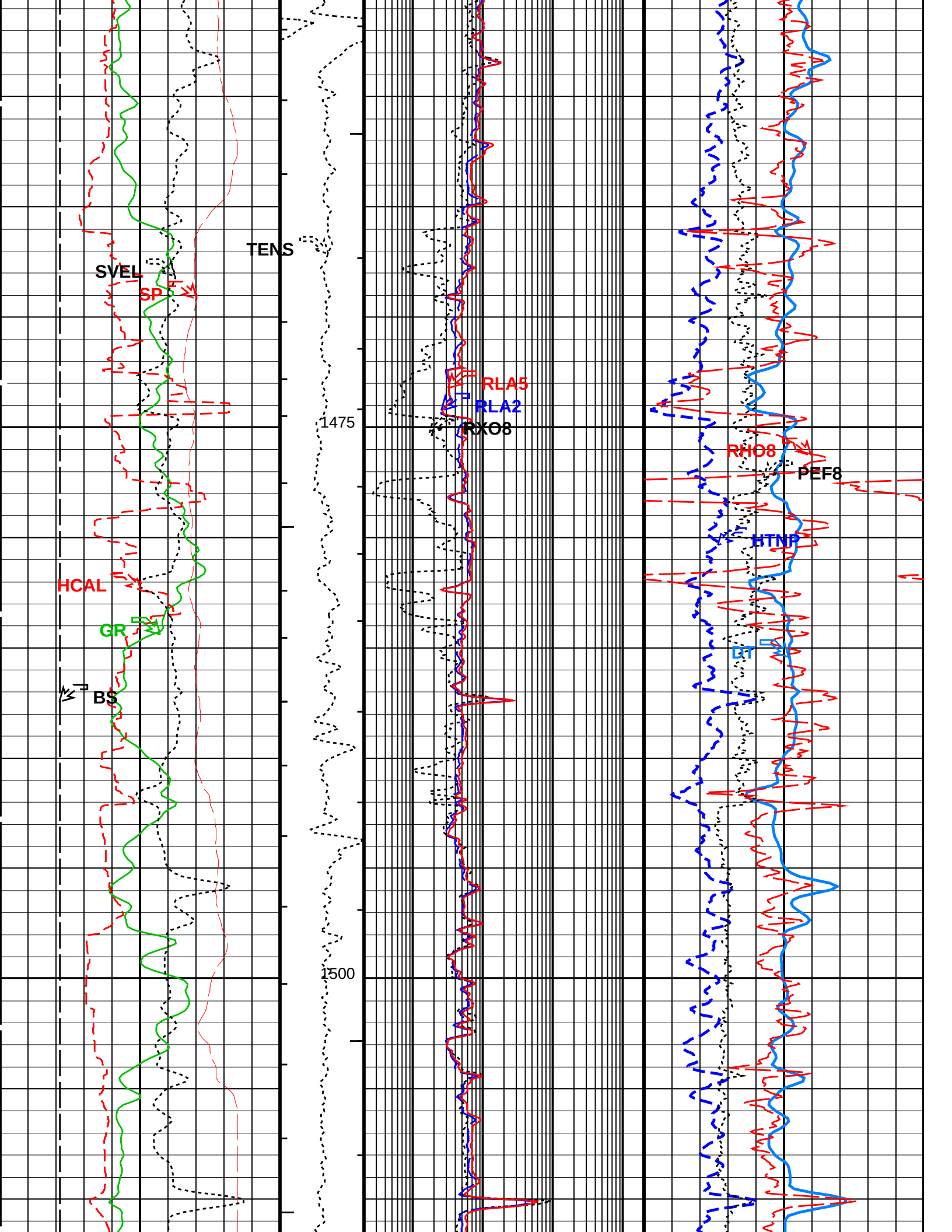
Sonic Velocity (SVEL)		
1000 (M/S) 5000		
HILT Caliper (HCAL)		H. Res. Formation Density (RHO8)
4 (IN) 14		1.9 (G/C3) 2.9
Gamma Ray (GR)	HRLT Resistivity 5 (RLA5)	H. Res. Formation Pe (PEF8)
0 (GAPI) 200	0.2 (OHMM) 2000	0 (–––– 10
Bit Size (BS)	HRLT Resistivity 2 (RLA2)	HiRes TNPH (HTNP)
4 (IN) 14	0.2 (OHMM) 2000	0.45 (V/V) –0.15
SP (SP)	Tension (TENS) (LBF)	H. Res. Invaded Zone Resistivity (RXO8)	Delta–T (DT)
–80 (MV) 20	0 1000	0.2 (OHMM) 2000	140 (US/F) 40




1300
1325


1350
1375
TENS
SVEL
SP
RLA5
RLA2
RXO8
RHO8
PEF8
HTNP
HCAL
GR
DT
BS


1400
1425
1450
Caliper closed to get free of stuck point
Stuck in Hole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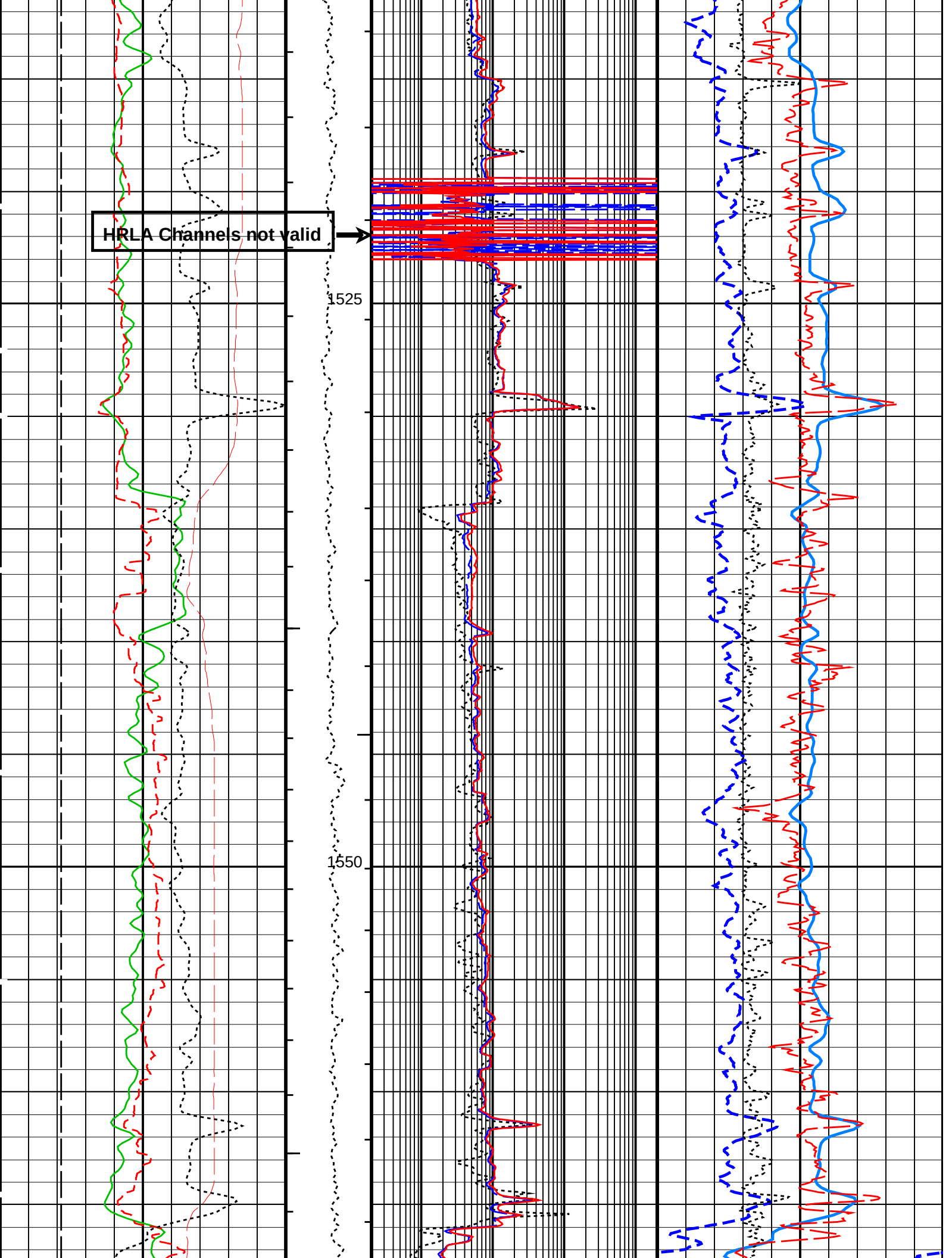
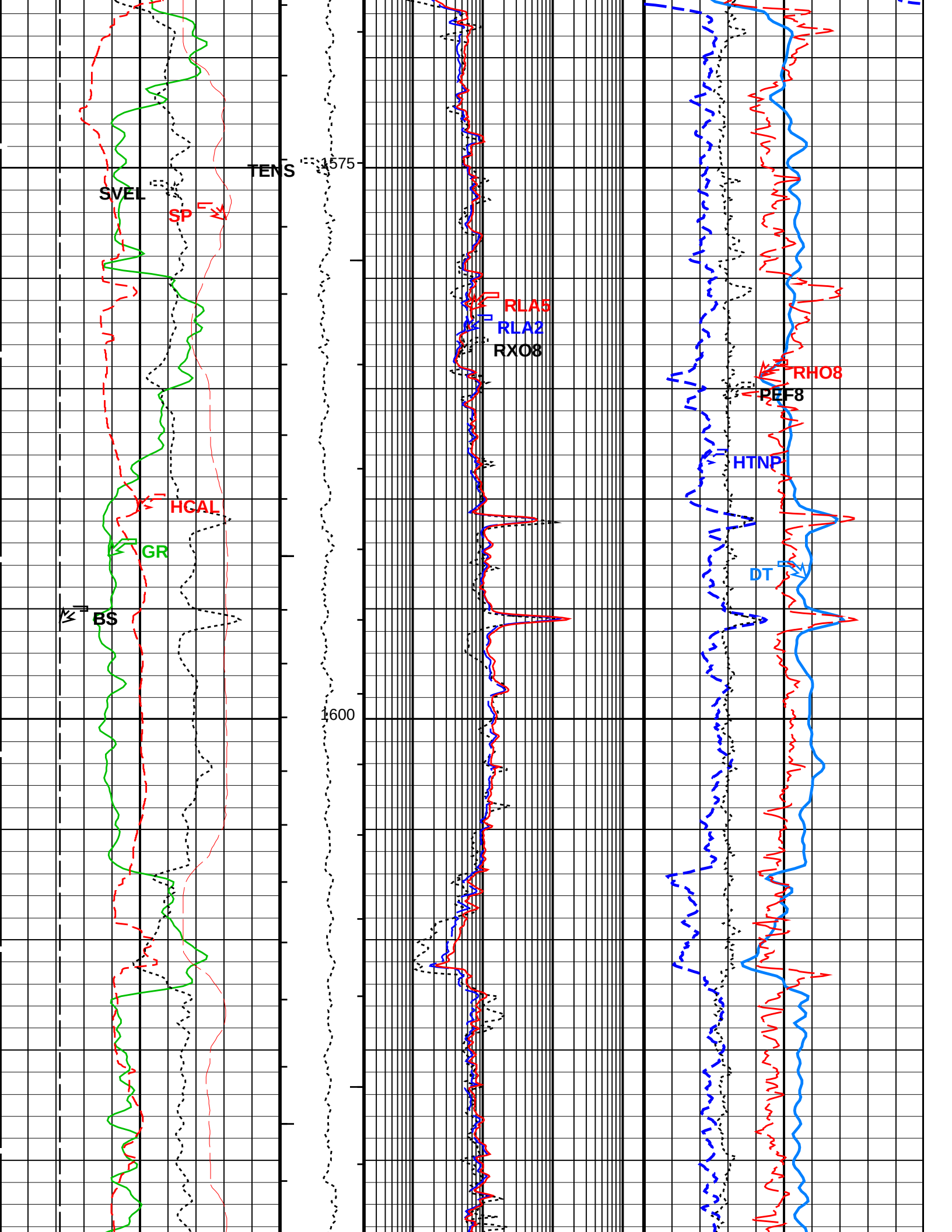
SVEL
SP
RLA5
RLA2
RXO8
1475
RHO8
PEF8
HTNP
HCAL
GR
DT
BS
1500


HRLA Channels not valid
1525
1550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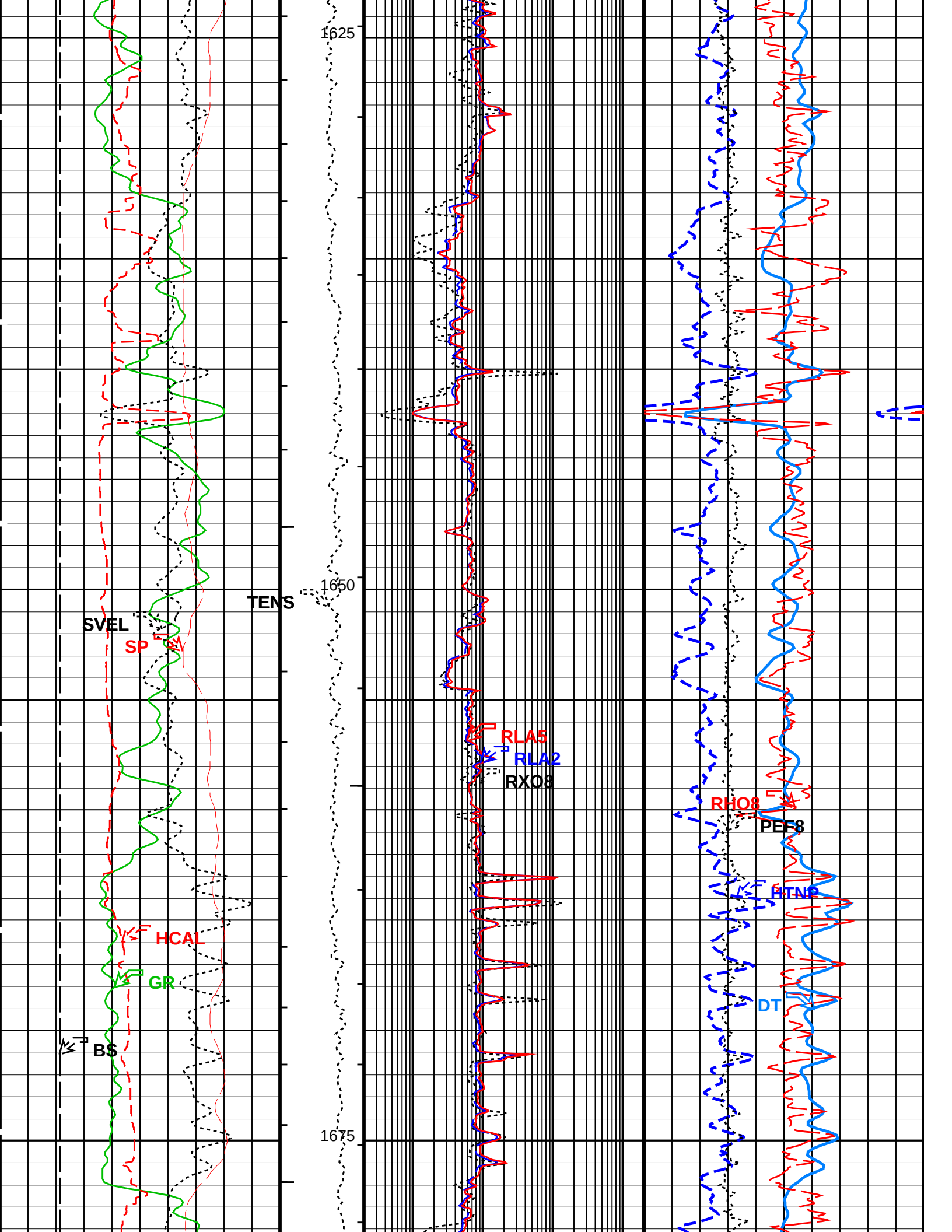
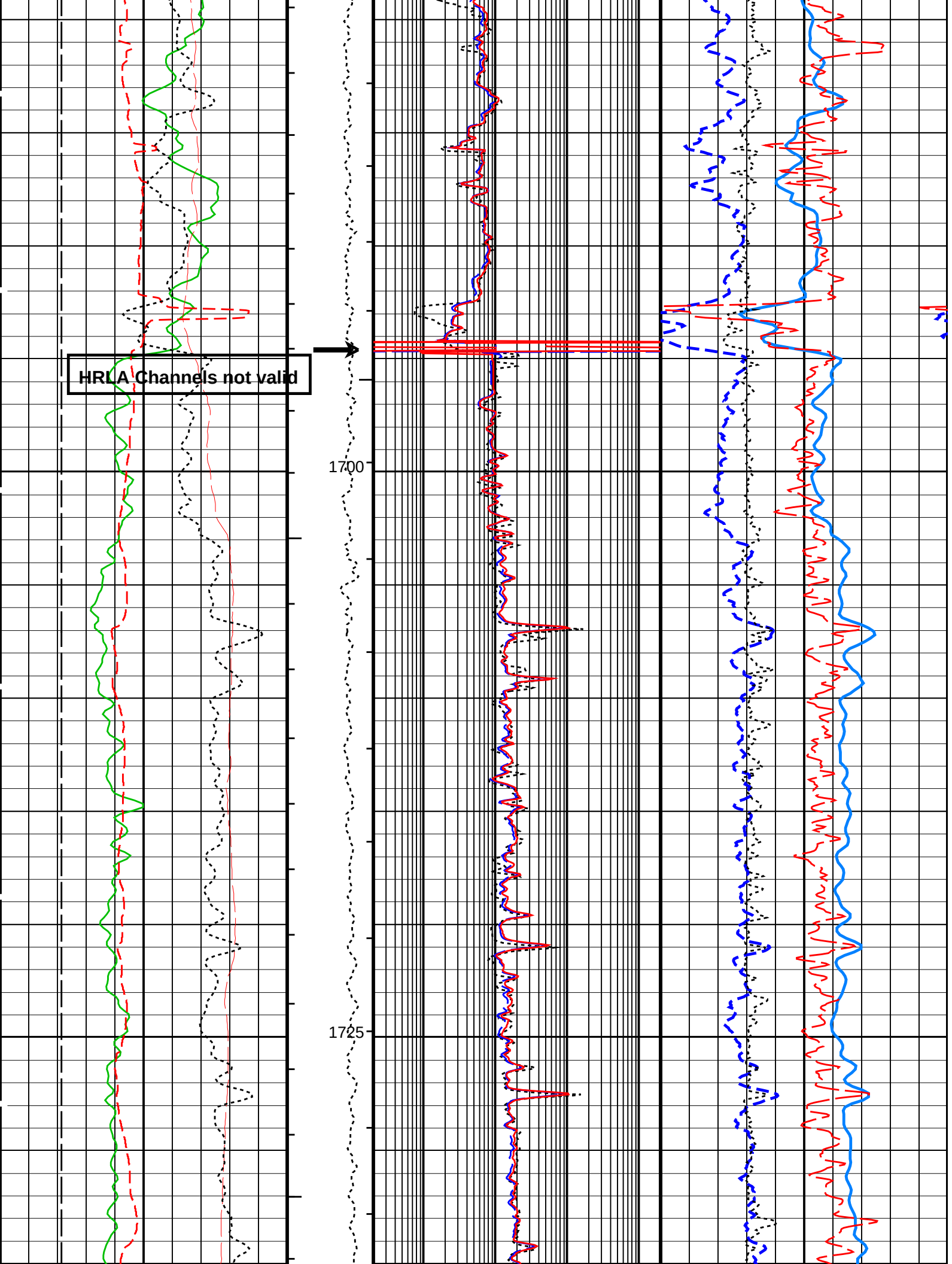
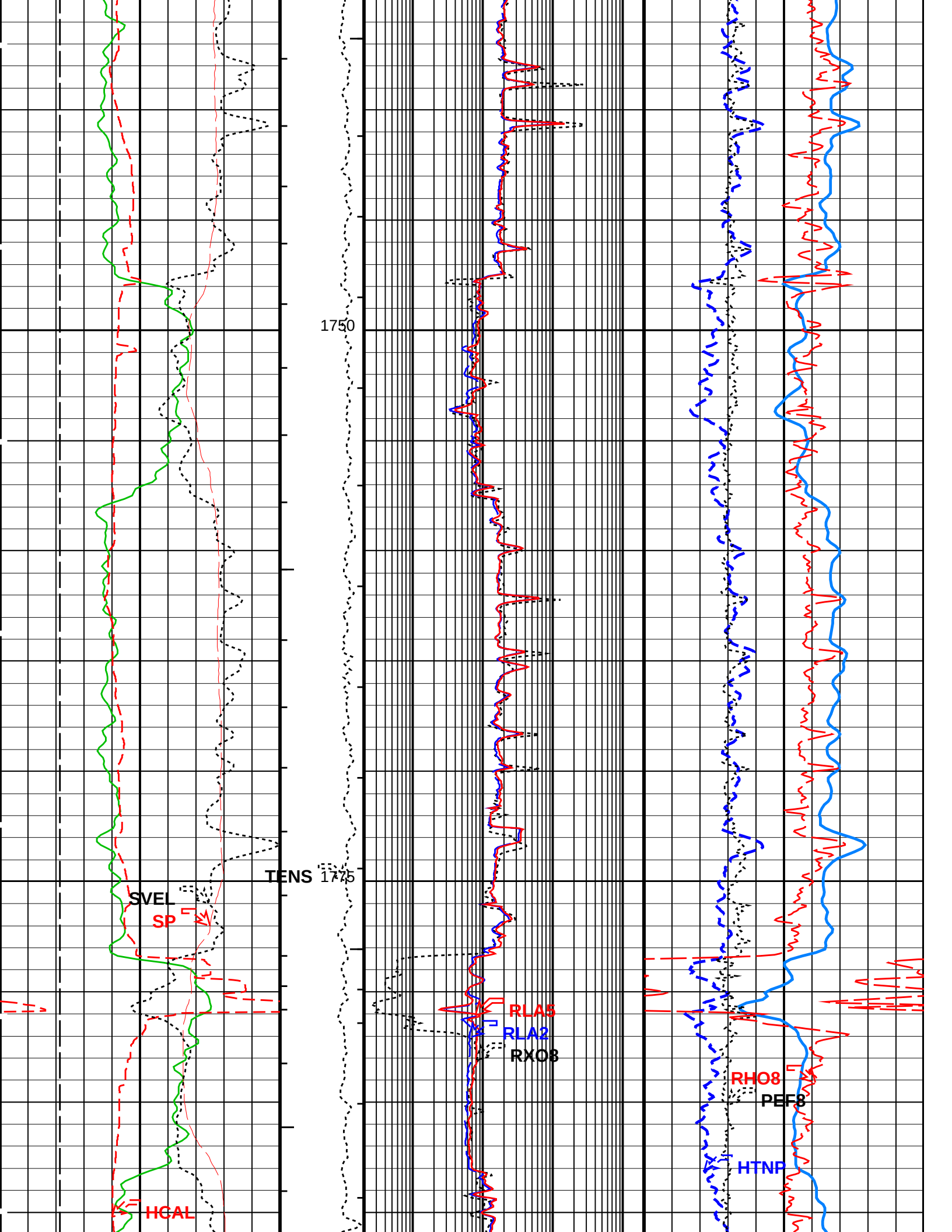
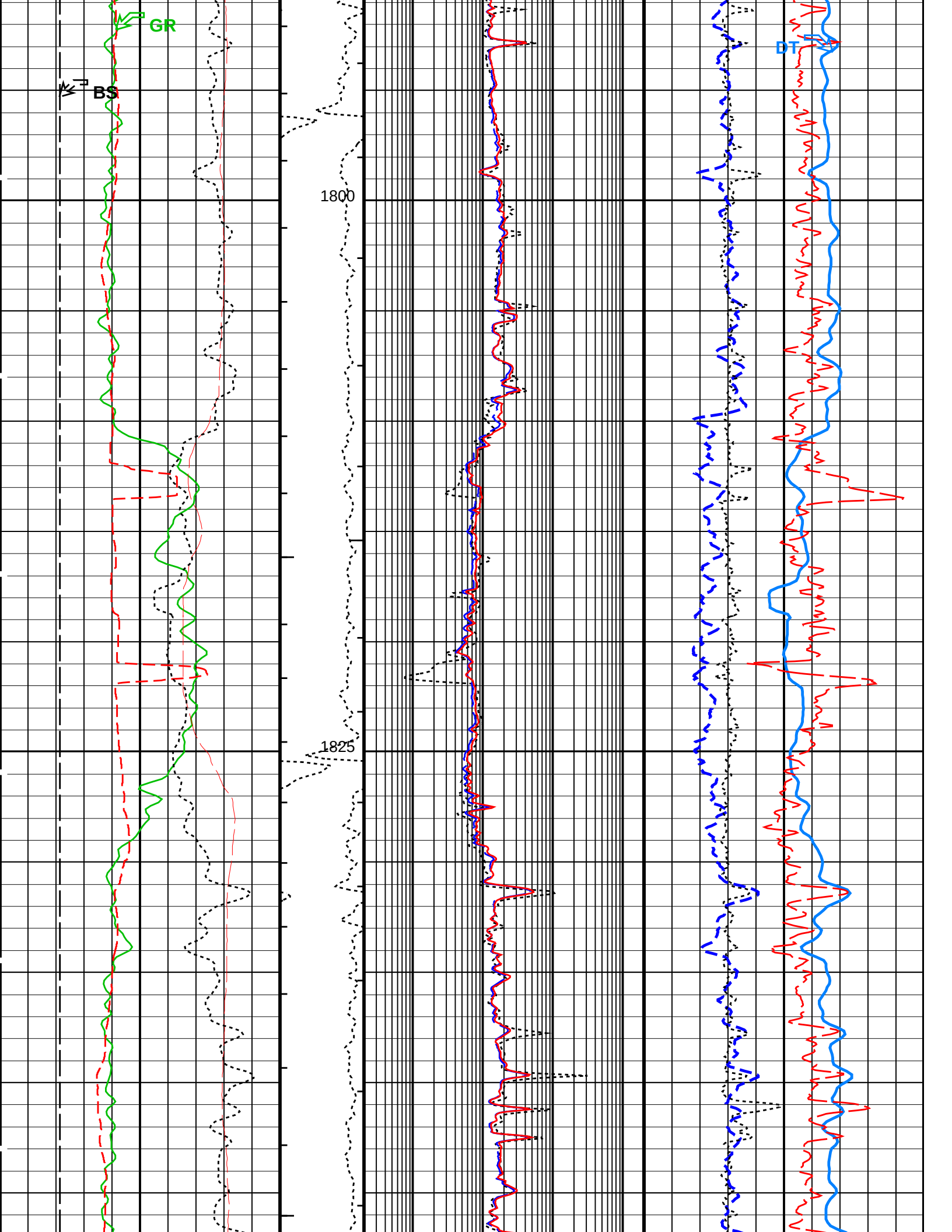
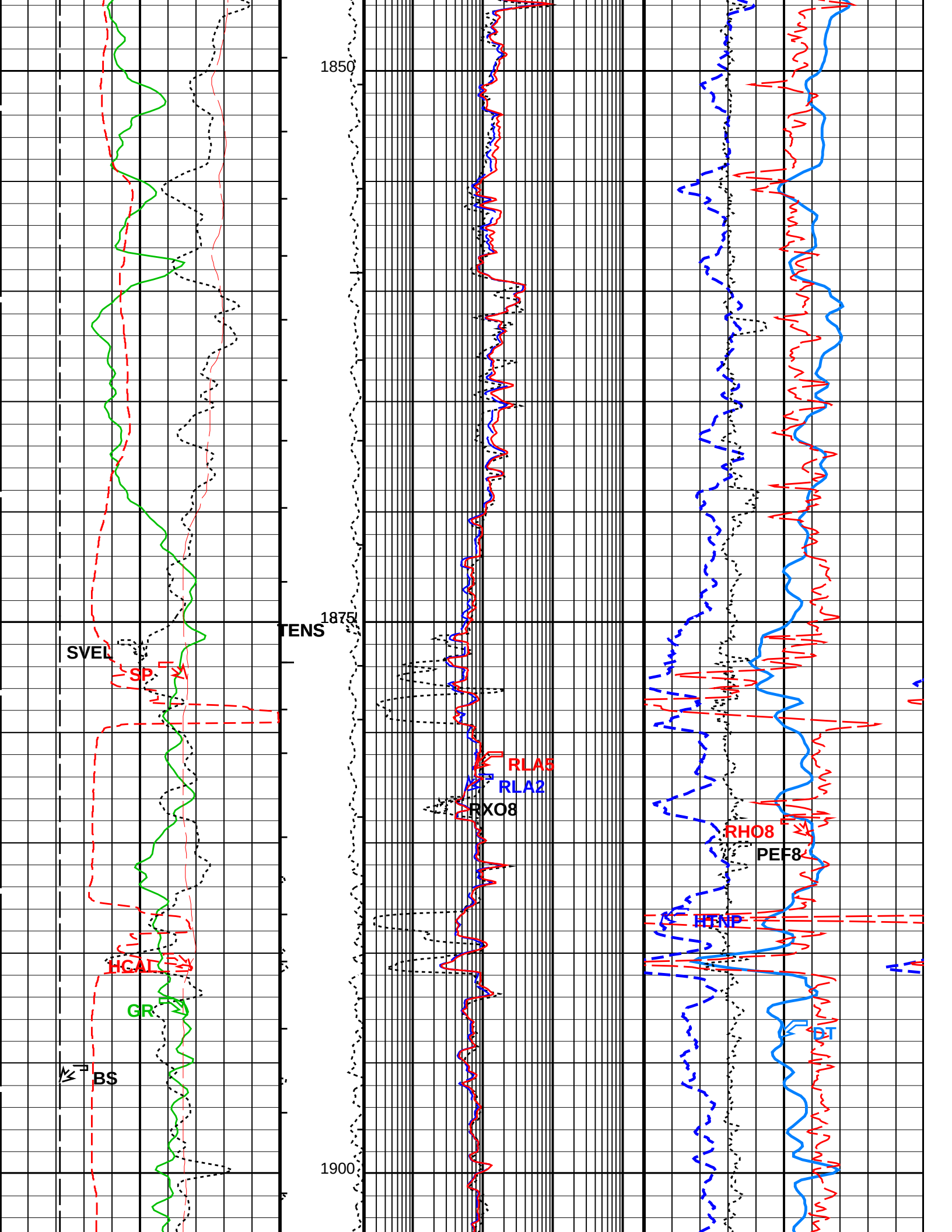
1575
SVEL
SP
RLA5
RLA2
RXO8
RHO8
PEF8
HTNP
HCAL
GR
DT
BS
1600

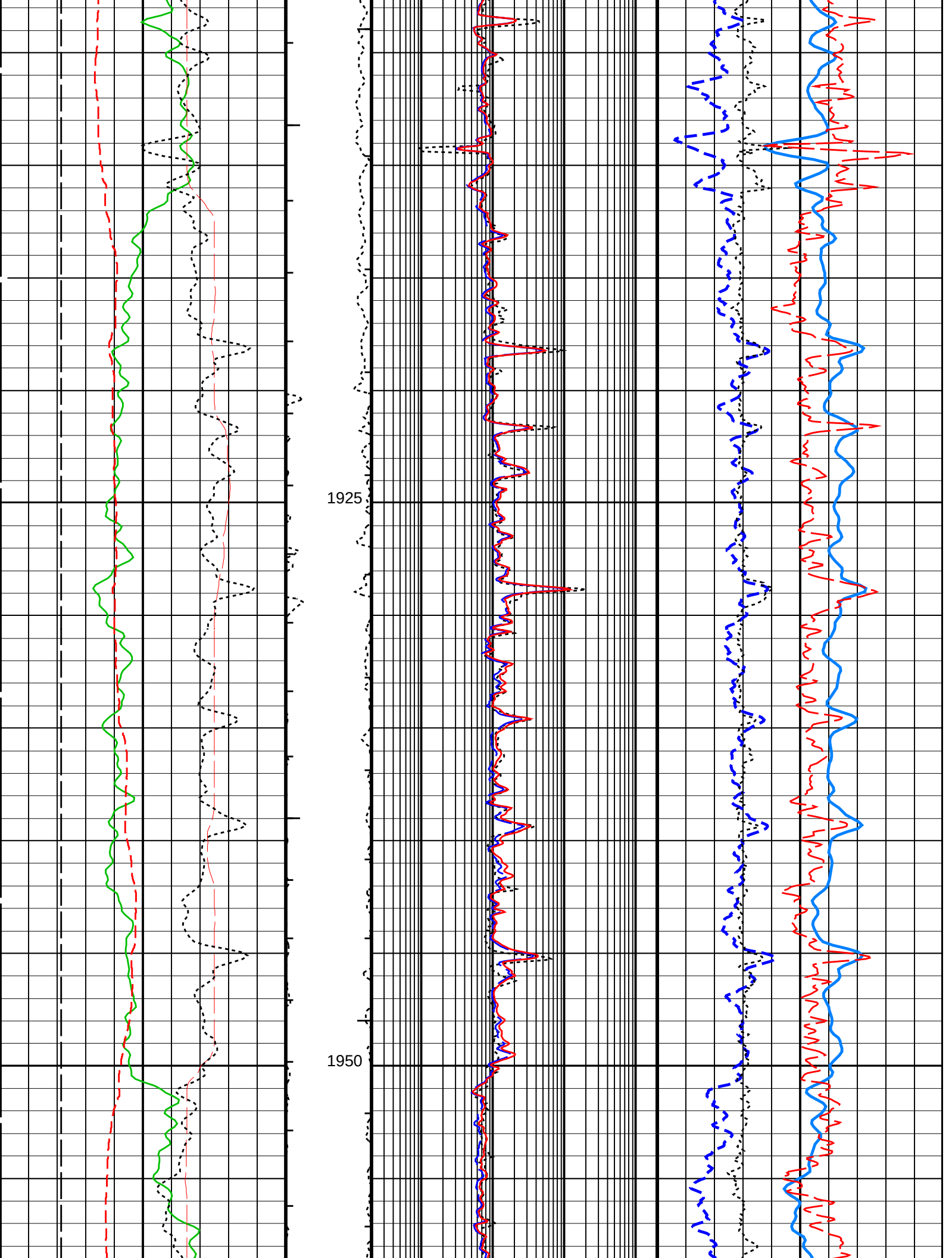

1625
1650
1675
TENS
SVEL
SP
HCAL
GR
BS
RLA5
RLA2
RXO8
RHO8
PEF8
HTNP
DT

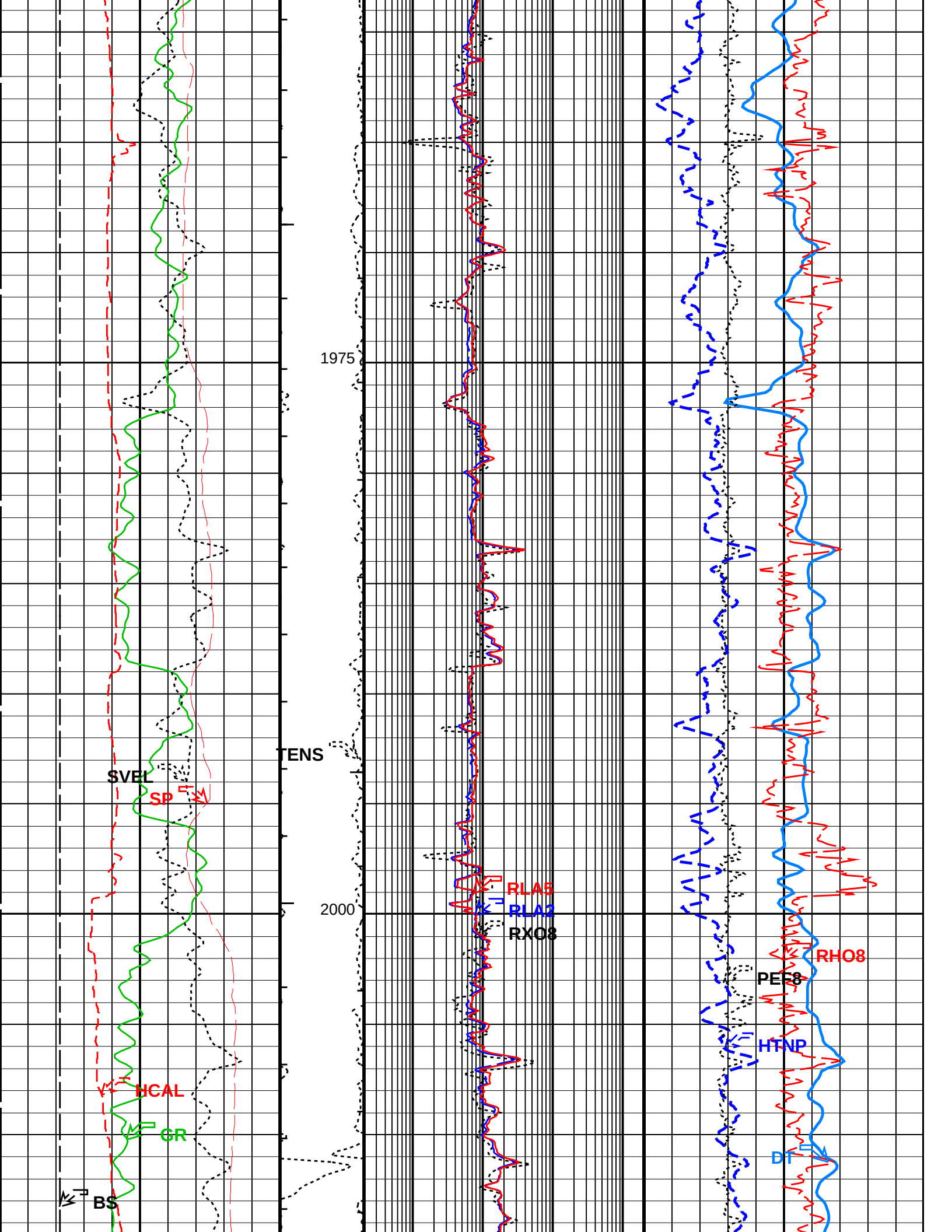

HRLA Channels not valid
1700
1725

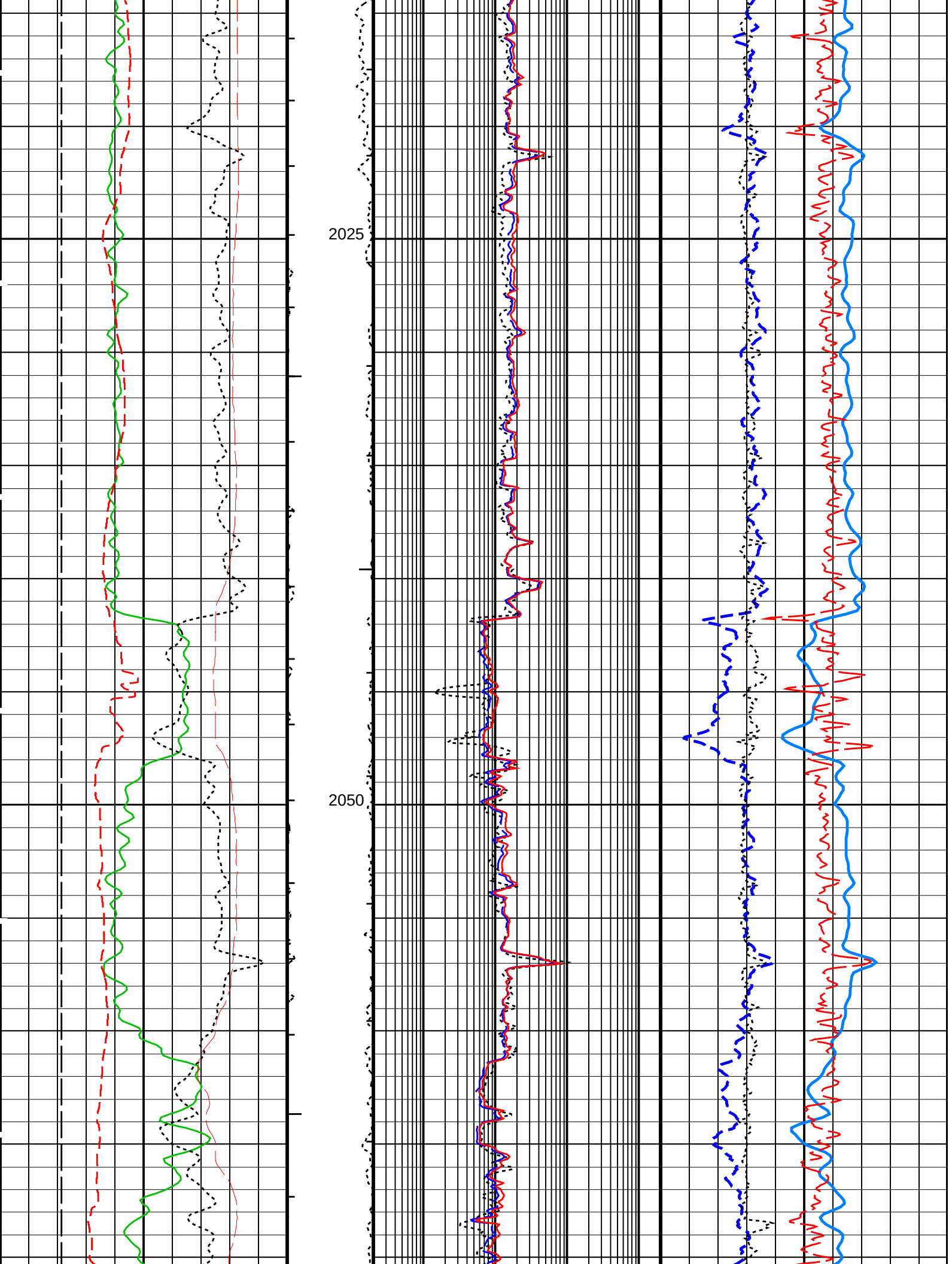

1750
TENS
1775
SVEL
SP
HCAL
RLA5
RLA2
RXO8
RHO8
PEF8
HTNP


GR
BS
1800
1825
DT


1850
1875
1900
TENS
SVEL
SP
HCAL
GR
BS
RLA5
RLA2
RXO8
RHO8
PEF8
HTNP
DT


1925
1950


1975
TENS
SVEL
SP
2000
RLA5
RLA2
RXO8
RHO8
PEF8
HTNP
HCAL
GR
DT
BS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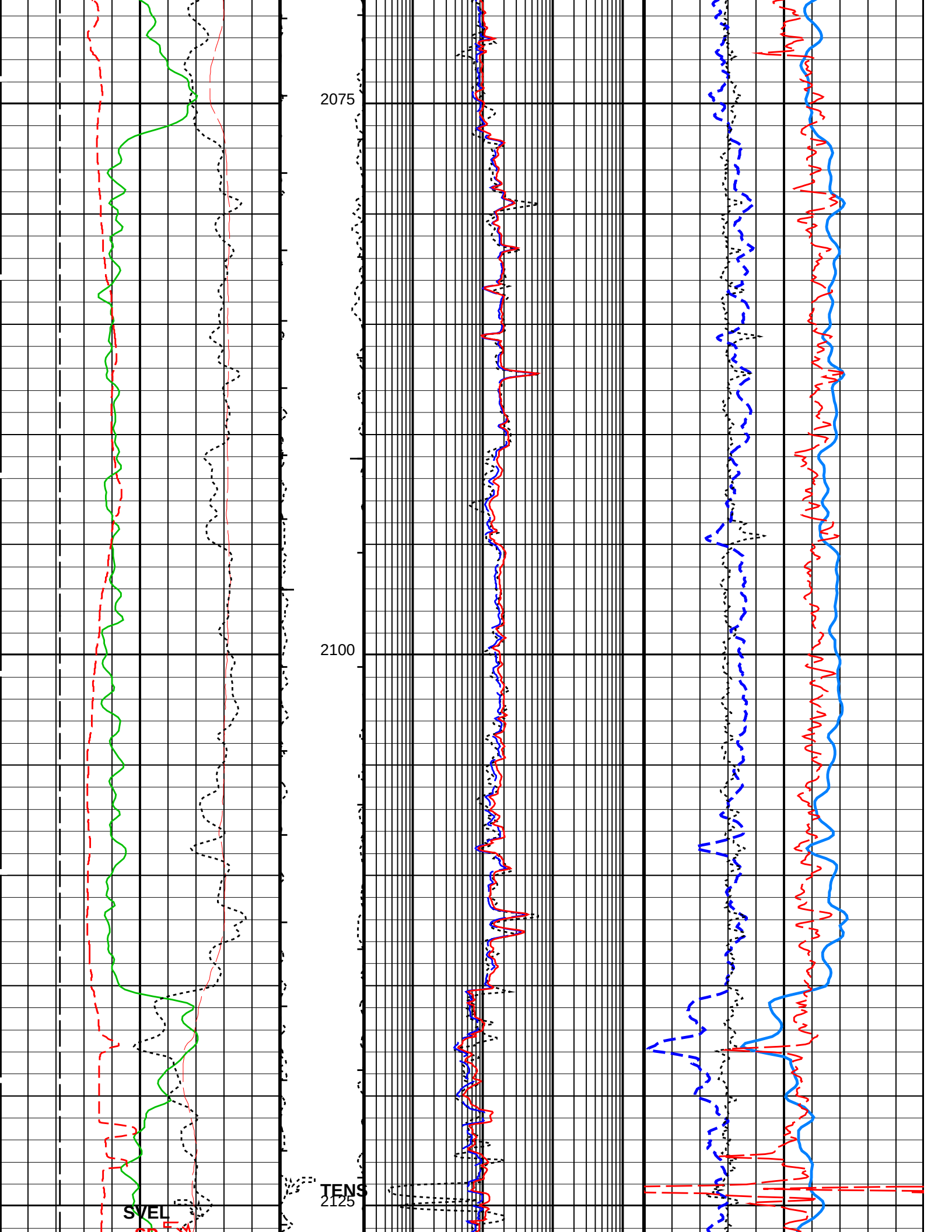
2050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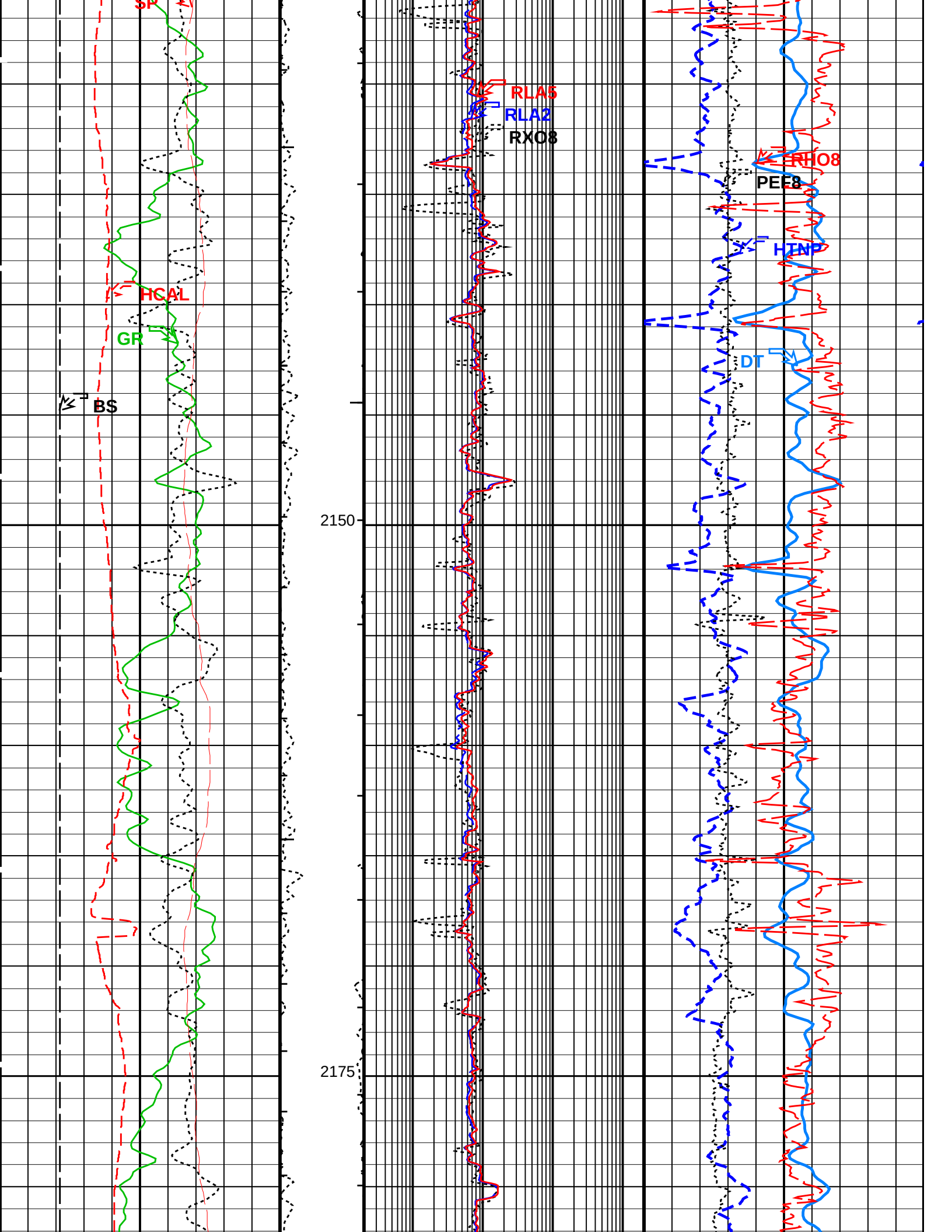
2100
2125
TENS
SVEL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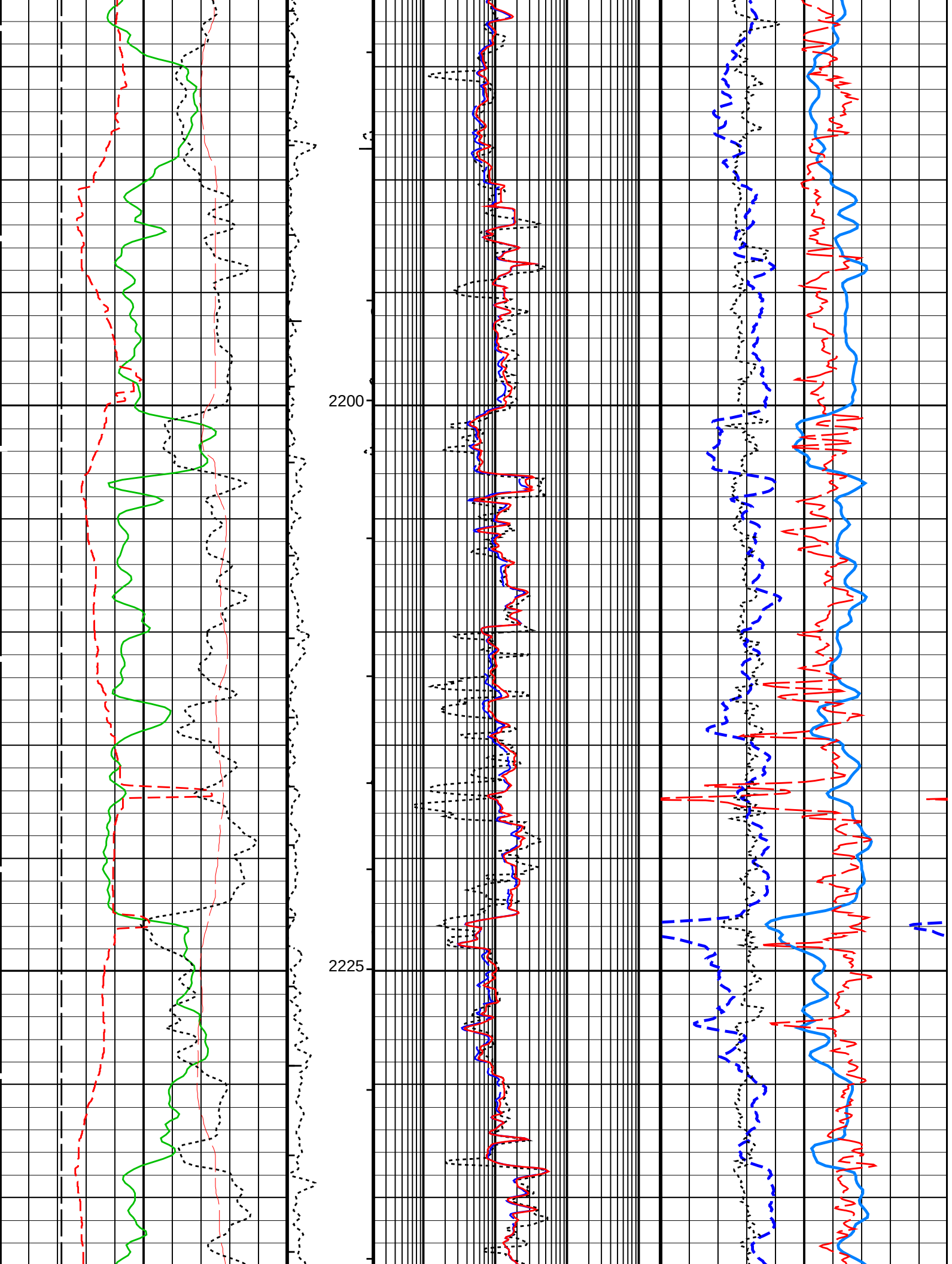
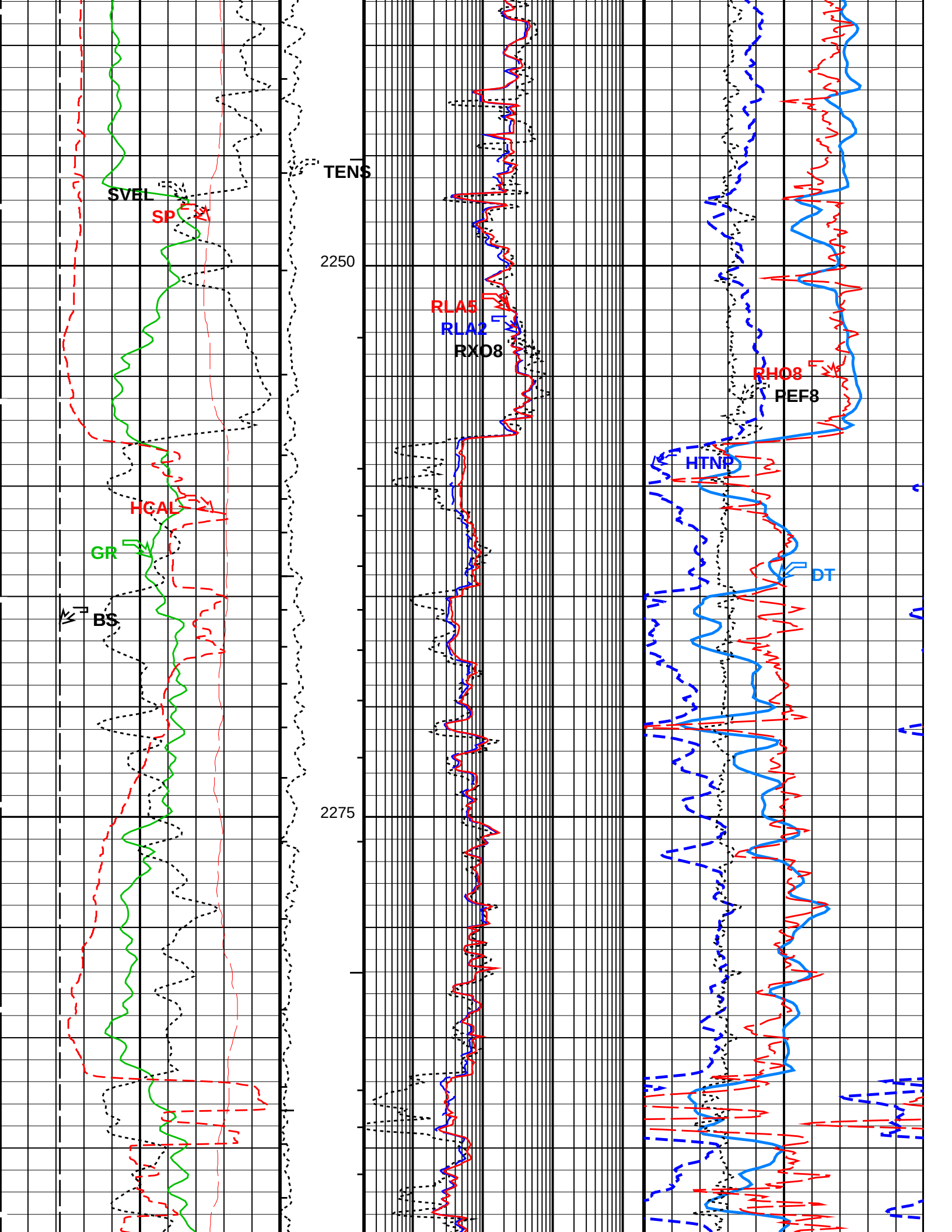
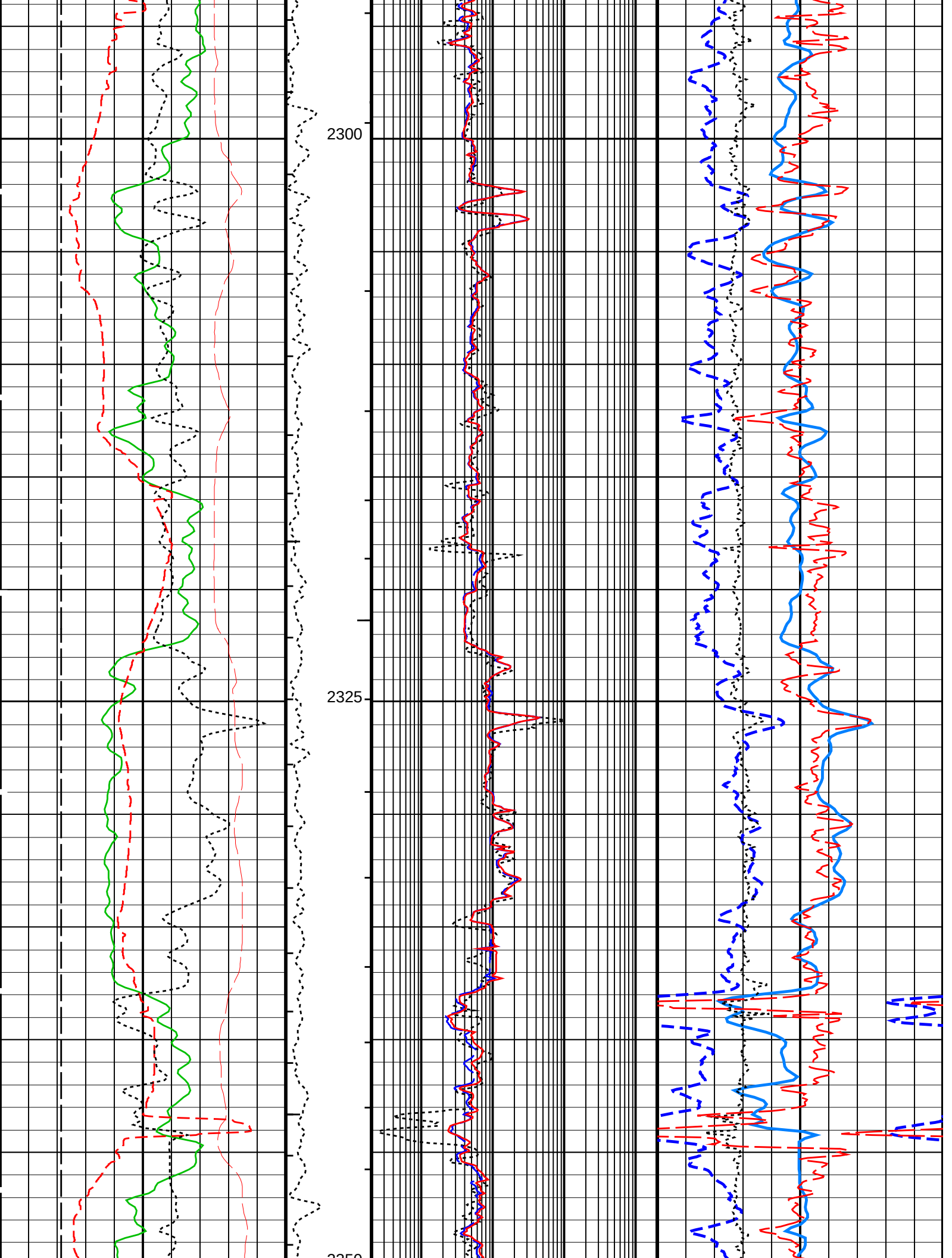
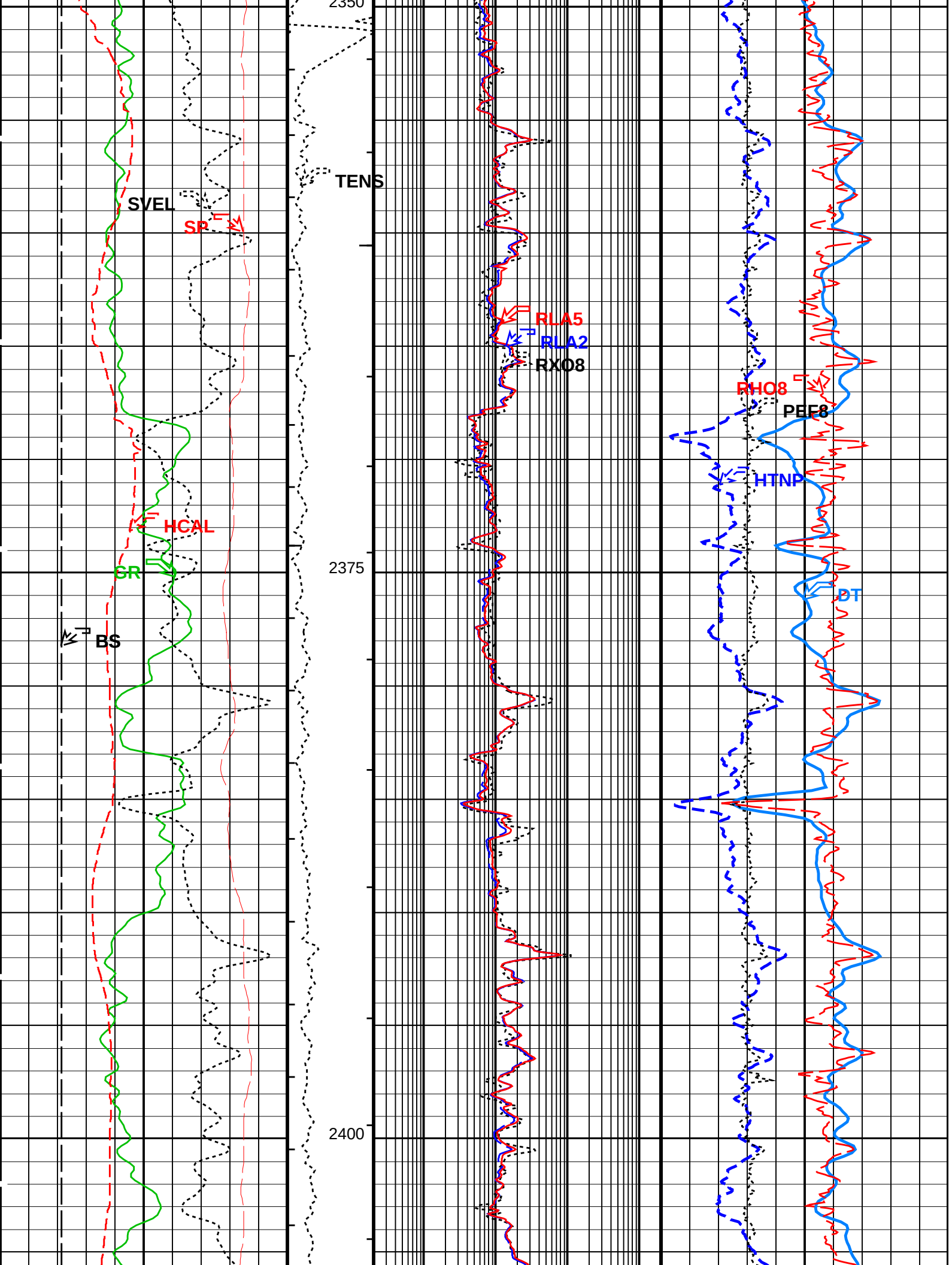
HCAL
GR
BS
RLA5
RLA2
RXO8
2150
2175
CRHO8
PEF8
HTNP
DT


2200
2225


TENS
SVEL
SP
2250
RLA5
RLA2
RXO8
RHO8
PEF8
HTNP
HCAL
GR
DT
BS
2275


2300
2325


2350
TENS
SVEL
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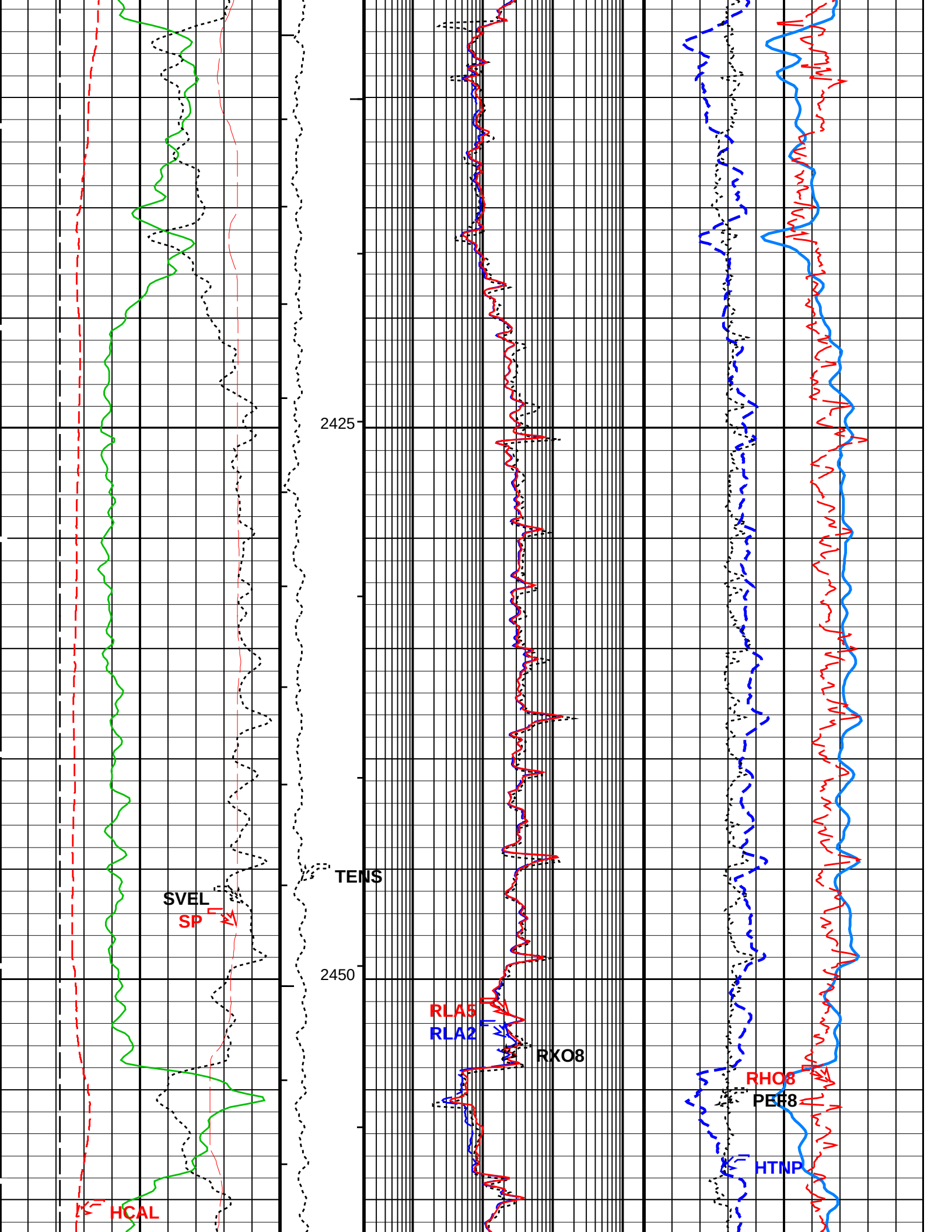
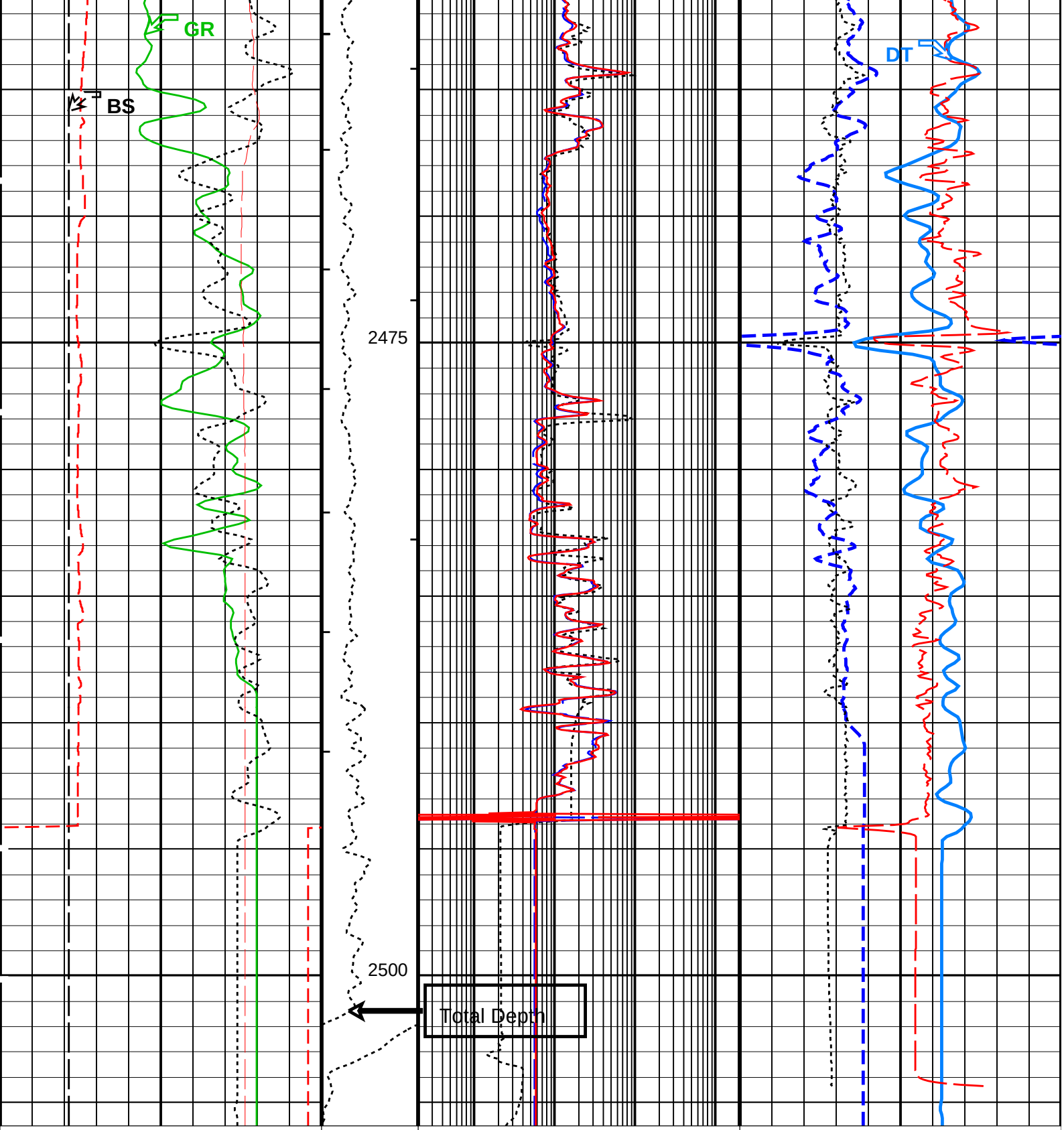
RLA5
RLA2
RXO8
RHO8
PEF8
HTNP
HCAL
GR
2375
DT
BS
2400


2425
2450
TENS
SVEL
SP
HCAL
RLA5
RLA2
RXO8
RHO8
PEF8
HTNP



SP (SP)	Tension (TENS)	H. Res. Invaded Zone Resistivity (RXO8)
−80 (MV) 20	0 (LBF) 1000	0.2 (OHMM) 2000
Bit Size (BS)		HRLT Resistivity 2 (RLA2)
4 (IN) 14		0.2 (OHMM) 2000
Gamma Ray (GR)		HRLT Resistivity 5 (RLA5)
0 (GAPI) 200		0.2 (OHMM) 2000
HILT Caliper (HCAL)		
4 (IN) 14		
Sonic Velocity (SVEL)		

Delta−T (DT)
140 (US/F) 40
HiRes TNPH (HTNP)
0.45 (V/V) −0.15
H. Res. Formation Pe (PEF8)
0 (−−−− 10
H. Res. Formation Density (RHO8)
1.9 (G/C3) 2.9

Sonic Velocity (SVEL)		
1000	(M/S)	5000

PIP SUMMARY

- Integrated Hole Volume Minor Pip Every 0.1 M3
- Integrated Hole Volume Major Pip Every 1 M3
- Integrated Cement Volume Minor Pip Every 0.1 M3
- Integrated Cement Volume Major Pip Every 1 M3

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	HALS−B: HILT Azimuthal Laterolog Sonde B		
	HALS Type of Image	Conductivities	
A2EX	HALS−B A2 Extended (Groningen effect)	OFF	
AGOS	HALS−GPIT OFFSET	−90	IN
ARIP_LTS	HALS Long Tool String Correction	OFF	
ARIP_SHOULDER	HALS Shoulder Correction	OFF	
BHCC	HALS Borehole Correction	ON	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	85	DEGC
DHOP	Diameter & Eccentering used in HALS Borehole Corrections	Caliper_Eccentered	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
GRCC	HALS Groningen Correction	OFF	
GRSE	Generalized Mud Resistivity Selection	HALS_RESIST	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
HLAC	HALS−B Loop A Coefficient	LOW	
HLMO	HALS Logging Mode	HIRES	
HMSO	HALS Mechanical Standoff	0.5	IN
HRUN	HALS−B Record Uncalibrated Channels	NO	
IMOS	HALS Image Orientation	OFF	
LIMP	HALS Left Image Processing	DeepRaw	
LOP1	HALS−B Mode 1 Loop Mode	OFF	
LOP2	HALS−B Mode 2 Loop Mode	OFF	
LOP3	HALS−B Mode 3 Loop Mode	OFF	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
RIMP	HALS Right Image Processing	ShallowRaw	
RTCOMP	HALS Rt Computation	Hals_Highres	
RTRE	HALS Resistivity Threshold	100000	OHMM
SHT	Surface Hole Temperature	20	DEGC
SPCO	HALS−B Special Power Connection	OFF	
TCOR	HALS TLC Correction	OFF	
UNSPK	HALS Despiking Filter Option	OFF	
UNSPK_THOLD	HALS Despiking Filter Threshold (in %)	20	%
UNSPK_WINDOW	HALS Despiking Filter Window (inches)	6	IN
	DSLT−H: Digitizing Sonic Logging Tool		
	Telemetry Mode	DSLC_FTB	
	DSLT Firing Mode	BHC	
AGC	Automatic Gain Control Status	ON	
AMSG	Auxiliary Minimum Sliding Gate	140	US
BILI	Bond Index Level for Zone Isolation	0.8	
CBAF	CBL Adjustment Factor	1	
CBCF	CBL Correction Factor	4	
CBLG	CBL Gate Width	45	US
CDTS	C−Delta−T Shale	100	US/F
CSTR	Compressive Strength of Cement	0	KPAA
DDEL	Digitizing Delay	0	US
DETE	Delta−T Detection	E2	
DFAD	Digital First Arrival Detection Switch	HOST	
DIVL	DSLT Depth Sampling Interval	20	
DRCS	DSLT DLIS Recording Size	140	
DSIN	Digitizing Sample Interval	10	
DTCM	Delta−T Computation Mode	FULL	
DTF	Delta−T Fluid	189	US/F
DTFS	DSLC Telemetry Frame Size	316	
DTM	Delta−T Matrix	56	US/F
DWCO	Digitizing Word Count	140	
FCF	CBL Fluid Compensation Factor	1	
GAI	Manual Gain	40	
GOBO	Good Bond	2	MV
HRSP	High Resolution Spacing	5.118	IN
ITTS	Integrated Transit Time Source	DT	
LTUT	Lower to Upper Transmitter Spacing Ratio	1	
MAHTR	Manual High Threshold Reference	120	
MCI	Minimum Cemented Interval for Isolation	3.048	M
MGAI	Maximum Gain	60	
MIGA	Minimum Gain	1	
MNHTR	Minimum High Threshold Reference	100	

MNHTR	Minimum High Threshold Reference	100	
MODE	Sonic Firing Mode	BHC	
MSA	Minimum Sonic Amplitude	18.4103	MV
NMSG	Near Minimum Sliding Gate	140	US
NMXG	Near Maximum Sliding Gate	910	US
NUMP	Number of Detection Passes	2	
RATE	Firing Rate	R15	
RDFA	Reset DFAD	OFF	
SDTH	Switch Down Threshold	20000	
SFAF	Sonic Formation Attenuation Factor	10	DB/M
SGAD	Sliding Gate Status	ON	
SGAI	Selectable Acquisition Gain	AUTO	
SGCL	Sliding Gate Closing Delta−T	140	US/F
SGCW	Sliding Gate Closing Width	25	US
SGDT	Sliding Gate Delta−T	40	US/F
SGW	Sliding Gate Width	110	US
SLEV	Signal Level for AGC	5000	
SPFS	Sonic Porosity Formula	RAYMER_HUNT	
SPSO	Sonic Porosity Source	DT	
SUTH	Switch Up Threshold	1000	
VDLG	VDL Manual Gain	40	
WAGC	Waveform AGC Allow/Disallow	OFF	
WGAI	Waveform Manual Gain	20	
WGDT	Waveform Gain Delta−T	240	US/F
WGIN	Waveform Gain Interval	2540	US
WMOD	Waveform Firing Mode	FULL	
HILTB−FTB: High resolution Integrated Logging Tool−DTS			
BHFL	Borehole Fluid Type	WATER	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	85	DEGC
BSCO	Borehole Salinity Correction Option	YES	
CALSTAT	HRLTB Calibration Status	NOT_DONE	
CALTEMP	HRLTB Calibration Temperature	0	DEGC
CCCO	Casing & Cement Thickness Correction Option	NO	
DHC	Density Hole Correction	BS	
DPPM	Density Porosity Processing Mode	HIRS	
EXSICL	External Shale Indicator Clean Value	20	
EXSISH	External Shale Indicator Shale Value	150	
FD	Fluid Density	1	G/C3
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
FPHI	Form Factor Porosity Source	DPHZ	
FREQ0	HRLT Frequency Index for Mode 0	32	
FREQ1	HRLT Frequency Index for Mode 1	128	
FREQ2	HRLT Frequency Index for Mode 2	104	
FREQ3	HRLT Frequency Index for Mode 3	86	
FREQ4	HRLT Frequency Index for Mode 4	56	
FREQ5	HRLT Frequency Index for Mode 5	44	
FREQ6	HRLT Frequency Index for Mode 6	116	
FSAL	Formation Salinity	−50000	PPM
FSCO	Formation Salinity Correction Option	NO	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
GRSE	Generalized Mud Resistivity Selection	HALS_RESIST	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
HACPP	Accelerometer PROM Presence	PRESENT_FILE	
HART	Accelerometer Reference Temperature	20	DEGC
HDCOD	HILT Density Coal detection	2	G/C3
HDSAD	HILT Density Salt detection	2.1	G/C3
HILT_GAS_DENSITY	HILT Gas Downhole Density	0	G/C3
HILT_GAS_OPTION	HILT Gas Computation Option	OFF	
HNCOD	HILT Neutron Coal detection	45	PU
HNSAD	HILT Neutron Salt detection	5	PU
HPHIECUT	HILT effective Porosity Cutoff	5	PU
HSCO	Hole Size Correction Option	YES	
HSIS	HILT Shale Indicator Selection	GR	
HSWCUT	HILT Water Saturation from AITH cutoff	50	%
KFAC_HRLT	HRLT K Factor Option	SONDE	
LOOPCOEF_S	HRLT Loop Coefficient for Shallow Modes	LOW	
LOOPMOD0	HRLT Mode 0 Loop Mode	OFF	
LOOPMOD1	HRLT Mode 1 Loop Mode	OFF	
LOOPMOD2	HRLT Mode 2 Loop Mode	OFF	
LOOPMOD3	HRLT Mode 3 Loop Mode	OFF	
LOOPMOD4	HRLT Mode 4 Loop Mode	OFF	
LOOPMOD5	HRLT Mode 5 Loop Mode	OFF	
LOOPMOD6	HRLT Mode 6 Loop Mode	OFF	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
MCCO	Mud Cake Correction Option	NO	
MCOR	Mud Correction	NATU	
MDEN	Matrix Density	2.65	G/C3
MHC0	MCFL B0 Contrast Correction Coefficient	2.2e−005	OHMS
MHC1	MCFL B1 Contrast Correction Coefficient	3.2e−005	OHMS
MHCC	MCFL High Contrast Correction Switch	NO	
MPOF	MCFL Processing Operation Mode	ON	

MWCO	Mud Weight Correction Option	YES	
NAAC	HRDD APS Activation Correction	OFF	
NMT	HILT Nuclear Mud Type	NOBARITE	
NPRM	HRDD Processing Mode	HiRes	
NSAR	HRDD Depth Sampling Rate	1	IN
PHIMAX	HILT max porosity	35	PU
PROCINV	Inversion Selection	ON	
PROCMFL	Inversion Micro−Resistivity Selection	RXO8	
PROCMSO	Mechanical Standoff Fin Size	0.5	IN
PROCRM	Processing Mud Resistivity Select	HRLT_Compute	
PROCSPO	Sonde Position	Eccentered	
PTCO	Pressure/Temperature Correction Option	YES	
SDAT	Standoff Data Source	SOCN	
SEXP_HILT	HILT Saturation Exponent	2	
SHT	Surface Hole Temperature	20	DEGC
SOCN	Standoff Distance	0	IN
SOCO	Standoff Correction Option	NO	
BSP: Bridle SP			
SPNV	SP Next Value	0	MV
HOLEV: Integrated Hole/Cement Volume			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	85	DEGC
FCD	Future Casing (Outer) Diameter	4.5	IN
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
GRSE	Generalized Mud Resistivity Selection	HALS_RESIST	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
HVCS	Integrated Hole Volume Caliper Selection	HCAL	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
SHT	Surface Hole Temperature	20	DEGC
STI: Stuck Tool Indicator			
LBFR	Trigger for MAXIS First Reading Label	TDL	
STKT	STI Stuck Threshold	0.762	M
TDD	Total Depth − Driller	2500.00	M
TDL	Total Depth − Logger	2501.20	M
System and Miscellaneous			
ALTDPCHAN	Name of alternate depth channel	SpeedCorrectedDepth	
BS	Bit Size	6.125	IN
BSAL	Borehole Salinity	28000.00	PPM
CSIZ	Current Casing Size	7.000	IN
CWEI	Casing Weight	26.00	LB/F
DFD	Drilling Fluid Density	1.10	G/C3
DO	Depth Offset for Playback	0.0	M
MST	Mud Sample Temperature	14.30	DEGC
PBVSADP	Use alternate depth channel for playback	NO	
PP	Playback Processing	NORMAL	
RMFS	Resistivity of Mud Filtrate Sample	0.2180	OHMM
RW	Resistivity of Connate Water	1.0000	OHMM
TD	Total Depth	2500	M
TWS	Temperature of Connate Water Sample	37.78	DEGC

Format: Main_200 Vertical Scale: 1:200 Graphics File Created: 04−Aug−2004 12:09

OP System Version: 12C0−301

MCM

HALS−B	12C0−301	DSLT−H	12C0−301
HILTB−FTB	12C0−301	DTC−H	12C0−301
BSP	12C0−301		

Input DLIS Files

DEFAULT	MERGE_HALS_SONIC_035	FN:1	PRODUCER	04−Aug−2004 11:55	2505.9 M	1213.0 M

Output DLIS Files

DEFAULT	HALS_SONIC_TLD_MCFL_037PUP	FN:51	PRODUCER	04−Aug−2004 12:09

Schlumberger

Density−Porosity
High Resolution, 1:200 Scale

Company: Lakes Oil N.L. Well: Trifon 2

Input DLIS Files

DEFAULT	MERGE_HALS_SONIC_035	FN:1	PRODUCER	04−Aug−2004 11:55	2505.9 M	1213.0 M

Output DLIS Files

DEFAULT	HALS_SONIC_TLD_MCFL_037PUP	FN:51	PRODUCER	04−Aug−2004 12:09	2505.9 M	1250.4 M

Integrated Hole/Cement Volume Summary

Hole Volume = 39.99 M3

Cement Volume = 27.27 M3 (assuming 4.50 IN casing O.D.)

Computed from 2500.0 M to 1260.0 M using data channel(s) HCAL

OP System Version: 12C0−301

MCM

HALS−B	12C0−301	DSLT−H	12C0−301
HILTB−FTB	12C0−301	DTC−H	12C0−301
BSP	12C0−301		

PIP SUMMARY

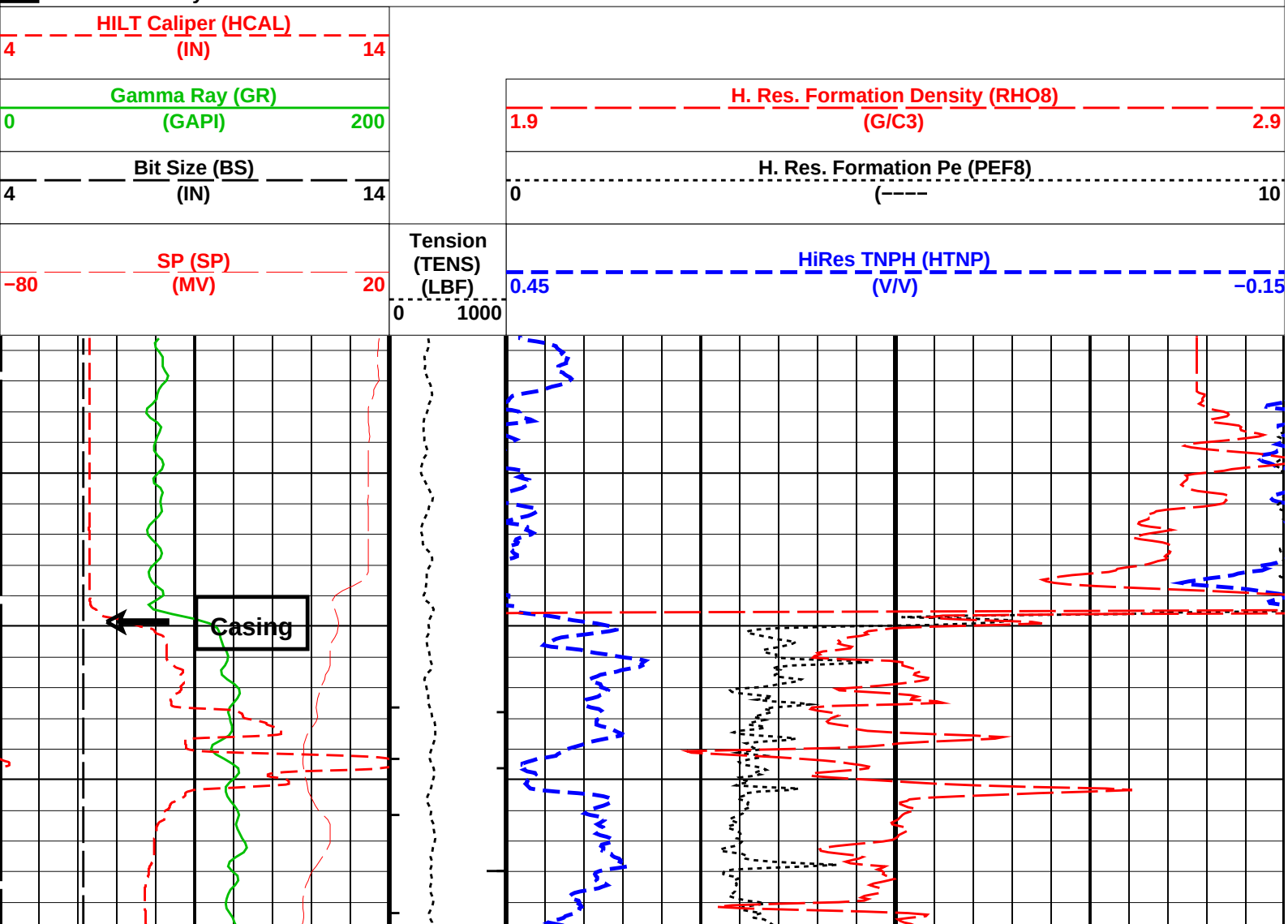
Integrated Hole Volume Minor Pip Every 0.1 M3

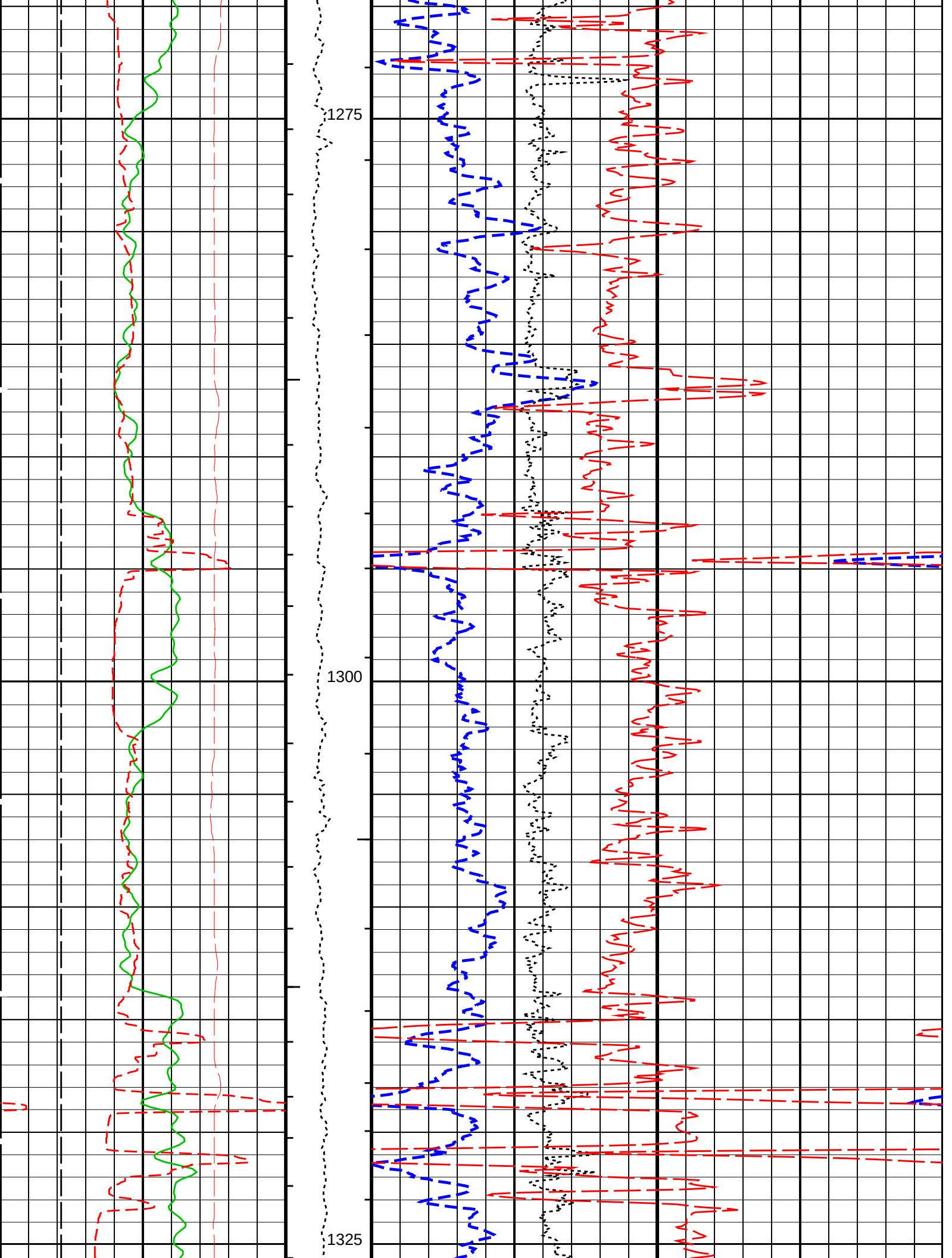
Integrated Hole Volume Major Pip Every 1 M3

Integrated Cement Volume Minor Pip Every 0.1 M3

Integrated Cement Volume Major Pip Every 1 M3

Time Mark Every 60 S

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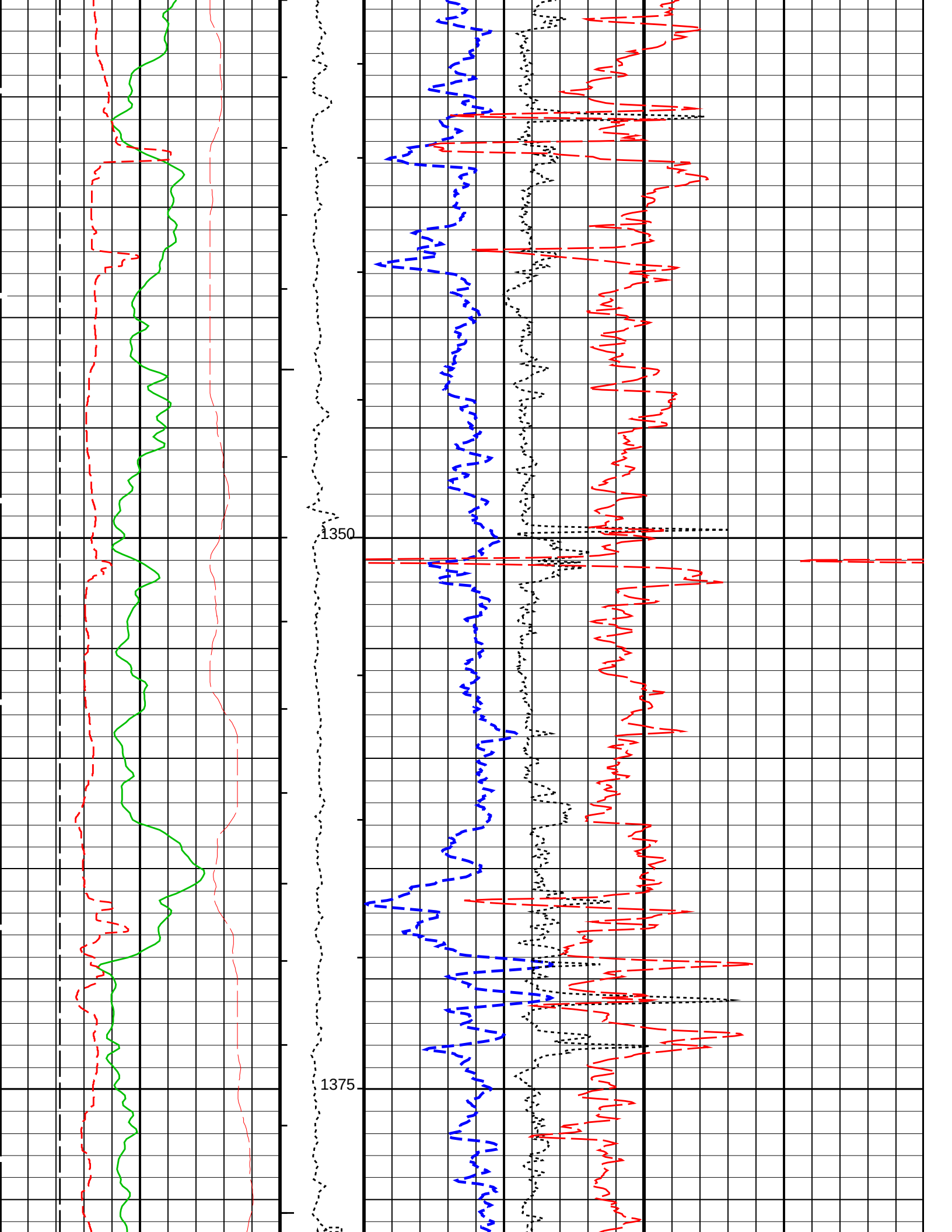
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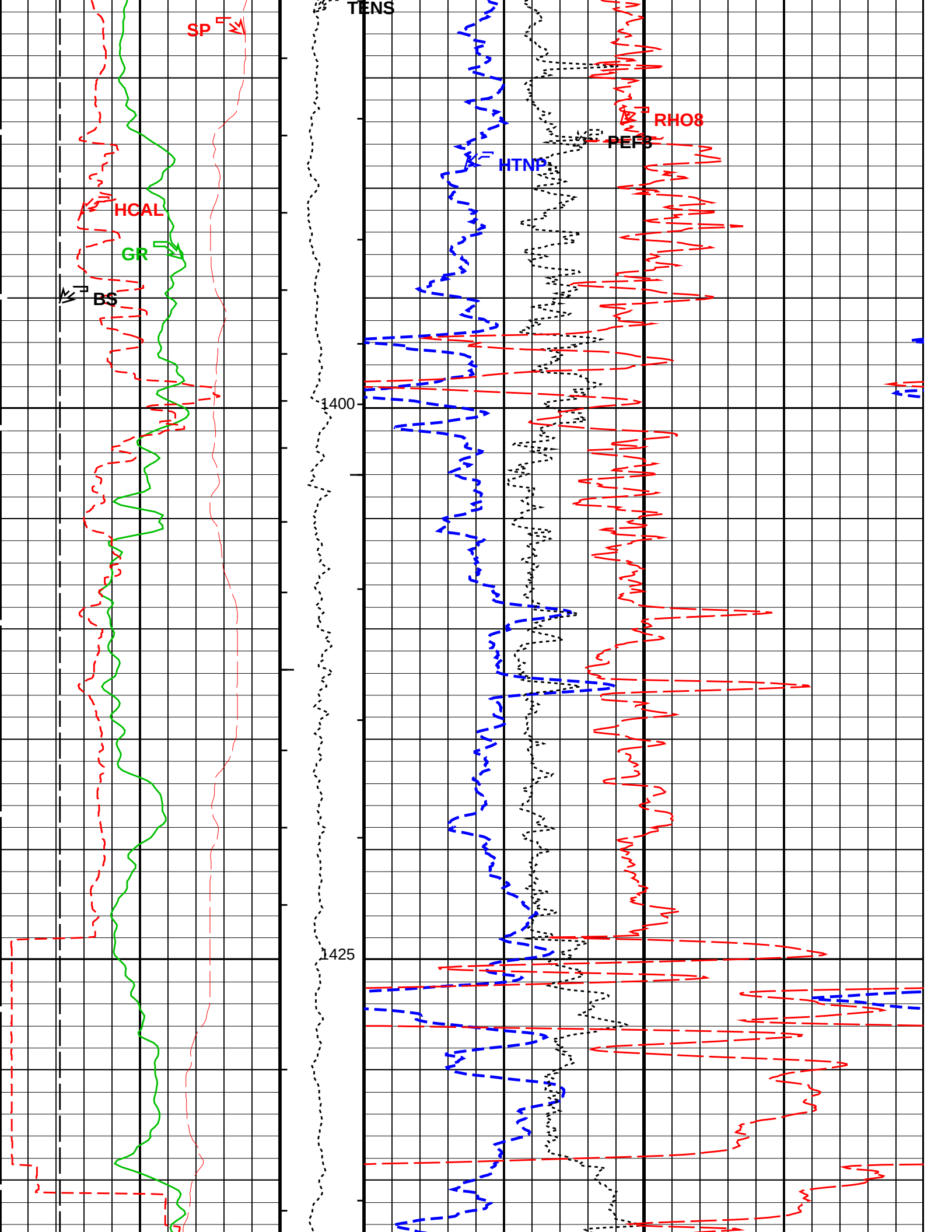
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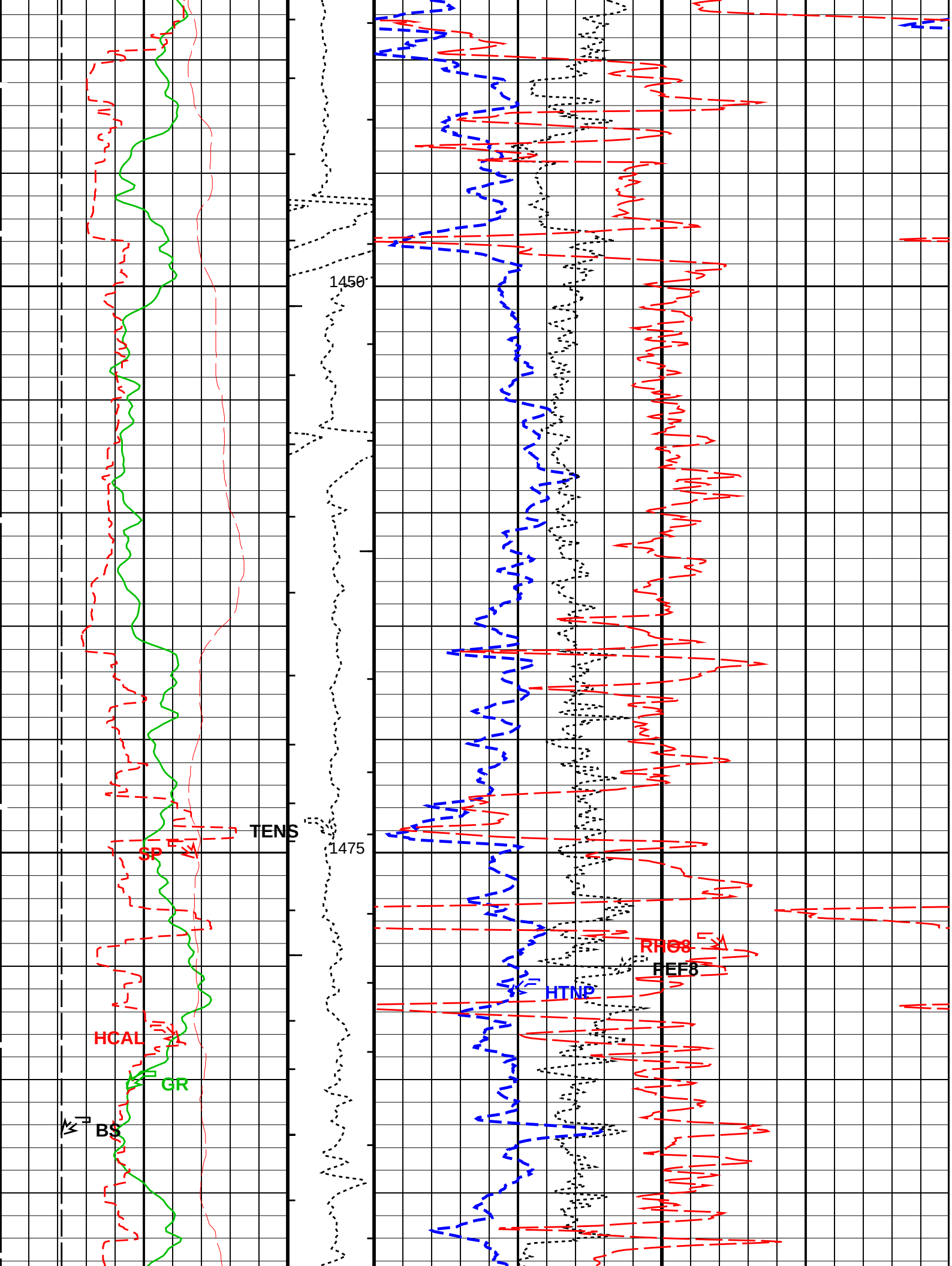
HCAL
GR
BS
RHO8
PEF8
HTNP
1400
1425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SP
HCAL
GR
BS
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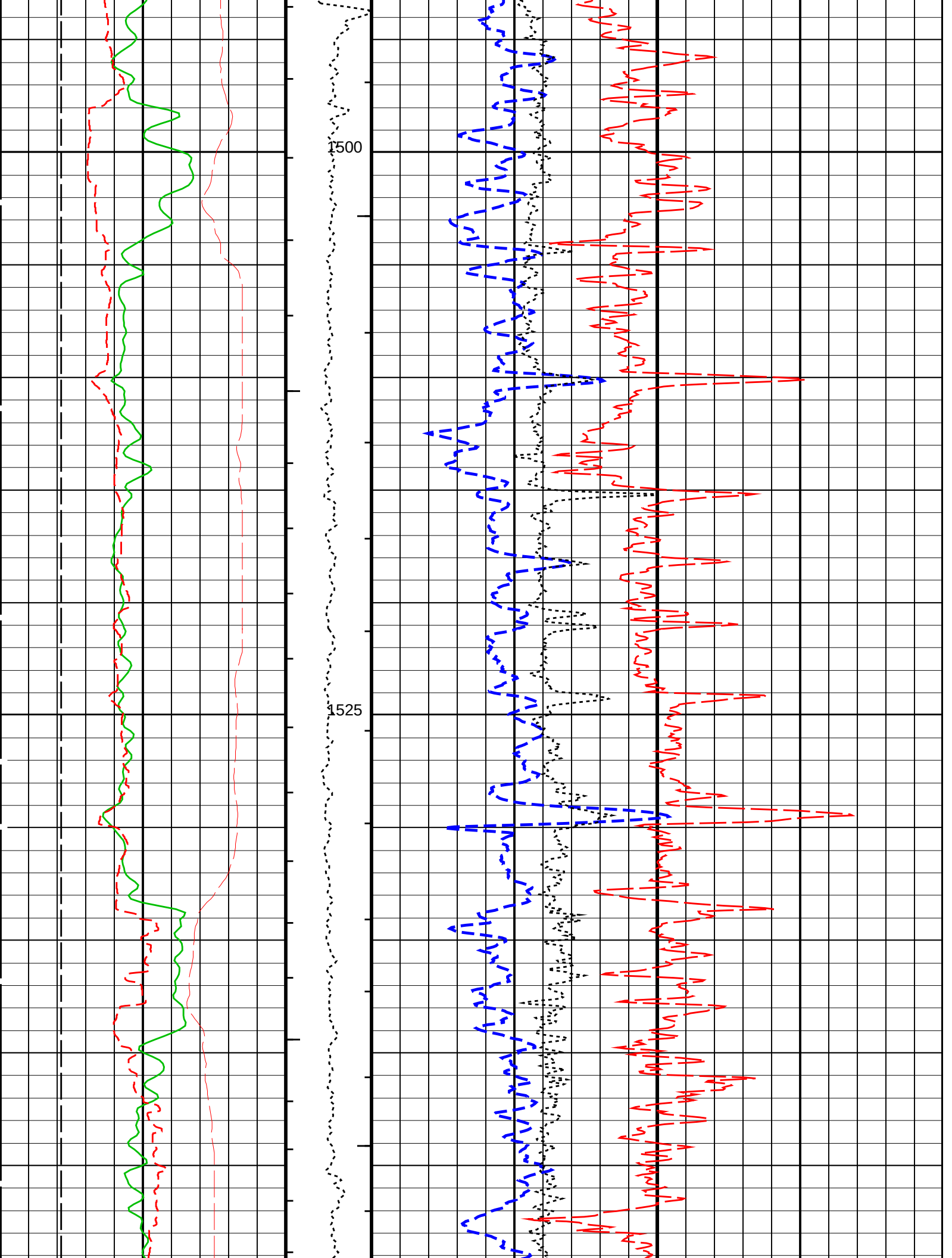
HEF8
HTNP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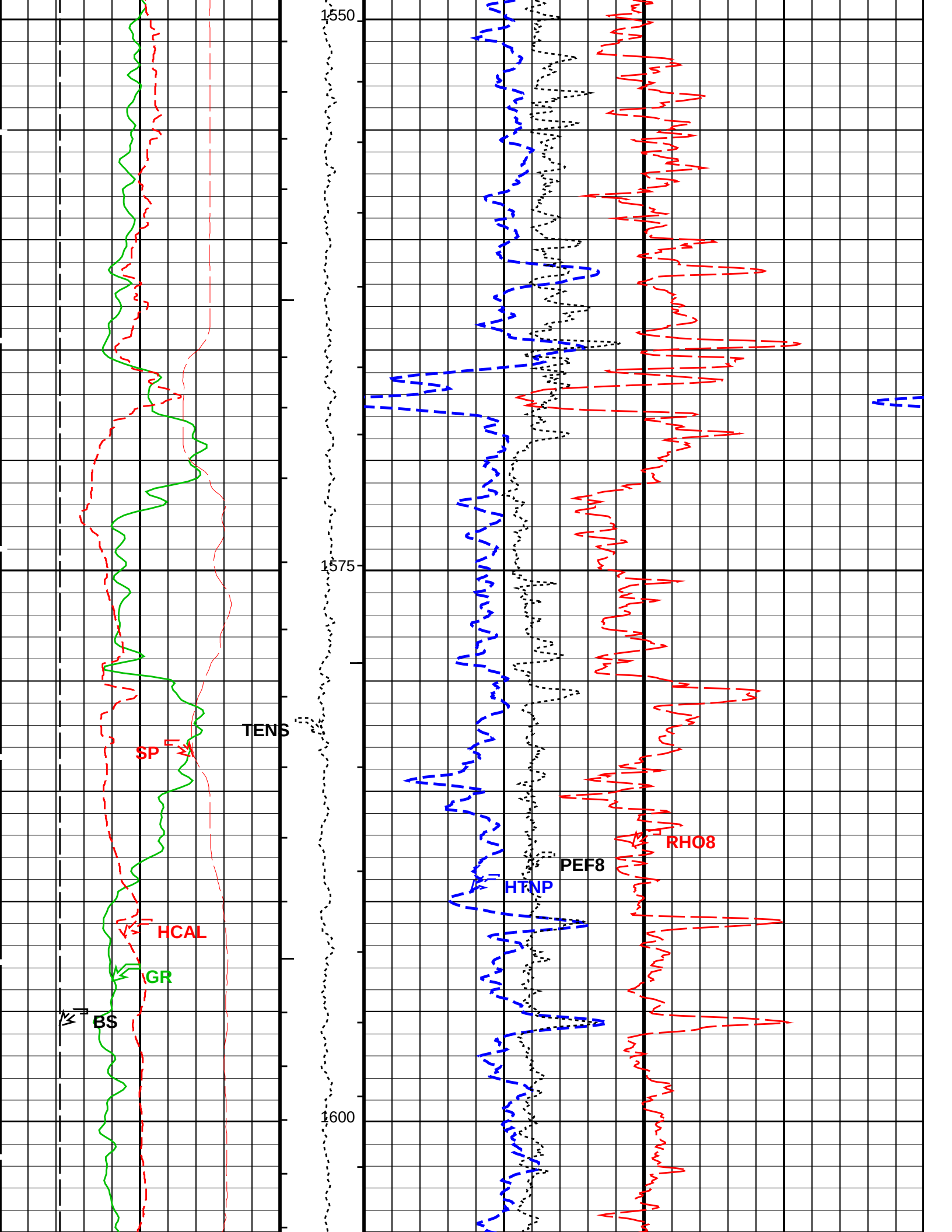
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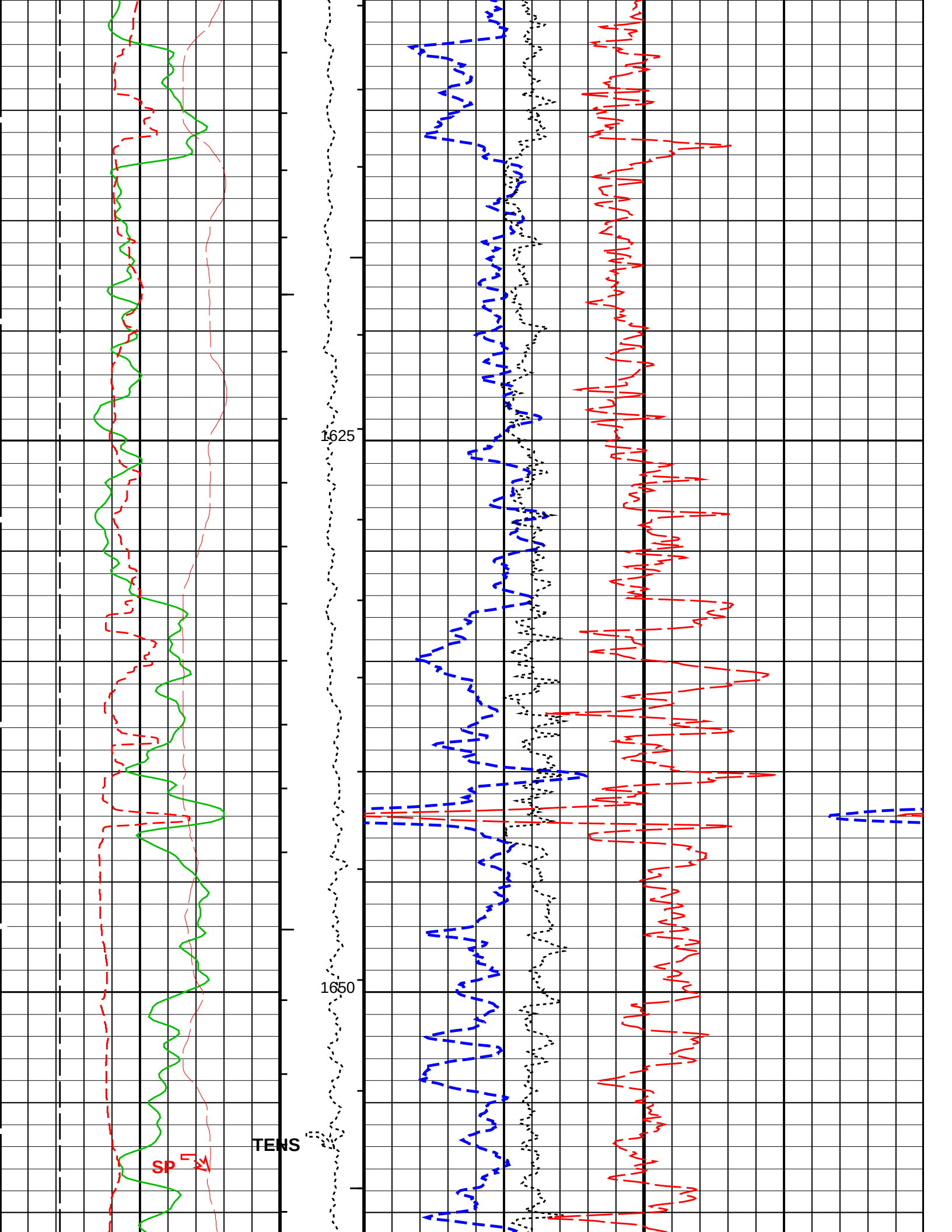
1575
1600
TENS
SP
HCAL
GR
BS
RHO8
PEF8
HTNP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1650
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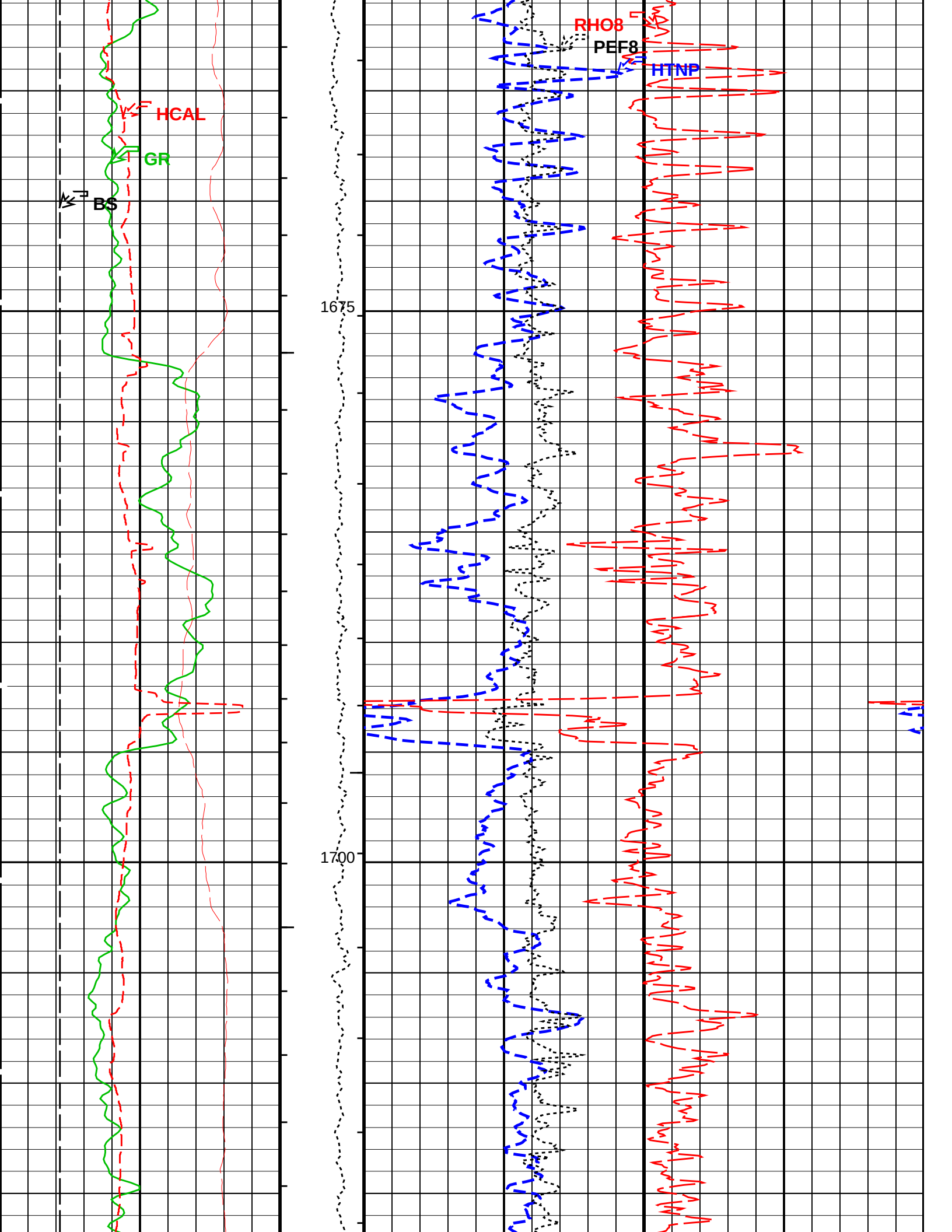
SP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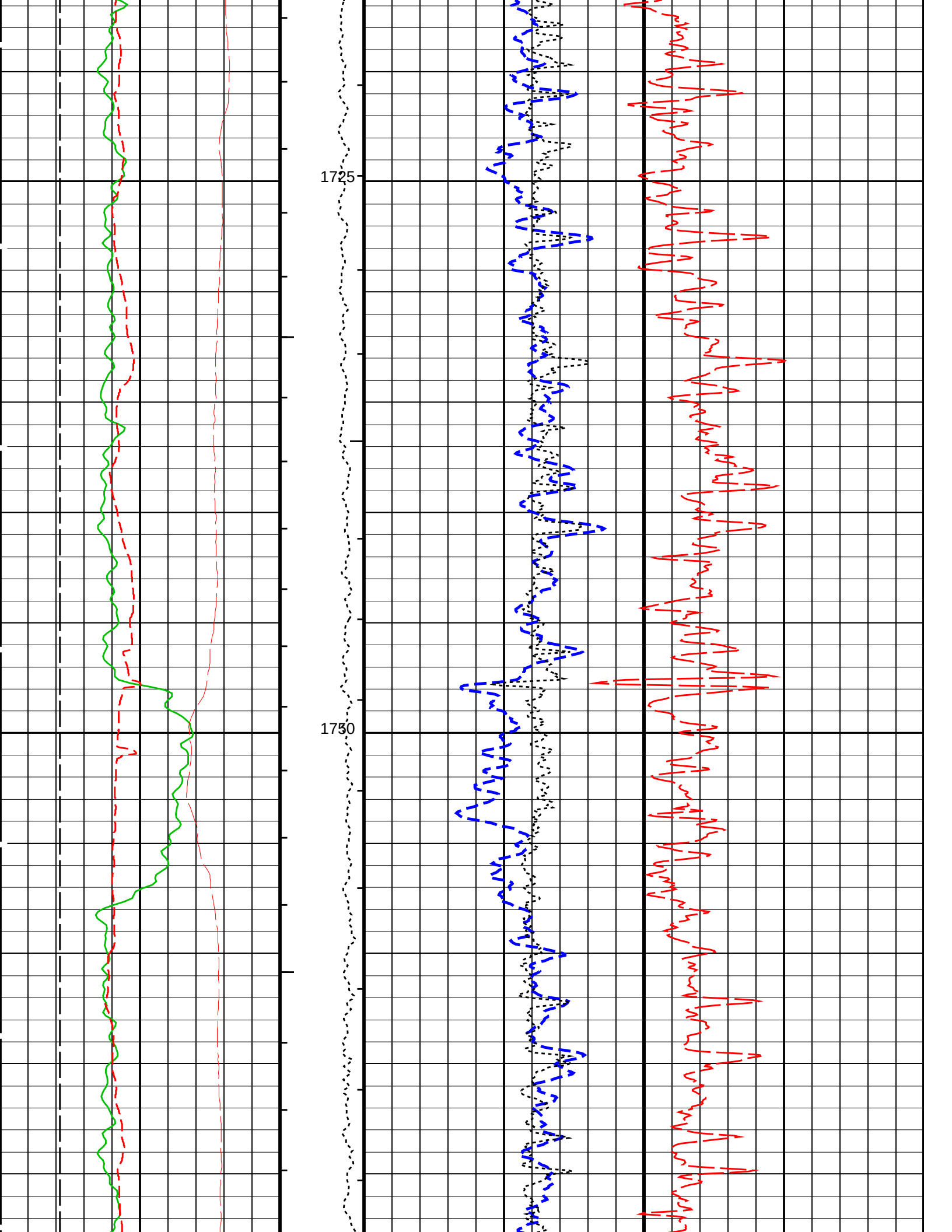
GR
BS
RHO8
PEF8
HTNP
1675
1700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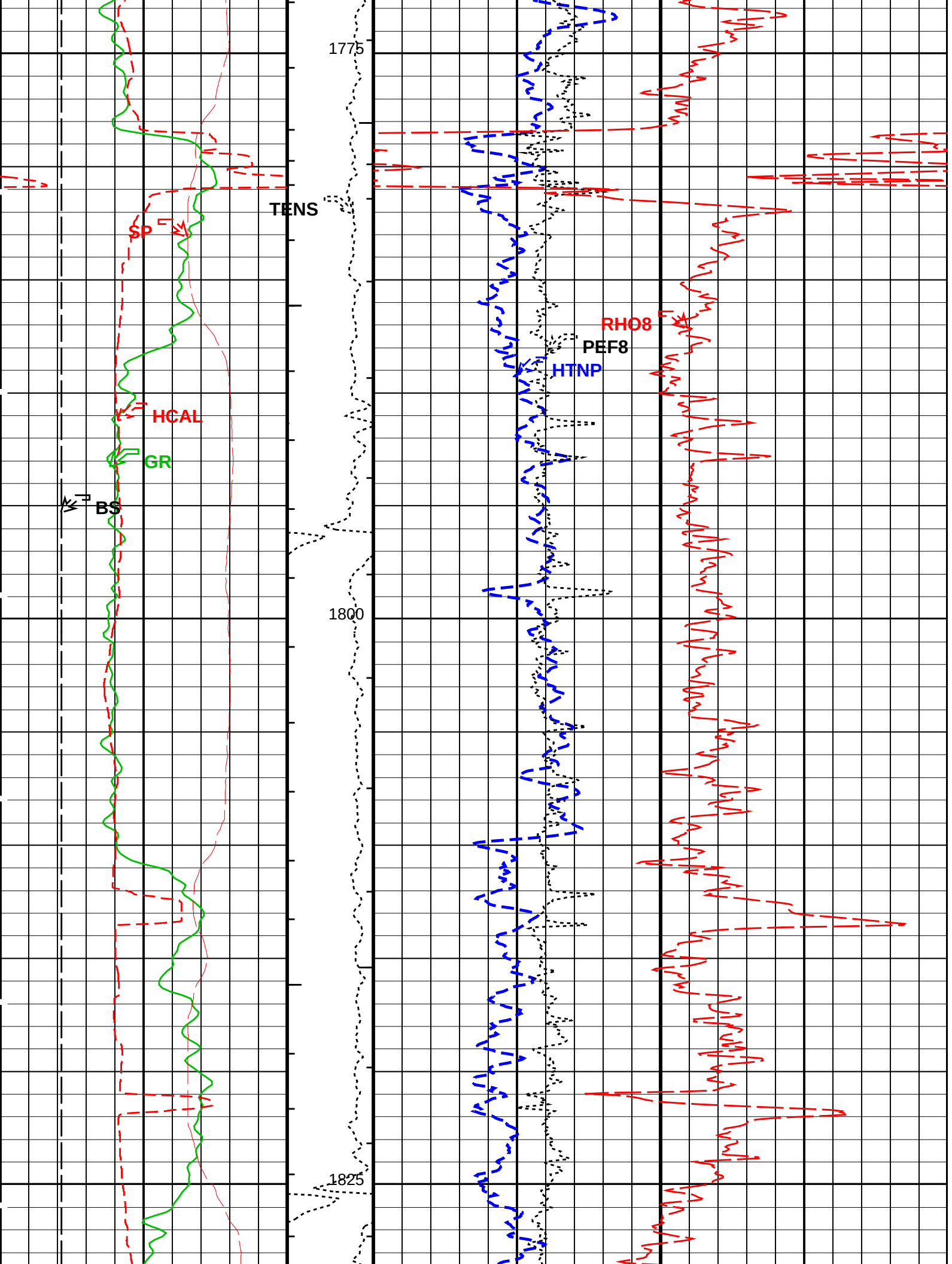
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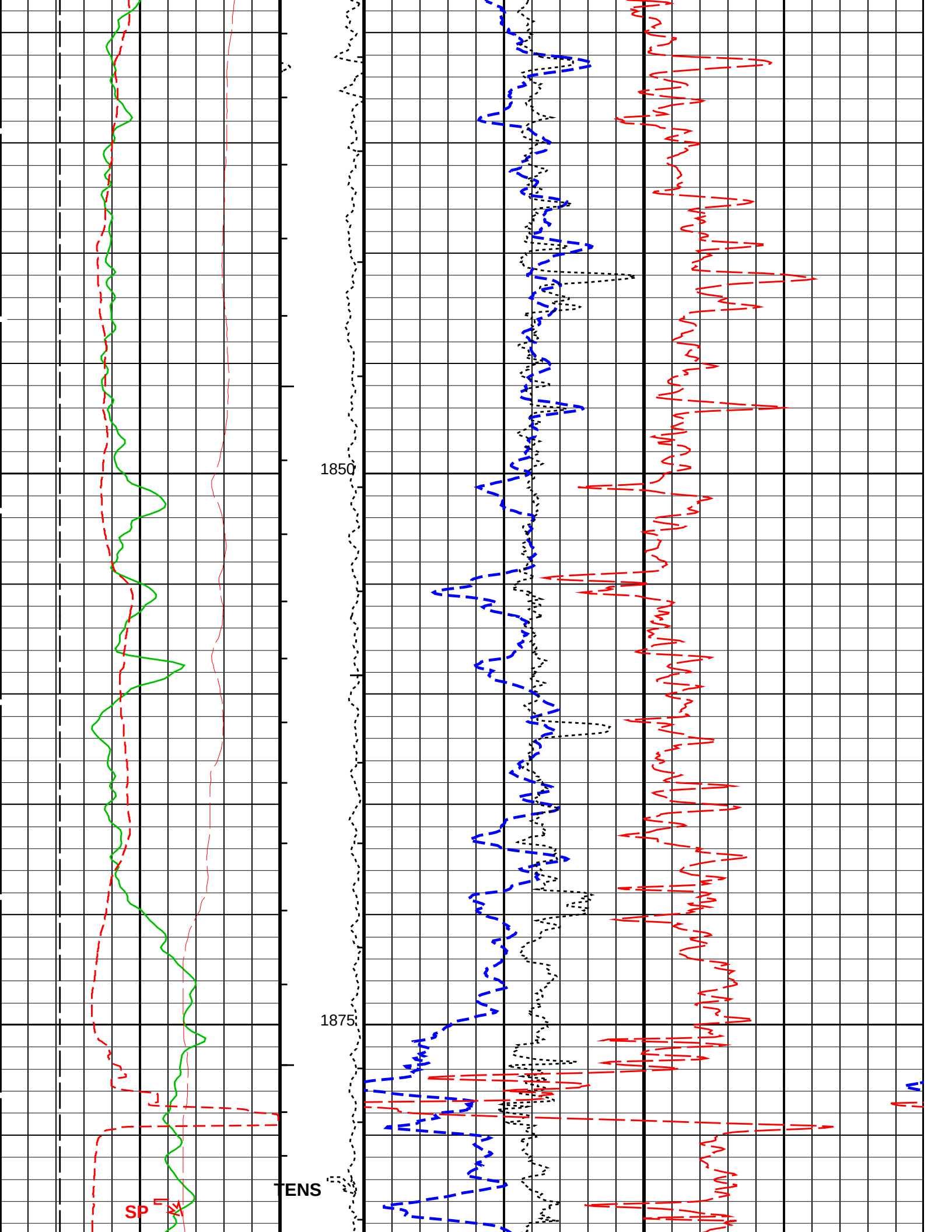
RHO8
PEF8
HTNP
HCAL
GR
BS
1800
1825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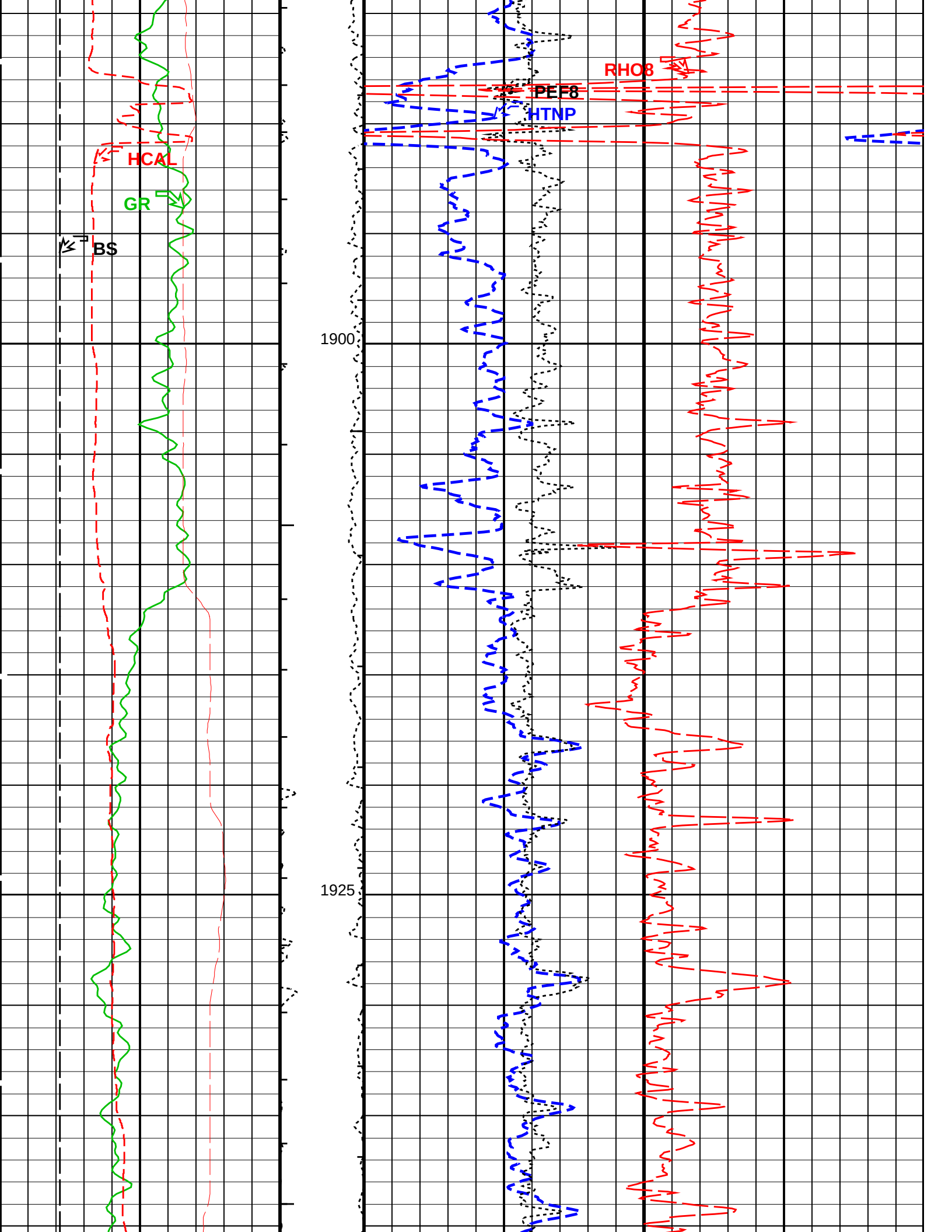
SP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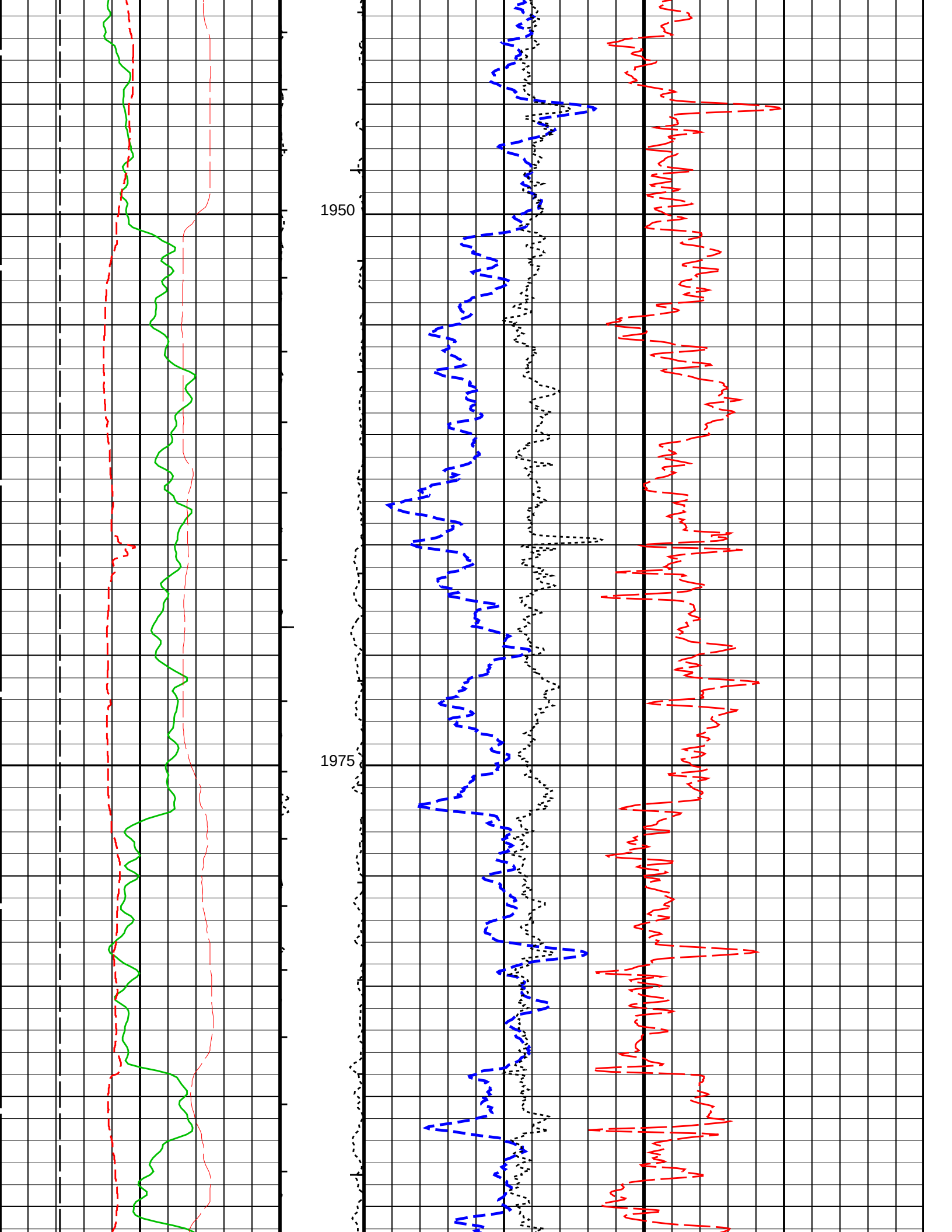
BS
RHOB
PEFB
HTNP
1900
1925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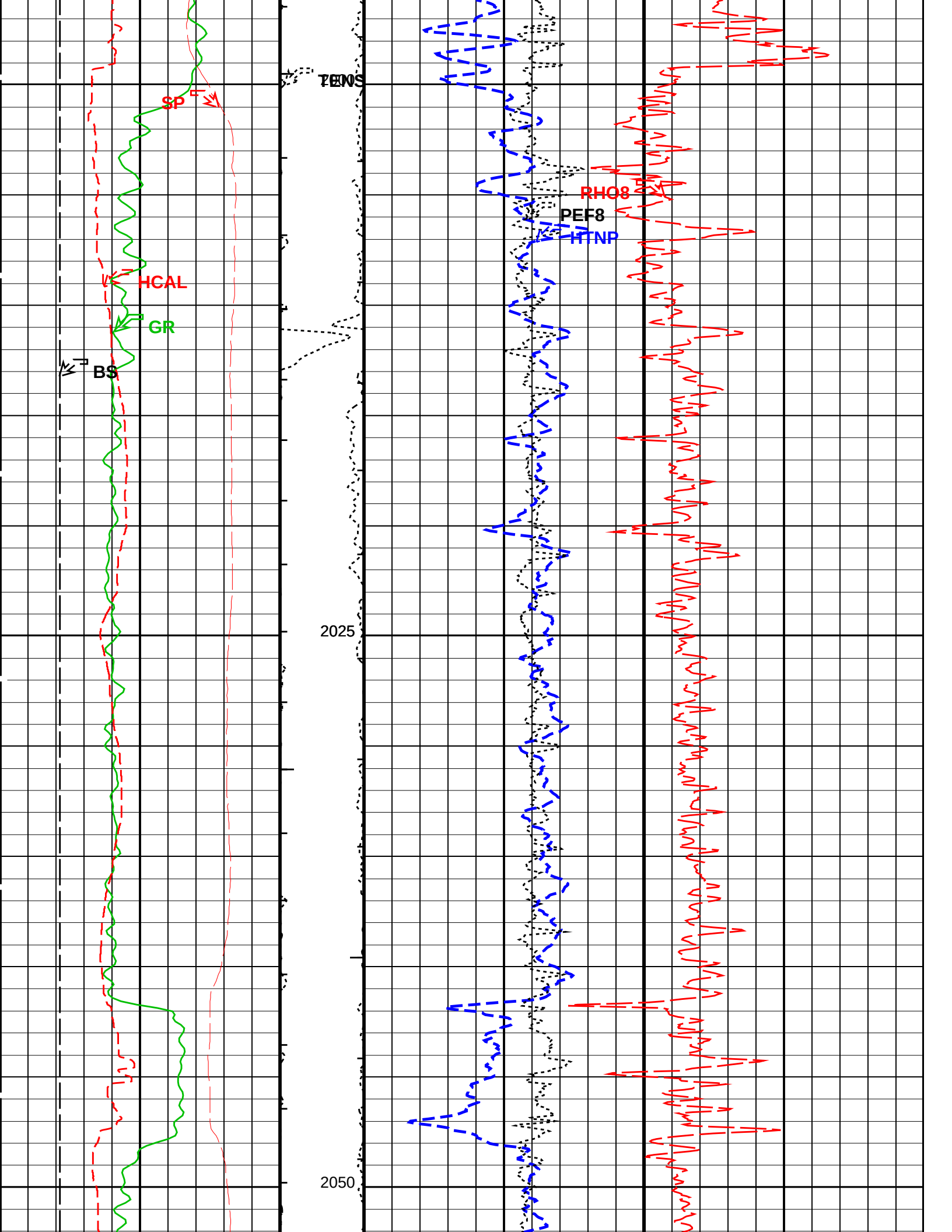
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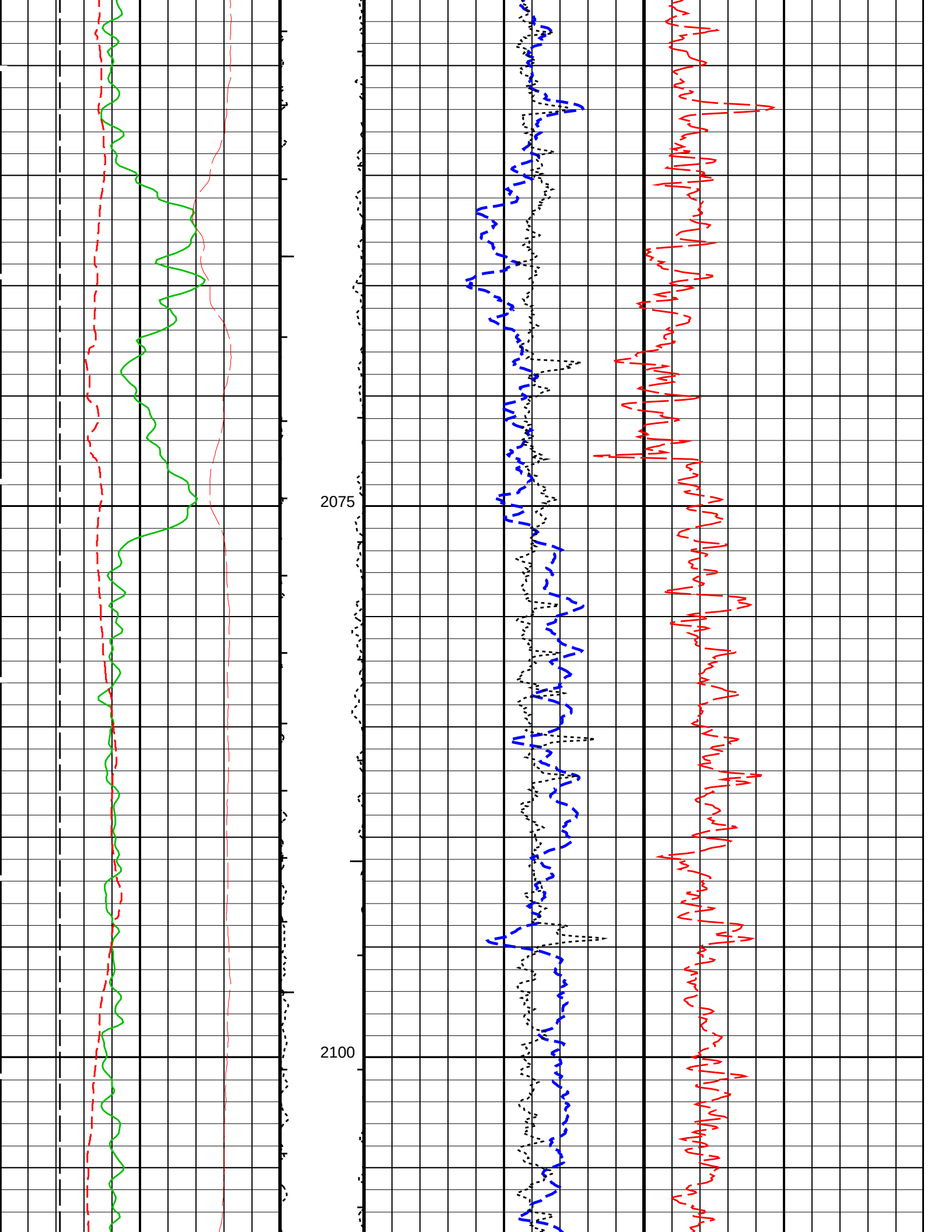
HCAL
GR
BS
TENS
RHO8
PEF8
HTNP
2025
2050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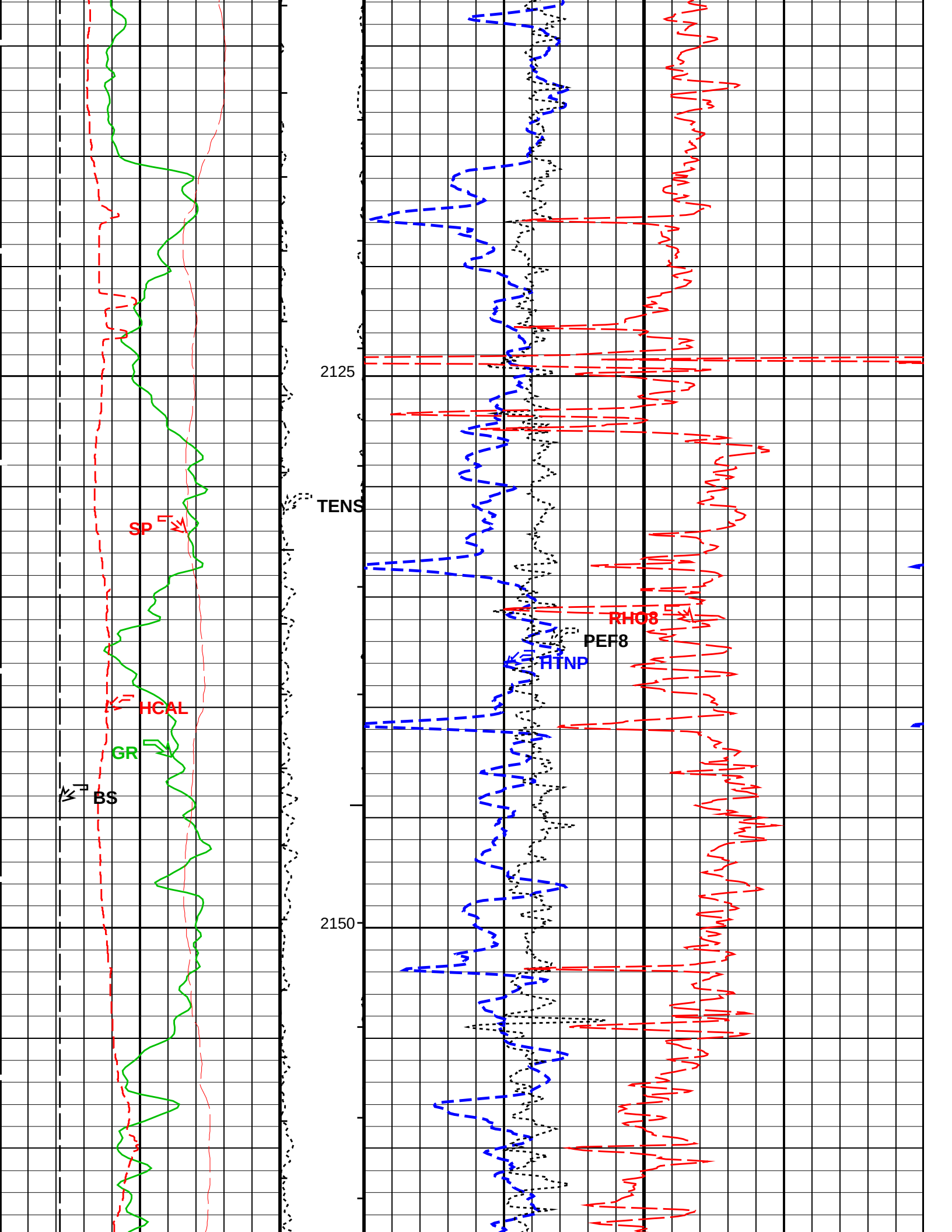
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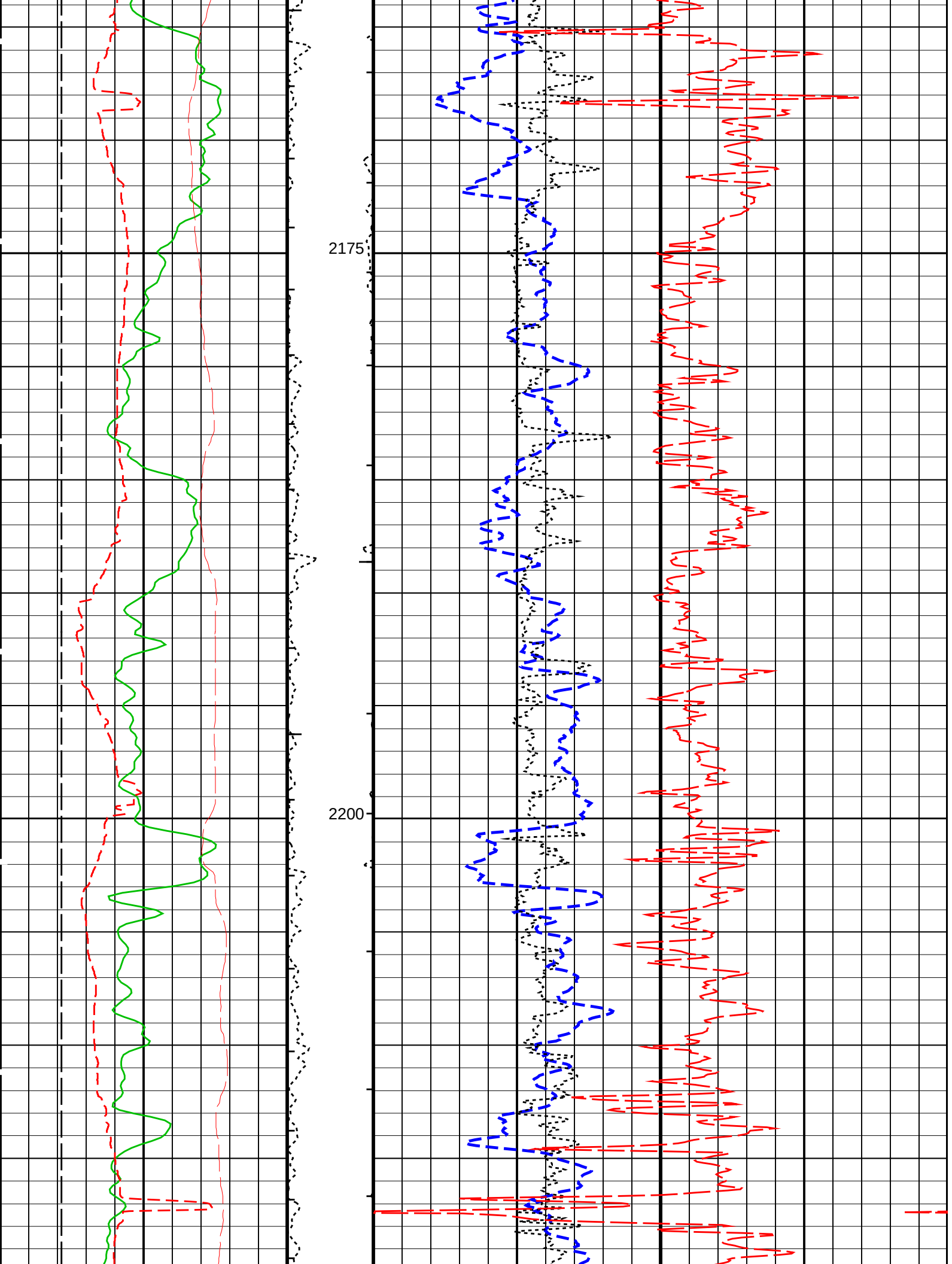
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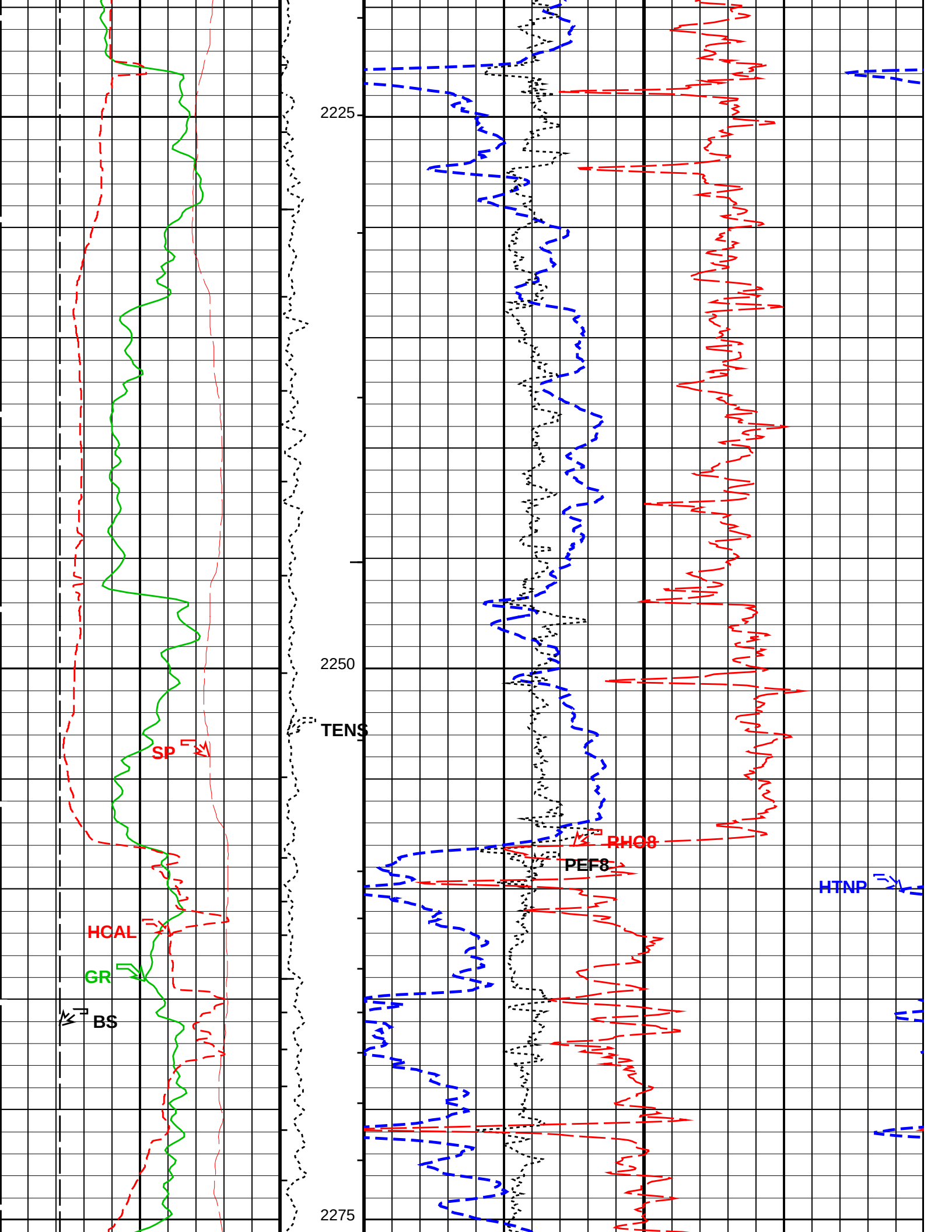
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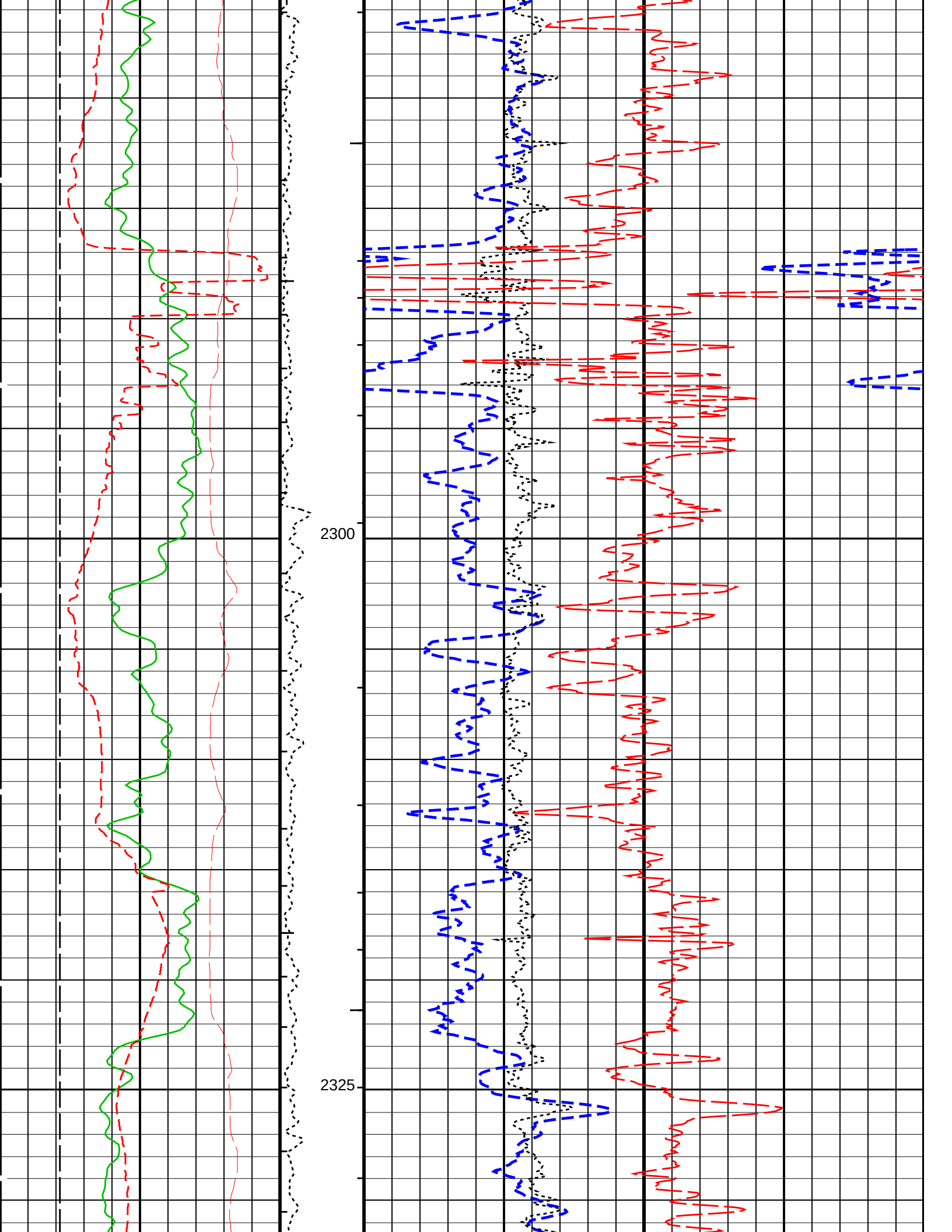
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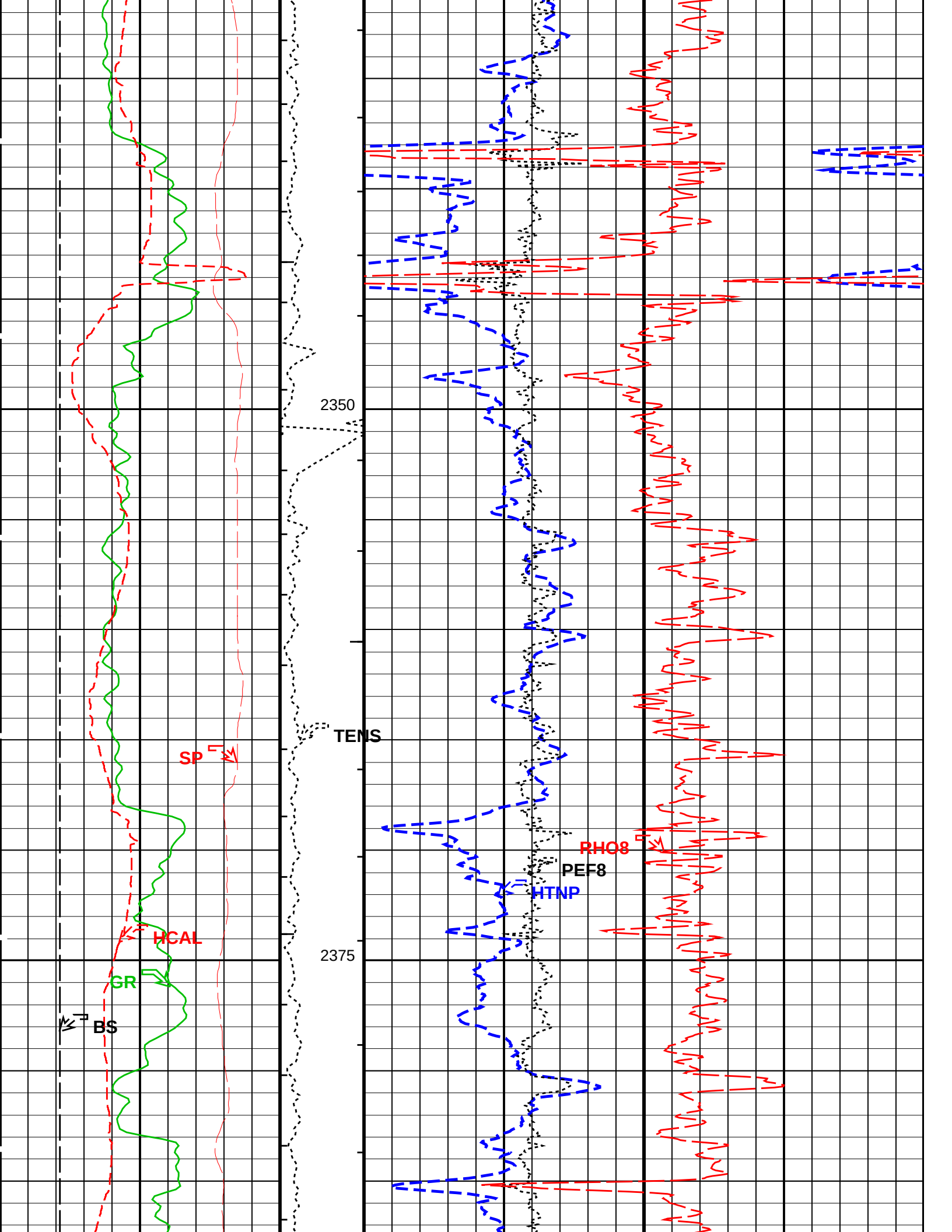
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PEF8
HTNP
HCAL
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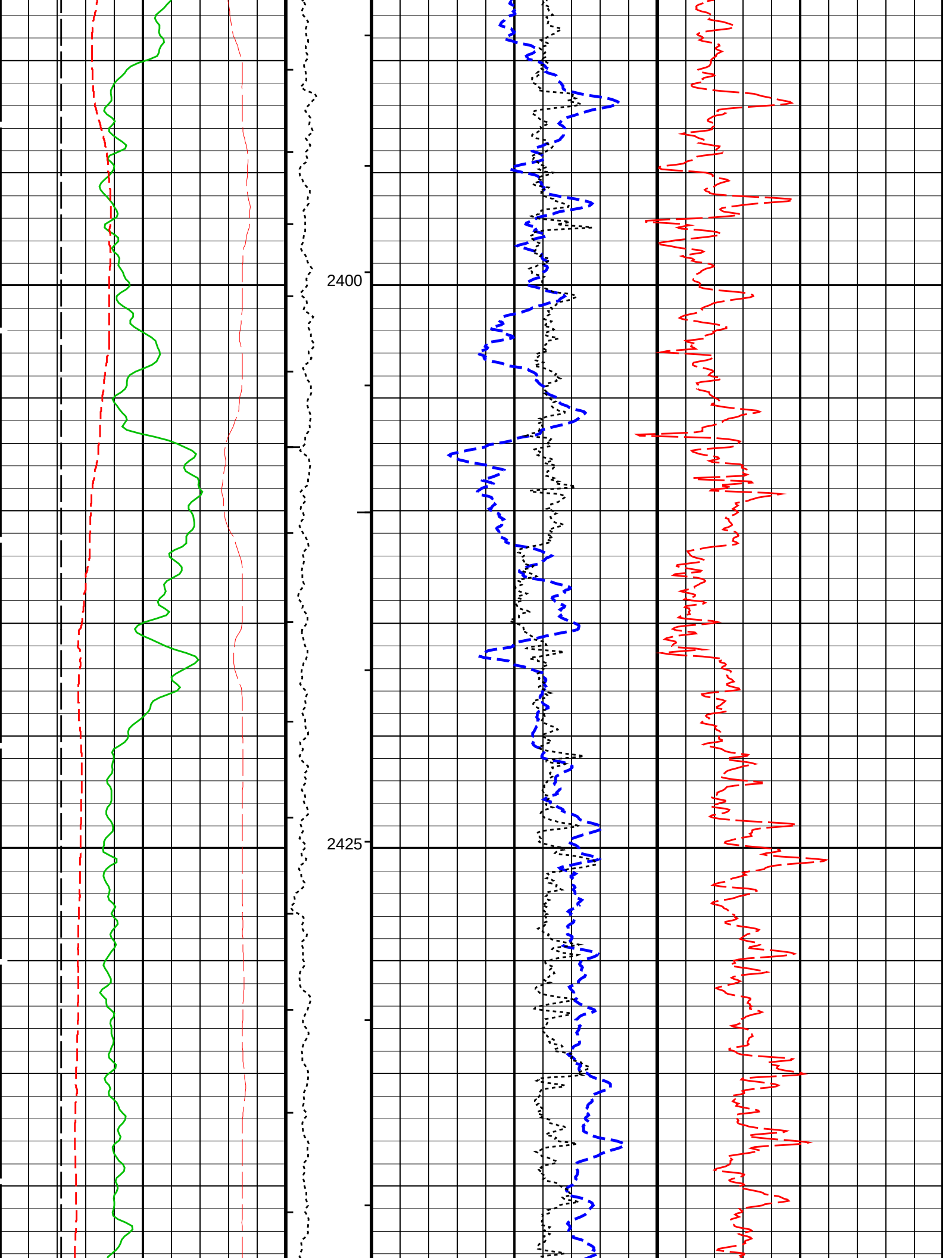
GR
BS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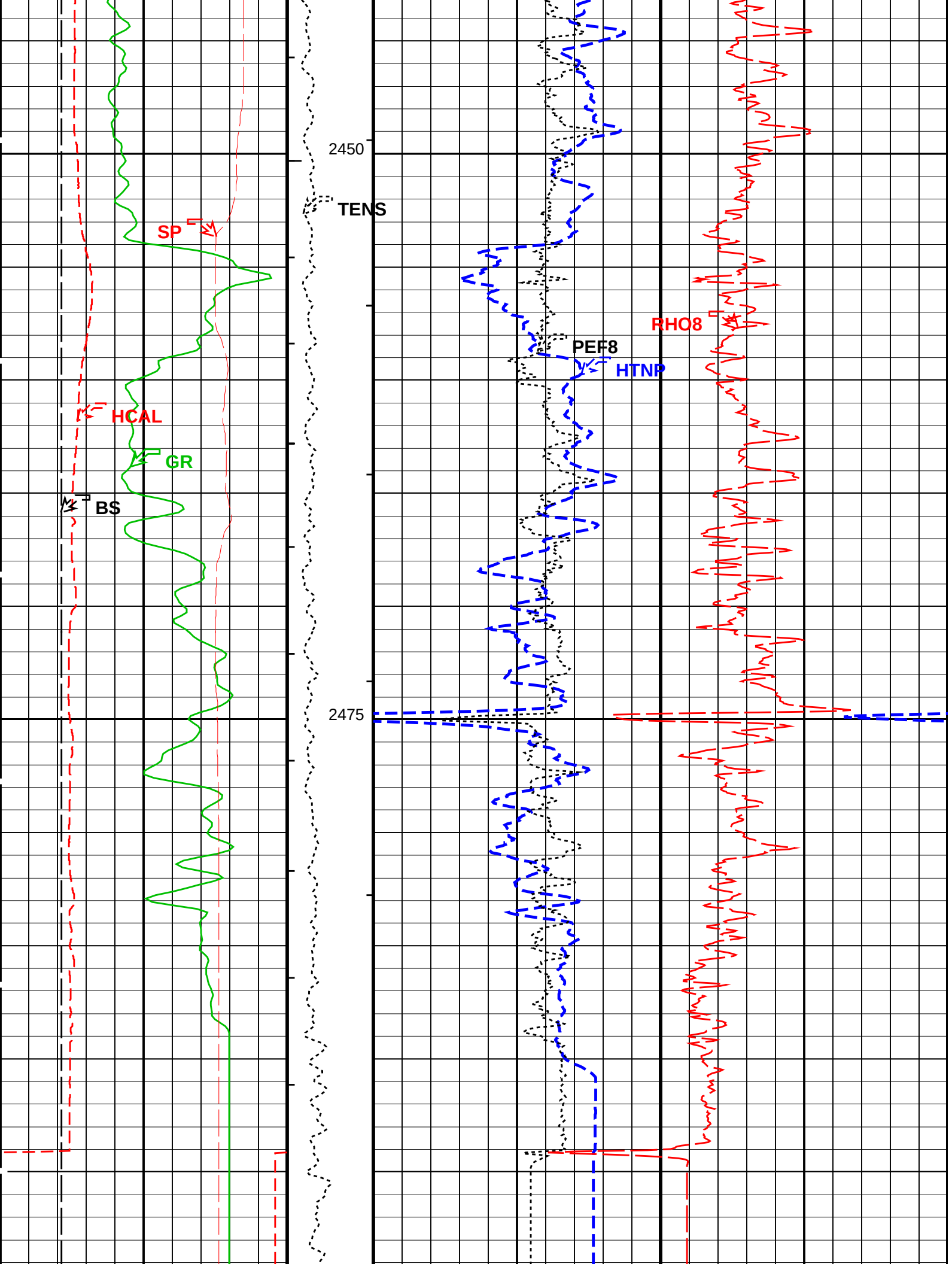
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SP
HCAL
GR
BS
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PEF8
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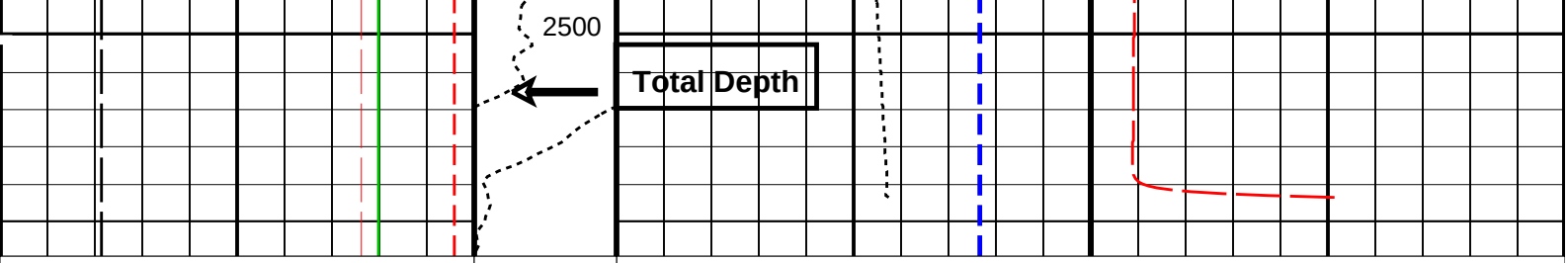


SP (SP)	Tension (TENS)	HiRes TNPH (HTNP)
−80 (MV) 20	0 (LBF) 1000	0.45 (V/V) −0.15
Bit Size (BS)		H. Res. Formation Pe (PEF8)
4 (IN) 14		0 (−−−− 10
Gamma Ray (GR)		H. Res. Formation Density (RHO8)
0 (GAPI) 200		1.9 (G/C3) 2.9
HILT Caliper (HCAL)		
4 (IN) 14		

PIP SUMMARY

- Integrated Hole Volume Minor Pip Every 0.1 M3
- Integrated Hole Volume Major Pip Every 1 M3
- Integrated Cement Volume Minor Pip Every 0.1 M3
- Integrated Cement Volume Major Pip Every 1 M3

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	HALS−B: HILT Azimuthal Laterolog Sonde B		
BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
SHT	Surface Hole Temperature	20	DEGC
	HILTB−FTB: High resolution Integrated Logging Tool−DTS		
BHFL	Borehole Fluid Type	WATER	
BHS	Borehole Status	OPEN	
BSCO	Borehole Salinity Correction Option	YES	
CCCO	Casing & Cement Thickness Correction Option	NO	
DHC	Density Hole Correction	BS	
FSAL	Formation Salinity	−50000	PPM
FSCO	Formation Salinity Correction Option	NO	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
HSCO	Hole Size Correction Option	YES	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
MCCO	Mud Cake Correction Option	NO	
MCOR	Mud Correction	NATU	
MWCO	Mud Weight Correction Option	YES	
NAAC	HRDD APS Activation Correction	OFF	
NMT	HILT Nuclear Mud Type	NOBARITE	
NPRM	HRDD Processing Mode	HiRes	
NSAR	HRDD Depth Sampling Rate	1	IN
PTCO	Pressure/Temperature Correction Option	YES	
SDAT	Standoff Data Source	SOCN	
SHT	Surface Hole Temperature	20	DEGC
SOCN	Standoff Distance	0	IN
SOCO	Standoff Correction Option	NO	
	BSP: Bridle SP		
SPNV	SP Next Value	0	MV
	HOLEV: Integrated Hole/Cement Volume		
BHS	Borehole Status	OPEN	
FCD	Future Casing (Outer) Diameter	4.5	IN
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
HVCS	Integrated Hole Volume Caliper Selection	HCAL	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
SHT	Surface Hole Temperature	20	DEGC
	STI: Stuck Tool Indicator		
TDL	Total Depth − Logger	2501.20	M

TDL	Total Depth - Logger	2501.20	M

System and Miscellaneous

BS	Bit Size	6.125	IN
BSAL	Borehole Salinity	28000.00	PPM
DO	Depth Offset for Playback	0.0	M
PP	Playback Processing	NORMAL	
TD	Total Depth	2500	M

Format: Nuclear_200 Vertical Scale: 1:200 Graphics File Created: 04-Aug-2004 12:09

OP System Version: 12C0-301

MCM

HALS-B	12C0-301	DSLT-H	12C0-301
HILTB-FTB	12C0-301	DTC-H	12C0-301
BSP	12C0-301		

Input DLIS Files

DEFAULT	MERGE_HALS_SONIC_035	FN:1	PRODUCER	04-Aug-2004 11:55	2505.9 M	1213.0 M

Output DLIS Files

DEFAULT	HALS_SONIC_TLD_MCFL_037PUP	FN:51	PRODUCER	04-Aug-2004 12:09		

Schlumberger

Resistivity
High Resolution, 1:200 Scale

MAXIS Field Log

Company: Lakes Oil N.L. Well: Trifon 2

Input DLIS Files

DEFAULT	MERGE_HALS_SONIC_035	FN:1	PRODUCER	04-Aug-2004 11:55	2505.9 M	1213.0 M

Output DLIS Files

DEFAULT	HALS_SONIC_TLD_MCFL_037PUP	FN:51	PRODUCER	04-Aug-2004 12:09	2505.9 M	1250.4 M

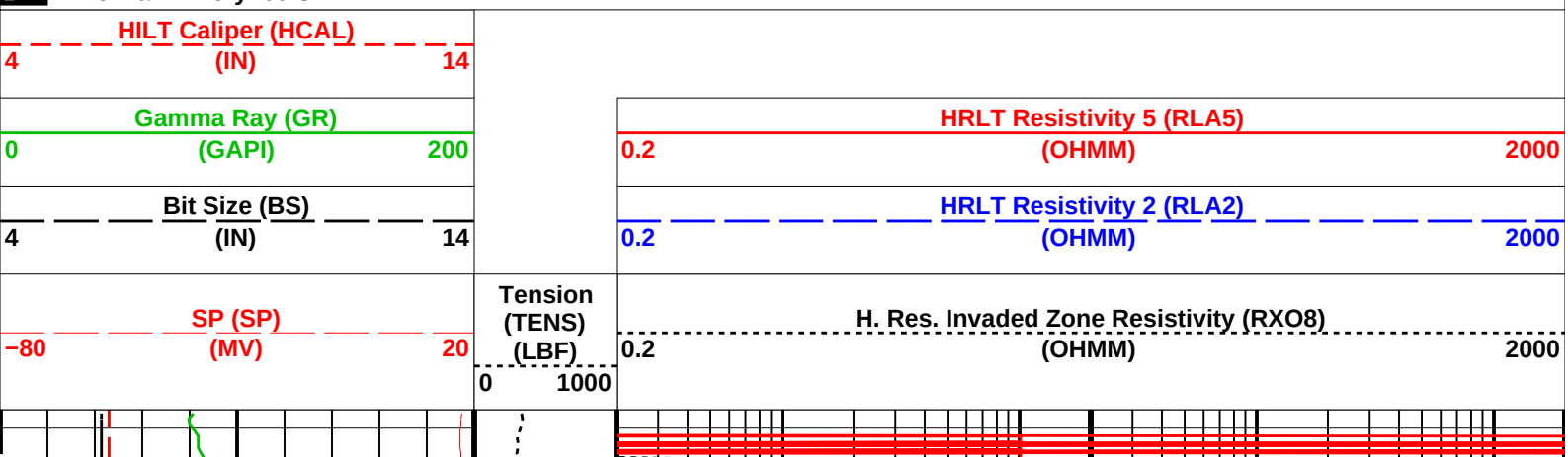
OP System Version: 12C0-301

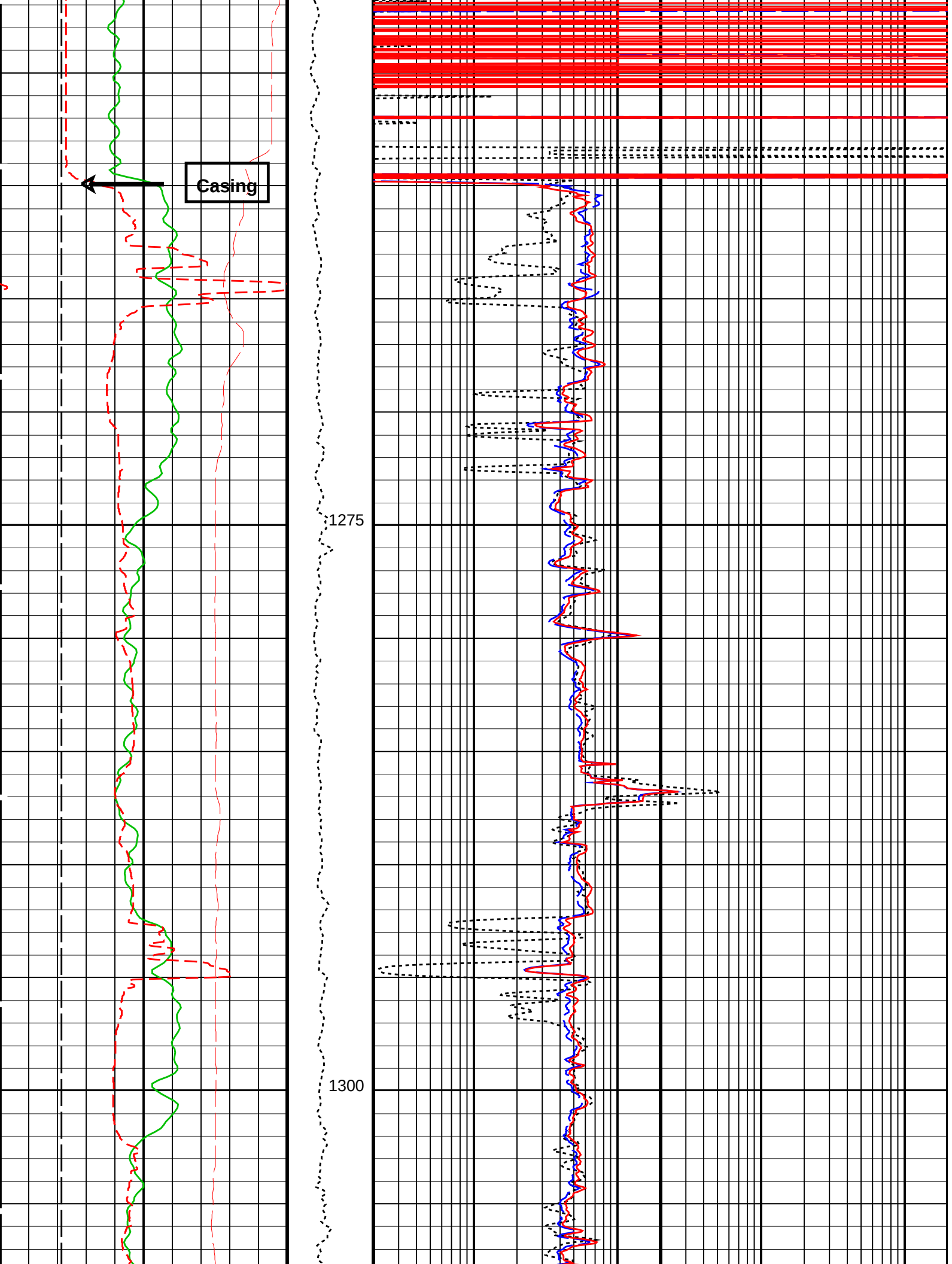
MCM

HALS-B	12C0-301	DSLT-H	12C0-301
HILTB-FTB	12C0-301	DTC-H	12C0-301
BSP	12C0-301		

PIP SUMMARY

Time Mark Every 60 S

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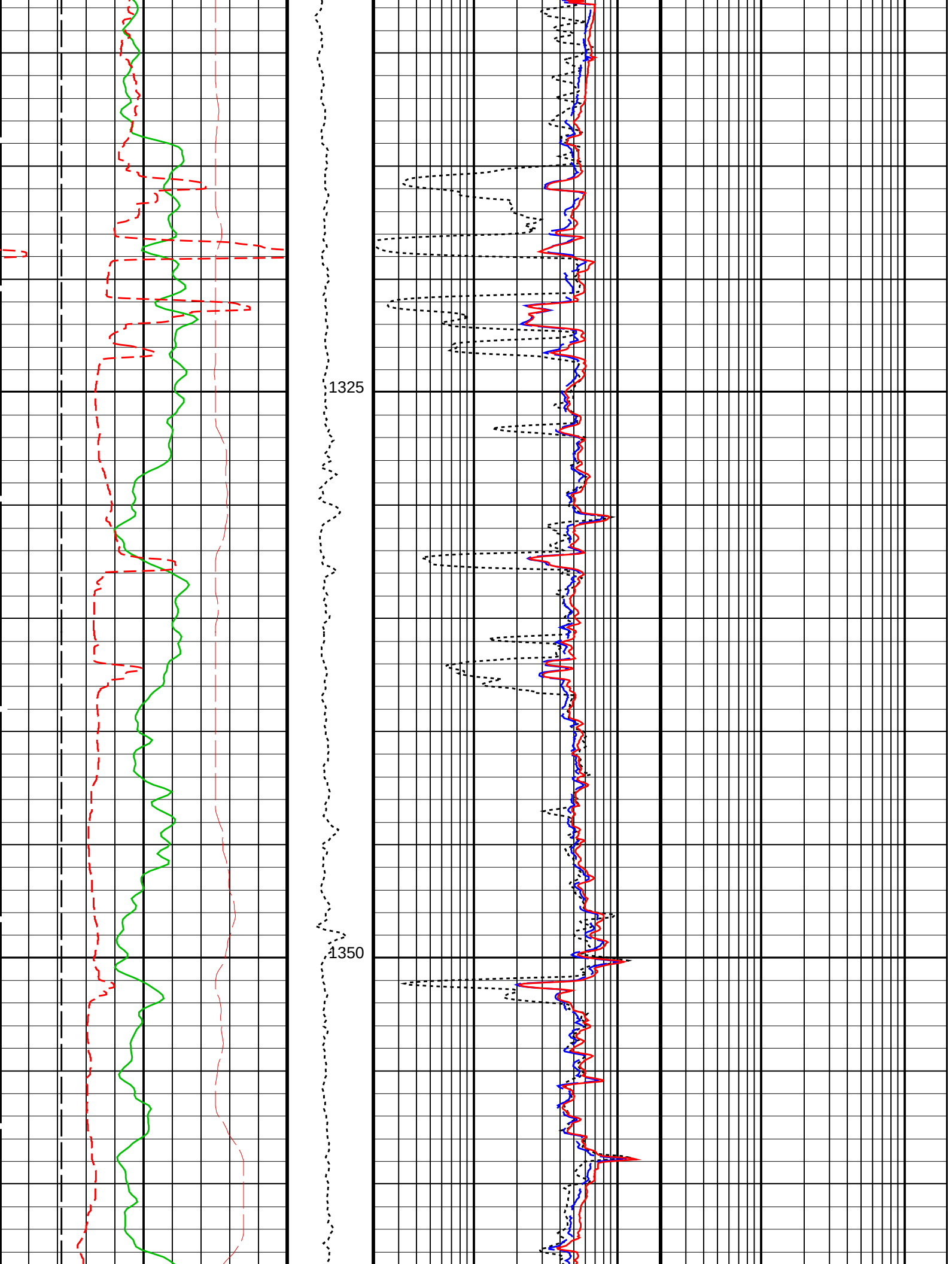
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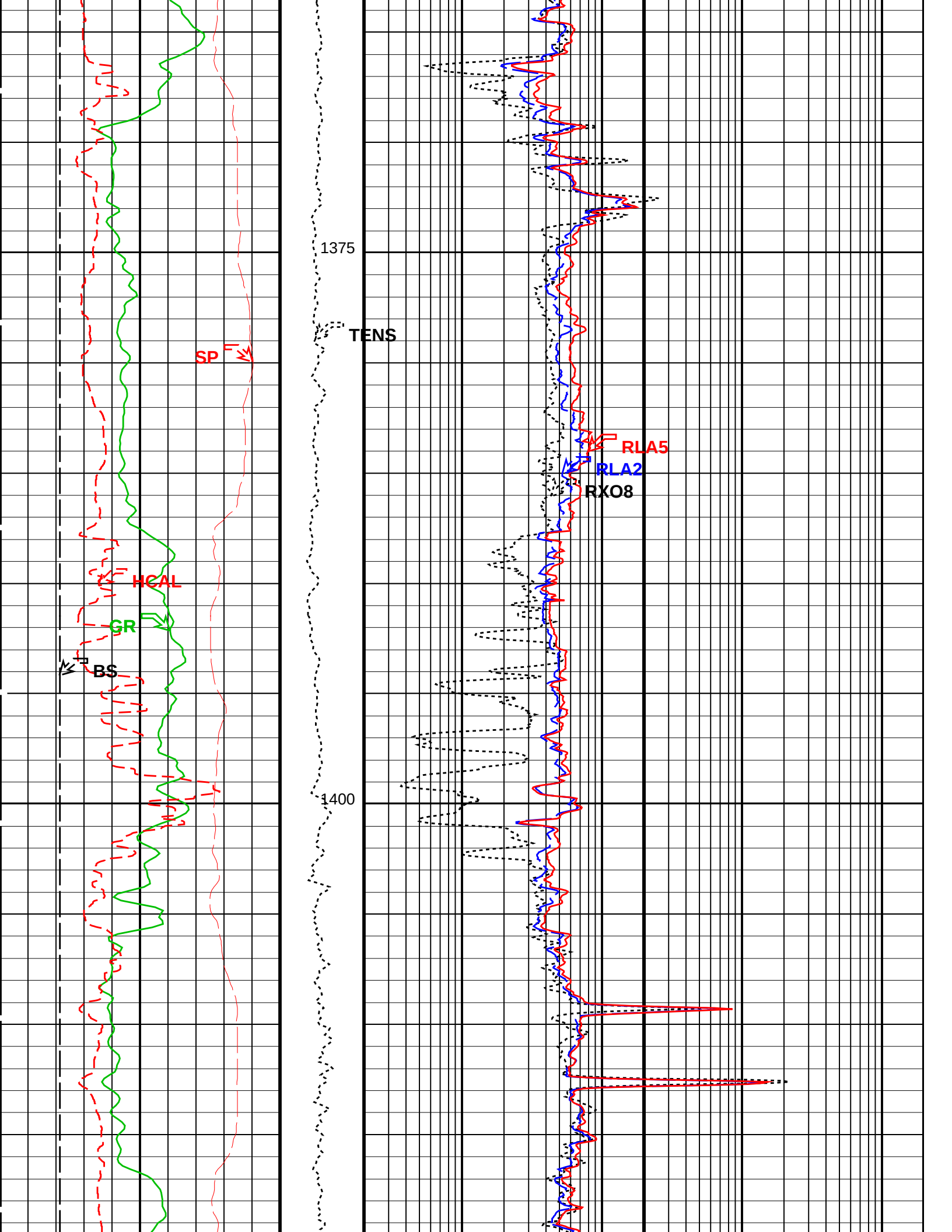
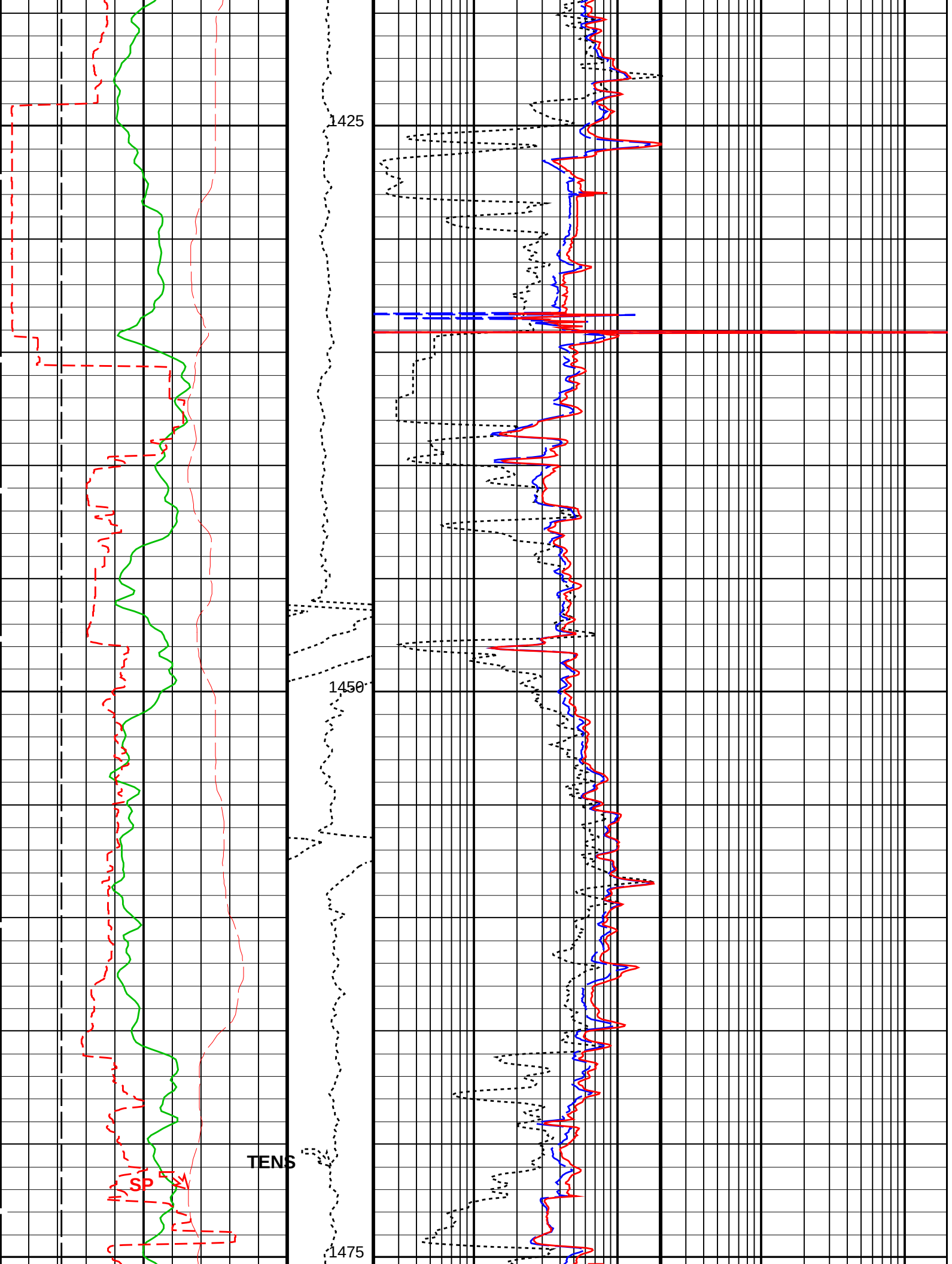
1350


1375
TENS
SP
RLA5
RLA2
RXO8
HCAL
GR
BS
1400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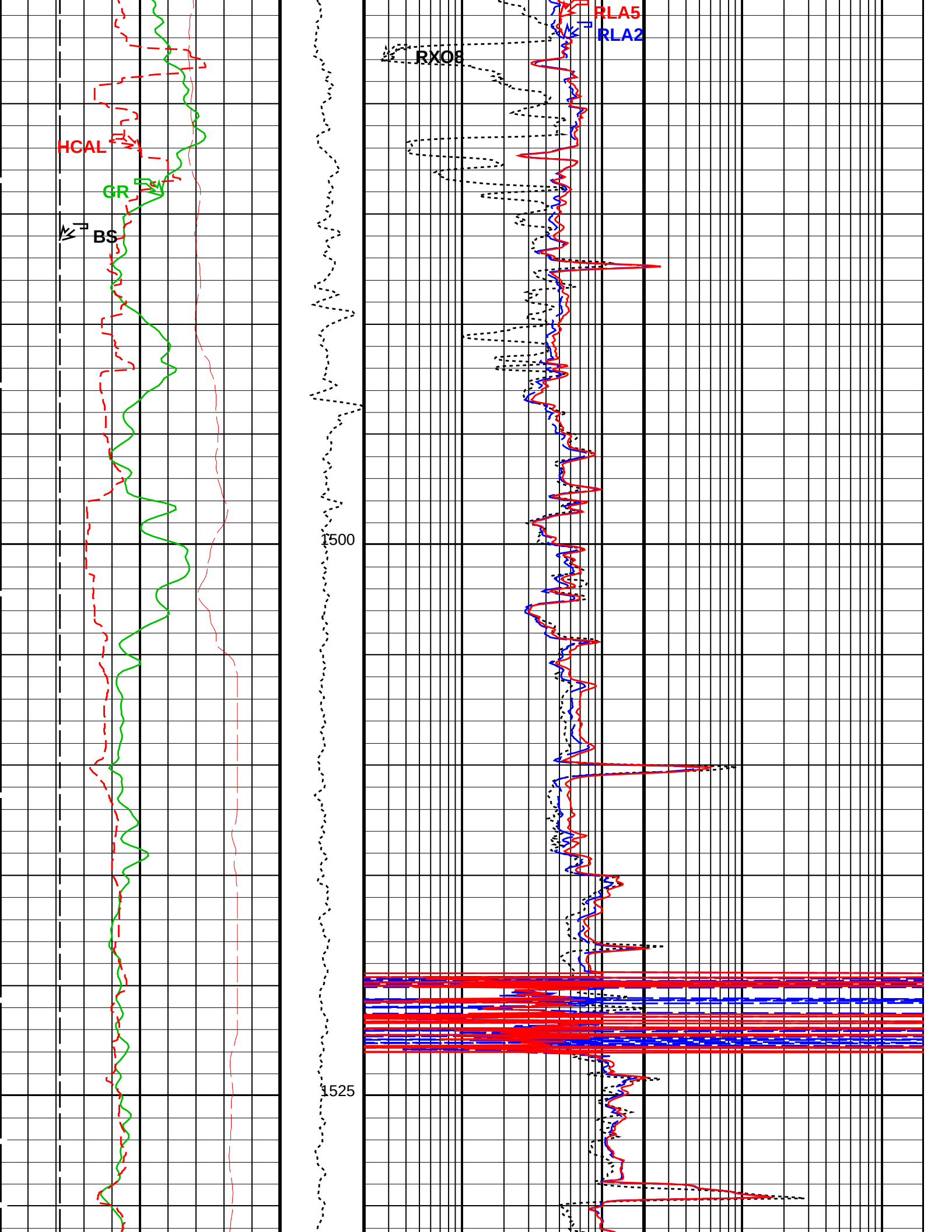
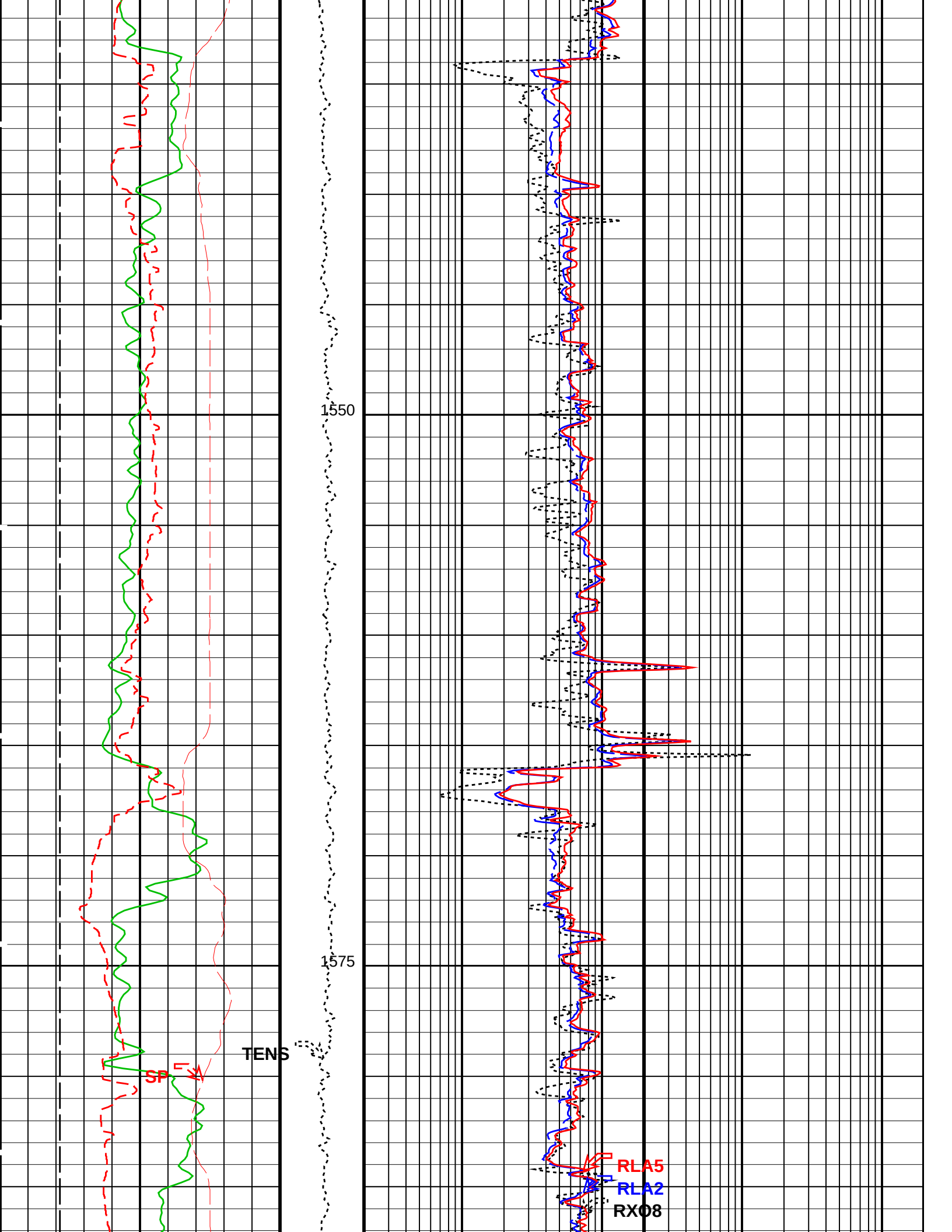
1450
TENS
SP
1475


RLA5
RLA2
RXO8
HCAL
GR
BS
1500
1525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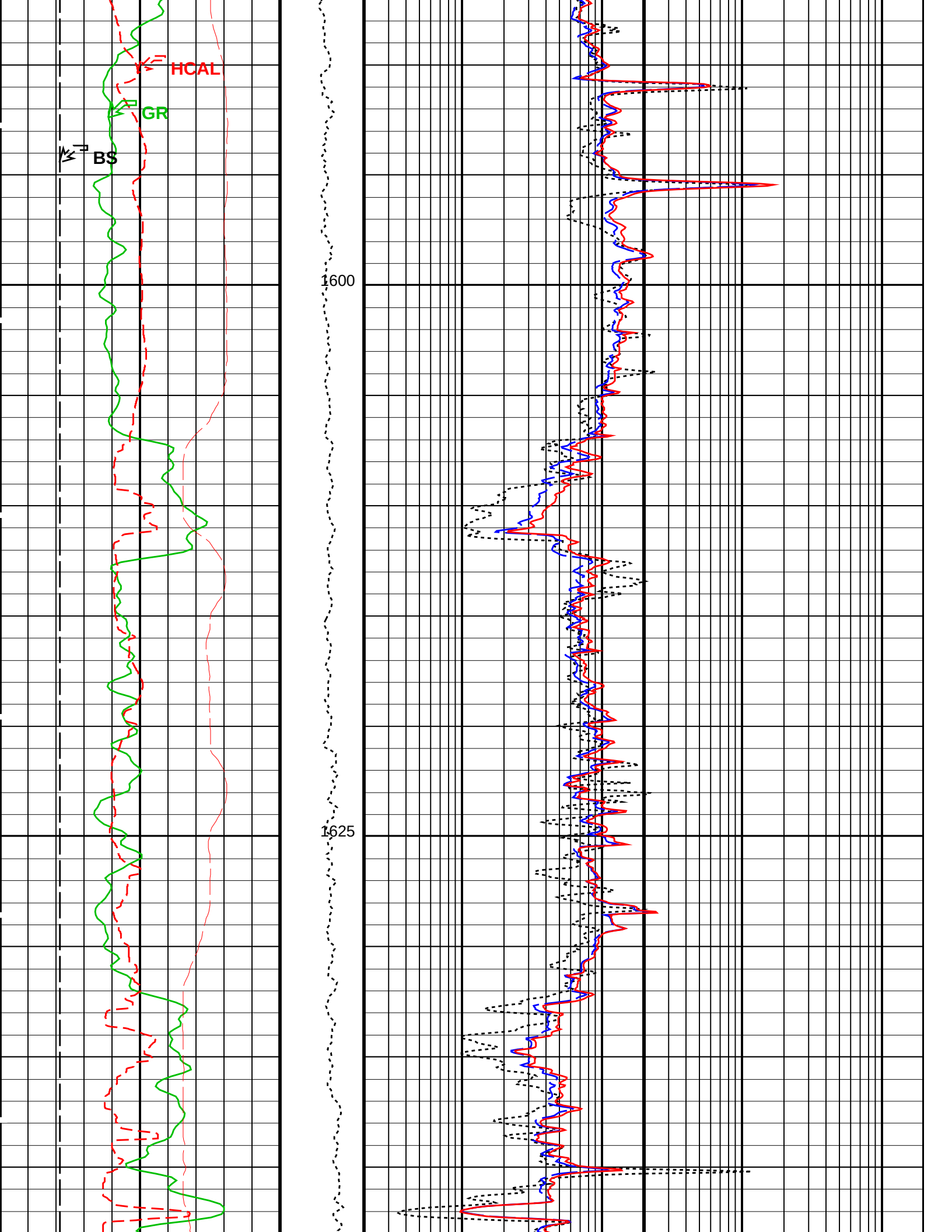
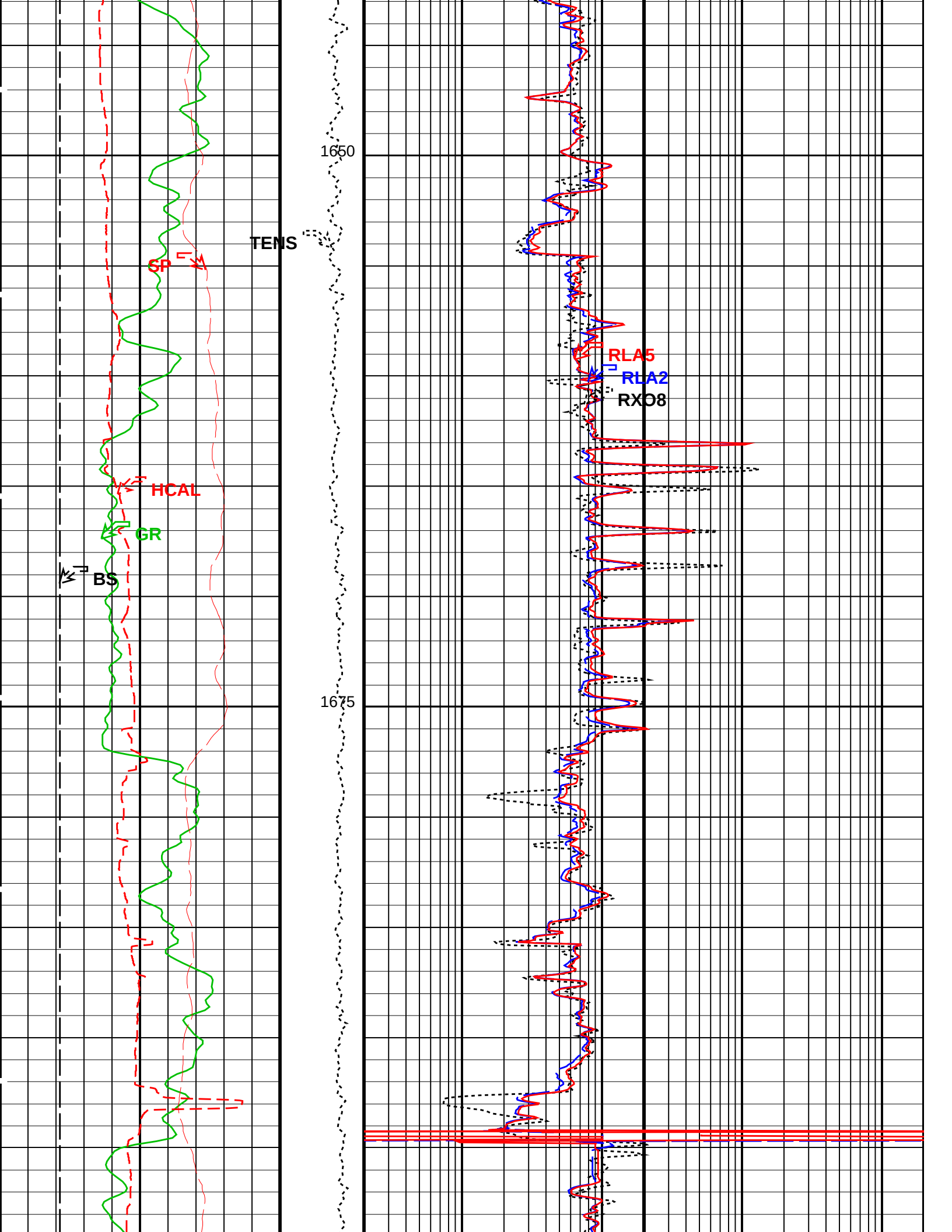
1575
TENS
SP
RLA5
RLA2
RXO8


HCAL
GR
BS
1600
1625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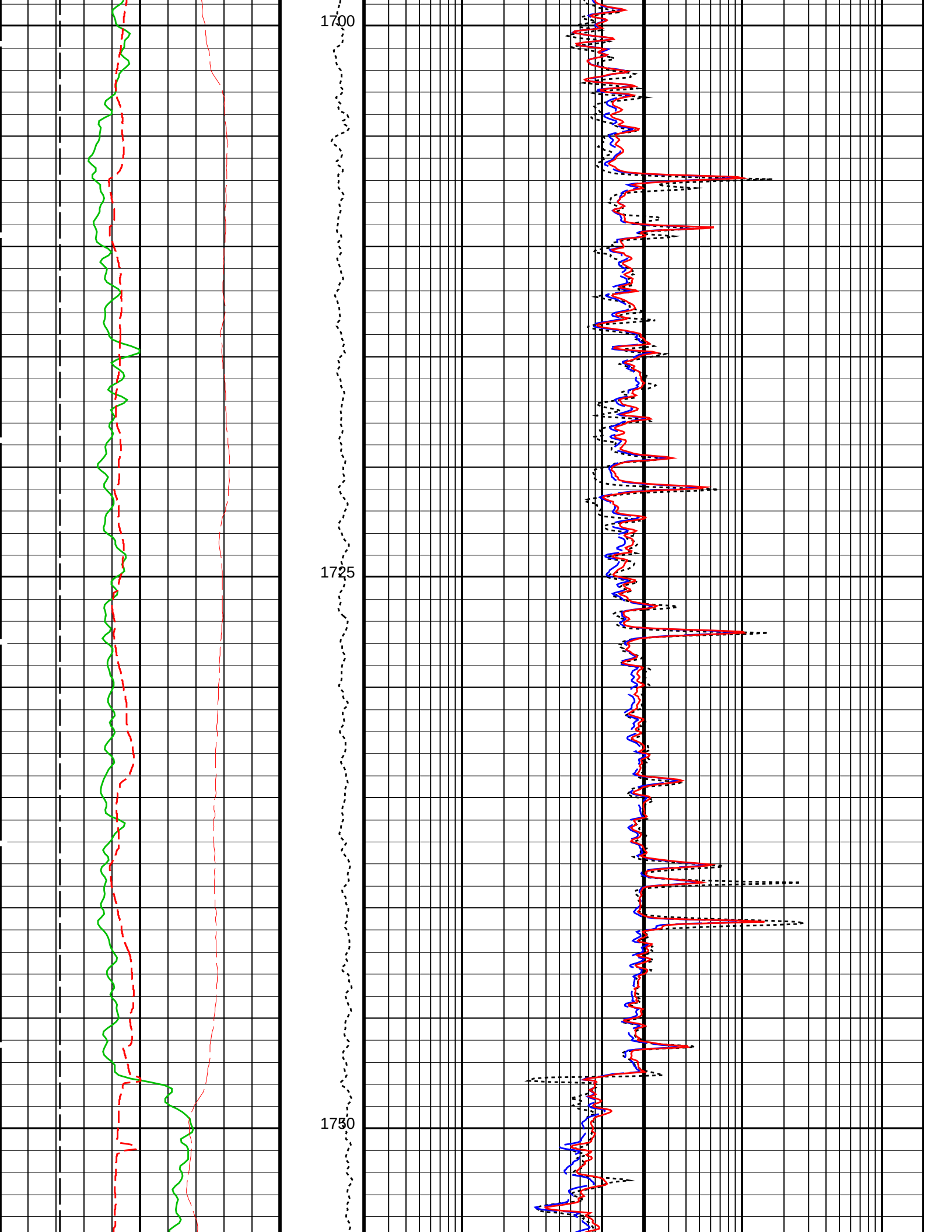
TENS
SP
RLA5
RLA2
RXO8
HCAL
GR
BS
1675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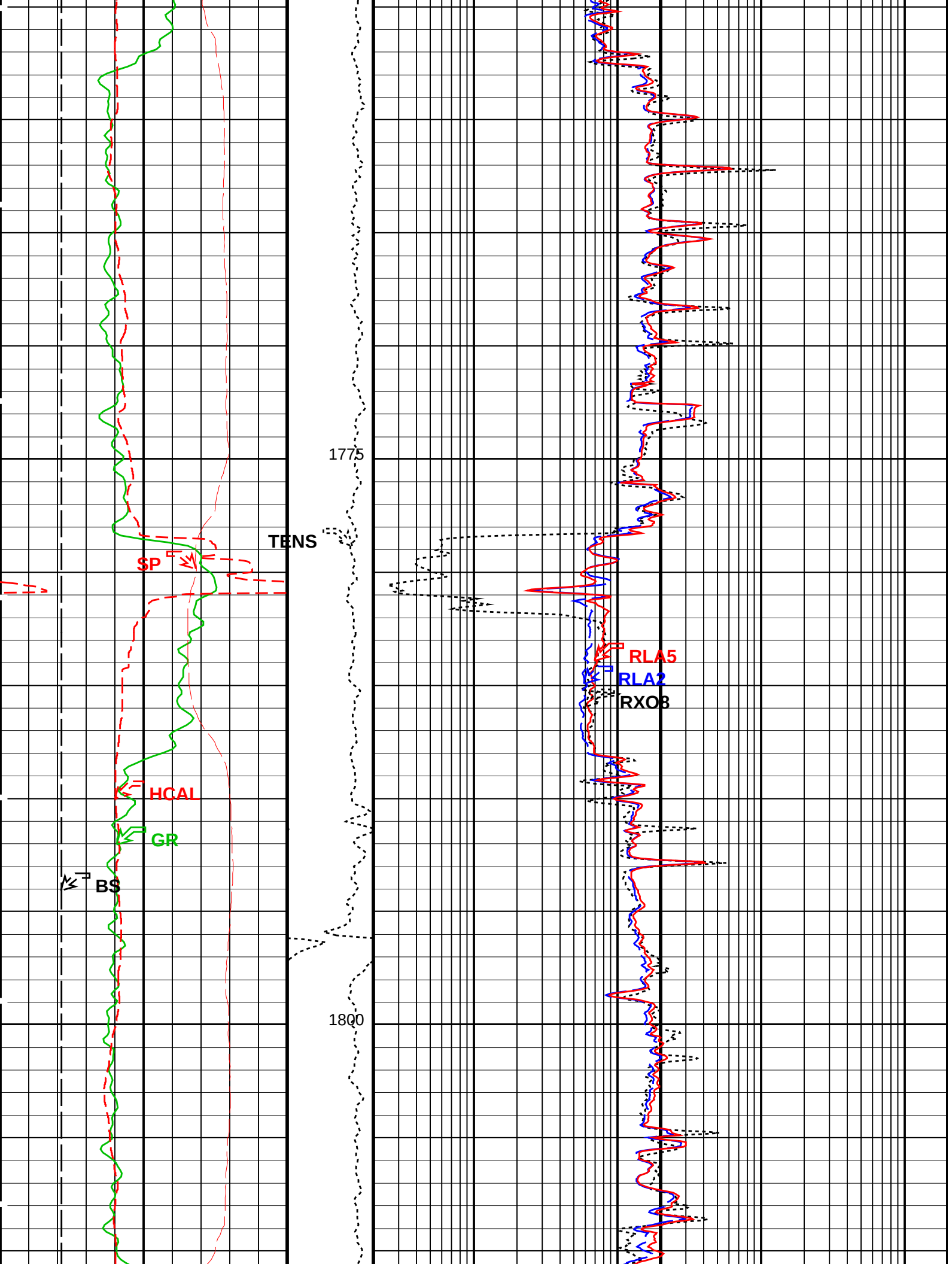
1725
1750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TENS
SP
RLA5
RLA2
RXO8
HCAL
GR
BS
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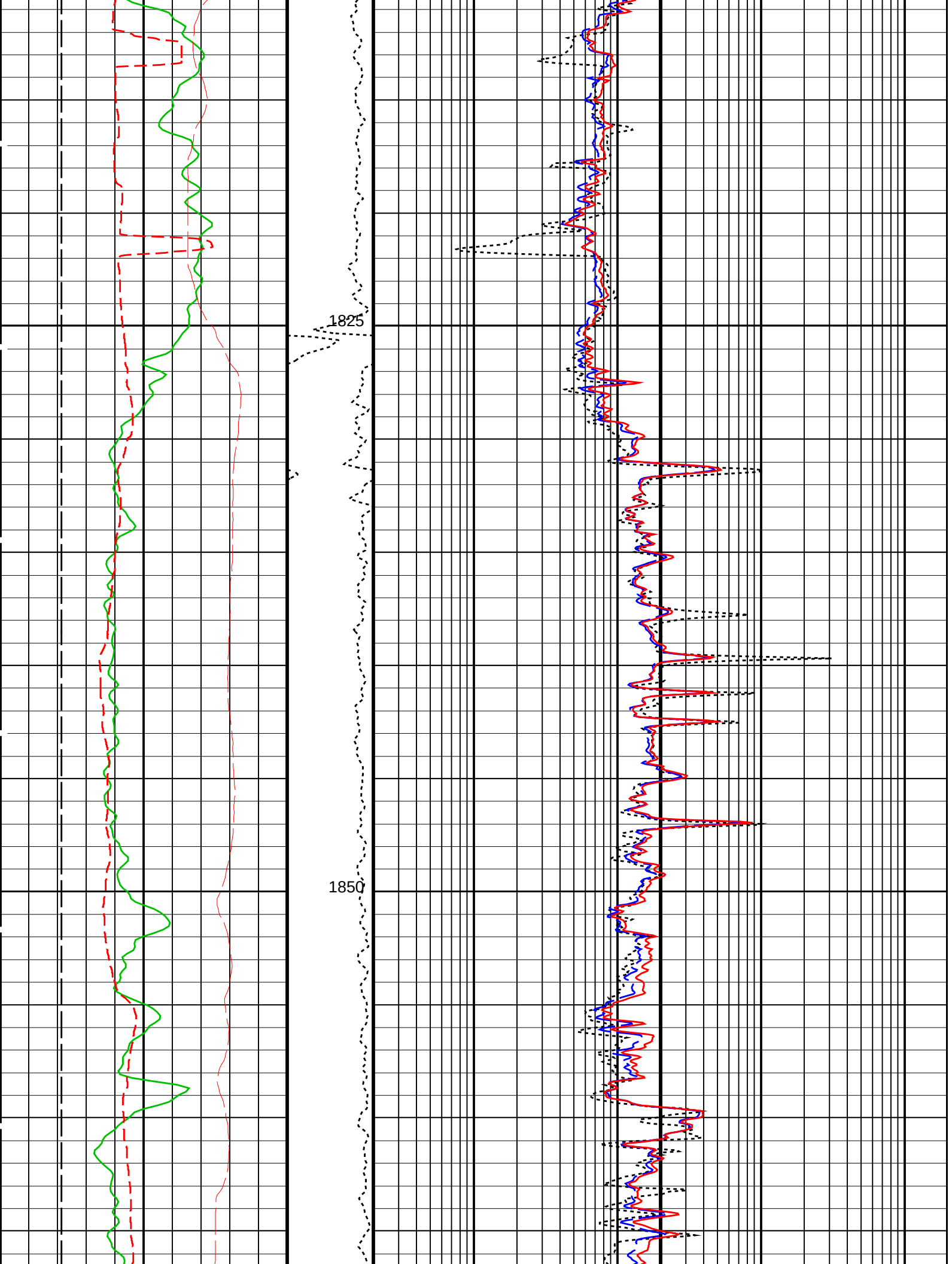
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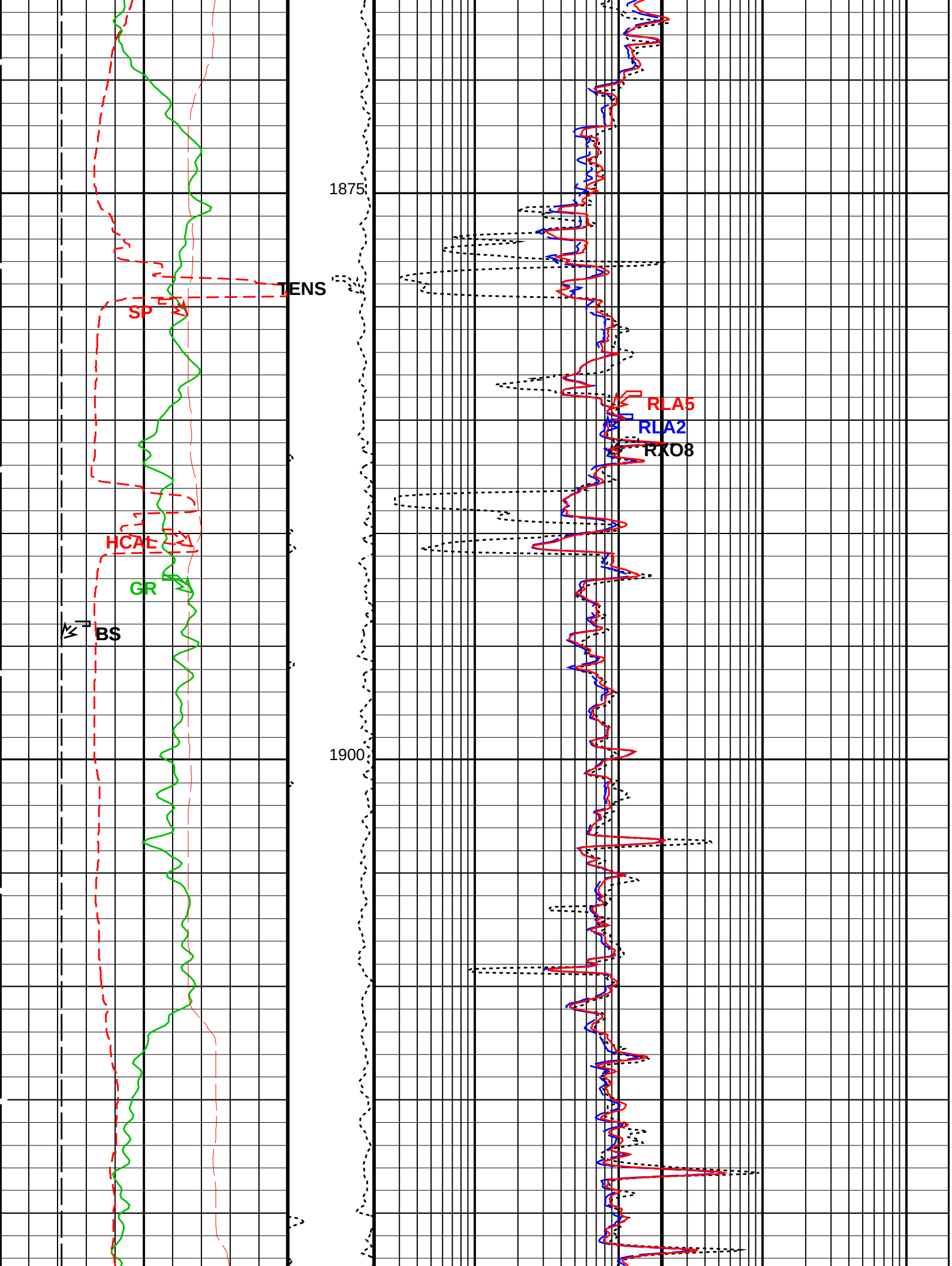
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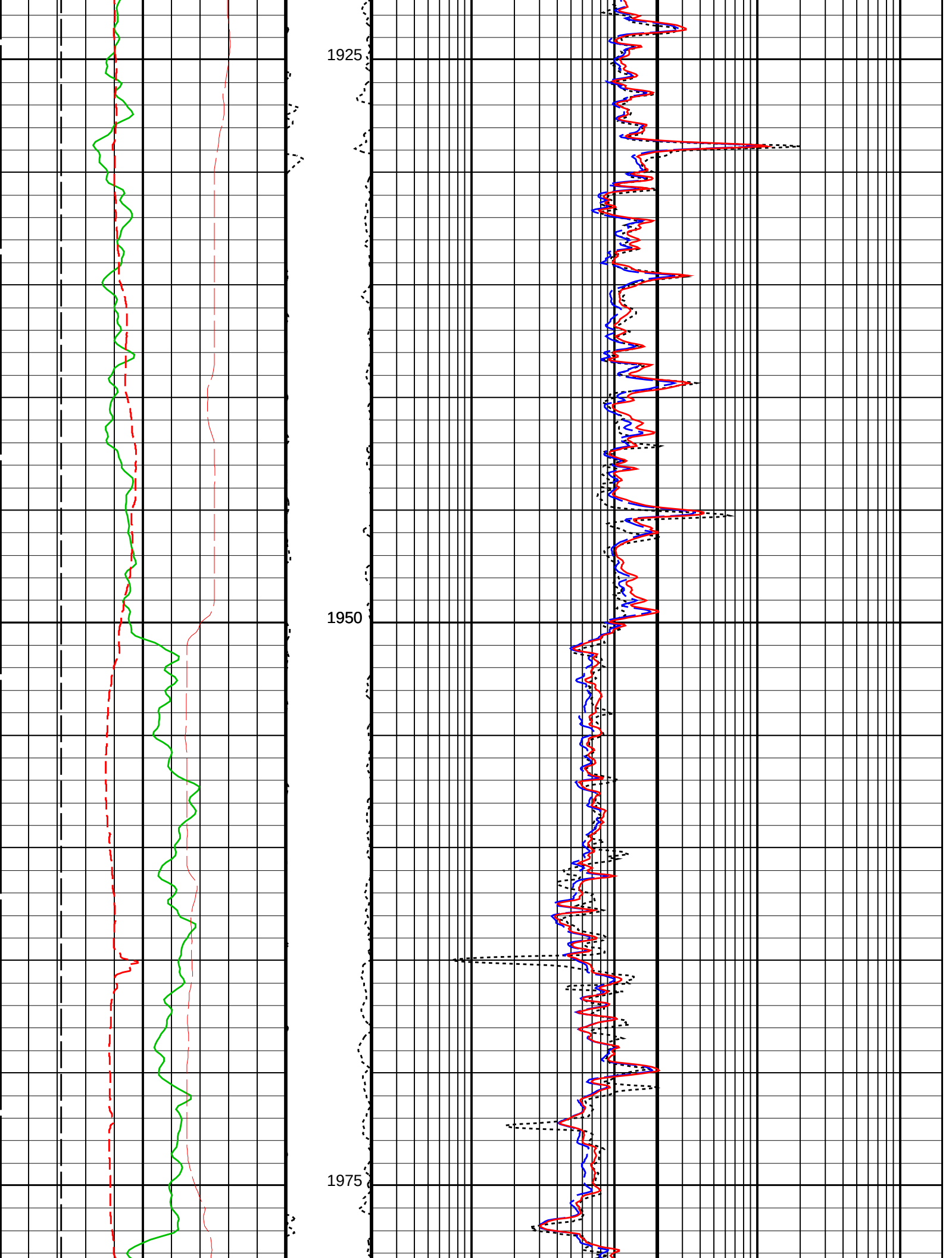
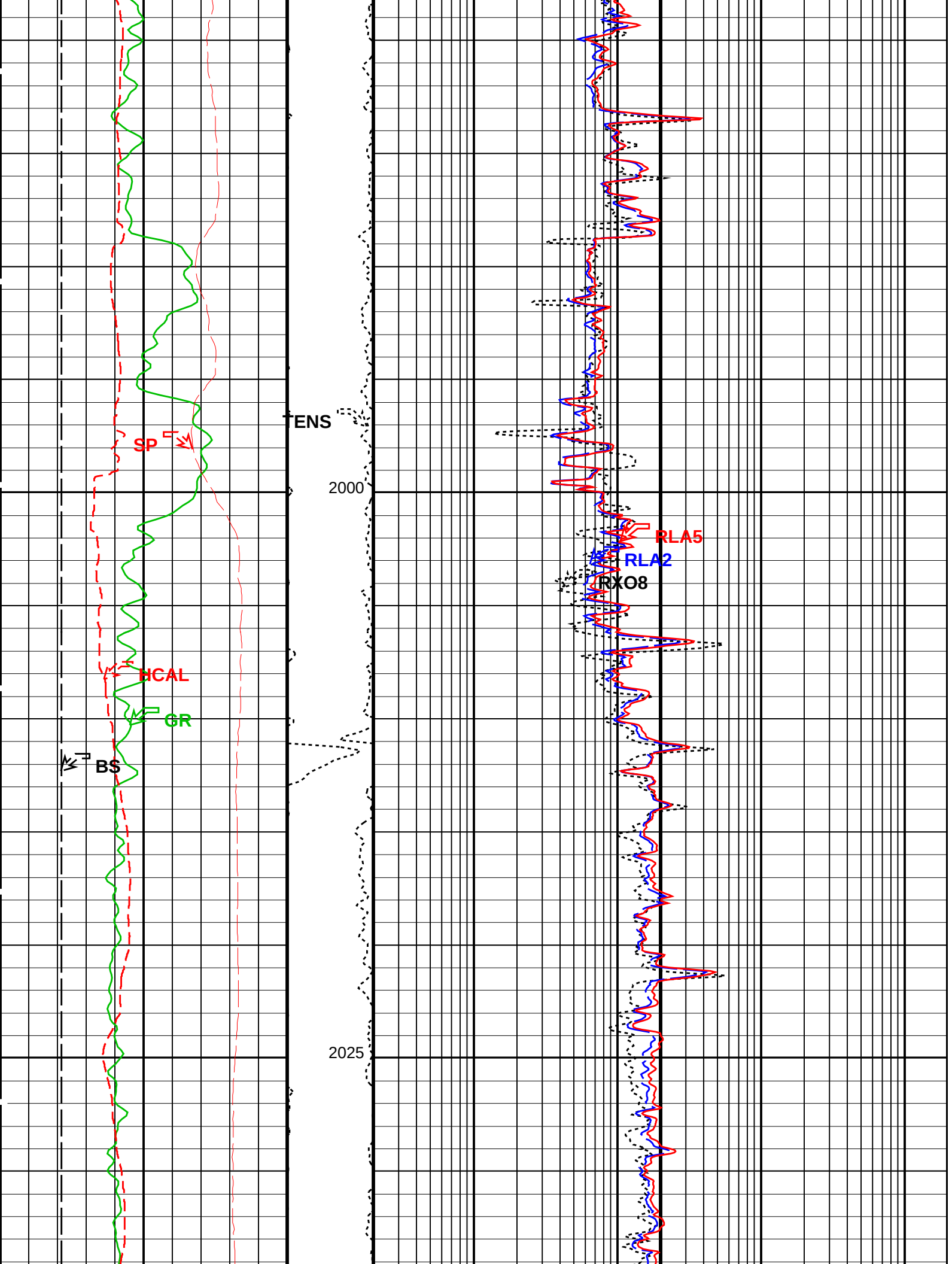
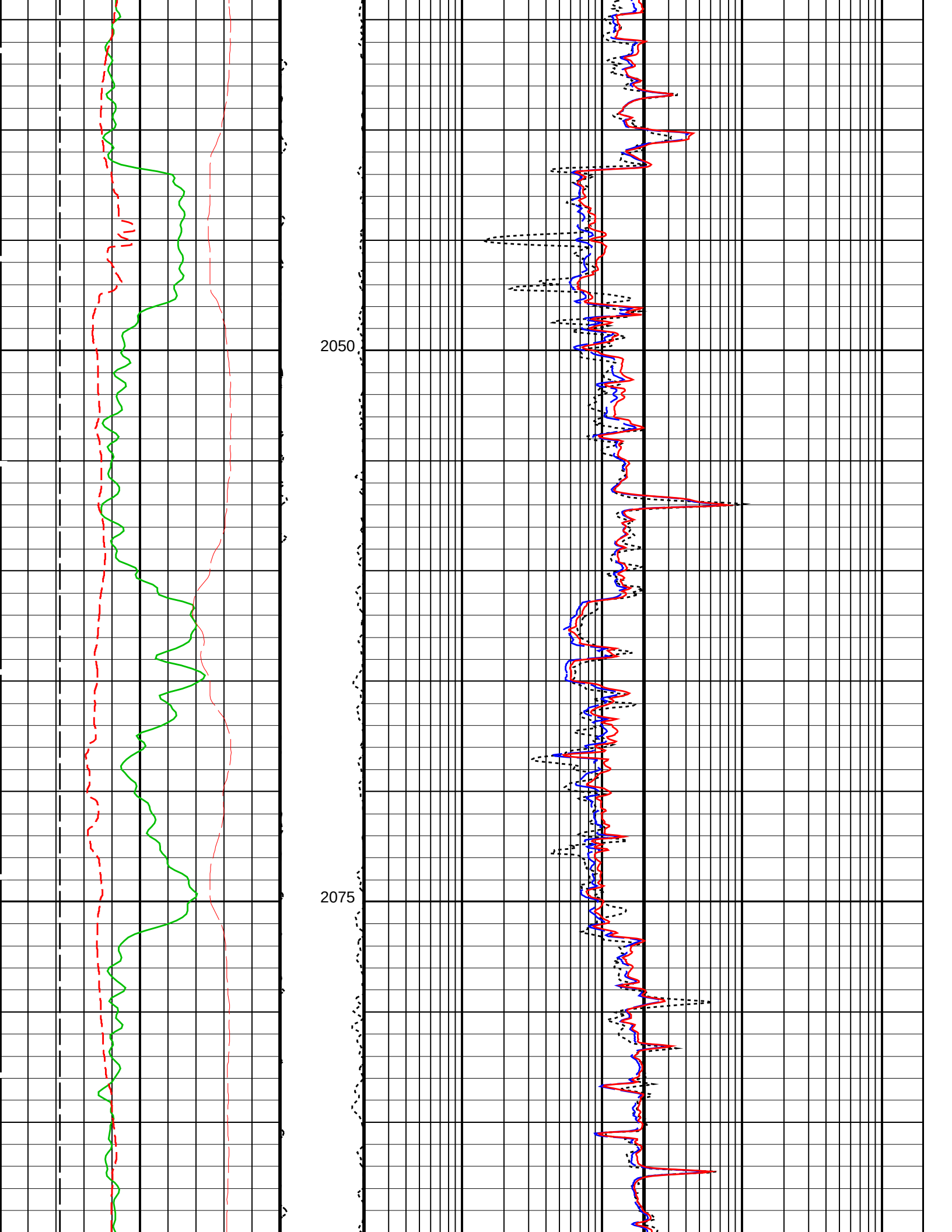
1900
TENS
SP
HCAL
GR
BS
RLA5
RLA2
RXO8


1925
1950
1975


TENS
SP
2000
RLA5
RLA2
RXO8
HCAL
GR
BS
2025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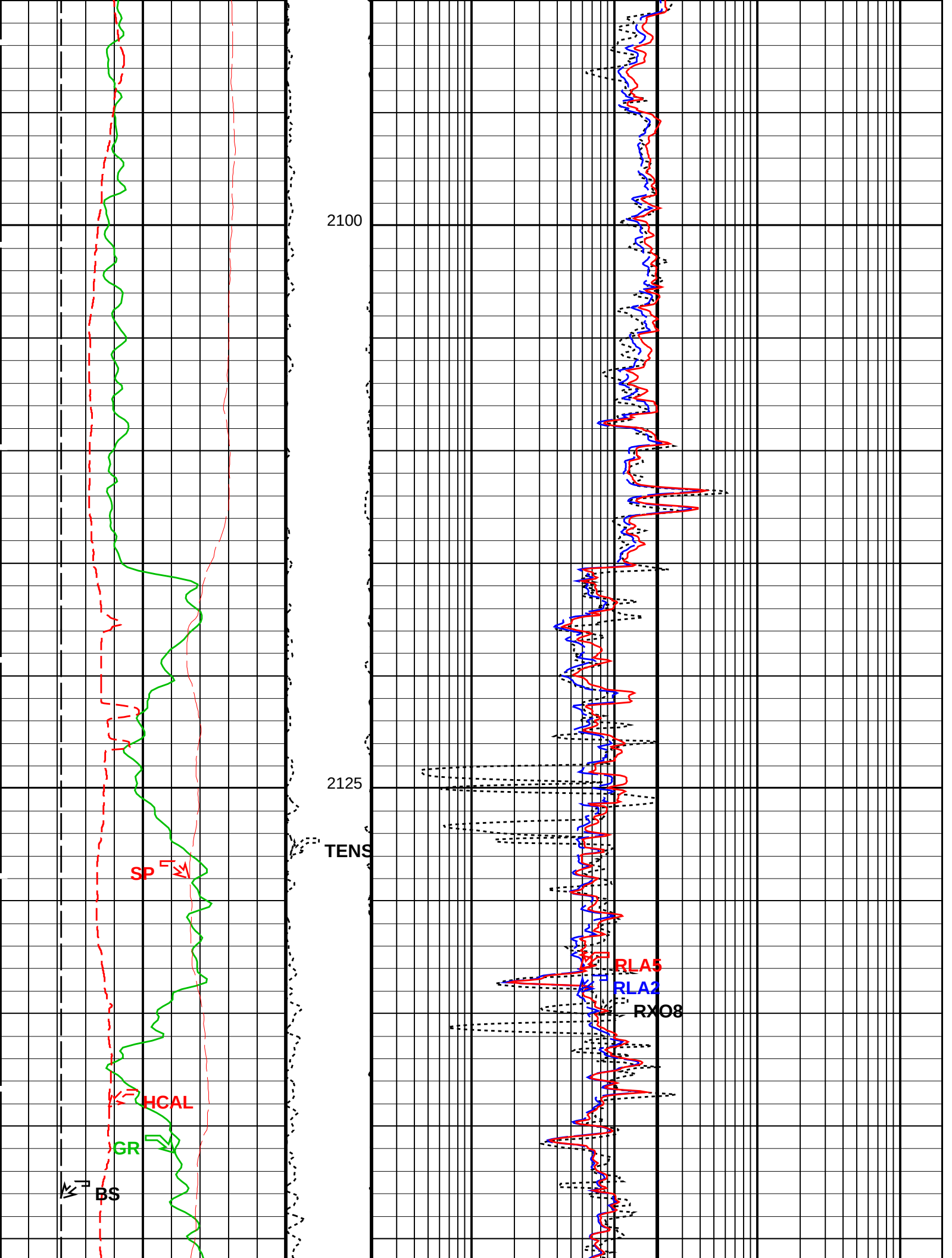
2100
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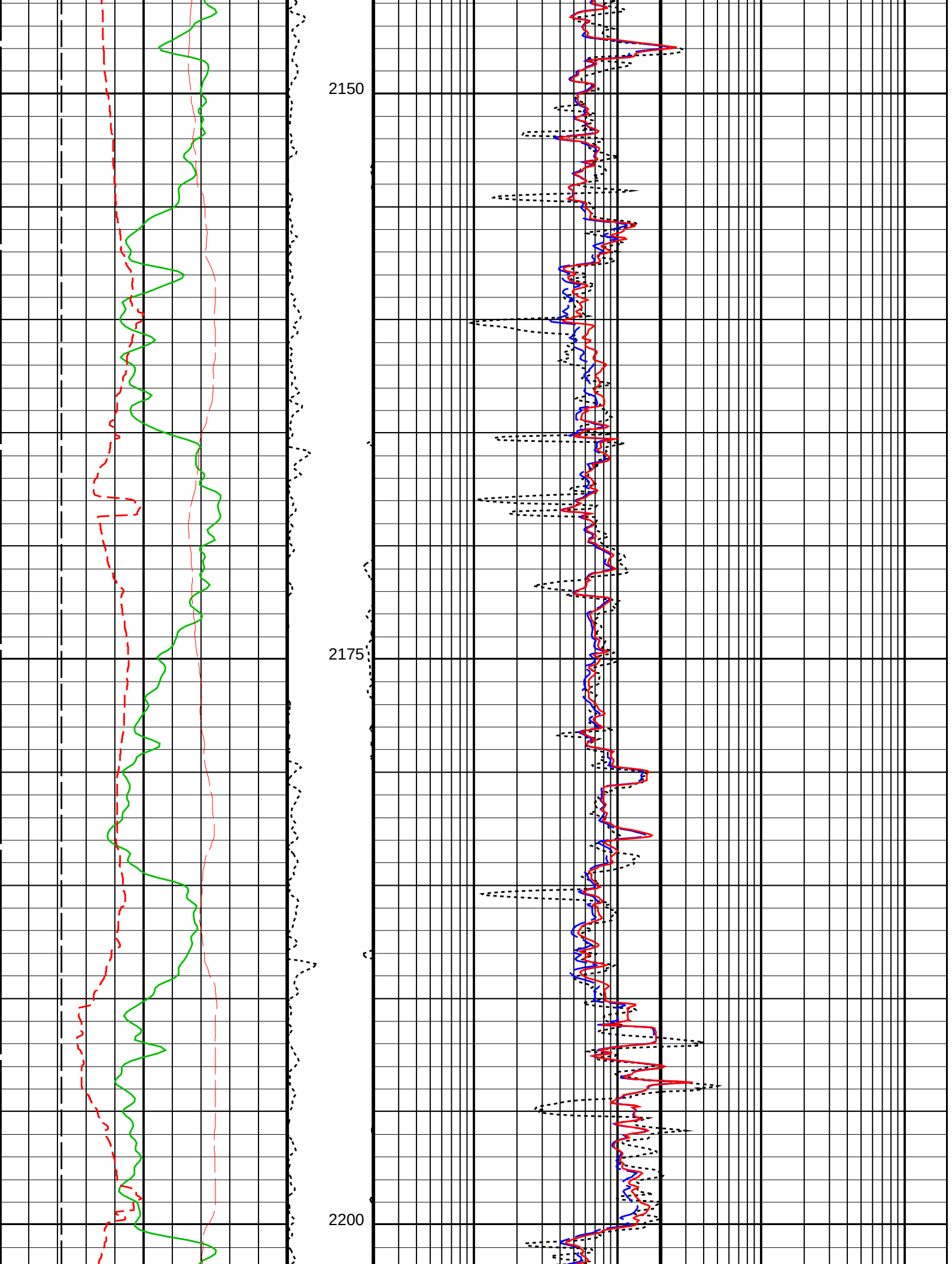
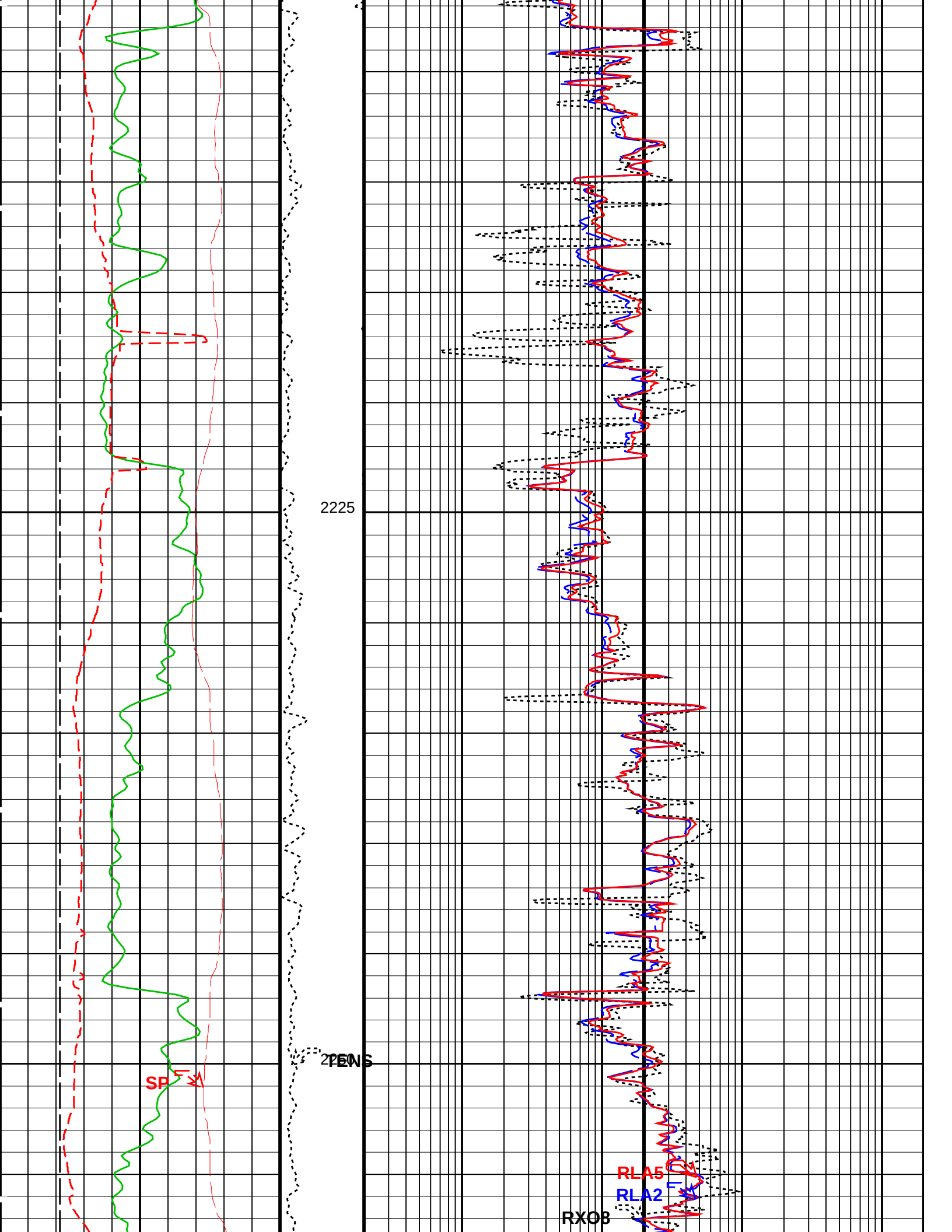
TENS
SP
RLA5
RLA2
RXO8
HCAL
GR
BS


2150
2175
2200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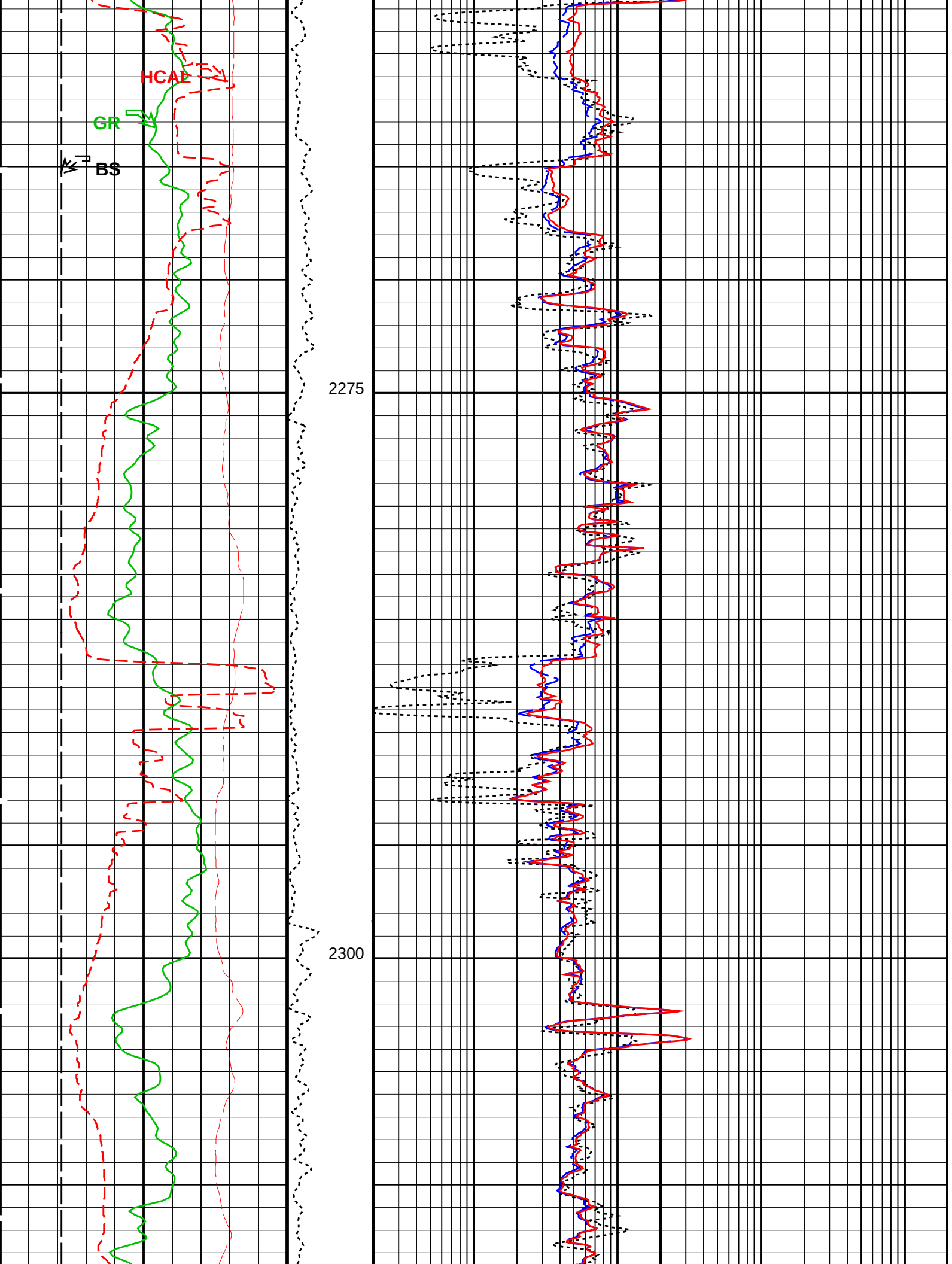
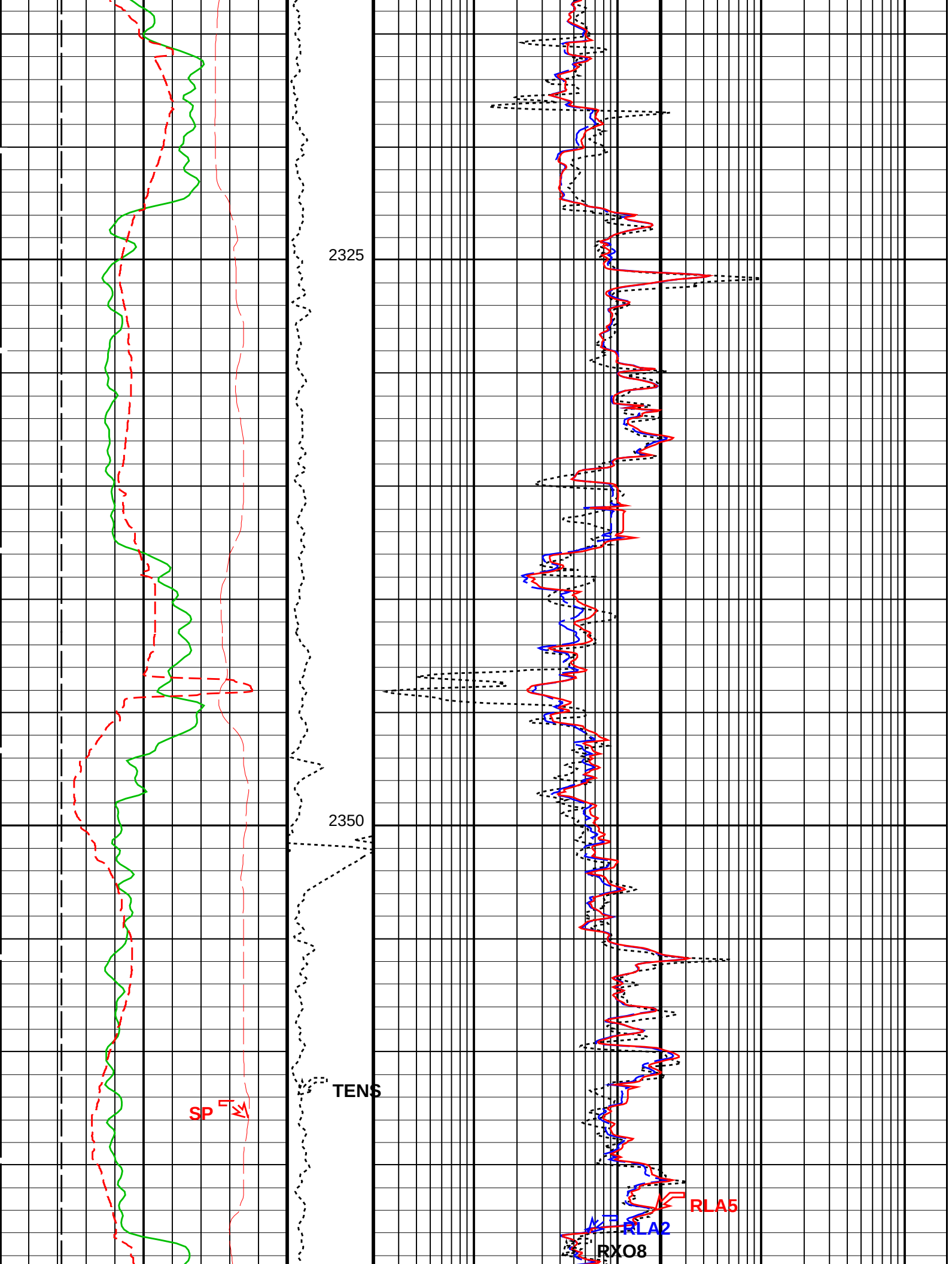
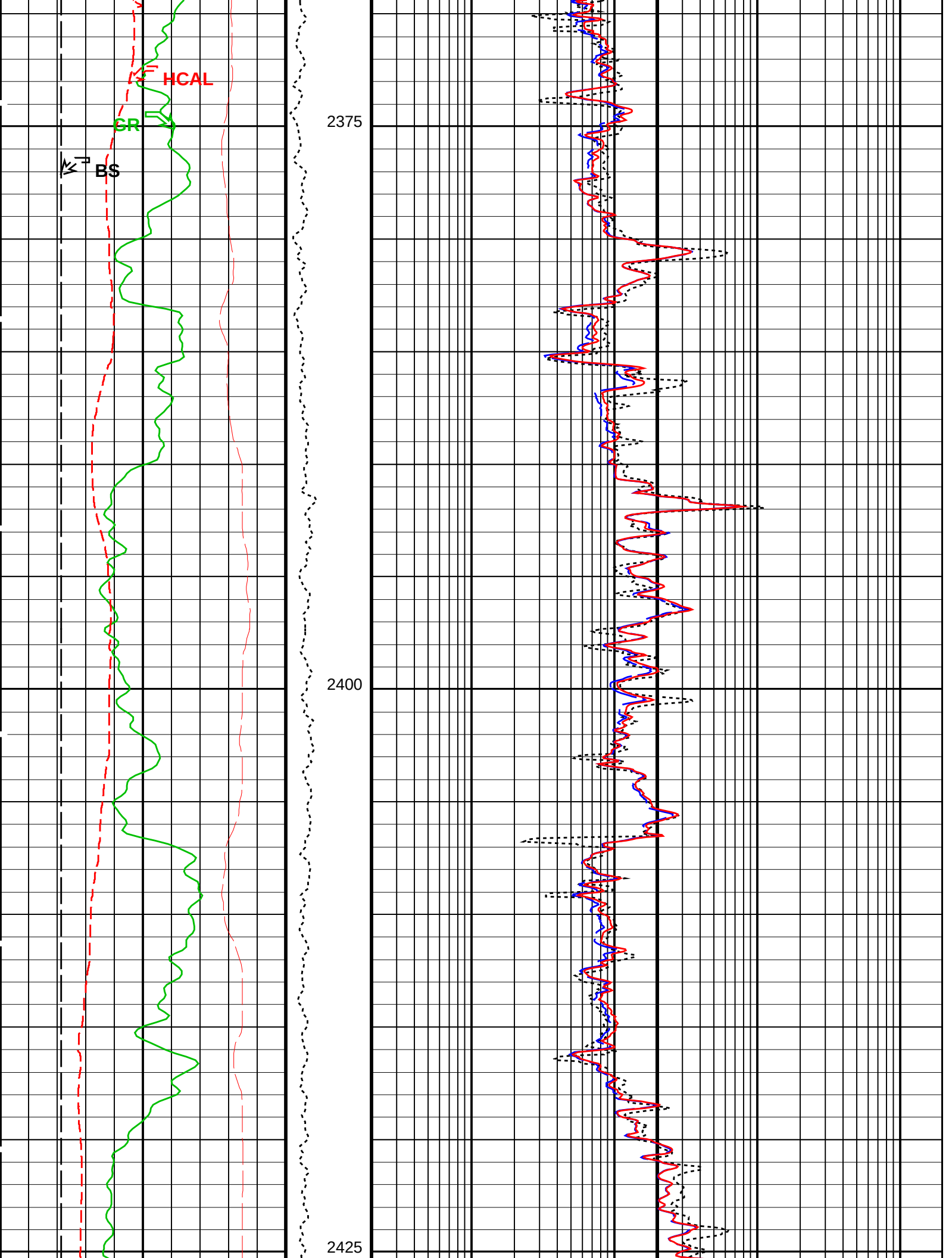
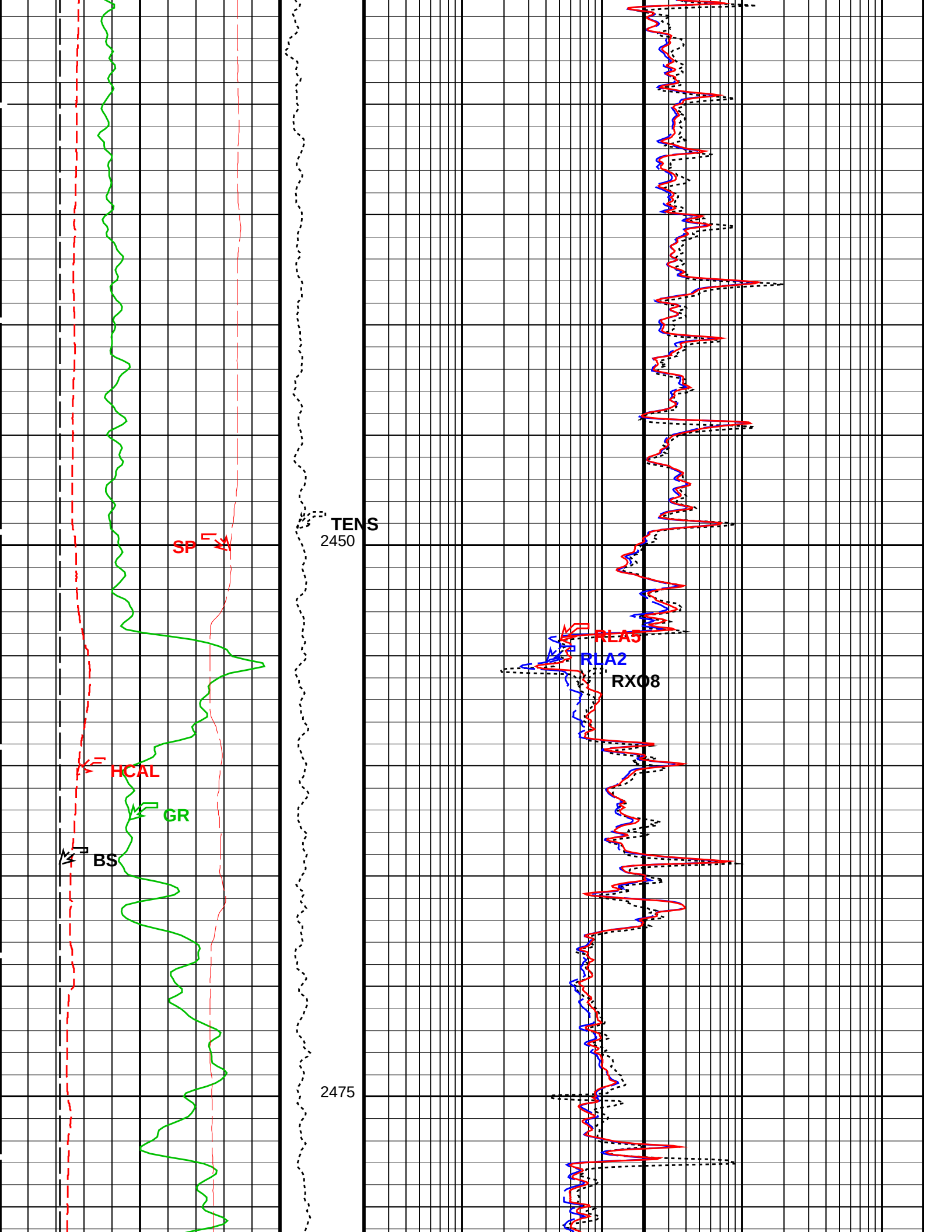
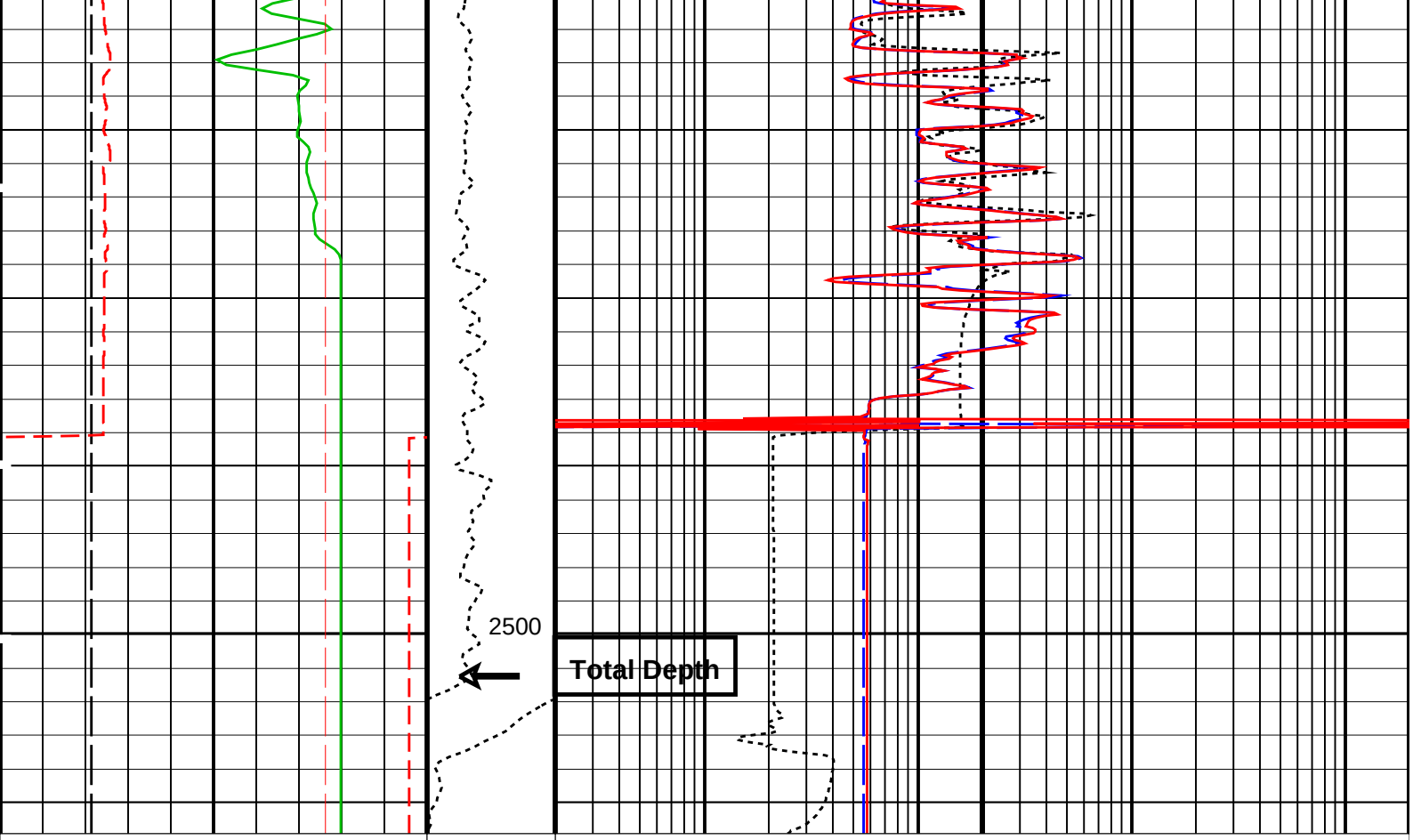
2250
SP
RLA5
RLA2
RXO8


HCAL
GR
BS
2275
2300


2325
2350
TENS
SP
RLA5
RLA2
RXO8


HCAL
GR
BS
2375
2400
2425


TENS
2450
SP
RLA5
RLA2
RXO8
HCAL
GR
BS
2475



SP (SP)	Tension (TENS)	H. Res. Invaded Zone Resistivity (RXO8)
−80 (MV) 20	0 (LBF) 1000	0.2 (OHMM) 2000
Bit Size (BS)		HRLT Resistivity 2 (RLA2)
4 (IN) 14		0.2 (OHMM) 2000
Gamma Ray (GR)		HRLT Resistivity 5 (RLA5)
0 (GAPI) 200		0.2 (OHMM) 2000
HILT Caliper (HCAL)		
4 (IN) 14		

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	HILTB−FTB: High resolution Integrated Logging Tool−DTS		
KFAC_HRLT	HRLT K Factor Option	SONDE	
MPOF	MCFL Processing Operation Mode	ON	
	BSP: Bridle SP		
SPNV	SP Next Value	0	MV
	System and Miscellaneous		
BS	Bit Size	6.125	IN
DO	Depth Offset for Playback	0.0	M
PP	Playback Processing	NORMAL	

Format: Resistivity_200 Vertical Scale: 1:200 Graphics File Created: 04−Aug−2004 12:09

OP System Version: 12C0−301

MCM

HALS−B	12C0−301	DSLT−H	12C0−301
HILTB−FTB	12C0−301	DTC−H	12C0−301
BSP	12C0−301		

Input DLIS Files

DEFAULT	MERGE_HALS_SONIC_035	FN:1	PRODUCER	04−Aug−2004 11:55	2505.9 M	1213.0 M

Output DLIS Files

DEFAULT	HALS_SONIC_TLD_MCFL_037PUP	FN:51	PRODUCER	04−Aug−2004 12:09		

Schlumberger

Sonic
High Resolution, 1:200 Scale

MAXIS Field Log

Company: Lakes Oil N.L. **Well: Trifon 2**

Input DLIS Files

DEFAULT	MERGE_HALS_SONIC_035	FN:1	PRODUCER	04−Aug−2004 11:55	2505.9 M	1213.0 M

Output DLIS Files

DEFAULT	HALS_SONIC_TLD_MCFL_037PUP	FN:51	PRODUCER	04−Aug−2004 12:09	2505.9 M	1250.4 M

OP System Version: 12C0−301

MCM

HALS−B	12C0−301	DSLT−H	12C0−301
HILTB−FTB	12C0−301	DTC−H	12C0−301
BSP	12C0−301		

PIP SUMMARY

Integrated Transit Time Minor Pip Every 1 MS
Integrated Transit Time Major Pip Every 10 MS

Time Mark Every 60 S

Sonic Velocity (SVEL)
1000 (M/S) 5000

HILT Caliper (HCAL)
4 (IN) 14

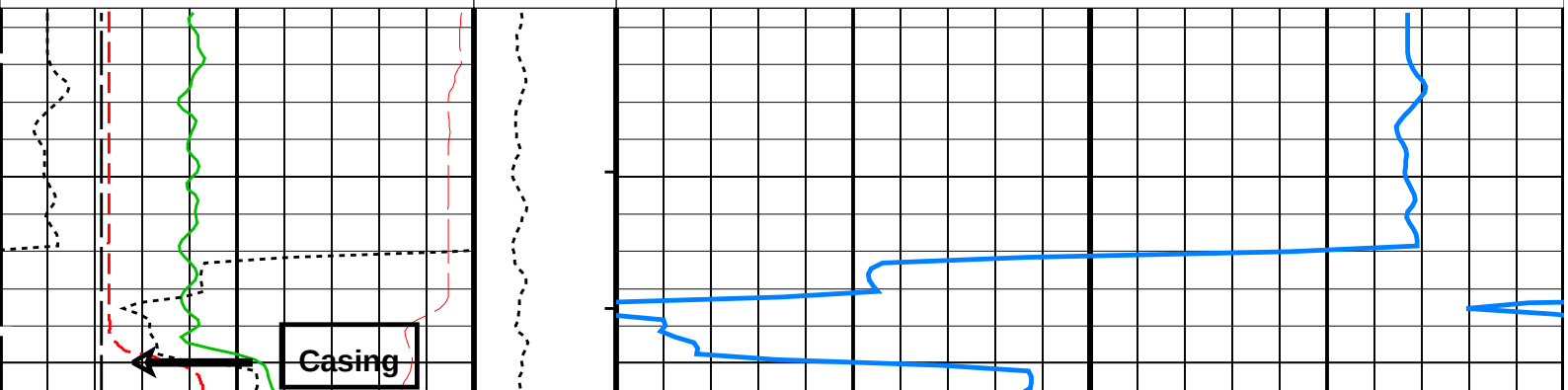
Gamma Ray (GR)
0 (GAPI) 200

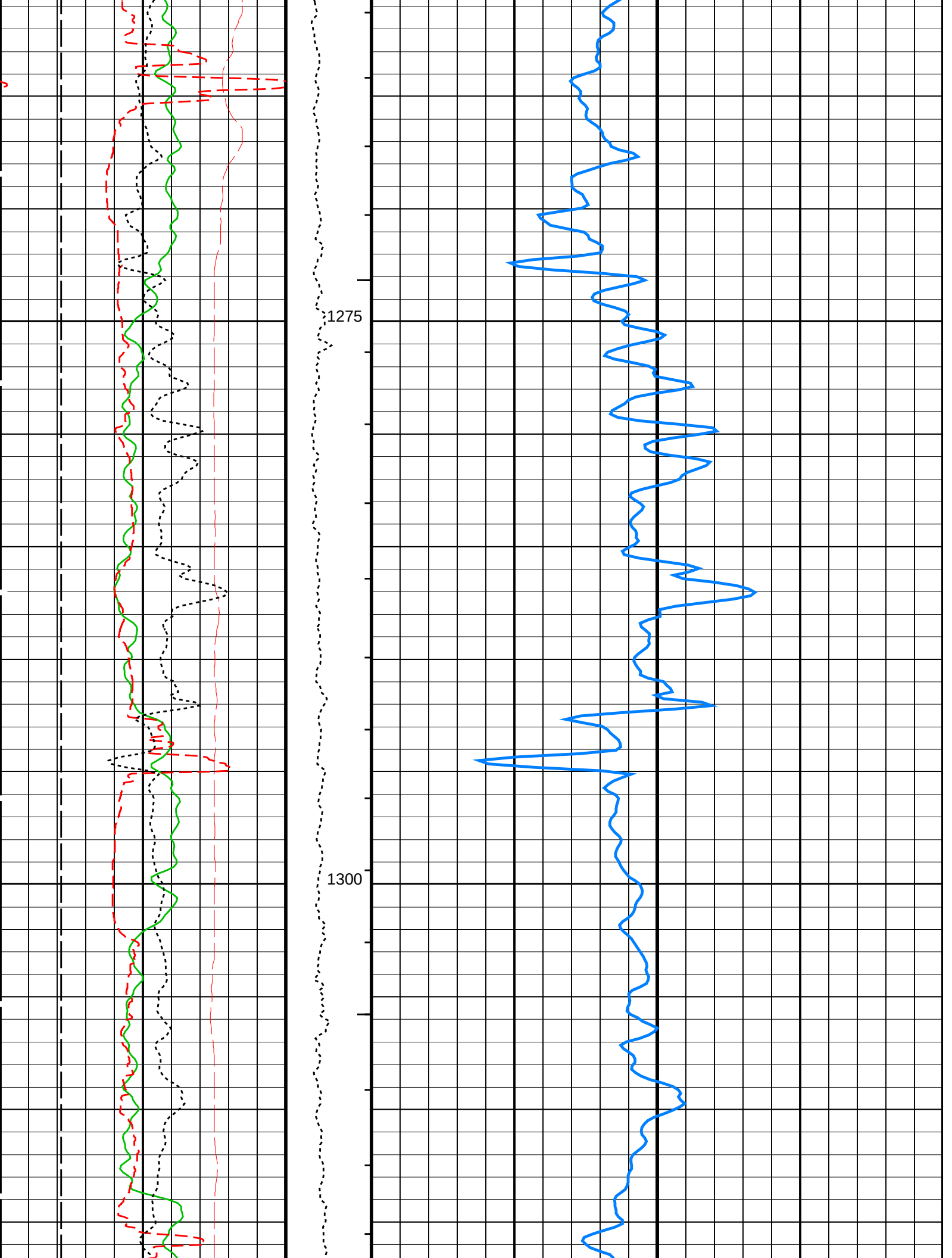
Bit Size (BS)
4 (IN) 14

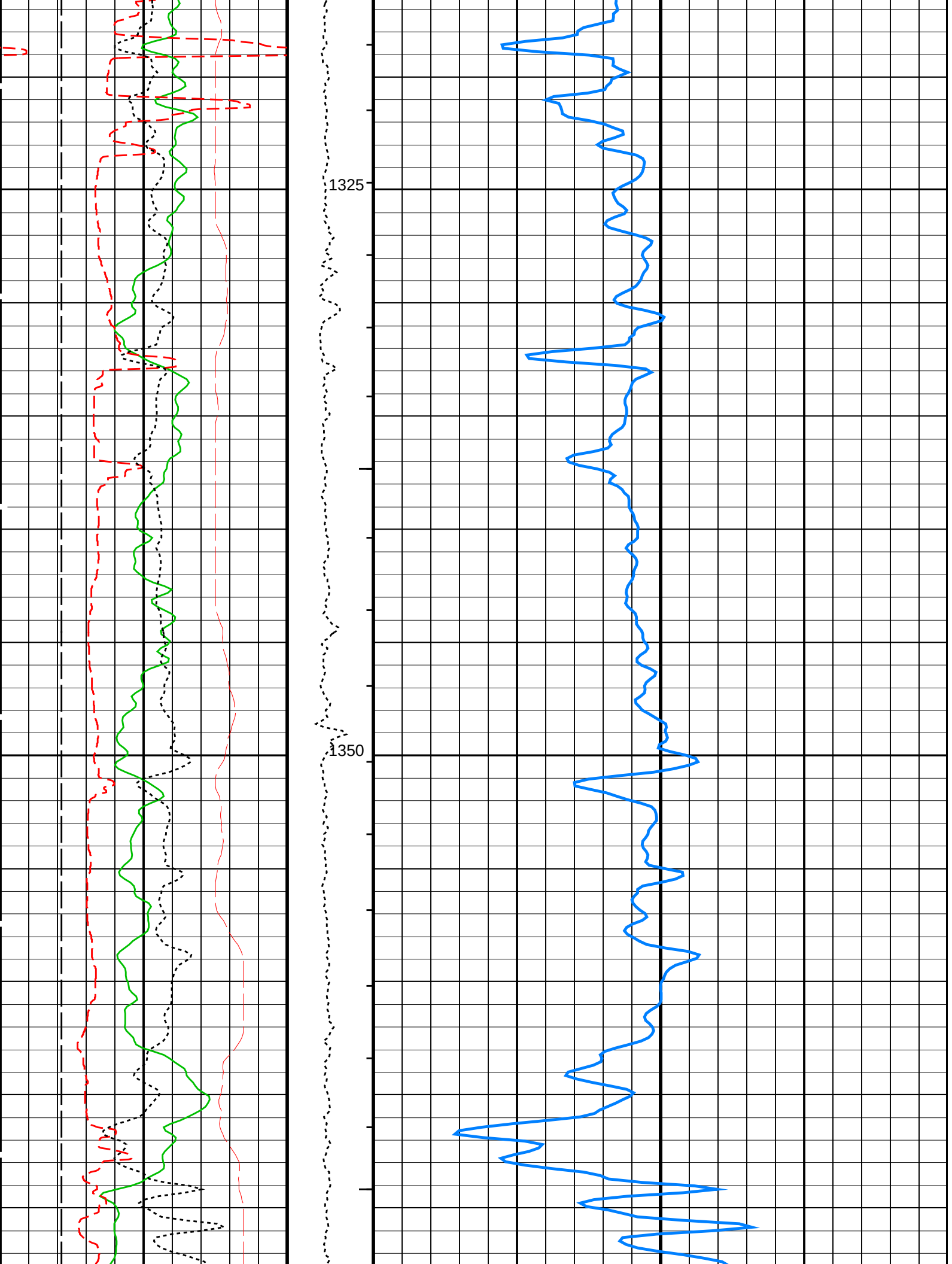
SP (SP)
−80 (MV) 20

Tension (TENS)
(LBF)
0 1000

Delta−T (DT)
140 (US/F) 40




1275
1300


1325
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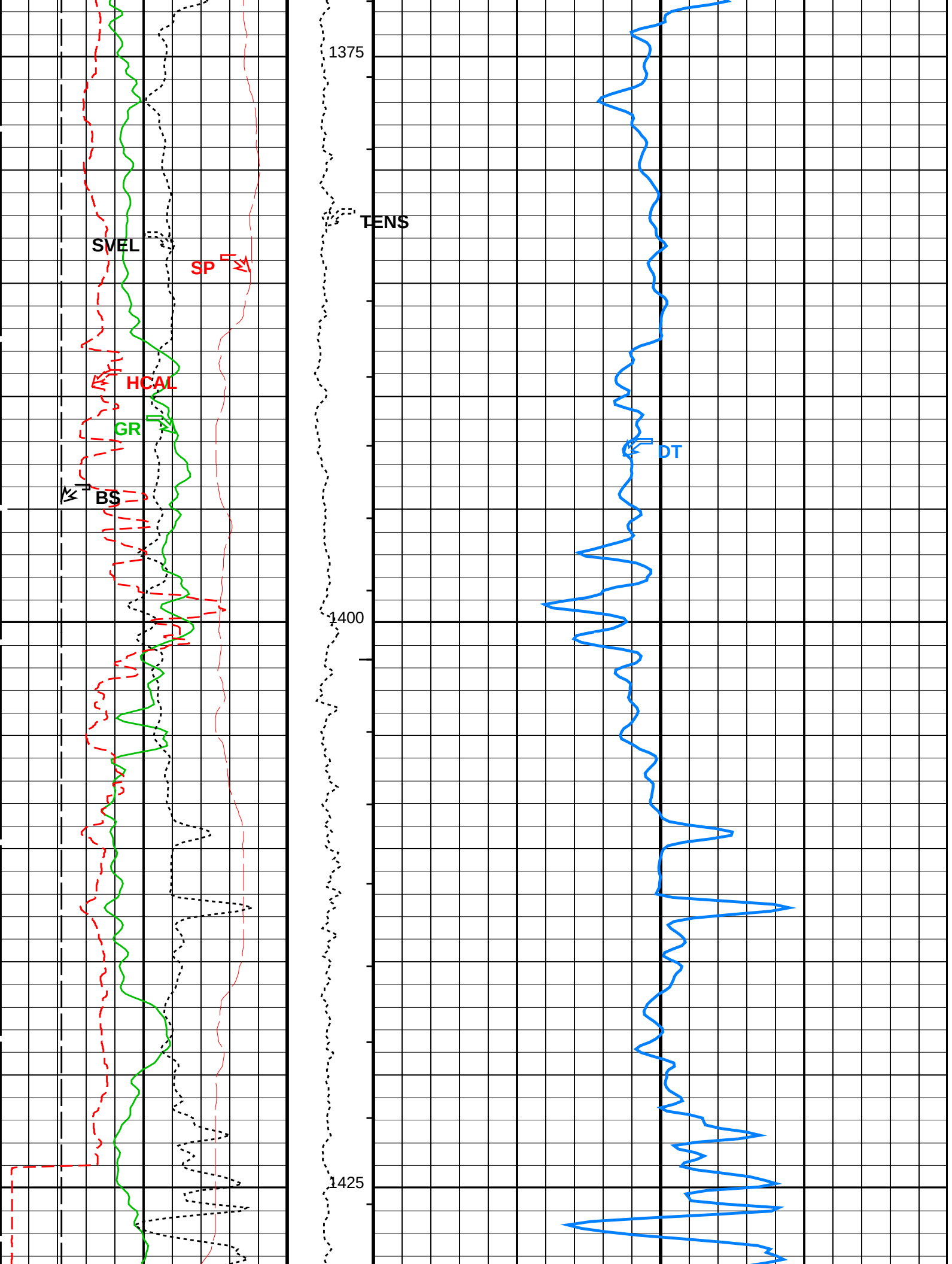
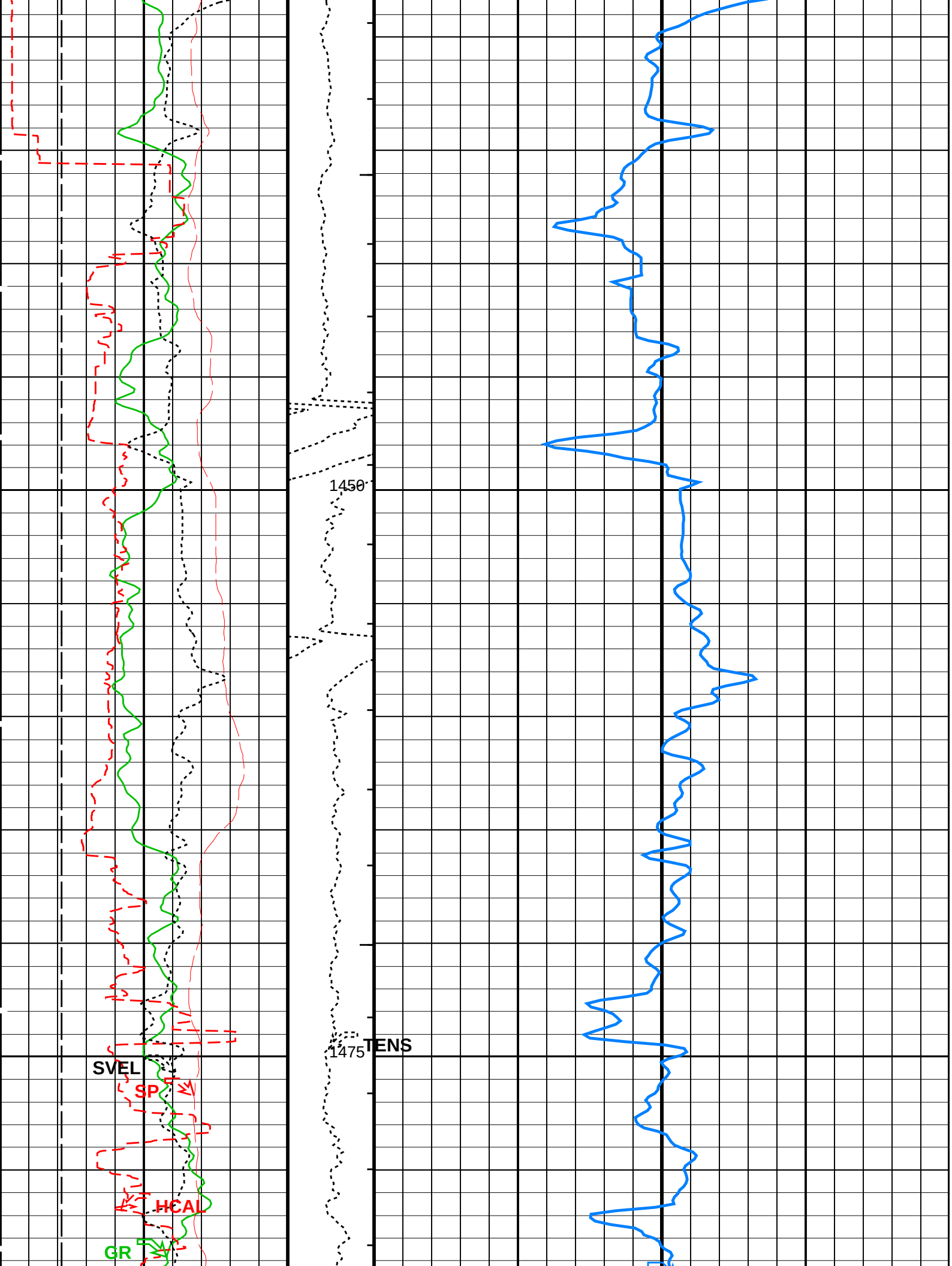
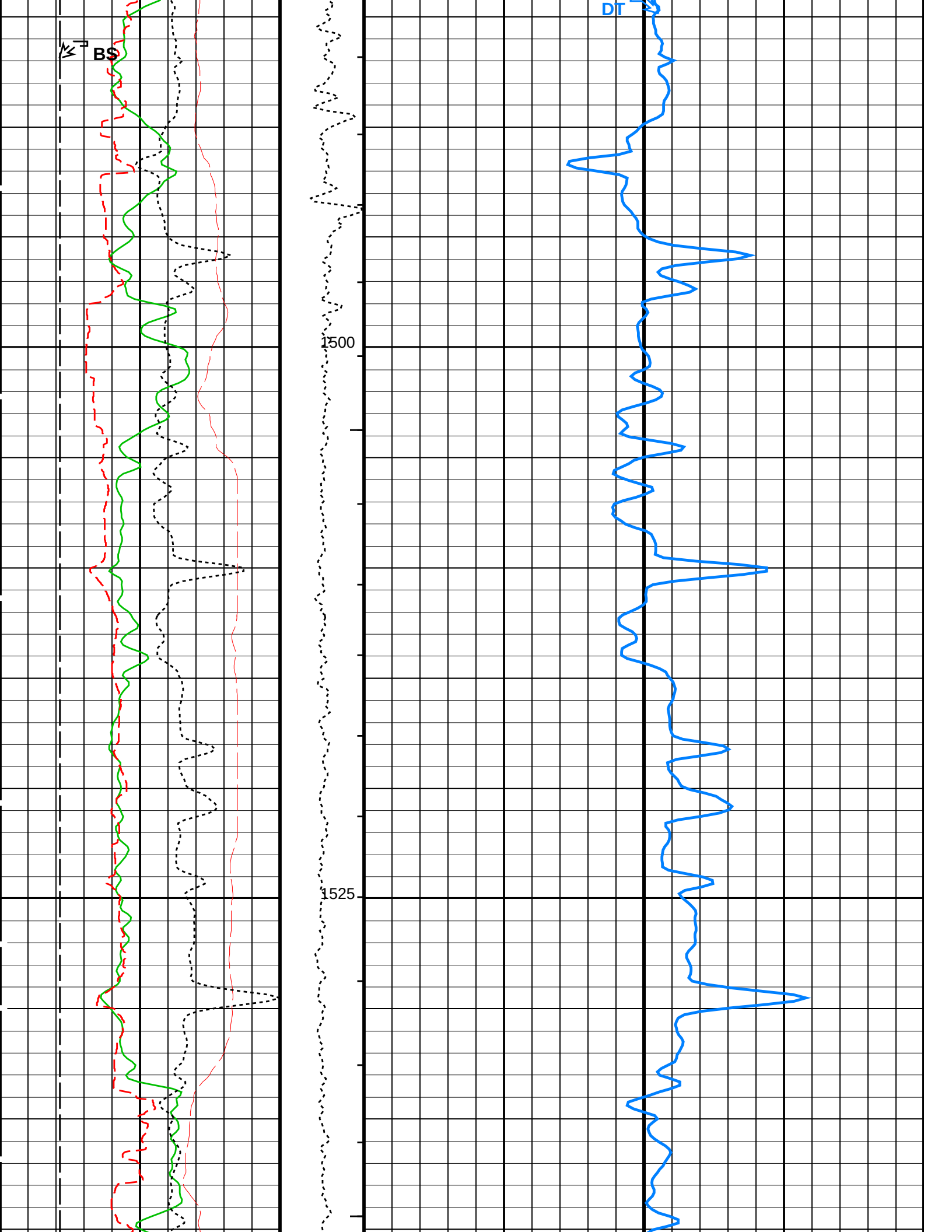
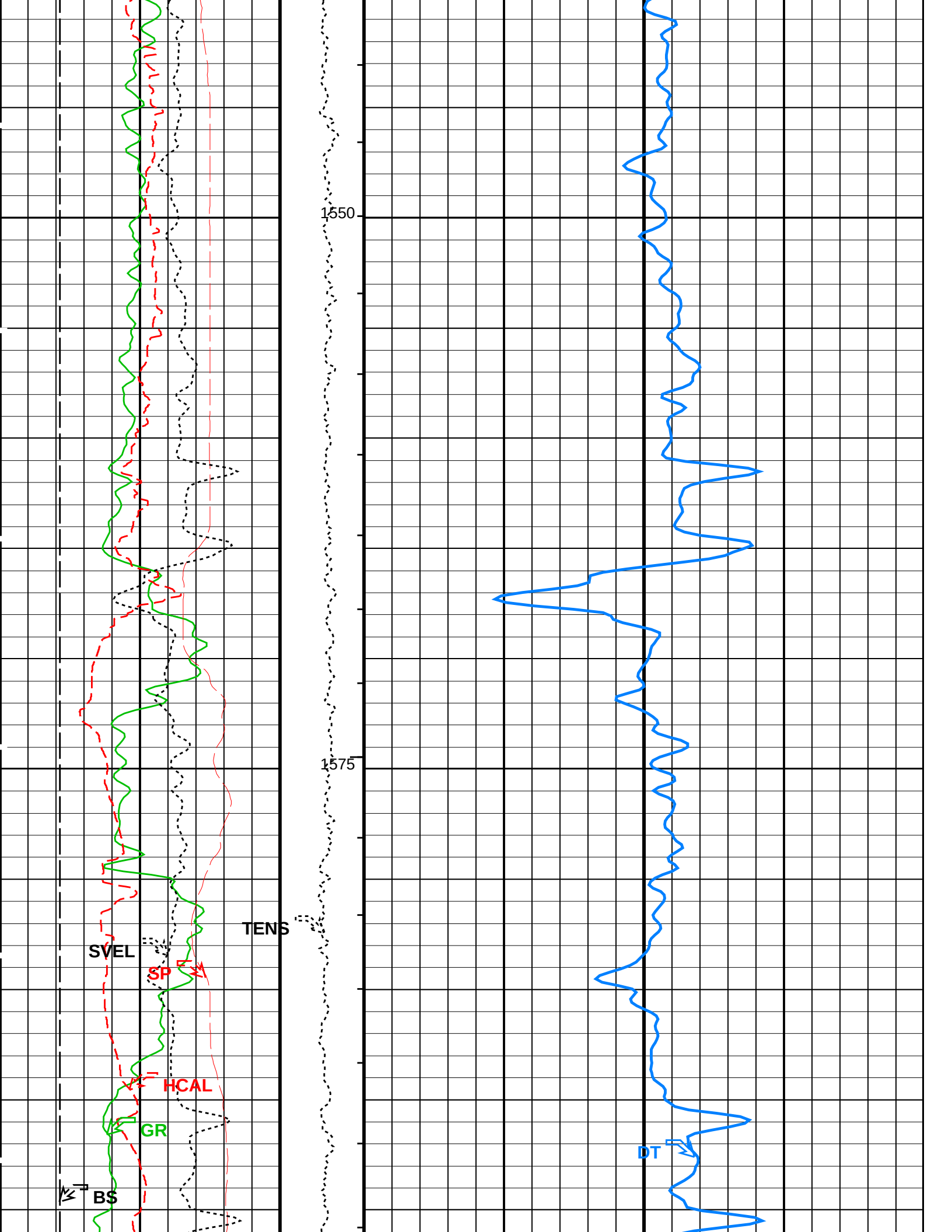
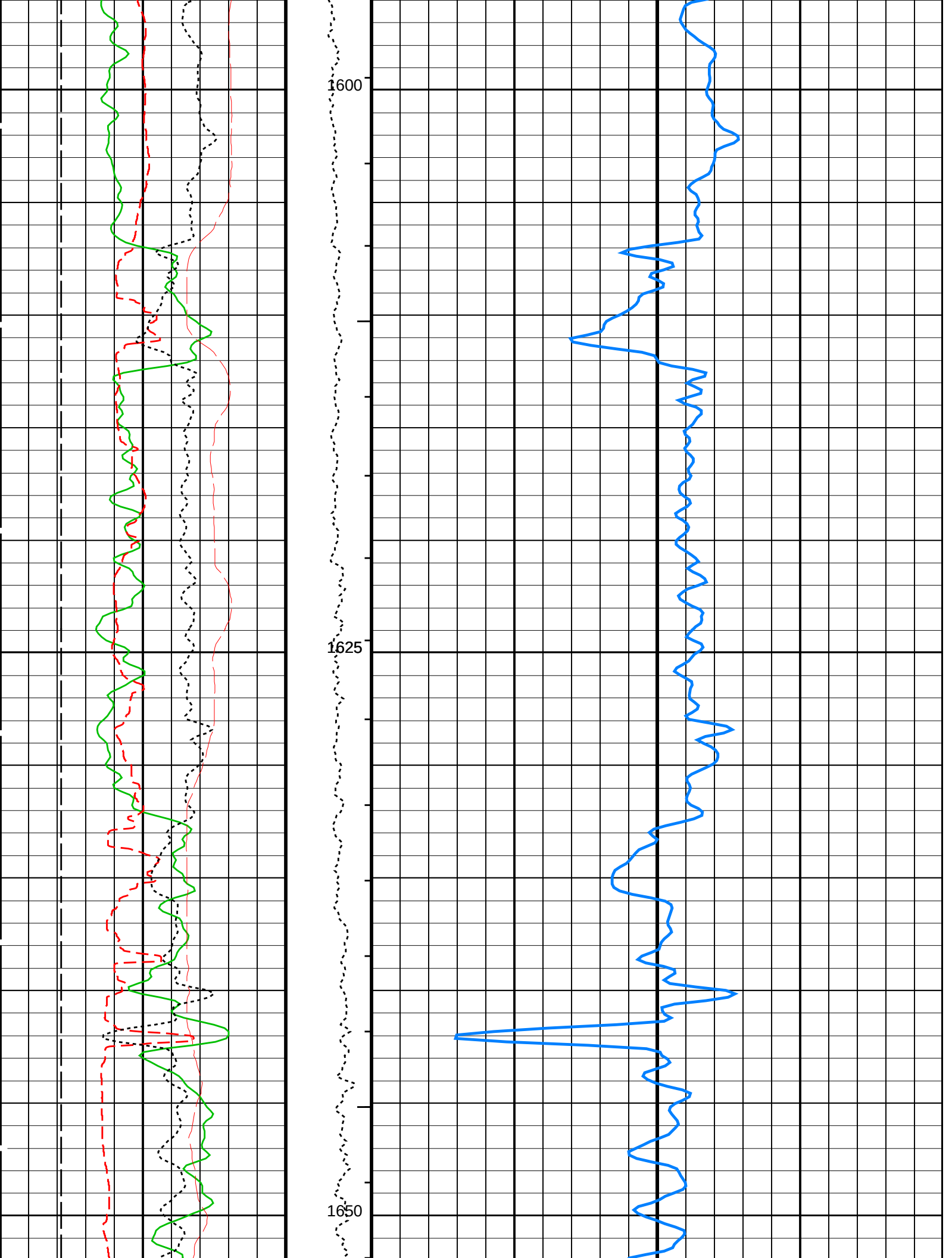
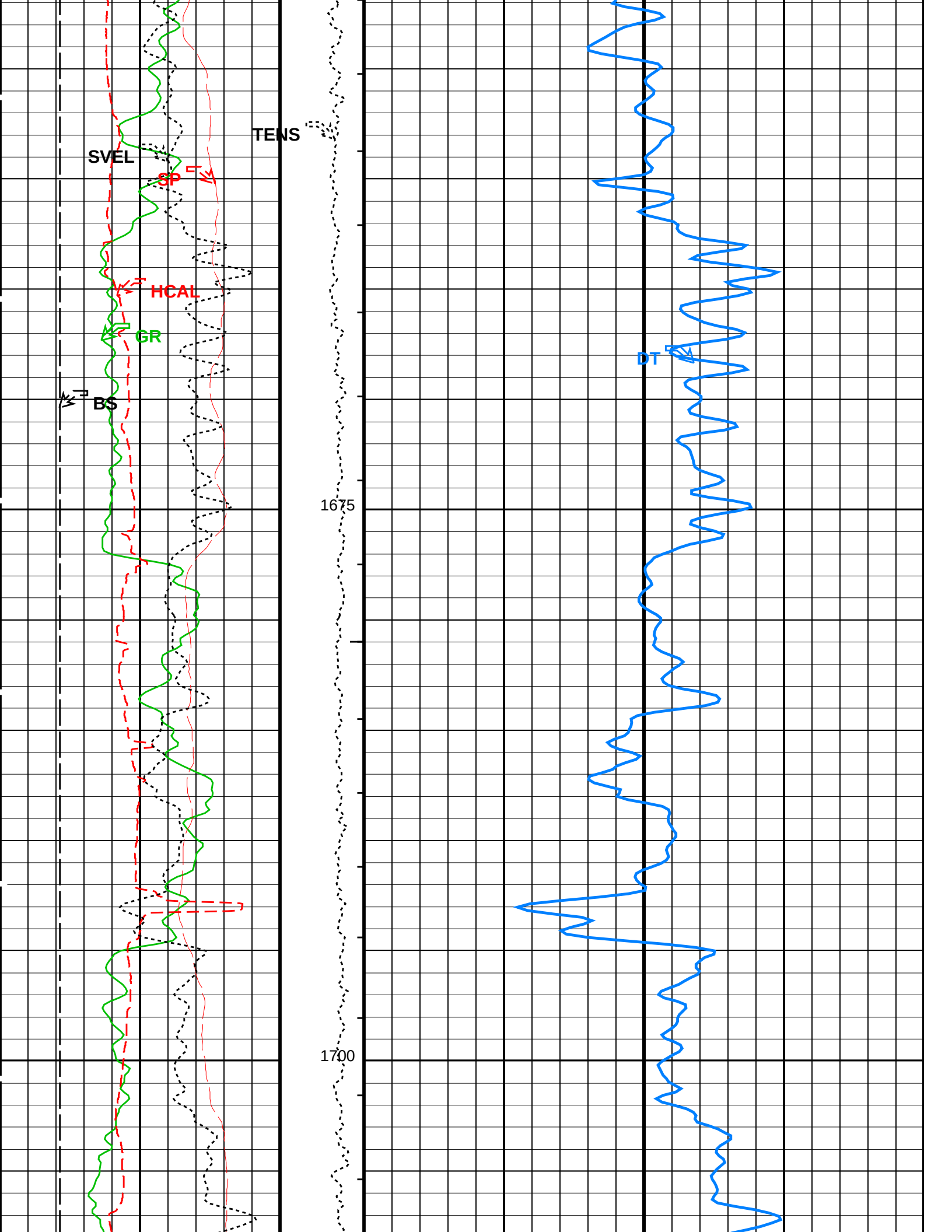

SVEL
SP
HCAL
GR
BS
TENS
DT
1375
1400
1425

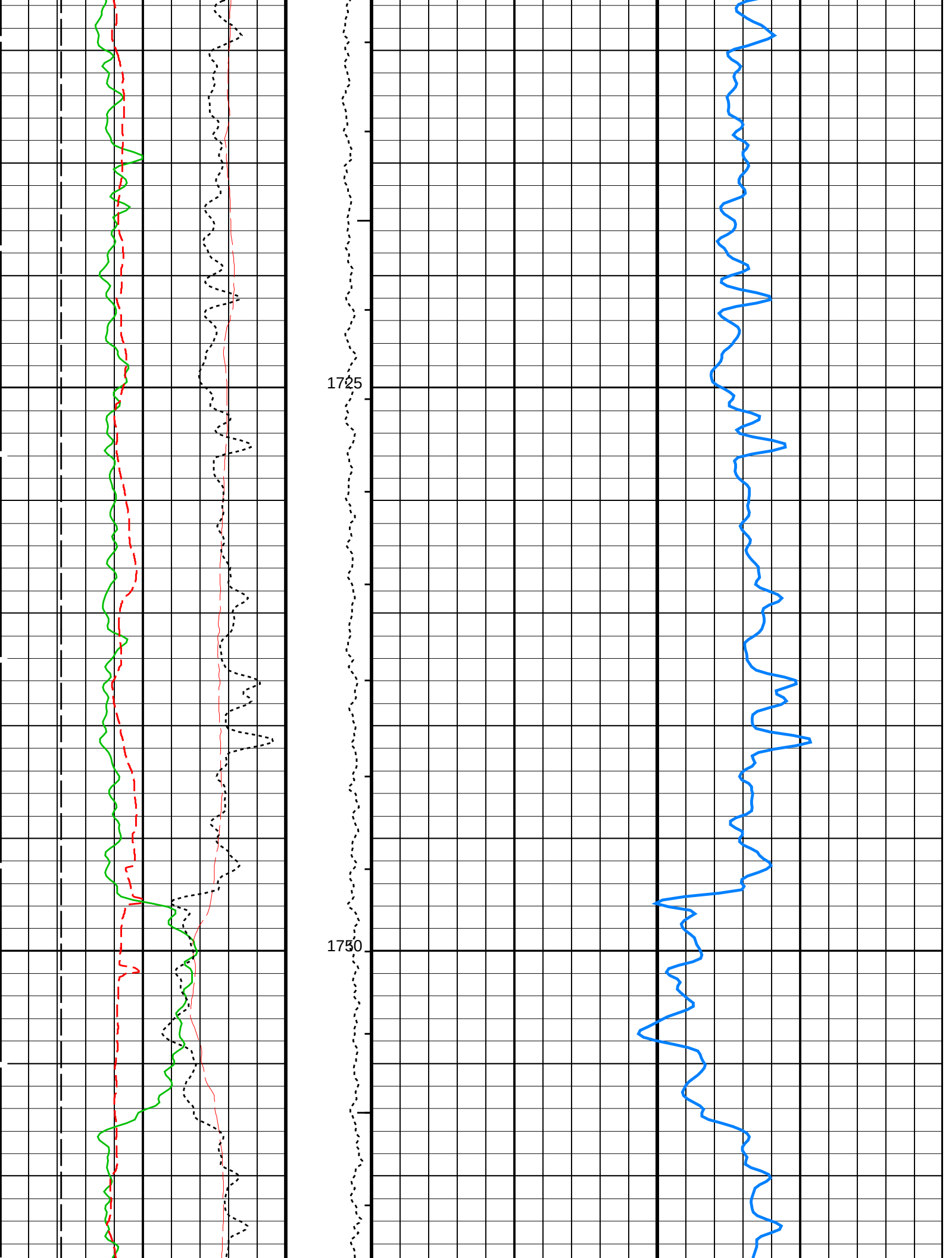

1450
1475
TENS
SVEL
SP
HCAL
GR


BS
DT
1500
1525


1550
1575
TENS
SVEL
SP
HCAL
GR
BS
DT


1600
1625
1650


TENS
SVEL
SP
HCAL
GR
BS
DT
1675
1700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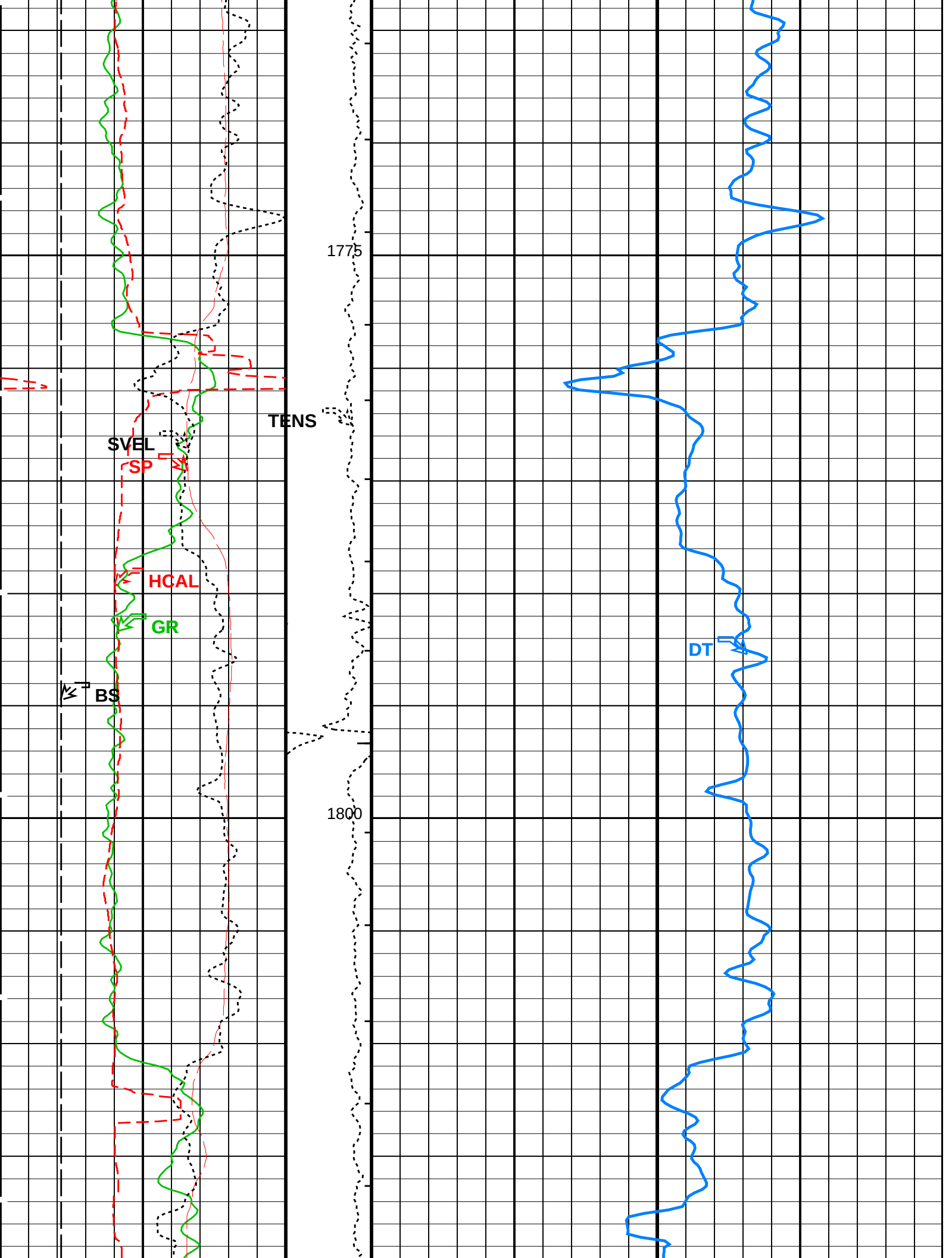
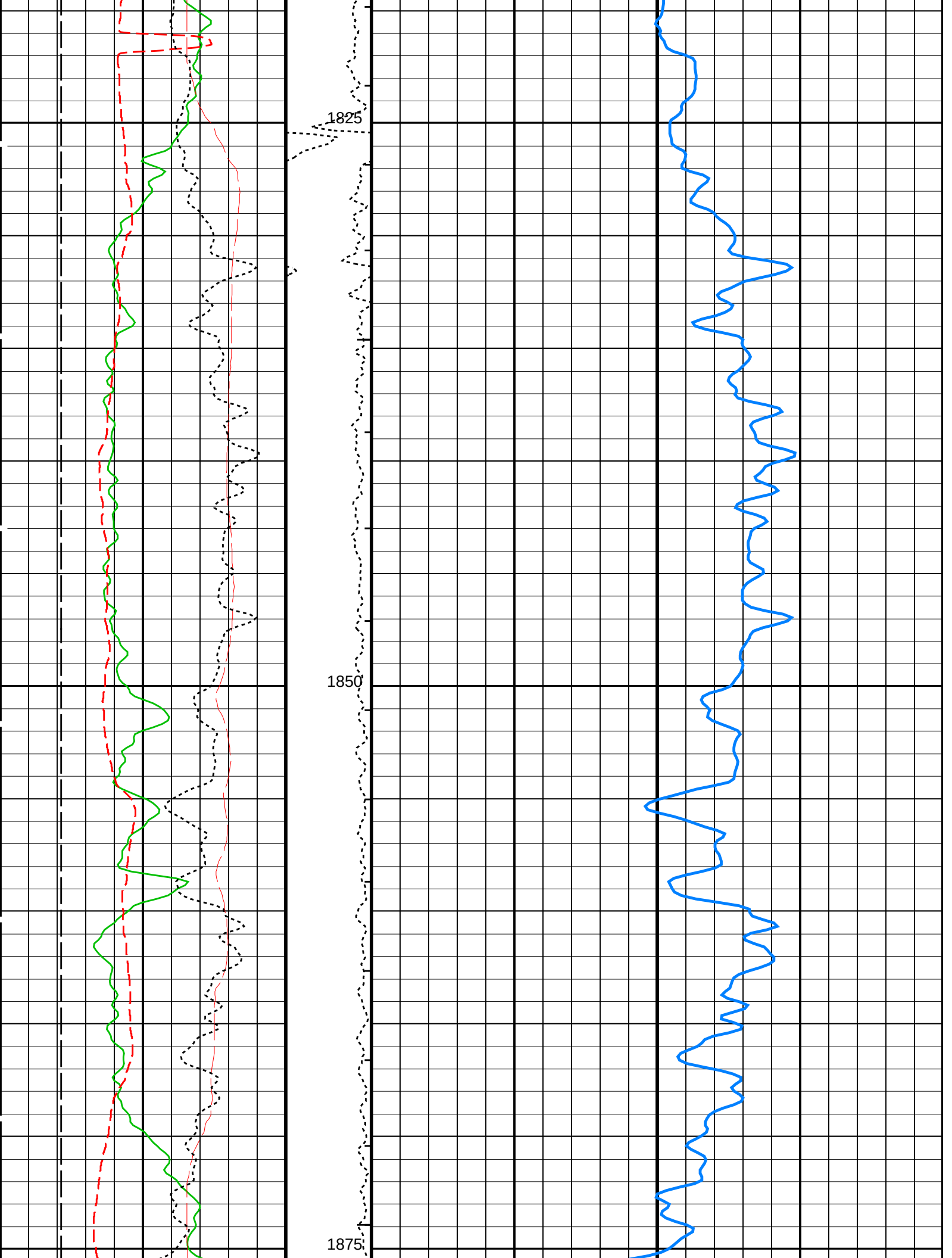
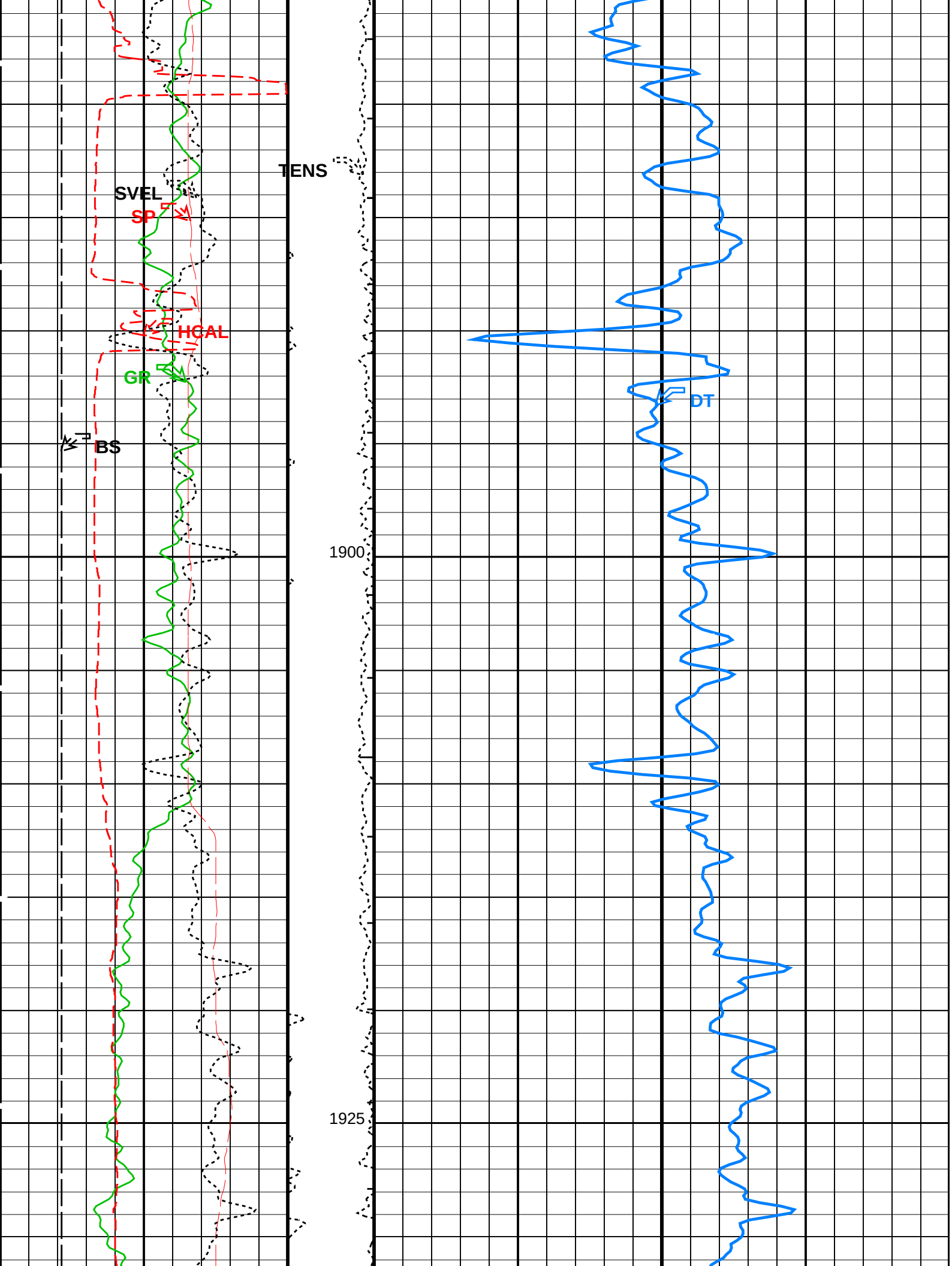
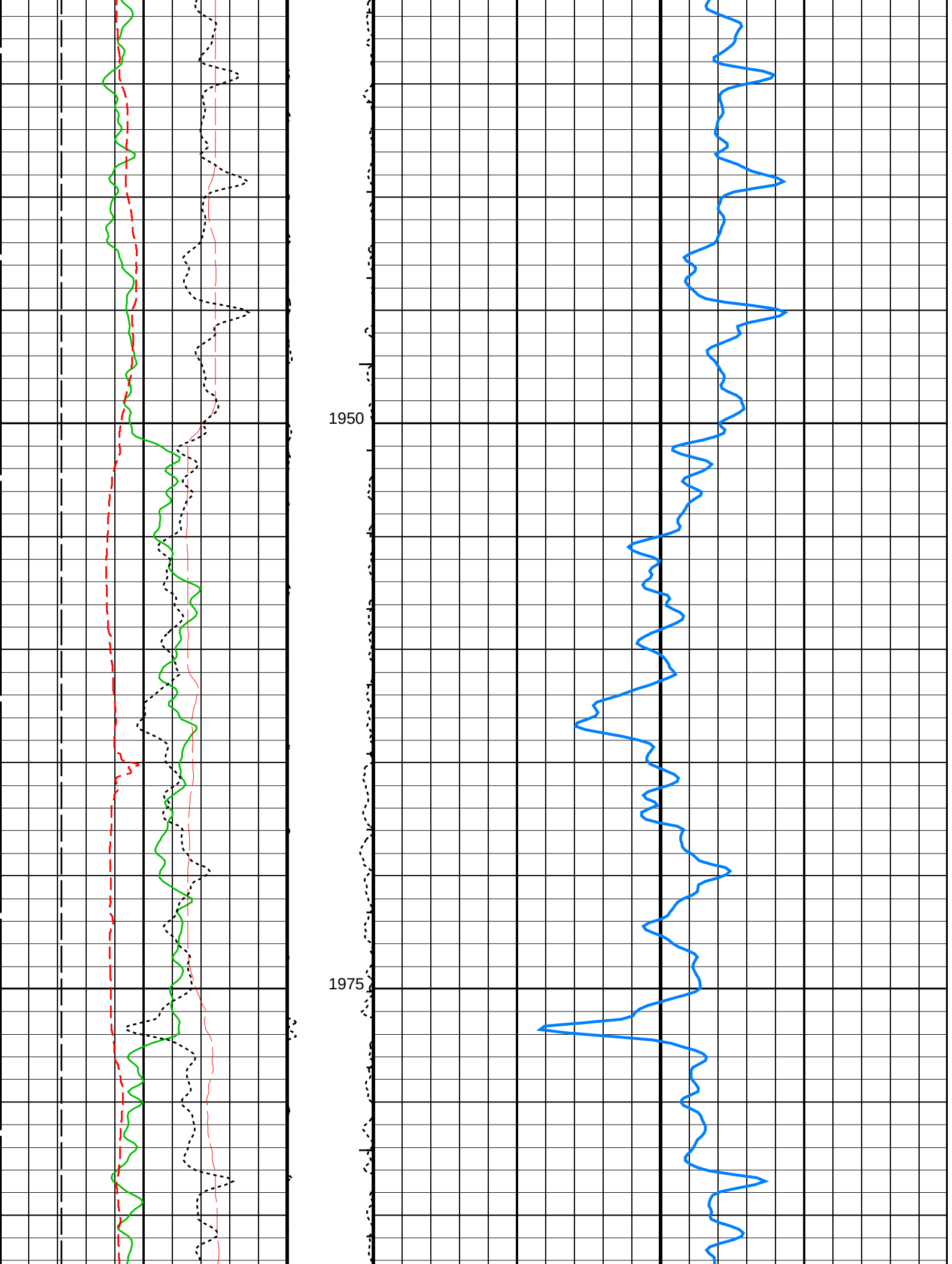
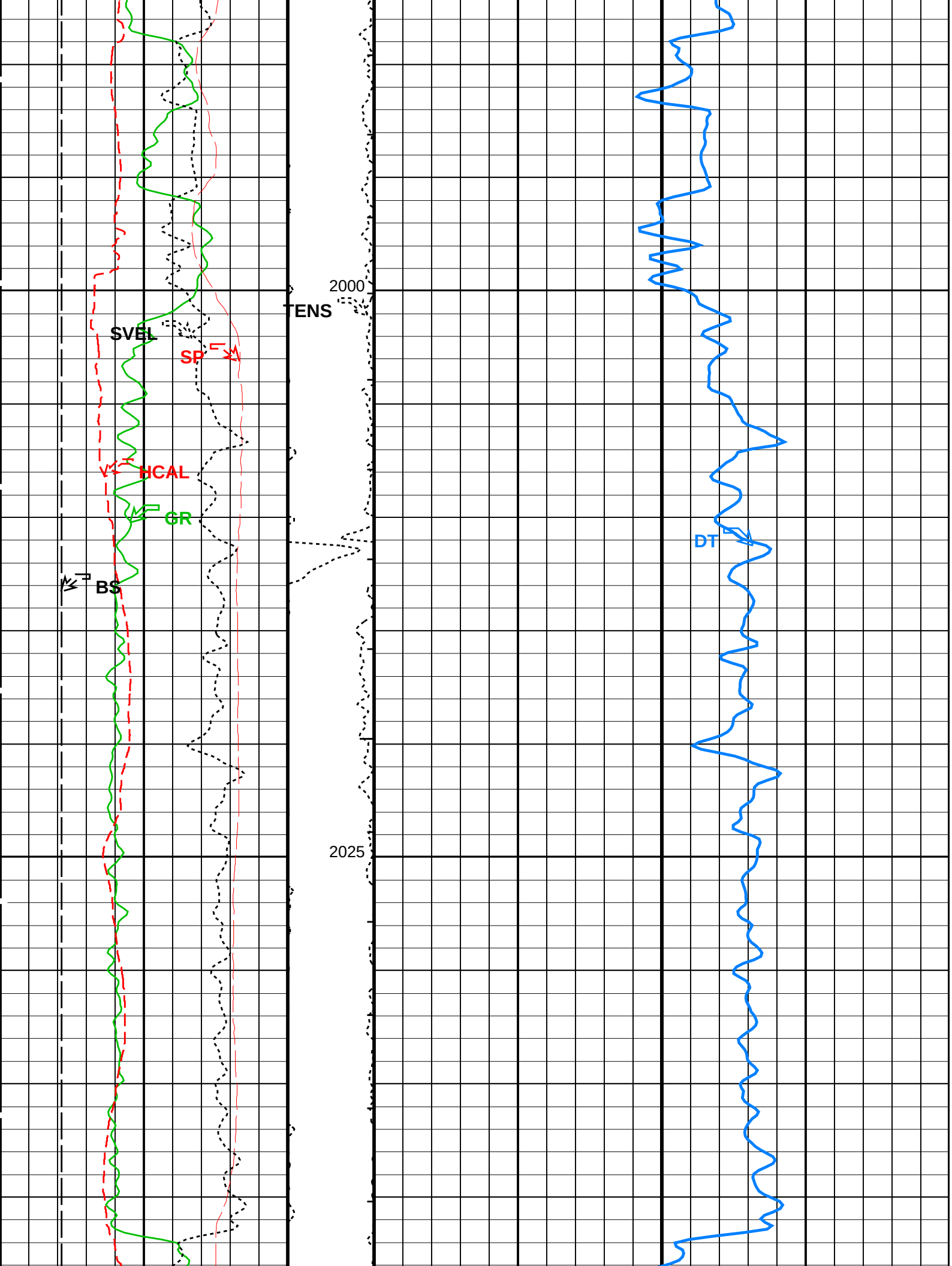
1750

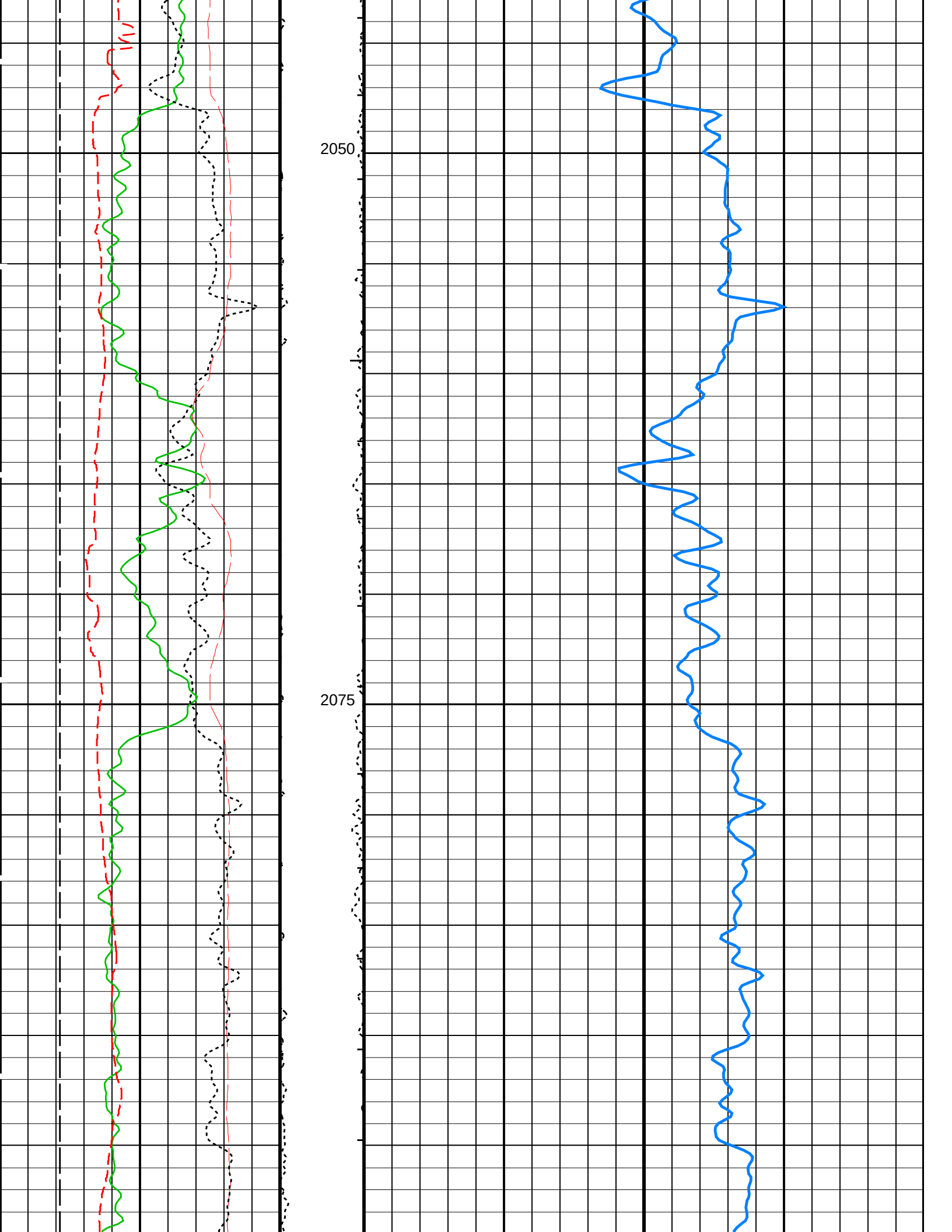

1775
TENS
SVEL
SP
HCAL
GR
BS
1800
DT


1825
1850
1875


TENS
SVEL
SP
HCAL
GR
BS
DT
1900
1925


1950
1975


2000
TENS
SVEL
SP
HCAL
GR
BS
DT
2025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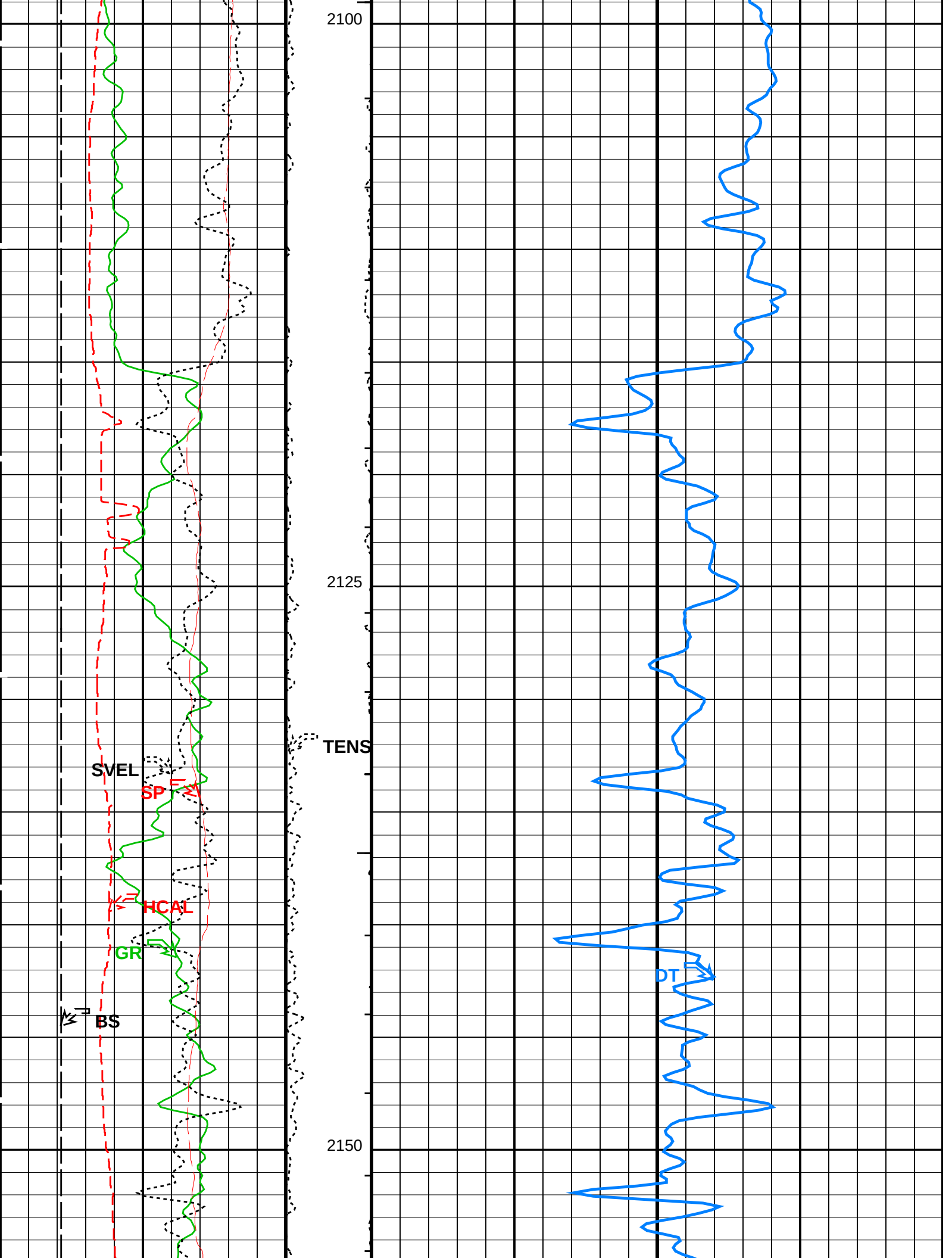
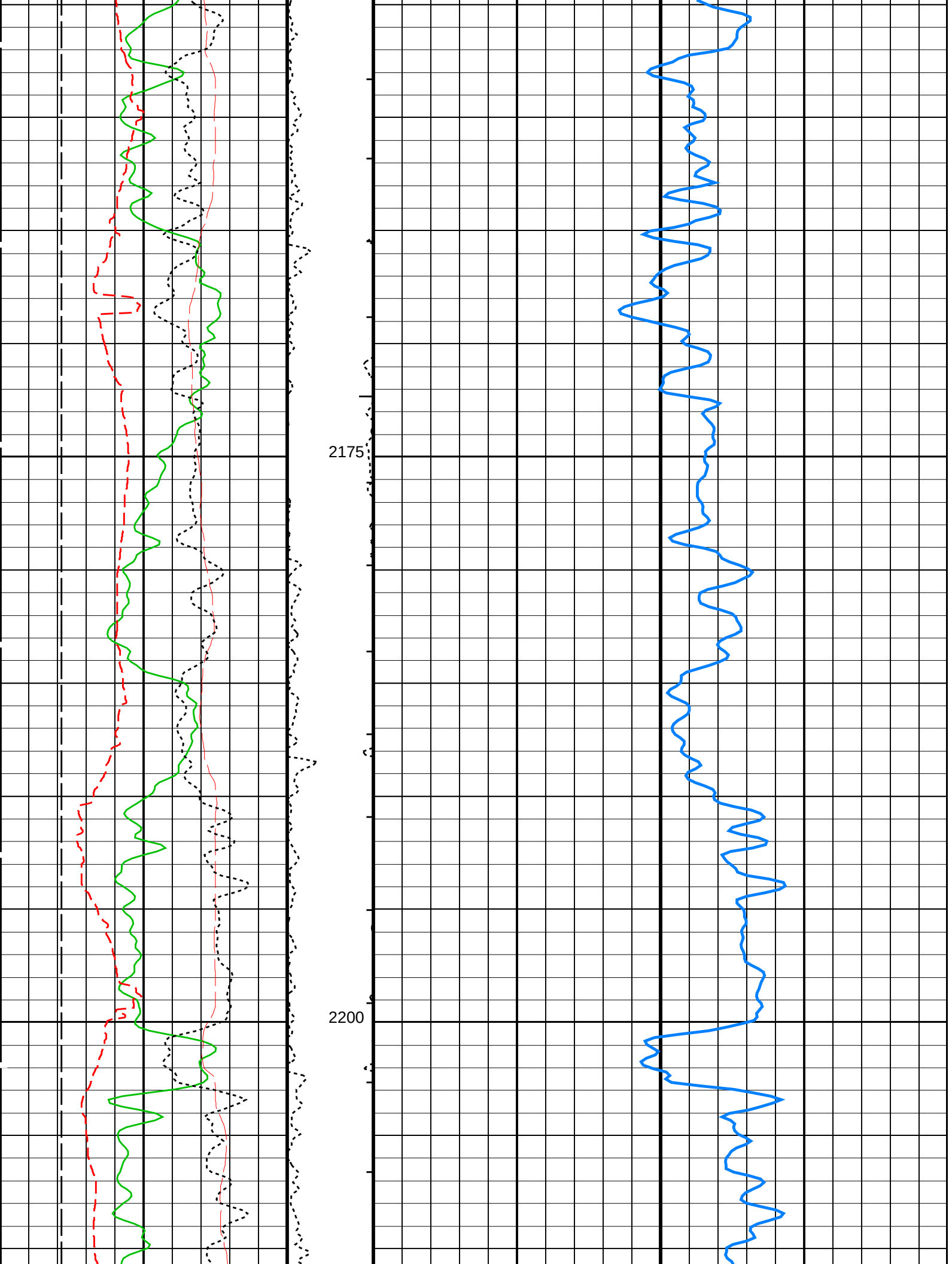
2075


2100
2125
2150
TENS
SVEL
SP
HCAL
GR
BS
DT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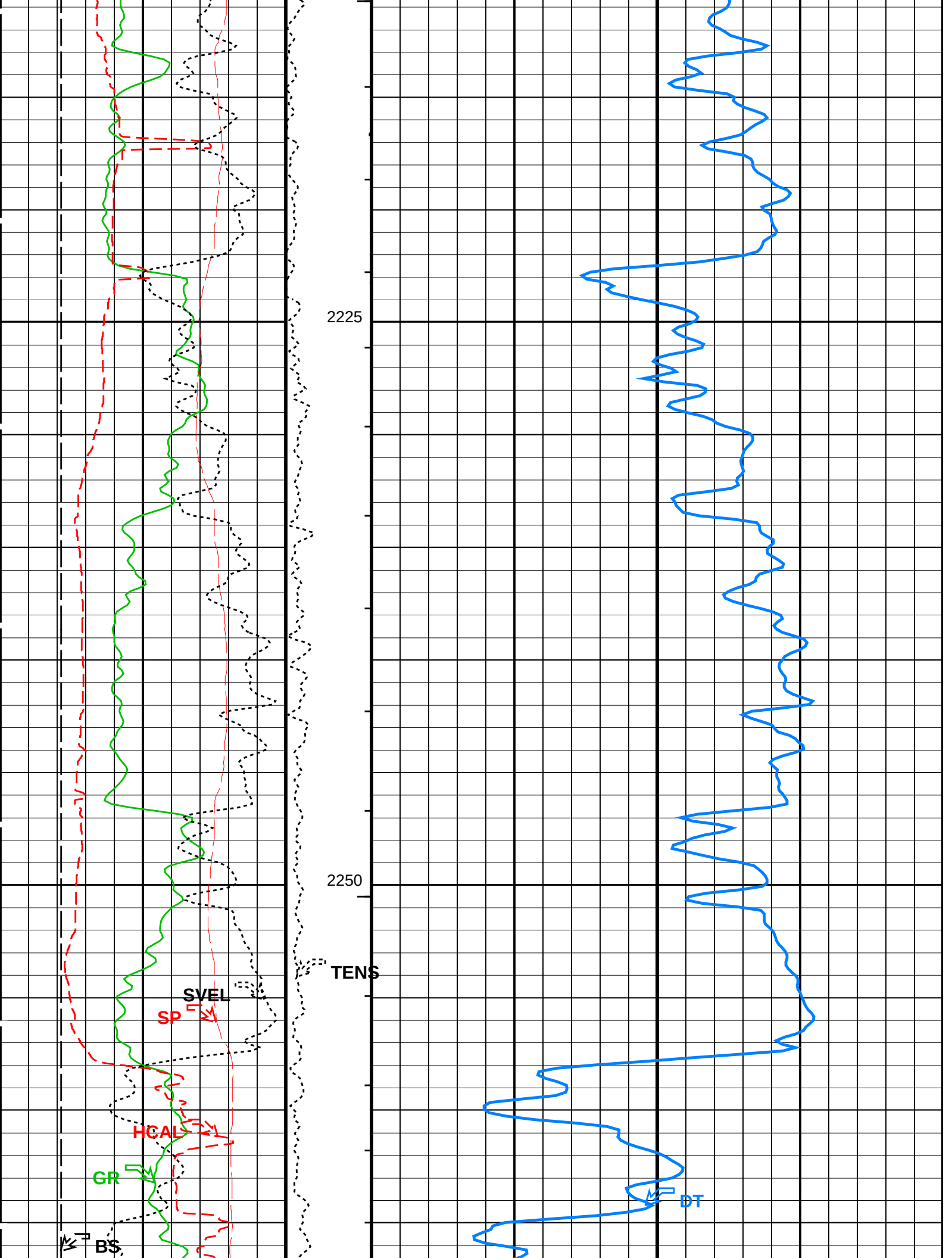
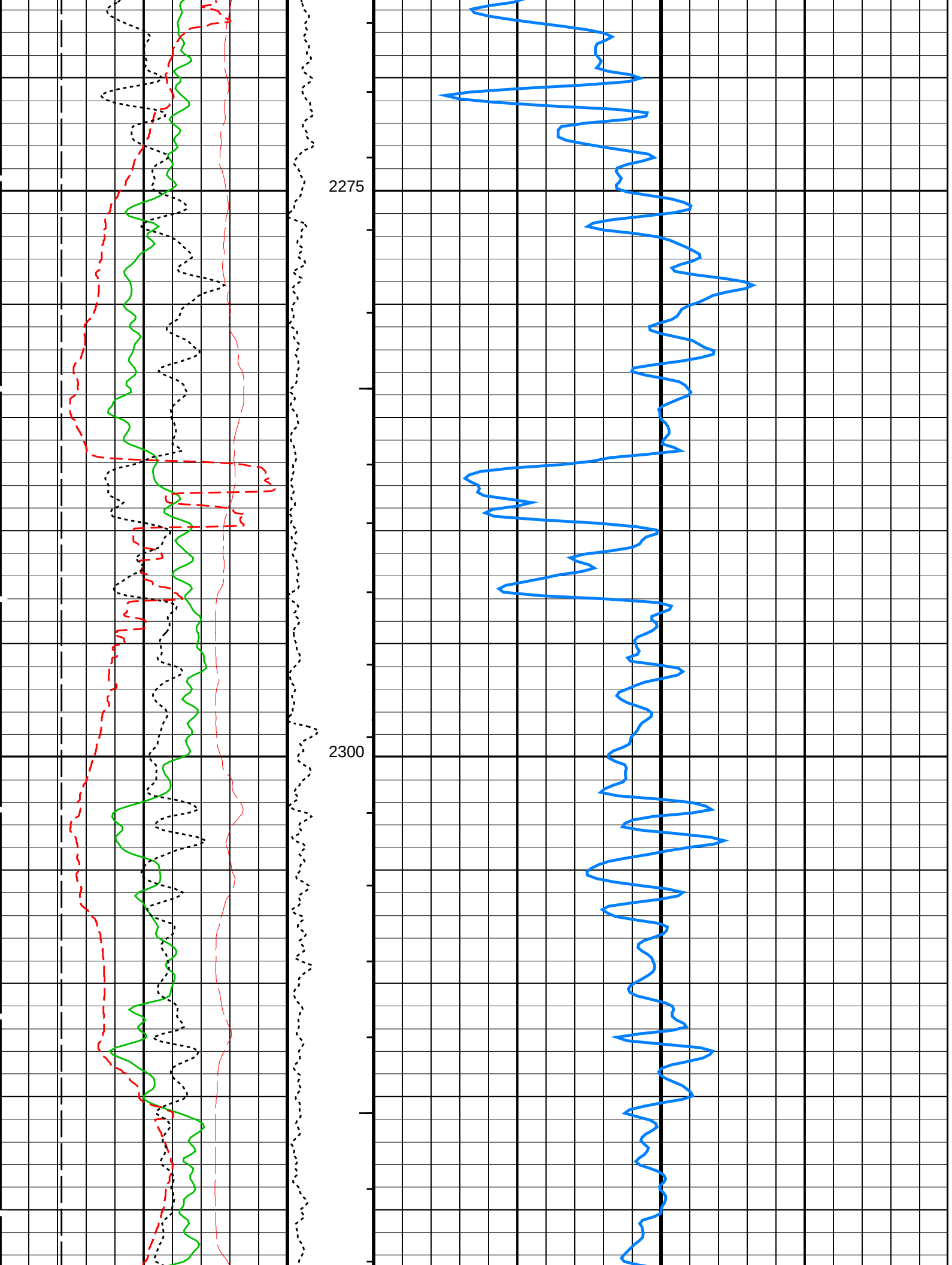
2200


2225
2250
TENS
SVEL
SP
HCAL
GR
BS
DT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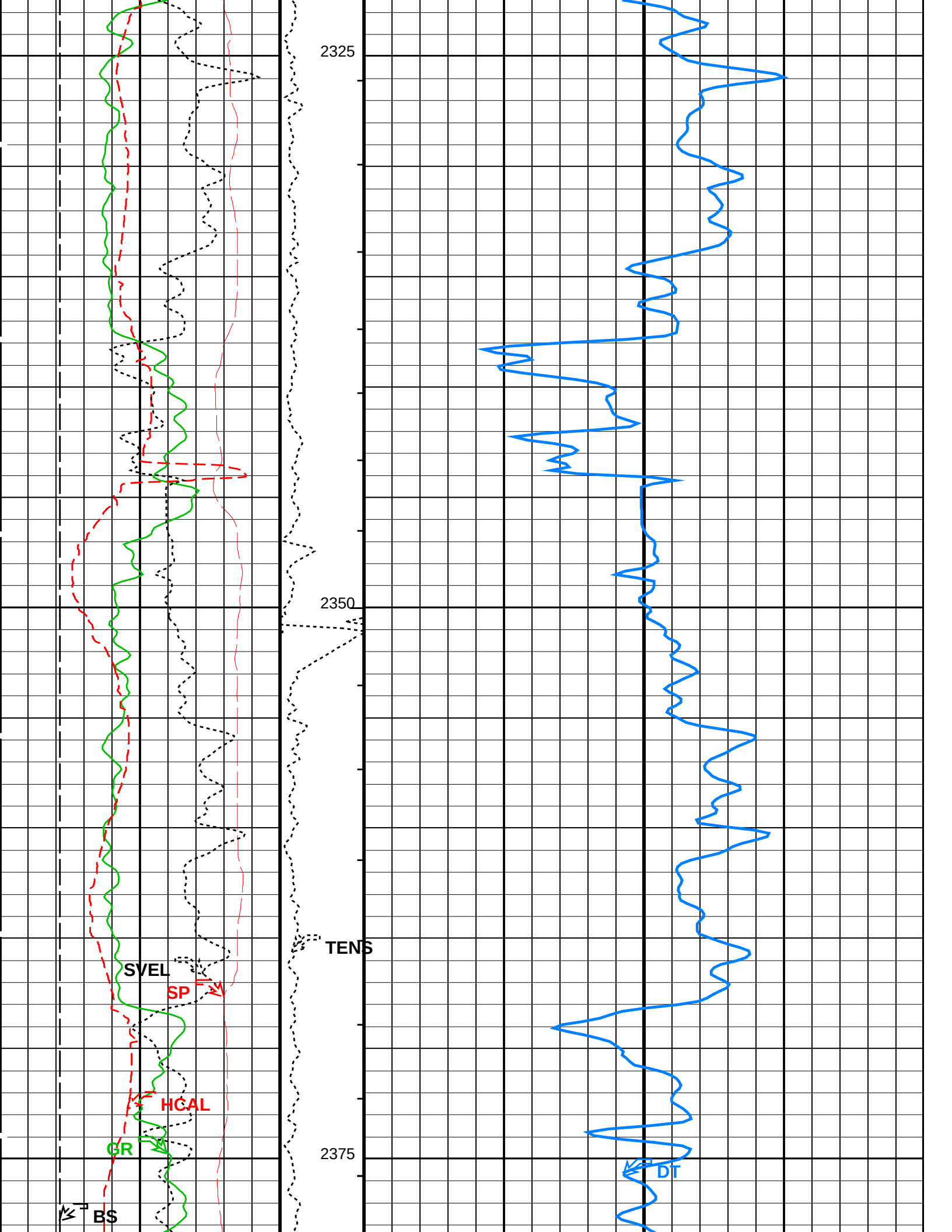
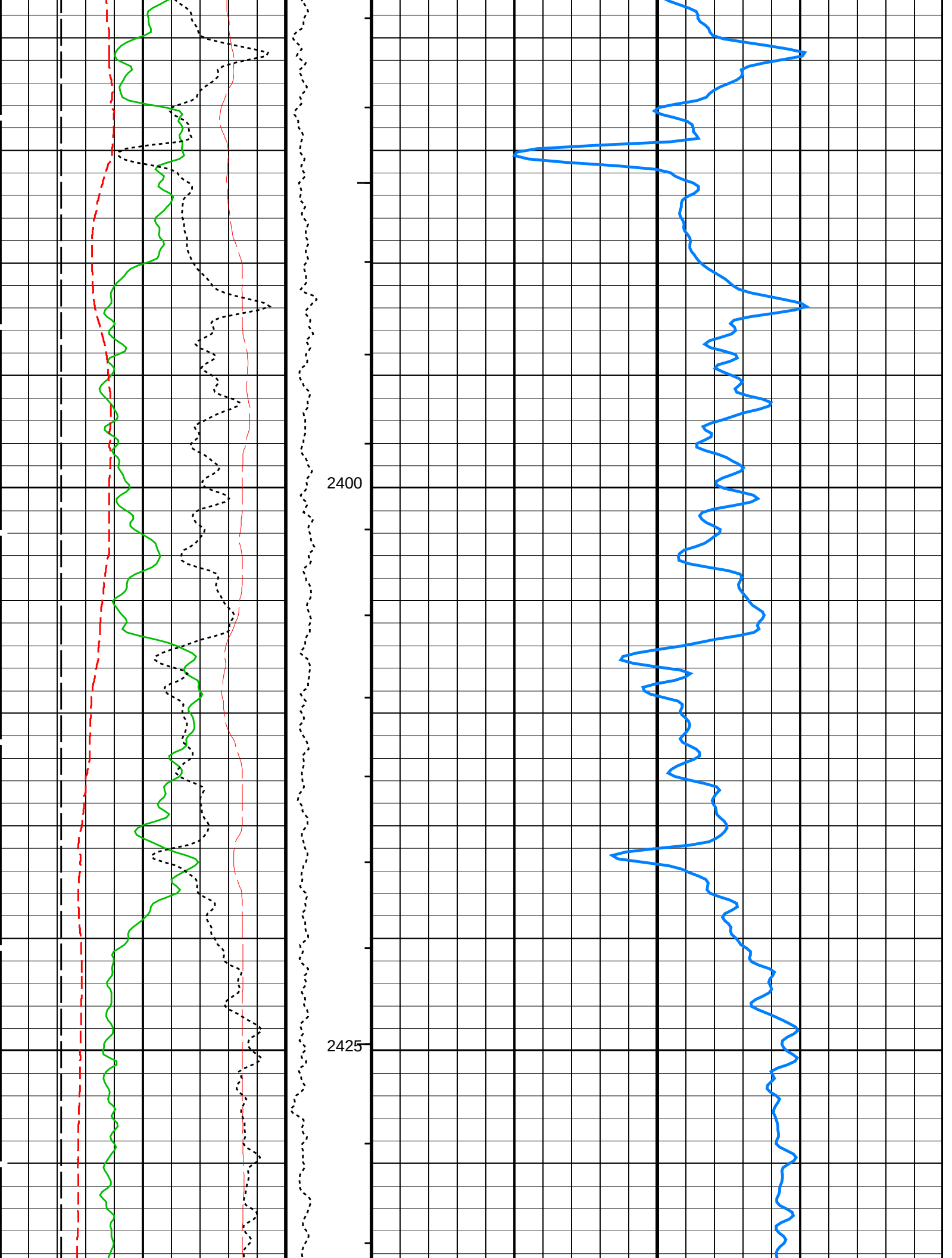
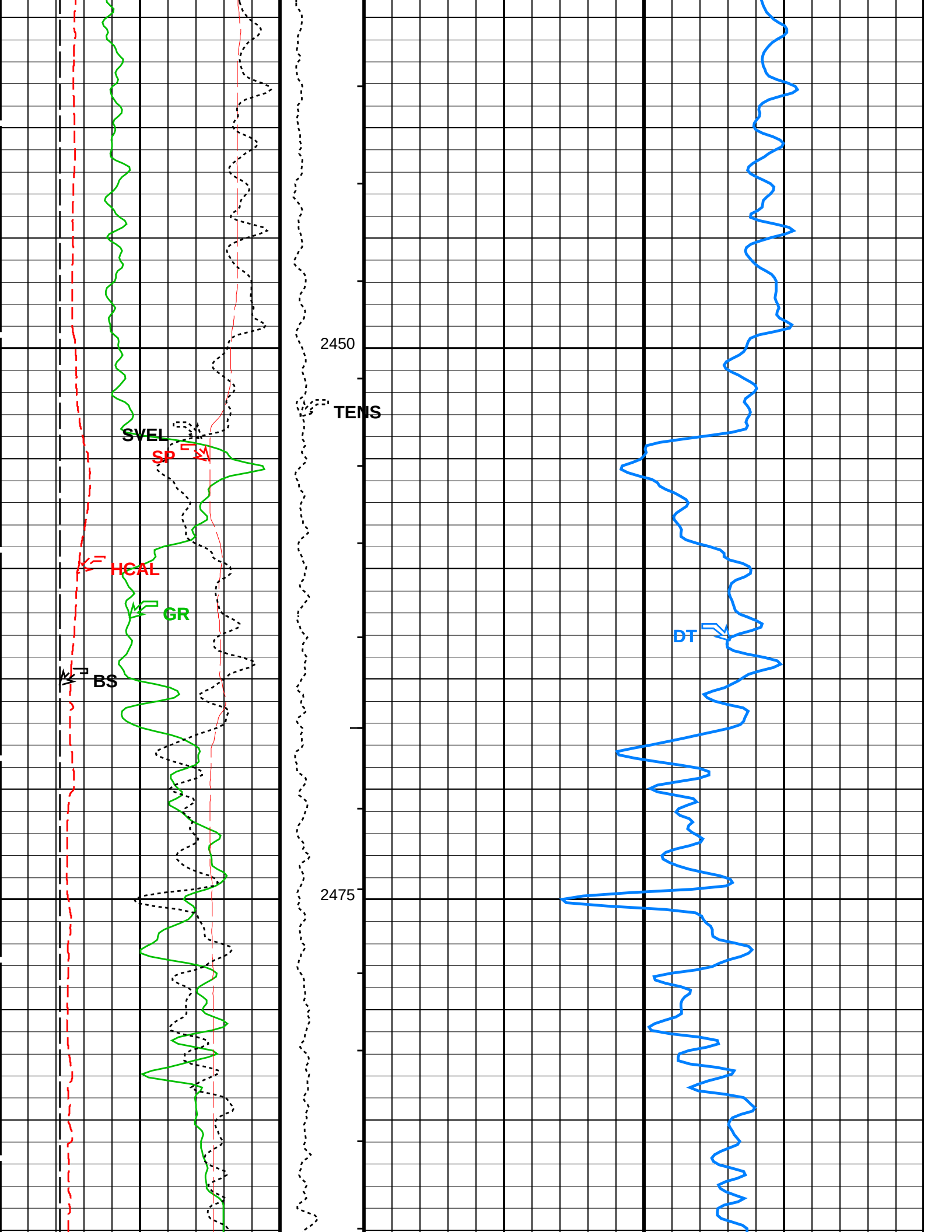
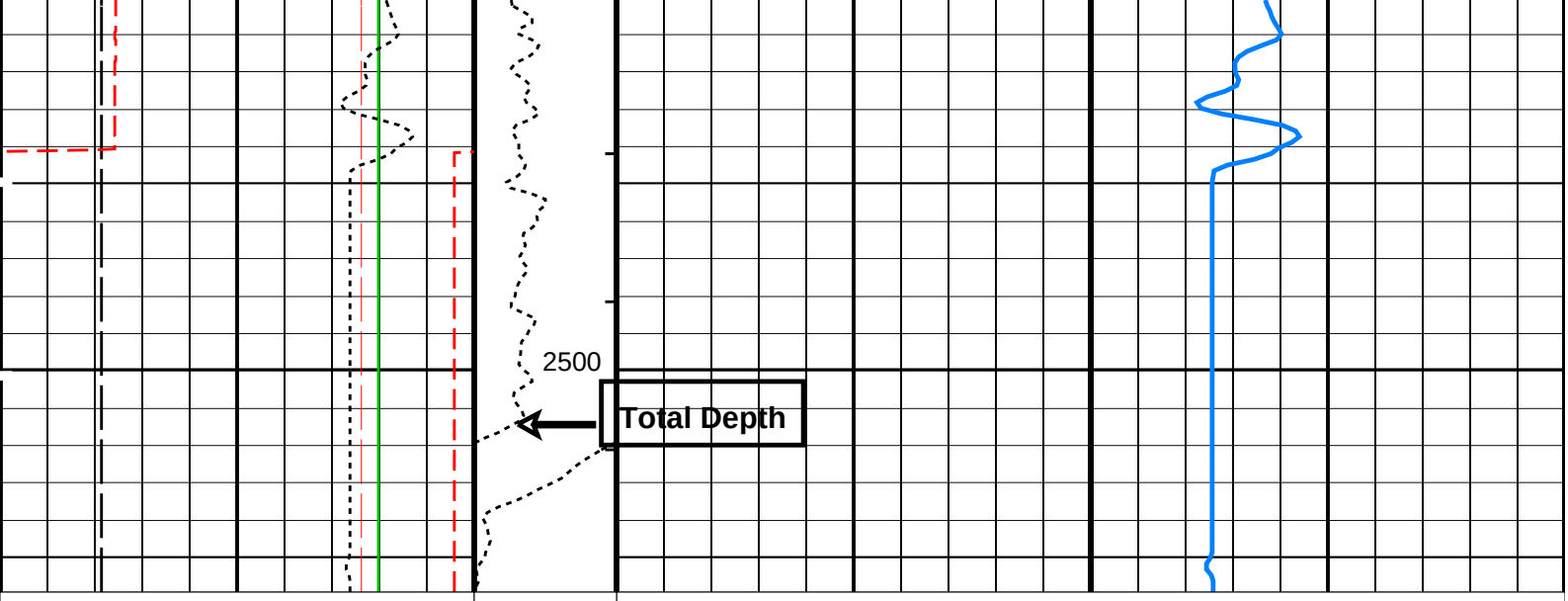
2300


2325
2350
2375
TENS
SVEL
SP
HCAL
GR
BS
DT


2400
2425


2450
2475
TENS
SVEL
SP
HCAL
GR
BS
DT



SP (SP)
−80 (MV) 20

Tension (TENS) (LBF)
0 1000

Delta−T (DT)
140 (US/F) 40

Bit Size (BS)
4 (IN) 14

Gamma Ray (GR)
0 (GAPI) 200

HILT Caliper (HCAL)
4 (IN) 14

Sonic Velocity (SVEL)
1000 (M/S) 5000

PIP SUMMARY

Integrated Transit Time Minor Pip Every 1 MS
Integrated Transit Time Major Pip Every 10 MS

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	HALS−B: HILT Azimuthal Laterolog Sonde B		
	HALS Type of Image	Conductivities	
	DSLT−H: Digitizing Sonic Logging Tool		
	Telemetry Mode	DSLC_FTB	
	DSLT Firing Mode	BHC	
DDEL	Digitizing Delay	0	US
DIVL	DSLT Depth Sampling Interval	20	
DRCS	DSLT DLIS Recording Size	140	
DSIN	Digitizing Sample Interval	10	
DTFS	DSLC Telemetry Frame Size	316	
DWCO	Digitizing Word Count	140	
GAI	Manual Gain	40	
ITTS	Integrated Transit Time Source	DT	
MAHTR	Manual High Threshold Reference	120	
MGAI	Maximum Gain	60	
MNHTR	Minimum High Threshold Reference	100	
NMSG	Near Minimum Sliding Gate	140	US
NMXG	Near Maximum Sliding Gate	910	US
RATE	Firing Rate	R15	
SFAF	Sonic Formation Attenuation Factor	10	DB/M
SGCL	Sliding Gate Closing Delta−T	140	US/F
SGDT	Sliding Gate Delta−T	40	US/F
SGW	Sliding Gate Width	110	US
SLEV	Signal Level for AGC	5000	
WMOD	Waveform Firing Mode	FULL	
	BSP: Bridle SP		
SPNV	SP Next Value	0	MV
	System and Miscellaneous		
BS	Bit Size	6.125	IN
DO	Depth Offset for Playback	0.0	M

PP	Playback Processing	NORMAL

Format: Sonic_200 Vertical Scale: 1:200 Graphics File Created: 04−Aug−2004 12:09

OP System Version: 12C0−301

MCM

HALS−B	12C0−301	DSLT−H	12C0−301
HILTB−FTB	12C0−301	DTC−H	12C0−301
BSP	12C0−301		

Input DLIS Files

DEFAULT	MERGE_HALS_SONIC_035	FN:1	PRODUCER	04−Aug−2004 11:55	2505.9 M	1213.0 M

Output DLIS Files

DEFAULT	HALS_SONIC_TLD_MCFL_037PUP	FN:51	PRODUCER	04−Aug−2004 12:09

Schlumberger

GR to surface
1:200 Scale

MAXIS Field Log

Company: Lakes Oil N.L. Well: Trifon 2

Input DLIS Files

DEFAULT	HALS_SONIC_TLD_MCFL_016LUP	FN:23	PRODUCER	04−Aug−2004 02:12	1255.0 M	25.0 M

Output DLIS Files

DEFAULT	HALS_SONIC_TLD_MCFL_039PUP	FN:53	PRODUCER	04−Aug−2004 12:31	1235.0 M	25.5 M

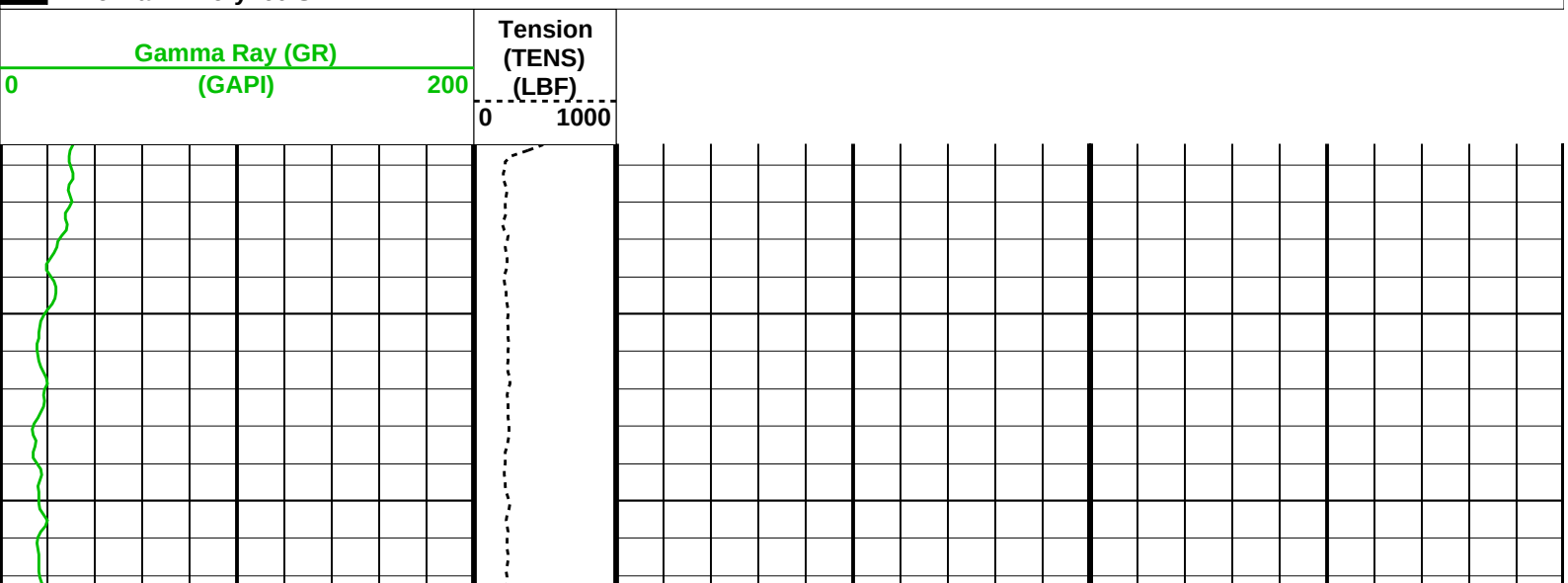
OP System Version: 12C0−301

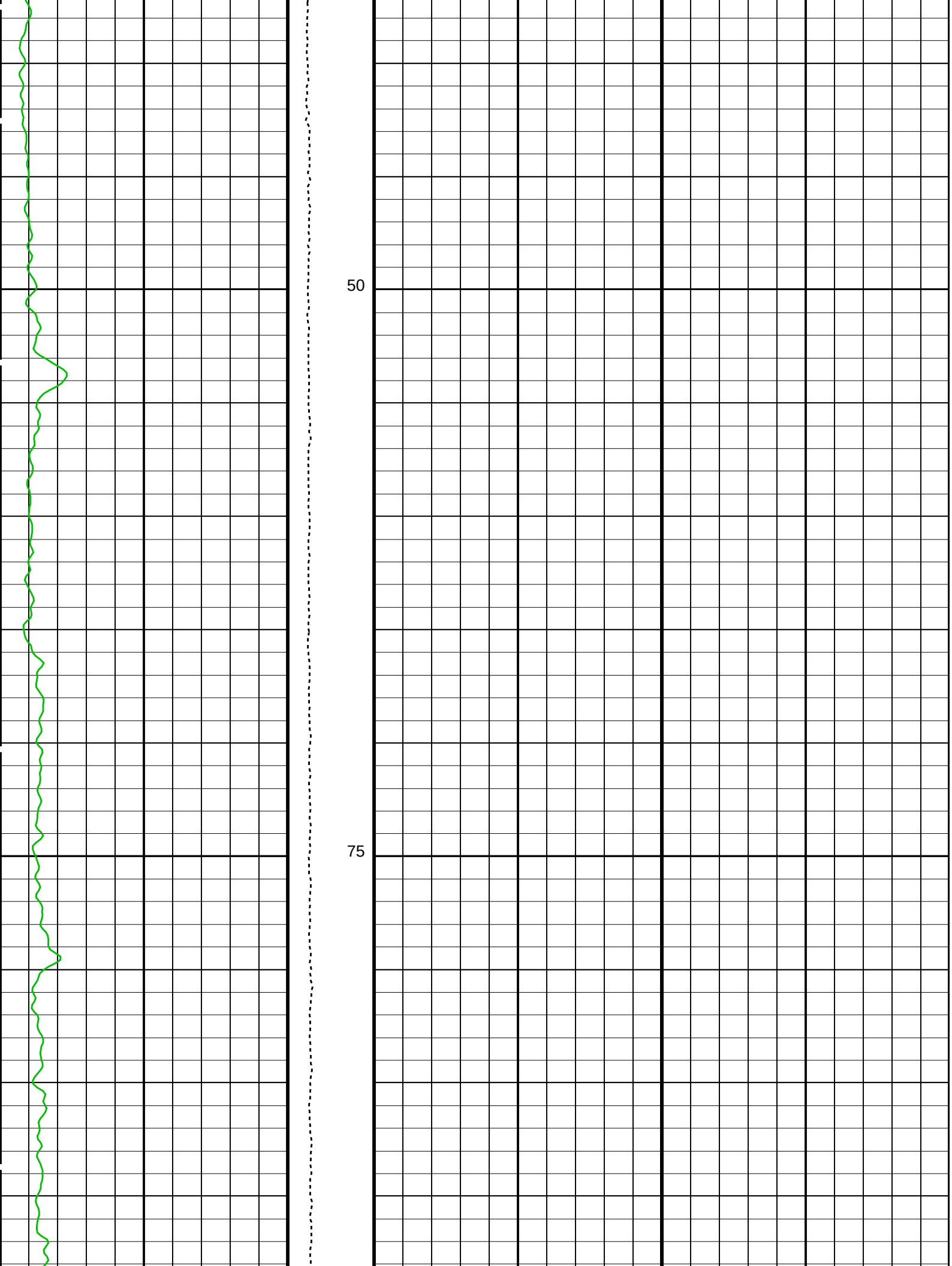
MCM

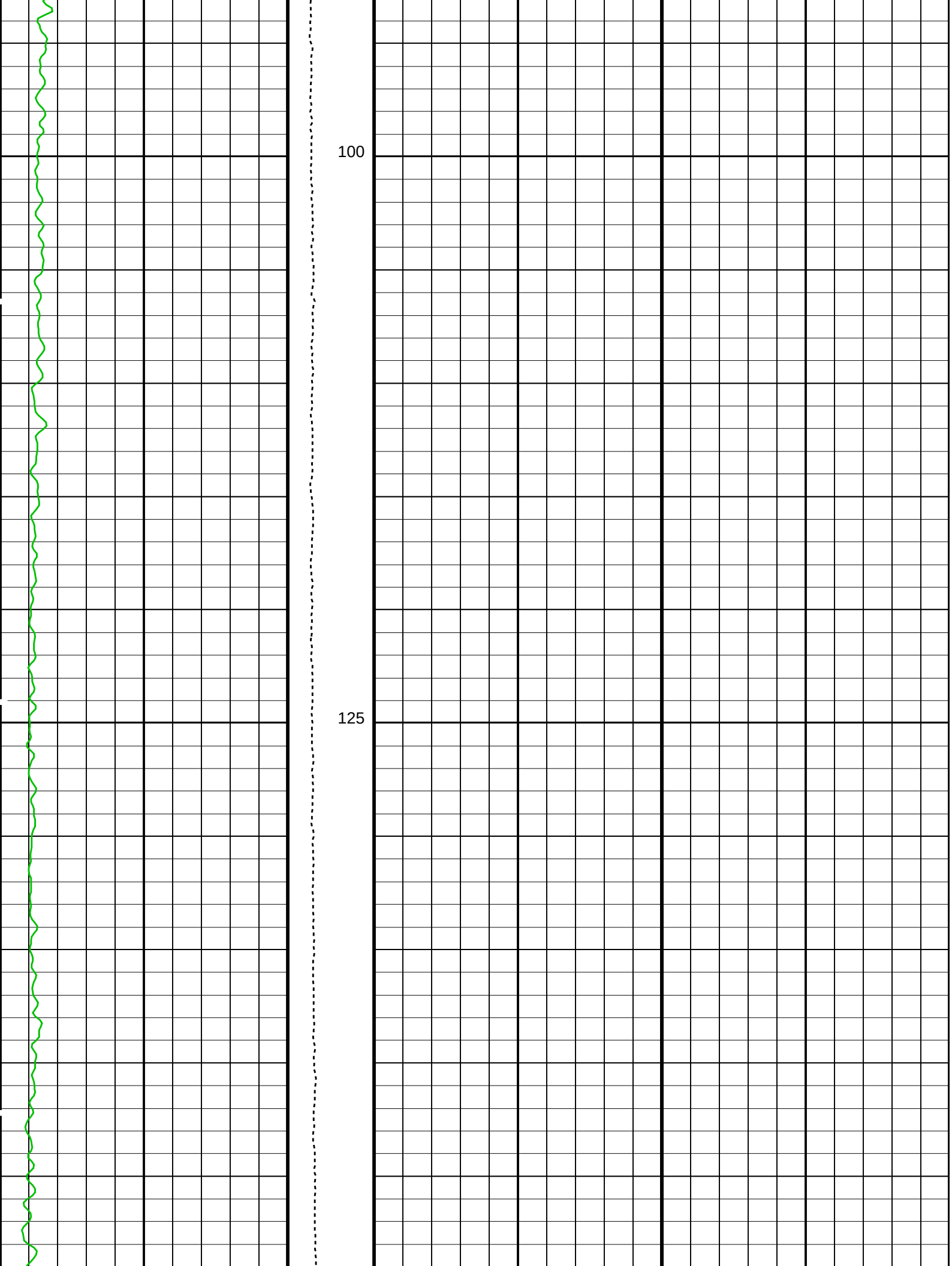
HALS−B	12C0−301	DSLT−H	12C0−301
HILTB−FTB	12C0−301	DTC−H	12C0−301
BSP	12C0−301		

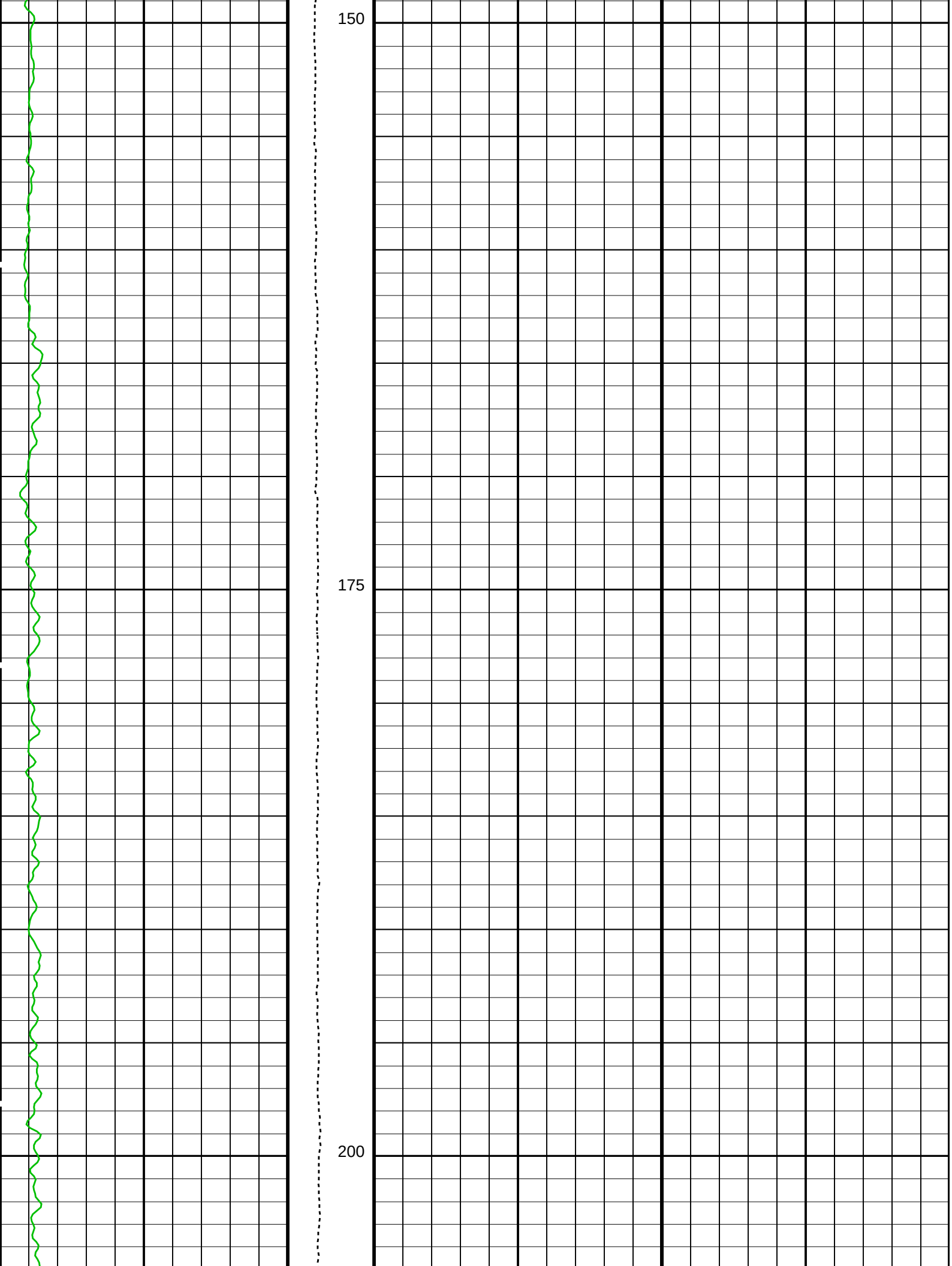
PIP SUMMARY

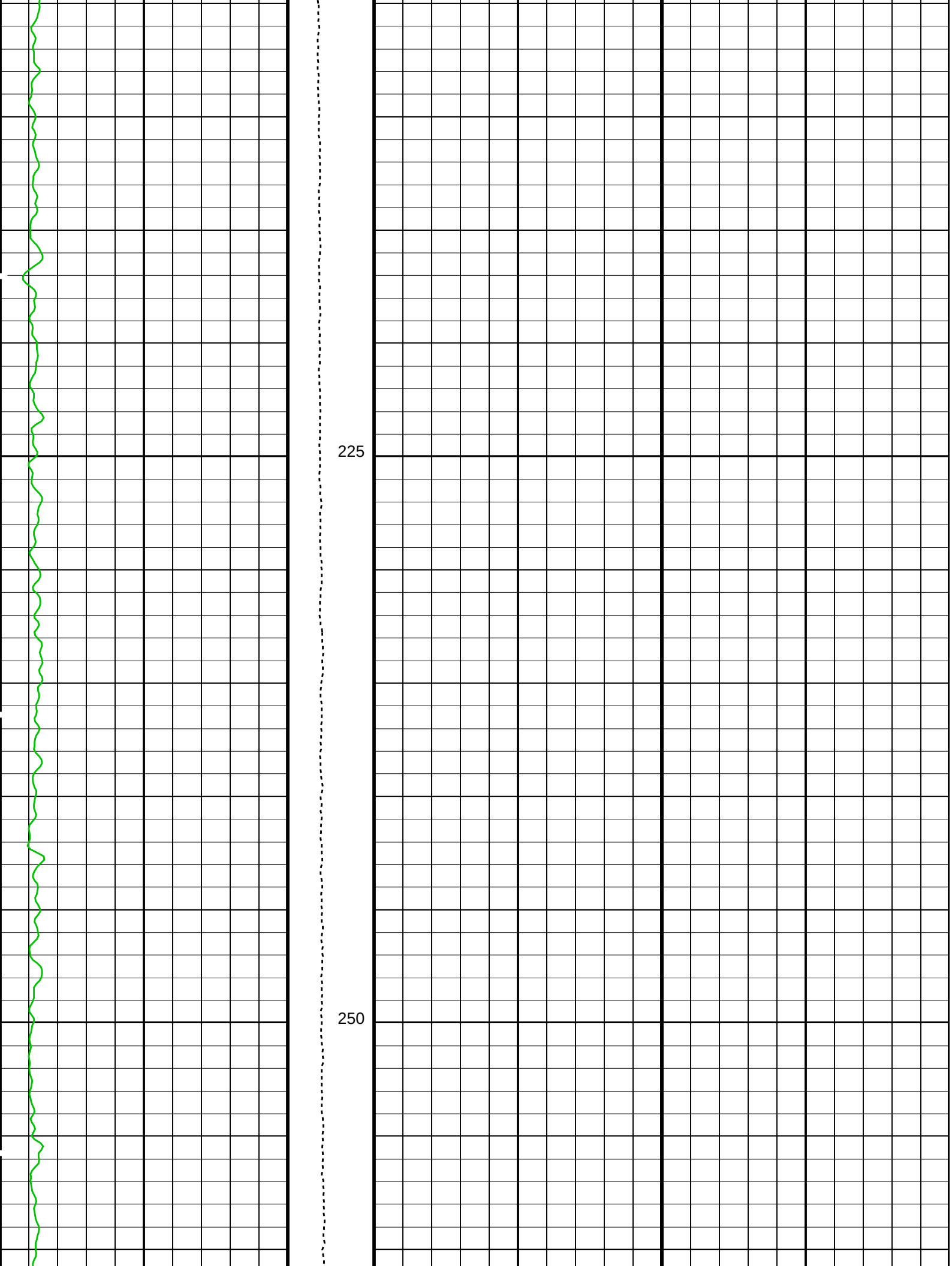
Time Mark Every 60 S

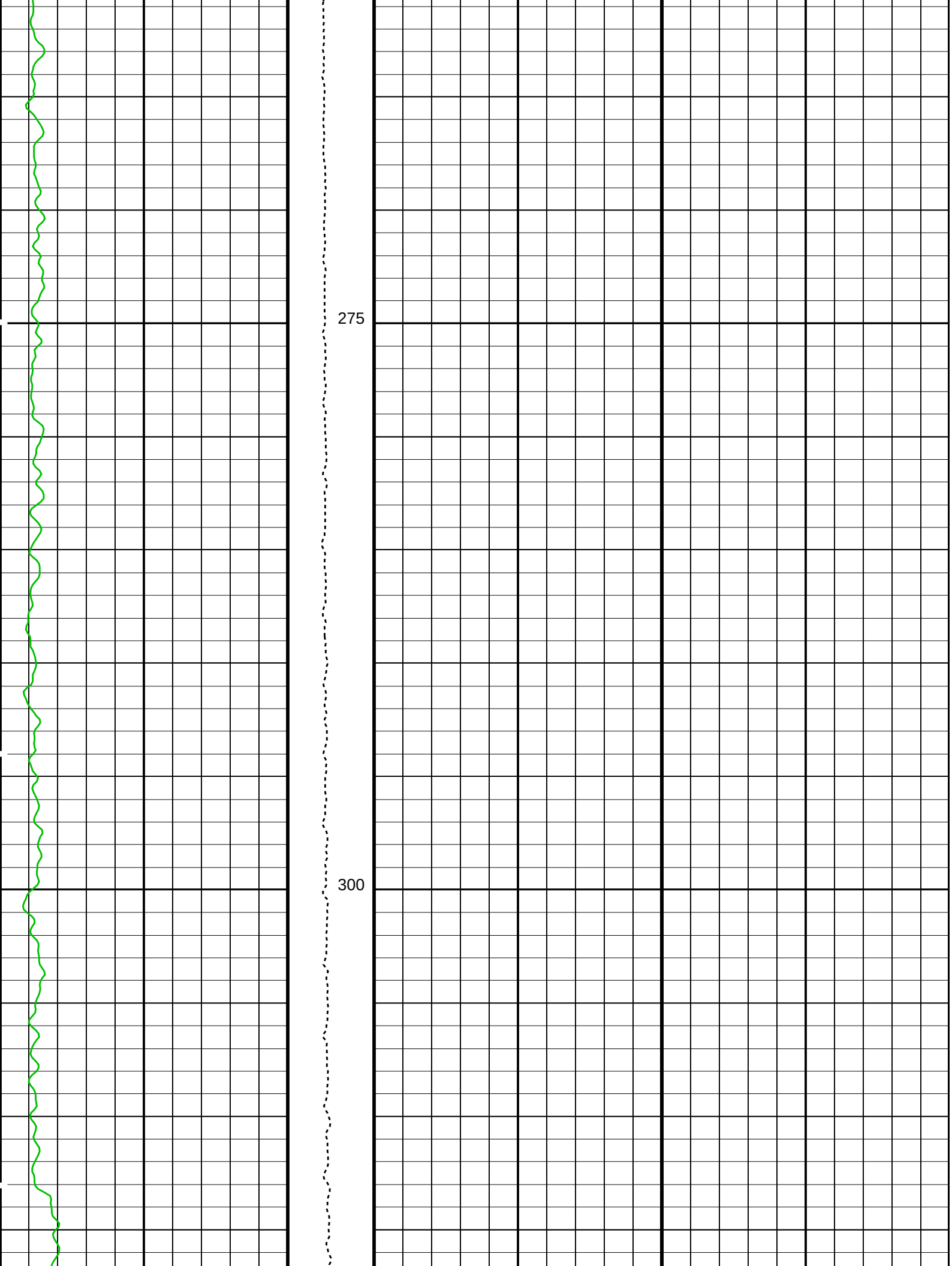


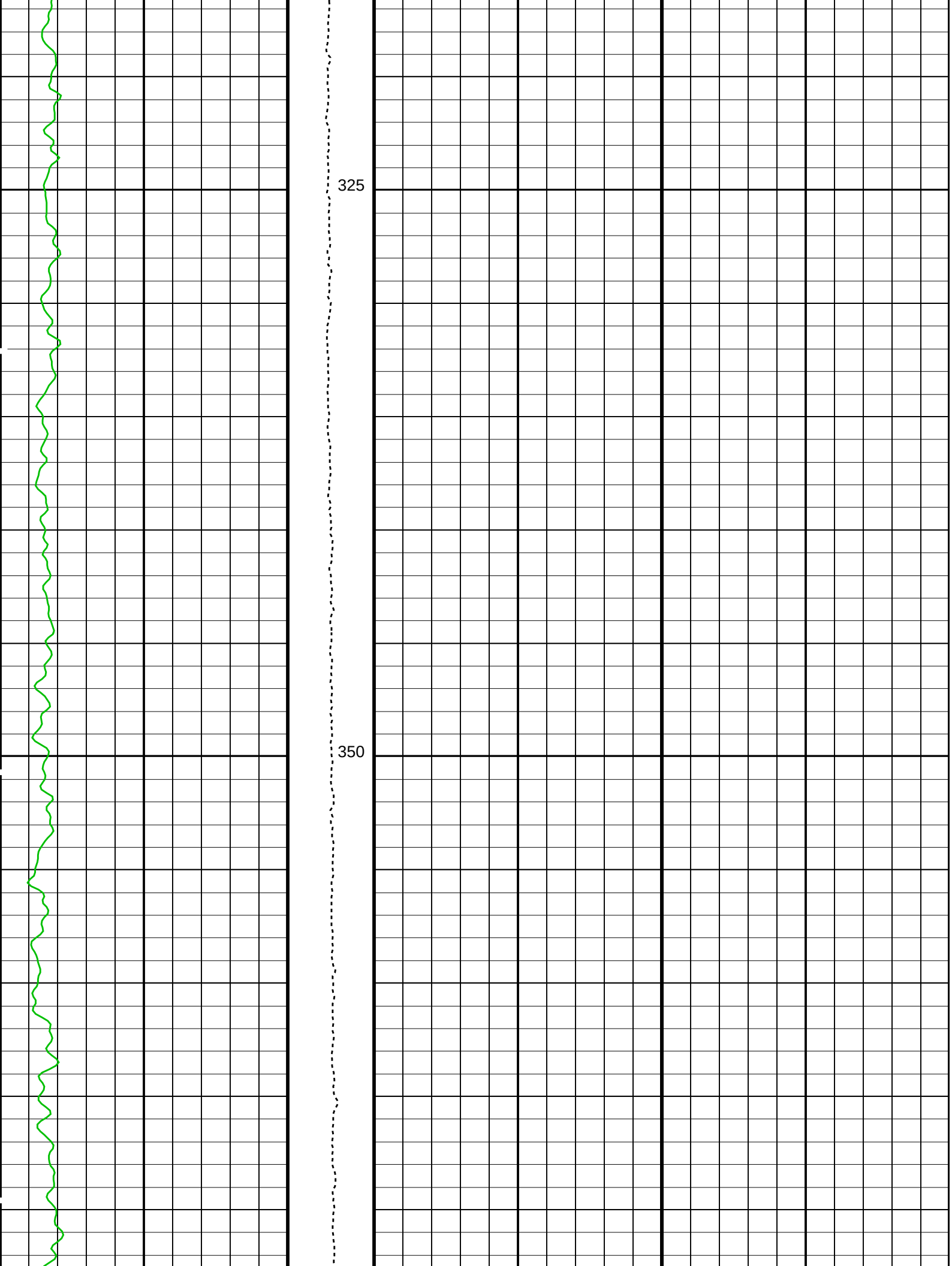

50
75

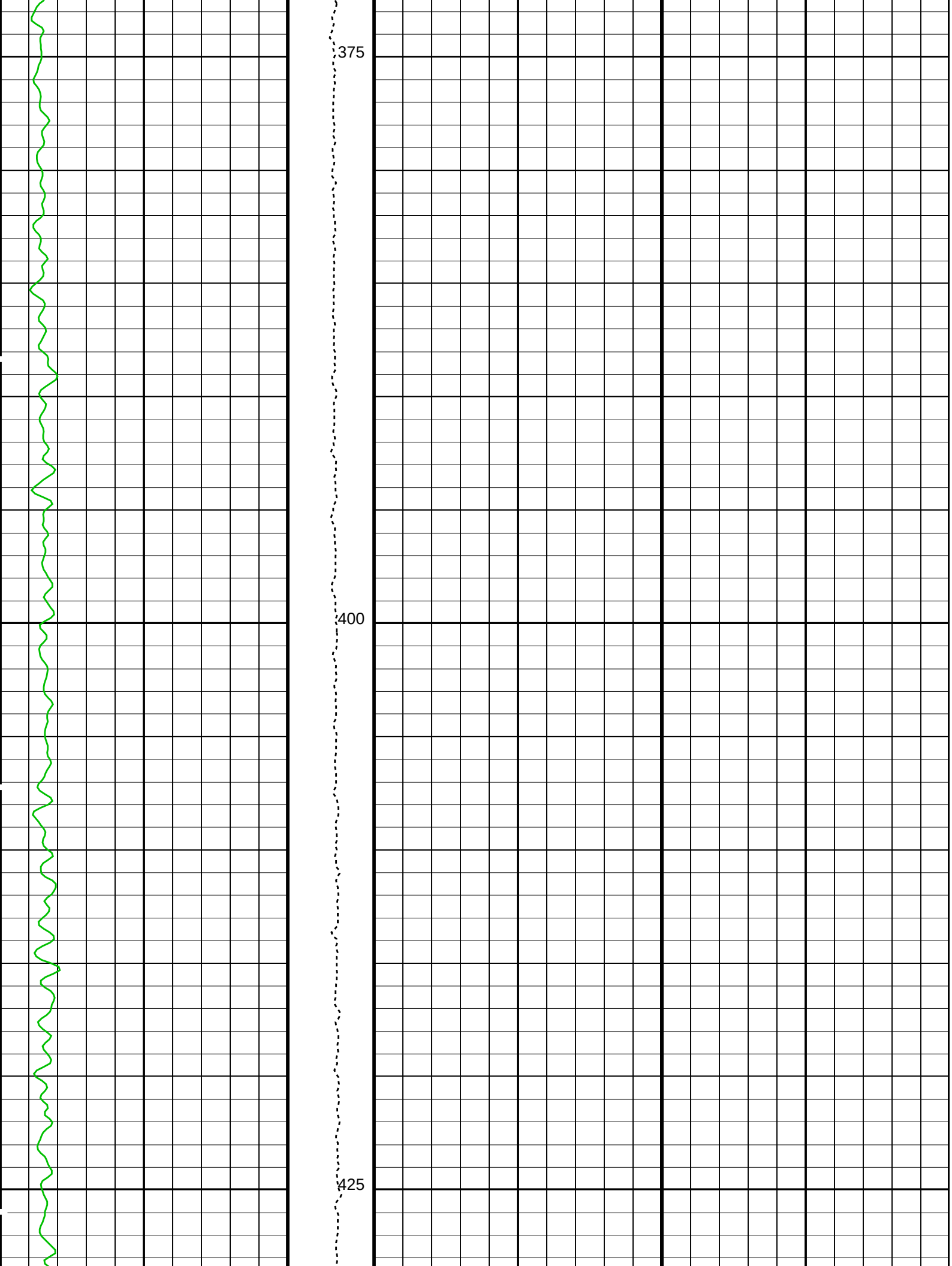

100
125

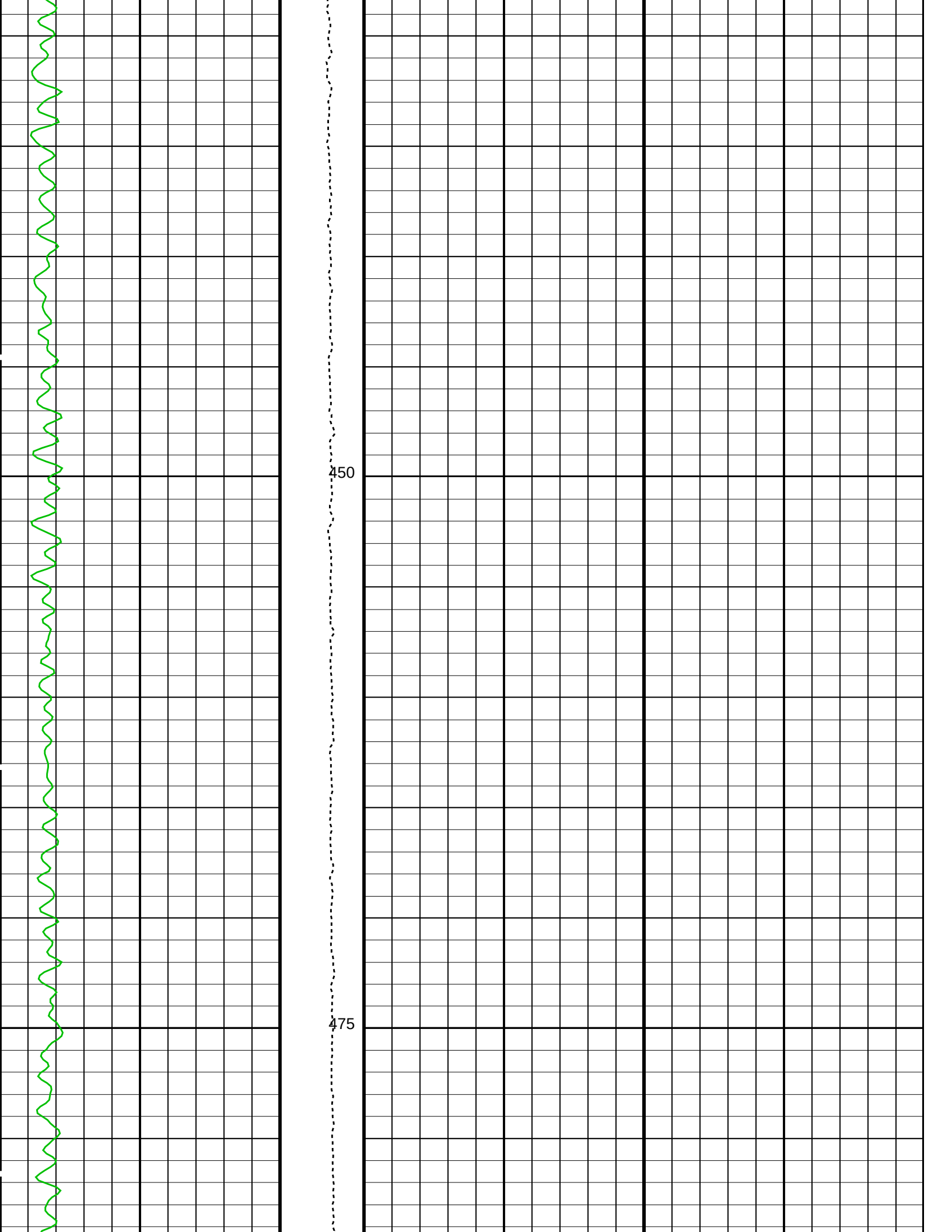

150
175
200

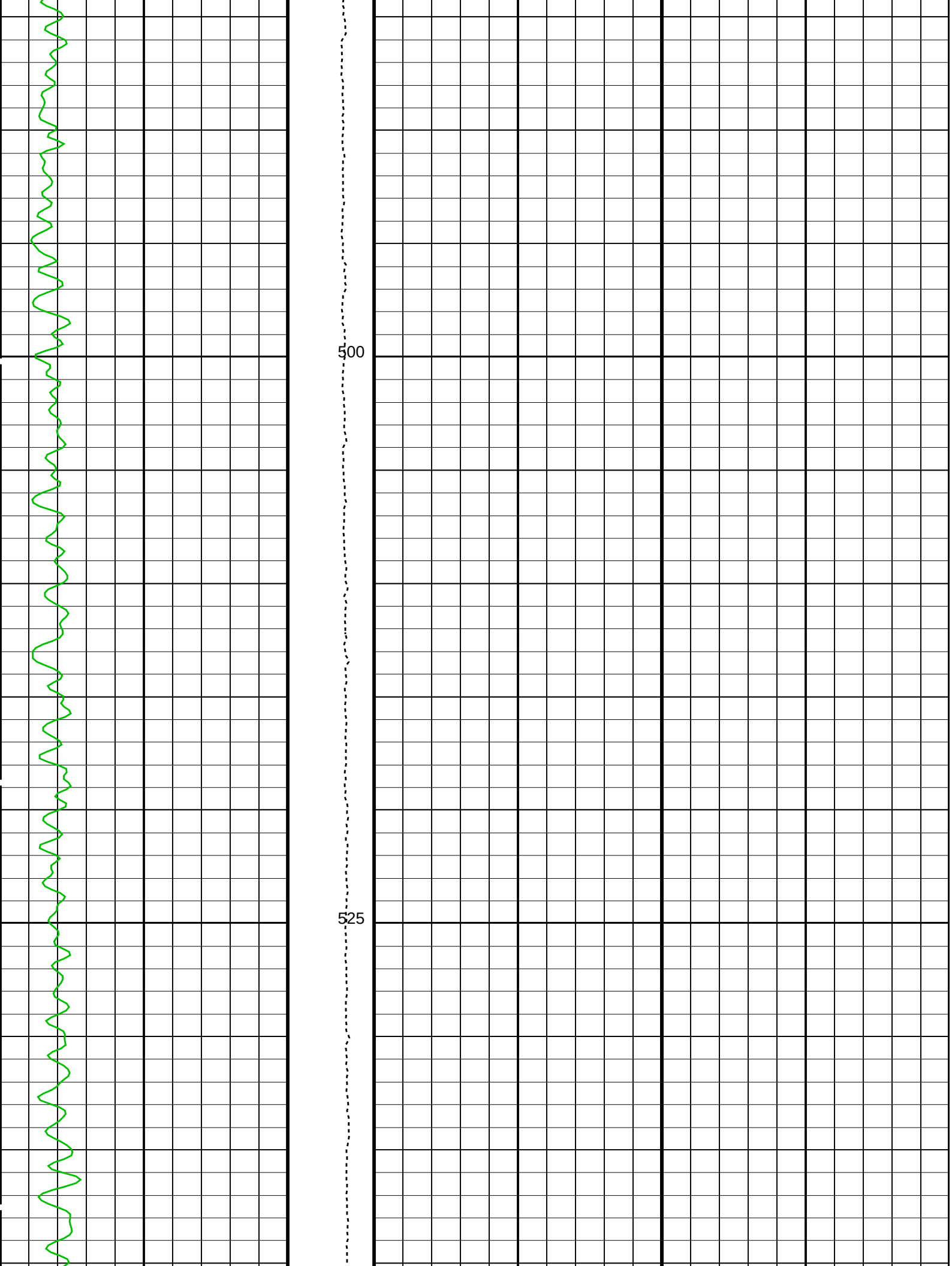

225
250

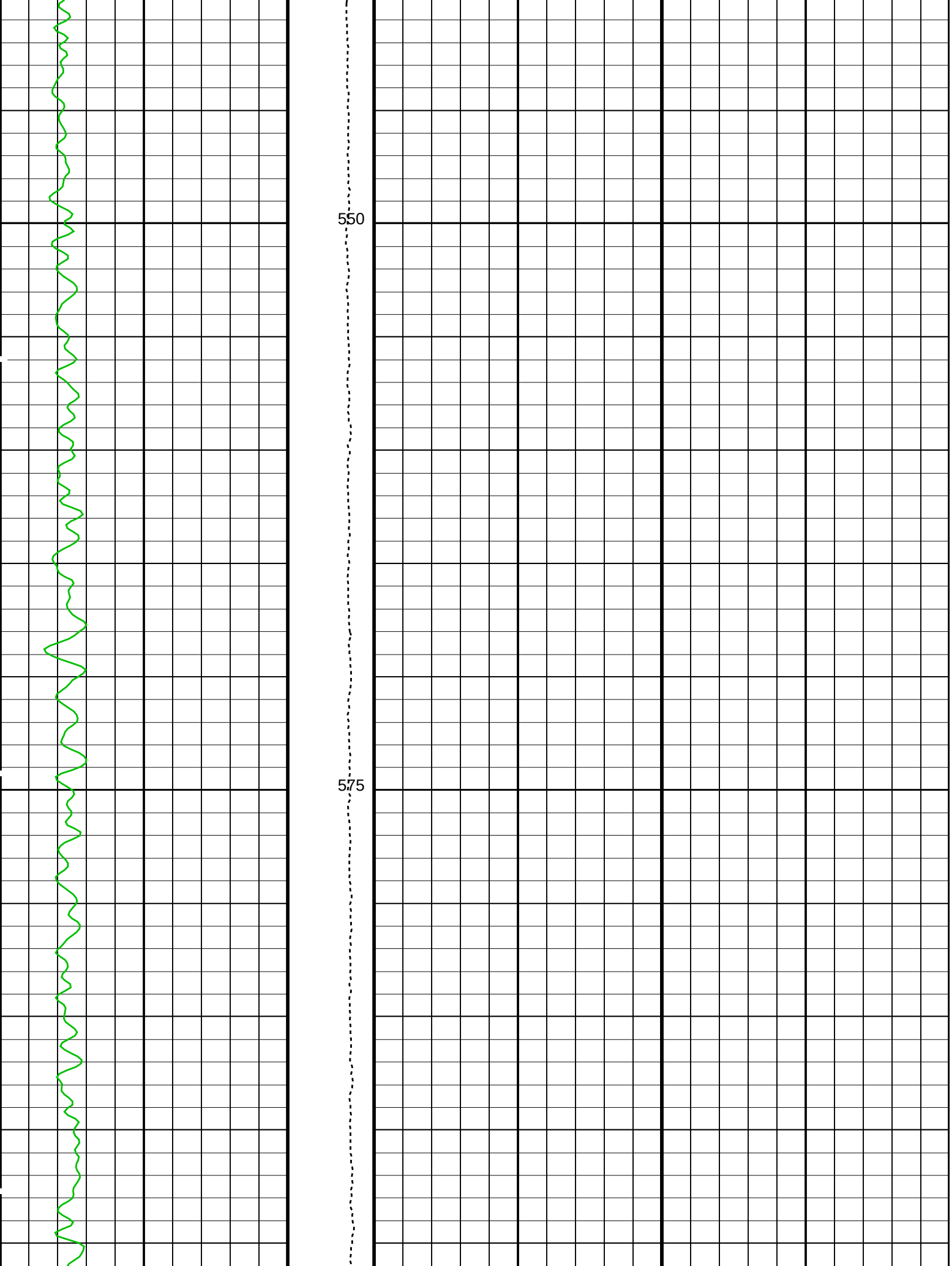

275
300

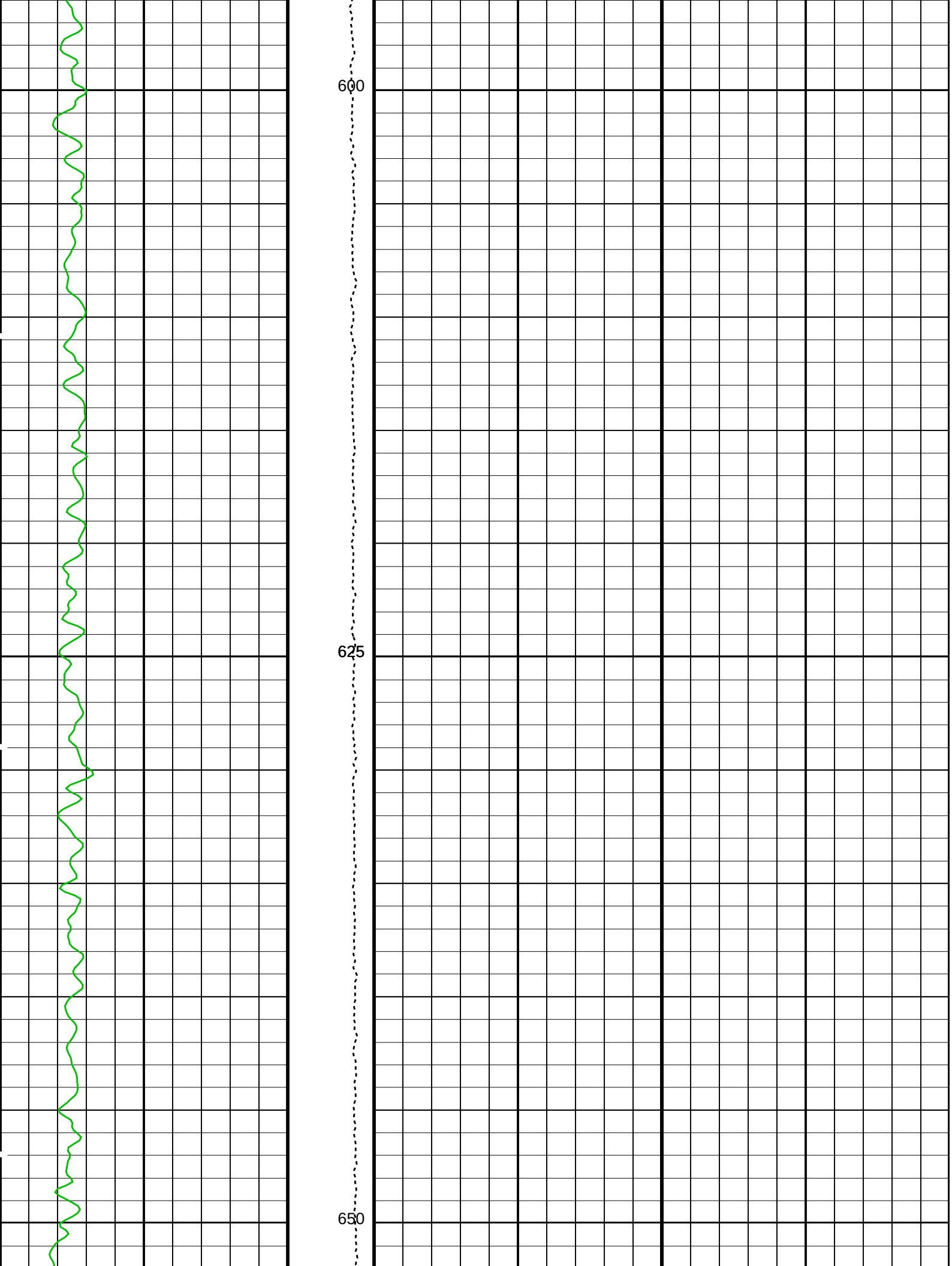

325
350

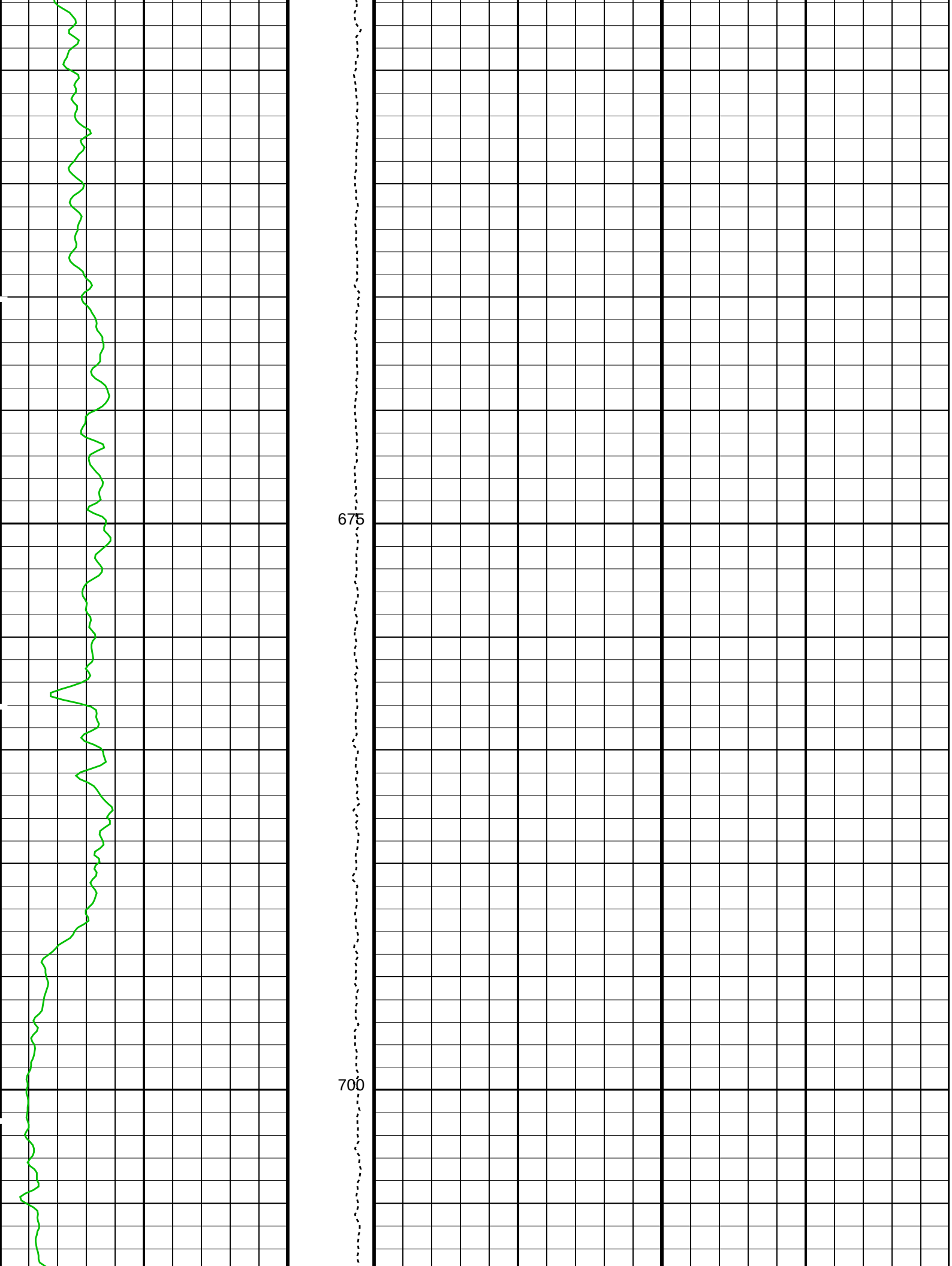

375
400
425

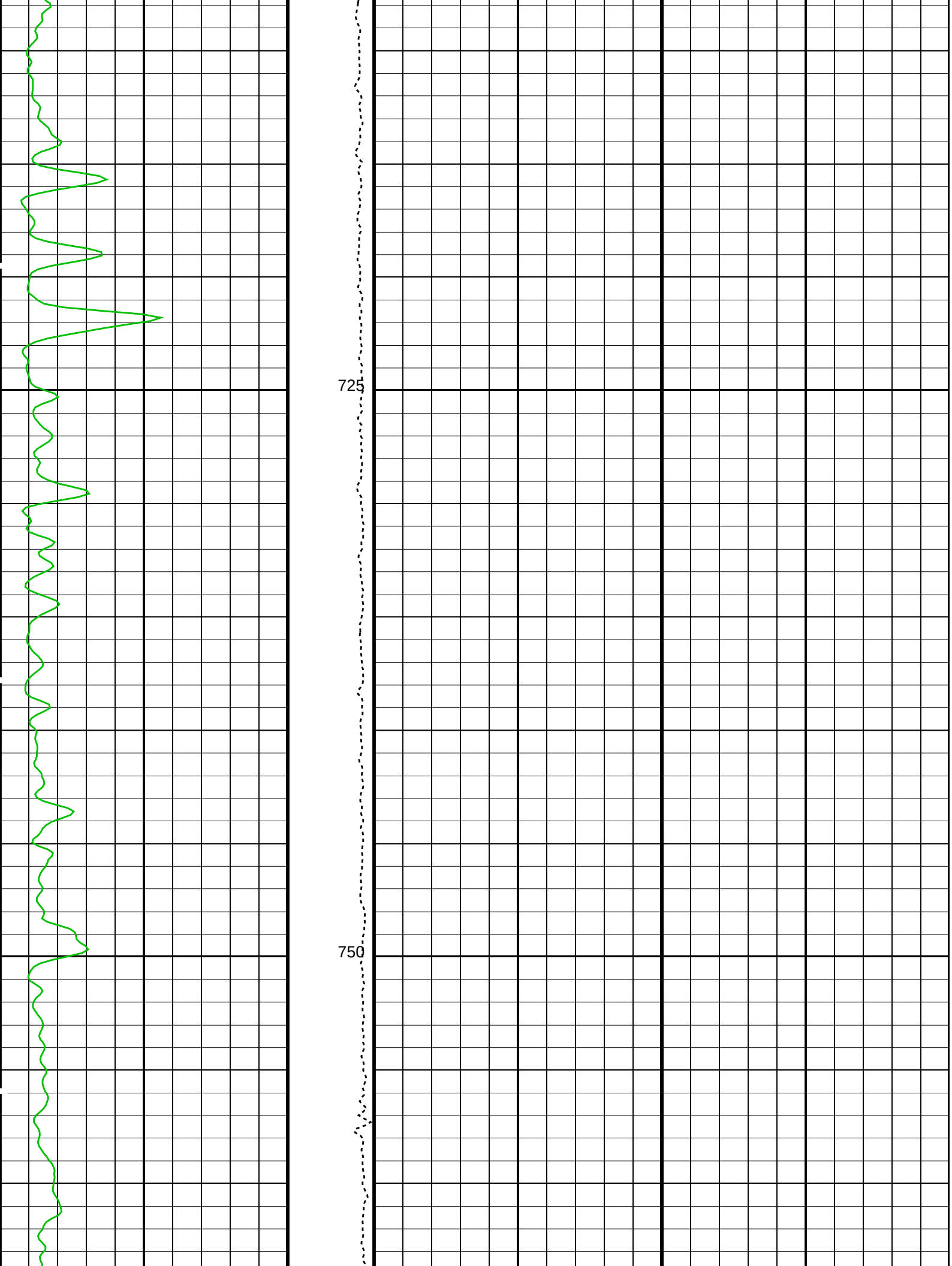

450
475

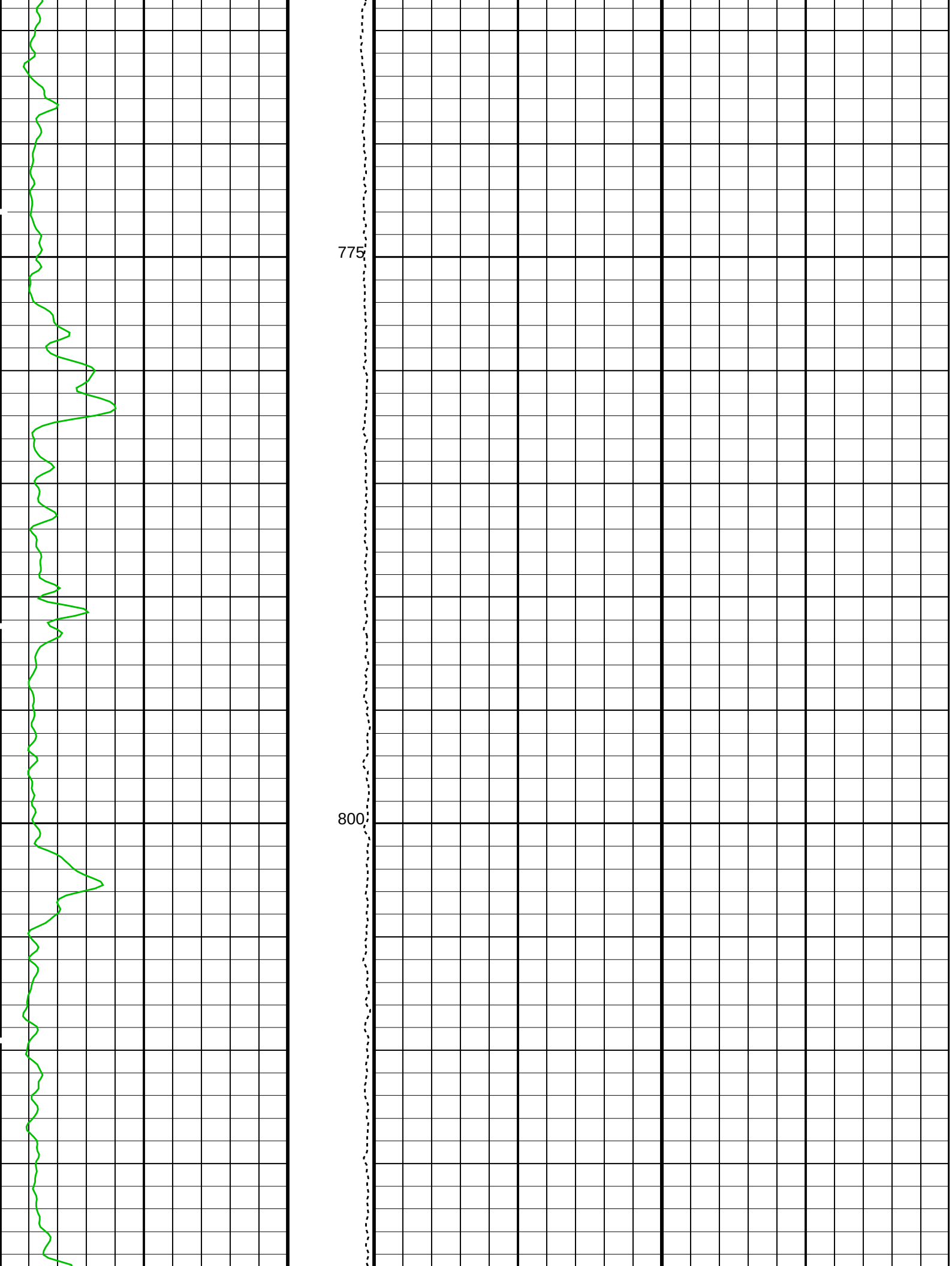

500
525

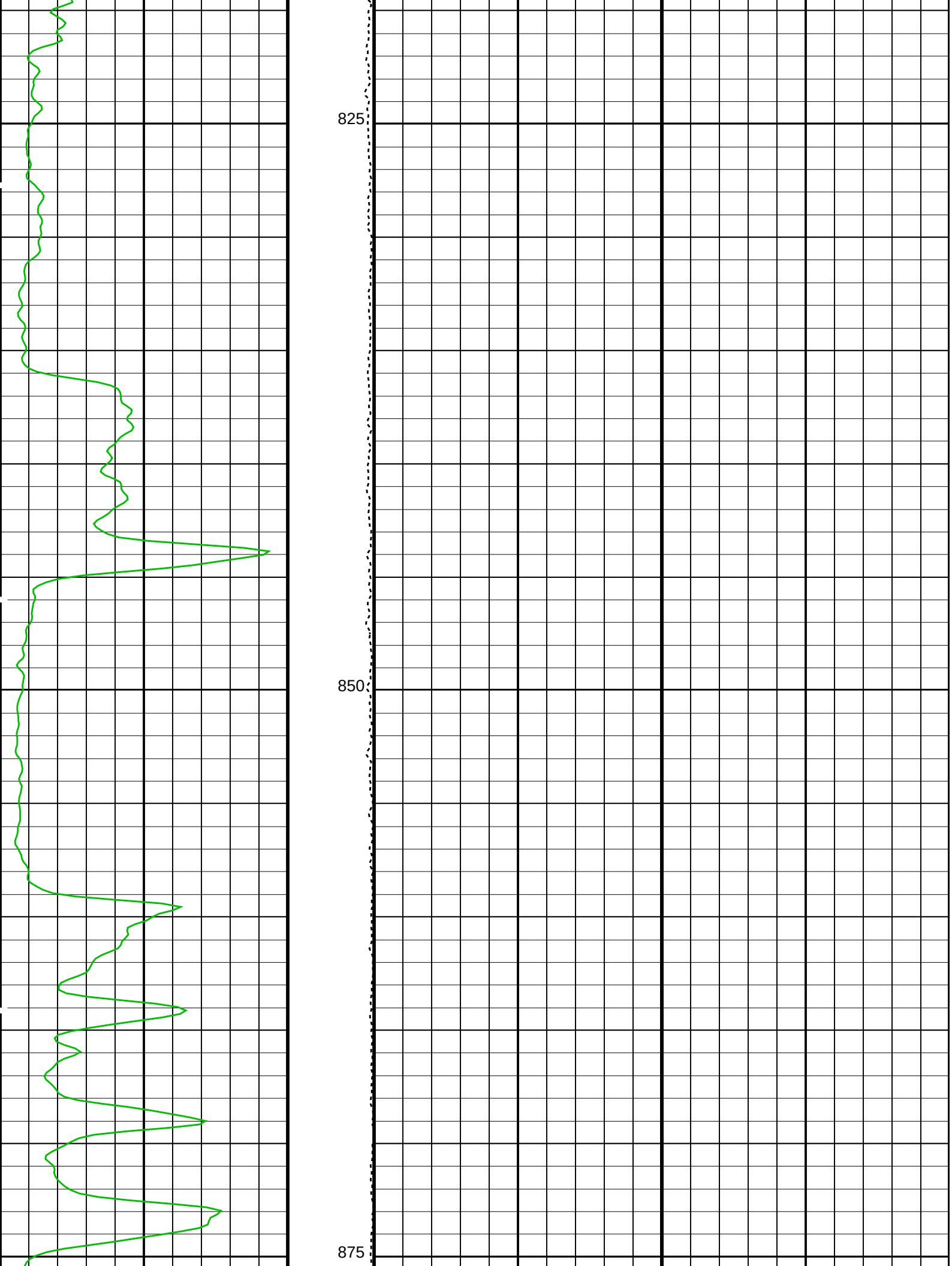

550
575

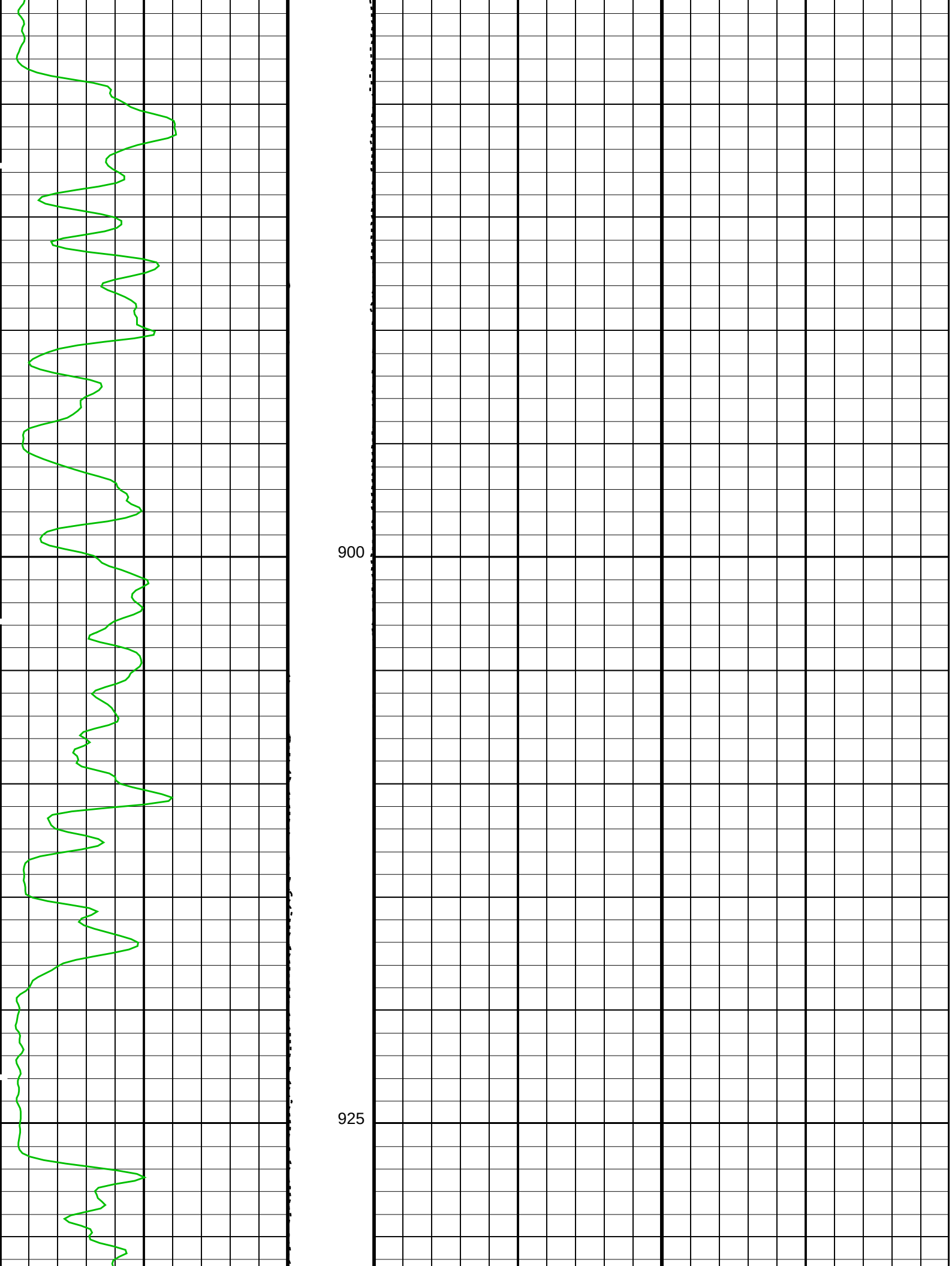

600
625
650

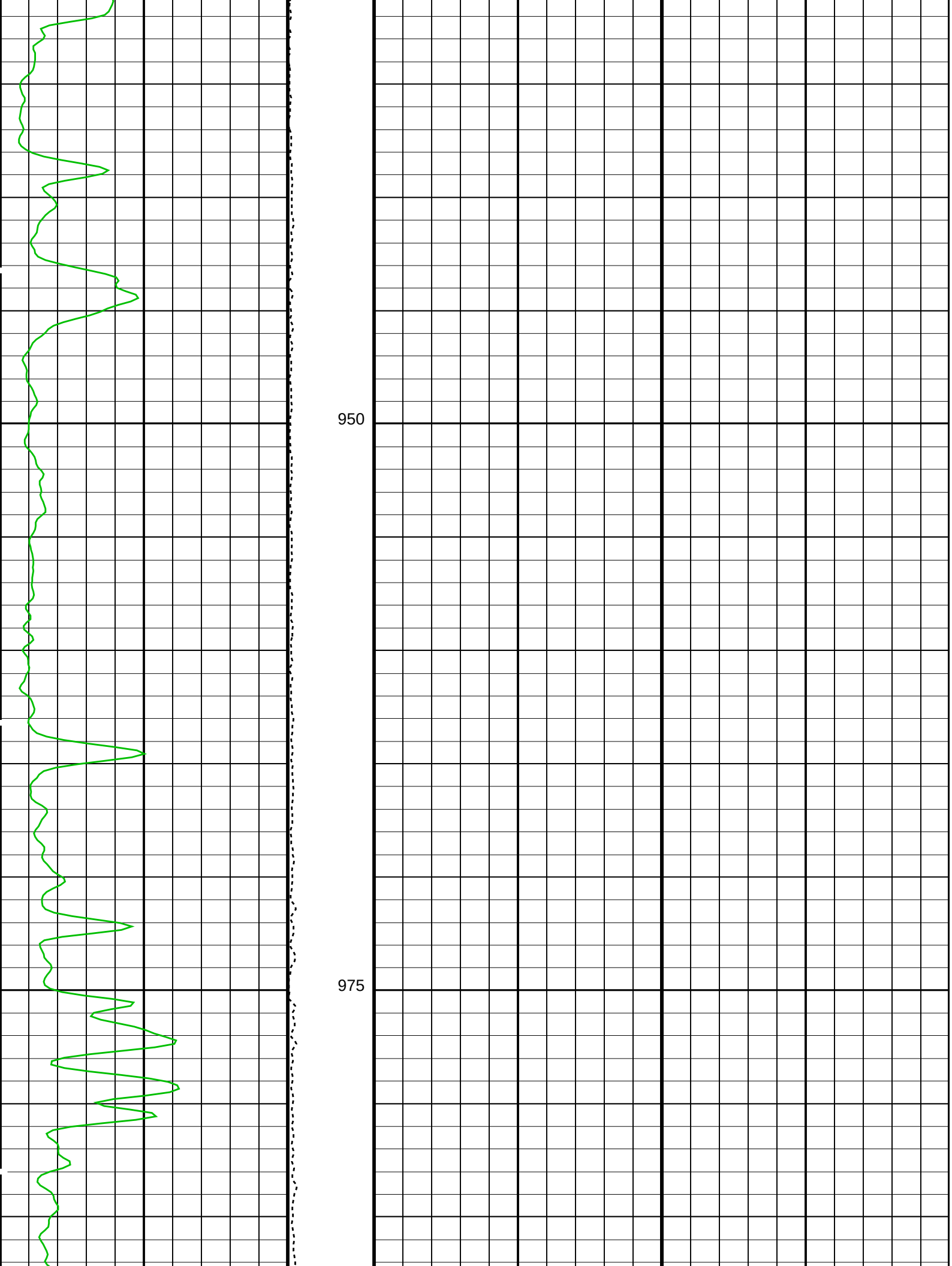

675
700

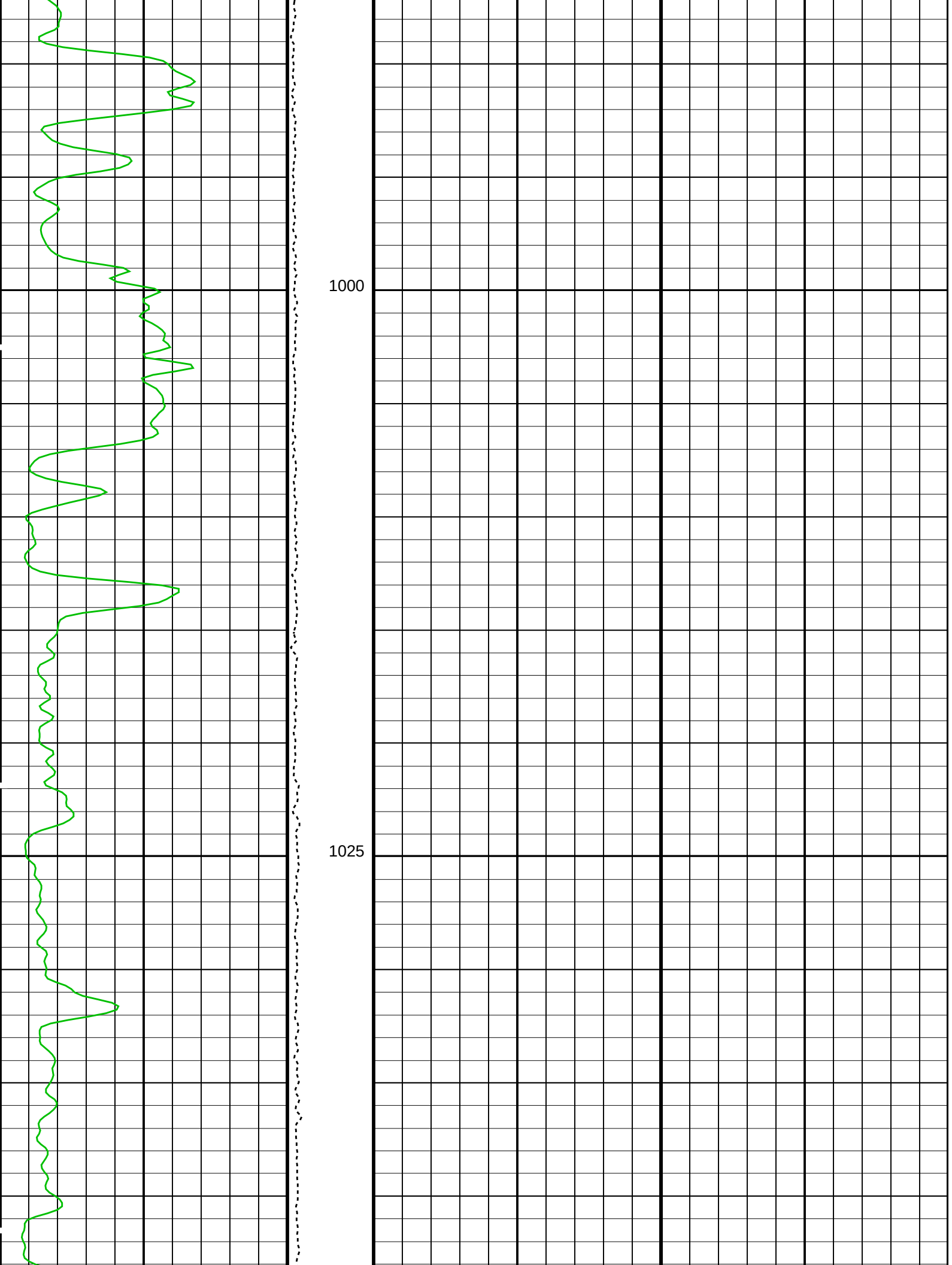

725
750

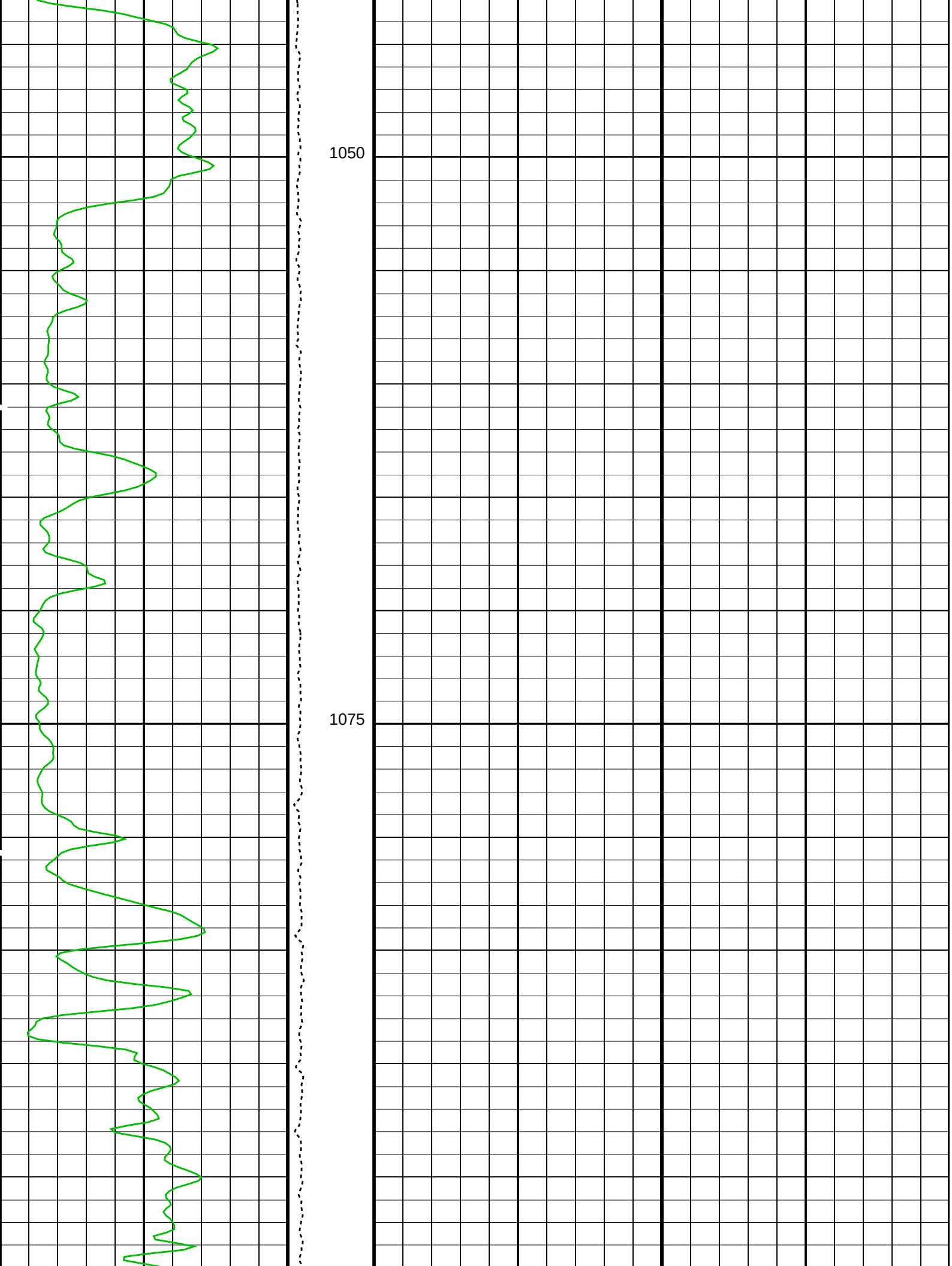

775
800

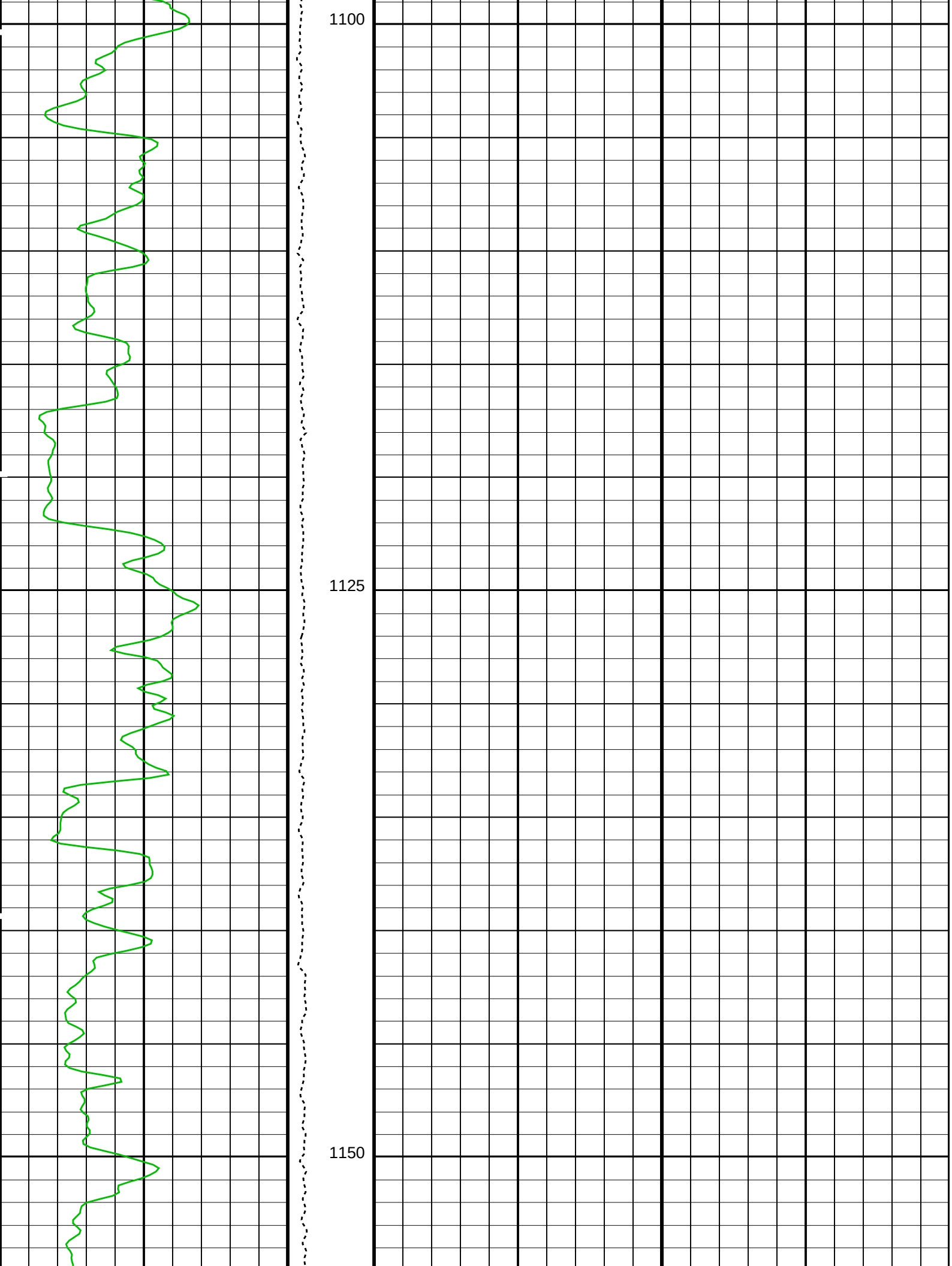

825
850
875

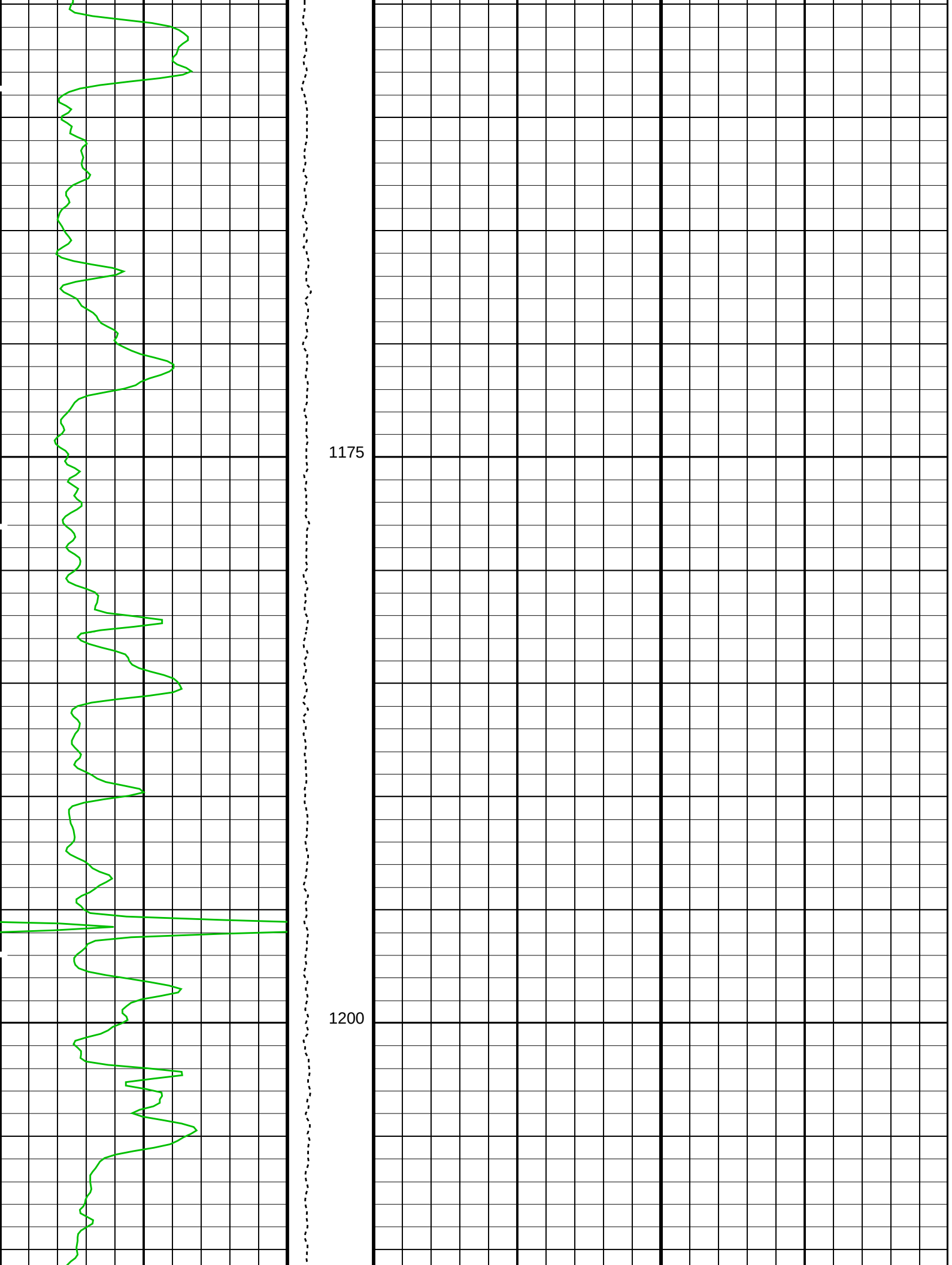

900
925

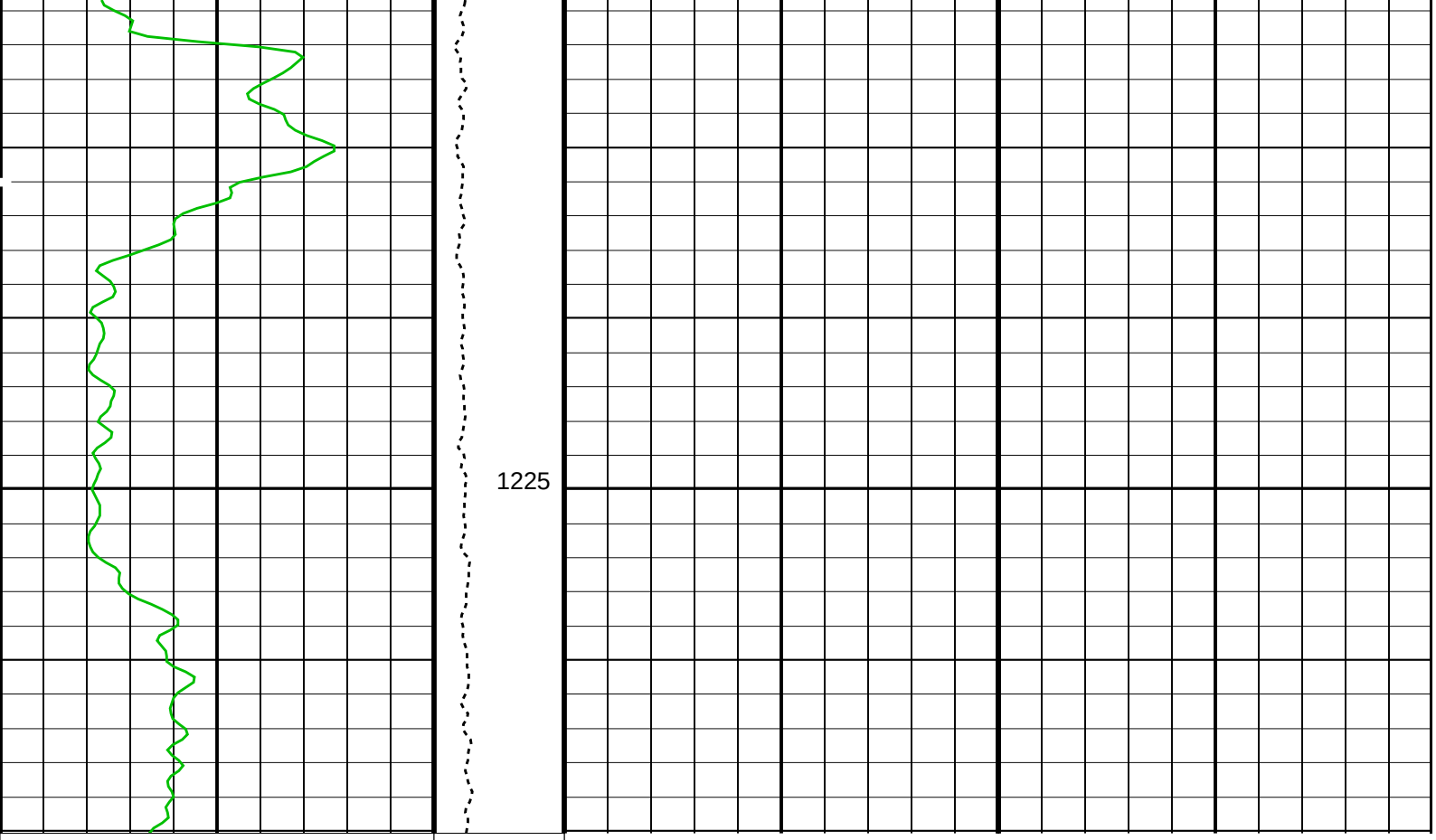

950
975


1000
1025


1050
1075


1100
1125
1150


1175
1200



Gamma Ray (GR)
0 (GAPI) 200

Tension (TENS) (LBF)
0 1000

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
	System and Miscellaneous	
DO	Depth Offset for Playback	0.0 M
PP	Playback Processing	NORMAL

Format: GR to surface Vertical Scale: 1:200 Graphics File Created: 04−Aug−2004 12:31

OP System Version: 12C0−301

MCM

HALS−B	12C0−301	DSLT−H	12C0−301
HILTB−FTB	12C0−301	DTC−H	12C0−301
BSP	12C0−301		

Input DLIS Files

DEFAULT	HALS_SONIC_TLD_MCFL_016LUP	FN:23	PRODUCER	04−Aug−2004 02:12	1255.0 M	25.0 M

Output DLIS Files

DEFAULT	HALS_SONIC_TLD_MCFL_039PUP	FN:53	PRODUCER	04−Aug−2004 12:31

Schlumberger

Repeat Analysis
1:200 Scale

Company: Lakes Oil N.L. **Well: Trifon 2**

Input DLIS Files

DEFAULT	HALS_SONIC_TLD_MCFL_014LUP	FN:19	PRODUCER	03−Aug−2004 22:51	2506.2 M	2406.1 M

Output DLIS Files

DEFAULT	HALS_SONIC_TLD_MCFL_015LUP	FN:21	PRODUCER	03−Aug−2004 23:13

OP System Version: 12C0−301

MCM

HALS−B	12C0−301	DSLT−H	12C0−301
HILTB−FTB	12C0−301	DTC−H	12C0−301
BSP	12C0−301		

PIP SUMMARY

- Integrated Hole Volume Minor Pip Every 0.1 M3
- Integrated Hole Volume Major Pip Every 1 M3
- Integrated Cement Volume Minor Pip Every 0.1 M3
- Integrated Cement Volume Major Pip Every 1 M3

Time Mark Every 60 S

SVEL_REP Curve (SVEL_REP)
1000 (M/S) 5000

SP_REP Curve (SP_REP)
−80 (MV) 20

HCAL_REP Curve (HCAL_REP)
4 (IN) 14

GR_REP Curve (GR_REP)
0 (GAPI) 200

BS_REP Curve (BS_REP)
4 (IN) 14

TENS_REP Curve (TENS_REP) (LBF)
0 1000

RXO8_REP Curve (RXO8_REP)
0.2 (OHMM) 2000

HRLS_REP Curve (HRLS_REP)
0.2 (OHMM) 2000

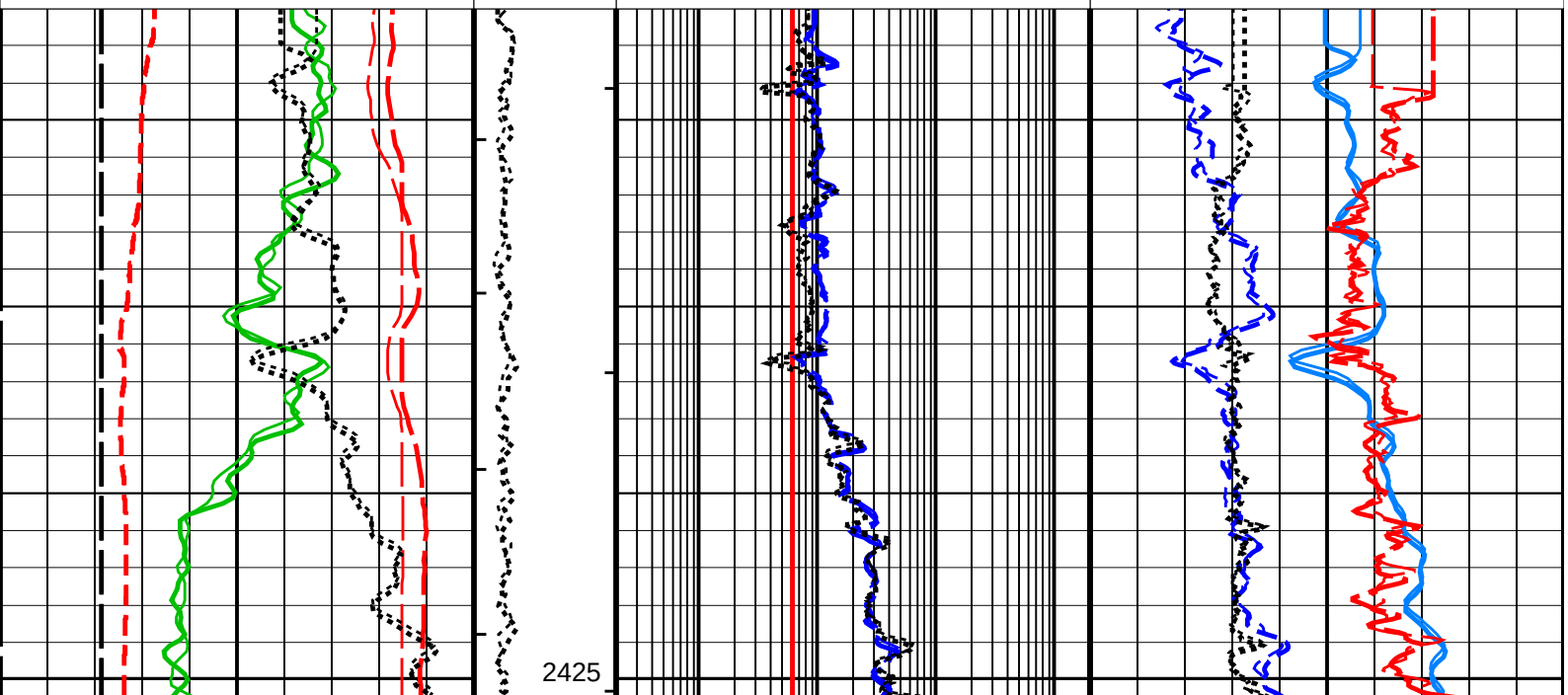
HRLD_REP Curve (HRLD_REP)
0.2 (OHMM) 2000

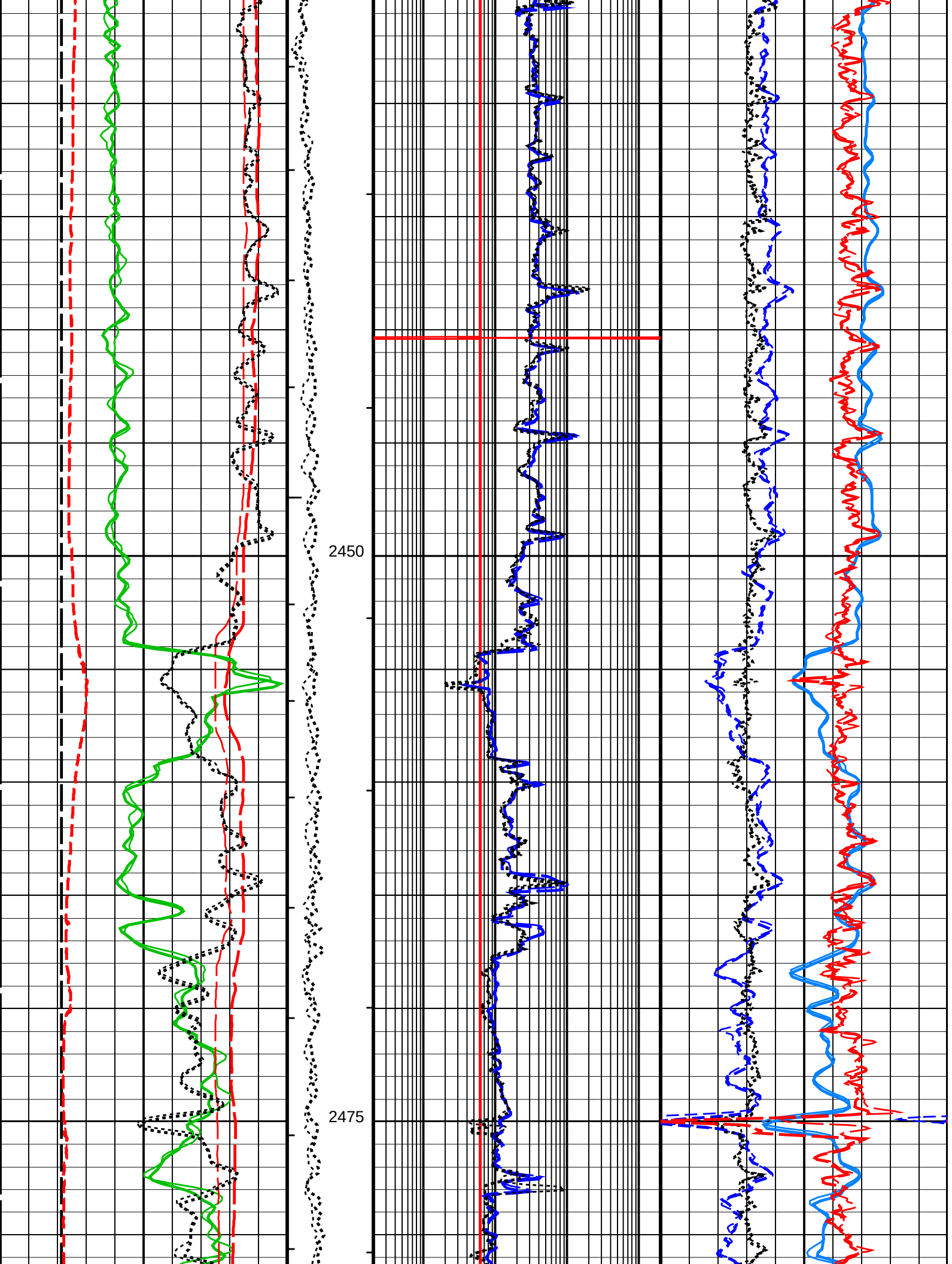
RHO8_REP Curve (RHO8_REP)
1.9 (G/C3) 2.9

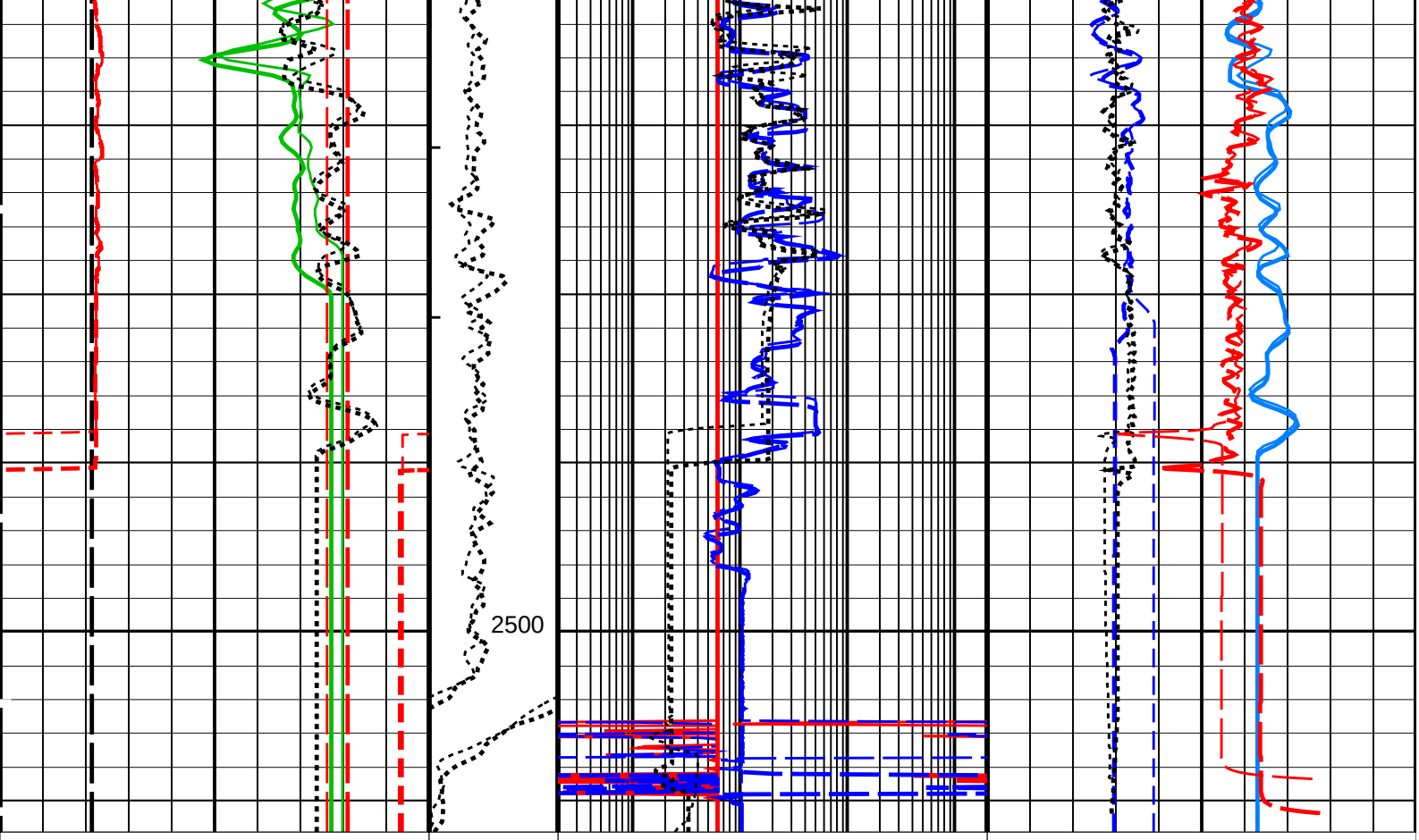
PEF8_REP Curve (PEF8_REP)
0 (−−−− 10

HTNP_REP Curve (HTNP_REP)
0.45 (V/V) −0.15

DT_REP Curve (DT_REP)
140 (US/F) 40




2450
2475



BS_REP Curve (BS_REP)	TENS_REP Curve (TENS_REP) (LBF)	HRLD_REP Curve (HRLD_REP)
4 (IN) 14	0 1000	0.2 (OHMM) 2000
GR_REP Curve (GR_REP)		HRLS_REP Curve (HRLS_REP)
0 (GAPI) 200		0.2 (OHMM) 2000
HCAL_REP Curve (HCAL_REP)		RXO8_REP Curve (RXO8_REP)
4 (IN) 14		0.2 (OHMM) 2000
SP_REP Curve (SP_REP)		
−80 (MV) 20		
SVEL_REP Curve (SVEL_REP)		
1000 (M/S) 5000		

DT_REP Curve (DT_REP)	
140 (US/F) 40	
HTNP_REP Curve (HTNP_REP)	
0.45 (V/V) −0.15	
PEF8_REP Curve (PEF8_REP)	
0 (−−−− 10	
RHO8_REP Curve (RHO8_REP)	
1.9 (G/C3) 2.9	

PIP SUMMARY

- Integrated Hole Volume Minor Pip Every 0.1 M3
- Integrated Hole Volume Major Pip Every 1 M3
- Integrated Cement Volume Minor Pip Every 0.1 M3
- Integrated Cement Volume Major Pip Every 1 M3

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	HALS−B: HILT Azimuthal Laterolog Sonde B		
	HALS Type of Image	Conductivities	
A2EX	HALS−B A2 Extended (Groningen effect)	OFF	
AGOS	HALS−GPIT OFFSET	−90	IN
ARIP_LTS	HALS Long Tool String Correction	OFF	
ARIP_SHOULDER	HALS Shoulder Correction	OFF	
BHCC	HALS Borehole Correction	ON	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	80	DEGC
DHOP	Diameter & Eccentering used in HALS Borehole Corrections		
		Caliper_Eccentered	
CCSF	Generalized Caliper Selection	HCAL	

GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
GRCC	HALS Groningen Correction	OFF	
GRSE	Generalized Mud Resistivity Selection	HALS_RESIST	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
HLAC	HALS−B Loop A Coefficient	LOW	
HLMO	HALS Logging Mode	HIRES	
HMSO	HALS Mechanical Standoff	0.5	IN
HRUN	HALS−B Record Uncalibrated Channels	NO	
IMOS	HALS Image Orientation	OFF	
LIMP	HALS Left Image Processing	DeepRaw	
LOP1	HALS−B Mode 1 Loop Mode	OFF	
LOP2	HALS−B Mode 2 Loop Mode	OFF	
LOP3	HALS−B Mode 3 Loop Mode	OFF	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
RIMP	HALS Right Image Processing	ShallowRaw	
RTCOMP	HALS Rt Computation	Hals_Highres	
RTRE	HALS Resistivity Threshold	100000	OHMM
SHT	Surface Hole Temperature	20	DEGC
SPCO	HALS−B Special Power Connection	ON	
TCOR	HALS TLC Correction	OFF	
UNSPK	HALS Despiking Filter Option	OFF	
UNSPK_THOLD	HALS Despiking Filter Threshold (in %)	20	%
UNSPK_WINDOW	HALS Despiking Filter Window (inches)	6	IN
DSLT−H: Digitizing Sonic Logging Tool			
	Telemetry Mode	DSLC_FTB	
	DSLT Firing Mode	BHC	
AGC	Automatic Gain Control Status	ON	
AMSG	Auxiliary Minimum Sliding Gate	140	US
BILI	Bond Index Level for Zone Isolation	0.8	
CBAF	CBL Adjustment Factor	1	
CBCF	CBL Correction Factor	4	
CBLG	CBL Gate Width	45	US
CDTS	C−Delta−T Shale	100	US/F
CSTR	Compressive Strength of Cement	0	KPAA
DDEL	Digitizing Delay	0	US
DETE	Delta−T Detection	E2	
DFAD	Digital First Arrival Detection Switch	DSP	
DIVL	DSLT Depth Sampling Interval	20	
DRCS	DSLT DLIS Recording Size	140	
DSIN	Digitizing Sample Interval	10	
DTCM	Delta−T Computation Mode	FULL	
DTF	Delta−T Fluid	189	US/F
DTFS	DSLC Telemetry Frame Size	316	
DTM	Delta−T Matrix	56	US/F
DWCO	Digitizing Word Count	140	
FCF	CBL Fluid Compensation Factor	1	
GAI	Manual Gain	40	
GOBO	Good Bond	2	MV
HRSP	High Resolution Spacing	5.118	IN
ITTS	Integrated Transit Time Source	DT	
LTUT	Lower to Upper Transmitter Spacing Ratio	1	
MAHTR	Manual High Threshold Reference	120	
MCI	Minimum Cemented Interval for Isolation	3.048	M
MGAI	Maximum Gain	60	
MIGA	Minimum Gain	1	
MNHTR	Minimum High Threshold Reference	100	
MODE	Sonic Firing Mode	BHC	
MSA	Minimum Sonic Amplitude	18.4103	MV
NMSG	Near Minimum Sliding Gate	140	US
NMXG	Near Maximum Sliding Gate	910	US
NUMP	Number of Detection Passes	2	
RATE	Firing Rate	R15	
RDFA	Reset DFAD	OFF	
SDTH	Switch Down Threshold	20000	
SFAF	Sonic Formation Attenuation Factor	10	DB/M
SGAD	Sliding Gate Status	ON	
SGAI	Selectable Acquisition Gain	AUTO	
SGCL	Sliding Gate Closing Delta−T	140	US/F
SGCW	Sliding Gate Closing Width	25	US
SGDT	Sliding Gate Delta−T	40	US/F
SGW	Sliding Gate Width	110	US
SLEV	Signal Level for AGC	5000	
SPFS	Sonic Porosity Formula	RAYMER_HUNT	
SPSO	Sonic Porosity Source	DT	
SUTH	Switch Up Threshold	1000	
VDLG	VDL Manual Gain	40	
WAGC	Waveform AGC Allow/Disallow	OFF	
WGAI	Waveform Manual Gain	20	
WGDT	Waveform Gain Delta−T	240	US/F
WGIN	Waveform Gain Interval	2540	US
WMOD	Waveform Firing Mode	FULL	
HILTB−FTB: High resolution Integrated Logging Tool−DTS			
BHFL	Borehole Fluid Type	WATER	

BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	80	DEGC
BSCO	Borehole Salinity Correction Option	YES	
CCCO	Casing & Cement Thickness Correction Option	NO	
DHC	Density Hole Correction	BS	
DPPM	Density Porosity Processing Mode	HIRS	
EXSICL	External Shale Indicator Clean Value	20	
EXSISH	External Shale Indicator Shale Value	150	
FD	Fluid Density	1	G/C3
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
FPHI	Form Factor Porosity Source	DPHZ	
FSAL	Formation Salinity	−50000	PPM
FSCO	Formation Salinity Correction Option	NO	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
GRSE	Generalized Mud Resistivity Selection	HALS_RESIST	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
HACPP	Accelerometer PROM Presence	PRESENT_FILE	
HART	Accelerometer Reference Temperature	20	DEGC
HDCOD	HILT Density Coal detection	2	G/C3
HDSAD	HILT Density Salt detection	2.1	G/C3
HILT_GAS_DENSITY	HILT Gas Downhole Density	0	G/C3
HILT_GAS_OPTION	HILT Gas Computation Option	OFF	
HNCOD	HILT Neutron Coal detection	45	PU
HNSAD	HILT Neutron Salt detection	5	PU
HPHIECUT	HILT effective Porosity Cutoff	5	PU
HSCO	Hole Size Correction Option	YES	
HSIS	HILT Shale Indicator Selection	GR	
HSWCUT	HILT Water Saturation from AITH cutoff	50	%
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
MCCO	Mud Cake Correction Option	NO	
MCOR	Mud Correction	NATU	
MDEN	Matrix Density	2.65	G/C3
MHC0	MCFL B0 Contrast Correction Coefficient	2.2e−005	OHMS
MHC1	MCFL B1 Contrast Correction Coefficient	3.2e−005	OHMS
MHCC	MCFL High Contrast Correction Switch	NO	
MPOF	MCFL Processing Operation Mode	ON	
MWCO	Mud Weight Correction Option	YES	
NAAC	HRDD APS Activation Correction	OFF	
NMT	HILT Nuclear Mud Type	NOBARITE	
NPRM	HRDD Processing Mode	HiRes	
NSAR	HRDD Depth Sampling Rate	1	IN
PHIMAX	HILT max porosity	35	PU
PTCO	Pressure/Temperature Correction Option	YES	
SDAT	Standoff Data Source	SOCN	
SEXP_HILT	HILT Saturation Exponent	2	
SHT	Surface Hole Temperature	20	DEGC
SOCN	Standoff Distance	0.125	IN
SOCO	Standoff Correction Option	NO	
BSP: Bridle SP			
SPNV	SP Next Value	0	MV
HOLEV: Integrated Hole/Cement Volume			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	80	DEGC
FCD	Future Casing (Outer) Diameter	4.5	IN
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
GRSE	Generalized Mud Resistivity Selection	HALS_RESIST	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
HVCS	Integrated Hole Volume Caliper Selection	HCAL	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
SHT	Surface Hole Temperature	20	DEGC
STI: Stuck Tool Indicator			
LBFR	Trigger for MAXIS First Reading Label	TDL	
STKT	STI Stuck Threshold	0.762	M
TDD	Total Depth − Driller	2500.00	M
TDL	Total Depth − Logger	−50000.00	M
System and Miscellaneous			
ALTDPCHAN	Name of alternate depth channel	SpeedCorrectedDepth	
BS	Bit Size	6.125	IN
BSAL	Borehole Salinity	28000.00	PPM
CSIZ	Current Casing Size	7.000	IN
CWEI	Casing Weight	26.00	LB/F
DFD	Drilling Fluid Density	1.10	G/C3
DORL	Depth Offset for Repeat Analysis	0.7	M
MST	Mud Sample Temperature	14.30	DEGC
PBVSADP	Use alternate depth channel for playback	NO	
RMFS	Resistivity of Mud Filtrate Sample	0.2180	OHMM
RW	Resistivity of Connate Water	1.0000	OHMM
TD	Total Depth	2500	M
TWS	Temperature of Connate Water Sample	37.78	DEGC

OP System Version: 12C0−301

MCM

HALS−B	**12C0−301**	**DSLT−H**	**12C0−301**
HILTB−FTB	**12C0−301**	**DTC−H**	**12C0−301**
BSP	**12C0−301**		

Input DLIS Files

DEFAULT	**HALS_SONIC_TLD_MCFL_014LUP**	**FN:19**	**PRODUCER**	**03−Aug−2004 22:51**	**2506.2 M**	**2406.1 M**

Output DLIS Files

DEFAULT	**HALS_SONIC_TLD_MCFL_015LUP**	**FN:21**	**PRODUCER**	**03−Aug−2004 23:13**

Schlumberger

Calibrations

MAXIS Field Log

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
HILT Azimuthal Laterolog Sonde B Wellsite Calibration − HALSB Total current mode 1							
Before: 3−Aug−2004 20:40							
Itot 1 Gain	1.000	N/A	0.997	N/A	N/A	0.026	MA
Itot 1 Phase	0.000	N/A	0.000	N/A	N/A	0.100	DEG
HILT Azimuthal Laterolog Sonde B Wellsite Calibration − HALSB Aux current mode 1							
Before: 3−Aug−2004 20:40							
Iaux 1 Gain	1.000	N/A	0.995	N/A	N/A	0.035	MA
Iaux 1 Phase	0.000	N/A	0.109	N/A	N/A	1.900	DEG
HILT Azimuthal Laterolog Sonde B Wellsite Calibration − HALSB Aux current mode 2							
Before: 3−Aug−2004 20:40							
Iaux 2 Gain	1.000	N/A	0.980	N/A	N/A	0.048	MA
Iaux 2 Phase	0.000	N/A	−0.000	N/A	N/A	0.100	DEG
HILT Azimuthal Laterolog Sonde B Wellsite Calibration − HALSB A0 current mode 3A							
Before: 3−Aug−2004 20:40							
I0 3A Gain	1.000	N/A	0.985	N/A	N/A	0.036	UA
I0 3A Phase	0.000	N/A	0.000	N/A	N/A	0.100	DEG
HILT Azimuthal Laterolog Sonde B Wellsite Calibration − HALSB A0 current mode 3B							
Before: 3−Aug−2004 20:40							
I0 3B Gain	1.000	N/A	0.993	N/A	N/A	0.036	UA
I0 3B Phase	0.000	N/A	0.000	N/A	N/A	0.100	DEG
HILT Azimuthal Laterolog Sonde B Wellsite Calibration − HALSB Torpedo Voltage gains							
Before: 3−Aug−2004 20:40							
Zvt 1 Gain	1.000	N/A	0.994	N/A	N/A	0.025	MV
Zvt 2 Gain	1.000	N/A	0.986	N/A	N/A	0.045	MV
Zvt 3 Gain	1.000	N/A	0.987	N/A	N/A	0.045	MV
HILT Azimuthal Laterolog Sonde B Wellsite Calibration − HALSB Torpedo Voltage Phases							
Before: 3−Aug−2004 20:40							
Zvt 1 Phase	0.000	N/A	0.183	N/A	N/A	2.300	DEG
Zvt 2 Phase	0.000	N/A	0.742	N/A	N/A	0.800	DEG
Zvt 3 Phase	0.000	N/A	0.465	N/A	N/A	0.500	DEG
HILT Azimuthal Laterolog Sonde B Wellsite Calibration − HALSB Upper Bridle Voltage mode 1							
Before: 3−Aug−2004 20:40							

Before: 3−Aug−2004 20:40

Zvb 1 Gain	1.000	N/A	0.994	N/A	N/A	0.025	MV
Zvb 1 Phase	0.000	N/A	0.103	N/A	N/A	2.300	DEG

HILT Azimuthal Laterolog Sonde B Wellsite Calibration − HALSB M1−M2 Voltage gains
Before: 3−Aug−2004 20:40

ZVM 1 Gain	1.000	N/A	0.997	N/A	N/A	0.039	UV
ZVM 2 Gain	1.000	N/A	0.994	N/A	N/A	0.019	UV
ZVM 3 Gain	1.000	N/A	0.992	N/A	N/A	0.019	UV

HILT Azimuthal Laterolog Sonde B Wellsite Calibration − HALSB M1−M2 Voltage Phases
Before: 3−Aug−2004 20:40

ZVM 1 Phase	0.000	N/A	0.238	N/A	N/A	3.800	DEG
ZVM 2 Phase	0.000	N/A	1.573	N/A	N/A	1.300	DEG
ZVM 3 Phase	0.000	N/A	0.841	N/A	N/A	1.000	DEG

HILT Azimuthal Laterolog Sonde B Wellsite Calibration − HALSB M1−A0* Voltage gains
Before: 3−Aug−2004 20:40

ZVH 1 Gain	1.000	N/A	0.998	N/A	N/A	0.013	UV
ZVH 2 Gain	1.000	N/A	0.992	N/A	N/A	0.046	UV
ZVH 3 Gain	1.000	N/A	0.992	N/A	N/A	0.046	UV

HILT Azimuthal Laterolog Sonde B Wellsite Calibration − HALSB M1−A0* Voltage Phases
Before: 3−Aug−2004 20:40

ZVH 1 Phase	0.000	N/A	0.114	N/A	N/A	3.800	DEG
ZVH 2 Phase	0.000	N/A	1.805	N/A	N/A	1.300	DEG
ZVH 3 Phase	0.000	N/A	0.917	N/A	N/A	1.000	DEG

HILT Azimuthal Laterolog Sonde B Wellsite Calibration − HALSB Aux Voltage gains
Before: 3−Aug−2004 20:40

ZVA 1 Gain	1.000	N/A	1.098	N/A	N/A	0.032	MV
ZVA 2 Gain	1.000	N/A	1.073	N/A	N/A	0.045	MV
ZVA 3 Gain	1.000	N/A	1.012	N/A	N/A	0.045	MV

HILT Azimuthal Laterolog Sonde B Wellsite Calibration − HALSB Aux Voltage Phases
Before: 3−Aug−2004 20:40

ZVA 1 Phase	0.000	N/A	0.975	N/A	N/A	2.300	DEG
ZVA 2 Phase	0.000	N/A	−0.162	N/A	N/A	0.800	DEG
ZVA 3 Phase	0.000	N/A	0.325	N/A	N/A	0.500	DEG

HILT Azimuthal Laterolog Sonde B Wellsite Calibration − HALSB A0*−A0*' Diff. Voltage mode 1
Before: 3−Aug−2004 20:40

ZVD 1 Gain	1.000	N/A	1.003	N/A	N/A	0.047	UV
ZVD 1 Phase	0.000	N/A	−0.319	N/A	N/A	3.800	DEG

HILT Azimuthal Laterolog Sonde B Wellsite Calibration − HALSB A0*−A0*' Diff. Voltage mode 2
Before: 3−Aug−2004 20:40

ZVD 2 Gain	1.000	N/A	0.988	N/A	N/A	0.056	UV
ZVD 2 Phase	0.000	N/A	1.062	N/A	N/A	1.300	DEG

HILT Azimuthal Laterolog Sonde B Wellsite Calibration − HALSB A0*−A0*' Diff. Voltage mode 3A
Before: 3−Aug−2004 20:40

ZVD 3A Gain	1.000	N/A	0.992	N/A	N/A	0.056	UV
ZVD 3A Phase	0.000	N/A	0.404	N/A	N/A	1.000	DEG

HILT Azimuthal Laterolog Sonde B Wellsite Calibration − HALSB A0*−A0*' Diff. Voltage mode 3B
Before: 3−Aug−2004 20:40

ZVD 3B Gain	1.000	N/A	1.016	N/A	N/A	0.054	UV
ZVD 3B Phase	0.000	N/A	−0.131	N/A	N/A	1.000	DEG

HILT Azimuthal Laterolog Sonde B Wellsite Calibration − HALSB vertical Voltage mode 1
Before: 3−Aug−2004 20:40

ZVV 1 Gain	1.000	N/A	0.996	N/A	N/A	0.022	UV
ZVV 1 Phase	0.000	N/A	0.429	N/A	N/A	2.800	DEG

HILT Azimuthal Laterolog Sonde B Wellsite Calibration − HALSB vertical Voltage mode 2
Before: 3−Aug−2004 20:40

ZVV 2 Gain	1.000	N/A	0.986	N/A	N/A	0.036	UV
ZVV 2 Phase	0.000	N/A	2.427	N/A	N/A	1.300	DEG

HILT Azimuthal Laterolog Sonde B Wellsite Calibration − HALSB Azimuthal Voltages mode 1
Before: 3−Aug−2004 20:40

Az 1 Gain − 0	1.000	N/A	0.997	N/A	N/A	0.047	UV
Az 1 Gain − 1	1.000	N/A	0.999	N/A	N/A	0.047	UV
Az 1 Gain − 2	1.000	N/A	0.998	N/A	N/A	0.047	UV
Az 1 Gain − 3	1.000	N/A	0.999	N/A	N/A	0.047	UV
Az 1 Gain − 4	1.000	N/A	0.996	N/A	N/A	0.047	UV
Az 1 Gain − 5	1.000	N/A	0.993	N/A	N/A	0.047	UV
Az 1 Gain − 6	1.000	N/A	0.997	N/A	N/A	0.047	UV
Az 1 Gain − 7	1.000	N/A	0.999	N/A	N/A	0.047	UV
Az 1 Gain − 8	1.000	N/A	0.998	N/A	N/A	0.047	UV
Az 1 Gain − 9	1.000	N/A	1.001	N/A	N/A	0.047	UV

Az 1 Gain − 10	1.000	N/A	0.998	N/A	N/A	0.047	UV
Az 1 Gain − 11	1.000	N/A	0.997	N/A	N/A	0.047	UV
AZ 1 Phase − 0	0.000	N/A	0.098	N/A	N/A	3.800	DEG
AZ 1 Phase − 1	0.000	N/A	0.024	N/A	N/A	3.800	DEG
AZ 1 Phase − 2	0.000	N/A	−0.146	N/A	N/A	3.800	DEG
AZ 1 Phase − 3	0.000	N/A	0.071	N/A	N/A	3.800	DEG
AZ 1 Phase − 4	0.000	N/A	−0.054	N/A	N/A	3.800	DEG
AZ 1 Phase − 5	0.000	N/A	0.066	N/A	N/A	3.800	DEG
AZ 1 Phase − 6	0.000	N/A	−0.008	N/A	N/A	3.800	DEG
AZ 1 Phase − 7	0.000	N/A	0.056	N/A	N/A	3.800	DEG
AZ 1 Phase − 8	0.000	N/A	−0.143	N/A	N/A	3.800	DEG
AZ 1 Phase − 9	0.000	N/A	0.197	N/A	N/A	3.800	DEG
AZ 1 Phase − 10	0.000	N/A	0.063	N/A	N/A	3.800	DEG
AZ 1 Phase − 11	0.000	N/A	0.047	N/A	N/A	3.800	DEG

HILT Azimuthal Laterolog Sonde B Wellsite Calibration − HALSB Azimuthal Voltages mode 2
Before: 3−Aug−2004 20:40

Az 2 Gain − 0	1.000	N/A	0.984	N/A	N/A	0.056	UV
Az 2 Gain − 1	1.000	N/A	0.985	N/A	N/A	0.056	UV
Az 2 Gain − 2	1.000	N/A	0.984	N/A	N/A	0.056	UV
Az 2 Gain − 3	1.000	N/A	0.985	N/A	N/A	0.056	UV
Az 2 Gain − 4	1.000	N/A	0.983	N/A	N/A	0.056	UV
Az 2 Gain − 5	1.000	N/A	0.980	N/A	N/A	0.056	UV
Az 2 Gain − 6	1.000	N/A	0.983	N/A	N/A	0.056	UV
Az 2 Gain − 7	1.000	N/A	0.985	N/A	N/A	0.056	UV
Az 2 Gain − 8	1.000	N/A	0.984	N/A	N/A	0.056	UV
Az 2 Gain − 9	1.000	N/A	0.987	N/A	N/A	0.056	UV
Az 2 Gain − 10	1.000	N/A	0.984	N/A	N/A	0.056	UV
Az 2 Gain − 11	1.000	N/A	0.983	N/A	N/A	0.056	UV
Az 2 Phase − 0	0.000	N/A	1.206	N/A	N/A	1.300	DEG
Az 2 Phase − 1	0.000	N/A	1.192	N/A	N/A	1.300	DEG
Az 2 Phase − 2	0.000	N/A	1.194	N/A	N/A	1.300	DEG
Az 2 Phase − 3	0.000	N/A	1.150	N/A	N/A	1.300	DEG
Az 2 Phase − 4	0.000	N/A	1.169	N/A	N/A	1.300	DEG
Az 2 Phase − 5	0.000	N/A	1.210	N/A	N/A	1.300	DEG
Az 2 Phase − 6	0.000	N/A	1.082	N/A	N/A	1.300	DEG
Az 2 Phase − 7	0.000	N/A	1.204	N/A	N/A	1.300	DEG
Az 2 Phase − 8	0.000	N/A	1.143	N/A	N/A	1.300	DEG
Az 2 Phase − 9	0.000	N/A	1.207	N/A	N/A	1.300	DEG
Az 2 Phase − 10	0.000	N/A	1.166	N/A	N/A	1.300	DEG
Az 2 Phase − 11	0.000	N/A	1.177	N/A	N/A	1.300	DEG

HILT Azimuthal Laterolog Sonde B Wellsite Calibration − HALSB Azimuthal Voltages mode 3A
Before: 3−Aug−2004 20:40

Az 3A Gain − 0	1.000	N/A	0.988	N/A	N/A	0.056	UV
Az 3A Gain − 1	1.000	N/A	0.989	N/A	N/A	0.056	UV
Az 3A Gain − 2	1.000	N/A	0.987	N/A	N/A	0.056	UV
Az 3A Gain − 3	1.000	N/A	0.989	N/A	N/A	0.056	UV
Az 3A Gain − 4	1.000	N/A	0.987	N/A	N/A	0.056	UV
Az 3A Gain − 5	1.000	N/A	0.984	N/A	N/A	0.056	UV
Az 3A Gain − 6	1.000	N/A	0.987	N/A	N/A	0.056	UV
Az 3A Gain − 7	1.000	N/A	0.989	N/A	N/A	0.056	UV
Az 3A Gain − 8	1.000	N/A	0.989	N/A	N/A	0.056	UV
Az 3A Gain − 9	1.000	N/A	0.992	N/A	N/A	0.056	UV
Az 3A Gain − 10	1.000	N/A	0.989	N/A	N/A	0.056	UV
Az 3A Gain − 11	1.000	N/A	0.988	N/A	N/A	0.056	UV
Az 3A Phase − 0	0.000	N/A	0.559	N/A	N/A	1.000	DEG
Az 3A Phase − 1	0.000	N/A	0.534	N/A	N/A	1.000	DEG
Az 3A Phase − 2	0.000	N/A	0.516	N/A	N/A	1.000	DEG
Az 3A Phase − 3	0.000	N/A	0.515	N/A	N/A	1.000	DEG
Az 3A Phase − 4	0.000	N/A	0.502	N/A	N/A	1.000	DEG
Az 3A Phase − 5	0.000	N/A	0.538	N/A	N/A	1.000	DEG
Az 3A Phase − 6	0.000	N/A	0.464	N/A	N/A	1.000	DEG
Az 3A Phase − 7	0.000	N/A	0.552	N/A	N/A	1.000	DEG
Az 3A Phase − 8	0.000	N/A	0.495	N/A	N/A	1.000	DEG
Az 3A Phase − 9	0.000	N/A	0.579	N/A	N/A	1.000	DEG
Az 3A Phase − 10	0.000	N/A	0.530	N/A	N/A	1.000	DEG
Az 3A Phase − 11	0.000	N/A	0.522	N/A	N/A	1.000	DEG

HILT Azimuthal Laterolog Sonde B Wellsite Calibration − HALSB Azimuthal Voltages mode 3B
Before: 3−Aug−2004 20:40

Az 3B Gain − 0	1.000	N/A	1.019	N/A	N/A	0.054	UV
Az 3B Gain − 1	1.000	N/A	1.019	N/A	N/A	0.054	UV
Az 3B Gain − 2	1.000	N/A	1.020	N/A	N/A	0.054	UV
Az 3B Gain − 3	1.000	N/A	1.016	N/A	N/A	0.054	UV
Az 3B Gain − 4	1.000	N/A	1.016	N/A	N/A	0.054	UV
Az 3B Gain − 5	1.000	N/A	1.014	N/A	N/A	0.054	UV
Az 3B Gain − 6	1.000	N/A	1.011	N/A	N/A	0.054	UV
Az 3B Gain − 7	1.000	N/A	1.019	N/A	N/A	0.054	UV
Az 3B Gain − 8	1.000	N/A	1.016	N/A	N/A	0.054	UV
Az 3B Gain − 9	1.000	N/A	1.021	N/A	N/A	0.054	UV

Az 3B Gain − 10	1.000	N/A	1.017	N/A	N/A	0.054	UV
Az 3B Gain − 11	1.000	N/A	1.016	N/A	N/A	0.054	UV
Az 3B Phase − 0	0.000	N/A	0.179	N/A	N/A	1.000	DEG
Az 3B Phase − 1	0.000	N/A	0.275	N/A	N/A	1.000	DEG
Az 3B Phase − 2	0.000	N/A	0.237	N/A	N/A	1.000	DEG
Az 3B Phase − 3	0.000	N/A	0.102	N/A	N/A	1.000	DEG
Az 3B Phase − 4	0.000	N/A	0.114	N/A	N/A	1.000	DEG
Az 3B Phase − 5	0.000	N/A	0.275	N/A	N/A	1.000	DEG
Az 3B Phase − 6	0.000	N/A	−0.169	N/A	N/A	1.000	DEG
Az 3B Phase − 7	0.000	N/A	0.253	N/A	N/A	1.000	DEG
Az 3B Phase − 8	0.000	N/A	0.071	N/A	N/A	1.000	DEG
Az 3B Phase − 9	0.000	N/A	0.202	N/A	N/A	1.000	DEG
Az 3B Phase − 10	0.000	N/A	0.040	N/A	N/A	1.000	DEG
Az 3B Phase − 11	0.000	N/A	0.167	N/A	N/A	1.000	DEG

High resolution Integrated Logging Tool−DTS Wellsite Calibration − Stab Measurement Summary
Before: 2−Aug−2004 13:53

BS Window Ratio	0.7730	N/A	0.7734	N/A	N/A	N/A	
BS Window Sum	11810	N/A	11790	N/A	N/A	N/A	CPS
SS Window Ratio	0.4826	N/A	0.4845	N/A	N/A	N/A	
SS Window Sum	9867	N/A	9836	N/A	N/A	N/A	CPS
LS Window Ratio	0.2946	N/A	0.2975	N/A	N/A	N/A	
LS Window Sum	1302	N/A	1295	N/A	N/A	N/A	CPS

High resolution Integrated Logging Tool−DTS Wellsite Calibration − Photo−multiplier High Voltages Calibrations
Before: 2−Aug−2004 13:53

BS PM High Voltage (Command)	1560	N/A	1566	N/A	N/A	N/A	V
SS PM High Voltage (Command)	1646	N/A	1655	N/A	N/A	N/A	V
LS PM High Voltage (Command)	1809	N/A	1807	N/A	N/A	N/A	V

High resolution Integrated Logging Tool−DTS Wellsite Calibration − Crystal Quality Resolutions Calibration
Before: 2−Aug−2004 13:53

BS Crystal Resolution	10.37	N/A	10.35	N/A	N/A	N/A	%
SS Crystal Resolution	9.902	N/A	9.889	N/A	N/A	N/A	%
LS Crystal Resolution	9.679	N/A	9.490	N/A	N/A	N/A	%

High resolution Integrated Logging Tool−DTS Wellsite Calibration − MCFL Calibration
Before: 2−Aug−2004 13:42

Raw B0 Resistivity	3875	N/A	3873	N/A	N/A	N/A	OHMM
Raw B1 Resistivity	3830	N/A	3842	N/A	N/A	N/A	OHMM
Raw B2 Resistivity	3830	N/A	3836	N/A	N/A	N/A	OHMM

High resolution Integrated Logging Tool−DTS Wellsite Calibration − HILT Caliper Calibration
Before: 2−Aug−2004 13:45

HILT Caliper Zero Measurement	8.000	N/A	8.208	N/A	N/A	N/A	IN
HILT Caliper Plus Measurement	12.00	N/A	12.25	N/A	N/A	N/A	IN

High resolution Integrated Logging Tool−DTS Wellsite Calibration − Detector Calibration
Before: 2−Aug−2004 13:41

Gamma Ray Background	30.00	N/A	45.40	N/A	N/A	N/A	GAPI
Gamma Ray (Jig − Bkg)	168.3	N/A	168.3	N/A	N/A	15.30	GAPI
Gamma Ray (Calibrated)	165.0	N/A	165.0	N/A	N/A	15.00	GAPI

High resolution Integrated Logging Tool−DTS Wellsite Calibration − Zero Measurement
Master: 2−Jun−2004 11:58 Before: 2−Aug−2004 13:43

CNTC Background	29.20	29.20	29.19	N/A	N/A	4.380	CPS
CFTC Background	26.52	26.52	30.42	N/A	N/A	3.978	CPS

High resolution Integrated Logging Tool−DTS Wellsite Calibration − Accelerometer Calibration
Before: 3−Aug−2004 20:01

Z−Axis Acceleration	9.810	N/A	9.785	N/A	N/A	N/A	M/S2

High resolution Integrated Logging Tool−DTS Master Calibration − Inversion results
Master: 8−Jul−2004 13:28

Rho Aluminum	2.596	2.595	−−	−−	−−	−−	G/C3
Rho Magnesium	1.686	1.692	−−	−−	−−	−−	G/C3
Pe Aluminum	2.570	2.559	−−	−−	−−	−−	
Pe Magnesium	2.650	2.607	−−	−−	−−	−−	

High resolution Integrated Logging Tool−DTS Master Calibration − Deviation Summary
Master: 8−Jul−2004 13:28

BS Average Deviation	0	0.4492	−−	−−	−−	−−	%
BS Max Deviation	0	1.001	−−	−−	−−	−−	%
SS Average Deviation	0	0.7701	−−	−−	−−	−−	%
SS Max Deviation	0	1.846	−−	−−	−−	−−	%
LS Average Deviation	0	0.6198	−−	−−	−−	−−	%
LS Max Deviation	0	1.862	−−	−−	−−	−−	%

High resolution Integrated Logging Tool−DTS Master Calibration − Tank Measurement
Master: 2−Jun−2004 11:58

Thermal Near Corr. (Tank)	6031	5441	−−	−−	−−	−−	CPS
Thermal Far Corr. (Tank)	2793	2260	−−	−−	−−	−−	CPS

CNTC/CFTC (Tank)	2.159	2.408	−−	−−	−−	−−	

High resolution Integrated Logging Tool−DTS Master Calibration − Tank Measurement
Master: 2−Jun−2004 11:58

Thermal Near Corr. (Tank)	6031	5441	−−	−−	−−	−−	CPS
Thermal Far Corr. (Tank)	2793	2260	−−	−−	−−	−−	CPS
CNTC/CFTC (Tank)	2.159	2.408	−−	−−	−−	−−	

The GLS−VJ source activity is acceptable.

The HGNS Neutron Master Calibration was done with the following parameters :

NCT−B Water Temperature 20.2 DEGC.
Thermal Housing Size 3.385 IN.

HILT Azimuthal Laterolog Sonde B / Equipment Identification

Primary Equipment:

Auxiliary Equipment:

Laterolog Control Module	LCM − AA

HILT Azimuthal Laterolog Sonde B Wellsite Calibration
HALSB Total current mode 1

Itot 1 Gain MA	Value	Itot 1 Phase DEG	Value
	0.997		0.000
0.926 (Minimum) 1.000 (Nominal) 1.081 (Maximum)		−0.100 (Minimum) 0.000 (Nominal) 0.100 (Maximum)	

Before: 3−Aug−2004 20:40

HILT Azimuthal Laterolog Sonde B Wellsite Calibration
HALSB Aux current mode 1

Iaux 1 Gain MA	Value	Iaux 1 Phase DEG	Value
	0.995		0.109
0.854 (Minimum) 1.000 (Nominal) 1.180 (Maximum)		−4.600 (Minimum) 0.000 (Nominal) 4.600 (Maximum)	

Before: 3−Aug−2004 20:40

HILT Azimuthal Laterolog Sonde B Wellsite Calibration
HALSB Aux current mode 2

Iaux 2 Gain MA	Value	Iaux 2 Phase DEG	Value
	0.980		−0.000
0.816 (Minimum) 1.000 (Nominal) 1.232 (Maximum)		−1.000 (Minimum) 0.000 (Nominal) 0.100 (Maximum)	

Before: 3−Aug−2004 20:40

HILT Azimuthal Laterolog Sonde B Wellsite Calibration
HALSB A0 current mode 3A

I0 3A Gain UA	Value	I0 3A Phase DEG	Value
	0.985		0.000
0.893 (Minimum) 1.000 (Nominal) 1.114 (Maximum)		−1.000 (Minimum) 0.000 (Nominal) 0.100 (Maximum)	

Before: 3−Aug−2004 20:40

HILT Azimuthal Laterolog Sonde B Wellsite Calibration
HALSB A0 current mode 3B

I0 3B Gain UA	Value	I0 3B Phase DEG	Value
	0.993		0.000
0.893 (Minimum) 1.000 (Nominal) 1.114 (Maximum)		−1.000 (Minimum) 0.000 (Nominal) 0.100 (Maximum)	

Before: 3−Aug−2004 20:40

HILT Azimuthal Laterolog Sonde B Wellsite Calibration
HALSB Torpedo Voltage gains

Zvt 1 Gain MV	Value	Zvt 2 Gain MV	Value	Zvt 3 Gain MV	Value
	0.994		0.986		0.987
0.925 (Minimum) 1.000 (Nominal) 1.078 (Maximum)		0.865 (Minimum) 1.000 (Nominal) 1.153 (Maximum)		0.865 (Minimum) 1.000 (Nominal) 1.153 (Maximum)	

Before: 3−Aug−2004 20:40

HILT Azimuthal Laterolog Sonde B Wellsite Calibration
HALSB Torpedo Voltage Phases

Zvt 1 Phase DEG	Value	Zvt 2 Phase DEG	Value	Zvt 3 Phase DEG	Value
	0.183		0.742		0.465
−4.400 (Minimum) 0.000 (Nominal) 4.400 (Maximum)		−2.800 (Minimum) 0.000 (Nominal) 2.800 (Maximum)		−1.400 (Minimum) 0.000 (Nominal) 1.400 (Maximum)	

Before: 3−Aug−2004 20:40

HILT Azimuthal Laterolog Sonde B Wellsite Calibration
HALSB Upper Bridle Voltage mode 1

Zvb 1 Gain MV	Value	Zvb 1 Phase DEG	Value
	0.994		0.103

0.925 (Minimum)	1.000 (Nominal)	1.078 (Maximum)		−4.400 (Minimum)	0.000 (Nominal)	4.400 (Maximum)		

Before: 3−Aug−2004 20:40

HILT Azimuthal Laterolog Sonde B Wellsite Calibration

HALSB M1−M2 Voltage gains

ZVM 1 Gain UV	Value	ZVM 2 Gain UV	Value	ZVM 3 Gain UV	Value
	0.997		0.994		0.992
0.895 (Minimum) 1.000 (Nominal) 1.117 (Maximum)		0.943 (Minimum) 1.000 (Nominal) 1.056 (Maximum)		0.943 (Minimum) 1.000 (Nominal) 1.056 (Maximum)	

Before: 3−Aug−2004 20:40

HILT Azimuthal Laterolog Sonde B Wellsite Calibration

HALSB M1−M2 Voltage Phases

ZVM 1 Phase DEG	Value	ZVM 2 Phase DEG	Value	ZVM 3 Phase DEG	Value
	0.238		1.573		0.841
−6.500 (Minimum) 0.000 (Nominal) 6.500 (Maximum)		−3.300 (Minimum) 0.000 (Nominal) 3.300 (Maximum)		−2.000 (Minimum) 0.000 (Nominal) 2.000 (Maximum)	

Before: 3−Aug−2004 20:40

HILT Azimuthal Laterolog Sonde B Wellsite Calibration

HALSB M1−A0* Voltage gains

ZVH 1 Gain UV	Value	ZVH 2 Gain UV	Value	ZVH 3 Gain UV	Value
	0.998		0.992		0.992
0.962 (Minimum) 1.000 (Nominal) 1.039 (Maximum)		0.864 (Minimum) 1.000 (Nominal) 1.154 (Maximum)		0.864 (Minimum) 1.000 (Nominal) 1.154 (Maximum)	

Before: 3−Aug−2004 20:40

HILT Azimuthal Laterolog Sonde B Wellsite Calibration

HALSB M1−A0* Voltage Phases

ZVH 1 Phase DEG	Value	ZVH 2 Phase DEG	Value	ZVH 3 Phase DEG	Value
	0.114		1.805		0.917
−6.500 (Minimum) 0.000 (Nominal) 6.500 (Maximum)		−3.300 (Minimum) 0.000 (Nominal) 3.300 (Maximum)		−2.000 (Minimum) 0.000 (Nominal) 2.000 (Maximum)	

Before: 3−Aug−2004 20:40

HILT Azimuthal Laterolog Sonde B Wellsite Calibration

HALSB Aux Voltage gains

ZVA 1 Gain MV	Value	ZVA 2 Gain MV	Value	ZVA 3 Gain MV	Value
	1.098		1.073		1.012
0.905 (Minimum) 1.000 (Nominal) 1.103 (Maximum)		0.866 (Minimum) 1.000 (Nominal) 1.151 (Maximum)		0.866 (Minimum) 1.000 (Nominal) 1.151 (Maximum)	

Before: 3−Aug−2004 20:40

HILT Azimuthal Laterolog Sonde B Wellsite Calibration

HALSB Aux Voltage Phases

ZVA 1 Phase DEG	Value	ZVA 2 Phase DEG	Value	ZVA 3 Phase DEG	Value
	0.975		−0.162		0.325
−4.100 (Minimum) 0.000 (Nominal) 4.100 (Maximum)		−2.300 (Minimum) 0.000 (Nominal) 2.300 (Maximum)		−1.000 (Minimum) 0.000 (Nominal) 1.000 (Maximum)	

Before: 3−Aug−2004 20:40

HILT Azimuthal Laterolog Sonde B Wellsite Calibration

HALSB A0*−A0*' Diff. Voltage mode 1

ZVD 1 Gain UV	Value	ZVD 1 Phase DEG	Value
	1.003		−0.319
0.874 (Minimum) 1.000 (Nominal) 1.147 (Maximum)		−6.300 (Minimum) 0.000 (Nominal) 6.300 (Maximum)	

Before: 3−Aug−2004 20:40

HILT Azimuthal Laterolog Sonde B Wellsite Calibration

HALSB A0*−A0*' Diff. Voltage mode 2

ZVD 2 Gain UV	Value	ZVD 2 Phase DEG	Value
	0.988		1.062
0.842 (Minimum) 1.000 (Nominal) 1.187 (Maximum)		−3.300 (Minimum) 0.000 (Nominal) 3.300 (Maximum)	

Before: 3−Aug−2004 20:40

HILT Azimuthal Laterolog Sonde B Wellsite Calibration

HALSB A0*−A0*' Diff. Voltage mode 3A

ZVD 3A Gain UV	Value	ZVD 3A Phase DEG	Value
	0.992		0.404
0.842 (Minimum) 1.000 (Nominal) 1.187 (Maximum)		−2.000 (Minimum) 0.000 (Nominal) 2.000 (Maximum)	

Before: 3−Aug−2004 20:40

HILT Azimuthal Laterolog Sonde B Wellsite Calibration

HALSB A0*−A0*' Diff. Voltage mode 3B

ZVD 3B Gain UV	Value	ZVD 3B Phase DEG	Value
	1.016		−0.131
0.845 (Minimum) 1.000 (Nominal) 1.183 (Maximum)		−2.000 (Minimum) 0.000 (Nominal) 2.000 (Maximum)	

Before: 3−Aug−2004 20:40

HILT Azimuthal Laterolog Sonde B Wellsite Calibration

HALSB vertical Voltage mode 1

ZVV 1 Gain UV	Value	ZVV 1 Phase DEG	Value

HILT Azimuthal Laterolog Sonde B Wellsite Calibration

HALSB vertical Voltage mode 2

		0.996			0.429
0.936 (Minimum)	1.000 (Nominal)	1.065 (Maximum)	−4.600 (Minimum)	0.000 (Nominal)	4.600 (Maximum)

Before: 3−Aug−2004 20:40

ZVV 2 Gain UV	Value	ZVV 2 Phase DEG	Value
	0.986		2.427
0.895 (Minimum)	1.000 (Nominal)	1.112 (Maximum)	−2.800 (Minimum)	0.000 (Nominal)	2.800 (Maximum)

Before: 3−Aug−2004 20:40

HILT Azimuthal Laterolog Sonde B Wellsite Calibration

HALSB Azimuthal Voltages mode 1

Idx	Az 1 Gain UV	Value	Idx	AZ 1 Phase DEG	Value
0		0.997	0		0.098
1		0.999	1		0.024
2		0.998	2		−0.146
3		0.999	3		0.071
4		0.996	4		−0.054
5		0.993	5		0.066
6		0.997	6		−0.008
7		0.999	7		0.056
8		0.998	8		−0.143
9		1.001	9		0.197
10		0.998	10		0.063
11		0.997	11		0.047
0.874 (Minimum)	1.000 (Nominal)	1.147 (Maximum)	−6.300 (Minimum)	0.000 (Nominal)	6.300 (Maximum)

Before: 3−Aug−2004 20:40

HILT Azimuthal Laterolog Sonde B Wellsite Calibration

HALSB Azimuthal Voltages mode 2

Idx	Az 2 Gain UV	Value	Idx	Az 2 Phase DEG	Value
0		0.984	0		1.206
1		0.985	1		1.192
2		0.984	2		1.194
3		0.985	3		1.150
4		0.983	4		1.169
5		0.980	5		1.210
6		0.983	6		1.082
7		0.985	7		1.204
8		0.984	8		1.143
9		0.987	9		1.207
10		0.984	10		1.166
11		0.983	11		1.177
0.842 (Minimum)	1.000 (Nominal)	1.187 (Maximum)	−3.300 (Minimum)	0.000 (Nominal)	3.300 (Maximum)

Before: 3−Aug−2004 20:40

HILT Azimuthal Laterolog Sonde B Wellsite Calibration

HALSB Azimuthal Voltages mode 3A

Idx	Az 3A Gain UV	Value	Idx	Az 3A Phase DEG	Value
0		0.988	0		0.559
1		0.989	1		0.534
2		0.987	2		0.516
3		0.989	3		0.515
4		0.987	4		0.502
5		0.984	5		0.538
6		0.987	6		0.464
7		0.989	7		0.552
8		0.989	8		0.495
9		0.992	9		0.579
10		0.989	10		0.530
11		0.988	11		0.522
0.842 (Minimum)	1.000 (Nominal)	1.187 (Maximum)	−2.000 (Minimum)	0.000 (Nominal)	2.000 (Maximum)

Before: 3−Aug−2004 20:40

HILT Azimuthal Laterolog Sonde B Wellsite Calibration

HALSB Azimuthal Voltages mode 3B

Idx	Az 3B Gain UV	Value	Idx	Az 3B Phase DEG	Value
0		1.019	0		0.179
1		1.019	1		0.275
2		1.020	2		0.237
3		1.016	3		0.102
4		1.016	4		0.114
5		1.014	5		0.275
6		1.011	6		−0.169
7		1.019	7		0.253
8		1.016	8		0.071
9		1.021	9		0.202
10		1.017	10		0.040
11		1.016	11		0.167
0.845 (Minimum)	1.000 (Nominal)	1.183 (Maximum)	−2.000 (Minimum)	0.000 (Nominal)	2.000 (Maximum)

Before: 3−Aug−2004 20:40

High resolution Integrated Logging Tool−DTS / Equipment Identification

Primary Equipment:

HILT high−Resolution Mechanical Sonde	HRMS − B	1730
HILT Rxo Gamma−ray Device	HRGD − B	755
HILT Nuclear Back−Scatter Detector	HILT −	
HILT Nuclear Short−Spacing Detector	HILT −	
HILT Nuclear Long−Spacing Detector	HILT −	
Micro Cylindrically Focused Log Device	MCFL −	
GR Logging Source	GLS − VJ	1893
HILT High Res. Control Cartridge	HRCC − B	756

Auxiliary Equipment:

Auxiliary Equipment:

High resolution Integrated Logging Tool−DTS Wellsite Calibration

Stab Measurement Summary

Phase	BS Window Ratio	Value	Phase	SS Window Ratio	Value	Phase	LS Window Ratio	Value
Before		0.7734	Before		0.4845	Before		0.2975
	0.7344 (Minimum) 0.7730 (Nominal) 0.8117 (Maximum)			0.4585 (Minimum) 0.4826 (Nominal) 0.5067 (Maximum)			0.2798 (Minimum) 0.2946 (Nominal) 0.3093 (Maximum)	
Phase	BS Window Sum CPS	Value	Phase	SS Window Sum CPS	Value	Phase	LS Window Sum CPS	Value
Before		11790	Before		9836	Before		1295
	11220 (Minimum) 11810 (Nominal) 12400 (Maximum)			9373 (Minimum) 9867 (Nominal) 10360 (Maximum)			1237 (Minimum) 1302 (Nominal) 1367 (Maximum)	

Before: 2−Aug−2004 13:53

High resolution Integrated Logging Tool−DTS Wellsite Calibration

Photo−multiplier High Voltages Calibrations

Phase	BS PM High Voltage (Command) V	Value	Phase	SS PM High Voltage (Command) V	Value	Phase	LS PM High Voltage (Command) V	Value
Before		1566	Before		1655	Before		1807
	1460 (Minimum) 1560 (Nominal) 1660 (Maximum)			1546 (Minimum) 1646 (Nominal) 1746 (Maximum)			1709 (Minimum) 1809 (Nominal) 1909 (Maximum)	

Before: 2−Aug−2004 13:53

High resolution Integrated Logging Tool−DTS Wellsite Calibration

Crystal Quality Resolutions Calibration

Phase	BS Crystal Resolution %	Value	Phase	SS Crystal Resolution %	Value	Phase	LS Crystal Resolution %	Value
Before		10.35	Before		9.889	Before		9.490
	9.369 (Minimum) 10.37 (Nominal) 11.37 (Maximum)			8.902 (Minimum) 9.902 (Nominal) 10.90 (Maximum)			8.679 (Minimum) 9.679 (Nominal) 10.68 (Maximum)	

Before: 2−Aug−2004 13:53

High resolution Integrated Logging Tool−DTS Wellsite Calibration

MCFL Calibration

Phase	Raw B0 Resistivity OHMM	Value	Phase	Raw B1 Resistivity OHMM	Value	Phase	Raw B2 Resistivity OHMM	Value
Before		3873	Before		3842	Before		3836
	3565 (Minimum) 3875 (Nominal) 4185 (Maximum)			3524 (Minimum) 3830 (Nominal) 4136 (Maximum)			3524 (Minimum) 3830 (Nominal) 4136 (Maximum)	

Before: 2−Aug−2004 13:42

High resolution Integrated Logging Tool−DTS Wellsite Calibration

HILT Caliper Calibration

Phase	HILT Caliper Zero Measurement IN	Value	Phase	HILT Caliper Plus Measurement IN	Value
Before		8.208	Before		12.25
	6.000 (Minimum) 8.000 (Nominal) 10.00 (Maximum)			9.000 (Minimum) 12.00 (Nominal) 15.00 (Maximum)	

Before: 2−Aug−2004 13:45

High resolution Integrated Logging Tool−DTS Wellsite Calibration

Detector Calibration

Phase	Gamma Ray Background GAPI	Value	Phase	Gamma Ray (Jig − Bkg) GAPI	Value	Phase	Gamma Ray (Calibrated) GAPI	Value
Before		45.40	Before		168.3	Before		165.0
	0 (Minimum) 30.00 (Nominal) 120.0 (Maximum)			153.0 (Minimum) 168.3 (Nominal) 183.6 (Maximum)			150.0 (Minimum) 165.0 (Nominal) 180.0 (Maximum)	

Before: 2−Aug−2004 13:41

High resolution Integrated Logging Tool−DTS Wellsite Calibration

Zero Measurement

Phase	CNTC Background CPS	Value	Phase	CFTC Background CPS	Value
Master		29.20	Master		26.52
Before		29.19	Before		30.42
	5.000 (Minimum) 29.20 (Nominal) 40.00 (Maximum)			5.000 (Minimum) 26.52 (Nominal) 40.00 (Maximum)	

Master: 2−Jun−2004 11:58 Before: 2−Aug−2004 13:43

High resolution Integrated Logging Tool−DTS Wellsite Calibration

Wellsite Calibration

Accelerometer Calibration

Phase	Z−Axis Acceleration M/S2	Value
Before		9.785
	9.610 (Minimum) 9.810 (Nominal) 10.01 (Maximum)	

Before: 3−Aug−2004 20:01

High resolution Integrated Logging Tool−DTS Master Calibration

Inversion results

Phase	Rho Aluminum G/C3	Value	Phase	Rho Magnesium G/C3	Value
Master		2.595	Master		1.692
	2.586 (Minimum) 2.596 (Nominal) 2.606 (Maximum)			1.676 (Minimum) 1.686 (Nominal) 1.696 (Maximum)	

Phase	Pe Aluminum	Value	Phase	Pe Magnesium	Value
Master		2.559	Master		2.607
	2.470 (Minimum) 2.570 (Nominal) 2.670 (Maximum)			2.550 (Minimum) 2.650 (Nominal) 2.750 (Maximum)	

Master: 8−Jul−2004 13:28

High resolution Integrated Logging Tool−DTS Master Calibration

Deviation Summary

Phase	BS Average Deviation %	Value	Phase	SS Average Deviation %	Value	Phase	LS Average Deviation %	Value
Master		0.4492	Master		0.7701	Master		0.6198
	−0.6000 (Minimum) 0 (Nominal) 0.6000 (Maximum)			−1.000 (Minimum) 0 (Nominal) 1.000 (Maximum)			−1.500 (Minimum) 0 (Nominal) 1.500 (Maximum)	

Phase	BS Max Deviation %	Value	Phase	SS Max Deviation %	Value	Phase	LS Max Deviation %	Value
Master		1.001	Master		1.846	Master		1.862
	−1.600 (Minimum) 0 (Nominal) 1.600 (Maximum)			−2.500 (Minimum) 0 (Nominal) 2.500 (Maximum)			−3.500 (Minimum) 0 (Nominal) 3.500 (Maximum)	

Master: 8−Jul−2004 13:28

High resolution Integrated Logging Tool−DTS Master Calibration

Tank Measurement

Phase	Thermal Near Corr. (Tank) CPS	Value	Phase	Thermal Far Corr. (Tank) CPS	Value	Phase	CNTC/CFTC (Tank)	Value
Master		5441	Master		2260	Master		2.408
	5000 (Minimum) 6031 (Nominal) 7200 (Maximum)			2075 (Minimum) 2793 (Nominal) 3125 (Maximum)			2.120 (Minimum) 2.159 (Nominal) 2.540 (Maximum)	

Master: 2−Jun−2004 11:58

High resolution Integrated Logging Tool−DTS Master Calibration

Tank Measurement

Phase	Thermal Near Corr. (Tank) CPS	Value	Phase	Thermal Far Corr. (Tank) CPS	Value	Phase	CNTC/CFTC (Tank)	Value
Master		5441	Master		2260	Master		2.408
	5000 (Minimum) 6031 (Nominal) 7200 (Maximum)			2075 (Minimum) 2793 (Nominal) 3125 (Maximum)			2.120 (Minimum) 2.159 (Nominal) 2.540 (Maximum)	

Master: 2−Jun−2004 11:58

Company: **Lakes Oil N.L.**

Schlumberger

Well: **Trifon 2**
Field: **Wildcat**
Rig: **Hunt #2**
Country: **Australia**

HALS(/HRLA) − BHC − PEX
2498.9 − 1260 m
1:200 Scale