

Rig: Hunt #2

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Company: Lakes Oil N.L.

Well: Trifon 2

Field: Wildcat

Rig: Hunt #2

Country: Australia

HALS(/HRLA) – BHC – PE)
2498.9 – 1260 m
1:500 Scale

Field: Wildcat		Location: PEP 157		Well: Trifon 2		Company: Lakes Oil N.L.	
LOCATION		PEP 157		Elev.: K.B. 28.4 m			
		516803 E		G.L. 25 m			
		5760387 N		D.F. 28.4 m			
Permanent Datum:		MEAN SEA LEVEL		Elev.: 0 m			
Log Measured From:		Kelly Bushing		28.4 m above Perm. Datum			
Drilling Measured From:		Kelly Bushing					
State: Victoria		Max. Well Deviation 5 deg		Longitude 147° 11' 30" E		Latitude 38° 18' 15.5" S	

Logging Date	3-Aug-2004		
Run Number	1		
Depth Driller	2500 m		
Schlumberger Depth	2501.2 m		
Bottom Log Interval	2498.9 m		
Top Log Interval	1260 m		
Casing Driller Size @ Depth	7.000 in @ 1265 m		
Casing Schlumberger	1260 m		
Bit Size	6.125 in		
Type Fluid In Hole	KCL PHPA		
Density	1.1 g/cm3	37 s	
Fluid Loss	PH	8.7	
Source Of Sample	Pit		
RM @ Measured Temperature	0.290 ohm.m @ 14 degC		
RMF @ Measured Temperature	0.218 ohm.m @ 14 degC		
RMG @ Measured Temperature	0.435 ohm.m @ 14 degC		
Source RMF	Calculated	Calculated	
RM @ MRT	0.098 @ 85	0.073 @ 85	
Maximum Recorded Temperatures	85 degC	85	
Circulation Stopped	3-Aug-2004		14:30
Logger On Bottom	3-Aug-2004		21:30
Unit Number	3170	QEA	
Recorded By	Ian Thomas		
Witnessed By	Mr Tim O'Brien		

	Run 1	Run 2	Run 3
Logging Date			
Run Number			
Depth Driller			
Schlumberger Depth			
Bottom Log Interval			
Top Log Interval			
Casing Driller Size @ Depth	@		
Casing Schlumberger			
Bit Size			
Type Fluid In Hole			
Density			
Fluid Loss	PH		
Source Of Sample			
RM @ Measured Temperature	@		
RMF @ Measured Temperature	@		
RMG @ Measured Temperature	@		
Source RMF			
RM @ MRT	@	@	@
Maximum Recorded Temperatures			
Circulation Stopped			
Logger On Bottom			
Unit Number			
Recorded By			
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-mm-yyy	Calibration Date:	16-Jul-04	Length:	4500.07 M
Calibrator Serial Number:	-50000	Calibrator Serial Number:	1050	Conveyance Method:	Wireline
Calibration Cable Type:	7-42V-XS	Calibration Gain:	0.87	Rig Type:	LAND
Wheel Correction 1:	-2	Calibration Offset:	326.00		
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.

DISCLAIMER

DISCLAIMER

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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 eccentricised 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

1

Log recorded in Hi-resolution from TD to Casing Shoe

Maximum temperature recorded from thermometers in LEH-QT

Caliper Check in Casing reads 6.28" (nominal 6.276")
Sonic check in casing reads 57 us/ft

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

RUN 1 RUN 2

SURFACE EQUIPMENT

LCM-AA
GSR-U/Y
NCT-B
CNB-AB

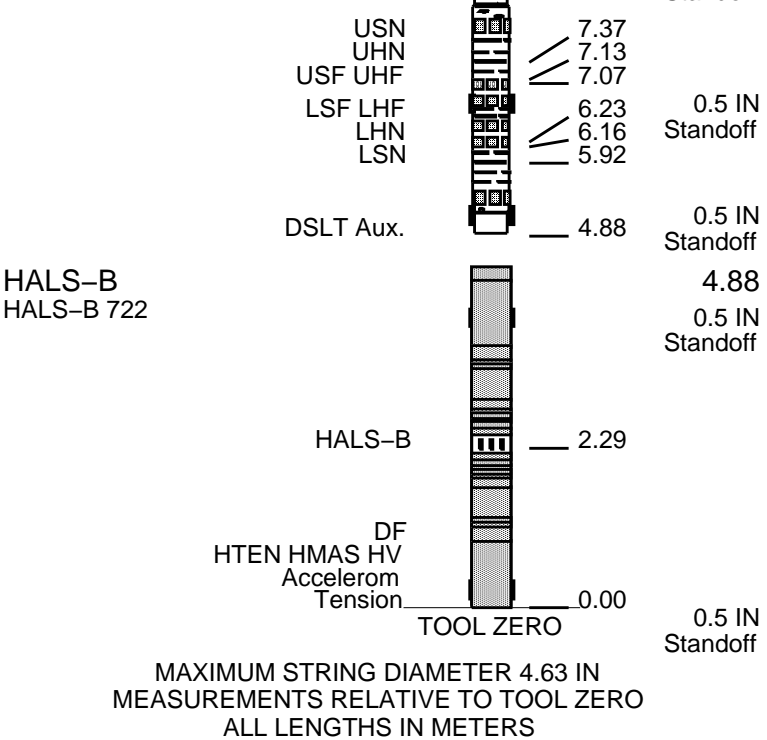
NCS-VB
WITM (DTS)-A

DOWNHOLE EQUIPMENT

Equipment and Depth Data:

Equipment	Depth (ft)
BSP	43.96
BRT-S 22	
SP SPARC	26.37
LEH-QT	19.57
CTEM	18.40
HGNS HTEM	17.77
HMCA	17.77
TelStatus	17.77
ToolStatu	17.77
Gamma-Ray	17.54
HILTB-FTB	17.77
HGNSD-B 890	
HMCA	
HGNH 890	
NLS-KL	15.76
NSR-F 5051	15.61
HACCZ	
HCNT	
HGR	
HRCC-B 756	
HRMS-B 1730	
HRGD-B 755	
GLS-VJ 1893	
MCFL Device	12.03
HILT Nucl. LS	11.88
HILT Nucl. SS	
HILT Nucl. BS	
BOW-SPR	11.76
NPV-N	
HRCC cart	13.68
MCFL	
HILT cali	
HRDD-LS	
HRDD-SS	
HRDD-BS	
DSLTH-H	11.17
DSLC-H 8106	
ECH-KH	
SLS-EA 1093	

0.5 IN Standoff



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

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

PIP SUMMARY

└ Integrated Hole Volume Minor Pip Every 0.1 M3

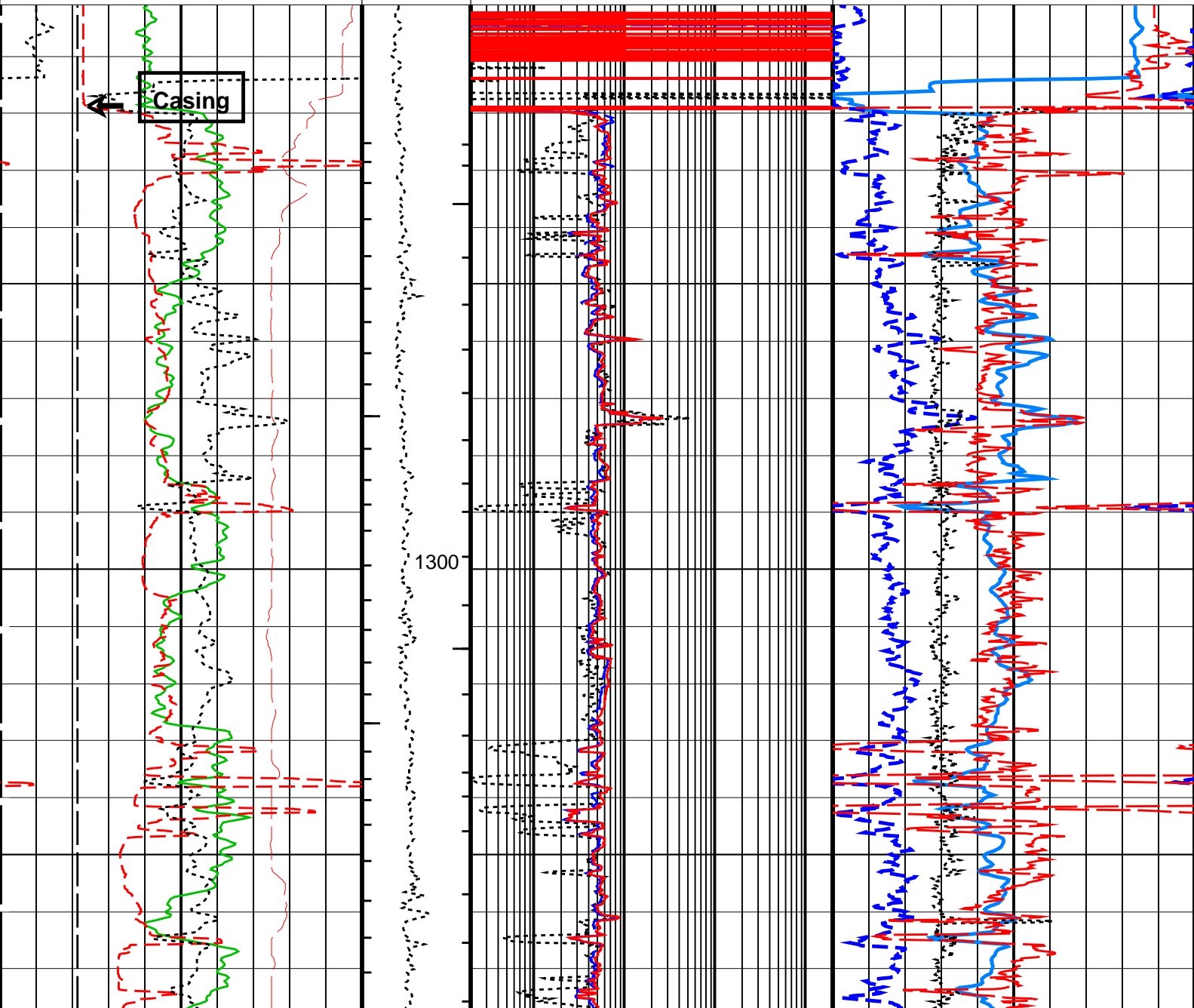
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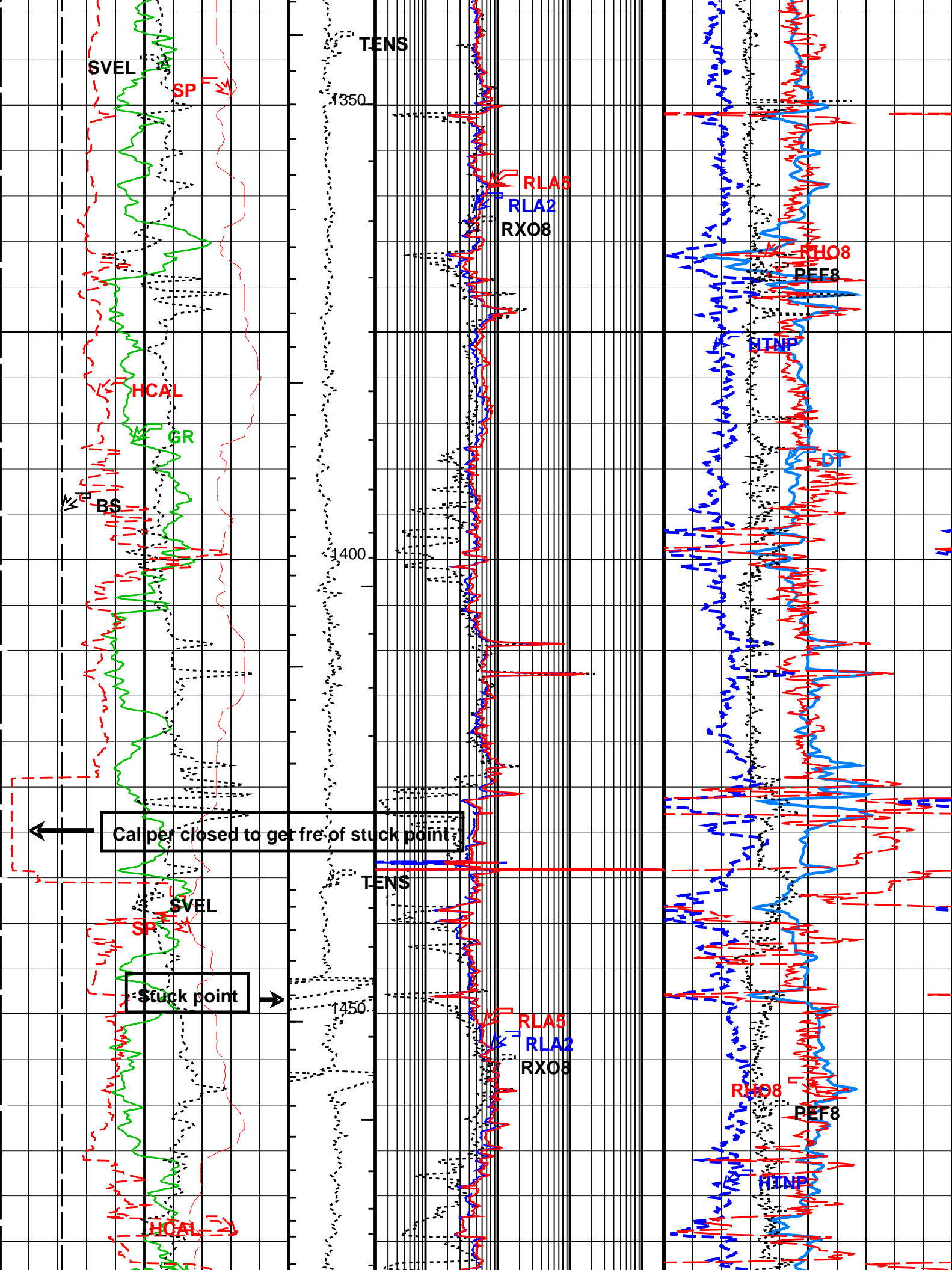
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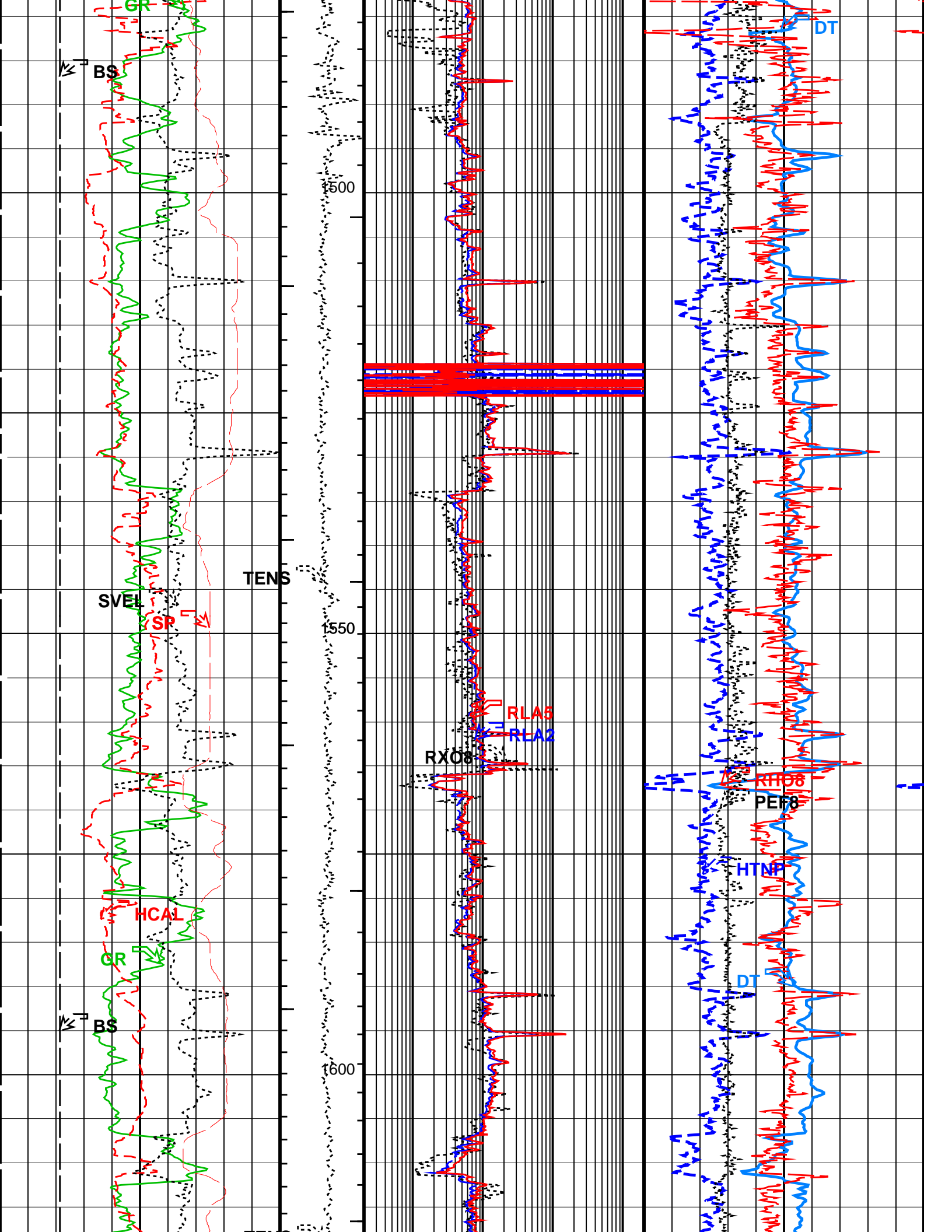
└ Integrated Cement Volume Major Pip Every 1 M3

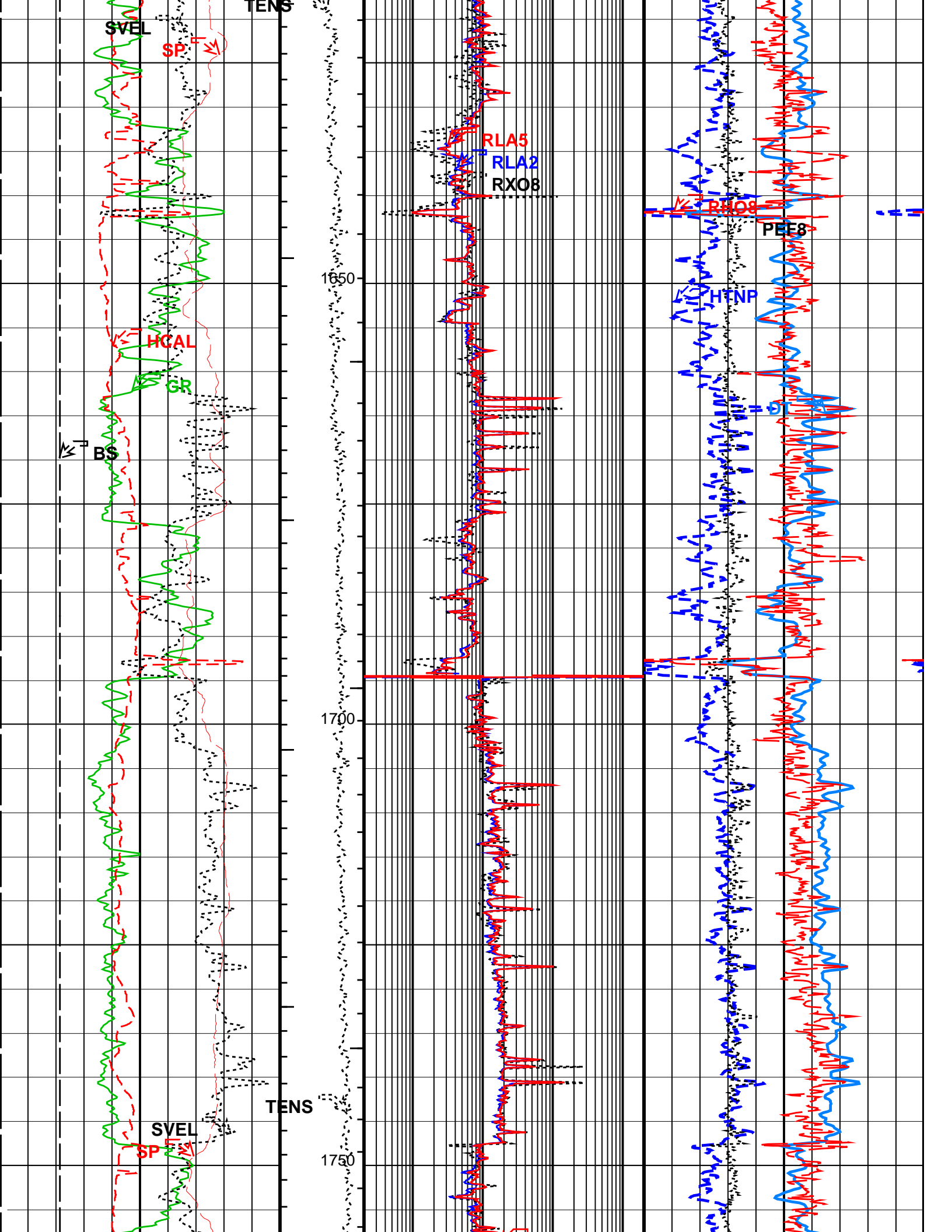
Time Mark Every 60 S

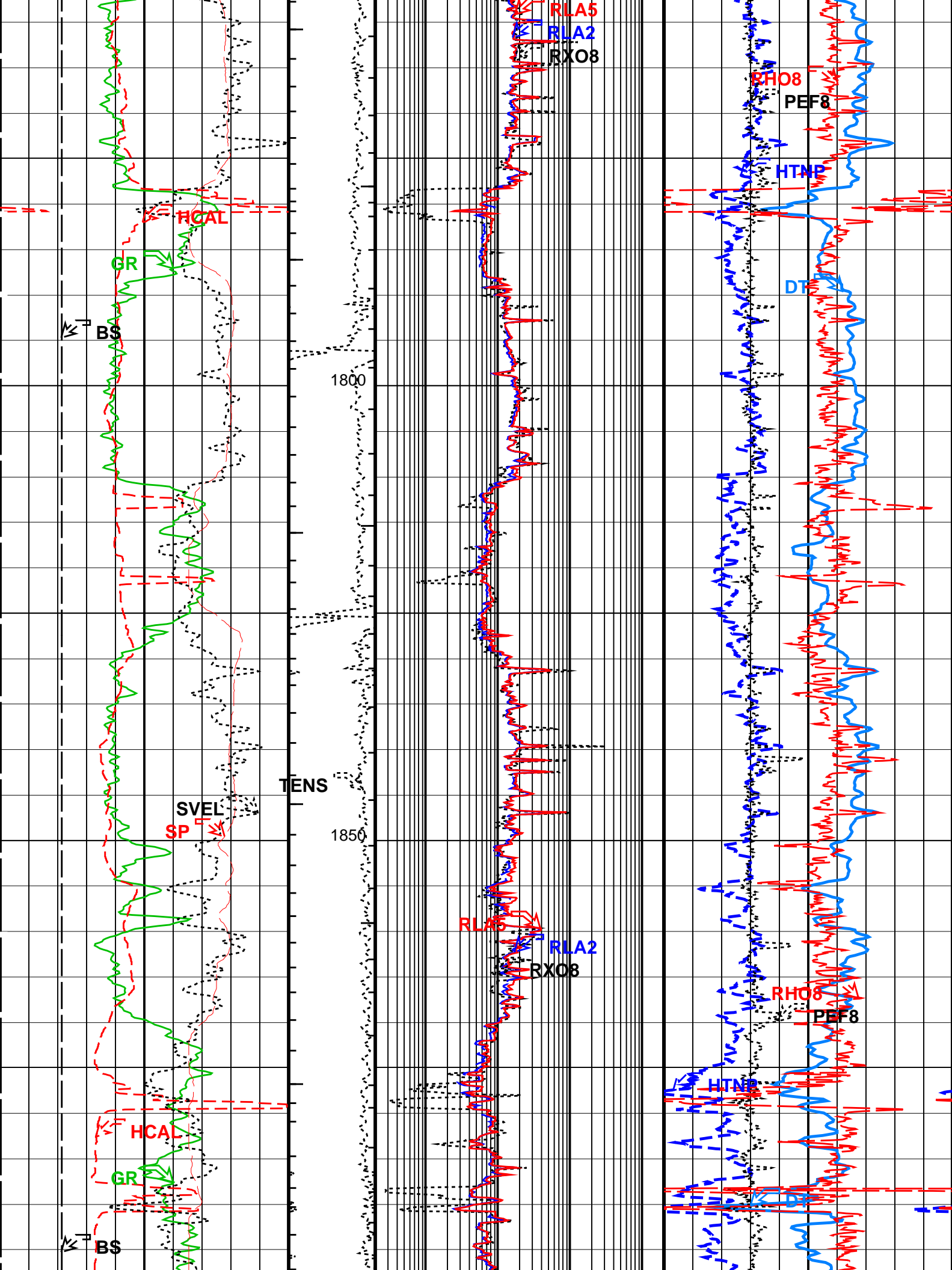
<div>Sonic Velocity (SVEL)</div> <div>1000 (M/S) 5000</div>			
<div>HILT Caliper (HCAL)</div> <div>4 (IN) 14</div>			<div>H. Res. Formation Density (RHO8)</div> <div>1.9 (G/C3) 2.9</div>
<div>Gamma Ray (GR)</div> <div>0 (GAPI) 200</div>		<div>HRLT Resistivity 5 (RLA5)</div> <div>0.2 (OHMM) 2000</div>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

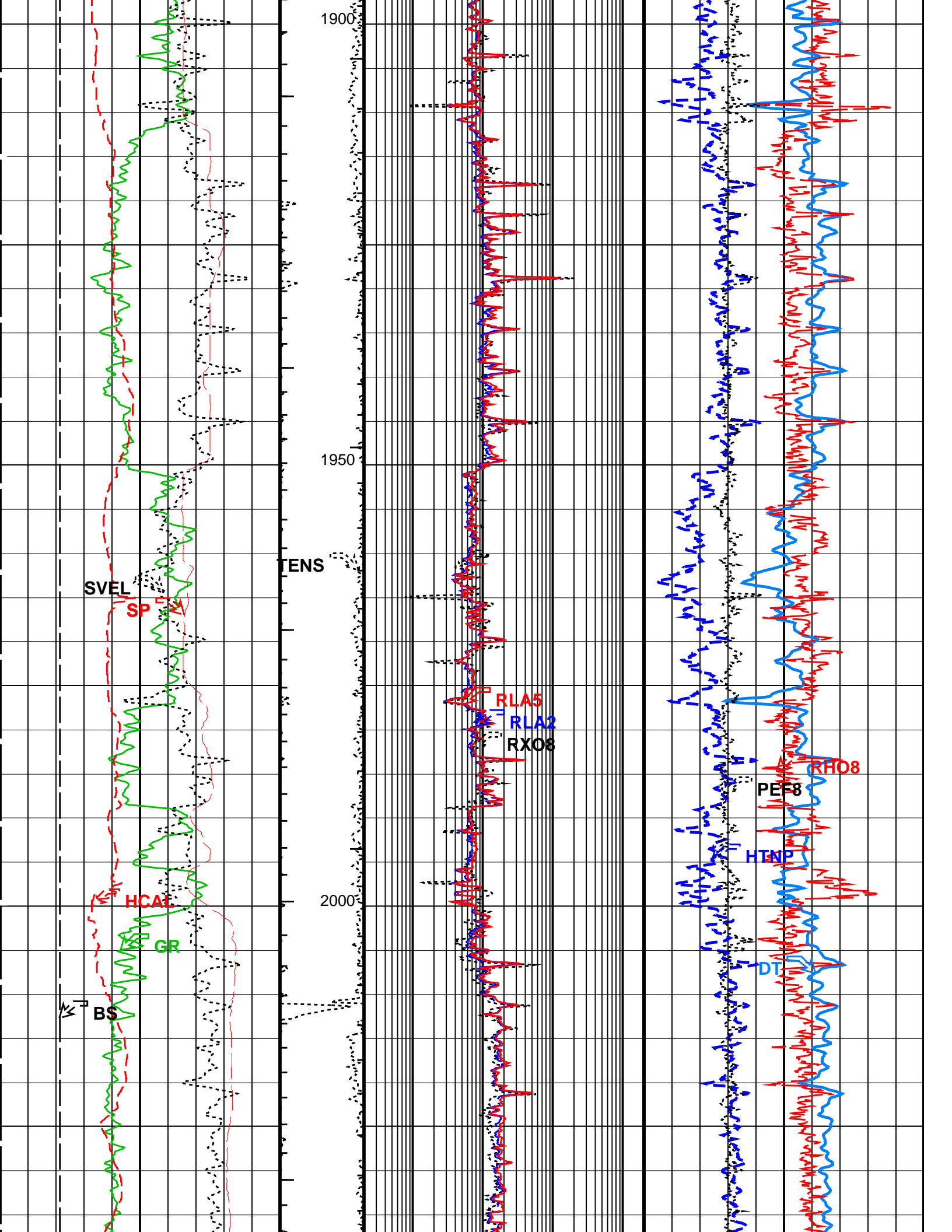


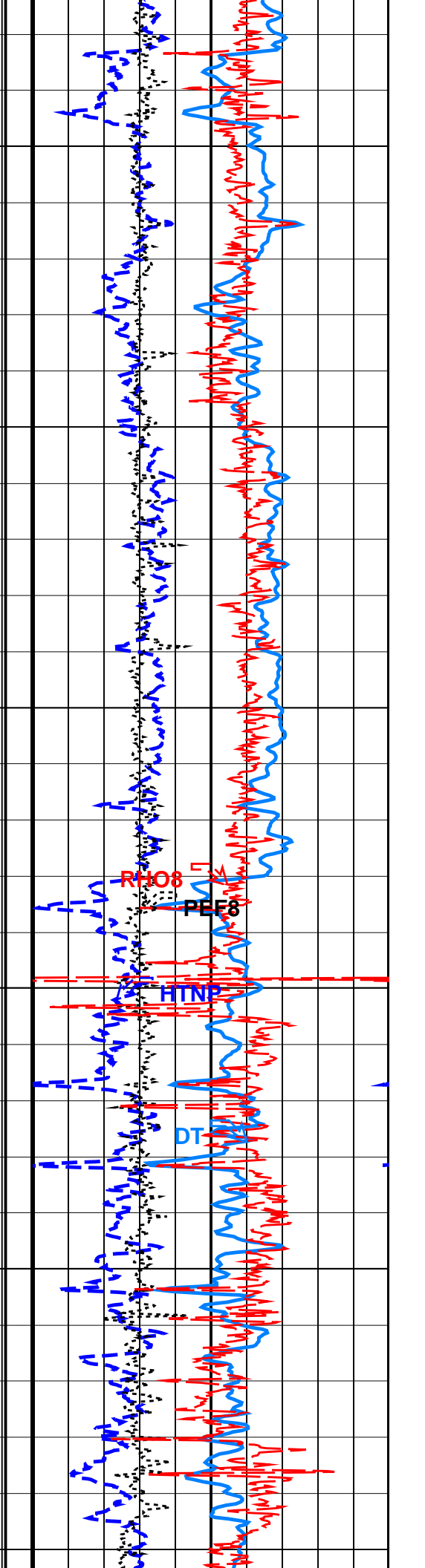
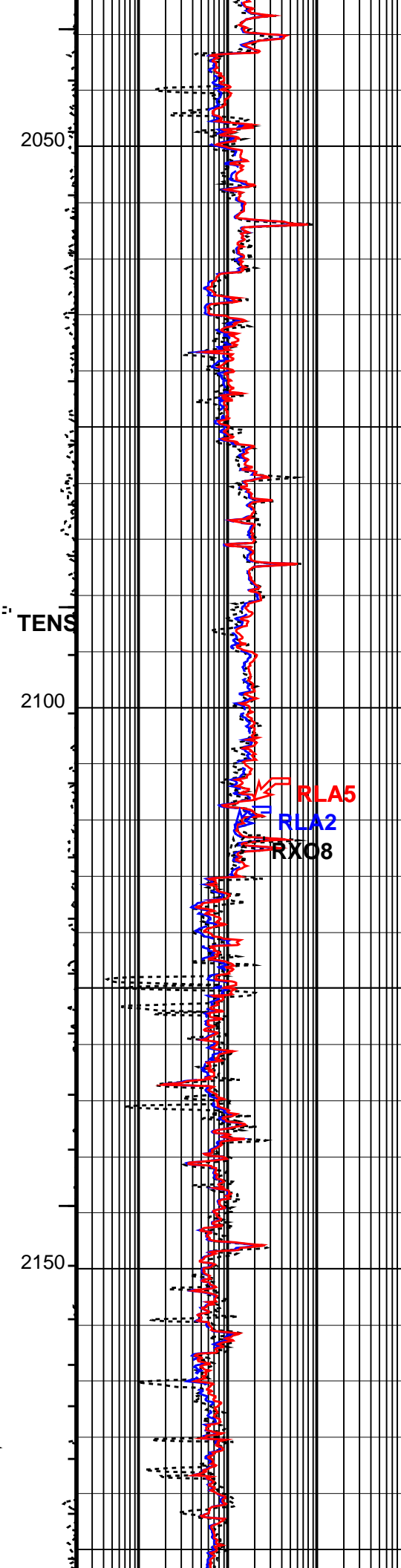
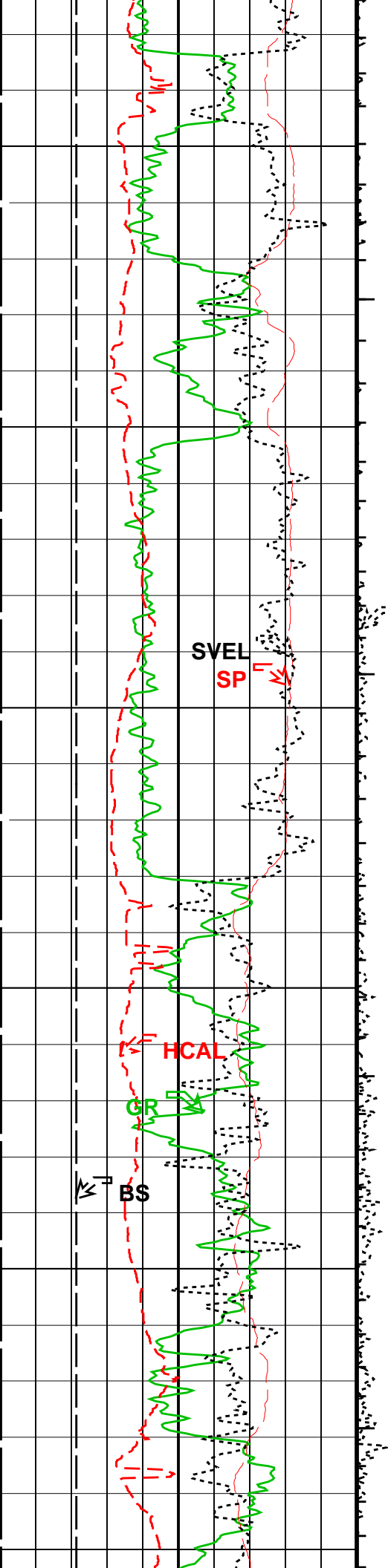


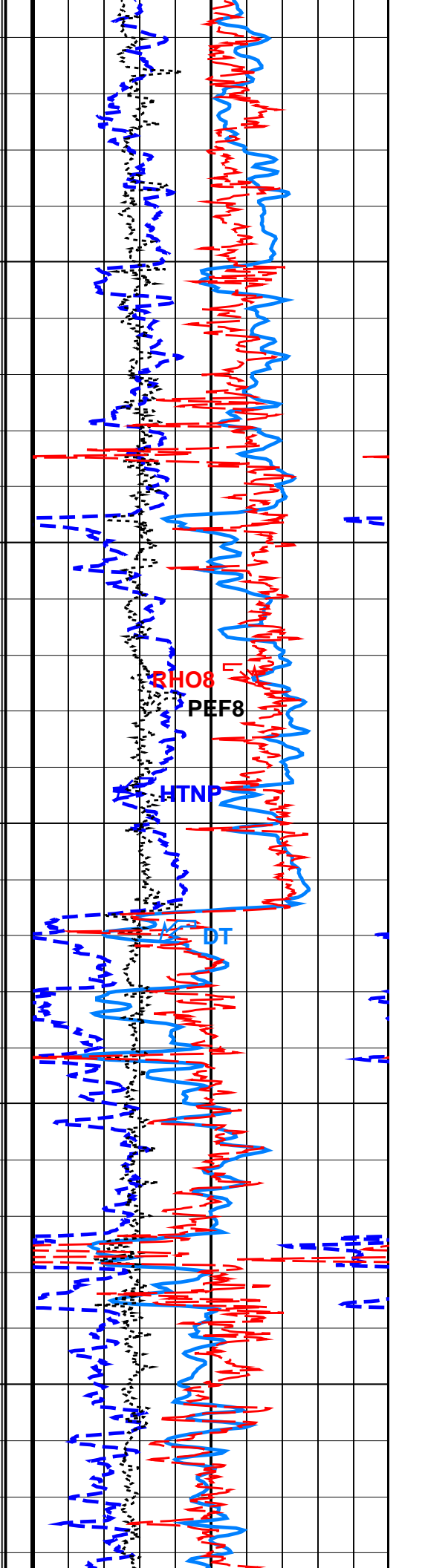
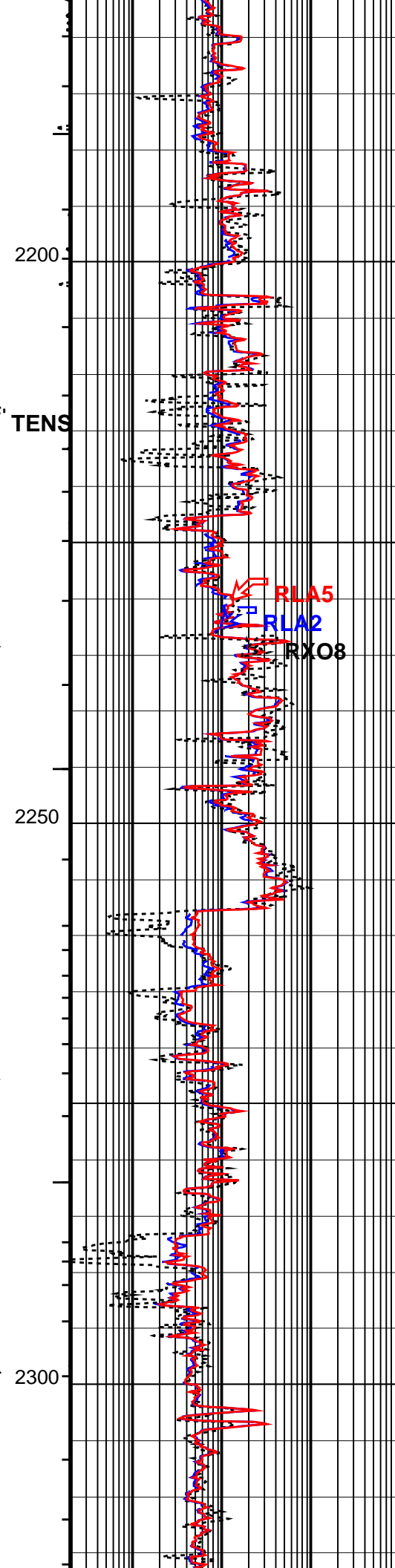
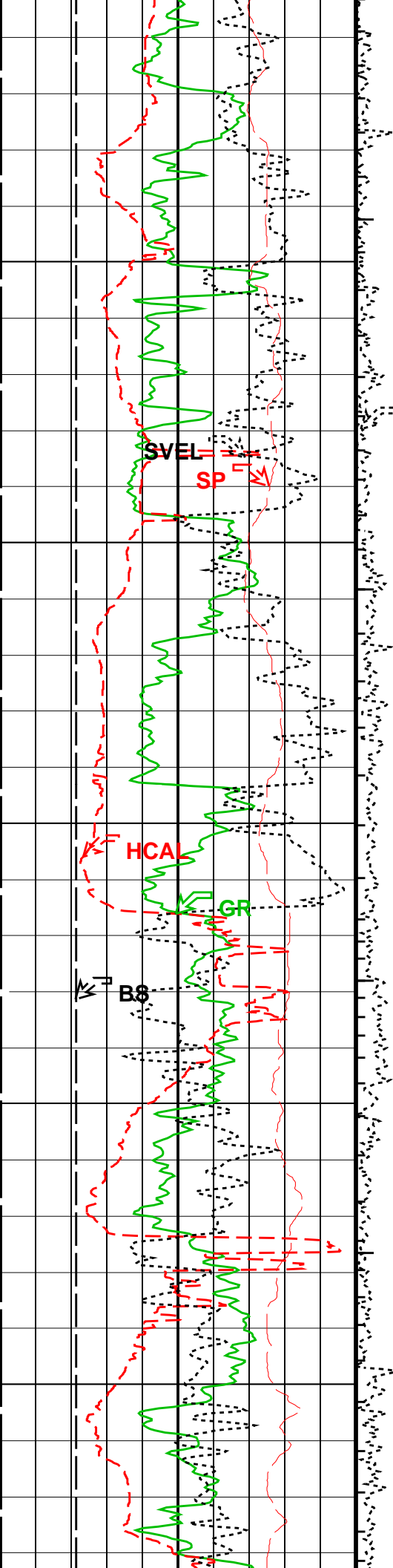


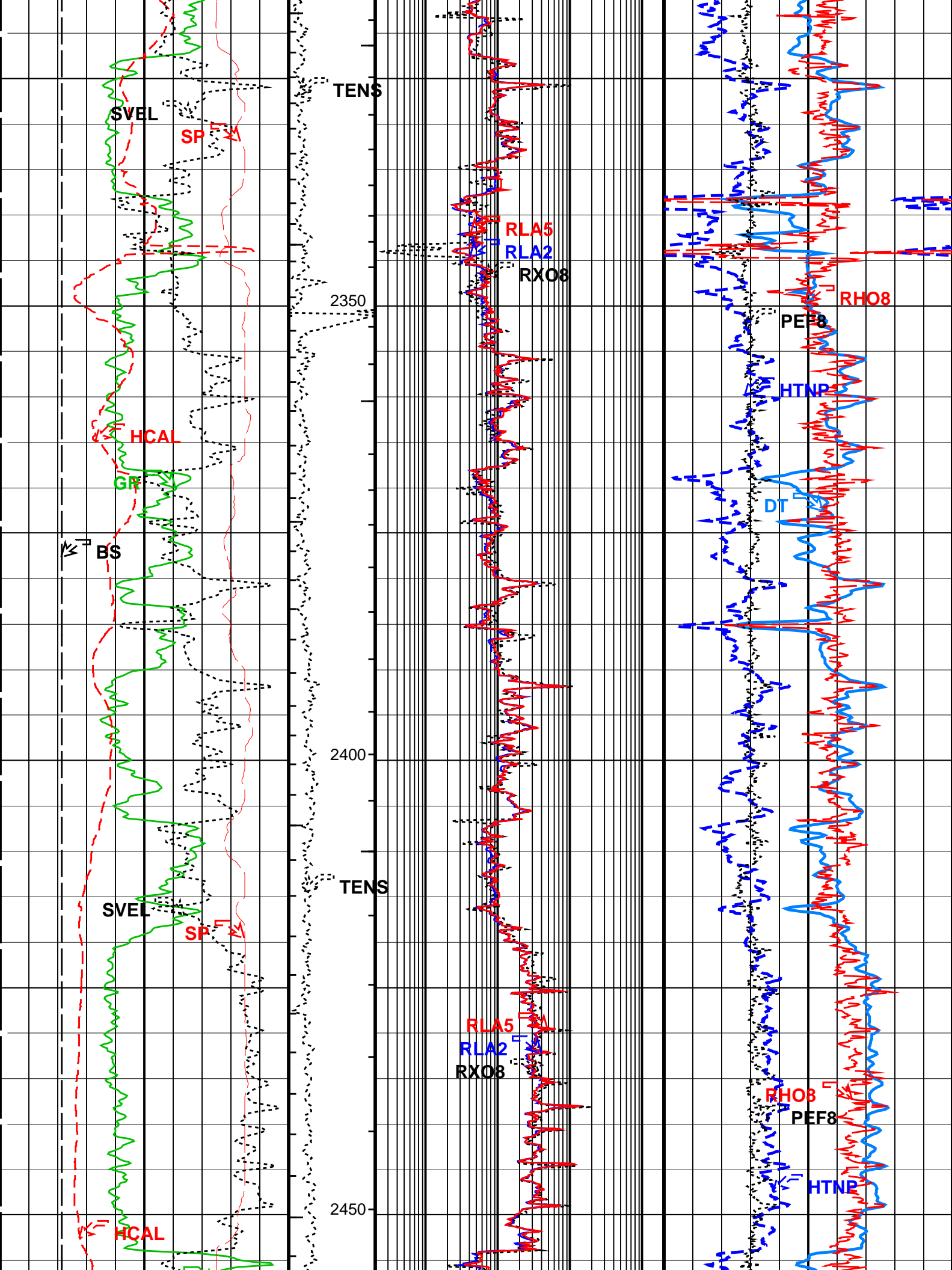


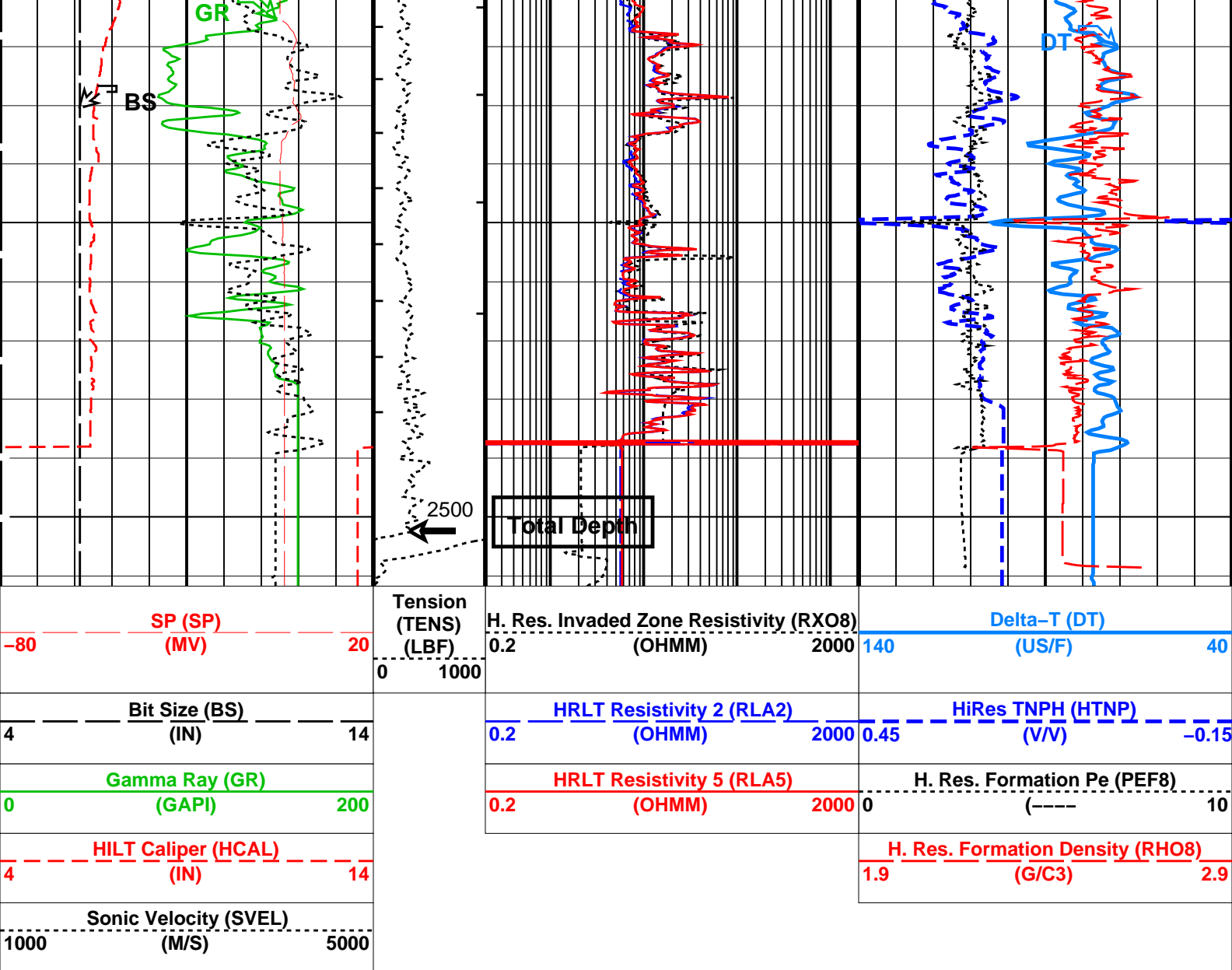












PIP SUMMARY

- └ 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		
A2EX	HALS Type of Image	Conductivities
AGOS	HALS-B A2 Extended (Groningen effect)	OFF
ARIP_LTS	HALS-GPIT OFFSET	-90 IN
ARIP_SHOULDER	HALS Long Tool String Correction	OFF
BHCC	HALS Shoulder Correction	OFF
BHS	HALS Borehole Correction	ON
BHT	Borehole Status	OPEN
DHOP	Bottom Hole Temperature (used in calculations)	85 DEGC
	Diameter & Eccentering used in HALS Borehole Corrections	
	Caliper_Eccentered	HCAL
GCSE	Generalized Caliper Selection	0
GDEV	Average Angular Deviation of Borehole from Normal	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
DSLTH-H: Digitizing Sonic Logging Tool			
	Telemetry Mode	DSLTH_FTB	
	DSLTH 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	DSLTH Depth Sampling Interval	20	
DRCS	DSLTH DLIS Recording Size	140	
DSIN	Digitizing Sample Interval	10	
DTCM	Delta-T Computation Mode	FULL	
DTF	Delta-T Fluid	189	US/F
DTFS	DSLTH 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
MGA1	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)	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	
PROCFL	Inversion Micro-Resistivity Selection	RX08	
PROCMSO	Mechanical Standoff Fin Size	0.5	IN
PROCRM	Processing Mud Resistivity Select	HRLT_Compute	
PROCSP0	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			
ALTRCHAN	Name of alternate depth channel		
	Speed/Corrected Depth		

ALTDPC	Name of alternate depth channel	Speed	Corrected Depth
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_500 Vertical Scale: 1:500 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
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Output DLIS Files

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

Density Porosity
1:500 Scale High Resolution

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
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Output DLIS Files

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

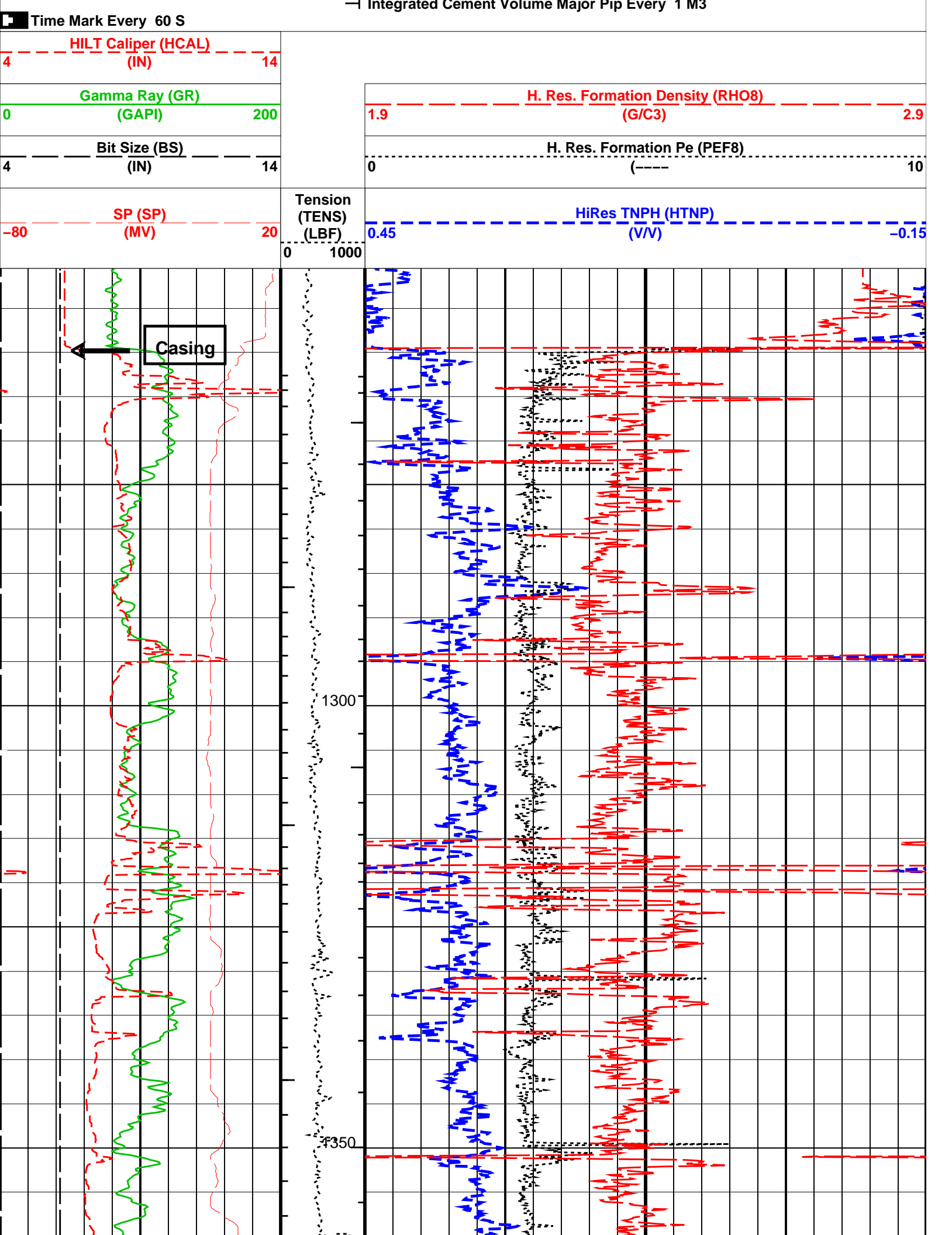
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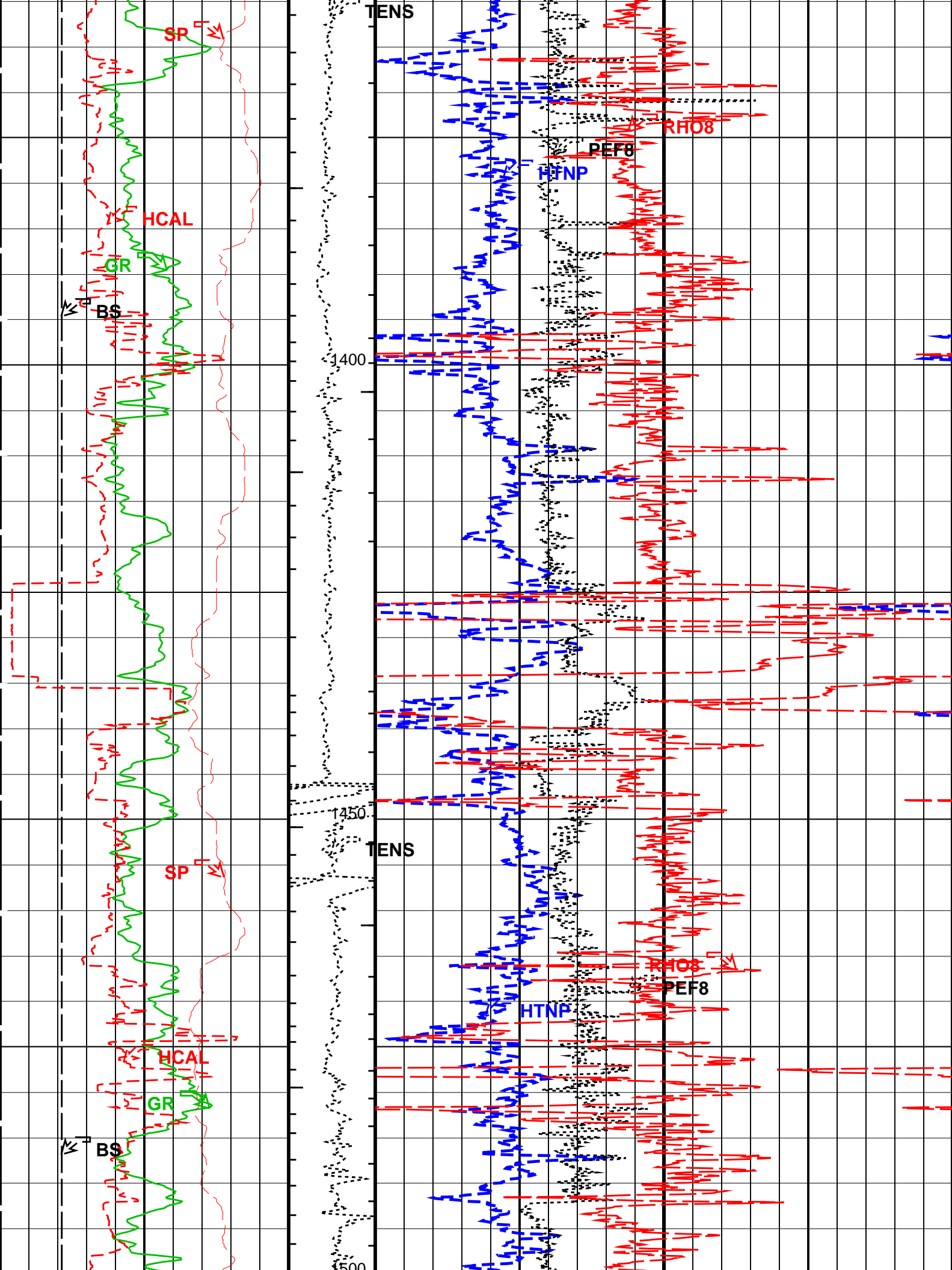
MCM

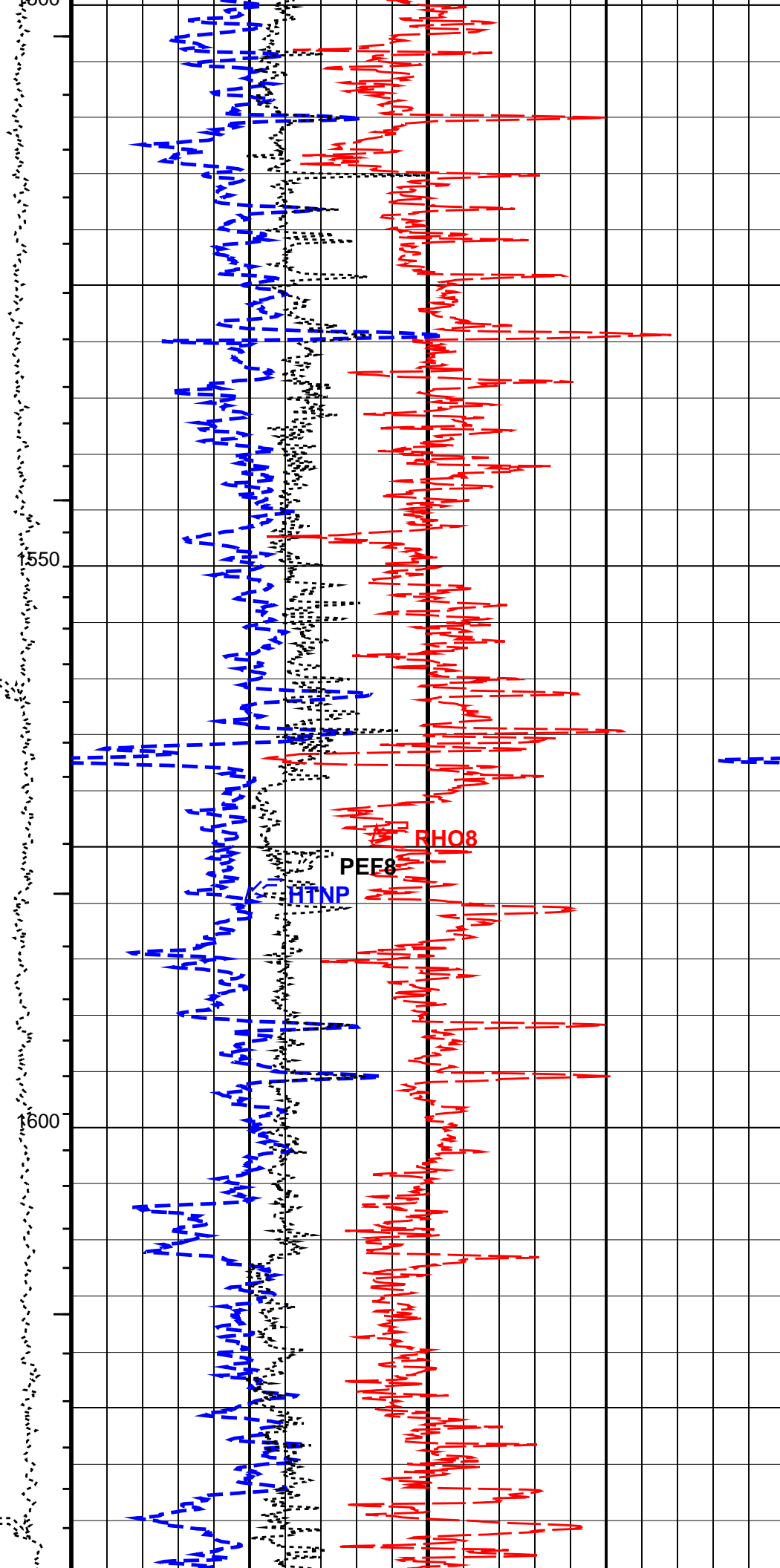
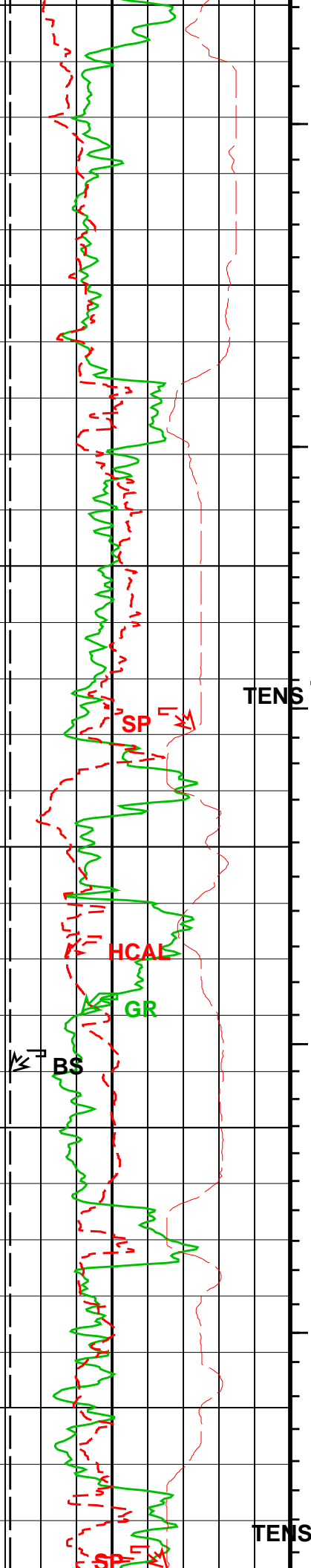
HALS-B	12C0-301	DSLT-H	12C0-301
HILTB-FTB	12C0-301	DTC-H	12C0-301
BSP	12C0-301		

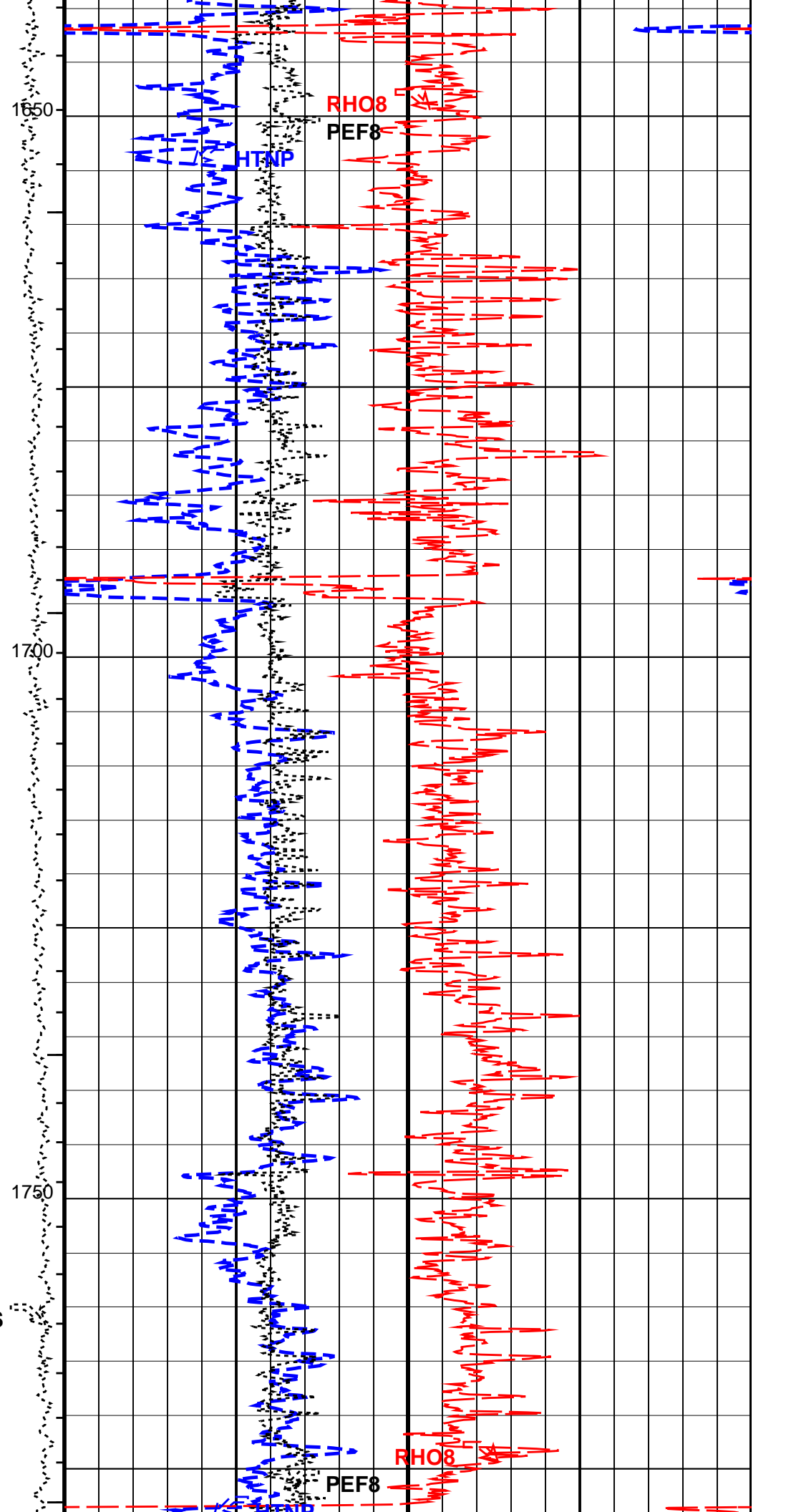
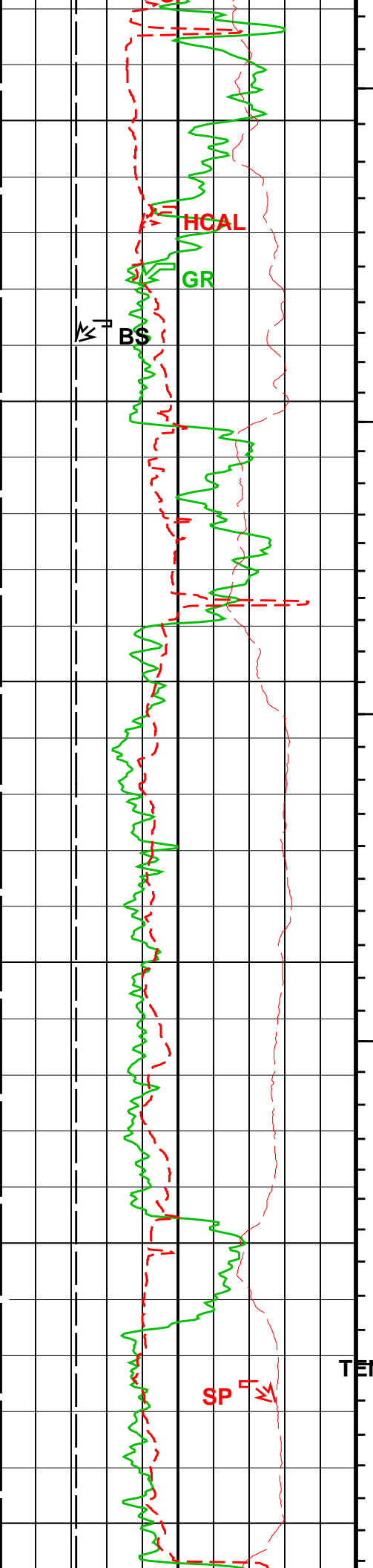
PIP SUMMARY

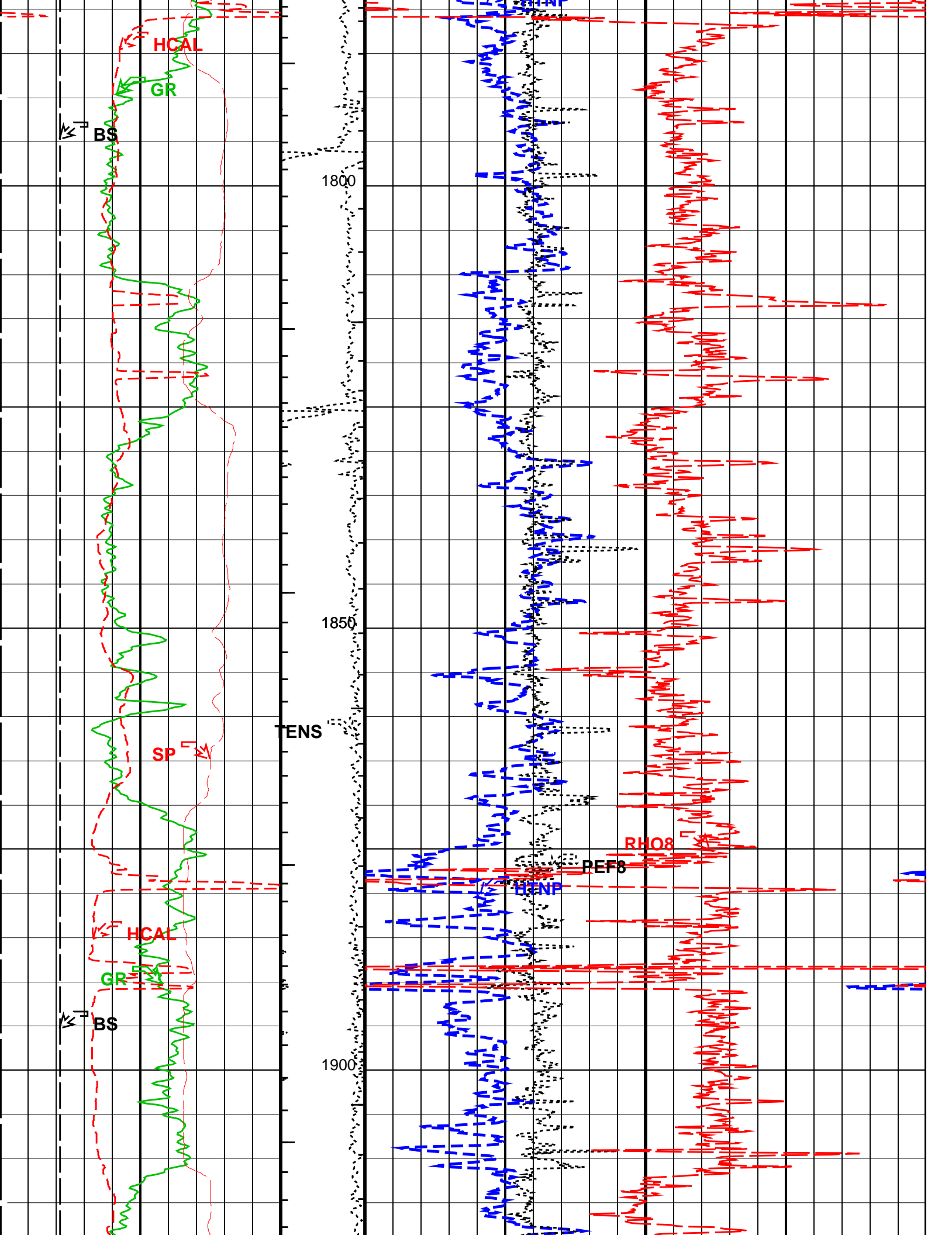
- └ Integrated Hole Volume Minor Pip Every 0.1 M3
- └ Integrated Hole Volume Major Pip Every 1 M3
- └ Integrated Cement Volume Minor Pip Every 0.1 M3
- └ Integrated Cement Volume Major Pip Every 1 M3

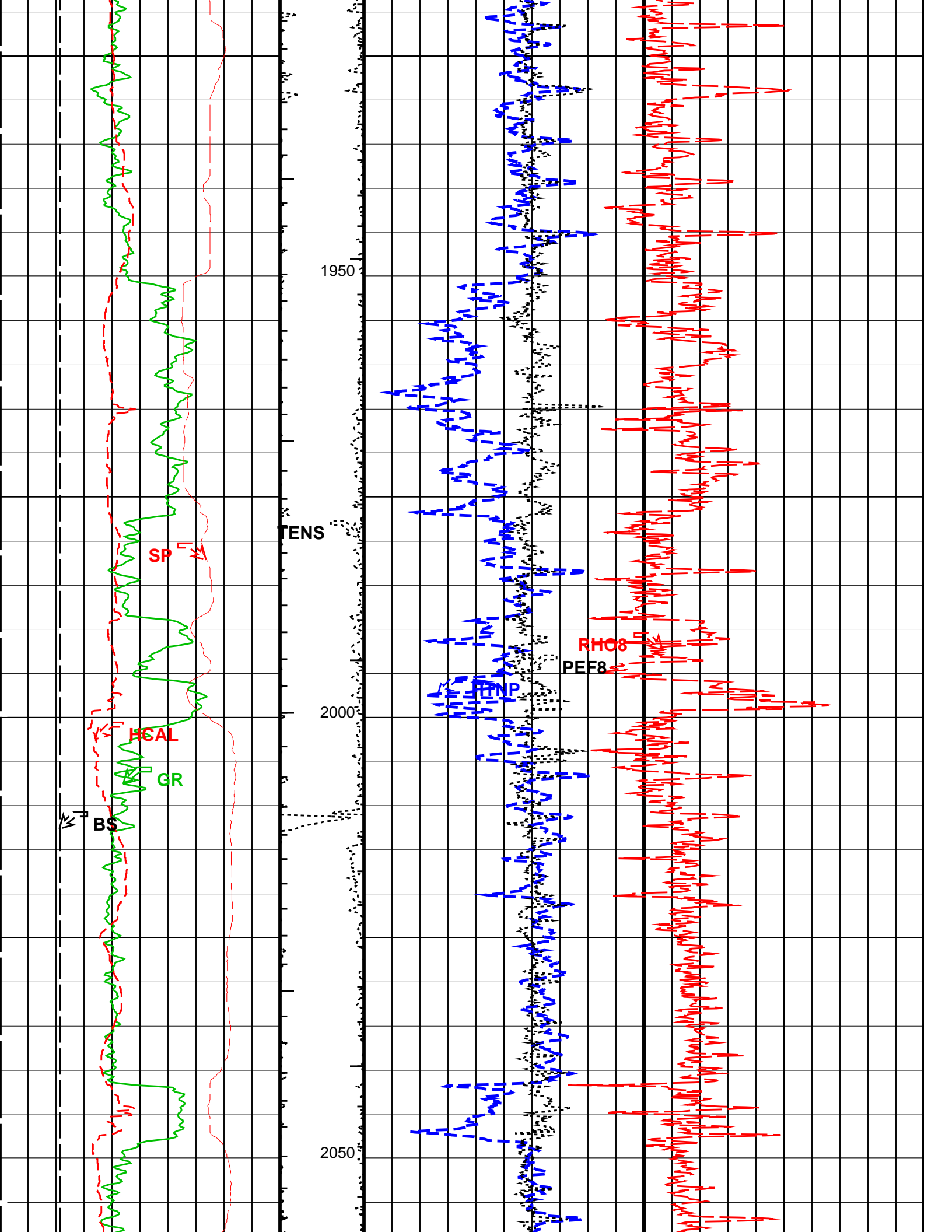


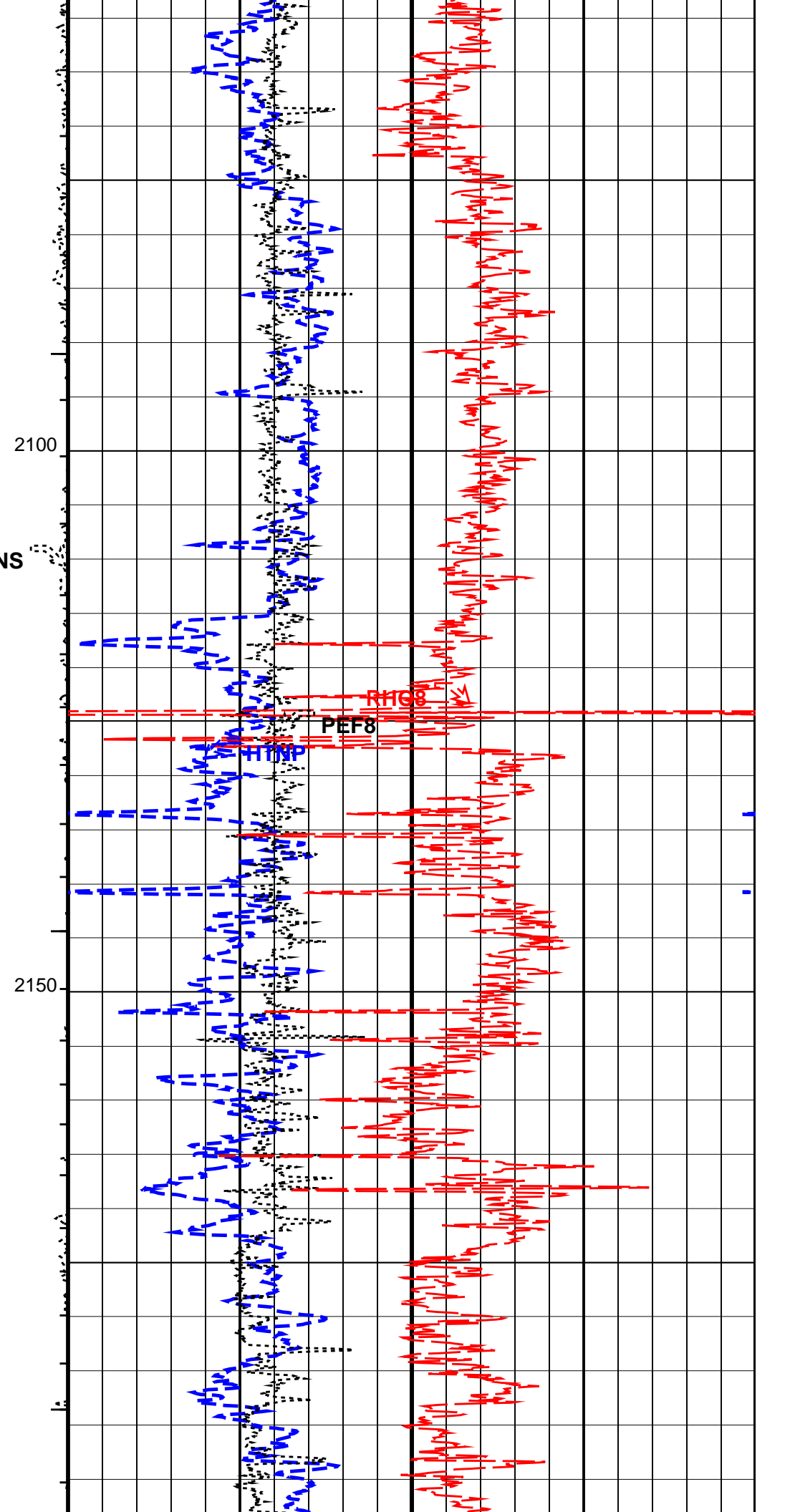
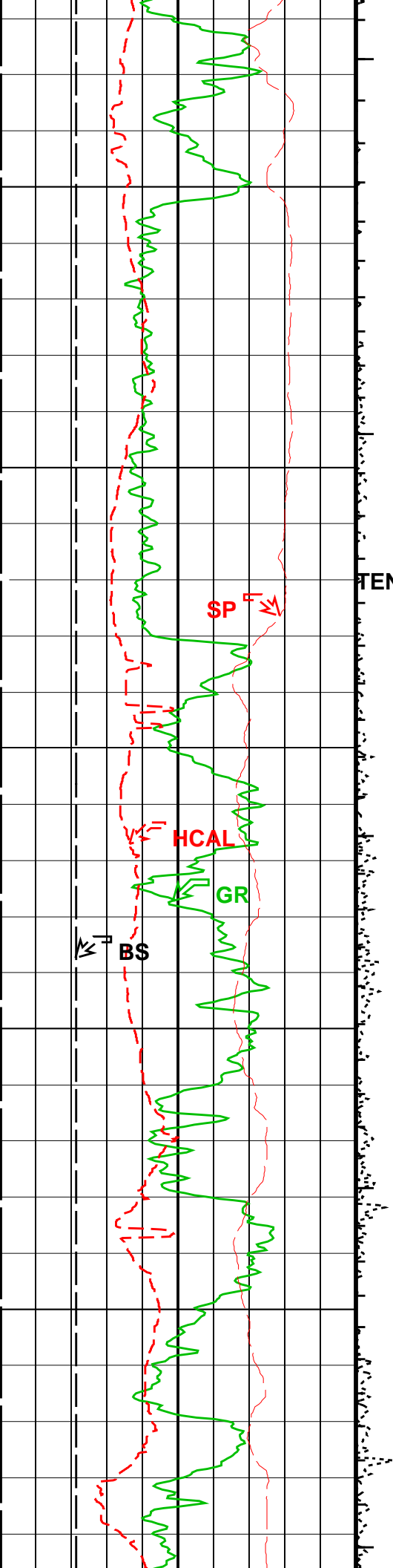


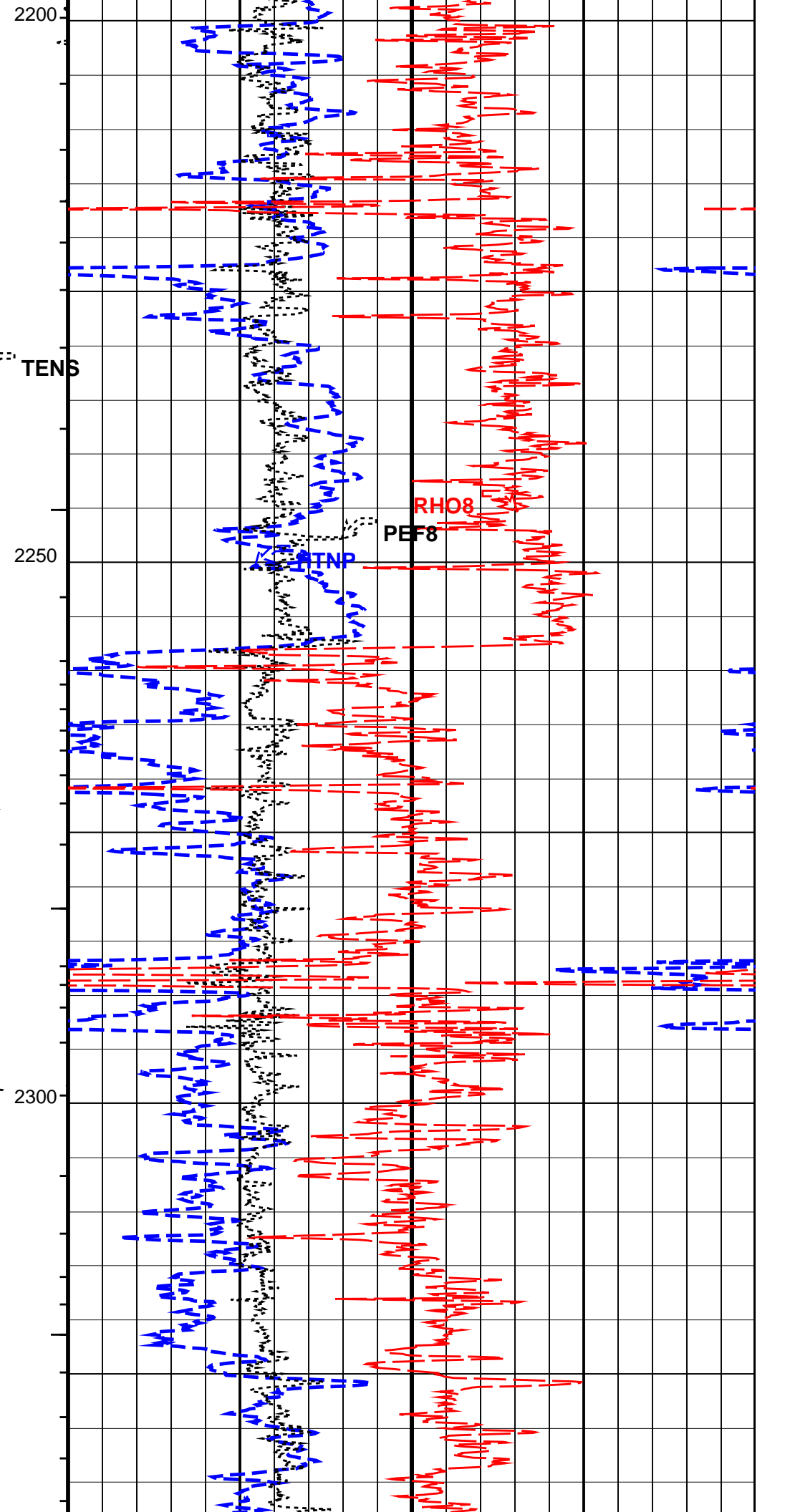
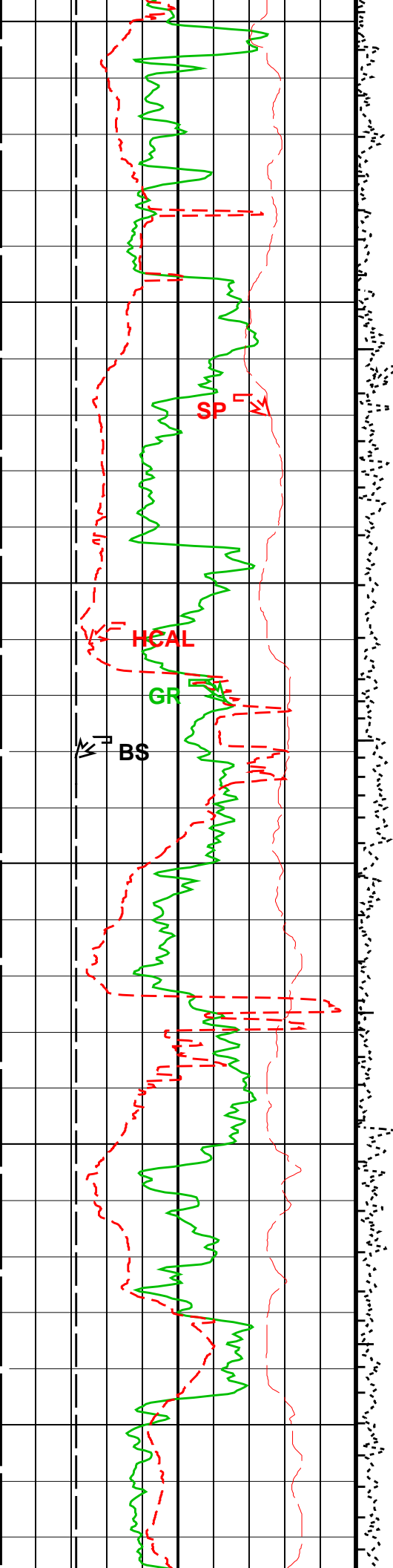


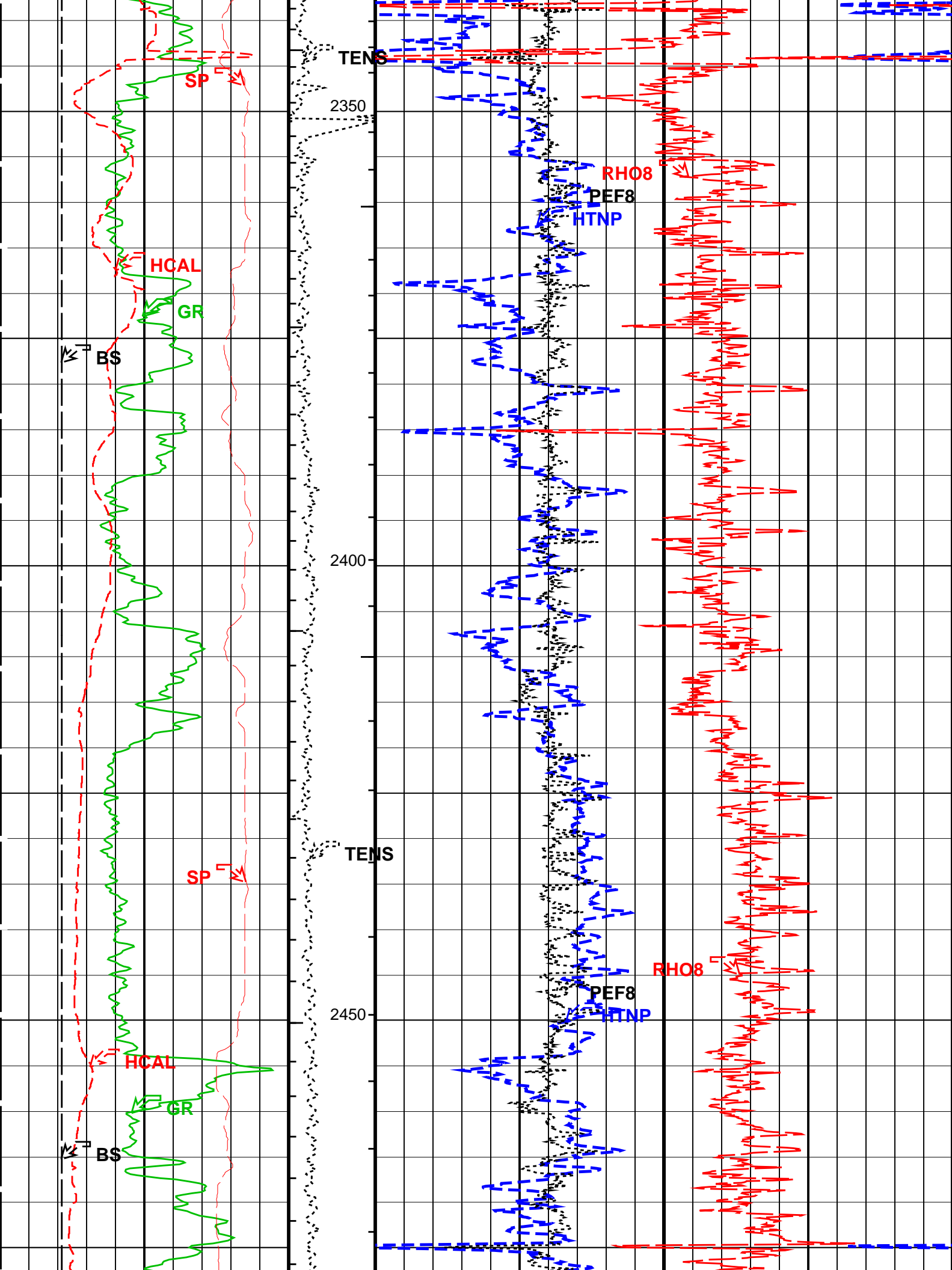


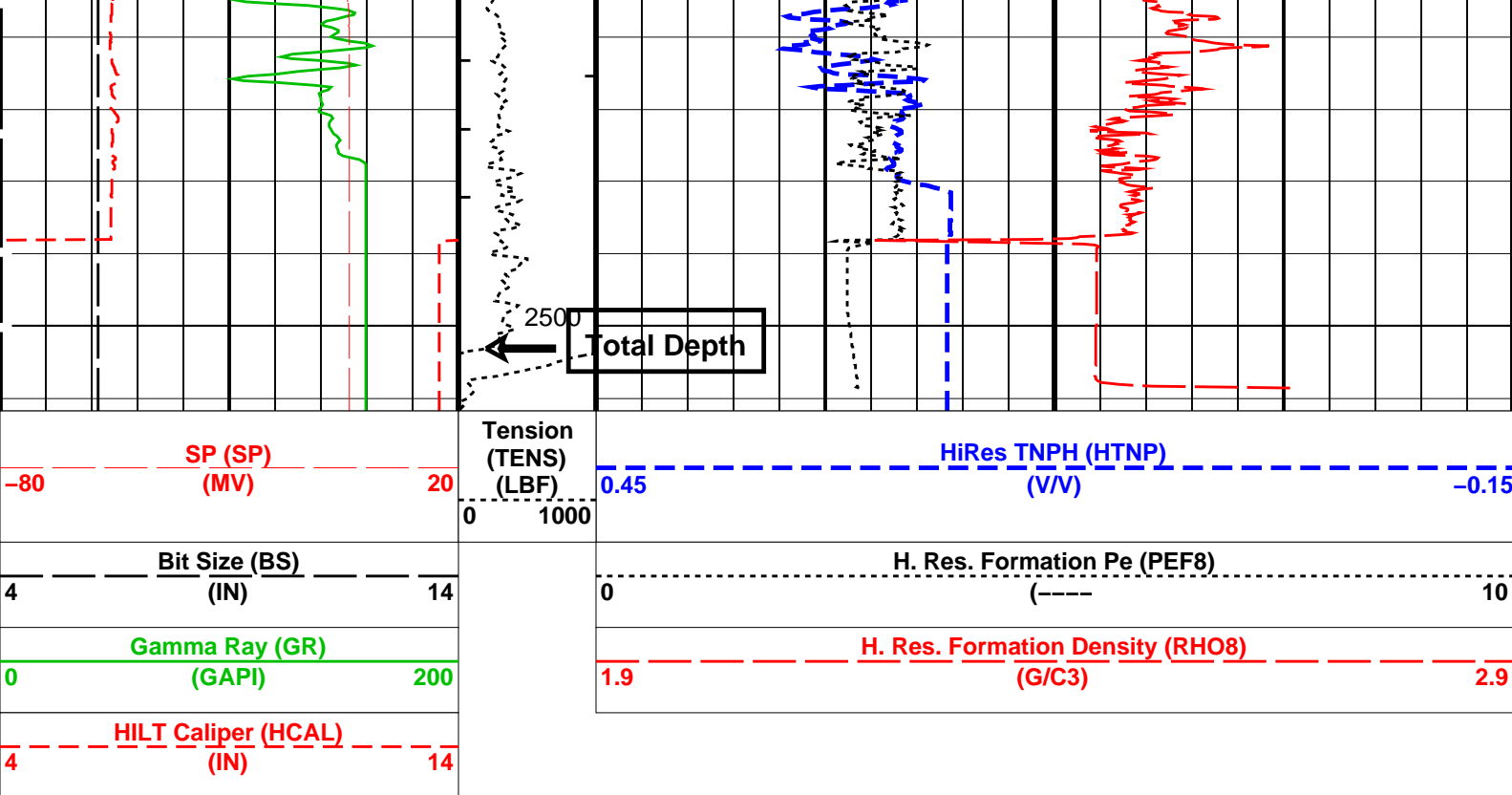












PIP SUMMARY

- └ 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
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_500

Vertical Scale: 1:500

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		



Resistivity

1:500 Scale High Resolution

MAXIS Field Log

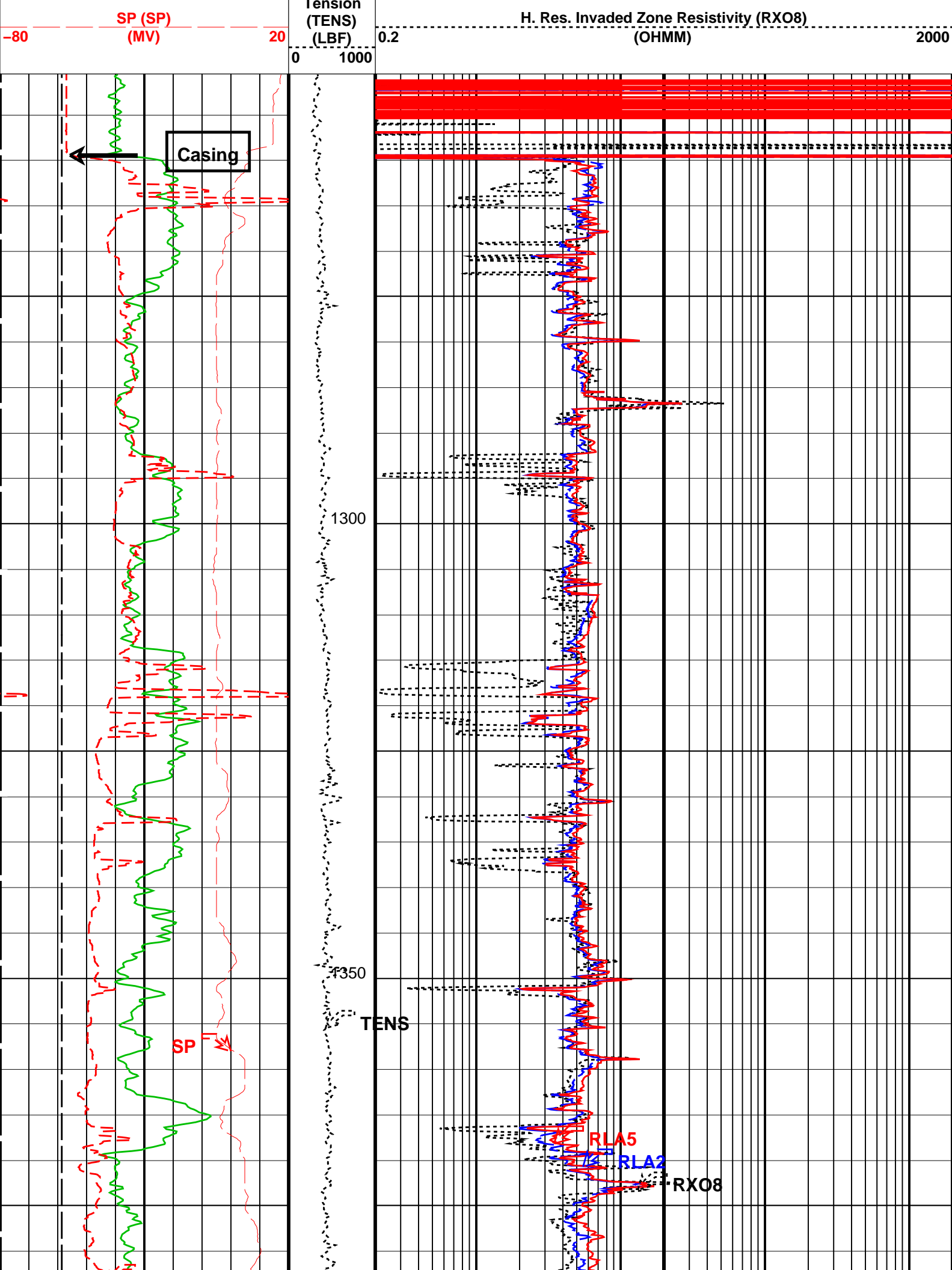
Company: Lakes Oil N.L.

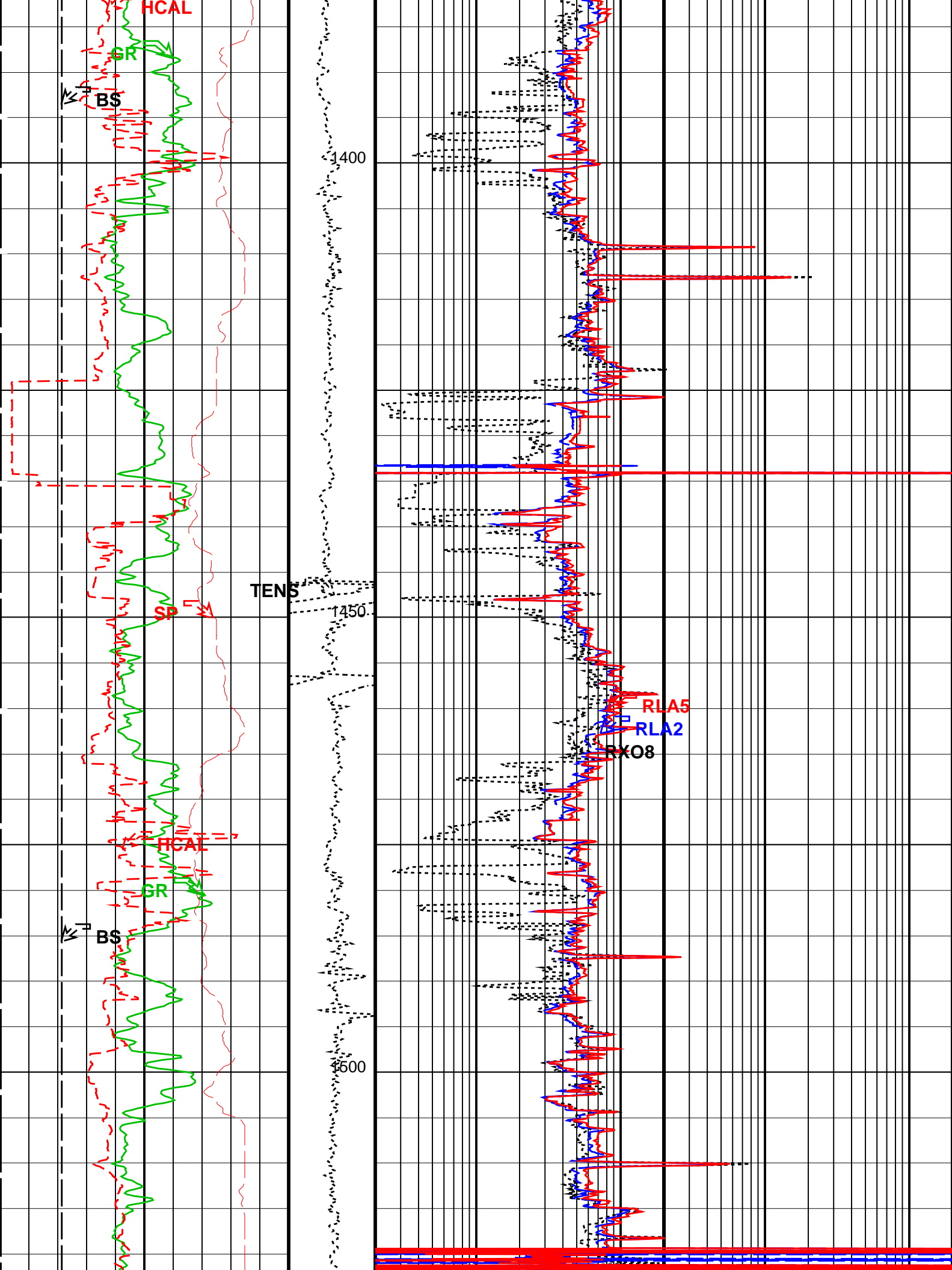
Well: Trifon 2

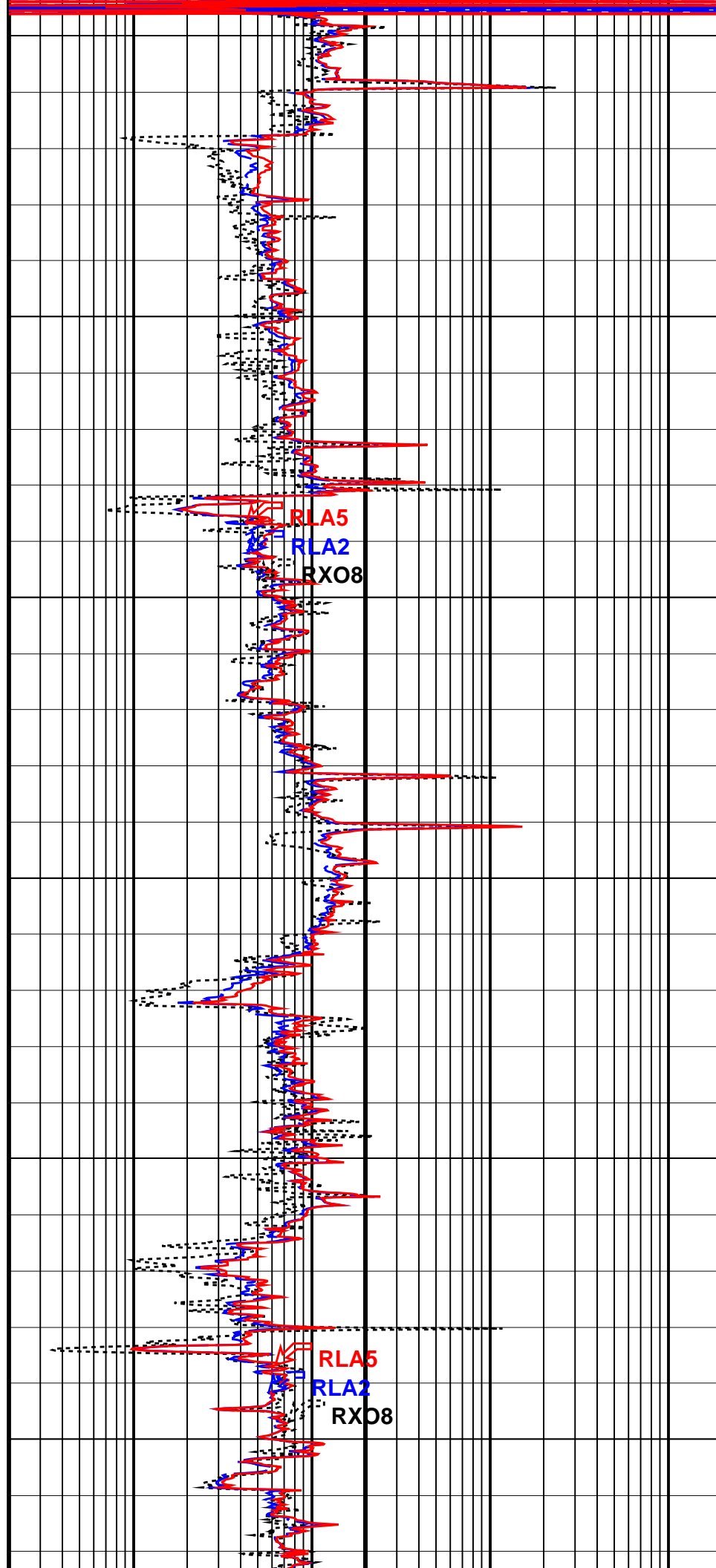
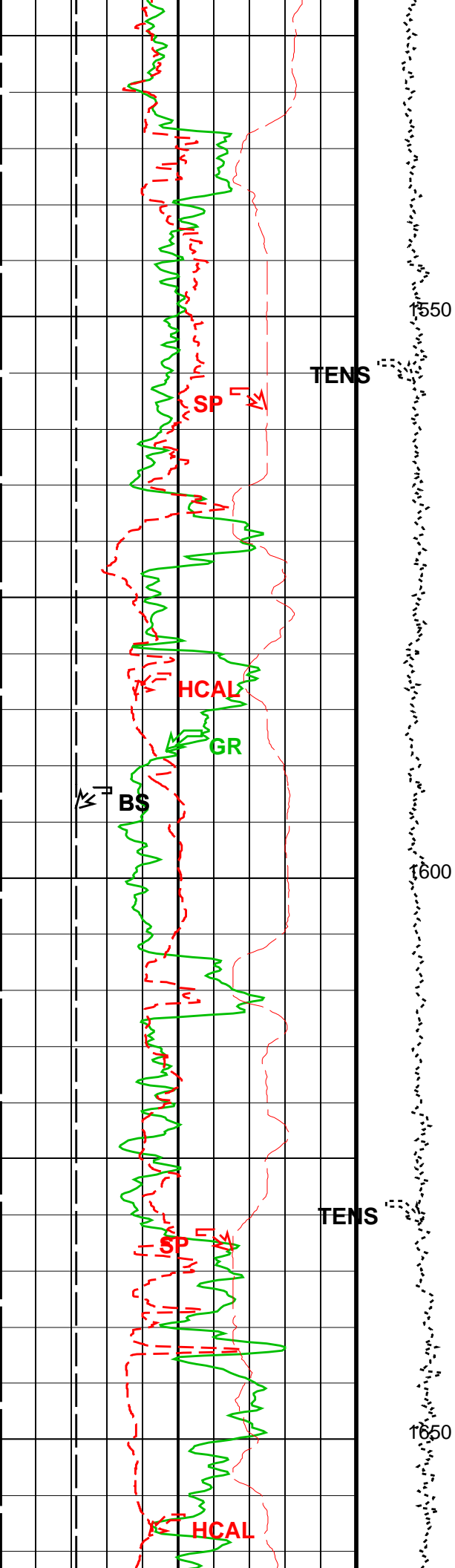
Input DLIS Files						
DEFAULT	MERGE_HALS_SONIC_035	FN:1	PRODUCER	04-Aug-2004 11:55	2505.9 M	1213.0 M
Output DLIS Files						
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OP System Version: 12C0-301						
MCM						
HALS-B	12C0-301	DSLT-H	12C0-301			
HILTB-FTB	12C0-301	DTC-H	12C0-301			
BSP	12C0-301					

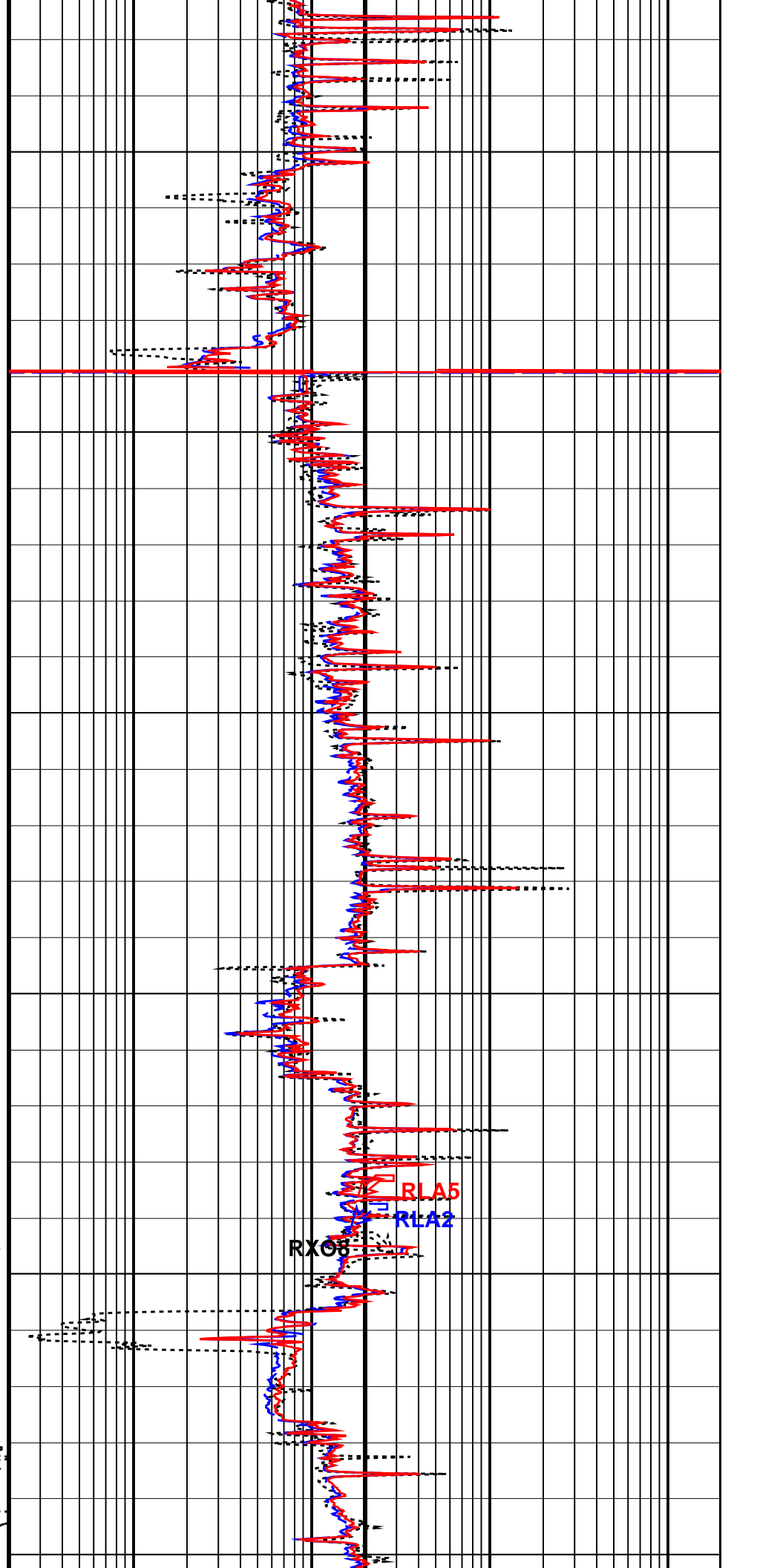
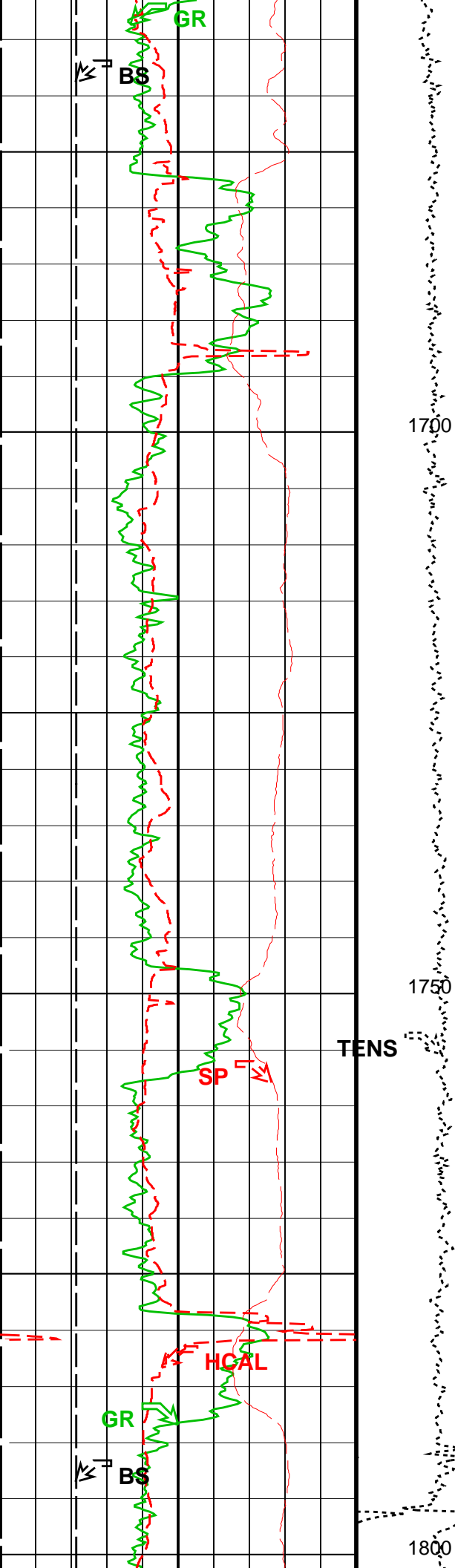
PIP SUMMARY

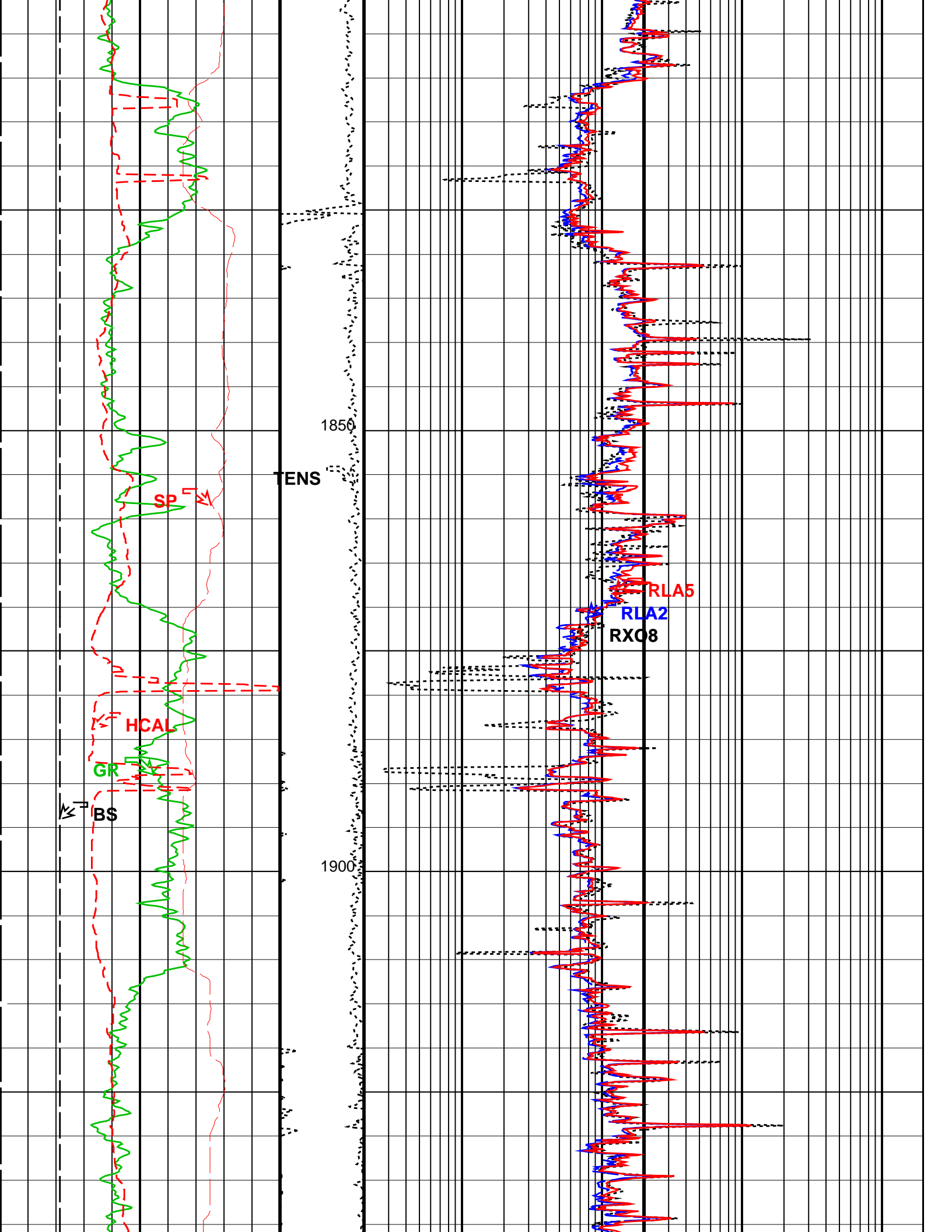
Time Mark Every 60 S					
<div> <div>HILT Caliper (HCAL)</div> <div>(IN)</div> <div>4</div> <div>14</div> </div>					
<div> <div>Gamma Ray (GR)</div> <div>(GAPI)</div> <div>0</div> <div>200</div> </div>			<div> <div>HRLT Resistivity 5 (RLA5)</div> <div>(OHMM)</div> <div>0.2</div> <div>2000</div> </div>		
<div> <div>Bit Size (BS)</div> <div>(IN)</div> <div>4</div> <div>14</div> </div>			<div> <div>HRLT Resistivity 2 (RLA2)</div> <div>(OHMM)</div> <div>0.2</div> <div>2000</div> </div>		

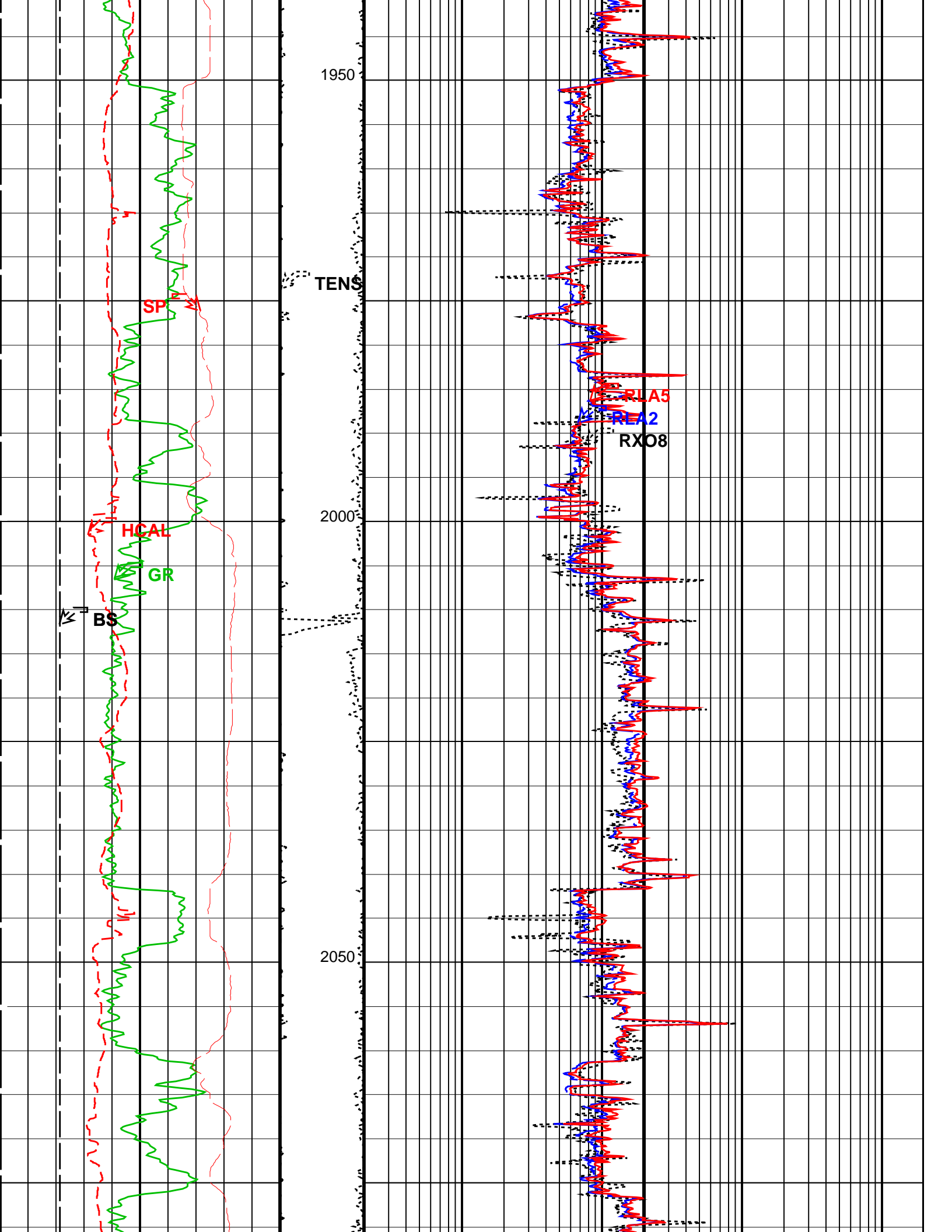


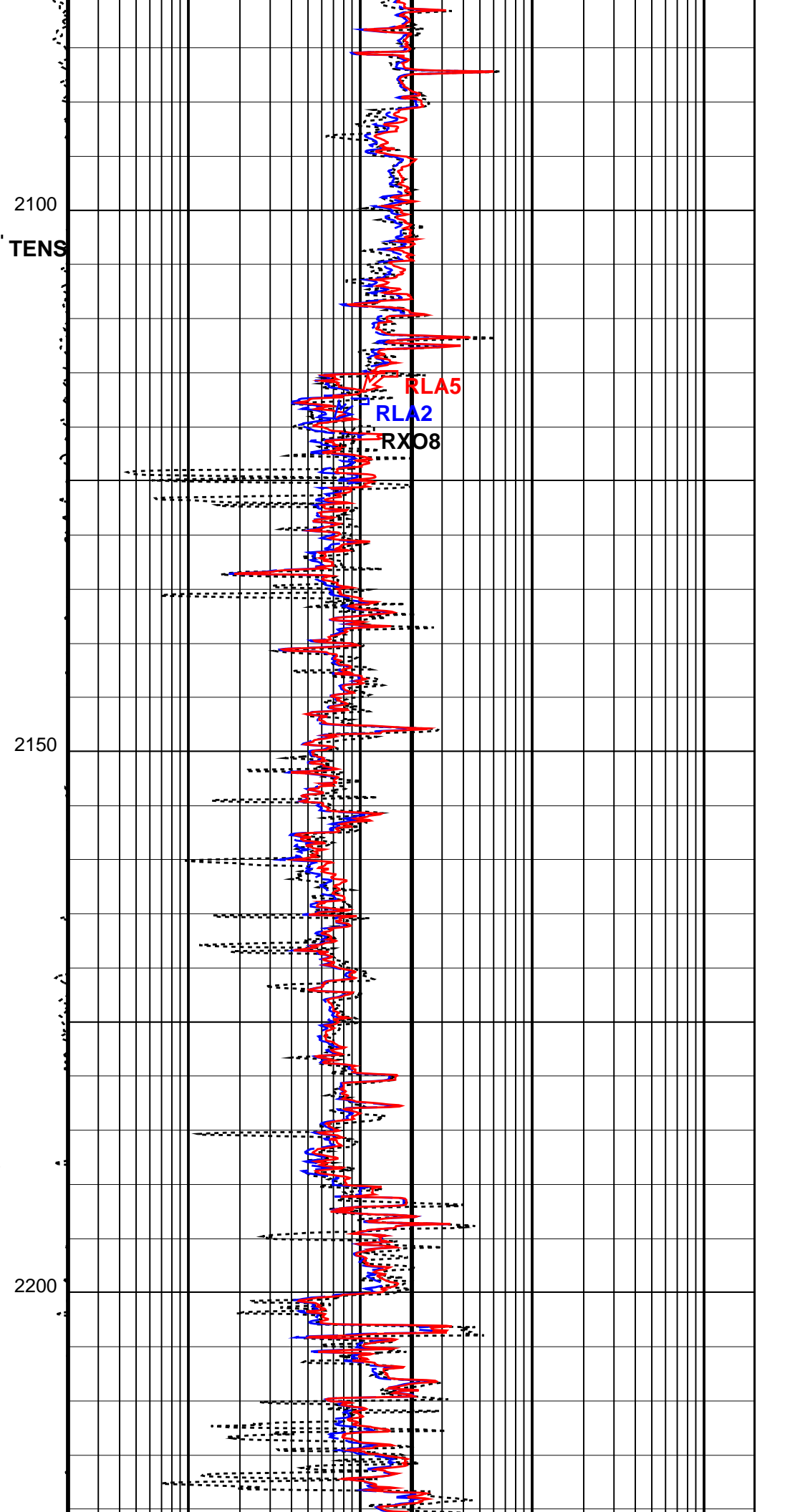
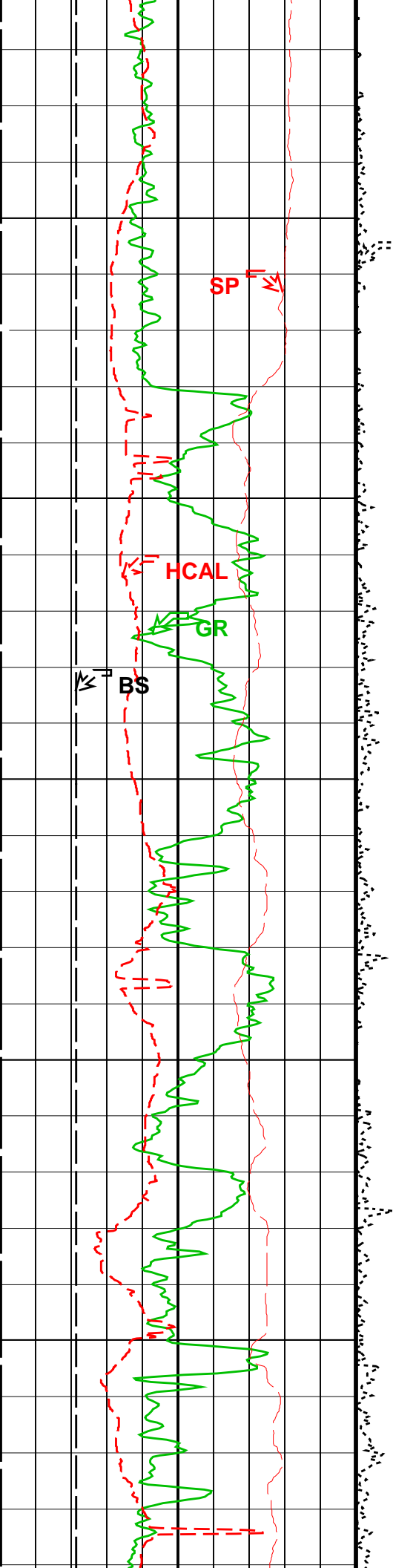


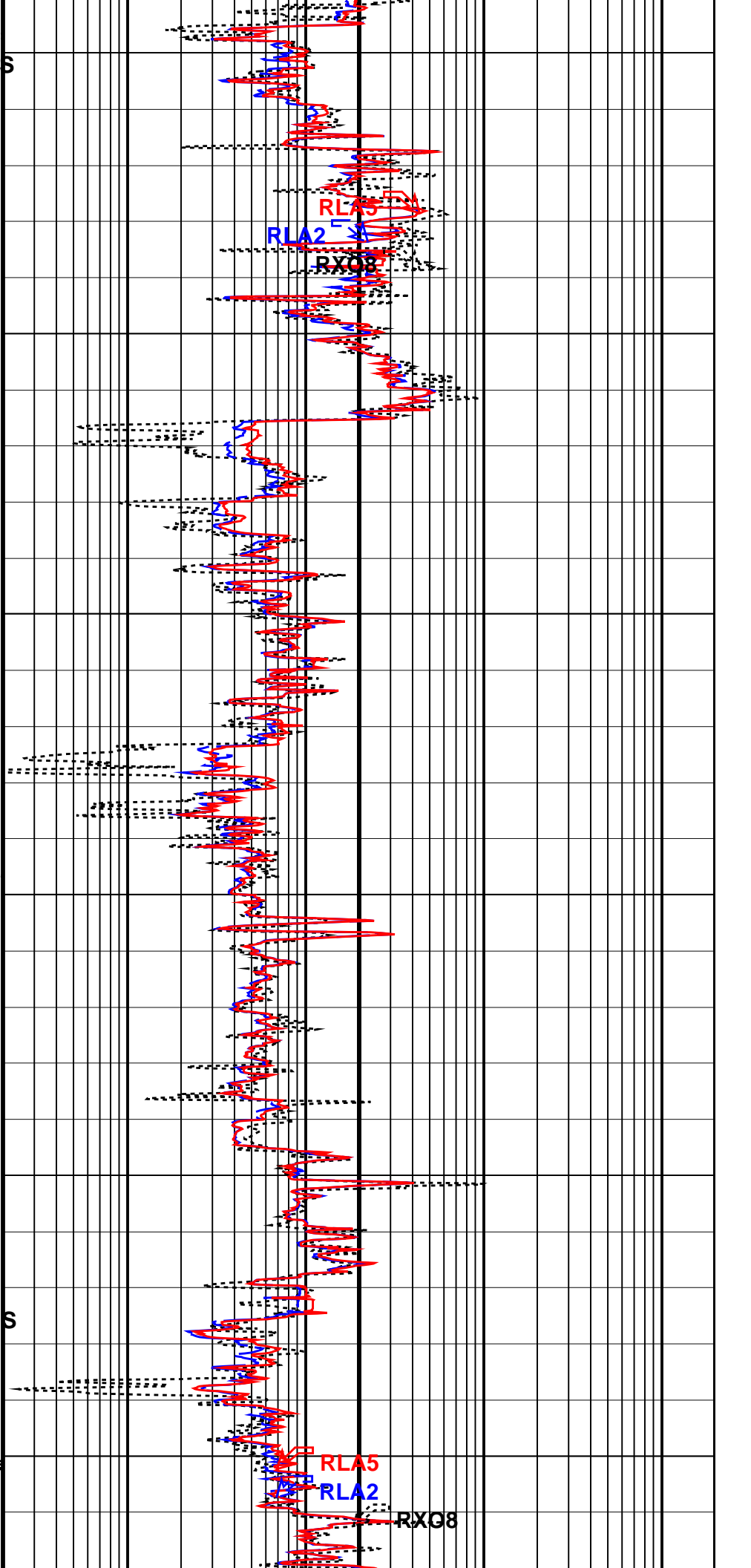
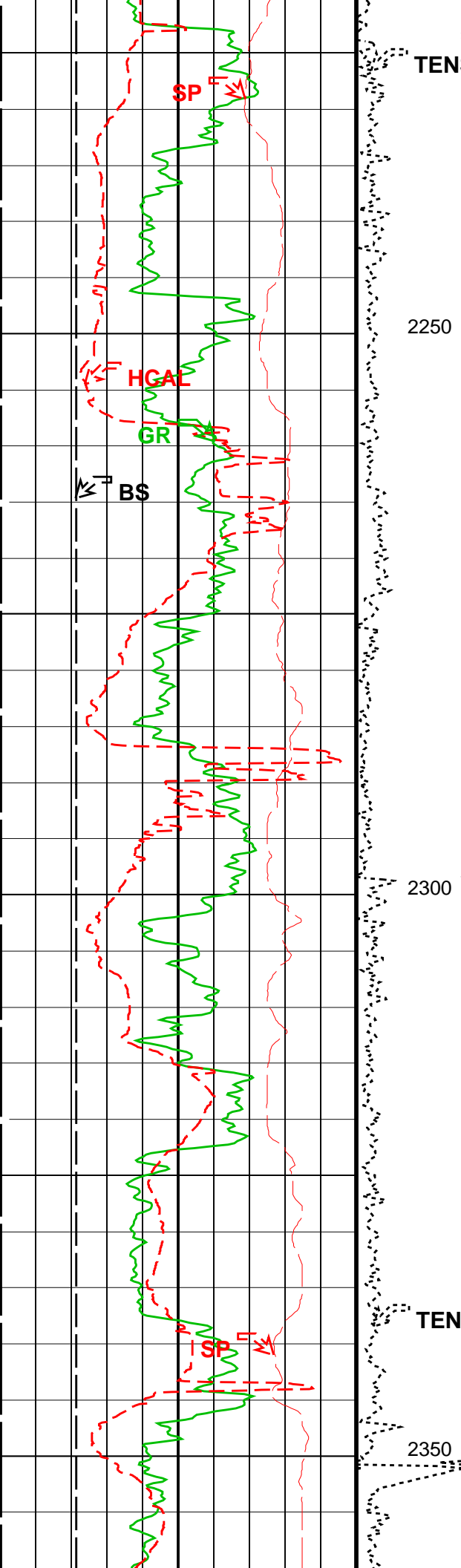


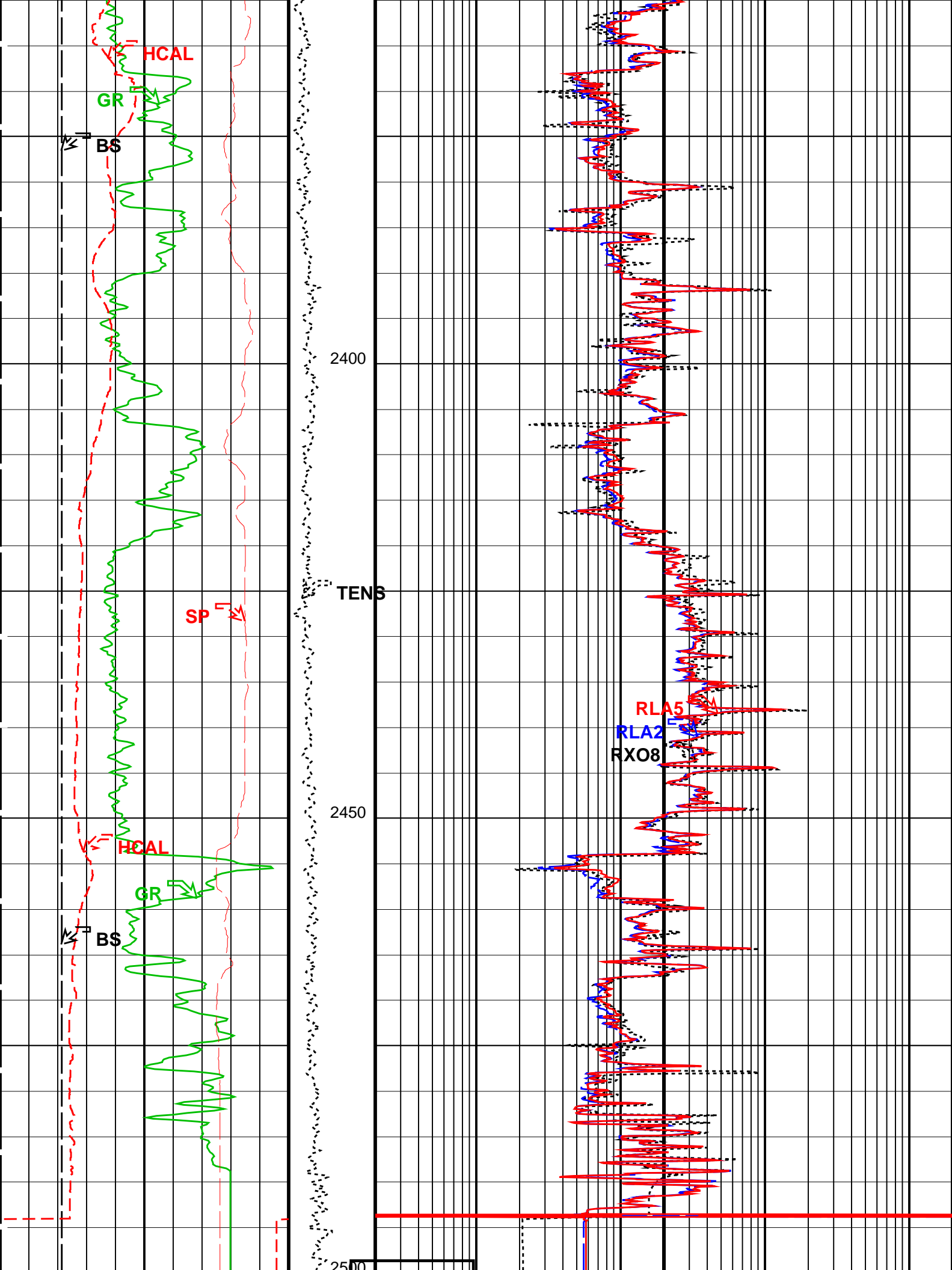










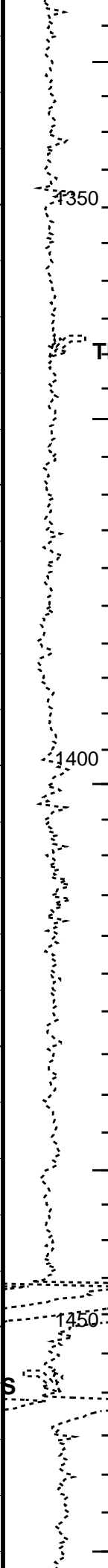
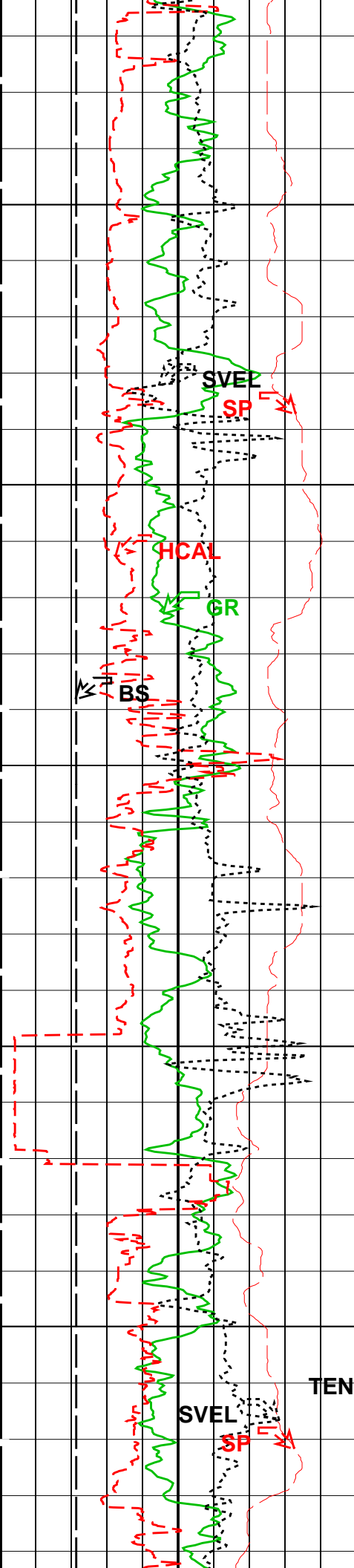


- └ Integrated Transit Time Minor Pip Every 1 MS
- └ Integrated Transit Time Major Pip Every 10 MS

The figure is a multi-track log plot with the following tracks from left to right:

- Sonic Velocity (SVEL) (M/S):** Scale from 1000 to 5000.
- HILT Caliper (HCAL) (IN):** Scale from 4 to 14.
- Gamma Ray (GR) (GAPI):** Scale from 0 to 200.
- Bit Size (BS) (IN):** Scale from 4 to 14.
- SP (SP) (MV):** Scale from -80 to 20.
- Tension (TENS) (LBF):** Scale from 0 to 1000.
- Delta-T (DT) (US/F):** Scale from 140 to 40.

The plot shows a 'Casing' label with an arrow pointing to a depth of approximately 1300 feet. The data tracks show various logs, including Sonic Velocity (SVEL), HILT Caliper (HCAL), Gamma Ray (GR), Bit Size (BS), SP (SP), Tension (TENS), and Delta-T (DT).



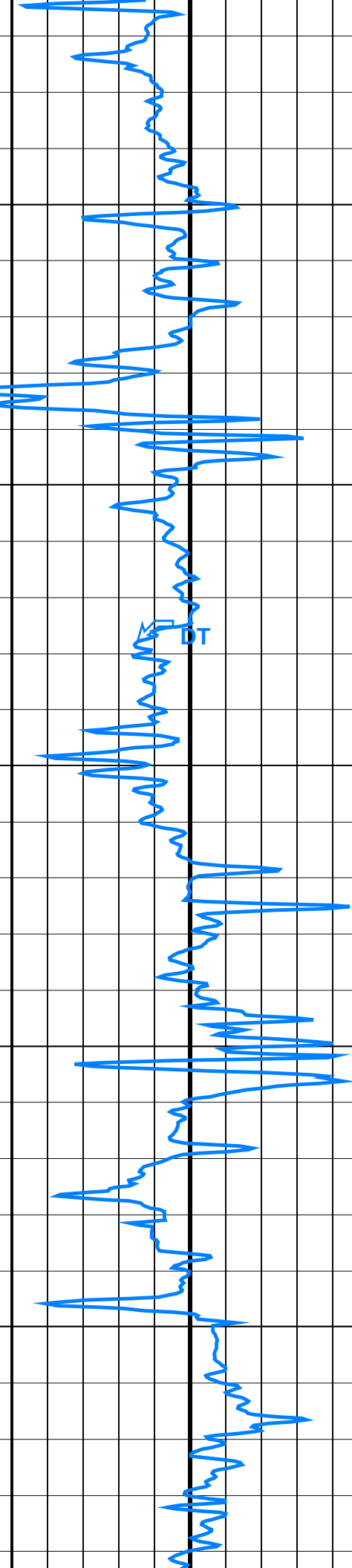
TENS

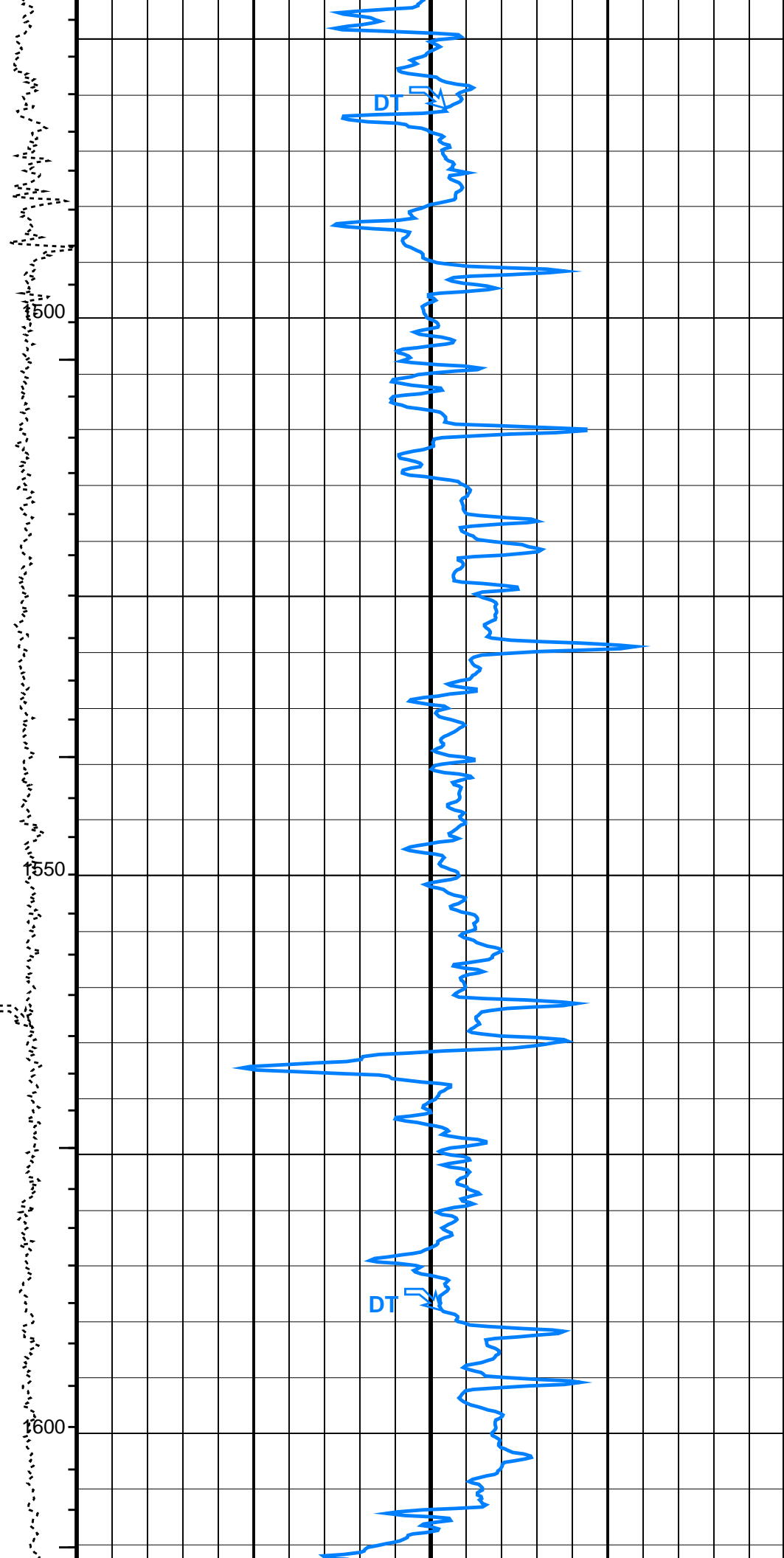
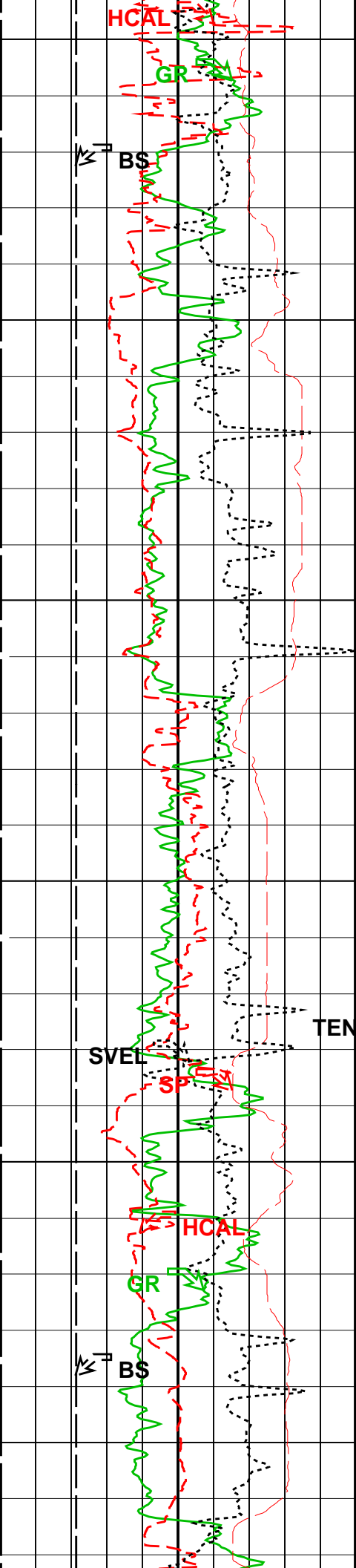
1350

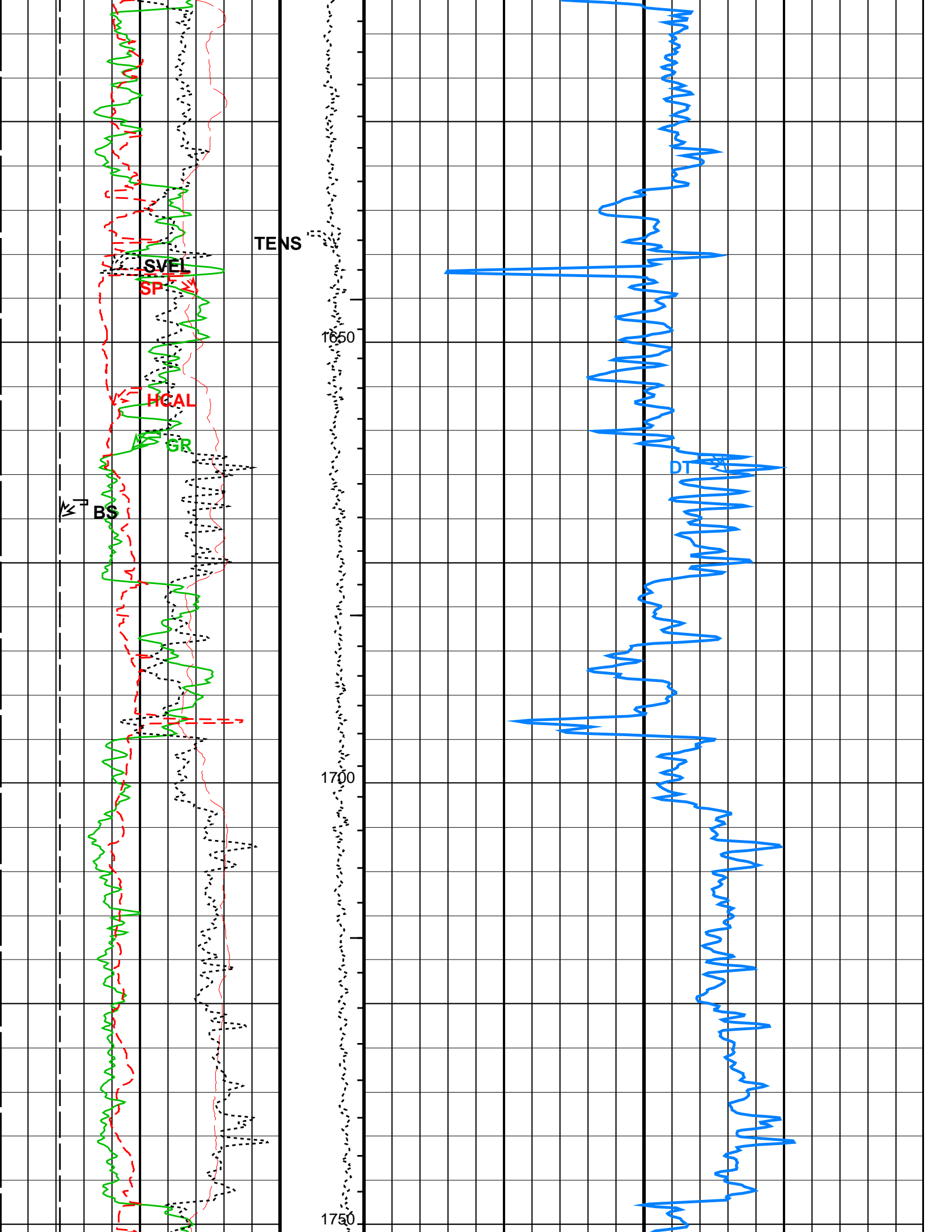
1400

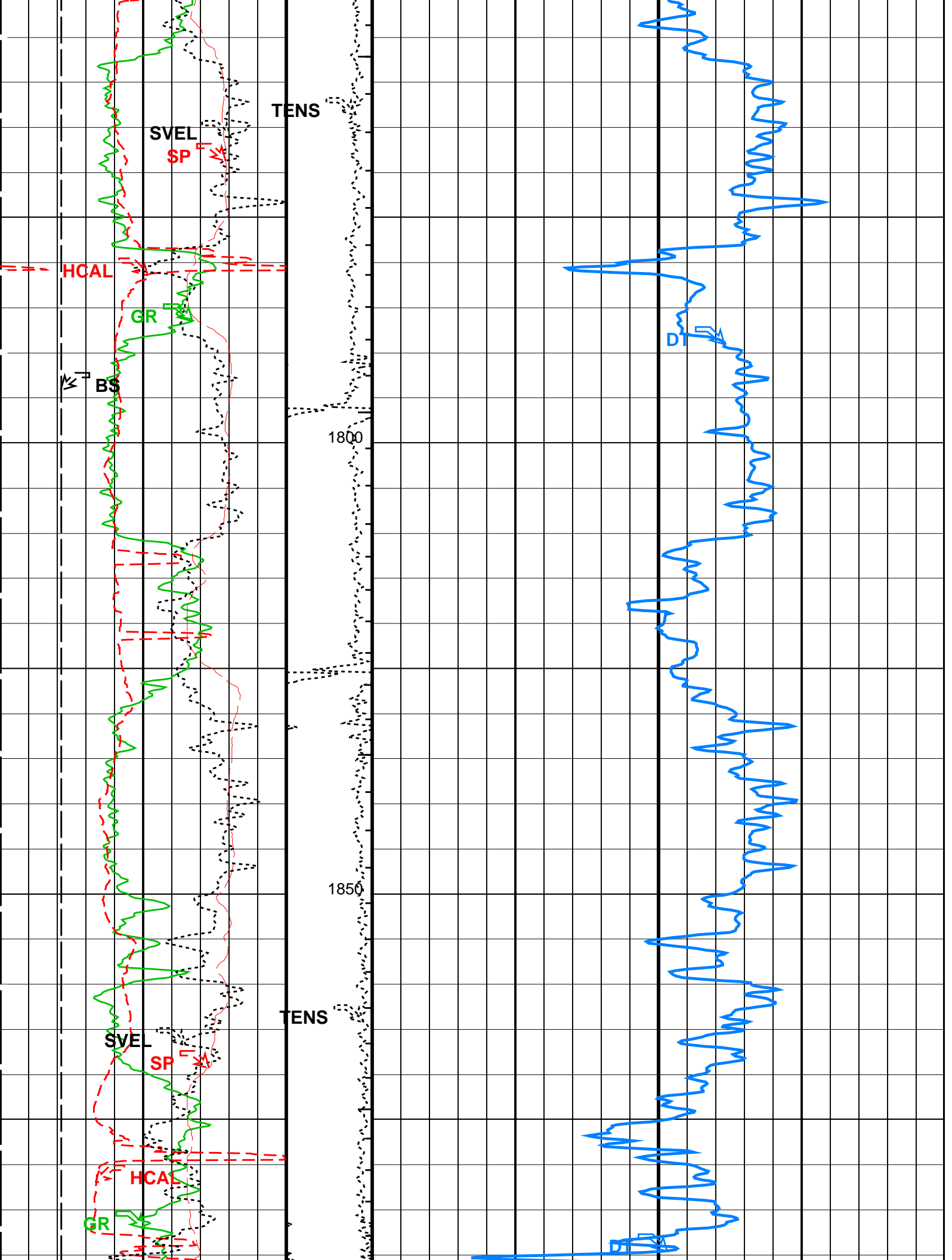
1450

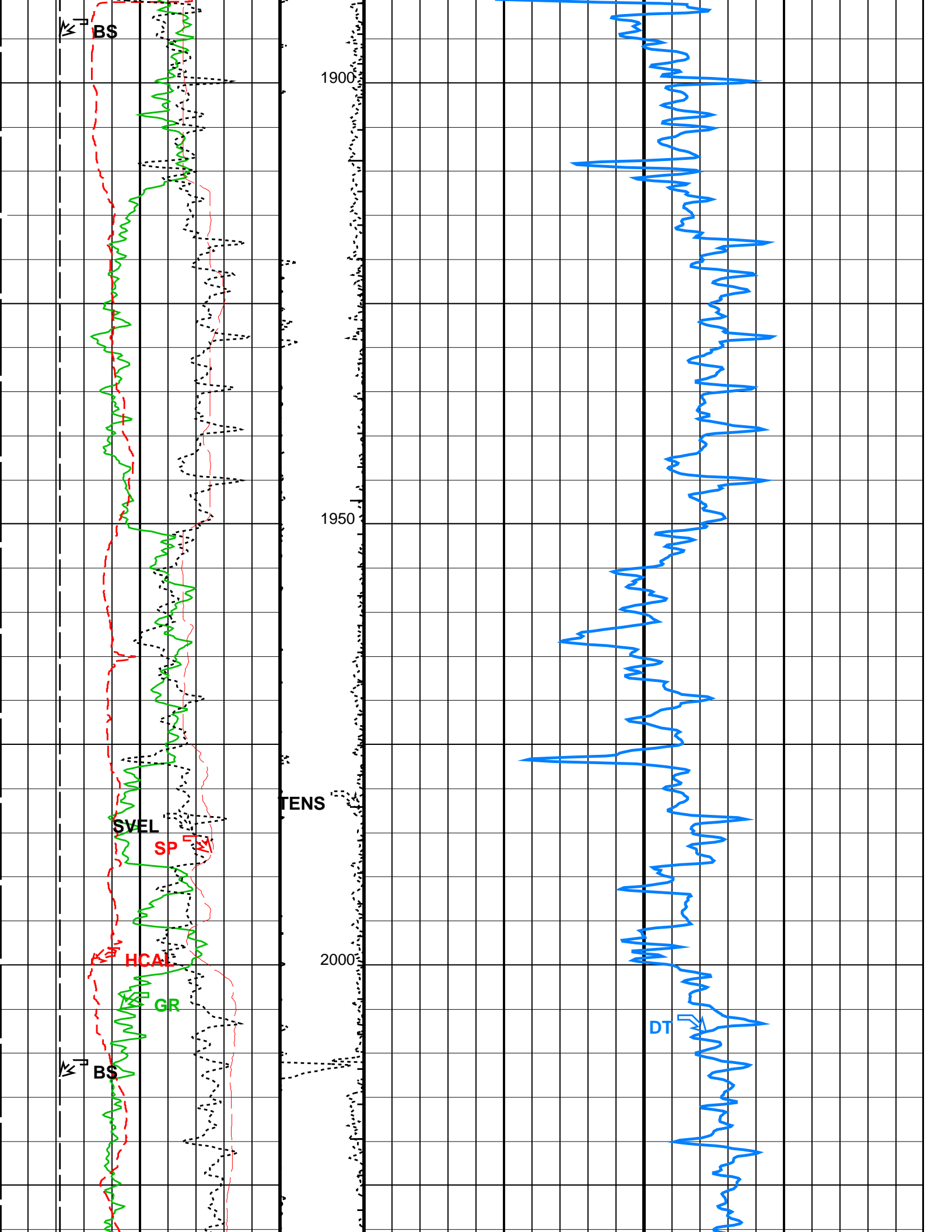
TENS

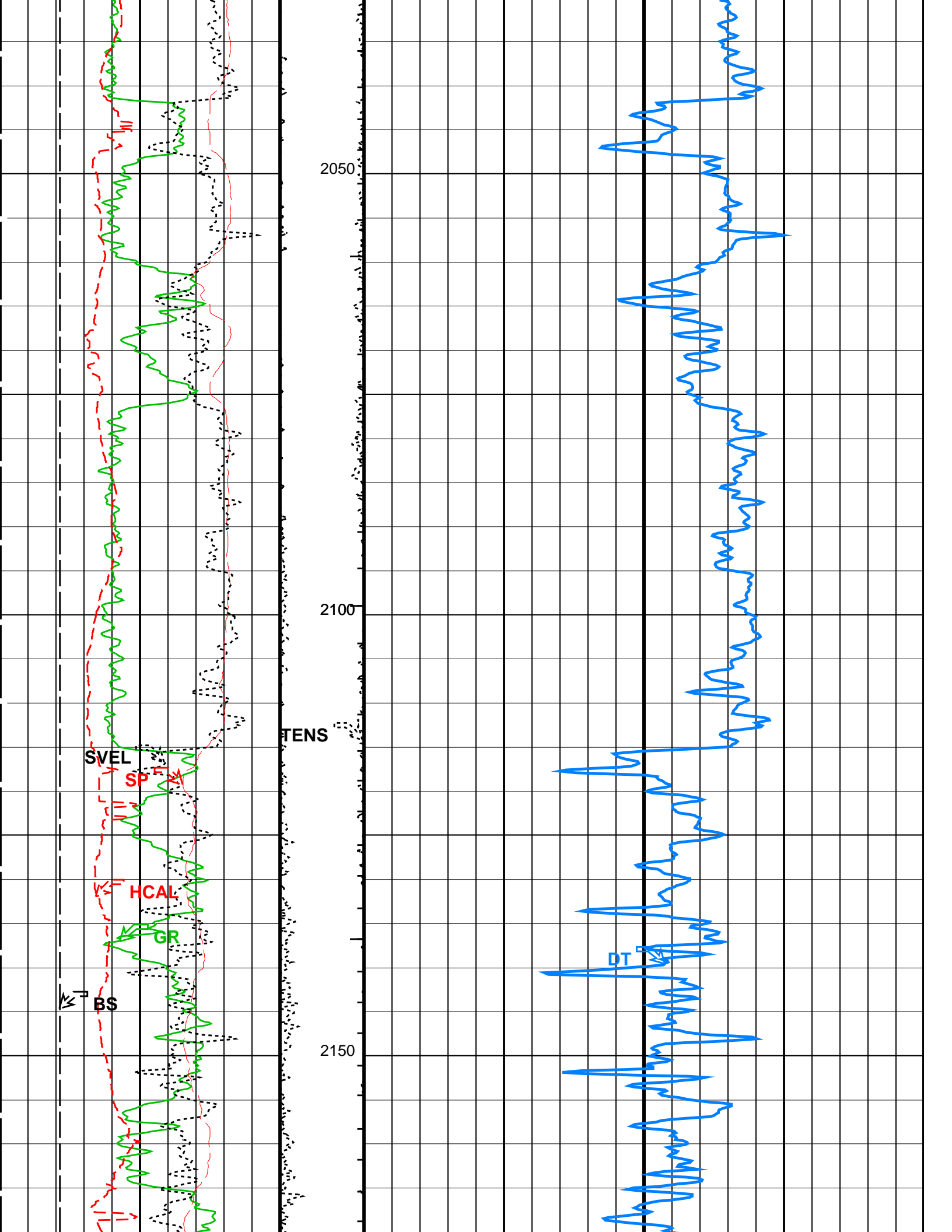


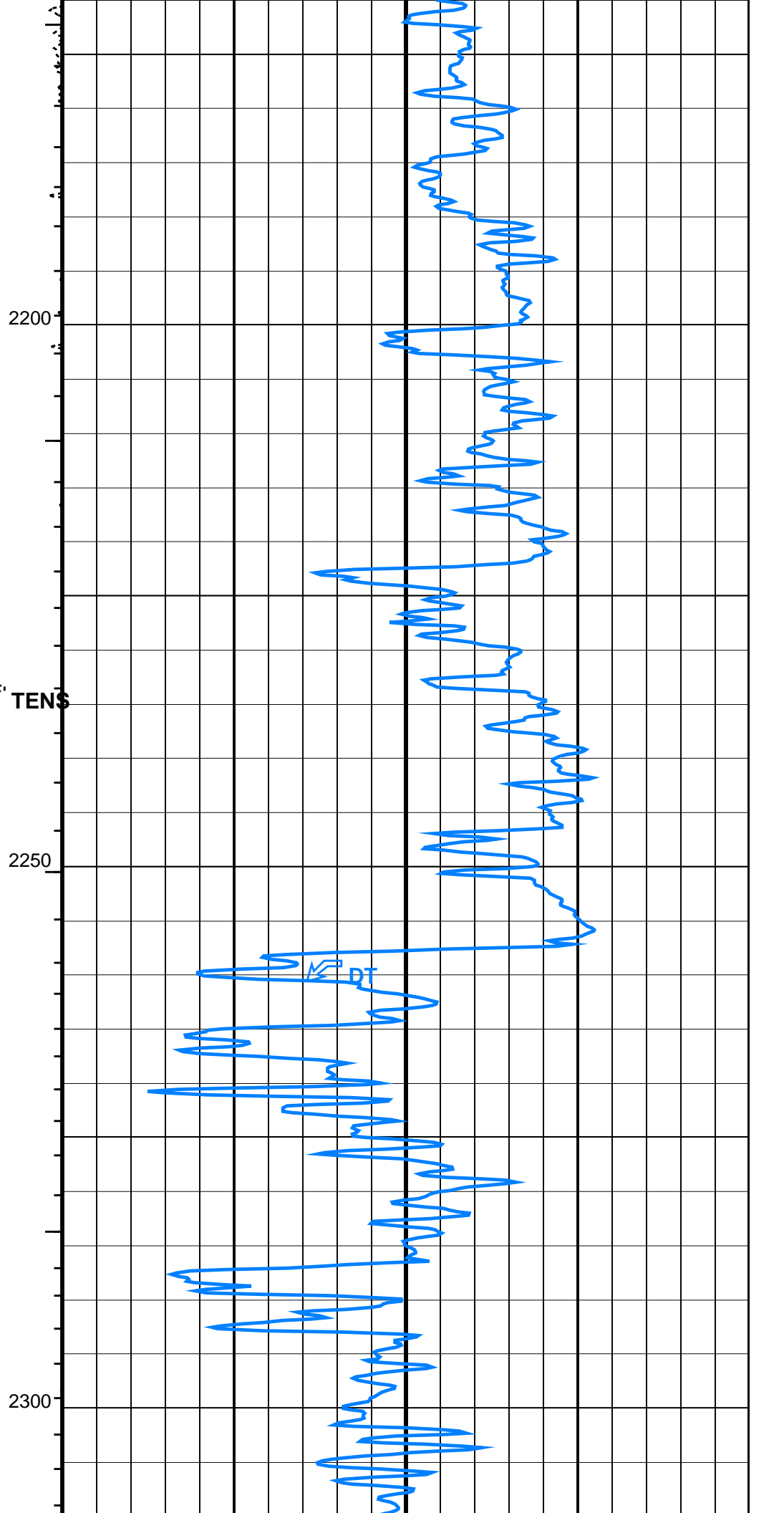
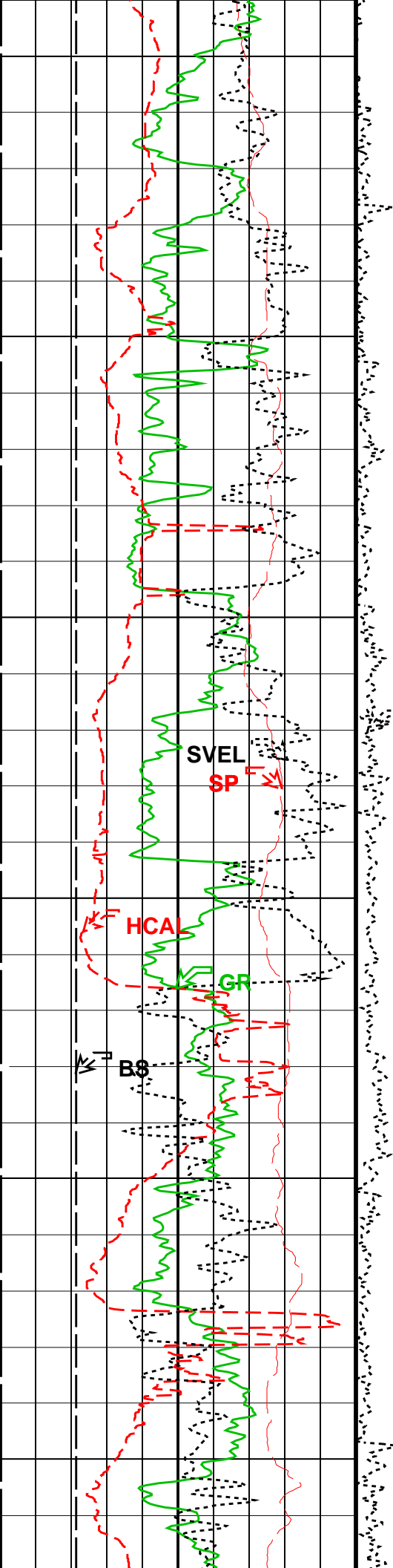


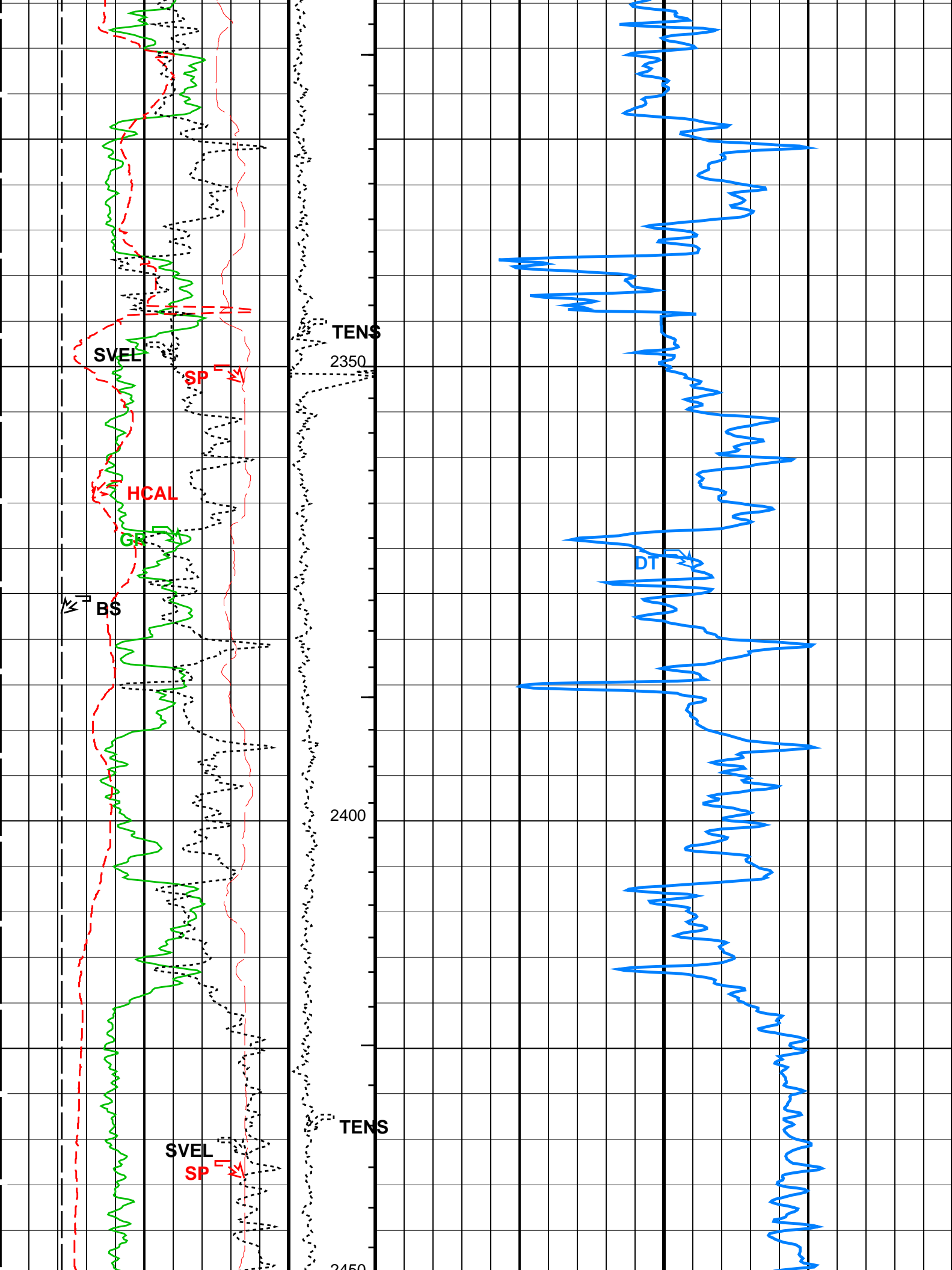


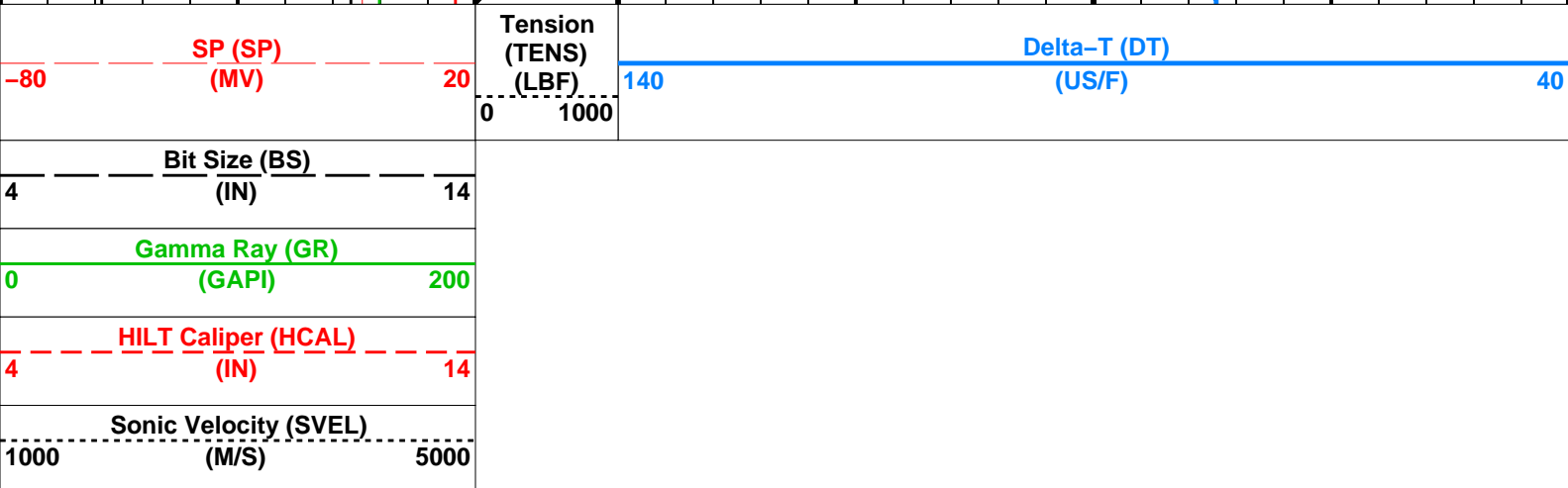
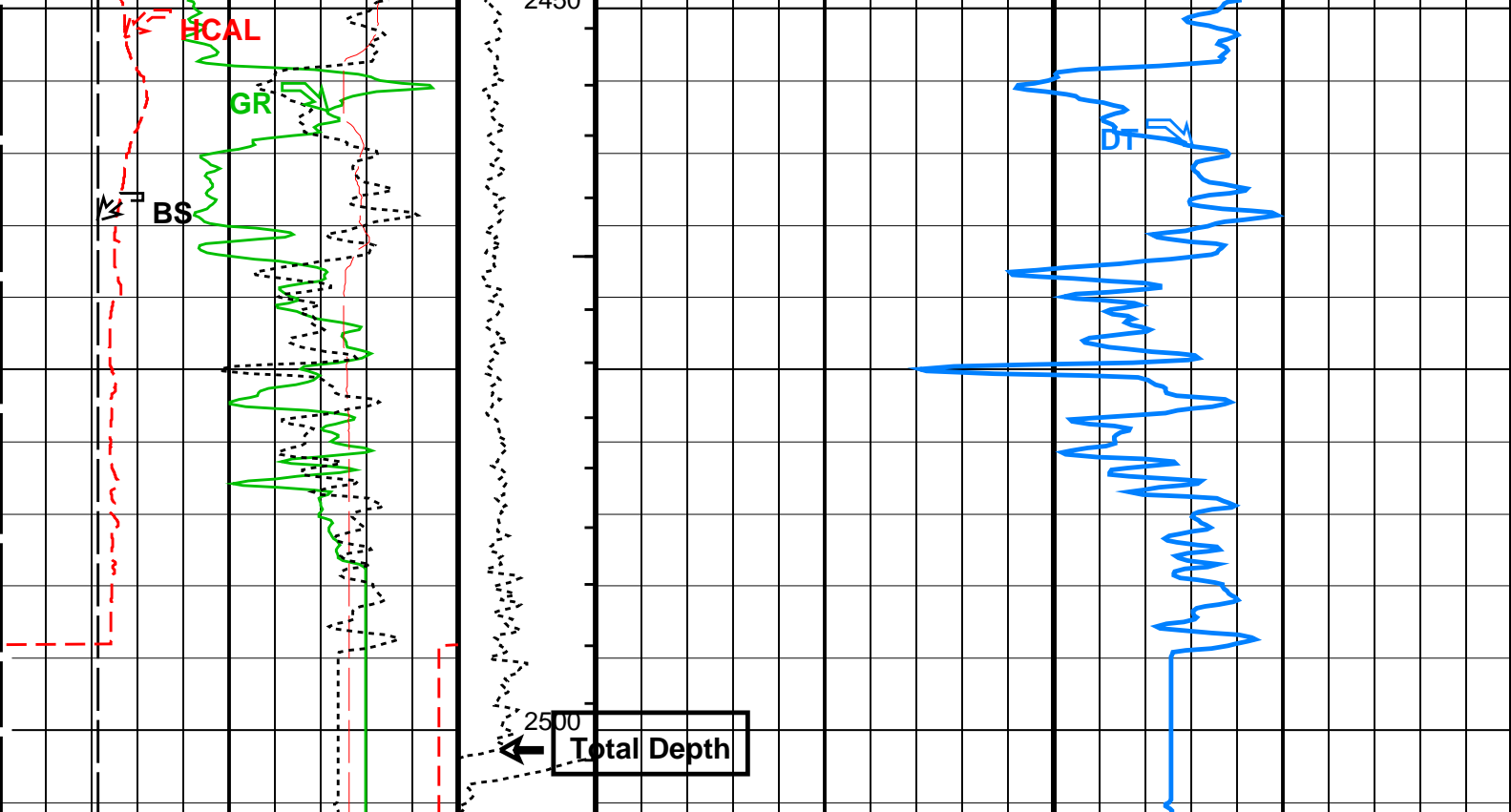












PIP SUMMARY

- └ 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	DSLCT_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	DSLCT 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
MNHTTR	Minimum High Threshold Reference	100
NMSG	Near Minimum Sliding Gate	140 US
NMXG	Near Maximum Sliding Gate	910 US
RATE	Firing Rate	R15
SEAF	Sonic Formation Attenuation Factor	10 DB/M

SPAP	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	

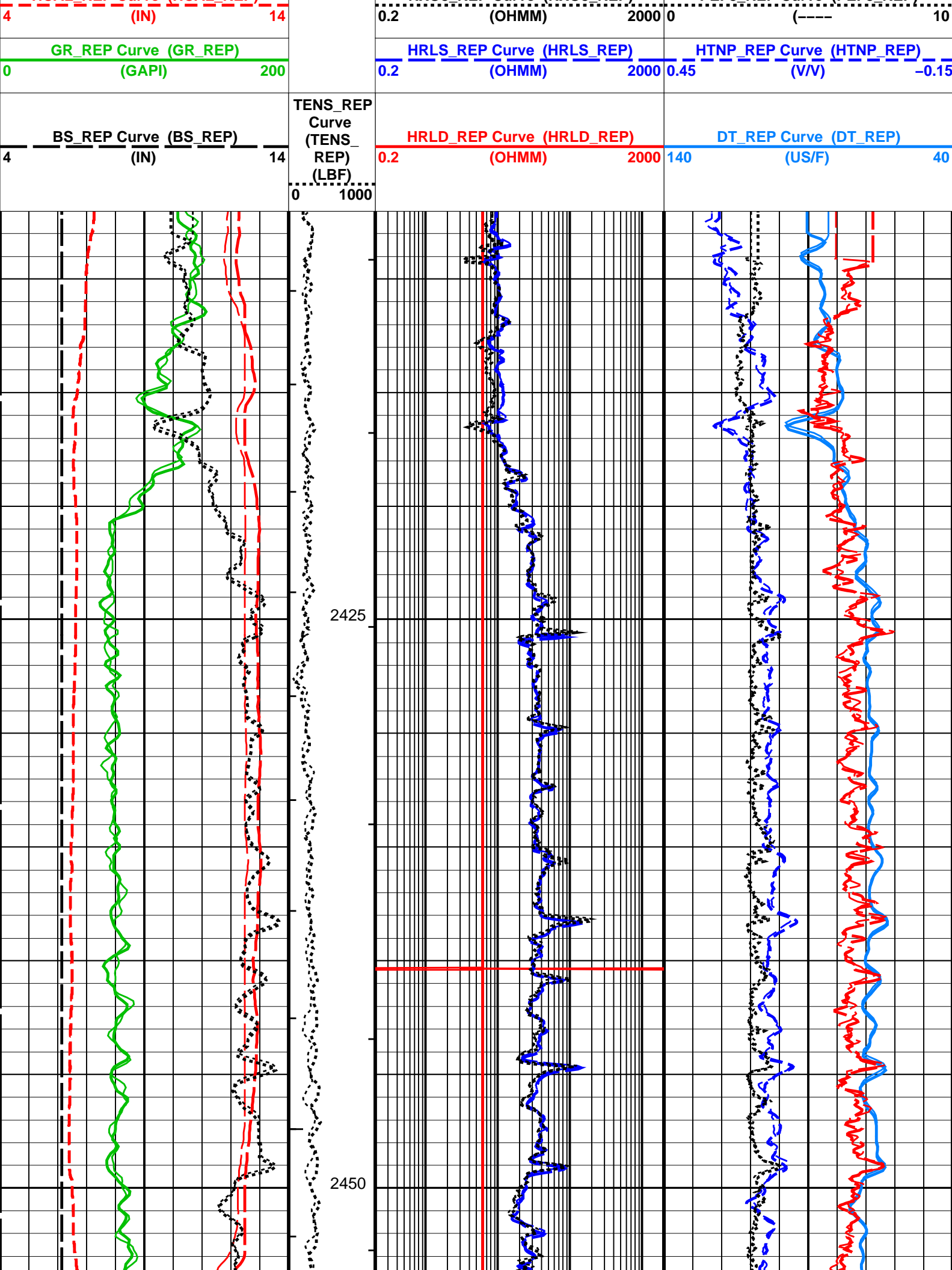
Format: Sonic_500		Vertical Scale: 1:500		Graphics File Created: 04-Aug-2004 12:09			
OP System Version: 12C0-301							
MCM							
HALS-B	12C0-301		DSLT-H	12C0-301			
HILTB-FTB	12C0-301		DTC-H	12C0-301			
BSP	12C0-301						
Input DLIS Files							
DEFAULT	MERGE_HALS_SONIC_035	FN:1	PRODUCER	04-Aug-2004 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			

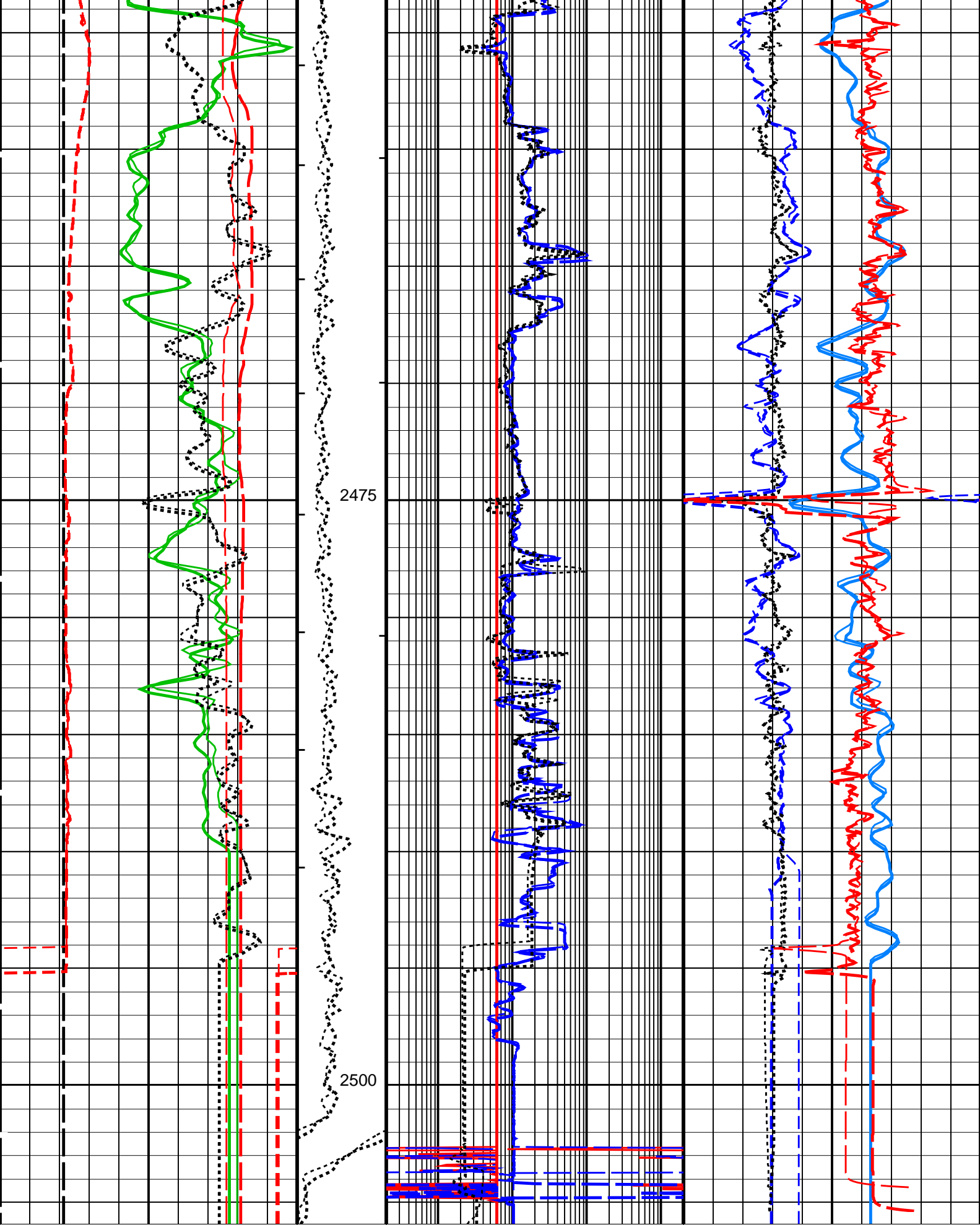
Schlumberger

Repeat Analysis
1:200 Scale

MAXIS Field Log

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					
RHO8_REP Curve (RHO8_REP)					
1.9 (G/C3) 2.9					
HCAL_REP Curve (HCAL_REP)					
RXO8_REP Curve (RXO8_REP)					
PEF8_REP Curve (PEF8_REP)					





BS_REP Curve (BS_REP)	TENS_REP Curve (TENS_REP)	HRLD_REP Curve (HRLD_REP)	DT_REP Curve (DT_REP)
(IN)	(RE)	(OHMM)	(US/F)
4	14	0.2	140
		2000	40

	(LBT)	0	1000				
GR_REP Curve (GR_REP)				HRLS_REP Curve (HRLS_REP)		HTNP_REP Curve (HTNP_REP)	
0 (GAPI) 200				0.2 (OHMM) 2000		0.45 (V/V) -0.15	
HCAL_REP Curve (HCAL_REP)				RXO8_REP Curve (RXO8_REP)		PEF8_REP Curve (PEF8_REP)	
4 (IN) 14				0.2 (OHMM) 2000		0 (----) 10	
SP_REP Curve (SP_REP)						RHO8_REP Curve (RHO8_REP)	
-80 (MV) 20						1.9 (G/C3) 2.9	
SVEL_REP Curve (SVEL_REP)							
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		
A2EX	HALS Type of Image	Conductivities
AGOS	HALS-B A2 Extended (Groningen effect)	OFF
ARIP_LTS	HALS-GPIT OFFSET	-90 IN
ARIP_SHOULDER	HALS Long Tool String Correction	OFF
BHCC	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
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
DSLTL-H: Digitizing Sonic Logging Tool		
	Telemetry Mode	DSLCL_FTB
	DSLTL 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	DSLTL Depth Sampling Interval	20
DRCS	DSLTL 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	
WGAJ	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			
ALTDPCCHAN	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

Format: Main_200_REP Vertical Scale: 1:200 Graphics File Created: 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		

Input DLIS Files

DEFAULT	HALS_SONIC_TLD_MCFL_014LUP	FN:19	PRODUCER	03-Aug-2004 22:51	2506.2 M	2406.1 M
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Output DLIS Files

DEFAULT	HALS_SONIC_TLD_MCFL_015LUP	FN:21	PRODUCER	03-Aug-2004 23:13
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Schlumberger

Calibrations

MAXIS Field Log

Calibration and Check Summary

Measurement Nominal Master Before After Change Limit Units

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							
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							

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
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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	1.000	1.081		-0.100	0.000	0.100	
(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(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




HILT Azimuthal Laterolog Sonde B Wellsite Calibration			
HALSB Aux current mode 2			
Iaux 2 Gain MA	Value	Iaux 2 Phase DEG	Value

Index 2 Gain MA	value	Index 2 Phase DEG	value
	0.980		-0.000




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)	0.100 (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
		0.183			0.742
-4.400 0.000 4.400 (Minimum) (Nominal) (Maximum)			-2.800 0.000 2.800 (Minimum) (Nominal) (Maximum)		-1.400 0.000 1.400 (Minimum) (Nominal) (Maximum)
Before: 3-Aug-2004 20:40					

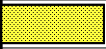


HILT Azimuthal Laterolog Sonde B Wellsite Calibration					
HALSB M1-M2 Voltage gains					
ZVM 1 Gain UV	Value	ZVM 2 Gain UV	Value	ZVM 3 Gain UV	Value
	0.997		0.994		0.992
0.895 (Minimum)	1.000 (Nominal)	1.117 (Maximum)	0.943 (Minimum)	1.000 (Nominal)	1.056 (Maximum)
Before: 3-Aug-2004 20:40					




HILT Azimuthal Laterolog Sonde B Wellsite Calibration					
HALSB M1-M2 Voltage Phases					
ZVM 1 Phase DEG		Value	ZVM 2 Phase DEG		Value
		0.238			1.573
-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)



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
		0.114			1.805
-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
	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			

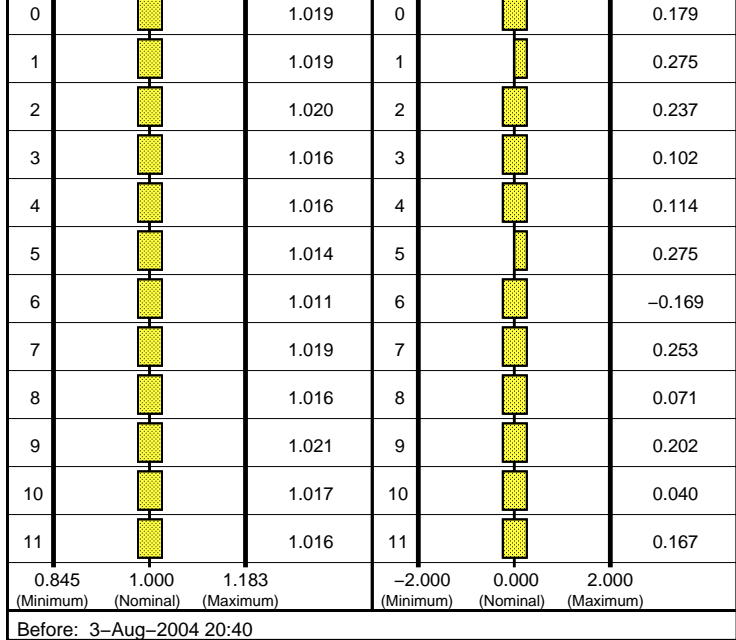
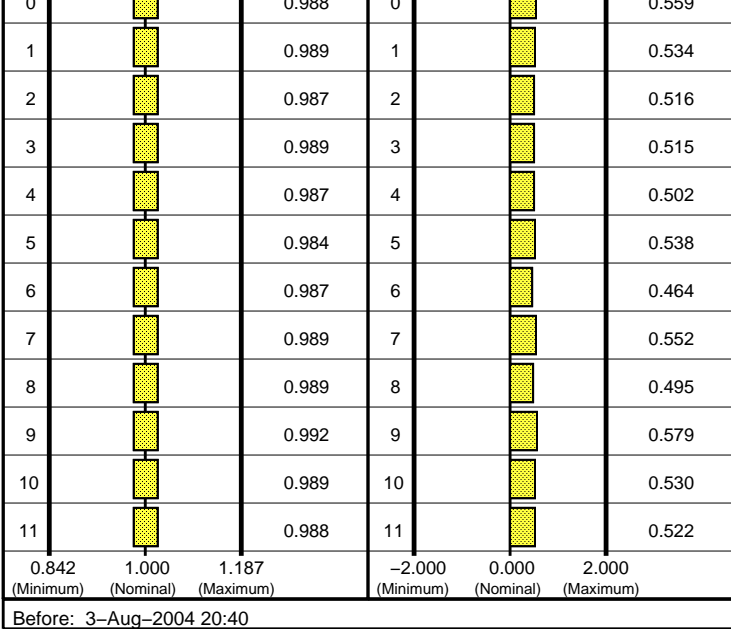
HILT Azimuthal Laterolog Sonde B Wellsite Calibration			
HALSB vertical Voltage mode 2			
ZVV 2 Gain UV	Value	ZVV 2 Phase DEG	Value
	0.986		2.427
0.895 (Minimum) 1.000 (Nominal) 1.112 (Maximum)		-2.800 (Minimum) 0.000 (Nominal) 2.800 (Maximum)	
Before: 3-Aug-2004 20:40			

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		0.999	0		0.559

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		0.999	0		0.559



High resolution Integrated Logging Tool-DTS / Equipment Identification

Primary Equipment:




HILT high-Resolution Mechanical Sonde
HILT Rxo Gamma-ray Device
HILT Nuclear Back-Scatter Detector
HILT Nuclear Short-Spacing Detector
HILT Nuclear Long-Spacing Detector
Micro Cylindrically Focused Log Device
GR Logging Source
HILT High Res. Control Cartridge

HRMS - B 1730
HRGD - B 755
HILT -
HILT -
HILT -
MCFL -
GLS - VJ 1893
HRCC - B 756




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																										

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														

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														

Before: 2-Aug-2004 13:53

High resolution Integrated Logging Tool-DTS Wellsite Calibration								
MCFL Calibration								
Phase	Raw R0 Resistivity OHMM	Value	Phase	Raw R1 Resistivity OHMM	Value	Phase	Raw R2 Resistivity OHMM	Value

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	<div></div>			5441	Master	<div></div>			2260	Master	<div></div>			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	<div><div></div></div>			5441	Master	<div><div></div></div>			2260	Master	<div><div></div></div>			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.

Well:

Trifon 2

Field:

Wildcat

Rig:

Hunt #2

Country:

Australia

Schlumberger

HALS(/HRLA) – BHC – PE)

2498.9 – 1260 m

1:500 Scale