

Company: JAMSTEC

Well: C0020A

Field: C0020

Pref. Aomori

Country: Japan

Composite Log
PEX-HRLA-HNGS-GR
1:200

Shimokita-oki	Elev.:	K.B.	28.50 m
X= 600698.8 M		G.L.	-1180.00 m
Y=4559060.5 M		D.F.	28.50 m

Permanent Datum:	MSL	Elev.:	0.00 m
Log Measured From:	Drilling Floor	28.50 m	above Perm. Datum
Drilling Measured From:	Drilling Floor		

Pref. Aomori	Max. Well Deviation 1.22 deg	Longitude 142° 12.0328' E	Latitude 41° 10.5983' N
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Logging Date 9-Sep-2012

Run Number 1

Depth Driller 3674.5 m

Schlumberger Depth 3672 m

Bottom Log Interval 3672 m

Top Log Interval 1691 m

Casing Driller Size @ Depth 13.375 in @ 2461.5 m

Casing Schlumberger 2461 m

Bit Size 10.625 in

Type Fluid In Hole KNPPmud

Density 1.11 g/cm3

Fluid Loss 3.4 cm3

Source Of Sample PH 10.5

RM @ Measured Temperature 0.082 ohm.m @ 25 degC

RMF @ Measured Temperature 0.073 ohm.m @ 23 degC

RMC @ Measured Temperature 0.095 ohm.m @ 26 degC

Source RMF RMC Press

RM @ MRT 0.055 @ 48 0.047 @ 48

Maximum Recorded Temperatures 48 degC 48 48

Circulation Stopped 9-Sep-2012 3:00

Logger On Bottom 10-Sep-2012 5:52

Unit Number 4803 JPOP

Recorded By Liu Jie/Montague

Witnessed By Mr. Yoshinori Sanada/Mr. Kyaw Moe

Run 1

Run 2

R

Run 4

Date Created: 15-SEP-2012 16:37:12

Depth Measuring Device

Tension Device

Logging Cable

Depth Control Parameters

Depth Control Remarks

1. All schlumberger depth control policies applied.
2. IDW used as primary depth control and Z-chart as secondary.
3. WMC engaged at 100m going in and disengaged at 100m coming out. 8 Tons on compensator.
- 4.
- 5.
- 6.

THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE OF AND RELIANCE UPON THE RECORDED-DATA; AND (c) CUSTOMER'S FULL AND SOLE RESPONSIBILITY FOR ANY INFERENCE DRAWN OR DECISION MADE IN CONNECTION WITH THE USE OF THIS RECORDED-DATA.



OS1: FMI-DSI-EMS-PPC
OS2: CMR+-PPC
OS3: MDT
OS4: ZVSP
OS5:

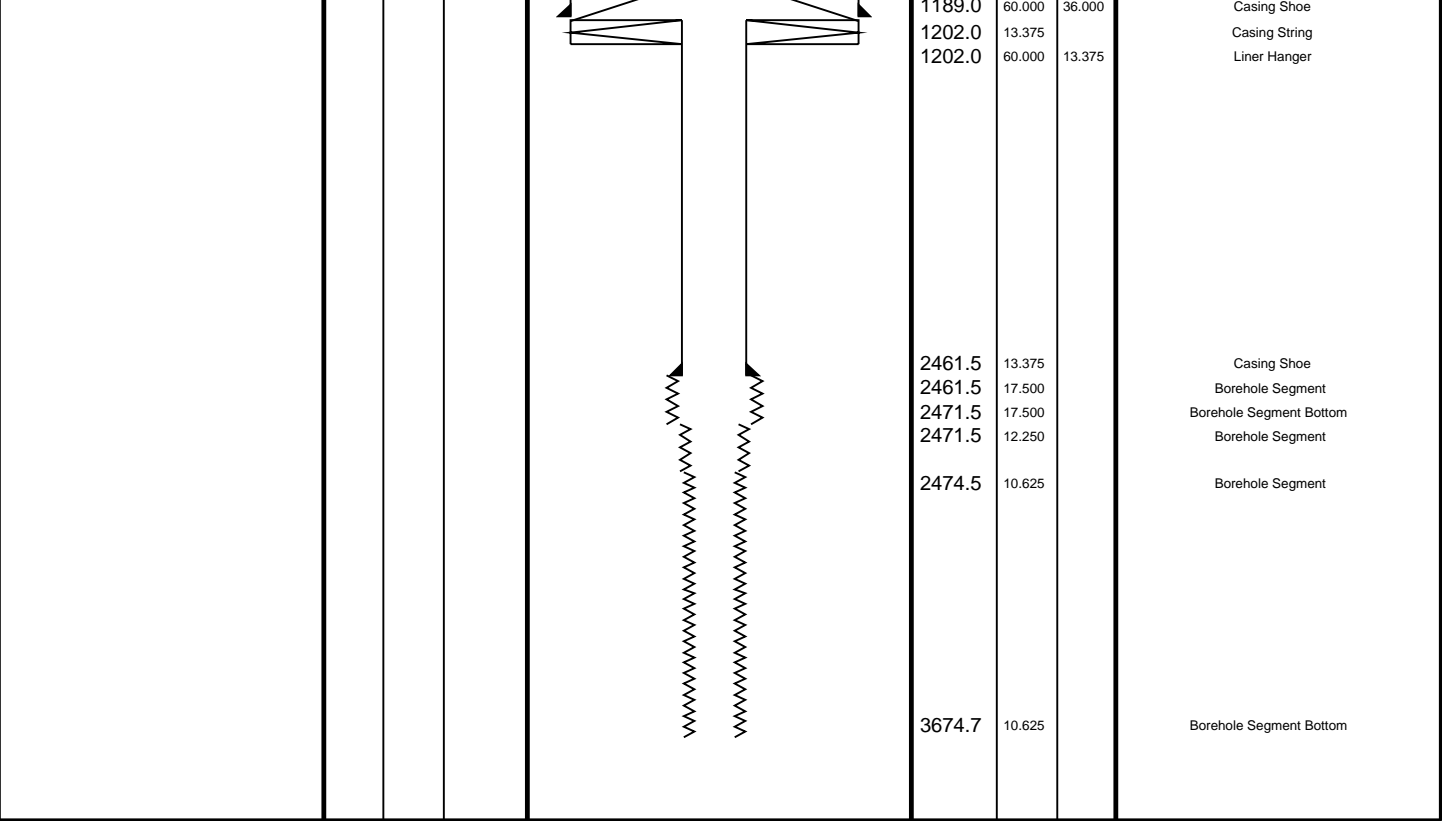
- Logging objective: formation evaluation.
- All wellsite information provided by client.
- Tool string combined as per tool sketch.
- Maximum borehole temperature reading 47.8 recorded from thermometer in LEH-QT.
- Maximum borehole deviation reading 1.22 recorded from GPIT in Run2.
- Logging speed reduced to 900ft/hr as weak NSR-F used due to JP government regulation.

- Reduced activity flags count in Before Calibration summary.
- Caliper check in casing 12.5 in
- First run at TD seemed to drag and hang. Multiple attempts to push down and then pulled main pass from deepest point reached.
- Repeat pass to cover 3210-3110 as requested.
- GR was logged to upper CSG which is 1691m.
- Wiper trip planned after CMR+ run and before MDT.
- ECRD run in place of mechanical weakpoint for every run.

RUN 1			RUN 2		
SERVICE ORDER #:			SERVICE ORDER #:		
PROGRAM VERSION:			PROGRAM VERSION:		
FLUID LEVEL:			FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION

RUN 1			RUN 2		
SURFACE EQUIPMENT					
GSR-U/Y	GSR-U				
NCT-B	WITM (EDTS)-A				
CNB-AB					
NCS-VB					
DOWNHOLE EQUIPMENT					
LEH-QT					
LEH-QT			23.89		
AH-369	MDSB_EDTC		23.01		
EDTC-B	Mud Tempe		22.57		
EDTH-B 8466	CTEM		21.50		
EDTC-B 8470	Gamma Ray		20.93		
EDTG-A/B 77415	EFTB DIAG		0.5 IN		
	TelStatus		Standoff		
	EDTCB Ele		20.59		
SPA-A			20.59		
SPA-A 9933	SP SPARC		19.98		
HNGS-BA			19.37		
HNGS-BA 309	Upper_1		18.67		
HNSH-BA 314	Lower_2		18.46		
HNGC-B			16.87		
HNGH-A 4058	HNGC Stat		16.34		
HNGC-B 573			15.80		
HRLT-B			2.0 IN		
HRUH-B 857			Standoff		
HRUC-B 857			2.0 IN		
HRLS-B 855			Standoff		
HRLH-B 872					
HRLC-B 866					
AH-270 873					
	High Res.		12.22		
			2.0 IN		



Main Log 1:200

MAXIS Field Log

Company: JAMSTEC Well: C0020A

Input DLIS Files

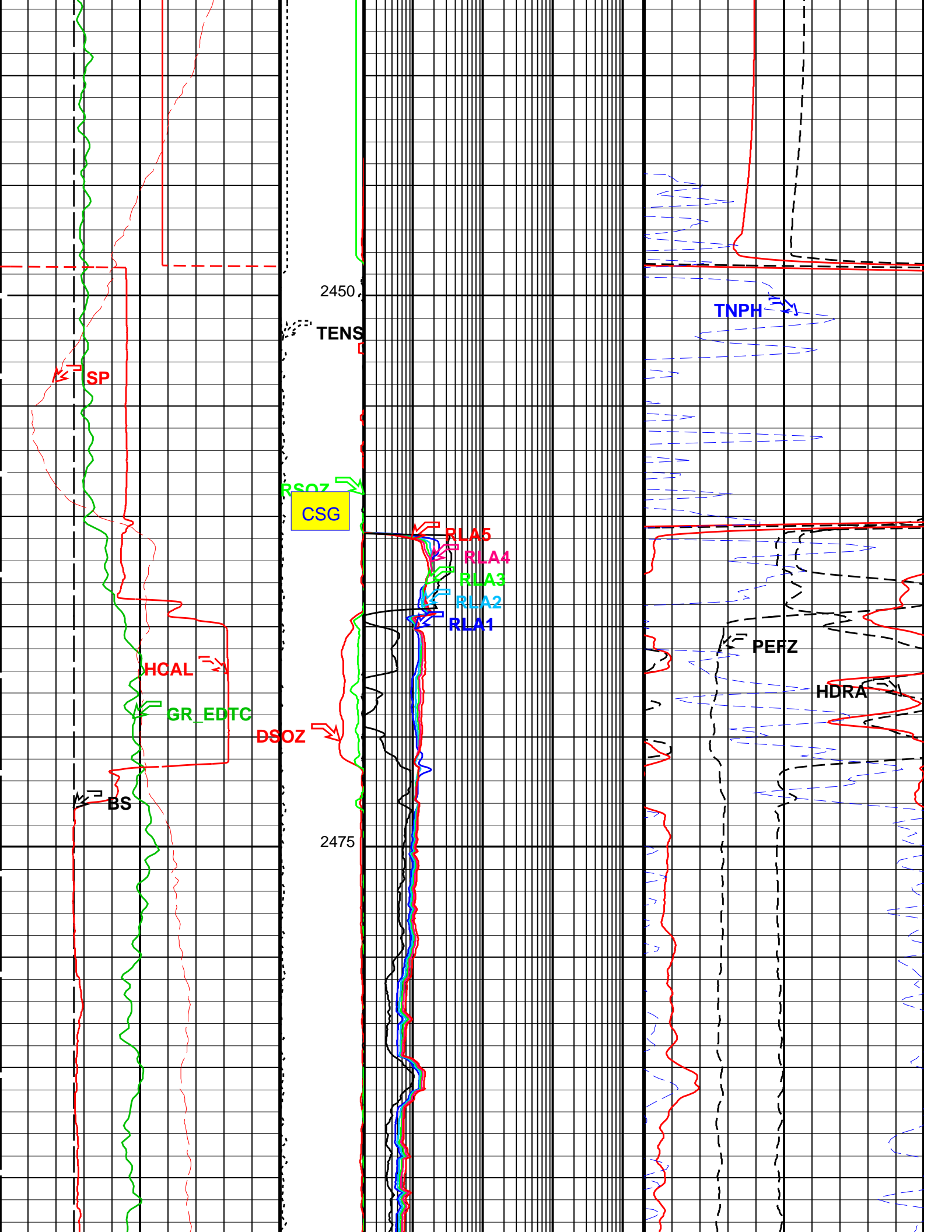
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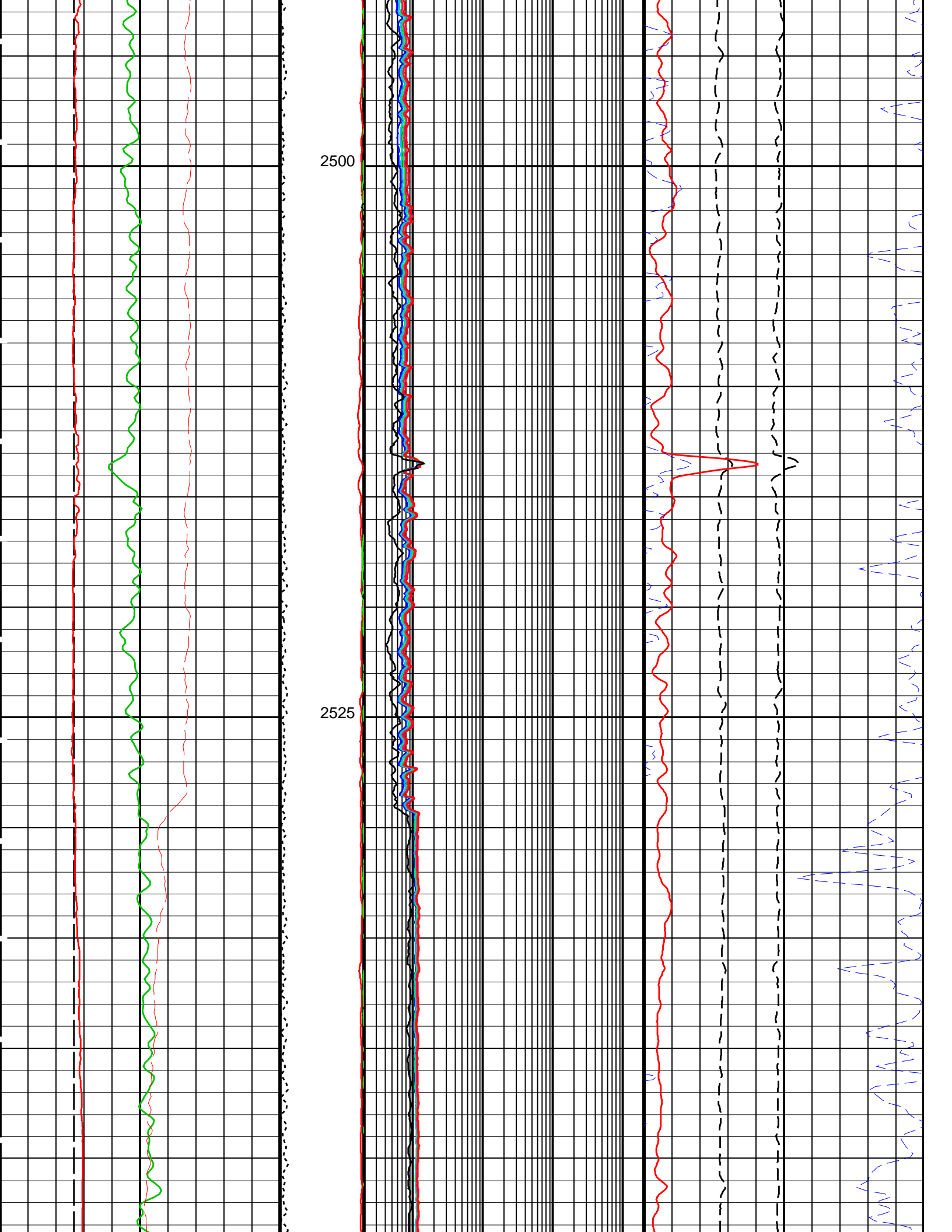
Output DLIS Files

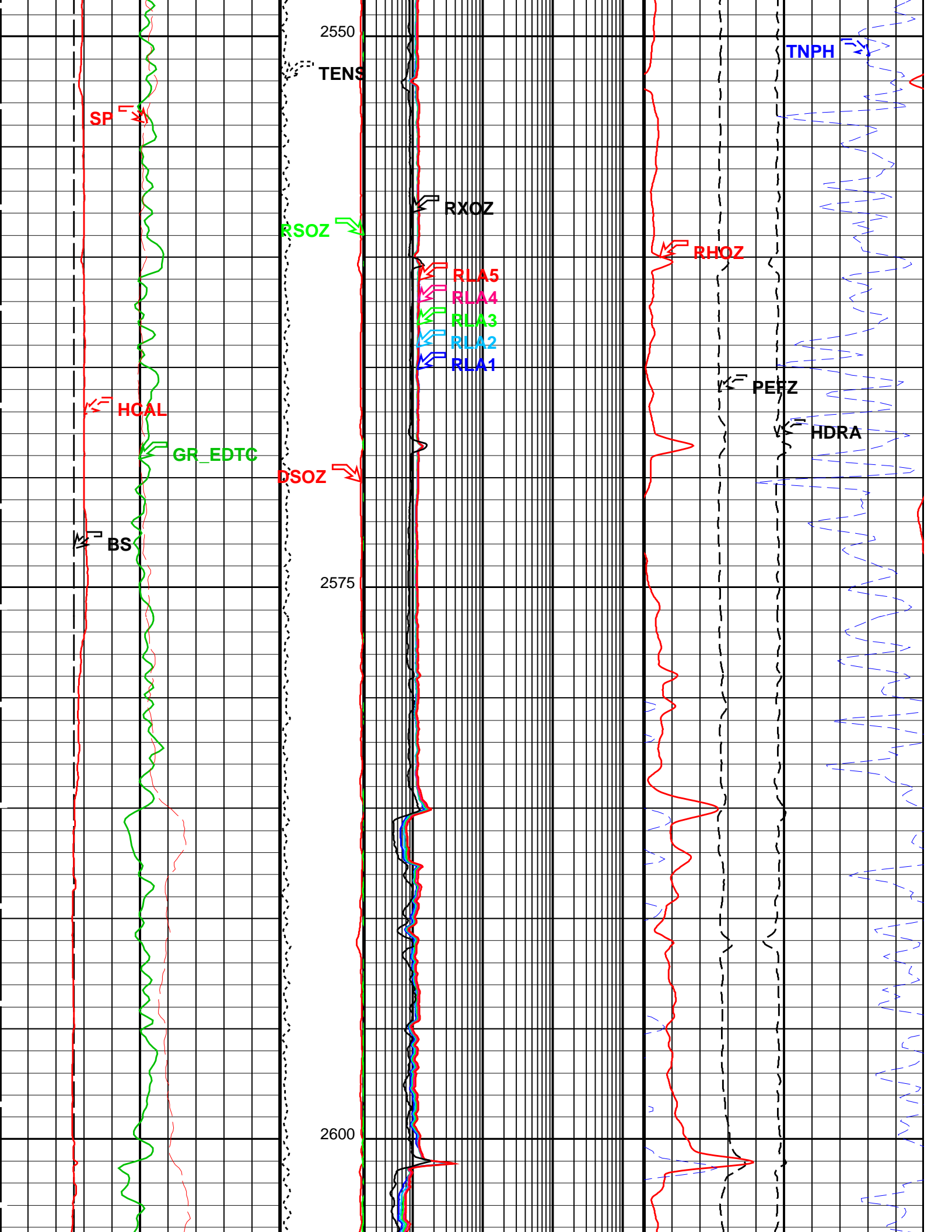
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CLIENT	TLD_MCFL_CNL_HRLA_015PUC	FN:23	CUSTOMER	10-Sep-2012 10:32	3673.6 M	2405.9 M
BACKUP	TLD_MCFL_CNL_HRLA_015PUP	FN:24	PRODUCER	10-Sep-2012 10:32	3673.6 M	2405.9 M

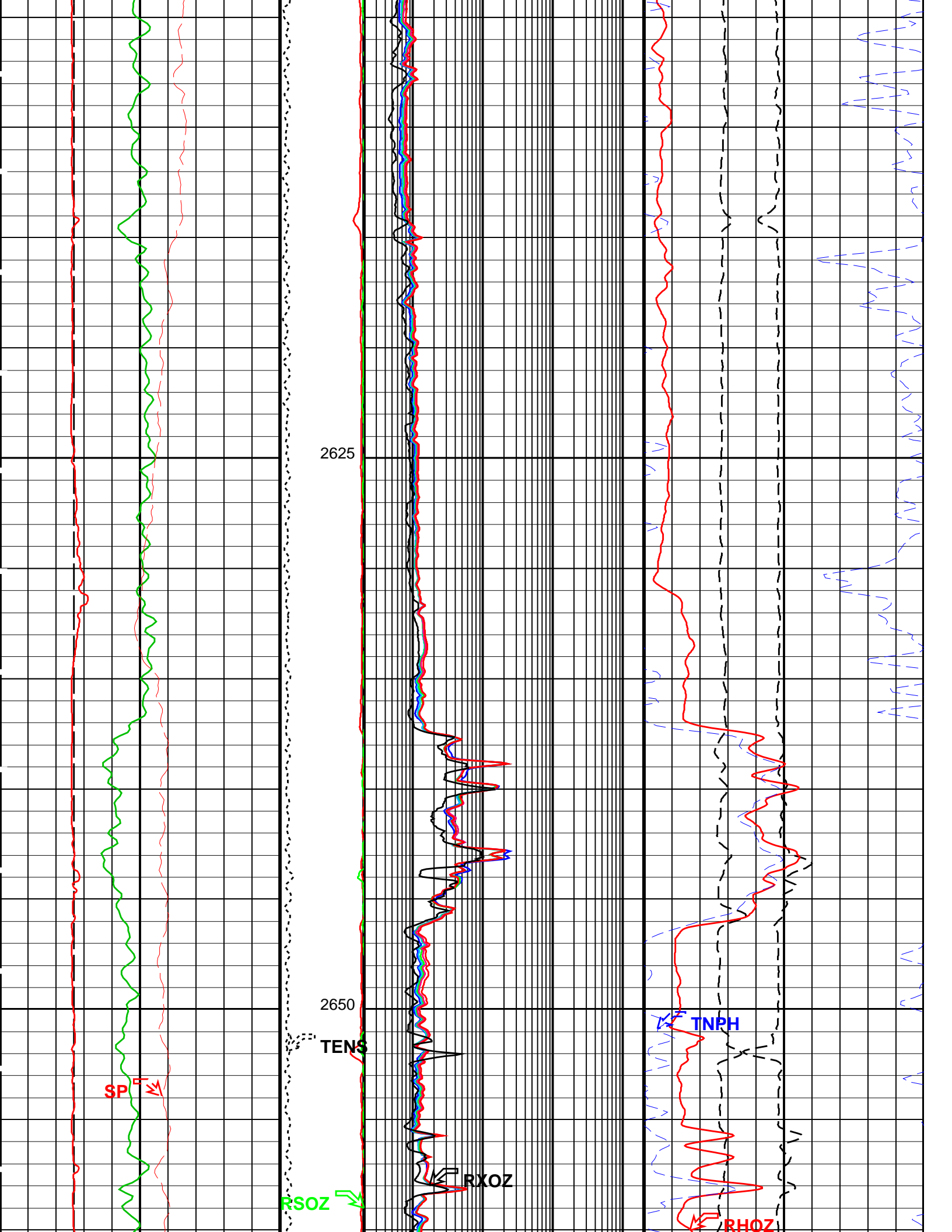
OP System Version: 19C1-222

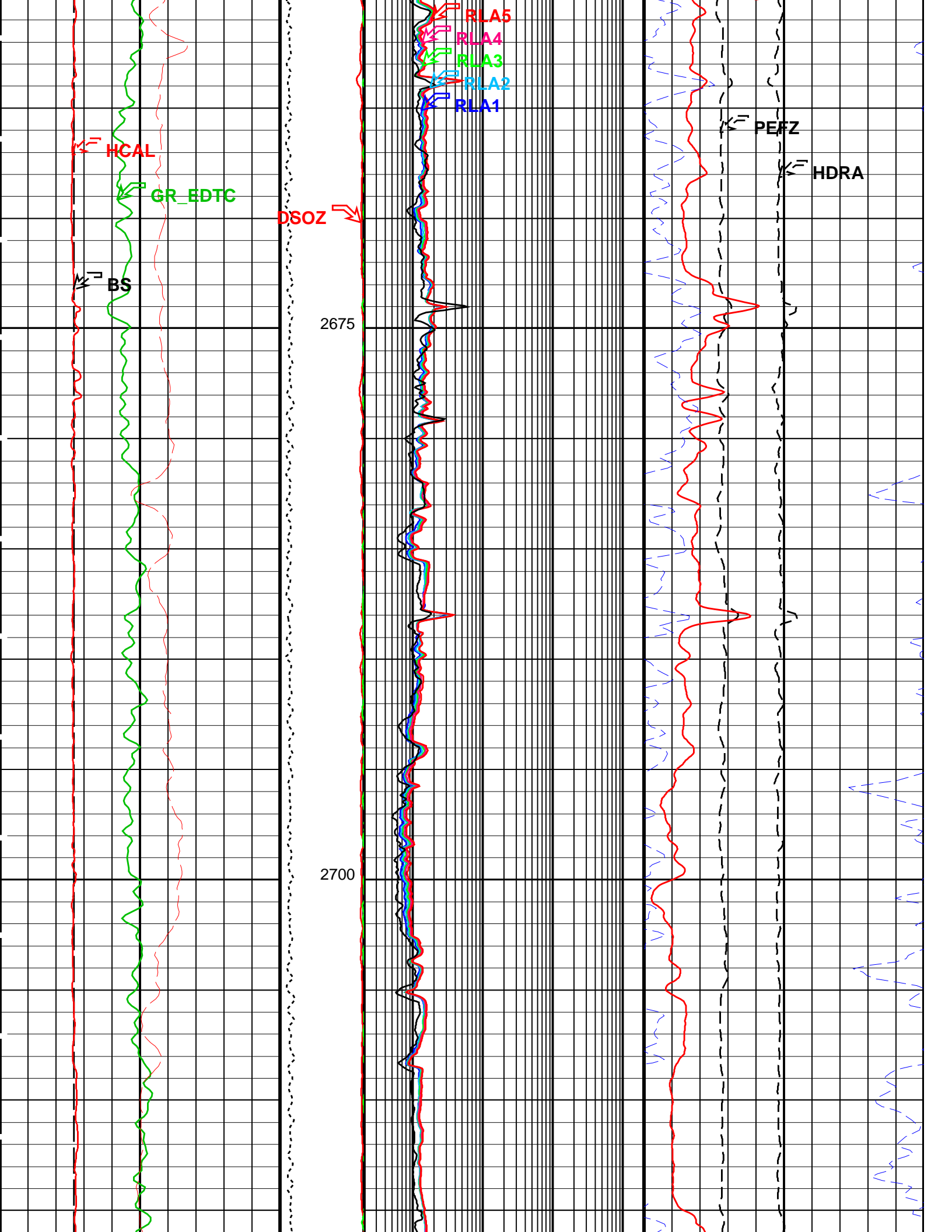
HILTH-FTB	19C1-222	HRLT-B	19C1-222
HNGC-B	HFE-5203-OP19 1-NIUCI	HNGS-BA	HFE-5203-OP19 1-NIUCI

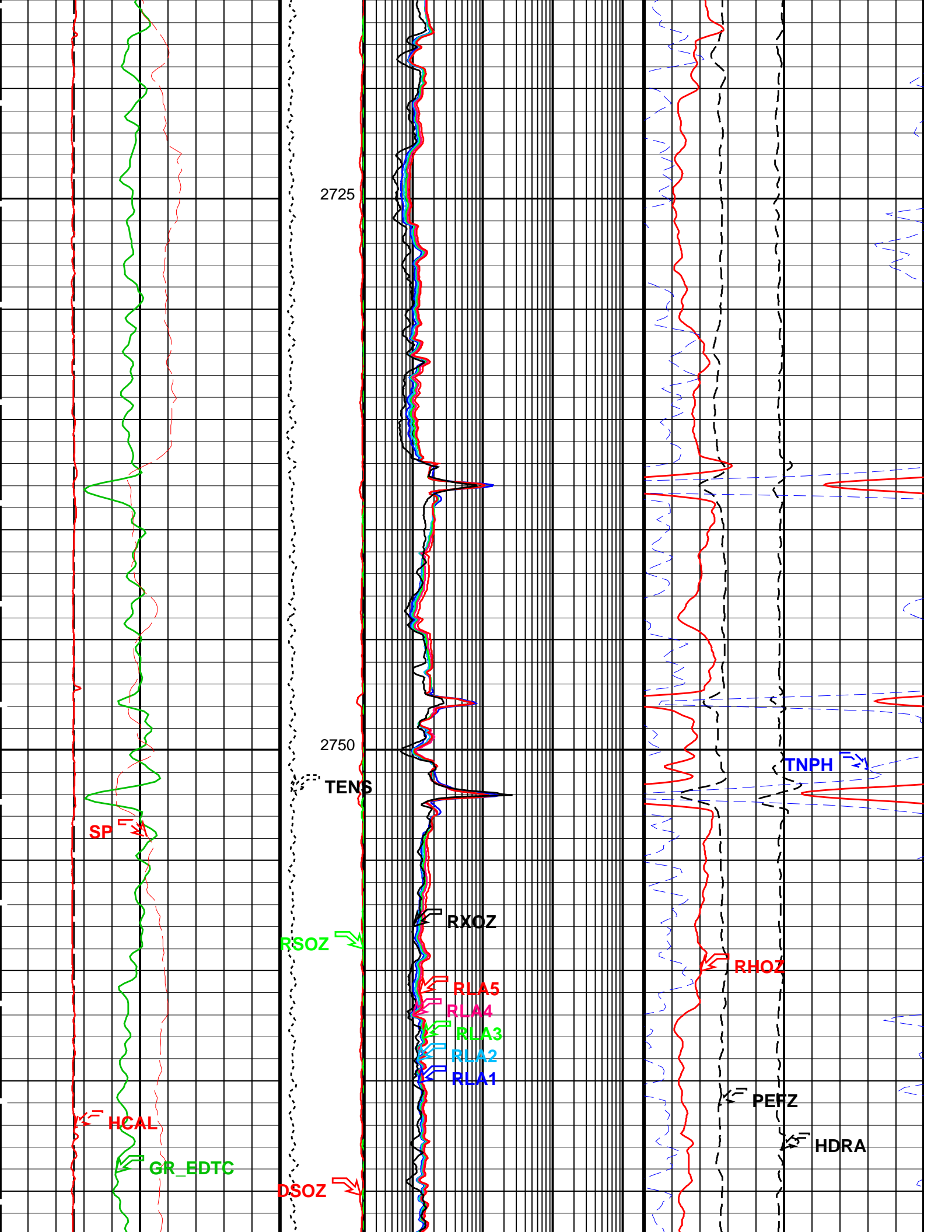


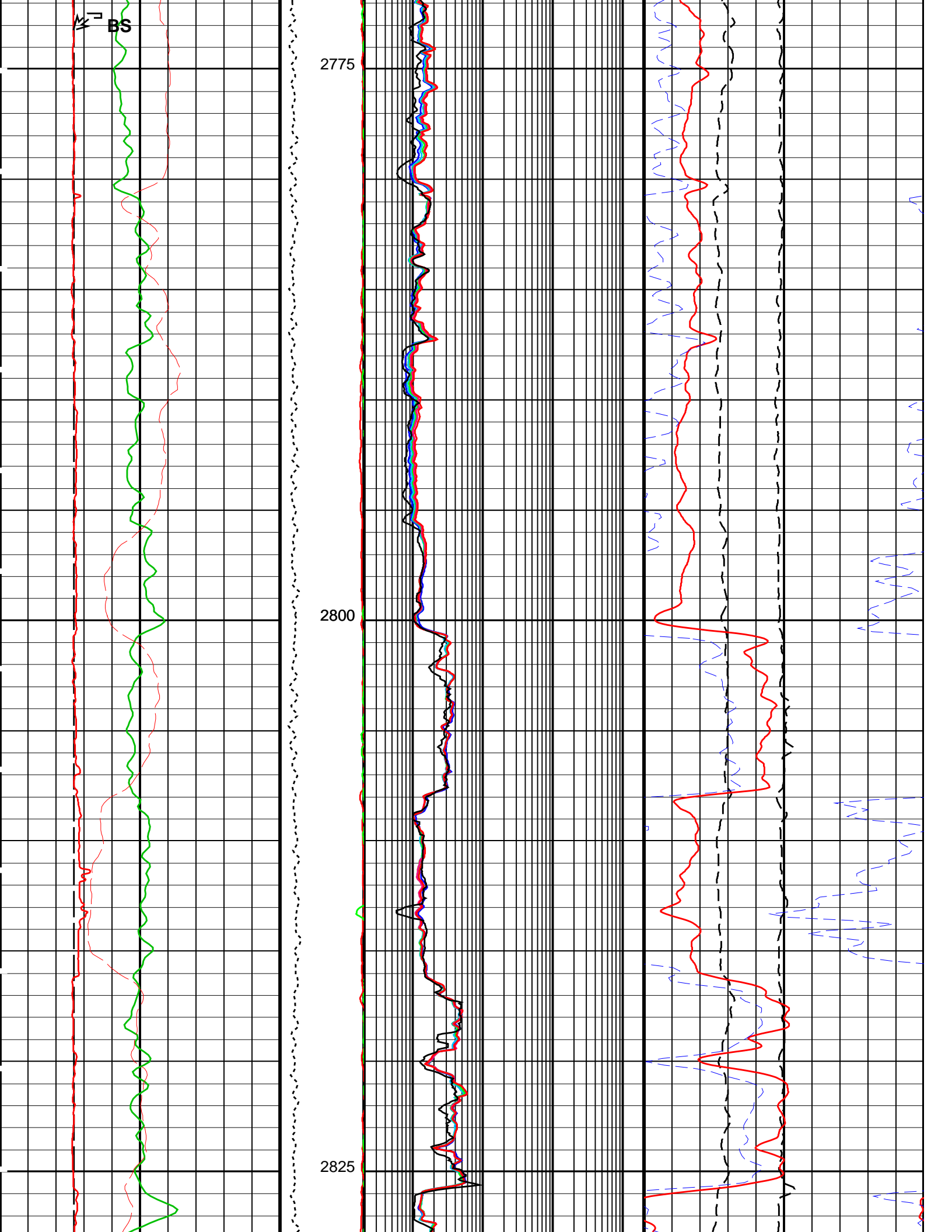


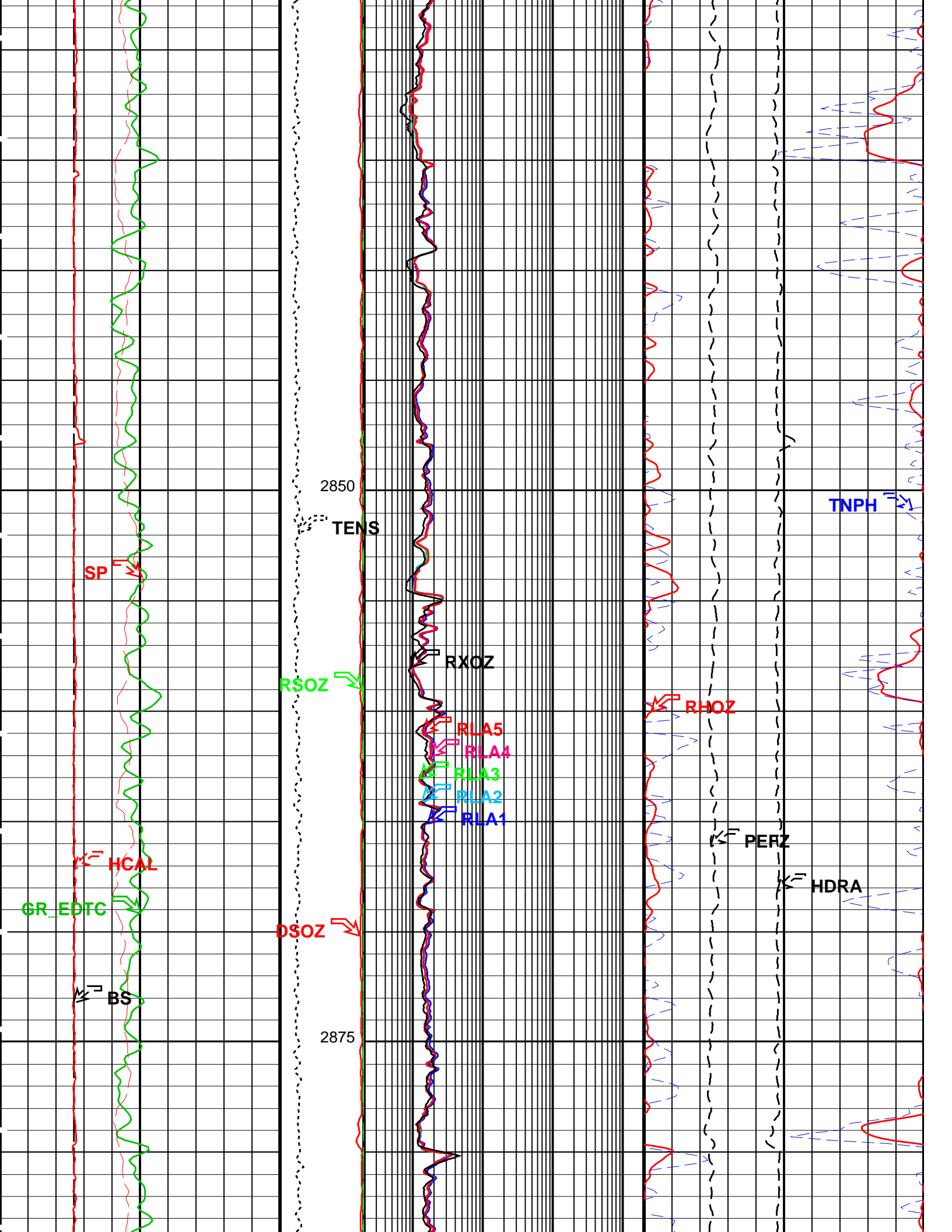


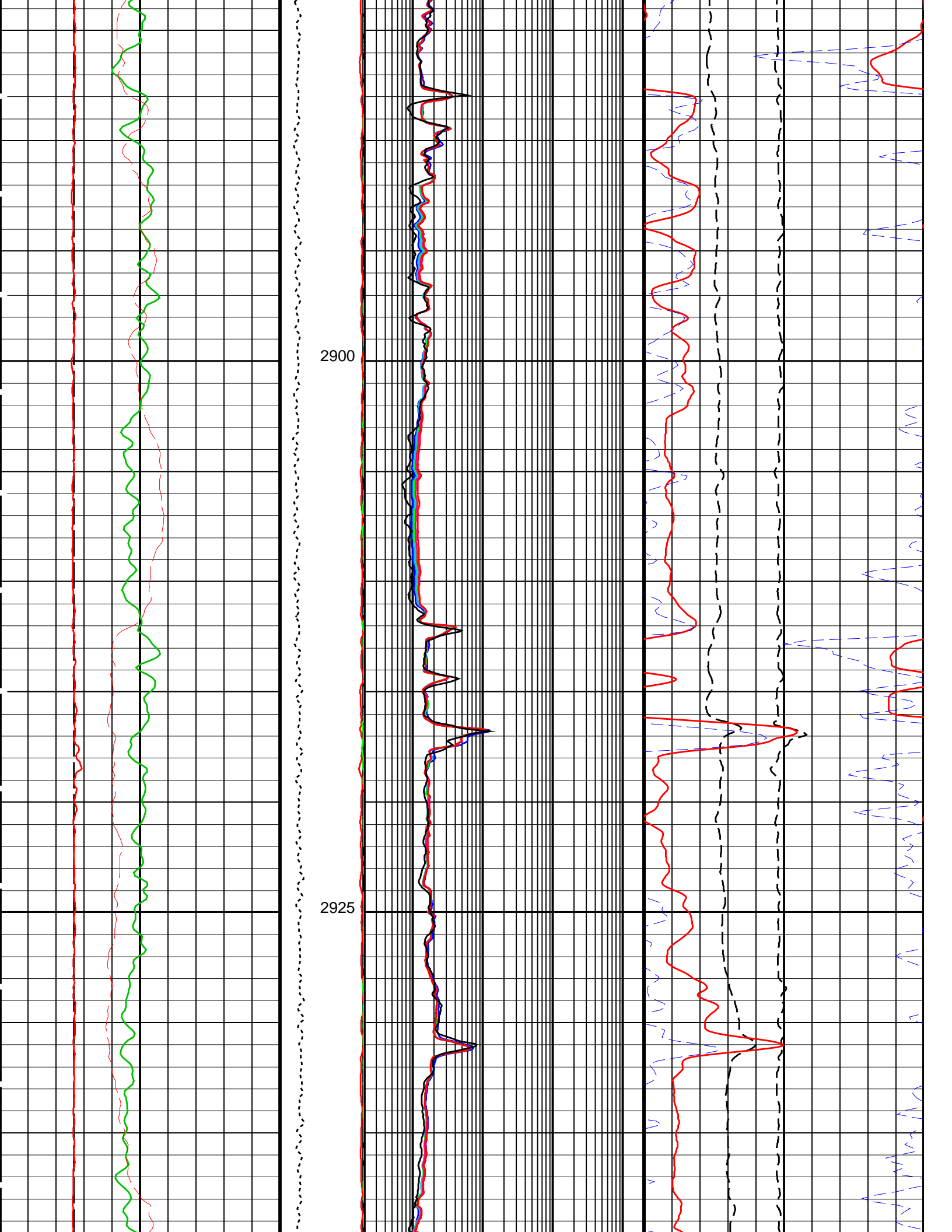


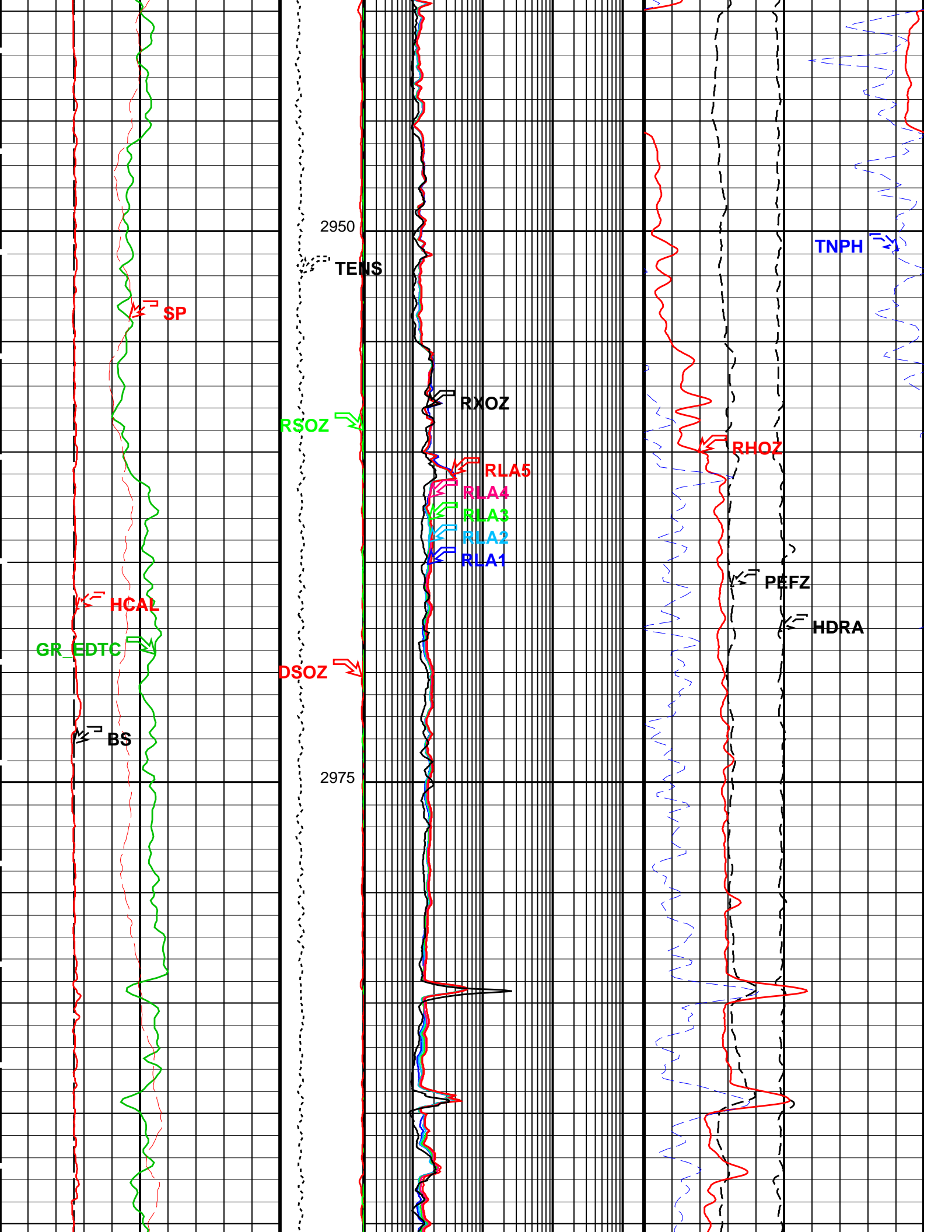


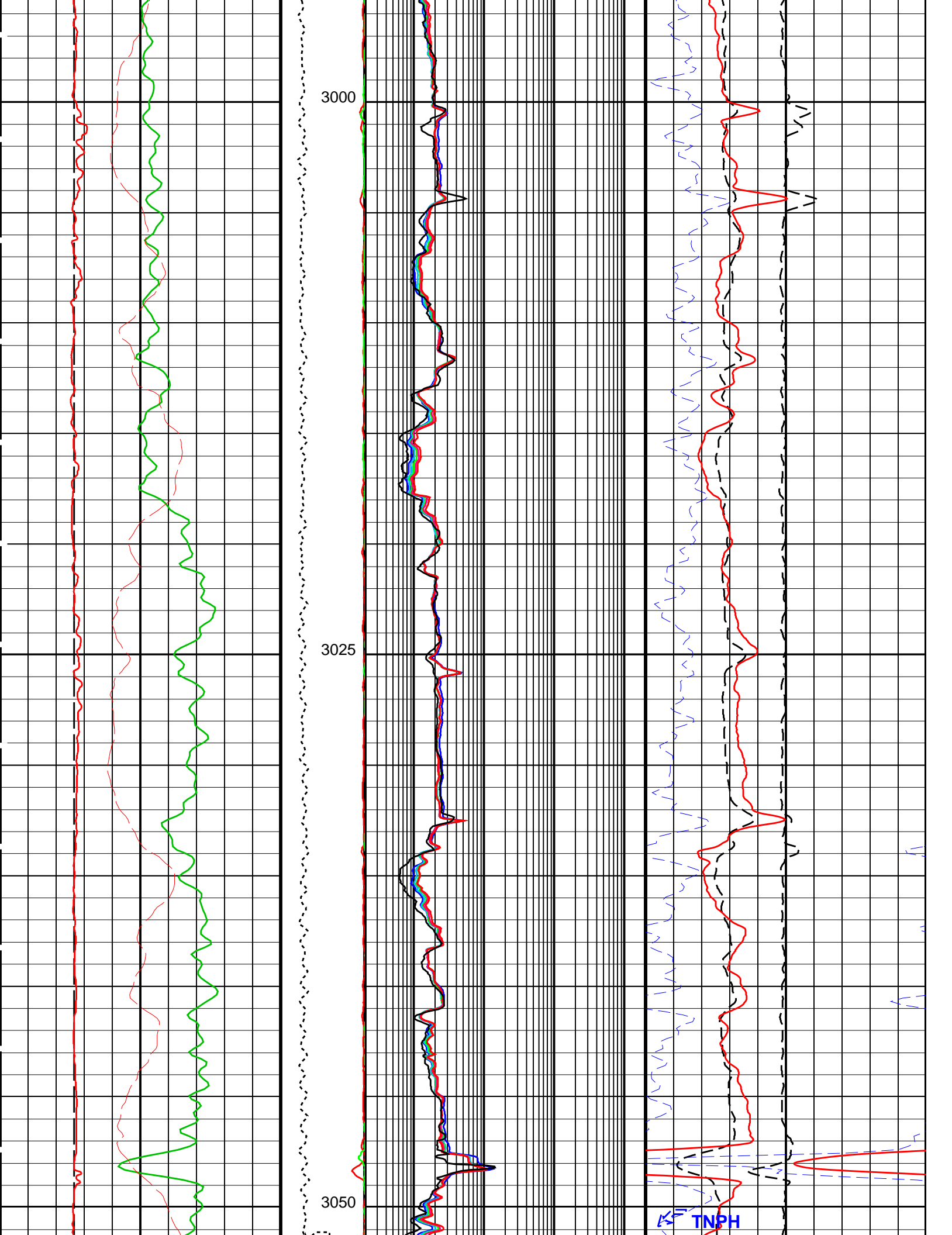


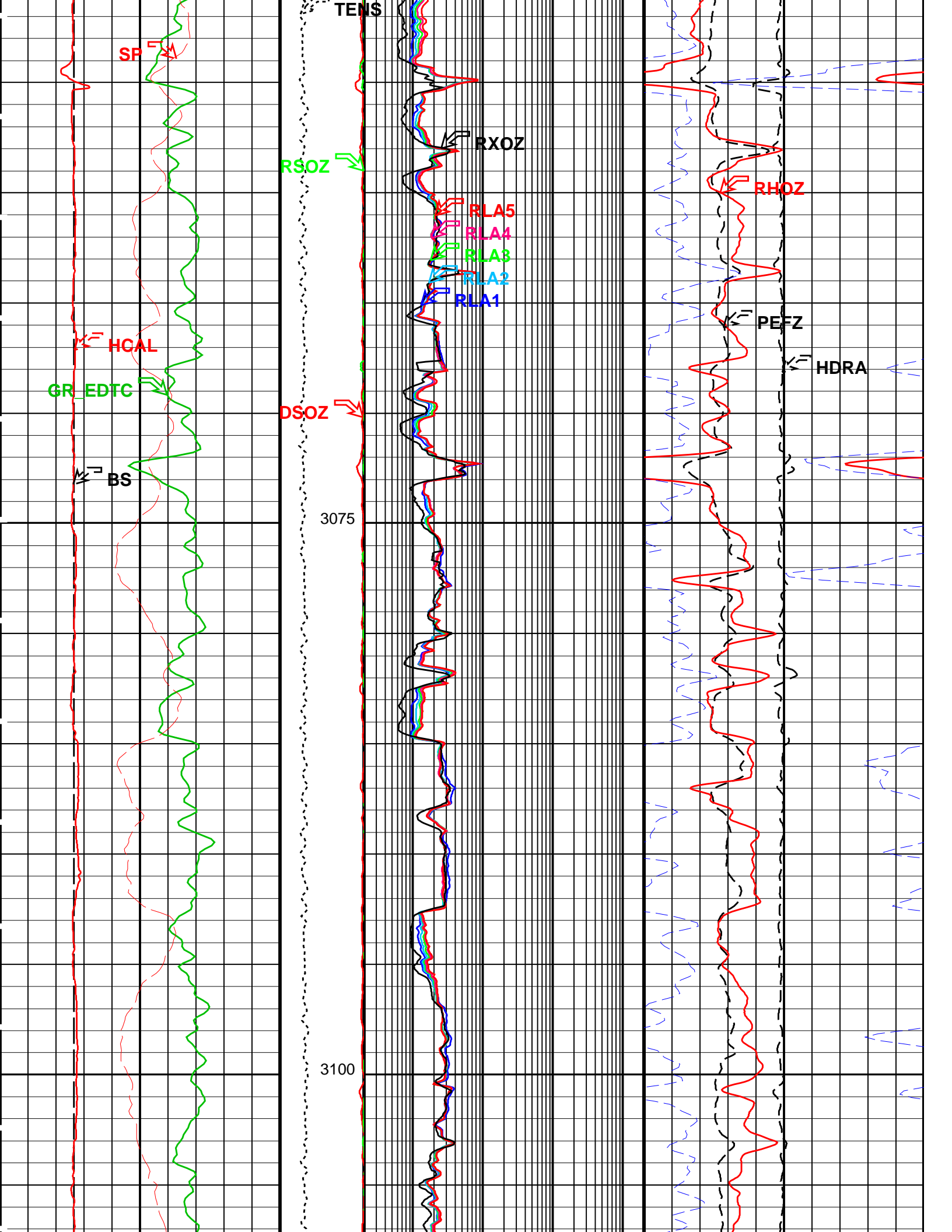


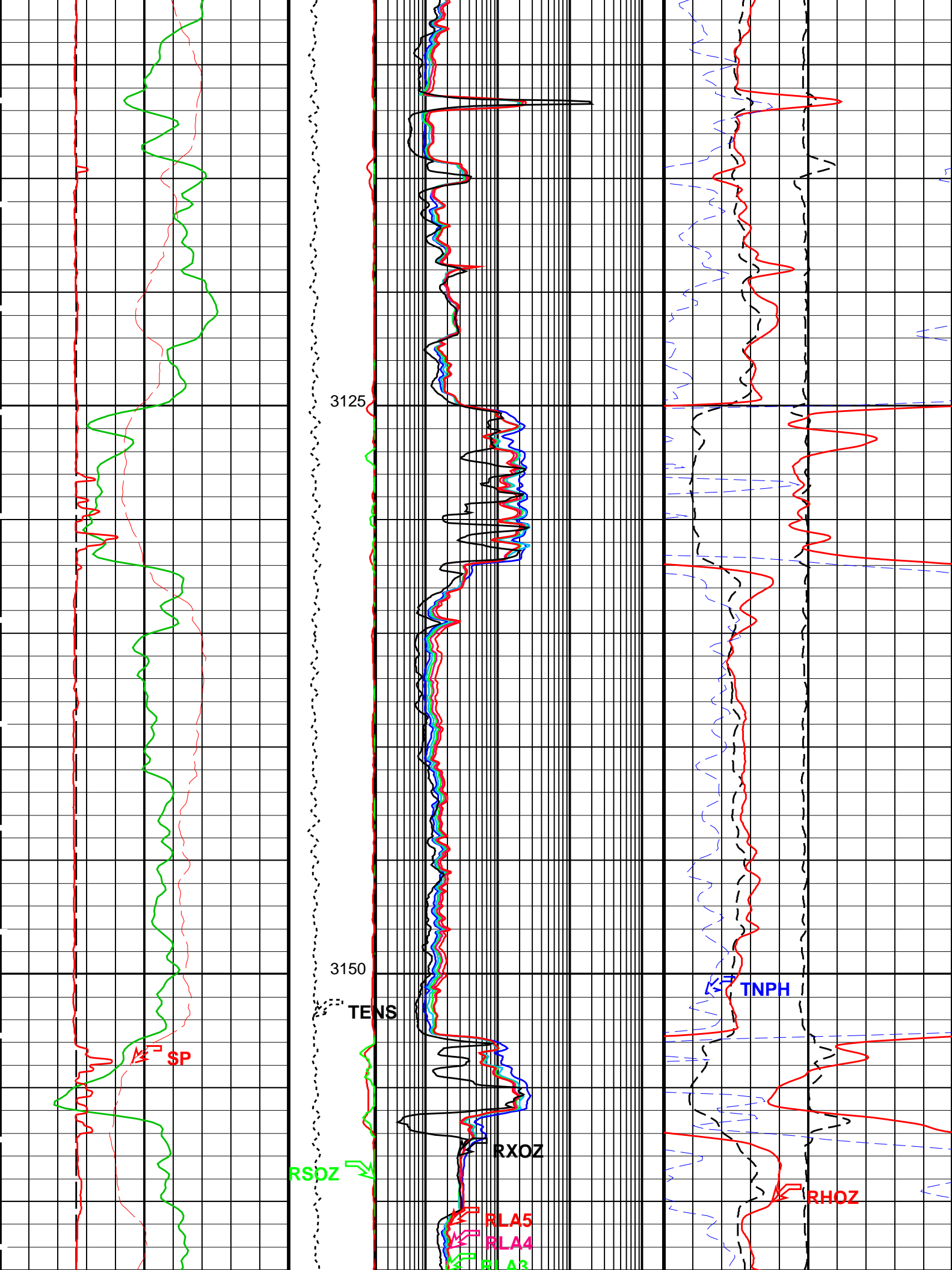


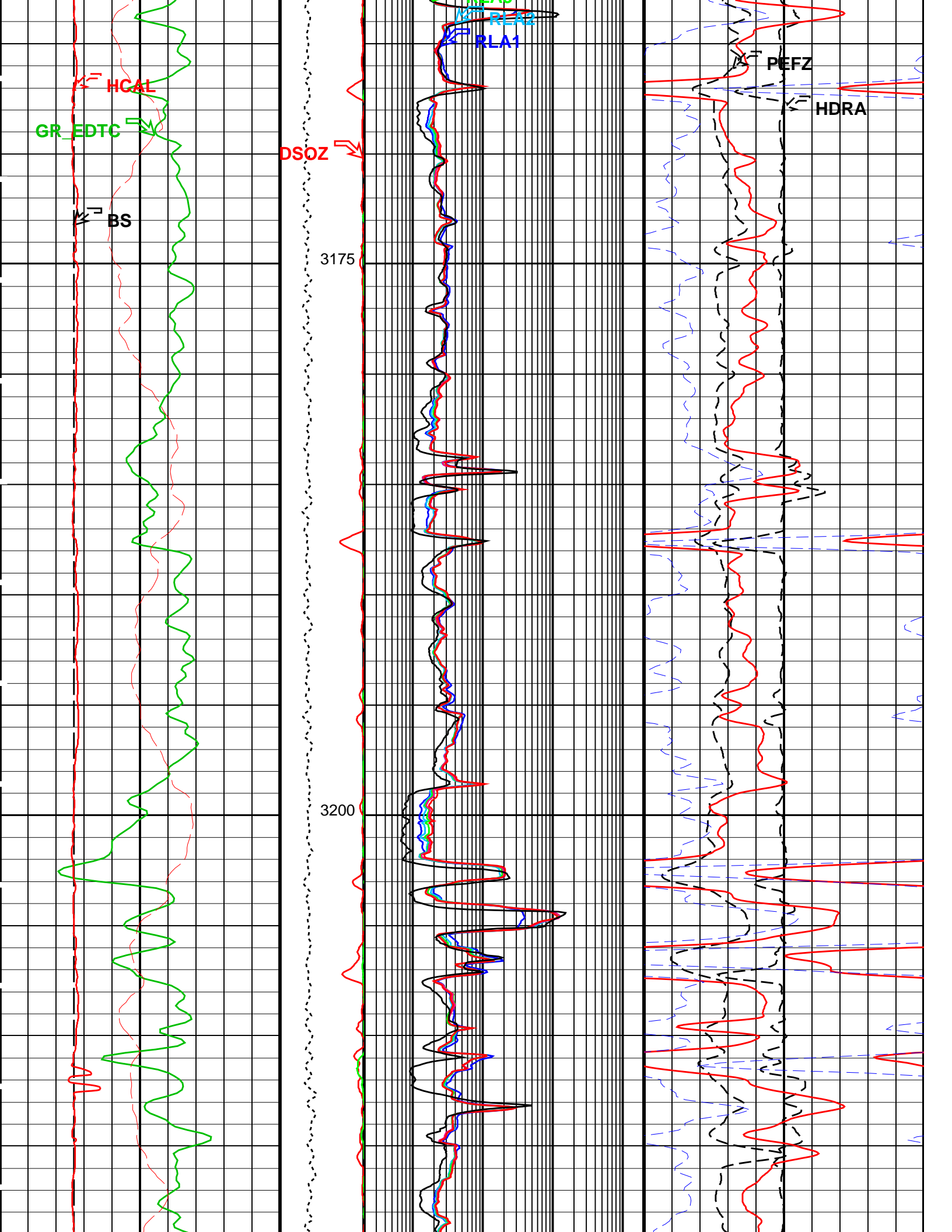


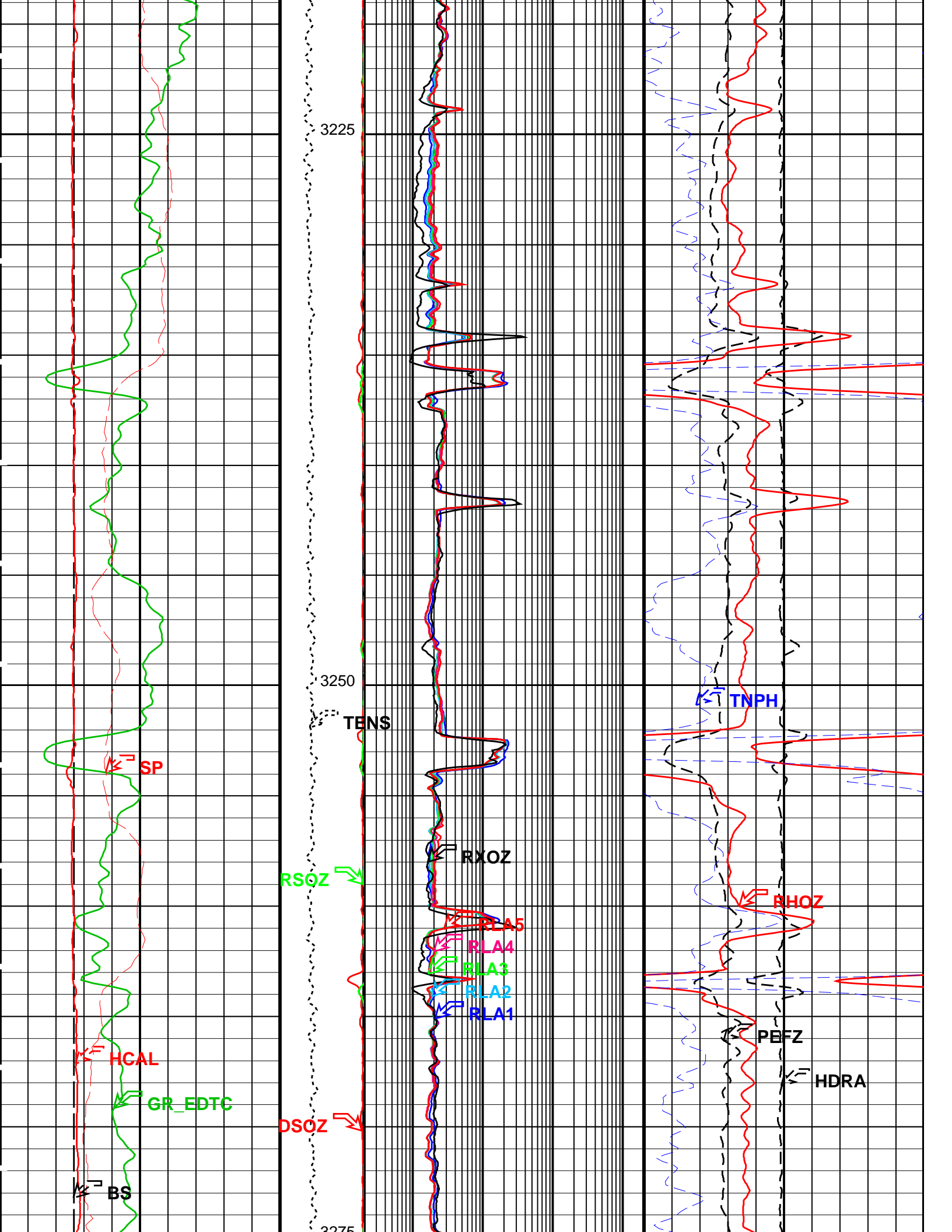


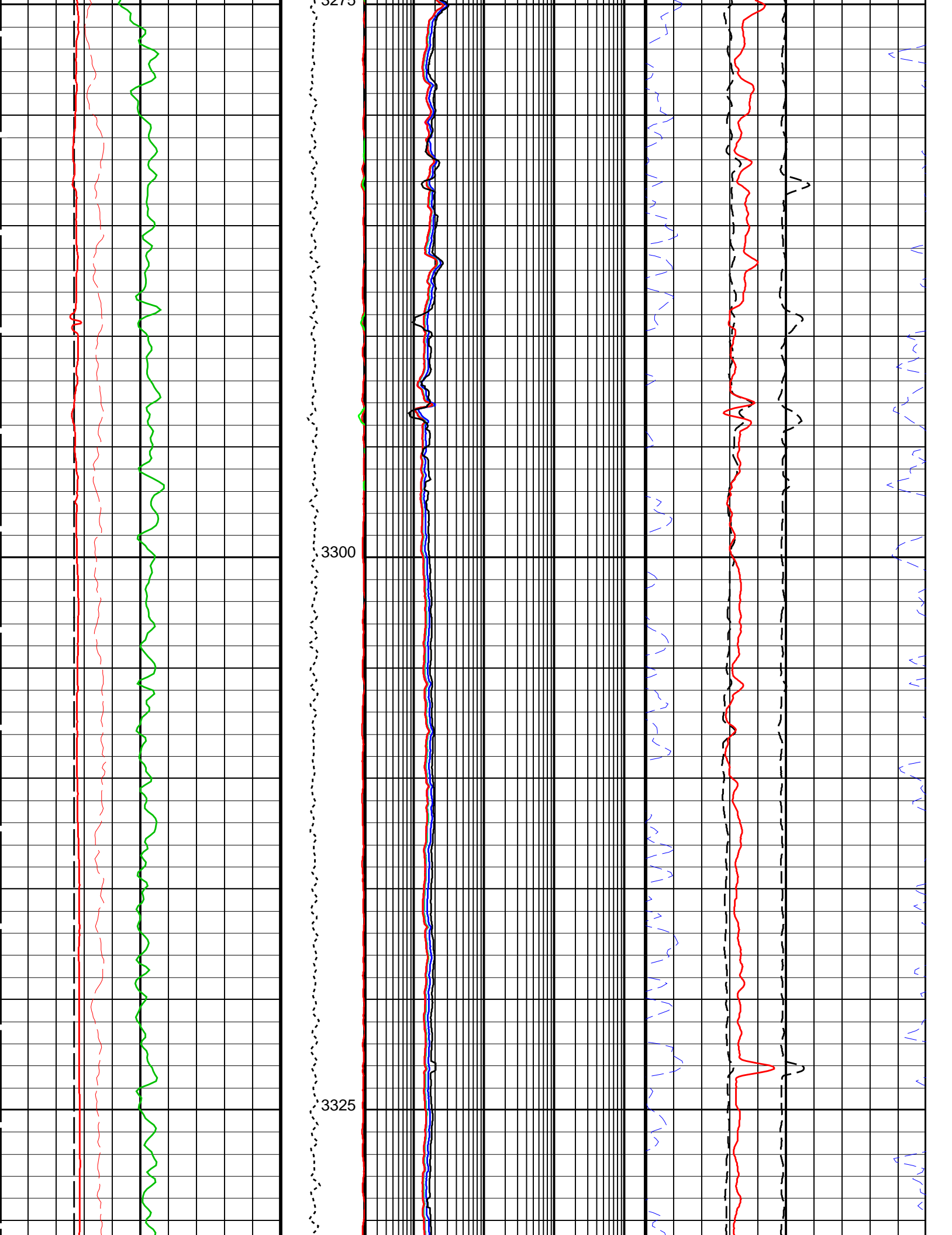


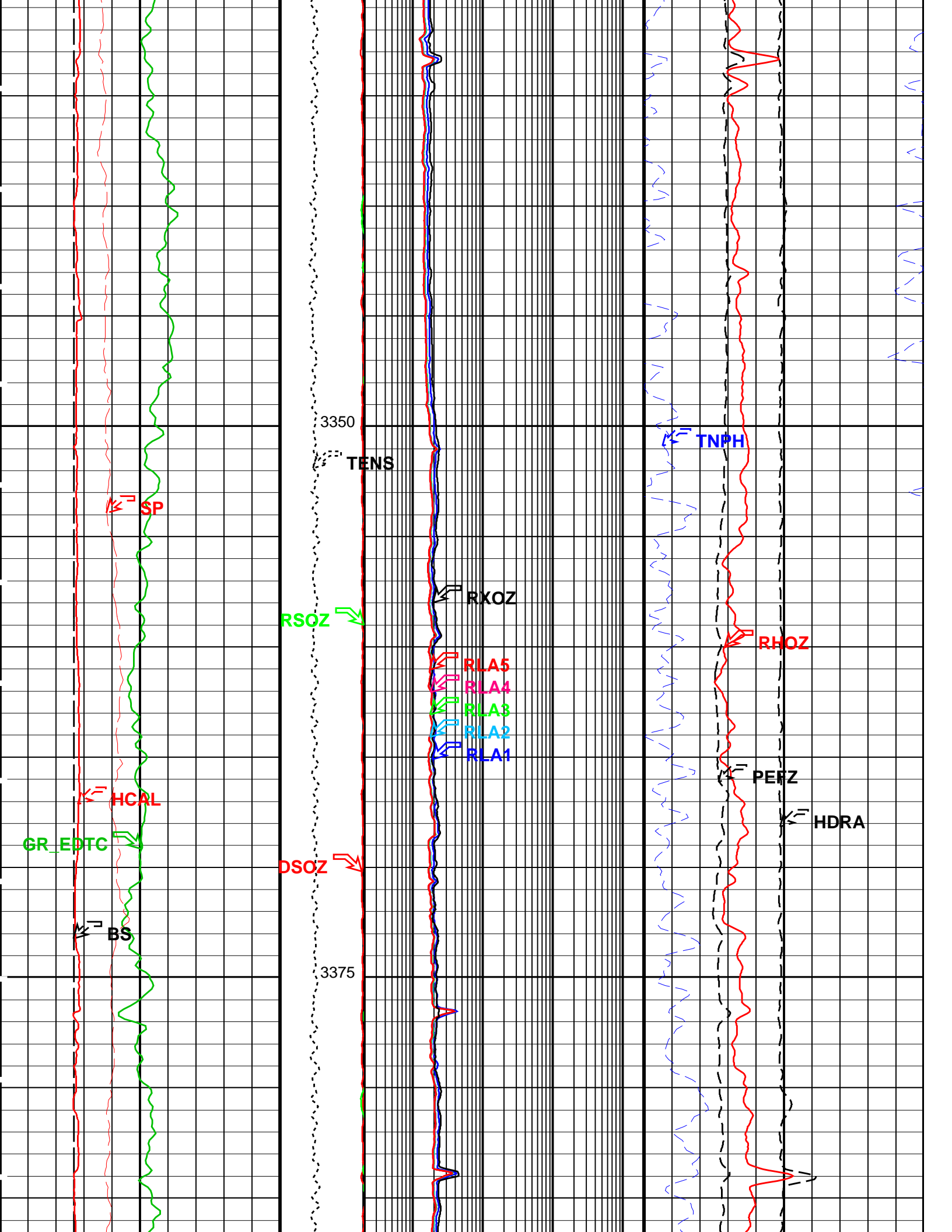


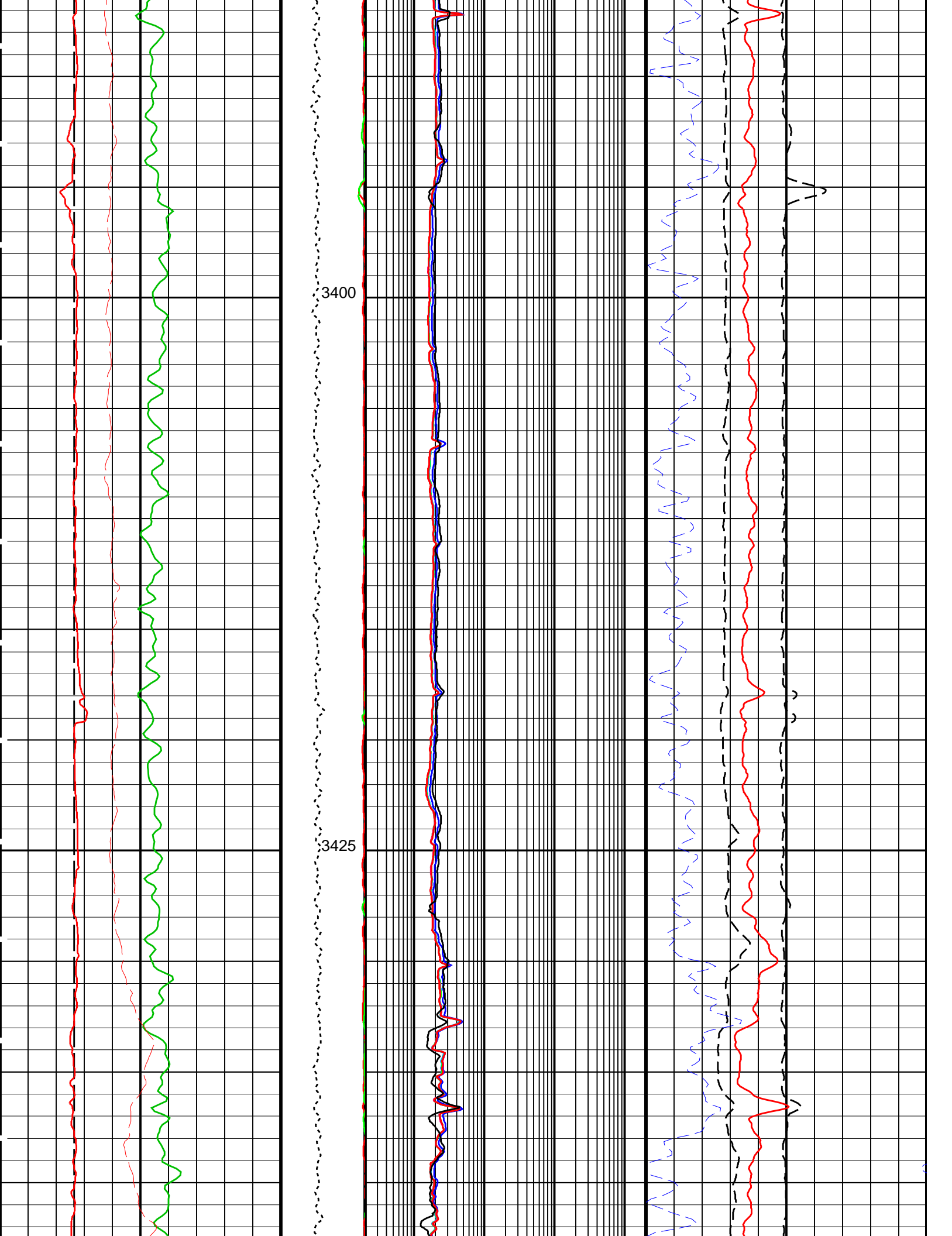


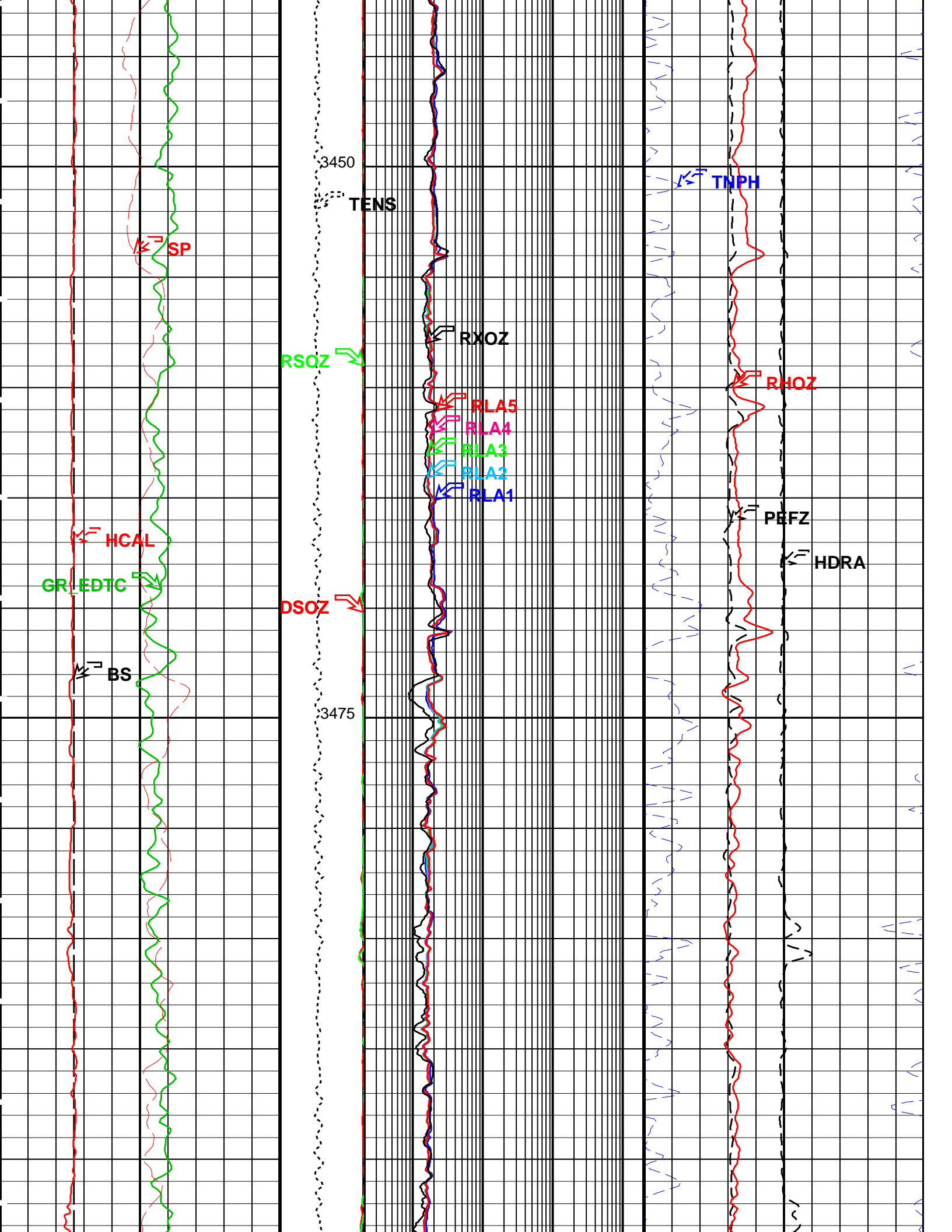


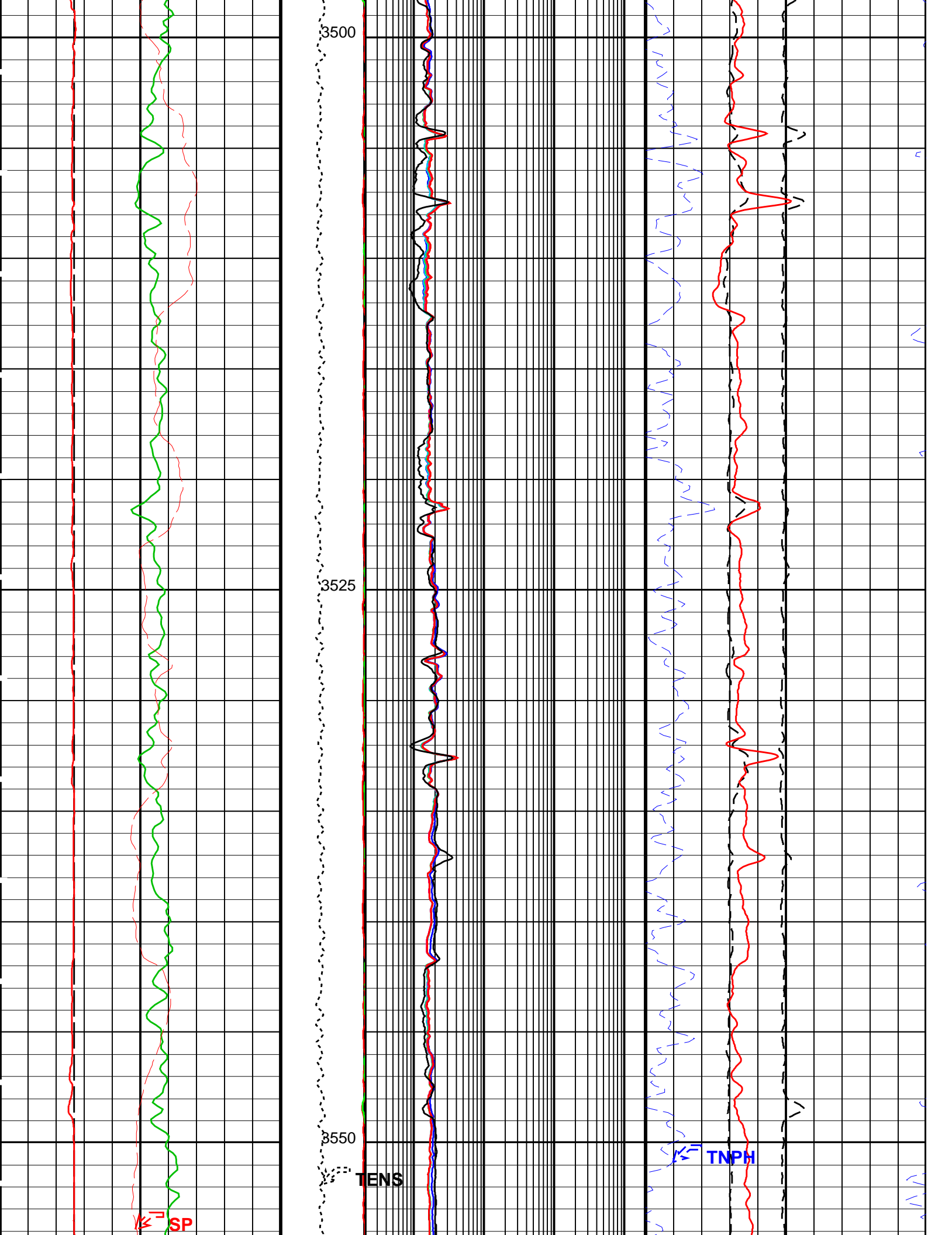


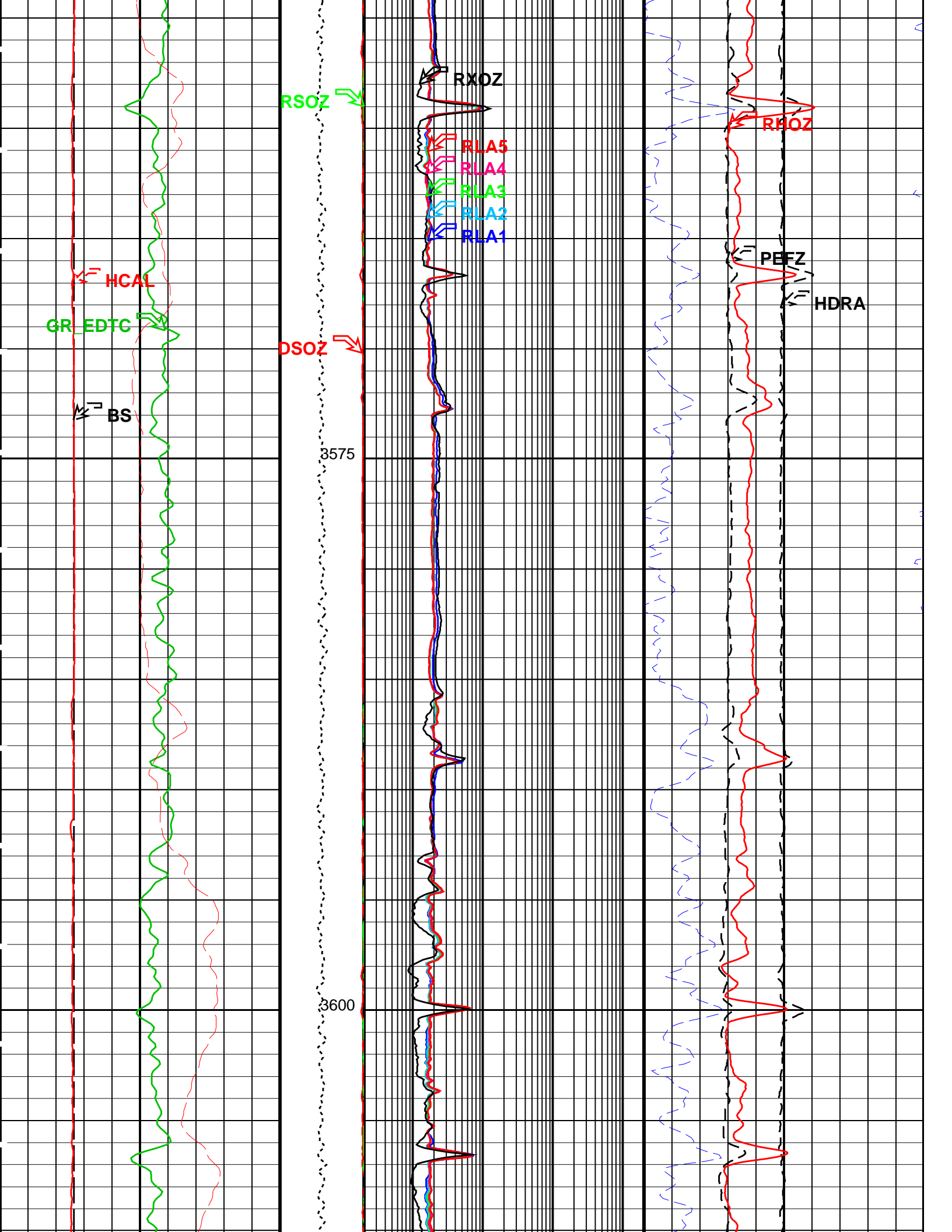


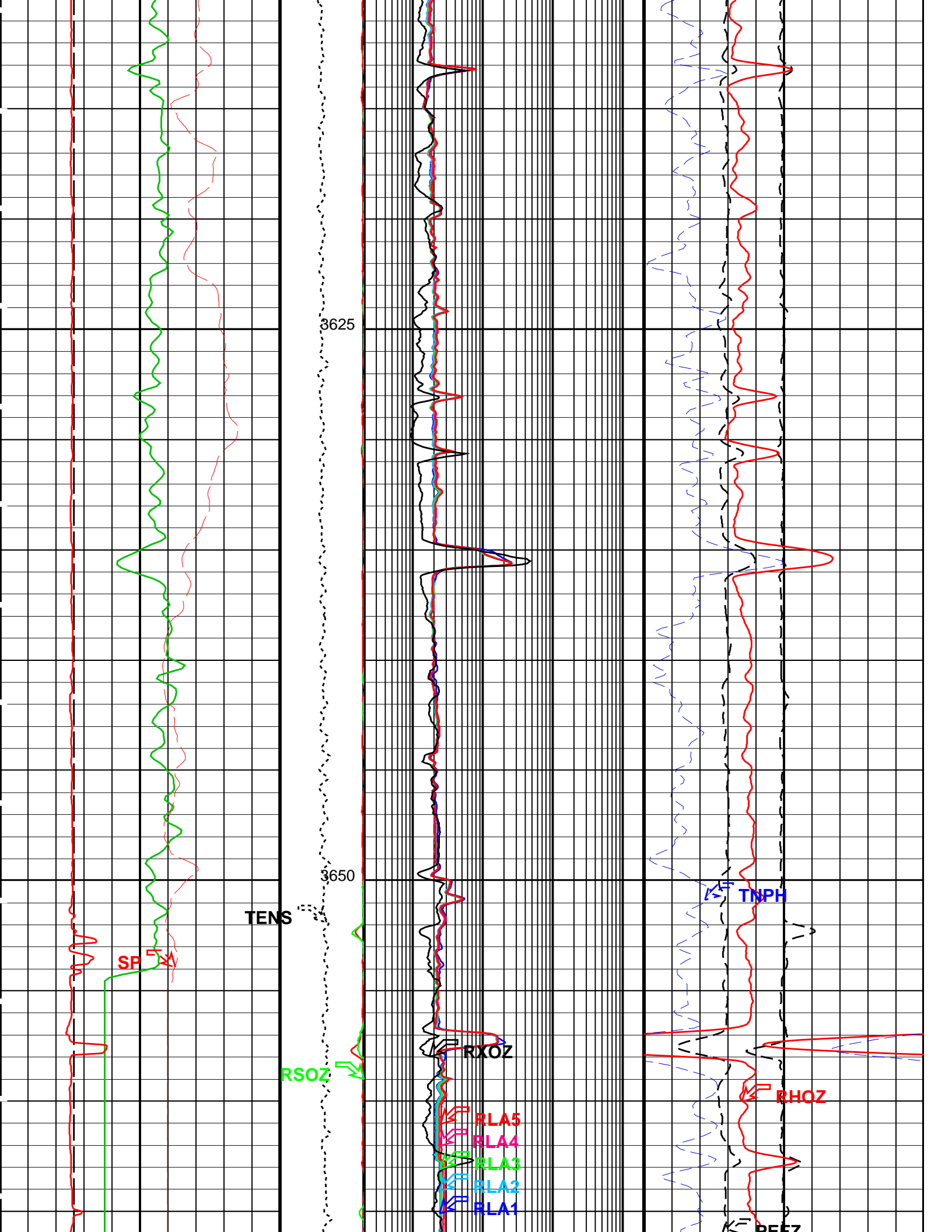


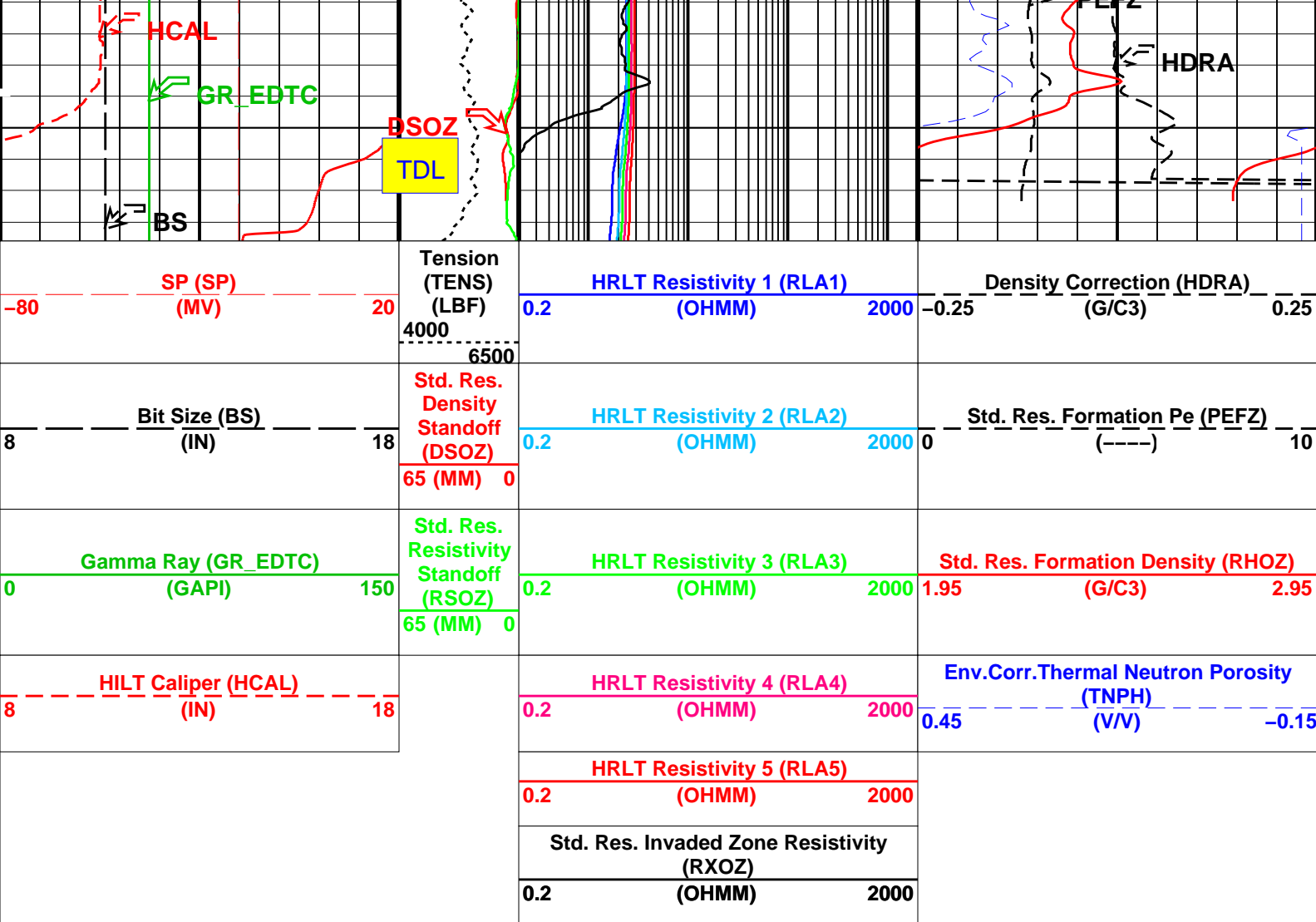












Time Mark Every 60 S

Parameters		
DLIS Name	Description	Value
HILTH-FTB: High resolution Integrated Logging Tool-DTS		
BHFL	Borehole Fluid Type	WATER
BHFL_TLD	HILT Nuclear Mud Base	WATER
BHS	Borehole Status	OPEN
BHT	Bottom Hole Temperature (used in calculations)	50 DEGC
BSCO	Borehole Salinity Correction Option	NO
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
GCLF	Germany Coal-like Formation 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	CHART_GEN_9
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE
HACPP	Accelerometer PROM Presence	PRESENT_DOWNHOLE
HART	Accelerometer Reference Temperature	25 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
HNUFCOD	HILT Neutron Uranium detection	5 PU

HPHICUT	HILT Effective Porosity Cutoff	5	PU
HSCO	Hole Size Correction Option	YES	
HSIS	HILT Shale Indicator Selection	GR	
HSSO	HRDD Nuclear Source Strength Option	NORMAL	
HSWCUT	HILT Water Saturation from AITH cutoff	50	%
ISSBAR	Barite Mud Switch	NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
MCCO	Mud Cake Correction Option	NO	
MCOR	Mud Correction	NATU	
MDEN	Matrix Density	2.71	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	NO	
NAAC	HRDD APS Activation Correction	OFF	
NMT	HILT Nuclear Mud Type	NOBARITE	
NPRM	HRDD Processing Mode	HiRes	
NSAR	HRDD Depth Sampling Rate	1	IN
PEA_FILTER	PEA Filter	NO_FILTER	
PEFC_FILTER	PEFC Filter	NO_FILTER	
PHIMAX	HILT max porosity	35	PU
PTCO	Pressure/Temperature Correction Option	NO	
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	YES	
HRLT-B: High Resolution Laterolog Array - B			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	50	DEGC
CALSTAT	HRLTB Calibration Status	SHALLOW_DONE	
CALTEMP	HRLTB Calibration Temperature	24.8518	DEGC
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	
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	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
ISSBAR	Barite Mud Switch	NOBARITE	
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	LIMESTONE	
PROGINV	Inversion Selection	ON	
PROCML	Inversion Micro-Resistivity Selection	RXOZ	
PROCMSO	Mechanical Standoff Fin Size	2	IN
PROCRM	Processing Mud Resistivity Select	HRLT_Compute	
PROCSPO	Sonde Position	Eccentered	
SHT	Surface Hole Temperature	20	DEGC
HNGS-BA: Hostile Natural Gamma Ray Sonde			
BAR1	HNGS Detector 1 Barite Constant	1	
BAR2	HNGS Detector 2 Barite Constant	1	
BHK	HNGS Borehole Potassium Correction Concentration	0	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	50	DEGC
CSD1	Inner Casing Outer Diameter	0	IN
CSD2	Outer Casing Outer Diameter	0	IN
CSW1	Inner Casing Weight	0	LB/F
CSW2	Outer Casing Weight	0	LB/F
DBCC	HNGS Barite Constant Correction Flag	NONE	
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	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
H1P	HNGS Detector 1 Allow/Disallow In Processing	ALLOW	
H2P	HNGS Detector 2 Allow/Disallow In Processing	ALLOW	
HABK	HNGS Borehole Potassium Running Average	0.0239045	
HALF	HNGS Alpha Filter Length	60	IN
HCRB	HNGS Apply Borehole Potassium Correction	NONE	
HMWM	Mud Weighting Material	NATU	
HNPE	HNGS Processing Enable	YES	

ISSBAR	Barite Mud Switch	NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
S1BI	HNGS Detector 1 Calibration Bismuth Count Rate	-999.25	CPS
S2BI	HNGS Detector 2 Calibration Bismuth Count Rate	-999.25	CPS
SGRC	HNGS Standard Gamma-Ray Correction Flag	YES	
SHT	Surface Hole Temperature	20	DEGC
TPOS	Tool Position	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	1.00615	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.990799	
SPA-A: SP ADAPTOR			
SPNV	SP Next Value	0	MV
EDTC-B: Enhanced DTS Cartridge			
BHFL	Borehole Fluid Type	WATER	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	50	DEGC
BSCO	Borehole Salinity Correction Option	NO	
CCCO	Casing & Cement Thickness Correction Option	NO	
DPPM	Density Porosity Processing Mode	HIRS	
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	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
HSCO	Hole Size Correction Option	YES	
ISSBAR	Barite Mud Switch	NOBARITE	
ISSBAR_EDTC	Nuclear Mud Type	NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
MCCO	Mud Cake Correction Option	NO	
MCOR	Mud Correction	NATU	
MWCO	Mud Weight Correction Option	NO	
PTCO	Pressure/Temperature Correction Option	NO	
SDAT	Standoff Data Source	SOCN	
SHT	Surface Hole Temperature	20	DEGC
SOCN	Standoff Distance	0.125	IN
SOCO	Standoff Correction Option	YES	
TPOS_EDTC	EDTC Tool Centered/Eccentered	Eccentered	
U-ETELM_EDTS	Telemetry Mode for eWAFE	Standard_EDTS	
U-TELM_EDTS	Telemetry Mode for WAFE	Standard_EDTS	
System and Miscellaneous			
ALTDPCHAN	Name of alternate depth channel	SpeedCorrectedDepth	
BS	Bit Size	10.625	IN
BSAL	Borehole Salinity	60300.00	PPM
CSIZ	Current Casing Size	13.375	IN
CWEI	Casing Weight	68.00	LB/F
DFD	Drilling Fluid Density	1.11	G/C3
DO	Depth Offset for Playback	2.2	M
DORL	Depth Offset for Repeat Analysis	2.3	M
FLEV	Fluid Level	0.00	M
MST	Mud Sample Temperature	24.60	DEGC
PBVSADP	Use alternate depth channel for playback	NO	
PP	Playback Processing	NORMAL	
RMFS	Resistivity of Mud Filtrate Sample	0.0728	OHMM
RW	Resistivity of Connate Water	1.0000	OHMM
TD	Total Depth	3674.5	M
TDD	Total Depth - Driller	3674.50	M
TDL	Total Depth - Logger	3674.50	M
TWS	Temperature of Connate Water Sample	37.78	DEGC

Format: Composite Log Vertical Scale: 1:200 Graphics File Created: 10-Sep-2012 10:32

OP System Version: 19C1-222

HILTH-FTB	19C1-222	HRLT-B	19C1-222
HNGC-B	HFE-5203-OP19.1-NUCL	HNGS-BA	HFE-5203-OP19.1-NUCL
SPA-A	19C1-222	EDTC-B	19C1-222

Input DLIS Files

DEFAULT	TLD_MCFL_CNL_HRLA_013LUP	FN:18	PRODUCER	10-Sep-2012 05:42	3671.3 M	2425.1 M
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Output DLIS Files

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CLIENT	TLD_MCFL_CNL_HRLA_015PUC	FN:23	CUSTOMER	10-Sep-2012 10:32
BACKUP	TLD_MCFL_CNL_HRLA_015PUP	FN:24	PRODUCER	10-Sep-2012 10:32

Company: JAMSTEC

Well: C0020A

Input DLIS Files

DEFAULT	TLD_MCFL_CNL_HRLA_016LUP	FN:25	PRODUCER	10-Sep-2012 11:01	3246.1 M	1636.0 M
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Output DLIS Files

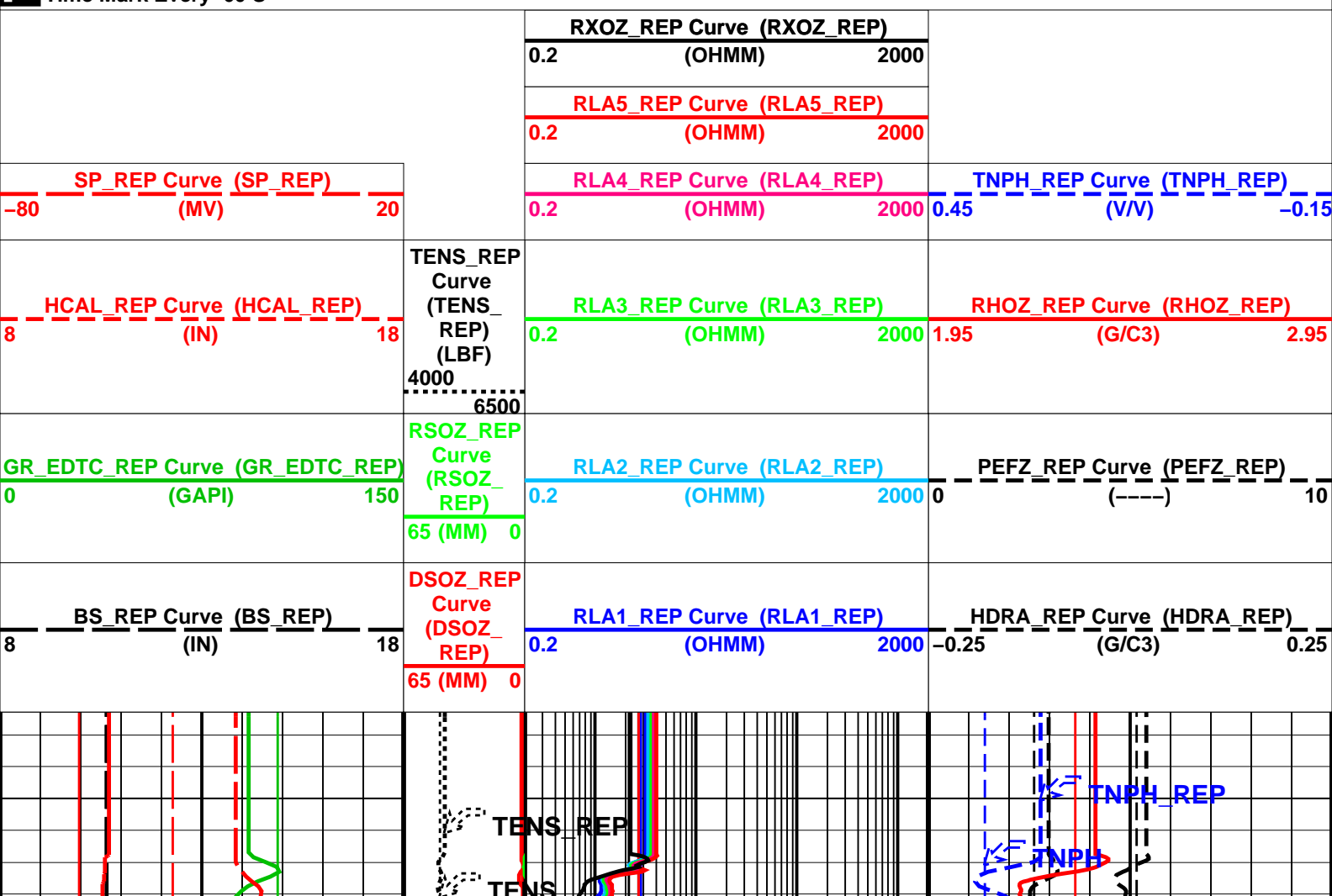
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BACKUP	TLD_MCFL_CNL_HRLA_019PUP	FN:36	PRODUCER	10-Sep-2012 12:57	3220.1 M	3077.3 M

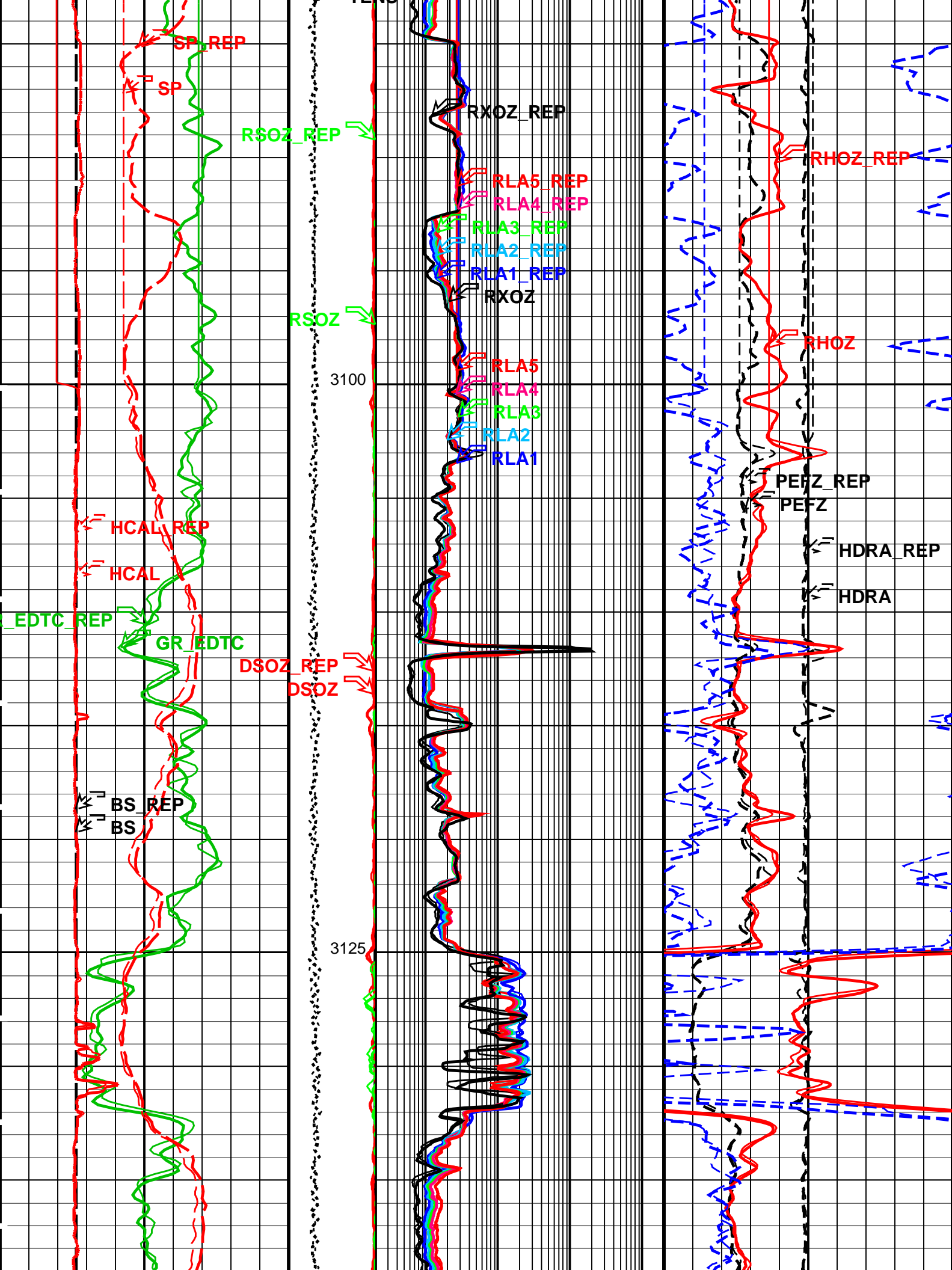
OP System Version: 19C1-222

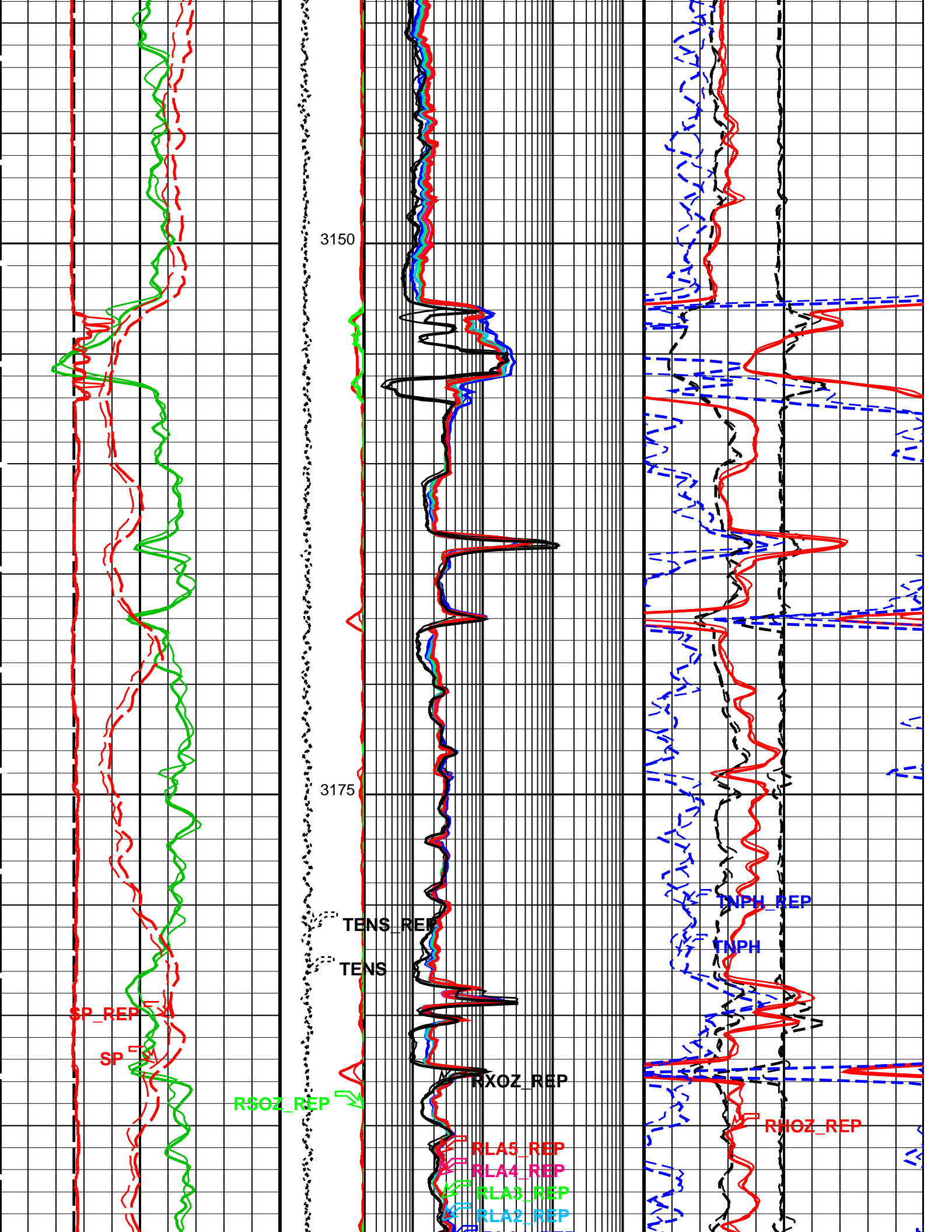
HILTH-FTB	19C1-222	HRLT-B	19C1-222
HNGC-B	HFE-5203-OP19.1-NUCL	HNGS-BA	HFE-5203-OP19.1-NUCL
SPA-A	19C1-222	EDTC-B	19C1-222

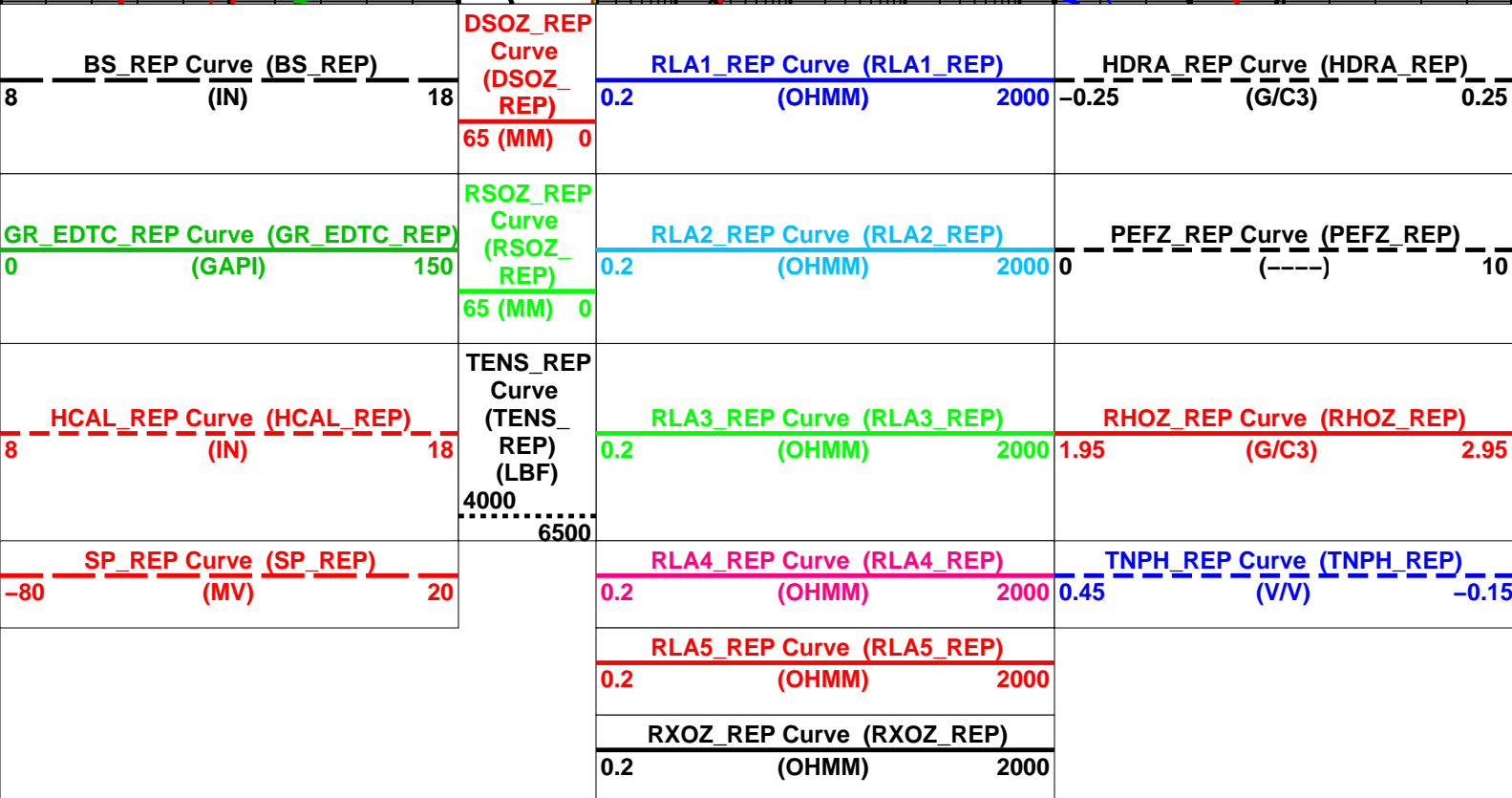
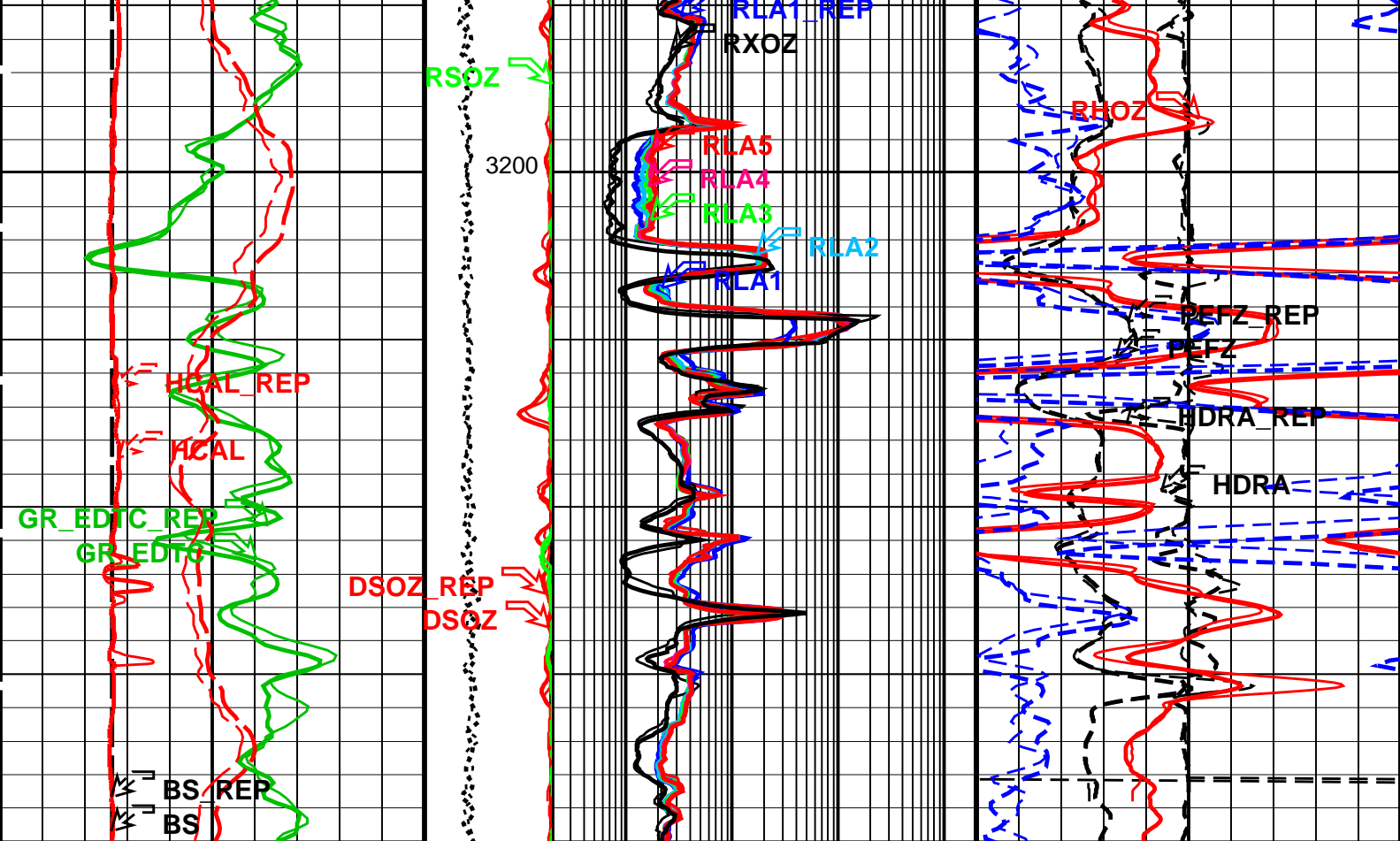
PIP SUMMARY

Time Mark Every 60 S









PIP SUMMARY

Time Mark Every 60 S

Parameters		
DLIS Name	Description	Value
HILTH-FTB	High resolution Integrated Logging Tool-DTS	
BHFL	Borehole Fluid Type	WATER
BHFL_TLD	HILT Nuclear Mud Base	WATER
BHS	Borehole Status	OPEN

BHT	Bottom Hole Temperature (used in calculations)	50	DEGC
BSCO	Borehole Salinity Correction Option	NO	
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	
GCLF	Germany Coal-like Formation 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	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
HACPP	Accelerometer PROM Presence	PRESENT_DOWNHOLE	
HART	Accelerometer Reference Temperature	25	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	
HSSO	HRDD Nuclear Source Strength Option	NORMAL	
HSWCUT	HILT Water Saturation from AITH cutoff	50	%
ISSBAR	Barite Mud Switch	NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
MCCO	Mud Cake Correction Option	NO	
MCOR	Mud Correction	NATU	
MDEN	Matrix Density	2.71	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	NO	
NAAC	HRDD APS Activation Correction	OFF	
NMT	HILT Nuclear Mud Type	NOBARITE	
NPRM	HRDD Processing Mode	HiRes	
NSAR	HRDD Depth Sampling Rate	1	IN
PEA_FILTER	PEA Filter	NO_FILTER	
PEFC_FILTER	PEFC Filter	NO_FILTER	
PHIMAX	HILT max porosity	35	PU
PTCO	Pressure/Temperature Correction Option	NO	
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	YES	

HRLT-B: High Resolution Laterolog Array - B

BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	50	DEGC
CALSTAT	HRLTB Calibration Status	SHALLOW_DONE	
CALTEMP	HRLTB Calibration Temperature	24.8518	DEGC
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	
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	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
ISSBAR	Barite Mud Switch	NOBARITE	
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	LIMESTONE	
PROCINV	Inversion Selection	ON	
PROCMEL	Inversion Micro-Resistivity Selection	RXOZ	

PROCMSO	Mechanical Standoff Fin Size		2	IN
PROCRM	Processing Mud Resistivity Select	HRLT_Compute		
PROCSP0	Sonde Position	Eccentered		
SHT	Surface Hole Temperature		20	DEGC
HNGS-BA: Hostile Natural Gamma Ray Sonde				
BAR1	HNGS Detector 1 Barite Constant		1	
BAR2	HNGS Detector 2 Barite Constant		1	
BHK	HNGS Borehole Potassium Correction Concentration		0	
BHS	Borehole Status	OPEN		
BHT	Bottom Hole Temperature (used in calculations)		50	DEGC
CSD1	Inner Casing Outer Diameter		0	IN
CSD2	Outer Casing Outer Diameter		0	IN
CSW1	Inner Casing Weight		0	LB/F
CSW2	Outer Casing Weight		0	LB/F
DBCC	HNGS Barite Constant Correction Flag	NONE		
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	CHART_GEN_9		
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE		
H1P	HNGS Detector 1 Allow/Disallow In Processing	ALLOW		
H2P	HNGS Detector 2 Allow/Disallow In Processing	ALLOW		
HABK	HNGS Borehole Potassium Running Average		0.0880778	
HALF	HNGS Alpha Filter Length		60	IN
HCRB	HNGS Apply Borehole Potassium Correction	NONE		
HMWM	Mud Weighting Material	NATU		
HNPE	HNGS Processing Enable	YES		
ISSBAR	Barite Mud Switch	NOBARITE		
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE		
S1BI	HNGS Detector 1 Calibration Bismuth Count Rate		-999.25	CPS
S2BI	HNGS Detector 2 Calibration Bismuth Count Rate		-999.25	CPS
SGRC	HNGS Standard Gamma-Ray Correction Flag	YES		
SHT	Surface Hole Temperature		20	DEGC
TPOS	Tool Position	ECCE		
VBA1	HNGS Detector 1 Variable Barite Factor Running Average		0.992772	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average		0.980376	
SPA-A: SP ADAPTOR				
SPNV	SP Next Value		0	MV
EDTC-B: Enhanced DTS Cartridge				
BHFL	Borehole Fluid Type	WATER		
BHS	Borehole Status	OPEN		
BHT	Bottom Hole Temperature (used in calculations)		50	DEGC
BSCO	Borehole Salinity Correction Option	NO		
CCCO	Casing & Cement Thickness Correction Option	NO		
DPPM	Density Porosity Processing Mode	HIRS		
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	CHART_GEN_9		
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE		
HSCO	Hole Size Correction Option	YES		
ISSBAR	Barite Mud Switch	NOBARITE		
ISSBAR_EDTC	Nuclear Mud Type	NOBARITE		
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE		
MCCO	Mud Cake Correction Option	NO		
MCOR	Mud Correction	NATU		
MWCO	Mud Weight Correction Option	NO		
PTCO	Pressure/Temperature Correction Option	NO		
SDAT	Standoff Data Source	SOCN		
SHT	Surface Hole Temperature		20	DEGC
SOCN	Standoff Distance		0.125	IN
SOCO	Standoff Correction Option	YES		
TPOS_EDTC	EDTC Tool Centered/Eccentered	Eccentered		
U-ETELM_EDTS	Telemetry Mode for eWAFE	Standard_EDTS		
U-TELM_EDTS	Telemetry Mode for WAFE	Standard_EDTS		
System and Miscellaneous				
ALTDPCAN	Name of alternate depth channel	SpeedCorrectedDepth		
BS	Bit Size		10.625	IN
BSAL	Borehole Salinity		60300.00	PPM
CSIZ	Current Casing Size		13.375	IN
CWEI	Casing Weight		68.00	LB/F
DFD	Drilling Fluid Density		1.11	G/C3
DO	Depth Offset for Playback		0.2	M
DORL	Depth Offset for Repeat Analysis		0.0	M
FLEV	Fluid Level		0.00	M
MST	Mud Sample Temperature		24.60	DEGC
PBVSADP	Use alternate depth channel for playback	NO		
PP	Playback Processing	NORMAL		
RMFS	Resistivity of Mud Filtrate Sample		0.0728	OHMM
RW	Resistivity of Connate Water		1.0000	OHMM
TD	Total Depth		3674.5	M
TDD	Total Depth - Driller		3674.50	M
TDL	Total Depth - Logger		3672.00	M
TWC	Temperature of Connate Water Sample		23.38	DEGC

OP System Version: 19C1-222

HILTH-FTB	19C1-222	HRLT-B	19C1-222
HNGC-B	HFE-5203-OP19.1-NUCL	HNGS-BA	HFE-5203-OP19.1-NUCL
SPA-A	19C1-222	EDTC-B	19C1-222

Input DLIS Files

DEFAULT	TLD_MCFL_CNL_HRLA_016LUP	FN:25	PRODUCER	10-Sep-2012 11:01	3246.1 M	1636.0 M
DEFAULT	TLD_MCFL_CNL_HRLA_015PUP	FN:22	PRODUCER	10-Sep-2012 10:32	3673.6 M	2405.9 M

Output DLIS Files

DEFAULT	TLD_MCFL_CNL_HRLA_019PUP	FN:34	PRODUCER	10-Sep-2012 12:57
CLIENT	TLD_MCFL_CNL_HRLA_019PUC	FN:35	CUSTOMER	10-Sep-2012 12:57
BACKUP	TLD_MCFL_CNL_HRLA_019PUP	FN:36	PRODUCER	10-Sep-2012 12:57



Calibration Report

MAXIS Field Log

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
High resolution Integrated Logging Tool–DTS Wellsite Calibration – Stab Measurement Summary							
Before: 10–Sep–2012 1:32							
BS Window Ratio	0.7437	N/A	0.7445	N/A	N/A	N/A	CPS
BS Window Sum	27440	N/A	27400	N/A	N/A	N/A	
SS Window Ratio	0.4887	N/A	0.4893	N/A	N/A	N/A	
SS Window Sum	11390	N/A	11370	N/A	N/A	N/A	CPS
LS Window Ratio	0.3012	N/A	0.3024	N/A	N/A	N/A	CPS
LS Window Sum	1273	N/A	1275	N/A	N/A	N/A	
High resolution Integrated Logging Tool–DTS Wellsite Calibration – Photo–multiplier High Voltages Calibrations							
Before: 10–Sep–2012 1:32							
BS PM High Voltage (Command)	1250	N/A	1248	N/A	N/A	N/A	V
SS PM High Voltage (Command)	1430	N/A	1430	N/A	N/A	N/A	V
LS PM High Voltage (Command)	1268	N/A	1267	N/A	N/A	N/A	V
High resolution Integrated Logging Tool–DTS Wellsite Calibration – Crystal Quality Resolutions Calibration							
Before: 10–Sep–2012 1:32							
BS Crystal Resolution	10.62	N/A	10.61	N/A	N/A	N/A	%
SS Crystal Resolution	8.716	N/A	8.852	N/A	N/A	N/A	%
LS Crystal Resolution	8.049	N/A	8.168	N/A	N/A	N/A	%
High resolution Integrated Logging Tool–DTS Wellsite Calibration – MCFL Calibration							
Before: 10–Sep–2012 1:34							
Raw B0 Resistivity	3875	N/A	3863	N/A	N/A	N/A	OHMM
Raw B1 Resistivity	3830	N/A	3793	N/A	N/A	N/A	OHMM
Raw B2 Resistivity	3830	N/A	3835	N/A	N/A	N/A	OHMM
High resolution Integrated Logging Tool–DTS Wellsite Calibration – HILT Caliper Calibration							
Before: 4–Sep–2012 16:25							
HILT Caliper Zero Measurement	8.000	N/A	7.973	N/A	N/A	N/A	IN
HILT Caliper Plus Measurement	12.00	N/A	12.18	N/A	N/A	N/A	IN

High resolution Integrated Logging Tool–DTS Wellsite Calibration – Detector Calibration

Before: 4–Sep–2012 16:07 After: Calibration not done

Gamma Ray Background	30.00	N/A	4.349	N/A	N/A	N/A	GAPI
Gamma Ray (Jig – Bkgd)	165.0	N/A	176.5	N/A	N/A	15.00	GAPI

High resolution Integrated Logging Tool–DTS Wellsite Calibration – Zero Measurement

Master: 6–Jul–2012 15:01 Before: 10–Sep–2012 1:29 After: 10–Sep–2012 14:40

CNTC Background	27.48	27.48	27.24	27.67	0.4300	4.122	CPS
CFTC Background	29.17	29.17	27.02	26.74	–0.2864	4.376	CPS

High resolution Integrated Logging Tool–DTS Wellsite Calibration – Ratio Measurement

Master: 6–Jul–2012 15:01

Thermal Near Corr. (Tank)	5800	2645	N/A	N/A	N/A	N/A	CPS
Thermal Far Corr. (Tank)	2400	1108	N/A	N/A	N/A	N/A	CPS
CNTC/CFTC (Tank)	2.159	2.388	N/A	N/A	N/A	N/A	

High resolution Integrated Logging Tool–DTS Wellsite Calibration – Accelerometer Calibration

Before: 10–Sep–2012 1:28

Z–Axis Acceleration	9.810	N/A	9.765	N/A	N/A	N/A	M/S2
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High resolution Integrated Logging Tool–DTS Master Calibration – Inversion results

Master: 18–Aug–2012 12:28

Rho Aluminum	2.596	2.595	---	---	---	---	G/C3
Rho Magnesium	1.686	1.689	---	---	---	---	G/C3
Pe Aluminum	2.570	2.520	---	---	---	---	
Pe Magnesium	2.650	2.635	---	---	---	---	

High resolution Integrated Logging Tool–DTS Master Calibration – Deviation Summary

Master: 18–Aug–2012 12:28

BS Average Deviation	0	0.3647	---	---	---	---	%
BS Max Deviation	0	1.386	---	---	---	---	%
SS Average Deviation	0	0.6524	---	---	---	---	%
SS Max Deviation	0	2.044	---	---	---	---	%
LS Average Deviation	0	0.7838	---	---	---	---	%
LS Max Deviation	0	2.044	---	---	---	---	%

High Resolution Laterolog Array – B Wellsite Calibration – HRLT M01

Before: 10–Sep–2012 1:27 After: 10–Sep–2012 14:39

HRLT M0–M1 Voltage Plus – 0	0	N/A	–318.5	–317.9	0.6151	9.681	UV
HRLT M0–M1 Voltage Plus – 1	0	N/A	–332.3	–331.6	0.6586	9.681	UV
HRLT M0–M1 Voltage Plus – 2	0	N/A	–321.8	–322.3	–0.5164	9.681	UV
HRLT M0–M1 Voltage Plus – 3	0	N/A	–327.8	–327.4	0.3868	9.681	UV
HRLT M0–M1 Voltage Plus – 4	0	N/A	–320.0	–319.7	0.3028	9.681	UV
HRLT M0–M1 Voltage Plus – 5	0	N/A	–325.1	–324.9	0.2282	9.681	UV
HRLT M0–M1 Voltage Plus – 6	0	N/A	322.7	322.2	–0.5252	9.681	UV
HRLT M0–M1 Voltage Plus – 7	0	N/A	–322.7	–322.7	0	9.681	UV

High Resolution Laterolog Array – B Wellsite Calibration – HRLT M12

Before: 10–Sep–2012 1:27 After: 10–Sep–2012 14:39

HRLT M1–M2 Voltage Plus – 0	0	N/A	1755	1752	–3.067	53.42	UV
HRLT M1–M2 Voltage Plus – 1	0	N/A	1833	1829	–3.863	53.42	UV
HRLT M1–M2 Voltage Plus – 2	0	N/A	1770	1773	2.578	53.42	UV
HRLT M1–M2 Voltage Plus – 3	0	N/A	1804	1802	–1.836	53.42	UV
HRLT M1–M2 Voltage Plus – 4	0	N/A	1762	1760	–1.483	53.42	UV
HRLT M1–M2 Voltage Plus – 5	0	N/A	1792	1790	–1.285	53.42	UV
HRLT M1–M2 Voltage Plus – 6	0	N/A	–1787	–1784	2.869	53.42	UV
HRLT M1–M2 Voltage Plus – 7	0	N/A	1781	1781	0	53.42	UV

High Resolution Laterolog Array – B Wellsite Calibration – HRLT M23

Before: 10–Sep–2012 1:27 After: 10–Sep–2012 14:39

HRLT M2–M3 Voltage Plus – 0	0	N/A	1732	1729	–3.139	53.42	UV
HRLT M2–M3 Voltage Plus – 1	0	N/A	1815	1811	–3.616	53.42	UV
HRLT M2–M3 Voltage Plus – 2	0	N/A	1755	1758	2.903	53.42	UV
HRLT M2–M3 Voltage Plus – 3	0	N/A	1794	1792	–2.173	53.42	UV
HRLT M2–M3 Voltage Plus – 4	0	N/A	1748	1747	–1.014	53.42	UV
HRLT M2–M3 Voltage Plus – 5	0	N/A	1779	1778	–0.8226	53.42	UV
HRLT M2–M3 Voltage Plus – 6	0	N/A	–1758	–1754	3.537	53.42	UV
HRLT M2–M3 Voltage Plus – 7	0	N/A	1781	1781	0	53.42	UV

High Resolution Laterolog Array – B Wellsite Calibration – HRLT V34

Before: 10–Sep–2012 1:27 After: 10–Sep–2012 14:39

HRLT A3–A4 Voltage Plus – 0	0	N/A	68480	68350	–128.6	2100	UV
HRLT A3–A4 Voltage Plus – 1	0	N/A	72050	71930	–121.6	2100	UV
HRLT A3–A4 Voltage Plus – 2	0	N/A	69880	70010	122.4	2100	UV
HRLT A3–A4 Voltage Plus – 3	0	N/A	71500	71440	–61.48	2100	UV
HRLT A3–A4 Voltage Plus – 4	0	N/A	69490	69440	–44.79	2100	UV
HRLT A3–A4 Voltage Plus – 5	0	N/A	70680	70630	–46.59	2100	UV
HRLT A3–A4 Voltage Plus – 6	0	N/A	–68820	–68720	103.1	2100	UV
HRLT A3–A4 Voltage Plus – 7	0	N/A	70000	70000	0	2100	UV

High Resolution Laterolog Array – B Wellsite Calibration – HRLT V45

Before: 10–Sep–2012 1:27 After: 10–Sep–2012 14:39

HRLT A4-A5 Voltage Plus - 0	0	N/A	68670	68550	-121.7	2100	UV
HRLT A4-A5 Voltage Plus - 1	0	N/A	72320	72160	-156.4	2100	UV
HRLT A4-A5 Voltage Plus - 2	0	N/A	70130	70250	121.6	2100	UV
HRLT A4-A5 Voltage Plus - 3	0	N/A	71730	71670	-59.21	2100	UV
HRLT A4-A5 Voltage Plus - 4	0	N/A	69690	69640	-48.80	2100	UV
HRLT A4-A5 Voltage Plus - 5	0	N/A	70870	70840	-33.01	2100	UV
HRLT A4-A5 Voltage Plus - 6	0	N/A	-69070	-68980	97.95	2100	UV
HRLT A4-A5 Voltage Plus - 7	0	N/A	70000	70000	0	2100	UV

High Resolution Laterolog Array - B Wellsite Calibration - HRLT V56

Before: 10-Sep-2012 1:27 After: 10-Sep-2012 14:39

HRLT A5-A6 Voltage Plus - 0	0	N/A	68430	68300	-128.0	2100	UV
HRLT A5-A6 Voltage Plus - 1	0	N/A	72180	72010	-166.4	2100	UV
HRLT A5-A6 Voltage Plus - 2	0	N/A	69950	70070	122.4	2100	UV
HRLT A5-A6 Voltage Plus - 3	0	N/A	71520	71450	-63.00	2100	UV
HRLT A5-A6 Voltage Plus - 4	0	N/A	69440	69400	-46.80	2100	UV
HRLT A5-A6 Voltage Plus - 5	0	N/A	70620	70580	-39.48	2100	UV
HRLT A5-A6 Voltage Plus - 6	0	N/A	-68940	-68840	98.81	2100	UV
HRLT A5-A6 Voltage Plus - 7	0	N/A	70000	70000	0	2100	UV

High Resolution Laterolog Array - B Wellsite Calibration - HRLT VTP

Before: 10-Sep-2012 1:27 After: 10-Sep-2012 14:39

HRLT Torpedo-M0 Voltage - 0	0	N/A	-68060	-67930	129.4	2100	UV
HRLT Torpedo-M0 Voltage - 1	0	N/A	-71910	-71770	144.3	2100	UV
HRLT Torpedo-M0 Voltage - 2	0	N/A	-69760	-69870	-111.8	2100	UV
HRLT Torpedo-M0 Voltage - 3	0	N/A	-71440	-71350	88.98	2100	UV
HRLT Torpedo-M0 Voltage - 4	0	N/A	-69480	-69410	61.92	2100	UV
HRLT Torpedo-M0 Voltage - 5	0	N/A	-70670	-70610	55.64	2100	UV
HRLT Torpedo-M0 Voltage - 6	0	N/A	68660	68530	-124.5	2100	UV
HRLT Torpedo-M0 Voltage - 7	0	N/A	-70000	-70000	0	2100	UV

High Resolution Laterolog Array - B Wellsite Calibration - HRLT VBD

Before: 10-Sep-2012 1:27 After: 10-Sep-2012 14:39

HRLT Bridle#9-M0 Voltage - 0	0	N/A	-68100	-67980	116.8	2100	UV
HRLT Bridle#9-M0 Voltage - 1	0	N/A	-72090	-71940	146.9	2100	UV
HRLT Bridle#9-M0 Voltage - 2	0	N/A	-69930	-70040	-114.2	2100	UV
HRLT Bridle#9-M0 Voltage - 3	0	N/A	-71570	-71500	67.99	2100	UV
HRLT Bridle#9-M0 Voltage - 4	0	N/A	-69550	-69510	44.68	2100	UV
HRLT Bridle#9-M0 Voltage - 5	0	N/A	-70730	-70680	49.45	2100	UV
HRLT Bridle#9-M0 Voltage - 6	0	N/A	68830	68710	-118.7	2100	UV
HRLT Bridle#9-M0 Voltage - 7	0	N/A	-70000	-70000	0	2100	UV

High Resolution Laterolog Array - B Wellsite Calibration - HRLT ISO

Before: 10-Sep-2012 1:27 After: 10-Sep-2012 14:39

HRLT Source Current Plus - 0	0	N/A	284.1	283.7	-0.3859	8.520	UA
HRLT Source Current Plus - 1	0	N/A	281.1	281.1	0	8.520	UA
HRLT Source Current Plus - 2	0	N/A	281.1	281.1	0	8.520	UA
HRLT Source Current Plus - 3	0	N/A	281.1	281.1	0	8.520	UA
HRLT Source Current Plus - 4	0	N/A	281.1	281.1	0	8.520	UA
HRLT Source Current Plus - 5	0	N/A	281.1	281.1	0	8.520	UA
HRLT Source Current Plus - 6	0	N/A	281.1	281.1	0	8.520	UA
HRLT Source Current Plus - 7	0	N/A	281.1	281.1	0	8.520	UA

High Resolution Laterolog Array - B Wellsite Calibration - HRLT MV

Before: 10-Sep-2012 1:27 After: 10-Sep-2012 14:39

HRLT Vertical Voltage PI - 0	0	N/A	-320.7	-319.9	0.8388	9.681	UV
HRLT Vertical Voltage PI - 1	0	N/A	-327.1	-326.2	0.9191	9.681	UV
HRLT Vertical Voltage PI - 2	0	N/A	-315.7	-315.9	-0.2195	9.681	UV
HRLT Vertical Voltage PI - 3	0	N/A	-320.3	-319.7	0.6447	9.681	UV
HRLT Vertical Voltage PI - 4	0	N/A	-309.7	-309.3	0.4538	9.681	UV
HRLT Vertical Voltage PI - 5	0	N/A	-330.0	-329.5	0.4847	9.681	UV
HRLT Vertical Voltage PI - 6	0	N/A	330.4	329.6	-0.7355	9.681	UV
HRLT Vertical Voltage PI - 7	0	N/A	-322.7	-322.7	0	9.681	UV

Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 1 Check

Master: 26-Jul-2012 16:07 Before: 10-Sep-2012 1:31 After: 10-Sep-2012 14:44

Na 511 Peak Loc	40.00	38.55	38.56	38.60	0.03584	1.000	
Na 511 Peak Res	15.50	14.93	14.81	14.76	-0.05429	2.000	%
High Voltage	1150	1063	1053	1065	11.39	N/A	V
Na 1785 Peak Loc	142.6	139.0	139.2	138.6	-0.5731	7.000	
Na 1785 Peak Res	8.500	8.686	7.444	7.603	0.1590	2.000	%
Temperature	15.50	31.24	27.32	30.59	3.268	N/A	DEGC
Na Count Rate	45.00	35.45	34.94	32.38	-2.553	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 2 Check

Master: 26-Jul-2012 16:07 Before: 10-Sep-2012 1:31 After: 10-Sep-2012 14:44

Na 511 Peak Loc	40.00	38.67	38.61	38.63	0.02083	1.000	
Na 511 Peak Res	15.50	15.39	15.14	14.92	-0.2206	2.000	%
High Voltage	1150	1086	1076	1088	11.15	N/A	V
Na 1785 Peak Loc	142.6	138.0	138.3	138.3	0.08160	7.000	
Na 1785 Peak Res	8.500	9.003	8.077	7.447	-0.6299	2.000	%

Temperature	15.50	31.26	27.40	32.47	5.069	N/A	DEGC
Na Count Rate	45.00	35.54	35.02	32.47	-2.546	8.000	CPS
Hostile Natural Gamma Ray Sonde Wellsite Calibration – Ratio Of Detector 1 To Detector 2							
Master: 26-Jul-2012 16:07 Before: 10-Sep-2012 1:31 After: 10-Sep-2012 14:44							
Coincidence Count Rate Ratio	1.000	0.9952	0.9972	0.9963	-0.0008773	0.05000	
Hostile Natural Gamma Ray Sonde Master Calibration – Detector 1 Calibration							
Master: 26-Jul-2012 16:02							
Na 511 Peak Set Point	40.00	40.00	--	--	--	--	
Th Peak Loc	209.6	208.3	--	--	--	--	
Th Peak Res	7.000	7.367	--	--	--	--	%
Background Count Rate	142.5	120.1	--	--	--	--	CPS
Gain Ratio	1.000	1.028	--	--	--	--	
Hostile Natural Gamma Ray Sonde Master Calibration – Detector 2 Calibration							
Master: 26-Jul-2012 16:02							
Na 511 Peak Set Point	40.00	40.00	--	--	--	--	
Th Peak Loc	209.6	207.5	--	--	--	--	
Th Peak Res	7.000	7.217	--	--	--	--	%
Background Count Rate	142.5	119.6	--	--	--	--	CPS
Gain Ratio	1.000	1.021	--	--	--	--	
Enhanced DTS Cartridge Wellsite Calibration – EDTC Accelerometer Calibration							
Before: 10-Sep-2012 1:29							
EDTC Z-Axis Acceleration	9.810	N/A	9.786	N/A	N/A	N/A	M/S2
Enhanced DTS Cartridge Wellsite Calibration – Detector Calibration							
Before: 10-Sep-2012 1:29 After: 10-Sep-2012 14:39							
Gamma Ray (Jig – Bkg)	163.5	N/A	163.5	161.6	-1.927	14.87	GAPI
Gamma Ray (Calibrated)	165.0	N/A	165.0	163.1	-1.944	15.00	GAPI
The GLS-VJ source activity is acceptable.							
The HGNS Neutron Master Calibration was done with the following parameters :							
NCT-B Water Temperature	26.0	DEGC.					
Thermal Housing Size	3.374	IN.					
NSR-F serial number	5229						

High resolution Integrated Logging Tool-DTS / Equipment Identification

Primary Equipment:







HILT high-Resolution Mechanical Sonde	HRMS – H	3893
HILT Rxo Gamma-ray Device	HRGD – H	3901
HILT Micro Cylindrically Focused Log Dev	MCFL – H	3901
GR Logging Source	GLS – VJ	3753
HILT High Res. Control Cartridge	HRCC – H	3904
HILT Gamma-Ray Neutron Sonde-DTS	HGNS – H	3821
HGNS Gamma-Ray Device	HGR –	
HGNS Neutron Detector with Alpha Source	HCNT – H	

Auxiliary Equipment:




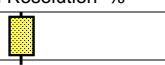
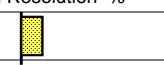
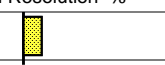
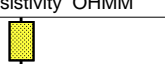
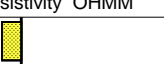
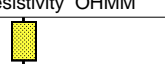
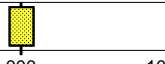
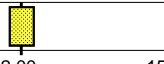
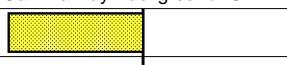
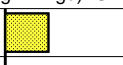
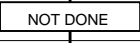
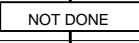









Neutron Calibration Tank	NCT – B	
Gamma Source Radioactive	GSR – U/Y	
HGNS Housing	HGNH –	2951


High resolution Integrated Logging Tool-DTS Wellsite Calibration

Stab Measurement Summary

State Window Summary											
Phase	BS Window Ratio		Value	Phase	SS Window Ratio		Value	Phase	LS Window Ratio		Value
Before			0.7445	Before			0.4893	Before			0.3024
	0.7065 (Minimum)	0.7437 (Nominal)	0.7809 (Maximum)		0.4643 (Minimum)	0.4887 (Nominal)	0.5132 (Maximum)		0.2862 (Minimum)	0.3012 (Nominal)	0.3163 (Maximum)
Phase	BS Window Sum CPS		Value	Phase	SS Window Sum CPS		Value	Phase	LS Window Sum CPS		Value
Before			27400	Before			11370	Before			1275
	26070 (Minimum)	27440 (Nominal)	28810 (Maximum)		10820 (Minimum)	11390 (Nominal)	11960 (Maximum)		1210 (Minimum)	1273 (Nominal)	1337 (Maximum)
Before: 10-Sep-2012 1:32											

High resolution Integrated Logging Tool-DTS Wellsite Calibration

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				1248	Before				1430	Before				1267
	1150 (Minimum)	1250 (Nominal)	1350 (Maximum)		1330 (Minimum)	1430 (Nominal)	1530 (Maximum)		1168 (Minimum)	1268 (Nominal)	1368 (Maximum)			
Before: 10-Sep-2012 1:32														
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				10.61	Before				8.852	Before				8.168
	9.625 (Minimum)	10.62 (Nominal)	11.62 (Maximum)		7.716 (Minimum)	8.716 (Nominal)	9.716 (Maximum)		7.049 (Minimum)	8.049 (Nominal)	9.049 (Maximum)			
Before: 10-Sep-2012 1:32														
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				3863	Before				3793	Before				3835
	3565 (Minimum)	3875 (Nominal)	4185 (Maximum)		3524 (Minimum)	3830 (Nominal)	4136 (Maximum)		3524 (Minimum)	3830 (Nominal)	4136 (Maximum)			
Before: 10-Sep-2012 1:34														
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				7.973	Before				12.18					
	6.000 (Minimum)	8.000 (Nominal)	10.00 (Maximum)		9.000 (Minimum)	12.00 (Nominal)	15.00 (Maximum)							
Before: 4-Sep-2012 16:25														
High resolution Integrated Logging Tool-DTS Wellsite Calibration														
Detector Calibration														
Phase	Gamma Ray Background GAPI			Value	Phase	Gamma Ray (Jig - Bkgd) GAPI			Value					
Before				4.349	Before				176.5					
After				N/A	After				N/A					
	0 (Minimum)	30.00 (Nominal)	120.0 (Maximum)		157.1 (Minimum)	165.0 (Nominal)	206.3 (Maximum)							
Before: 4-Sep-2012 16:07														
After: Calibration not done														
High resolution Integrated Logging Tool-DTS Wellsite Calibration														
Zero Measurement														
Phase	CNTC Background CPS			Value	Phase	CFTC Background CPS			Value					
Master				27.48	Master				29.17					
Before				27.24	Before				27.02					
After				27.67	After				26.74					
	5.000 (Minimum)	27.48 (Nominal)	40.00 (Maximum)		5.000 (Minimum)	29.17 (Nominal)	40.00 (Maximum)							
Master: 6-Jul-2012 15:01														
Before: 10-Sep-2012 1:29														
After: 10-Sep-2012 14:40														
High resolution Integrated Logging Tool-DTS Wellsite Calibration														
Ratio Measurement														
Phase	Thermal Near Corr. (Tank) CPS			Value	Phase	Thermal Far Corr. (Tank) CPS			Value	Phase	CNTC/CFTC (Tank)			Value
Master				2645	Master				1108	Master				2.388
	4700 (Minimum)	5800 (Nominal)	6900 (Maximum)		1900 (Minimum)	2400 (Nominal)	2900 (Maximum)		2.120 (Minimum)	2.159 (Nominal)	2.540 (Maximum)			
Master: 6-Jul-2012 15:01														

High resolution Integrated Logging Tool-DTS Wellsite Calibration		
Accelerometer Calibration		
Phase	Z-Axis Acceleration M/S2	Value
		

Before		9.765	
	9.610 (Minimum)	9.810 (Nominal)	10.01 (Maximum)
Before: 10-Sep-2012 1:28			

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				1.689
	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				2.520	Master				2.635
	2.470 (Minimum)	2.570 (Nominal)	2.670 (Maximum)			2.550 (Minimum)	2.650 (Nominal)	2.750 (Maximum)	
Master: 18-Aug-2012 12:28									













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	<div><div></div></div>			0.3647	Master	<div><div></div></div>			0.6524	Master	<div><div></div></div>			0.7838
-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	<div><div></div></div>			1.386	Master	<div><div></div></div>			2.044	Master	<div><div></div></div>			2.044
-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: 18-Aug-2012 12:28														

















High resolution Integrated Logging Tool-DTS Master Calibration									
Zero Measurement									
Phase	CNTC Background CPS			Value	Phase	CFTC Background CPS			Value
Master				27.48	Master				29.17
	5.000 (Minimum)	27.48 (Nominal)	40.00 (Maximum)			5.000 (Minimum)	29.17 (Nominal)	40.00 (Maximum)	
Master: 6-Jul-2012 15:01									







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>EXCEEDS LIMIT</div>		2645	Master	<div>EXCEEDS LIMIT</div>		1108	Master	<div></div>		2.388
	4700 (Minimum)	5800 (Nominal)	6900 (Maximum)		1900 (Minimum)	2400 (Nominal)	2900 (Maximum)		2.120 (Minimum)	2.159 (Nominal)	2.540 (Maximum)
Master: 6–Jul–2012 15:01											

High Resolution Laterolog Array - B / Equipment Identification		
Primary Equipment:		
HRLT Sonde	HRLS - B	855
Auxiliary Equipment:		
HRLT lower Housing	HRLH - B	872
HRLT Lower Cartridge	HRLC - B	866
HRLT upper Housing	HRUH - B	857
HRLT Upper Cartridge	HRUC - B	857

High Resolution Laterolog Array - B Wellsite Calibration						
HRLT M01						
Idx	Phase	HRLT M0-M1 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		-318.5	-322.7	-280.7	-379.7
	After		-317.9			
1	Before		-332.3	-322.7	-280.7	-379.7
	After		-331.6			

2	Before		-321.8	-322.7	-280.7	-379.7
	After		-322.3			
3	Before		-327.8	-322.7	-280.7	-379.7
	After		-327.4			
4	Before		-320.0	-322.7	-280.7	-379.7
	After		-319.7			
5	Before		-325.1	-322.7	-280.7	-379.7
	After		-324.9			
6	Before		322.7	322.7	379.7	280.7
	After		322.2			
7	Before		-322.7	-322.7	-280.7	-379.7
	After		-322.7			
(Minimum) (Nominal) (Maximum)						
Before: 10-Sep-2012 1:27						
After: 10-Sep-2012 14:39						









High Resolution Laterolog Array – B Wellsite Calibration						
HRLT M12						
Idx	Phase	HRLT M1–M2 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		1755	1781	2095	1549
	After		1752			
1	Before		1833	1781	2095	1549
	After		1829			
2	Before		1770	1781	2095	1549
	After		1773			
3	Before		1804	1781	2095	1549
	After		1802			
4	Before		1762	1781	2095	1549
	After		1760			
5	Before		1792	1781	2095	1549
	After		1790			
6	Before		-1787	-1781	-1549	-2095
	After		-1784			
7	Before		1781	1781	2095	1549
	After		1781			
(Minimum) (Nominal) (Maximum)						
Before: 10-Sep-2012 1:27						
After: 10-Sep-2012 14:39						

















High Resolution Laterolog Array – B Wellsite Calibration						
HRLT M23						
Idx	Phase	HRLT M2–M3 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		1732	1781	2095	1549
	After		1729			
1	Before		1815	1781	2095	1549
	After		1811			
2	Before		1755	1781	2095	1549
	After		1758			











3	Before		1794	1781	2095	1549
	After		1792			
4	Before		1748	1781	2095	1549
	After		1747			
5	Before		1779	1781	2095	1549
	After		1778			
6	Before		-1758	-1781	-1549	-2095
	After		-1754			
7	Before		1781	1781	2095	1549
	After		1781			
(Minimum) (Nominal) (Maximum)						
Before: 10-Sep-2012 1:27						
After: 10-Sep-2012 14:39						







High Resolution Laterolog Array – B Wellsite Calibration						
HRLT V34						
Idx	Phase	HRLT A3–A4 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		68480	70000	82360	60900
	After		68350			
1	Before		72050	70000	82360	60900
	After		71930			
2	Before		69880	70000	82360	60900
	After		70010			
3	Before		71500	70000	82360	60900
	After		71440			
4	Before		69490	70000	82360	60900
	After		69440			
5	Before		70680	70000	82360	60900
	After		70630			
6	Before		-68820	-70000	-60900	-82360
	After		-68720			
7	Before		70000	70000	82360	60900
	After		70000			
(Minimum) (Nominal) (Maximum)						
Before: 10-Sep-2012 1:27						
After: 10-Sep-2012 14:39						

















High Resolution Laterolog Array – B Wellsite Calibration						
HRLT V45						
Idx	Phase	HRLT A4–A5 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		68670	70000	82360	60900
	After		68550			
1	Before		72320	70000	82360	60900
	After		72160			
2	Before		70130	70000	82360	60900
	After		70250			
3	Before		71730	70000	82360	60900
	After		71670			













4	Before		69690	70000	82360	60900
	After		69640			
5	Before		70870	70000	82360	60900
	After		70840			
6	Before		-69070	-70000	-60900	-82360
	After		-68980			
7	Before		70000	70000	82360	60900
	After		70000			
(Minimum) (Nominal) (Maximum)						
Before: 10-Sep-2012 1:27						
After: 10-Sep-2012 14:39						





High Resolution Laterolog Array – B Wellsite Calibration						
HRLT V56						
Idx	Phase	HRLT A5–A6 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		68430	70000	82360	60900
	After		68300			
1	Before		72180	70000	82360	60900
	After		72010			
2	Before		69950	70000	82360	60900
	After		70070			
3	Before		71520	70000	82360	60900
	After		71450			
4	Before		69440	70000	82360	60900
	After		69400			
5	Before		70620	70000	82360	60900
	After		70580			
6	Before		-68940	-70000	-60900	-82360
	After		-68840			
7	Before		70000	70000	82360	60900
	After		70000			
(Minimum) (Nominal) (Maximum)						
Before: 10-Sep-2012 1:27						
After: 10-Sep-2012 14:39						

















High Resolution Laterolog Array – B Wellsite Calibration						
HRLT VTP						
Idx	Phase	HRLT Torpedo–M0 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		-68060	-70000	-60900	-82360
	After		-67930			
1	Before		-71910	-70000	-60900	-82360
	After		-71770			
2	Before		-69760	-70000	-60900	-82360
	After		-69870			
3	Before		-71440	-70000	-60900	-82360
	After		-71350			
4	Before		-69480	-70000	-60900	-82360
	After		-69410			

5	Before		-70670	-70000	-60900	-82360
	After		-70610			
6	Before		68660	70000	82360	60900
	After		68530			
7	Before		-70000	-70000	-60900	-82360
	After		-70000			
(Minimum) (Nominal) (Maximum)						
Before: 10-Sep-2012 1:27						
After: 10-Sep-2012 14:39						

High Resolution Laterolog Array – B Wellsite Calibration						
HRLT VBD						
Idx	Phase	HRLT Bridle#9–M0 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		-68100	-70000	-60900	-82360
	After		-67980			
1	Before		-72090	-70000	-60900	-82360
	After		-71940			
2	Before		-69930	-70000	-60900	-82360
	After		-70040			
3	Before		-71570	-70000	-60900	-82360
	After		-71500			
4	Before		-69550	-70000	-60900	-82360
	After		-69510			
5	Before		-70730	-70000	-60900	-82360
	After		-70680			
6	Before		68830	70000	82360	60900
	After		68710			
7	Before		-70000	-70000	-60900	-82360
	After		-70000			
(Minimum) (Nominal) (Maximum)						
Before: 10-Sep-2012 1:27						
After: 10-Sep-2012 14:39						

High Resolution Laterolog Array – B Wellsite Calibration						
HRLT ISO						
Idx	Phase	HRLT Source Current Plus UA	Value	Nominal	Maximum	Minimum
0	Before		284.1	284.0	334.1	247.0
	After		283.7			
1	Before		281.1	281.1	330.7	244.4
	After		281.1			
2	Before		281.1	281.1	330.7	244.4
	After		281.1			
3	Before		281.1	281.1	330.7	244.4
	After		281.1			
4	Before		281.1	281.1	330.7	244.4
	After		281.1			
5	Before		281.1	281.1	330.7	244.4
	After		281.1			

6	Before		281.1	281.1	330.7	244.4
	After		281.1			
7	Before		281.1	281.1	330.7	244.4
	After		281.1			
(Minimum) (Nominal) (Maximum)						
Before: 10-Sep-2012 1:27						
After: 10-Sep-2012 14:39						

High Resolution Laterolog Array – B Wellsite Calibration						
HRLT MV						
Idx	Phase	HRLT Vertical Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		-320.7	-322.7	-280.7	-379.7
	After		-319.9			
1	Before		-327.1	-322.7	-280.7	-379.7
	After		-326.2			
2	Before		-315.7	-322.7	-280.7	-379.7
	After		-315.9			
3	Before		-320.3	-322.7	-280.7	-379.7
	After		-319.7			
4	Before		-309.7	-322.7	-280.7	-379.7
	After		-309.3			
5	Before		-330.0	-322.7	-280.7	-379.7
	After		-329.5			
6	Before		330.4	322.7	379.7	280.7
	After		329.6			
7	Before		-322.7	-322.7	-280.7	-379.7
	After		-322.7			
(Minimum) (Nominal) (Maximum)						
Before: 10-Sep-2012 1:27						
After: 10-Sep-2012 14:39						

Hostile Natural Gamma Ray Cartridge – B / Equipment Identification

Primary Equipment:

HNGC Cartridge

HNGC – B

573

Auxiliary Equipment:

HNGC Housing

HNGH – A

4058

Hostile Natural Gamma Ray Sonde / Equipment Identification

Primary Equipment:

HNGS Sonde

HNGS – BA

309

Auxiliary Equipment:

HNGS Sonde Housing

HNSH – BA







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Gamma Source Radioactive

GSR – U

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 1 Check



Phase	Na 511 Peak Loc	Value	Phase	Na 511 Peak Res %	Value	Phase	High Voltage V	Value
Master		38.55	Master		14.93	Master		1063
Before		38.56	Before		14.81	Before		1053

Before		139.2	Before		7.444	Before		27.32
After		138.6	After		7.603	After		30.59
37.50 (Minimum) 40.00 (Nominal) 43.50 (Maximum)			12.00 (Minimum) 15.50 (Nominal) 19.00 (Maximum)			850.0 (Minimum) 1150 (Nominal) 1600 (Maximum)		
Phase	Na 1785 Peak Loc	Value	Phase	Na 1785 Peak Res %	Value	Phase	Temperature DEGC	Value
Master		139.0	Master		8.686	Master		31.24
Before		139.2	Before		7.444	Before		27.32
After		138.6	After		7.603	After		30.59
135.0 (Minimum) 142.6 (Nominal) 150.3 (Maximum)			7.000 (Minimum) 8.500 (Nominal) 11.00 (Maximum)			-28.89 (Minimum) 15.50 (Nominal) 60.00 (Maximum)		
Phase	Na Count Rate CPS	Value						
Master		35.45						
Before		34.94						
After		32.38						
10.00 (Minimum) 45.00 (Nominal) 100.0 (Maximum)								
Master: 26-Jul-2012 16:07			Before: 10-Sep-2012 1:31			After: 10-Sep-2012 14:44		

Hostile Natural Gamma Ray Sonde Wellsite Calibration											
Detector 2 Check											
Phase	Na 511 Peak Loc		Value	Phase	Na 511 Peak Res %		Value	Phase	High Voltage V		Value
Master	<div><div></div></div>		38.67	Master	<div><div></div></div>		15.39	Master	<div><div></div></div>		1086
Before	<div><div></div></div>		38.61	Before	<div><div></div></div>		15.14	Before	<div><div></div></div>		1076
After	<div><div></div></div>		38.63	After	<div><div></div></div>		14.92	After	<div><div></div></div>		1088
37.50 (Minimum)40.00 (Nominal)43.50 (Maximum)				12.00 (Minimum)15.50 (Nominal)19.00 (Maximum)				850.0 (Minimum)1150 (Nominal)1600 (Maximum)			
Phase	Na 1785 Peak Loc		Value	Phase	Na 1785 Peak Res %		Value	Phase	Temperature DEGC		Value
Master	<div><div></div></div>		138.0	Master	<div><div></div></div>		9.003	Master	<div><div></div></div>		31.26
Before	<div><div></div></div>		138.3	Before	<div><div></div></div>		8.077	Before	<div><div></div></div>		27.40
After	<div><div></div></div>		138.3	After	<div><div></div></div>		7.447	After	<div><div></div></div>		32.47
135.0 (Minimum)142.6 (Nominal)150.3 (Maximum)				7.000 (Minimum)8.500 (Nominal)11.00 (Maximum)				−28.89 (Minimum)15.50 (Nominal)60.00 (Maximum)			
Phase	Na Count Rate CPS		Value								
Master	<div><div></div></div>		35.54								
Before	<div><div></div></div>		35.02								
After	<div><div></div></div>		32.47								
10.00 (Minimum)45.00 (Nominal)100.0 (Maximum)											
Master: 26-Jul-2012 16:07				Before: 10-Sep-2012 1:31				After: 10-Sep-2012 14:44			


Hostile Natural Gamma Ray Sonde Wellsite Calibration		
Ratio Of Detector 1 To Detector 2		
Phase	Coincidence Count Rate Ratio	Value
Master		0.9952
Before		0.9972
After		0.9963
0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)		
Master: 26-Jul-2012 16:07		
Before: 10-Sep-2012 1:31		
After: 10-Sep-2012 14:44		

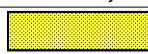





Hostile Natural Gamma Ray Sonde Master Calibration								
Detector 1 Calibration								
Phase	Na 511 Peak Set Point	Value	Phase	Th Peak Loc	Value	Phase	Th Peak Res %	Value
Master		40.00	Master		208.3	Master		7.367
38.00 (Minimum) 40.00 (Nominal) 43.00 (Maximum)			201.0 (Minimum) 209.6 (Nominal) 218.3 (Maximum)			5.000 (Minimum) 7.000 (Nominal) 9.000 (Maximum)		
Phase	Background Count Rate CPS	Value	Phase	Gain Ratio	Value			
Master		122.4	Master		4.222			

Master		120.1	Master		1.028
10.00 (Minimum)	142.5 (Nominal)	265.0 (Maximum)	0.9400 (Minimum)	1.000 (Nominal)	1.060 (Maximum)
Master: 26-Jul-2012 16:02					

Hostile Natural Gamma Ray Sonde Master Calibration														
Detector 2 Calibration														
Phase	Na 511 Peak Set Point			Value	Phase	Th Peak Loc			Value	Phase	Th Peak Res %			Value
Master	<div><div></div></div>			40.00	Master	<div><div></div></div>			207.5	Master	<div><div></div></div>			7.217
	38.00 (Minimum)	40.00 (Nominal)	43.00 (Maximum)		201.0 (Minimum)	209.6 (Nominal)	218.3 (Maximum)			5.000 (Minimum)	7.000 (Nominal)	9.000 (Maximum)		
Phase	Background Count Rate CPS			Value	Phase	Gain Ratio			Value					
Master	<div><div></div></div>			119.6	Master	<div><div></div></div>			1.021					
	10.00 (Minimum)	142.5 (Nominal)	265.0 (Maximum)		0.9400 (Minimum)	1.000 (Nominal)	1.060 (Maximum)							
Master: 26-Jul-2012 16:02														

Enhanced DTS Cartridge / Equipment Identification			
Primary Equipment:			
EDTC Gamma Ray Detector	EDTG – A/B	77415	
Enhanced DTS Cartridge	EDTC – B	8470	
Auxiliary Equipment:			
EDTC Housing	EDTH – B	8466	

Enhanced DTS Cartridge Wellsite Calibration			
EDTC Accelerometer Calibration			
Phase	EDTC Z-Axis Acceleration M/S2	Value	
Before		9.786	
	9.610 (Minimum)	9.810 (Nominal)	10.01 (Maximum)
Before: 10-Sep-2012 1:29			

Enhanced DTS Cartridge Wellsite Calibration																	
Detector Calibration																	
Phase	Gamma Ray Background GAPI			Value	Phase	Gamma Ray (Jig – Bkg) GAPI			Value	Phase	Gamma Ray (Calibrated) GAPI			Value			
Before				2.743	Before				163.5	Before				165.0			
After				4.343	After				161.6	After				163.1			
0 (Minimum)				30.00 (Nominal)	120.0 (Maximum)	148.7 (Minimum)				163.5 (Nominal)	178.4 (Maximum)	150.0 (Minimum)				165.0 (Nominal)	180.0 (Maximum)
Before: 10-Sep-2012 1:29						After: 10-Sep-2012 14:39											

Company: **JAMSTEC**

Schlumberger

Well: **C0020A**

Field: **C0020**

Pref. **Aomori**

Country: **Japan**

Composite Log
PEX-HRLA-HNGS-GR
1:200

