

Input DLIS Files

BACK_UP

HRLA_TLD_MCFL_CNL_071LUP

FN:103

PRODUCER

27-Jul-2008 21:08

1792.2 M

615.1 M

Output DLIS Files

DEFAULT

HRLA_TLD_MCFL_CNL_061PUP

FN:109

PRODUCER

28-Jul-2008 01:37

1796.9 M

639.6 M

RUSH_DATA

HRLA_TLD_MCFL_CNL_061PUC

FN:110

CUSTOMER

28-Jul-2008 01:37

1796.9 M

639.6 M

Integrated Hole/Cement Volume Summary

Hole Volume = 94.47 M3

Cement Volume = 40.46 M3 (assuming 9.63 IN casing O.D.)

Computed from 1792.7 M to 642.2 M using data channel(s) HCAL

OP System Version: 15C0-309

MCM

HRLT-B

15C0-309

HILTH-FTB

SRPC-3582-Q1_2008_OP15

HNGC-B

15C0-309

HNGS-BA

15C0-309

MAXS-B

SKK-3562-MAST

MAPC-B

SKK-3562-MAST

EDTC-B

SKK-3493-EDTCB

SPA-A

15C0-309

PIP SUMMARY

- └

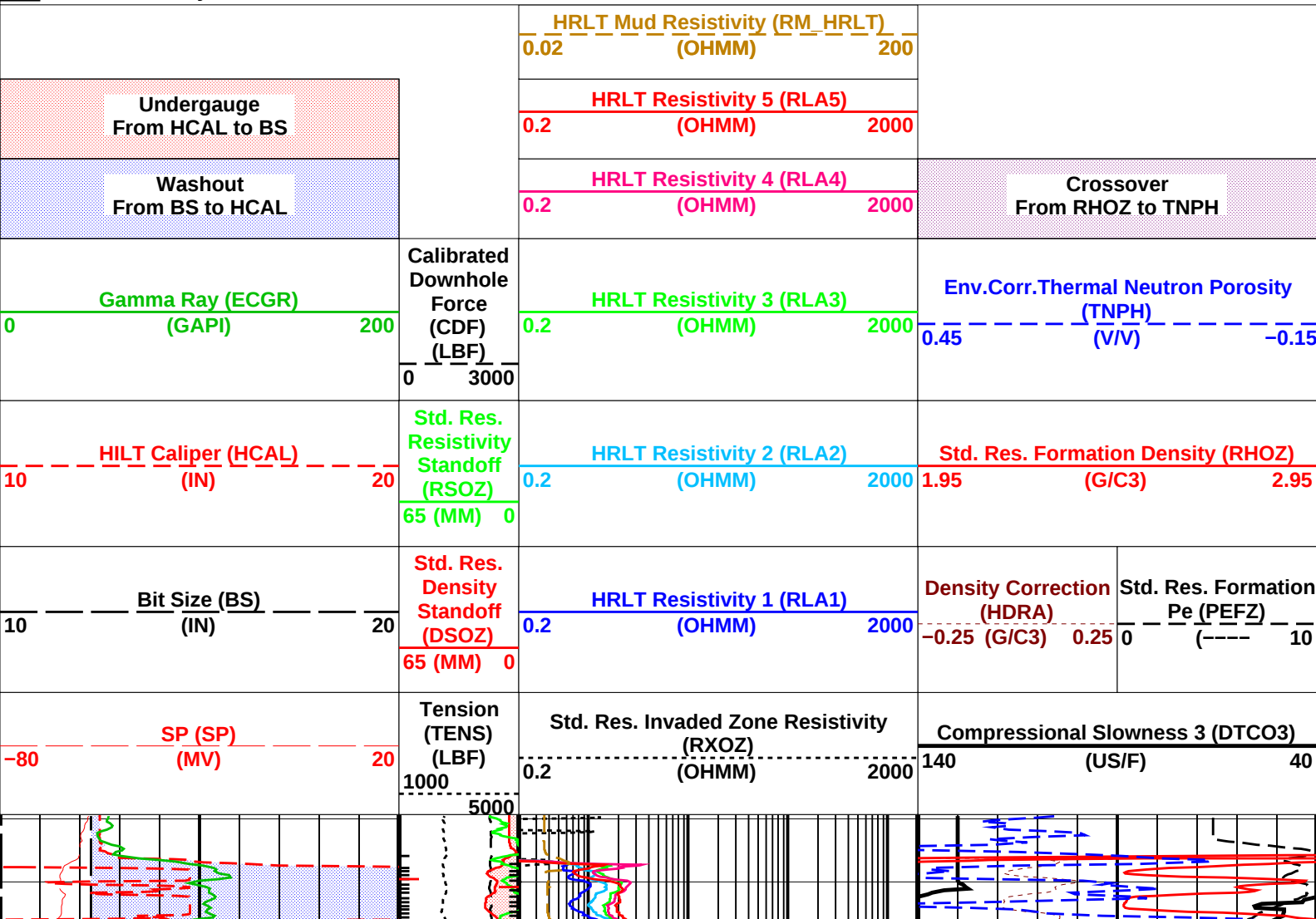
Integrated Hole Volume Minor Pip Every 0.1 M3
- └

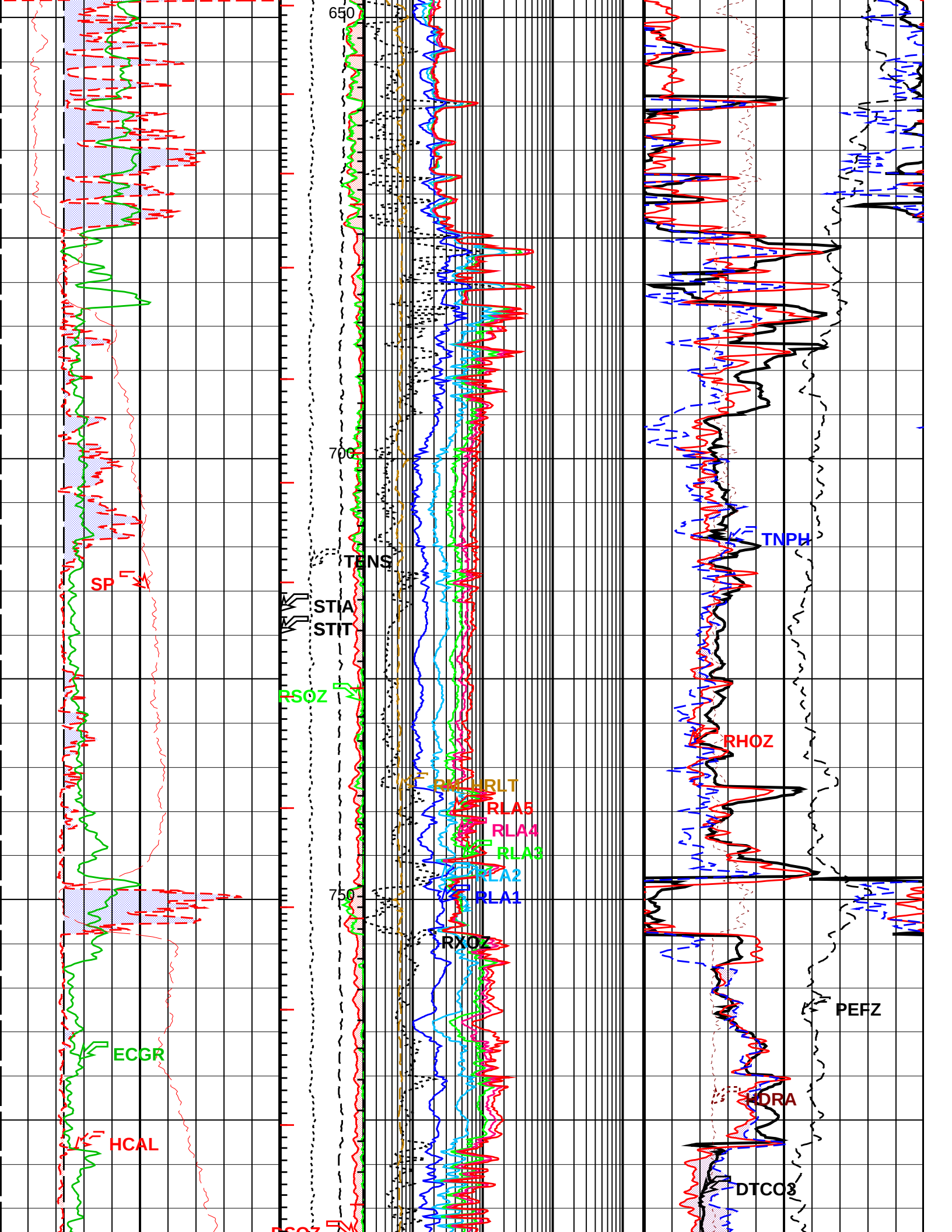
Integrated Hole Volume Major Pip Every 1 M3
- └

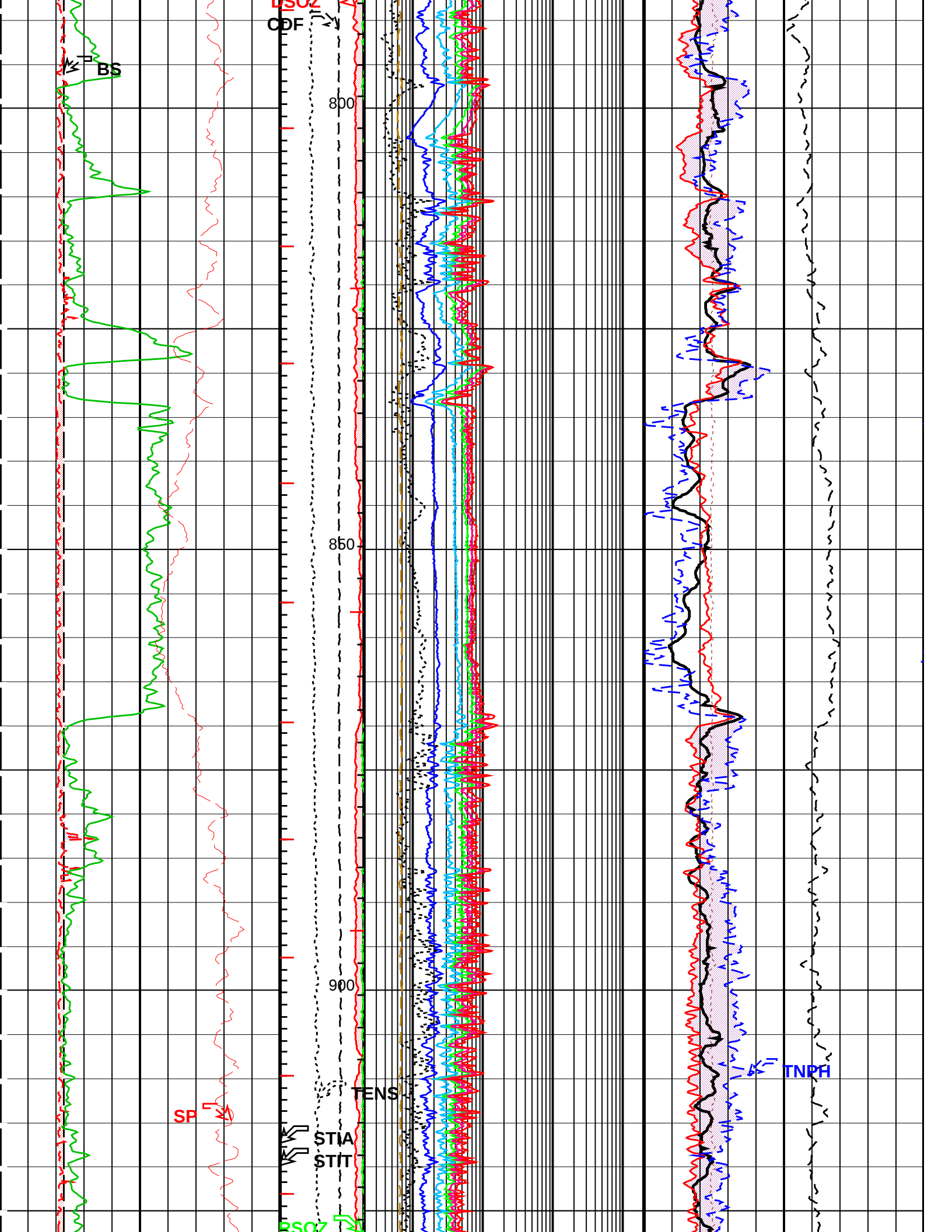
Integrated Cement Volume Minor Pip Every 0.1 M3
- └

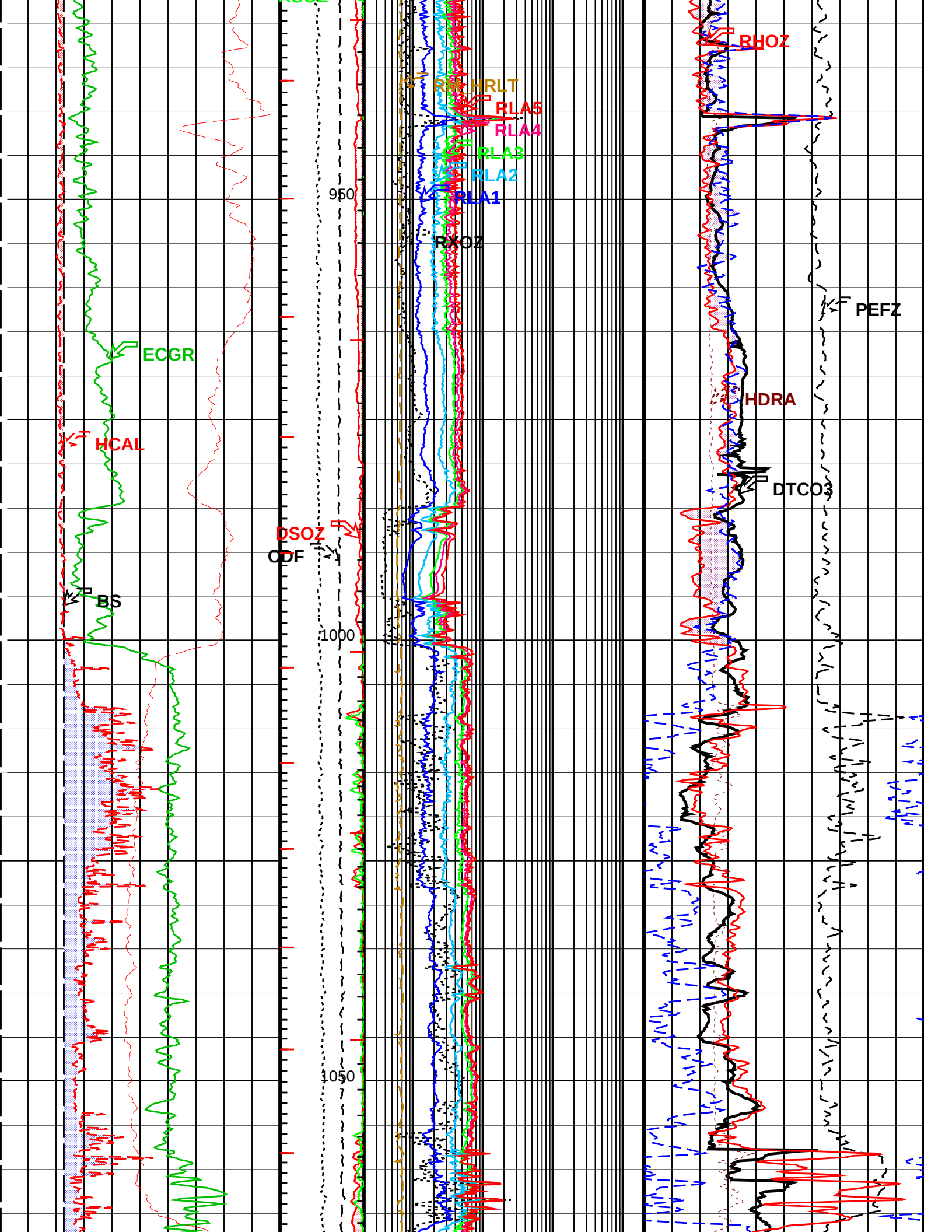
Integrated Cement Volume Major Pip Every 1 M3

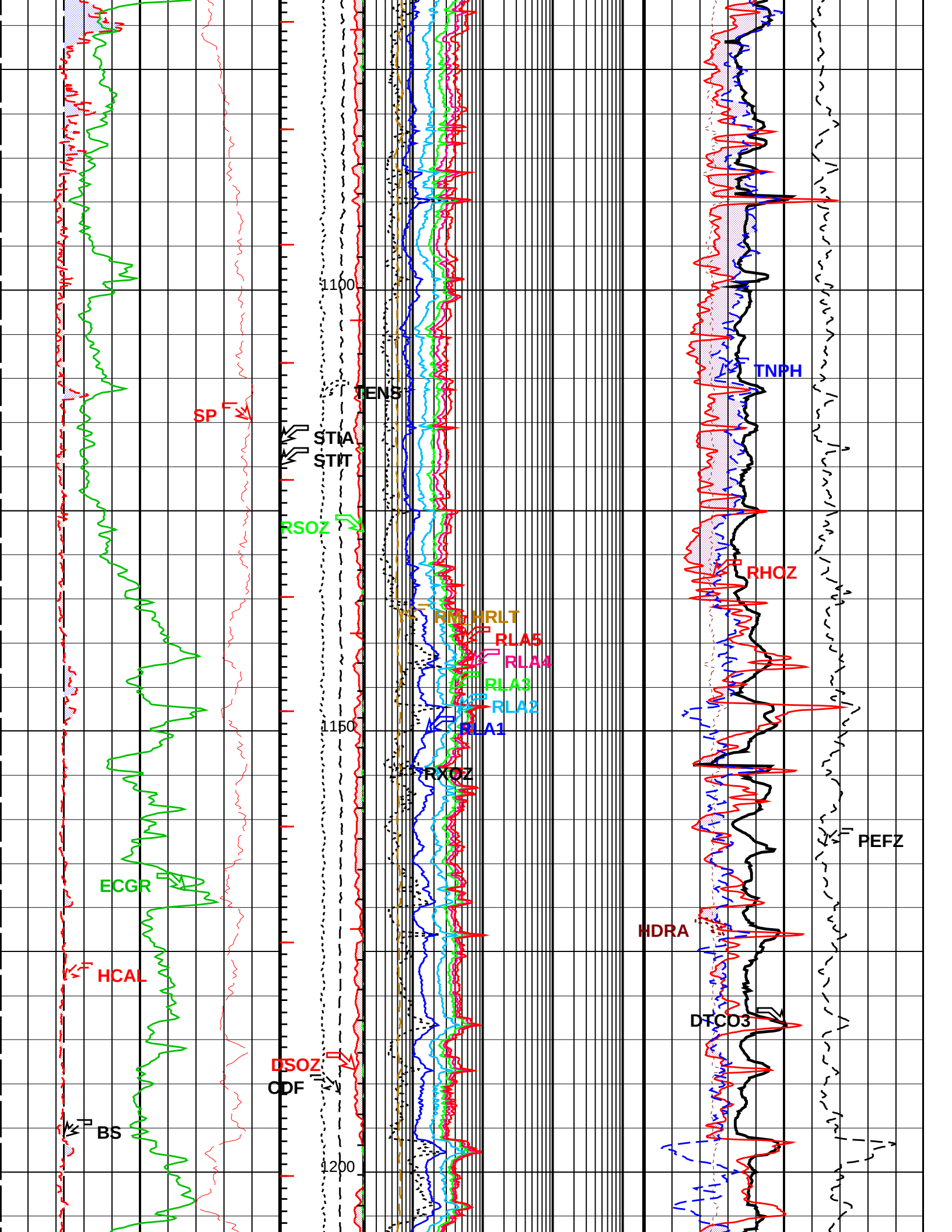
Time Mark Every 60 S

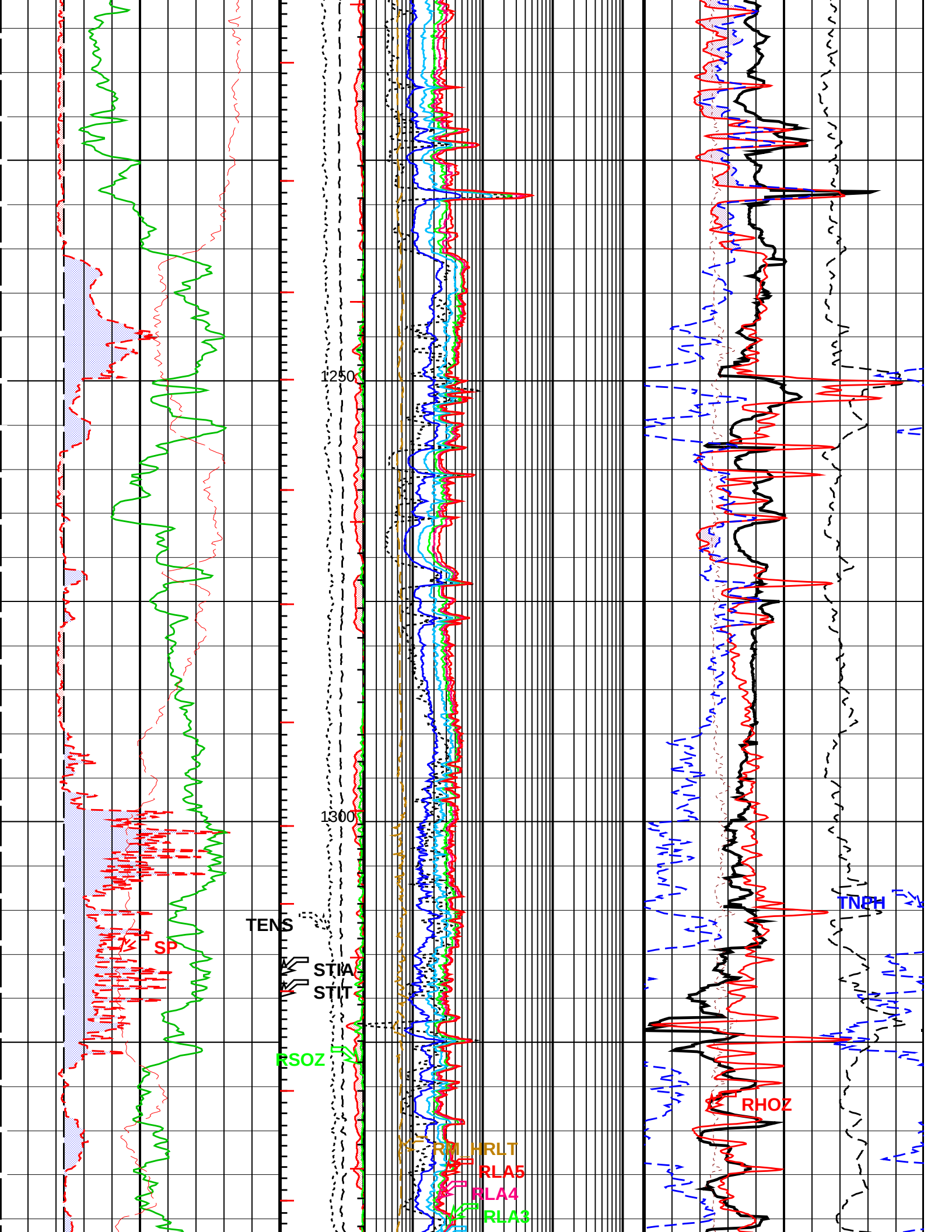


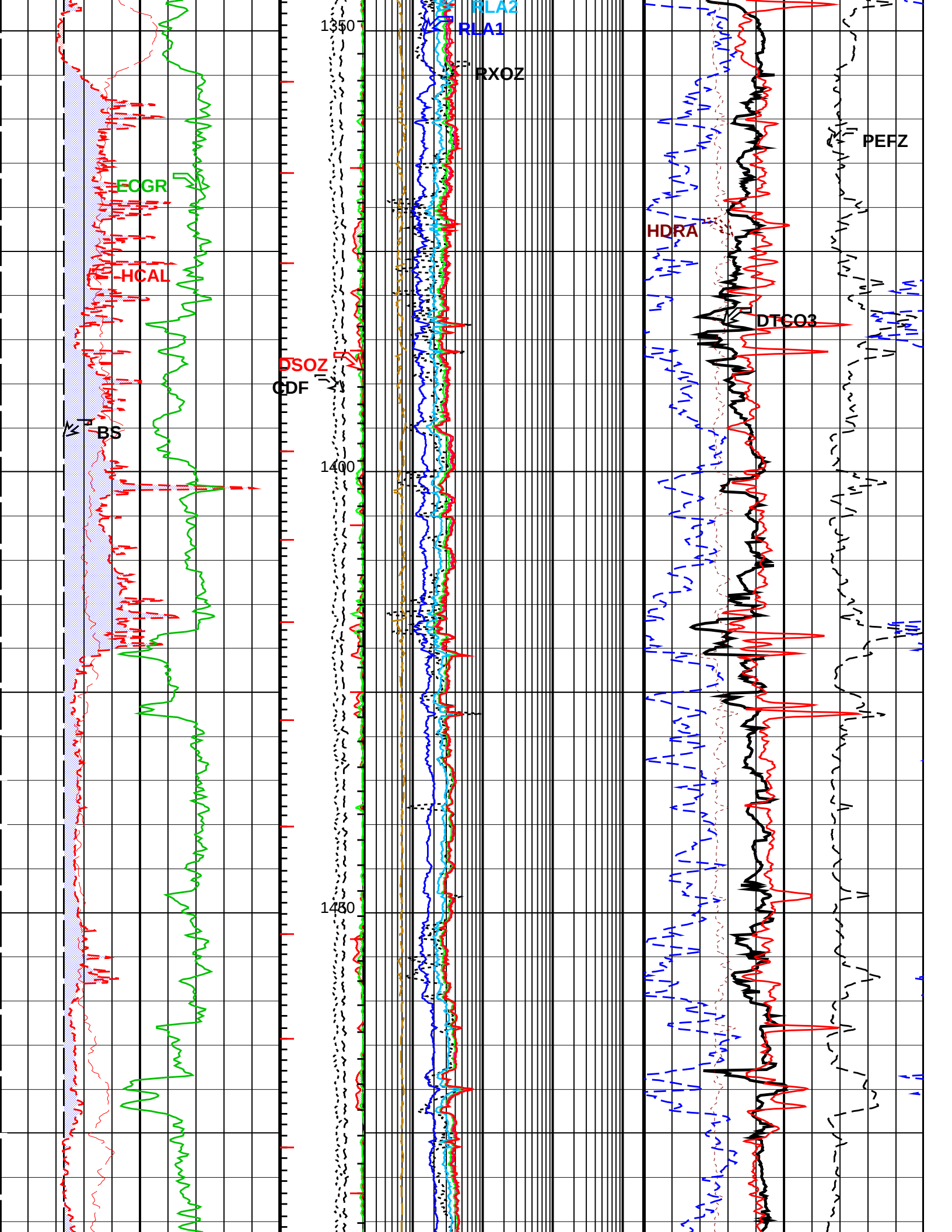


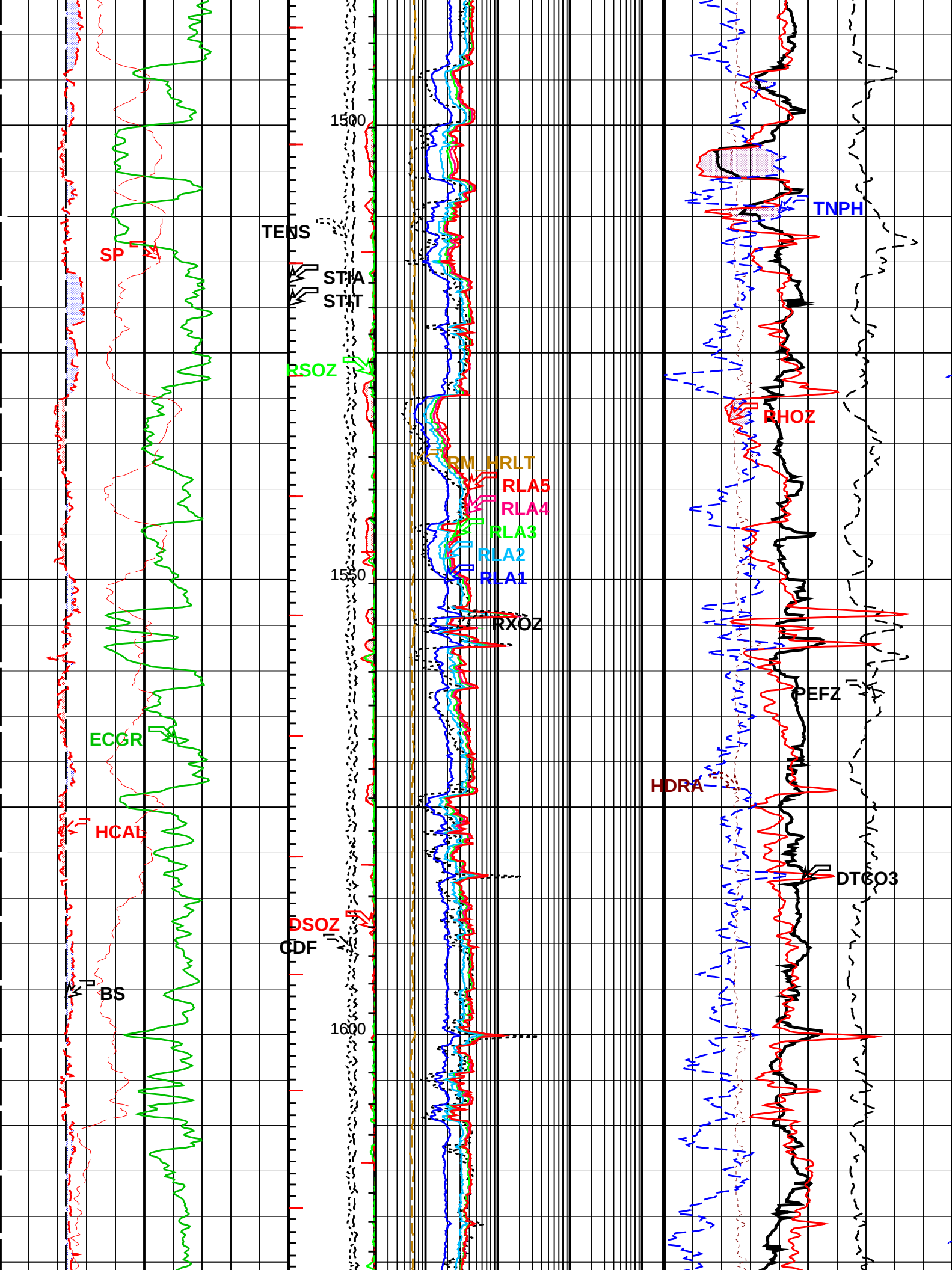


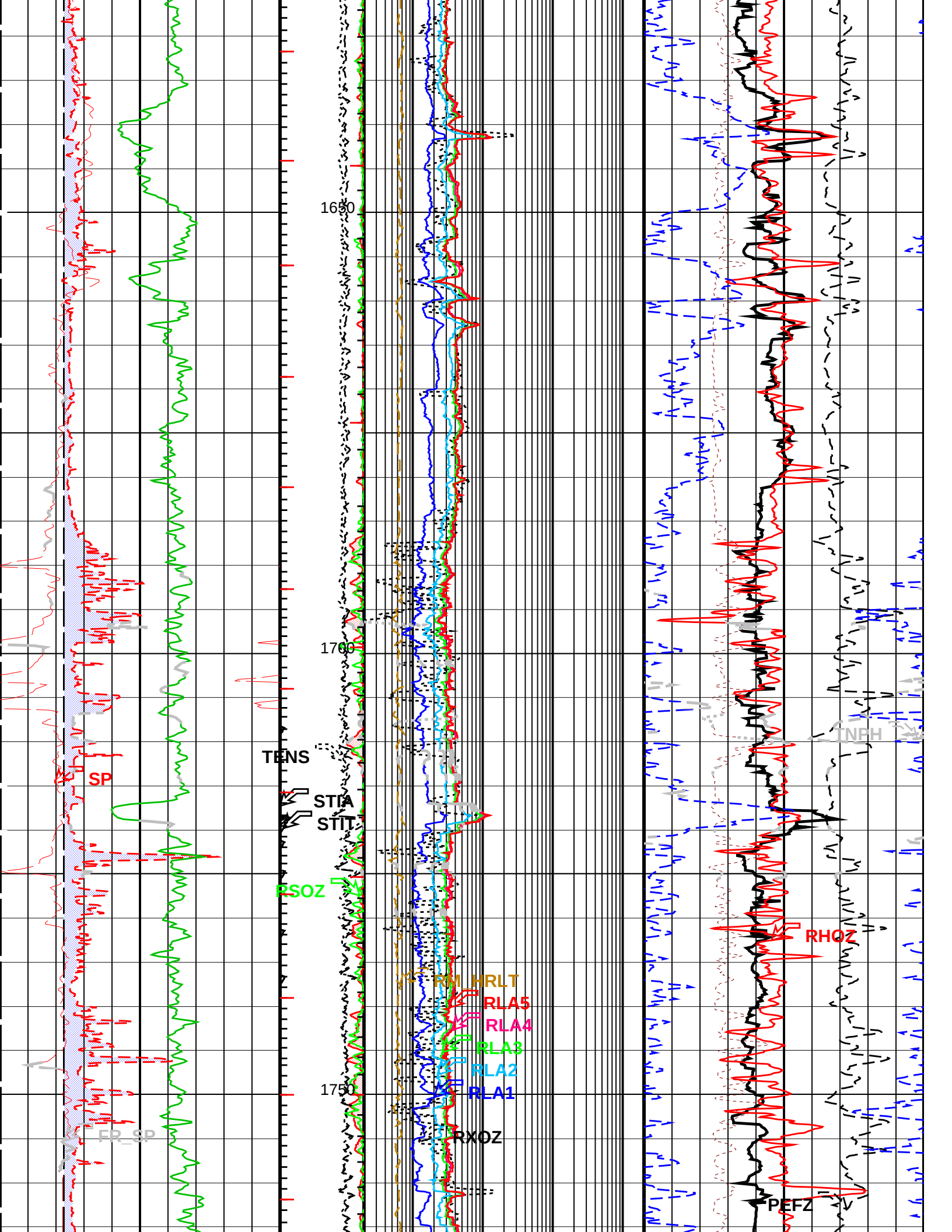


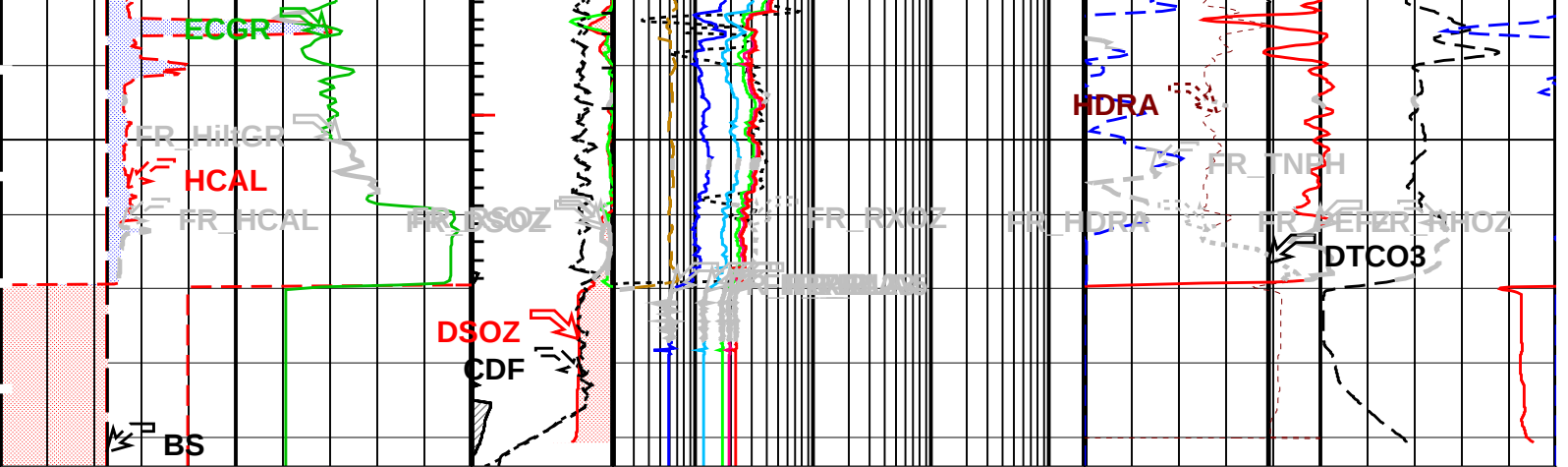












-80 SP (SP) (MV) 20	Tension (TENS) (LBF) 1000 5000	Std. Res. Invaded Zone Resistivity (RXOZ) (OHMM) 0.2 2000		Compressional Slowness 3 (DTCO3) (US/F) 140 40	
10 Bit Size (BS) (IN) 20	Std. Res. Density Standoff (DSOZ) 65 (MM) 0	HRLT Resistivity 1 (RLA1) (OHMM) 0.2 2000		Density Correction (HDRA) -0.25 (G/C3) 0.25	Std. Res. Formation Pe (PEFZ) 0 10
10 HILT Caliper (HCAL) (IN) 20	Std. Res. Resistivity Standoff (RSOZ) 65 (MM) 0	HRLT Resistivity 2 (RLA2) (OHMM) 0.2 2000		Std. Res. Formation Density (RHOZ) (G/C3) 1.95 2.95	
0 Gamma Ray (ECGR) (GAPI) 200	Calibrated Downhole Force (CDF) (LBF) 0 3000	HRLT Resistivity 3 (RLA3) (OHMM) 0.2 2000		Env.Corr.Thermal Neutron Porosity (TNPH) 0.45 (V/V) -0.15	
Washout From BS to HCAL		HRLT Resistivity 4 (RLA4) (OHMM) 0.2 2000		Crossover From RHOZ to TNPH	
Undergauge From HCAL to BS		HRLT Resistivity 5 (RLA5) (OHMM) 0.2 2000			
		HRLT Mud Resistivity (RM_HRLT) (OHMM) 0.02 200			

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	
HRLT-B: High Resolution Laterolog Array – E			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	66	DEGC
CALSTAT	HRLTB Calibration Status	SHALLOW_DONE	
CALTEMP	HRLTB Calibration Temperature	70.262	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	0.018227	DEG
GGRD	Geothermal Gradient	CHART_GEN_9	DC/M
GRSE	Generalized Mud Resistivity Selection	LINEAR_ESTIMATE	
GTSE	Generalized Temperature Selection	BARITE	
ISSBAR	Barite Mud Switch	SONDE	
KFAC_HRLT	HRLT K Factor Option	LOW	
LOOPCOEF_S	HRLT Loop Coefficient for Shallow Modes	AUTO	
LOOPMOD0	HRLT Mode 0 Loop Mode	AUTO	
LOOPMOD1	HRLT Mode 1 Loop Mode	AUTO	
LOOPMOD2	HRLT Mode 2 Loop Mode	AUTO	
LOOPMOD3	HRLT Mode 3 Loop Mode	AUTO	
LOOPMOD4	HRLT Mode 4 Loop Mode	AUTO	
LOOPMOD5	HRLT Mode 5 Loop Mode	AUTO	
LOOPMOD6	HRLT Mode 6 Loop Mode	AUTO	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
PROGINV	Inversion Selection	ON	
PROCMFL	Inversion Micro-Resistivity Selection	NO_EXTERNAL_RXO	
PROCMSO	Mechanical Standoff Fin Size	2.5	IN
PROCRM	Processing Mud Resistivity Select	HRLT_Compute	
PROCSP0	Sonde Position	Eccentered	
SHT	Surface Hole Temperature	35	DEGC
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)	66	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	YES	
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_FILE	
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	BARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
MCCO	Mud Cake Correction Option	NO	
MCOR	Mud Correction	BARI	
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	YES	
NAAC	HRDD APS Activation Correction	OFF	
NMT	HILT Nuclear Mud Type	BARITE	
NPRM	HRDD Processing Mode	StdRes	
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	YES	
SDAT	Standoff Data Source	SOCN	
SEXP_HILT	HILT Saturation Exponent	2	
SHT	Surface Hole Temperature	35	DEGC
SOCN	Standoff Distance	0	IN
SOCO	Standoff Correction Option	NO	
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)	66	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	0.0259592	
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	BARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
S1BI	HNGS Detector 1 Calibration Bismuth Count Rate	0.4	CPS
S2BI	HNGS Detector 2 Calibration Bismuth Count Rate	1.3	CPS
SGRC	HNGS Standard Gamma-Ray Correction Flag	YES	
SHT	Surface Hole Temperature	35	DEGC
TPOS	Tool Position	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	0.943623	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.937249	
MAXS-B: Multimode Array Sonic Xmitter Sonde			
FIRING_TABLE	MAST Firing Table	** V **	
TX_AMP	Transmitter Amplitude Factor	** V **	
U_CE_CBLG7	CBL Gate Width 7 for Cement Evaluation	80	US
U_CE_CBLG8	CBL Gate Width 8 for Cement Evaluation	80	US
U_CE_NMSG7	Near Minimum Sliding Gate 7 for Cement Evaluation	220	US
U_CE_NMSG8	Near Minimum Sliding Gate 8 for Cement Evaluation	220	US
U_CE_SGDT7	Sliding Gate Delta-T 7 for Cement Evaluation	57	US/F
U_CE_SGDT8	Sliding Gate Delta-T 8 for Cement Evaluation	57	US/F
MAPC-B: Multimode Array Sonic Power Cartridge			
AZIM_SELECT	Azimuth Selection	P1AZ	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	66	DEGC
BS	Bit Size	12.250	IN
CDTS	C-Delta-T Shale	100	US/F
CE_DCBLSEL	DCBL Selection for Cement Evaluation	3 5FT	
CE_VDLGRA	VDL Manual Gain Rate Array for Cement Evaluation	** V **	
CE_VDLSEL	VDL Selection for Cement Evaluation	MU 5FT	
CE_VDL_MODE	DCBL/VDL Mode for Cement Evaluation	STANDARD	
CE_VFILSWA	VDL Filter Switch Array for Cement Evaluation	** V **	
CLASSAL	Classification Algorithm	** V **	
CRVIN_MF	Alteration Detection Input Number for Monopole Far	ID3	
CRVIN_ML	Alteration Detection Input Number for Monopole Lower	ID2	
CRVIN_MU	Alteration Detection Input Number for Monopole Upper	ID1	
DCRMVL	DC Offset Removal Option	DC_MULTIPLE	
DLHS	Hole Diameter Source for SOBS Channel	AUTO	
DTCO_SELECT	Delta-T Compressional Selection for DSTC	MF	
DTF	Delta-T Fluid	204.5	US/F
DTM	Delta-T Matrix	56	US/F
DTSH_SELECT	Delta-T Shear Selection for DSTC	XD	
DWF7_SPEC	Channel/Station/Azimuth for VDL (DWF7) of Measurement 7	WFA7/9/1	
DWF8_SPEC	Channel/Station/Azimuth for VDL (DWF8) of Measurement 8	WFA8/5/1	
FIRING_TABLE	MAST Firing Table	** V **	
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	
IMG_DTCO_SEL_MAST	Imaging Input DT Compressional Selection	CONSTANT_DTCO	
IMG_EST_DTCO_MAST	Imaging Estimated DT Compressional	120	US/F
IMG_RBS	Imaging Relative Bearing Selection	RB1	
ISSBAR	Barite Mud Switch	BARITE	
ITTS	Integrated Transit Time Source	DTCO	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
NRSA	Number of Receivers in Sub-Array	** V **	
RBC	Relative Bearing Correction Allow/Disallow	DISALLOW	
ROTIN_XD	Alford Rotation X Dipole Measurement Number	ID5	
ROTIN_YD	Alford Rotation Y Dipole Measurement Number	ID6	
ROTWINDOW_CTRL	Alford Rotation Window Control	ON	
ROT_AI	Dipole Waveform Rotation Averaging Depth Interval	1.524	M
ROT_FIL LENG	Alford Rotation Filter Length	101	
ROT_TWD	Alford Rotation Window Time Width	1000	US
ROT_TWO	Alford Rotation Window Time Offset	1080	US
ROT_XFH	Alford Rotation Filter High Cutoff	2500	HZ
ROT_XFL	Alford Rotation Filter Low Cutoff	1000	HZ
SHT	Surface Hole Temperature	35	DEGC
SPFS	Sonic Porosity Formula	RAYMER_HUNT	
SPCO	Sonic Porosity Source	DTCO	

SPSU	Sonic Porosity Source			
STCAL	STC Algorithm	** V **		
STCSEL1	Station Selection for STC for Measurement 1	** V **		
STCSEL2	Station Selection for STC for Measurement 2	** V **		
STCSEL3	Station Selection for STC for Measurement 3	** V **		
STCSEL4	Station Selection for STC for Measurement 4	** V **		
STCSEL5	Station Selection for STC for Measurement 5	** V **		
STCSEL6	Station Selection for STC for Measurement 6	** V **		
STCSEL_FAST	Station Selection for STC for DT_FAST	** V **		
STCSEL_SLOW	Station Selection for STC for DT_SLOW	** V **		
TRMIN	Alteration Detection Minimum Transmitter Receiver Spacing for Processing	3.0	FT	
TX_AMP	Transmitter Amplitude Factor	** V **		
U_CE_CBLG7	CBL Gate Width 7 for Cement Evaluation	80	US	
U_CE_CBLG8	CBL Gate Width 8 for Cement Evaluation	80	US	
U_CE_NMSG7	Near Minimum Sliding Gate 7 for Cement Evaluation	220	US	
U_CE_NMSG8	Near Minimum Sliding Gate 8 for Cement Evaluation	220	US	
U_CE_SGDT7	Sliding Gate Delta-T 7 for Cement Evaluation	57	US/F	
U_CE_SGDT8	Sliding Gate Delta-T 8 for Cement Evaluation	57	US/F	
U_SLL1_MAST	MAST DSTC Slowness Lower Limit 1	0	US/F	
U_SLL2_MAST	MAST DSTC Slowness Lower Limit 2	0	US/F	
U_SLL3_MAST	MAST DSTC Slowness Lower Limit 3	40	US/F	
U_SLL4_MAST	MAST DSTC Slowness Lower Limit 4	160	US/F	
U_SLL5_MAST	MAST DSTC Slowness Lower Limit 5	80	US/F	
U_SLL6_MAST	MAST DSTC Slowness Lower Limit 6	80	US/F	
U_SLL_FAST_MAST	MAST DSTC Slowness Lower Limit Fast	0	US/F	
U_SLL_SLOW_MAST	MAST DSTC Slowness Lower Limit Slow	0	US/F	
U_SUL1_MAST	MAST DSTC Slowness Upper Limit 1	0	US/F	
U_SUL2_MAST	MAST DSTC Slowness Upper Limit 2	0	US/F	
U_SUL3_MAST	MAST DSTC Slowness Upper Limit 3	240	US/F	
U_SUL4_MAST	MAST DSTC Slowness Upper Limit 4	680	US/F	
U_SUL5_MAST	MAST DSTC Slowness Upper Limit 5	540	US/F	
U_SUL6_MAST	MAST DSTC Slowness Upper Limit 6	540	US/F	
U_SUL_FAST_MAST	MAST DSTC Slowness Upper Limit Fast	0	US/F	
U_SUL_SLOW_MAST	MAST DSTC Slowness Upper Limit Slow	0	US/F	
EDTC-B: Enhanced DTS Cartridge				
BHFL	Borehole Fluid Type	WATER		
BHS	Borehole Status	OPEN		
BHT	Bottom Hole Temperature (used in calculations)	66	DEGC	
BSCO	Borehole Salinity Correction Option	YES		
CCCO	Casing & Cement Thickness Correction Option	NO		
DPPM	Density Porosity Processing Mode	HIRS		
FSCO	Formation Salinity Correction Option	YES		
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	BARITE		
ISSBAR_EDTC	Nuclear Mud Type	BARITE		
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE		
MCCO	Mud Cake Correction Option	NO		
MCOR	Mud Correction	BARI		
MWCO	Mud Weight Correction Option	YES		
PTCO	Pressure/Temperature Correction Option	YES		
SDAT	Standoff Data Source	SOCN		
SHT	Surface Hole Temperature	35	DEGC	
SOCN	Standoff Distance	0	IN	
SOCO	Standoff Correction Option	NO		
TPOS_EDTC	EDTC Tool Centered/Eccentered	Eccentered		
SPA-A: SP ADAPTOR				
SPNV	SP Next Value	0	MV	
HOLEV: Integrated Hole/Cement Volume				
BHS	Borehole Status	OPEN		
BHT	Bottom Hole Temperature (used in calculations)	66	DEGC	
FCD	Future Casing (Outer) Diameter	9.625	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	CHART_GEN_9		
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE		
HVCS	Integrated Hole Volume Caliper Selection	HCAL		
ISSBAR	Barite Mud Switch	BARITE		
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE		
SHT	Surface Hole Temperature	35	DEGC	
STI: Stuck Tool Indicator				
LBFR	Trigger for MAXIS First Reading Label	TDL		
STKT	STI Stuck Threshold	0.762	M	
TDD	Total Depth - Driller	1870.00	M	
TDL	Total Depth - Logger	1792.80	M	
System and Miscellaneous				
ALTDPCCHAN	Name of alternate depth channel	SpeedCorrectedDepth		
BSAL	Borehole Salinity	67200.00	PPM	
CSIZ	Current Casing Size	13.375	IN	

CWEI	Casing Weight	68.00	LB/F
DFD	Drilling Fluid Density	1.33	G/C3
DO	Depth Offset for Playback	4.8	M
FLEV	Fluid Level	0.00	M
MST	Mud Sample Temperature	20.20	DEGC
PBVSADP	Use alternate depth channel for playback	NO	
PP	Playback Processing	RECOMPUTE	
RMFS	Resistivity of Mud Filtrate Sample	0.0886	OHMM
RW	Resistivity of Connate Water	1.0000	OHMM
TD	Total Depth	1792.8	M
TWS	Temperature of Connate Water Sample	37.78	DEGC

Format: Combo_500_StdRes Vertical Scale: 1:500 Graphics File Created: 28-Jul-2008 01:37

OP System Version: 15C0-309

MCM

HRLT-B	15C0-309	HILTH-FTB	SRPC-3582-Q1_2008_OP15
HNGC-B	15C0-309	HNGS-BA	15C0-309
MAXS-B	SKK-3562-MAST	MAPC-B	SKK-3562-MAST
EDTC-B	SKK-3493-EDTCB	SPA-A	15C0-309

Input DLIS Files

BACK_UP	HRLA_TLD_MCFL_CNL_071LUP	FN:103	PRODUCER	27-Jul-2008 21:08	1792.2 M	615.1 M
---------	--------------------------	--------	----------	-------------------	----------	---------

Output DLIS Files

DEFAULT	HRLA_TLD_MCFL_CNL_061PUP	FN:109	PRODUCER	28-Jul-2008 01:37
RUSH_DATA	HRLA_TLD_MCFL_CNL_061PUC	FN:110	CUSTOMER	28-Jul-2008 01:37