Schlumberger

Company: **Fidelity Exploration & Production Co.**

Well: **Sioux Ranch 22−11**
Field: **Wildcat**
County: **Sioux** State: **Nebraska**

County: Sioux
Field: Wildcat
Location: SENW, Sec. 11, T25N, R56W
Well: Sioux Ranch 22−11
Company: Fidelity Exploration & Production

Platform Express
Triple Combo

LOCATION

SENW, Sec. 11, T25N, R56W	Elev.:	K.B.	4600.00 ft
SHL: 1612' FNL X 1642' FWL		G.L.	4589.00 ft
Lat/Long: 42.155 N / 103.833 W		D.F.	4599.00 ft

Permanent Datum:	Ground Level	Elev.:	4589.00 ft
Log Measured From:	Kelly Bushing	11.00 ft	above Perm. Datum
Drilling Measured From:	Kelly Bushing		

API Serial No.	Section	Township	Range
26−165−21168−0000	11	25N	56W

	Run 1	Run 2	Run
Logging Date	30−Jul−2012		
Run Number	1		
Depth Driller	7450 ft		
Schlumberger Depth	6464 ft		
Bottom Log Interval	6456 ft		
Top Log Interval	1070 ft		
Casing Driller Size @ Depth	13.375 in @ 1065 ft	@	
Casing Schlumberger	1070 ft		
Bit Size	8.500 in		
Type Fluid In Hole	Salt Mud		
MUD Density / Viscosity	12 lbm/gal / 77 s		
MUD Fluid Loss / PH			
MUD Source Of Sample	Flowline		
RM @ Measured Temperature	0.074 ohm.m @ 72 degF	@	
RMF @ Measured Temperature	0.056 ohm.m @ 72 degF	@	
RMC @ Measured Temperature	0.111 ohm.m @ 72 degF	@	
Source RMF / RMC	Calculated / Calculated		
RM @ MRT / RMF @ MRT	0.030 @ 188 / 0.023 @ 188	@ / @	
Maximum Recorded Temperatures	188 degF		
Circulation Stopped / Time	30−Jul−2012 / 5:00		
Logger On Bottom / Time	30−Jul−2012 / 21:02		
Unit Number / Location	3022 / Ft.Morgan, CO		
Recorded By	Heather Bennett		
Witnessed By	Paul Roberts		

| | | |

Rig: Capstar 321

Crew: Jay Musgrave, David Marquez

RUN 1			RUN 2		
SERVICE ORDER #:		BHDJ−00175	SERVICE ORDER #:		
PROGRAM VERSION:		19C0−187	PROGRAM VERSION:		
FLUID LEVEL:		15 ft	FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION

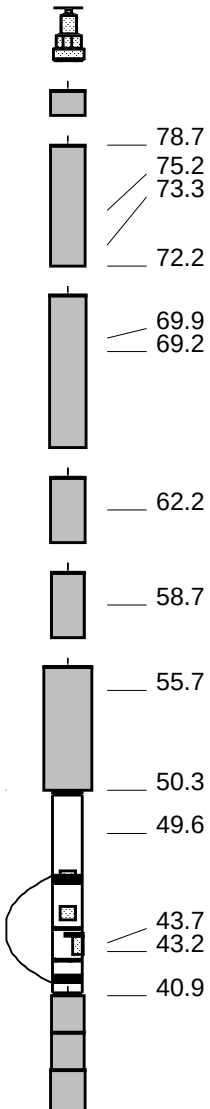
RUN 1 | RUN 2

SURFACE EQUIPMENT

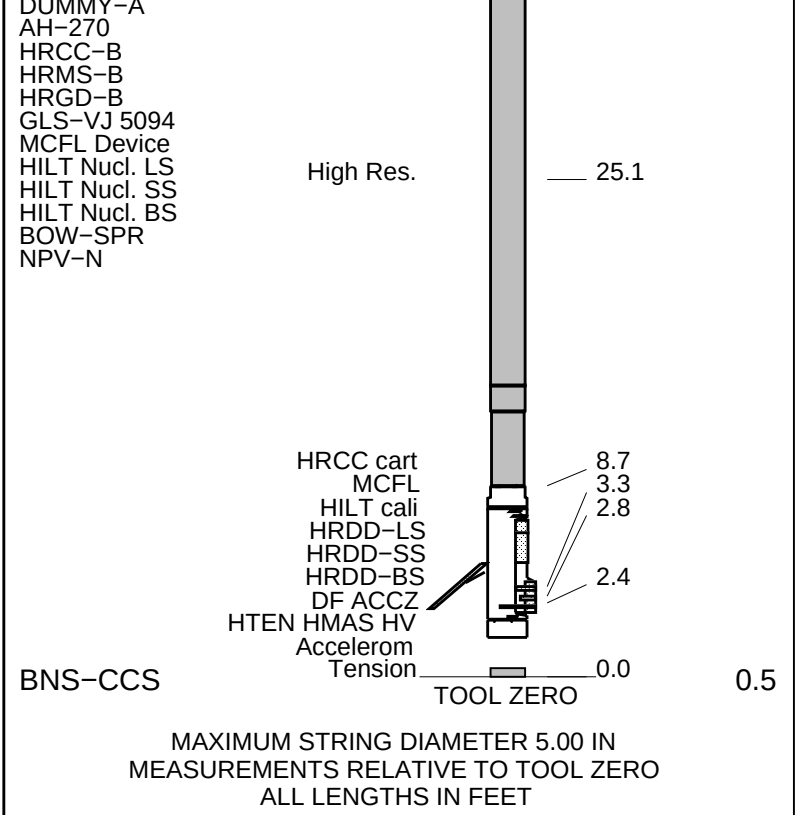
GSR−U/Y
NCT−B
CNB−AB
NCS−VB

GSR−U
WITM (EDTS)−A

DOWNHOLE EQUIPMENT



LEH−QT LEH−QT			82.9
AH−169			80.0
EDTC−B EDTH−B EDTC−B EDTG−A/B	MDSB_EDTC Mud Tempe CTEM Gamma Ray EFTB DIAG TelStatus EDTCB Ele	78.7 75.2 73.3 72.2	78.7
HNGS−BA HNGS−BA 347 HNSH−BA 347	Upper_1 Lower_2	69.9 69.2	72.2
HNGC−B HNGH−A 605 HNGC−B 605	HNGC Stat	62.2	64.0
ECC−A ECH−A ECC−A	ECC Statu	58.7	60.5
ECS−A ECS−A NSR−F ECSD−A ECSH−A	Detector HGNS HTEM HMCA	55.7 50.3	57.0
HILTB−FTB HGNSD−B HMCA HGNH NLS−KL NSR−F 5069 HACCZ 749 HCNT HGR AH−107 AH−107 HRLT−B	HGNS Gamm HGNS Neut HGNS Neut HGNS sens	49.6 43.7 43.2 40.9	50.3



MAXIMUM STRING DIAMETER 5.00 IN
MEASUREMENTS RELATIVE TO TOOL ZERO
ALL LENGTHS IN FEET

Schlumberger

COMBO LOG 5" = 100’

MAXIS Field Log

Company: Fidelity Exploration & Production Co. **Well: Sioux Ranch 22−11**

Input DLIS Files

DEFAULT	TLD_MCFL_CNL_ECS_030PUP	FN:26	PRODUCER	31−Jul−2012 01:50	6470.0 FT	1020.0 FT

Output DLIS Files

DEFAULT	TLD_MCFL_CNL_ECS_032PUP	FN:28	PRODUCER	31−Jul−2012 02:00

OP System Version: 19C0−187

HILTB−FTB	19C0−187	ECS−A	HFE−5202−OP19−NUCL_b
ECC−A	19C0−187	HNGC−B	HFE−5202−OP19−NUCL_b
HNGS−BA	HFE−5202−OP19−NUCL_b	EDTC−B	19C0−187

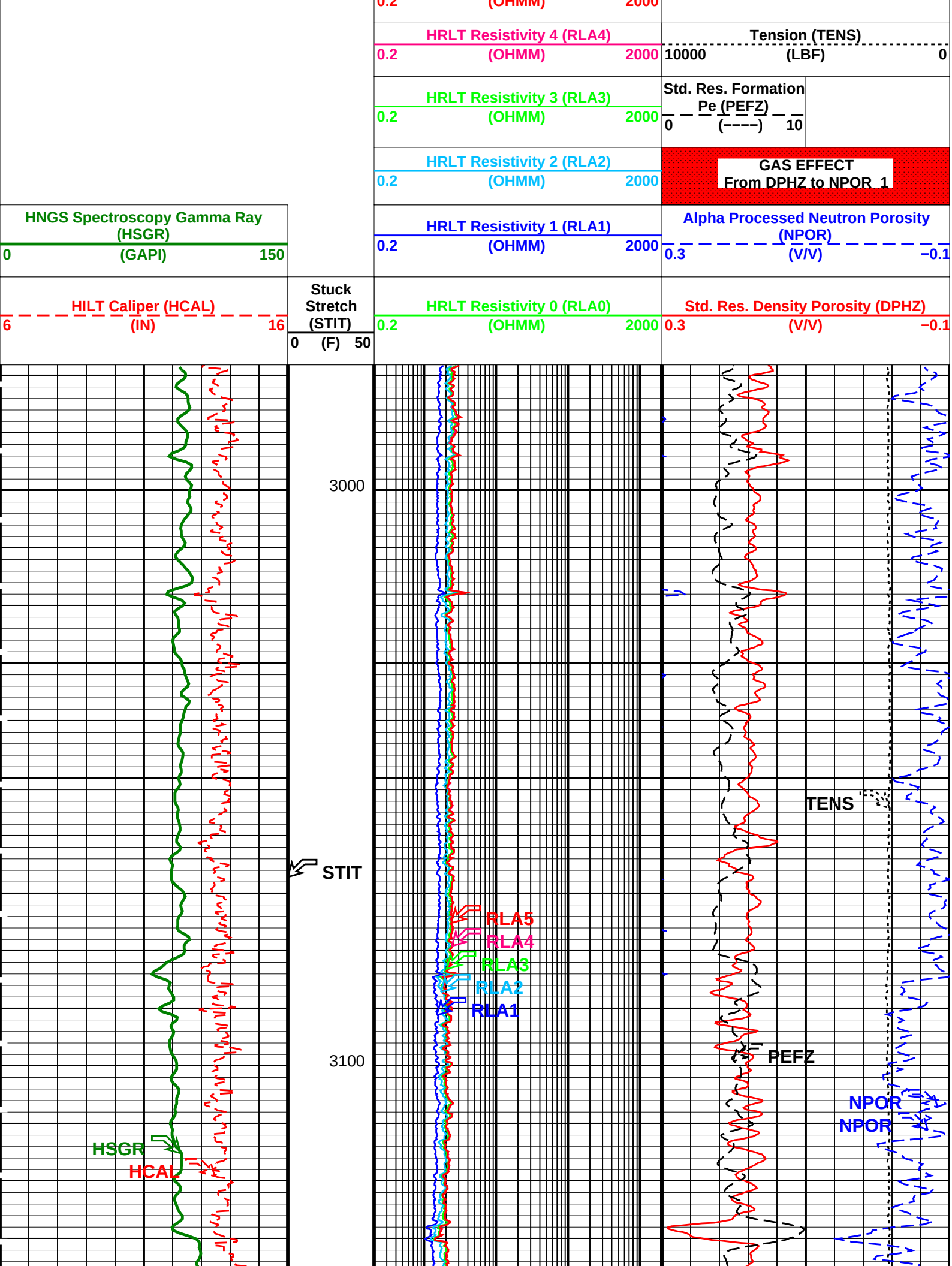
Changed Parameter Summary

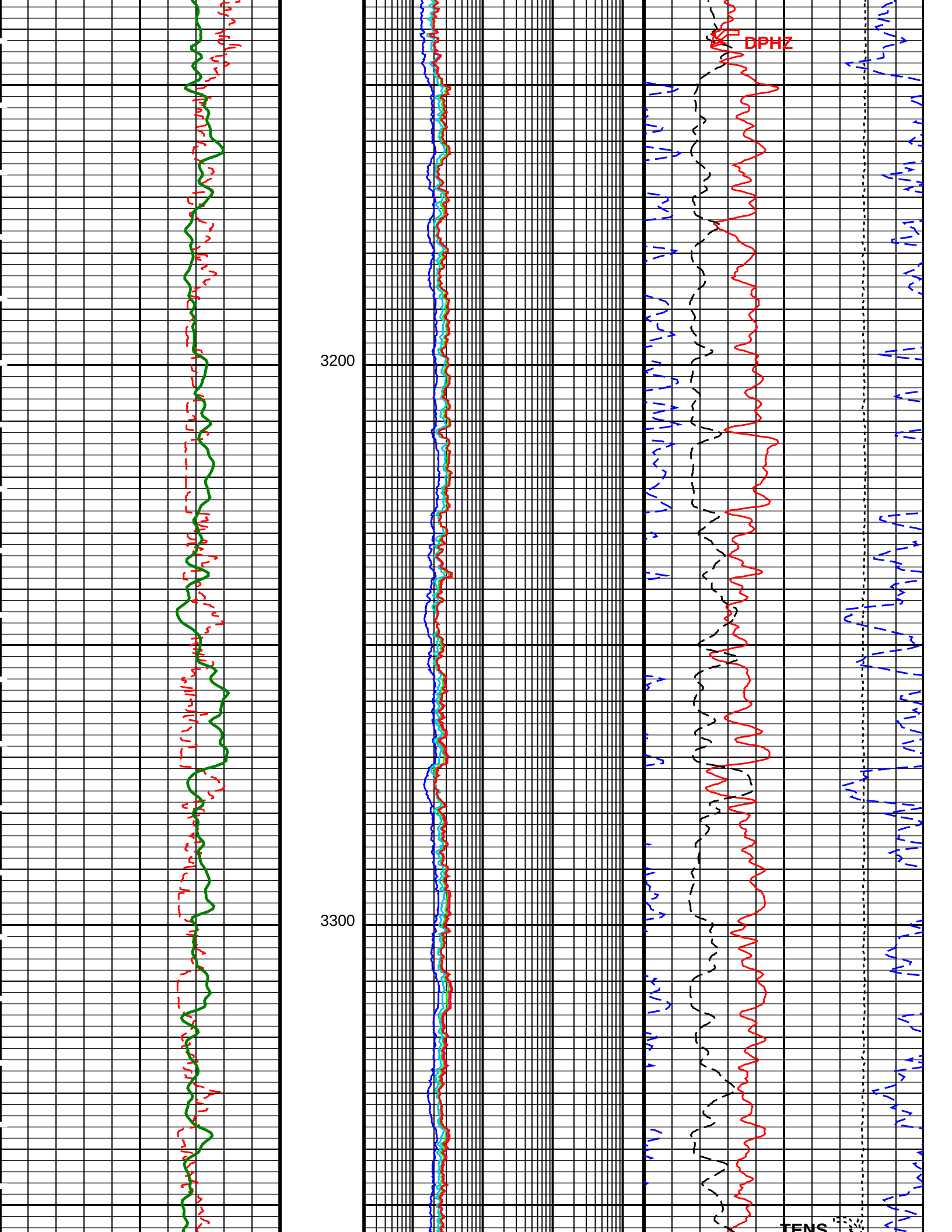
DLIS Name	New Value		Previous Value		Depth & Time
BS	8.500	IN	12.250	IN	6472.5 02:01:15
	12.250	IN	8.500	IN	5776.0 02:01:37

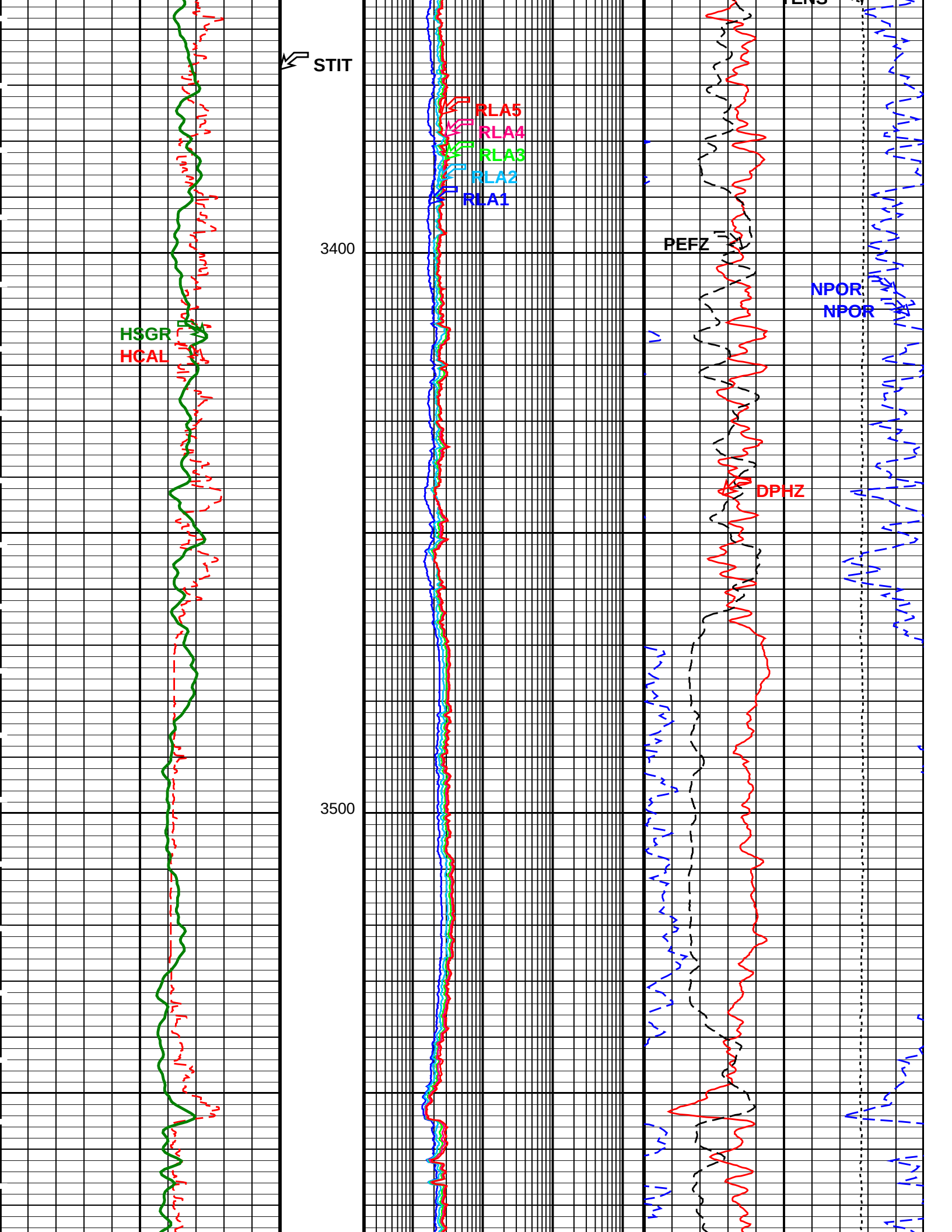
PIP SUMMARY

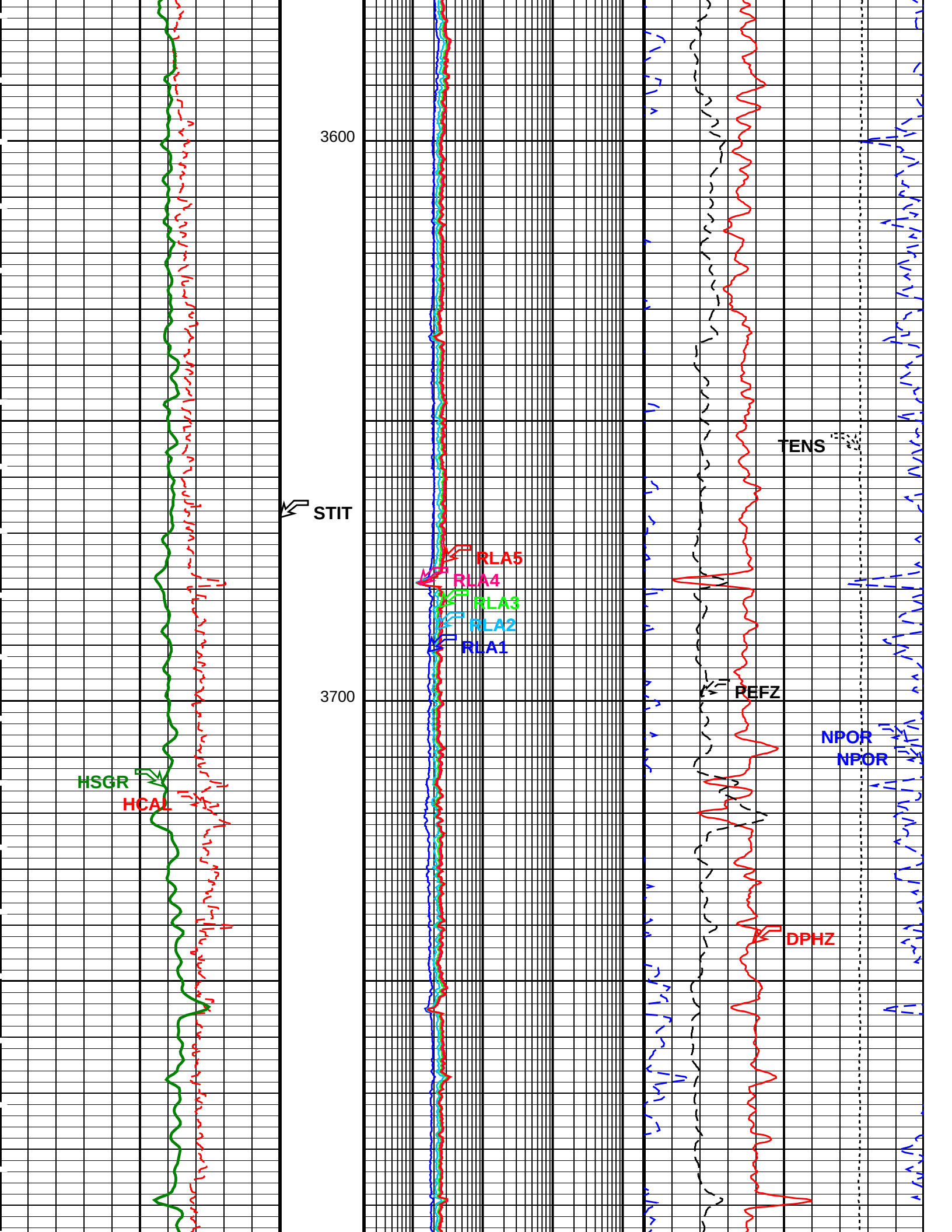
Time Mark Every 60 S

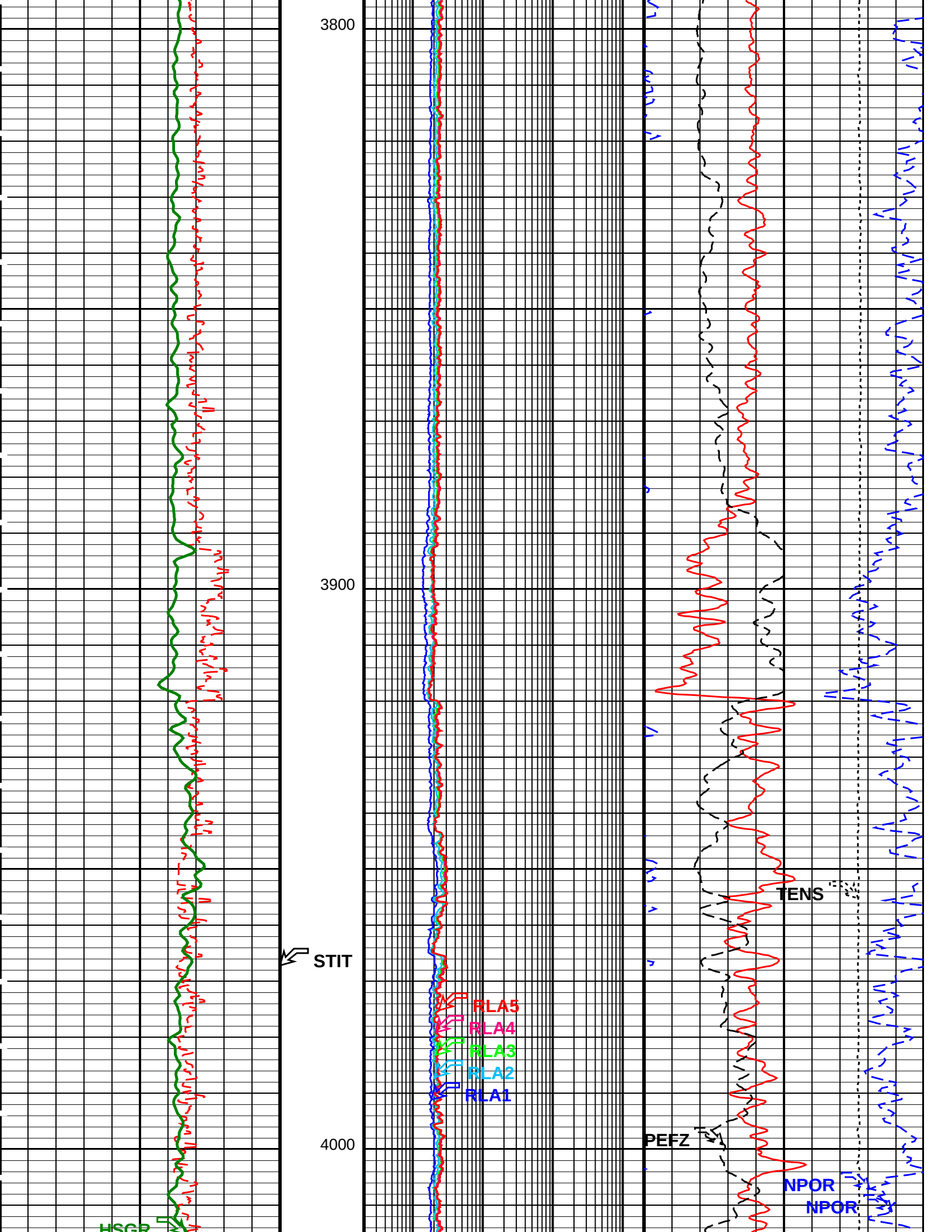
HRLT Resistivity 5 (RLA5)
0.2 (OHMM) 2000

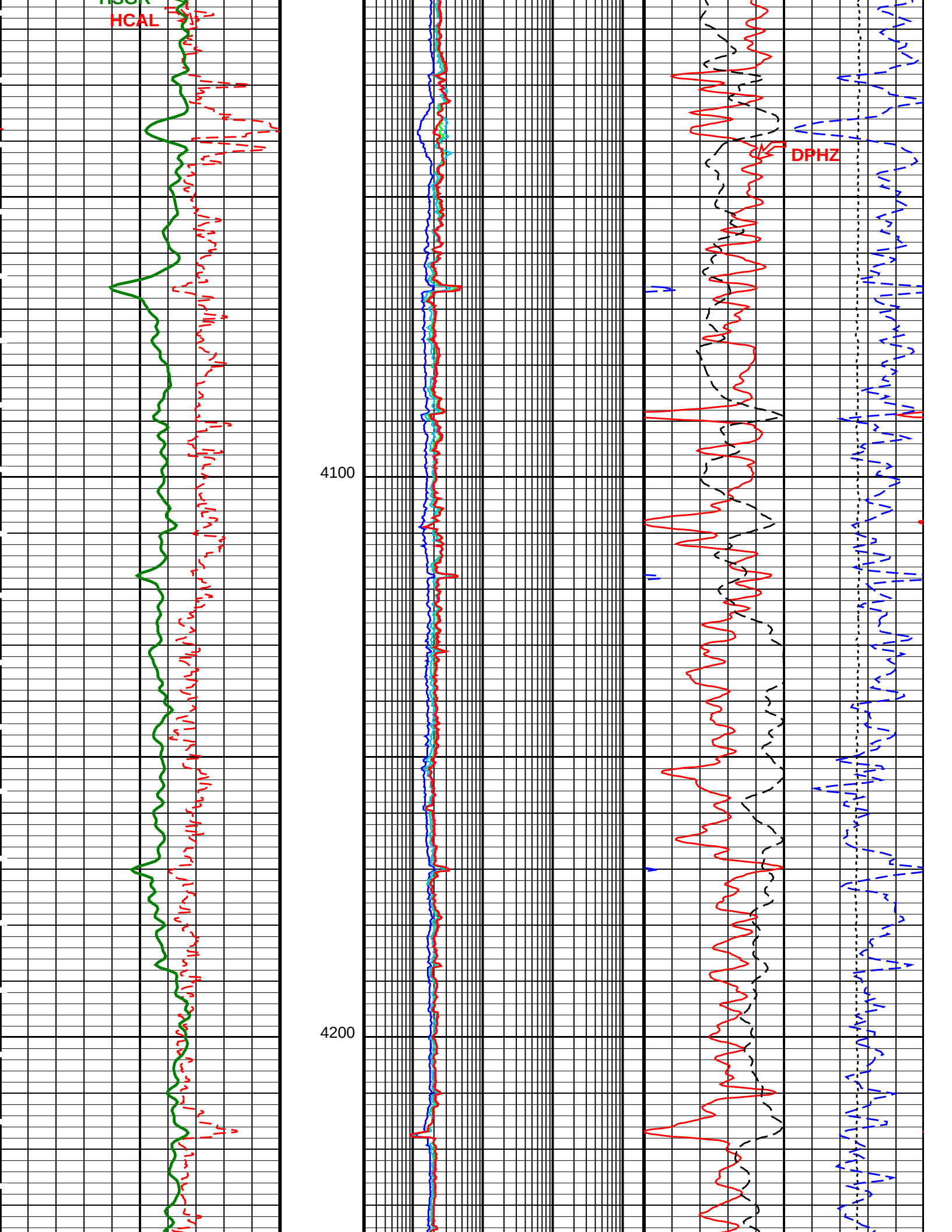

0.2 (OHMM) 2000
HRLT Resistivity 4 (RLA4)
0.2 (OHMM) 2000
Tension (TENS)
10000 (LBF) 0
HRLT Resistivity 3 (RLA3)
0.2 (OHMM) 2000
Std. Res. Formation Pe (PEFZ)
0 (----) 10
HRLT Resistivity 2 (RLA2)
0.2 (OHMM) 2000
GAS EFFECT
From DPHZ to NPOR_1
HNGS Spectroscopy Gamma Ray (HSGR)
0 (GAPI) 150
HRLT Resistivity 1 (RLA1)
0.2 (OHMM) 2000
Alpha Processed Neutron Porosity (NPOR)
0.3 (V/V) -0.1
HILT Caliper (HCAL)
6 (IN) 16
Stuck Stretch (STIT)
0 (F) 50
HRLT Resistivity 0 (RLA0)
0.2 (OHMM) 2000
Std. Res. Density Porosity (DPHZ)
0.3 (V/V) -0.1
3000
STIT
RLA5
RLA4
RLA3
RLA2
RLA1
TENS
PEFZ
3100
NPOR
NPOR
HSGR
HCAL

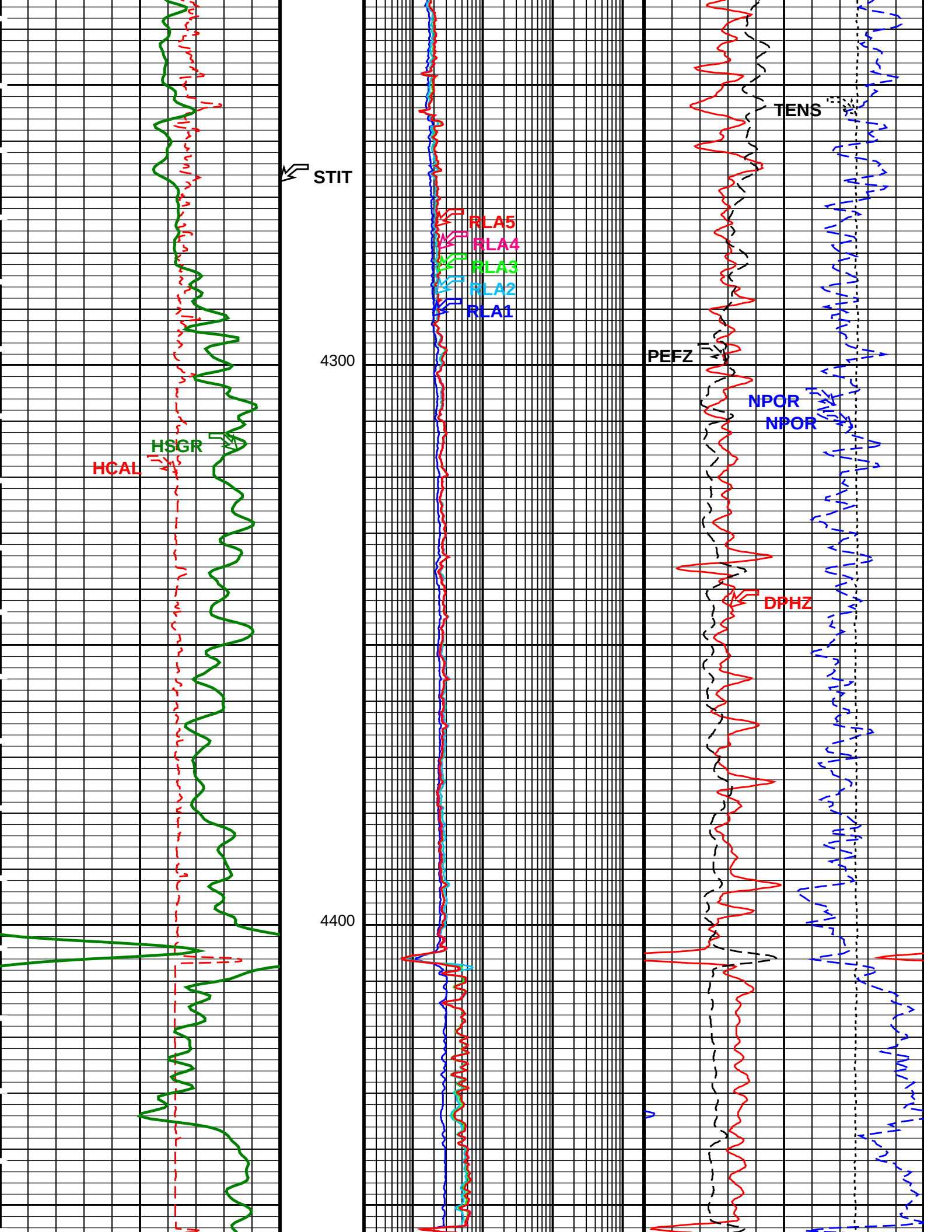

DPHZ
3200
3300
TENS

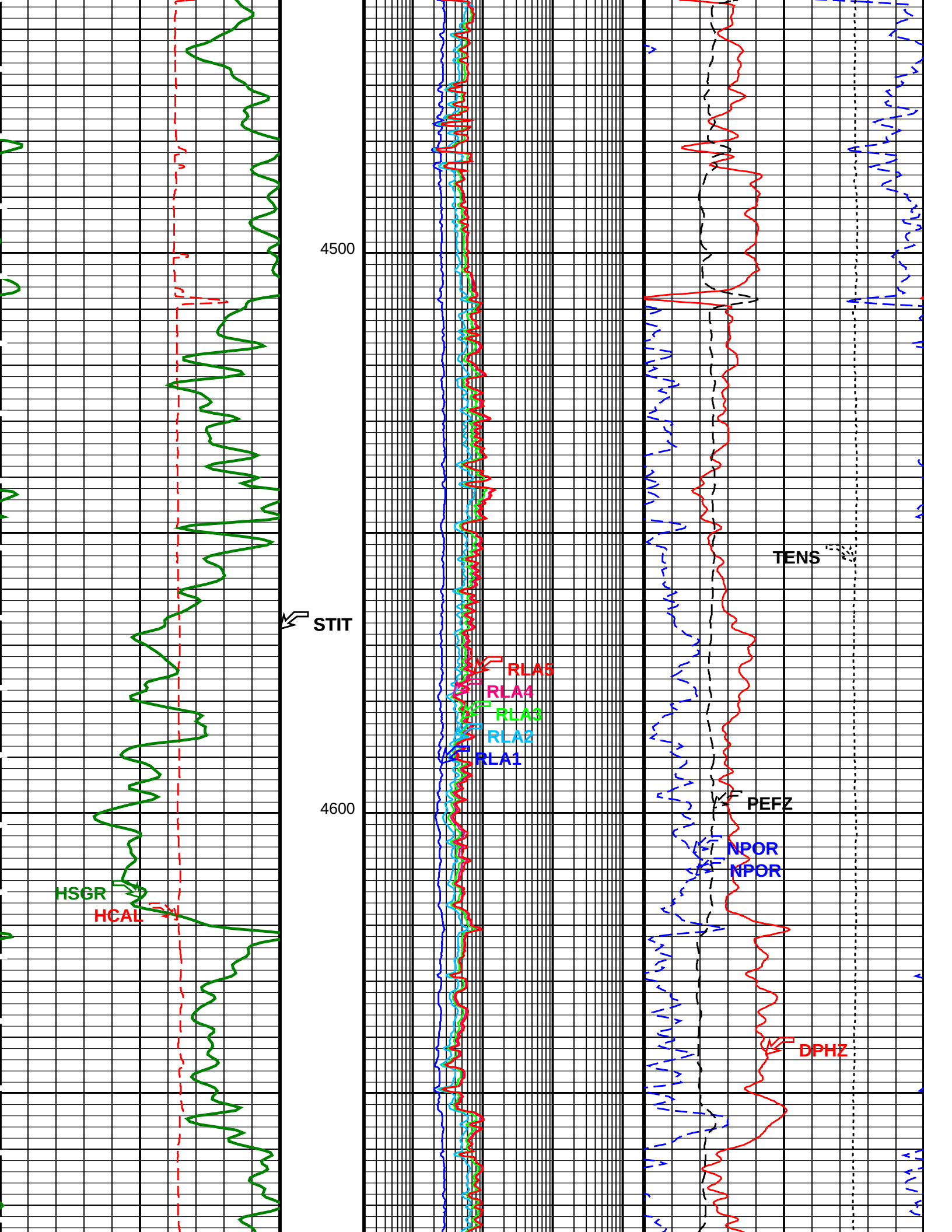

STIT
RLA5
RLA4
RLA3
RLA2
RLA1
3400
PEFZ
NPOR
NPOR
HSGR
HCAL
DPHZ
3500

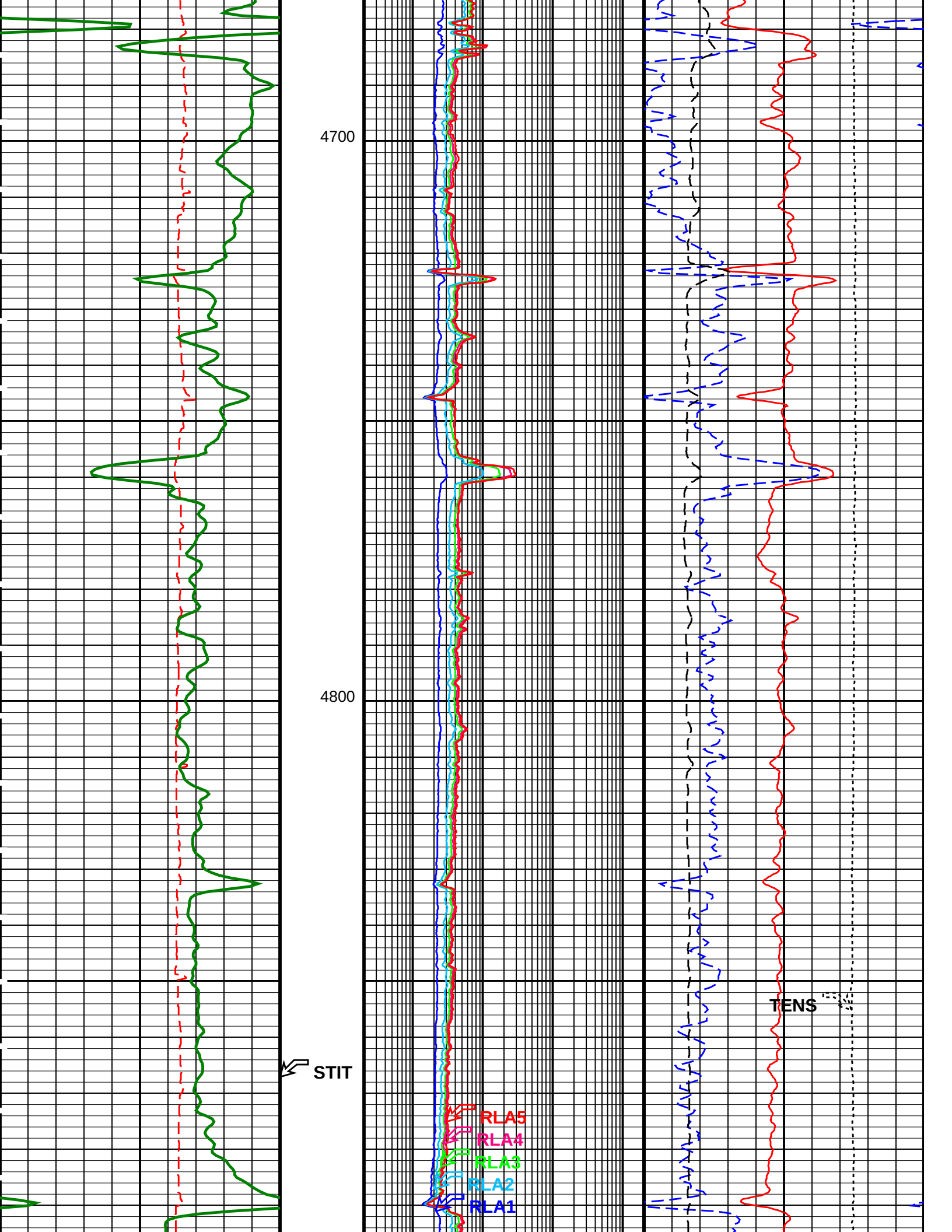

3600
3700
STIT
RLA5
RLA4
RLA3
RLA2
RLA1
HSGR
HCAL
TENS
REFZ
NPOR
NPOR
DPHZ

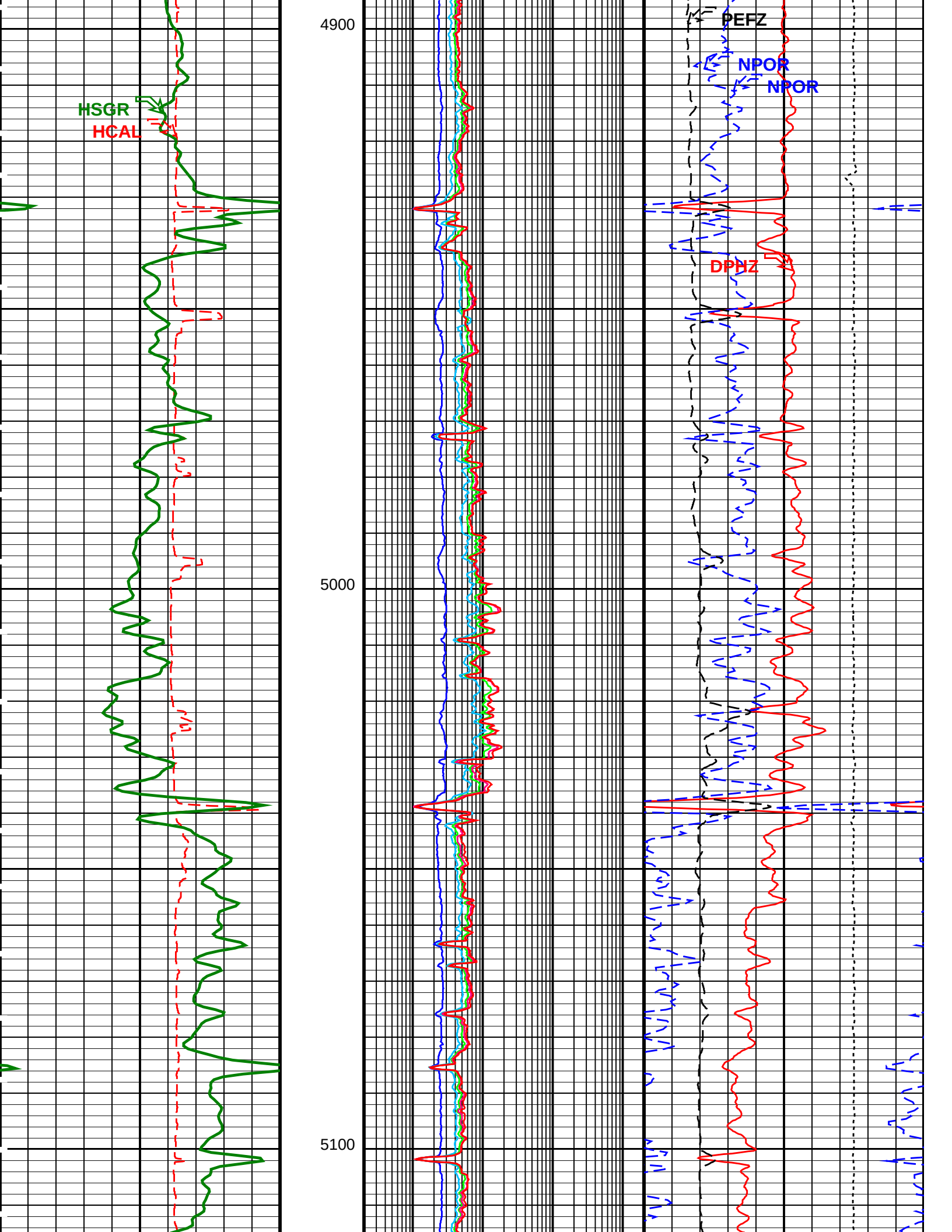

3800
3900
4000
STIT
RLA5
RLA4
RLA3
RLA2
RLA1
TENS
PEFZ
NPOR
NPOR
HSGR

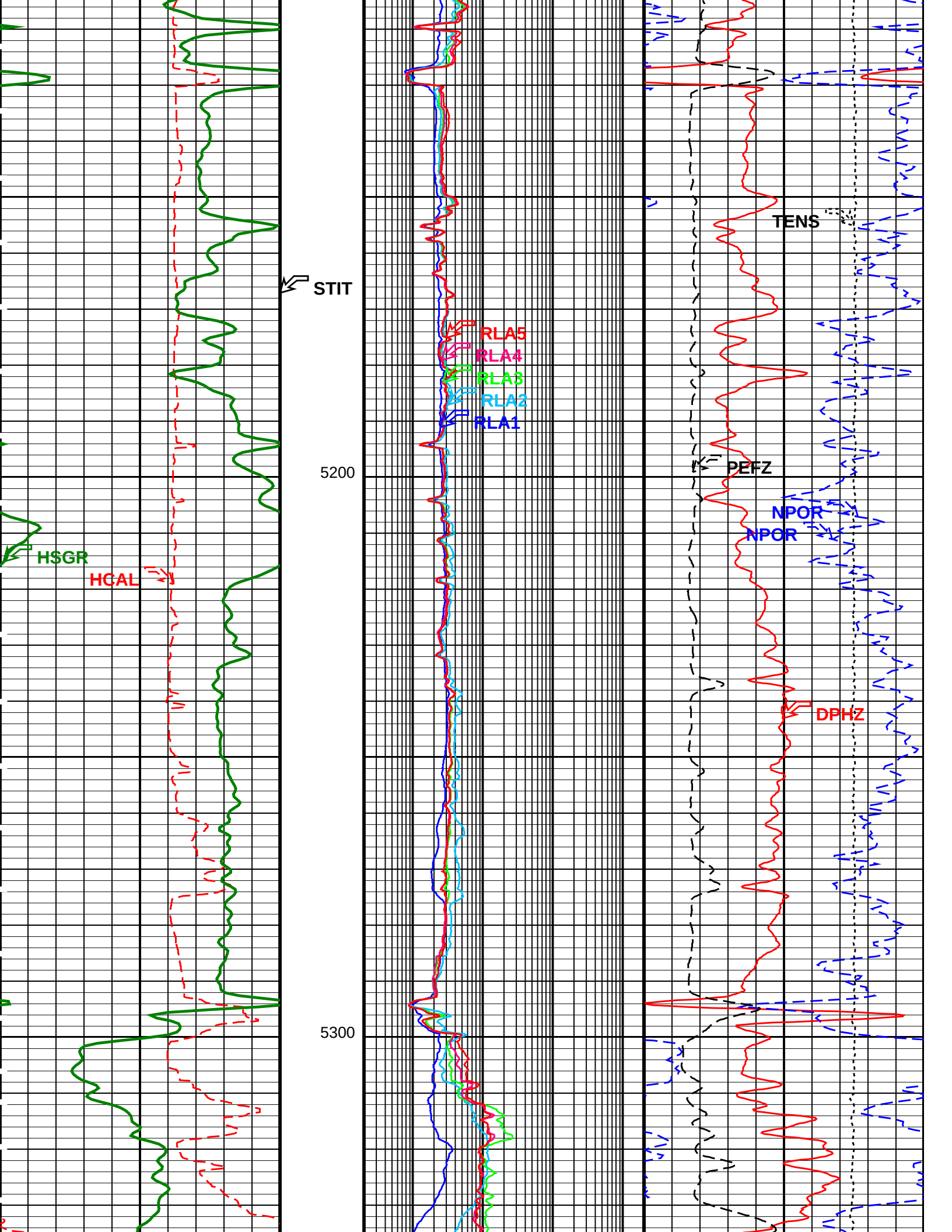

HCAL
DPHZ
4100
4200

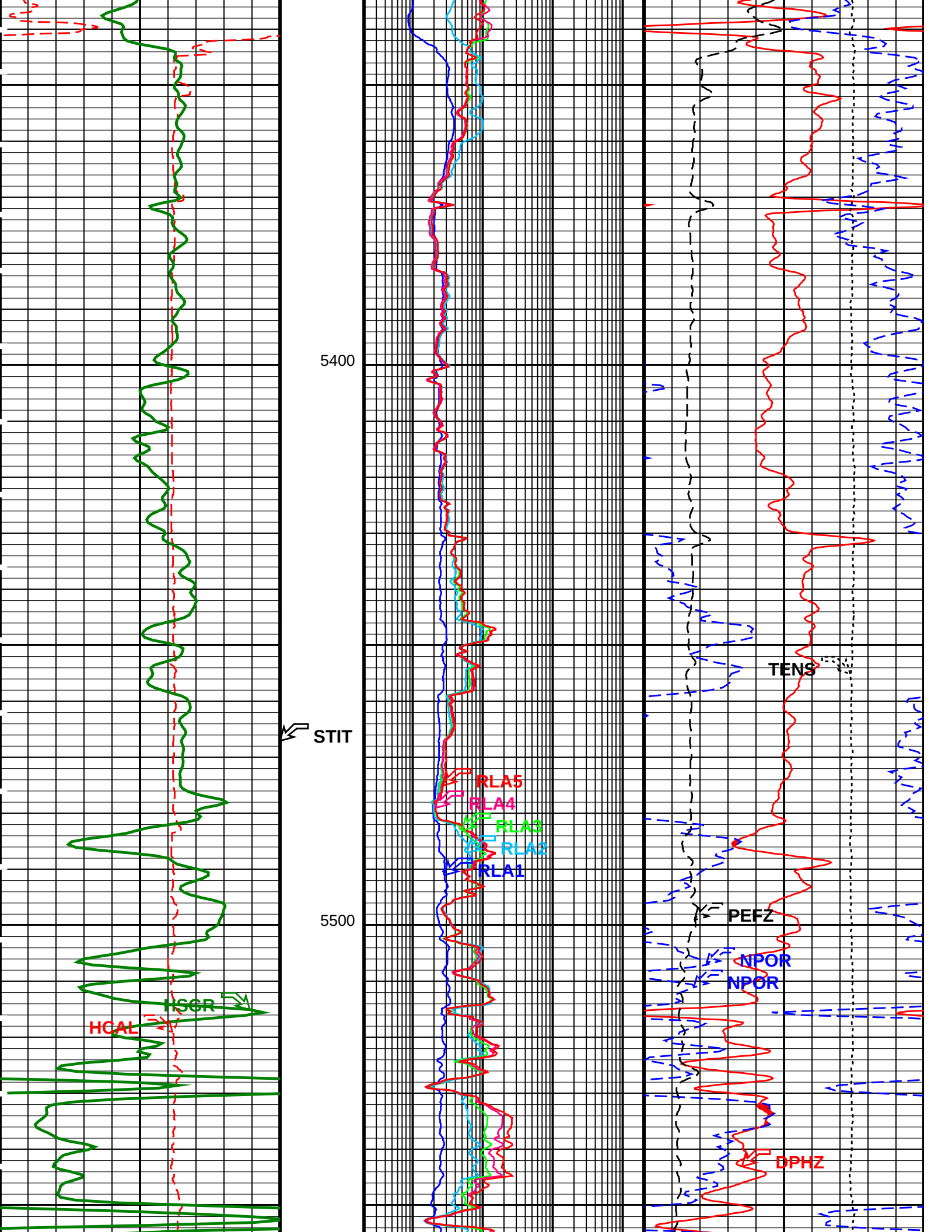

STIT
RLA5
RLA4
RLA3
RLA2
RLA1
TENS
PEFZ
NPOR
NPOR
HSGR
HCAL
DPHZ
4300
4400

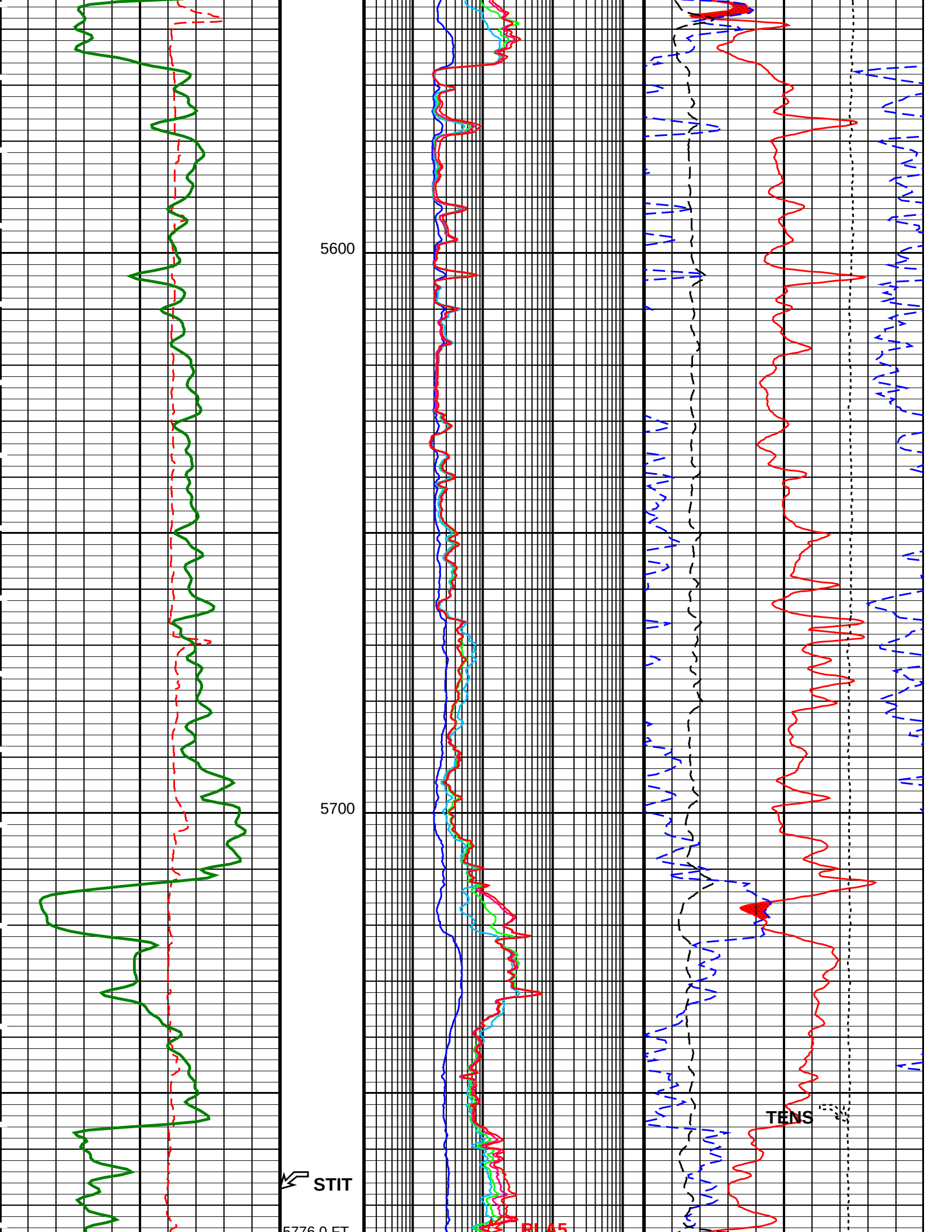

4500
4600
STIT
RLA5
RLA4
RLA3
RLA2
RLA1
TENS
PEFZ
NPOR
NPOR
DPHZ
HSGR
HCAL

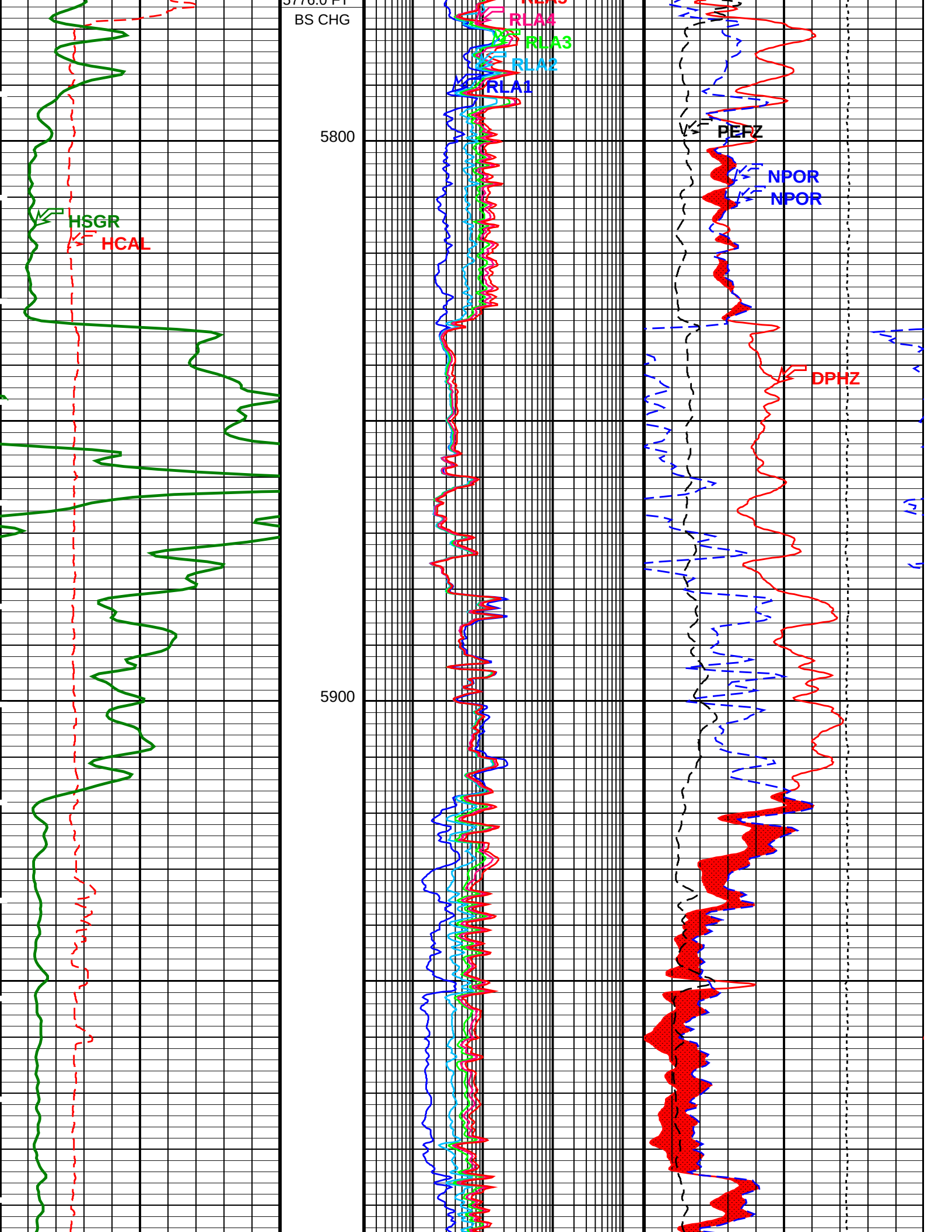

4700
4800
STIT
RLA5
RLA4
RLA3
RLA2
RLA1
TENS

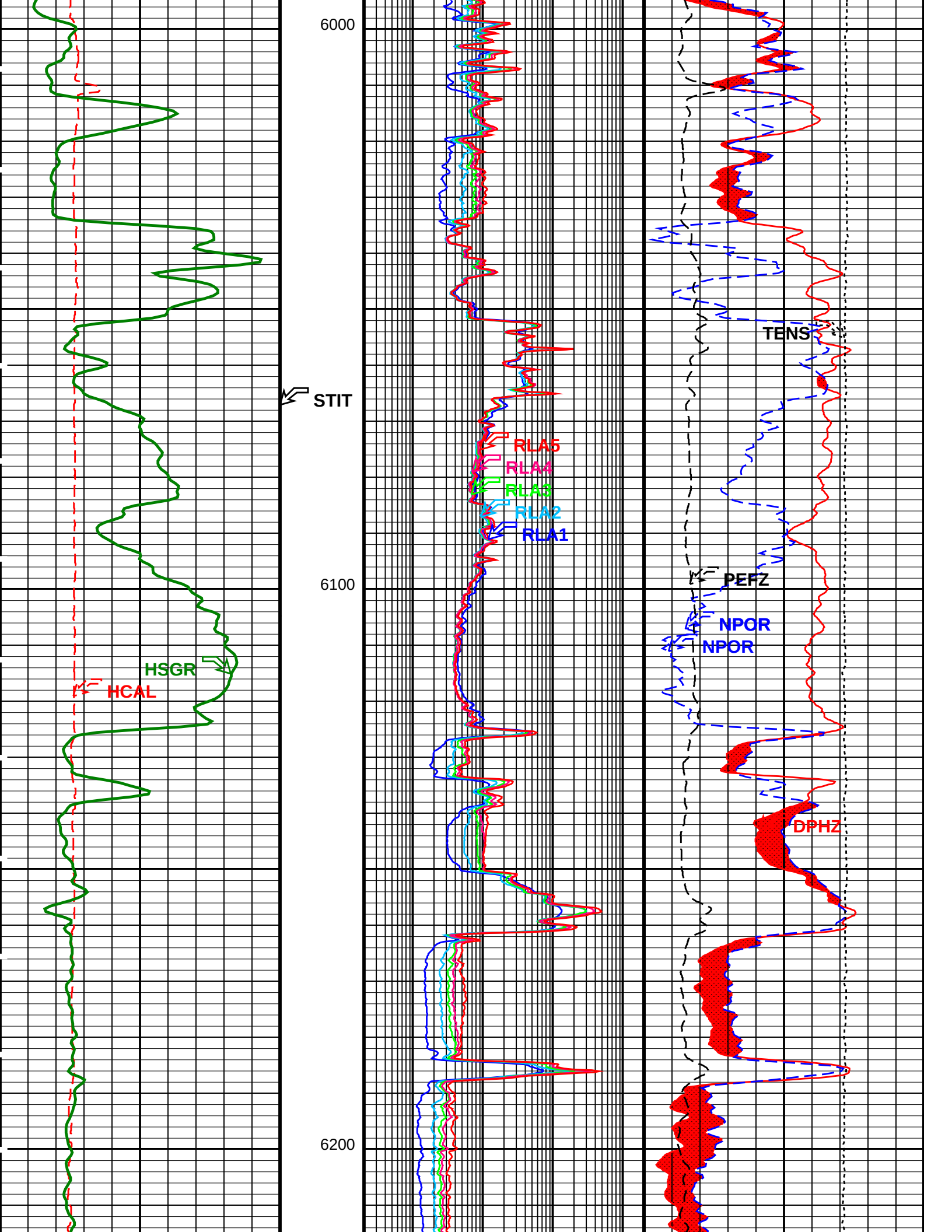

HSGR
HCAL
4900
5000
5100
PEFZ
NPOR
NPOR
DPHZ

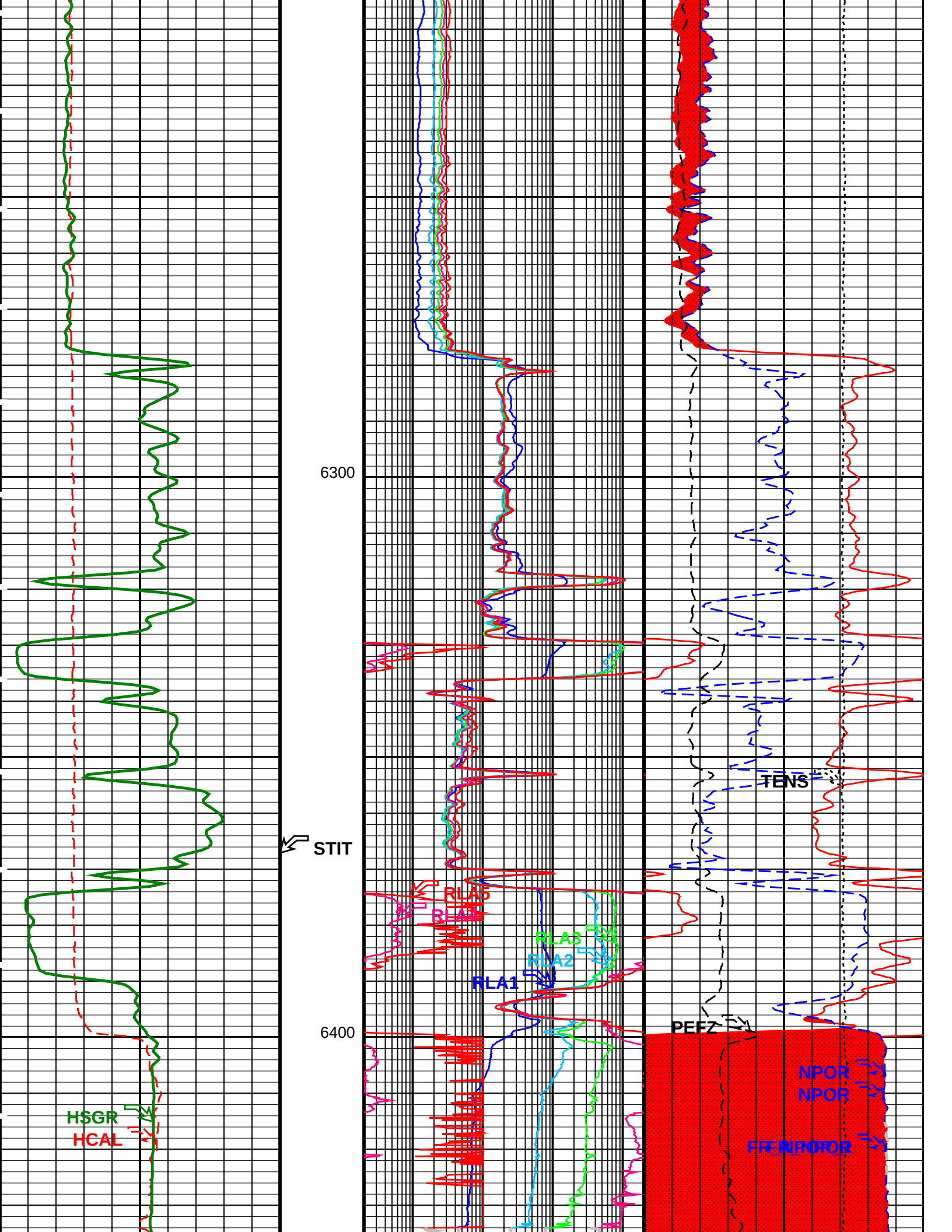

STIT
RLA5
RLA4
RLA3
RLA2
RLA1
TENS
PEFZ
NPOR
NPOR
HSGR
HCAL
DPHZ
5200
5300

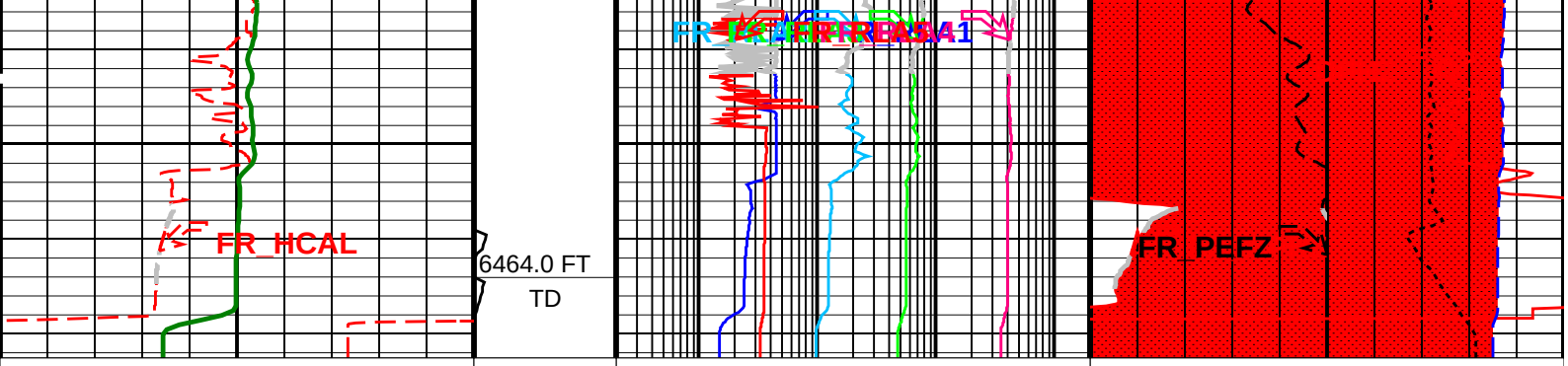

5400
5500
STIT
RLA5
RLA4
RLA3
RLA2
RLA1
TENS
PEFZ
NPOR
NPOR
DPHZ
HSGR
HCAL


5600
5700
STIT
5776.0 FT
TENS


BS CHG
RLA4
RLA3
RLA2
RLA1
PEFZ
NPOR
NPOR
DPHZ
HSGR
HCAL
5800
5900


6000
6100
6200
STIT
HSGR
HCAL
RLA5
RLA4
RLA3
RLA2
RLA1
TENS
PEFZ
NPOR
NPOR
DPHZ


6300
6400
STIT
HSGR
HCAL
RLA5
RLA4
RLA3
RLA2
RLA1
TENS
PEFZ
NPOR
NPOR
FFFINPOR



HILT Caliper (HCAL) 6 (IN) 16	Stuck Stretch (STIT) 0 (F) 50	HRLT Resistivity 0 (RLA0) 0.2 (OHMM) 2000
HNGS Spectroscopy Gamma Ray (HSGR) 0 (GAPI) 150		HRLT Resistivity 1 (RLA1) 0.2 (OHMM) 2000
		HRLT Resistivity 2 (RLA2) 0.2 (OHMM) 2000
		HRLT Resistivity 3 (RLA3) 0.2 (OHMM) 2000
		HRLT Resistivity 4 (RLA4) 0.2 (OHMM) 2000
		HRLT Resistivity 5 (RLA5) 0.2 (OHMM) 2000

Std. Res. Density Porosity (DPHZ) 0.3 (V/V) −0.1	
Alpha Processed Neutron Porosity (NPOR) 0.3 (V/V) −0.1	
GAS EFFECT From DPHZ to NPOR_1	
Std. Res. Formation Pe (PEFZ) 0 (−−−−) 10	
Tension (TENS) 10000 (LBF) 0	

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
HILTB−FTB: High resolution Integrated Logging Tool−DTS			
BHFL	Borehole Fluid Type	WATER	
BHFL_TLD	HILT Nuclear Mud Base	WATER	
BHS	Borehole Status	OPEN	
BSCO	Borehole Salinity Correction Option	NO	
CCCO	Casing & Cement Thickness Correction Option	NO	
DHC	Density Hole Correction	BS	
FD	Fluid Density	1	G/C3
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	0.01	DF/F
HSCO	Hole Size Correction Option	YES	
KFAC_HRLT	HRLT K Factor Option	SONDE	
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
MWCO	Mud Weight Correction Option	NO	
NAAC	HRDD APS Activation Correction	OFF	
NMT	HILT Nuclear Mud Type	NOBARITE	
NPRM	HRDD Processing Mode	StdRes	
NSAR	HRDD Depth Sampling Rate	1	IN
PTCO	Pressure/Temperature Correction Option	NO	
SDAT	Standoff Data Source	SOCN	
SHT	Surface Hole Temperature	68	DEGF
SOCN	Standoff Distance	0.125	IN
SOCO	Standoff Correction Option	YES	
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	

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	0.01	DF/F
H1P	HNGS Detector 1 Allow/Disallow In Processing	ALLOW	
H2P	HNGS Detector 2 Allow/Disallow In Processing	ALLOW	
HABK	HNGS Borehole Potassium Running Average	−0.00287326	
HALF	HNGS Alpha Filter Length	60	IN
HCRB	HNGS Apply Borehole Potassium Correction	NONE	
HMWM	Mud Weighting Material	NATU	
HNPE	HNGS Processing Enable	YES	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
S1BI	HNGS Detector 1 Calibration Bismuth Count Rate	1.3	CPS
S2BI	HNGS Detector 2 Calibration Bismuth Count Rate	1.3	CPS
SGRC	HNGS Standard Gamma−Ray Correction Flag	YES	
SHT	Surface Hole Temperature	68	DEGF
TPOS	Tool Position	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	0.958133	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.967781	
EDTC−B: Enhanced DTS Cartridge			
BHFL	Borehole Fluid Type	WATER	
BHS	Borehole Status	OPEN	
BSCO	Borehole Salinity Correction Option	NO	
CCCO	Casing & Cement Thickness Correction Option	NO	
FSCO	Formation Salinity Correction Option	NO	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
HSCO	Hole Size Correction Option	YES	
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	68	DEGF
SOCN	Standoff Distance	0.125	IN
SOCO	Standoff Correction Option	YES	
HOLEV: Integrated Hole/Cement Volume			
BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
SHT	Surface Hole Temperature	68	DEGF
PERT: Preliminary Evaluation − Real Time			
BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
SHT	Surface Hole Temperature	68	DEGF
STI: Stuck Tool Indicator			
LBFR	Trigger for MAXIS First Reading Label	TDL	
STKT	STI Stuck Threshold	2.5	FT
TDD	Total Depth − Driller	7450.00	FT
TDL	Total Depth − Logger	6464.00	FT
System and Miscellaneous			
BS	Bit Size	12.250	IN
BSAL	Borehole Salinity	−50000.00	PPM
CSIZ	Current Casing Size	13.375	IN
CWEI	Casing Weight	54.50	LB/F
DFD	Drilling Fluid Density	12.00	LB/G
DO	Depth Offset for Playback	0.0	FT
MST	Mud Sample Temperature	72.20	DEGF
PP	Playback Processing	RECOMPUTE	
RMFS	Resistivity of Mud Filtrate Sample	0.0556	OHMM

Format: combo Vertical Scale: 5" per 100' Graphics File Created: 31−Jul−2012 02:00

OP System Version: 19C0−187

HILTB−FTB	19C0−187	ECS−A	HFE−5202−OP19−NUCL_b
ECC−A	19C0−187	HNGC−B	HFE−5202−OP19−NUCL_b
HNGS−BA	HFE−5202−OP19−NUCL_b	EDTC−B	19C0−187

Input DLIS Files

DEFAULT	TLD_MCFL_CNL_ECS_030PUP	FN:26	PRODUCER	31−Jul−2012 01:50	6470.0 FT	1020.0 FT

Output DLIS Files

DEFAULT	TLD_MCFL_CNL_ECS_032PUP	FN:28	PRODUCER	31−Jul−2012 02:00

Schlumberger

REPEAT ANALYSIS

MAXIS Field Log

Company: Fidelity Exploration & Production Co. **Well: Sioux Ranch 22−11**

Input DLIS Files

DEFAULT	TLD_MCFL_CNL_ECS_032PUP	FN:28	PRODUCER	31−Jul−2012 02:00	6472.5 FT	1020.0 FT
DEFAULT	TLD_MCFL_CNL_ECS_033LUP	FN:29	PRODUCER	31−Jul−2012 02:08	4995.0 FT	4540.1 FT

Output DLIS Files

DEFAULT	TLD_MCFL_CNL_ECS_036PUP	FN:32	PRODUCER	31−Jul−2012 02:51	4997.5 FT	4542.5 FT

OP System Version: 19C0−187

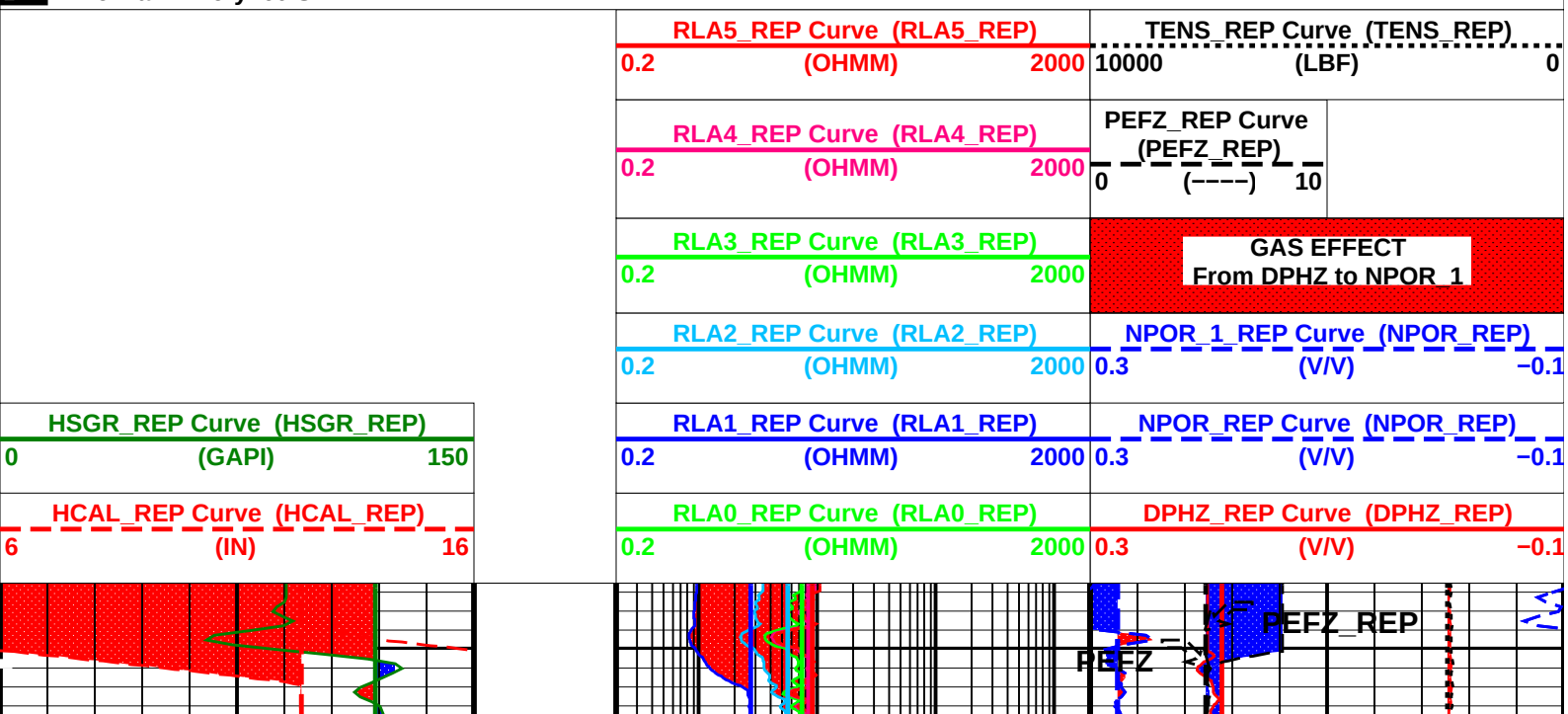
HILTB−FTB	19C0−187	ECS−A	HFE−5202−OP19−NUCL_b
ECC−A	19C0−187	HNGC−B	HFE−5202−OP19−NUCL_b
HNGS−BA	HFE−5202−OP19−NUCL_b	EDTC−B	19C0−187

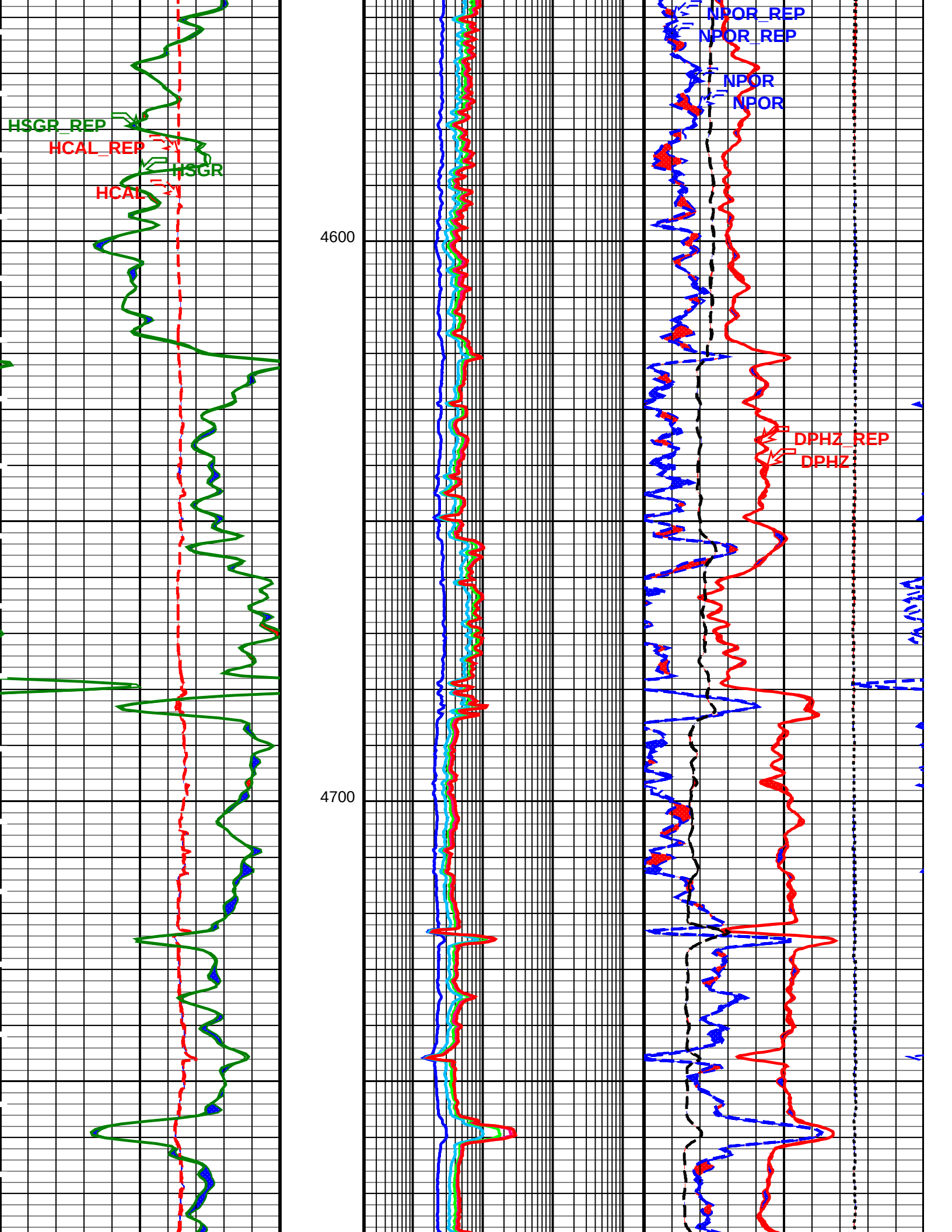
Changed Parameter Summary

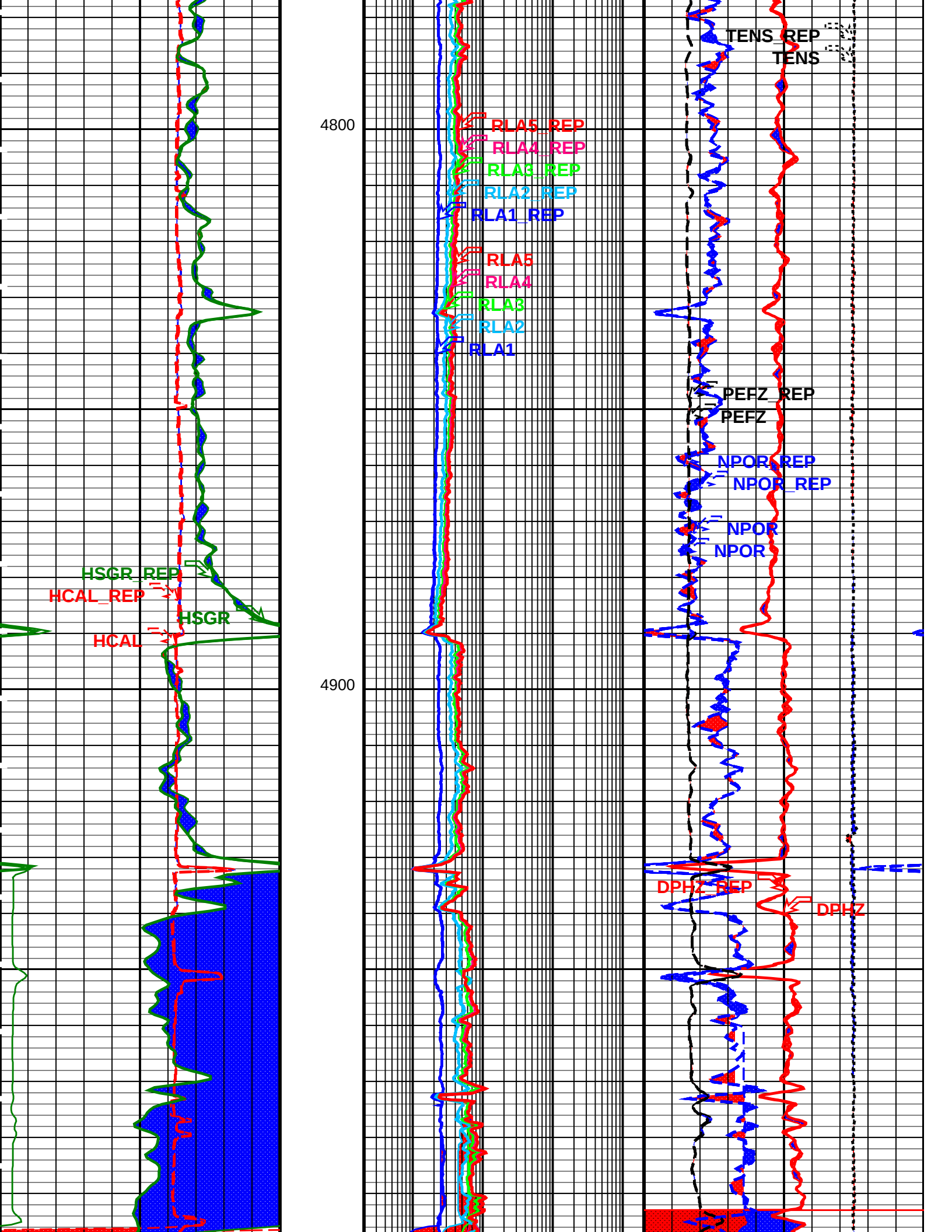
DLIS Name	New Value	Previous Value	Depth & Time
BS	12.250 IN	12.250 IN	4997.5 02:51:09

PIP SUMMARY

Time Mark Every 60 S




HSGR_REP
HCAL_REP
HSGR
HCAL
4600
4700
NPOR_REP
NPOR_REP
NPOR
NPOR
DPHZ_REP
DPHZ


TENS_REP
TENS
4800
RLA5_REP
RLA4_REP
RLA3_REP
RLA2_REP
RLA1_REP
RLA5
RLA4
RLA3
RLA2
RLA1
PEFZ_REP
PEFZ
NPOR_REP
NPOR_REP
NPOR
NPOR
HSGR_REP
HCAL_REP
HSGR
HCAL
4900
DPHZ_REP
DPHZ

HCAL_REP Curve (HCAL_REP) 6 (IN) 16	RLA0_REP Curve (RLA0_REP) 0.2 (OHMM) 2000	DPHZ_REP Curve (DPHZ_REP) 0.3 (V/V) −0.1
HSGR_REP Curve (HSGR_REP) 0 (GAPI) 150	RLA1_REP Curve (RLA1_REP) 0.2 (OHMM) 2000	NPOR_REP Curve (NPOR_REP) 0.3 (V/V) −0.1
	RLA2_REP Curve (RLA2_REP) 0.2 (OHMM) 2000	NPOR_1_REP Curve (NPOR_REP) 0.3 (V/V) −0.1
	RLA3_REP Curve (RLA3_REP) 0.2 (OHMM) 2000	GAS EFFECT From DPHZ to NPOR_1
	RLA4_REP Curve (RLA4_REP) 0.2 (OHMM) 2000	PEFZ_REP Curve (PEFZ_REP) 0 (−−−−) 10
	RLA5_REP Curve (RLA5_REP) 0.2 (OHMM) 2000	TENS_REP Curve (TENS_REP) 10000 (LBF) 0

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
HILTB−FTB: High resolution Integrated Logging Tool−DTS			
BHFL	Borehole Fluid Type	WATER	
BHFL_TLD	HILT Nuclear Mud Base	WATER	
BHS	Borehole Status	OPEN	
BSCO	Borehole Salinity Correction Option	NO	
CCCO	Casing & Cement Thickness Correction Option	NO	
DHC	Density Hole Correction	BS	
FD	Fluid Density	1	G/C3
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	0.01	DF/F
HSCO	Hole Size Correction Option	YES	
KFAC_HRLT	HRLT K Factor Option	SONDE	
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
MWCO	Mud Weight Correction Option	NO	
NAAC	HRDD APS Activation Correction	OFF	
NMT	HILT Nuclear Mud Type	NOBARITE	
NPRM	HRDD Processing Mode	StdRes	
NSAR	HRDD Depth Sampling Rate	1	IN
PTCO	Pressure/Temperature Correction Option	NO	
SDAT	Standoff Data Source	SOCN	
SHT	Surface Hole Temperature	68	DEGF
SOCN	Standoff Distance	0.125	IN
SOCO	Standoff Correction Option	YES	
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	
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	0.01	DF/F
H1P	HNGS Detector 1 Allow/Disallow In Processing	ALLOW	
H2P	HNGS Detector 2 Allow/Disallow In Processing	ALLOW	
HABK	HNGS Borehole Potassium Running Average	−0.00164794	
HALF	HNGS Alpha Filter Length	60	IN
HCRB	HNGS Apply Borehole Potassium Correction	NONE	
HMWM	Mud Weighting Material	NATU	
HNPE	HNGS Processing Enable	YES	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
S1BI	HNGS Detector 1 Calibration Bismuth Count Rate	1.3	CPS

S2BI	HNGS Detector 2 Calibration Bismuth Count Rate	1.3	CPS
SGRC	HNGS Standard Gamma−Ray Correction Flag	YES	
SHT	Surface Hole Temperature	68	DEGF
TPOS	Tool Position	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	0.9545	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.965988	
EDTC−B: Enhanced DTS Cartridge			
BHFL	Borehole Fluid Type	WATER	
BHS	Borehole Status	OPEN	
BSCO	Borehole Salinity Correction Option	NO	
CCCO	Casing & Cement Thickness Correction Option	NO	
FSCO	Formation Salinity Correction Option	NO	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
HSCO	Hole Size Correction Option	YES	
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	68	DEGF
SOCN	Standoff Distance	0.125	IN
SOCO	Standoff Correction Option	YES	
HOLEV: Integrated Hole/Cement Volume			
BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
SHT	Surface Hole Temperature	68	DEGF
PERT: Preliminary Evaluation − Real Time			
BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
SHT	Surface Hole Temperature	68	DEGF
STI: Stuck Tool Indicator			
TDL	Total Depth − Logger	6464.00	FT
System and Miscellaneous			
BS	Bit Size	12.250	IN
BSAL	Borehole Salinity	−50000.00	PPM
CSIZ	Current Casing Size	13.375	IN
CWEI	Casing Weight	54.50	LB/F
DFD	Drilling Fluid Density	12.00	LB/G
DO	Depth Offset for Playback	2.0	FT
DORL	Depth Offset for Repeat Analysis	0.0	FT
MST	Mud Sample Temperature	72.20	DEGF
PP	Playback Processing	OFF	
RMFS	Resistivity of Mud Filtrate Sample	0.0556	OHMM

Format: combo_REP Vertical Scale: 5" per 100' Graphics File Created: 31−Jul−2012 02:51

OP System Version: 19C0−187

HILTB−FTB	19C0−187	ECS−A	HFE−5202−OP19−NUCL_b
ECC−A	19C0−187	HNGC−B	HFE−5202−OP19−NUCL_b
HNGS−BA	HFE−5202−OP19−NUCL_b	EDTC−B	19C0−187

Input DLIS Files

DEFAULT	TLD_MCFL_CNL_ECS_032PUP	FN:28	PRODUCER	31−Jul−2012 02:00	6472.5 FT	1020.0 FT
DEFAULT	TLD_MCFL_CNL_ECS_033LUP	FN:29	PRODUCER	31−Jul−2012 02:08	4995.0 FT	4540.1 FT

Output DLIS Files

DEFAULT	TLD_MCFL_CNL_ECS_036PUP	FN:32	PRODUCER	31−Jul−2012 02:51

Schlumberger

BEFORE CALIBRATIONS

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
High resolution Integrated Logging Tool−DTS Wellsite Calibration − Stab Measurement Summary							
Before: 30−Jul−2012 8:41							
BS Window Ratio	0.7103	N/A	0.7124	N/A	N/A	N/A	
BS Window Sum	9381	N/A	9366	N/A	N/A	N/A	CPS
SS Window Ratio	0.4812	N/A	0.4799	N/A	N/A	N/A	
SS Window Sum	9420	N/A	9407	N/A	N/A	N/A	CPS
LS Window Ratio	0.2964	N/A	0.2875	N/A	N/A	N/A	
LS Window Sum	1029	N/A	1019	N/A	N/A	N/A	CPS
High resolution Integrated Logging Tool−DTS Wellsite Calibration − Photo−multiplier High Voltages Calibrations							
Before: 30−Jul−2012 8:41							
BS PM High Voltage (Command)	1799	N/A	1773	N/A	N/A	N/A	V
SS PM High Voltage (Command)	1435	N/A	1422	N/A	N/A	N/A	V
LS PM High Voltage (Command)	1913	N/A	1904	N/A	N/A	N/A	V
High resolution Integrated Logging Tool−DTS Wellsite Calibration − Crystal Quality Resolutions Calibration							
Before: 30−Jul−2012 8:41							
BS Crystal Resolution	11.62	N/A	11.49	N/A	N/A	N/A	%
SS Crystal Resolution	8.737	N/A	8.728	N/A	N/A	N/A	%
LS Crystal Resolution	9.615	N/A	9.708	N/A	N/A	N/A	%
High resolution Integrated Logging Tool−DTS Wellsite Calibration − MCFL Calibration							
Before: 30−Jul−2012 8:41							
Raw B0 Resistivity	3875	N/A	3868	N/A	N/A	N/A	OHMM
Raw B1 Resistivity	3830	N/A	3830	N/A	N/A	N/A	OHMM
Raw B2 Resistivity	3830	N/A	3798	N/A	N/A	N/A	OHMM
High resolution Integrated Logging Tool−DTS Wellsite Calibration − HILT Caliper Calibration							
Before: 30−Jul−2012 8:35							
HILT Caliper Zero Measurement	8.000	N/A	8.701	N/A	N/A	N/A	IN
HILT Caliper Plus Measurement	12.00	N/A	12.97	N/A	N/A	N/A	IN
High resolution Integrated Logging Tool−DTS Wellsite Calibration − HRLT M01							
Before: 30−Jul−2012 20:31							
HRLT M0−M1 Voltage Plus − 0	0	N/A	−322.3	N/A	N/A	9.681	UV
HRLT M0−M1 Voltage Plus − 1	0	N/A	−352.9	N/A	N/A	9.681	UV
HRLT M0−M1 Voltage Plus − 2	0	N/A	−331.6	N/A	N/A	9.681	UV
HRLT M0−M1 Voltage Plus − 3	0	N/A	−339.4	N/A	N/A	9.681	UV
HRLT M0−M1 Voltage Plus − 4	0	N/A	−322.8	N/A	N/A	9.681	UV
HRLT M0−M1 Voltage Plus − 5	0	N/A	−327.4	N/A	N/A	9.681	UV
HRLT M0−M1 Voltage Plus − 6	0	N/A	341.8	N/A	N/A	9.681	UV
HRLT M0−M1 Voltage Plus − 7	0	N/A	−322.7	N/A	N/A	9.681	UV
High resolution Integrated Logging Tool−DTS Wellsite Calibration − HRLT M12							
Before: 30−Jul−2012 20:31							
HRLT M1−M2 Voltage Plus − 0	0	N/A	1791	N/A	N/A	53.42	UV
HRLT M1−M2 Voltage Plus − 1	0	N/A	1966	N/A	N/A	53.42	UV
HRLT M1−M2 Voltage Plus − 2	0	N/A	1841	N/A	N/A	53.42	UV
HRLT M1−M2 Voltage Plus − 3	0	N/A	1885	N/A	N/A	53.42	UV
HRLT M1−M2 Voltage Plus − 4	0	N/A	1794	N/A	N/A	53.42	UV
HRLT M1−M2 Voltage Plus − 5	0	N/A	1821	N/A	N/A	53.42	UV
HRLT M1−M2 Voltage Plus − 6	0	N/A	−1911	N/A	N/A	53.42	UV
HRLT M1−M2 Voltage Plus − 7	0	N/A	1781	N/A	N/A	53.42	UV
High resolution Integrated Logging Tool−DTS Wellsite Calibration − HRLT M23							
Before: 30−Jul−2012 20:31							
HRLT M2−M3 Voltage Plus − 0	0	N/A	1770	N/A	N/A	53.42	UV
HRLT M2−M3 Voltage Plus − 1	0	N/A	1944	N/A	N/A	53.42	UV
HRLT M2−M3 Voltage Plus − 2	0	N/A	1826	N/A	N/A	53.42	UV
HRLT M2−M3 Voltage Plus − 3	0	N/A	1875	N/A	N/A	53.42	UV
HRLT M2−M3 Voltage Plus − 4	0	N/A	1782	N/A	N/A	53.42	UV
HRLT M2−M3 Voltage Plus − 5	0	N/A	1812	N/A	N/A	53.42	UV
HRLT M2−M3 Voltage Plus − 6	0	N/A	−1878	N/A	N/A	53.42	UV
HRLT M2−M3 Voltage Plus − 7	0	N/A	1781	N/A	N/A	53.42	UV
High resolution Integrated Logging Tool−DTS Wellsite Calibration − HRLT V34							
Before: 30−Jul−2012 20:31							
HRLT A3−A4 Voltage Plus − 0	0	N/A	69630	N/A	N/A	2100	UV

HRLT A3−A4 Voltage Plus − 0	0	N/A	69630	N/A	N/A	2100	UV
HRLT A3−A4 Voltage Plus − 1	0	N/A	77030	N/A	N/A	2100	UV
HRLT A3−A4 Voltage Plus − 2	0	N/A	72490	N/A	N/A	2100	UV
HRLT A3−A4 Voltage Plus − 3	0	N/A	74490	N/A	N/A	2100	UV
HRLT A3−A4 Voltage Plus − 4	0	N/A	70540	N/A	N/A	2100	UV
HRLT A3−A4 Voltage Plus − 5	0	N/A	71590	N/A	N/A	2100	UV
HRLT A3−A4 Voltage Plus − 6	0	N/A	−73340	N/A	N/A	2100	UV
HRLT A3−A4 Voltage Plus − 7	0	N/A	70000	N/A	N/A	2100	UV

High resolution Integrated Logging Tool−DTS Wellsite Calibration − HRLT V45
Before: 30−Jul−2012 20:31

HRLT A4−A5 Voltage Plus − 0	0	N/A	69550	N/A	N/A	2100	UV
HRLT A4−A5 Voltage Plus − 1	0	N/A	76580	N/A	N/A	2100	UV
HRLT A4−A5 Voltage Plus − 2	0	N/A	72140	N/A	N/A	2100	UV
HRLT A4−A5 Voltage Plus − 3	0	N/A	74230	N/A	N/A	2100	UV
HRLT A4−A5 Voltage Plus − 4	0	N/A	70390	N/A	N/A	2100	UV
HRLT A4−A5 Voltage Plus − 5	0	N/A	71490	N/A	N/A	2100	UV
HRLT A4−A5 Voltage Plus − 6	0	N/A	−72870	N/A	N/A	2100	UV
HRLT A4−A5 Voltage Plus − 7	0	N/A	70000	N/A	N/A	2100	UV

High resolution Integrated Logging Tool−DTS Wellsite Calibration − HRLT V56
Before: 30−Jul−2012 20:31

HRLT A5−A6 Voltage Plus − 0	0	N/A	69540	N/A	N/A	2100	UV
HRLT A5−A6 Voltage Plus − 1	0	N/A	76960	N/A	N/A	2100	UV
HRLT A5−A6 Voltage Plus − 2	0	N/A	72410	N/A	N/A	2100	UV
HRLT A5−A6 Voltage Plus − 3	0	N/A	74400	N/A	N/A	2100	UV
HRLT A5−A6 Voltage Plus − 4	0	N/A	70450	N/A	N/A	2100	UV
HRLT A5−A6 Voltage Plus − 5	0	N/A	71500	N/A	N/A	2100	UV
HRLT A5−A6 Voltage Plus − 6	0	N/A	−73270	N/A	N/A	2100	UV
HRLT A5−A6 Voltage Plus − 7	0	N/A	70000	N/A	N/A	2100	UV

High resolution Integrated Logging Tool−DTS Wellsite Calibration − HRLT VTP
Before: 30−Jul−2012 20:31

HRLT Torpedo−M0 Voltage − 0	0	N/A	−69270	N/A	N/A	2100	UV
HRLT Torpedo−M0 Voltage − 1	0	N/A	−76860	N/A	N/A	2100	UV
HRLT Torpedo−M0 Voltage − 2	0	N/A	−72400	N/A	N/A	2100	UV
HRLT Torpedo−M0 Voltage − 3	0	N/A	−74490	N/A	N/A	2100	UV
HRLT Torpedo−M0 Voltage − 4	0	N/A	−70610	N/A	N/A	2100	UV
HRLT Torpedo−M0 Voltage − 5	0	N/A	−71670	N/A	N/A	2100	UV
HRLT Torpedo−M0 Voltage − 6	0	N/A	73100	N/A	N/A	2100	UV
HRLT Torpedo−M0 Voltage − 7	0	N/A	−70000	N/A	N/A	2100	UV

High resolution Integrated Logging Tool−DTS Wellsite Calibration − HRLT VBD
Before: 30−Jul−2012 20:31

HRLT Bridle#9−M0 Voltage − 0	0	N/A	−69260	N/A	N/A	2100	UV
HRLT Bridle#9−M0 Voltage − 1	0	N/A	−76750	N/A	N/A	2100	UV
HRLT Bridle#9−M0 Voltage − 2	0	N/A	−72310	N/A	N/A	2100	UV
HRLT Bridle#9−M0 Voltage − 3	0	N/A	−74400	N/A	N/A	2100	UV
HRLT Bridle#9−M0 Voltage − 4	0	N/A	−70560	N/A	N/A	2100	UV
HRLT Bridle#9−M0 Voltage − 5	0	N/A	−71640	N/A	N/A	2100	UV
HRLT Bridle#9−M0 Voltage − 6	0	N/A	73000	N/A	N/A	2100	UV
HRLT Bridle#9−M0 Voltage − 7	0	N/A	−70000	N/A	N/A	2100	UV

High resolution Integrated Logging Tool−DTS Wellsite Calibration − HRLT ISO
Before: 30−Jul−2012 20:31

HRLT Source Current Plus − 0	0	N/A	288.8	N/A	N/A	8.520	UA
HRLT Source Current Plus − 1	0	N/A	281.1	N/A	N/A	8.520	UA
HRLT Source Current Plus − 2	0	N/A	281.1	N/A	N/A	8.520	UA
HRLT Source Current Plus − 3	0	N/A	281.1	N/A	N/A	8.520	UA
HRLT Source Current Plus − 4	0	N/A	281.1	N/A	N/A	8.520	UA
HRLT Source Current Plus − 5	0	N/A	281.1	N/A	N/A	8.520	UA
HRLT Source Current Plus − 6	0	N/A	281.1	N/A	N/A	8.520	UA
HRLT Source Current Plus − 7	0	N/A	281.1	N/A	N/A	8.520	UA

High resolution Integrated Logging Tool−DTS Wellsite Calibration − HRLT MV
Before: 30−Jul−2012 20:31

HRLT Vertical Voltage Pl − 0	0	N/A	−326.2	N/A	N/A	9.681	UV
HRLT Vertical Voltage Pl − 1	0	N/A	−349.4	N/A	N/A	9.681	UV
HRLT Vertical Voltage Pl − 2	0	N/A	−327.1	N/A	N/A	9.681	UV
HRLT Vertical Voltage Pl − 3	0	N/A	−333.7	N/A	N/A	9.681	UV
HRLT Vertical Voltage Pl − 4	0	N/A	−314.3	N/A	N/A	9.681	UV
HRLT Vertical Voltage Pl − 5	0	N/A	−334.3	N/A	N/A	9.681	UV
HRLT Vertical Voltage Pl − 6	0	N/A	352.4	N/A	N/A	9.681	UV
HRLT Vertical Voltage Pl − 7	0	N/A	−322.7	N/A	N/A	9.681	UV

High resolution Integrated Logging Tool−DTS Wellsite Calibration − Detector Calibration
Before: 30−Jul−2012 8:35

Gamma Ray Background	30.00	N/A	72.97	N/A	N/A	N/A	GAPI
Gamma Ray (Jig − Bkgd)	165.0	N/A	182.9	N/A	N/A	15.00	GAPI

High resolution Integrated Logging Tool−DTS Wellsite Calibration − Zero Measurement
Master: 2−May−2012 17:32 Before: 30−Jul−2012 8:36

CNTC Background	27.64	27.64	26.87	N/A	N/A	4.146	CPS
CFTC Background	29.42	29.42	28.67	N/A	N/A	4.413	CPS

High resolution Integrated Logging Tool−DTS Wellsite Calibration − Ratio Measurement
Master: 2−May−2012 17:32

Thermal Near Corr. (Tank)	5800	4954	N/A	N/A	N/A	N/A	CPS
Thermal Far Corr. (Tank)	2400	2089	N/A	N/A	N/A	N/A	CPS
CNTC/CFTC (Tank)	2.159	2.371	N/A	N/A	N/A	N/A	

High resolution Integrated Logging Tool−DTS Wellsite Calibration − Accelerometer Calibration
Before: 30−Jul−2012 18:47

Z−Axis Acceleration	32.19	N/A	32.20	N/A	N/A	N/A	F/S2

Hostile Natural Gamma Ray Sonde Wellsite Calibration − Detector 1 Check
Master: 30−Jul−2012 15:36 Before: 30−Jul−2012 15:41

Na 511 Peak Loc	40.00	38.47	38.59	N/A	N/A	1.000	
Na 511 Peak Res	15.50	15.67	15.00	N/A	N/A	2.000	%
High Voltage	1150	950.9	950.8	N/A	N/A	N/A	V
Na 1785 Peak Loc	142.6	138.4	138.4	N/A	N/A	7.000	
Na 1785 Peak Res	8.500	8.686	8.725	N/A	N/A	2.000	%
Temperature	59.90	108.5	108.4	N/A	N/A	N/A	DEGF
Na Count Rate	45.00	43.30	41.62	N/A	N/A	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration − Detector 2 Check
Master: 30−Jul−2012 15:36 Before: 30−Jul−2012 15:41

Na 511 Peak Loc	40.00	38.63	38.62	N/A	N/A	1.000	
Na 511 Peak Res	15.50	17.70	17.69	N/A	N/A	2.000	%
High Voltage	1150	1007	1007	N/A	N/A	N/A	V
Na 1785 Peak Loc	142.6	138.7	138.9	N/A	N/A	7.000	
Na 1785 Peak Res	8.500	9.942	9.512	N/A	N/A	2.000	%
Temperature	59.90	107.8	108.0	N/A	N/A	N/A	DEGF
Na Count Rate	45.00	43.44	41.58	N/A	N/A	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration − Ratio Of Detector 1 To Detector 2
Master: 30−Jul−2012 15:36 Before: 30−Jul−2012 15:41

Coincidence Count Rate Ratio	1.000	0.9945	1.000	N/A	N/A	0.05000	

Enhanced DTS Cartridge Wellsite Calibration − EDTC Accelerometer Calibration
Before: 30−Jul−2012 18:47

EDTC Z−Axis Acceleration	32.19	N/A	32.17	N/A	N/A	N/A	F/S2

Enhanced DTS Cartridge Wellsite Calibration − Detector Calibration
Before: 30−Jul−2012 8:42

Gamma Ray (Jig − Bkg)	153.5	N/A	153.5	N/A	N/A	13.96	GAPI
Gamma Ray (Calibrated)	165.0	N/A	165.0	N/A	N/A	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	62.7	DEGF.
Thermal Housing Size	3.373	IN.
NSR−F serial number	5069	

High resolution Integrated Logging Tool−DTS / Equipment Identification

Primary Equipment:

HILT high−Resolution Mechanical Sonde	HRMS − B	
HILT Rxo Gamma−ray Device	HRGD − B	
HILT Micro Cylindrically Focused Log Dev	MCFL −	
GR Logging Source	GLS − VJ	5094
HILT High Res. Control Cartridge	HRCC − B	
High Resolution Laterolog Array − B	HRLT − B	
HRLT IP Dummy Cartridge	DUMM − A	
HILT Gamma−Ray Neutron Sonde−DTS	HGNS − B	

Auxiliary Equipment:

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

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		0.7124	Before		0.4799	Before		0.2875
0.6748 (Minimum)	0.7103 (Nominal)	0.7458 (Maximum)	0.4571 (Minimum)	0.4812 (Nominal)	0.5053 (Maximum)	0.2816 (Minimum)	0.2964 (Nominal)	0.3112 (Maximum)
Phase	BS Window Sum CPS	Value	Phase	SS Window Sum CPS	Value	Phase	LS Window Sum CPS	Value
Before		9366	Before		9407	Before		1019
8912 (Minimum)	9381 (Nominal)	9850 (Maximum)	8949 (Minimum)	9420 (Nominal)	9891 (Maximum)	977.5 (Minimum)	1029 (Nominal)	1080 (Maximum)

Before: 30−Jul−2012 8:41

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		1773	Before		1422	Before		1904
1699 (Minimum)	1799 (Nominal)	1899 (Maximum)	1335 (Minimum)	1435 (Nominal)	1535 (Maximum)	1813 (Minimum)	1913 (Nominal)	2013 (Maximum)

Before: 30−Jul−2012 8:41

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		11.49	Before		8.728	Before		9.708
10.62 (Minimum)	11.62 (Nominal)	12.62 (Maximum)	7.737 (Minimum)	8.737 (Nominal)	9.737 (Maximum)	8.615 (Minimum)	9.615 (Nominal)	10.62 (Maximum)

Before: 30−Jul−2012 8:41

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		3868	Before		3830	Before		3798
3565 (Minimum)	3875 (Nominal)	4185 (Maximum)	3524 (Minimum)	3830 (Nominal)	4136 (Maximum)	3524 (Minimum)	3830 (Nominal)	4136 (Maximum)

Before: 30−Jul−2012 8:41

High resolution Integrated Logging Tool−DTS Wellsite Calibration

HILT Caliper Calibration

Phase	HILT Caliper Zero Measurement IN	Value	Phase	HILT Caliper Plus Measurement IN	Value
Before		8.701	Before		12.97
6.000 (Minimum)	8.000 (Nominal)	10.00 (Maximum)	9.000 (Minimum)	12.00 (Nominal)	15.00 (Maximum)

Before: 30−Jul−2012 8:35

High resolution Integrated Logging Tool−DTS Wellsite Calibration

HRLT M01

Idx	Phase	HRLT M0−M1 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		−322.3	−322.7	−280.7	−379.7
1	Before		−352.9	−322.7	−280.7	−379.7
2	Before		−331.6	−322.7	−280.7	−379.7
3	Before		−339.4	−322.7	−280.7	−379.7
4	Before		−322.8	−322.7	−280.7	−379.7
5	Before		−327.4	−322.7	−280.7	−379.7
6	Before		341.8	322.7	379.7	280.7
7	Before		−322.7	−322.7	−280.7	−379.7
		(Minimum) (Nominal) (Maximum)				

Before: 30−Jul−2012 20:31

High resolution Integrated Logging Tool−DTS Wellsite Calibration

HRLT M12

Idx	Phase	HRLT M1−M2 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		1791	1781	2095	1549

1	Before		1966	1781	2095	1549
2	Before		1841	1781	2095	1549
3	Before		1885	1781	2095	1549
4	Before		1794	1781	2095	1549
5	Before		1821	1781	2095	1549
6	Before		−1911	−1781	−1549	−2095
7	Before		1781	1781	2095	1549
	(Minimum)	(Nominal) (Maximum)				

Before: 30−Jul−2012 20:31

High resolution Integrated Logging Tool−DTS Wellsite Calibration

HRLT M23

Idx	Phase	HRLT M2−M3 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		1770	1781	2095	1549
1	Before		1944	1781	2095	1549
2	Before		1826	1781	2095	1549
3	Before		1875	1781	2095	1549
4	Before		1782	1781	2095	1549
5	Before		1812	1781	2095	1549
6	Before		−1878	−1781	−1549	−2095
7	Before		1781	1781	2095	1549
	(Minimum)	(Nominal) (Maximum)				

Before: 30−Jul−2012 20:31

High resolution Integrated Logging Tool−DTS Wellsite Calibration

HRLT V34

Idx	Phase	HRLT A3−A4 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		69630	70000	82360	60900
1	Before		77030	70000	82360	60900
2	Before		72490	70000	82360	60900
3	Before		74490	70000	82360	60900
4	Before		70540	70000	82360	60900
5	Before		71590	70000	82360	60900
6	Before		−73340	−70000	−60900	−82360
7	Before		70000	70000	82360	60900
	(Minimum)	(Nominal) (Maximum)				

Before: 30−Jul−2012 20:31

High resolution Integrated Logging Tool−DTS Wellsite Calibration

HRLT V45

Idx	Phase	HRLT A4−A5 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		69550	70000	82360	60900
1	Before		76580	70000	82360	60900
2	Before		72140	70000	82360	60900
3	Before		74230	70000	82360	60900
4	Before		70390	70000	82360	60900
5	Before		71490	70000	82360	60900
6	Before		−72870	−70000	−60900	−82360
7	Before		70000	70000	82360	60900

7	Before		70000	70000	82360	60900
		(Minimum) (Nominal) (Maximum)				

Before: 30−Jul−2012 20:31

High resolution Integrated Logging Tool−DTS Wellsite Calibration

HRLT V56

Idx	Phase	HRLT A5−A6 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		69540	70000	82360	60900
1	Before		76960	70000	82360	60900
2	Before		72410	70000	82360	60900
3	Before		74400	70000	82360	60900
4	Before		70450	70000	82360	60900
5	Before		71500	70000	82360	60900
6	Before		−73270	−70000	−60900	−82360
7	Before		70000	70000	82360	60900
		(Minimum) (Nominal) (Maximum)				

Before: 30−Jul−2012 20:31

High resolution Integrated Logging Tool−DTS Wellsite Calibration

HRLT VTP

Idx	Phase	HRLT Torpedo−M0 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		−69270	−70000	−60900	−82360
1	Before		−76860	−70000	−60900	−82360
2	Before		−72400	−70000	−60900	−82360
3	Before		−74490	−70000	−60900	−82360
4	Before		−70610	−70000	−60900	−82360
5	Before		−71670	−70000	−60900	−82360
6	Before		73100	70000	82360	60900
7	Before		−70000	−70000	−60900	−82360
		(Minimum) (Nominal) (Maximum)				

Before: 30−Jul−2012 20:31

High resolution Integrated Logging Tool−DTS Wellsite Calibration

HRLT VBD

Idx	Phase	HRLT Bridle#9−M0 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		−69260	−70000	−60900	−82360
1	Before		−76750	−70000	−60900	−82360
2	Before		−72310	−70000	−60900	−82360
3	Before		−74400	−70000	−60900	−82360
4	Before		−70560	−70000	−60900	−82360
5	Before		−71640	−70000	−60900	−82360
6	Before		73000	70000	82360	60900
7	Before		−70000	−70000	−60900	−82360
		(Minimum) (Nominal) (Maximum)				

Before: 30−Jul−2012 20:31

High resolution Integrated Logging Tool−DTS Wellsite Calibration

HRLT ISO

Idx	Phase	HRLT Source Current Plus UA	Value	Nominal	Maximum	Minimum
0	Before		288.8	284.0	334.1	247.0
1	Before		281.1	281.1	330.7	244.4

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

Before: 30−Jul−2012 20:31

High resolution Integrated Logging Tool−DTS Wellsite Calibration

HRLT MV

Idx	Phase	HRLT Vertical Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		−326.2	−322.7	−280.7	−379.7
1	Before		−349.4	−322.7	−280.7	−379.7
2	Before		−327.1	−322.7	−280.7	−379.7
3	Before		−333.7	−322.7	−280.7	−379.7
4	Before		−314.3	−322.7	−280.7	−379.7
5	Before		−334.3	−322.7	−280.7	−379.7
6	Before		352.4	322.7	379.7	280.7
7	Before		−322.7	−322.7	−280.7	−379.7
	(Minimum)	(Nominal) (Maximum)				

Before: 30−Jul−2012 20:31

High resolution Integrated Logging Tool−DTS Wellsite Calibration

Detector Calibration

Phase	Gamma Ray Background GAPI	Value	Phase	Gamma Ray (Jig − Bkgd) GAPI	Value
Before		72.97	Before		182.9
0 (Minimum)	30.00 (Nominal) 120.0 (Maximum)		157.1 (Minimum)	165.0 (Nominal) 206.3 (Maximum)	

Before: 30−Jul−2012 8:35

High resolution Integrated Logging Tool−DTS Wellsite Calibration

Zero Measurement

Phase	CNTC Background CPS	Value	Phase	CFTC Background CPS	Value
Master		27.64	Master		29.42
Before		26.87	Before		28.67
5.000 (Minimum)	27.64 (Nominal) 40.00 (Maximum)		5.000 (Minimum)	29.42 (Nominal) 40.00 (Maximum)	

Master: 2−May−2012 17:32 Before: 30−Jul−2012 8:36

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		4954	Master		2089	Master		2.371
4700 (Minimum)	5800 (Nominal) 6900 (Maximum)		1900 (Minimum)	2400 (Nominal) 2900 (Maximum)		2.120 (Minimum)	2.159 (Nominal) 2.540 (Maximum)	

Master: 2−May−2012 17:32

High resolution Integrated Logging Tool−DTS Wellsite Calibration

Accelerometer Calibration

Phase	Z−Axis Acceleration F/S2	Value
Before		32.20
31.53 (Minimum)	32.19 (Nominal) 32.84 (Maximum)	

Before: 30−Jul−2012 18:47

Elemental Capture Cartridge − A / Equipment Identification

Primary Equipment:		
ECC Cartridge	ECC − A	
Auxiliary Equipment:		
ECC Housing	ECH − A	

Hostile Natural Gamma Ray Cartridge − B / Equipment Identification

Primary Equipment:		
HNGC Cartridge	HNGC − B	605
Auxiliary Equipment:		
HNGC Housing	HNGH − A	605

Hostile Natural Gamma Ray Sonde / Equipment Identification

Primary Equipment:		
HNGS Sonde	HNGS − BA	347
Auxiliary Equipment:		
HNGS Sonde Housing	HNSH − BA	347
Gamma Source Radioactive	GSR − U	

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 1 Check

Phase	Na 511 Peak Loc	Value
Master		38.47
Before		38.59
	37.50 (Minimum) / 40.00 (Nominal) / 43.50 (Maximum)	

Phase	Na 511 Peak Res %	Value
Master		15.67
Before		15.00
	12.00 (Minimum) / 15.50 (Nominal) / 19.00 (Maximum)	

Phase	High Voltage V	Value
Master		950.9
Before		950.8
	850.0 (Minimum) / 1150 (Nominal) / 1600 (Maximum)	

Phase	Na 1785 Peak Loc	Value
Master		138.4
Before		138.4
	135.0 (Minimum) / 142.6 (Nominal) / 150.3 (Maximum)	

Phase	Na 1785 Peak Res %	Value
Master		8.686
Before		8.725
	7.000 (Minimum) / 8.500 (Nominal) / 11.00 (Maximum)	

Phase	Temperature DEGF	Value
Master		108.5
Before		108.4
	−20.00 (Minimum) / 59.90 (Nominal) / 140.0 (Maximum)	

Phase	Na Count Rate CPS	Value
Master		43.30
Before		41.62
	10.00 (Minimum) / 45.00 (Nominal) / 100.0 (Maximum)	

Master: 30−Jul−2012 15:36 Before: 30−Jul−2012 15:41

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 2 Check

Phase	Na 511 Peak Loc	Value
Master		38.63
Before		38.62
	37.50 (Minimum) / 40.00 (Nominal) / 43.50 (Maximum)	

Phase	Na 511 Peak Res %	Value
Master		17.70
Before		17.69
	12.00 (Minimum) / 15.50 (Nominal) / 19.00 (Maximum)	

Phase	High Voltage V	Value
Master		1007
Before		1007
	850.0 (Minimum) / 1150 (Nominal) / 1600 (Maximum)	

Phase	Na 1785 Peak Loc	Value
Master		138.7
Before		138.9
	135.0 (Minimum) / 142.6 (Nominal) / 150.3 (Maximum)	

Phase	Na 1785 Peak Res %	Value
Master		9.942
Before		9.512
	7.000 (Minimum) / 8.500 (Nominal) / 11.00 (Maximum)	

Phase	Temperature DEGF	Value
Master		107.8
Before		108.0
	−20.00 (Minimum) / 59.90 (Nominal) / 140.0 (Maximum)	

Phase	Na Count Rate CPS	Value
Master		43.44
Before		41.58

10.00 (Minimum)	45.00 (Nominal)	100.0 (Maximum)

Master: 30−Jul−2012 15:36 Before: 30−Jul−2012 15:41

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Ratio Of Detector 1 To Detector 2

Phase	Coincidence Count Rate Ratio	Value
Master		0.9945
Before		1.000

0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)

Master: 30−Jul−2012 15:36

Before: 30−Jul−2012 15:41

Enhanced DTS Cartridge / Equipment Identification

Primary Equipment:

EDTC Gamma Ray Detector	EDTG − A/B
Enhanced DTS Cartridge	EDTC − B

Auxiliary Equipment:

EDTC Housing	EDTH − B

Enhanced DTS Cartridge Wellsite Calibration

EDTC Accelerometer Calibration

Phase	EDTC Z−Axis Acceleration F/S2	Value
Before		32.17

31.53 (Minimum)	32.19 (Nominal)	32.84 (Maximum)

Before: 30−Jul−2012 18:47

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		76.32	Before		153.5	Before		165.0

0 (Minimum)	30.00 (Nominal)	120.0 (Maximum)	139.6 (Minimum)	153.5 (Nominal)	167.5 (Maximum)	150.0 (Minimum)	165.0 (Nominal)	180.0 (Maximum)

Before: 30−Jul−2012 8:42

Company: **Fidelity Exploration & Production Co.**

Schlumberger

Well: **Sioux Ranch 22−11**
Field: **Wildcat**
County: **Sioux**
State: **Nebraska**

Platform Express
Triple Combo