Schlumberger

Company: **Conoco Phillips Company**

Well: **Tebo 32−3H**
Field: **Wildcat**
County: **Arapahoe** State: **Colorado**

Platform Express
Compensated Neutron
Litho Density

County: Arapahoe
Field: Wildcat
Location: SESW Sec. 32, T4S, R64W
Well: Tebo 32−3H
Company: Conoco Phillips Company

LOCATION

SESW Sec. 32, T4S, R64W
SHL: 350' FSL X 1980' FWL
Lat/Long: 39.653322 N / 104.577111 W

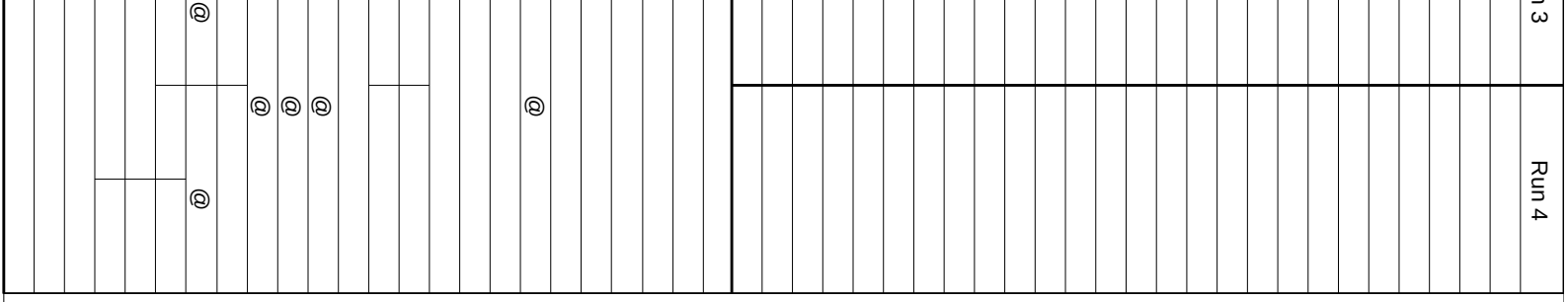
Elev.: K.B. 5992.00 ft
G.L. 5968.00 ft
D.F. 5991.00 ft

Permanent Datum: Ground Level Elev.: 5968.00 ft
Log Measured From: Kelly Bushing 24.00 ft above Perm. Datum
Drilling Measured From: Kelly Bushing

API Serial No.	Section	Township	Range
05−005−07178−0000	32	4S	64W

	Run 1	Run 2	Run 3
Logging Date	7−Jun−2012		
Run Number	1		
Depth Driller	8300 ft		
Schlumberger Depth	8313 ft		
Bottom Log Interval	8305 ft		
Top Log Interval	2224 ft		
Casing Driller Size @ Depth	9.625 in @ 2214 ft	@	@
Casing Schlumberger	2224 ft		
Bit Size	8.750 in		
Type Fluid In Hole	Oil Based Mud		
MUD Density / Viscosity	9.1 lbm/gal / 51 s		
MUD Fluid Loss / PH	/		
MUD Source Of Sample	Flowline		
RM @ Measured Temperature	41.050 ohm.m @ 120 degF	@	@
RMF @ Measured Temperature	@	@	@
RMC @ Measured Temperature	@	@	@
Source RMF / RMC	Calculated / Calculated		
RM @ MRT / RMF @ MRT	23.152 @ 218 / @ 218	@ / @	@ / @
Maximum Recorded Temperatures	218 degF		
Circulation Stopped / Time	6−Jun−2012 / 14:00		
Logger On Bottom / Time	7−Jun−2012 / 12:00		
Unit Number / Location	2135 / Ft. Morgan, CO		
Recorded By	Tim Hoffman		
Witnessed By	Drew Friedrichs		

	Run 1	Run 2	Run 3
Logging Date			
Run Number			
Depth Driller			
Schlumberger Depth			
Bottom Log Interval			
Top Log Interval			
Casing Driller Size @ Depth	@		
Casing Schlumberger			
Bit Size			
Type Fluid In Hole			
MUD Density / Viscosity	/		
MUD Fluid Loss / PH	/		
MUD Source Of Sample			
RM @ Measured Temperature	@		
RMF @ Measured Temperature	@		
RMC @ Measured Temperature	@		
Source RMF / RMC	/		
RM @ MRT / RMF @ MRT	@ / @		
Maximum Recorded Temperatures			
Circulation Stopped / Time	/		
Logger On Bottom / Time	/		
Unit Number / Location	/		
Recorded By			
Witnessed By			



DEPTH SUMMARY LISTING

Date Created: 7−JUN−2012 11:51:06

Depth System Equipment

Depth Measuring Device		Tension Device		Logging Cable	
Type:	IDW−B	Type:	CMTD−B/A	Type:	7−46P−XS
Serial Number:	4938	Serial Number:	1919	Serial Number:	
Calibration Date:	11−Apr−2012	Calibration Date:	11−May−201	Length:	24000 FT
Calibrator Serial Number:		Calibrator Serial Number:	100513		
Calibration Cable Type:	7−46P−XS	Number of Calibration Points:	10	Conveyance Method:	Wireline
Wheel Correction 1:	−6	Calibration RMS:	11	Rig Type:	LAND
Wheel Correction 2:	−6	Calibration Peak Error:	22		

Depth Control Parameters

Log Sequence:	First Log In the Well
Rig Up Length At Surface:	0.00 FT
Rig Up Length At Bottom:	0.00 FT
Rig Up Length Correction:	0.00 FT
Stretch Correction:	6.00 FT
Tool Zero Check At Surface:	

Depth Control Remarks

1. All Schlumberger depth policies followed
2. IDW used as primary depth reference. Z−chart used as secondary
3.
4.
5.
6.

OTHER SERVICES1	OTHER SERVICES2
OS1: MSIP	OS1:
OS2: HNGS	OS2:
OS3: PPC	OS3:
OS4: RT Scanner	OS4:
OS5:	OS5:

REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
This is the first run in hole	
Toolstring run as per tool sketch	
Matrix: Limestone (2.71 g/cc)	
Thermometer in head read 218 DegF at surface	

Thermometer in head read 125 Deg. at surface

Rig: H&P 280

Crew: Josh Strand, Mark Hoffman

RUN 1		RUN 2	
SERVICE ORDER #:	BFN8−00178	SERVICE ORDER #:	
PROGRAM VERSION:	19C1−222	PROGRAM VERSION:	
FLUID LEVEL:	100 ft	FLUID LEVEL:	

LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION

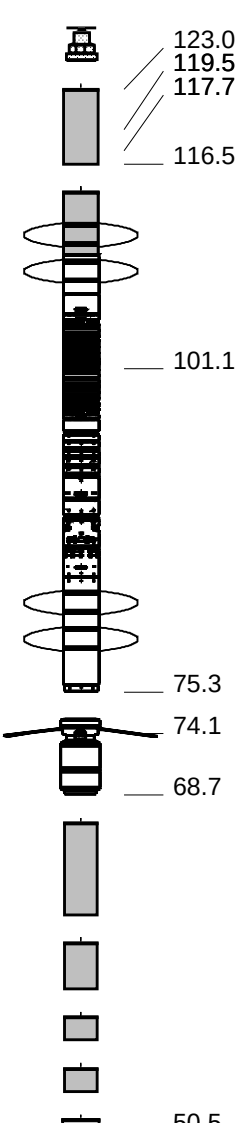
RUN 1 RUN 2

SURFACE EQUIPMENT

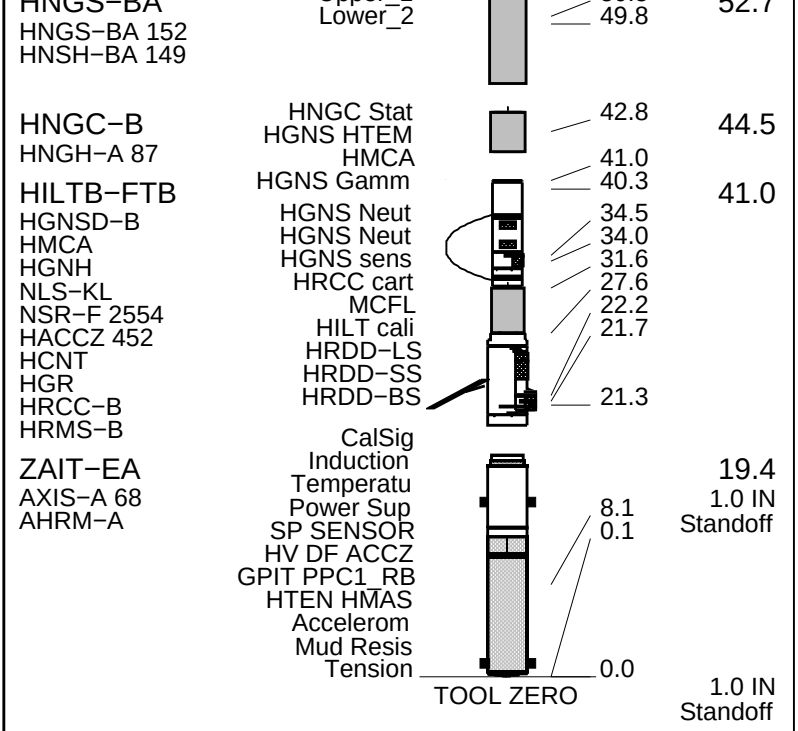
GSR−U/Y
NCT−B
CNB−AB
NCS−VB

GSR−U 120
WITM (EDTS)−A

DOWNHOLE EQUIPMENT



LEH−QT		126.0
EDTC−B EDTH−B EDTC−B		123.0
MAPC−B MAPC−BA ECH−SF MAMS−BA		116.5
MAXS−B MASS−BA MAXS−BA		95.5
PPC1 PPC1−B PPC_CAL_STD		75.3
AH−NMA AH−NMA		68.7
GPIT−C GPIC−C		60.7
AH−107		56.7
AH−107		54.7
UNGS_BA		52.7



Schlumberger

MAIN POROSITY 5" = 100’

MAXIS Field Log

Output DLIS Files

DEFAULT	**AIT_TLD_MCFL_CNL_029LUP**	**FN:28**	**PRODUCER**	**07−Jun−2012 11:58**

OP System Version: 19C1−222

ZAIT−EA	**HFE−5140−OP19.1−AIT−ZAI**	**HILTB−FTB**	**19C1−222**
HNGC−B	**HFE−5203−OP19.1−NUCL**	**HNGS−BA**	**HFE−5203−OP19.1−NUCL**
GPIT−C	**19C1−222**	**PPC1**	**19C1−222**
MAXS−B	**19C1−222**	**MAPC−B**	**19C1−222**
EDTC−B	**19C1−222**		

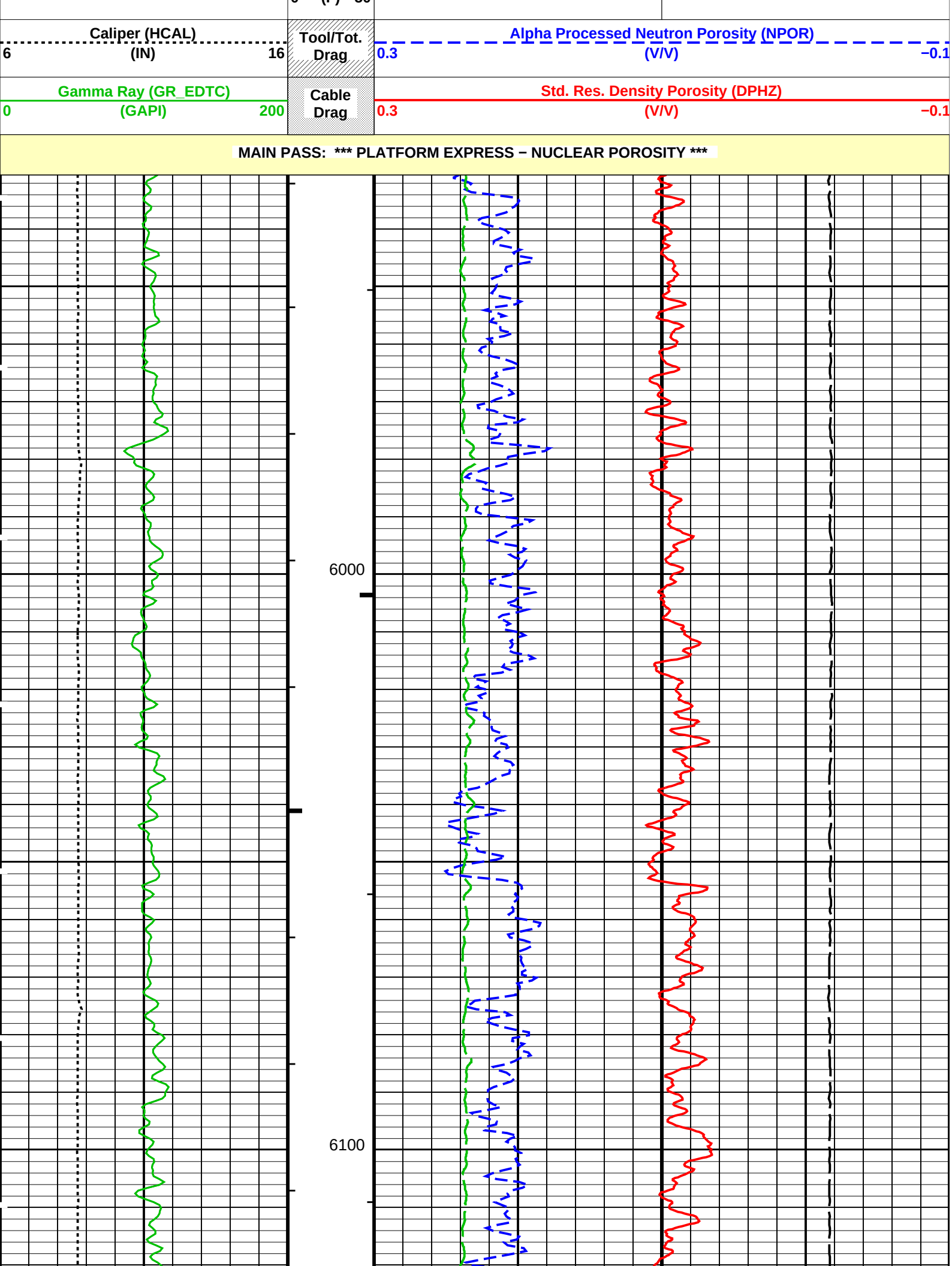
PIP SUMMARY

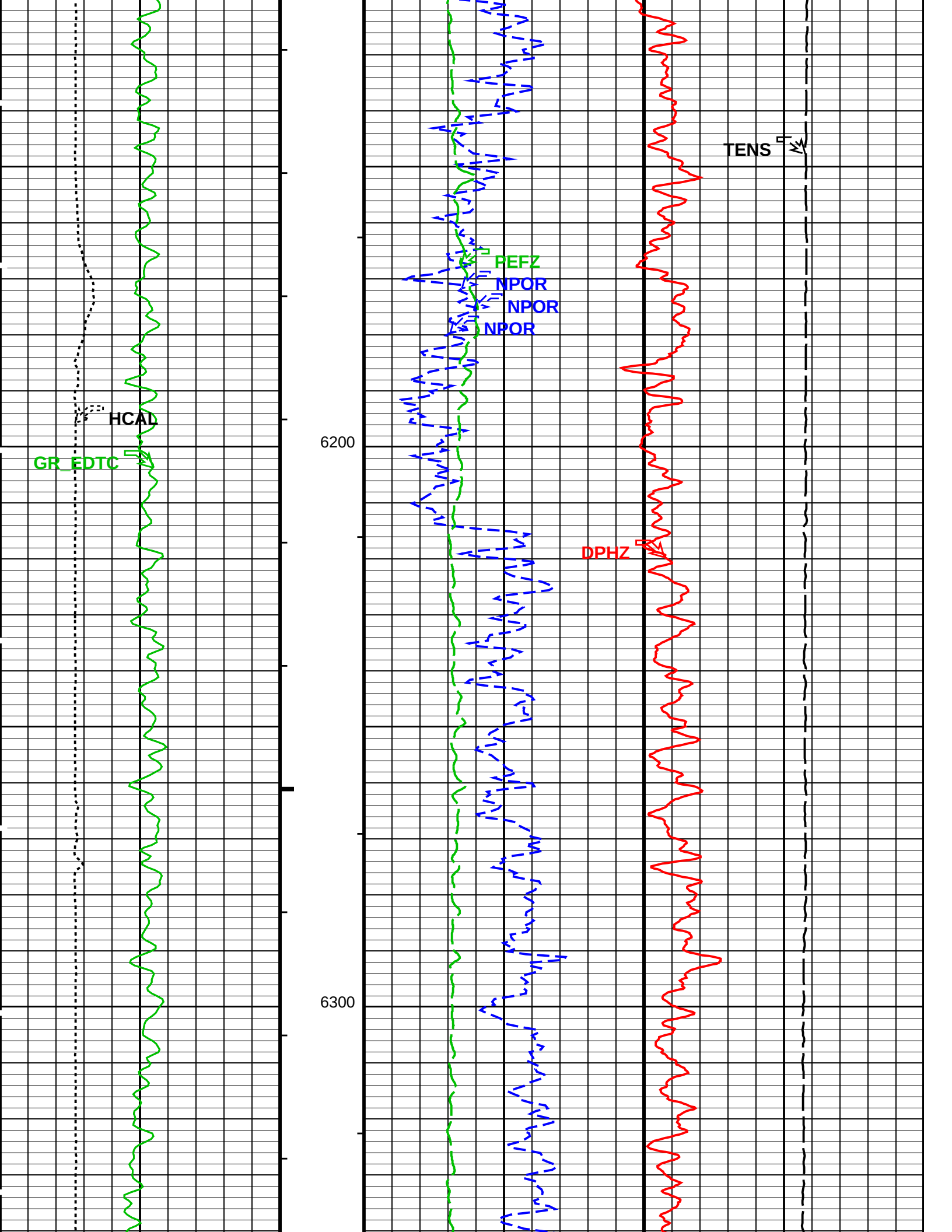
Integrated Hole Volume Minor Pip Every 10 F3
Integrated Hole Volume Major Pip Every 100 F3
Integrated Cement Volume Minor Pip Every 10 F3
Integrated Cement Volume Major Pip Every 100 F3
Time Mark Every 60 S

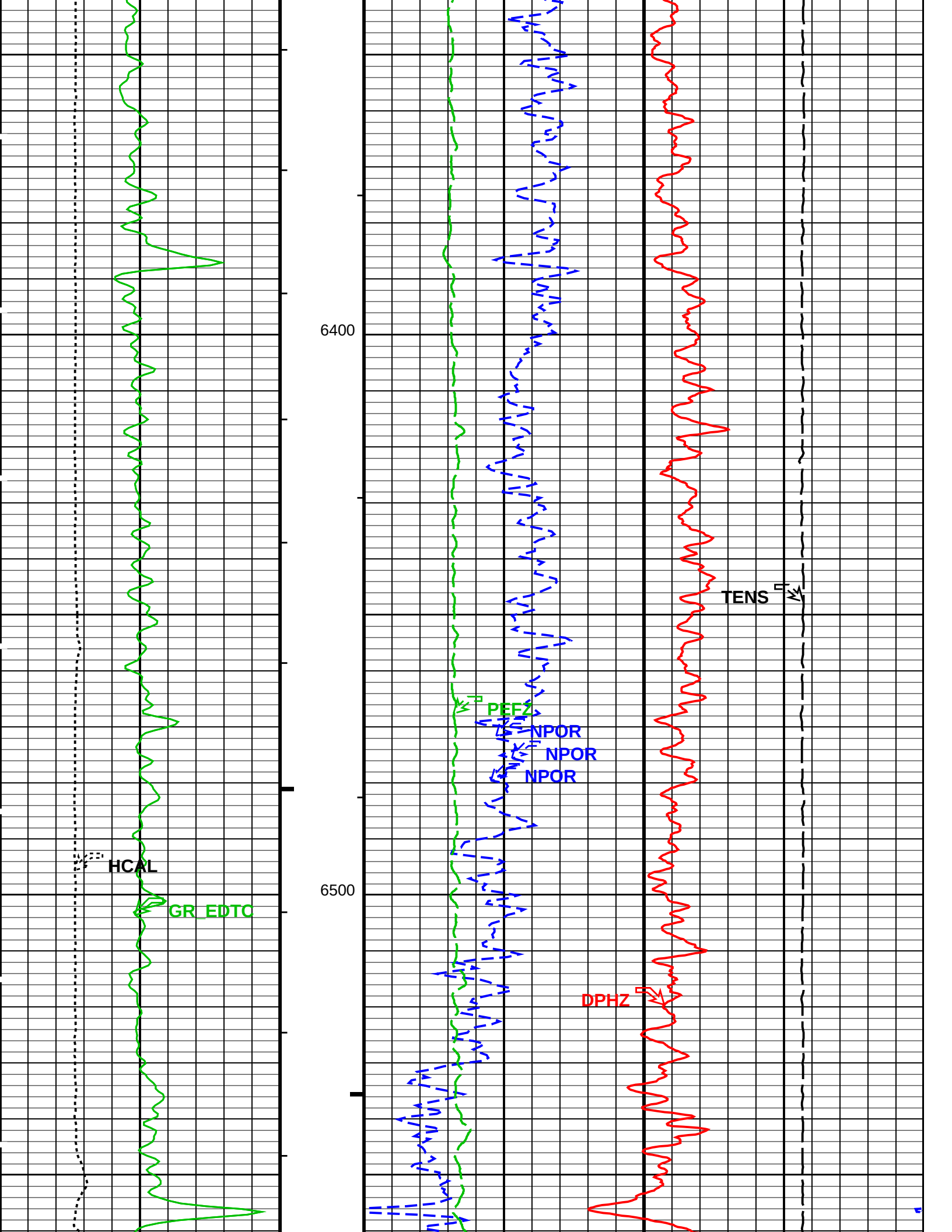
NPOR Backup

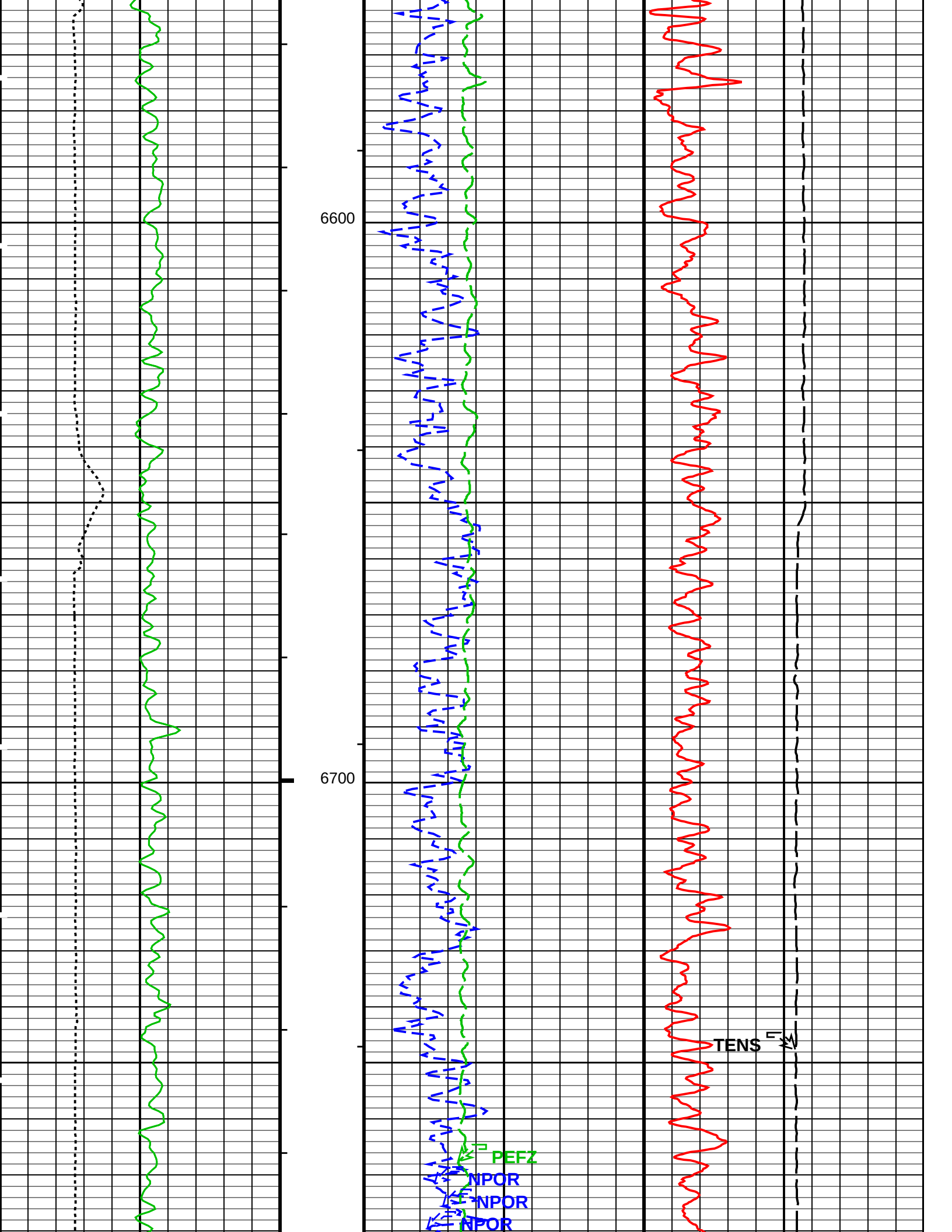
Gas Effect

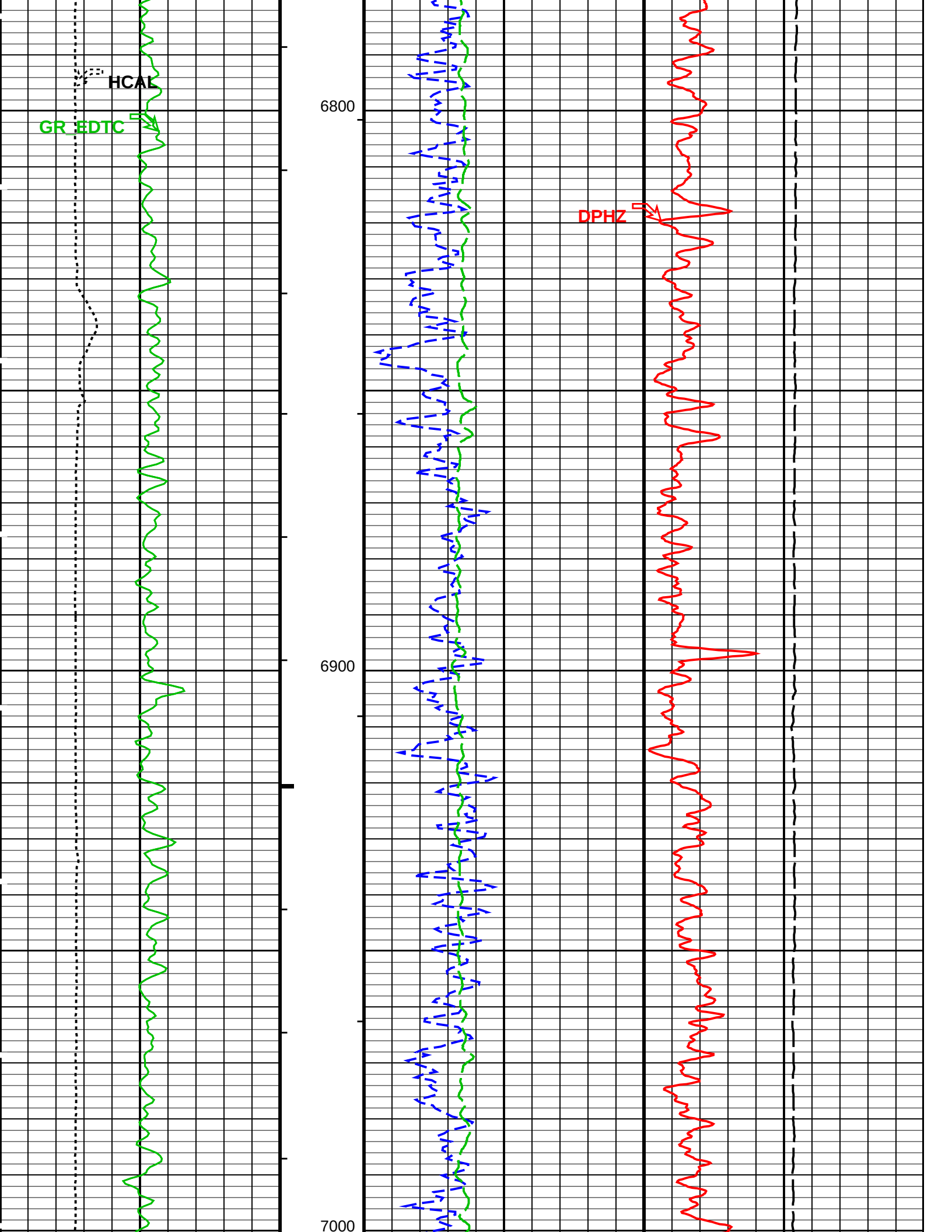
Stuck Stretch (STIT)	Std. Res. Formation Pe (PEFZ)	Tension (TENS)
0 (F) 50	0 (−−−− 10	10000 (LBF) 0

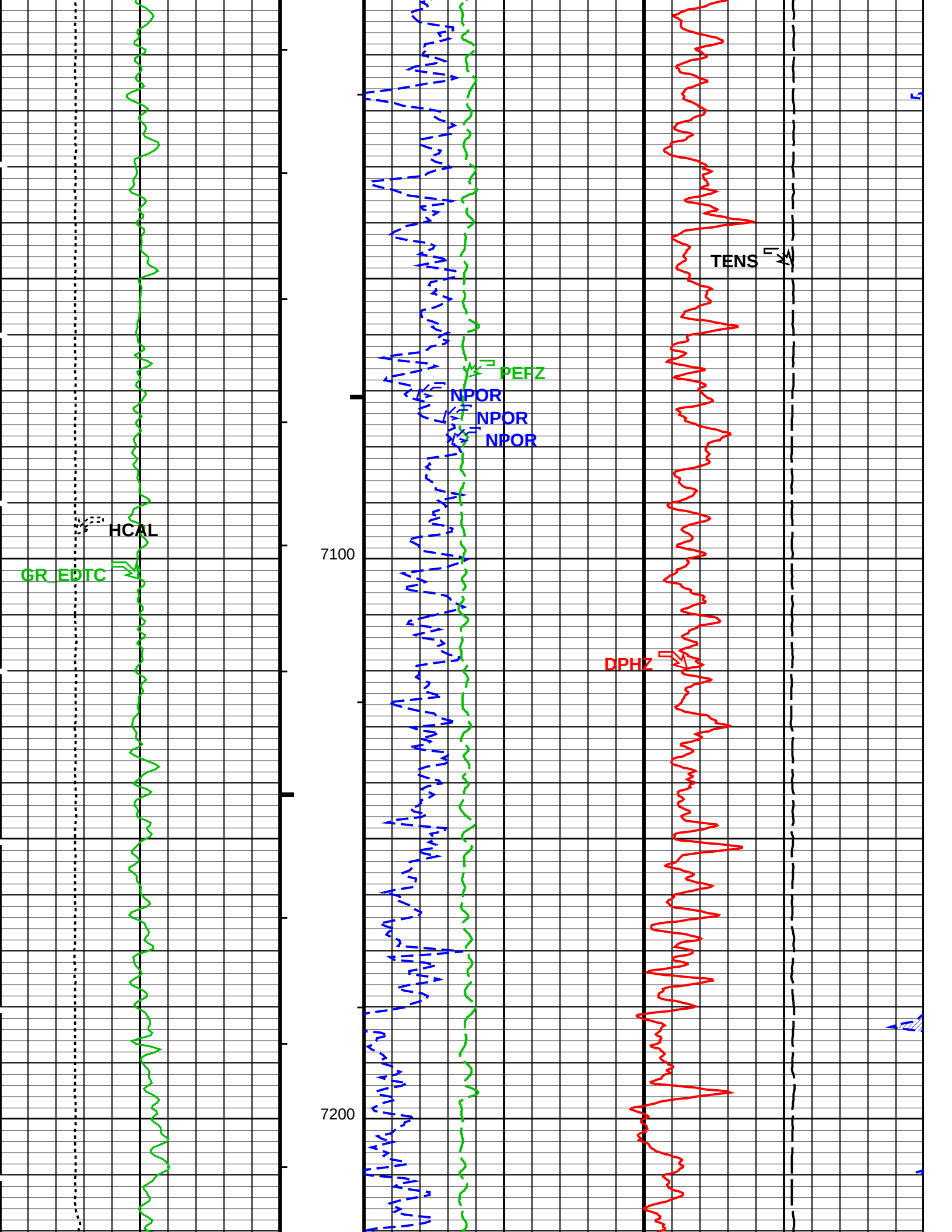

Caliper (HCAL)
6
(IN)
16
Tool/Tot. Drag
Alpha Processed Neutron Porosity (NPOR)
0.3
(V/V)
−0.1
Gamma Ray (GR_EDTC)
0
(GAPI)
200
Cable Drag
Std. Res. Density Porosity (DPHZ)
0.3
(V/V)
−0.1
MAIN PASS: *** PLATFORM EXPRESS − NUCLEAR POROSITY ***
6000
6100

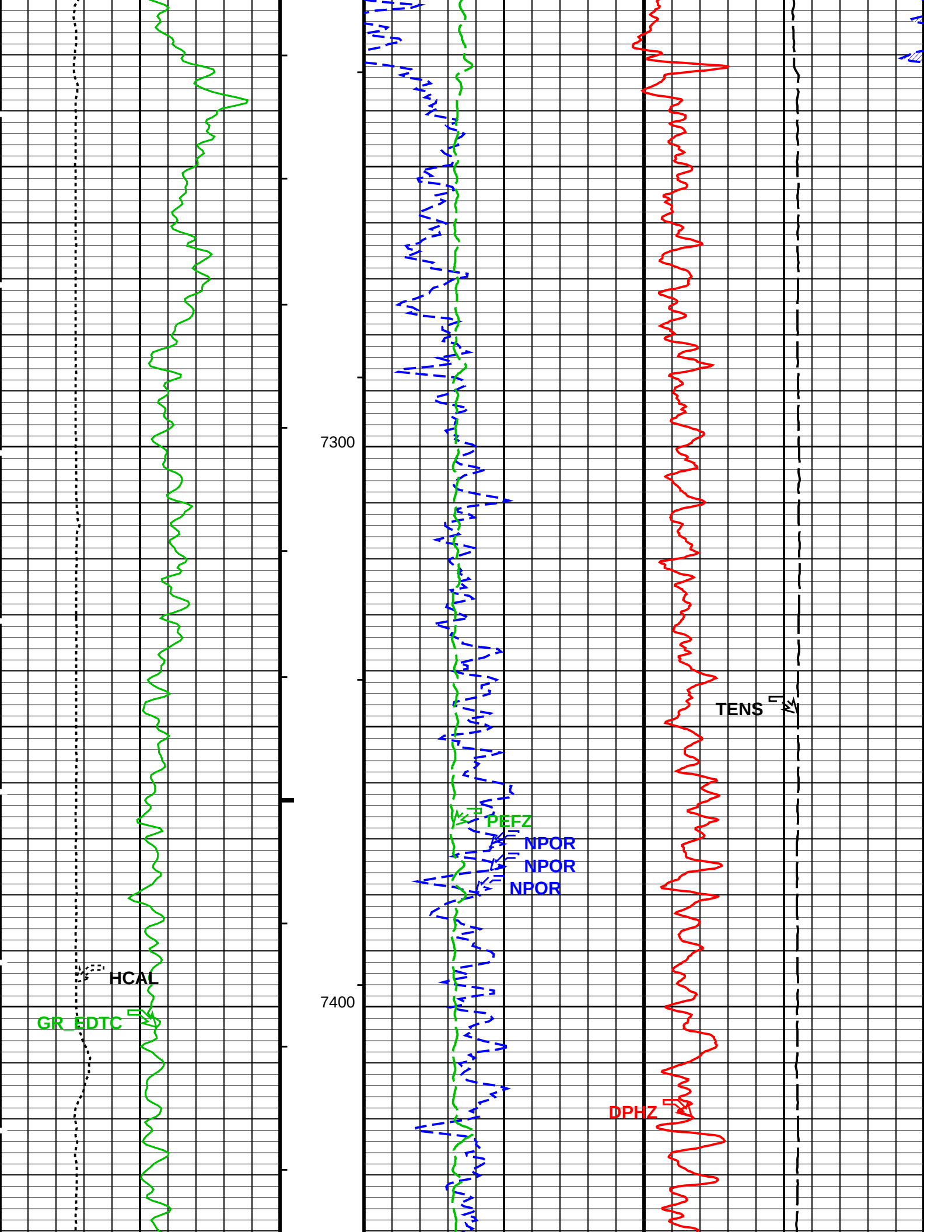

TENS
PEFZ
NPOR
NPOR
NPOR
HCAL
GR_EDTC
DPHZ
6200
6300

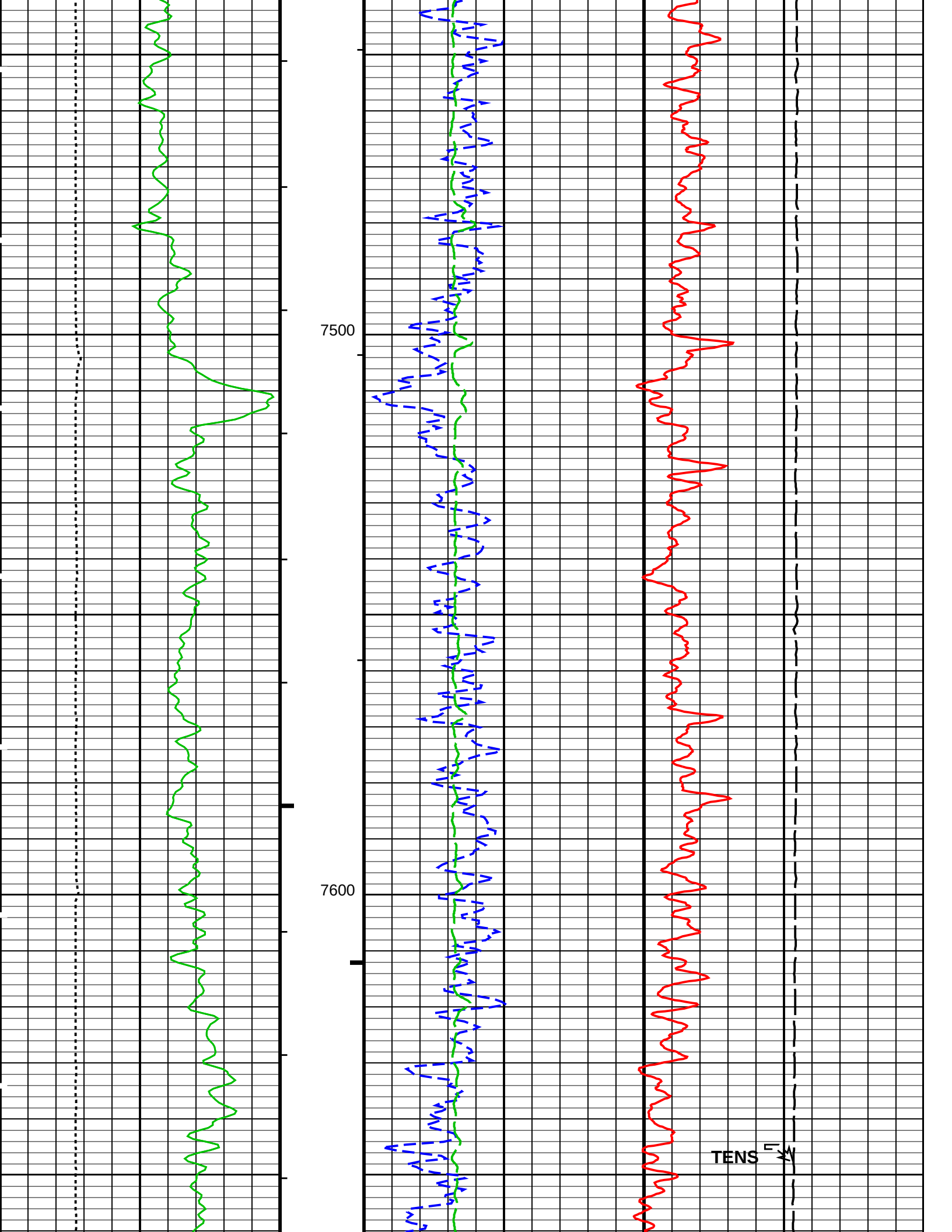

6400
6500
HCAL
GR_EDTC
PEFZ
NPOR
NPOR
NPOR
TENS
DPHZ

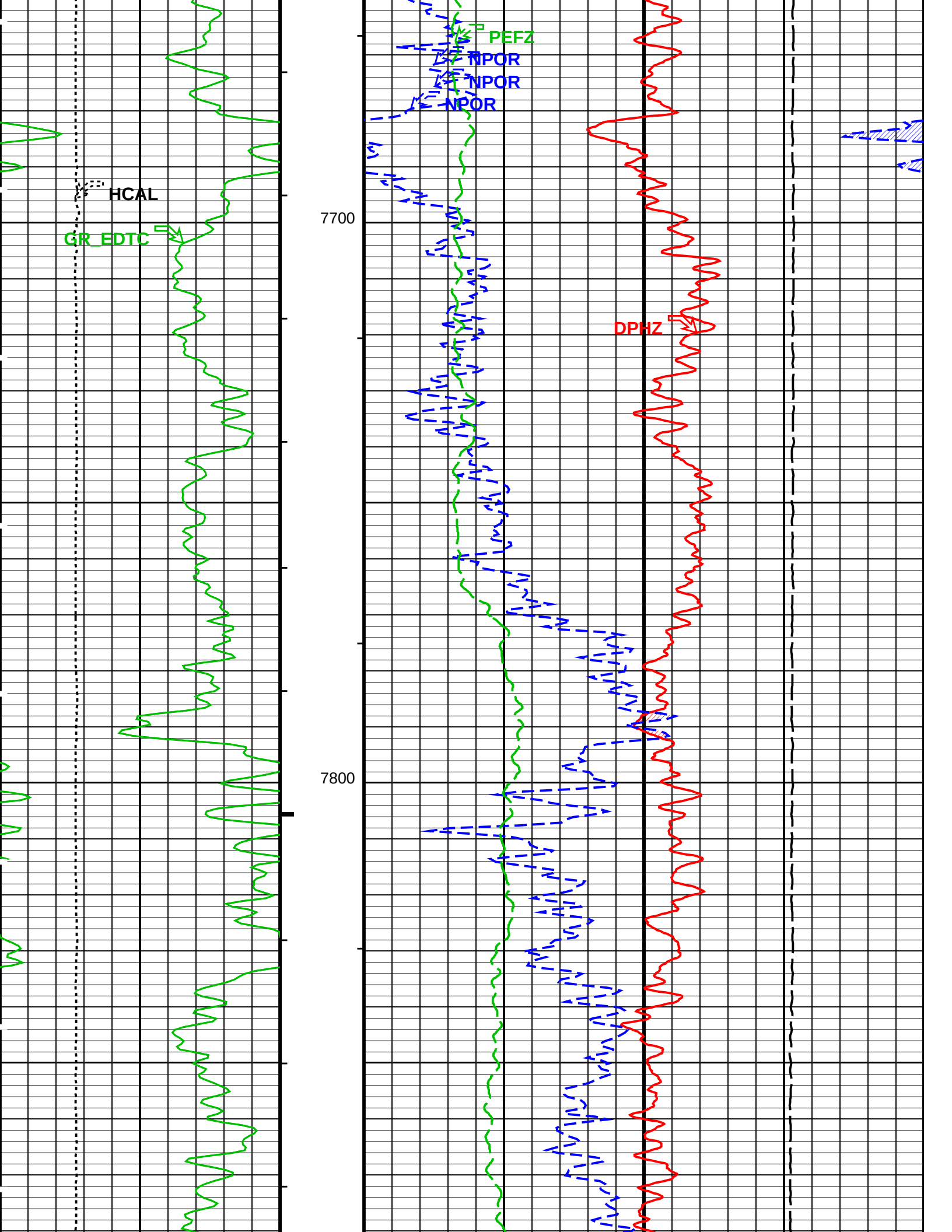

6600
6700
TENS
PEFZ
NPOR
NPOR
NPOR

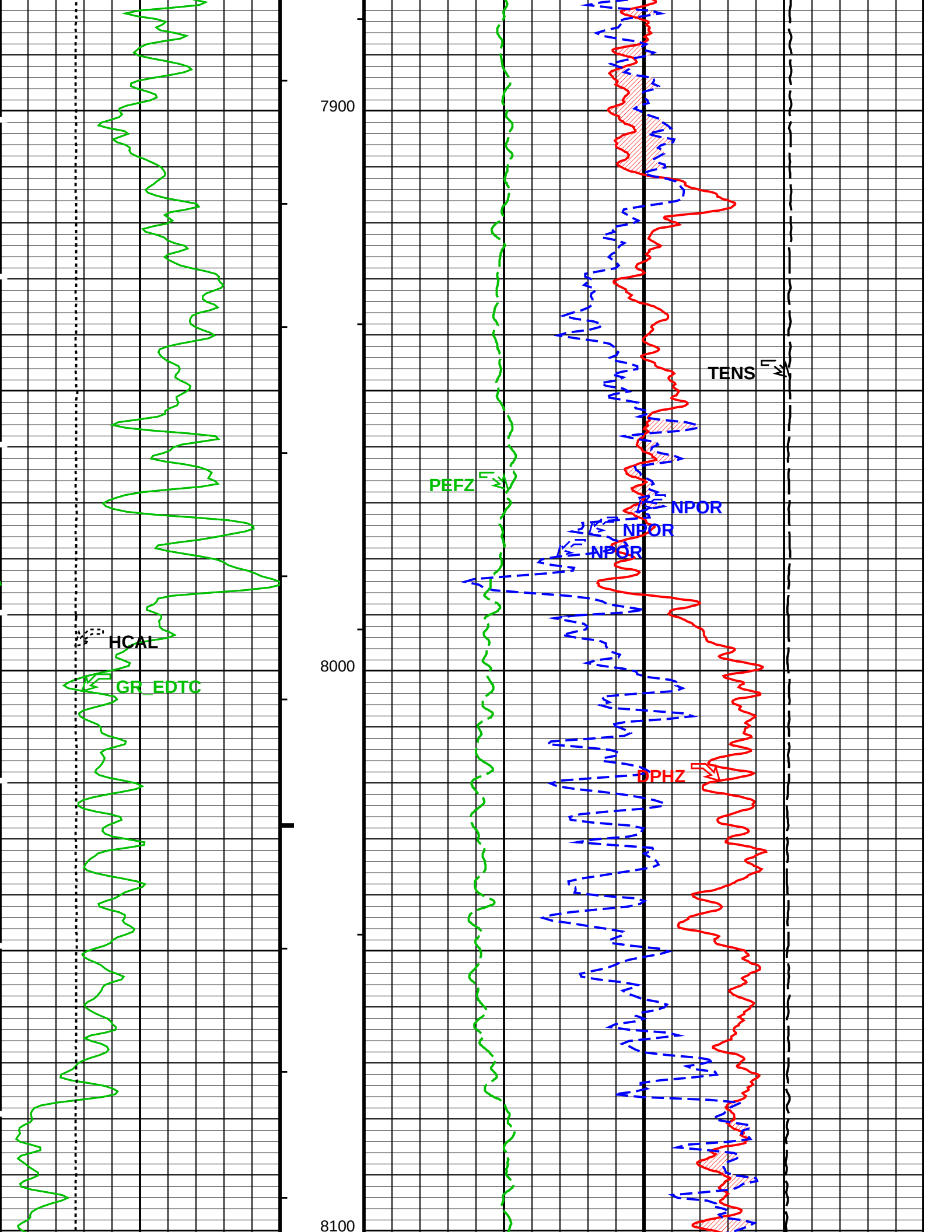

HCAL
GR_EDTC
DPHZ
6800
6900
7000

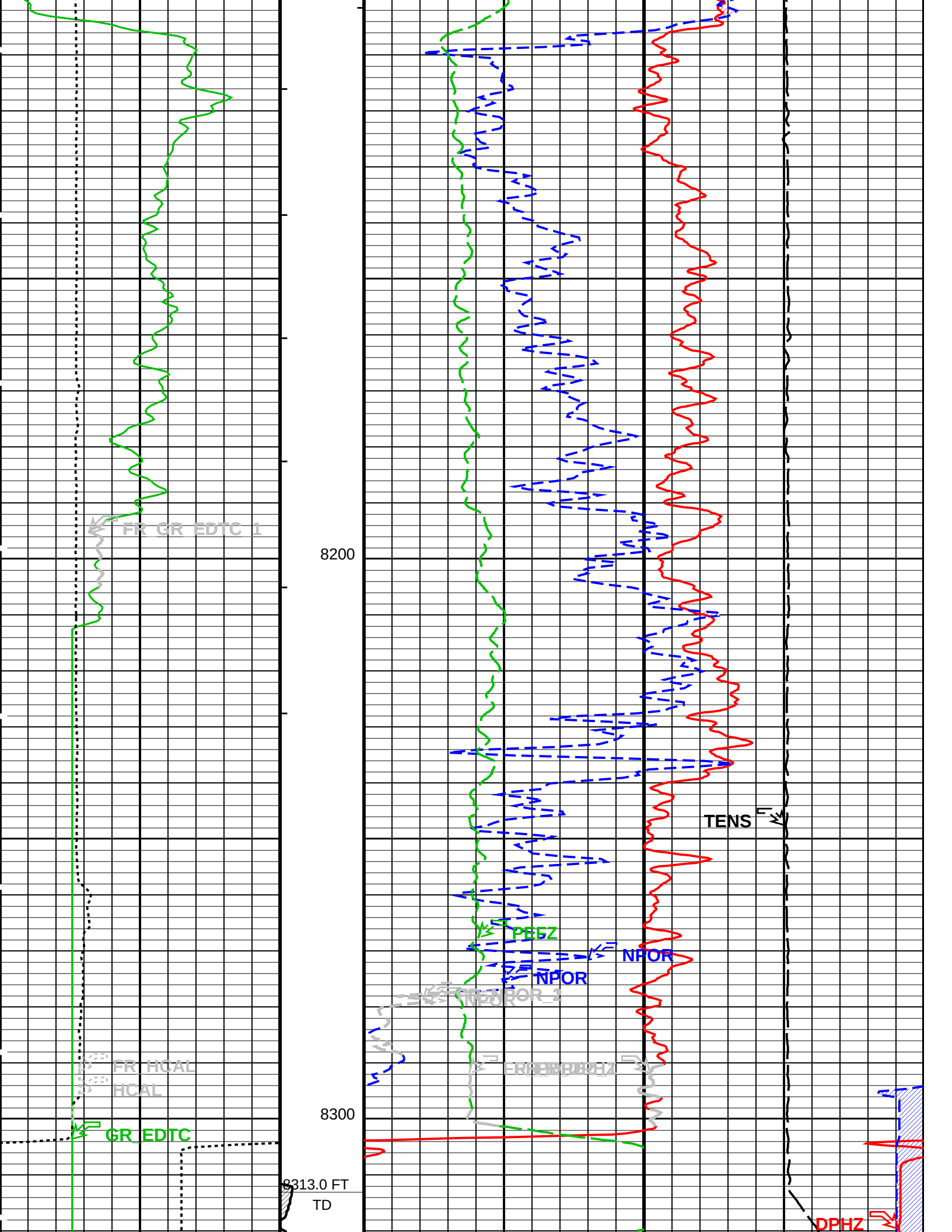

TENS
PEFZ
NPOR
NPOR
NPOR
HCAL
GR_EDTC
7100
DPHZ
7200

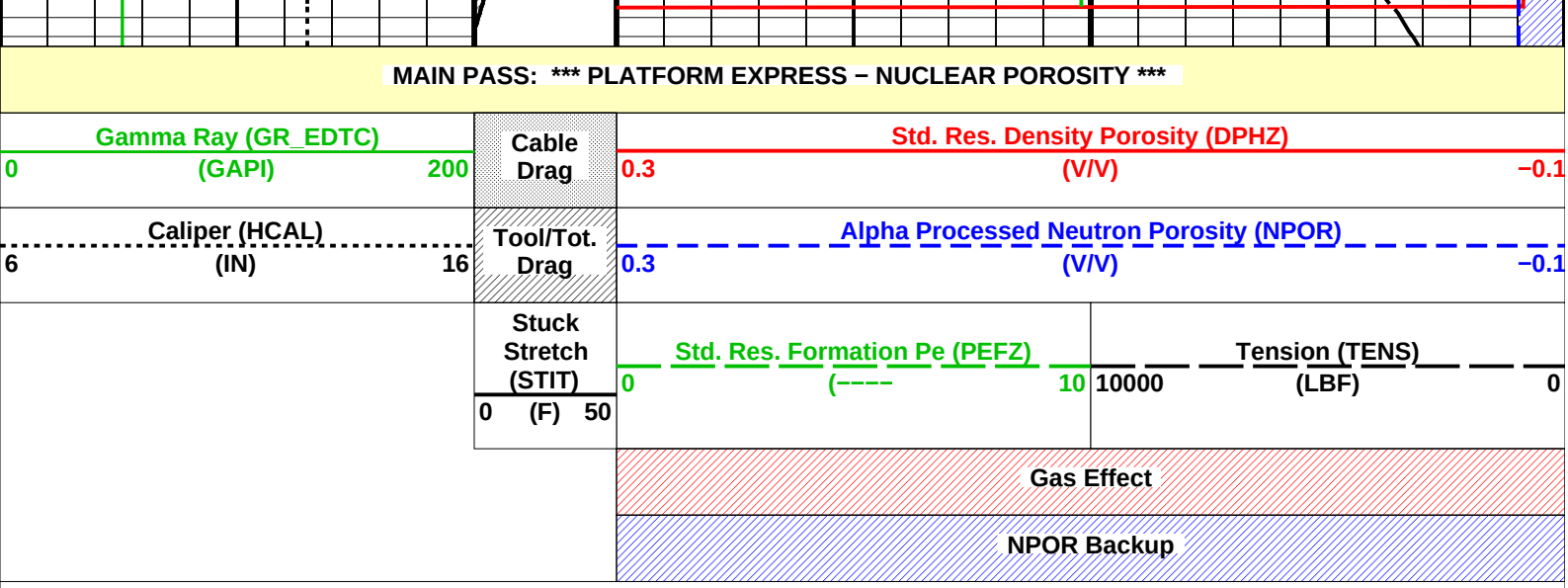

7300
7400
HCAL
GR_EDTC
PEFZ
NPOR
NPOR
NPOR
TENS
DPHZ


7500
7600
TENS


PEFZ
NPOR
NPOR
NPOR
HCAL
GR_EDTC
7700
DPHZ
7800


7900
8000
8100
HCAL
GR_EDTC
PEFZ
TENS
NPOR
NPOR
NPOR
DPHZ


FR_GR_EDTC_1
8200
TENS
PEFZ
NPOR
NPOR
NPOR_1
FR_HCAL
HCAL
GR_EDTC
8300
8313.0 FT
TD
DPHZ



Parameters

DLIS Name	Description	Value	
	ZAIT−EA: 3−D Array Induction Tool − ZAIT−E		
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
TRI1DV	3D 1D Code Version Number	0	
TRIBHV	Array Induction Borehole Correction Code Version Number	20110	
TRIRT	3D Rotation Selector	NorTH	
	HILTB−FTB: High resolution Integrated Logging Tool−DTS		
BHFL	Borehole Fluid Type	OIL	
BHFL_TLD	HILT Nuclear Mud Base	OIL	
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	
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		
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
	MAPC−B: Multimode Array Sonic Power Cartridge		
BHS	Borehole Status	OPEN	

BS	Bit Size	8.750	IN
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
EDTC−B: Enhanced DTS Cartridge			
BHFL	Borehole Fluid Type	OIL	
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	
FCD	Future Casing (Outer) Diameter	7	IN
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
HVCS	Integrated Hole Volume Caliper Selection	AUTOMATIC	
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	8300.00	FT
TDL	Total Depth − Logger	8313.00	FT
System and Miscellaneous			
BSAL	Borehole Salinity	−50000.00	PPM
CSIZ	Current Casing Size	9.625	IN
DFD	Drilling Fluid Density	9.10	LB/G
DORL	Depth Offset for Repeat Analysis	0.0	FT
MST	Mud Sample Temperature	120.00	DEGF
RMFS	Resistivity of Mud Filtrate Sample	−50000.0000	OHMM
TD	Total Depth	8313	FT

Format: PORO Vertical Scale: 5" per 100' Graphics File Created: 07−Jun−2012 11:58

OP System Version: 19C1−222

ZAIT−EA	HFE−5140−OP19.1−AIT−ZAI	HILTB−FTB	19C1−222
HNGC−B	HFE−5203−OP19.1−NUCL	HNGS−BA	HFE−5203−OP19.1−NUCL
GPIT−C	19C1−222	PPC1	19C1−222
MAXS−B	19C1−222	MAPC−B	19C1−222
EDTC−B	19C1−222		

Output DLIS Files

DEFAULT AIT_TLD_MCFL_CNL_029LUP FN:28 PRODUCER 07−Jun−2012 11:58

Schlumberger

REPEAT ANALYSIS

MAXIS Field Log

Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_027PUP	FN:26	PRODUCER	07−Jun−2012 11:54	8323.5 FT	7903.5 FT

Output DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_029LUP	FN:28	PRODUCER	07−Jun−2012 11:58

OP System Version: 19C1−222

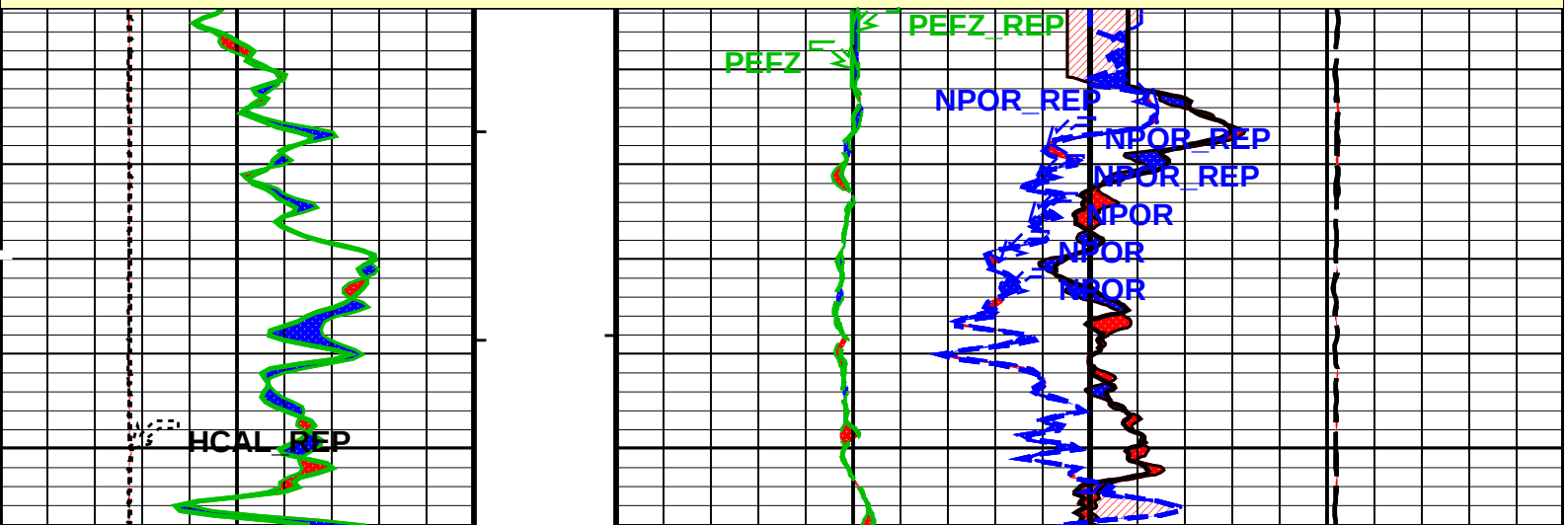
ZAIT−EA	HFE−5140−OP19.1−AIT−ZAI	HILTB−FTB	19C1−222
HNGC−B	HFE−5203−OP19.1−NUCL	HNGS−BA	HFE−5203−OP19.1−NUCL
GPIT−C	19C1−222	PPC1	19C1−222
MAXS−B	19C1−222	MAPC−B	19C1−222
EDTC−B	19C1−222		

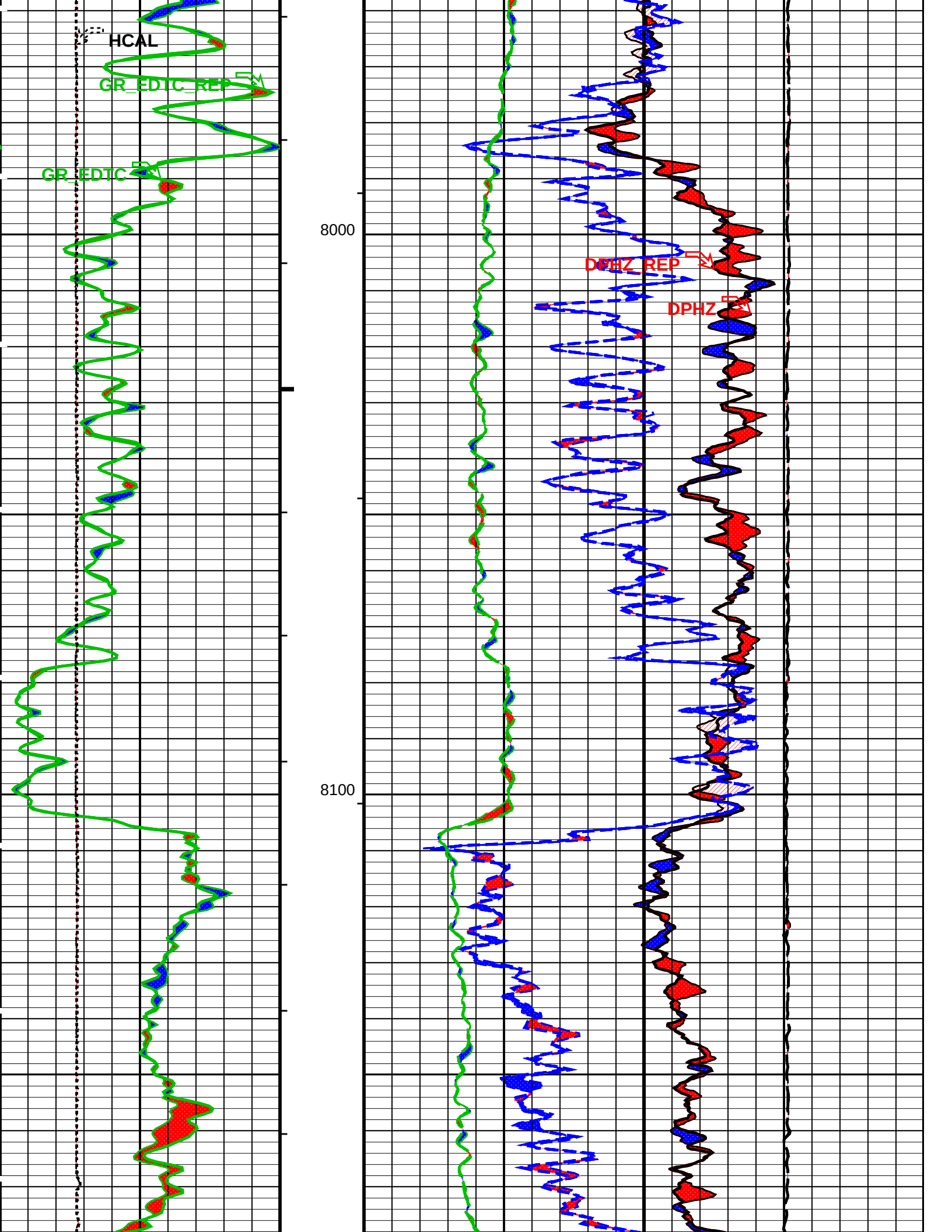
PIP SUMMARY

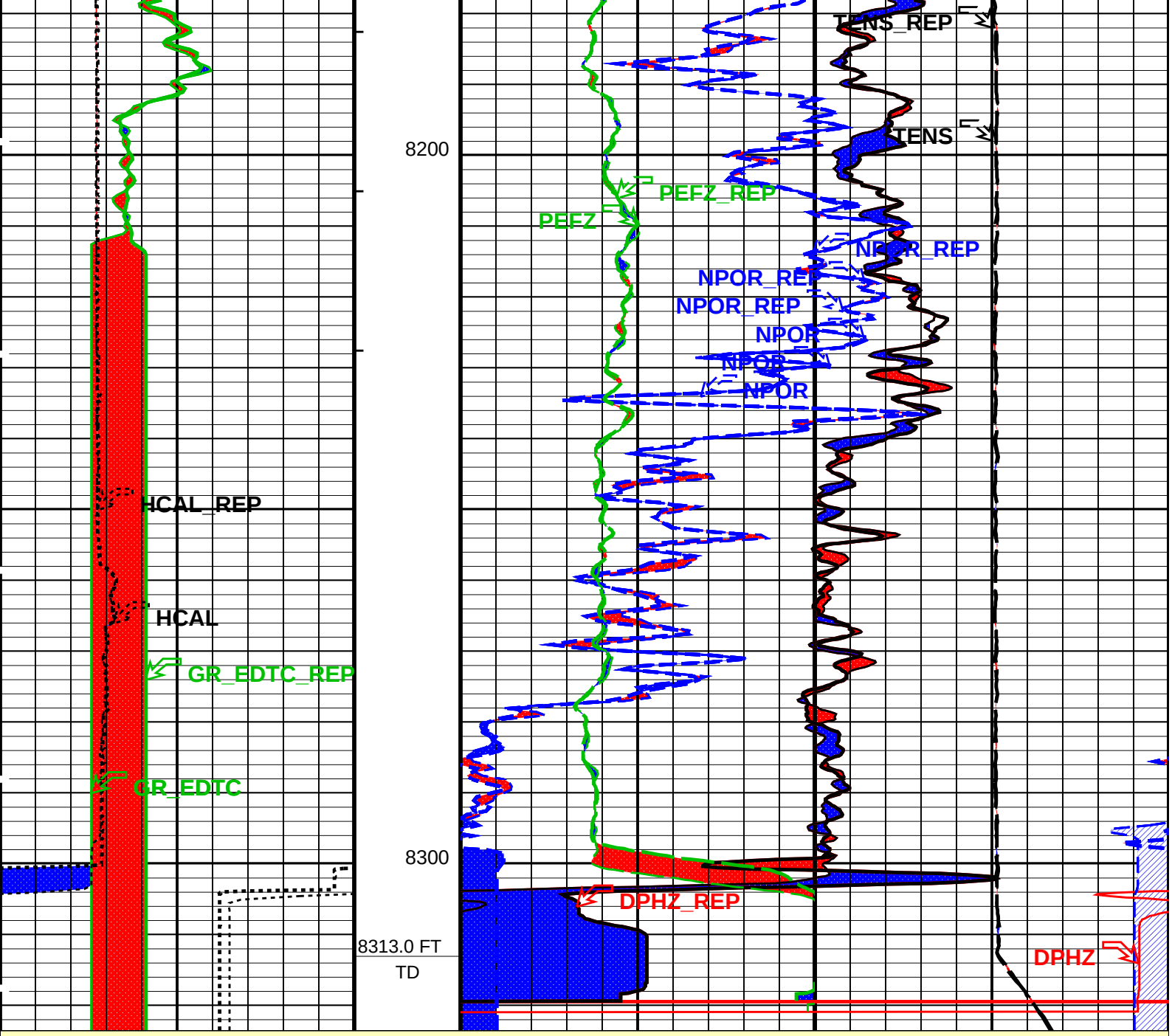
Integrated Hole Volume Minor Pip Every 10 F3
Integrated Hole Volume Major Pip Every 100 F3
Integrated Cement Volume Minor Pip Every 10 F3
Integrated Cement Volume Major Pip Every 100 F3
Time Mark Every 60 S

PEFZ_REP Curve (PEFZ_REP) 0 (−−−− 10
TENS_REP Curve (TENS_REP) 10000 (LBF) 0
NPOR_2_REP Curve (NPOR_REP) 0.7 (V/V) 0.3
NPOR_1_REP Curve (NPOR_REP) 0.3 (V/V) −0.1
NPOR Backup
Gas Effect
GR_EDTC_1_REP Curve (GR_EDTC_REP) 200 (GAPI) 400
NPOR_REP Curve (NPOR_REP) 0.3 (V/V) −0.1
HCAL_REP Curve (HCAL_REP) 6 (IN) 16
DPHZ_1_REP Curve (DPHZ_REP) 0.3 (V/V) −0.1
GR_EDTC_REP Curve (GR_EDTC_REP) 0 (GAPI) 200
DPHZ_REP Curve (DPHZ_REP) 0.3 (V/V) −0.1

MAIN PASS: *** PLATFORM EXPRESS − NUCLEAR POROSITY ***




HCAL
GR_EDTC_REP
GR_EDTC
8000
DPHZ_REP
DPHZ
8100



MAIN PASS: *** PLATFORM EXPRESS − NUCLEAR POROSITY ***

GR_EDTC_REP Curve (GR_EDTC_REP)
0 (GAPI) 200

HCAL_REP Curve (HCAL_REP)
6 (IN) 16

GR_EDTC_1_REP Curve (GR_EDTC_REP)
200 (GAPI) 400

DPHZ_REP Curve (DPHZ_REP)
0.3 (V/V) −0.1

DPHZ_1_REP Curve (DPHZ_REP)
0.3 (V/V) −0.1

NPOR_REP Curve (NPOR_REP)
0.3 (V/V) −0.1

Gas Effect

NPOR Backup

NPOR_1_REP Curve (NPOR_REP)
0.3 (V/V) −0.1

NPOR_2_REP Curve (NPOR_REP)
0.7 (V/V) 0.3

PEFZ_REP Curve (PEFZ_REP)

TENS_REP Curve (TENS_REP)

PIP SUMMARY

Integrated Hole Volume Minor Pip Every 10 F3
Integrated Hole Volume Major Pip Every 100 F3
Integrated Cement Volume Minor Pip Every 10 F3
Integrated Cement Volume Major Pip Every 100 F3
Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	ZAIT−EA: 3−D Array Induction Tool − ZAIT−E		
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
TRI1DV	3D 1D Code Version Number	0	
TRIBHV	Array Induction Borehole Correction Code Version Number	20110	
TRIRT	3D Rotation Selector	NorTH	
	HILTB−FTB: High resolution Integrated Logging Tool−DTS		
BHFL	Borehole Fluid Type	OIL	
BHFL_TLD	HILT Nuclear Mud Base	OIL	
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	
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		
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
	MAPC−B: Multimode Array Sonic Power Cartridge		
BHS	Borehole Status	OPEN	
BS	Bit Size	8.750	IN
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
	EDTC−B: Enhanced DTS Cartridge		
BHFL	Borehole Fluid Type	OIL	
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	
FCD	Future Casing (Outer) Diameter	7	IN
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
HVCS	Integrated Hole Volume Caliper Selection	AUTOMATIC	
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	8313.00	FT
System and Miscellaneous			
BSAL	Borehole Salinity	−50000.00	PPM
CSIZ	Current Casing Size	9.625	IN
DFD	Drilling Fluid Density	9.10	LB/G
DORL	Depth Offset for Repeat Analysis	0.0	FT
MST	Mud Sample Temperature	120.00	DEGF
RMFS	Resistivity of Mud Filtrate Sample	−50000.0000	OHMM
TD	Total Depth	8313	FT

Format: PORO_REP Vertical Scale: 5" per 100’ Graphics File Created: 07−Jun−2012 11:58

OP System Version: 19C1−222

ZAIT−EA	HFE−5140−OP19.1−AIT−ZAI	HILTB−FTB	19C1−222
HNGC−B	HFE−5203−OP19.1−NUCL	HNGS−BA	HFE−5203−OP19.1−NUCL
GPIT−C	19C1−222	PPC1	19C1−222
MAXS−B	19C1−222	MAPC−B	19C1−222
EDTC−B	19C1−222		

Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_027PUP	FN:26	PRODUCER	07−Jun−2012 11:54	8323.5 FT	7903.5 FT

Output DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_029LUP	FN:28	PRODUCER	07−Jun−2012 11:58

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MAIN DENSITY 5" = 100’

MAXIS Field Log

Output DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_029LUP	FN:28	PRODUCER	07−Jun−2012 11:58

OP System Version: 19C1−222

ZAIT−EA	HFE−5140−OP19.1−AIT−ZAI	HILTB−FTB	19C1−222
HNGC−B	HFE−5203−OP19.1−NUCL	HNGS−BA	HFE−5203−OP19.1−NUCL
GPIT−C	19C1−222	PPC1	19C1−222
MAXS−B	19C1−222	MAPC−B	19C1−222
EDTC−B	19C1−222		

EDTC-B 10351-222

PIP SUMMARY

Time Mark Every 60 S

SHALE

SAND

LIME

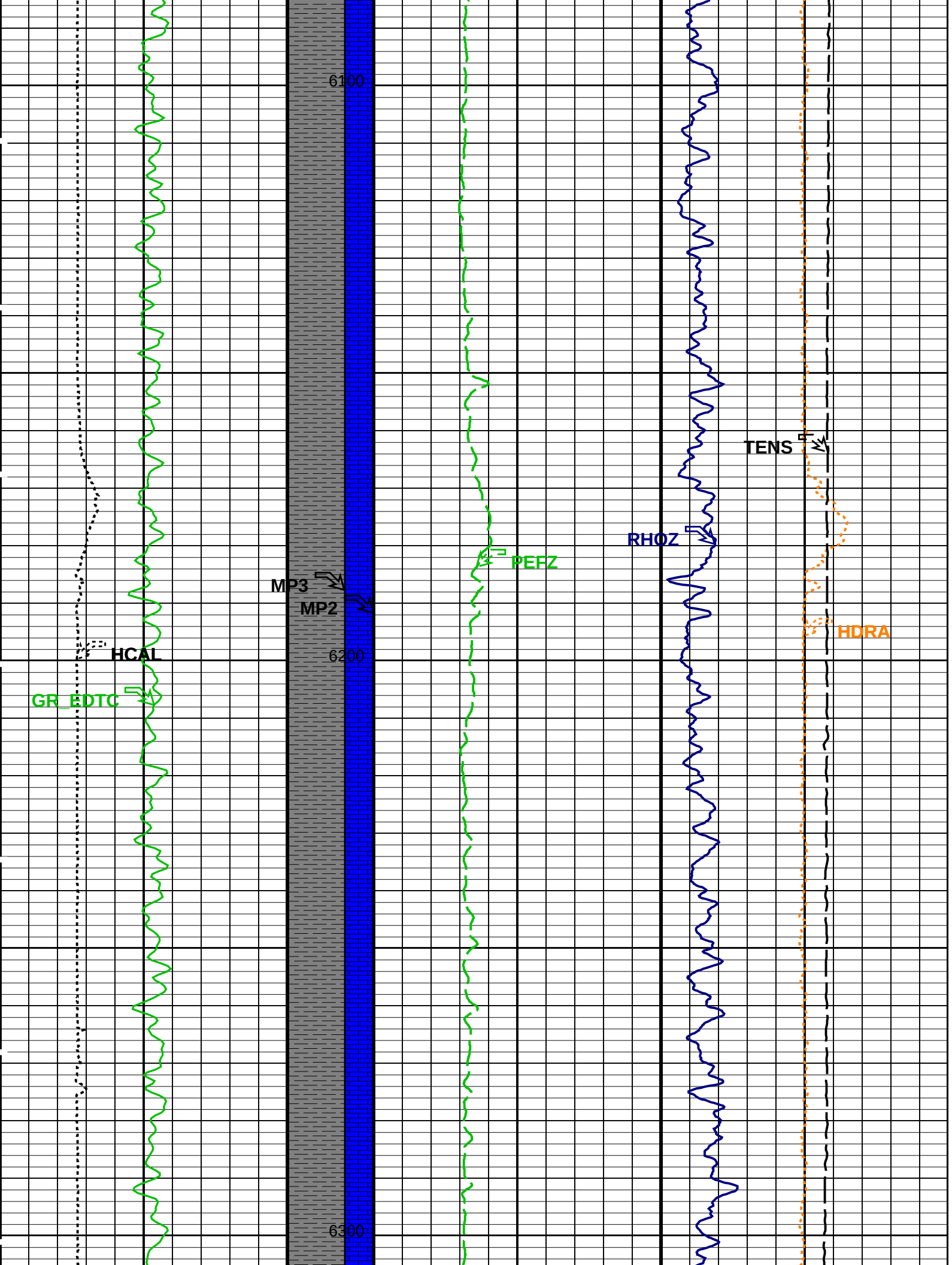
Caliper (HCAL)			Tension (TENS)		
6	(IN)	16	10000	(LBF)	0

Std. Res. Formation Density (RHOZ)		
2	(G/C3)	3

Gamma Ray (GR_EDTC)			Stuck Stretch (STIT)			Std. Res. Formation Pe (PEFZ)			Density Correction (HDRA)		
0	(GAPI)	200	0	(F)	50	0	(-----	10	−0.25	(G/C3)	0.25

MAIN PASS: * PLATFORM EXPRESS − LITHOLOGY DENSITY ***

6000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6200
6300
TENS
RHOZ
PEFZ
MP3
MP2
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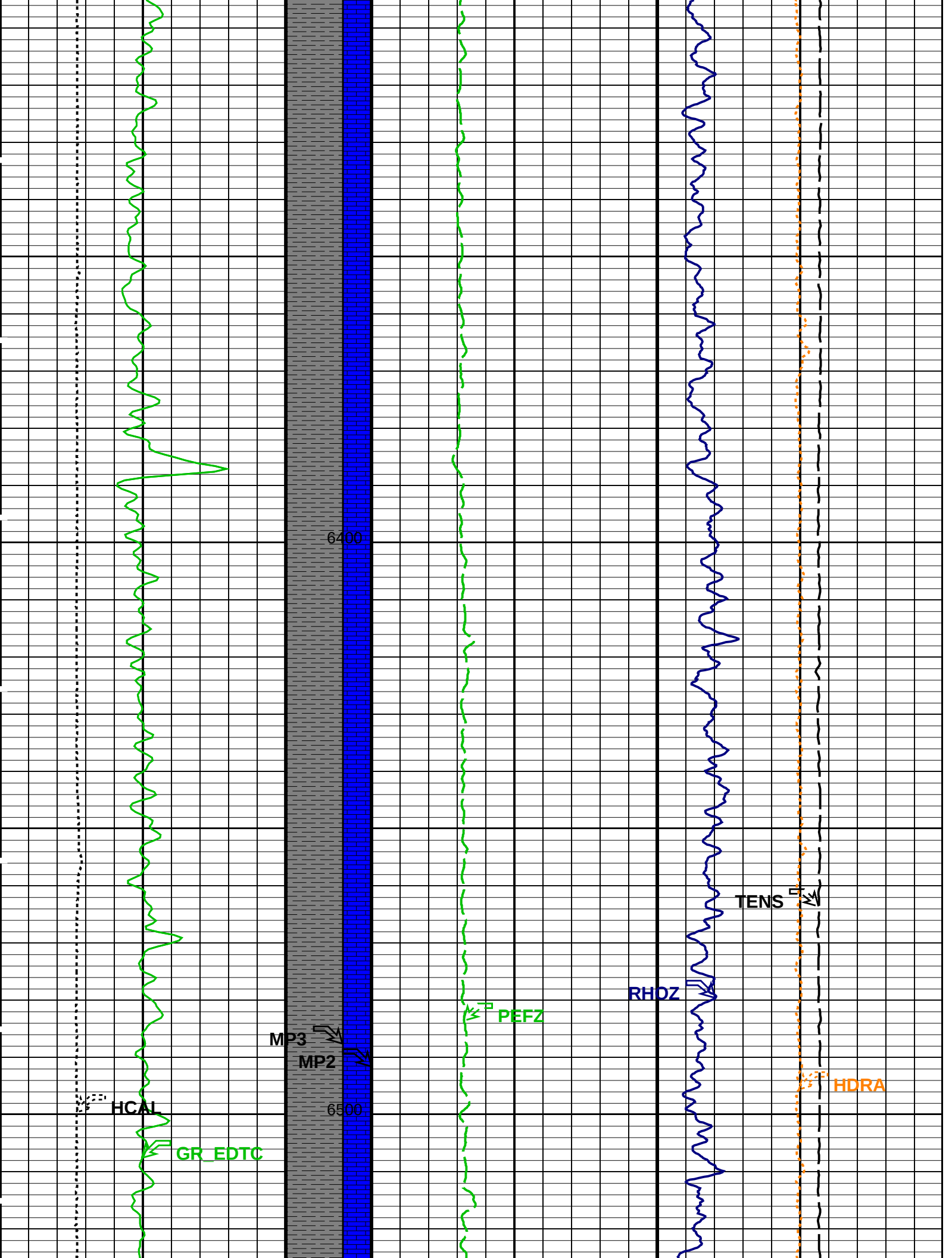
HCAL
GR_EDTC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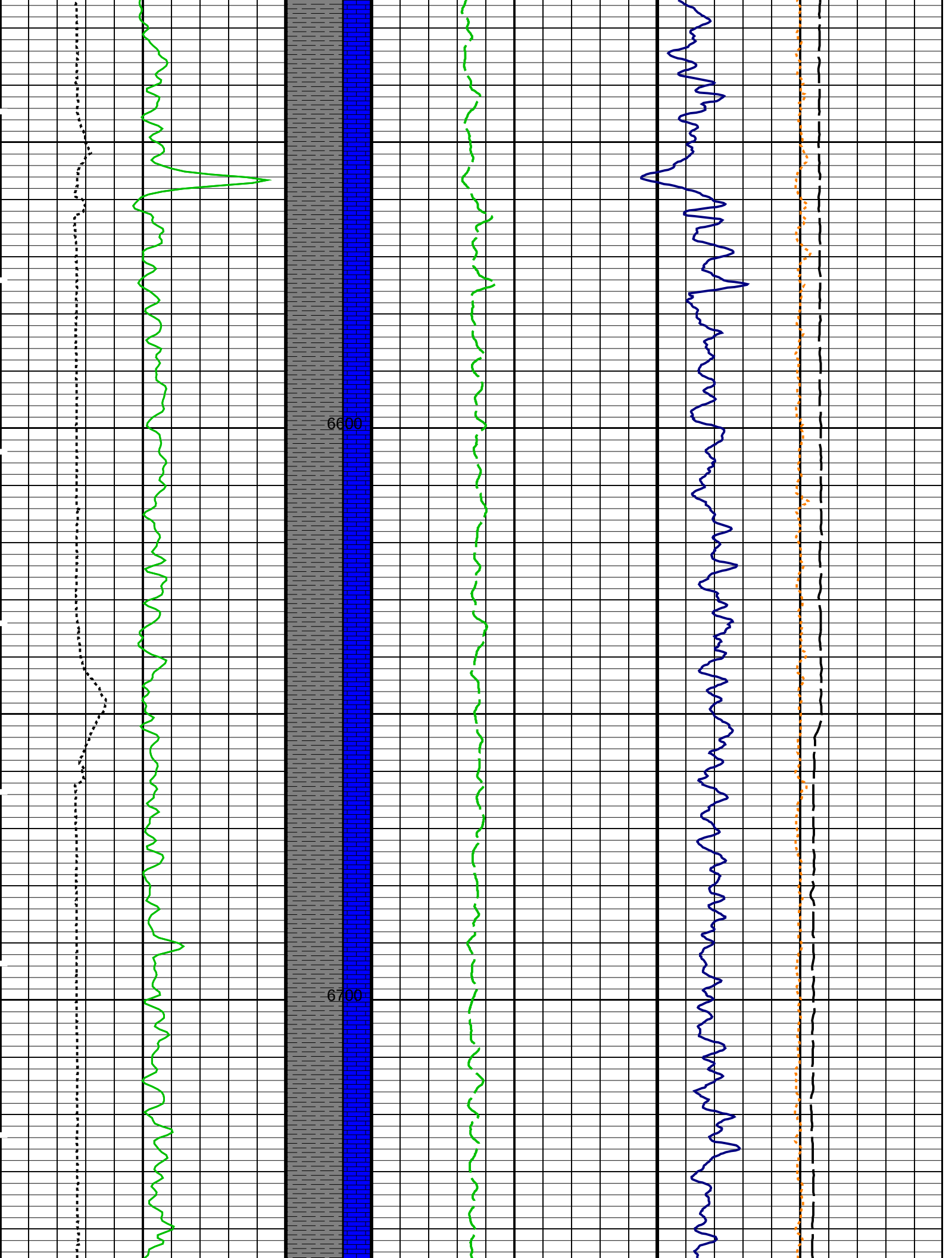
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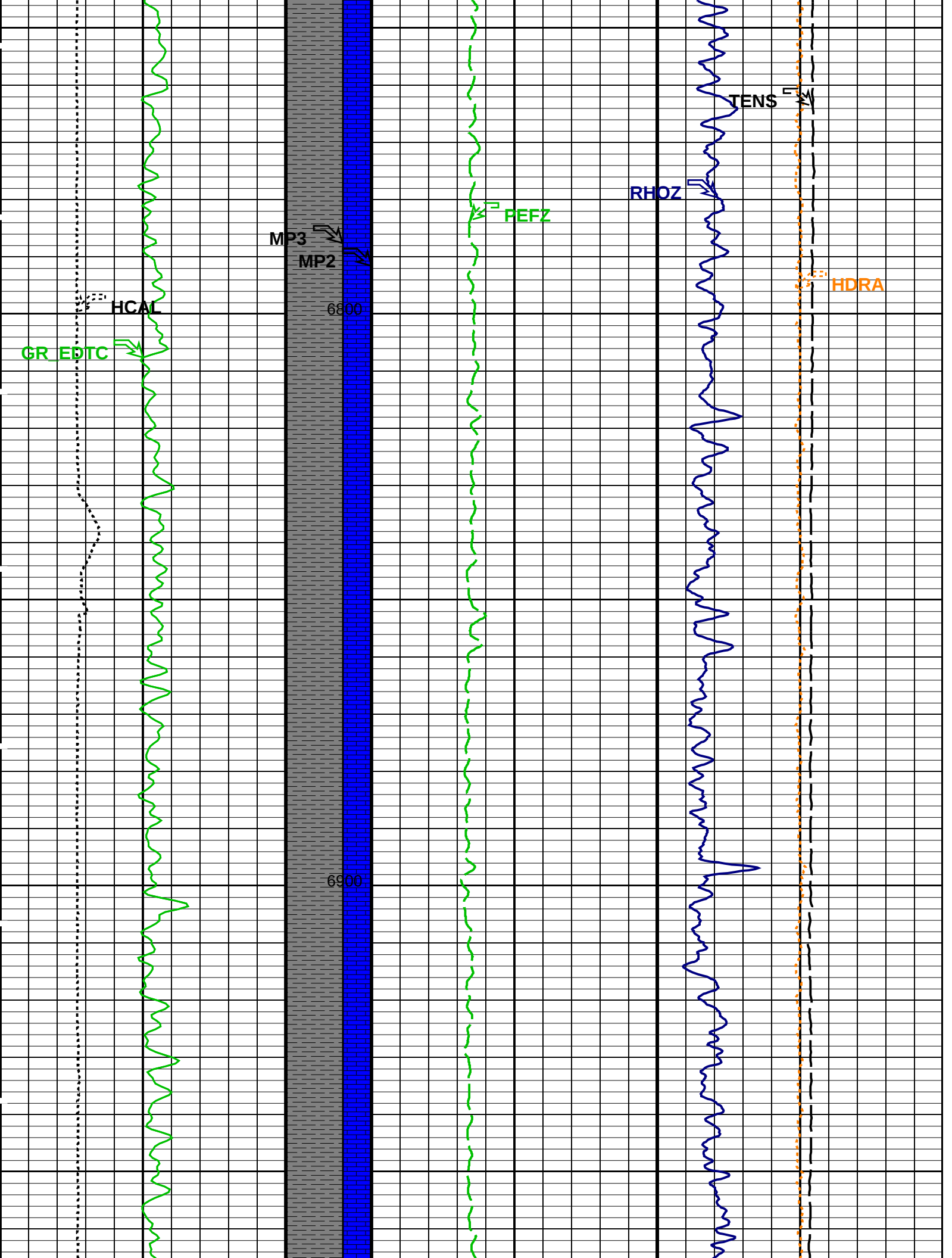
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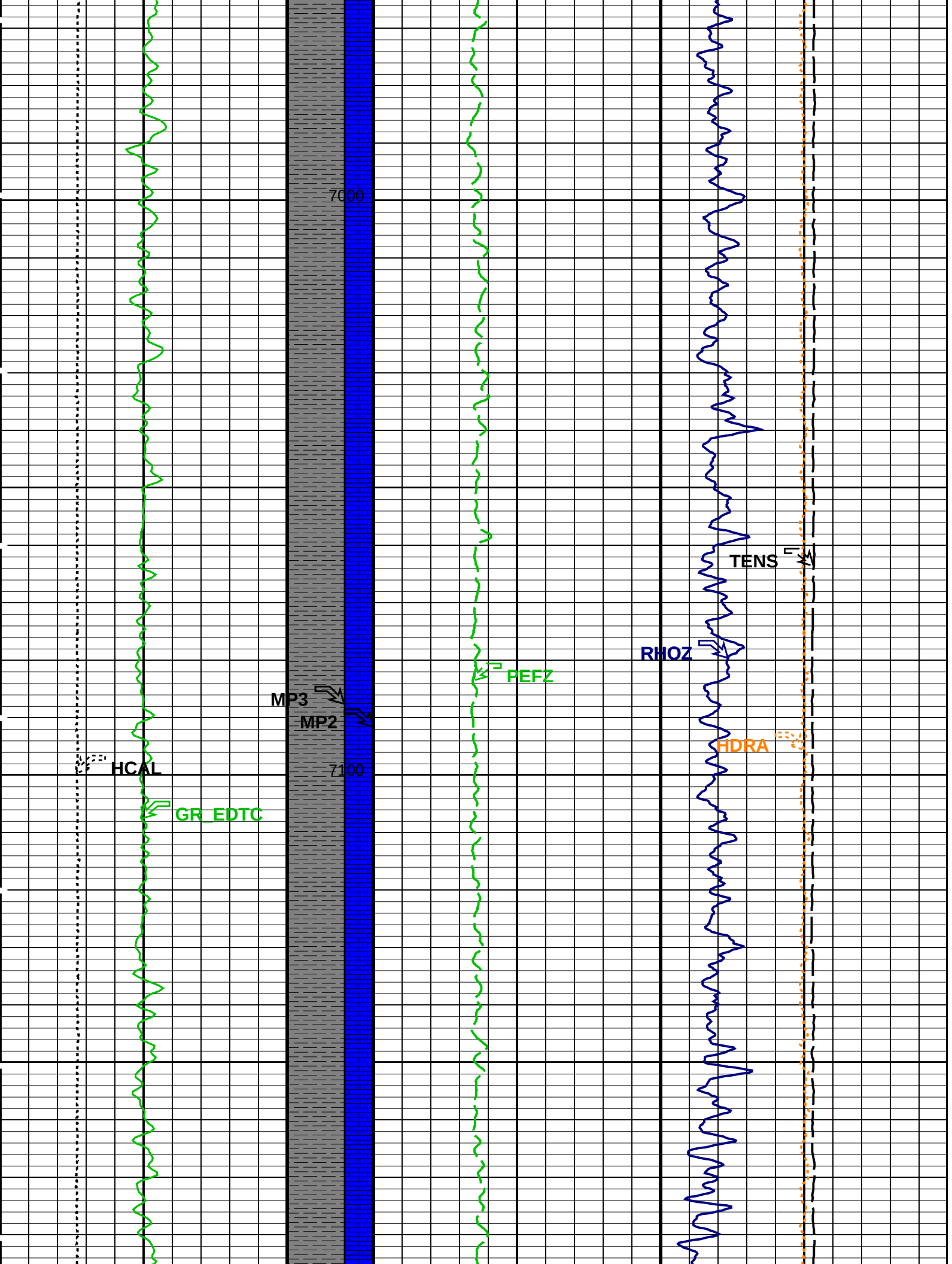
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7100
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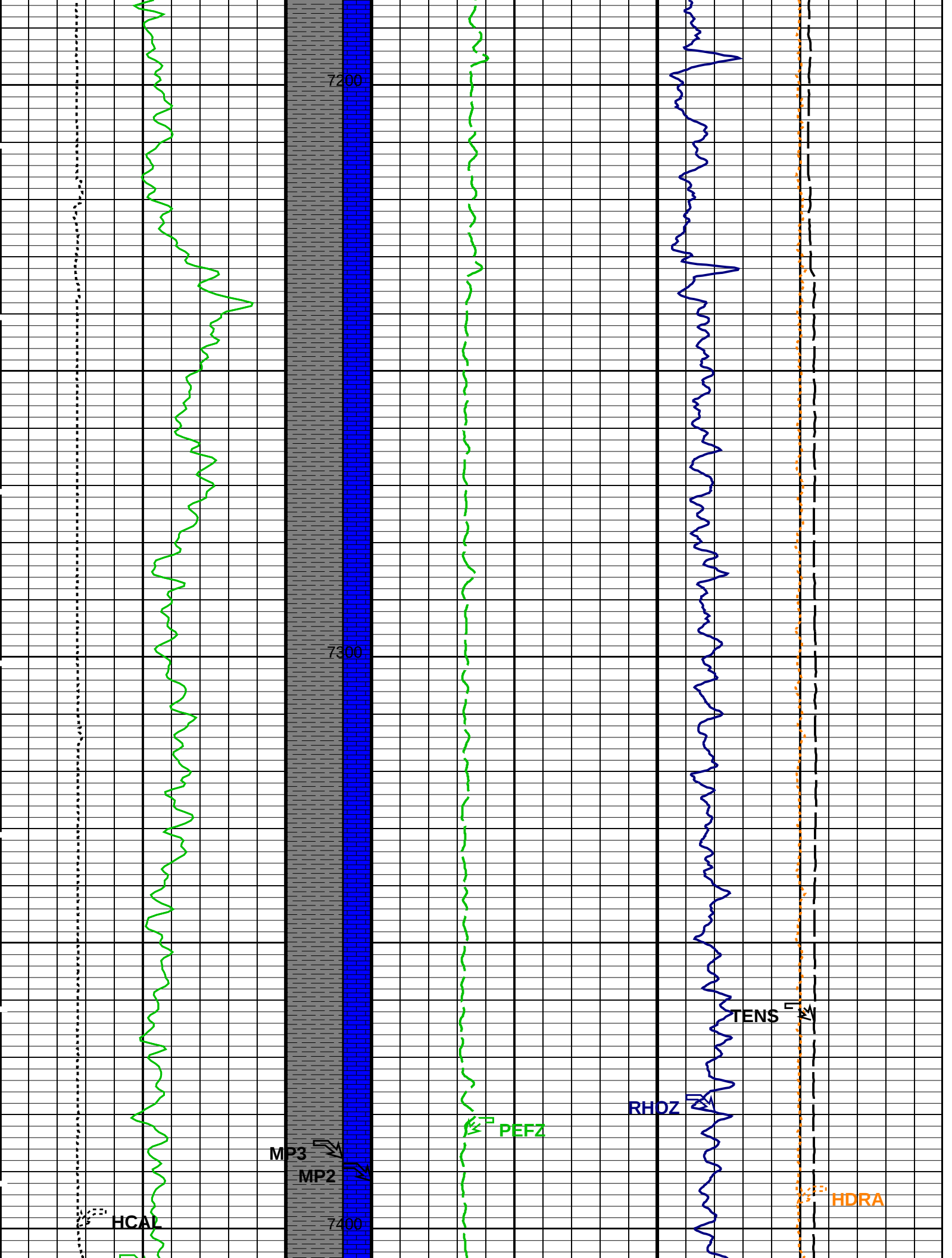
RHOZ
PEFZ
MP3
MP2
HDRA
HCAL
GR_EDTC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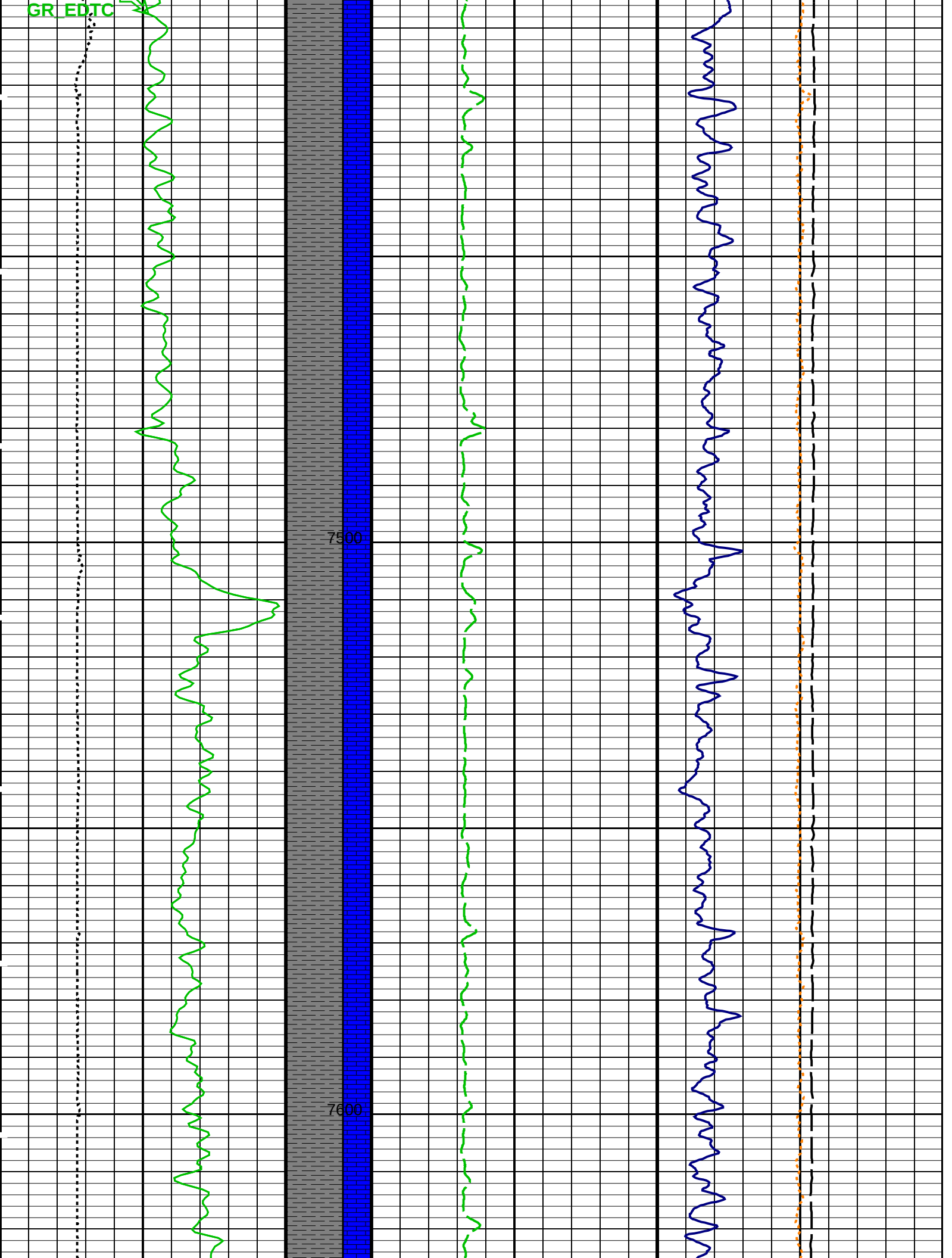
PEFZ
MP3
MP2
HDRA
HCAL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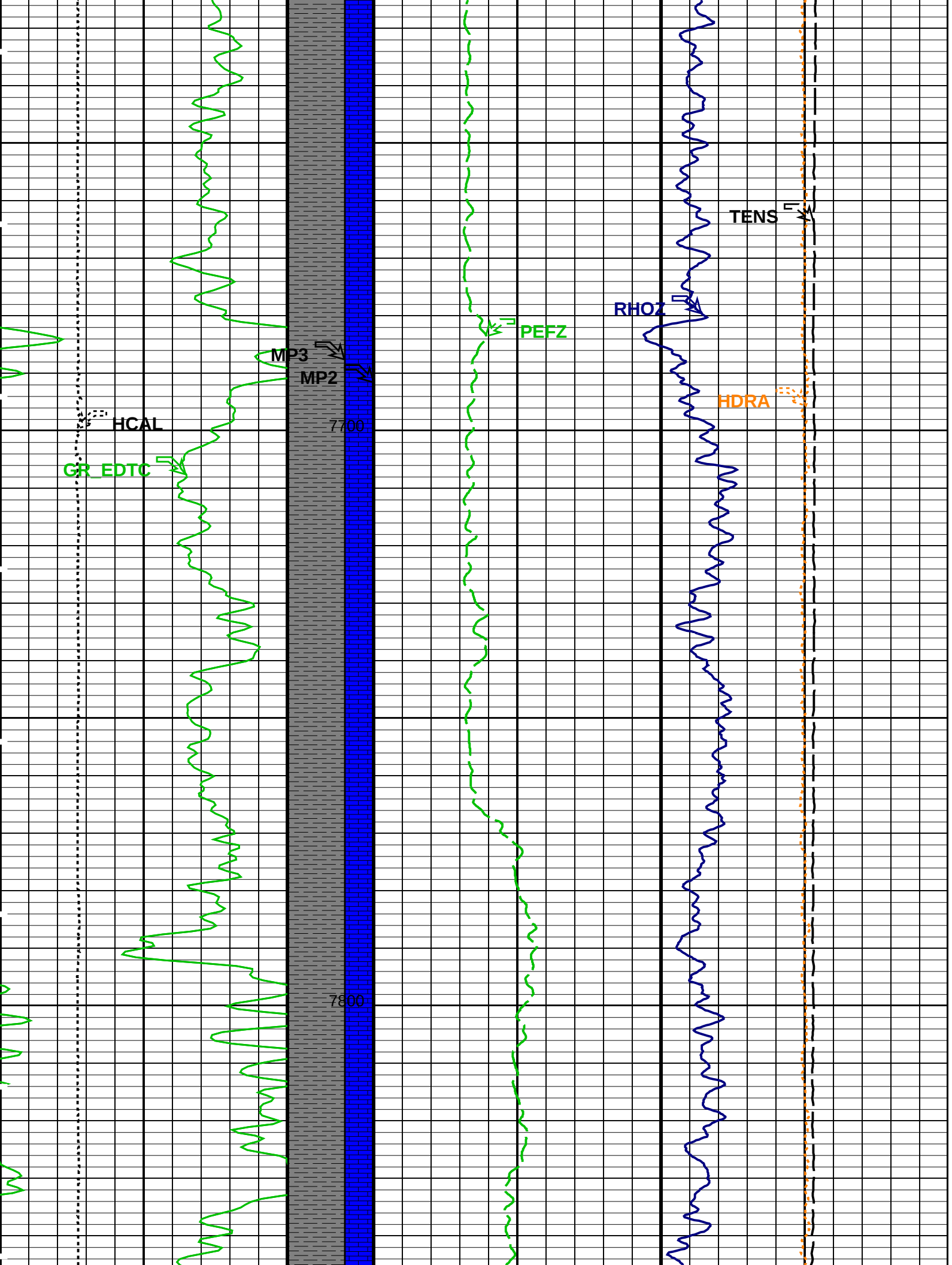
7500
7600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RHOZ
PEFZ
MP3
MP2
HDRA
HCAL
GR_EDTC
7700
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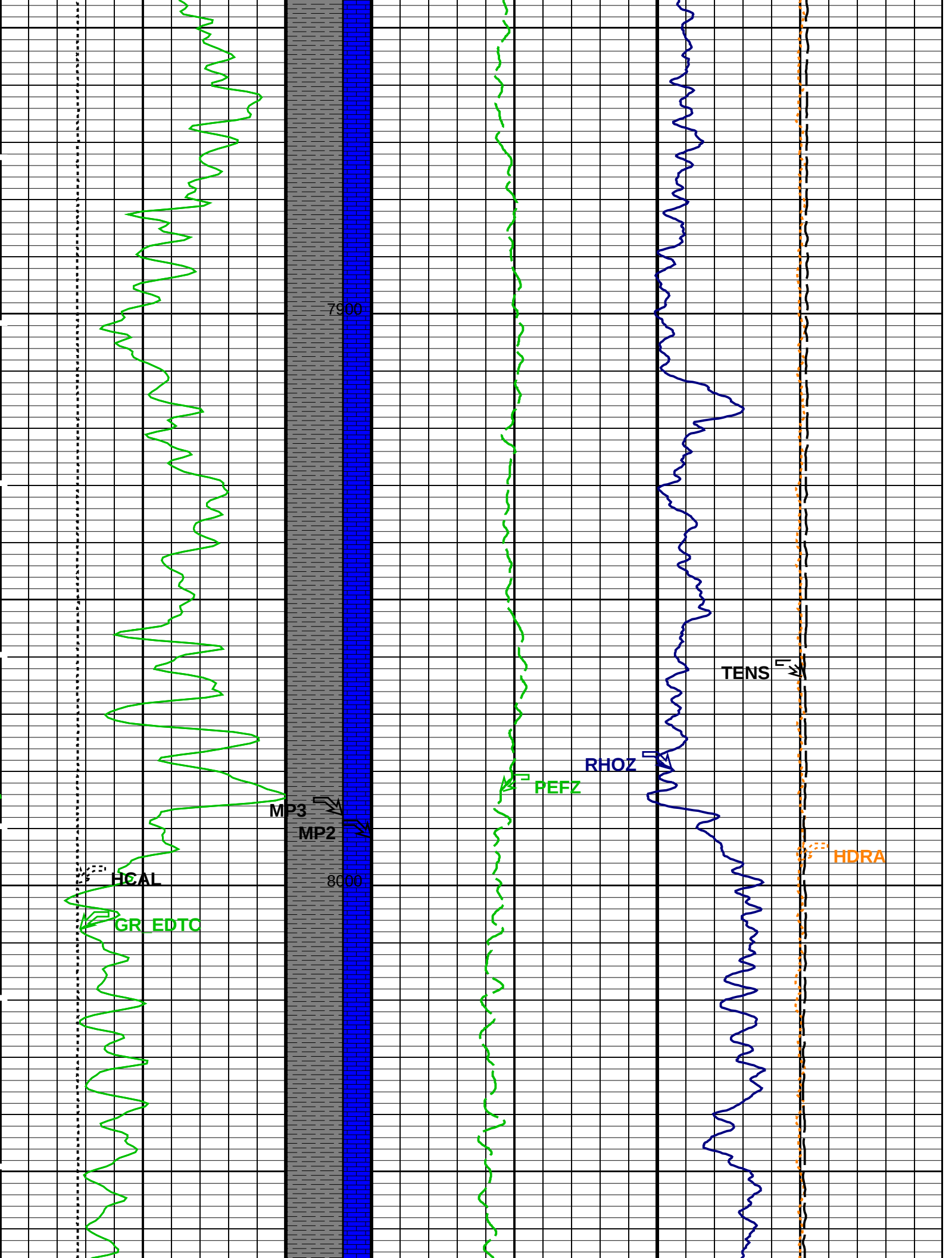
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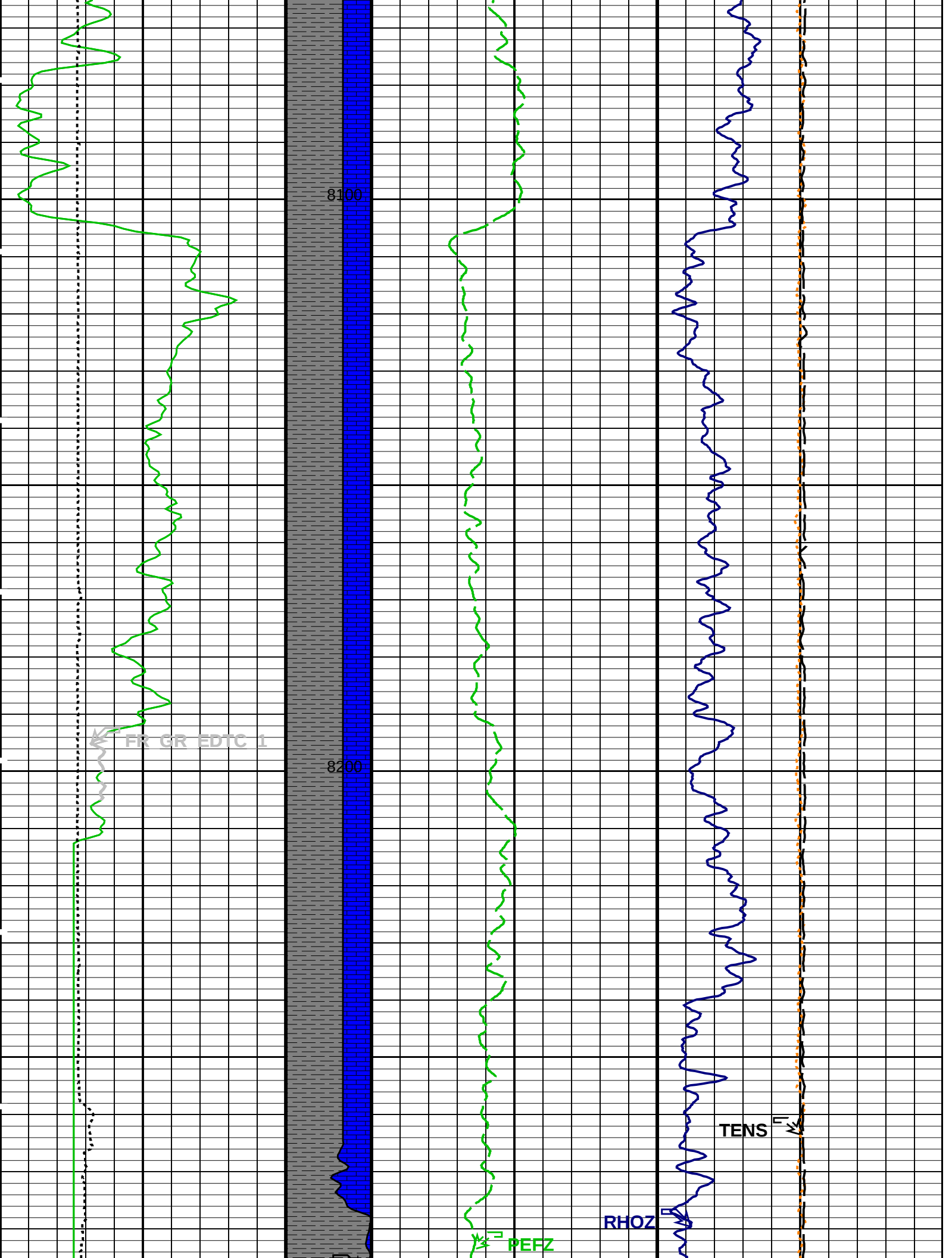
HCAL
GR_EDTC
MP3
MP2
PEFZ
RHOZ
TENS
HDRA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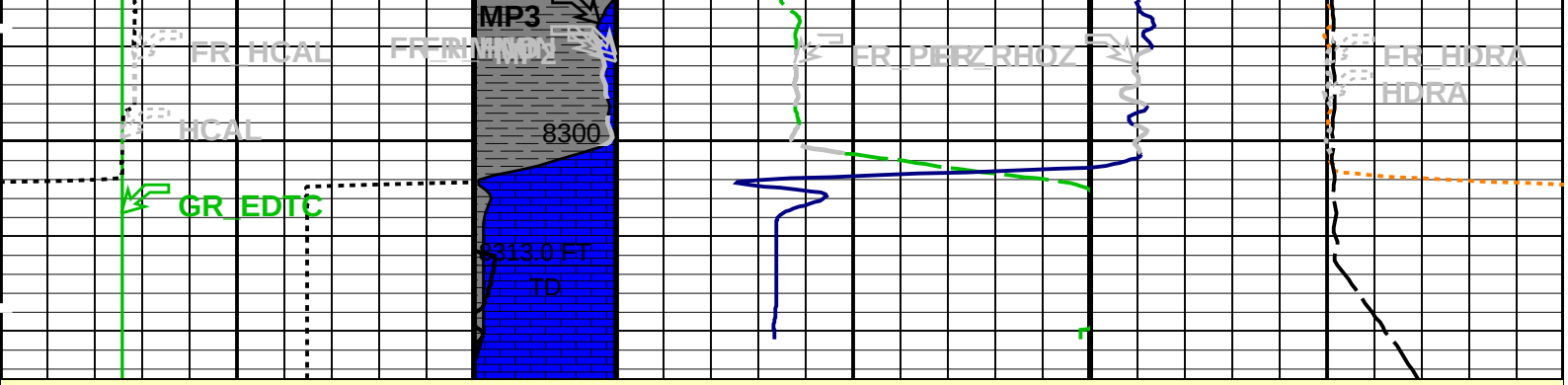
8200
FR GR EDTC 1
PEFZ
RHOZ
TENS



MAIN PASS: *** PLATFORM EXPRESS − LITHOLOGY DENSITY ***

Gamma Ray (GR_EDTC)	Stuck Stretch (STIT)	Std. Res. Formation Pe (PEFZ)	Density Correction (HDRA)
0 (GAPI) 200	0 (F) 50	0 (−−−− 10	−0.25 (G/C3) 0.25
Caliper (HCAL)	LIME	Std. Res. Formation Density (RHOZ)	
6 (IN) 16		2 (G/C3) 3	
	SAND	Tension (TENS)	
		10000 (LBF) 0	
	SHALE		

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	ZAIT−EA: 3−D Array Induction Tool − ZAIT−E		
BHT	Bottom Hole Temperature (used in calculations)	225	DEGF
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
GGRD	Geothermal Gradient	0.01	DF/F
GTSE	Generalized Temperature Selection	HSTS_HTEM	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
SHT	Surface Hole Temperature	68	DEGF
TRI1DV	3D 1D Code Version Number	0	
TRIBHV	Array Induction Borehole Correction Code Version Number	20110	
TRIRT	3D Rotation Selector	NorTH	
	HILTB−FTB: High resolution Integrated Logging Tool−DTS		
BHFL_TLD	HILT Nuclear Mud Base	OIL	
BHT	Bottom Hole Temperature (used in calculations)	225	DEGF
DHC	Density Hole Correction	BS	
FD	Fluid Density	1	G/C3
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
GCLF	Germany Coal−like Formation Option	NO	
GGRD	Geothermal Gradient	0.01	DF/F
GTSE	Generalized Temperature Selection	HSTS_HTEM	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
NAAC	HRDD APS Activation Correction	OFF	
NMT	HILT Nuclear Mud Type	NOBARITE	
NPRM	HRDD Processing Mode	StdRes	
NSAR	HRDD Depth Sampling Rate	1	IN
SHT	Surface Hole Temperature	68	DEGF
	HNGS−BA: Hostile Natural Gamma Ray Sonde		
BHT	Bottom Hole Temperature (used in calculations)	225	DEGF
GGRD	Geothermal Gradient	0.01	DF/F
GTSE	Generalized Temperature Selection	HSTS_HTEM	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
SHT	Surface Hole Temperature	68	DEGF
	MAPC−B: Multimode Array Sonic Power Cartridge		
BHT	Bottom Hole Temperature (used in calculations)	225	DEGF
BS	Bit Size	8.750	IN
CDTS	C−Delta−T Shale	100	US/F
DTF	Delta−T Fluid	204.5	US/F
GGRD	Geothermal Gradient	0.01	DF/F
GTSE	Generalized Temperature Selection	HSTS_HTEM	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
SHT	Surface Hole Temperature	68	DEGF

SPFS	Sonic Porosity Formula	RAYMER_HUNT	
SPSO	Sonic Porosity Source	DTCO	
EDTC−B: Enhanced DTS Cartridge			
BHT	Bottom Hole Temperature (used in calculations)	225	DEGF
GGRD	Geothermal Gradient	0.01	DF/F
GTSE	Generalized Temperature Selection	HSTS_HTEM	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
SHT	Surface Hole Temperature	68	DEGF
RWA: Apparent Water Resistivity			
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
FEQL: Formation Evaluation Quick Look			
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
HOLEV: Integrated Hole/Cement Volume			
BHT	Bottom Hole Temperature (used in calculations)	225	DEGF
GGRD	Geothermal Gradient	0.01	DF/F
GTSE	Generalized Temperature Selection	HSTS_HTEM	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
SHT	Surface Hole Temperature	68	DEGF
PERT: Preliminary Evaluation − Real Time			
BDPS	Bulk Density Processing Selector	Standard	
BHT	Bottom Hole Temperature (used in calculations)	225	DEGF
CLIM	Caliper Limit for Bad Hole	999	IN
CNPS	Corrected Neutron Porosity Selector	NPHI	
DRUL	DRHO Upper Limit	999	G/C3
FCAL	Caliper Presence Flag	PRESENT	
FCGR	CGR Presence Flag	PRESENT	
FEXP	Form Factor Exponent	2	
FLDT	Bulk Density Presence Flag	PRESENT	
FNUM	Form Factor Numerator	1	
FSON	Sonic Presence Flag	ABSENT	
GGRD	Geothermal Gradient	0.01	DF/F
GTSE	Generalized Temperature Selection	HSTS_HTEM	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
PMAX	PHI Maximum	0.5	CFCF
POUT	Porosity Output Lithology	LIMESTONE	
RG21	RHO Grain (2−Mineral Model, Min−1)	2.71	G/C3
RG22	RHO Grain (2−Mineral Model, Min−2)	2.644	G/C3
RG23	RHO Grain (2−Mineral Model, Min−3)	2.877	G/C3
RG31	RHO Grain (3−Mineral Model, Min−1)	2.71	G/C3
RG32	RHO Grain (3−Mineral Model, Min−2)	2.644	G/C3
RG33	RHO Grain (3−Mineral Model, Min−3)	2.877	G/C3
RTLF	RT Limit Flag	NO_LIMIT	
RWF	Resistivity of Free Water	0.02	OHMM
SHT	Surface Hole Temperature	68	DEGF
UF	U Fluid	0.398	
UM21	U Matrix (2−Mineral Model, Min−1)	13.77	
UM22	U Matrix (2−Mineral Model, Min−2)	4.779	
UM23	U Matrix (2−Mineral Model, Min−3)	8.997	
UM31	U Matrix (3−Mineral Model, Min−1)	13.77	
UM32	U Matrix (3−Mineral Model, Min−2)	4.779	
UM33	U Matrix (3−Mineral Model, Min−3)	8.997	
STI: Stuck Tool Indicator			
LBFR	Trigger for MAXIS First Reading Label	TDL	
STKT	STI Stuck Threshold	2.5	FT
TDD	Total Depth − Driller	8300.00	FT
TDL	Total Depth − Logger	8313.00	FT
System and Miscellaneous			
DFD	Drilling Fluid Density	9.10	LB/G
DORL	Depth Offset for Repeat Analysis	0.0	FT
RMFS	Resistivity of Mud Filtrate Sample	−50000.0000	OHMM
TD	Total Depth	8313	FT
TWS	Temperature of Connate Water Sample	100.00	DEGF

Format: DENS Vertical Scale: 5" per 100' Graphics File Created: 07−Jun−2012 11:58

OP System Version: 19C1−222

ZAIT−EA	HFE−5140−OP19.1−AIT−ZAI	HILTB−FTB	19C1−222
HNGC−B	HFE−5203−OP19.1−NUCL	HNGS−BA	HFE−5203−OP19.1−NUCL
GPIT−C	19C1−222	PPC1	19C1−222
MAXS−B	19C1−222	MAPC−B	19C1−222
EDTC−B	19C1−222		

Output DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_029LUP	FN:28	PRODUCER	07−Jun−2012 11:58

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BEFORE CALIBRATIONS

MAXIS Field Log

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
3−D Array Induction Tool − ZAIT−EA Wellsite Calibration − Electronics Calibration Check − Thru Cal Mag. & Phase							
Master: 5−Feb−2012 21:18 Before: Calibration not done							
Thru Cal Magnitude − 0	0	1.516	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 1	0	1.523	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 2	0	1.451	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 3	0	3.478	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 4	0	3.495	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 5	0	3.329	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 6	0	2.773	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 7	0	2.788	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 8	0	2.655	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 9	0	1.903	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 10	0	1.902	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 11	0	1.903	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 12	0	3.644	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 13	0	3.663	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 14	0	3.489	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 15	0	3.056	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 16	0	3.054	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 17	0	3.056	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 18	0	0.9664	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 19	0	0.9691	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 20	0	0.9231	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 21	0	4.051	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 22	0	4.048	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 23	0	4.051	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 24	0	1.403	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 25	0	1.407	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 26	0	1.340	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 27	0	4.051	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 28	0	4.048	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 29	0	4.051	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 30	0	1.403	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 31	0	1.407	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 32	0	1.340	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 33	0	1.168	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 34	0	1.164	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 35	0	1.165	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 36	0	1.654	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 37	0	1.660	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 38	0	1.581	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 39	0	1.404	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 40	0	1.399	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 41	0	1.400	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 42	0	2.390	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 43	0	2.398	N/A	N/A	N/A	N/A	MM/M
Thru Cal Magnitude − 44	0	2.284	N/A	N/A	N/A	N/A	MM/M
Thru Cal Phase − 0	0	13.01	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 1	0	11.17	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 2	0	7.123	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 3	0	9.699	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 4	0	7.863	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 5	0	3.819	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 6	0	5.358	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 7	0	3.510	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 8	0	−0.5532	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 9	0	3.557	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 10	0	3.051	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 11	0	6.206	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 12	0	12.99	N/A	N/A	N/A	N/A	DEG

Thru Cal Phase − 13	0	11.17	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 14	0	7.170	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 15	0	3.536	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 16	0	3.039	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 17	0	6.186	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 18	0	12.99	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 19	0	11.21	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 20	0	7.177	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 21	0	2.065	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 22	0	1.571	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 23	0	4.724	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 24	0	9.639	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 25	0	7.864	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 26	0	3.856	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 27	0	2.064	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 28	0	1.568	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 29	0	4.714	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 30	0	9.641	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 31	0	7.875	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 32	0	3.827	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 33	0	−0.5059	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 34	0	−0.9599	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 35	0	2.185	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 36	0	5.256	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 37	0	3.478	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 38	0	−0.5279	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 39	0	−0.4967	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 40	0	−0.9535	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 41	0	2.197	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 42	0	5.313	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 43	0	3.547	N/A	N/A	N/A	N/A	DEG
Thru Cal Phase − 44	0	−0.5089	N/A	N/A	N/A	N/A	DEG

3−D Array Induction Tool − ZAIT−EA Wellsite Calibration − Electronics Calibration Check − Auxilliary
Master: 5−Feb−2012 21:18 Before: 4−Jun−2012 16:21

Array Induction SPA Plus	0.8360	0.8424	0.8423	N/A	N/A	N/A	V
Array Induction SPA Zero	0	−0.0009249	−0.0009389	N/A	N/A	N/A	V
Array Induction Temperature Pl	0.9798	0.9895	0.9893	N/A	N/A	N/A	V
Array Induction Temperature Ze	0	−0.001447	−0.001434	N/A	N/A	N/A	V
Array Induction CalSig Plus	5.000	5.019	5.018	N/A	N/A	N/A	V
Array Induction CalSig Zero	0	−0.01021	−0.01035	N/A	N/A	N/A	V
Array Induction Volt Plus	5.000	5.019	5.018	N/A	N/A	N/A	V
Array Induction Volt Zero	0	−0.01021	−0.01035	N/A	N/A	N/A	V

3−D Array Induction Tool − ZAIT−EA Wellsite Calibration − Field Check Sonde Error
Master: 5−Feb−2012 21:18

R Sonde Error Check − 0	0	−38.94	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 1	0	−2.182	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 2	0	9.577	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 3	0	−14.36	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 4	0	21.43	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 5	0	2.534	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 6	0	−11.02	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 7	0	7.588	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 8	0	0.3027	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 9	0	−1.685	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 10	0	20.70	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 11	0	−2.027	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 12	0	−8.131	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 13	0	−1.196	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 14	0	14.35	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 15	0	−6.852	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 16	0	−0.1612	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 17	0	−0.7209	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 18	0	−0.6676	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 19	0	6.646	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 20	0	0.4579	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 21	0	−3.297	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 22	0	−0.4672	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 23	0	4.033	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 24	0	−0.3452	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 25	0	0.04364	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 26	0	−0.2631	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 27	0	2.353	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 28	0	−13.71	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 29	0	−3.398	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 30	0	19.03	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 31	0	2.887	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 32	0	4.996	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 33	0	4.350	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 34	0	2.881	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 35	0	−0.04984	N/A	N/A	N/A	N/A	MM/M

R Sonde Error Check − 36	0	1.514	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 37	0	−2.195	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 38	0	−0.9305	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 39	0	3.504	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 40	0	2.004	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 41	0	1.464	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 42	0	0.9245	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 43	0	0.5372	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 44	0	−0.1375	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 45	0	3.616	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 46	0	14.38	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 47	0	−3.909	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 48	0	−10.53	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 49	0	3.372	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 50	0	0.6749	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 51	0	−2.759	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 52	0	1.390	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 53	0	−0.4719	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 54	0	2.727	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 55	0	2.146	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 56	0	−0.7539	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 57	0	−1.020	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 58	0	2.987	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 59	0	−0.8341	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 60	0	−1.180	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 61	0	−0.2878	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 62	0	−0.2555	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 63	0	2.173	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 64	0	−0.9715	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 65	0	−3.802	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 66	0	2.529	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 67	0	3.473	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 68	0	−1.024	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 69	0	0.2295	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 70	0	−1.144	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 71	0	−0.3747	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 72	0	1.739	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 73	0	0.2256	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 74	0	−0.9326	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 75	0	0.7809	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 76	0	2.394	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 77	0	0.1505	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 78	0	0.1497	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 79	0	0.1677	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 80	0	−0.2820	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 81	0	2.564	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 82	0	−0.5161	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 83	0	−2.875	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 84	0	3.410	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 85	0	2.130	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 86	0	−1.358	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 87	0	−0.4684	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 88	0	−0.5498	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 89	0	−0.1434	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 90	0	2.166	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 91	0	0.5780	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 92	0	−0.8641	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 93	0	0.5995	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 94	0	1.774	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 95	0	−0.5911	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 96	0	−0.1304	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 97	0	−0.1495	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 98	0	−0.03968	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 99	0	2.427	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 100	0	7.180	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 101	0	−3.482	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 102	0	−2.820	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 103	0	2.072	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 104	0	−2.646	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 105	0	0.7507	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 106	0	−0.7312	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 107	0	−0.2825	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 108	0	1.461	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 109	0	0.6869	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 110	0	−1.121	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 111	0	0.9702	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 112	0	1.405	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 113	0	−0.3555	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 114	0	−0.6470	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 115	0	−0.3093	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check − 116	0	0.2666	N/A	N/A	N/A	N/A	MM/M

X Sonde Error Check − 0	0	−3240	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 1	0	−1410	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 2	0	−46.02	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 3	0	−1181	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 4	0	−383.2	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 5	0	−12.08	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 6	0	1358	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 7	0	−246.4	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 8	0	−6.880	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 9	0	−10.84	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 10	0	−310.0	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 11	0	−517.8	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 12	0	290.6	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 13	0	−12.98	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 14	0	−326.1	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 15	0	−539.6	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 16	0	−571.5	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 17	0	1.071	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 18	0	−6.336	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 19	0	−151.8	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 20	0	−262.8	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 21	0	143.4	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 22	0	−6.649	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 23	0	−161.6	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 24	0	−267.3	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 25	0	−282.7	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 26	0	0.6712	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 27	0	33.50	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 28	0	396.1	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 29	0	−15.67	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 30	0	−415.1	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 31	0	33.92	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 32	0	−178.9	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 33	0	−23.88	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 34	0	−155.0	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 35	0	−7.851	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 36	0	21.36	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 37	0	199.6	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 38	0	−7.473	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 39	0	−207.3	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 40	0	21.81	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 41	0	−88.24	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 42	0	−9.858	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 43	0	−75.68	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 44	0	−4.282	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 45	0	12.03	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 46	0	−421.1	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 47	0	10.69	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 48	0	444.5	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 49	0	35.71	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 50	0	−181.5	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 51	0	−32.97	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 52	0	−198.1	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 53	0	4.274	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 54	0	7.439	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 55	0	−209.1	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 56	0	3.985	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 57	0	221.0	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 58	0	22.06	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 59	0	−91.59	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 60	0	−16.00	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 61	0	−98.17	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 62	0	2.043	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 63	0	3.461	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 64	0	61.75	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 65	0	20.27	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 66	0	−62.70	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 67	0	0.2225	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 68	0	27.27	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 69	0	18.23	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 70	0	67.37	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 71	0	0.8825	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 72	0	4.633	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 73	0	31.01	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 74	0	11.00	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 75	0	−31.18	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 76	0	0.8229	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 77	0	13.01	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 78	0	10.73	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 79	0	34.13	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 80	0	0.3023	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 81	0	4.308	N/A	N/A	N/A	N/A	MM/M

X Sonde Error Check − 81	0	4.308	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 82	0	66.56	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 83	0	38.71	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 84	0	−60.86	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 85	0	2.390	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 86	0	−11.17	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 87	0	23.36	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 88	0	5.005	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 89	0	1.675	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 90	0	1.586	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 91	0	34.42	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 92	0	19.61	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 93	0	−30.95	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 94	0	1.522	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 95	0	−6.665	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 96	0	12.22	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 97	0	2.476	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 98	0	0.6933	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 99	0	7.201	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 100	0	−172.8	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 101	0	−5.776	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 102	0	173.7	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 103	0	6.699	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 104	0	−15.07	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 105	0	−39.86	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 106	0	3.425	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 107	0	1.276	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 108	0	3.952	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 109	0	−86.37	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 110	0	−4.171	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 111	0	87.40	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 112	0	2.092	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 113	0	−6.924	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 114	0	−18.36	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 115	0	2.221	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check − 116	0	0.3731	N/A	N/A	N/A	N/A	MM/M

High resolution Integrated Logging Tool−DTS Wellsite Calibration − Stab Measurement Summary

Before: 4−Jun−2012 16:38							
BS Window Ratio	0.7324	N/A	0.7262	N/A	N/A	N/A	
BS Window Sum	9422	N/A	9395	N/A	N/A	N/A	CPS
SS Window Ratio	0.4791	N/A	0.4770	N/A	N/A	N/A	
SS Window Sum	9306	N/A	9300	N/A	N/A	N/A	CPS
LS Window Ratio	0.2872	N/A	0.2911	N/A	N/A	N/A	
LS Window Sum	1025	N/A	1021	N/A	N/A	N/A	CPS

High resolution Integrated Logging Tool−DTS Wellsite Calibration − Photo−multiplier High Voltages Calibrations

Before: 4−Jun−2012 16:38							
BS PM High Voltage (Command)	1665	N/A	1686	N/A	N/A	N/A	V
SS PM High Voltage (Command)	1467	N/A	1449	N/A	N/A	N/A	V
LS PM High Voltage (Command)	1543	N/A	1531	N/A	N/A	N/A	V

High resolution Integrated Logging Tool−DTS Wellsite Calibration − Crystal Quality Resolutions Calibration

Before: 4−Jun−2012 16:38							
BS Crystal Resolution	11.50	N/A	11.67	N/A	N/A	N/A	%
SS Crystal Resolution	10.23	N/A	9.916	N/A	N/A	N/A	%
LS Crystal Resolution	8.922	N/A	9.040	N/A	N/A	N/A	%

High resolution Integrated Logging Tool−DTS Wellsite Calibration − MCFL Calibration

Before: 4−Jun−2012 16:25							
Raw B0 Resistivity	3875	N/A	3869	N/A	N/A	N/A	OHMM
Raw B1 Resistivity	3830	N/A	3805	N/A	N/A	N/A	OHMM
Raw B2 Resistivity	3830	N/A	3802	N/A	N/A	N/A	OHMM

High resolution Integrated Logging Tool−DTS Wellsite Calibration − HILT Caliper Calibration

Before: 4−Jun−2012 16:20							
HILT Caliper Zero Measurement	8.000	N/A	9.413	N/A	N/A	N/A	IN
HILT Caliper Plus Measurement	12.00	N/A	13.55	N/A	N/A	N/A	IN

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

Before: 4−Jun−2012 16:19							
Gamma Ray Background	30.00	N/A	89.07	N/A	N/A	N/A	GAPI
Gamma Ray (Jig − Bkgd)	165.0	N/A	174.7	N/A	N/A	15.00	GAPI

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

Master: 31−May−2012 13:39 Before: 4−Jun−2012 16:20							
CNTC Background	28.77	28.77	28.72	N/A	N/A	4.316	CPS
CFTC Background	30.37	30.37	29.96	N/A	N/A	4.556	CPS

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

Master: 31−May−2012 13:39							
Thermal Near Corr. (Tank)	5800	5618	N/A	N/A	N/A	N/A	CPS

Thermal Far Corr. (Tank)	2400	2366	N/A	N/A	N/A	N/A	CPS
CNTC/CFTC (Tank)	2.159	2.374	N/A	N/A	N/A	N/A	

High resolution Integrated Logging Tool−DTS Wellsite Calibration − Accelerometer Calibration
Before: 7−Jun−2012 10:27

Z−Axis Acceleration	32.19	N/A	31.77	N/A	N/A	N/A	F/S2

Hostile Natural Gamma Ray Sonde Wellsite Calibration − Detector 1 Check
Master: 4−Jun−2012 16:57 Before: 6−Jun−2012 21:42

Na 511 Peak Loc	40.00	38.51	38.27	N/A	N/A	1.000	
Na 511 Peak Res	15.50	15.35	14.75	N/A	N/A	2.000	%
High Voltage	1150	1055	1049	N/A	N/A	N/A	V
Na 1785 Peak Loc	142.6	139.6	137.8	N/A	N/A	7.000	
Na 1785 Peak Res	8.500	8.611	8.525	N/A	N/A	2.000	%
Temperature	59.90	85.98	83.68	N/A	N/A	N/A	DEGF
Na Count Rate	45.00	13.47	13.78	N/A	N/A	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration − Detector 2 Check
Master: 4−Jun−2012 16:57 Before: 6−Jun−2012 21:42

Na 511 Peak Loc	40.00	39.81	39.69	N/A	N/A	1.000	
Na 511 Peak Res	15.50	15.65	15.13	N/A	N/A	2.000	%
High Voltage	1150	997.1	993.1	N/A	N/A	N/A	V
Na 1785 Peak Loc	142.6	141.1	140.5	N/A	N/A	7.000	
Na 1785 Peak Res	8.500	8.929	8.766	N/A	N/A	2.000	%
Temperature	59.90	87.18	84.85	N/A	N/A	N/A	DEGF
Na Count Rate	45.00	13.52	13.75	N/A	N/A	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration − Ratio Of Detector 1 To Detector 2
Master: 4−Jun−2012 16:57 Before: 6−Jun−2012 21:42

Coincidence Count Rate Ratio	1.000	0.9937	0.9936	N/A	N/A	0.05000	

General Purpose Inclinometer Wellsite Calibration − CROUZET ACCELEROMETER PROM HAS BEEN READ CORRECTLY
Before: 6−Jun−2012 9:16

TEMPERATURE REFERENCE :	N/A	N/A	68	N/A	N/A	N/A	DEGF
YEAR OF CALIBRATION :	N/A	N/A	4	N/A	N/A	N/A	
MONTH OF CALIBRATION :	N/A	N/A	3	N/A	N/A	N/A	
SERIAL NUMBER :	N/A	N/A	928	N/A	N/A	N/A	

General Purpose Inclinometer Wellsite Calibration − CROUZET MAGNETOMETER PROM HAS BEEN READ CORRECTLY
Before: 6−Jun−2012 9:16

TEMPERATURE REFERENCE :	N/A	N/A	66	N/A	N/A	N/A	DEGF
YEAR OF CALIBRATION :	N/A	N/A	4	N/A	N/A	N/A	
MONTH OF CALIBRATION :	N/A	N/A	2	N/A	N/A	N/A	
SERIAL NUMBER :	N/A	N/A	617	N/A	N/A	N/A	

Powered Positioning Device/Caliper 1 Wellsite Calibration − PPC1 Caliper Calibration
Before: 4−Jun−2012 16:56

PPC1 Radius 1 Raw Small Radius	3.500	N/A	4.469	N/A	N/A	0.5000	IN
PPC1 Radius 1 Raw Large Radius	8.000	N/A	8.761	N/A	N/A	0.5000	IN
PPC1 Radius 2 Raw Small Radius	3.500	N/A	3.318	N/A	N/A	0.5000	IN
PPC1 Radius 2 Raw Large Radius	8.000	N/A	7.851	N/A	N/A	0.5000	IN
PPC1 Radius 3 Raw Small Radius	3.500	N/A	4.764	N/A	N/A	0.5000	IN
PPC1 Radius 3 Raw Large Radius	8.000	N/A	9.116	N/A	N/A	0.5000	IN
PPC1 Radius 4 Raw Small Radius	3.500	N/A	3.380	N/A	N/A	0.5000	IN
PPC1 Radius 4 Raw Large Radius	8.000	N/A	7.875	N/A	N/A	0.5000	IN

Enhanced DTS Cartridge Wellsite Calibration − EDTC Accelerometer Calibration
Before: 7−Jun−2012 10:28

EDTC Z−Axis Acceleration	32.19	N/A	31.81	N/A	N/A	N/A	F/S2

Enhanced DTS Cartridge Wellsite Calibration − Detector Calibration
Before: 4−Jun−2012 17:18

Gamma Ray (Jig − Bkg)	148.3	N/A	148.3	N/A	N/A	13.48	GAPI
Gamma Ray (Calibrated)	165.0	N/A	165.0	N/A	N/A	15.00	GAPI

The GLS−VJ source activity is weak.

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

NCT−B Water Temperature 62.0 DEGF.
Thermal Housing Size 3.363 IN.
NSR−F serial number 2554

Primary Equipment:

Rm/SP Bottom Nose	AHRM − A	
3−D Array Induction Sonde	AXIS − A	68

Auxiliary Equipment:

3−D Array Induction Tool − ZAIT−EA Wellsite Calibration

Electronics Calibration Check − Thru Cal Mag. & Phase

Idx	Phase	Value	Thru Cal Magnitude MM/M	Nominal	Value	Thru Cal Phase DEG	Nominal
0	Master	1.516		1.456	13.01		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
1	Master	1.523		1.456	11.17		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
2	Master	1.451		1.456	7.123		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
3	Master	3.478		3.352	9.699		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
4	Master	3.495		3.352	7.863		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
5	Master	3.329		3.352	3.819		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
6	Master	2.773		2.680	5.358		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
7	Master	2.788		2.680	3.510		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
8	Master	2.655		2.680	−0.5532		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
9	Master	1.903		1.956	3.557		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
10	Master	1.902		1.956	3.051		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
11	Master	1.903		1.956	6.206		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
12	Master	3.644		3.537	12.99		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
13	Master	3.663		3.537	11.17		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
14	Master	3.489		3.537	7.170		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
15	Master	3.056		3.100	3.536		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
16	Master	3.054		3.100	3.039		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
17	Master	3.056		3.100	6.186		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
18	Master	0.9664		0.9359	12.99		0
	Before	N/A	NOT DONE		N/A	NOT DONE	

	Before	N/A	NOT DONE		N/A	NOT DONE	
19	Master	0.9691		0.9359	11.21		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
20	Master	0.9231		0.9359	7.177		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
21	Master	4.051		4.081	2.065		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
22	Master	4.048		4.081	1.571		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
23	Master	4.051		4.081	4.724		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
24	Master	1.403		1.362	9.639		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
25	Master	1.407		1.362	7.864		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
26	Master	1.340		1.362	3.856		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
27	Master	4.051		4.081	2.064		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
28	Master	4.048		4.081	1.568		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
29	Master	4.051		4.081	4.714		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
30	Master	1.403		1.362	9.641		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
31	Master	1.407		1.362	7.875		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
32	Master	1.340		1.362	3.827		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
33	Master	1.168		1.220	−0.5059		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
34	Master	1.164		1.220	−0.9599		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
35	Master	1.165		1.220	2.185		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
36	Master	1.654		1.635	5.256		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
37	Master	1.660		1.635	3.478		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
38	Master	1.581		1.635	−0.5279		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
39	Master	1.404		1.464	−0.4967		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
40	Master	1.399		1.464	−0.9535		0
	Before	N/A	NOT DONE		N/A	NOT DONE	

	Before	N/A	NOT DONE		N/A	NOT DONE	
41	Master	1.400		1.464	2.197		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
42	Master	2.390		2.353	5.313		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
43	Master	2.398		2.353	3.547		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
44	Master	2.284		2.353	−0.5089		0
	Before	N/A	NOT DONE		N/A	NOT DONE	
		50.00 % (Minimum)	150.0 % (Maximum)		Nom −85.00 (Minimum)	Nom + 85.00 (Maximum)	

Master: 5−Feb−2012 21:18 Before: Calibration not done

3−D Array Induction Tool − ZAIT−EA Wellsite Calibration

Electronics Calibration Check − Auxilliary

Phase	Array Induction SPA Plus V	Value
Master		0.8424
Before		0.8423
	0.7570 (Minimum) 0.8360 (Nominal) 0.9150 (Maximum)	

Phase	Array Induction SPA Zero V	Value
Master		−0.0009249
Before		−0.0009389
	−0.05000 (Minimum) 0 (Nominal) 0.05000 (Maximum)	

Phase	Array Induction Temperature Plus V	Value
Master		0.9895
Before		0.9893
	0.8800 (Minimum) 0.9798 (Nominal) 1.076 (Maximum)	

Phase	Array Induction Temperature Zero V	Value
Master		−0.001447
Before		−0.001434
	−0.05000 (Minimum) 0 (Nominal) 0.05000 (Maximum)	

Phase	Array Induction CalSig Plus V	Value
Master		5.019
Before		5.018
	4.500 (Minimum) 5.000 (Nominal) 5.500 (Maximum)	

Phase	Array Induction CalSig Zero V	Value
Master		−0.01021
Before		−0.01035
	−0.05000 (Minimum) 0 (Nominal) 0.05000 (Maximum)	

Phase	Array Induction Volt Plus V	Value
Master		5.019
Before		5.018
	4.500 (Minimum) 5.000 (Nominal) 5.500 (Maximum)	

Phase	Array Induction Volt Zero V	Value
Master		−0.01021
Before		−0.01035
	−0.05000 (Minimum) 0 (Nominal) 0.05000 (Maximum)	

Master: 5−Feb−2012 21:18 Before: 4−Jun−2012 16:21

3−D Array Induction Tool − ZAIT−EA Wellsite Calibration

Field Check Sonde Error

Idx	Value	R Sonde Error Check MM/M	Value	X Sonde Error Check MM/M
0	−38.94		−3240	
	−1422 (Minimum) 0 (Nominal) 1422 (Maximum)		−33900 (Minimum) 0 (Nominal) 33900 (Maximum)	
1	−2.182		−1410	
	−1422 (Minimum) 0 (Nominal) 1422 (Maximum)		−33900 (Minimum) 0 (Nominal) 33900 (Maximum)	
2	9.577		−46.02	
	−58.96 (Minimum) 0 (Nominal) 58.96 (Maximum)		−512.8 (Minimum) 0 (Nominal) 512.8 (Maximum)	
3	−14.36		−1181	
	−278.1 (Minimum) 0 (Nominal) 278.1 (Maximum)		−14230 (Minimum) 0 (Nominal) 14230 (Maximum)	
4	21.43		−383.2	
	−278.1 (Minimum) 0 (Nominal) 278.1 (Maximum)		−14230 (Minimum) 0 (Nominal) 14230 (Maximum)	
5	2.534		−12.08	
	−22.33 (Minimum) 0 (Nominal) 22.33 (Maximum)		−215.0 (Minimum) 0 (Nominal) 215.0 (Maximum)	
6	−11.02		1358	
	−93.73	0	93.73	−5616	0	5616

		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
7	7.588				−246.4			
		−93.73	0	93.73		−5616	0	5616
		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
8	0.3027				−6.880			
		−12.70	0	12.70		−58.98	0	58.98
		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
9	−1.685				−10.84			
		−38.43	0	38.43		−525.3	0	525.3
		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
10	20.70				−310.0			
		−322.0	0	322.0		−10300	0	10300
		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
11	−2.027				−517.8			
		−183.7	0	183.7		−7941	0	7941
		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
12	−8.131				290.6			
		−322.0	0	322.0		−10300	0	10300
		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
13	−1.196				−12.98			
		−38.43	0	38.43		−525.3	0	525.3
		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
14	14.35				−326.1			
		−183.7	0	183.7		−7941	0	7941
		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
15	−6.852				−539.6			
		−131.2	0	131.2		−10320	0	10320
		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
16	−0.1612				−571.5			
		−131.2	0	131.2		−10320	0	10320
		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
17	−0.7209				1.071			
		−10.52	0	10.52		−106.6	0	106.6
		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
18	−0.6676				−6.336			
		−38.65	0	38.65		−259.4	0	259.4
		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
19	6.646				−151.8			
		−120.8	0	120.8		−5071	0	5071
		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
20	0.4579				−262.8			
		−56.45	0	56.45		−3970	0	3970
		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
21	−3.297				143.4			
		−120.8	0	120.8		−5071	0	5071
		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
22	−0.4672				−6.649			
		−38.65	0	38.65		−259.4	0	259.4
		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
23	4.033				−161.6			
		−56.45	0	56.45		−3970	0	3970
		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
24	−0.3452				−267.3			
		−71.00	0	71.00		−5119	0	5119
		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
25	0.04364				−282.7			
		−71.00	0	71.00		−5119	0	5119
		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
26	−0.2631				0.6712			
		−4.790	0	4.790		−55.66	0	55.66
		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
27	2.353				33.50			
		−30.00	0	30.00		−352.9	0	352.9
		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
28	−13.71				396.1			
		−159.9	0	159.9		−6825	0	6825

	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
29	−3.398				−15.67			
	−69.24	0	69.24		−2661	0	2661	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
30	19.03				−415.1			
	−159.9	0	159.9		−6825	0	6825	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
31	2.887				33.92			
	−30.00	0	30.00		−352.9	0	352.9	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
32	4.996				−178.9			
	−69.24	0	69.24		−2661	0	2661	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
33	4.350				−23.88			
	−58.94	0	58.94		−2491	0	2491	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
34	2.881				−155.0			
	−58.94	0	58.94		−2491	0	2491	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
35	−0.04984				−7.851			
	−8.280	0	8.280		−9138	0	9138	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
36	1.514				21.36			
	−30.00	0	30.00		−175.1	0	175.1	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
37	−2.195				199.6			
	−50.66	0	50.66		−3387	0	3387	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
38	−0.9305				−7.473			
	−22.87	0	22.87		−1332	0	1332	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
39	3.504				−207.3			
	−50.66	0	50.66		−3387	0	3387	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
40	2.004				21.81			
	−30.00	0	30.00		−175.1	0	175.1	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
41	1.464				−88.24			
	−22.87	0	22.87		−1332	0	1332	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
42	0.9245				−9.858			
	−46.71	0	46.71		−1250	0	1250	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
43	0.5372				−75.68			
	−46.71	0	46.71		−1250	0	1250	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
44	−0.1375				−4.282			
	−3.760	0	3.760		−25.88	0	25.88	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
45	3.616				12.03			
	−17.30	0	17.30		−176.4	0	176.4	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
46	14.38				−421.1			
	−124.2	0	124.2		−4734	0	4734	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
47	−3.909				10.69			
	−40.71	0	40.71		−1318	0	1318	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
48	−10.53				444.5			
	−124.2	0	124.2		−4734	0	4734	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
49	3.372				35.71			
	−17.30	0	17.30		−176.4	0	176.4	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
50	0.6749				−181.5			
	−40.71	0	40.71		−1318	0	1318	

	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
51	−2.759				−32.97			
	−21.65	0	21.65		−1487	0	1487	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
52	1.390				−198.1			
	−21.65	0	21.65		−1487	0	1487	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
53	−0.4719				4.274			
	−6.870	0	6.870		−22.76	0	22.76	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
54	2.727				7.439			
	−14.16	0	14.16		−88.85	0	88.85	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
55	2.146				−209.1			
	−19.50	0	19.50		−2368	0	2368	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
56	−0.7539				3.985			
	−17.07	0	17.07		−662.0	0	662.0	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
57	−1.020				221.0			
	−19.50	0	19.50		−2368	0	2368	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
58	2.987				22.06			
	−14.16	0	14.16		−88.85	0	88.85	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
59	−0.8341				−91.59			
	−17.07	0	17.07		−662.0	0	662.0	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
60	−1.180				−16.00			
	−11.09	0	11.09		−742.3	0	742.3	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
61	−0.2878				−98.17			
	−11.09	0	11.09		−742.3	0	742.3	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
62	−0.2555				2.043			
	−3.800	0	3.800		−13.37	0	13.37	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
63	2.173				3.461			
	−12.07	0	12.07		−90.68	0	90.68	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
64	−0.9715				61.75			
	−43.67	0	43.67		−1646	0	1646	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
65	−3.802				20.27			
	−24.50	0	24.50		−477.7	0	477.7	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
66	2.529				−62.70			
	−43.67	0	43.67		−1646	0	1646	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
67	3.473				0.2225			
	−12.07	0	12.07		−90.68	0	90.68	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
68	−1.024				27.27			
	−24.50	0	24.50		−477.7	0	477.7	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
69	0.2295				18.23			
	−12.43	0	12.43		−622.5	0	622.5	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
70	−1.144				67.37			
	−12.43	0	12.43		−622.5	0	622.5	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
71	−0.3747				0.8825			
	−3.560	0	3.560		−10.29	0	10.29	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
72	1.739				4.633			
	−8.900	0	8.900		−50.09	0	50.09	

	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
73	0.2256				31.01			
	−8.150	0	8.150		−815.4	0	815.4	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
74	−0.9326				11.00			
	−12.27	0	12.27		−242.1	0	242.1	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
75	0.7809				−31.18			
	−8.150	0	8.150		−815.4	0	815.4	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
76	2.394				0.8229			
	−8.900	0	8.900		−50.09	0	50.09	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
77	0.1505				13.01			
	−12.27	0	12.27		−242.1	0	242.1	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
78	0.1497				10.73			
	−6.910	0	6.910		−309.5	0	309.5	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
79	0.1677				34.13			
	−6.910	0	6.910		−309.5	0	309.5	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
80	−0.2820				0.3023			
	−2.270	0	2.270		−5.950	0	5.950	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
81	2.564				4.308			
	−14.82	0	14.82		−41.94	0	41.94	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
82	−0.5161				66.56			
	−26.75	0	26.75		−1114	0	1114	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
83	−2.875				38.71			
	−22.91	0	22.91		−425.6	0	425.6	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
84	3.410				−60.86			
	−26.75	0	26.75		−1114	0	1114	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
85	2.130				2.390			
	−14.82	0	14.82		−41.94	0	41.94	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
86	−1.358				−11.17			
	−22.91	0	22.91		−425.6	0	425.6	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
87	−0.4684				23.36			
	−17.62	0	17.62		−619.3	0	619.3	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
88	−0.5498				5.005			
	−17.62	0	17.62		−619.3	0	619.3	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
89	−0.1434				1.675			
	−3.910	0	3.910		−9.470	0	9.470	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
90	2.166				1.586			
	−11.24	0	11.24		−18.45	0	18.45	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
91	0.5780				34.42			
	−6.130	0	6.130		−563.2	0	563.2	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
92	−0.8641				19.61			
	−13.75	0	13.75		−215.6	0	215.6	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
93	0.5995				−30.95			
	−6.130	0	6.130		−563.2	0	563.2	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
94	1.774				1.522			
	−11.24	0	11.24		−18.45	0	18.45	

		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
95	−0.5911				−6.665			
		−13.75	0	13.75		−215.6	0	215.6
		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
96	−0.1304				12.22			
		−9.770	0	9.770		−316.9	0	316.9
		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
97	−0.1495				2.476			
		−9.770	0	9.770		−316.9	0	316.9
		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
98	−0.03968				0.6933			
		−2.110	0	2.110		−7.370	0	7.370
		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
99	2.427				7.201			
		−15.93	0	15.93		−35.54	0	35.54
		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
100	7.180				−172.8			
		−22.00	0	22.00		−562.7	0	562.7
		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
101	−3.482				−5.776			
		−29.21	0	29.21		−209.9	0	209.9
		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
102	−2.820				173.7			
		−22.00	0	22.00		−562.7	0	562.7
		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
103	2.072				6.699			
		−15.93	0	15.93		−35.54	0	35.54
		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
104	−2.646				−15.07			
		−29.21	0	29.21		−209.9	0	209.9
		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
105	0.7507				−39.86			
		−23.81	0	23.81		−232.8	0	232.8
		(Minimum)	**(Nominal)**	**(Maximum)**		**(Minimum)**	**(Nominal)**	**(Maximum)**
106	−0.7312				3.425			
		−23.81	0	23.81		−232.8	0	232.8
		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
107	−0.2825				1.276			
		−10.69	0	10.69		−19.32	0	19.32
		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
108	1.461				3.952			
		−9.300	0	9.300		−21.95	0	21.95
		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
109	0.6869				−86.37			
		−8.990	0	8.990		−293.9	0	293.9
		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
110	−1.121				−4.171			
		−16.85	0	16.85		−94.98	0	94.98
		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
111	0.9702				87.40			
		−8.990	0	8.990		−293.9	0	293.9
		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
112	1.405				2.092			
		−9.300	0	9.300		−21.95	0	21.95
		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
113	−0.3555				−6.924			
		−16.85	0	16.85		−94.98	0	94.98
		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
114	−0.6470				−18.36			
		−14.21	0	14.21		−112.1	0	112.1
		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
115	−0.3093				2.221			
		−14.21	0	14.21		−112.1	0	112.1
		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
116	0.2666				0.3731			
		−1.760	0	1.760		−10.88	0	10.88

	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)

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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	5416
HILT High Res. Control Cartridge	HRCC − B	
HILT Gamma−Ray Neutron Sonde−DTS	HGNS − B	
HGNS Gamma−Ray Device	HGR −	
HGNS Neutron Detector with Alpha Source	HCNT −	
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				0.7262	Before				0.4770	Before				0.2911
	0.6958 (Minimum)	0.7324 (Nominal)	0.7690 (Maximum)			0.4551 (Minimum)	0.4791 (Nominal)	0.5030 (Maximum)			0.2729 (Minimum)	0.2872 (Nominal)	0.3016 (Maximum)	
Phase	BS Window Sum CPS			Value	Phase	SS Window Sum CPS			Value	Phase	LS Window Sum CPS			Value
Before				9395	Before				9300	Before				1021
	8950 (Minimum)	9422 (Nominal)	9893 (Maximum)			8840 (Minimum)	9306 (Nominal)	9771 (Maximum)			974.2 (Minimum)	1025 (Nominal)	1077 (Maximum)	

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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				1686	Before				1449	Before				1531
	1565 (Minimum)	1665 (Nominal)	1765 (Maximum)			1367 (Minimum)	1467 (Nominal)	1567 (Maximum)			1443 (Minimum)	1543 (Nominal)	1643 (Maximum)	

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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				11.67	Before				9.916	Before				9.040
	10.50 (Minimum)	11.50 (Nominal)	12.50 (Maximum)			9.234 (Minimum)	10.23 (Nominal)	11.23 (Maximum)			7.922 (Minimum)	8.922 (Nominal)	9.922 (Maximum)	

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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				3869	Before				3805	Before				3802
	3565 (Minimum)	3875 (Nominal)	4185 (Maximum)			3524 (Minimum)	3830 (Nominal)	4136 (Maximum)			3524 (Minimum)	3830 (Nominal)	4136 (Maximum)	

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High resolution Integrated Logging Tool−DTS Wellsite Calibration

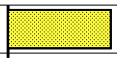
HILT Caliper Calibration

Phase	HILT Caliper Zero Measurement IN			Value	Phase	HILT Caliper Plus Measurement IN			Value
Before				9.413	Before				13.55
	6.000 (Minimum)	8.000 (Nominal)	10.00 (Maximum)			9.000 (Minimum)	12.00 (Nominal)	15.00 (Maximum)	

Before: 4−Jun−2012 16:20

High resolution Integrated Logging Tool−DTS Wellsite Calibration

Detector Calibration

Phase	Gamma Ray Background GAPI	Value	Phase	Gamma Ray (Jig − Bkgd) GAPI	Value
Before		89.07	Before		174.7
	0 (Minimum) 30.00 (Nominal) 120.0 (Maximum)			157.1 (Minimum) 165.0 (Nominal) 206.3 (Maximum)	

Before: 4−Jun−2012 16:19

High resolution Integrated Logging Tool−DTS Wellsite Calibration

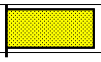
Zero Measurement

Phase	CNTC Background CPS	Value	Phase	CFTC Background CPS	Value
Master		28.77	Master		30.37
Before		28.72	Before		29.96
	5.000 (Minimum) 28.77 (Nominal) 40.00 (Maximum)			5.000 (Minimum) 30.37 (Nominal) 40.00 (Maximum)	

Master: 31−May−2012 13:39 Before: 4−Jun−2012 16:20

High resolution Integrated Logging Tool−DTS Wellsite Calibration

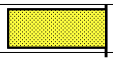
Ratio Measurement

Phase	Thermal Near Corr. (Tank) CPS	Value	Phase	Thermal Far Corr. (Tank) CPS	Value	Phase	CNTC/CFTC (Tank)	Value
Master		5618	Master		2366	Master		2.374
	4700 (Minimum) 5800 (Nominal) 6900 (Maximum)			1900 (Minimum) 2400 (Nominal) 2900 (Maximum)			2.120 (Minimum) 2.159 (Nominal) 2.540 (Maximum)	

Master: 31−May−2012 13:39

High resolution Integrated Logging Tool−DTS Wellsite Calibration

Accelerometer Calibration

Phase	Z−Axis Acceleration F/S2	Value
Before		31.77
	31.53 (Minimum) 32.19 (Nominal) 32.84 (Maximum)	

Before: 7−Jun−2012 10:27

Hostile Natural Gamma Ray Cartridge − B / Equipment Identification

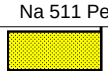
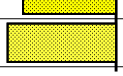
Primary Equipment:		
HNGC Cartridge	HNGC − B	250
Auxiliary Equipment:		
HNGC Housing	HNGH − A	87

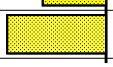
Hostile Natural Gamma Ray Sonde / Equipment Identification

Primary Equipment:		
HNGS Sonde	HNGS − BA	152
Auxiliary Equipment:		
HNGS Sonde Housing	HNSH − BA	149
Gamma Source Radioactive	GSR − U	120

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		38.51	Master		15.35	Master		1055
Before		38.27	Before		14.75	Before		1049
	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 DEGF	Value
Master		139.6	Master		8.611	Master		85.98
Before		137.8	Before		8.525	Before		83.68
	135.0 (Minimum) 142.6 (Nominal) 150.3 (Maximum)			7.000 (Minimum) 8.500 (Nominal) 11.00 (Maximum)			−20.00 (Minimum) 59.90 (Nominal) 140.0 (Maximum)	

Phase	Na Count Rate CPS	Value
		

Master		13.47
Before		13.78
10.00 (Minimum)	45.00 (Nominal)	100.0 (Maximum)

Master: 4−Jun−2012 16:57 Before: 6−Jun−2012 21:42

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 2 Check

Phase	Na 511 Peak Loc	Value
Master		39.81
Before		39.69
37.50 (Minimum)	40.00 (Nominal)	43.50 (Maximum)

Phase	Na 511 Peak Res %	Value
Master		15.65
Before		15.13
12.00 (Minimum)	15.50 (Nominal)	19.00 (Maximum)

Phase	High Voltage V	Value
Master		997.1
Before		993.1
850.0 (Minimum)	1150 (Nominal)	1600 (Maximum)

Phase	Na 1785 Peak Loc	Value
Master		141.1
Before		140.5
135.0 (Minimum)	142.6 (Nominal)	150.3 (Maximum)

Phase	Na 1785 Peak Res %	Value
Master		8.929
Before		8.766
7.000 (Minimum)	8.500 (Nominal)	11.00 (Maximum)

Phase	Temperature DEGF	Value
Master		87.18
Before		84.85
−20.00 (Minimum)	59.90 (Nominal)	140.0 (Maximum)

Phase	Na Count Rate CPS	Value
Master		13.52
Before		13.75
10.00 (Minimum)	45.00 (Nominal)	100.0 (Maximum)

Master: 4−Jun−2012 16:57 Before: 6−Jun−2012 21:42

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Ratio Of Detector 1 To Detector 2

Phase	Coincidence Count Rate Ratio	Value
Master		0.9937
Before		0.9936
0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)

Master: 4−Jun−2012 16:57

Before: 6−Jun−2012 21:42

General Purpose Inclinometer / Equipment Identification

Primary Equipment:

GPIT Cartridge − C GPIC − C

Auxiliary Equipment:

GPIT Housing GPIH − B

Powered Positioning Device/Caliper 1 / Equipment Identification

Primary Equipment:

PPC Powered Positioning Device/Caliper PPC1 − B

PPC1 Caliper Standard PPC_ −

Auxiliary Equipment:

Powered Positioning Device/Caliper 1 Wellsite Calibration

PPC1 Caliper Calibration

Phase	PPC1 Radius 1 Raw Small Radius IN	Value
Before		4.469
1.200 (Minimum)	3.500 (Nominal)	5.600 (Maximum)

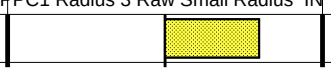
Phase	PPC1 Radius 1 Raw Large Radius IN	Value
Before		8.761
6.100 (Minimum)	8.000 (Nominal)	9.700 (Maximum)

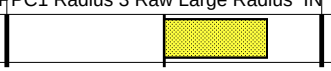
Phase	PPC1 Radius 2 Raw Small Radius IN	Value
Before		3.318
1.200 (Minimum)	3.500 (Nominal)	5.600 (Maximum)

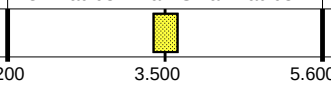
Phase	PPC1 Radius 2 Raw Large Radius IN	Value
Before		7.851
6.100 (Minimum)	8.000 (Nominal)	9.700 (Maximum)

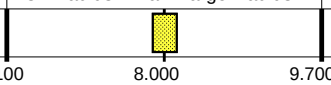
Phase	PPC1 Radius 3 Raw Small Radius IN	Value

Phase	PPC1 Radius 3 Raw Large Radius IN	Value

Phase	PPC1 Radius 3 Raw Small Radius IN	Value
Before		4.764
	1.200 (Minimum) 3.500 (Nominal) 5.600 (Maximum)	

Phase	PPC1 Radius 3 Raw Large Radius IN	Value
Before		9.116
	6.100 (Minimum) 8.000 (Nominal) 9.700 (Maximum)	

Phase	PPC1 Radius 4 Raw Small Radius IN	Value
Before		3.380
	1.200 (Minimum) 3.500 (Nominal) 5.600 (Maximum)	

Phase	PPC1 Radius 4 Raw Large Radius IN	Value
Before		7.875
	6.100 (Minimum) 8.000 (Nominal) 9.700 (Maximum)	

Before: 4−Jun−2012 16:56

Multimode Array Sonic Power Cartridge / Equipment Identification

Primary Equipment:	
Multimode Array Sonic Minimum Service So	MAMS − BA
Multimode Array Sonic Control Cartridge	MAPC − BA
Auxiliary Equipment:	
Electronics Cartridge Housing	ECH − SF

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

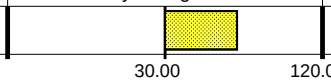
EDTC Accelerometer Calibration

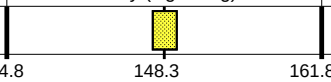
Phase	EDTC Z−Axis Acceleration F/S2	Value
Before		31.81
	31.53 (Minimum) 32.19 (Nominal) 32.84 (Maximum)	

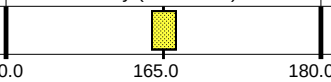
Before: 7−Jun−2012 10:28

Enhanced DTS Cartridge Wellsite Calibration

Detector Calibration

Phase	Gamma Ray Background GAPI	Value
Before		71.21
	0 (Minimum) 30.00 (Nominal) 120.0 (Maximum)	

Phase	Gamma Ray (Jig − Bkg) GAPI	Value
Before		148.3
	134.8 (Minimum) 148.3 (Nominal) 161.8 (Maximum)	

Phase	Gamma Ray (Calibrated) GAPI	Value
Before		165.0
	150.0 (Minimum) 165.0 (Nominal) 180.0 (Maximum)	

Before: 4−Jun−2012 17:18

Company: **Conoco Phillips Company**

Schlumberger

Well: **Tebo 32−3H**
Field: **Wildcat**
County: **Arapahoe**
State: **Colorado**

Platform Express
Compensated Neutron

Litho Density