Schlumberger

Company: **Conoco Phillips Company**

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

Platform Express
Triple Combo

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

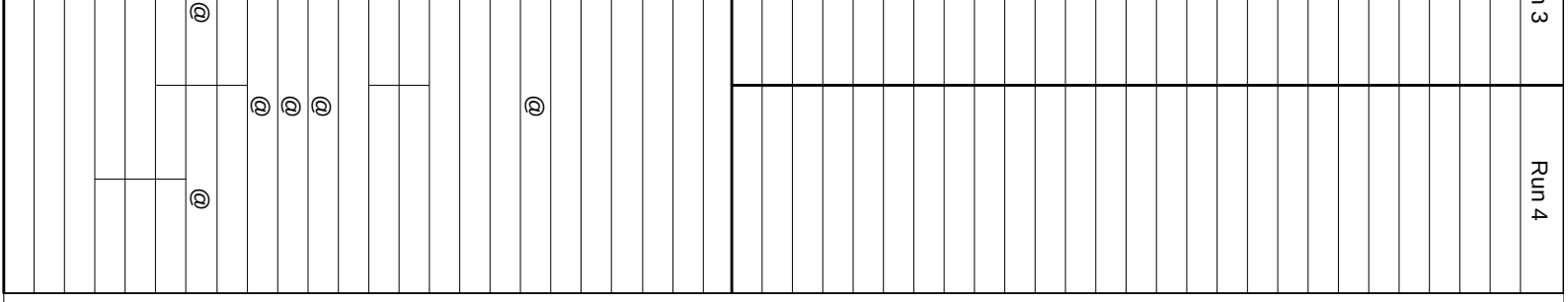
Elev.: K.B. 5992.00 ft
G.L. 5968.00 ft
D.F. 5991.00 ft

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
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	22.453 @ 225 / @ 225	@ / @	
Maximum Recorded Temperatures	225 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
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)	

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:	

RUN 1 LOGGED INTERVAL	START	STOP	RUN 2 LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION

SURFACE EQUIPMENT

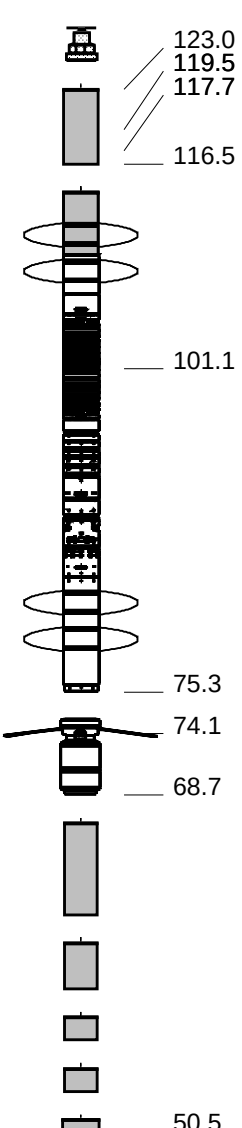
RUN 1

GSR−U/Y
NCT−B
CNB−AB
NCS−VB

GSR−U 120
WITM (EDTS)−A

RUN 2

DOWNHOLE EQUIPMENT



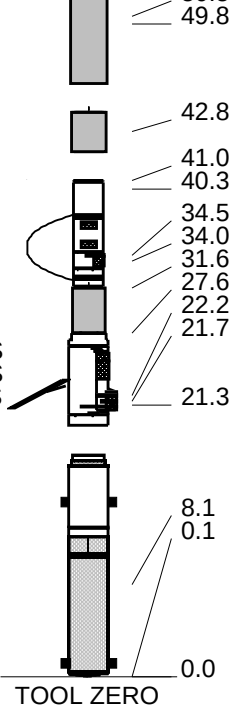
LEH−QT			126.0
EDTC−B			123.0
EDTH−B			
EDTC−B			
MAPC−B			116.5
MAPC−BA			
ECH−SF			
MAMS−BA			
	MAMS−PS	101.1	
MAXS−B			95.5
MASS−BA			
MAXS−BA			
	MAXS−PS	75.3	
PPC1	Calipers	74.1	75.3
PPC1−B			
PPC_CAL_STD	PPC_Cartr	68.7	
AH−NMA			68.7
AH−NMA			
GPIT−C			60.7
GPIC−C			
AH−107			56.7
AH−107			54.7
UNGS_BA	Upper_1	50.5	52.7

HNGS−BA
HNGS−BA 152
HNSH−BA 149

HNGC−B
HNGH−A 87

HILTB−FTB
HGNSD−B
HMCA
HGNH
NLS−KL
NSR−F 2554
HACCZ 452
HCNT
HGR
HRCC−B
HRMS−B

ZAIT−EA
AXIS−A 68
AHRM−A



MAXIMUM STRING DIAMETER 5.88 IN
MEASUREMENTS RELATIVE TO TOOL ZERO
ALL LENGTHS IN FEET

Schlumberger

MAIN TRIPLE COMBO 5" = 100’

MAXIS Field Log

Company: Conoco Phillips Company **Well: Tebo 32−3H**

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**		

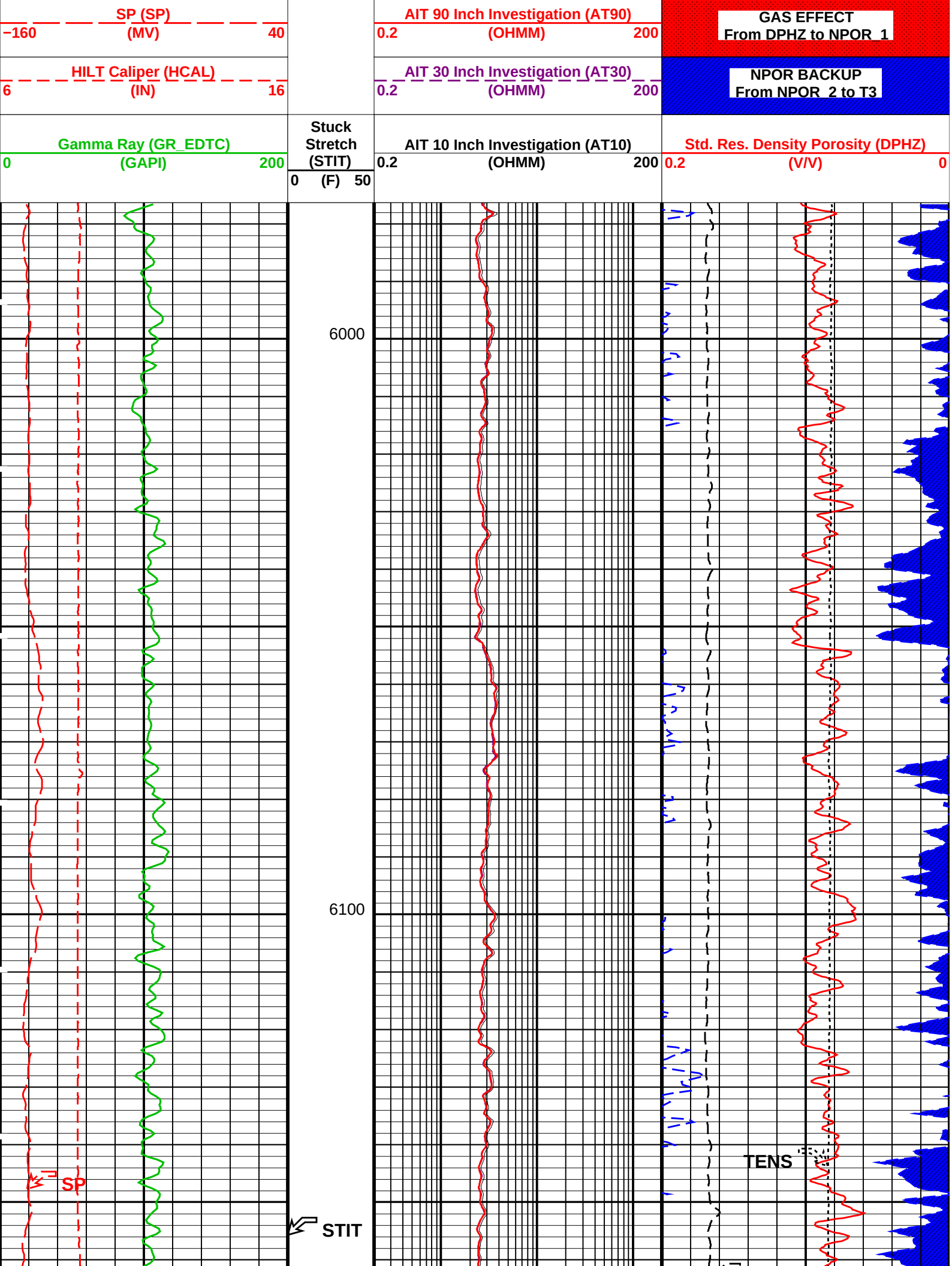
PIP SUMMARY

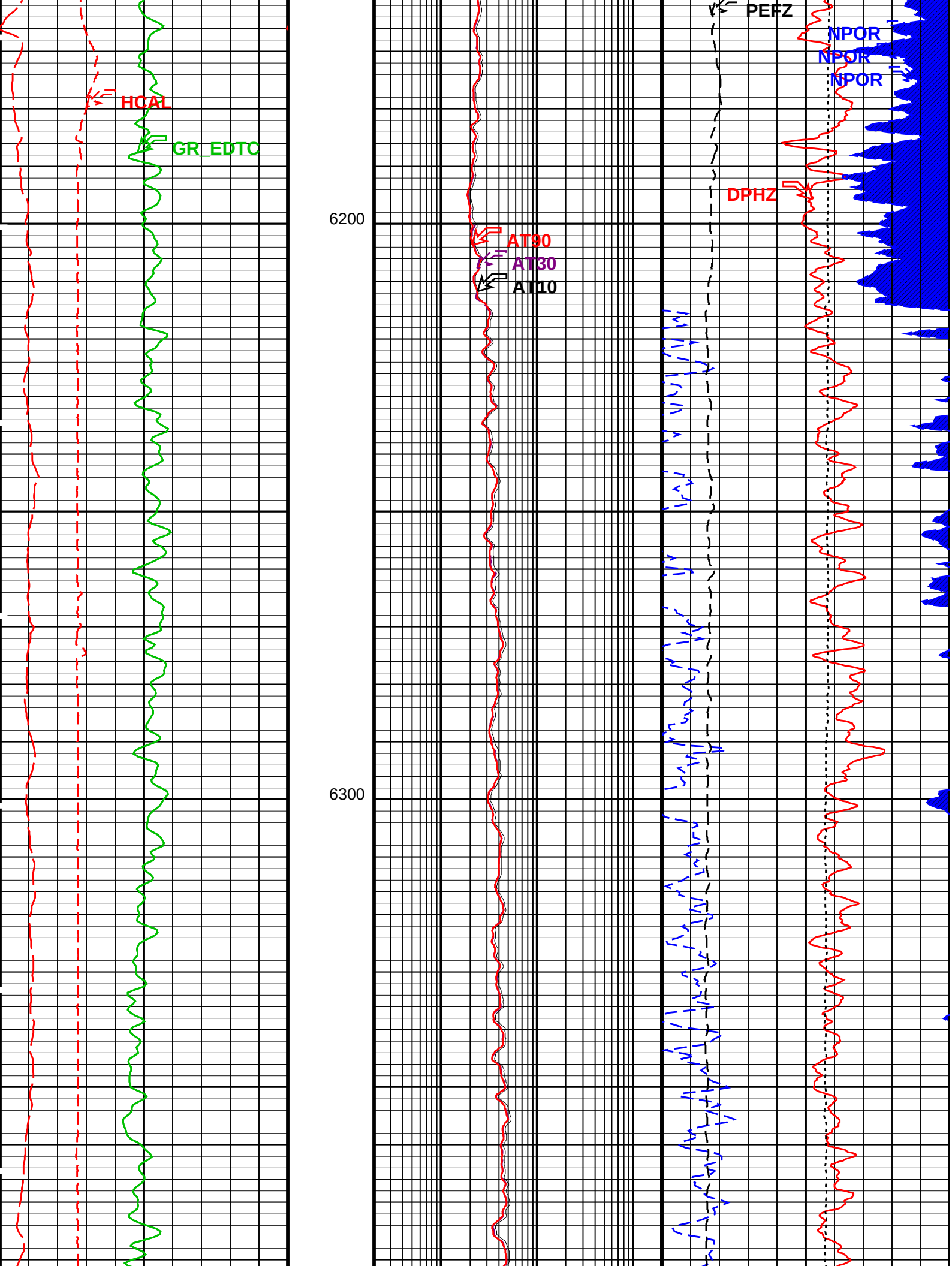
Time Mark Every 60 S

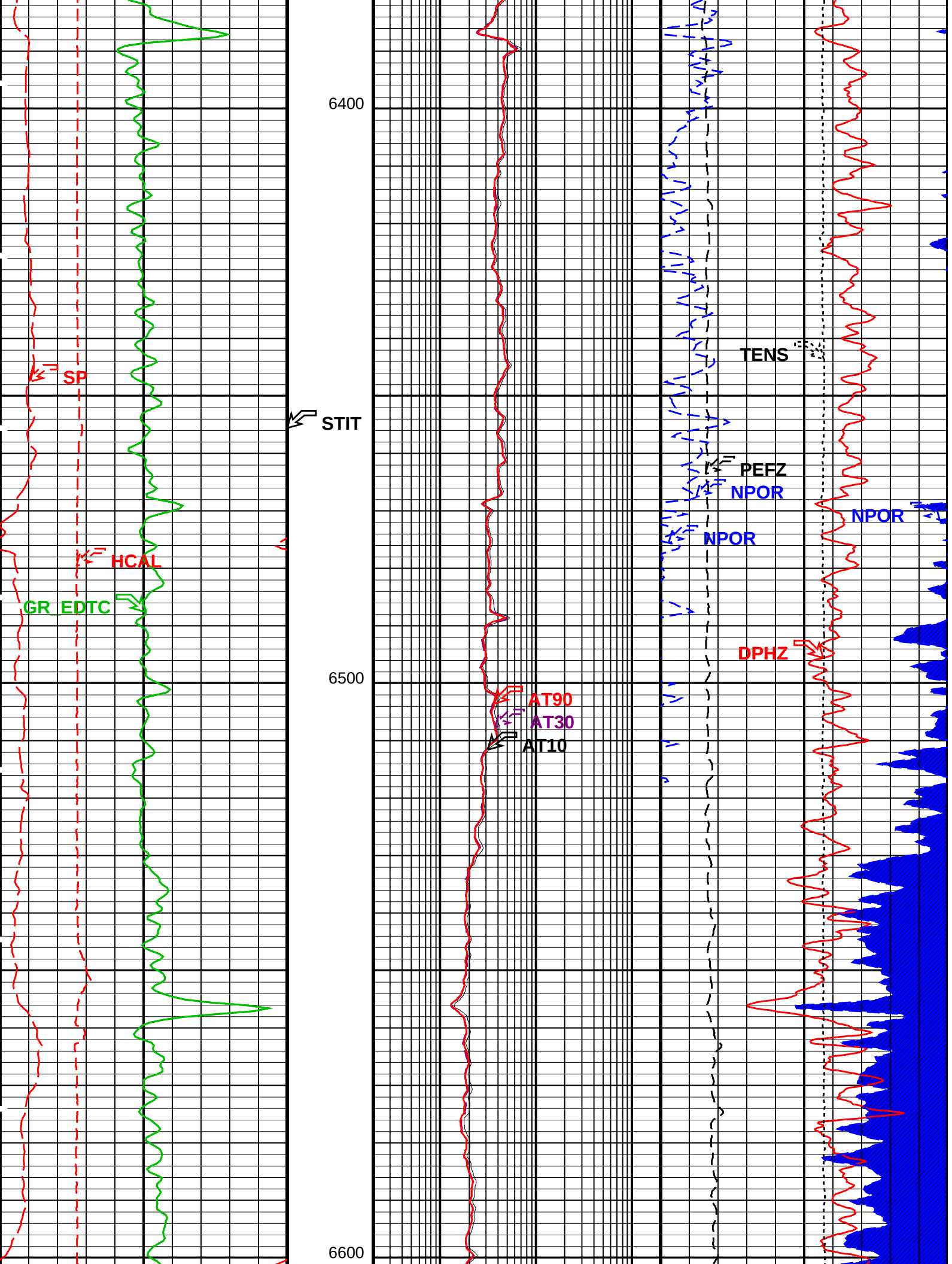
Std. Res. Formation Pe (PEFZ)	
0 (----	10

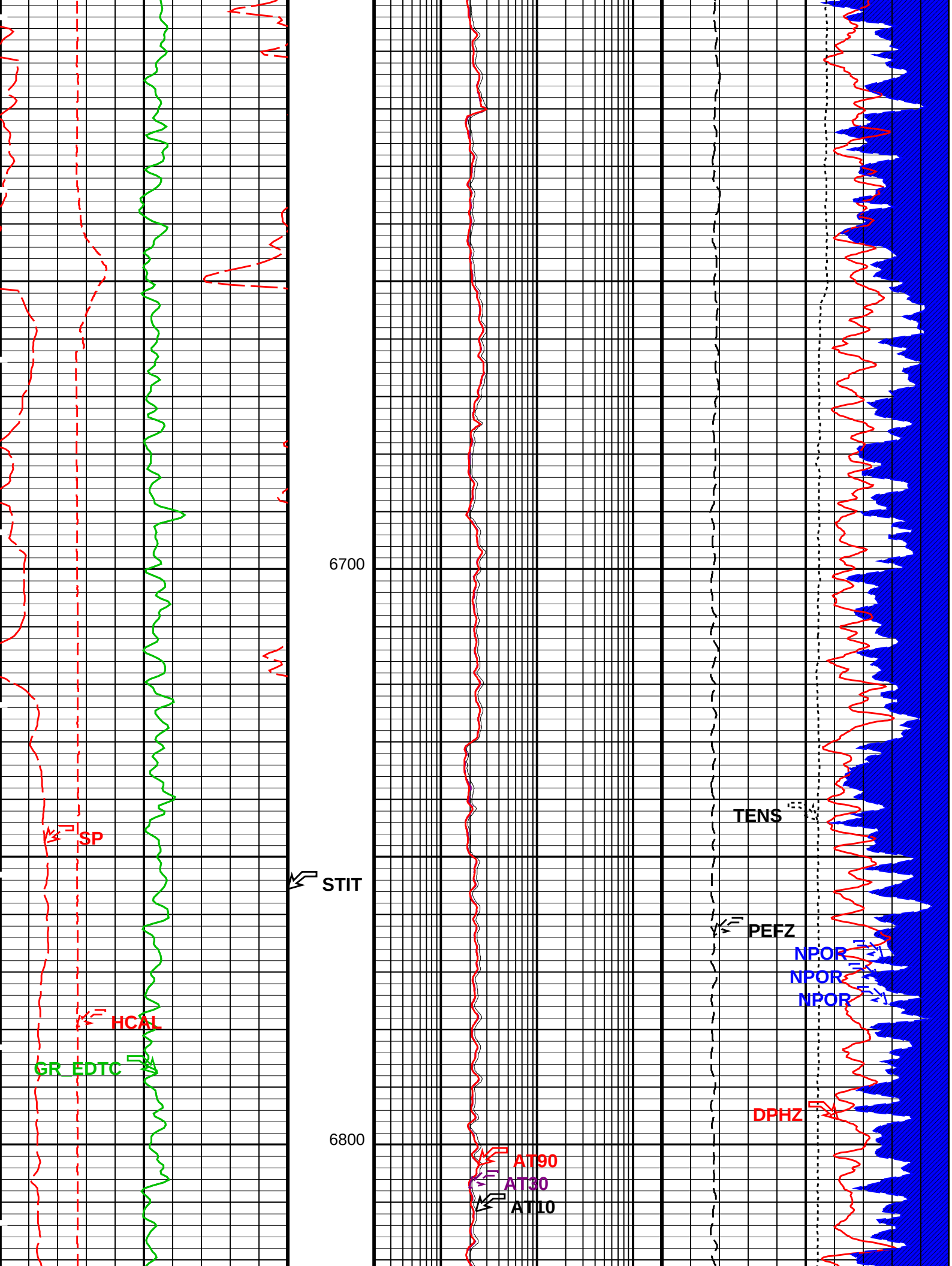
Alpha Processed Neutron Porosity (NPOR)		
0.2	(V/V)	0

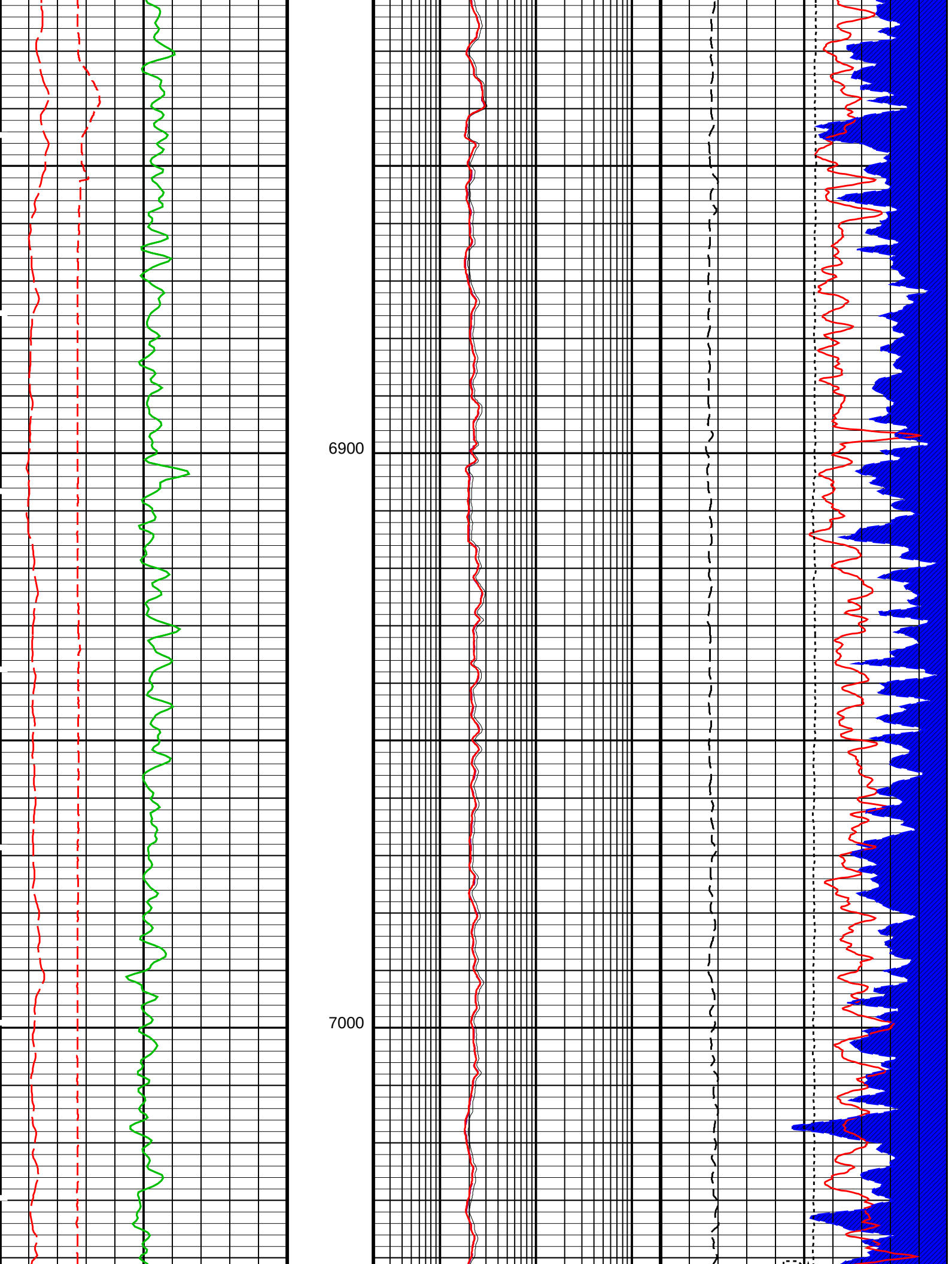
Tension (TENS)		
10000	(LBF)	0

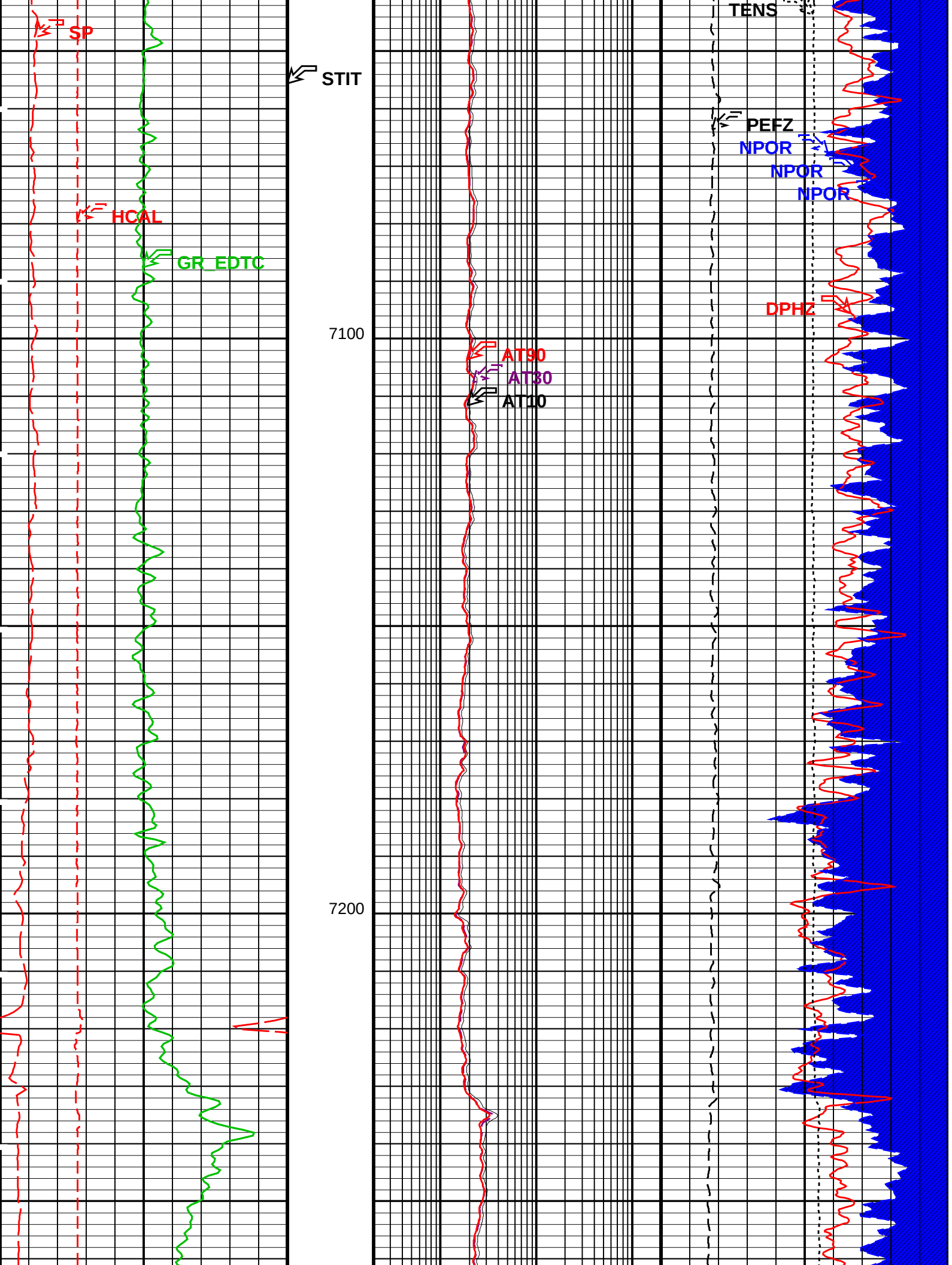

SP (SP)
−160
(MV)
40
HILT Caliper (HCAL)
6
(IN)
16
Gamma Ray (GR_EDTC)
0
(GAPI)
200
AIT 90 Inch Investigation (AT90)
0.2
(OHMM)
200
AIT 30 Inch Investigation (AT30)
0.2
(OHMM)
200
AIT 10 Inch Investigation (AT10)
0.2
(OHMM)
200
Stuck
Stretch
(STIT)
0
(F)
50
GAS EFFECT
From DPHZ to NPOR_1
NPOR BACKUP
From NPOR_2 to T3
Std. Res. Density Porosity (DPHZ)
0.2
(V/V)
0
6000
6100
SP
STIT
TENS

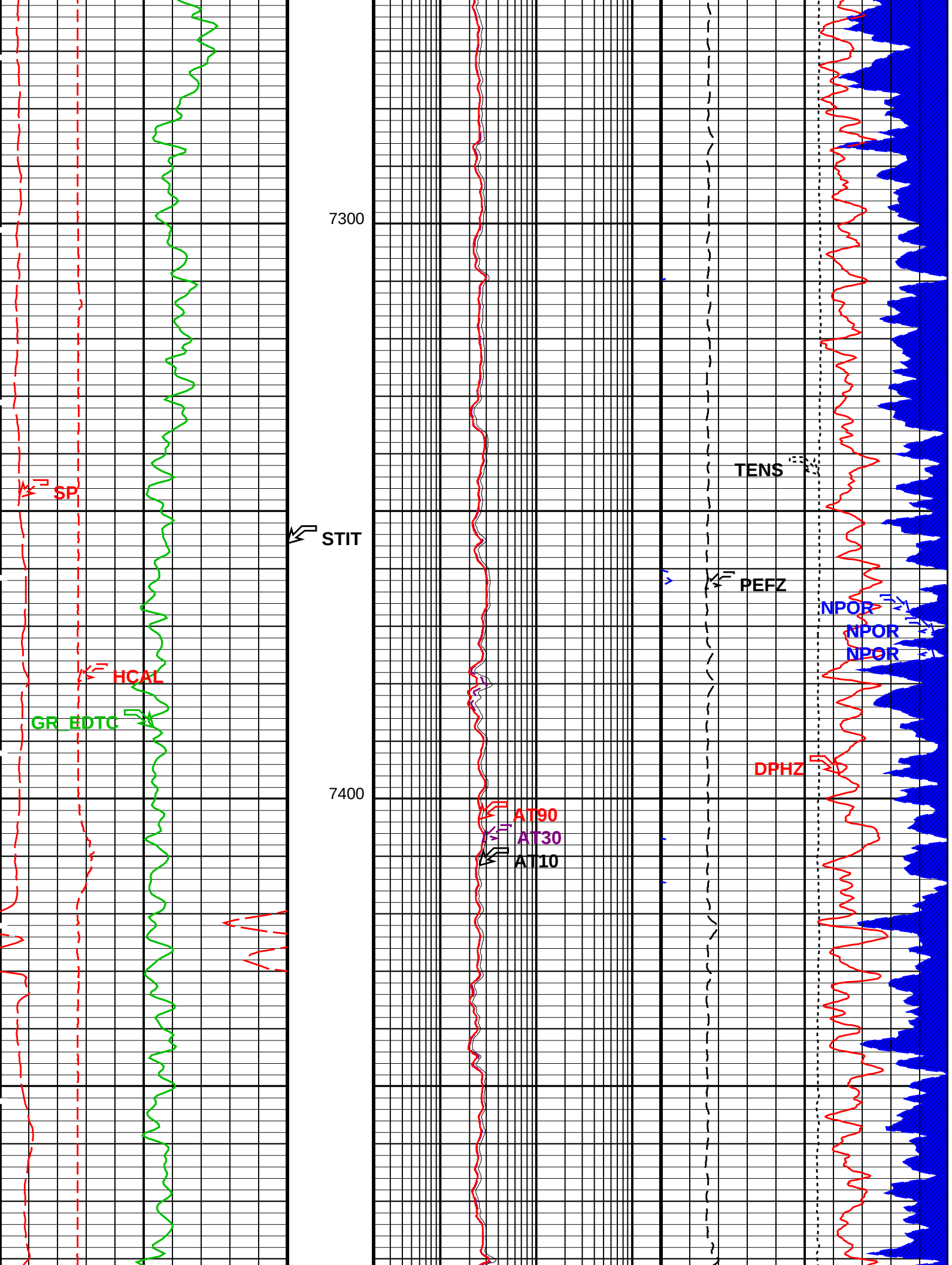

HCAL
GR_EDTC
6200
AT90
AT30
AT10
PEFZ
NPOR
NPOR
NPOR
DPHZ
6300

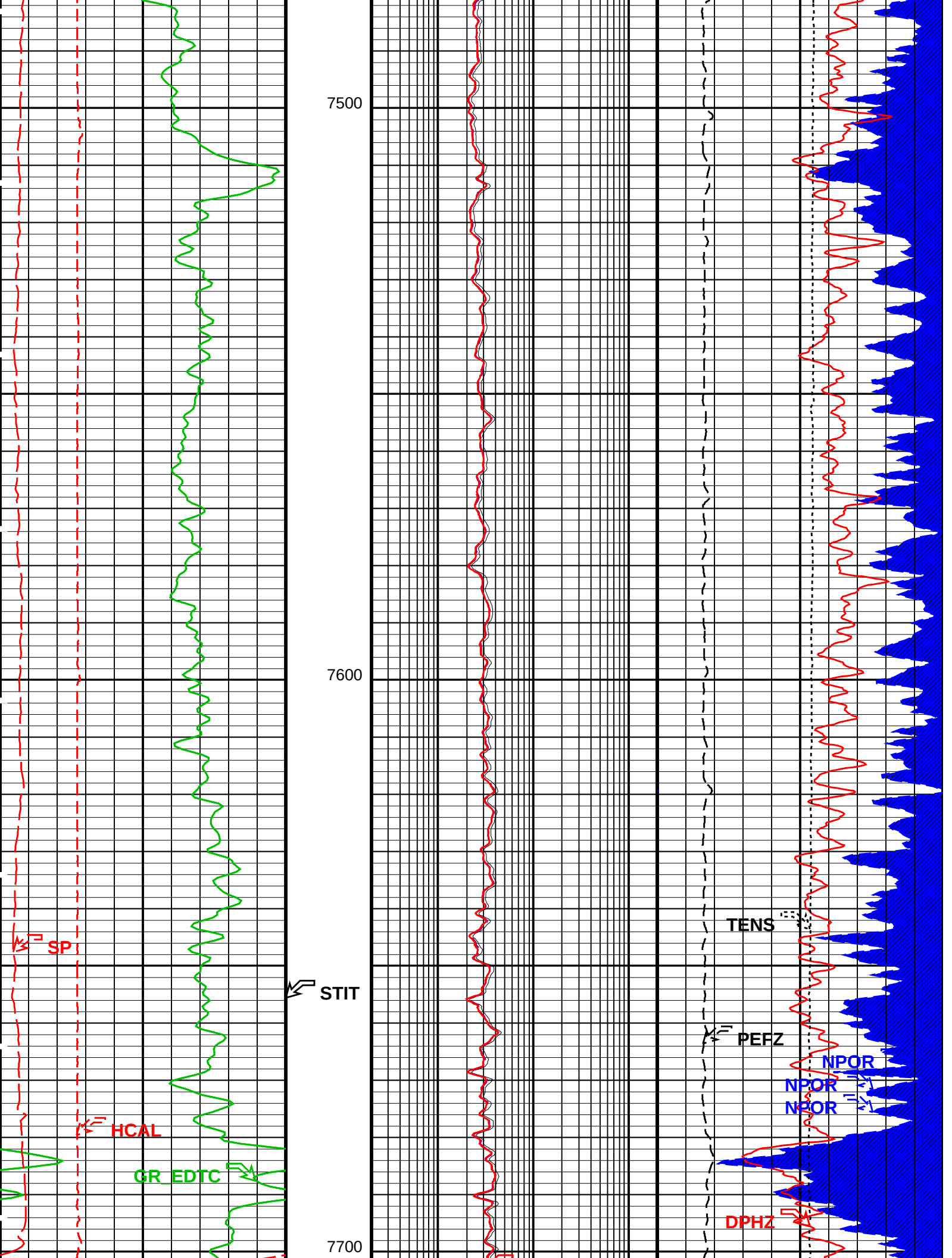

6400
6500
6600
SP
HCAL
GR_EDTC
STIT
AT90
AT30
AT10
TENS
PEFZ
NPOR
NPOR
NPOR
DPHZ

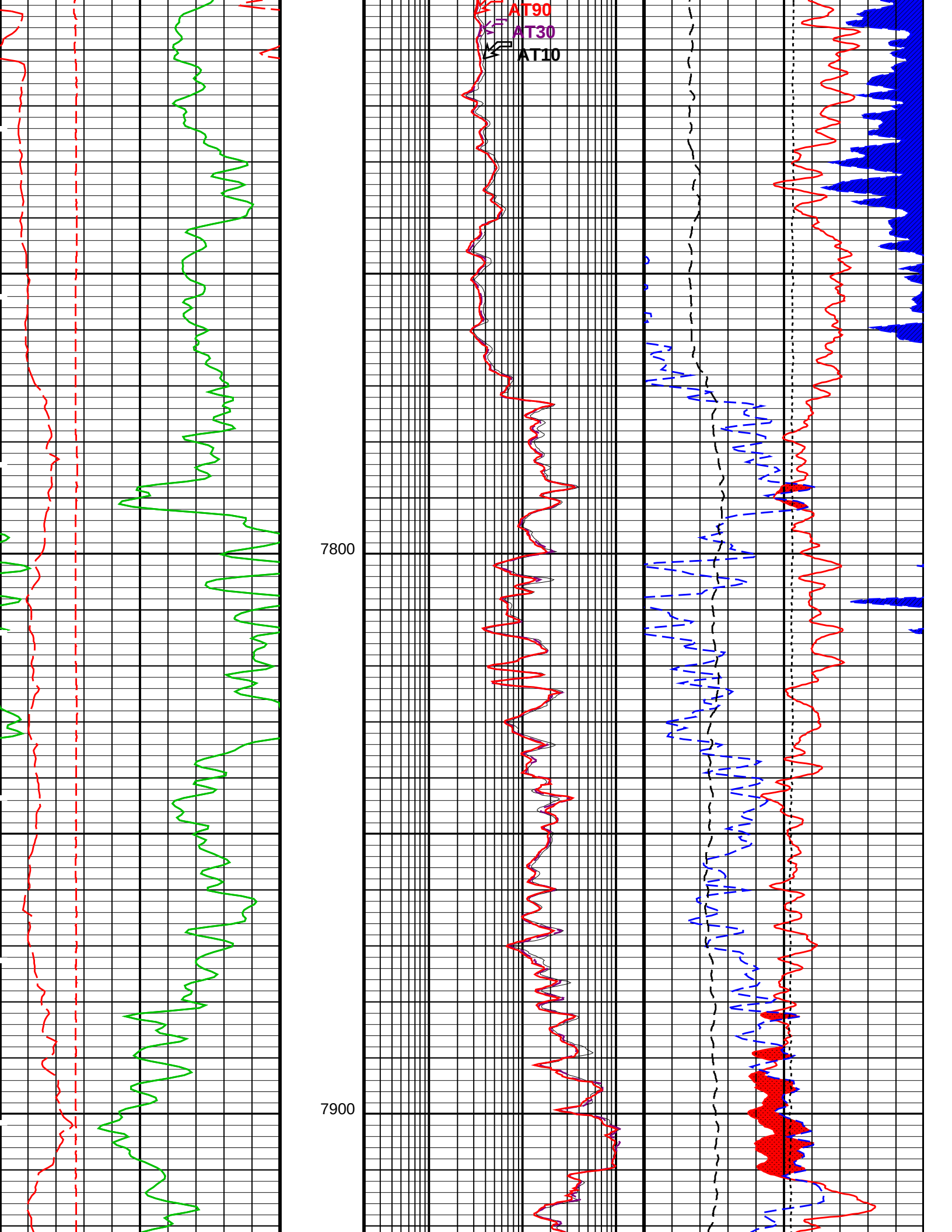

6700
6800
SP
HCAL
GR_EDTC
STIT
AT90
AT30
AT10
TENS
PEFZ
NPOR
NPOR
NPOR
DPHZ

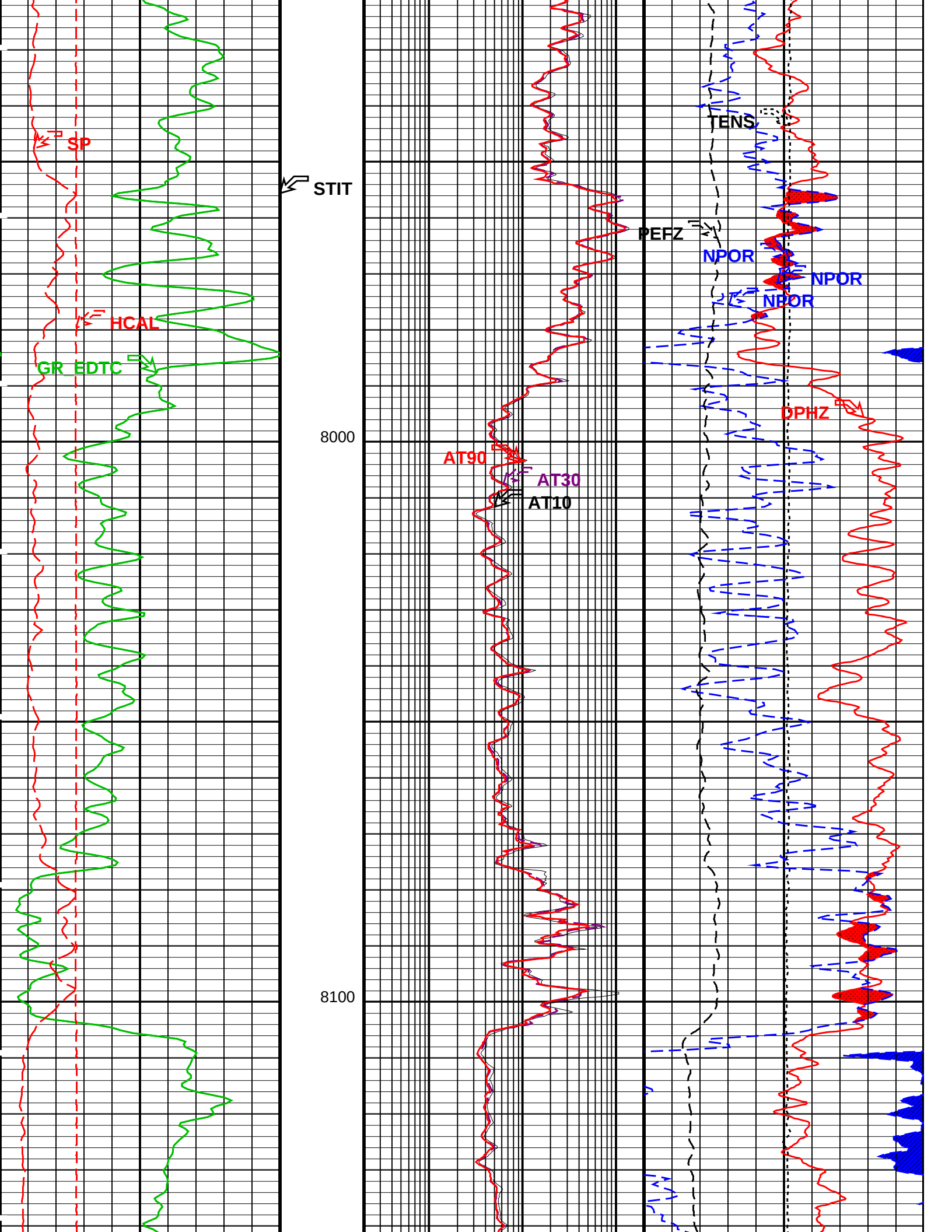

6900
7000

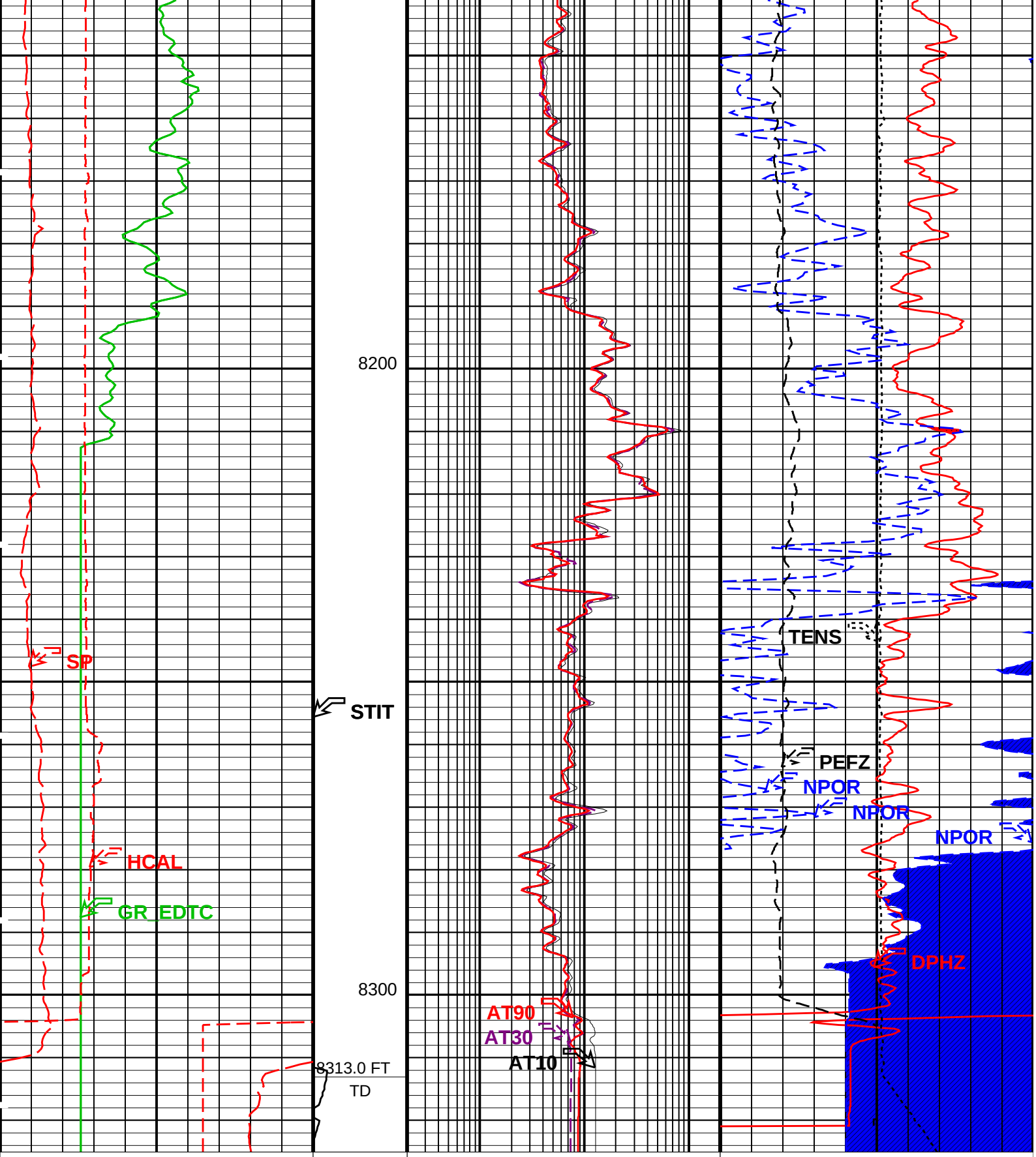

SP
HCAL
GR_EDTC
STIT
7100
7200
AT90
AT30
AT10
TENS
PEFZ
NPOR
NPOR
NPOR
DPHZ


7300
7400
SP
HCAL
GR_EDTC
STIT
TENS
PEFZ
NPOR
NPOR
NPOR
DPHZ
AT90
AT30
AT10


7500
7600
7700
SP
HCAL
GR
EDTC
STIT
TENS
PEFZ
NPOR
NPOR
NPOR
DPHZ


AT90
AT30
AT10
7800
7900


SP
HCAL
GR
EDTC
STIT
8000
8100
AT90
AT30
AT10
PEFZ
TENS
NPOR
NPOR
NPOR
DPHZ



Gamma Ray (GR_EDTC)	Stuck Stretch (STIT)	AIT 10 Inch Investigation (AT10)	Std. Res. Density Porosity (DPHZ)
0 (GAPI) 200	0 (F) 50	0.2 (OHMM) 200	0.2 (V/V) 0
HILT Caliper (HCAL)		**AIT 30 Inch Investigation (AT30)**	NPOR BACKUP From NPOR_2 to T3
6 (IN) 16		0.2 (OHMM) 200	
SP (SP)		**AIT 90 Inch Investigation (AT90)**	GAS EFFECT From DPHZ to NPOR_1
−160 (MV) 40		0.2 (OHMM) 200	

Tension (TENS)		
10000	(LBF)	0

Alpha Processed Neutron Porosity (NPOR)		
0.2	(V/V)	0

Std. Res. Formation Pe (PEFZ)		
0	(----	10

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	ZAIT−EA: 3−D Array Induction Tool − ZAIT−E		
ABLM	Array Induction Basic Logs Mode	6_One_Two_and_Four	
ABLV	Array Induction Basic Logs Code Version Number	223	
ACDE	Array Induction Casing Detection Enable	No	
ACSED	Array Induction Casing Shoe Estimated Depth	−50000	FT
AFRSV	Array Induction Response Set Version for Four ft Resolution	41.70.24.20	
AORSV	Array Induction Response Set Version for One ft Resolution	41.70.24.20	
ARFV	Array Induction Radial Profiling Code Version Number	701	
ARPV	Array Induction Radial Parametrization Code Version Number	232	
ATRSV	Array Induction Response Set Version for Two ft Resolution	41.70.24.20	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	225	DEGF
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
SHT	Surface Hole Temperature	68	DEGF
SPNV	SP Next Value	0	MV
TRI1DV	3D 1D Code Version Number	0	
TRIBHM	3D Induction Borehole Correction Mode	21_ComputeOBMPlusDipNormal	
TRIBHV	Array Induction Borehole Correction Code Version Number	20110	
TRIRSV	3D Induction Response Set Version	00.10.24.00	
TRIRT	3D Rotation Selector	NorTH	
TRISTA	3D Tool Standoff	1.125	IN
	HILTB−FTB: High resolution Integrated Logging Tool−DTS		
BHFL	Borehole Fluid Type	OIL	
BHFL_TLD	HILT Nuclear Mud Base	OIL	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	225	DEGF
BSCO	Borehole Salinity Correction Option	NO	
CCCO	Casing & Cement Thickness Correction Option	NO	
DHC	Density Hole Correction	BS	
FD	Fluid Density	1	G/C3
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
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
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
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	
BHT	Bottom Hole Temperature (used in calculations)	225	DEGF
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
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			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	225	DEGF
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
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
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	
BHT	Bottom Hole Temperature (used in calculations)	225	DEGF
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
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
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	
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			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	225	DEGF
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
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			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	225	DEGF
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
SHT	Surface Hole Temperature	68	DEGF
STI: Stuck Tool Indicator			
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

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

Company: Conoco Phillips Company **Well: Tebo 32−3H**

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

Time Mark Every 60 S

PEFZ_REP Curve (PEFZ_REP)
0 (−−−− 10

GAS EFFECT
From DPHZ to NPOR_1

NPOR BACKUP
From NPOR_2 to T3

TENS_REP Curve (TENS_REP)
10000 (LBF) 0

GR_EDTC_1_REP Curve (GR_EDTC_REP)
200 (GAPI) 400

NPOR_2_REP Curve (NPOR_REP)
0.4 (V/V) 0.2

SP_REP Curve (SP_REP)
−160 (MV) 40

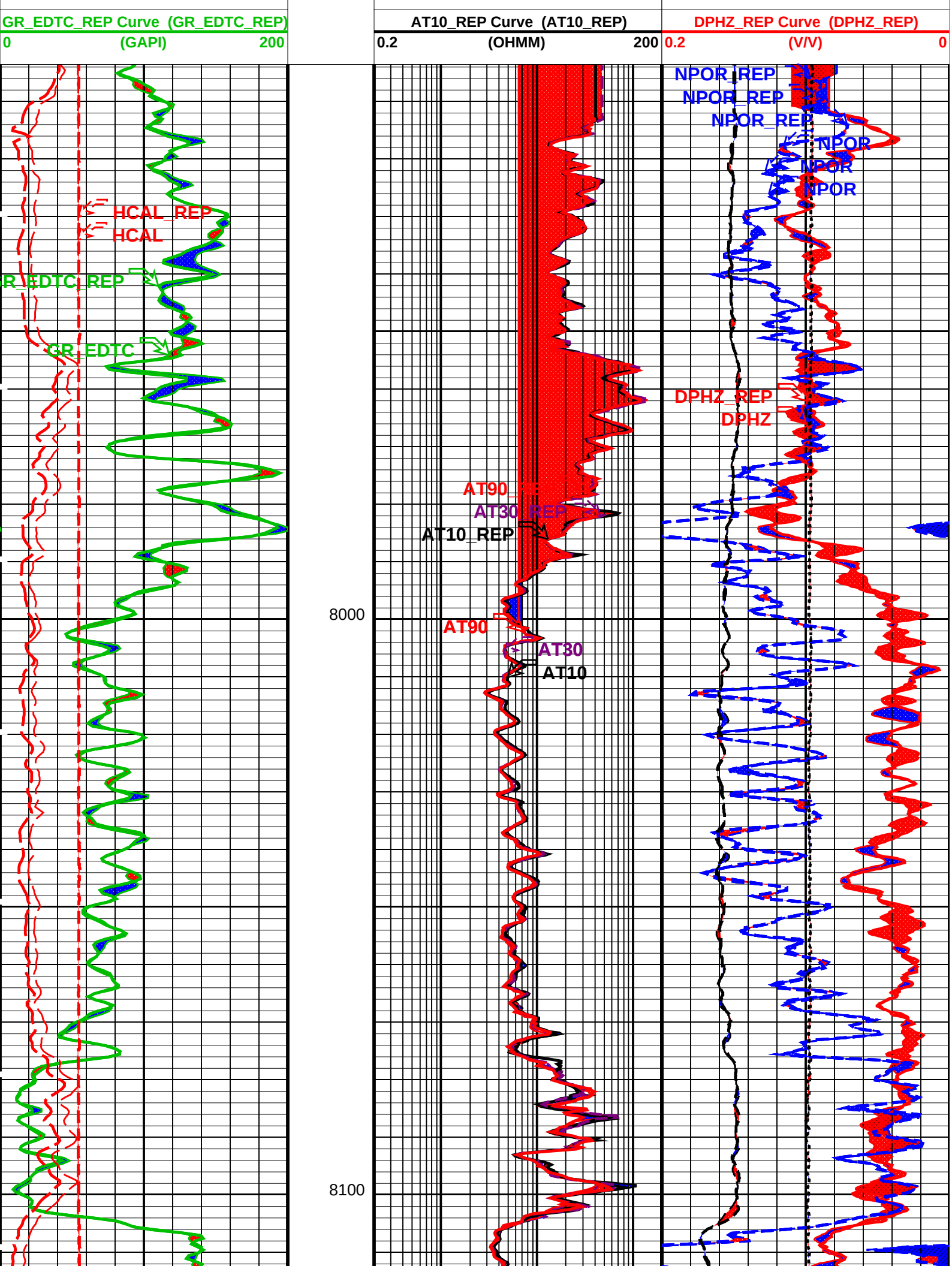
AT90_REP Curve (AT90_REP)
0.2 (OHMM) 200

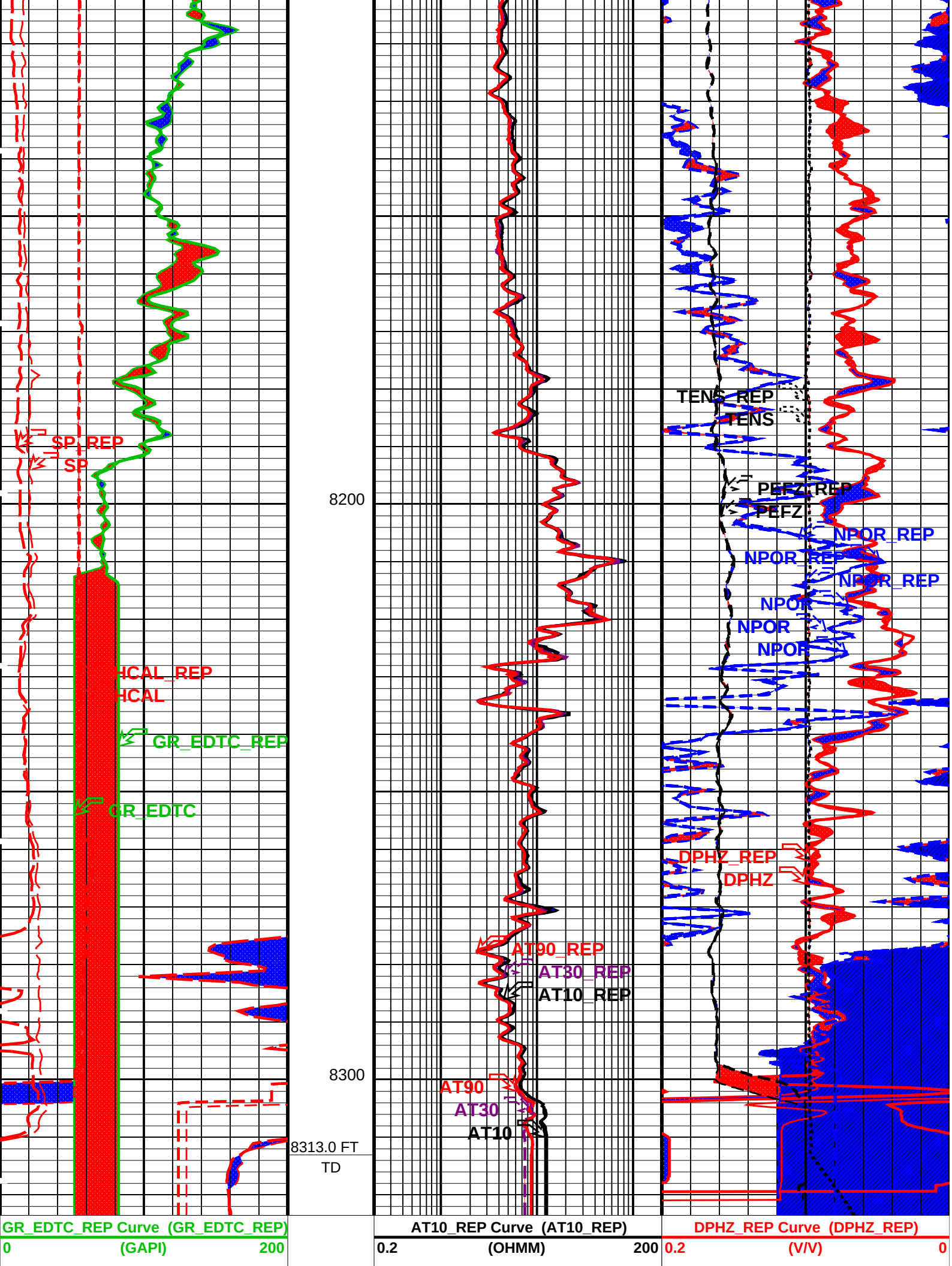
NPOR_1_REP Curve (NPOR_REP)
0.2 (V/V) 0

HCAL_REP Curve (HCAL_REP)
6 (IN) 16

AT30_REP Curve (AT30_REP)
0.2 (OHMM) 200

NPOR_REP Curve (NPOR_REP)
0.2 (V/V) 0


GR_EDTC_REP Curve (GR_EDTC_REP)
0
(GAPI)
200
AT10_REP Curve (AT10_REP)
0.2
(OHMM)
200
DPHZ_REP Curve (DPHZ_REP)
0.2
(V/V)
0
HCAL_REP
HCAL
R_EDTC_REP
GR_EDTC
AT90_REP
AT30_REP
AT10_REP
AT90
AT30
AT10
NPOR_REP
NPOR_REP
NPOR_REP
NPOR
NPOR
NPOR
DPHZ_REP
DPHZ
8000
8100


SP_REP
SP
HCAL_REP
HCAL
GR_EDTC_REP
GR_EDTC
8200
8300
8313.0 FT
TD
AT90_REP
AT30_REP
AT10_REP
AT90
AT30
AT10
TENS_REP
TENS
PEFZ_REP
PEFZ
NPOR_REP
NPOR_REP
NPOR_REP
NPOR
NPOR
NPOR
DPHZ_REP
DPHZ
GR_EDTC_REP Curve (GR_EDTC_REP)
0
(GAPI)
200
AT10_REP Curve (AT10_REP)
0.2
(OHMM)
200
DPHZ_REP Curve (DPHZ_REP)
0.2
(V/V)
0

HCAL_REP Curve (HCAL_REP)
6 (IN) 16

SP_REP Curve (SP_REP)
−160 (MV) 40

GR_EDTC_1_REP Curve (GR_EDTC_REP)
200 (GAPI) 400

AT30_REP Curve (AT30_REP)
0.2 (OHMM) 200

AT90_REP Curve (AT90_REP)
0.2 (OHMM) 200

NPOR_REP Curve (NPOR_REP)
0.2 (V/V) 0

NPOR_1_REP Curve (NPOR_REP)
0.2 (V/V) 0

NPOR_2_REP Curve (NPOR_REP)
0.4 (V/V) 0.2

TENS_REP Curve (TENS_REP)
10000 (LBF) 0

NPOR BACKUP
From NPOR_2 to T3

GAS EFFECT
From DPHZ to NPOR_1

PEFZ_REP Curve (PEFZ_REP)
0 (−−−− 10

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	ZAIT−EA: 3−D Array Induction Tool − ZAIT−E		
ABLM	Array Induction Basic Logs Mode	6_One_Two_and_Four	
ABLV	Array Induction Basic Logs Code Version Number	223	
ACDE	Array Induction Casing Detection Enable	No	
ACSED	Array Induction Casing Shoe Estimated Depth	−50000	FT
AFRSV	Array Induction Response Set Version for Four ft Resolution	41.70.24.20	
AORSV	Array Induction Response Set Version for One ft Resolution	41.70.24.20	
ARFV	Array Induction Radial Profiling Code Version Number	701	
ARPV	Array Induction Radial Parametrization Code Version Number	232	
ATRSV	Array Induction Response Set Version for Two ft Resolution	41.70.24.20	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	225	DEGF
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
SHT	Surface Hole Temperature	68	DEGF
SPNV	SP Next Value	0	MV
TRI1DV	3D 1D Code Version Number	0	
TRIBHM	3D Induction Borehole Correction Mode	21_ComputeOBMPlusDipNormal	
TRIBHV	Array Induction Borehole Correction Code Version Number	20110	
TRIRSV	3D Induction Response Set Version	00.10.24.00	
TRIRT	3D Rotation Selector	NorTH	
TRISTA	3D Tool Standoff	1.125	IN
	HILTB−FTB: High resolution Integrated Logging Tool−DTS		
BHFL	Borehole Fluid Type	OIL	
BHFL_TLD	HILT Nuclear Mud Base	OIL	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	225	DEGF
BSCO	Borehole Salinity Correction Option	NO	
CCCO	Casing & Cement Thickness Correction Option	NO	
DHC	Density Hole Correction	BS	
FD	Fluid Density	1	G/C3
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
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
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	HSTS_HTEM	

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	
BHT	Bottom Hole Temperature (used in calculations)	225	DEGF
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
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			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	225	DEGF
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
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
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	
BHT	Bottom Hole Temperature (used in calculations)	225	DEGF
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
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
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	
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			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	225	DEGF
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
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			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	225	DEGF
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
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: COMBO_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

Schlumberger

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 − 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

3−D Array Induction Tool − ZAIT−EA / Equipment Identification

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	
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	NOT DONE	1.362	7.875	NOT DONE	0
	Before	N/A	NOT DONE		N/A	NOT DONE	
32	Master	1.340	NOT DONE	1.362	3.827	NOT DONE	0
	Before	N/A	NOT DONE		N/A	NOT DONE	
33	Master	1.168	NOT DONE	1.220	−0.5059	NOT DONE	0
	Before	N/A	NOT DONE		N/A	NOT DONE	
34	Master	1.164	NOT DONE	1.220	−0.9599	NOT DONE	0
	Before	N/A	NOT DONE		N/A	NOT DONE	
35	Master	1.165	NOT DONE	1.220	2.185	NOT DONE	0
	Before	N/A	NOT DONE		N/A	NOT DONE	
36	Master	1.654	NOT DONE	1.635	5.256	NOT DONE	0
	Before	N/A	NOT DONE		N/A	NOT DONE	
37	Master	1.660	NOT DONE	1.635	3.478	NOT DONE	0
	Before	N/A	NOT DONE		N/A	NOT DONE	
38	Master	1.581	NOT DONE	1.635	−0.5279	NOT DONE	0
	Before	N/A	NOT DONE		N/A	NOT DONE	
39	Master	1.404	NOT DONE	1.464	−0.4967	NOT DONE	0
	Before	N/A	NOT DONE		N/A	NOT DONE	
40	Master	1.399	NOT DONE	1.464	−0.9535	NOT DONE	0
	Before	N/A	NOT DONE		N/A	NOT DONE	
41	Master	1.400	NOT DONE	1.464	2.197	NOT DONE	0
	Before	N/A	NOT DONE		N/A	NOT DONE	
42	Master	2.390	NOT DONE	2.353	5.313	NOT DONE	0
	Before	N/A	NOT DONE		N/A	NOT DONE	
43	Master	2.398	NOT DONE	2.353	3.547	NOT DONE	0
	Before	N/A	NOT DONE		N/A	NOT DONE	
44	Master	2.284	NOT DONE	2.353	−0.5089	NOT DONE	0
	Before	N/A	NOT DONE		N/A	NOT DONE	
		50.00 % (Minimum)	(Nominal)	150.0 % (Maximum)	Nom −85.00 (Minimum)	(Nominal)	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

Phase	Array Induction Volt Zero V	Value
Master		−0.01021

Before			5.018	Before			−0.01035		
4.500 (Minimum)	5.000 (Nominal)	5.500 (Maximum)		−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 (Minimum)	0 (Nominal)	93.73 (Maximum)		−5616 (Minimum)	0 (Nominal)	5616 (Maximum)	
7	7.588				−246.4			
	−93.73 (Minimum)	0 (Nominal)	93.73 (Maximum)		−5616 (Minimum)	0 (Nominal)	5616 (Maximum)	
8	0.3027				−6.880			
	−12.70 (Minimum)	0 (Nominal)	12.70 (Maximum)		−58.98 (Minimum)	0 (Nominal)	58.98 (Maximum)	
9	−1.685				−10.84			
	−38.43 (Minimum)	0 (Nominal)	38.43 (Maximum)		−525.3 (Minimum)	0 (Nominal)	525.3 (Maximum)	
10	20.70				−310.0			
	−322.0 (Minimum)	0 (Nominal)	322.0 (Maximum)		−10300 (Minimum)	0 (Nominal)	10300 (Maximum)	
11	−2.027				−517.8			
	−183.7 (Minimum)	0 (Nominal)	183.7 (Maximum)		−7941 (Minimum)	0 (Nominal)	7941 (Maximum)	
12	−8.131				290.6			
	−322.0 (Minimum)	0 (Nominal)	322.0 (Maximum)		−10300 (Minimum)	0 (Nominal)	10300 (Maximum)	
13	−1.196				−12.98			
	−38.43 (Minimum)	0 (Nominal)	38.43 (Maximum)		−525.3 (Minimum)	0 (Nominal)	525.3 (Maximum)	
14	14.35				−326.1			
	−183.7 (Minimum)	0 (Nominal)	183.7 (Maximum)		−7941 (Minimum)	0 (Nominal)	7941 (Maximum)	
15	−6.852				−539.6			
	−131.2 (Minimum)	0 (Nominal)	131.2 (Maximum)		−10320 (Minimum)	0 (Nominal)	10320 (Maximum)	
16	−0.1612				−571.5			
	−131.2 (Minimum)	0 (Nominal)	131.2 (Maximum)		−10320 (Minimum)	0 (Nominal)	10320 (Maximum)	
17	−0.7209				1.071			
	−10.52 (Minimum)	0 (Nominal)	10.52 (Maximum)		−106.6 (Minimum)	0 (Nominal)	106.6 (Maximum)	
18	−0.6676				−6.336			
	−38.65 (Minimum)	0 (Nominal)	38.65 (Maximum)		−259.4 (Minimum)	0 (Nominal)	259.4 (Maximum)	

19	6.646					−151.8					
	−120.8 (Minimum)	0 (Nominal)	120.8 (Maximum)			−5071 (Minimum)	0 (Nominal)	5071 (Maximum)			
20	0.4579					−262.8					
	−56.45 (Minimum)	0 (Nominal)	56.45 (Maximum)			−3970 (Minimum)	0 (Nominal)	3970 (Maximum)			
21	−3.297					143.4					
	−120.8 (Minimum)	0 (Nominal)	120.8 (Maximum)			−5071 (Minimum)	0 (Nominal)	5071 (Maximum)			
22	−0.4672					−6.649					
	−38.65 (Minimum)	0 (Nominal)	38.65 (Maximum)			−259.4 (Minimum)	0 (Nominal)	259.4 (Maximum)			
23	4.033					−161.6					
	−56.45 (Minimum)	0 (Nominal)	56.45 (Maximum)			−3970 (Minimum)	0 (Nominal)	3970 (Maximum)			
24	−0.3452					−267.3					
	−71.00 (Minimum)	0 (Nominal)	71.00 (Maximum)			−5119 (Minimum)	0 (Nominal)	5119 (Maximum)			
25	0.04364					−282.7					
	−71.00 (Minimum)	0 (Nominal)	71.00 (Maximum)			−5119 (Minimum)	0 (Nominal)	5119 (Maximum)			
26	−0.2631					0.6712					
	−4.790 (Minimum)	0 (Nominal)	4.790 (Maximum)			−55.66 (Minimum)	0 (Nominal)	55.66 (Maximum)			
27	2.353					33.50					
	−30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)			−352.9 (Minimum)	0 (Nominal)	352.9 (Maximum)			
28	−13.71					396.1					
	−159.9 (Minimum)	0 (Nominal)	159.9 (Maximum)			−6825 (Minimum)	0 (Nominal)	6825 (Maximum)			
29	−3.398					−15.67					
	−69.24 (Minimum)	0 (Nominal)	69.24 (Maximum)			−2661 (Minimum)	0 (Nominal)	2661 (Maximum)			
30	**19.03**					**−415.1**					
	−159.9 (Minimum)	0 (Nominal)	159.9 (Maximum)			−6825 (Minimum)	0 (Nominal)	6825 (Maximum)			
31	2.887					33.92					
	−30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)			−352.9 (Minimum)	0 (Nominal)	352.9 (Maximum)			
32	4.996					−178.9					
	−69.24 (Minimum)	0 (Nominal)	69.24 (Maximum)			−2661 (Minimum)	0 (Nominal)	2661 (Maximum)			
33	4.350					−23.88					
	−58.94 (Minimum)	0 (Nominal)	58.94 (Maximum)			−2491 (Minimum)	0 (Nominal)	2491 (Maximum)			
34	2.881					−155.0					
	−58.94 (Minimum)	0 (Nominal)	58.94 (Maximum)			−2491 (Minimum)	0 (Nominal)	2491 (Maximum)			
35	−0.04984					−7.851					
	−8.280 (Minimum)	0 (Nominal)	8.280 (Maximum)			−9138 (Minimum)	0 (Nominal)	9138 (Maximum)			
36	1.514					21.36					
	−30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)			−175.1 (Minimum)	0 (Nominal)	175.1 (Maximum)			
37	−2.195					199.6					
	−50.66 (Minimum)	0 (Nominal)	50.66 (Maximum)			−3387 (Minimum)	0 (Nominal)	3387 (Maximum)			
38	−0.9305					−7.473					
	−22.87 (Minimum)	0 (Nominal)	22.87 (Maximum)			−1332 (Minimum)	0 (Nominal)	1332 (Maximum)			
39	3.504					−207.3					
	−50.66 (Minimum)	0 (Nominal)	50.66 (Maximum)			−3387 (Minimum)	0 (Nominal)	3387 (Maximum)			
40	2.004					21.81					
	−30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)			−175.1 (Minimum)	0 (Nominal)	175.1 (Maximum)			

41	1.464				−88.24			
	−22.87 (Minimum)	0 (Nominal)	22.87 (Maximum)		−1332 (Minimum)	0 (Nominal)	1332 (Maximum)	
42	0.9245				−9.858			
	−46.71 (Minimum)	0 (Nominal)	46.71 (Maximum)		−1250 (Minimum)	0 (Nominal)	1250 (Maximum)	
43	0.5372				−75.68			
	−46.71 (Minimum)	0 (Nominal)	46.71 (Maximum)		−1250 (Minimum)	0 (Nominal)	1250 (Maximum)	
44	−0.1375				−4.282			
	−3.760 (Minimum)	0 (Nominal)	3.760 (Maximum)		−25.88 (Minimum)	0 (Nominal)	25.88 (Maximum)	
45	3.616				12.03			
	−17.30 (Minimum)	0 (Nominal)	17.30 (Maximum)		−176.4 (Minimum)	0 (Nominal)	176.4 (Maximum)	
46	14.38				−421.1			
	−124.2 (Minimum)	0 (Nominal)	124.2 (Maximum)		−4734 (Minimum)	0 (Nominal)	4734 (Maximum)	
47	−3.909				10.69			
	−40.71 (Minimum)	0 (Nominal)	40.71 (Maximum)		−1318 (Minimum)	0 (Nominal)	1318 (Maximum)	
48	−10.53				444.5			
	−124.2 (Minimum)	0 (Nominal)	124.2 (Maximum)		−4734 (Minimum)	0 (Nominal)	4734 (Maximum)	
49	3.372				35.71			
	−17.30 (Minimum)	0 (Nominal)	17.30 (Maximum)		−176.4 (Minimum)	0 (Nominal)	176.4 (Maximum)	
50	0.6749				−181.5			
	−40.71 (Minimum)	0 (Nominal)	40.71 (Maximum)		−1318 (Minimum)	0 (Nominal)	1318 (Maximum)	
51	−2.759				−32.97			
	−21.65 (Minimum)	0 (Nominal)	21.65 (Maximum)		−1487 (Minimum)	0 (Nominal)	1487 (Maximum)	
52	1.390				−198.1			
	−21.65 (Minimum)	0 (Nominal)	21.65 (Maximum)		−1487 (Minimum)	0 (Nominal)	1487 (Maximum)	
53	−0.4719				4.274			
	−6.870 (Minimum)	0 (Nominal)	6.870 (Maximum)		−22.76 (Minimum)	0 (Nominal)	22.76 (Maximum)	
54	2.727				7.439			
	−14.16 (Minimum)	0 (Nominal)	14.16 (Maximum)		−88.85 (Minimum)	0 (Nominal)	88.85 (Maximum)	
55	2.146				−209.1			
	−19.50 (Minimum)	0 (Nominal)	19.50 (Maximum)		−2368 (Minimum)	0 (Nominal)	2368 (Maximum)	
56	−0.7539				3.985			
	−17.07 (Minimum)	0 (Nominal)	17.07 (Maximum)		−662.0 (Minimum)	0 (Nominal)	662.0 (Maximum)	
57	−1.020				221.0			
	−19.50 (Minimum)	0 (Nominal)	19.50 (Maximum)		−2368 (Minimum)	0 (Nominal)	2368 (Maximum)	
58	2.987				22.06			
	−14.16 (Minimum)	0 (Nominal)	14.16 (Maximum)		−88.85 (Minimum)	0 (Nominal)	88.85 (Maximum)	
59	−0.8341				−91.59			
	−17.07 (Minimum)	0 (Nominal)	17.07 (Maximum)		−662.0 (Minimum)	0 (Nominal)	662.0 (Maximum)	
60	−1.180				−16.00			
	−11.09 (Minimum)	0 (Nominal)	11.09 (Maximum)		−742.3 (Minimum)	0 (Nominal)	742.3 (Maximum)	
61	−0.2878				−98.17			
	−11.09 (Minimum)	0 (Nominal)	11.09 (Maximum)		−742.3 (Minimum)	0 (Nominal)	742.3 (Maximum)	
62	−0.2555				2.043			
	−3.800 (Minimum)	0 (Nominal)	3.800 (Maximum)		−13.37 (Minimum)	0 (Nominal)	13.37 (Maximum)	

63	2.173				3.461				
	−12.07 (Minimum)	0 (Nominal)	12.07 (Maximum)		−90.68 (Minimum)	0 (Nominal)	90.68 (Maximum)		
64	−0.9715				61.75				
	−43.67 (Minimum)	0 (Nominal)	43.67 (Maximum)		−1646 (Minimum)	0 (Nominal)	1646 (Maximum)		
65	−3.802				20.27				
	−24.50 (Minimum)	0 (Nominal)	24.50 (Maximum)		−477.7 (Minimum)	0 (Nominal)	477.7 (Maximum)		
66	2.529				−62.70				
	−43.67 (Minimum)	0 (Nominal)	43.67 (Maximum)		−1646 (Minimum)	0 (Nominal)	1646 (Maximum)		
67	3.473				0.2225				
	−12.07 (Minimum)	0 (Nominal)	12.07 (Maximum)		−90.68 (Minimum)	0 (Nominal)	90.68 (Maximum)		
68	−1.024				27.27				
	−24.50 (Minimum)	0 (Nominal)	24.50 (Maximum)		−477.7 (Minimum)	0 (Nominal)	477.7 (Maximum)		
69	0.2295				18.23				
	−12.43 (Minimum)	0 (Nominal)	12.43 (Maximum)		−622.5 (Minimum)	0 (Nominal)	622.5 (Maximum)		
70	−1.144				67.37				
	−12.43 (Minimum)	0 (Nominal)	12.43 (Maximum)		−622.5 (Minimum)	0 (Nominal)	622.5 (Maximum)		
71	−0.3747				0.8825				
	−3.560 (Minimum)	0 (Nominal)	3.560 (Maximum)		−10.29 (Minimum)	0 (Nominal)	10.29 (Maximum)		
72	1.739				4.633				
	−8.900 (Minimum)	0 (Nominal)	8.900 (Maximum)		−50.09 (Minimum)	0 (Nominal)	50.09 (Maximum)		
73	0.2256				31.01				
	−8.150 (Minimum)	0 (Nominal)	8.150 (Maximum)		−815.4 (Minimum)	0 (Nominal)	815.4 (Maximum)		
74	−0.9326				11.00				
	−12.27 (Minimum)	0 (Nominal)	12.27 (Maximum)		−242.1 (Minimum)	0 (Nominal)	242.1 (Maximum)		
75	0.7809				−31.18				
	−8.150 (Minimum)	0 (Nominal)	8.150 (Maximum)		−815.4 (Minimum)	0 (Nominal)	815.4 (Maximum)		
76	2.394				0.8229				
	−8.900 (Minimum)	0 (Nominal)	8.900 (Maximum)		−50.09 (Minimum)	0 (Nominal)	50.09 (Maximum)		
77	0.1505				13.01				
	−12.27 (Minimum)	0 (Nominal)	12.27 (Maximum)		−242.1 (Minimum)	0 (Nominal)	242.1 (Maximum)		
78	0.1497				10.73				
	−6.910 (Minimum)	0 (Nominal)	6.910 (Maximum)		−309.5 (Minimum)	0 (Nominal)	309.5 (Maximum)		
79	0.1677				34.13				
	−6.910 (Minimum)	0 (Nominal)	6.910 (Maximum)		−309.5 (Minimum)	0 (Nominal)	309.5 (Maximum)		
80	−0.2820				0.3023				
	−2.270 (Minimum)	0 (Nominal)	2.270 (Maximum)		−5.950 (Minimum)	0 (Nominal)	5.950 (Maximum)		
81	2.564				4.308				
	−14.82 (Minimum)	0 (Nominal)	14.82 (Maximum)		−41.94 (Minimum)	0 (Nominal)	41.94 (Maximum)		
82	−0.5161				66.56				
	−26.75 (Minimum)	0 (Nominal)	26.75 (Maximum)		−1114 (Minimum)	0 (Nominal)	1114 (Maximum)		
83	−2.875				38.71				
	−22.91 (Minimum)	0 (Nominal)	22.91 (Maximum)		−425.6 (Minimum)	0 (Nominal)	425.6 (Maximum)		
84	3.410				−60.86				
	−26.75 (Minimum)	0 (Nominal)	26.75 (Maximum)		−1114 (Minimum)	0 (Nominal)	1114 (Maximum)		

85	2.130				2.390			
	−14.82 (Minimum)	0 (Nominal)	14.82 (Maximum)		−41.94 (Minimum)	0 (Nominal)	41.94 (Maximum)	
86	−1.358				−11.17			
	−22.91 (Minimum)	0 (Nominal)	22.91 (Maximum)		−425.6 (Minimum)	0 (Nominal)	425.6 (Maximum)	
87	−0.4684				23.36			
	−17.62 (Minimum)	0 (Nominal)	17.62 (Maximum)		−619.3 (Minimum)	0 (Nominal)	619.3 (Maximum)	
88	−0.5498				5.005			
	−17.62 (Minimum)	0 (Nominal)	17.62 (Maximum)		−619.3 (Minimum)	0 (Nominal)	619.3 (Maximum)	
89	−0.1434				1.675			
	−3.910 (Minimum)	0 (Nominal)	3.910 (Maximum)		−9.470 (Minimum)	0 (Nominal)	9.470 (Maximum)	
90	2.166				1.586			
	−11.24 (Minimum)	0 (Nominal)	11.24 (Maximum)		−18.45 (Minimum)	0 (Nominal)	18.45 (Maximum)	
91	0.5780				34.42			
	−6.130 (Minimum)	0 (Nominal)	6.130 (Maximum)		−563.2 (Minimum)	0 (Nominal)	563.2 (Maximum)	
92	−0.8641				19.61			
	−13.75 (Minimum)	0 (Nominal)	13.75 (Maximum)		−215.6 (Minimum)	0 (Nominal)	215.6 (Maximum)	
93	0.5995				−30.95			
	−6.130 (Minimum)	0 (Nominal)	6.130 (Maximum)		−563.2 (Minimum)	0 (Nominal)	563.2 (Maximum)	
94	1.774				1.522			
	−11.24 (Minimum)	0 (Nominal)	11.24 (Maximum)		−18.45 (Minimum)	0 (Nominal)	18.45 (Maximum)	
95	−0.5911				−6.665			
	−13.75 (Minimum)	0 (Nominal)	13.75 (Maximum)		−215.6 (Minimum)	0 (Nominal)	215.6 (Maximum)	
96	−0.1304				12.22			
	−9.770 (Minimum)	0 (Nominal)	9.770 (Maximum)		−316.9 (Minimum)	0 (Nominal)	316.9 (Maximum)	
97	−0.1495				2.476			
	−9.770 (Minimum)	0 (Nominal)	9.770 (Maximum)		−316.9 (Minimum)	0 (Nominal)	316.9 (Maximum)	
98	−0.03968				0.6933			
	−2.110 (Minimum)	0 (Nominal)	2.110 (Maximum)		−7.370 (Minimum)	0 (Nominal)	7.370 (Maximum)	
99	2.427				7.201			
	−15.93 (Minimum)	0 (Nominal)	15.93 (Maximum)		−35.54 (Minimum)	0 (Nominal)	35.54 (Maximum)	
100	7.180				−172.8			
	−22.00 (Minimum)	0 (Nominal)	22.00 (Maximum)		−562.7 (Minimum)	0 (Nominal)	562.7 (Maximum)	
101	−3.482				−5.776			
	−29.21 (Minimum)	0 (Nominal)	29.21 (Maximum)		−209.9 (Minimum)	0 (Nominal)	209.9 (Maximum)	
102	−2.820				173.7			
	−22.00 (Minimum)	0 (Nominal)	22.00 (Maximum)		−562.7 (Minimum)	0 (Nominal)	562.7 (Maximum)	
103	2.072				6.699			
	−15.93 (Minimum)	0 (Nominal)	15.93 (Maximum)		−35.54 (Minimum)	0 (Nominal)	35.54 (Maximum)	
104	−2.646				−15.07			
	−29.21 (Minimum)	0 (Nominal)	29.21 (Maximum)		−209.9 (Minimum)	0 (Nominal)	209.9 (Maximum)	
105	0.7507				−39.86			
	−23.81 (Minimum)	0 (Nominal)	23.81 (Maximum)		−232.8 (Minimum)	0 (Nominal)	232.8 (Maximum)	
106	−0.7312				3.425			
	−23.81 (Minimum)	0 (Nominal)	23.81 (Maximum)		−232.8 (Minimum)	0 (Nominal)	232.8 (Maximum)	

107	−0.2825				1.276			
	−10.69 (Minimum)	0 (Nominal)	10.69 (Maximum)		−19.32 (Minimum)	0 (Nominal)	19.32 (Maximum)	
108	1.461				3.952			
	−9.300 (Minimum)	0 (Nominal)	9.300 (Maximum)		−21.95 (Minimum)	0 (Nominal)	21.95 (Maximum)	
109	0.6869				−86.37			
	−8.990 (Minimum)	0 (Nominal)	8.990 (Maximum)		−293.9 (Minimum)	0 (Nominal)	293.9 (Maximum)	
110	−1.121				−4.171			
	−16.85 (Minimum)	0 (Nominal)	16.85 (Maximum)		−94.98 (Minimum)	0 (Nominal)	94.98 (Maximum)	
111	0.9702				87.40			
	−8.990 (Minimum)	0 (Nominal)	8.990 (Maximum)		−293.9 (Minimum)	0 (Nominal)	293.9 (Maximum)	
112	1.405				2.092			
	−9.300 (Minimum)	0 (Nominal)	9.300 (Maximum)		−21.95 (Minimum)	0 (Nominal)	21.95 (Maximum)	
113	−0.3555				−6.924			
	−16.85 (Minimum)	0 (Nominal)	16.85 (Maximum)		−94.98 (Minimum)	0 (Nominal)	94.98 (Maximum)	
114	−0.6470				−18.36			
	−14.21 (Minimum)	0 (Nominal)	14.21 (Maximum)		−112.1 (Minimum)	0 (Nominal)	112.1 (Maximum)	
115	−0.3093				2.221			
	−14.21 (Minimum)	0 (Nominal)	14.21 (Maximum)		−112.1 (Minimum)	0 (Nominal)	112.1 (Maximum)	
116	0.2666				0.3731			
	−1.760 (Minimum)	0 (Nominal)	1.760 (Maximum)		−10.88 (Minimum)	0 (Nominal)	10.88 (Maximum)	

Master: 5−Feb−2012 21:18

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)	

Before: 4−Jun−2012 16:38

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)	

Before: 4−Jun−2012 16:38

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)	

Before: 4−Jun−2012 16:38

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)	

Before: 4−Jun−2012 16:25

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
Master		38.51
Before		38.27
37.50 (Minimum)	40.00 (Nominal)	43.50 (Maximum)

Phase	Na 511 Peak Res %	Value
Master		15.35
Before		14.75
12.00 (Minimum)	15.50 (Nominal)	19.00 (Maximum)

Phase	High Voltage V	Value
Master		1055
Before		1049
850.0 (Minimum)	1150 (Nominal)	1600 (Maximum)

Phase	Na 1785 Peak Loc	Value
Master		139.6
Before		137.8
135.0 (Minimum)	142.6 (Nominal)	150.3 (Maximum)

Phase	Na 1785 Peak Res %	Value
Master		8.611
Before		8.525
7.000 (Minimum)	8.500 (Nominal)	11.00 (Maximum)

Phase	Temperature DEGF	Value
Master		85.98
Before		83.68
−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

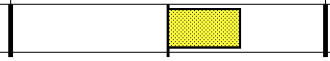
Primary Equipment:

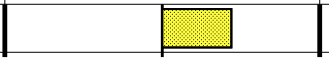
PPC Powered Positioning Device/Caliper	PPC1 − B
PPC1 Caliper Standard	PPC_ −

Auxiliary Equipment:

Powered Positioning Device/Caliper 1 Wellsite Calibration

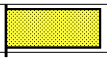
PPC1 Caliper Calibration

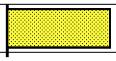
Phase	PPC1 Radius 1 Raw Small Radius IN	Value
Before		4.469
	1.200 (Minimum) 3.500 (Nominal) 5.600 (Maximum)	

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
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:

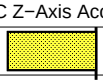
EDTC Gamma Ray Detector	EDTG − A/B
Enhanced DTS Cartridge	EDTC − B

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	Phase	Gamma Ray (Jig − Bkg) GAPI	Value	Phase	Gamma Ray (Calibrated) GAPI	Value
Before		71.21	Before		148.3	Before		165.0
	0 (Minimum) 30.00 (Nominal) 120.0 (Maximum)			134.8 (Minimum) 148.3 (Nominal) 161.8 (Maximum)			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
Triple Combo