

Company: St. Croix Operating Inc.

Well: Jack Creek #2

Field: Wildcat

County: Washington State: Colorado

Platform Express
Triple Combo

County: Washington
Field: Wildcat
Location: SESE Sec. 4, T2S, R51W
Well: Jack Creek #2
Company: St. Croix Operating Inc.

SESE Sec. 4, T2S, R51W SHL: 900' FSL & 600' FEL Lat/Long: 39.905070 / -103.089550	Elev.: K.B. 4612.60 ft G.L. 4594.00 ft D.F. 4612.60 ft
Permanent Datum: Log Measured From: Drilling Measured From:	Ground Level Kelly Bushing Kelly Bushing
API Serial No. 05-121-11079	Section: 4 Township: 2S Range: 51W

Logging Date	18-Dec-2018
Run Number	ONE
Depth Driller	4285.00 ft
Schlumberger Depth	4285.00 ft
Bottom Log Interval	4285.00 ft
Top Log Interval	100.00 ft
Casing Driller Size @ Depth	8.625 in @ 503.00 ft
Casing Schlumberger	503.5 ft
Bit Size	7.875 in
Type Fluid In Hole	WBM
Density	9.2 lbm/gal
Fluid Loss	PH
Source of Sample	Active Tank
RM @ Meas Temp	0.2 ohm.m @ 68 degF
RMF @ Meas Temp	0.15 ohm.m @ 68 degF
RMC @ Meas Temp	
Source RMF	RMC
RM @ BHT	0.12 @ 118 0.09 @ 118
Max Recorded Temperatures	121 degF
Circulation Stopped	18-Dec-2018 11:15:00
Logger on Bottom	18-Dec-2018 14:53:00
Unit Number	2161
Recorded By	Ashley Rosacker
Witnessed By	Phillip Wilcox

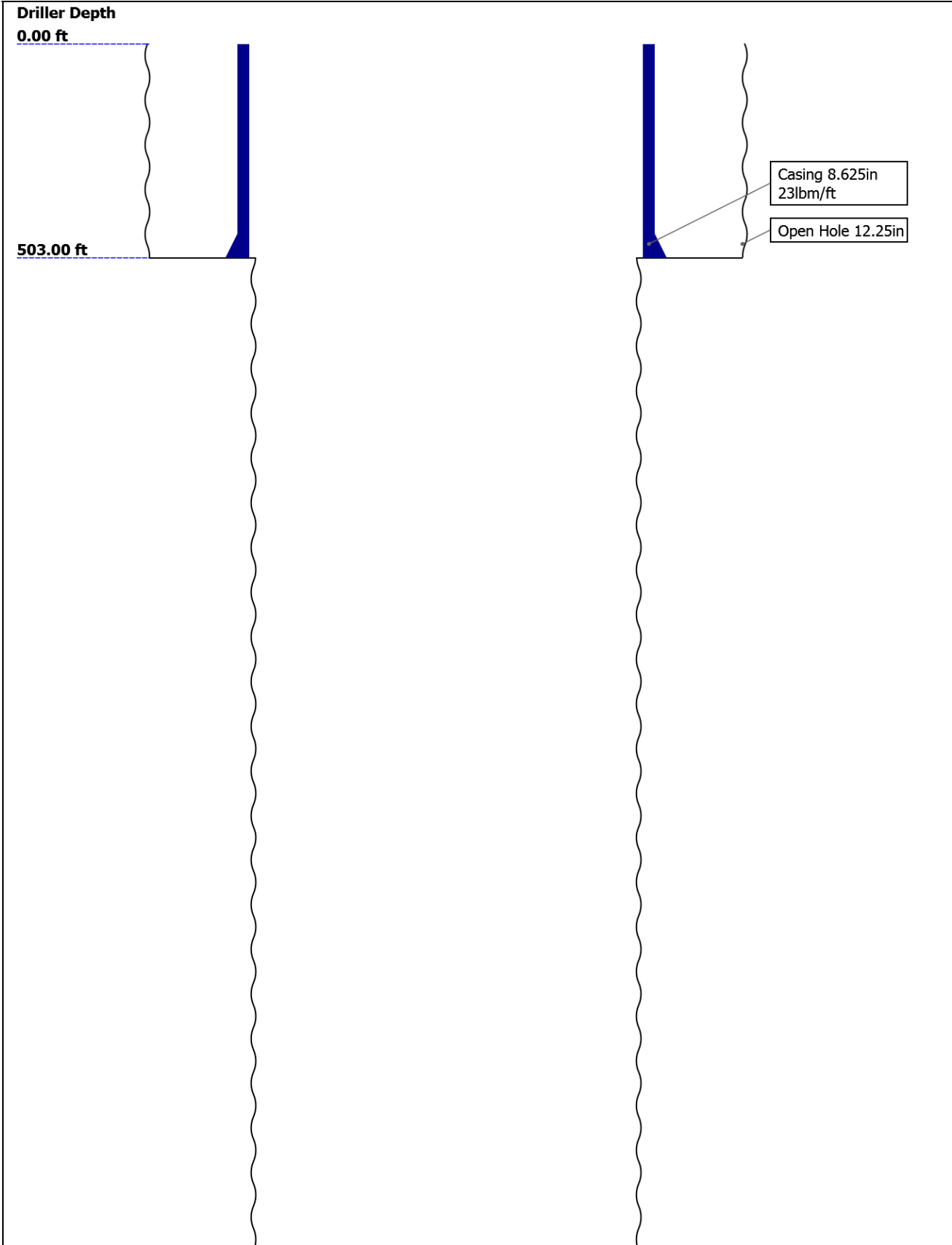
Disclaimer

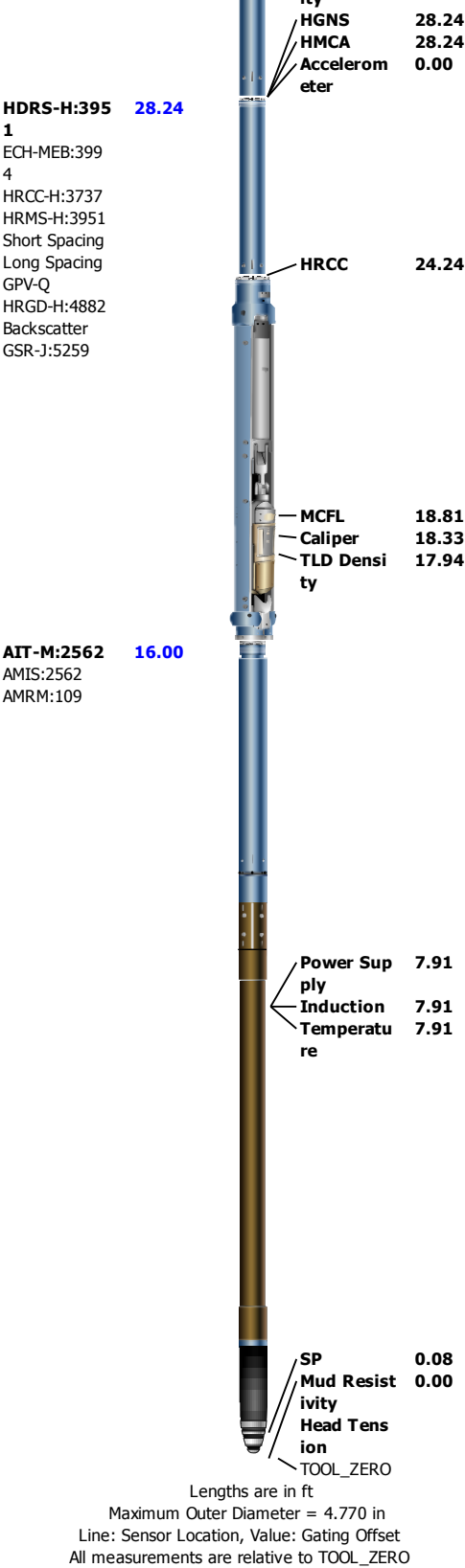
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Well Sketch





Depth Summary

ONE

Depth Measuring Device

Type	IDW-B		
Serial Number			
Calibration Date			
Calibrator Serial Number			
Calibration Cable Type			
Wheel Correction 1	0		
Wheel Correction 2	0		

Type	CMTD-B/A		
Serial Number			
Calibration Date			
Calibrator Serial Number			
Number of Calibration Points	0		

Type	7-46A-XS		
Serial Number			
Length	24000.00 ft		
Conveyance Type	Wireline		
Rig Type	Land		

Log Sequence	First Log In the Well	All Schlumberger depth control policies followed.
Rig Up Length At Surface		IDW used as primary depth reference.
Rig Up Length At Bottom		Z-Chart used as secondary depth reference.
Rig Up Length Correction		
Stretch Correction		
Tool Zero Check At Surface		

ONE

5" Triple Combo

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
ONE	Log[3]:Up	Up	43.65 ft	4299.46 ft	18-Dec-2018 3:06:10 PM	18-Dec-2018 4:27:30 PM	ON	0.00 ft	No

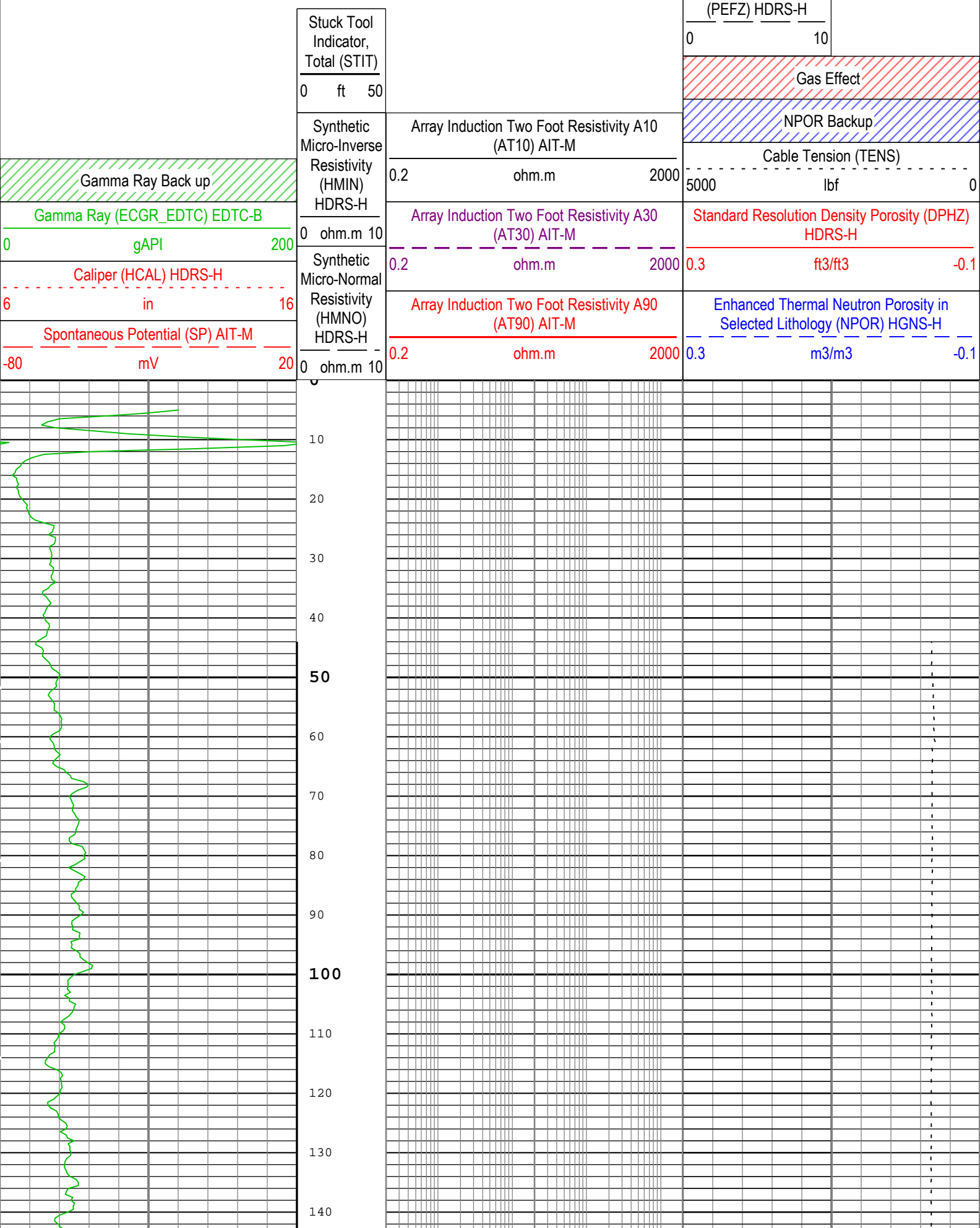
All depths are referenced to toolstring zero

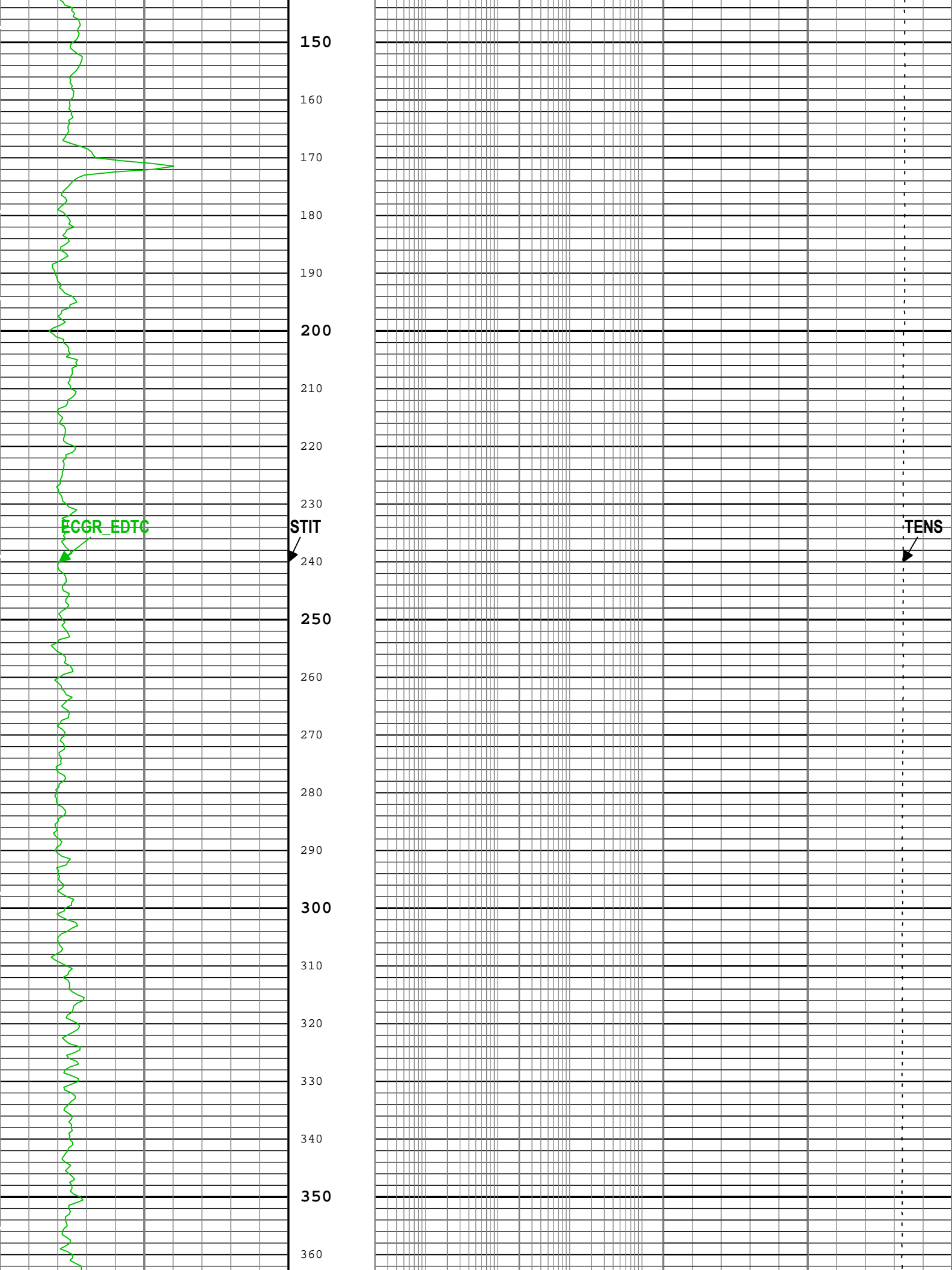
ONE: Log[3]:Up:S005

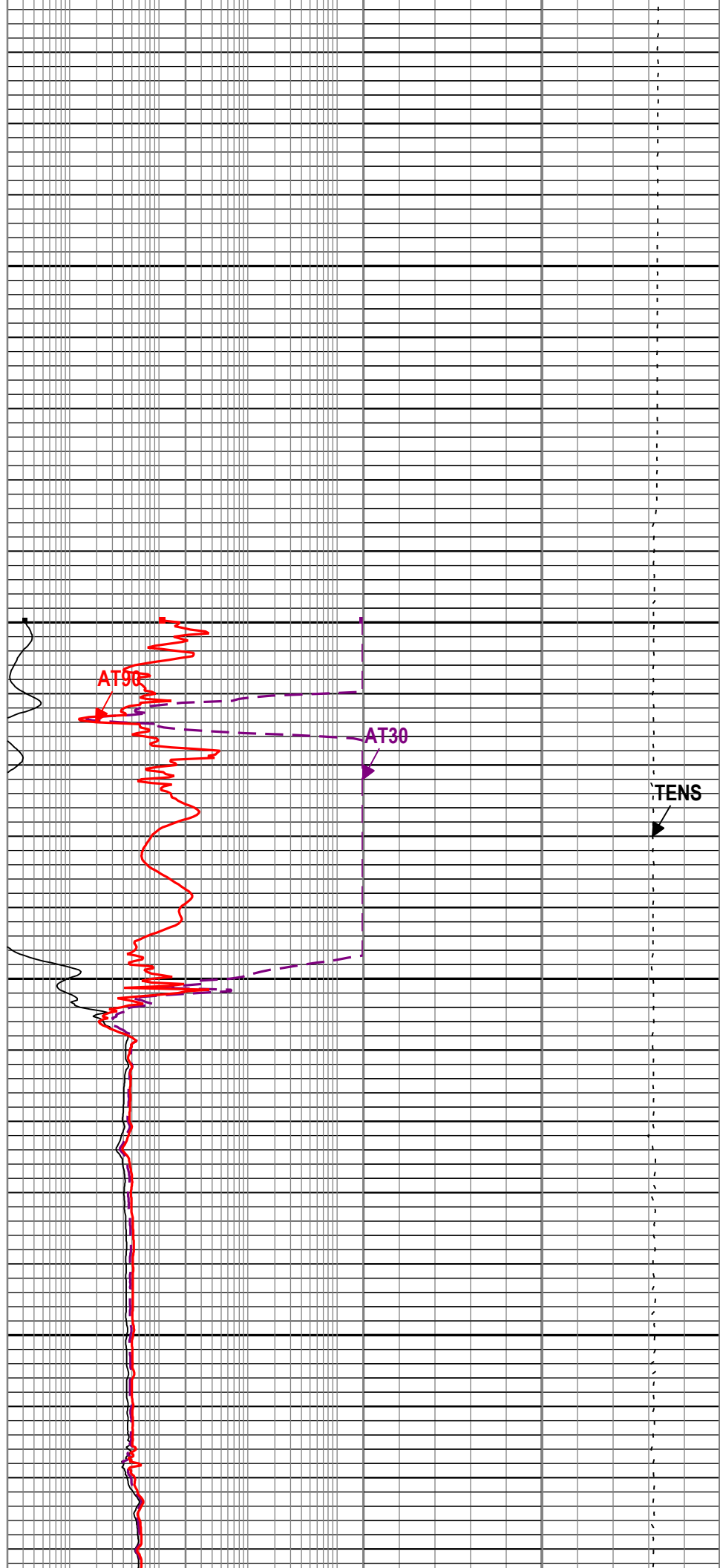
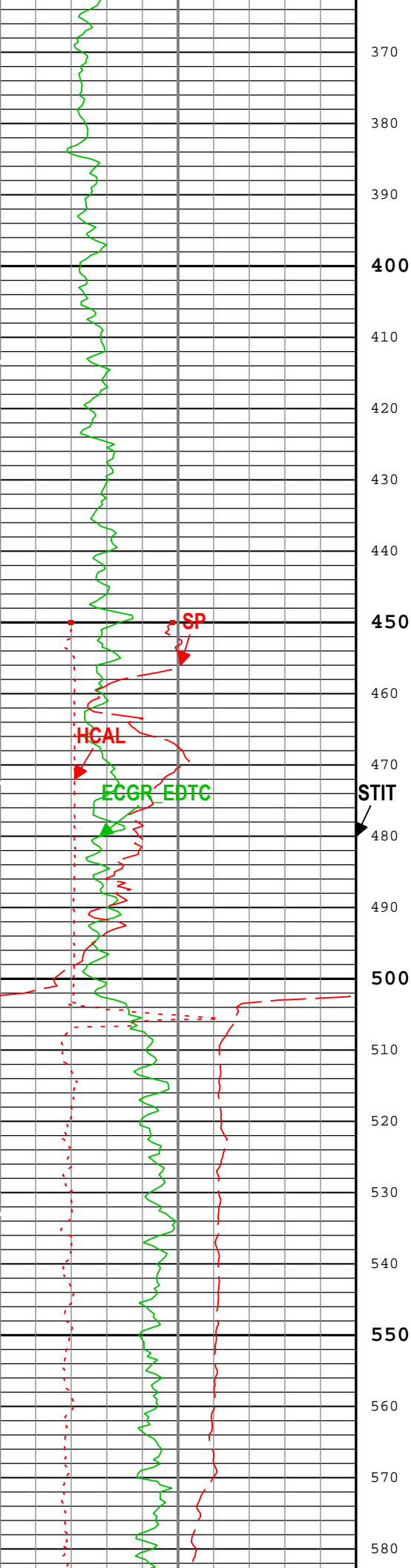
Channel	Source	Sampling
AT10	AIT-M:AMIS:AMIS	3in
AT30	AIT-M:AMIS:AMIS	3in
AT90	AIT-M:AMIS:AMIS	3in
CALI	HDRS-H:HRCC-H:HRCC-H	1in
DPHZ	HDRS-H:HRMS-H:HRGD-H	2in
GR	EDTC-B:EDTC-B:EDTC-B	6in
NPOR	HGNS-H:HGNS-H:HGNS-H	6in
PEFZ	HDRS-H:HRMS-H:HRGD-H	2in
SMIN	HDRS-H:HRMS-H:HRGD-H	2in
SMNO	HDRS-H:HRMS-H:HRGD-H	2in
SP	AIT-M:AMIS:AMIS	6in
STIT	DepthCorrection	6in
TENS	WLWorkflow	6in
TIME 1900	WLWorkflow	0.1in

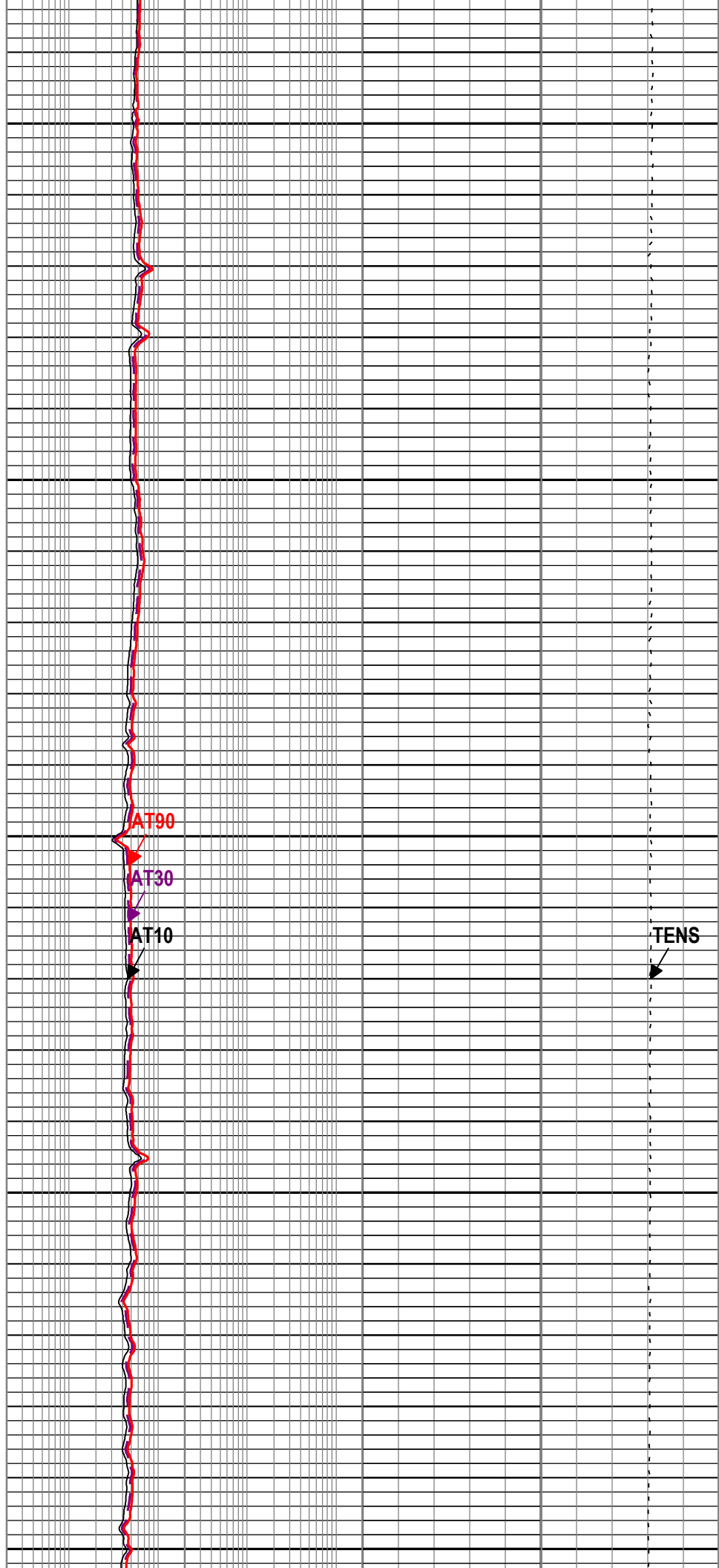
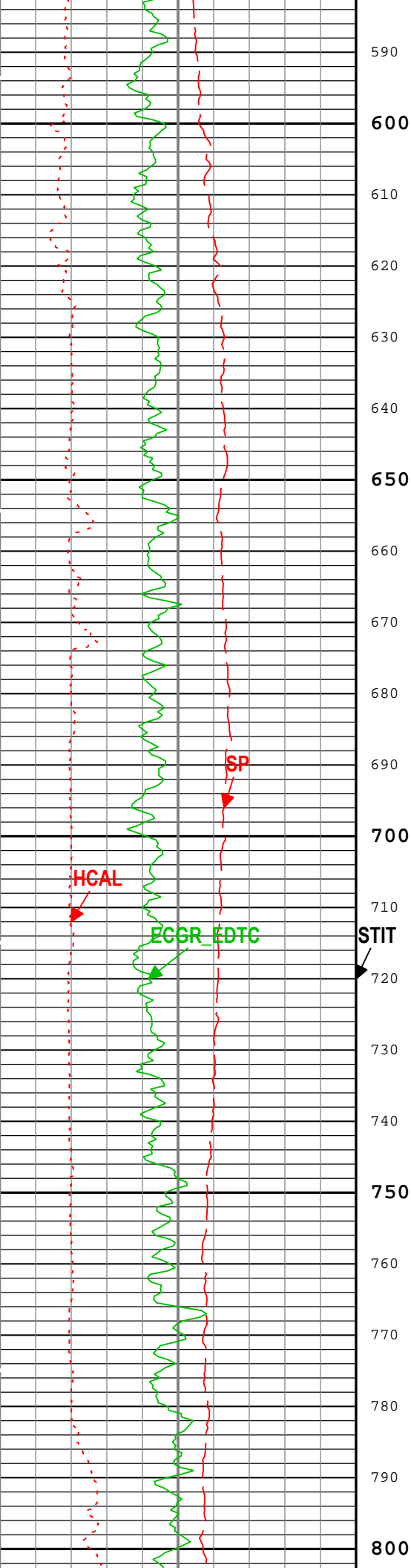
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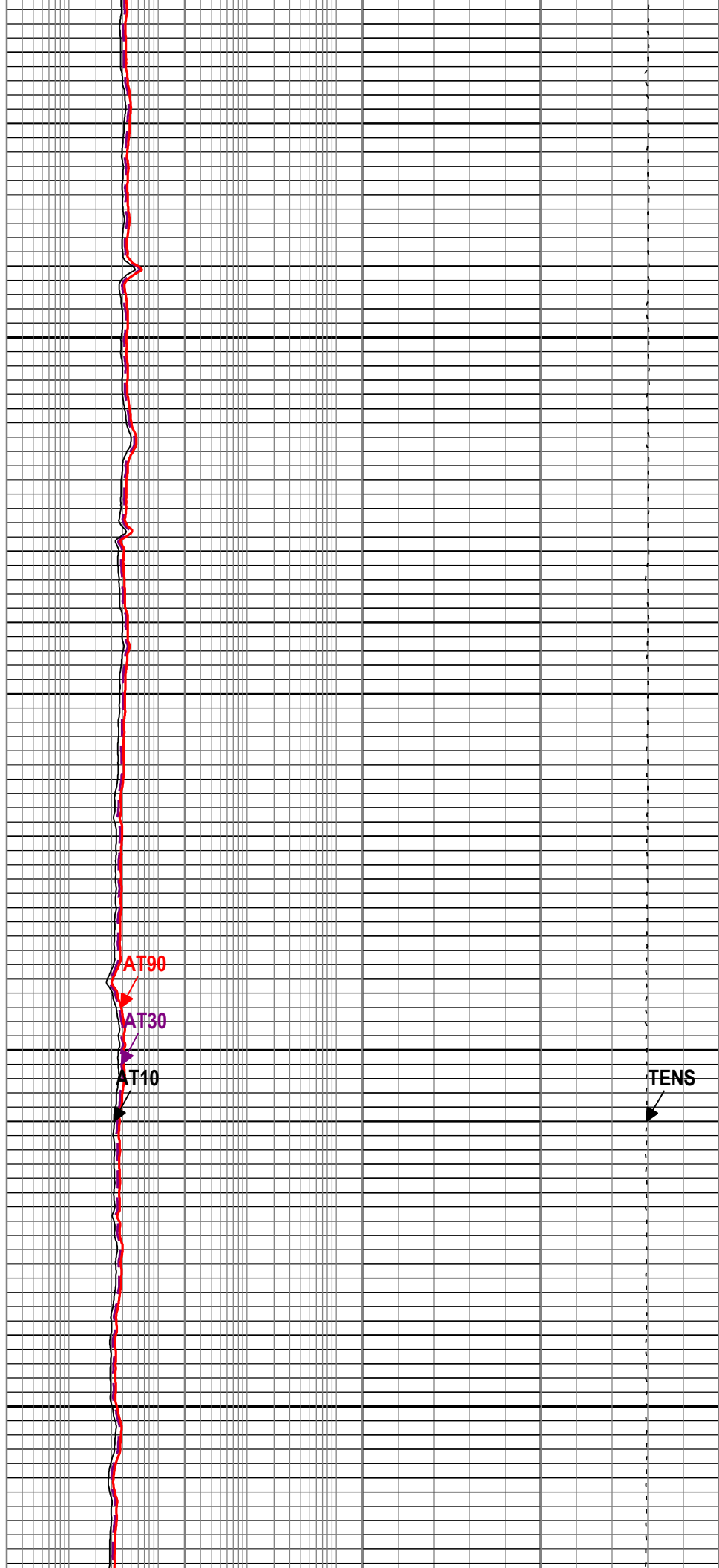
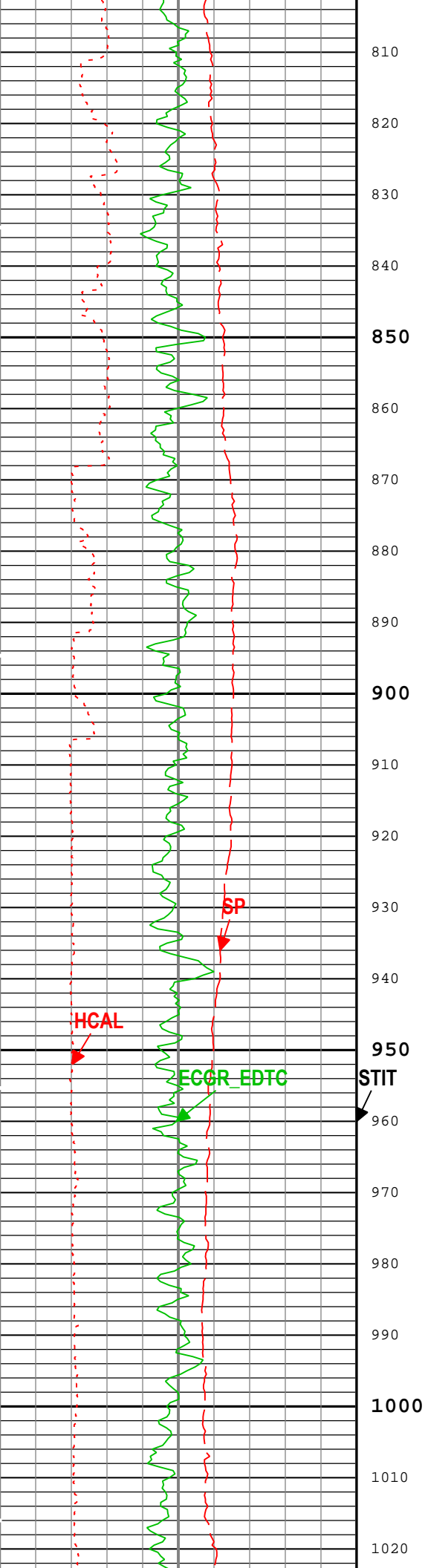
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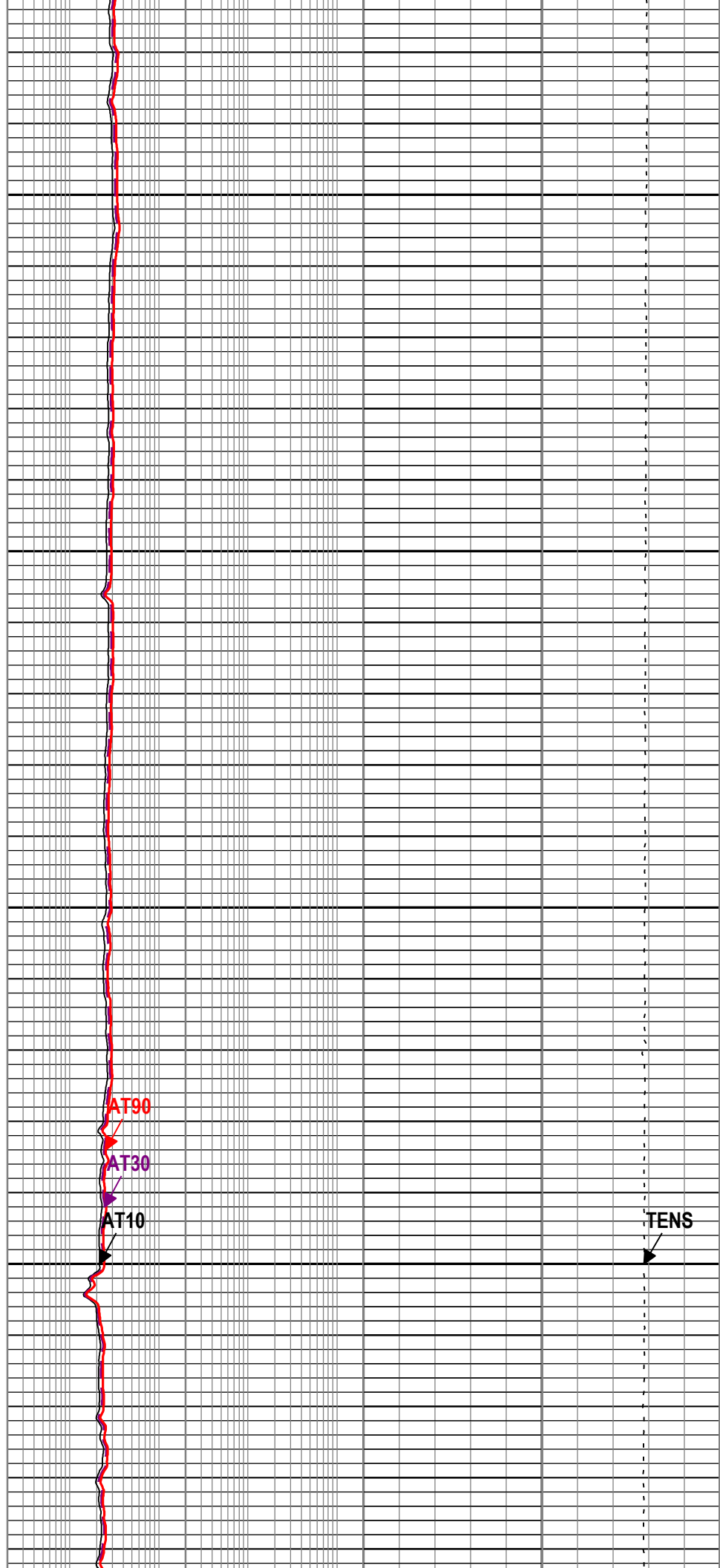
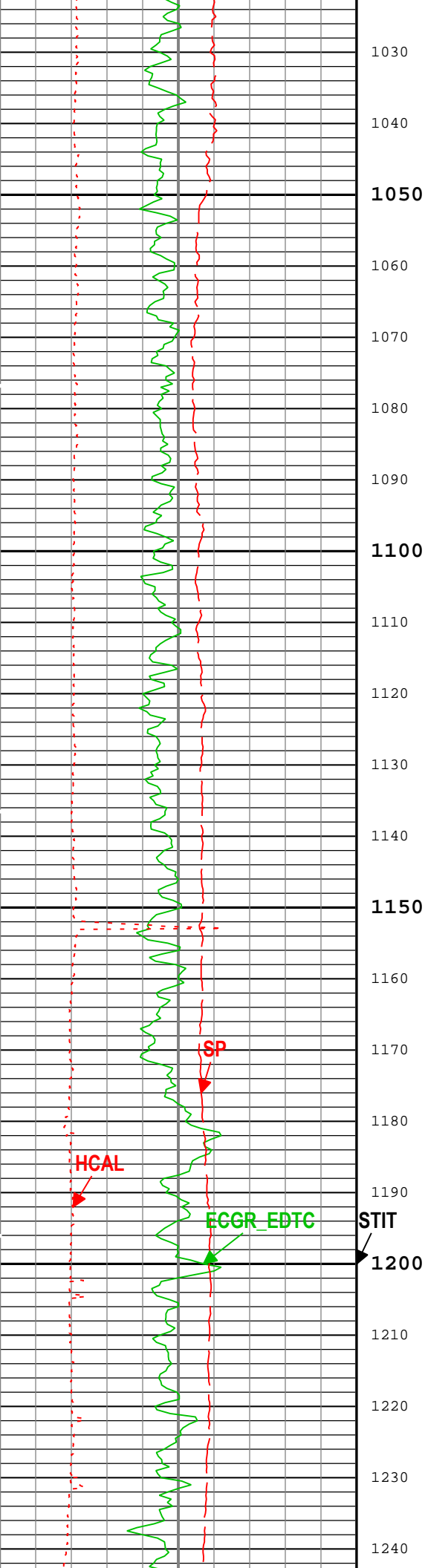


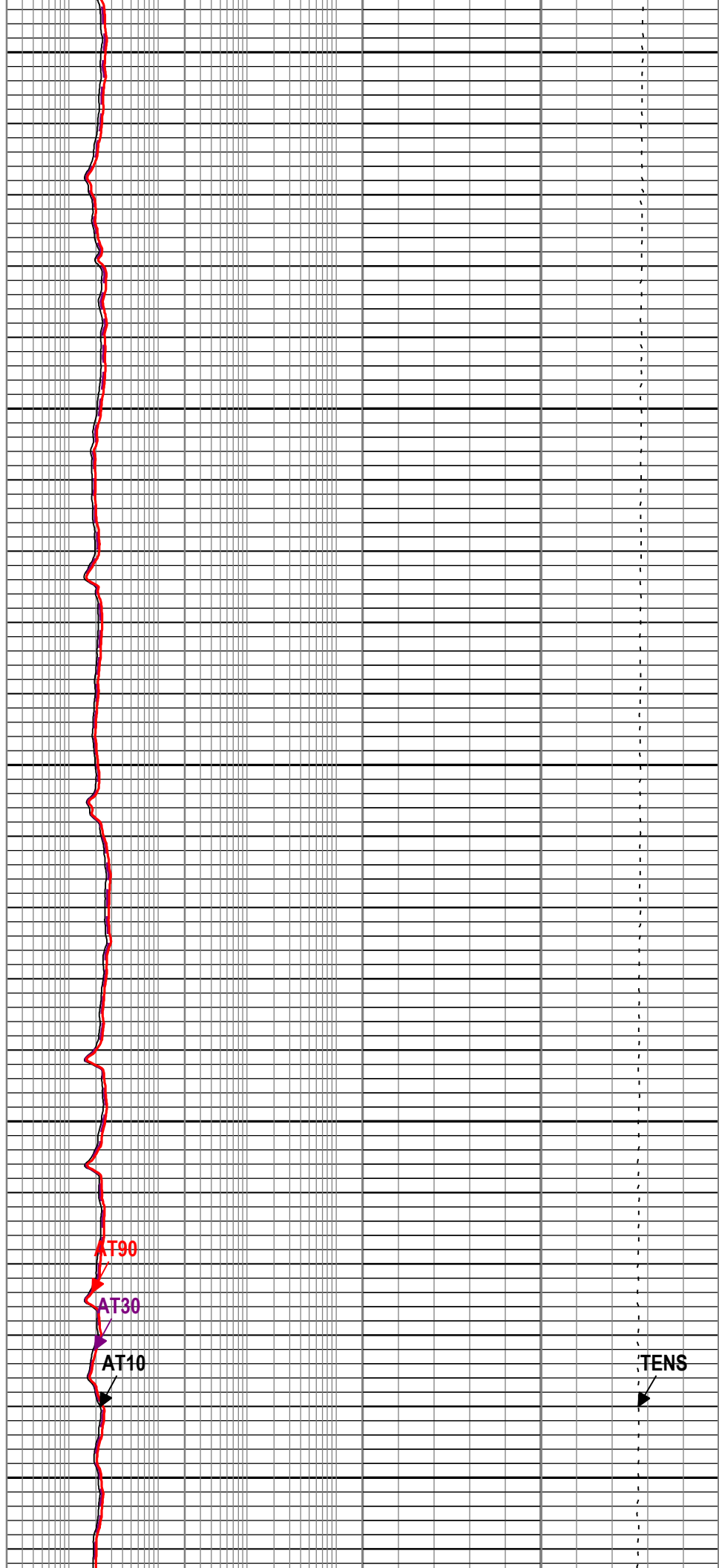
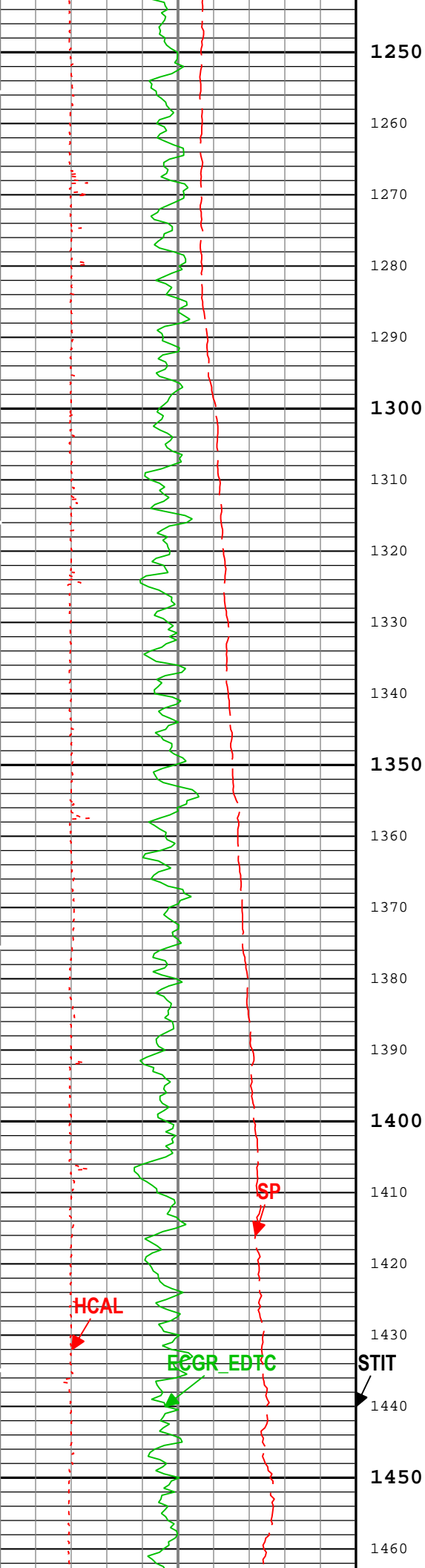


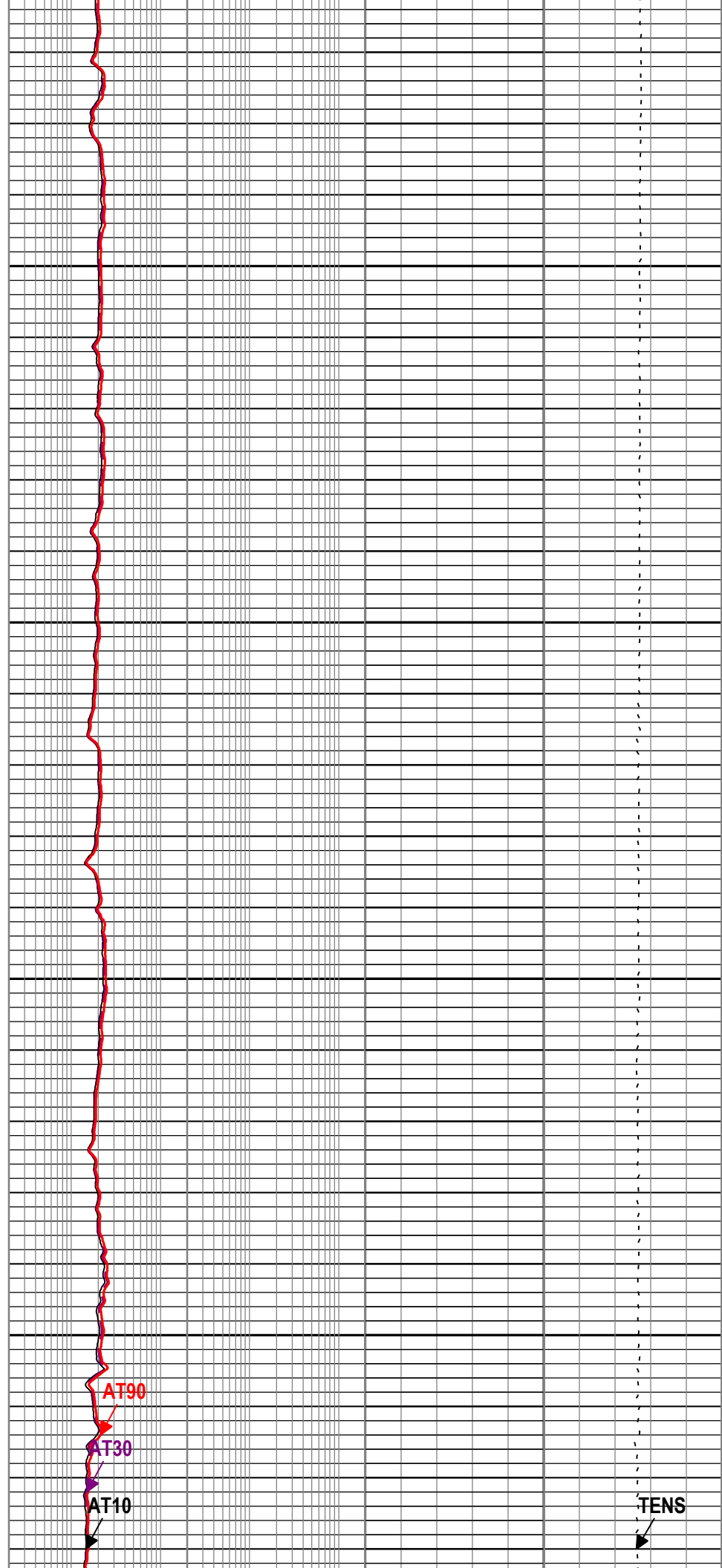
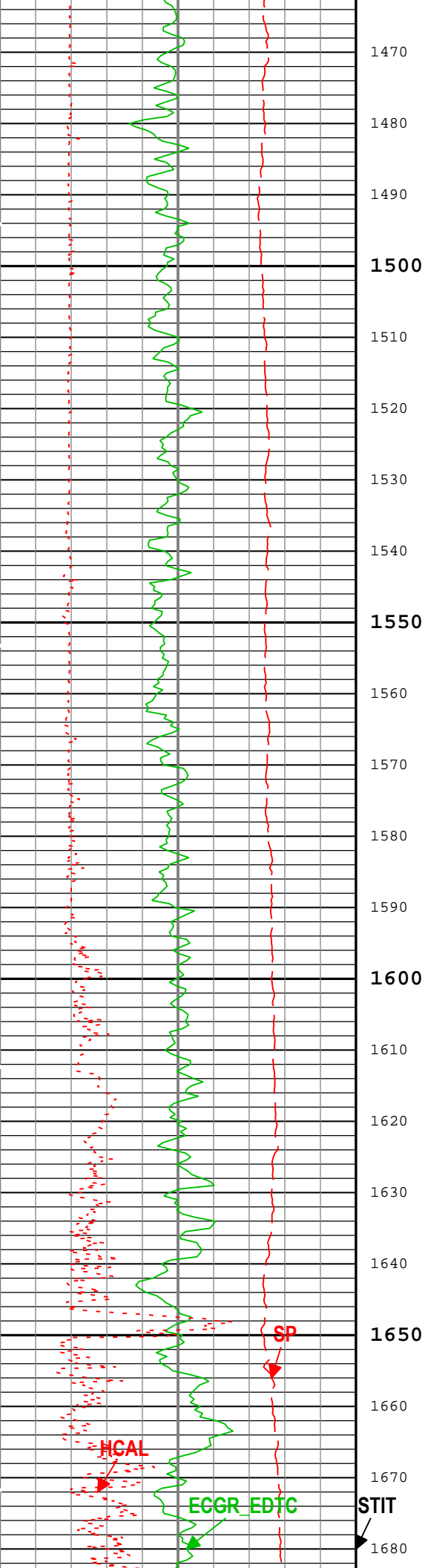


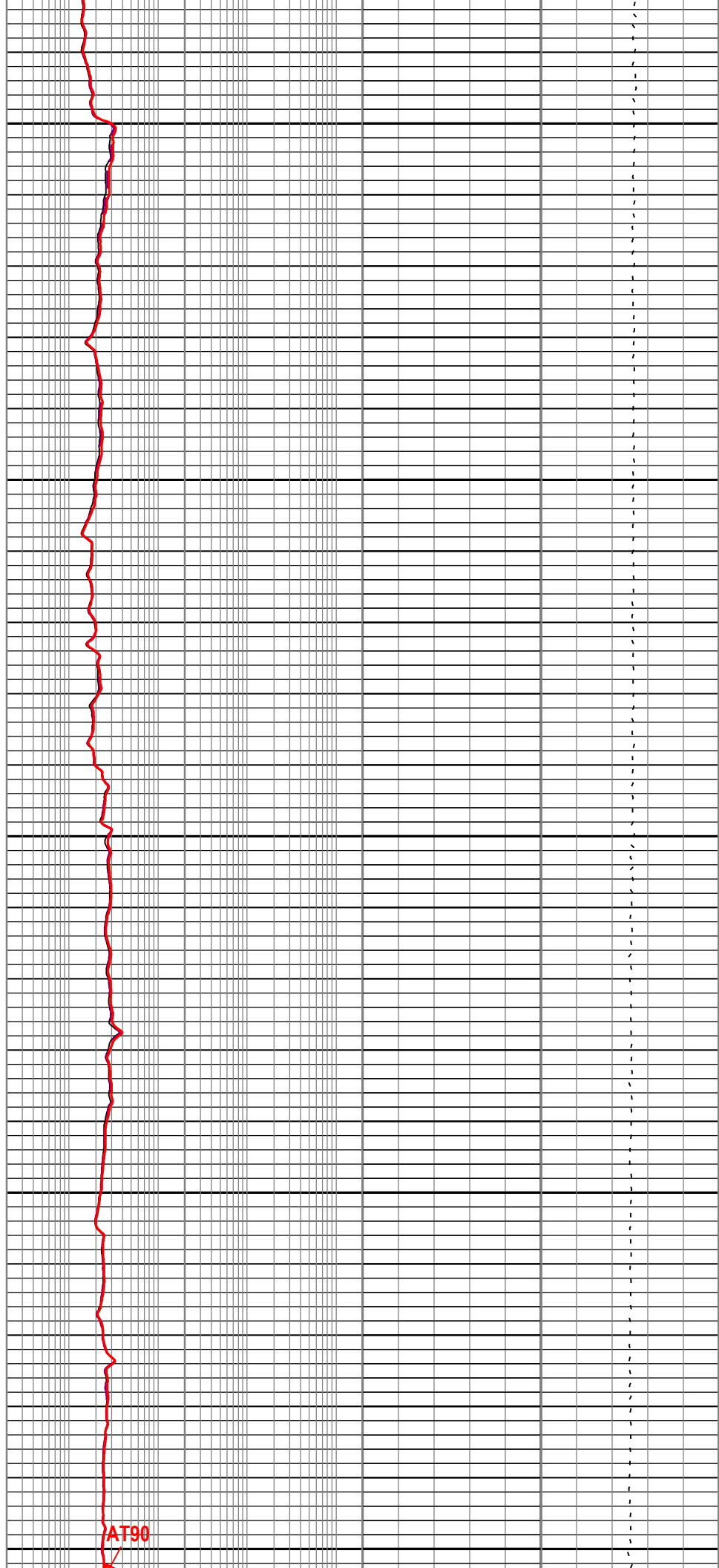
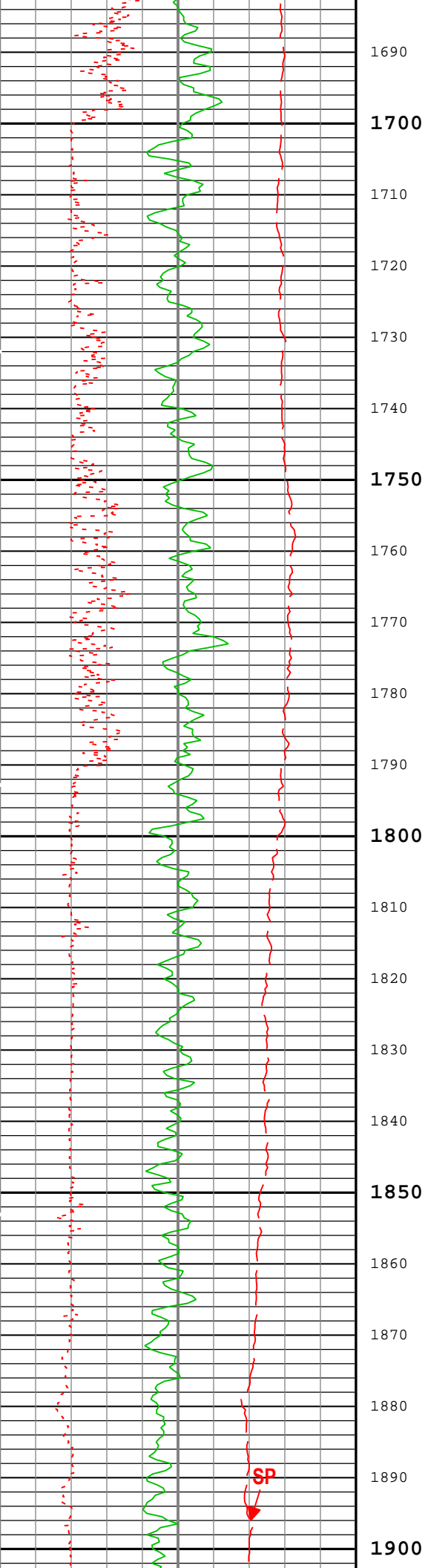


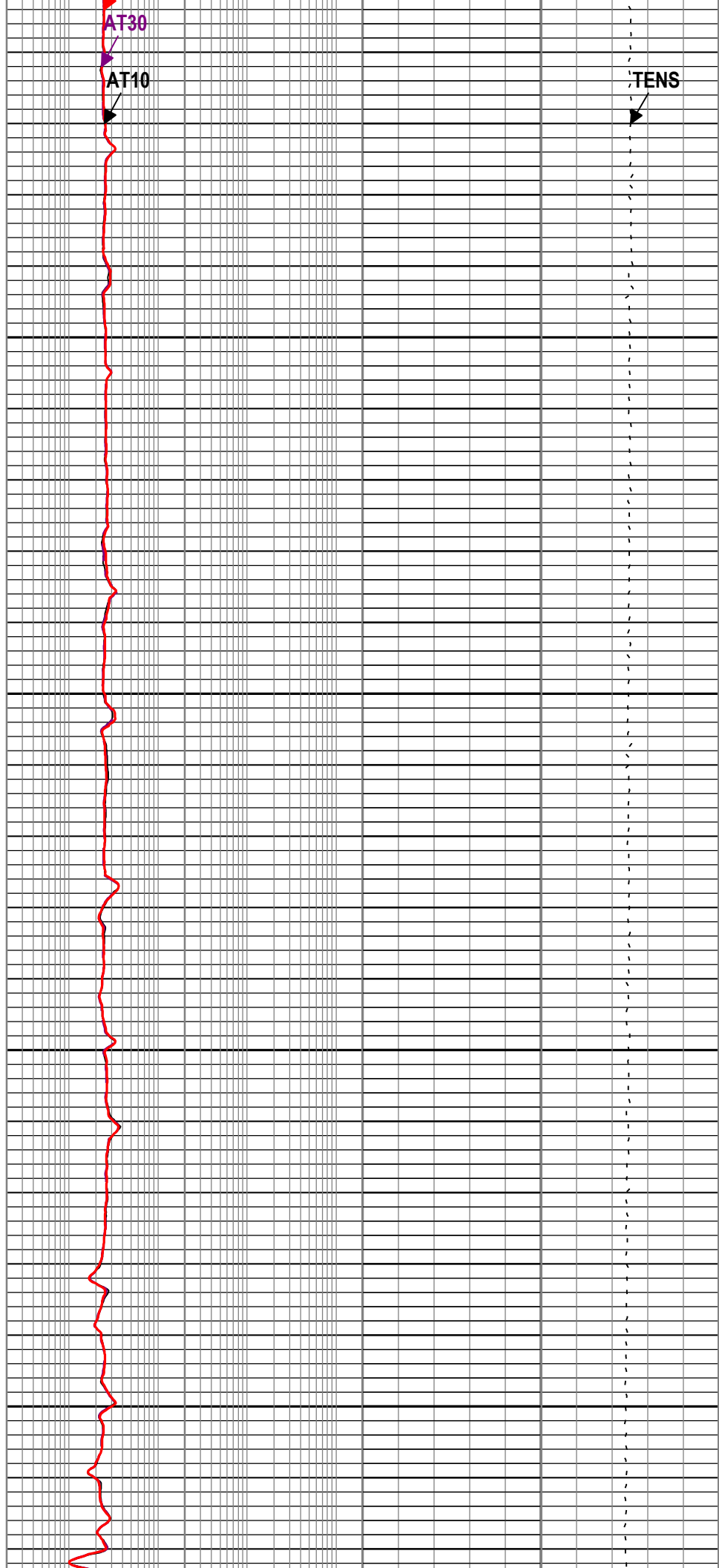
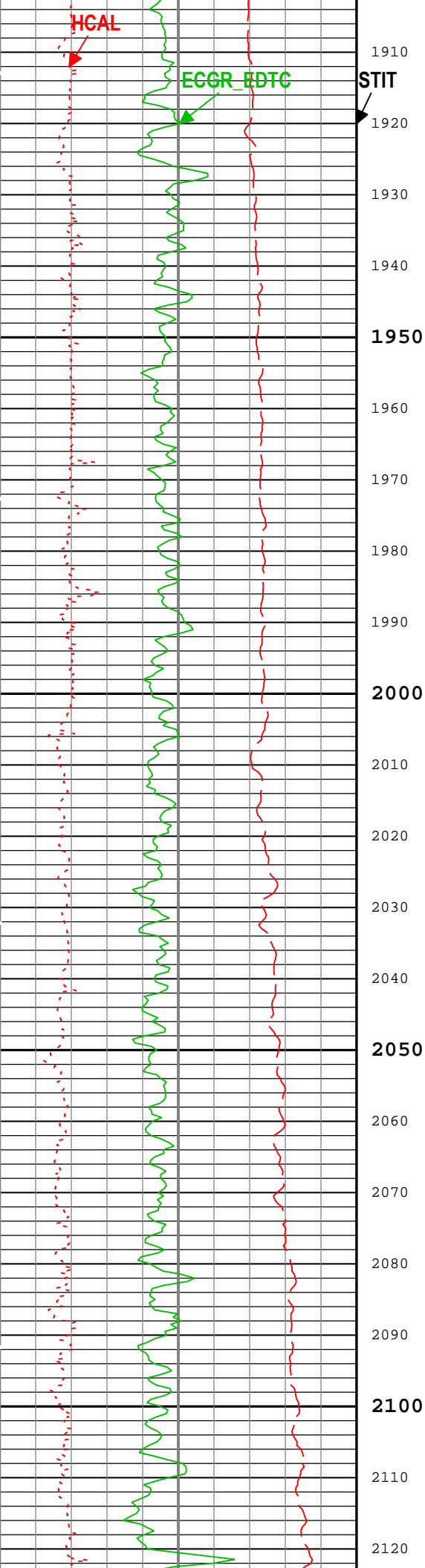


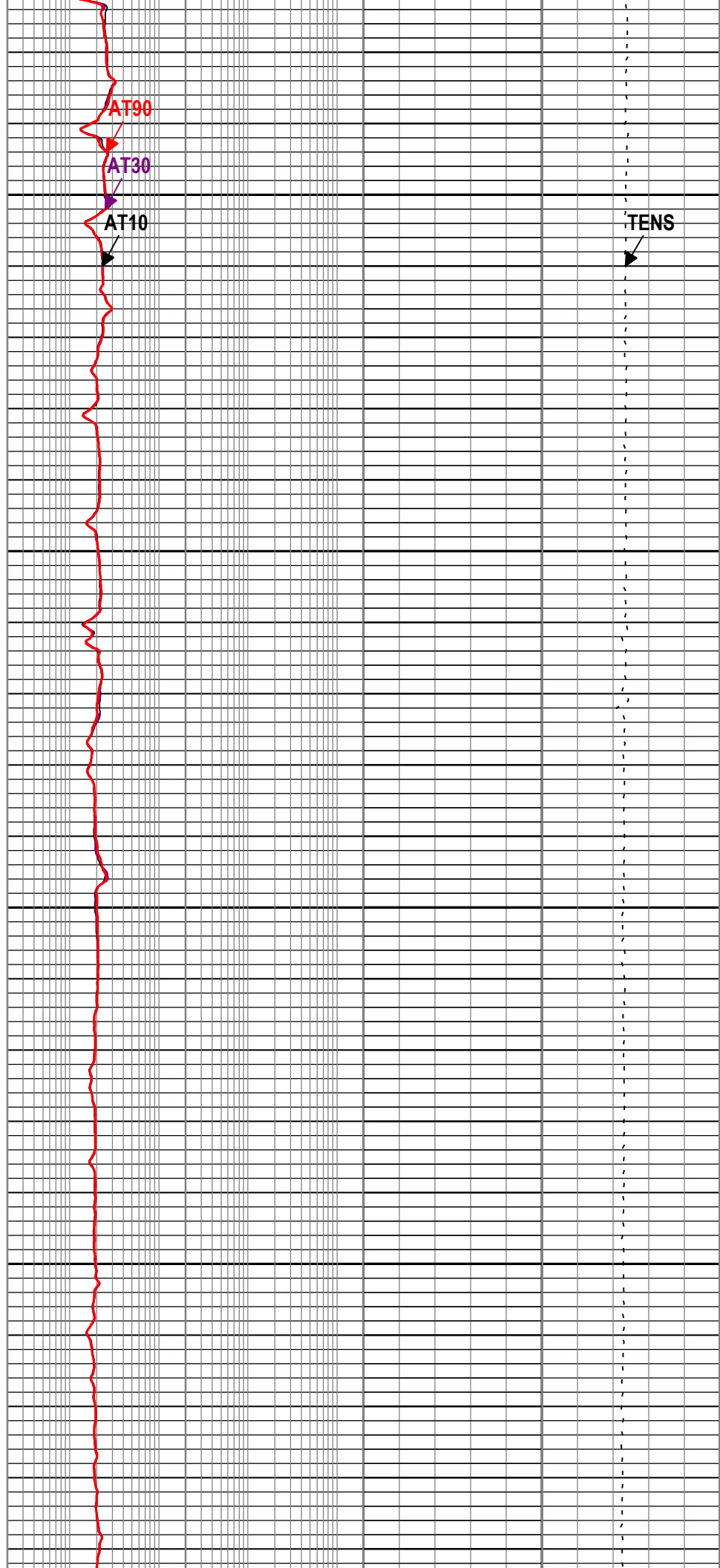
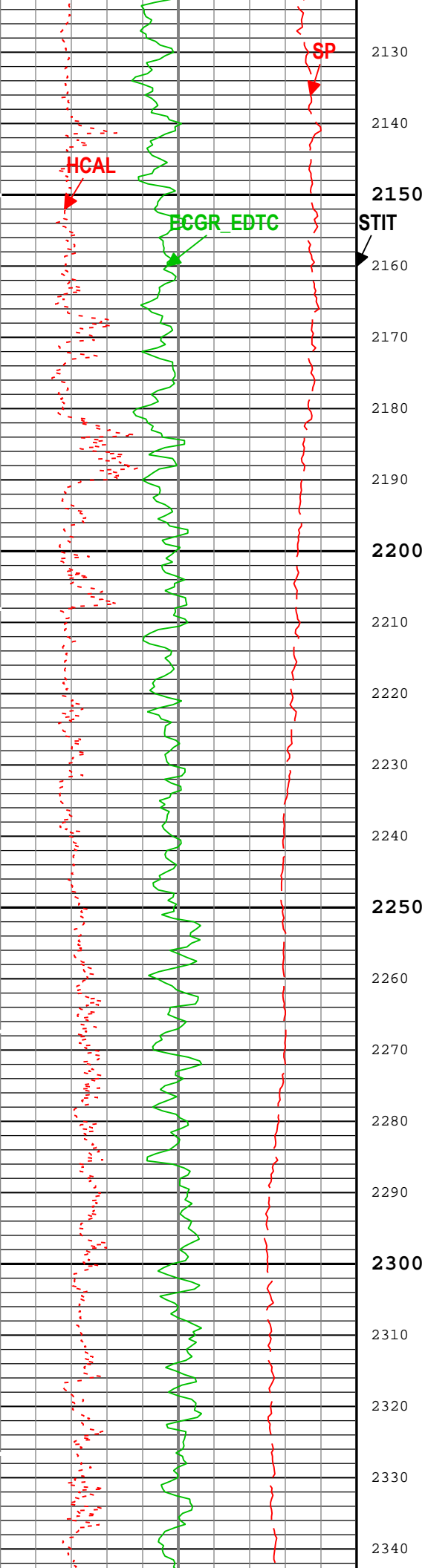


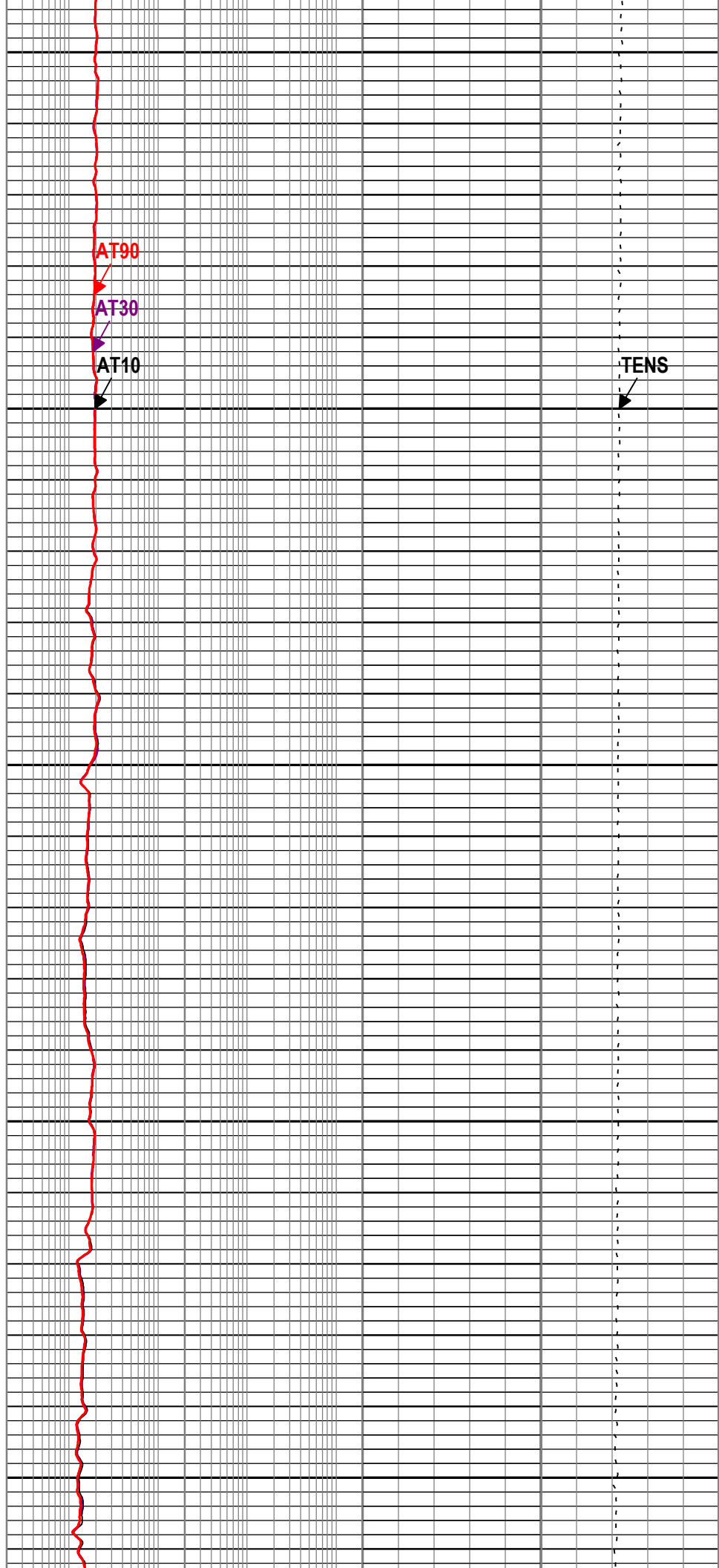
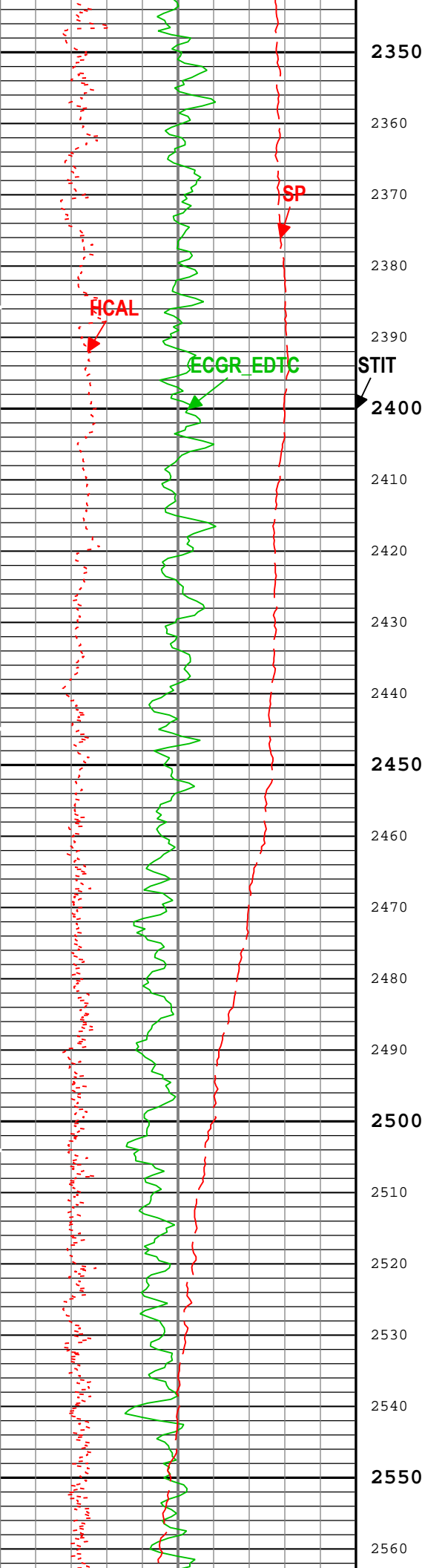


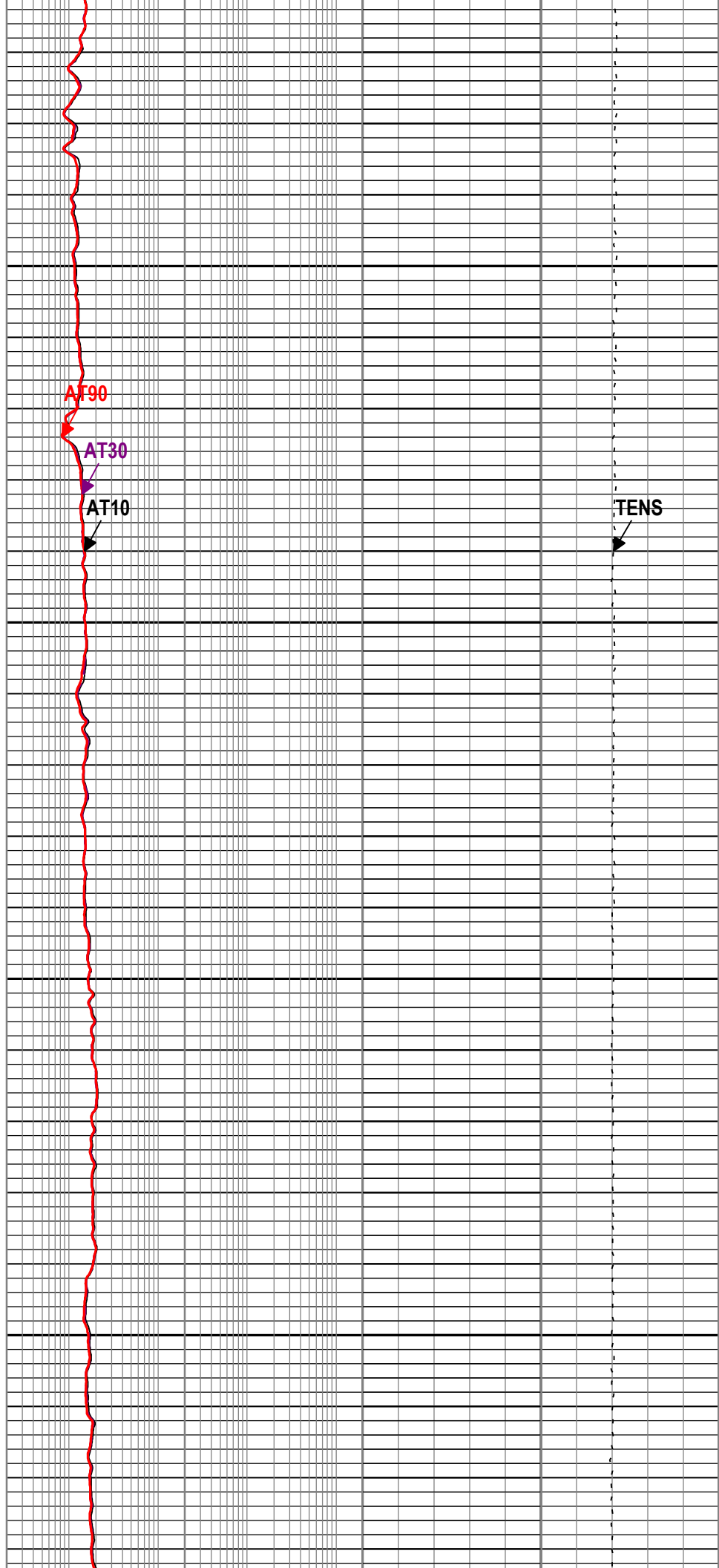
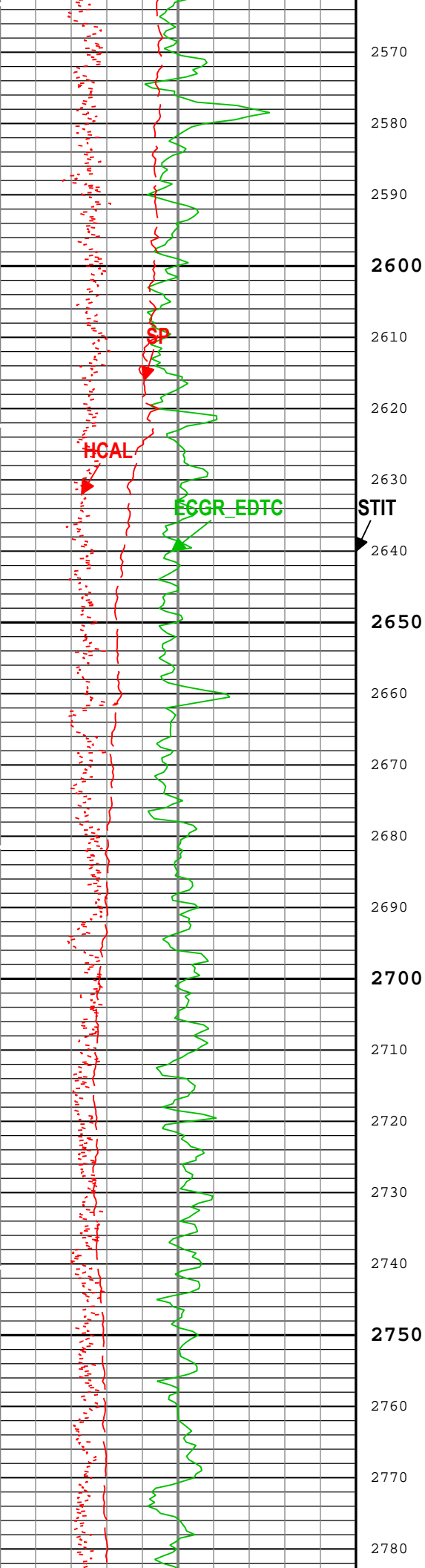


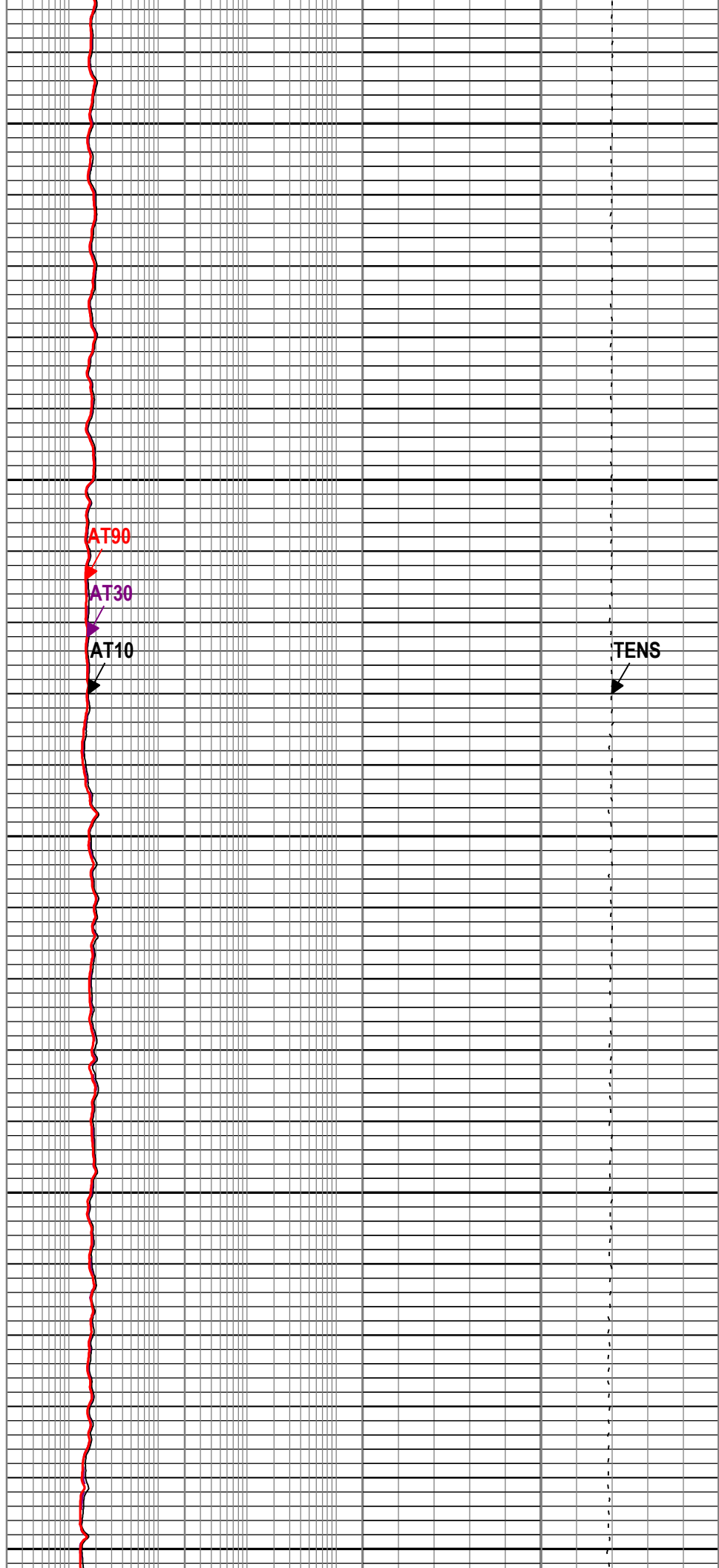
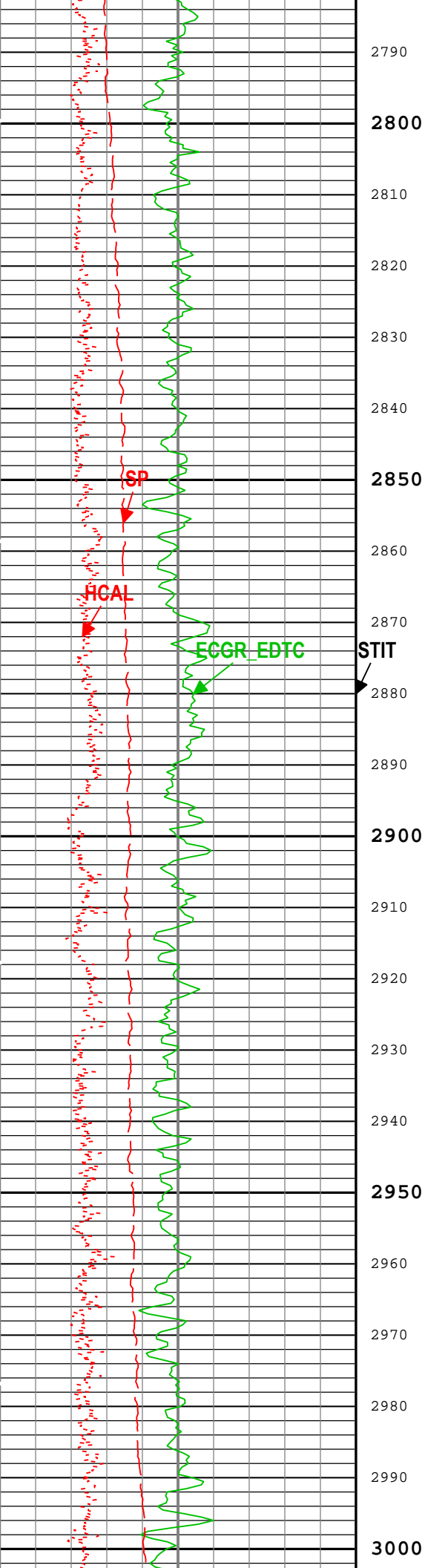


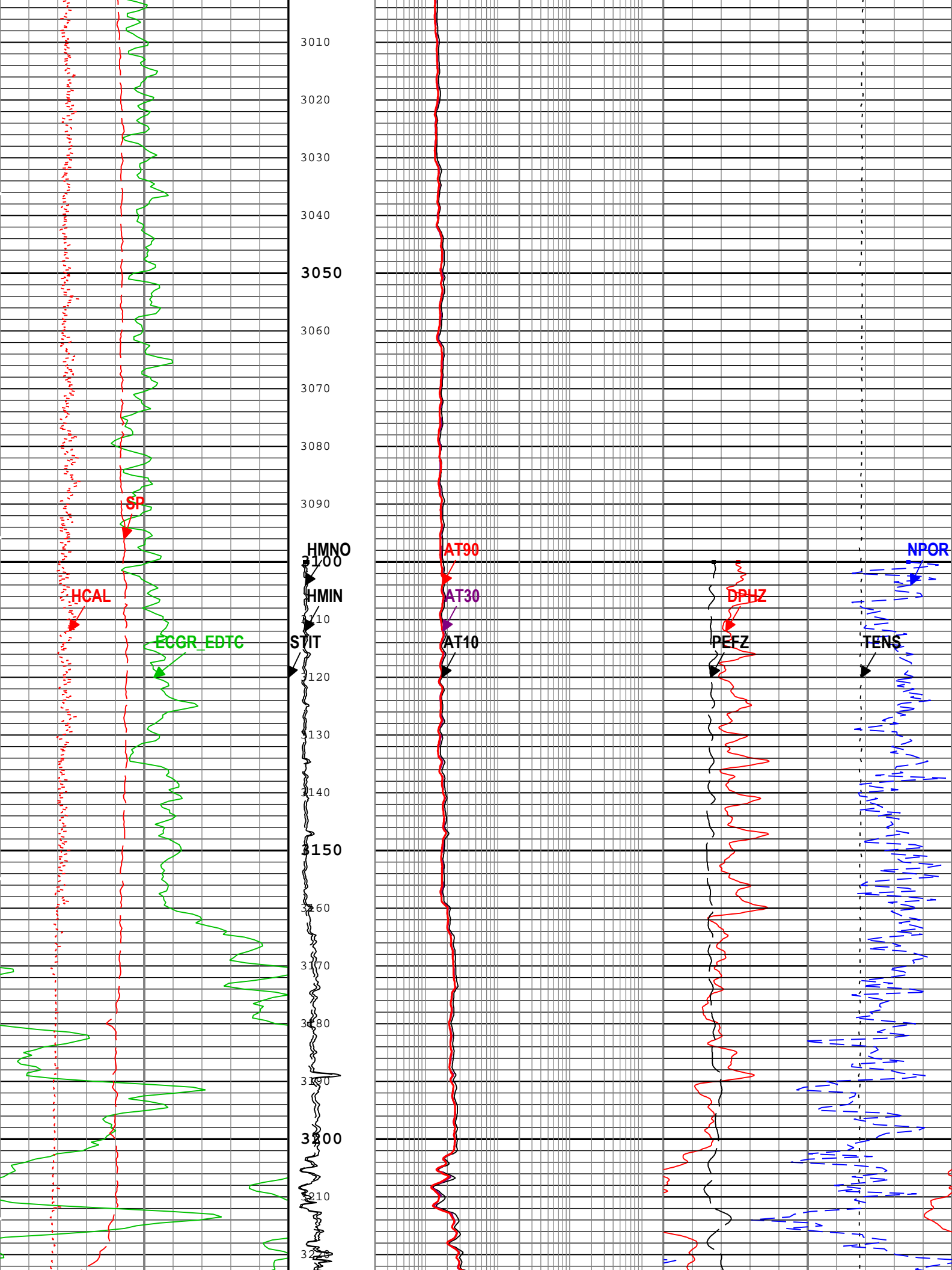


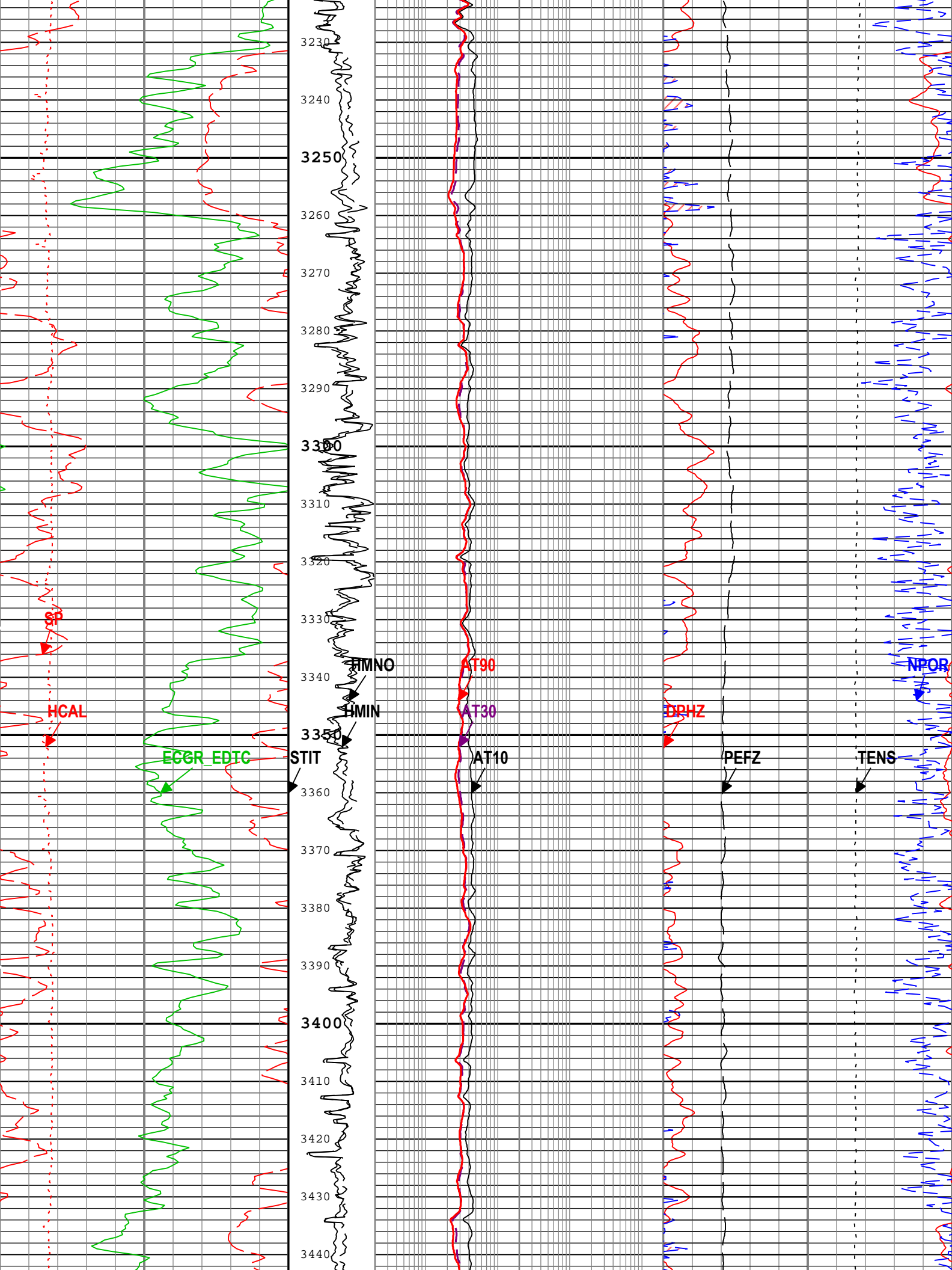


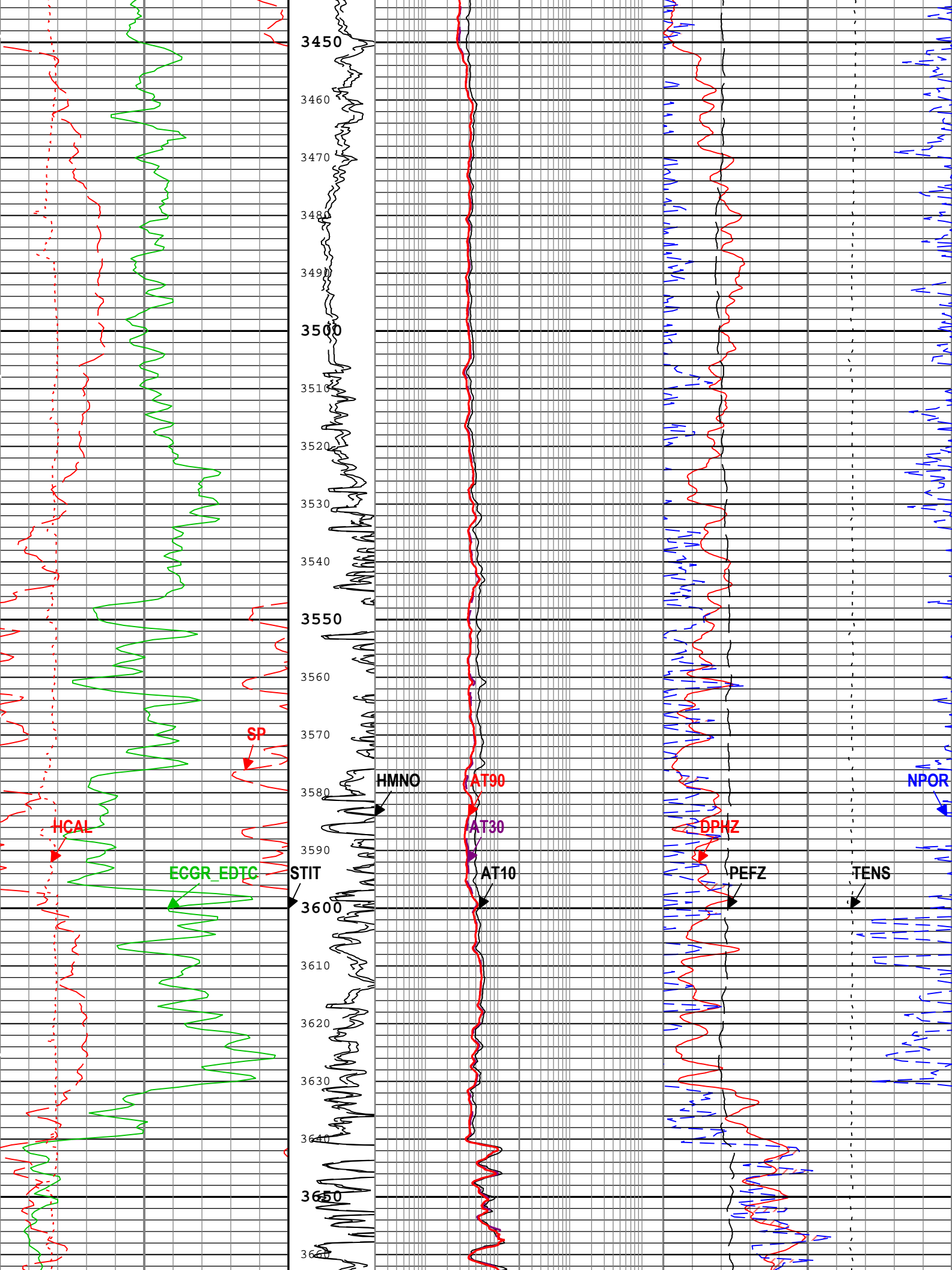


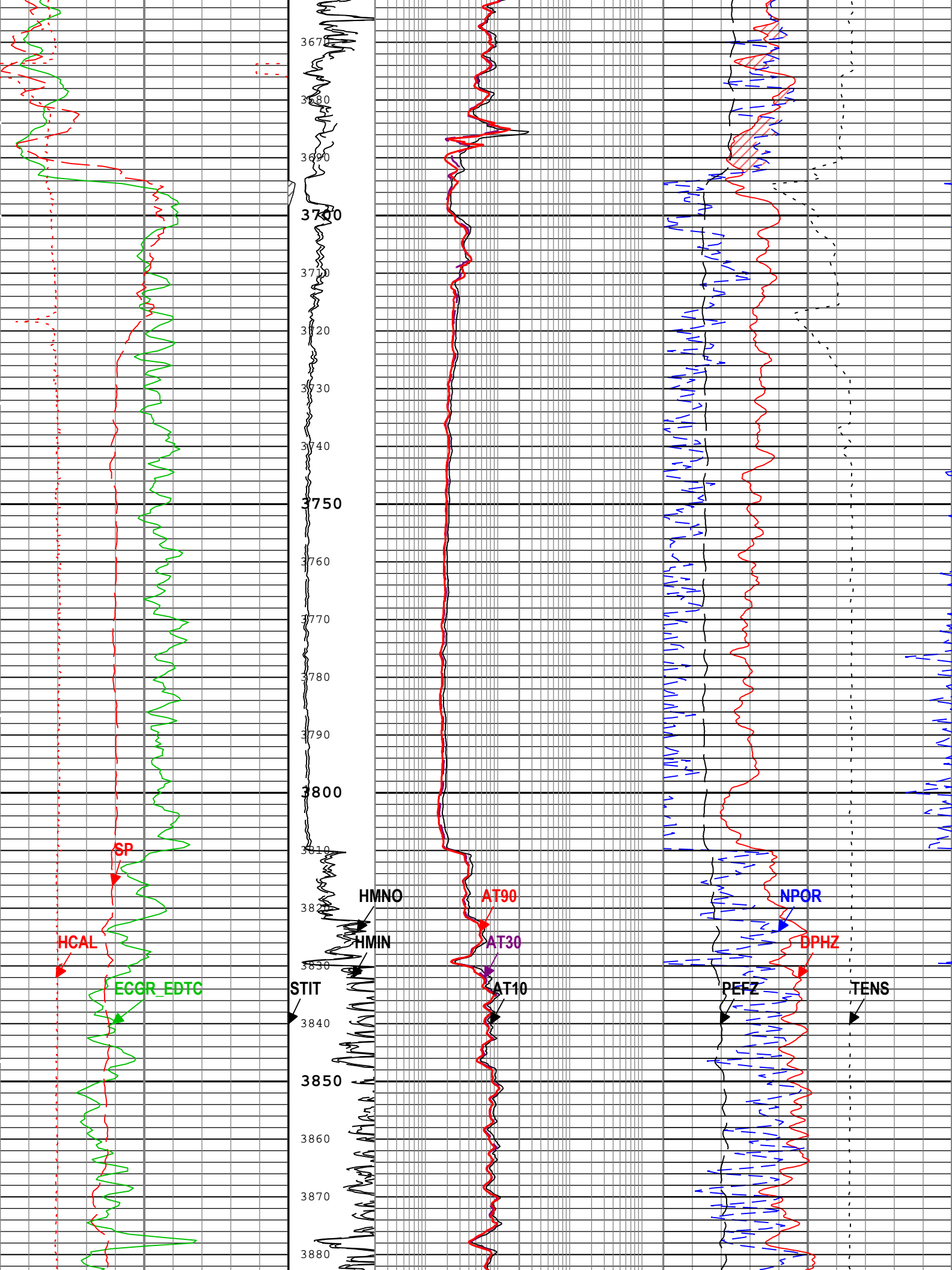


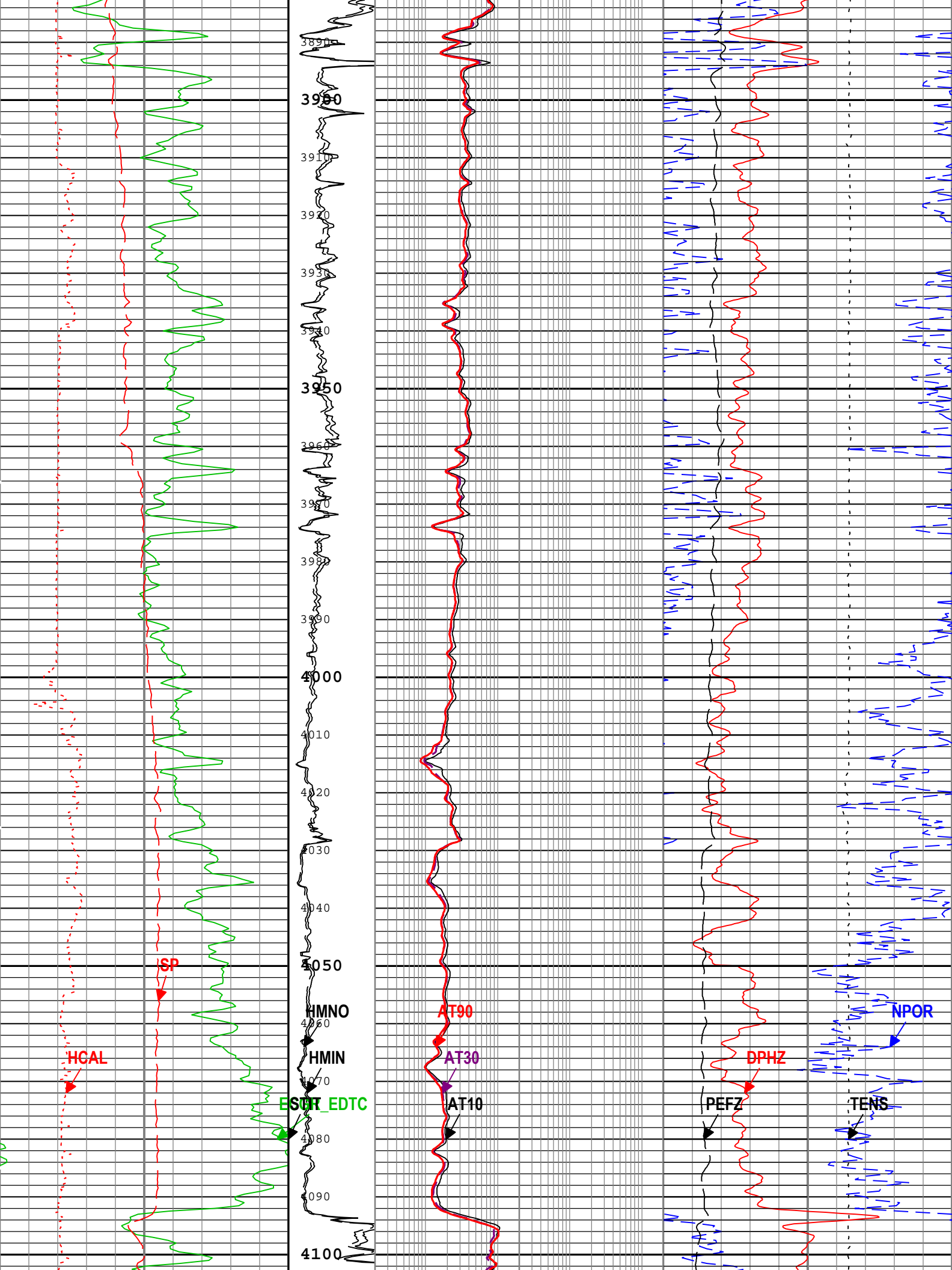


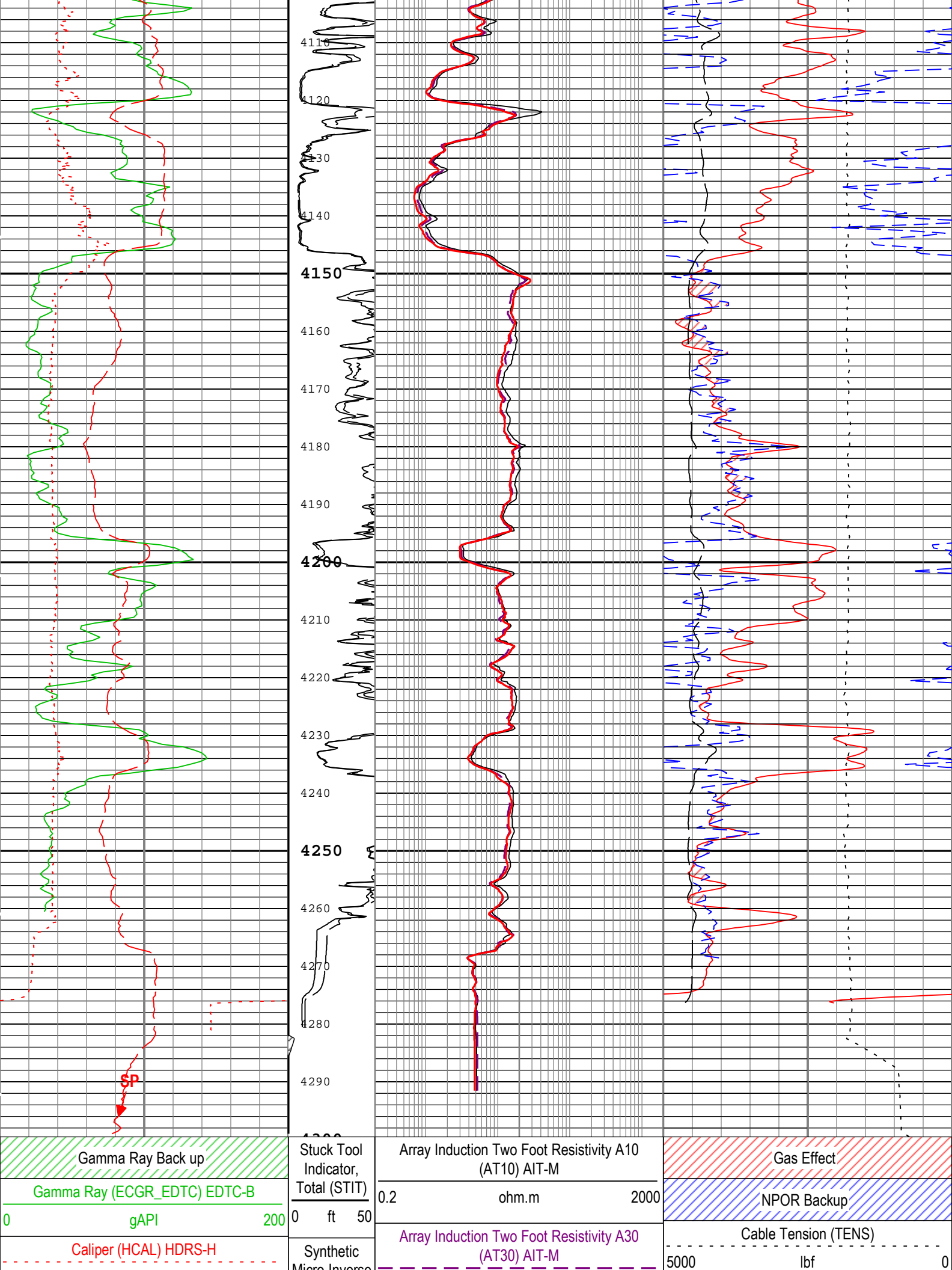












Gamma Ray Back up

Gamma Ray (ECGR_EDTC) EDTC-B

0 gAPI 200

Caliper (HCAL) HDRS-H

Stuck Tool Indicator, Total (STIT)

0 ft 50

Array Induction Two Foot Resistivity A10 (AT10) AIT-M

0.2 ohm.m 2000

Array Induction Two Foot Resistivity A30 (AT30) AIT-M

5000

Gas Effect

NPOR Backup

Cable Tension (TENS)

lb

6		in		16		Micro-Inverse Resistivity (HMIN) HDRS-H		0.2		ohm.m		2000		Standard Resolution Density Porosity (DPHZ) HDRS-H	
-80		Spontaneous Potential (SP) AIT-M		20		0 ohm.m 10		0.2		ohm.m		2000		0.3 ft3/ft3 -0.1	
		mV				Synthetic Micro-Normal Resistivity (HMNO) HDRS-H								Enhanced Thermal Neutron Porosity in Selected Lithology (NPOR) HGNS-H	
						0 ohm.m 10								0.3 m3/m3 -0.1	
														Standard Resolution Formation Photoelectric Factor (PEFZ) HDRS-H	
														0 10	

TIME_1900 - Time Marked every 60.00 (s)

Description: HGNS standard resolution porosities for Platform Express

Format: Log (TripleCombo-5)

Index Scale: 5 in per 100 ft

Index Unit: ft

Index Type: Measured Depth

Creation Date: 18-Dec-2018 16:39:57

Channel Processing Parameters				
ONE: Parameters				
Parameter	Description	Tool	Value	Unit
ABHM	Array Induction Borehole Correction Mode	AIT-M	Compute Standoff	
ASTA	Array Induction Tool Standoff	AIT-M	0.125	in
BARI(ISSBAR)	Barite Mud Presence Flag	Borehole	No	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Open	
BHT	Bottom Hole Temperature	Borehole	118	degF
BS	Bit Size	WLSESSION	Depth Zoned	in
BSAL	Borehole Salinity	Borehole	400	ppm
BSCO	Borehole Salinity Correction Option	HGNS-H	Yes	
CALI_SHIFT	CALI Supplementary Offset	HDRS-H	0.516	in
CBLO	Casing Bottom (Logger)	WLSESSION	503.5	ft
CDEN	Cement Density	EDTC-B	2	g/cm3
DFD	Drilling Fluid Density	Borehole	9.2	lbm/gal
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
DFT_WATER	Drilling Fluid Water Type	Borehole	WBM	
DHC	Density Hole Correction	HDRS-H	Bit Size	
FD	Fluid Density	Borehole	1	g/cm3
FSAL	Formation Salinity	Borehole	0	ppm
GCSE_DOWN_PASS	Generalized Caliper Selection for WL Log Down Passes	Borehole	BS(RT)	
GCSE_UP_PASS	Generalized Caliper Selection for WL Log Up Passes	Borehole	CALI	
GRSE	Generalized Mud Resistivity Selection, from Measured or Computed Mud Resistivity	Borehole	AMF	
GTSE	Generalized Temperature Selection, from Measured or Computed Temperature	Borehole	CTEM	
HSCO	Hole Size Correction Option	HGNS-H	Yes	
MATR	Rock Matrix for Neutron Porosity Corrections	Borehole	Depth Zoned	
MDEN	Matrix Density for Density Porosity	Borehole	Depth Zoned	g/cm3
MFST	Mud Filtrate Sample Temperature	Borehole	68	degF
MWCO	Mud Weight Correction Option	HGNS-H	Yes	
RMFS	Resistivity of Mud Filtrate Sample	Borehole	0.15	ohm.m
SP_SHIFT	SP Shift	AIT-M	400	mV
SPDR	SP Drift Per Foot	AIT-M	0	mV/ft
TD	Total Measured Depth	Borehole	4282.5	ft

Depth Zone Parameters

Parameter	Value	Start (ft)	Stop (ft)
BS	12.25	0	503
BS	7.875	503	4285
MATR	LIMESTONE	0	4050
MATR	SANDSTONE	4050	4299.5
MDEN	2.71	0	4050
MDEN	2.65	4050	4299.5

All depth are actual.

Tool Control Parameters				
ONE: Parameters				
Parameter	Description	Tool	Value	Unit
HMCA_BOARD_TYPE	HMCA Board Type	HGNS-H	1	
HRGD_BOARD_TYPE	HRGD Board Type	HDRS-H	WITH_HET	
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	3600	ft/h
NPUC	Nuclear Pile-Up Correction	HDRS-H	On	

ONE									
5" Triple Combo									

Pass Summary									
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
ONE	Log[2]:Up	Up	3874.70 ft	4300.59 ft	18-Dec-2018 2:53:22 PM	18-Dec-2018 3:03:18 PM	ON	0.00 ft	No
ONE	Log[3]:Up	Up	43.65 ft	4299.46 ft	18-Dec-2018 3:06:10 PM	18-Dec-2018 4:27:30 PM	ON	0.00 ft	No

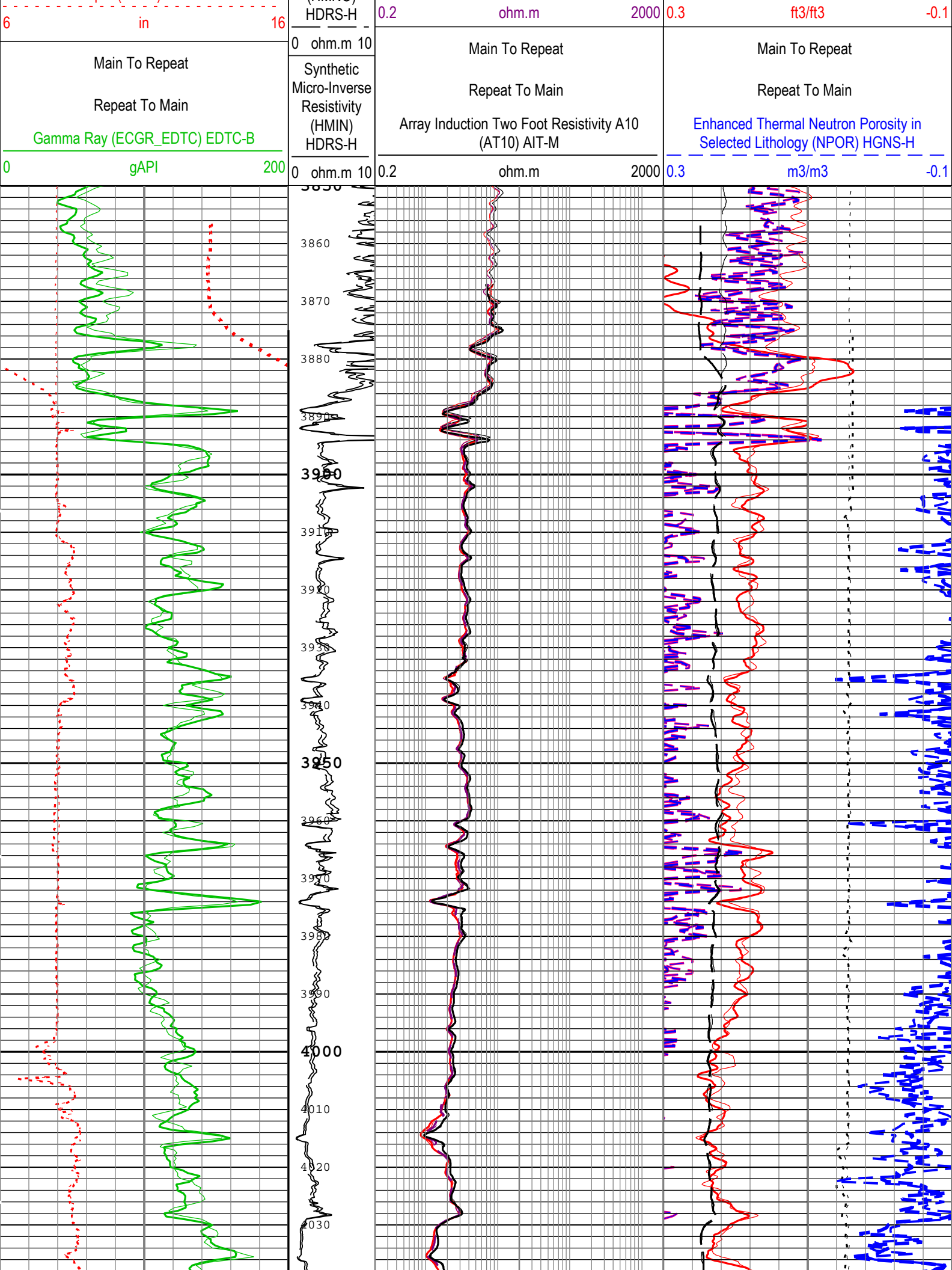
All depths are referenced to toolstring zero

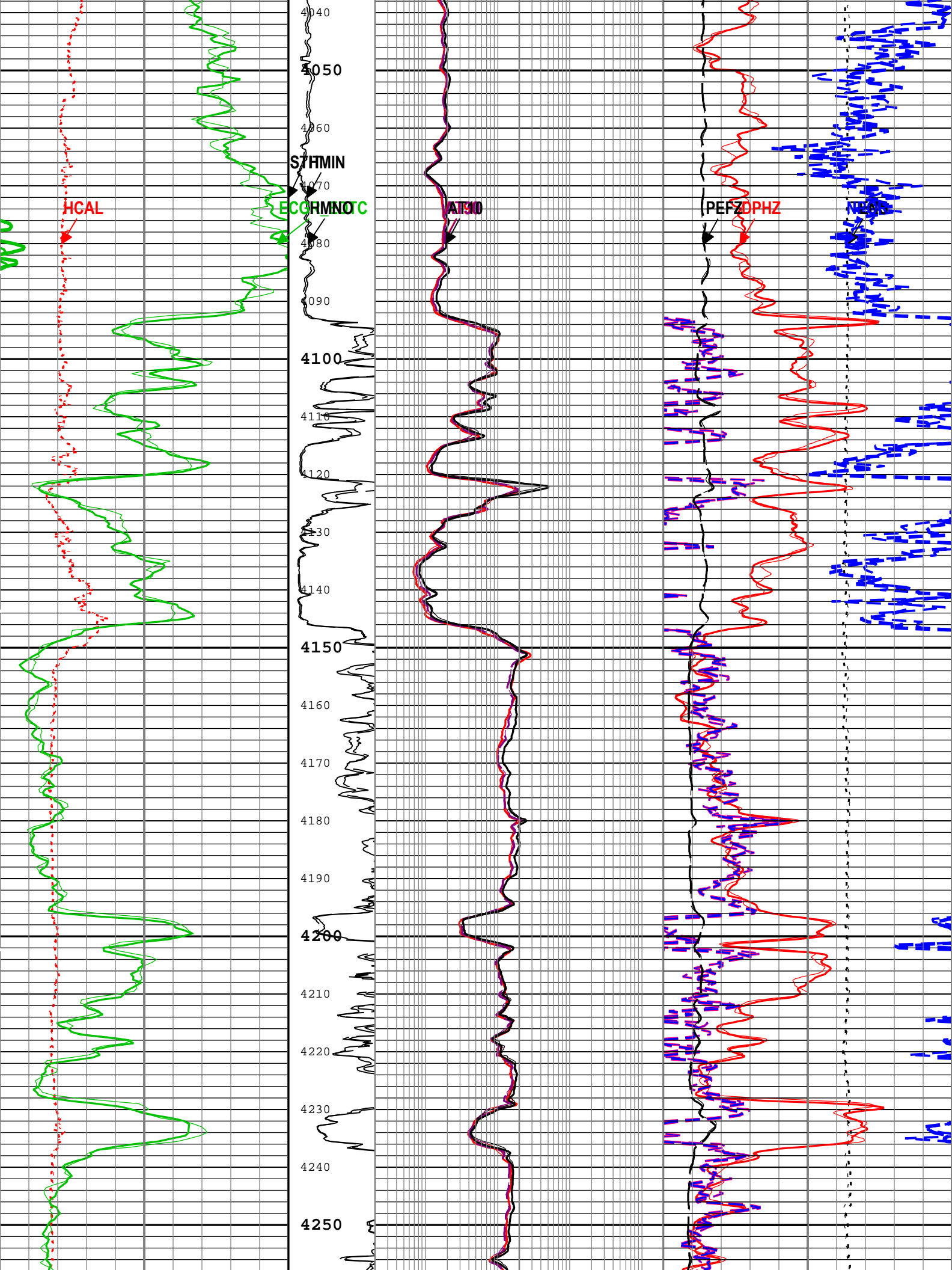
Log	Company:St. Croix Operating Inc. Well:Jack Creek #2 ONE: Log[3]:Up:S005
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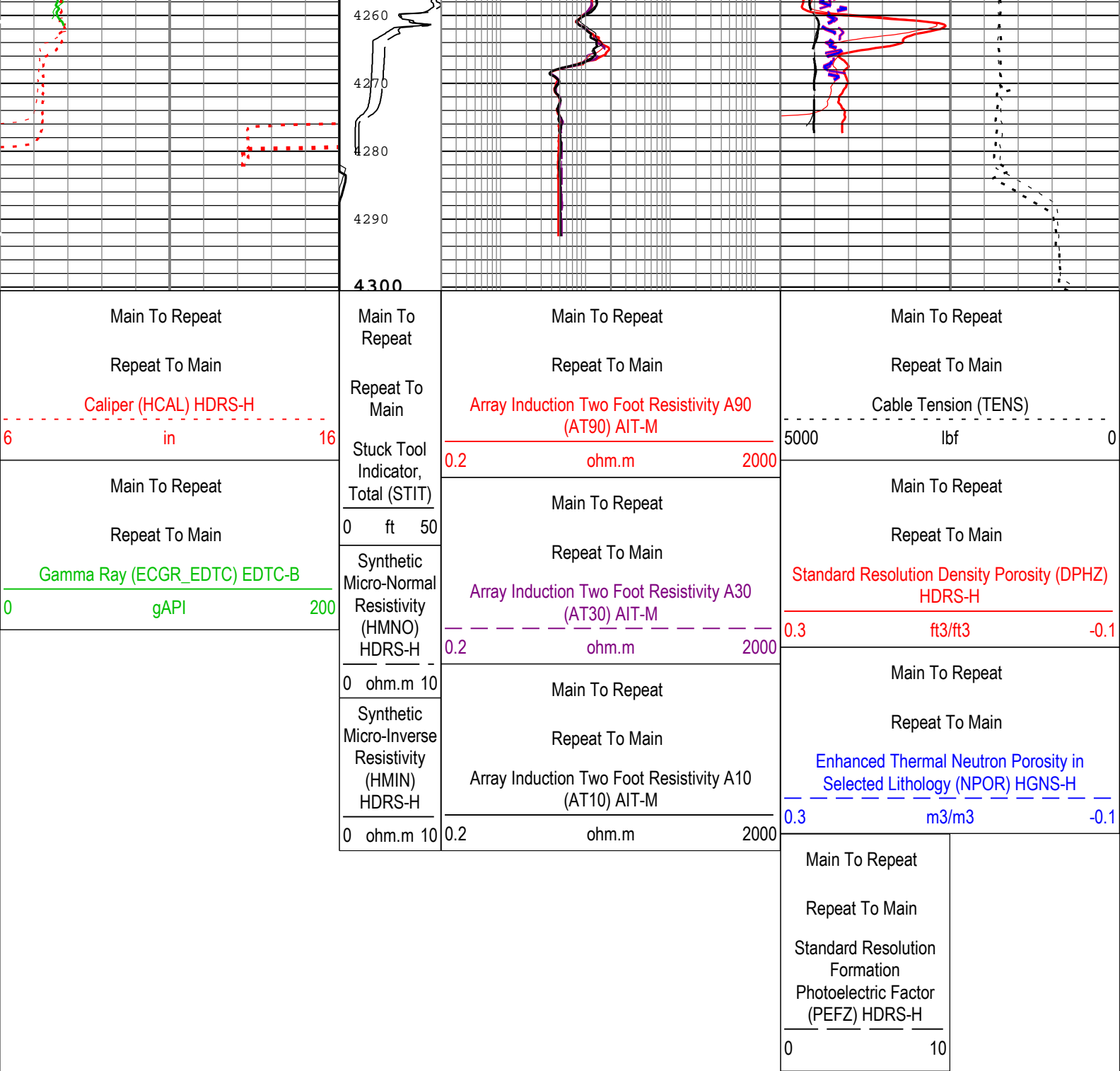
Description: HGNS standard resolution porosities for Platform Express Format: Log (TripleCombo-5 RA) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 18-Dec-2018 16:40:00

TIME_1900 - Time Marked every 60.00 (s)

			Main To Repeat		Repeat To Main		Standard Resolution Formation Photoelectric Factor (PEFZ) HDRS-H	
			0		10			
			Main To Repeat	Main To Repeat		Main To Repeat		
			Repeat To Main	Repeat To Main		Repeat To Main		
			Stuck Tool Indicator, Total (STIT)	Array Induction Two Foot Resistivity A90 (AT90) AIT-M		Cable Tension (TENS)		
			0.2	ohm.m		2000	5000	lb f
			0	ft		50	0	
Main To Repeat			Main To Repeat		Main To Repeat			
Repeat To Main			Repeat To Main		Repeat To Main			
Caliper (HCAL) HDRS-H			Array Induction Two Foot Resistivity A30 (AT30) AIT-M		Standard Resolution Density Porosity (DPHZ) HDRS-H			
			Synthetic Micro-Normal Resistivity (HMNO)					







Description: HGNS standard resolution porosities for Platform Express Format: Log (TripleCombo-5 RA) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 18-Dec-2018 16:40:00

Channel Processing Parameters				
ONE: Parameters				
Parameter	Description	Tool	Value	Unit
ABHM	Array Induction Borehole Correction Mode	AIT-M	Compute Standoff	
ASTA	Array Induction Tool Standoff	AIT-M	0.125	in
BARI(ISSBAR)	Barite Mud Presence Flag	Borehole	No	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Open	
BHT	Bottom Hole Temperature	Borehole	118	degF
BS	Bit Size	WLSESSION	7.875	in
BSAL	Borehole Salinity	Borehole	400	ppm
BSCO	Borehole Salinity Correction Option	HGNS-H	Yes	

CALI_SHIFT	CALI Supplementary Offset	HDRS-H	0.516	in
CBLO	Casing Bottom (Logger)	WLSESSION	503.5	ft
CDEN	Cement Density	EDTC-B	2	g/cm3
DFD	Drilling Fluid Density	Borehole	9.2	lbm/gal
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
DFT_WATER	Drilling Fluid Water Type	Borehole	WBM	
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FD	Fluid Density	Borehole	1	g/cm3
FSAL	Formation Salinity	Borehole	0	ppm
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GCSE_UP_PASS	Generalized Caliper Selection for WL Log Up Passes	Borehole	CALI	
GRSE	Generalized Mud Resistivity Selection, from Measured or Computed Mud Resistivity	Borehole	AMF	
GTSE	Generalized Temperature Selection, from Measured or Computed Temperature	Borehole	CTEM	
HSCO	Hole Size Correction Option	HGNS-H	Yes	
MATR	Rock Matrix for Neutron Porosity Corrections	Borehole	Depth Zoned	
MDEN	Matrix Density for Density Porosity	Borehole	Depth Zoned	g/cm3
MFST	Mud Filtrate Sample Temperature	Borehole	68	degF
MWCO	Mud Weight Correction Option	HGNS-H	Yes	
RMFS	Resistivity of Mud Filtrate Sample	Borehole	0.15	ohm.m
TD	Total Measured Depth	Borehole	4282.5	ft

Depth Zone Parameters

Parameter	Value	Start (ft)	Stop (ft)
MATR	LIMESTONE	3850	4050
MATR	SANDSTONE	4050	4300.5
MDEN	2.71	3850	4050
MDEN	2.65	4050	4300.5

All depth are actual.

Tool Control Parameters

ONE: Parameters

Parameter	Description	Tool	Value	Unit
HMCA_BOARD_TYPE	HMCA Board Type	HGNS-H	1	
HRGD_BOARD_TYPE	HRGD Board Type	HDRS-H	WITH_HET	
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	3600	ft/h
NPUC	Nuclear Pile-Up Correction	HDRS-H	On	

Calibration Report

AIT-M (Array Induction Tool - M) Calibration - Run ONE

Primary Equipment :			
File code for AIT-MA Sonde Tool Element	AMIS	2562	
Auxiliary Equipment :			
AITM Rm/SP Bottom Nose	AMRM	109	

AIT Sonde Calibration - Test Loop Gain

Master (EEPROM):	21:49:28 10-Mar-2018						
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Test Loop Gain - 0		Master	1.000	0.950	1.014	1.050	
Test Loop Phase - 0	deg	Master	0	-3.000	0.524	3.000	
Test Loop Gain - 1		Master	1.000	0.950	1.013	1.050	
Test Loop Phase - 1	deg	Master	0	-3.000	0.644	3.000	
Test Loop Gain - 2		Master	1.000	0.950	1.015	1.050	
Test Loop Phase - 2	deg	Master	0	-3.000	0.400	3.000	

Test Loop Phase - 2	deg	Master	0	-3.000	0.108	3.000	<div><div></div><div></div><div></div><div></div><div></div></div>
Test Loop Gain - 3		Master	1.000	0.950	1.009	1.050	<div><div></div><div></div><div></div><div></div><div></div></div>
Test Loop Phase - 3	deg	Master	0	-3.000	0.144	3.000	<div><div></div><div></div><div></div><div></div><div></div></div>
Test Loop Gain - 4		Master	1.000	0.950	0.993	1.050	<div><div></div><div></div><div></div><div></div><div></div></div>
Test Loop Phase - 4	deg	Master	0	-3.000	0.110	3.000	<div><div></div><div></div><div></div><div></div><div></div></div>
Test Loop Gain - 5		Master	1.000	0.950	0.989	1.050	<div><div></div><div></div><div></div><div></div><div></div></div>
Test Loop Phase - 5	deg	Master	0	-3.000	-0.056	3.000	<div><div></div><div></div><div></div><div></div><div></div></div>
Test Loop Gain - 6		Master	1.000	0.950	1.000	1.050	<div><div></div><div></div><div></div><div></div><div></div></div>
Test Loop Phase - 6	deg	Master	0	-3.000	0.278	3.000	<div><div></div><div></div><div></div><div></div><div></div></div>
Test Loop Gain - 7		Master	1.000	0.950	1.014	1.050	<div><div></div><div></div><div></div><div></div><div></div></div>
Test Loop Phase - 7	deg	Master	0	-3.000	-0.041	3.000	<div><div></div><div></div><div></div><div></div><div></div></div>

AIT Sonde Calibration - Sonde Error Correction

Master (EEPROM):		21:49:28 10-Mar-2018					
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	<div><div></div><div></div><div></div><div></div><div></div></div>
Sonde Error Correction Real - 0	mS/m	Master	----	-231.000	-90.511	119.000	<div><div></div><div></div><div></div><div></div><div></div></div>
Sonde Error Correction Quad - 0		Master	----	-2250.000	-12.770	2250.000	<div><div></div><div></div><div></div><div></div><div></div></div>
Sonde Error Correction Real - 1	mS/m	Master	----	114.000	165.326	204.000	<div><div></div><div></div><div></div><div></div><div></div></div>
Sonde Error Correction Quad - 1		Master	----	-625.000	-75.327	625.000	<div><div></div><div></div><div></div><div></div><div></div></div>
Sonde Error Correction Real - 2	mS/m	Master	----	66.000	104.659	156.000	<div><div></div><div></div><div></div><div></div><div></div></div>
Sonde Error Correction Quad - 2		Master	----	-350.000	63.282	350.000	<div><div></div><div></div><div></div><div></div><div></div></div>
Sonde Error Correction Real - 3	mS/m	Master	----	39.000	55.423	89.000	<div><div></div><div></div><div></div><div></div><div></div></div>
Sonde Error Correction Quad - 3		Master	----	-250.000	51.642	250.000	<div><div></div><div></div><div></div><div></div><div></div></div>
Sonde Error Correction Real - 4	mS/m	Master	----	15.000	26.570	35.000	<div><div></div><div></div><div></div><div></div><div></div></div>
Sonde Error Correction Quad - 4		Master	----	-63.000	-29.986	63.000	<div><div></div><div></div><div></div><div></div><div></div></div>
Sonde Error Correction Real - 5	mS/m	Master	----	4.000	11.103	24.000	<div><div></div><div></div><div></div><div></div><div></div></div>
Sonde Error Correction Quad - 5		Master	----	-50.000	-16.905	50.000	<div><div></div><div></div><div></div><div></div><div></div></div>
Sonde Error Correction Real - 6	mS/m	Master	----	5.000	6.462	15.000	<div><div></div><div></div><div></div><div></div><div></div></div>
Sonde Error Correction Quad - 6		Master	----	-30.000	-8.061	30.000	<div><div></div><div></div><div></div><div></div><div></div></div>
Sonde Error Correction Real - 7	mS/m	Master	----	-5.000	-4.924	5.000	<div><div></div><div></div><div></div><div></div><div></div></div>
Sonde Error Correction Quad - 7		Master	----	-30.000	-0.292	30.000	<div><div></div><div></div><div></div><div></div><div></div></div>

AIT Mud Calibration - Mud Calibration Gain

Master (EEPROM):		21:49:28 10-Mar-2018					
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	<div><div></div><div></div><div></div><div></div><div></div></div>
Coarse Gain		Master	1.000	0.800	1.024	1.200	<div><div></div><div></div><div></div><div></div><div></div></div>
Fine Gain		Master	1.000	0.800	1.030	1.200	<div><div></div><div></div><div></div><div></div><div></div></div>

AIT Electronics Check - Thru Calibration Check

Master (EEPROM):		21:49:28 10-Mar-2018					
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	<div><div></div><div></div><div></div><div></div><div></div></div>
Thru Cal Mag - 0	V	Master	----	0.366	0.641	0.854	<div><div></div><div></div><div></div><div></div><div></div></div>
Thru Cal Phase - 0	deg	Master	----	137.000	-175.189	-103.000	<div><div></div><div></div><div></div><div></div><div></div></div>
Thru Cal Mag - 1	V	Master	----	0.762	1.314	1.778	<div><div></div><div></div><div></div><div></div><div></div></div>
Thru Cal Phase - 1	deg	Master	----	136.000	-176.305	-104.000	<div><div></div><div></div><div></div><div></div><div></div></div>
Thru Cal Mag - 2	V	Master	----	0.372	0.651	0.868	<div><div></div><div></div><div></div><div></div><div></div></div>
Thru Cal Phase - 2	deg	Master	----	132.000	-179.892	-108.000	<div><div></div><div></div><div></div><div></div><div></div></div>
Thru Cal Mag - 3	V	Master	----	0.420	0.736	0.980	<div><div></div><div></div><div></div><div></div><div></div></div>
Thru Cal Phase - 3	deg	Master	----	131.000	179.337	-109.000	<div><div></div><div></div><div></div><div></div><div></div></div>
Thru Cal Mag - 4	V	Master	----	0.804	1.375	1.876	<div><div></div><div></div><div></div><div></div><div></div></div>
Thru Cal Phase - 4	deg	Master	----	125.000	173.125	-115.000	<div><div></div><div></div><div></div><div></div><div></div></div>
Thru Cal Mag - 5	V	Master	----	1.176	2.005	2.744	<div><div></div><div></div><div></div><div></div><div></div></div>
Thru Cal Phase - 5	deg	Master	----	122.000	171.443	-118.000	<div><div></div><div></div><div></div><div></div><div></div></div>
Thru Cal Mag - 6	V	Master	----	1.176	2.005	2.744	<div><div></div><div></div><div></div><div></div><div></div></div>
Thru Cal Phase - 6	deg	Master	----	121.000	171.455	-119.000	<div><div></div><div></div><div></div><div></div><div></div></div>
Thru Cal Mag - 7	V	Master	----	0.846	1.442	1.974	<div><div></div><div></div><div></div><div></div><div></div></div>
Thru Cal Phase - 7	deg	Master	----	115.000	170.747	-125.000	<div><div></div><div></div><div></div><div></div><div></div></div>
SPA Zero	mV	Master		-50.000	0.350	50.000	<div><div></div><div></div><div></div><div></div><div></div></div>
SPA Plus	mV	Master		941.000	990.193	1040.000	<div><div></div><div></div><div></div><div></div><div></div></div>
Temperature Zero	V	Master		-0.050	0.000	0.050	<div><div></div><div></div><div></div><div></div><div></div></div>
Temperature Plus	V	Master		0.870	0.918	0.960	<div><div></div><div></div><div></div><div></div><div></div></div>

HDRS-H (HILT Density and Rxo Sonde, 150 degC) Calibration - Run ONE

Primary Equipment :

HILT High-Resolution Control Cartridge, 150 degC	HRCC-H	3737
HILT Resistivity Gamma-Ray Density Device, 150 degC	HRGD-H	4882

Auxiliary Equipment :

HRDD Backscatter Detector	Backscatter	
HRDD Long Spacing Detector	Long Spacing	
HRDD Short Spacing Detector	Short Spacing	
Cesium 137 Gamma-Ray Logging Source	GSR-J	5259
HILT High-Resolution Control Cartridge, 150 degC	HRCC-H	3737
HILT High-Resolution Mechanical Sonde, 150 degC	HRMS-H	3951

Calibration Parameter :

Small Ring Size (Caliper Calibration Small Ring)	8.00
Large Ring Size (Caliper Calibration Large Ring)	12.00

HDRS Density Calibration - Inversion Results

Master (EEPROM): 15:52:40 09-Dec-2018

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Rho Aluminum	g/cm3	Master	2.596	2.586	2.597	2.606	
Rho Magnesium	g/cm3	Master	1.686	1.676	1.686	1.696	
Pe Aluminum		Master	2.570	2.470	2.541	2.670	
Pe Magnesium		Master	2.650	2.550	2.641	2.750	

HDRS Density Calibration - Deviation Summary

Master (EEPROM): 15:52:40 09-Dec-2018

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
BS Average Deviation	%	Master	0	-0.6000	0.4193	0.6000	
BS Max Deviation	%	Master	0	-1.6000	0.9056	1.6000	
SS Average Deviation	%	Master	0	-1.0000	0.4058	1.0000	
SS Max Deviation	%	Master	0	-2.5000	1.0526	2.5000	
LS Average Deviation	%	Master	0	-1.5000	0.6786	1.5000	
LS Max Deviation	%	Master	0	-3.5000	1.5928	3.5000	

HDRS Density Calibration - Background Summary

Master (EEPROM): 15:52:40 09-Dec-2018

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
BS Window Ratio		Master	1.0000		0.7416		
BS Window Sum	1/s	Master	1		27426		
SS Window Ratio		Master	1.0000		0.4741		
SS Window Sum	1/s	Master	1		10068		
LS Window Ratio		Master	1.0000		0.2938		
LS Window Sum	1/s	Master	1		1135		

HDRS Density Calibration - Photo-multiplier High Voltages

Master (EEPROM): 15:52:40 09-Dec-2018

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
BS PM High Voltage	V	Master		1000	1493	2400	
SS PM High Voltage	V	Master		1000	1484	2400	
LS PM High Voltage	V	Master		1000	1739	2400	

HDRS Density Calibration - Crystal Quality Resolutions

Master (EEPROM): 15:52:40 09-Dec-2018

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
BS Crystal Resolution	%	Master		5.00	10.59	25.00	
SS Crystal Resolution	%	Master		5.00	8.79	20.00	
LS Crystal Resolution	%	Master		5.00	9.28	20.00	

HGNS-H (HILT Gamma-Ray and Neutron Sonde, 150 degC) Calibration - Run ONE

Primary Equipment :

HILT Gamma-Ray and Neutron Sonde, 150 degC HGNS-H 3730

Auxiliary Equipment :

HGNS Accelerometer, 150 degC HACCZ-H 1537
AmBe Neutron Logging Source NSR-F 5068

Calibration Parameter :

Water Temperature (Calibration Tank Water Temperature) 65.0
Housing Size (Thermal Housing Size) 3.37
JIG-BKG

HGNS Accelerometer EEPROM - Accelerometer EEPROM Read

Master (EEPROM): 00:00:00 15-Mar-2002

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit		
Accelerometer Manufacturer		Master			QAT_160			
Accelerometer Reference Temperature	degF	Master		30.2	77.0	122.0		
Accelerometer Coefficients - 0		Master	----	----	-530.200	----		
Accelerometer Coefficients - 1		Master	----	----	-13.060	----		
Accelerometer Coefficients - 2		Master	----	----	-0.001	----		
Accelerometer Coefficients - 3		Master	----	----	0.000	----		
Accelerometer Coefficients - 4		Master	----	----	2.722	----		
Accelerometer Coefficients - 5		Master	----	----	0.000	----		
Accelerometer Coefficients - 6		Master	----	----	0.000	----		
Accelerometer Coefficients - 7		Master	----	----	0.000	----		
Accelerometer Coefficients - 8		Master	----	----	298.900	----		
Accelerometer Coefficients - 9		Master	----	----	1.007	----		

HGNS Neutron Calibration - HGNS Neutron Accumulations

Master (EEPROM): 21:32:32 07-Nov-2018

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit		
Near Zero Measurement	1/s	Master	0	5.0	28.5	40.0		
Far Zero Measurement	1/s	Master	0	5.0	27.4	40.0		
Near Plus Measurement	1/s	Master	6031.0	4700.0	5307.0	6900.0		
Far Plus Measurement	1/s	Master	2793.0	1900.0	2180.0	2900.0		
Near Corrected Plus Measurement	1/s	Master		4700.0	5299.0	6900.0		
Far Corrected Plus Measurement	1/s	Master		1900.0	2163.0	2900.0		

EDTC-B (Enhanced Digital Telemetry Cartridge - Version B) Calibration - Run ONE

Primary Equipment :

EDTC-B EDTC-B 9038

Calibration Parameter :

Plus Reference

EDTC-B Memory Data - EDTC-B Memory Data

Master (EEPROM): 14:30:48 18-Dec-2018

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit		
Initial PMT HV	V	Master			1574.000			
Accelerometer Serial Number		Master			1206			
Accelerometer Coefficients - 0		Master	----	----	2.970E+000	----		
Accelerometer Coefficients - 1		Master	----	----	1.998E-004	----		
Accelerometer Coefficients - 2		Master	----	----	6.002E-007	----		
Accelerometer Coefficients - 3		Master	----	----	-3.225E-008	----		
Accelerometer Coefficients - 4		Master	----	----	8.128E-010	----		
Accelerometer Coefficients - 5		Master	----	----	-6.221E-012	----		
Accelerometer Coefficients - 6		Master	----	----	1.615E-014	----		
Accelerometer Coefficients - 7		Master	----	----	-4.416E-003	----		
Accelerometer Coefficients - 8		Master	----	----	4.347E-005	----		
Accelerometer Coefficients - 9		Master	----	----	-4.540E-008	----		
Accelerometer Coefficients - 10		Master	----	----	5.842E-013	----		
Accelerometer Coefficients - 11		Master	----	----	-1.668E-012	----		
Gamma-Ray Detector Serial Number		Master			79215			

Field:	Wildcat
County:	Washington
State:	Colorado

Platform Express
Triple Combo