



OTHER SERVICES1	OTHER SERVICES2
OS1: FMI	OS1:
OS2:	OS2:
OS3:	OS3:
OS4:	OS4:
OS5:	OS5:
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
Tool run as per tool sketch	
Tool run with bowspring eccentralizer	
Tool run with two 1.5" standoffs	
Density corrected for hole size	
Sandstone matrix selected, 2.68 g/cc	
Data invalid in tight spots and washouts	
Neutron corrected for hole size and standoff	

Microlog affected by mud cake  
Caliper check in casing = 12.4 inches

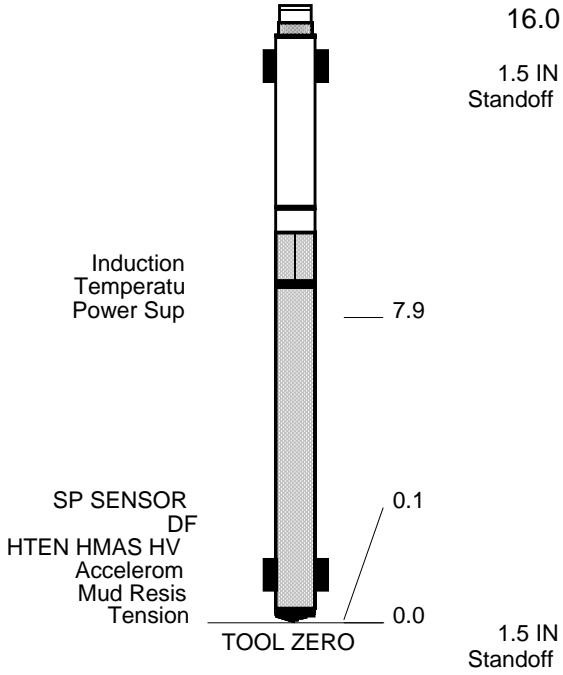
RUN 1			RUN 2		
SERVICE ORDER #:		B49A00075	SERVICE ORDER #:		
PROGRAM VERSION:		17C0-154	PROGRAM VERSION:		
FLUID LEVEL:		10 ft	FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT	DESCRIPTION

SURFACE EQUIPMENT	
GSR-U/Y	WITM (DTS)-A
NCT-B	
CNB-AB	
NCS-VB	

## DOWNHOLE EQUIPMENT

HAIT-H  
AHIS-BA 392  
AHRM-A



MAXIMUM STRING DIAMETER 6.88 IN  
MEASUREMENTS RELATIVE TO TOOL ZERO  
ALL LENGTHS IN FEET

Schlumberger

Main Pass  
1" = 100'

MAXIS Field Log

Company: SG INTERESTS I. LTD. Well: COW SKULL 11-89-18 #1

Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_012LUP	FN:11	PRODUCER	19-Sep-2010 22:49	5292.0 FT	87.2 FT
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Output DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_018PUP	FN:17	PRODUCER	20-Sep-2010 00:37	5292.0 FT	87.5 FT
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Integrated Hole/Cement Volume Summary

Hole Volume = 3941.36 F3  
Cement Volume = 1493.60 F3 (assuming 9.63 IN casing O.D.)  
Computed from 5286.0 FT to 442.0 FT using data channel(s) HCAL

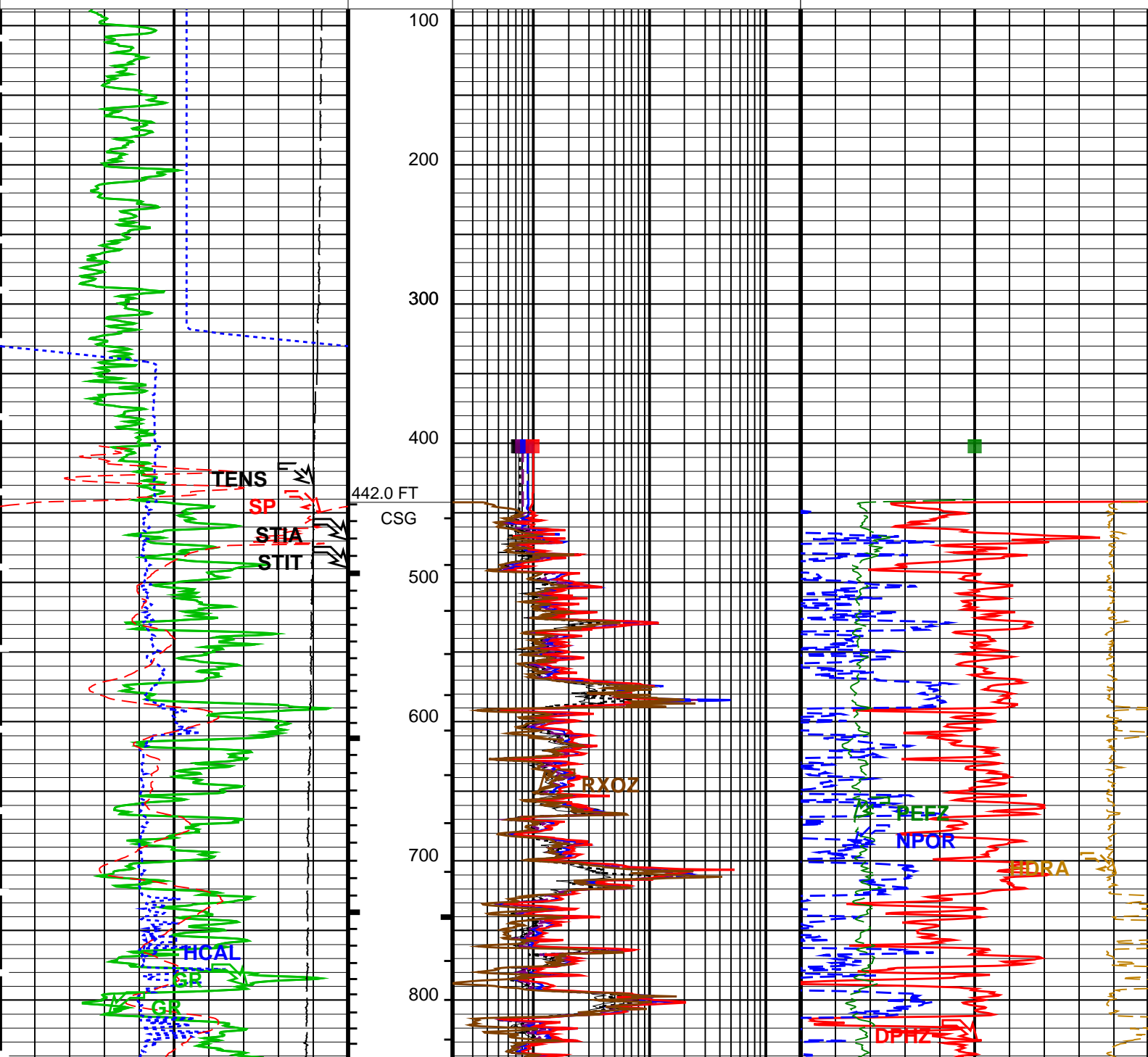
OP System Version: 17C0-154

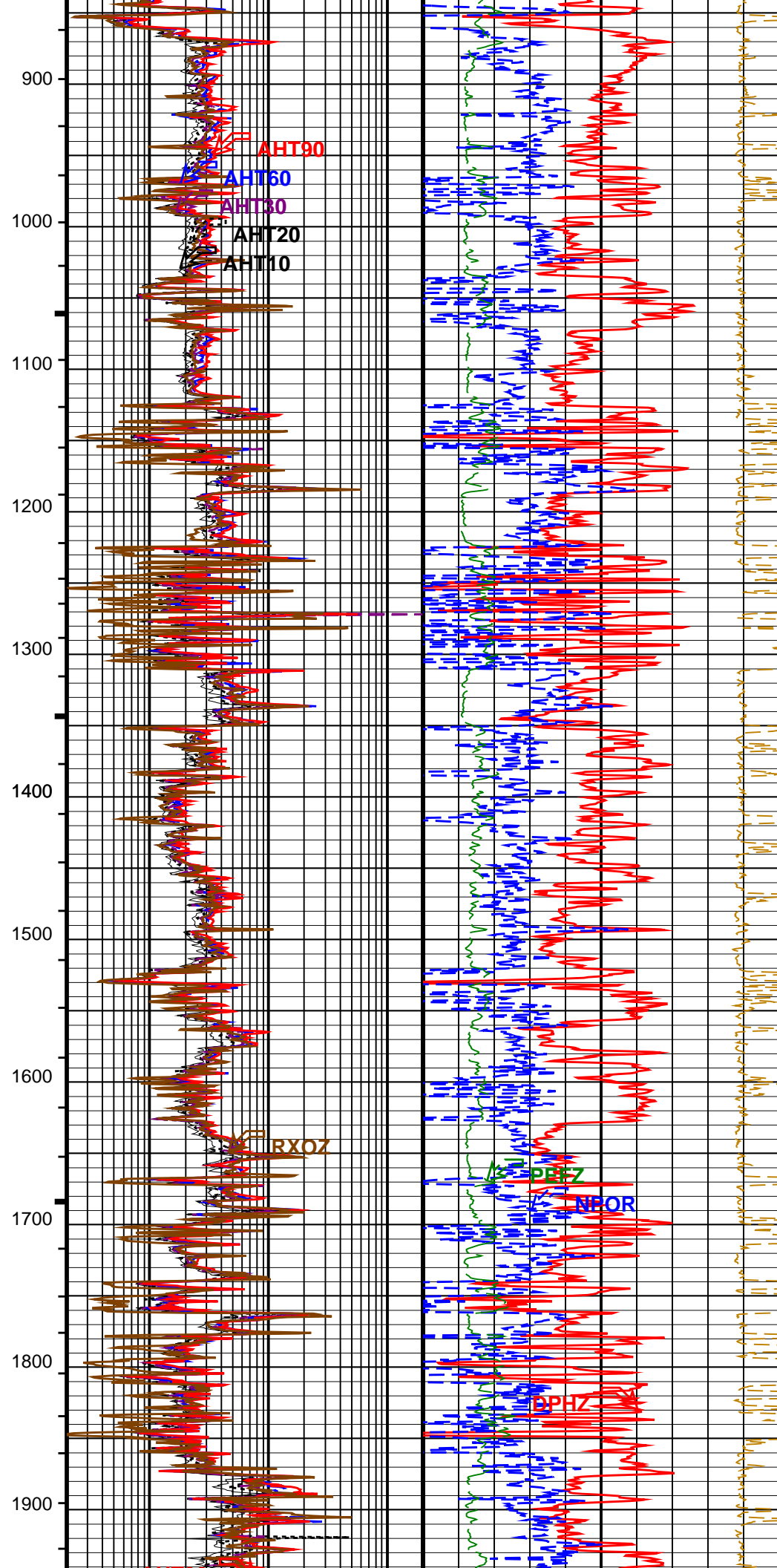
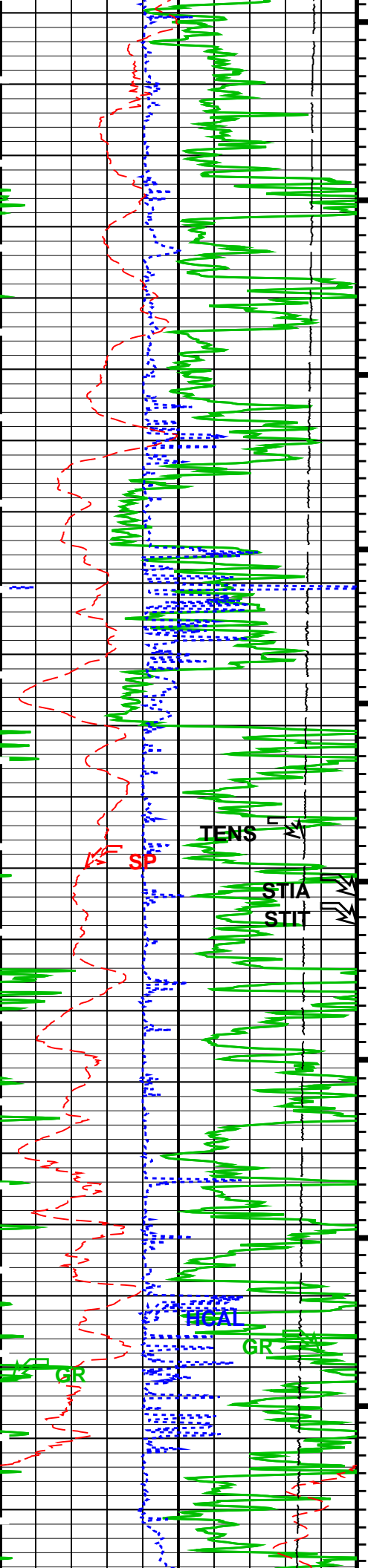
HAIT-H	17C0-154	HILTH-FTB	17C0-154
DTC-H	17C0-154		

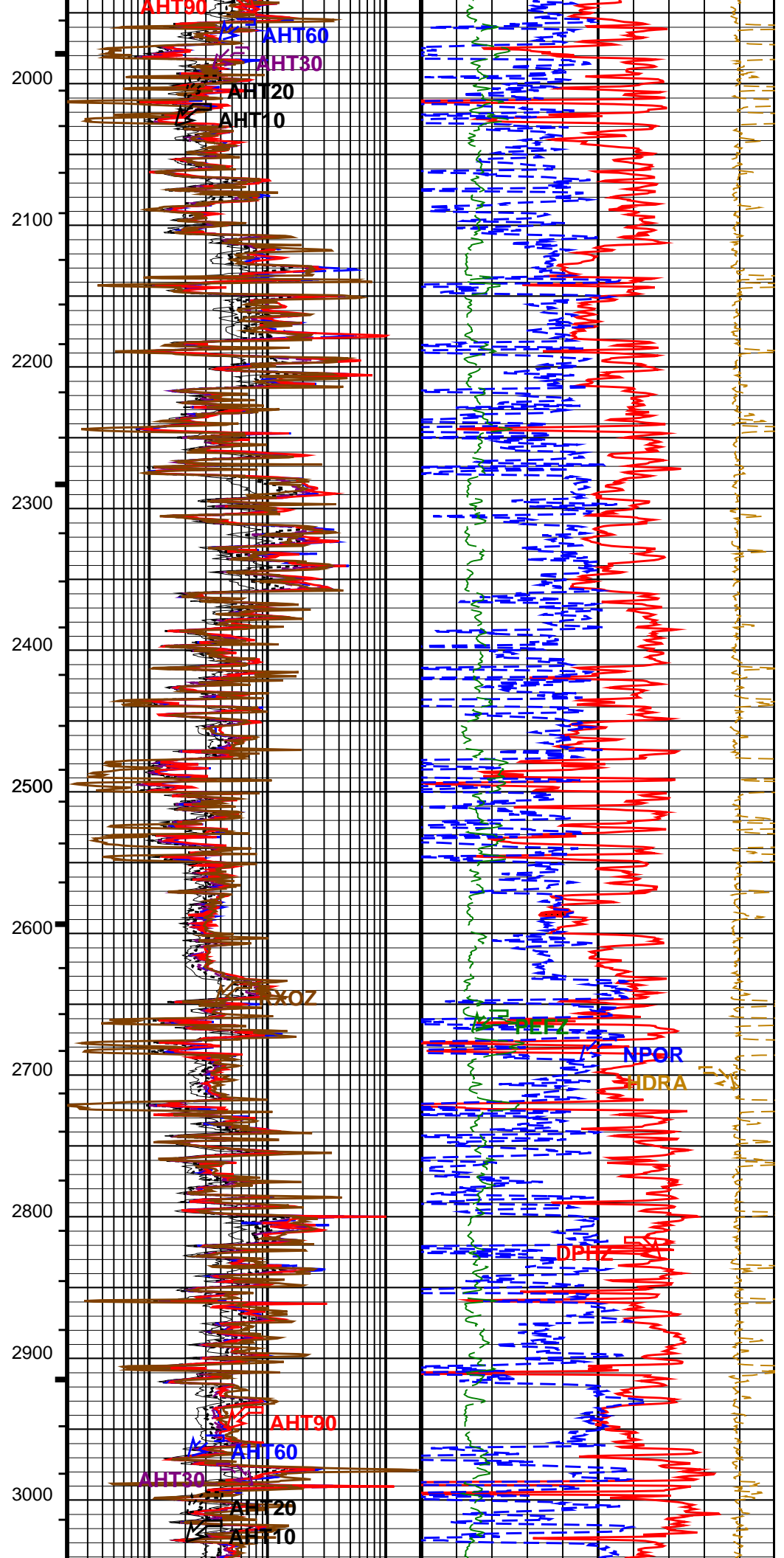
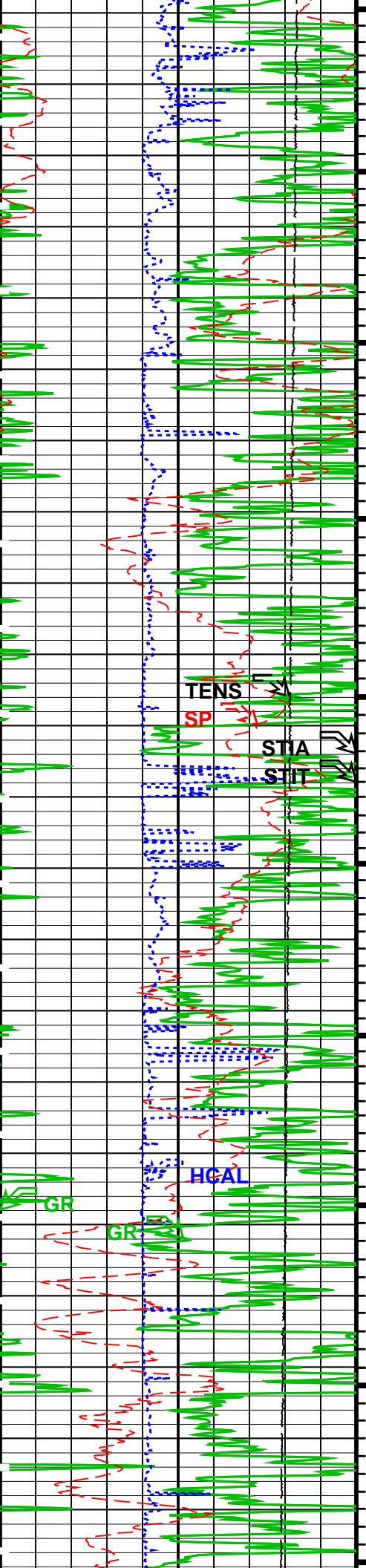
PIP SUMMARY

- Integrated Hole Volume Minor Pip Every 10 F3
- Integrated Hole Volume Major Pip Every 100 F3
- Integrated Cement Volume Minor Pip Every 10 F3
- Integrated Cement Volume Major Pip Every 100 F3

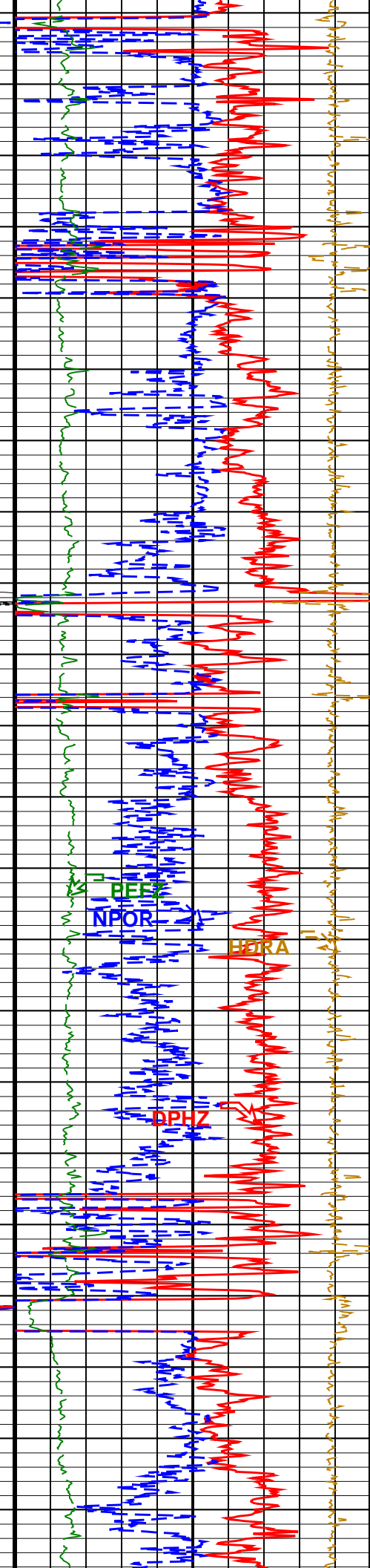
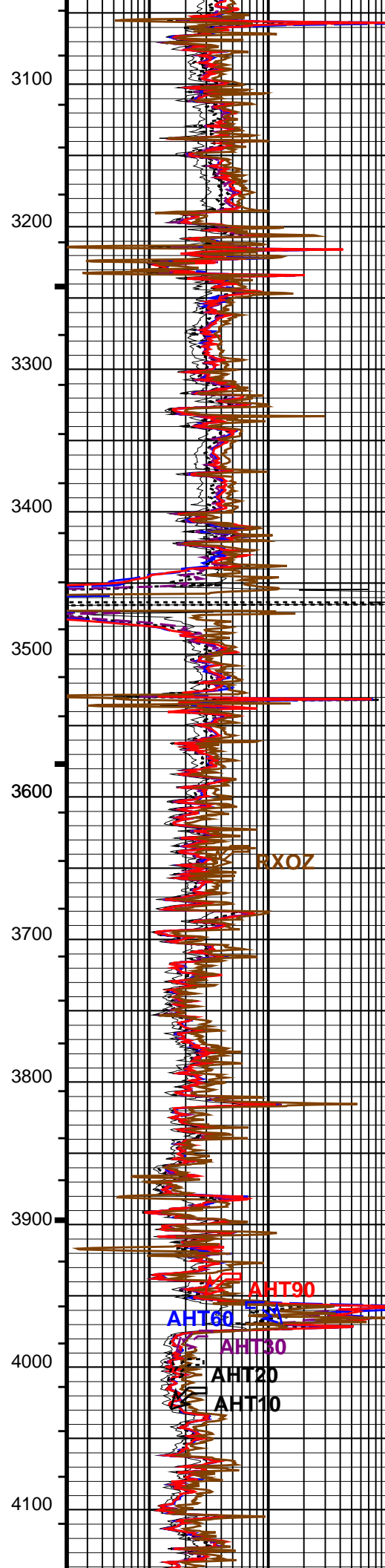
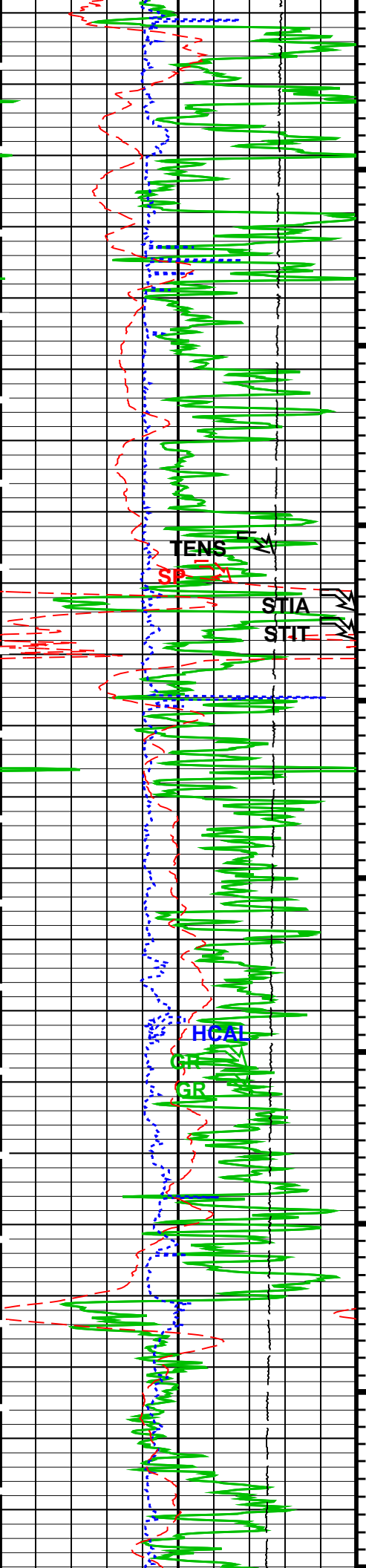
	Std. Res. Invaded Zone Resistivity (RXOZ)		
	2	(OHMM) 2000	
	AIT-H 90 Inch Investigation (AHT90)		
	2	(OHMM) 2000	
HILT Caliper (HCAL) (IN) 8 18	AIT-H 60 Inch Investigation (AHT60)		Alpha Processed Neutron Porosity (NPOR)
	2	(OHMM) 2000	0.3 (V/V) -0.1
Gamma Ray (GR) (GAPI) 0 150	AIT-H 30 Inch Investigation (AHT30)		Std. Res. Formation Pe (PEFZ)
	2	(OHMM) 2000	0 (-----) 10
Tension (TENS) (LBF) 10000 0	AIT-H 20 Inch Investigation (AHT20)		Density Correction (HDRA)
	2	(OHMM) 2000	-0.2 (G/C3) 0.05
SP (SP) (MV) -80 20	AIT-H 10 Inch Investigation (AHT10)		Gas From DPHZ to NPOR
	2	(OHMM) 2000	
			Std. Res. Density Porosity (DPHZ)
			0.3 (V/V) -0.1



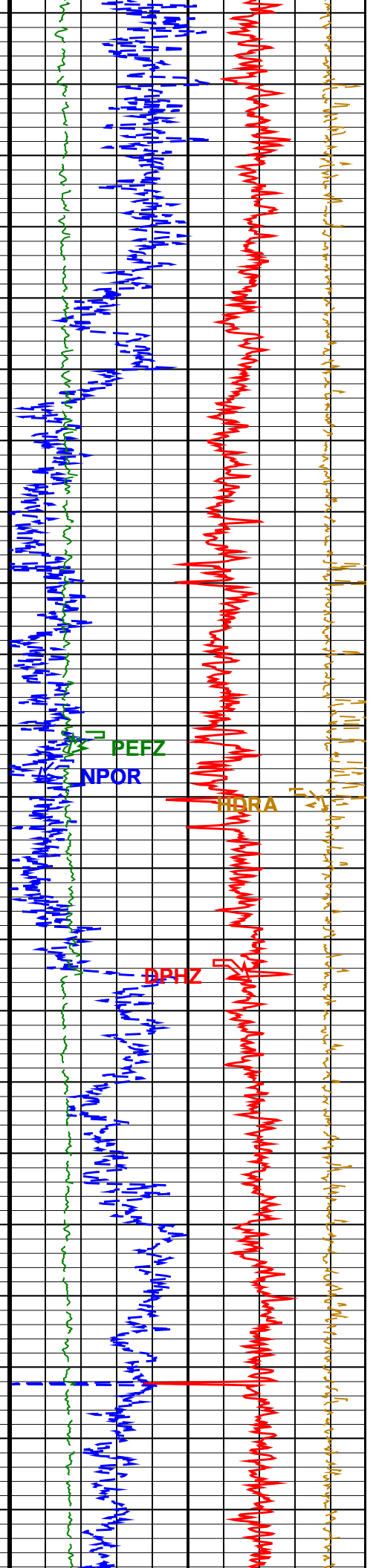
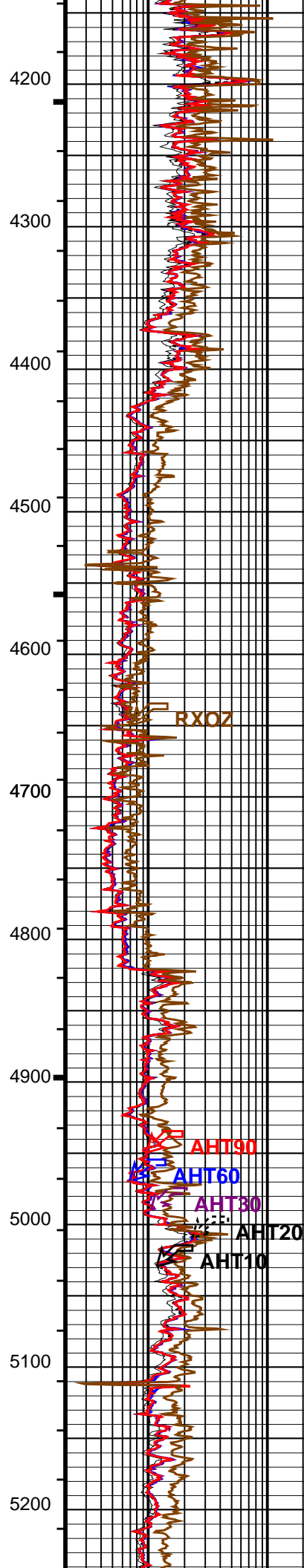
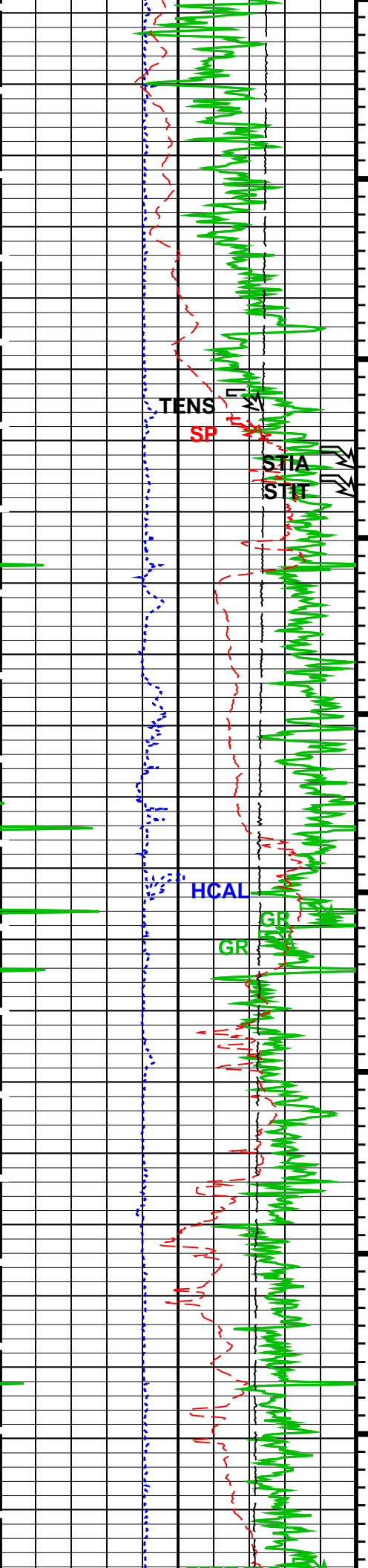


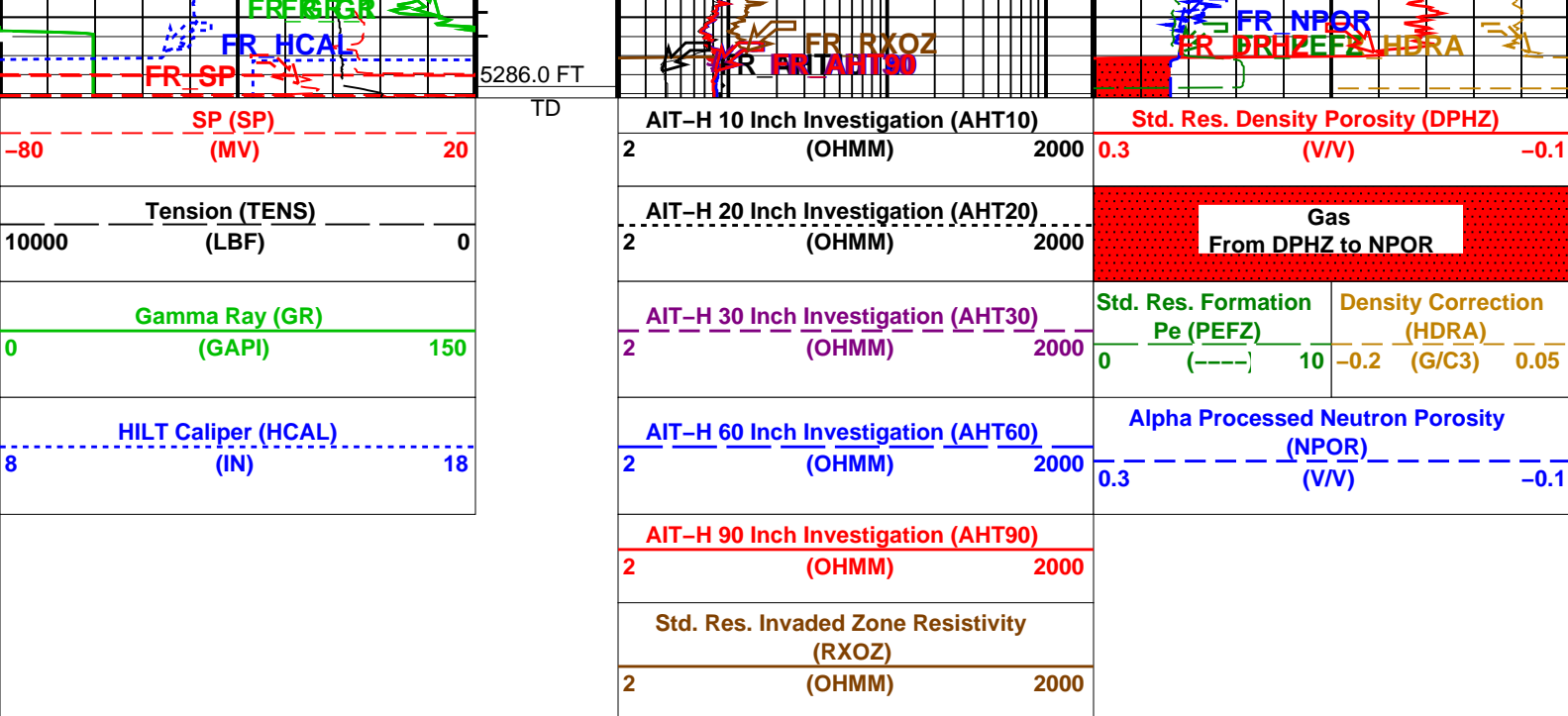













PIP SUMMARY						
└ Integrated Hole Volume Minor Pip Every 10 F3						
└ Integrated Hole Volume Major Pip Every 100 F3						
└ Integrated Cement Volume Minor Pip Every 10 F3						
└ Integrated Cement Volume Major Pip Every 100 F3						
Time Mark Every 60 S						

Format: TCOMBO\_S1 Vertical Scale: 1" per 100' Graphics File Created: 20-Sep-2010 00:37

OP System Version: 17C0-154						
HAIT-H	17C0-154	HILTH-FTB			17C0-154	
DTC-H	17C0-154					
Input DLIS Files						
DEFAULT	AIT_TLD_MCFL_CNL_012LUP	FN:11	PRODUCER	19-Sep-2010 22:49	5292.0 FT	87.2 FT
Output DLIS Files						
DEFAULT	AIT_TLD_MCFL_CNL_018PUP	FN:17	PRODUCER	20-Sep-2010 00:37		



**MAIN PASS**  
5" = 100'

MAXIS Field Log

Company: SG INTERESTS I. LTD. Well: COW SKULL 11-89-18 #1

Input DLIS Files						
DEFAULT	AIT_TLD_MCFL_CNL_012LUP	FN:11	PRODUCER	19-Sep-2010 22:49	5292.0 FT	87.2 FT
Output DLIS Files						
DEFAULT	AIT_TLD_MCFL_CNL_018PUP	FN:17	PRODUCER	20-Sep-2010 00:37	5292.0 FT	87.5 FT

# Integrated Hole/Cement Volume Summary

Hole Volume = 3941.36 F3

Cement Volume = 1493.60 F3 (assuming 9.63 IN casing O.D.)

Computed from 5286.0 FT to 442.0 FT using data channel(s) HCAL

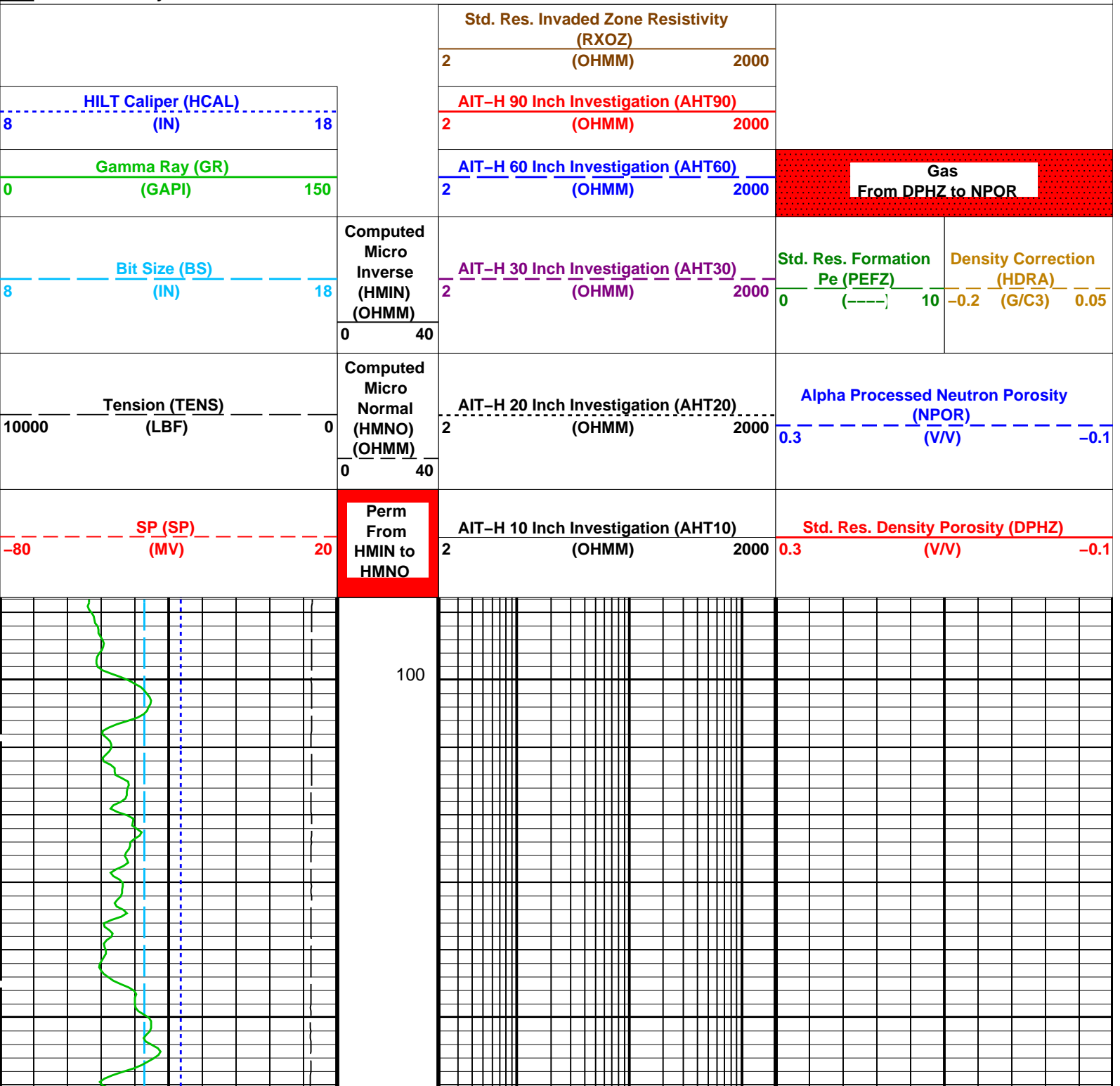
## OP System Version: 17C0-154

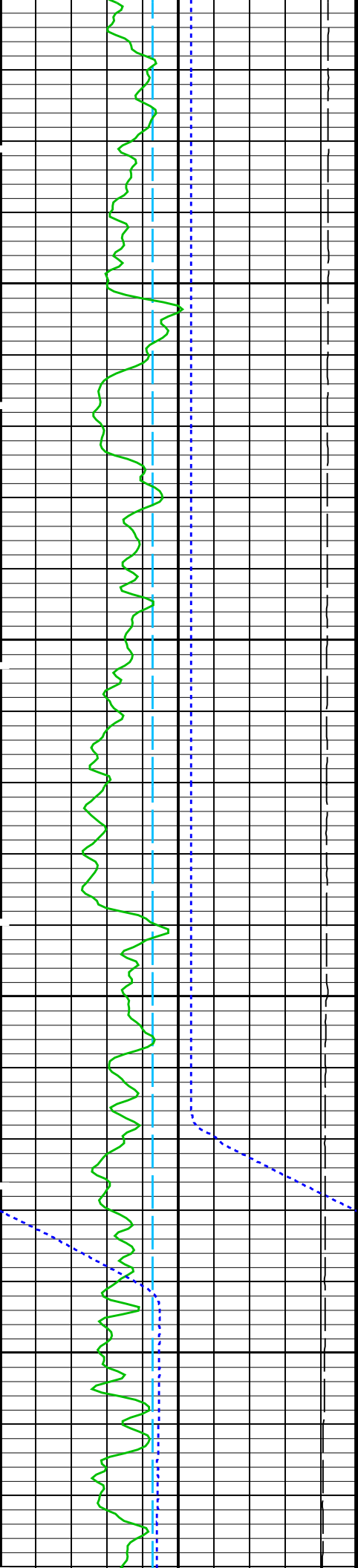
HAIT-H 17C0-154 HILTH-FTB 17C0-154  
DTC-H 17C0-154

### PIP SUMMARY

- └ Integrated Hole Volume Minor Pip Every 10 F3
- └ Integrated Hole Volume Major Pip Every 100 F3
  - └ Integrated Cement Volume Minor Pip Every 10 F3
  - └ Integrated Cement Volume Major Pip Every 100 F3

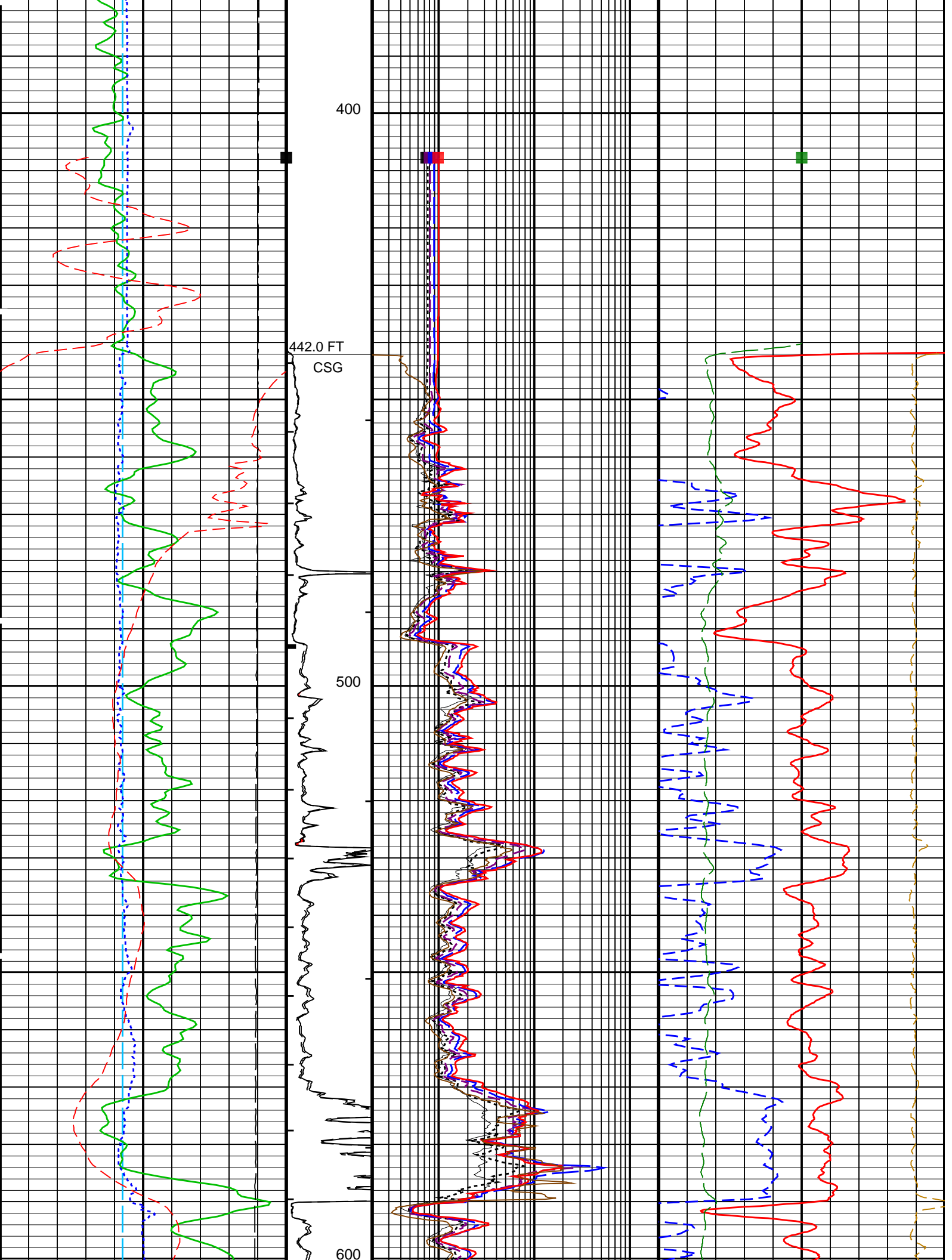
Time Mark Every 60 S

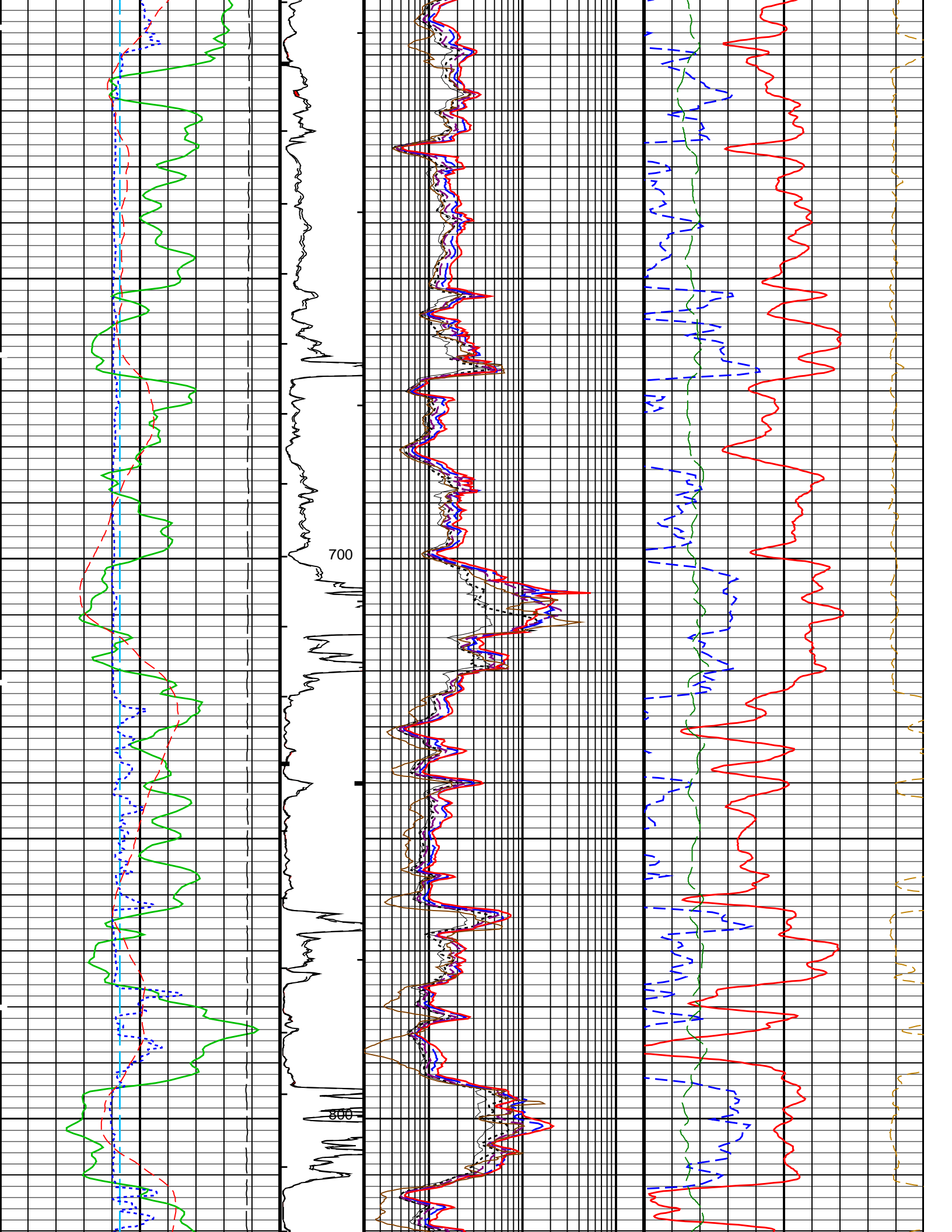




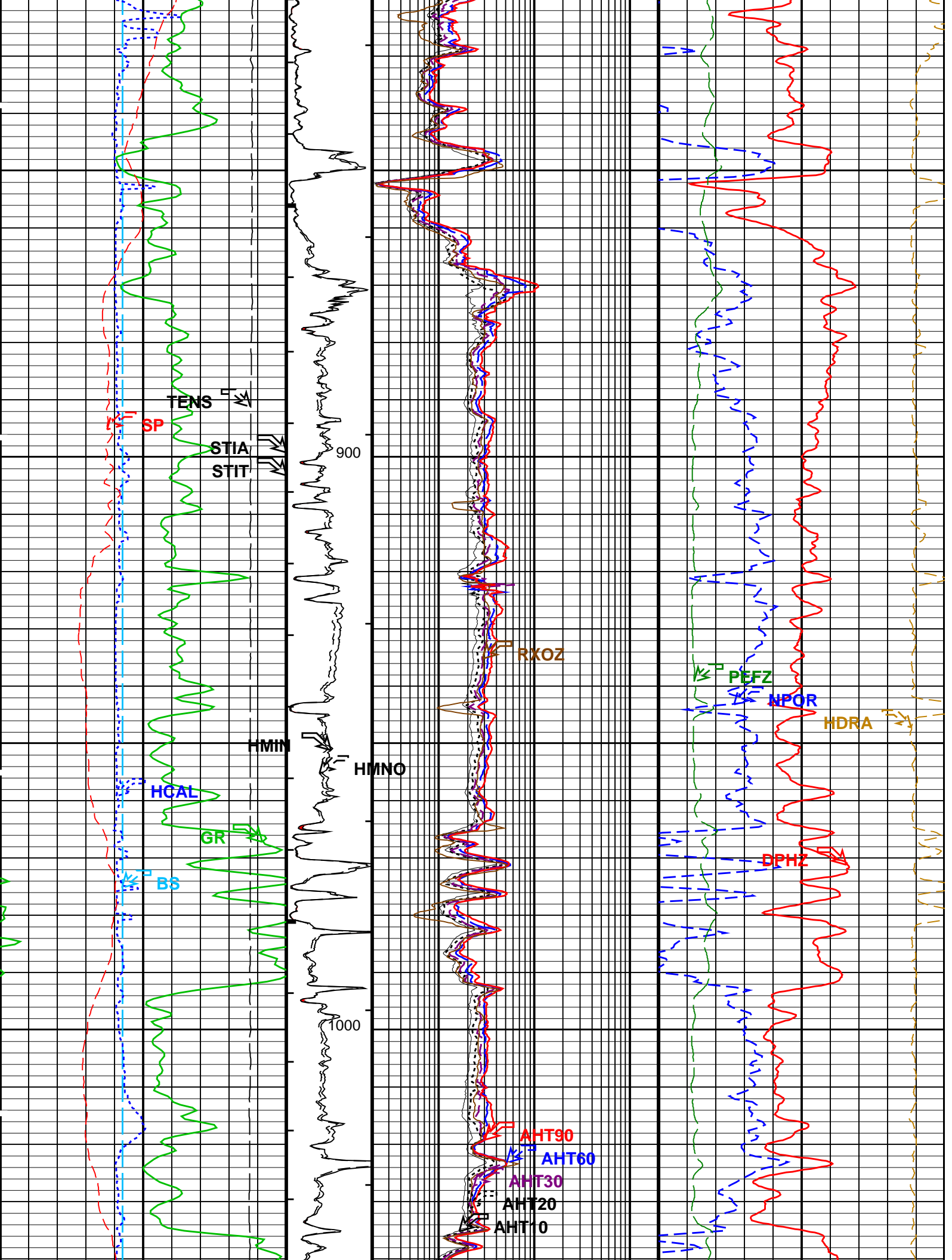
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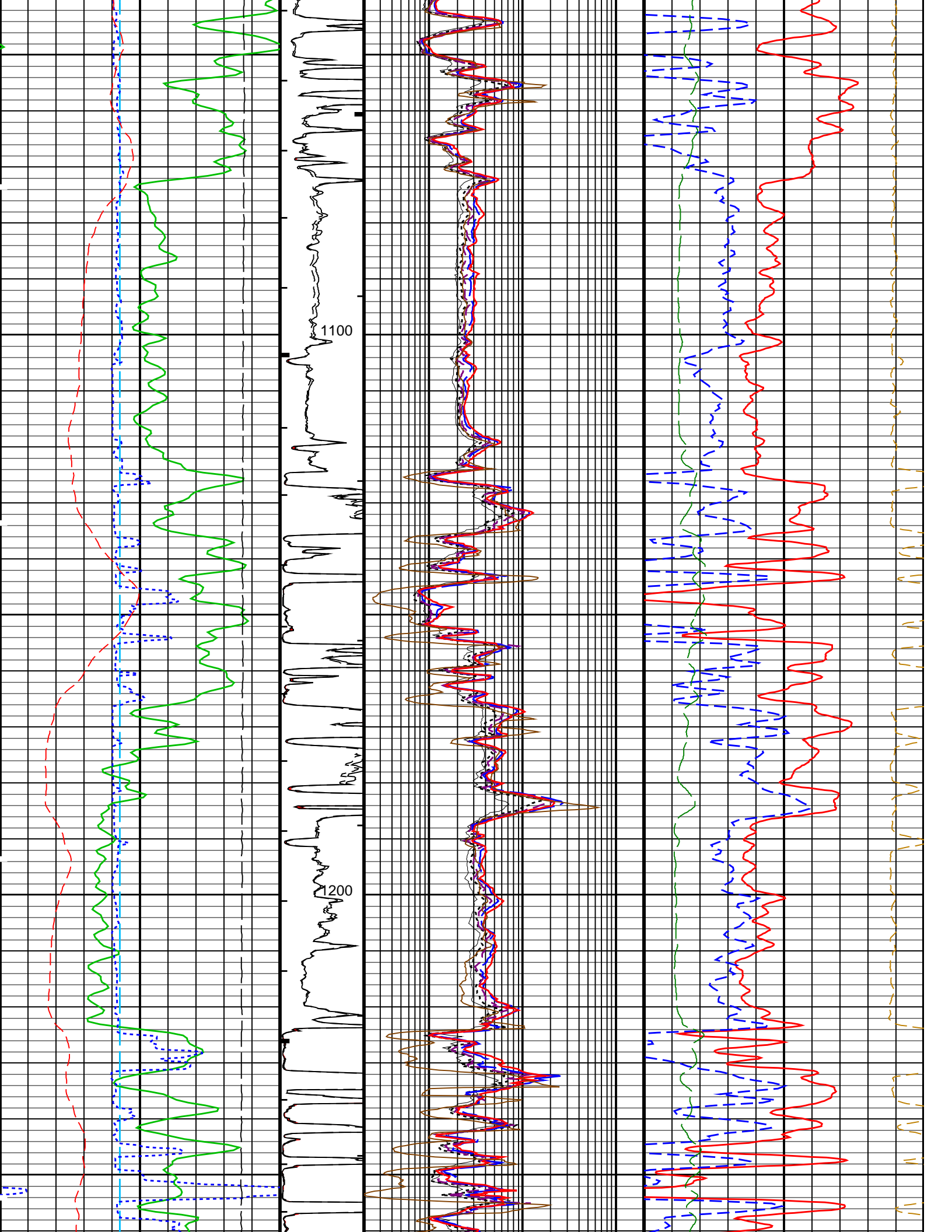
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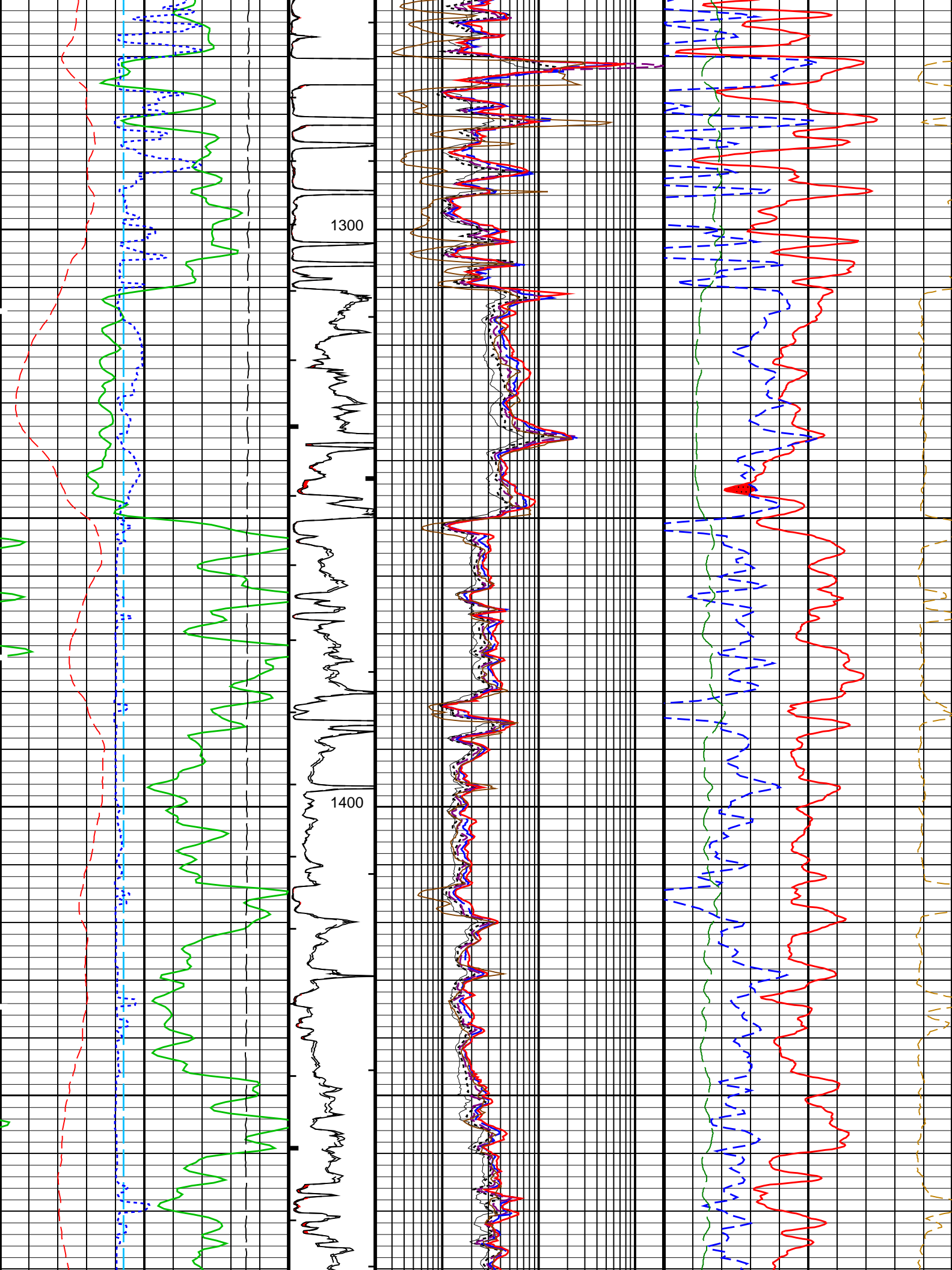


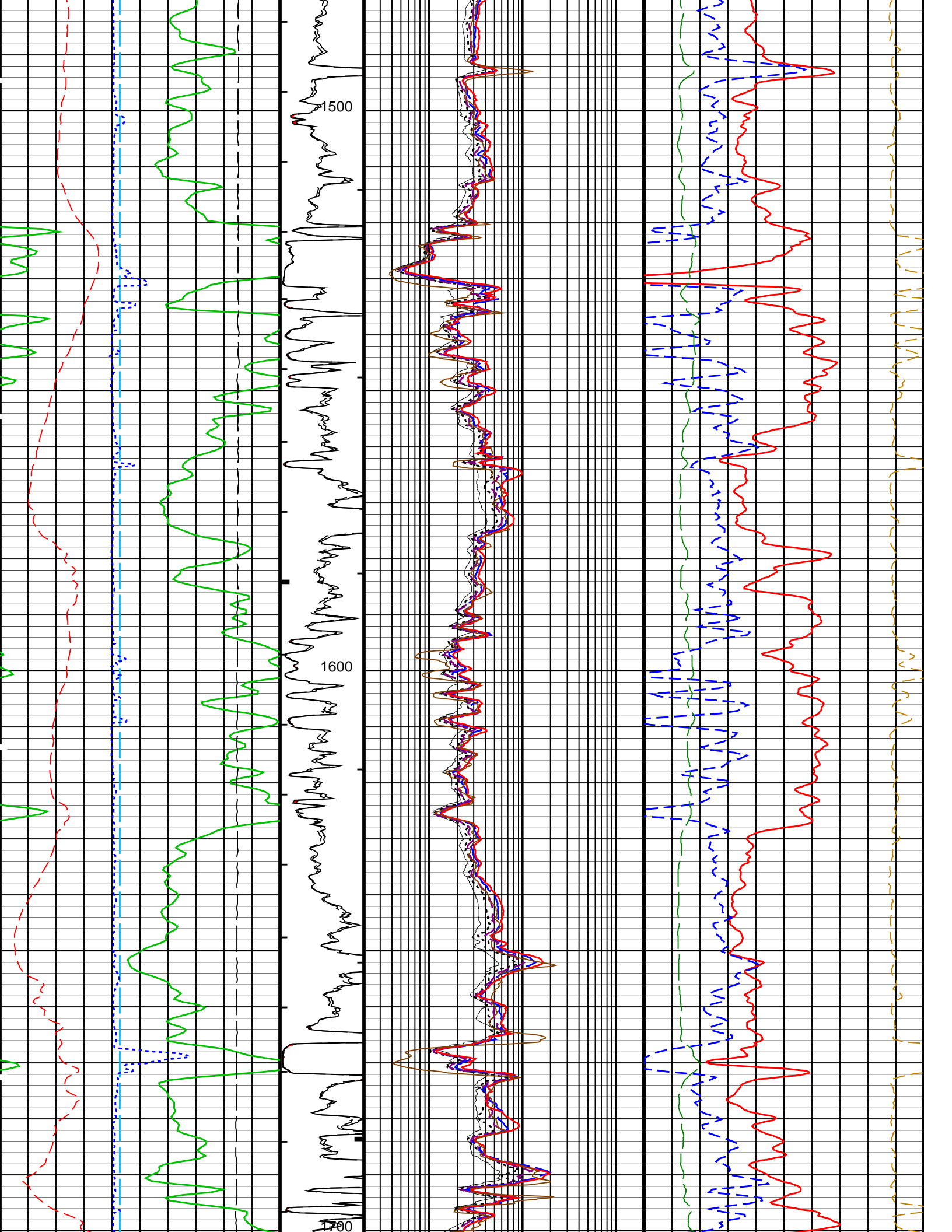


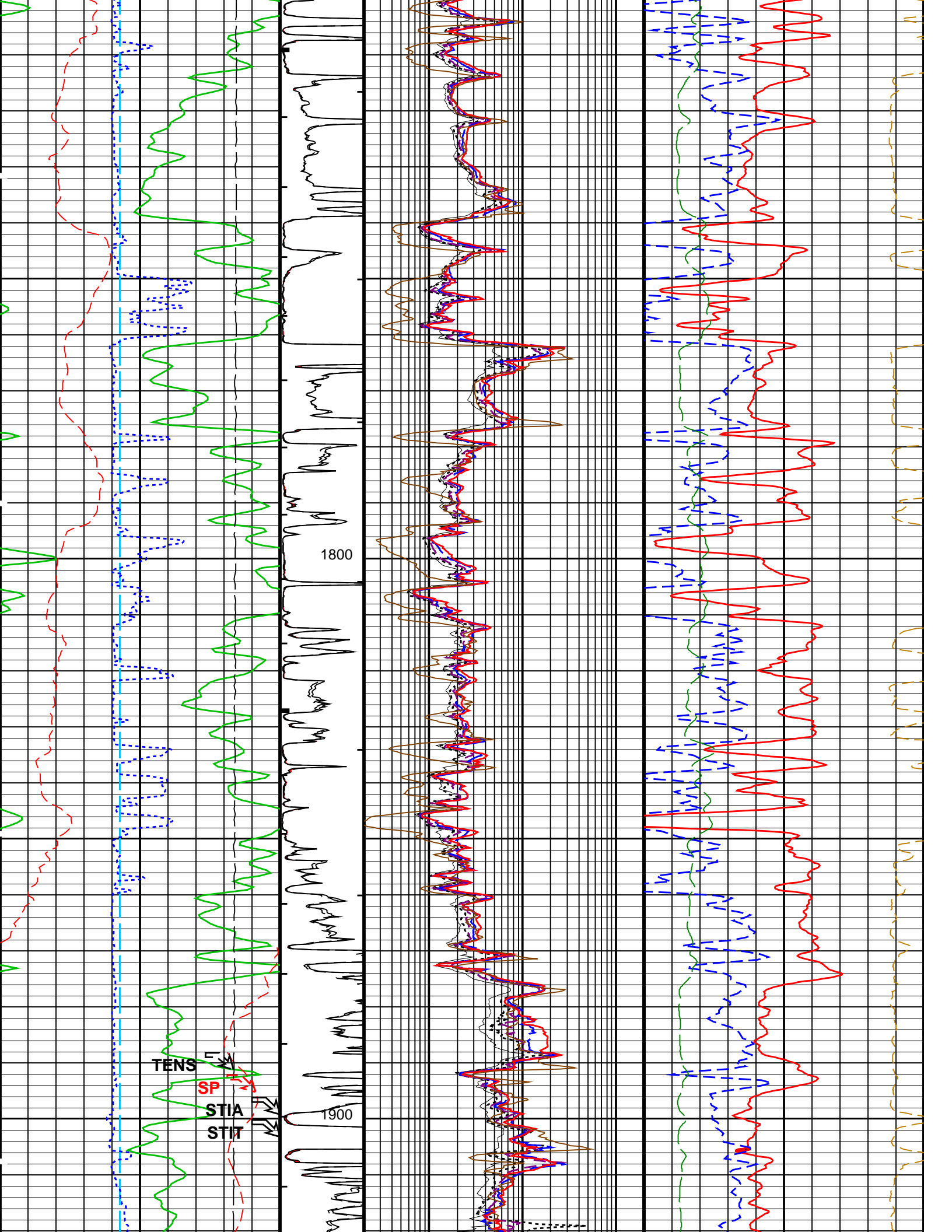


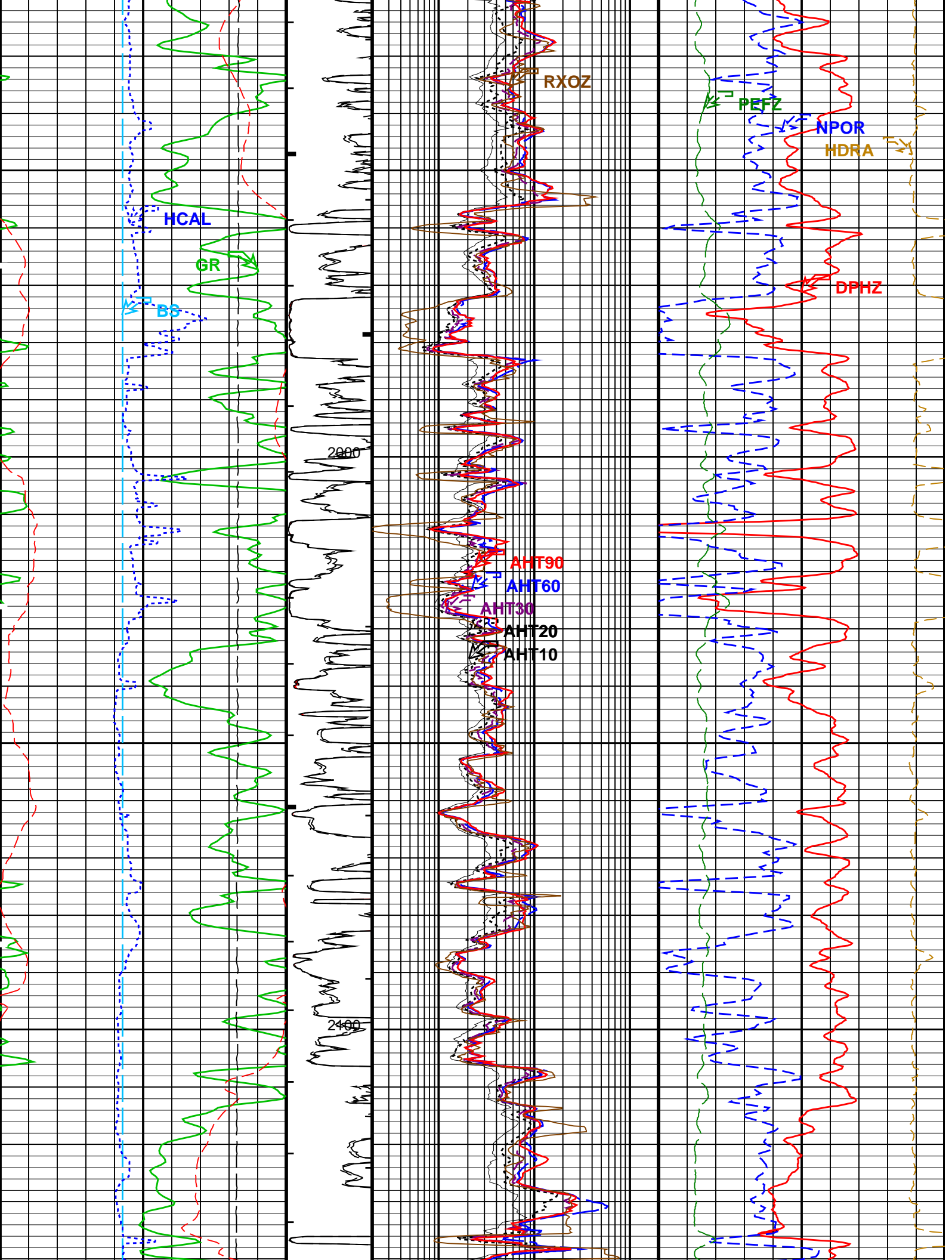




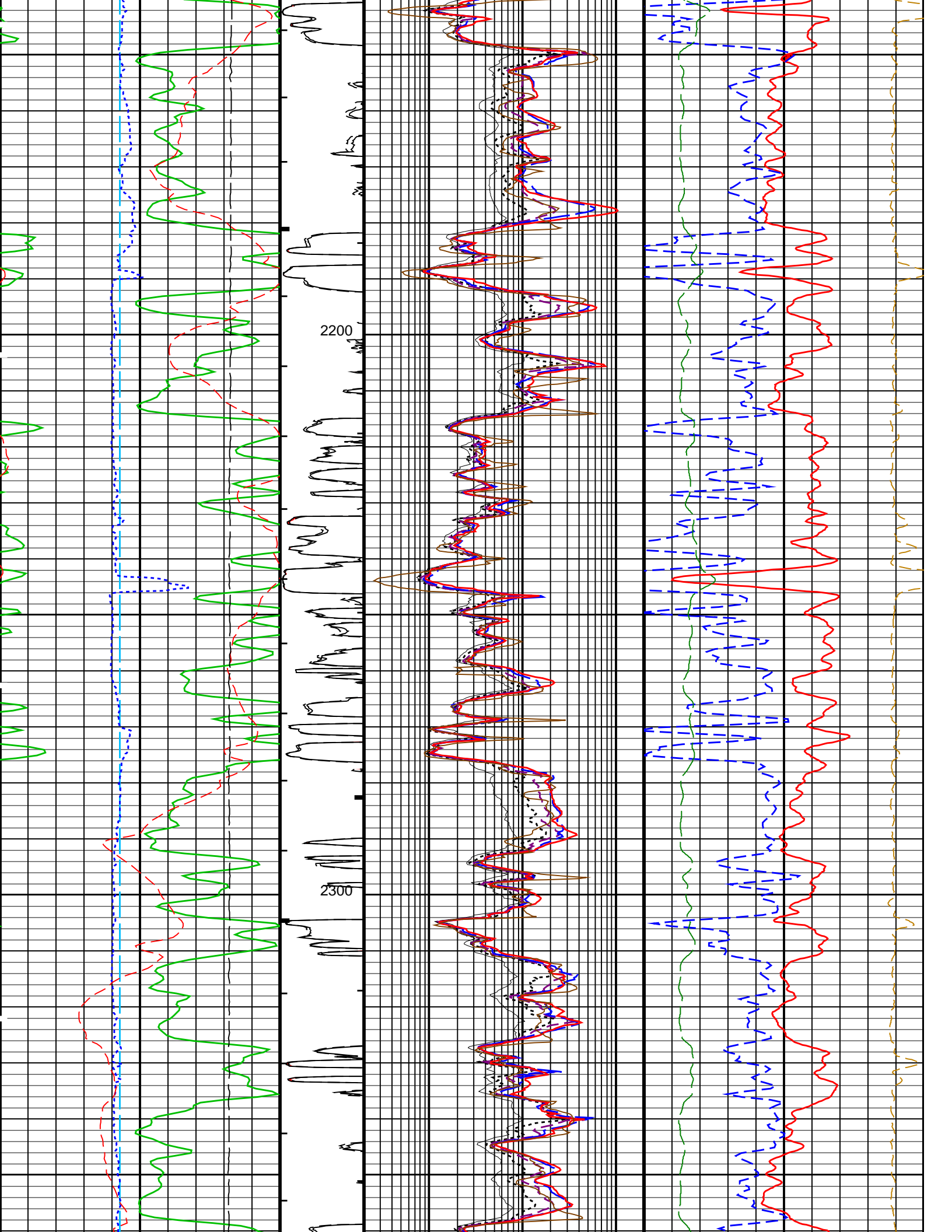


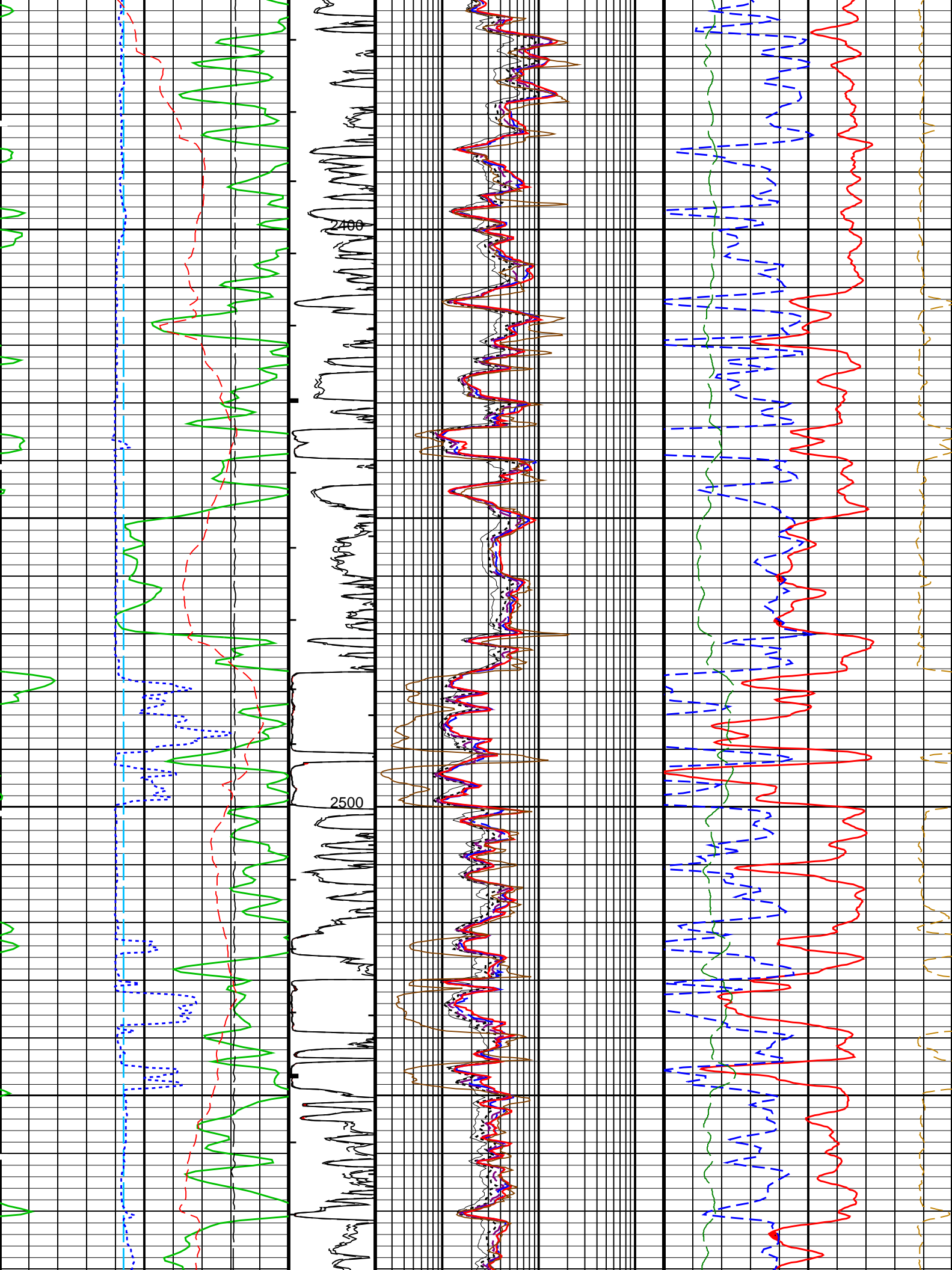


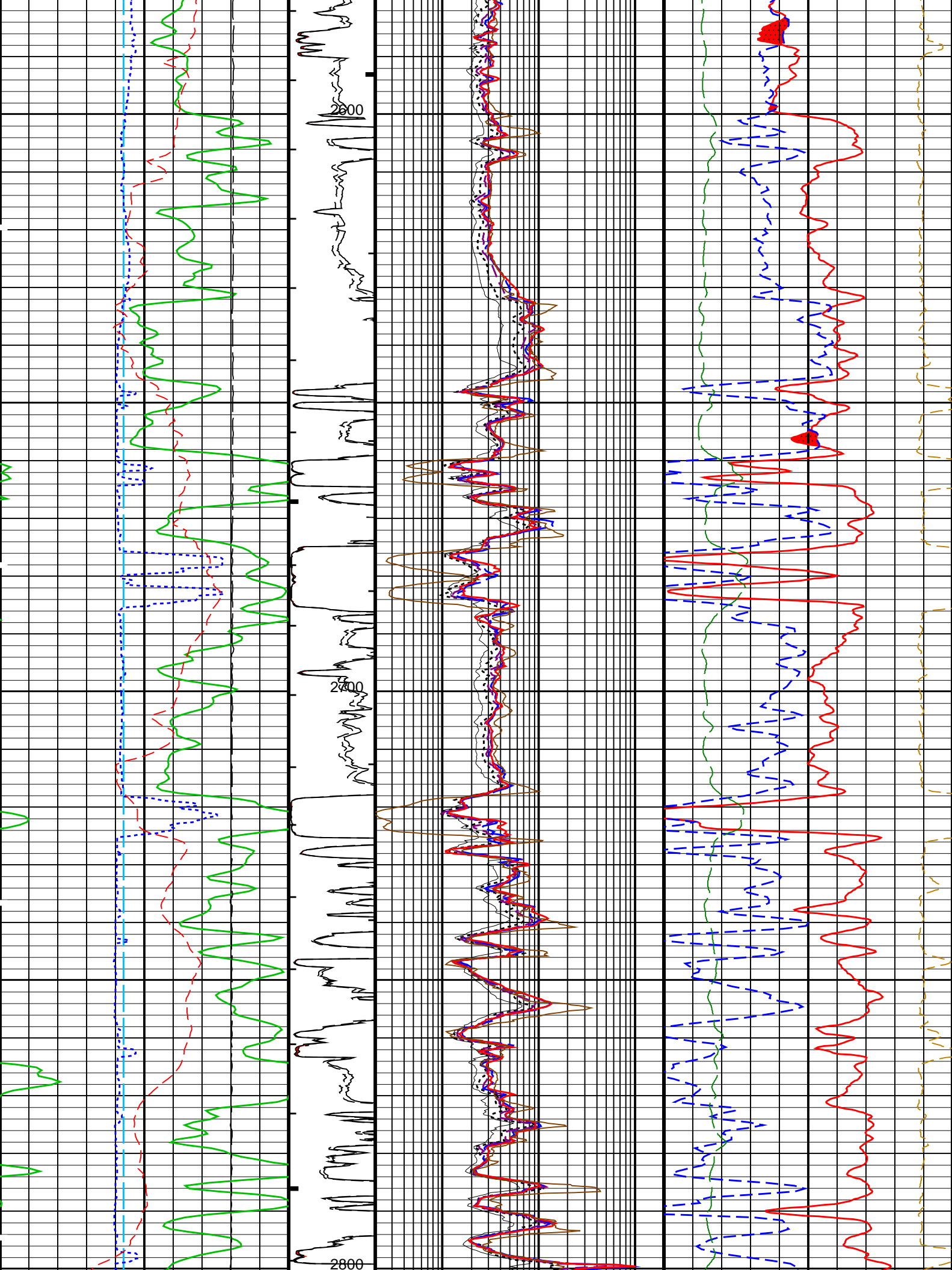


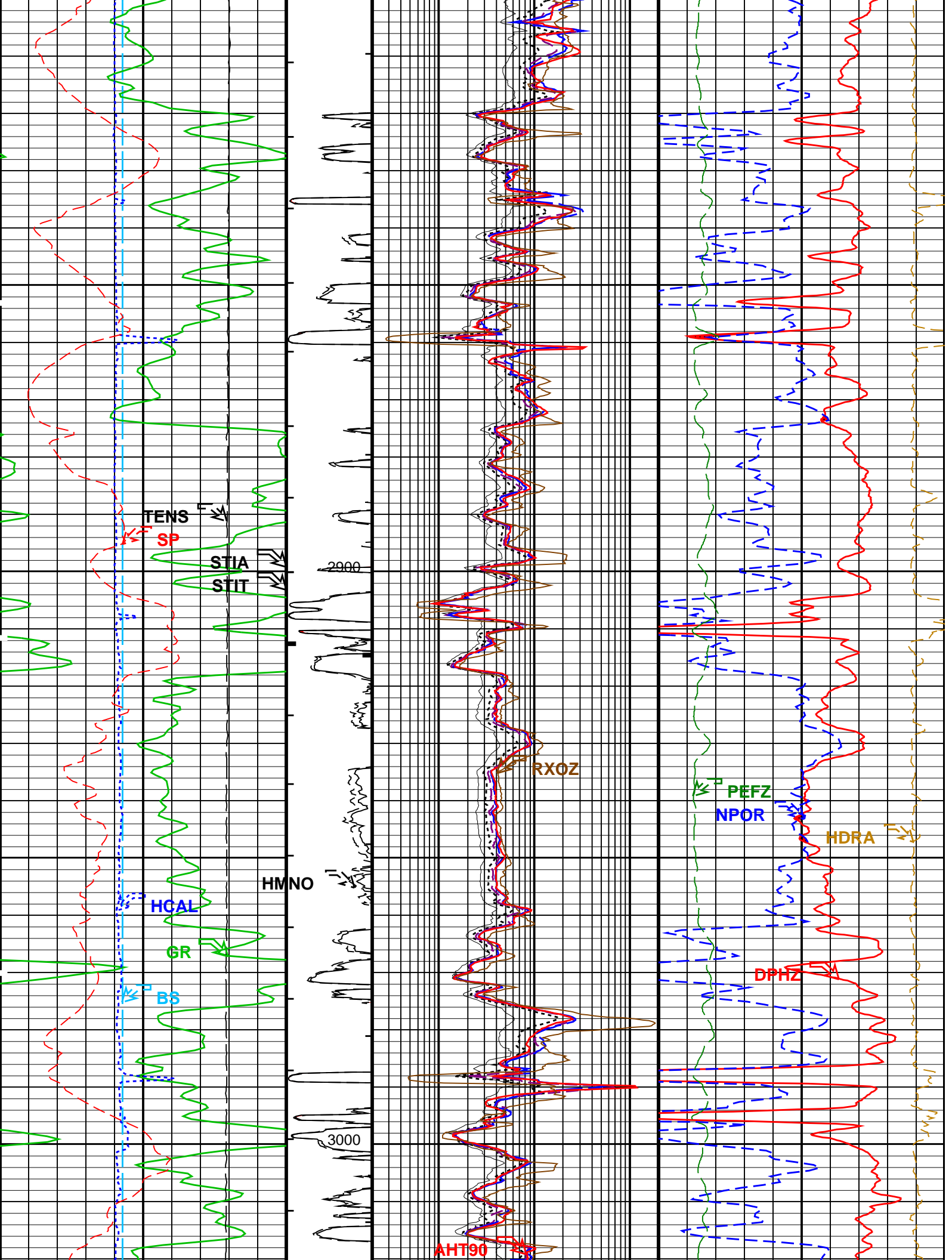


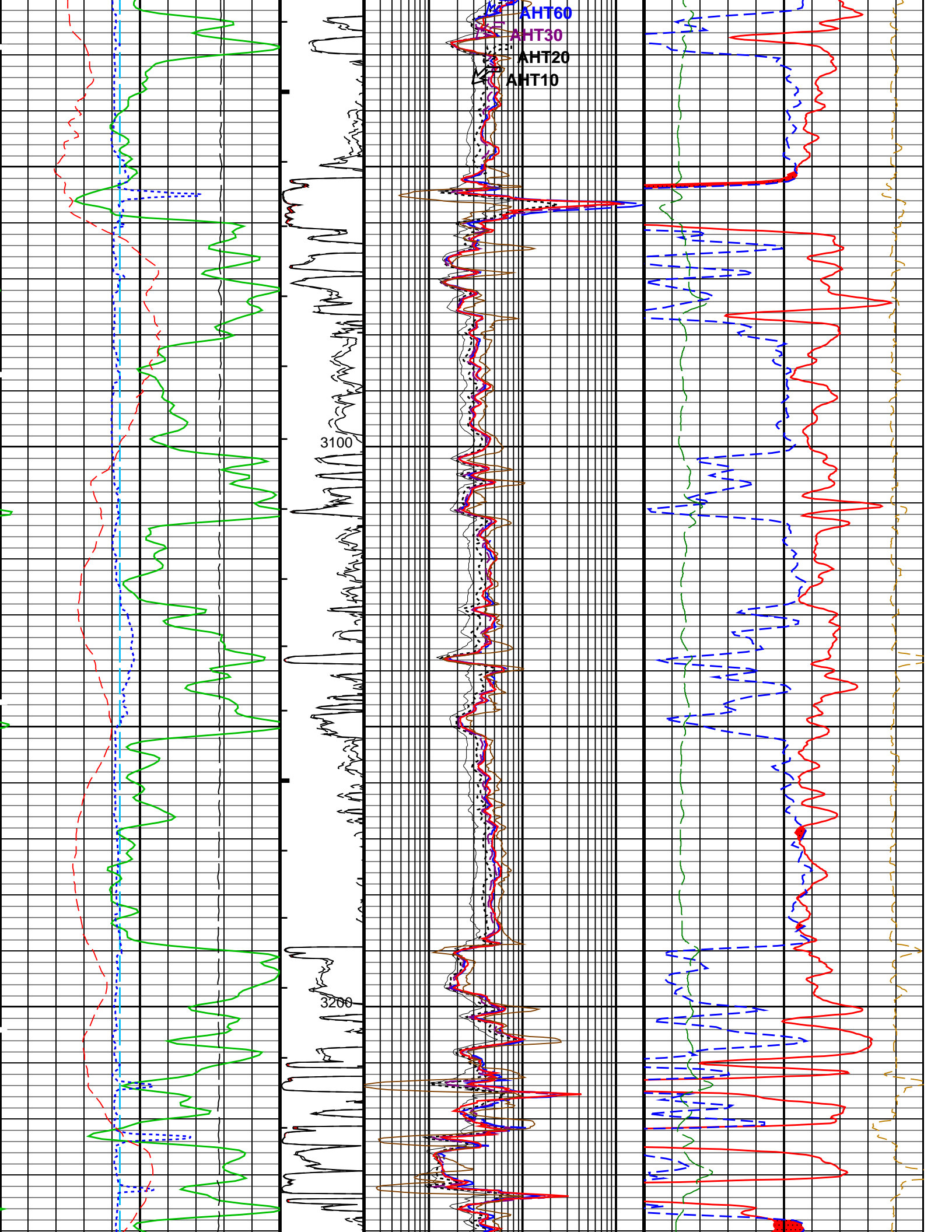


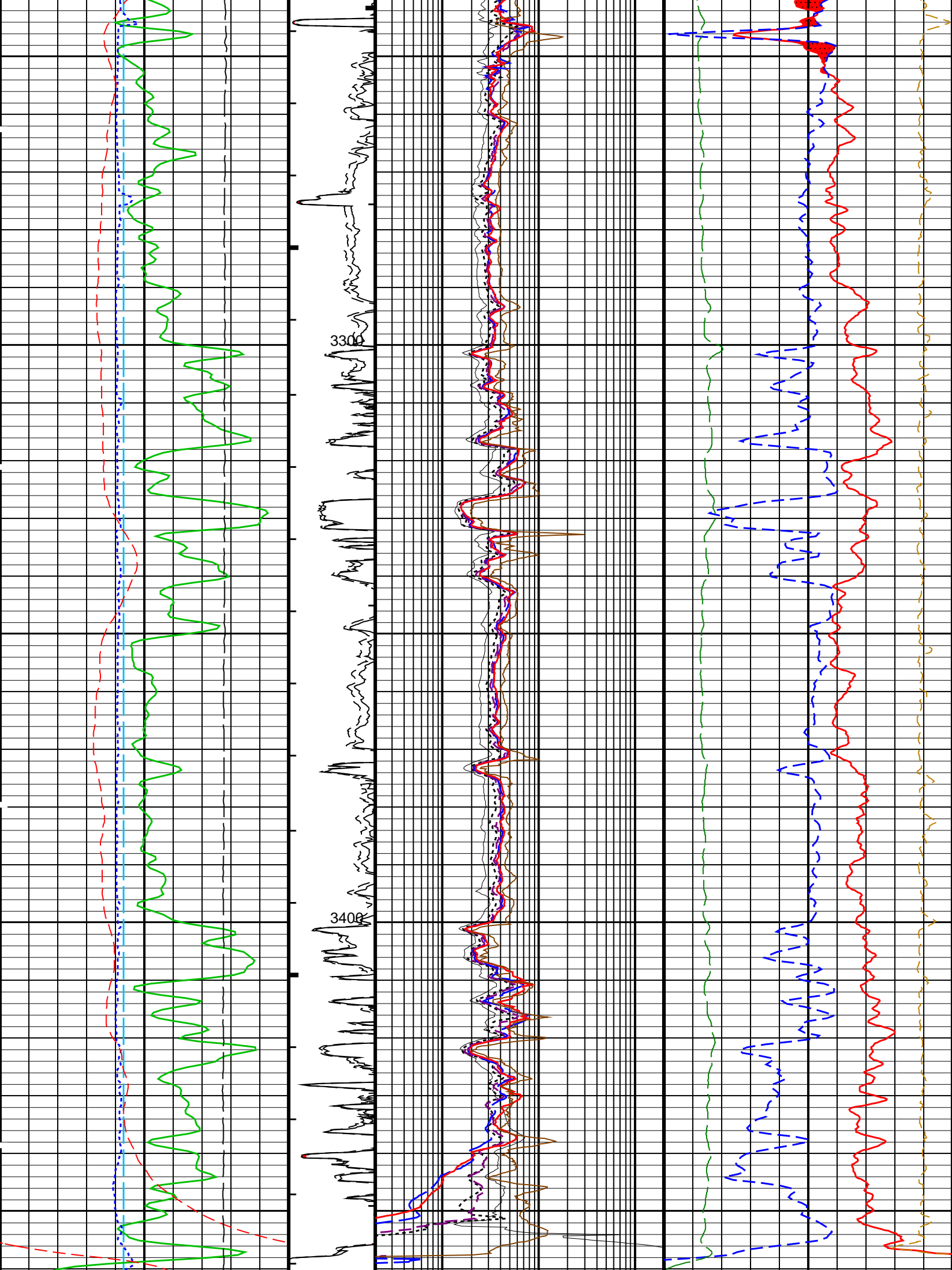




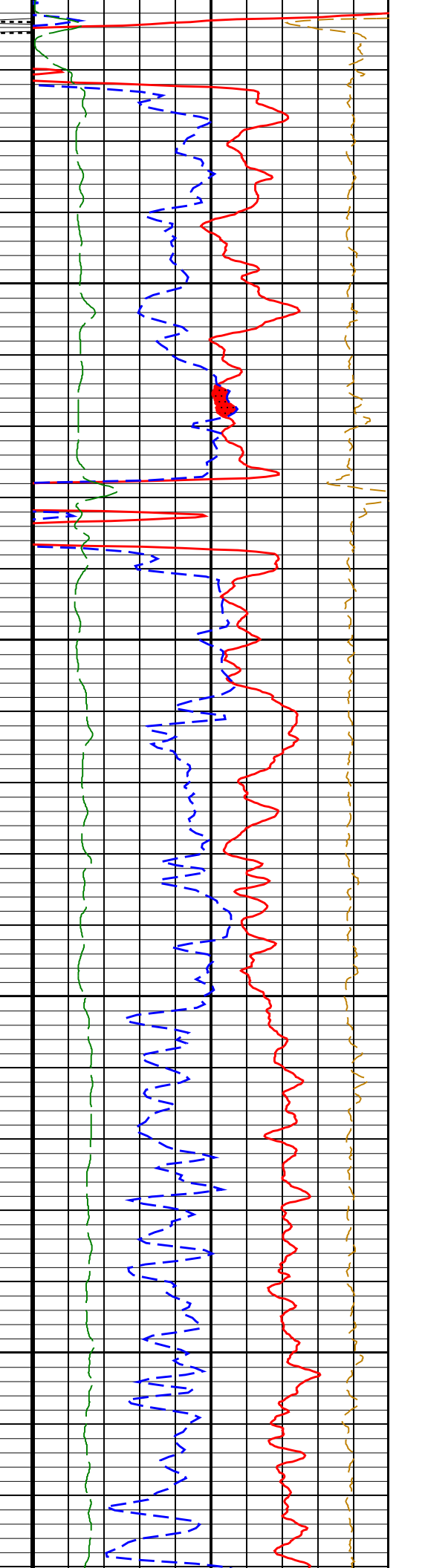
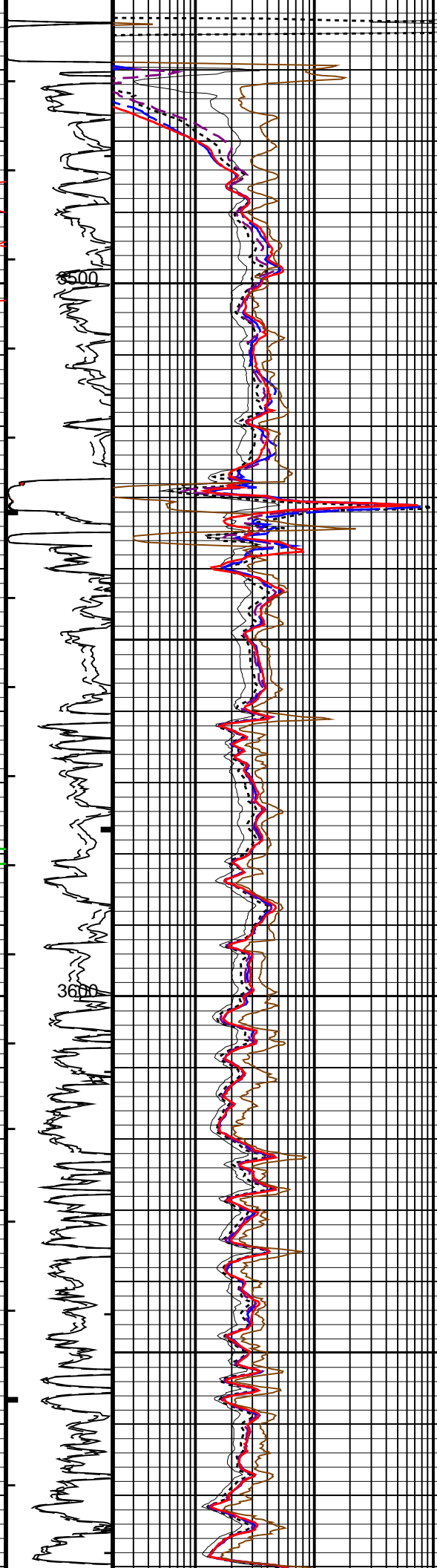
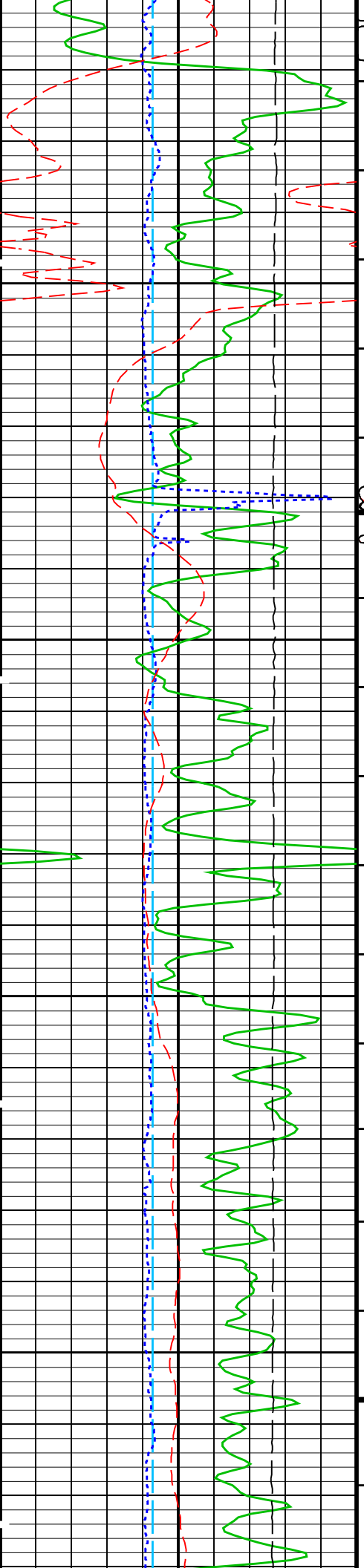


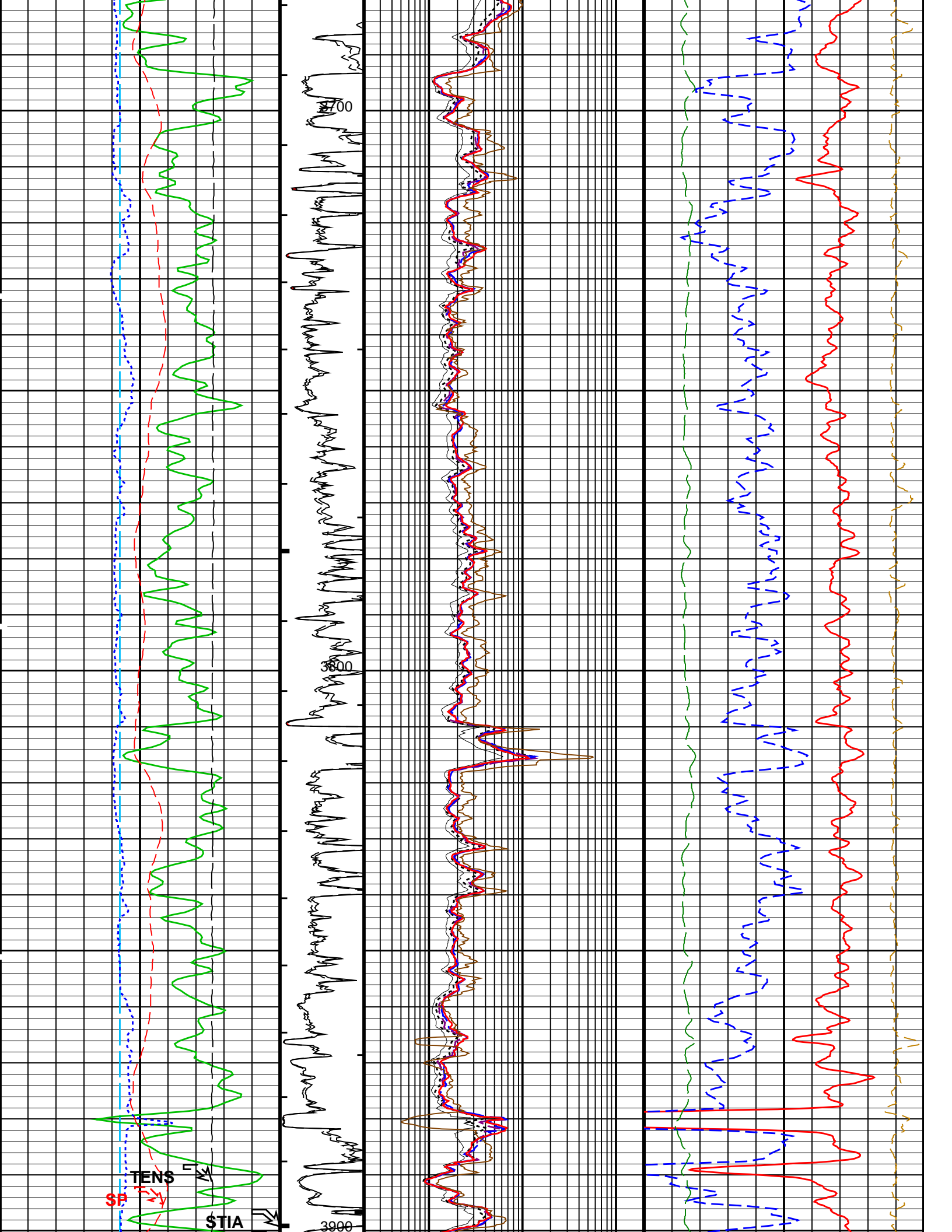


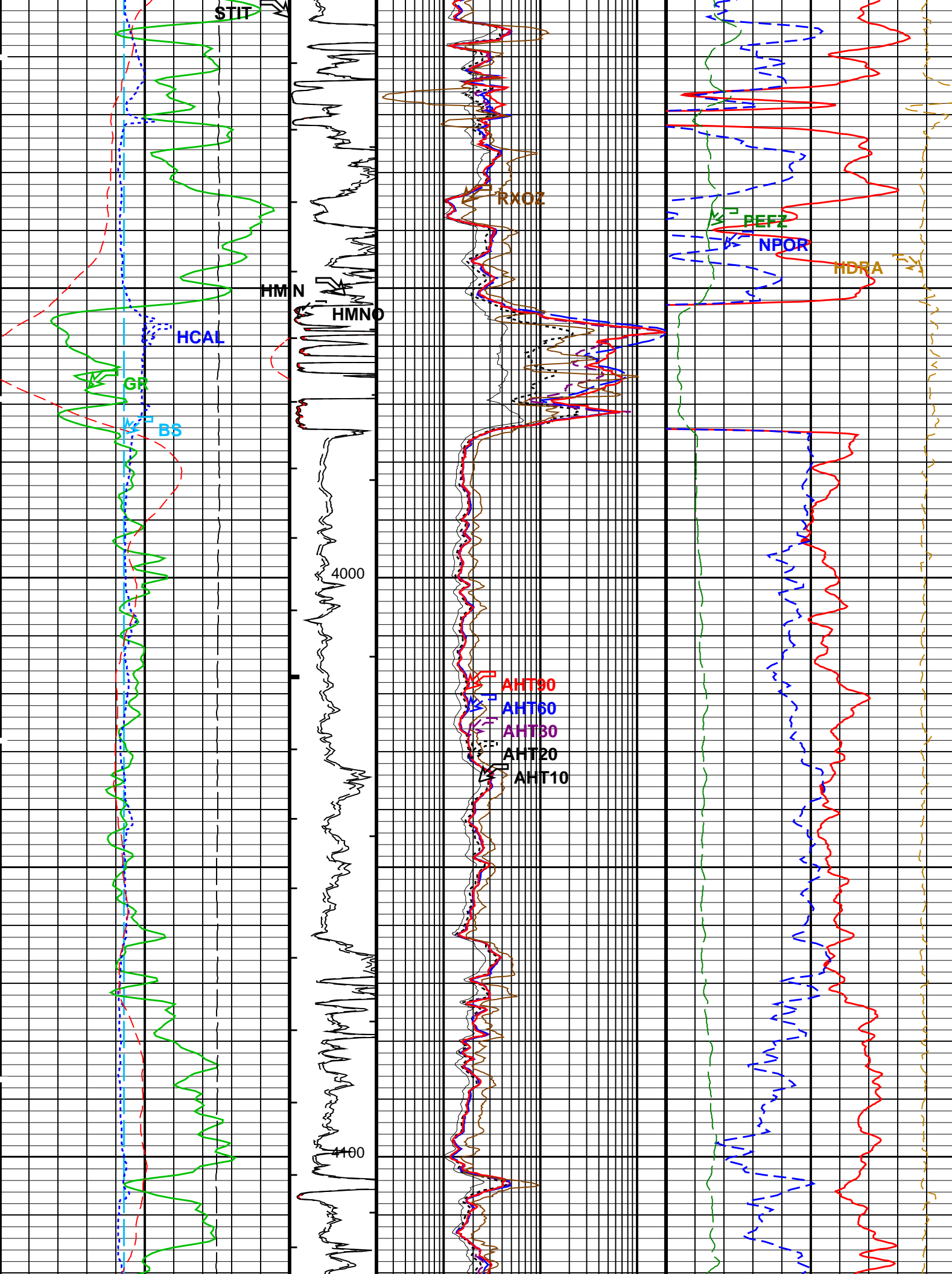


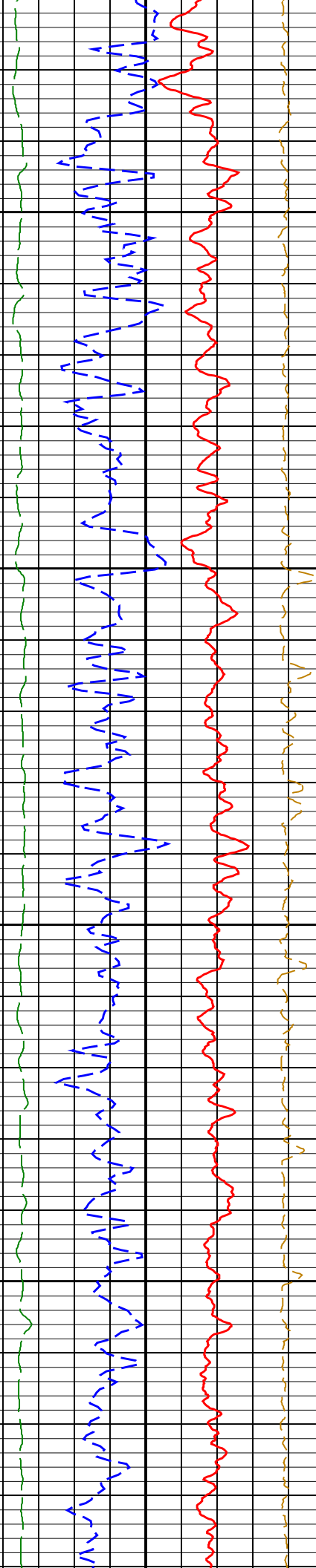
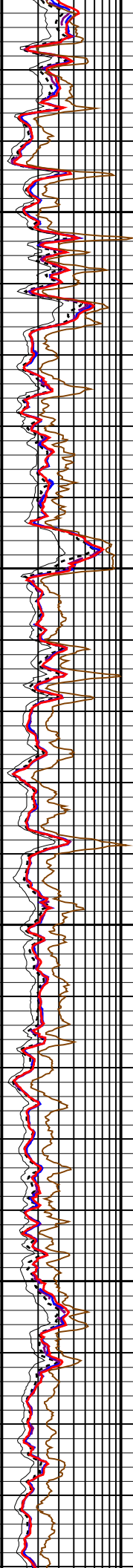
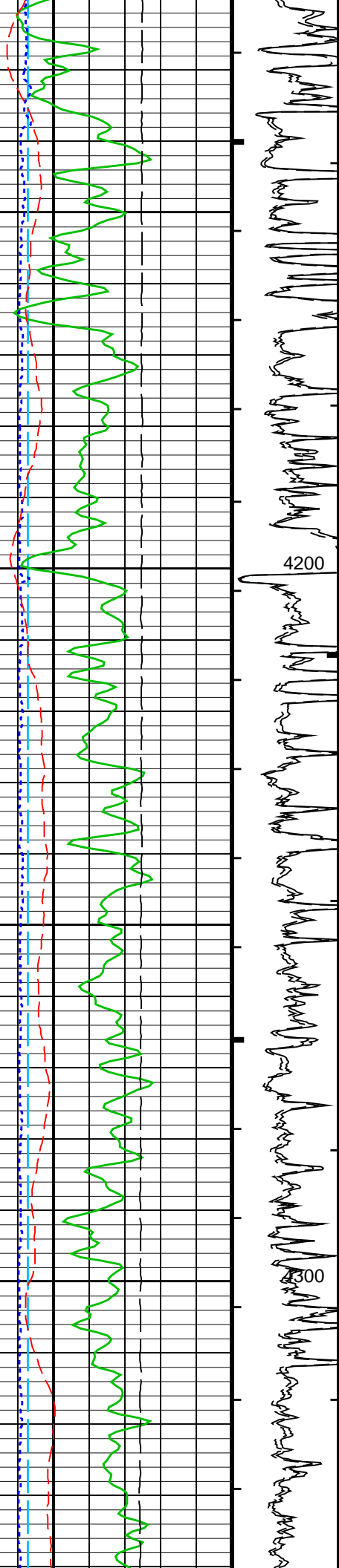


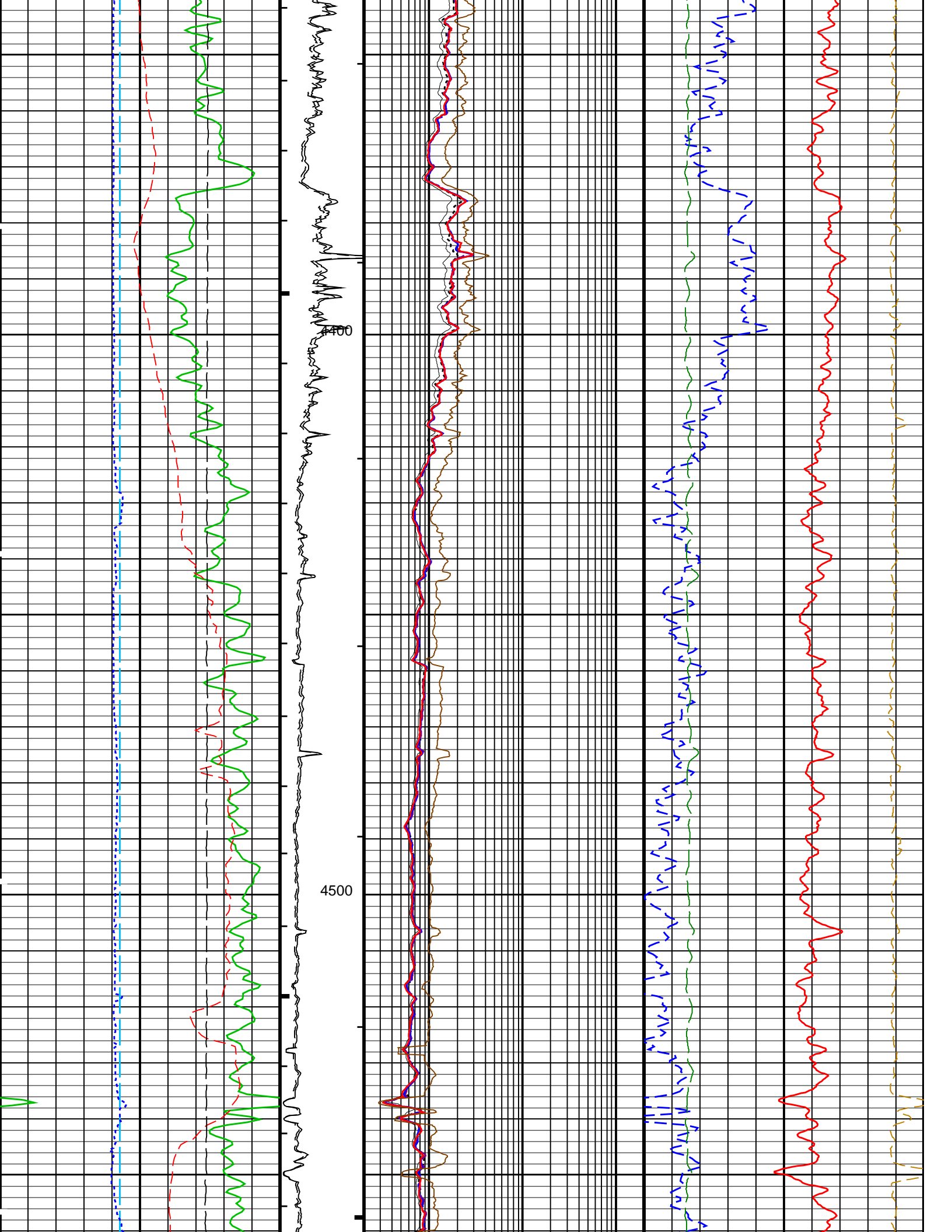


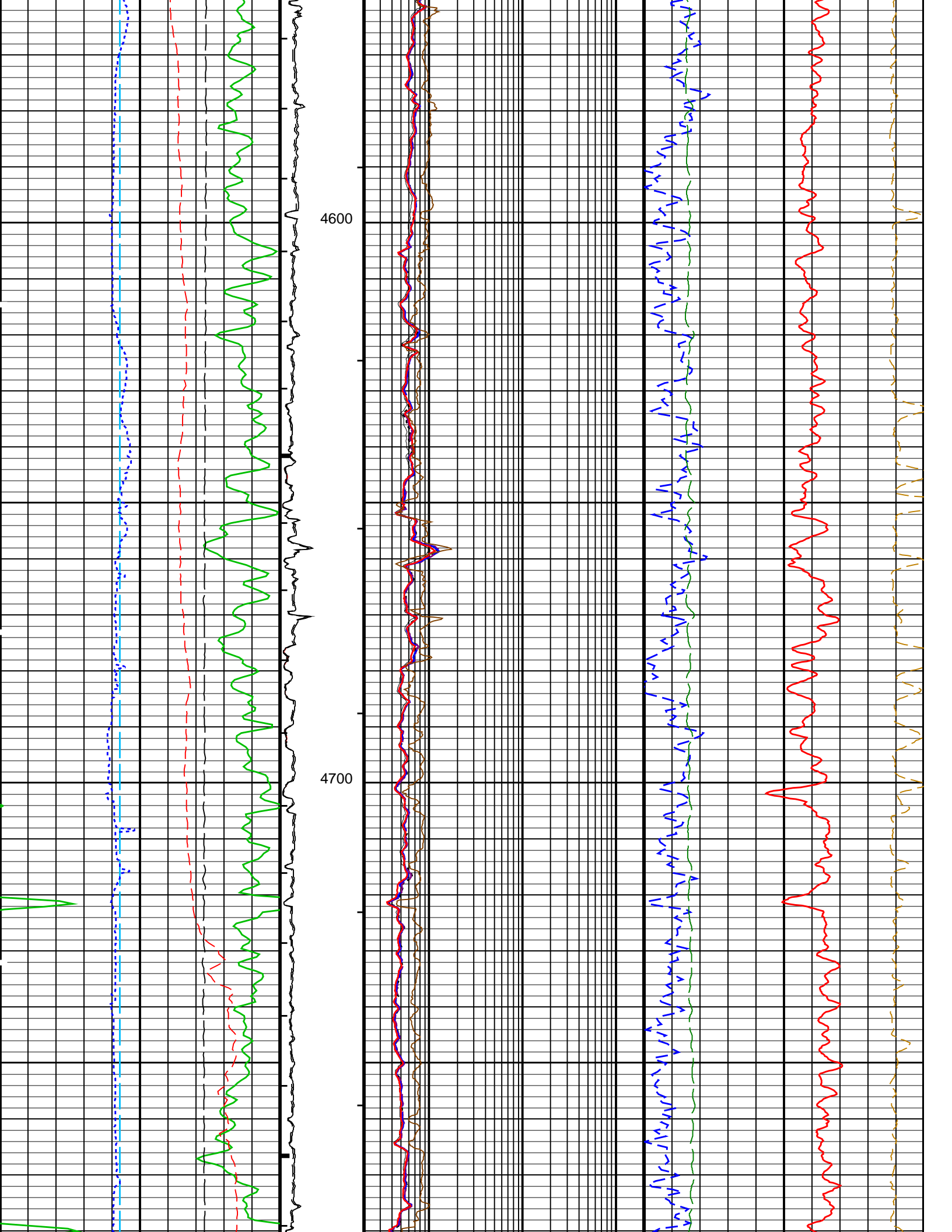




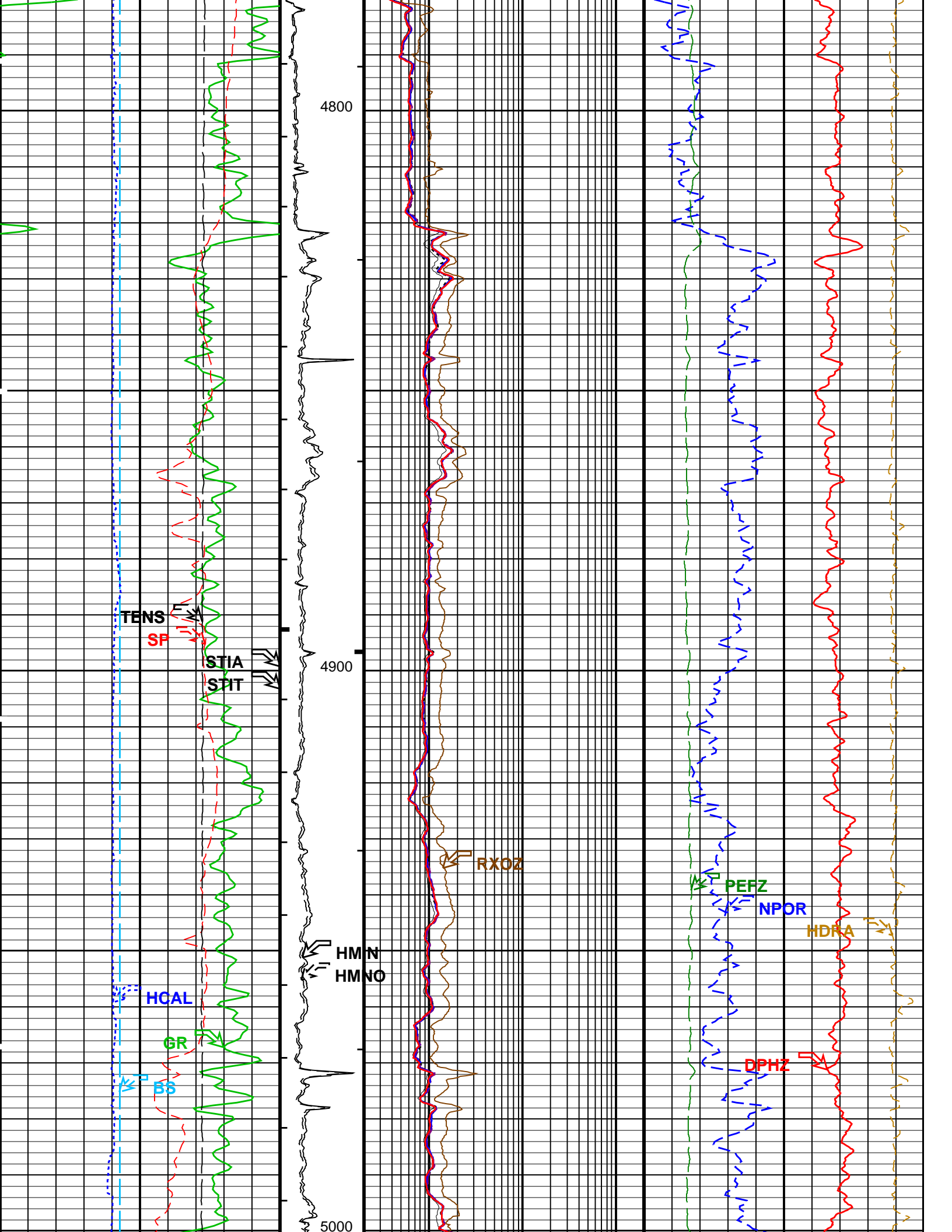


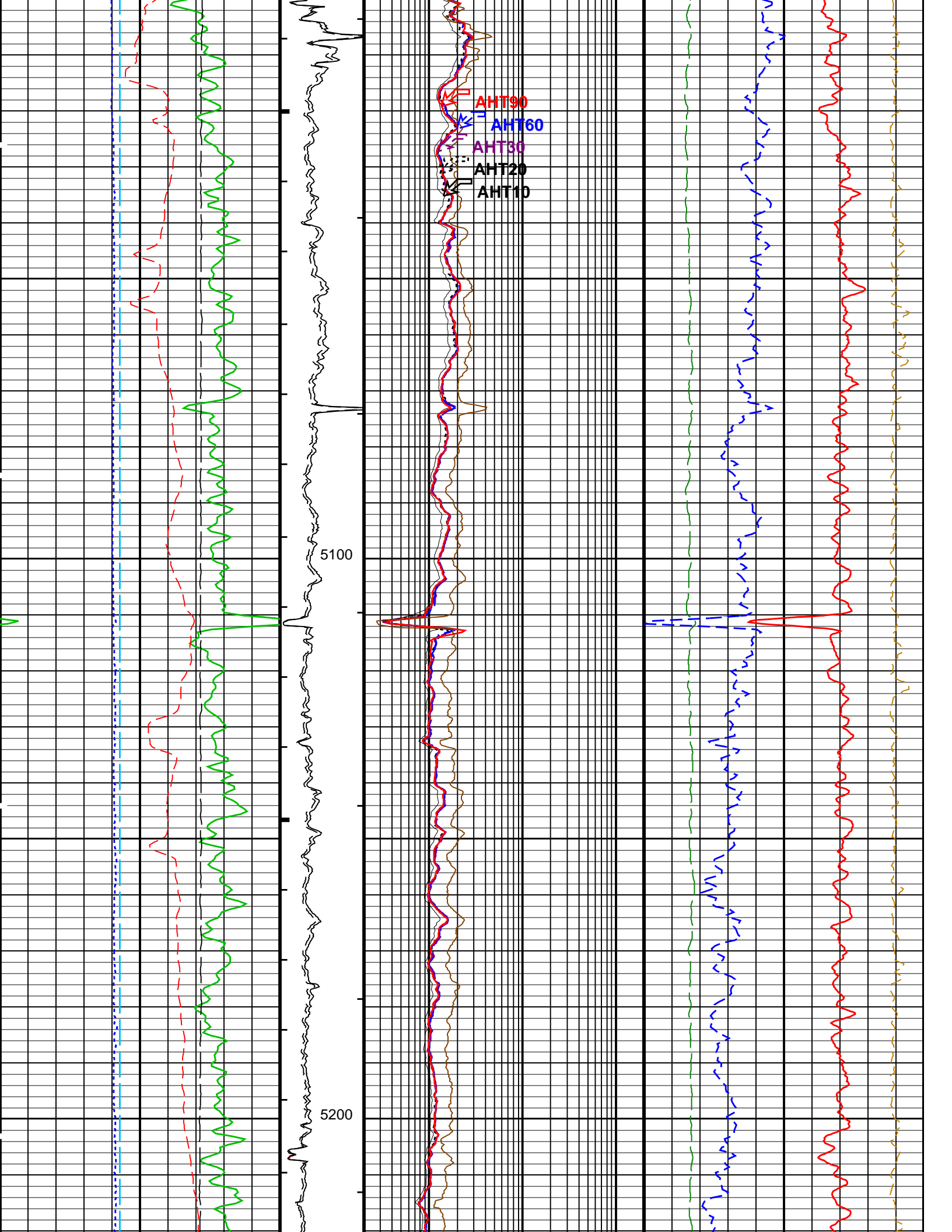


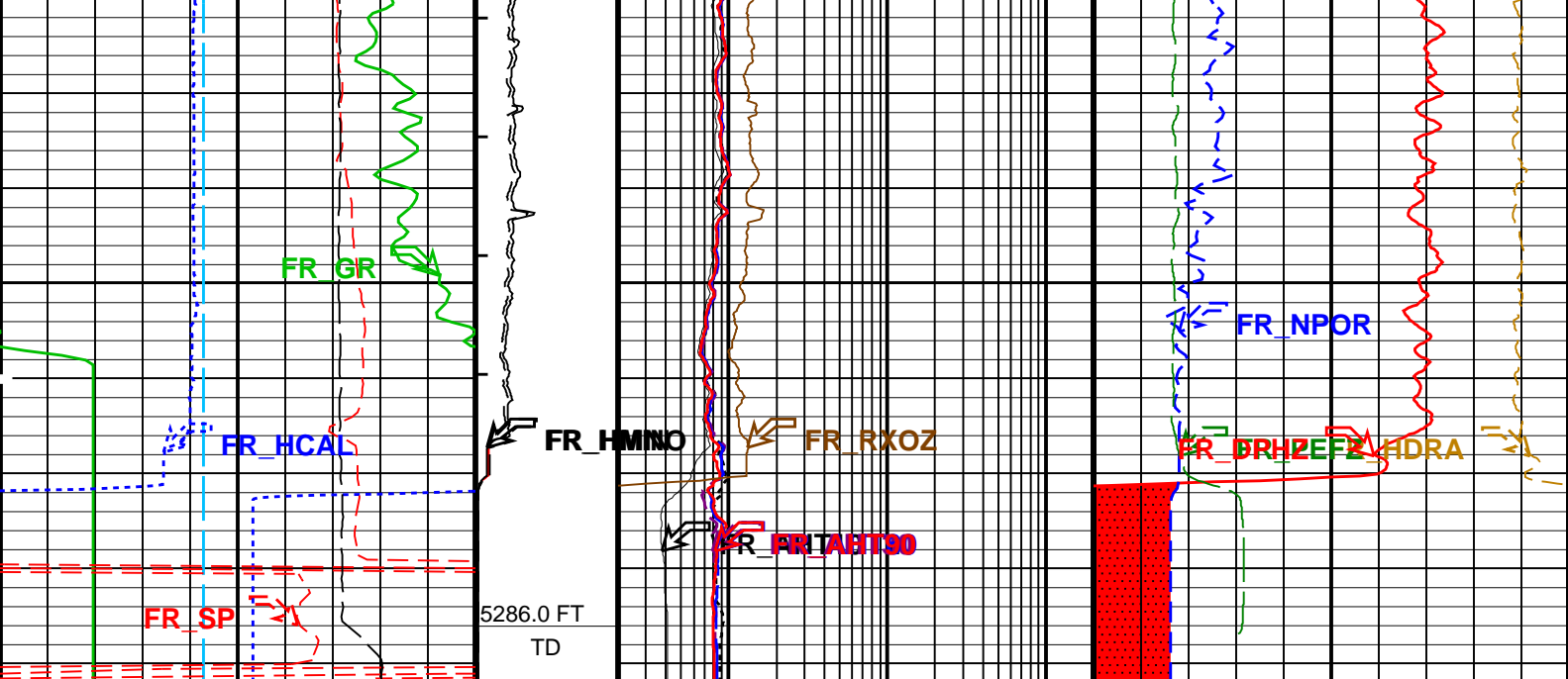












<div>SP (SP) (MV)</div> <div>-80 20</div>	<div>Perm From HMIN to HMNO</div>	<div>AIT-H 10 Inch Investigation (AHT10) (OHMM)</div> <div>2 2000</div>	<div>Std. Res. Density Porosity (DPHZ) (V/V)</div> <div>0.3 -0.1</div>
<div>Tension (TENS) (LBF)</div> <div>10000 0</div>	<div>Computed Micro Normal (HMNO) (OHMM)</div> <div>0 40</div>	<div>AIT-H 20 Inch Investigation (AHT20) (OHMM)</div> <div>2 2000</div>	<div>Alpha Processed Neutron Porosity (NPOR) (V/V)</div> <div>0.3 -0.1</div>
<div>Bit Size (BS) (IN)</div> <div>8 18</div>	<div>Computed Micro Inverse (HMIN) (OHMM)</div> <div>0 40</div>	<div>AIT-H 30 Inch Investigation (AHT30) (OHMM)</div> <div>2 2000</div>	<div>Std. Res. Formation Pe (PEFZ) (-----)</div> <div>0 10</div> <div>Density Correction (HDRA) (G/C3)</div> <div>-0.2 0.05</div>
<div>Gamma Ray (GR) (GAPI)</div> <div>0 150</div>		<div>AIT-H 60 Inch Investigation (AHT60) (OHMM)</div> <div>2 2000</div>	<div>Gas From DPHZ to NPOR</div>
<div>HILT Caliper (HCAL) (IN)</div> <div>8 18</div>		<div>AIT-H 90 Inch Investigation (AHT90) (OHMM)</div> <div>2 2000</div>	
		<div>Std. Res. Invaded Zone Resistivity (RXOZ) (OHMM)</div> <div>2 2000</div>	

#### PIP SUMMARY

- └ Integrated Hole Volume Minor Pip Every 10 F3
- └ Integrated Hole Volume Major Pip Every 100 F3
- └ Integrated Cement Volume Minor Pip Every 10 F3
- └ Integrated Cement Volume Major Pip Every 100 F3

Time Mark Every 60 S

### Parameters

DLIS Name	Description	Value
HAIT-H: Array Induction Tool - H		
AHAPL	Array Induction Answer Product Level(Depth Log/View only)	
	3_BholeCorr_BasicLogs_Radial_Processing	
AHBHM	Array Induction Borehole Correction Mode	2_ComputeStandoff
AHBHV	Array Induction Borehole Correction Code Version Number	900
AHBLM	Array Induction Basic Logs Mode	6_One_Two_and_Four
AHBLV	Array Induction Basic Logs Code Version Number	223
AHCDE	Array Induction Casing Detection Enable	Yes
AHCEN	Array Induction Tool Centering Flag (in Borehole)	Eccentered
AHDITM	Array Induction Desired Tool Mode	0x00 Log 000

AHEBC	Array Induction Enable Borehole Correction	Yes	
AHEBL	Array Induction Enable Basic Logs	Yes	
AHERP	Array Induction Enable Radial Processing	Yes	
AHETP	Array Induction Enable Sonde Error Temp&Pres Corr	Yes	
AHFRSV	Array Induction Response Set Version for Four ft Resolution	41.70.24.20	
AHIGS	Array Induction Select Akima Interpolation Gating	On	
AHLNV	Array Induction Log Not Valid Flag	Log_Valid-No_Default_Parameters	
AHMRD	Array Induction Mud Resistivity Calibration Depth	0	FT
AHMRF	Array Induction Mud Resistivity Factor	1	
AHORSV	Array Induction Response Set Version for One ft Resolution	41.70.24.20	
AHRFV	Array Induction Radial Profiling Code Version Number	701	
AHRPM	Array Induction Radial Processing Mode	6_One_Two_and_Four	
AHRPV	Array Induction Radial Parametrization Code Version Number	232	
AHSTA	Array Induction Tool Standoff	0.5	IN
AHTNO	Array Induction Tool Serial Number	392	
AHTRSV	Array Induction Response Set Version for Two ft Resolution	41.70.24.20	
AHTSE	Array Induction Temperature Selection (Sonde Error Correction)	Internal	
AHTTY	Array Induction Tool Type (of acquired data)	HAIT	
AHULV	Array Induction User Level Control	Normal	
ARTS	AIT Rt Selection (for ALLRES computation)	AITH_TwoResA90	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	146	DEGF
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
FPHI	Form Factor Porosity Source	DPHZ	
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	AITH_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
ISSBAR	Barite Mud Switch	NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
RTCO	RTCO - Rt Invasion Correction	YES	
SHT	Surface Hole Temperature	68	DEGF
SPNV	SP Next Value	0	MV
HILTH-FTB: High resolution Integrated Logging Tool-DTS			
BHFL	Borehole Fluid Type	WATER	
BHFL_TLD	HILT Nuclear Mud Base	WATER	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	146	DEGF
BSCO	Borehole Salinity Correction Option	NO	
CCCO	Casing & Cement Thickness Correction Option	NO	
DHC	Density Hole Correction	BS	
DPPM	Density Porosity Processing Mode	HIRS	
EXSICL	External Shale Indicator Clean Value	20	
EXSISH	External Shale Indicator Shale Value	150	
FD	Fluid Density	1	G/C3
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
FPHI	Form Factor Porosity Source	DPHZ	
FSAL	Formation Salinity	-50000	PPM
FSCO	Formation Salinity Correction Option	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	AITH_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
HACPP	Accelerometer PROM Presence	PRESENT_FILE	
HART	Accelerometer Reference Temperature	77	DEGF
HDCOD	HILT Density Coal detection	2	G/C3
HDSAD	HILT Density Salt detection	2.1	G/C3
HILT_GAS_DENSITY	HILT Gas Downhole Density	0	G/C3
HILT_GAS_OPTION	HILT Gas Computation Option	OFF	
HNCOD	HILT Neutron Coal detection	45	PU
HNSAD	HILT Neutron Salt detection	5	PU
HPHIECUT	HILT effective Porosity Cutoff	5	PU
HSCO	Hole Size Correction Option	YES	
HSIS	HILT Shale Indicator Selection	GR	
HSSO	HRDD Nuclear Source Strength Option	NORMAL	
HSWCUT	HILT Water Saturation from AITH cutoff	50	%
ISSBAR	Barite Mud Switch	NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
MCCO	Mud Cake Correction Option	NO	
MCOR	Mud Correction	NATU	
MDEN	Matrix Density	2.68	G/C3
MHC0	MCFL B0 Contrast Correction Coefficient	2.2e-005	OHMS
MHC1	MCFL B1 Contrast Correction Coefficient	3.2e-005	OHMS
MHCC	MCFL High Contrast Correction Switch	NO	
MPOF	MCFL Processing Operation Mode	ON	
MWCO	Mud Weight Correction Option	NO	
NAAC	HRDD APS Activation Correction	OFF	
NMT	HILT Nuclear Mud Type	NOBARITE	
NPRM	HRDD Processing Mode	StdRes	
NCAR	HRDD Depth Correction Data	1	IN

NSAR	HRDD Depth Sampling Rate	NO_FILTER	1	IN
PEA_FILTER	PEA Filter	NO_FILTER	35	PU
PEFC_FILTER	PEFC Filter	NO_FILTER	NO	
PHIMAX	HILT max porosity	SOCN	2	
PTCO	Pressure/Temperature Correction Option	SOCN	68	DEGF
SDAT	Standoff Data Source	SOCN	0.125	IN
SEXP_HILT	HILT Saturation Exponent	SOCN	YES	
SHT	Surface Hole Temperature	SOCN	YES	
SOCN	Standoff Distance	SOCN	YES	
SOCO	Standoff Correction Option	SOCN	YES	
HOLEV: Integrated Hole/Cement Volume				
BHS	Borehole Status	OPEN		
BHT	Bottom Hole Temperature (used in calculations)	146		DEGF
FCD	Future Casing (Outer) Diameter	9.625		IN
GCSE	Generalized Caliper Selection	HCAL		
GDEV	Average Angular Deviation of Borehole from Normal	0		DEG
GGRD	Geothermal Gradient	0.01		DF/F
GRSE	Generalized Mud Resistivity Selection	AITH_RESIST		
GTSE	Generalized Temperature Selection	HSTS_HTEM		
HVCS	Integrated Hole Volume Caliper Selection	HCAL		
ISSBAR	Barite Mud Switch	NOBARITE		
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE		
SHT	Surface Hole Temperature	68		DEGF
STI: Stuck Tool Indicator				
LBFR	Trigger for MAXIS First Reading Label	TDL		
STKT	STI Stuck Threshold	5		FT
TDD	Total Depth - Driller	5277.00		FT
TDL	Total Depth - Logger	5286.00		FT
System and Miscellaneous				
ALTDPCAN	Name of alternate depth channel	SpeedCorrectedDepth		
BS	Bit Size	12.250		IN
BSAL	Borehole Salinity	1900.00		PPM
CSIZ	Current Casing Size	13.375		IN
CWEI	Casing Weight	54.40		LB/F
DFD	Drilling Fluid Density	9.30		LB/G
DO	Depth Offset for Playback	0.0		FT
DORL	Depth Offset for Repeat Analysis	-1.0		FT
FLEV	Fluid Level	10.00		FT
MST	Mud Sample Temperature	78.00		DEGF
PBVSADP	Use alternate depth channel for playback	NO		
PP	Playback Processing	NORMAL		
RMFS	Resistivity of Mud Filtrate Sample	0.6400		OHMM
RW	Resistivity of Connate Water	1.0000		OHMM
TD	Total Depth	5286		FT
TWS	Temperature of Connate Water Sample	100.00		DEGF

Format: TCOMBO\_S5 Vertical Scale: 5" per 100' Graphics File Created: 20-Sep-2010 00:37

## OP System Version: 17C0-154

HAIT-H 17C0-154 HILTH-FTB 17C0-154  
DTC-H 17C0-154

### Input DLIS Files

DEFAULT AIT\_TLD\_MCFL\_CNL\_012LUP FN:11 PRODUCER 19-Sep-2010 22:49 5292.0 FT 87.2 FT

### Output DLIS Files

DEFAULT AIT\_TLD\_MCFL\_CNL\_018PUP FN:17 PRODUCER 20-Sep-2010 00:37

**Schlumberger**

**REPEAT ANALYSIS**

MAXIS Field Log

DEFAULT	AIT_TLD_MCFL_CNL_016PUP	FN:15	PRODUCER	20-Sep-2010 00:24	5293.5 FT	4997.5 FT
DEFAULT	AIT_TLD_MCFL_CNL_012LUP	FN:11	PRODUCER	19-Sep-2010 22:49	5292.0 FT	87.2 FT

Output DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_017PUP	FN:16	PRODUCER	20-Sep-2010 00:33
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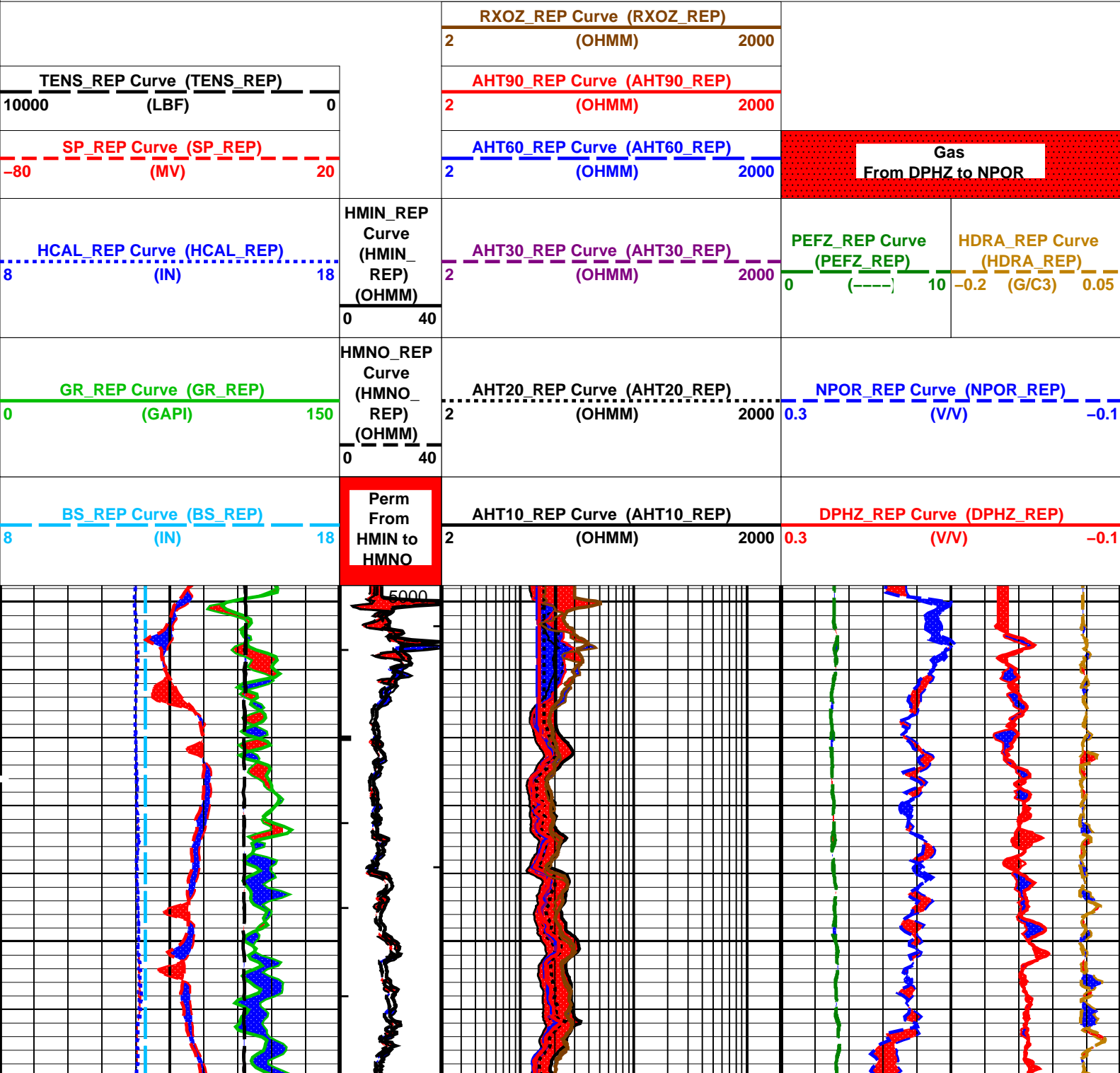
OP System Version: 17C0-154

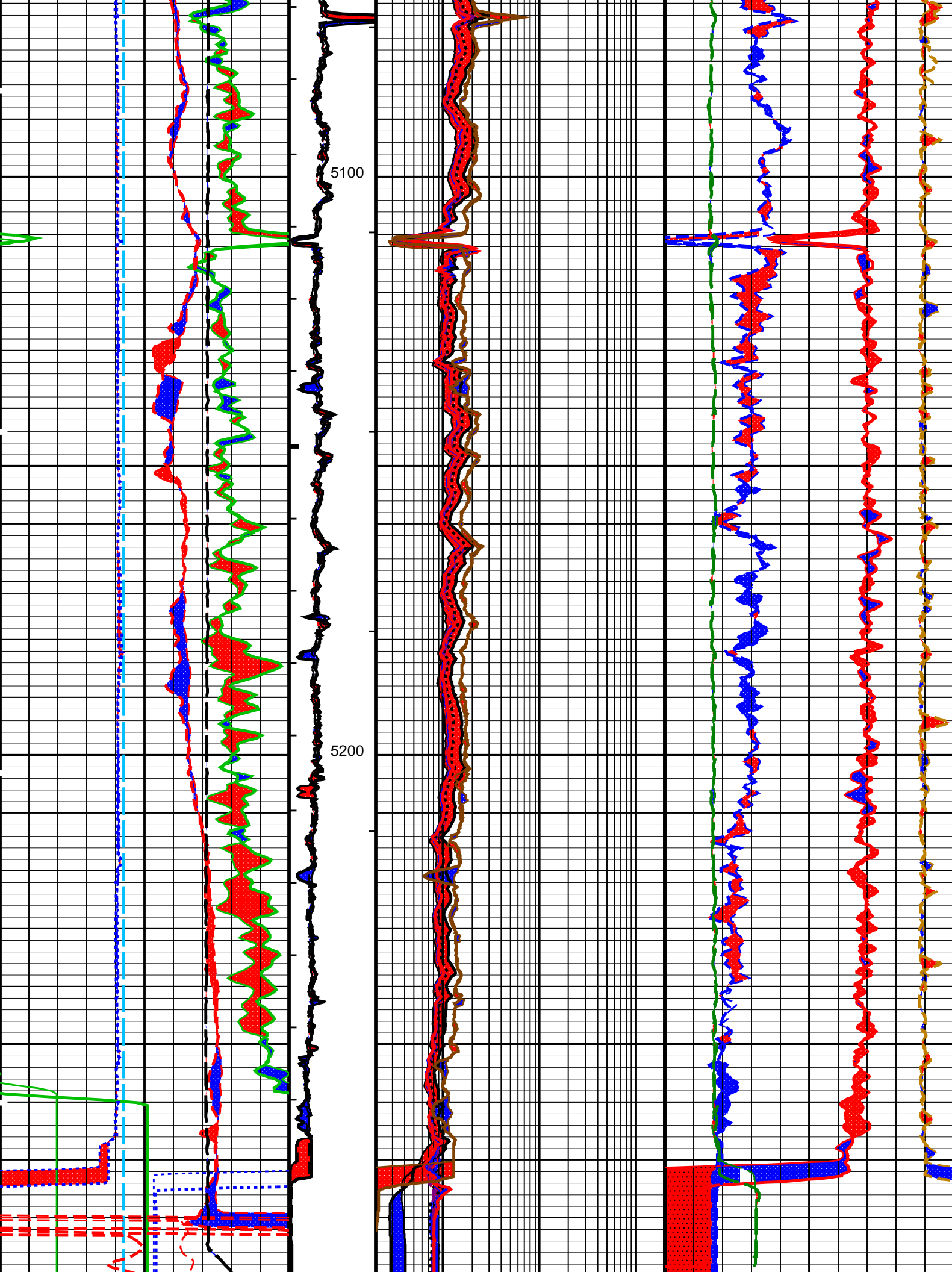
HAIT-H	17C0-154	HILTH-FTB	17C0-154
DTC-H	17C0-154		

PIP SUMMARY

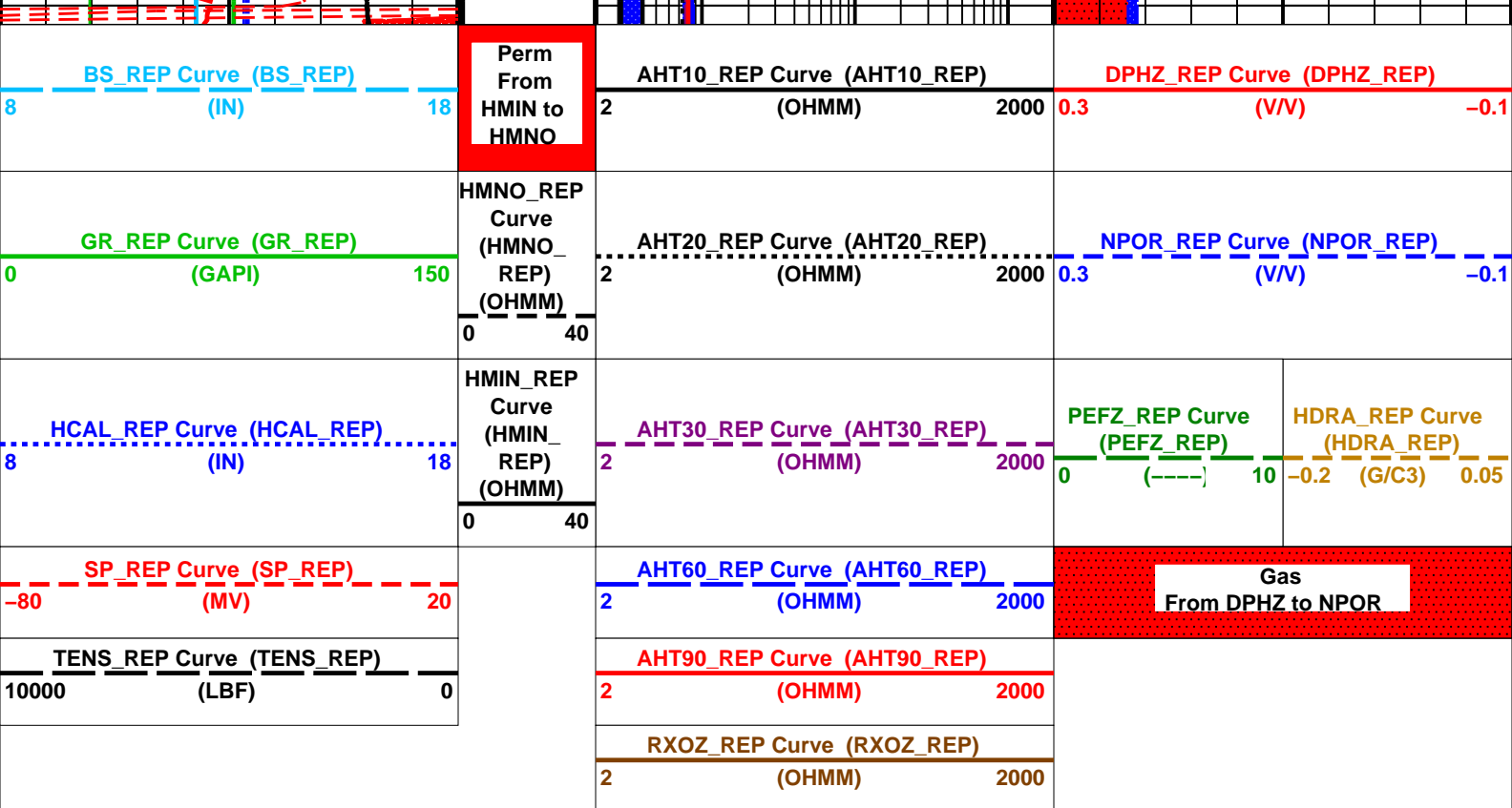
- └ Integrated Hole Volume Minor Pip Every 10 F3
- └ Integrated Hole Volume Major Pip Every 100 F3
  - └ Integrated Cement Volume Minor Pip Every 10 F3
  - └ Integrated Cement Volume Major Pip Every 100 F3

Time Mark Every 60 S









#### PIP SUMMARY

- └ Integrated Hole Volume Minor Pip Every 10 F3
- └ Integrated Hole Volume Major Pip Every 100 F3
  - └ Integrated Cement Volume Minor Pip Every 10 F3
  - └ Integrated Cement Volume Major Pip Every 100 F3

Time Mark Every 60 S

### Parameters

DLIS Name	Description	Value
HAIT-H: Array Induction Tool - H		
AHAPL	Array Induction Answer Product Level(Depth Log/View only)	
	3_BholeCorr_BasicLogs_Radial_Processing	
AHBHM	Array Induction Borehole Correction Mode	2_ComputeStandoff
AHBHV	Array Induction Borehole Correction Code Version Number	900
AHBLM	Array Induction Basic Logs Mode	6_One_Two_and_Four
AHBLV	Array Induction Basic Logs Code Version Number	223
AHCDE	Array Induction Casing Detection Enable	Yes
AHCEN	Array Induction Tool Centering Flag (in Borehole)	Eccentered
AHDITM	Array Induction Desired Tool Mode	0x00_Log_000
AHEBC	Array Induction Enable Borehole Correction	Yes
AHEBL	Array Induction Enable Basic Logs	Yes
AHERP	Array Induction Enable Radial Processing	Yes
AHETP	Array Induction Enable Sonde Error Temp&Pres Corr	Yes
AHFRSV	Array Induction Response Set Version for Four ft Resolution	41.70.24.20
AHIGS	Array Induction Select Akima Interpolation Gating	On
AHLNV	Array Induction Log Not Valid Flag	Log_Valid-No_Default_Parameters
AHMRD	Array Induction Mud Resistivity Calibration Depth	0 FT
AHMRF	Array Induction Mud Resistivity Factor	1
AHORSV	Array Induction Response Set Version for One ft Resolution	41.70.24.20
AHRFV	Array Induction Radial Profiling Code Version Number	701
AHRPM	Array Induction Radial Processing Mode	6_One_Two_and_Four
AHRPV	Array Induction Radial Parametrization Code Version Number	232
AHSTA	Array Induction Tool Standoff	0.5 IN
AHTNO	Array Induction Tool Serial Number	392
AHTRSV	Array Induction Response Set Version for Two ft Resolution	41.70.24.20
AHTSE	Array Induction Temperature Selection (Sonde Error Correction)	Internal
AHTTY	Array Induction Tool Type (of acquired data)	HAIT
AHULV	Array Induction User Level Control	Normal
ARTS	AIT Rt Selection (for ALLRES computation)	AITH_TwoResA90
BHS	Borehole Status	OPEN
BHT	Bottom Hole Temperature (used in calculations)	146 DEGF
FEXP	Form Factor Exponent	2
FNUM	Form Factor Numerator	1
FPHI	Form Factor Porosity Source	DPHZ
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	AITH_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
ISSBAR	Barite Mud Switch	NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
RTCO	RTCO – Rt Invasion Correction	YES	
SHT	Surface Hole Temperature	68	DEGF
SPNV	SP Next Value	0	MV
HILTH-FTB: High resolution Integrated Logging Tool-DTS			
BHFL	Borehole Fluid Type	WATER	
BHFL_TLD	HILT Nuclear Mud Base	WATER	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	146	DEGF
BSCO	Borehole Salinity Correction Option	NO	
CCCO	Casing & Cement Thickness Correction Option	NO	
DHC	Density Hole Correction	BS	
DPPM	Density Porosity Processing Mode	HIRS	
EXSICL	External Shale Indicator Clean Value	20	
EXSISH	External Shale Indicator Shale Value	150	
FD	Fluid Density	1	G/C3
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
FPHI	Form Factor Porosity Source	DPHZ	
FSAL	Formation Salinity	-50000	PPM
FSCO	Formation Salinity Correction Option	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	AITH_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
HACPP	Accelerometer PROM Presence	PRESENT_FILE	
HART	Accelerometer Reference Temperature	77	DEGF
HDCOD	HILT Density Coal detection	2	G/C3
HDSAD	HILT Density Salt detection	2.1	G/C3
HILT_GAS_DENSITY	HILT Gas Downhole Density	0	G/C3
HILT_GAS_OPTION	HILT Gas Computation Option	OFF	
HNCOD	HILT Neutron Coal detection	45	PU
HNSAD	HILT Neutron Salt detection	5	PU
HPHIECUT	HILT effective Porosity Cutoff	5	PU
HSCO	Hole Size Correction Option	YES	
HSIS	HILT Shale Indicator Selection	GR	
HSSO	HRDD Nuclear Source Strength Option	NORMAL	
HSWCUT	HILT Water Saturation from AITH cutoff	50	%
ISSBAR	Barite Mud Switch	NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
MCCO	Mud Cake Correction Option	NO	
MCOR	Mud Correction	NATU	
MDEN	Matrix Density	2.68	G/C3
MHC0	MCFL B0 Contrast Correction Coefficient	2.2e-005	OHMS
MHC1	MCFL B1 Contrast Correction Coefficient	3.2e-005	OHMS
MHCC	MCFL High Contrast Correction Switch	NO	
MPOF	MCFL Processing Operation Mode	ON	
MWCO	Mud Weight Correction Option	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
PEA_FILTER	PEA Filter	NO_FILTER	
PEFC_FILTER	PEFC Filter	NO_FILTER	
PHIMAX	HILT max porosity	35	PU
PTCO	Pressure/Temperature Correction Option	NO	
SDAT	Standoff Data Source	SOCN	
SEXP_HILT	HILT Saturation Exponent	2	
SHT	Surface Hole Temperature	68	DEGF
SOCN	Standoff Distance	0.125	IN
SOCO	Standoff Correction Option	YES	
HOLEV: Integrated Hole/Cement Volume			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	146	DEGF
FCD	Future Casing (Outer) Diameter	9.625	IN
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	AITH_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
HVCS	Integrated Hole Volume Caliper Selection	HCAL	
ISSBAR	Barite Mud Switch	NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
SHT	Surface Hole Temperature	68	DEGF
STI: Stuck Tool Indicator			
LBFR	Trigger for MAXIS First Reading Label	TDL	
STKT	STI Stuck Threshold	5	FT
TDD	Total Depth – Driller	5277.00	FT
TDL	Total Depth – Logger	5286.00	FT

System and Miscellaneous		Total Depth	Logger	3100.00	FT
ALTDPCCHAN	Name of alternate depth channel	SpeedCorrectedDepth			
BS	Bit Size	12.250		IN	
BSAL	Borehole Salinity	1900.00		PPM	
CSIZ	Current Casing Size	13.375		IN	
CWEI	Casing Weight	54.40		LB/F	
DFD	Drilling Fluid Density	9.30		LB/G	
DO	Depth Offset for Playback	0.0		FT	
DORL	Depth Offset for Repeat Analysis	0.0		FT	
FLEV	Fluid Level	10.00		FT	
MST	Mud Sample Temperature	78.00		DEGF	
PBVSADP	Use alternate depth channel for playback	NO			
PP	Playback Processing	NORMAL			
RMFS	Resistivity of Mud Filtrate Sample	0.6400		OHMM	
RW	Resistivity of Connate Water	1.0000		OHMM	
TD	Total Depth	5286		FT	
TWS	Temperature of Connate Water Sample	100.00		DEGF	


Format: TCOMBO\_S5\_REP

Vertical Scale: 5" per 100'

Graphics File Created: 20-Sep-2010 00:33

OP System Version: 17C0-154			
HAIT-H	17C0-154	HILTH-FTB	17C0-154
DTC-H	17C0-154		

Input DLIS Files						
DEFAULT	AIT_TLD_MCFL_CNL_016PUP	FN:15	PRODUCER	20-Sep-2010 00:24	5293.5 FT	4997.5 FT
DEFAULT	AIT_TLD_MCFL_CNL_012LUP	FN:11	PRODUCER	19-Sep-2010 22:49	5292.0 FT	87.2 FT
Output DLIS Files						
DEFAULT	AIT_TLD_MCFL_CNL_017PUP	FN:16	PRODUCER	20-Sep-2010 00:33		



Bulk Density

MAXIS Field Log

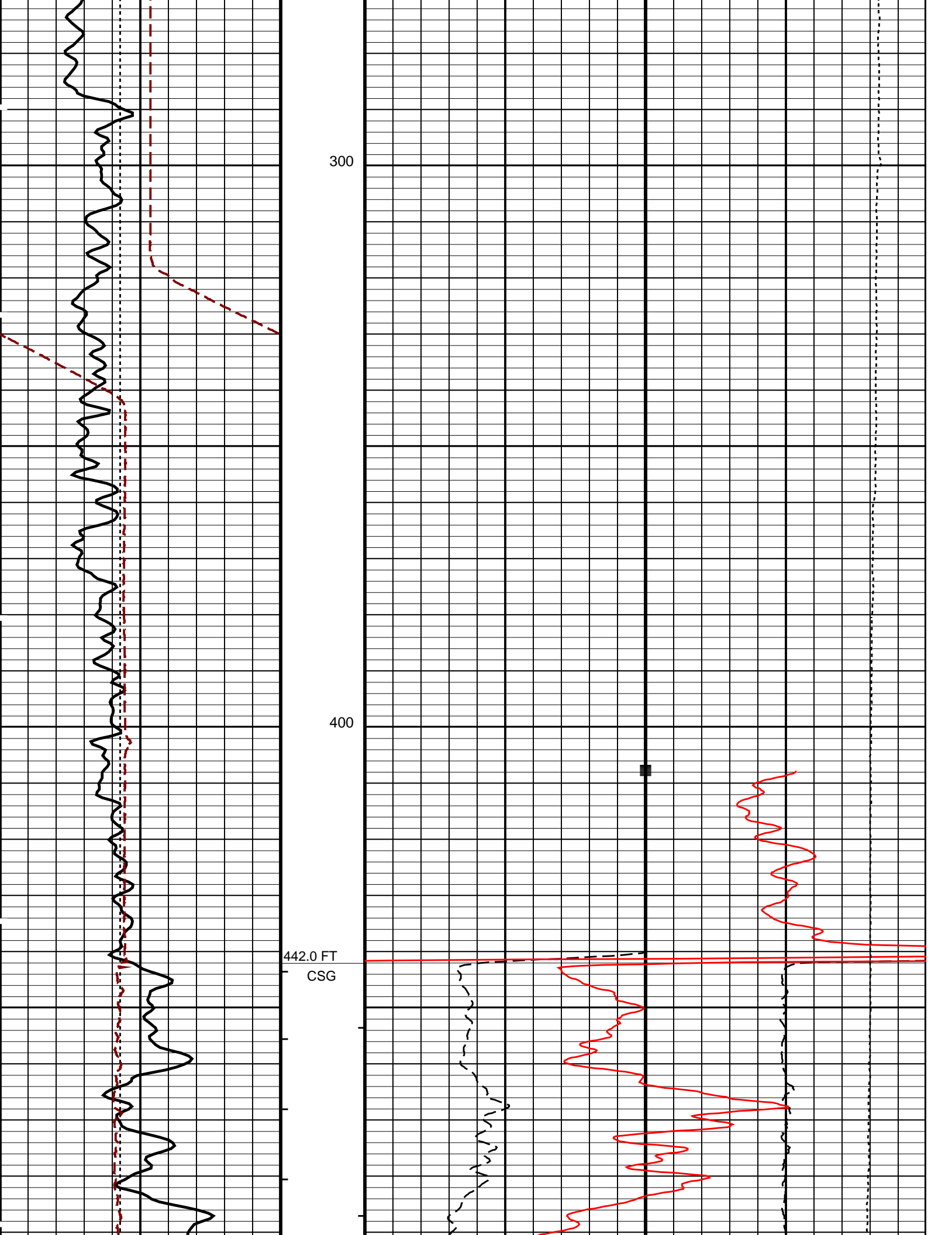
Input DLIS Files						
DEFAULT	AIT_TLD_MCFL_CNL_012LUP	FN:11	PRODUCER	19-Sep-2010 22:49	5292.0 FT	87.2 FT
Output DLIS Files						
DEFAULT	AIT_TLD_MCFL_CNL_018PUP	FN:17	PRODUCER	20-Sep-2010 00:37	5292.0 FT	87.5 FT

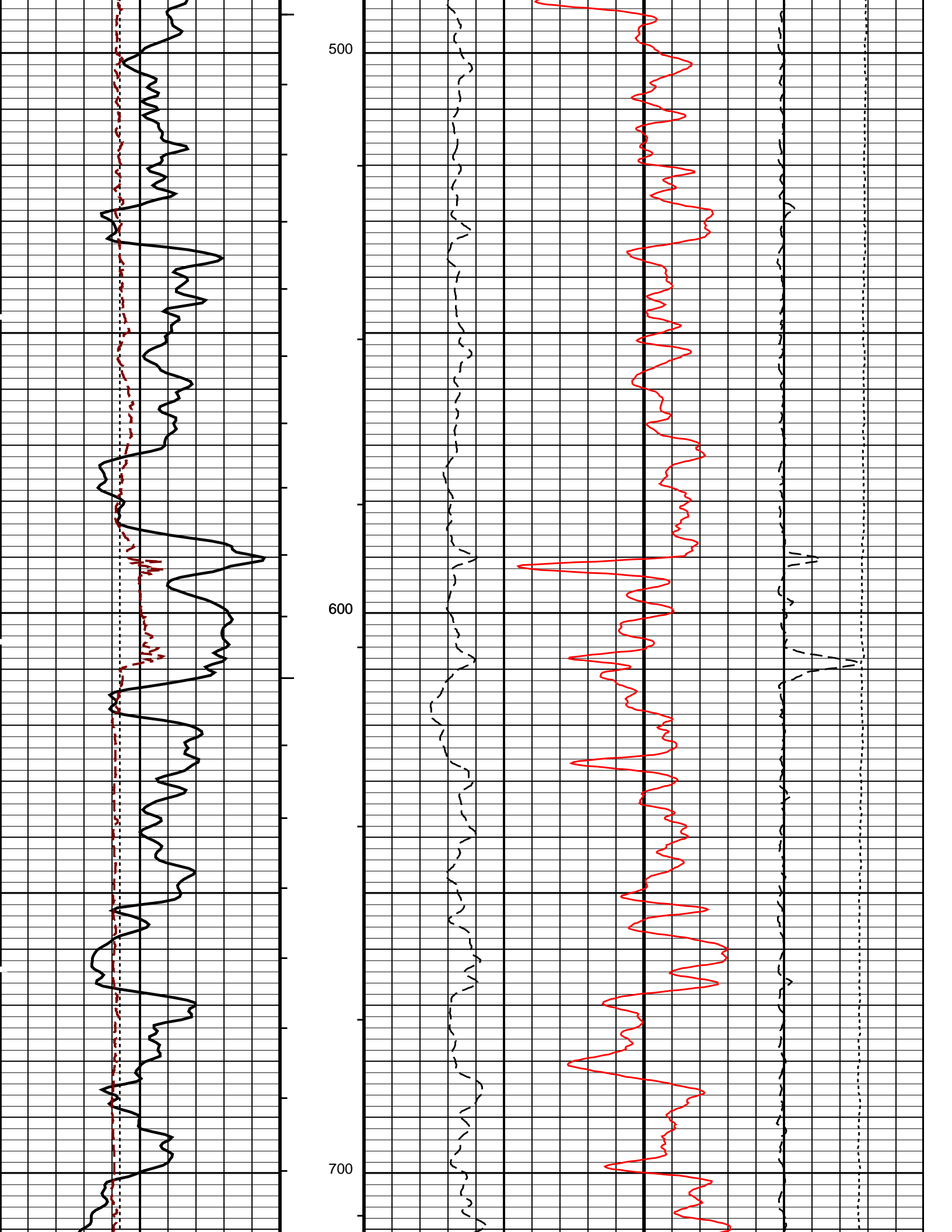
Integrated Hole/Cement Volume Summary	
Hole Volume = 3941.36 F3	
Cement Volume = 1493.60 F3 (assuming 9.63 IN casing O.D.)	
Computed from 5286.0 FT to 442.0 FT using data channel(s) HCAL	

OP System Version: 17C0-154			
HAIT-H	17C0-154	HILTH-FTB	17C0-154
DTC-H	17C0-154		

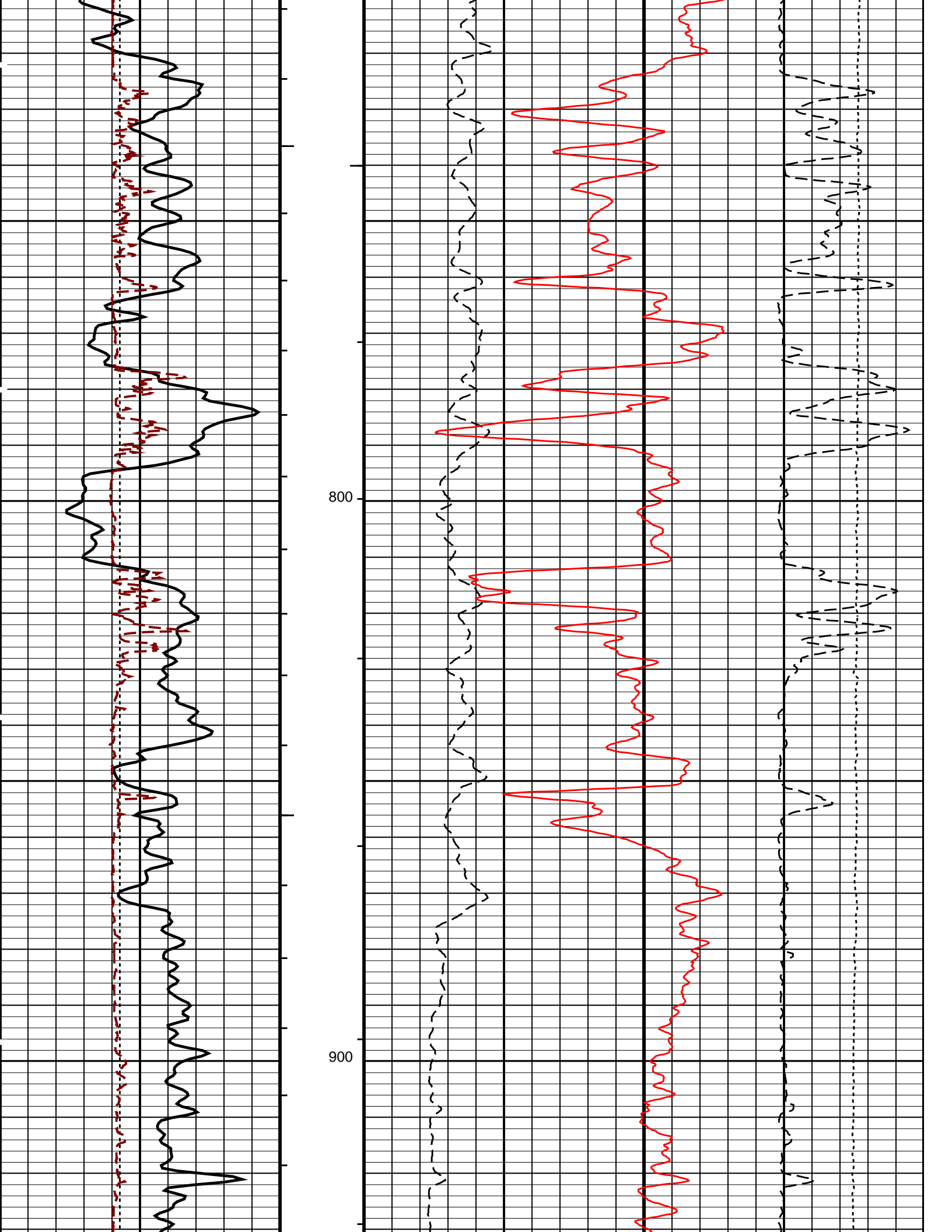
PIP SUMMARY	
└	Integrated Hole Volume Minor Pip Every 10 F3
└	Integrated Hole Volume Major Pip Every 100 F3

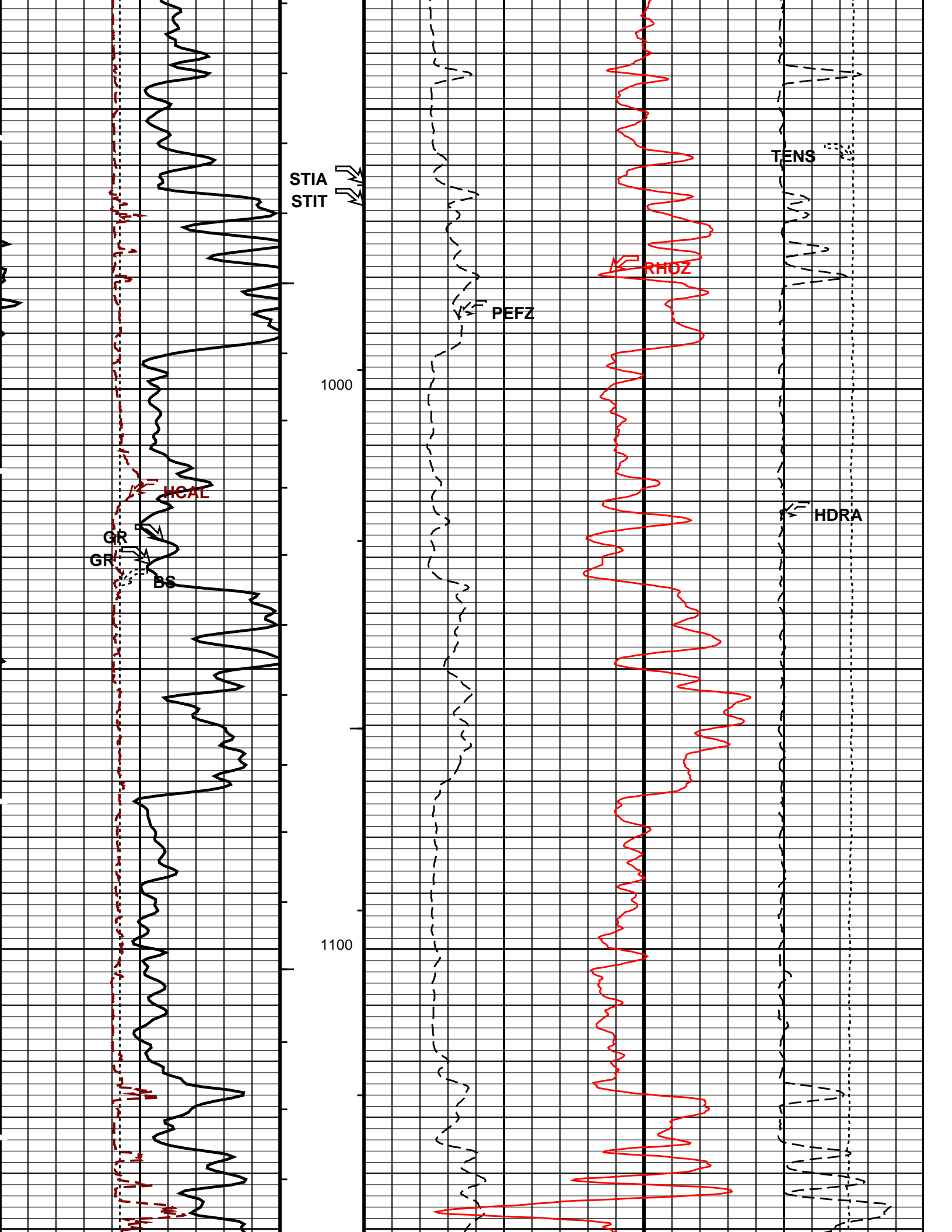


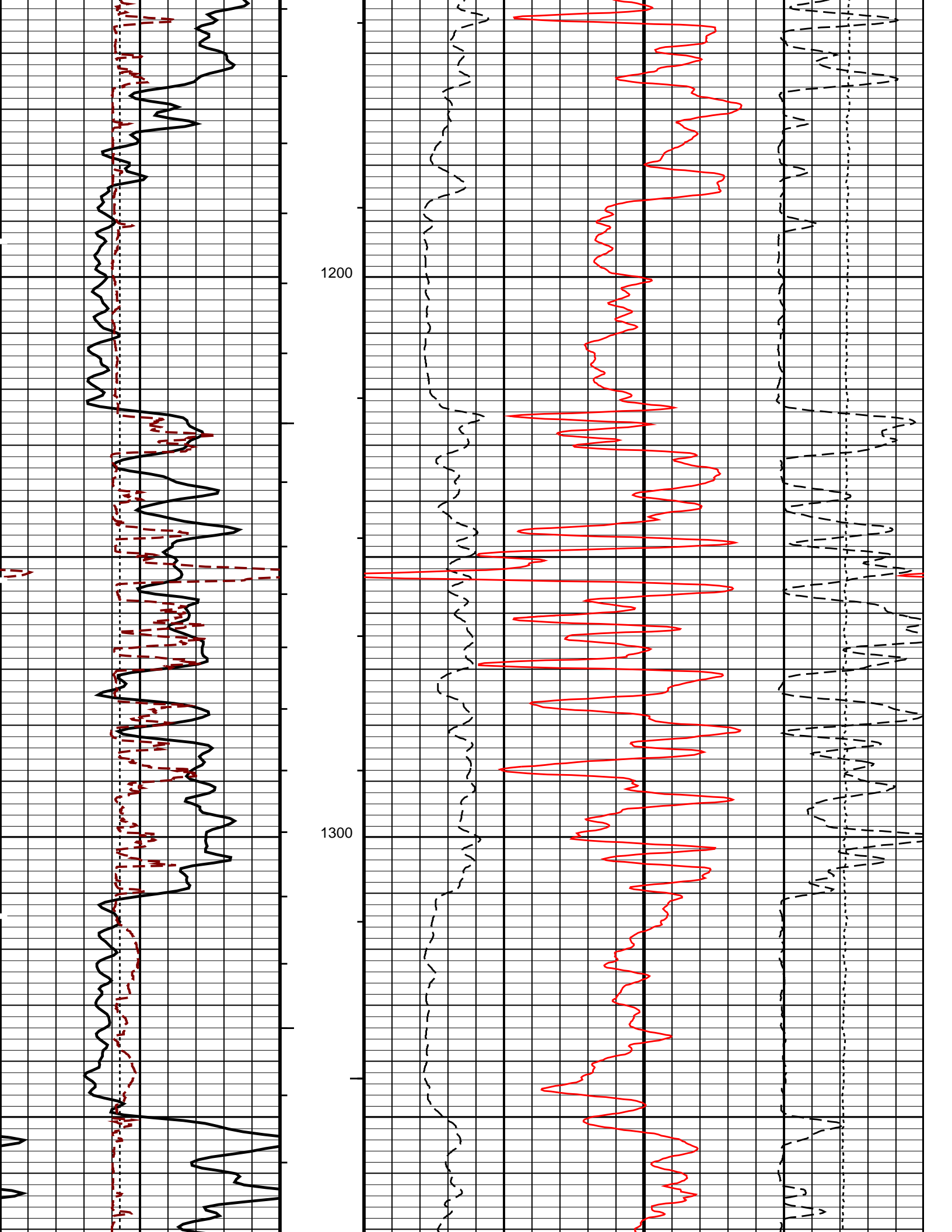


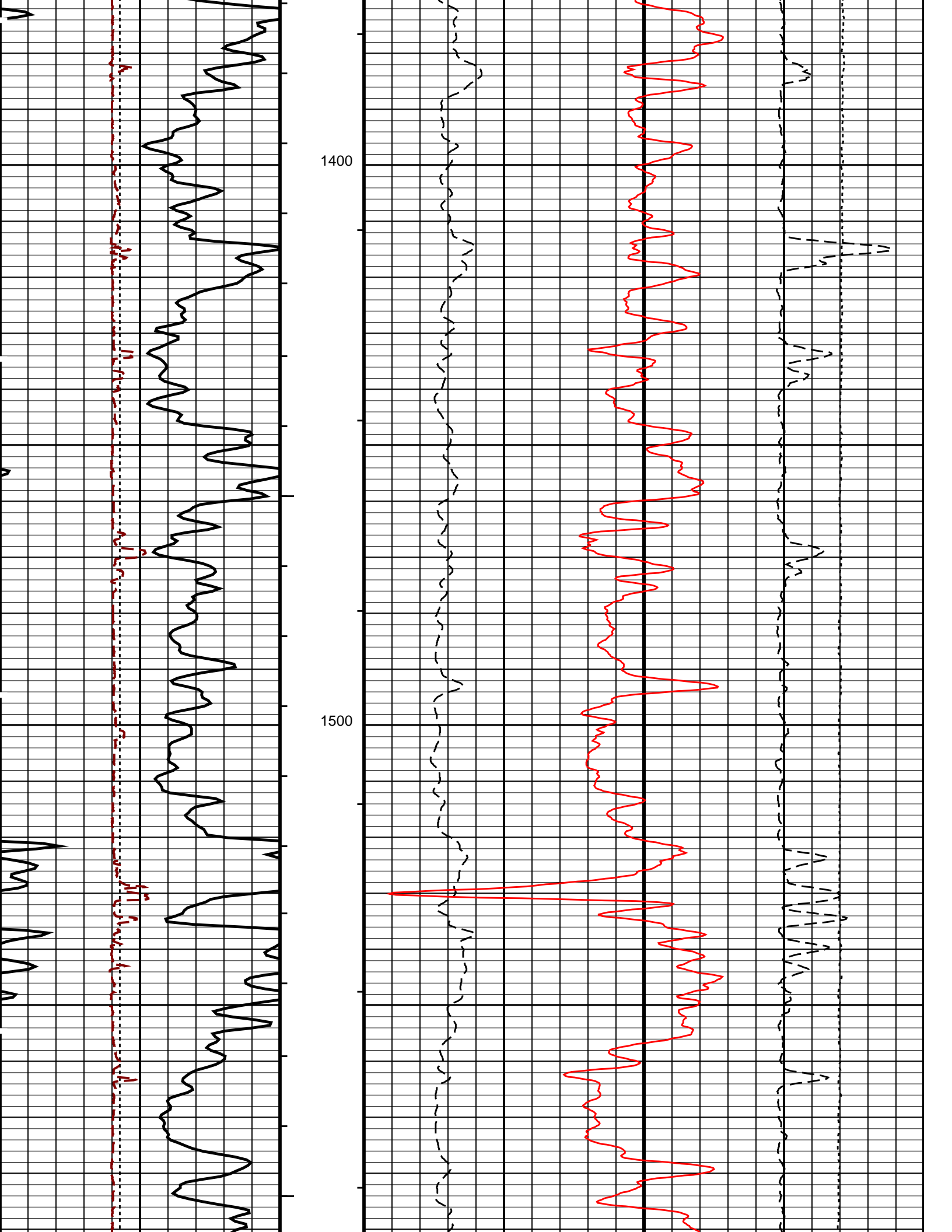


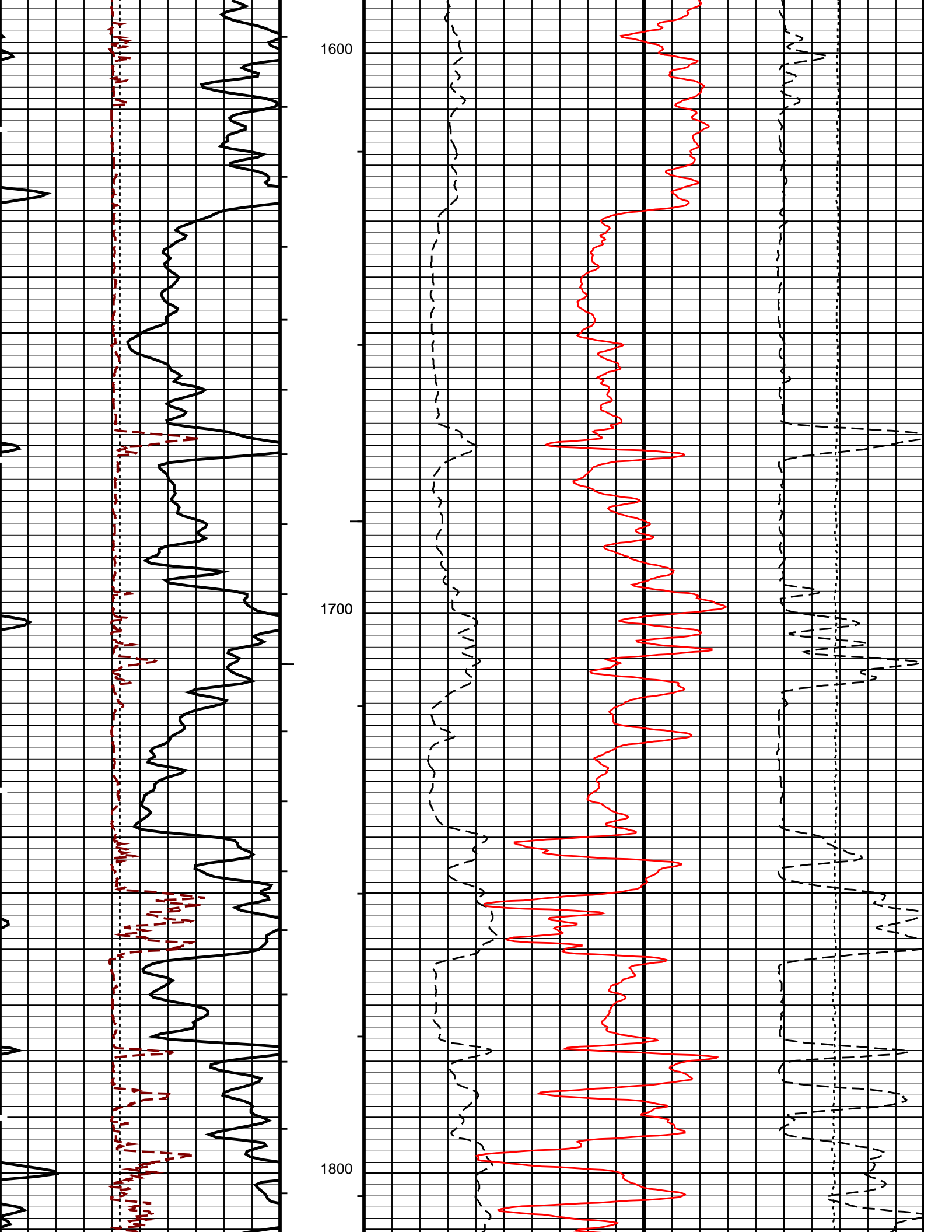


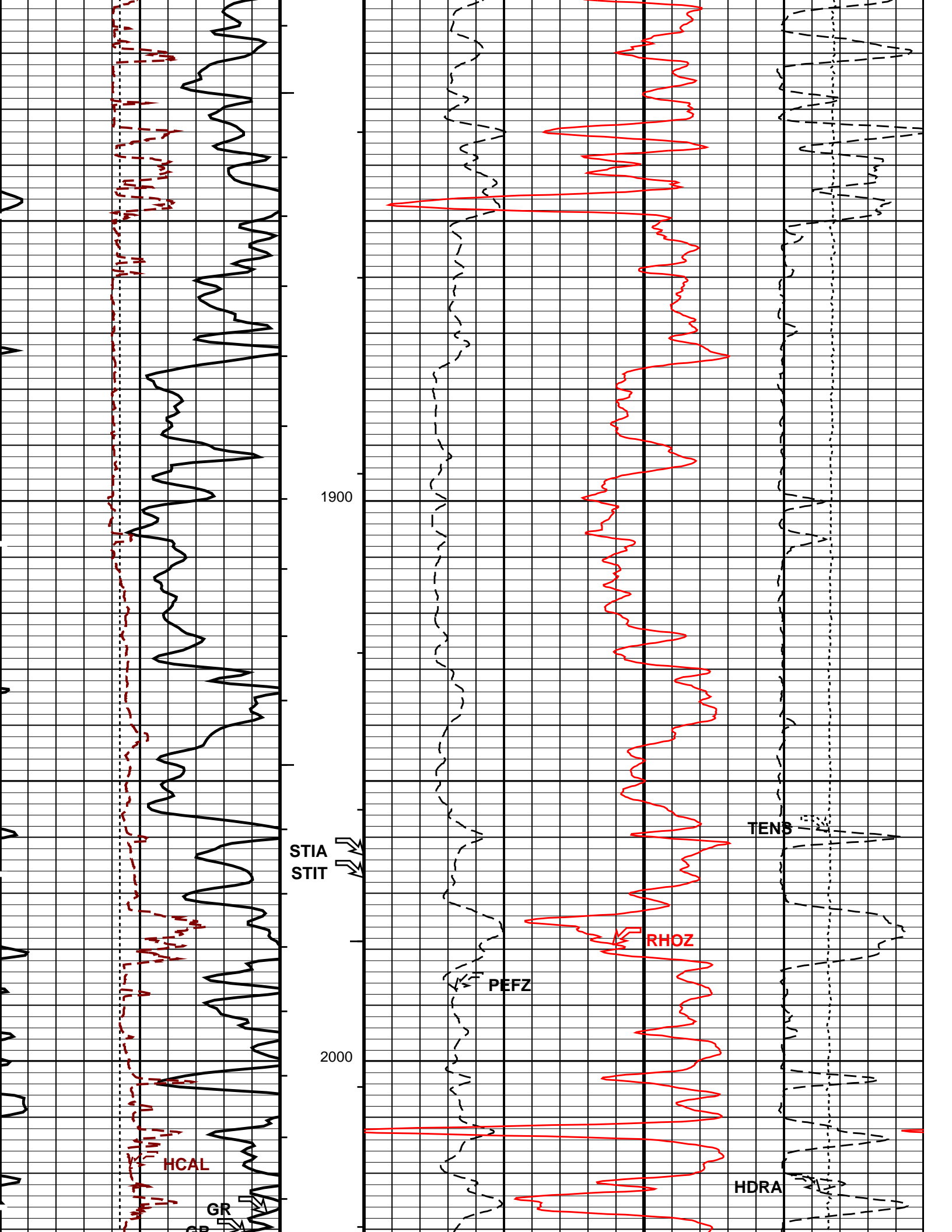




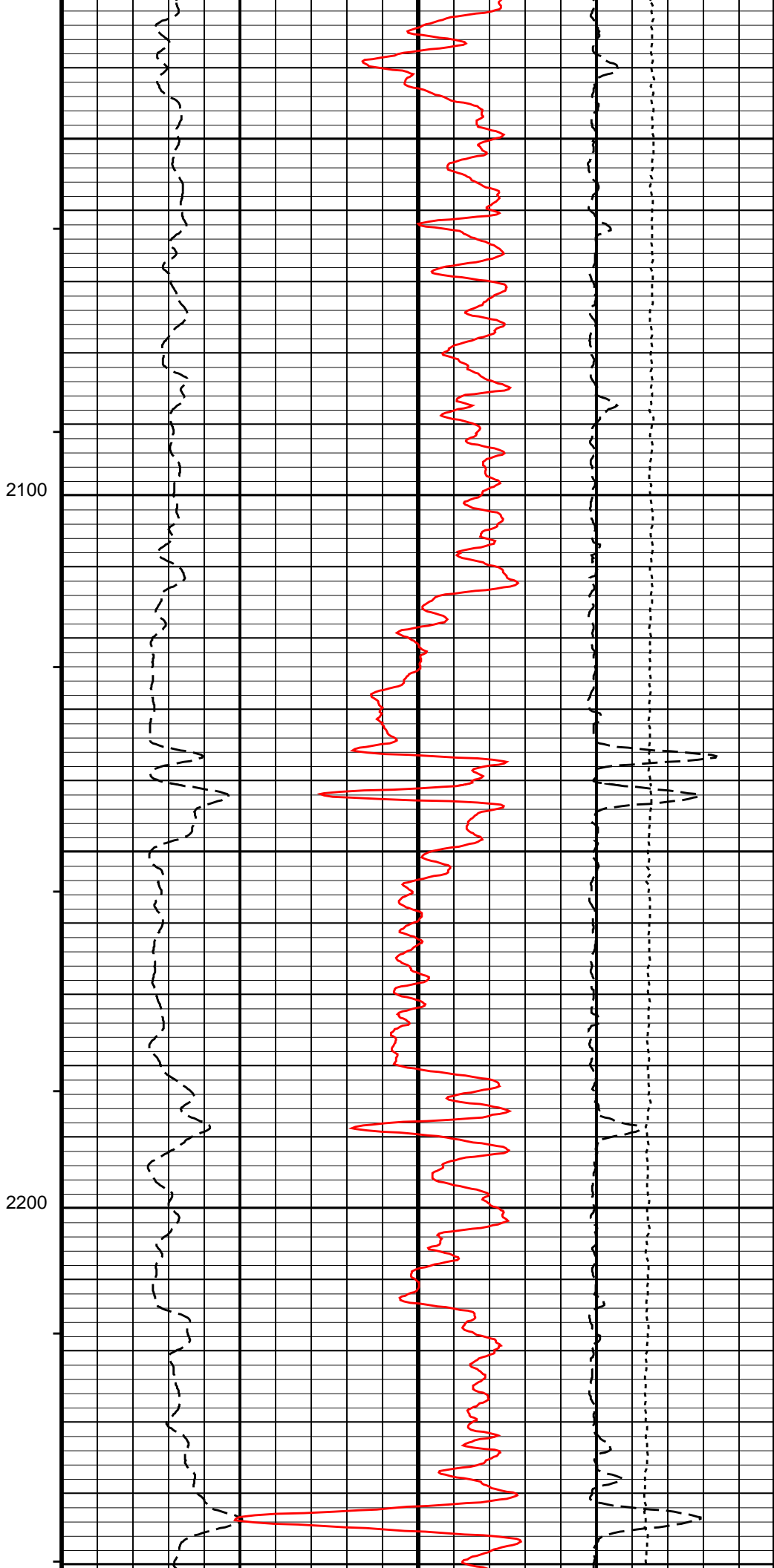
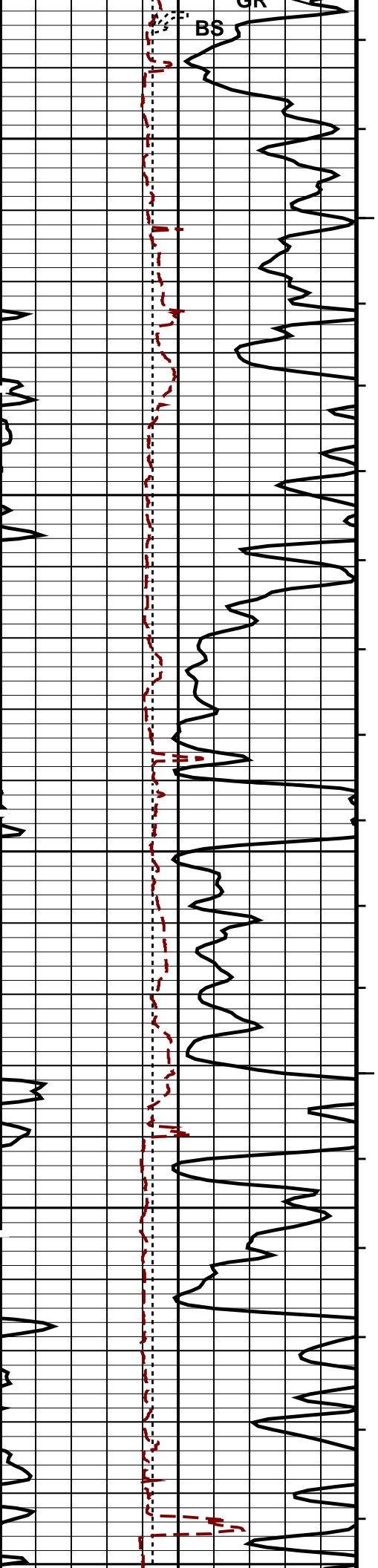


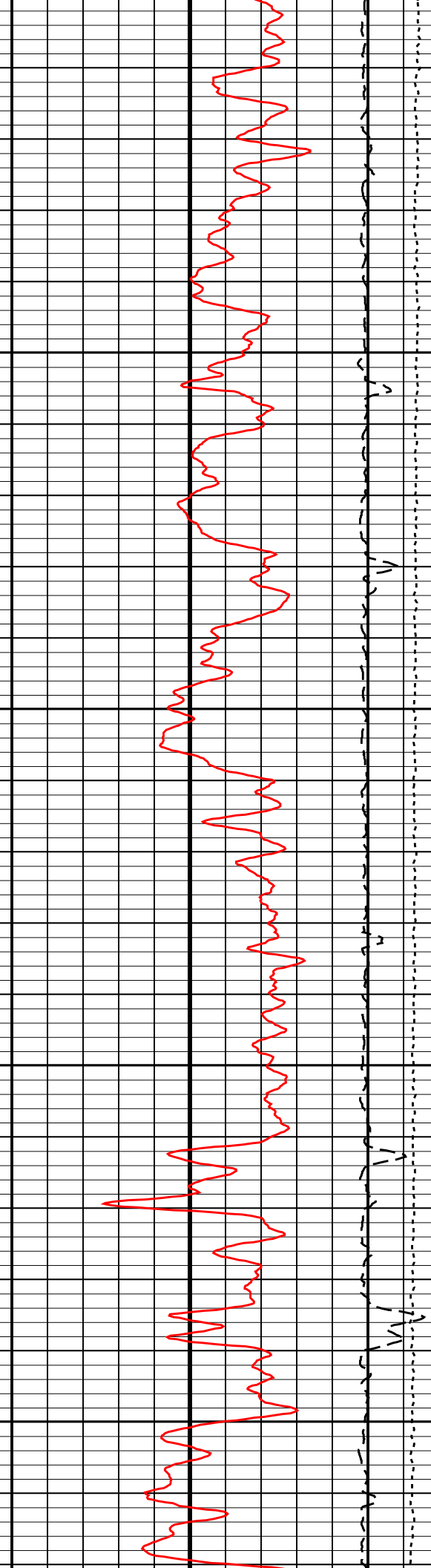
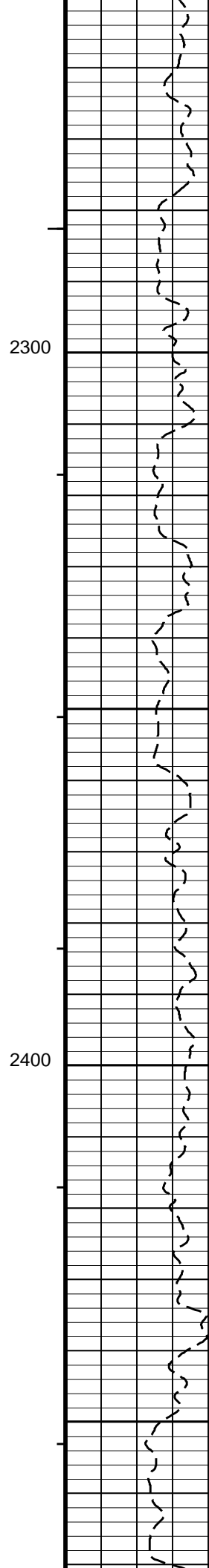
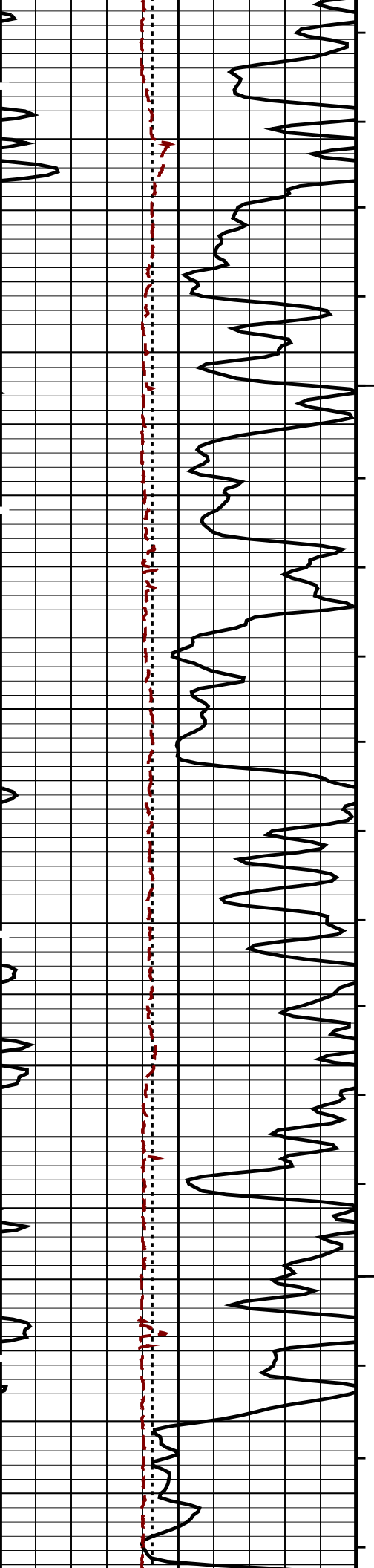


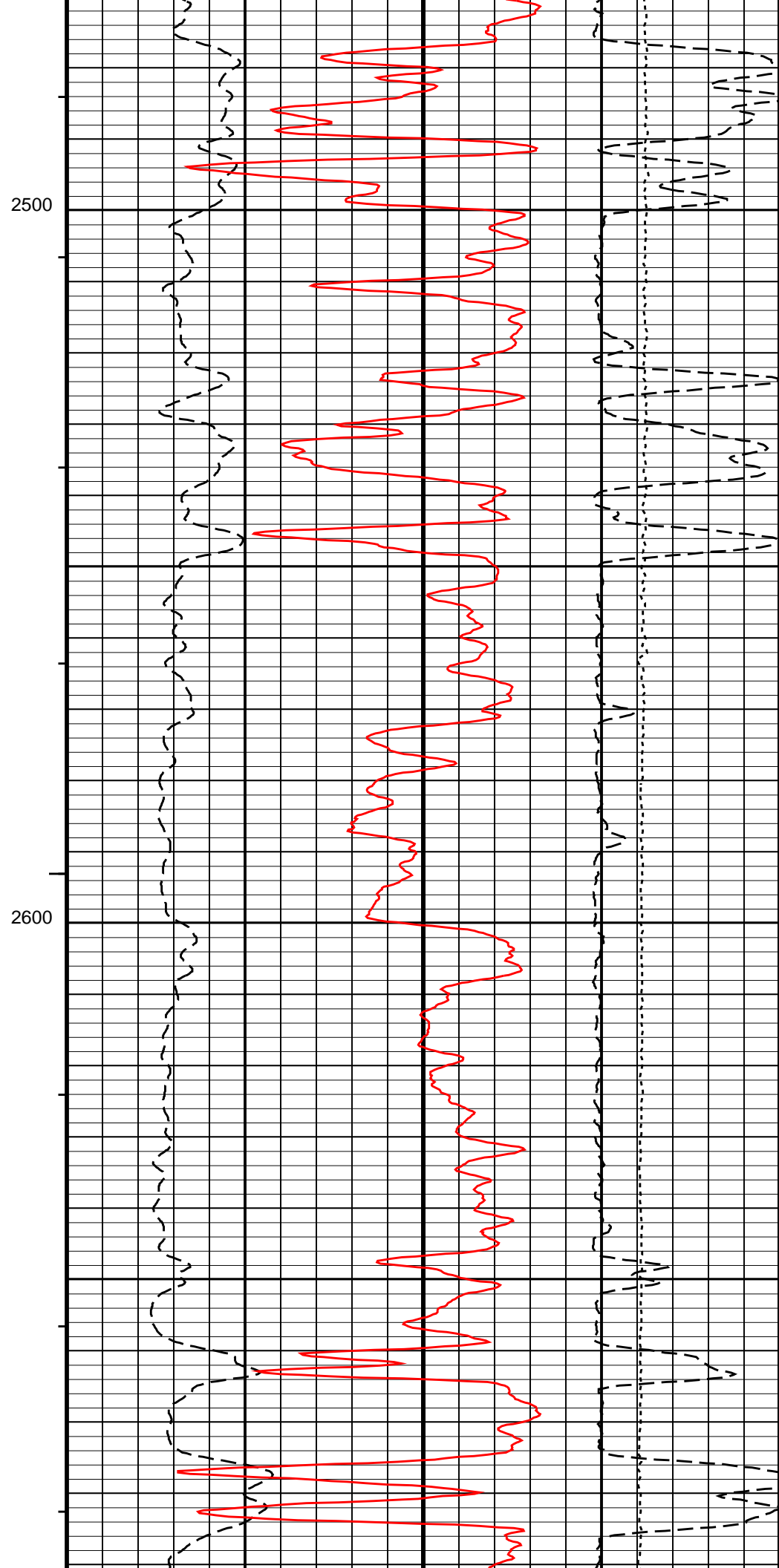
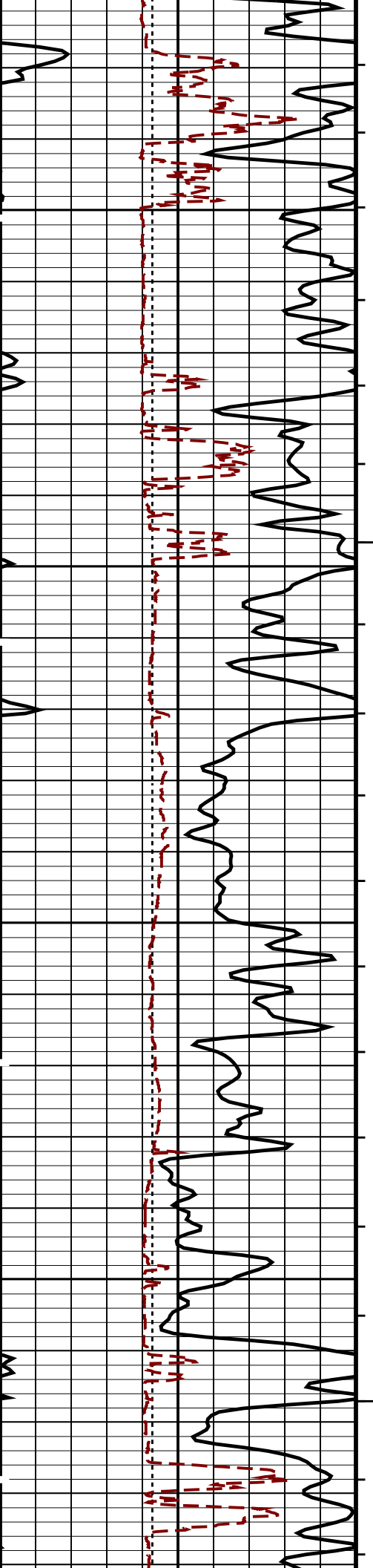


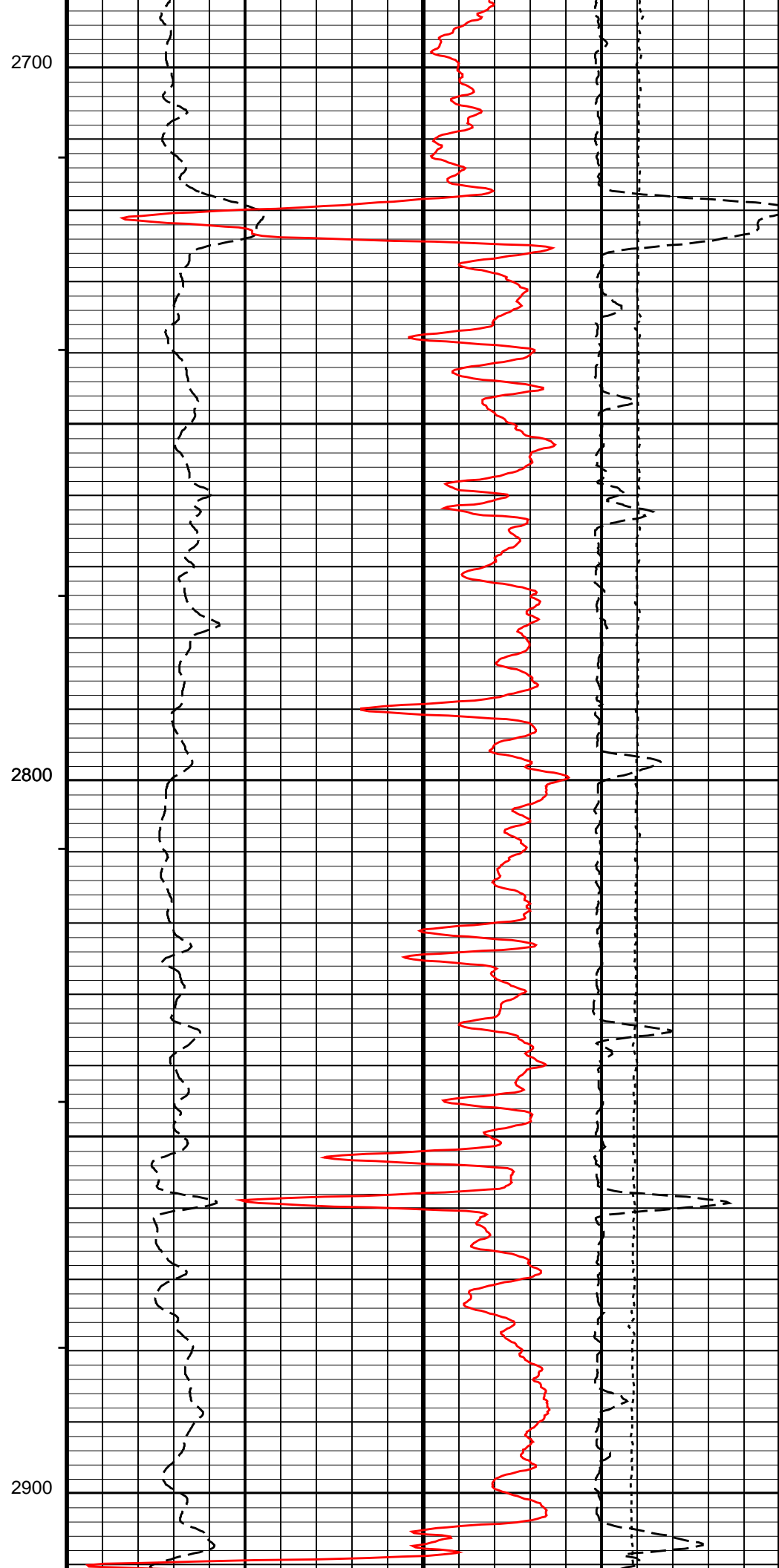
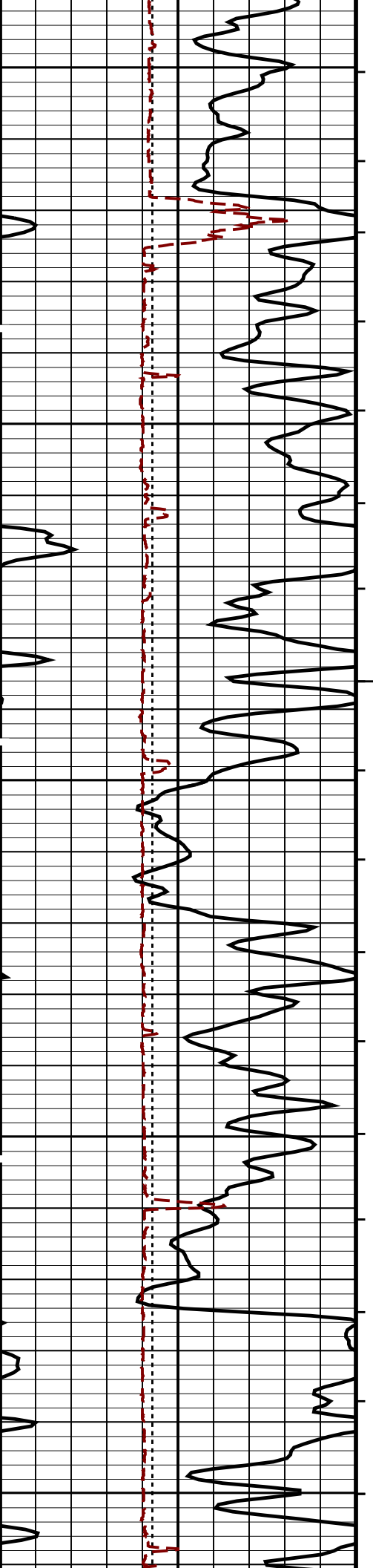


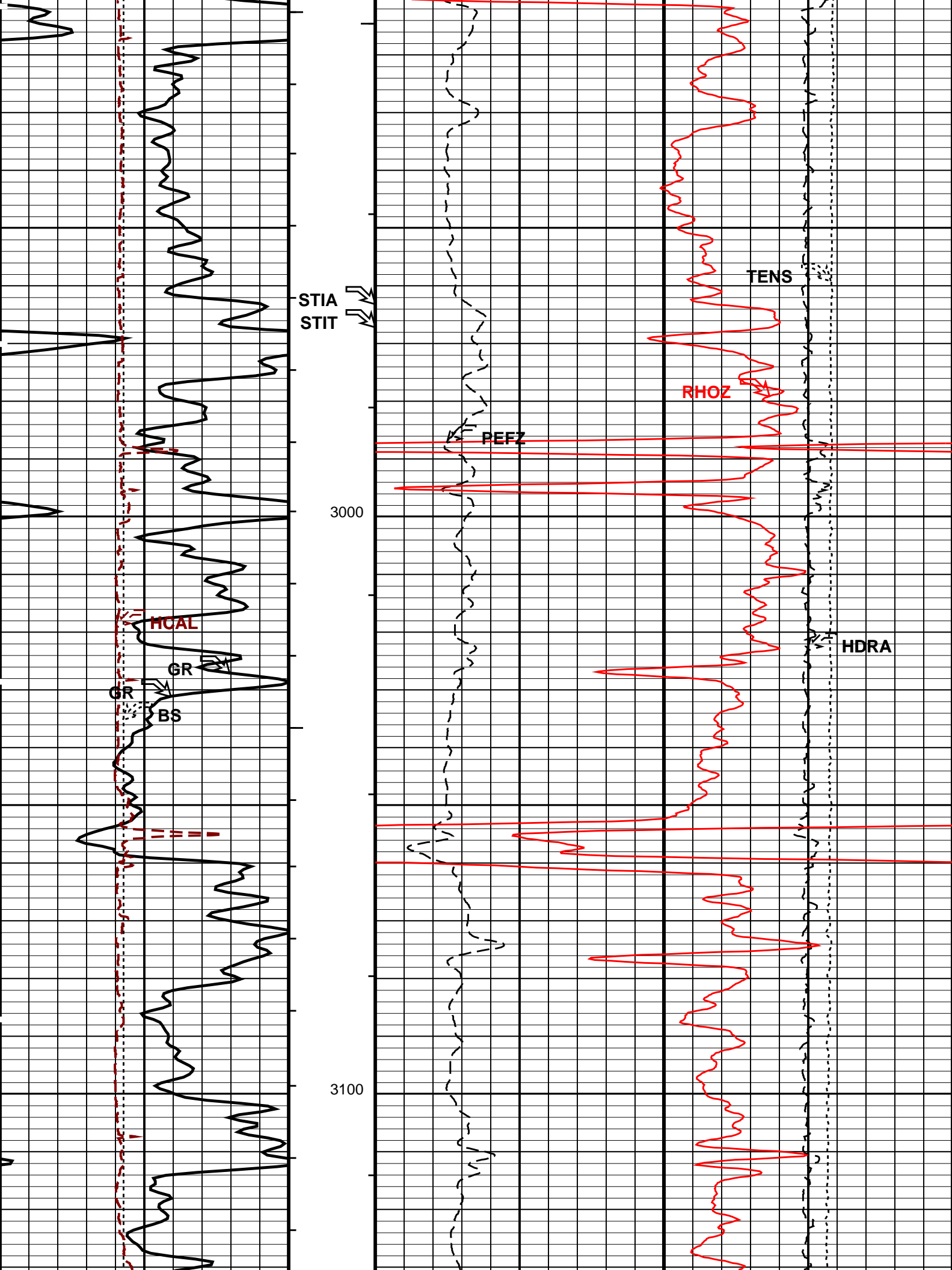


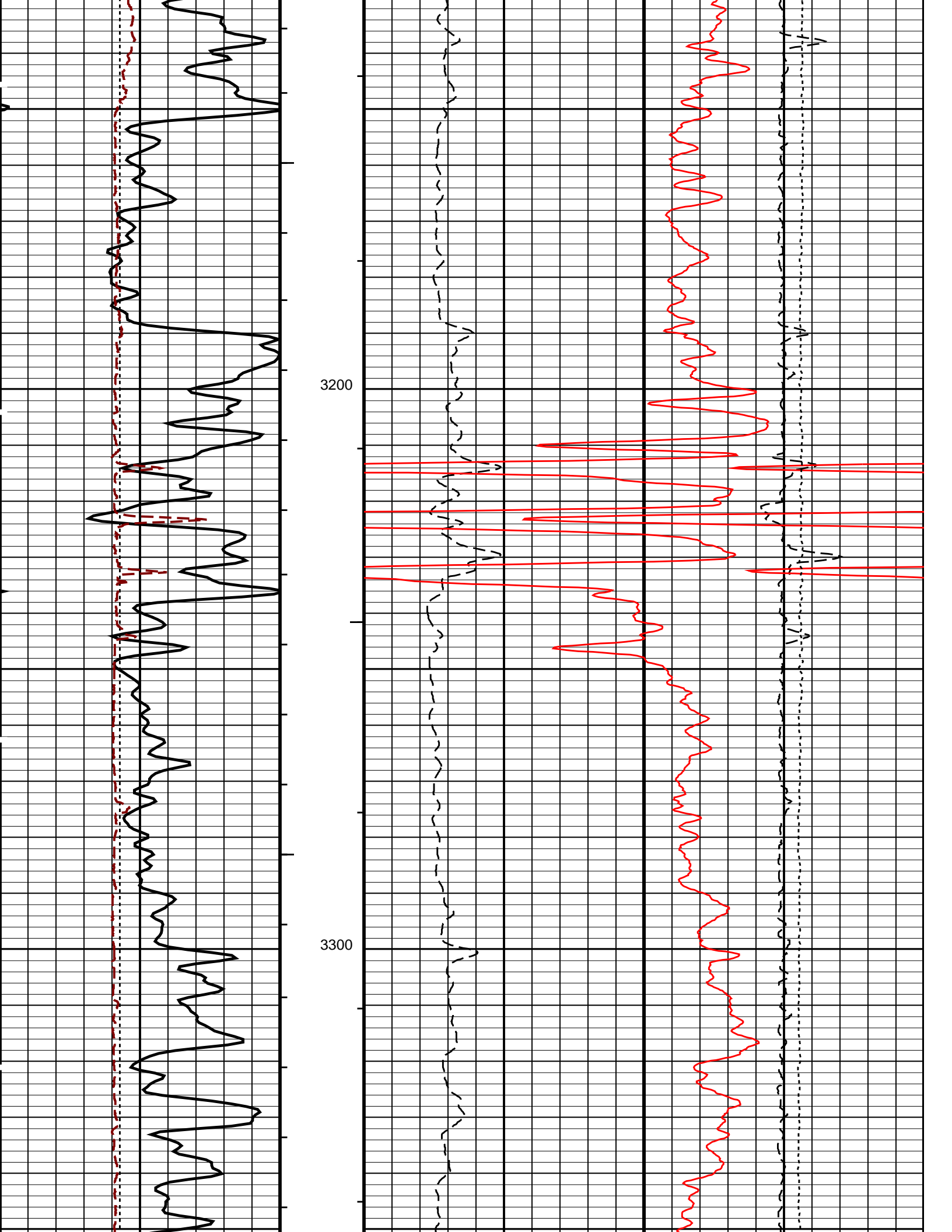




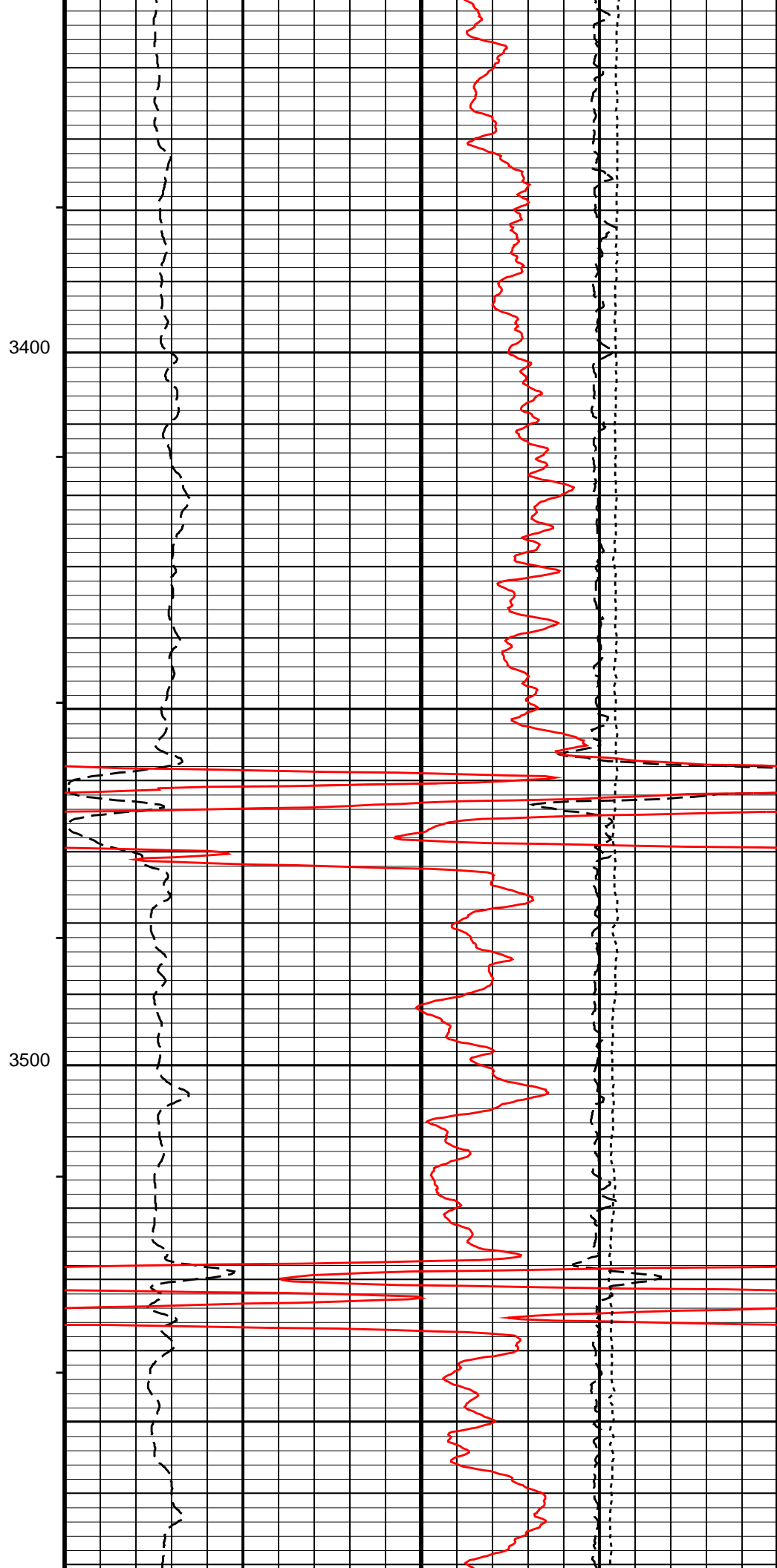
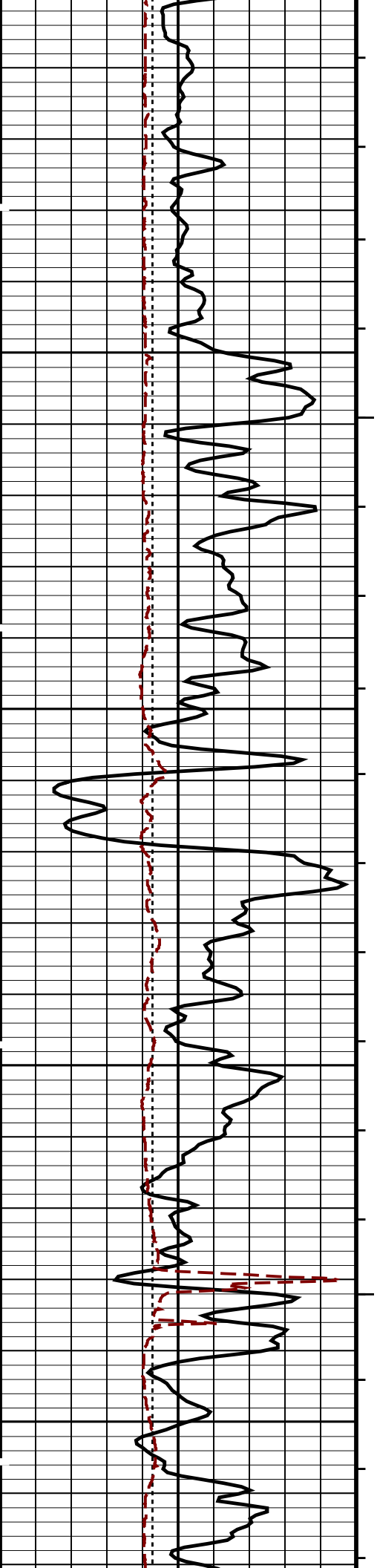


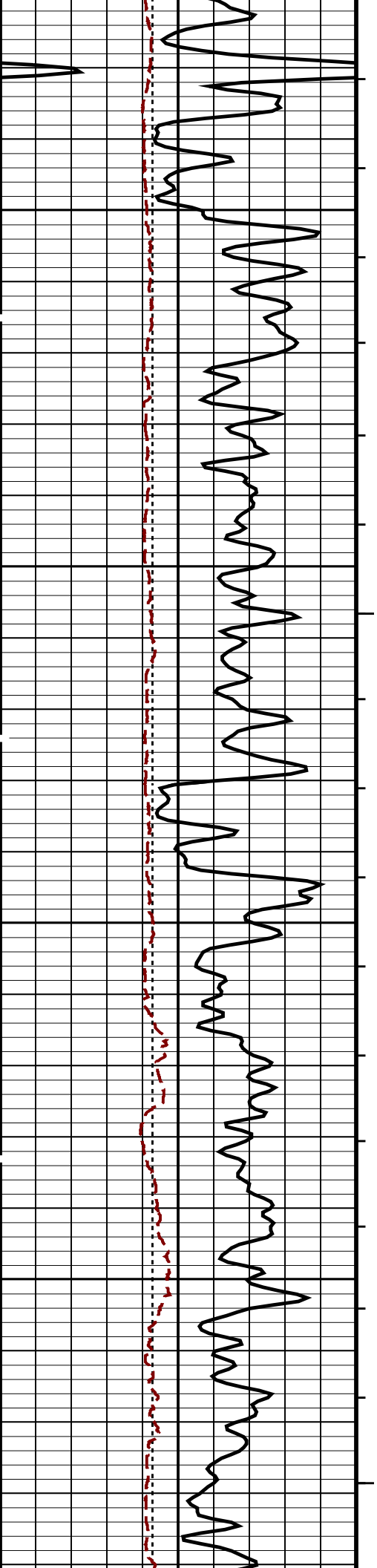






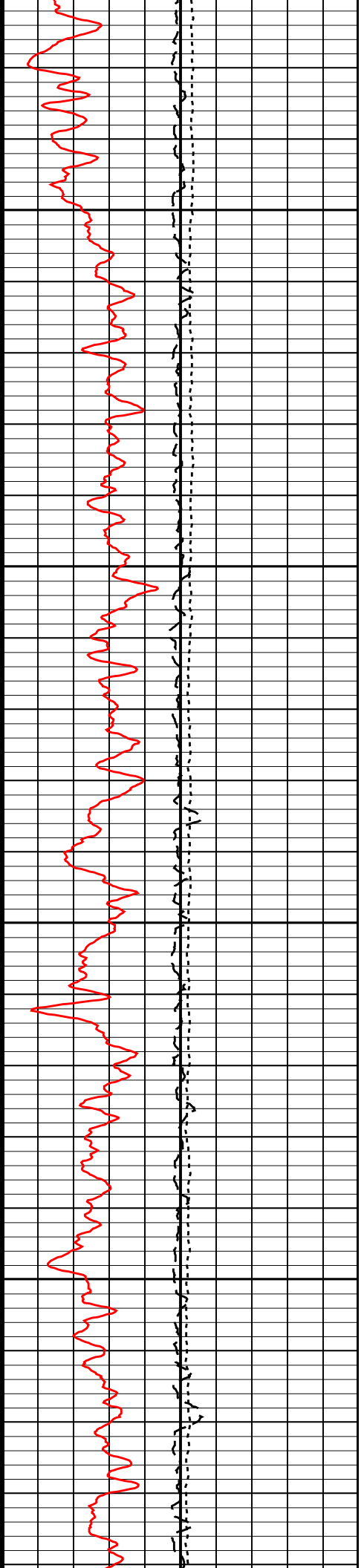
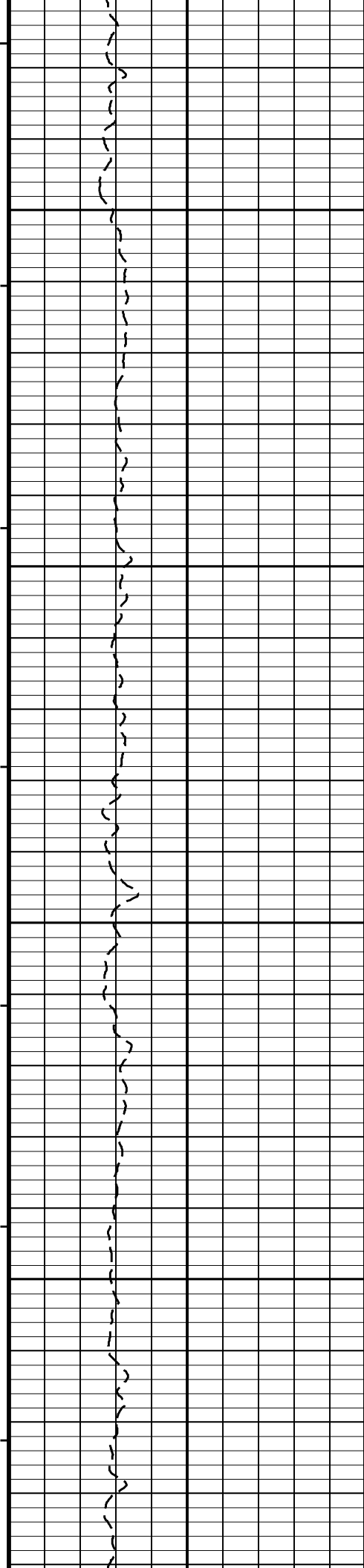


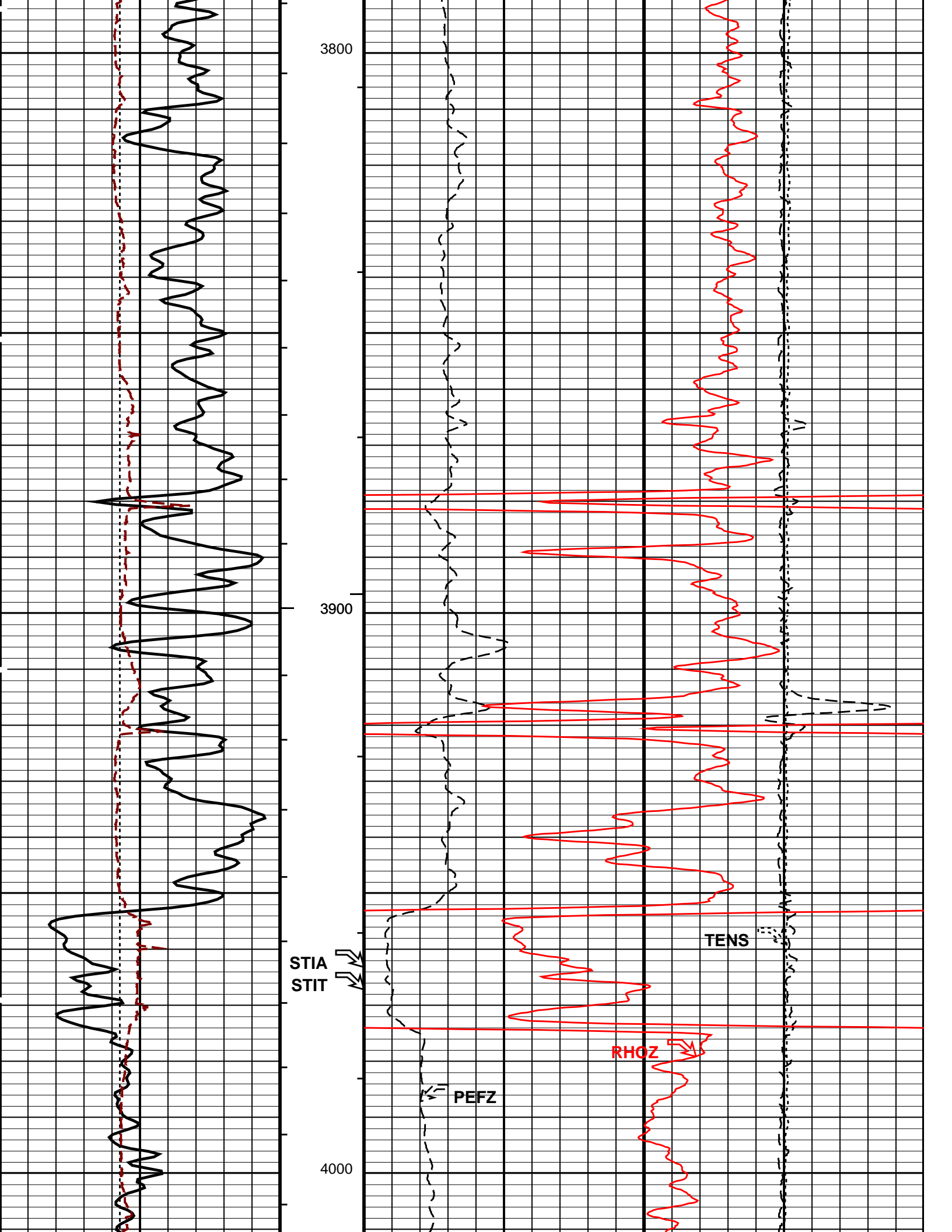


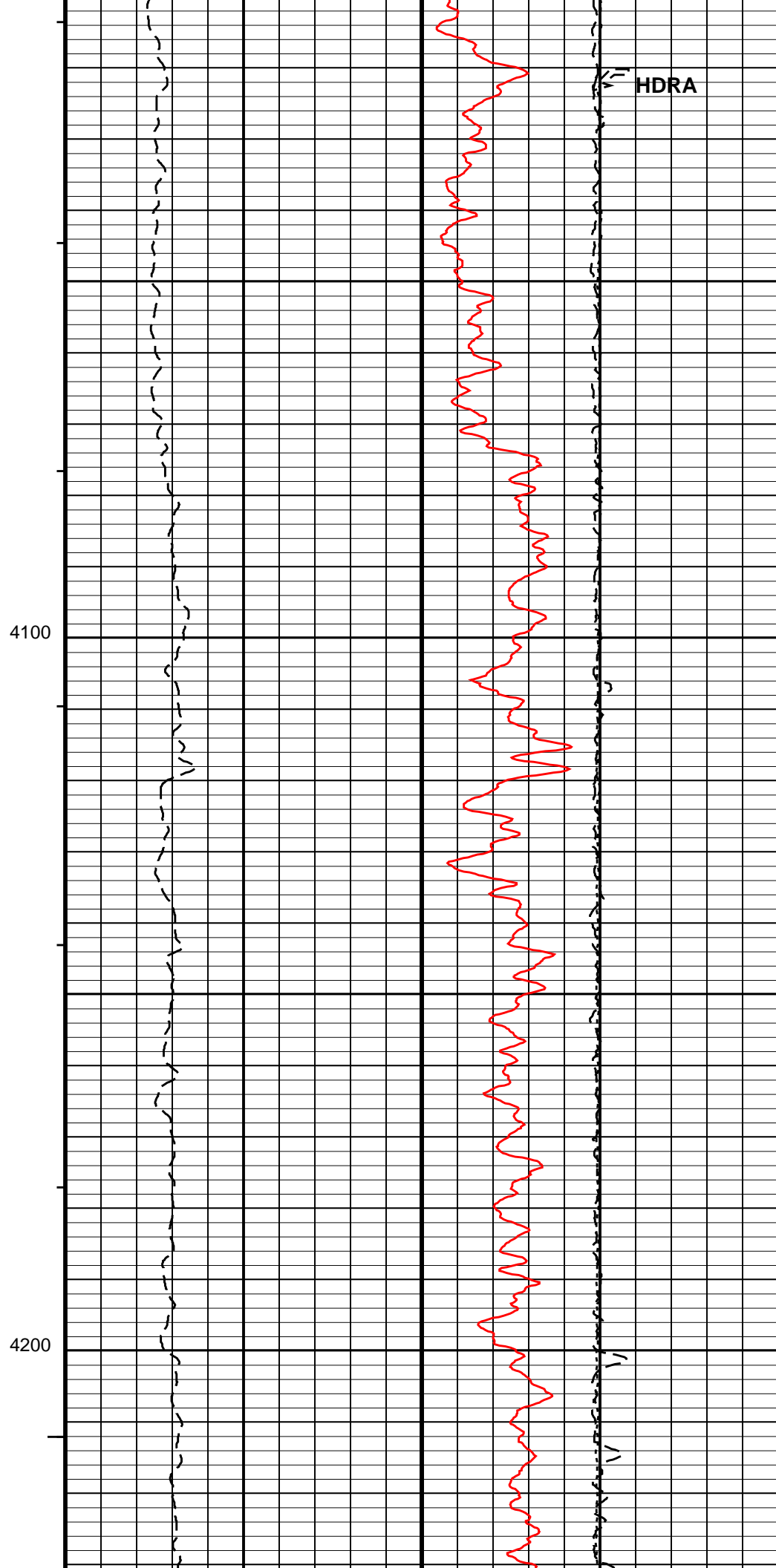
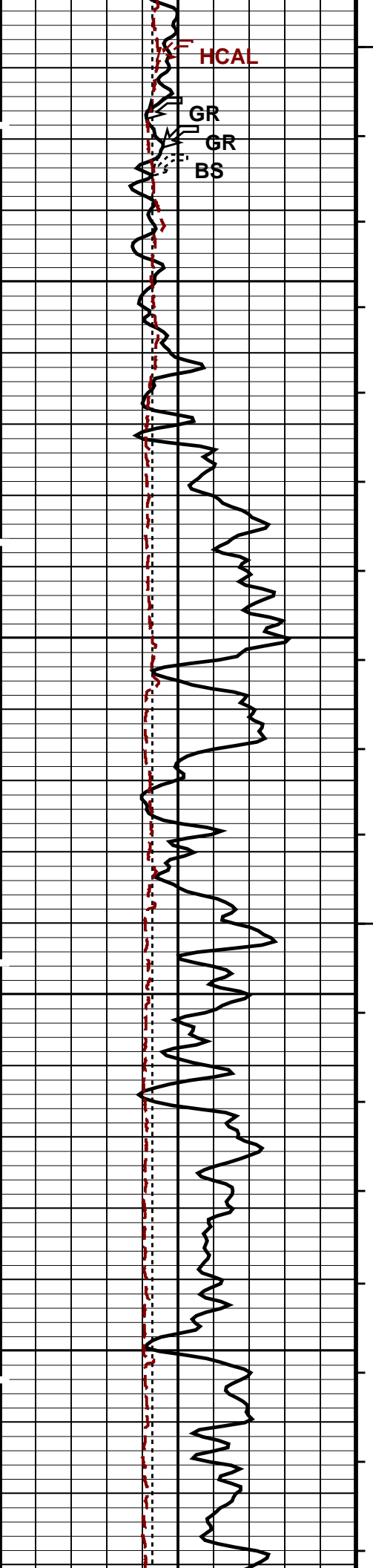


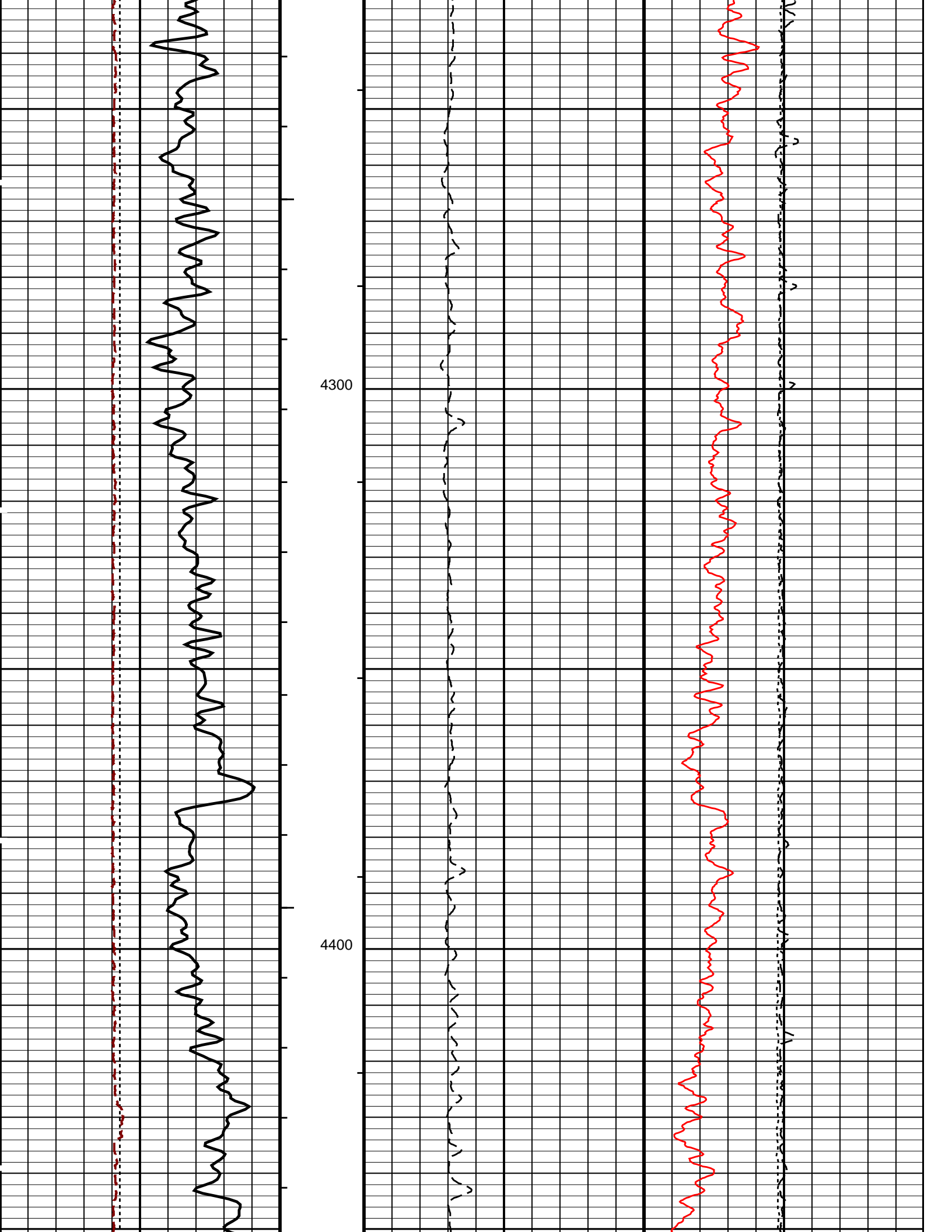
3600

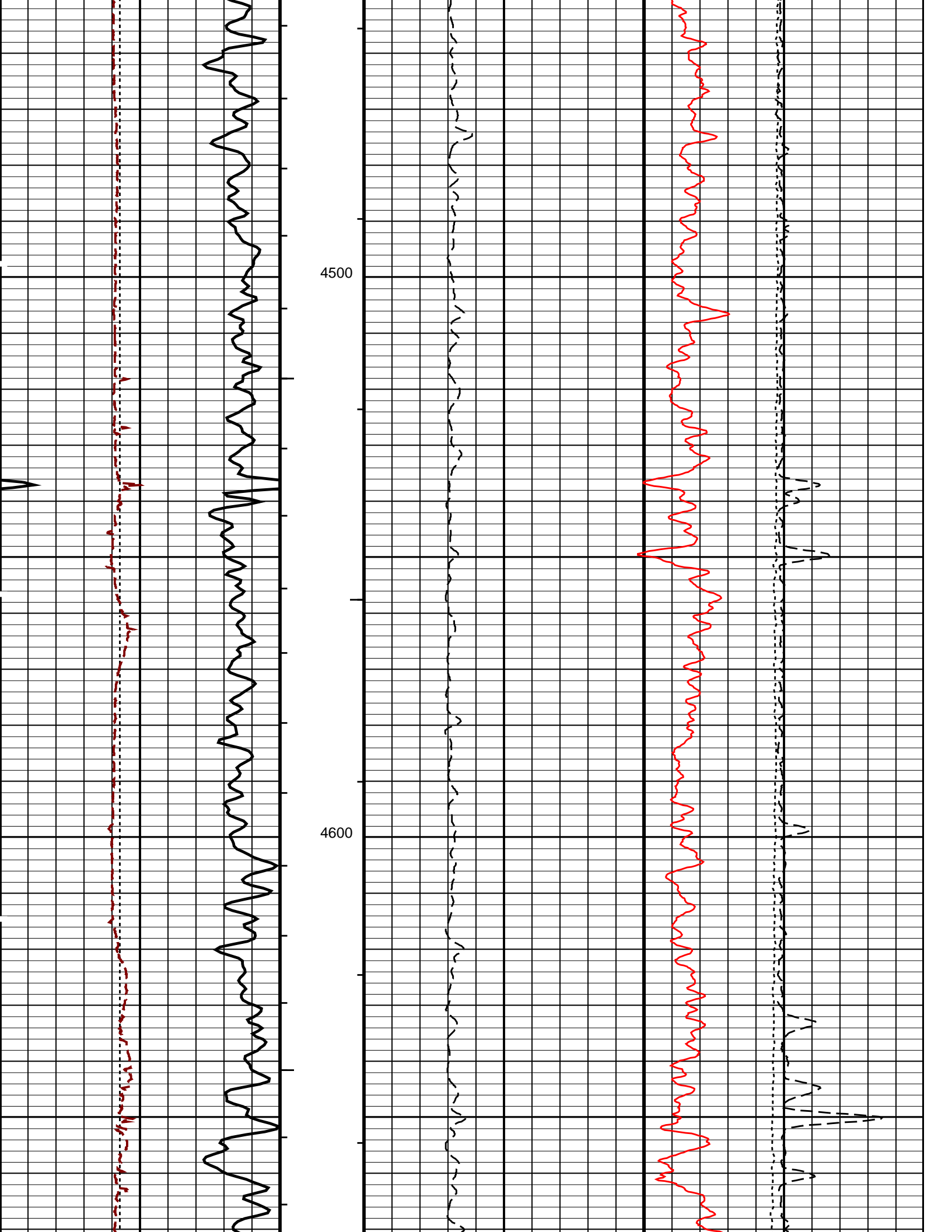
3700

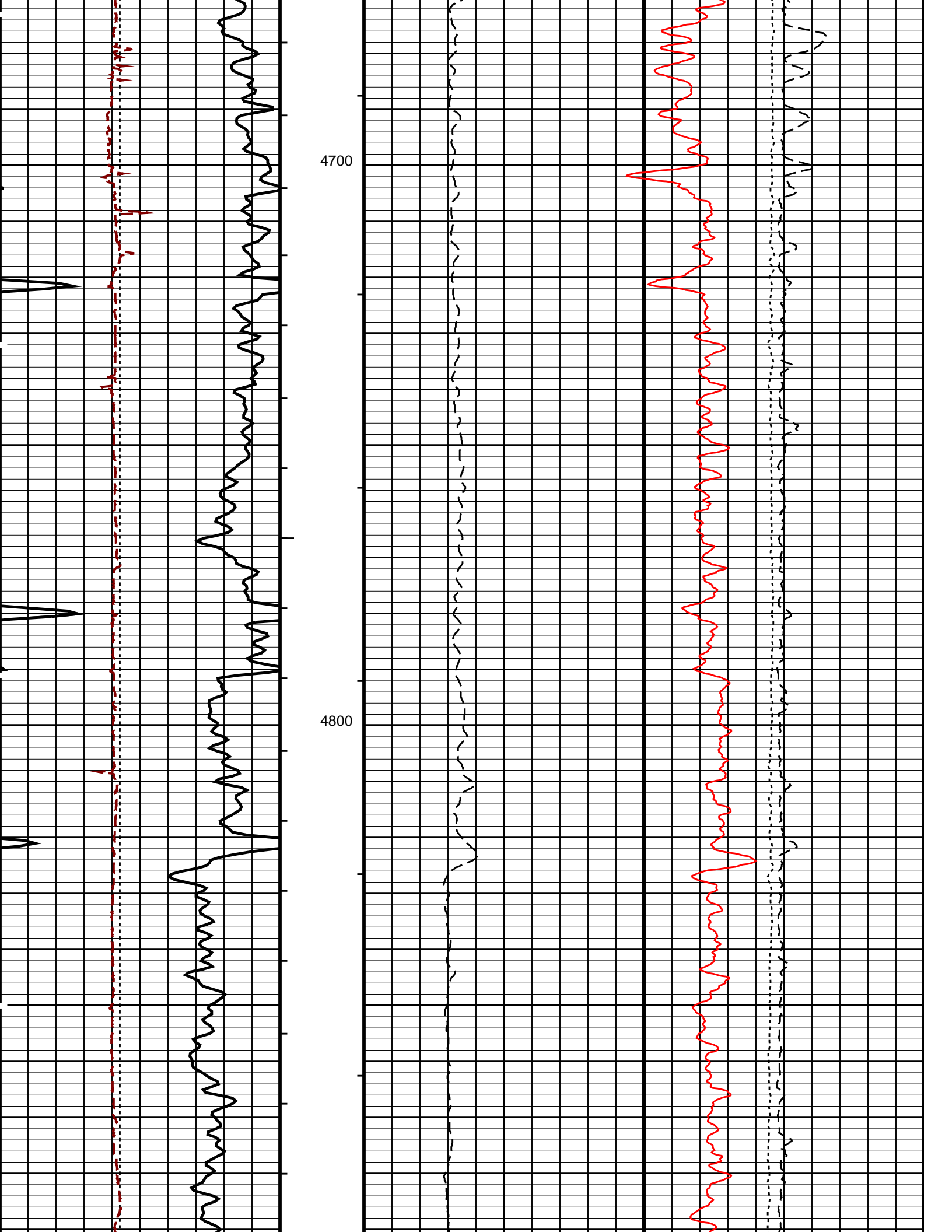




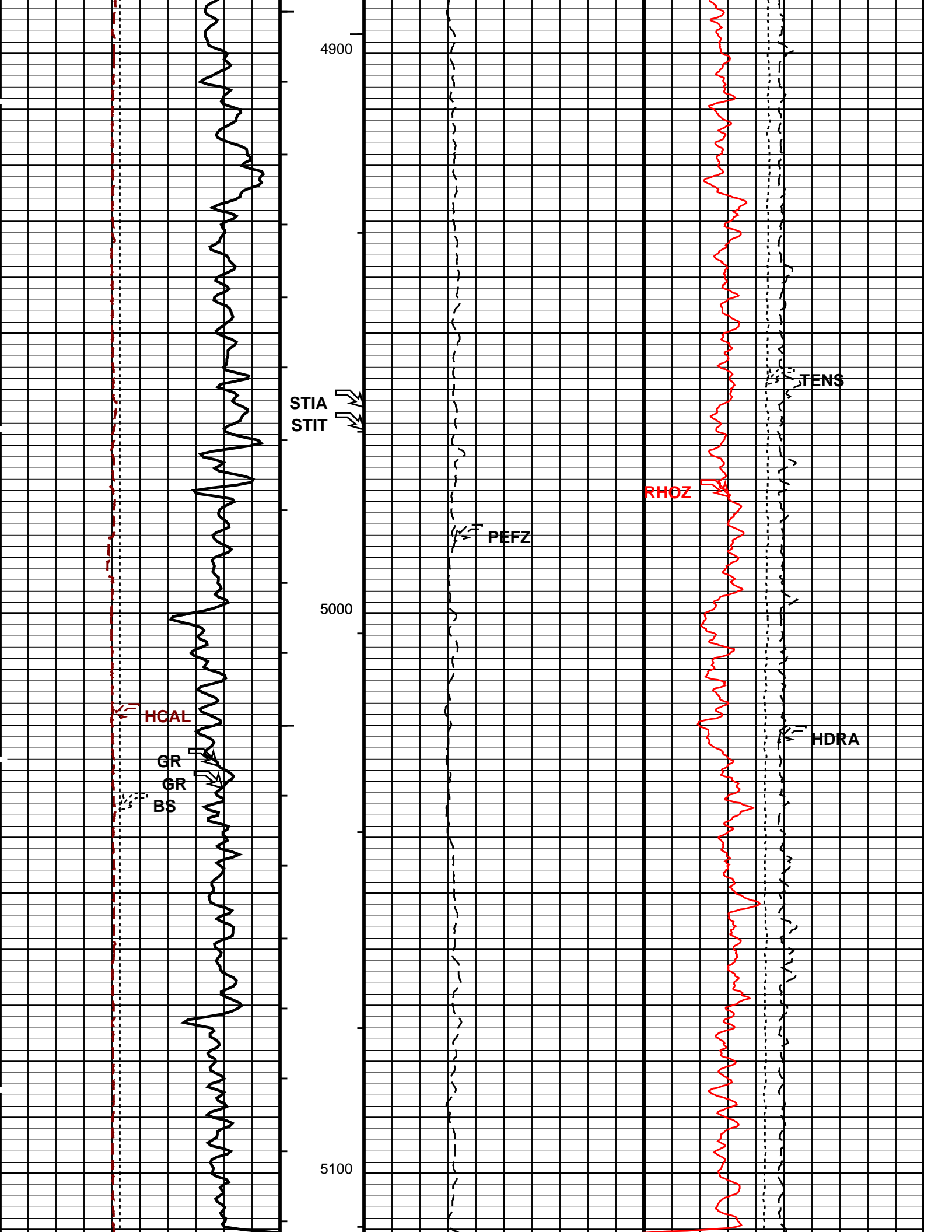














Time Mark Every 60 S

Format: DENS\_MIN    Vertical Scale: 5" per 100'

Graphics File Created: 20-Sep-2010 00:37

OP System Version: 17C0-154

HAIT-H                    17C0-154

DTC-H                    17C0-154

HILTH-FTB                    17C0-154

Input DLIS Files

DEFAULT                    AIT\_TLD\_MCFL\_CNL\_012LUP                    FN:11    PRODUCER                    19-Sep-2010 22:49                    5292.0 FT                    87.2 FT

Output DLIS Files

DEFAULT                    AIT\_TLD\_MCFL\_CNL\_018PUP                    FN:17    PRODUCER                    20-Sep-2010 00:37

Schlumberger

CALIBRATIONS

MAXIS Field Log

Calibration and Check Summary							
Measurement	Nominal	Master	Before	After	Change	Limit	Units
Array Induction Tool – H Wellsite Calibration – Electronics Calibration Check – Thru Cal Mag. & Phase							
Master: 13-Jul-2010 15:30    Before: 16-Sep-2010 16:03							
Thru Cal Magnitude – 0	0	0.6160	0.6171	N/A	N/A	N/A	V
Thru Cal Magnitude – 1	0	1.259	1.262	N/A	N/A	N/A	V
Thru Cal Magnitude – 2	0	0.6284	0.6295	N/A	N/A	N/A	V
Thru Cal Magnitude – 3	0	0.7104	0.7114	N/A	N/A	N/A	V
Thru Cal Magnitude – 4	0	1.323	1.326	N/A	N/A	N/A	V
Thru Cal Magnitude – 5	0	1.928	1.931	N/A	N/A	N/A	V
Thru Cal Magnitude – 6	0	1.927	1.930	N/A	N/A	N/A	V
Thru Cal Magnitude – 7	0	1.376	1.375	N/A	N/A	N/A	V
Phase – 0	0	72.63	72.93	N/A	N/A	N/A	DEG
Phase – 1	0	71.53	71.82	N/A	N/A	N/A	DEG
Phase – 2	0	67.79	68.06	N/A	N/A	N/A	DEG
Phase – 3	0	67.00	67.27	N/A	N/A	N/A	DEG
Phase – 4	0	60.73	60.96	N/A	N/A	N/A	DEG
Phase – 5	0	58.82	59.04	N/A	N/A	N/A	DEG
Phase – 6	0	58.83	59.04	N/A	N/A	N/A	DEG
Phase – 7	0	55.30	55.29	N/A	N/A	N/A	DEG
Array Induction Tool – H Wellsite Calibration – Electronics Calibration Check – Auxilliary							
Master: 13-Jul-2010 15:30    Before: 16-Sep-2010 16:03							
Array Induction SPA Plus	990.5	993.4	992.8	N/A	N/A	N/A	MV
Array Induction SPA Zero	0	0.05627	0.06776	N/A	N/A	N/A	MV
Array Induction Temperature PI	0.9150	0.9202	0.9199	N/A	N/A	N/A	V
Array Induction Temperature Ze	0	0.00004296	0.0002898	N/A	N/A	N/A	V
Array Induction Tool – H Wellsite Calibration – Test Loop Gain Correction							
Master: 13-Jul-2010 15:30							
Test Loop Gain Magnitude – 0	0	1.015	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 1	0	1.015	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 2	0	1.017	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 3	0	1.012	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 4	0	0.9978	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 5	0	0.9910	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 6	0	0.9978	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 7	0	0.9959	N/A	N/A	N/A	N/A	V

Test Loop Gain Magnitude - 7	0	0.9953	N/A	N/A	N/A	N/A	V
Phase - 0	0	0.5545	N/A	N/A	N/A	N/A	DEG
Phase - 1	0	0.5577	N/A	N/A	N/A	N/A	DEG
Phase - 2	0	-0.1154	N/A	N/A	N/A	N/A	DEG
Phase - 3	0	-0.04472	N/A	N/A	N/A	N/A	DEG
Phase - 4	0	-0.04545	N/A	N/A	N/A	N/A	DEG
Phase - 5	0	-0.2909	N/A	N/A	N/A	N/A	DEG
Phase - 6	0	0.06993	N/A	N/A	N/A	N/A	DEG
Phase - 7	0	-0.4058	N/A	N/A	N/A	N/A	DEG

#### Array Induction Tool - H Wellsite Calibration - Sonde Error Correction

Master: 13-Jul-2010 15:30

R Sonde Error Correction - 0	0	-78.85	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 1	0	191.2	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 2	0	108.8	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 3	0	66.78	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 4	0	26.80	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 5	0	15.07	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 6	0	10.84	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 7	0	-1.548	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 0	0	-659.8	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 1	0	-4.922	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 2	0	-134.9	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 3	0	140.2	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 4	0	-36.50	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 5	0	4.805	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 6	0	-12.87	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 7	0	-4.552	N/A	N/A	N/A	N/A	MM/M

#### Array Induction Tool - H Wellsite Calibration - Mud Gain Correction

Master: 13-Jul-2010 15:30

Coarse - Mag, Real, Imag - 0	0	0.9412	N/A	N/A	N/A	N/A
Coarse - Mag, Real, Imag - 1	0	0.9412	N/A	N/A	N/A	N/A
Coarse - Mag, Real, Imag - 2	0	0.9412	N/A	N/A	N/A	N/A
Fine - Mag, Real, Imag - 0	0	0.9507	N/A	N/A	N/A	N/A
Fine - Mag, Real, Imag - 1	0	0.9507	N/A	N/A	N/A	N/A
Fine - Mag, Real, Imag - 2	0	0.9507	N/A	N/A	N/A	N/A

#### High resolution Integrated Logging Tool-DTS Wellsite Calibration - Stab Measurement Summary

Before: 16-Sep-2010 16:06

BS Window Ratio	0.7406	N/A	0.7400	N/A	N/A	N/A	
BS Window Sum	28250	N/A	28250	N/A	N/A	N/A	CPS
SS Window Ratio	0.4695	N/A	0.4705	N/A	N/A	N/A	
SS Window Sum	12780	N/A	12790	N/A	N/A	N/A	CPS
LS Window Ratio	0.2992	N/A	0.2955	N/A	N/A	N/A	
LS Window Sum	1405	N/A	1398	N/A	N/A	N/A	CPS

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

Before: 16-Sep-2010 16:06

BS PM High Voltage (Command)	1570	N/A	1566	N/A	N/A	N/A	V
SS PM High Voltage (Command)	1629	N/A	1613	N/A	N/A	N/A	V
LS PM High Voltage (Command)	1301	N/A	1297	N/A	N/A	N/A	V

#### High resolution Integrated Logging Tool-DTS Wellsite Calibration - Crystal Quality Resolutions Calibration

Before: 16-Sep-2010 16:06

BS Crystal Resolution	10.46	N/A	10.48	N/A	N/A	N/A	%
SS Crystal Resolution	8.966	N/A	8.941	N/A	N/A	N/A	%
LS Crystal Resolution	8.596	N/A	8.515	N/A	N/A	N/A	%

#### High resolution Integrated Logging Tool-DTS Wellsite Calibration - MCFL Calibration

Before: 16-Sep-2010 16:06

Raw B0 Resistivity	3875	N/A	3851	N/A	N/A	N/A	OHMM
Raw B1 Resistivity	3830	N/A	3773	N/A	N/A	N/A	OHMM
Raw B2 Resistivity	3830	N/A	3783	N/A	N/A	N/A	OHMM

#### High resolution Integrated Logging Tool-DTS Wellsite Calibration - HILT Caliper Calibration

Before: 16-Sep-2010 16:04

HILT Caliper Zero Measurement	8.000	N/A	7.747	N/A	N/A	N/A	IN
HILT Caliper Plus Measurement	12.00	N/A	11.99	N/A	N/A	N/A	IN

#### High resolution Integrated Logging Tool-DTS Wellsite Calibration - Detector Calibration

Before: 16-Sep-2010 16:01

Gamma Ray Background	30.00	N/A	33.63	N/A	N/A	N/A	GAPI
Gamma Ray (Jig - Bkg)	164.5	N/A	164.5	N/A	N/A	14.96	GAPI
Gamma Ray (Calibrated)	165.0	N/A	165.0	N/A	N/A	15.00	GAPI

#### High resolution Integrated Logging Tool-DTS Wellsite Calibration - Zero Measurement

Master: 28-Jul-2010 14:05 Before: 16-Sep-2010 16:16



CNTC Background	32.64	32.64	29.42	N/A	N/A	4.896	CPS
CFTC Background	33.74	33.74	29.31	N/A	N/A	5.061	CPS

#### High resolution Integrated Logging Tool-DTS Wellsite Calibration - Ratio Measurement

Master: 28-Jul-2010 14:05							
Thermal Near Corr. (Tank)	5800	5292	N/A	N/A	N/A	N/A	CPS
Thermal Far Corr. (Tank)	2400	2168	N/A	N/A	N/A	N/A	CPS
CNTC/CFTC (Tank)	2.159	2.441	N/A	N/A	N/A	N/A	
High resolution Integrated Logging Tool–DTS Wellsite Calibration – Accelerometer Calibration							
Before: 19-Sep-2010 21:52							
Z–Axis Acceleration	32.19	N/A	32.09	N/A	N/A	N/A	F/S2
High resolution Integrated Logging Tool–DTS Master Calibration – Inversion results							
Master: 15-Sep-2010 15:52							
Rho Aluminum	2.596	2.598	--	--	--	--	G/C3
Rho Magnesium	1.686	1.689	--	--	--	--	G/C3
Pe Aluminum	2.570	2.538	--	--	--	--	
Pe Magnesium	2.650	2.628	--	--	--	--	
High resolution Integrated Logging Tool–DTS Master Calibration – Deviation Summary							
Master: 15-Sep-2010 15:52							
BS Average Deviation	0	0.4802	--	--	--	--	%
BS Max Deviation	0	1.417	--	--	--	--	%
SS Average Deviation	0	0.3648	--	--	--	--	%
SS Max Deviation	0	1.231	--	--	--	--	%
LS Average Deviation	0	0.4458	--	--	--	--	%
LS Max Deviation	0	1.192	--	--	--	--	%
The GLS–VJ source activity is acceptable.							
The HGNS Neutron Master Calibration was done with the following parameters :							
NCT–B Water Temperature	66.7	DEGF.					
Thermal Housing Size	3.371	IN.					
NSR–F serial number	1260						

Array Induction Tool – H / Equipment Identification			
Primary Equipment:			
Rm/SP Bottom Nose		AHRM – A	
Array Induction Sonde		AHIS – BA	
Auxiliary Equipment:		392	

Array Induction Tool – H Wellsite Calibration							
Electronics Calibration Check – Thru Cal Mag. & Phase							
Idx	Phase	Value	Thru Cal Magnitude V	Nominal	Value	Phase DEG	Nominal
0	Master	0.6160		0.6050	72.63		71.00
	Before	0.6171			72.93		
1	Master	1.259		1.270	71.53		70.00
	Before	1.262			71.82		
2	Master	0.6284		0.6230	67.79		66.00
	Before	0.6295			68.06		
3	Master	0.7104		0.7040	67.00		65.00
	Before	0.7114			67.27		
4	Master	1.323		1.337	60.73		59.00
	Before	1.326			60.96		
5	Master	1.928		1.955	58.82		57.00
	Before	1.931			59.04		
6	Master	1.927		1.955	58.83		57.00
	Before	1.930			59.04		
7	Master	1.376		1.445	55.30		52.00

7	Before	1.375		1.415	55.29		53.00
		60.00 % (Minimum)	(Nominal)	140.0 % (Maximum)	Nom -60.00 (Minimum)	(Nominal)	Nom + 60.00 (Maximum)
Master: 13-Jul-2010 15:30				Before: 16-Sep-2010 16:03			

Array Induction Tool – H Wellsite Calibration									
Electronics Calibration Check – Auxilliary									
Phase	Array Induction SPA Plus MV		Value	Phase	Array Induction SPA Zero MV		Value		
Master			993.4	Master			0.05627		
Before			992.8	Before			0.06776		
941.0 (Minimum)			990.5 (Nominal)	1040 (Maximum)	-50.00 (Minimum)			0 (Nominal)	50.00 (Maximum)
Phase	Array Induction Temperature Plus V		Value	Phase	Array Induction Temperature Zero V		Value		
Master			0.9202	Master			4.296E-00		
Before			0.9199	Before			0.0002898		
0.8700 (Minimum)			0.9150 (Nominal)	0.9600 (Maximum)	-0.05000 (Minimum)			0 (Nominal)	0.05000 (Maximum)
Master: 13-Jul-2010 15:30				Before: 16-Sep-2010 16:03					





Array Induction Tool – H Wellsite Calibration							
Test Loop Gain Correction							
Idx	Value	Test Loop Gain Magnitude V			Value	Phase DEG	
0	1.015				0.5545		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
1	1.015				0.5577		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
2	1.017				-0.1154		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
3	1.012				-0.04472		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
4	0.9978				-0.04545		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
5	0.9910				-0.2909		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
6	0.9978				0.06993		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
7	0.9953				-0.4058		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
Master: 13-Jul-2010 15:30							

Array Induction Tool – H Wellsite Calibration						
Sonde Error Correction						
Idx	Value	R Sonde Error Correction MM/M			Value	X Sonde Error Correction MM/M
0	-78.85	<div><div></div><div></div><div></div></div>			-659.8	<div><div></div><div></div><div></div></div>
		-231.0 (Minimum)	-56.00 (Nominal)	119.0 (Maximum)	-2250 (Minimum)	0 (Nominal) 2250 (Maximum)
1	191.2	<div><div></div><div></div><div></div></div>			-4.922	<div><div></div><div></div><div></div></div>
		114.0 (Minimum)	159.0 (Nominal)	204.0 (Maximum)	-625.0 (Minimum)	0 (Nominal) 625.0 (Maximum)
2	108.8	<div><div></div><div></div><div></div></div>			-134.9	<div><div></div><div></div><div></div></div>
		66.00 (Minimum)	111.0 (Nominal)	156.0 (Maximum)	-350.0 (Minimum)	0 (Nominal) 350.0 (Maximum)
3	66.78	<div><div></div><div></div><div></div></div>			140.2	<div><div></div><div></div><div></div></div>
		39.00 (Minimum)	64.00 (Nominal)	89.00 (Maximum)	-250.0 (Minimum)	0 (Nominal) 250.0 (Maximum)
4	26.80	<div><div></div><div></div><div></div></div>			-36.50	<div><div></div><div></div><div></div></div>

		15.00 (Minimum)	25.00 (Nominal)	35.00 (Maximum)		-63.00 (Minimum)	0 (Nominal)	63.00 (Maximum)
5	15.07					4.805		
		4.000 (Minimum)	14.00 (Nominal)	24.00 (Maximum)		-50.00 (Minimum)	0 (Nominal)	50.00 (Maximum)
6	10.84					-12.87		
		5.000 (Minimum)	10.00 (Nominal)	15.00 (Maximum)		-30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)
7	-1.548					-4.552		
		-5.000 (Minimum)	0 (Nominal)	5.000 (Maximum)		-30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)
Master: 13-Jul-2010 15:30								

Array Induction Tool – H Wellsite Calibration								
Mud Gain Correction								
Idx	Value	Coarse – Mag, Real, Imag			Value	Fine – Mag, Real, Imag		
0	0.9412	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	0.9507	<div><div></div></div>		
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
1	0.9412	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	0.9507	<div><div></div></div>		
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
2	0.9412	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	0.9507	<div><div></div></div>		
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
Master: 13–Jul–2010 15:30								

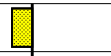

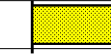




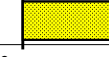








Array Induction Tool – H Master Calibration							
Electronics Calibration Check – Thru Cal Mag. & Phase							
Idx	Phase	Value	Thru Cal Magnitude V	Nominal	Value	Phase DEG	Nominal
0	Master	0.6160		0.6050	72.63		71.00
1	Master	1.259		1.270	71.53		70.00
2	Master	0.6284		0.6230	67.79		66.00
3	Master	0.7104		0.7040	67.00		65.00
4	Master	1.323		1.337	60.73		59.00
5	Master	1.928		1.955	58.82		57.00
6	Master	1.927		1.955	58.83		57.00
7	Master	1.376		1.415	55.30		53.00
		60.00 % (Minimum)	(Nominal)	140.0 % (Maximum)	Nom -60.00 (Minimum)	(Nominal)	Nom + 60.00 (Maximum)
Master: 13-Jul-2010 15:30							

Array Induction Tool – H Master Calibration							
Electronics Calibration Check – Auxilliary							
Phase	Array Induction SPA Plus MV		Value	Phase	Array Induction SPA Zero MV		Value
Master			993.4	Master			0.05627
	941.0 (Minimum)	990.5 (Nominal)	1040 (Maximum)		-50.00 (Minimum)	0 (Nominal)	50.00 (Maximum)
Phase	Array Induction Temperature Plus V		Value	Phase	Array Induction Temperature Zero V		Value
Master			0.9202	Master			4.296E-00
	0.8700 (Minimum)	0.9150 (Nominal)	0.9600 (Maximum)		-0.05000 (Minimum)	0 (Nominal)	0.05000 (Maximum)
Master: 13-Jul-2010 15:30							

Array Induction Tool – H Master Calibration				
Test Loop Gain Correction				
Idx	Value	Test Loop Gain Magnitude V		
0	1.015			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)
1	1.015			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)



	(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)
2	1.017			-0.1154		
	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
3	1.012			-0.04472		
	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
4	0.9978			-0.04545		
	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
5	0.9910			-0.2909		
	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
6	0.9978			0.06993		
	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
7	0.9953			-0.4058		
	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
Master: 13-Jul-2010 15:30						

Array Induction Tool – H Master Calibration							
Sonde Error Correction							
Idx	Value	R Sonde Error Correction MM/M			Value	X Sonde Error Correction MM/M	
0	-78.85				-659.8		
		-231.0 (Minimum)	-56.00 (Nominal)	119.0 (Maximum)		-2250 (Minimum)	0 (Nominal) 2250 (Maximum)
1	191.2				-4.922		
		114.0 (Minimum)	159.0 (Nominal)	204.0 (Maximum)		-625.0 (Minimum)	0 (Nominal) 625.0 (Maximum)
2	108.8				-134.9		
		66.00 (Minimum)	111.0 (Nominal)	156.0 (Maximum)		-350.0 (Minimum)	0 (Nominal) 350.0 (Maximum)
3	66.78				140.2		
		39.00 (Minimum)	64.00 (Nominal)	89.00 (Maximum)		-250.0 (Minimum)	0 (Nominal) 250.0 (Maximum)
4	26.80				-36.50		
		15.00 (Minimum)	25.00 (Nominal)	35.00 (Maximum)		-63.00 (Minimum)	0 (Nominal) 63.00 (Maximum)
5	15.07				4.805		
		4.000 (Minimum)	14.00 (Nominal)	24.00 (Maximum)		-50.00 (Minimum)	0 (Nominal) 50.00 (Maximum)
6	10.84				-12.87		
		5.000 (Minimum)	10.00 (Nominal)	15.00 (Maximum)		-30.00 (Minimum)	0 (Nominal) 30.00 (Maximum)
7	-1.548				-4.552		
		-5.000 (Minimum)	0 (Nominal)	5.000 (Maximum)		-30.00 (Minimum)	0 (Nominal) 30.00 (Maximum)
Master: 13-Jul-2010 15:30							

Array Induction Tool – H Master Calibration							
Mud Gain Correction							
Idx	Value	Coarse – Mag, Real, Imag			Value	Fine – Mag, Real, Imag	
0	0.9412				0.9507		
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal) 1.200 (Maximum)
1	0.9412				0.9507		
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal) 1.200 (Maximum)
2	0.9412				0.9507		
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal) 1.200 (Maximum)
Master: 13–Jul–2010 15:30							

## Primary Equipment:

HILT high-Resolution Mechanical Sonde  
HILT Rxo Gamma-ray Device  
HILT Micro Cylindrically Focused Log Dev  
GR Logging Source  
HILT High Res. Control Cartridge  
HILT Gamma-Ray Neutron Sonde-DTS  
HGNS Gamma-Ray Device  
HGNS Neutron Detector with Alpha Source

HRMS – H  
HRGD – H  
MCFL – H  
GLS – VJ  
HRCC – H  
HGNS – H  
HGR –  
HCNT – H

5234







## Auxiliary Equipment:

Neutron Calibration Tank  
Gamma Source Radioactive  
HGNS Housing

NCT – B  
GSR – U/Y  
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			0.7400	Before			0.4705	Before			0.2955
	0.7035 (Minimum)	0.7406 (Nominal)	0.7776 (Maximum)		0.4461 (Minimum)	0.4695 (Nominal)	0.4930 (Maximum)		0.2842 (Minimum)	0.2992 (Nominal)	0.3141 (Maximum)
Phase	BS Window Sum CPS		Value	Phase	SS Window Sum CPS		Value	Phase	LS Window Sum CPS		Value
Before			28250	Before			12790	Before			1398
	26840 (Minimum)	28250 (Nominal)	29660 (Maximum)		12140 (Minimum)	12780 (Nominal)	13420 (Maximum)		1335 (Minimum)	1405 (Nominal)	1475 (Maximum)

Before: 16-Sep-2010 16:06

## 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			1566	Before			1613	Before			1297
	1470 (Minimum)	1570 (Nominal)	1670 (Maximum)		1529 (Minimum)	1629 (Nominal)	1729 (Maximum)		1201 (Minimum)	1301 (Nominal)	1401 (Maximum)

Before: 16-Sep-2010 16:06

## 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			10.48	Before			8.941	Before			8.515
	9.457 (Minimum)	10.46 (Nominal)	11.46 (Maximum)		7.966 (Minimum)	8.966 (Nominal)	9.966 (Maximum)		7.596 (Minimum)	8.596 (Nominal)	9.596 (Maximum)

Before: 16-Sep-2010 16:06

## 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			3851	Before			3773	Before			3783
	3565 (Minimum)	3875 (Nominal)	4185 (Maximum)		3524 (Minimum)	3830 (Nominal)	4136 (Maximum)		3524 (Minimum)	3830 (Nominal)	4136 (Maximum)

Before: 16-Sep-2010 16:06

## 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			7.747	Before			11.99
	6.000 (Minimum)	8.000 (Nominal)	10.00 (Maximum)		9.000 (Minimum)	12.00 (Nominal)	15.00 (Maximum)





Before: 16-Sep-2010 16:04




## High resolution Integrated Logging Tool-DTS Wellsite Calibration


## Detector Calibration





Phase	Gamma Ray Background GAPI		Value	Phase	Gamma Ray (Jig - Bkg) GAPI		Value	Phase	Gamma Ray (Calibrated) GAPI		Value
Before			33.63	Before			164.5	Before			165.0
	0 (Minimum)	30.00 (Nominal)	120.0 (Maximum)		149.6 (Minimum)	164.5 (Nominal)	179.5 (Maximum)		150.0 (Minimum)	165.0 (Nominal)	180.0 (Maximum)







Before: 16-Sep-2010 16:01



High resolution Integrated Logging Tool–DTS Wellsite Calibration							
Zero Measurement							
Phase	CNTC Background CPS		Value	Phase	CFTC Background CPS		Value
Master			32.64	Master			33.74
Before			29.42	Before			29.31
5.000			32.64	5.000			33.74
(Minimum)			(Nominal)	(Minimum)			(Nominal)
40.00				40.00			
(Maximum)				(Maximum)			
Master: 28-Jul-2010 14:05				Before: 16-Sep-2010 16:16			



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				5292	Master				2168	Master				2.441
4700				1900				2.120						
(Minimum)				(Minimum)				(Minimum)						
5800				2400				2.159						
(Nominal)				(Nominal)				(Nominal)						
6900				2900				2.540						
(Maximum)				(Maximum)				(Maximum)						
Master: 28–Jul–2010 14:05														

High resolution Integrated Logging Tool–DTS Wellsite Calibration		
Accelerometer Calibration		
Phase	Z–Axis Acceleration F/S2	Value
Before		32.09
31.53		32.19
(Minimum)		(Nominal)
		32.84
		(Maximum)
Before: 19–Sep–2010 21:52		

High resolution Integrated Logging Tool–DTS Master Calibration							
Inversion results							
Phase	Rho Aluminum G/C3		Value	Phase	Rho Magnesium G/C3		Value
Master			2.598	Master			1.689
2.586		2.596	2.606	1.676		1.686	1.696
(Minimum)		(Nominal)	(Maximum)	(Minimum)		(Nominal)	(Maximum)
Phase	Pe Aluminum		Value	Phase	Pe Magnesium		Value
Master			2.538	Master			2.628
2.470		2.570	2.670	2.550		2.650	2.750
(Minimum)		(Nominal)	(Maximum)	(Minimum)		(Nominal)	(Maximum)
Master: 15–Sep–2010 15:52							

High resolution Integrated Logging Tool–DTS Master Calibration																										
Deviation Summary																										
Phase	BS Average Deviation %			Value	Phase	SS Average Deviation %			Value	Phase	LS Average Deviation %			Value												
Master				0.4802	Master				0.3648	Master				0.4458												
–0.6000 (Minimum)				0 (Nominal)	0.6000 (Maximum)				–1.000 (Minimum)				0 (Nominal)	1.000 (Maximum)				–1.500 (Minimum)				0 (Nominal)	1.500 (Maximum)			
Phase	BS Max Deviation %			Value	Phase	SS Max Deviation %			Value	Phase	LS Max Deviation %			Value												
Master				1.417	Master				1.231	Master				1.192												
–1.600 (Minimum)				0 (Nominal)	1.600 (Maximum)				–2.500 (Minimum)				0 (Nominal)	2.500 (Maximum)				–3.500 (Minimum)				0 (Nominal)	3.500 (Maximum)			
Master: 15–Sep–2010 15:52																										

High resolution Integrated Logging Tool–DTS Master Calibration							
Zero Measurement							
Phase	CNTC Background CPS		Value	Phase	CFTC Background CPS		Value
Master			32.64	Master			33.74
5.000		32.64	40.00	5.000		33.74	40.00
(Minimum)		(Nominal)	(Maximum)	(Minimum)		(Nominal)	(Maximum)
Master: 28–Jul–2010 14:05							

High resolution Integrated Logging Tool–DTS Master Calibration									
Tank Measurement									
Phase	Thermal Near Corr. (Tank) CPS			Value	Phase	Thermal Far Corr. (Tank) CPS			Value
Master				5292	Master				2168
4700		5800	6900	1900		2400	2900	2.120	
(Minimum)		(Nominal)	(Maximum)	(Minimum)		(Nominal)	(Maximum)	(Minimum)	
								2.159	
								(Nominal)	
								2.540	
								(Maximum)	

DTS Telemetry Tool / Equipment Identification

Primary Equipment:

DTC-H Auxiliary Cartridge  
DTC-H Telemetry Cartridge

DTCH - A  
DTCH - A

Auxiliary Equipment:

DTCH Telemetry Cartridge Housing

ECH - KC

Company: **SG INTERESTS I. LTD.**

**Schlumberger**

Well: **COW SKULL 11-89-18 #1**

Field: **BULL MTN UNIT**

County: **GUNNISON**

State: **COLORADO**

**\*\* PLATFORM EXPRESS \*\***

**LITHO DENSITY / COMPENSATED NEUTRON**

**ARRAY INDUCTION TOOL**