

DEPTH SUMMARY LISTING

Date Created: 22-NOV-2011 7:35:28

Depth System Equipment

Depth Measuring Device	Tension Device	Logging Cable
Type: IDW-B Serial Number: 799 Calibration Date: 17-Mar-2011 Calibrator Serial Number: 33 Calibration Cable Type: 7-39P LXS Wheel Correction 1: -4 Wheel Correction 2: -4	Type: CMTD-B/A Serial Number: 1098 Calibration Date: 26-Oct-2011 Calibrator Serial Number: 100513 Number of Calibration Points: 10 Calibration RMS: 10 Calibration Peak Error: 15	Type: 7-39P LXS Serial Number: 6171 Length: 15500 FT Conveyance Method: Wireline Rig Type: LAND

Depth Control Parameters

Log Sequence: First Log In the Well
Rig Up Length At Surface: 0.00 FT
Rig Up Length At Bottom: 0.00 FT
Rig Up Length Correction: 0.00 FT
Stretch Correction: 2.00 FT
Tool Zero Check At Surface: 0.00 FT

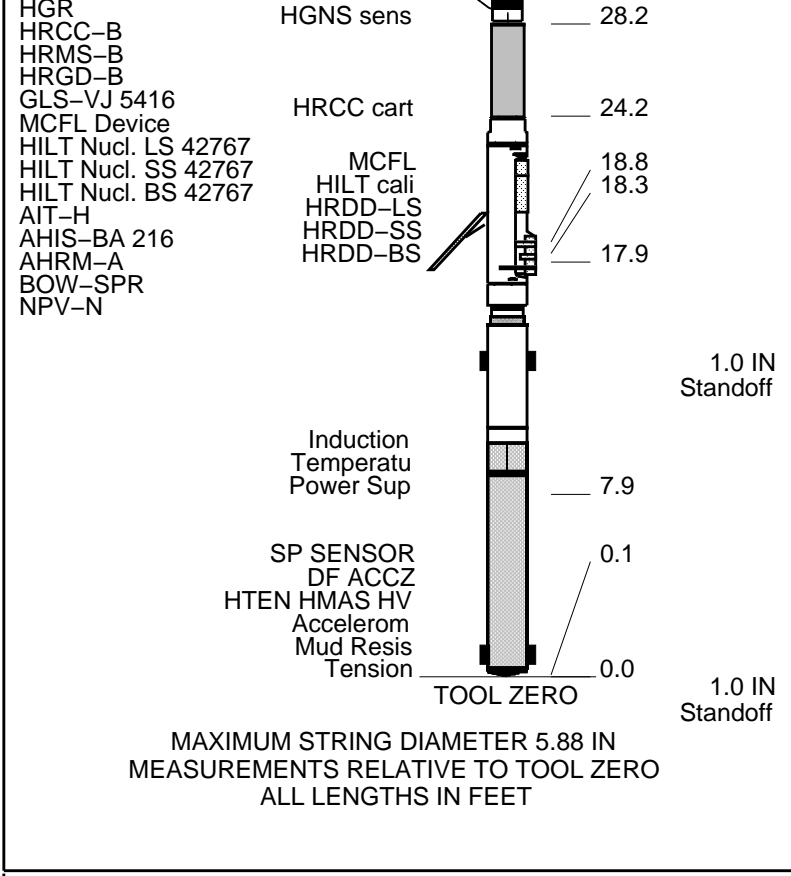
Depth Control Remarks

<ol style="list-style-type: none"> 1. All Schlumberger depth policy procedures applied 2. This is the primary depth reference 3. 4. 5. 6.

DISCLAIMER

THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE OF AND RELIANCE UPON THE RECORDED-DATA; AND (c) CUSTOMER'S FULL AND SOLE RESPONSIBILITY FOR ANY INFERENCE DRAWN OR DECISION MADE IN CONNECTION WITH THE USE OF THIS RECORDED-DATA.

OTHER SERVICES1	OTHER SERVICES2
OS1: FMI	OS1:
OS2: Sonic Scanner	OS2:
OS3: ECS	OS3:
OS4: HNGS	OS4:
OS5:	OS5:
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
This is the first run in the hole.	
Toolstring run as per tool sketch.	
Matrix changes are as noted on the porosity print.	



Production String	(in)		(ft)	Well Schematic	(ft)	(in)		Casing String
	OD	ID	MD		MD	OD	ID	
					0.0	9.625		Casing String
					1425.0	9.625		Casing Shoe
					1425.0	8.750		Borehole Segment

All Dents are Drillers Dents

Schlumberger

COMBO LOG 5" = 100'

MAXIS Field Log

Company: Carrizo Oil & Gas Inc

Well: Barracuda 20-14-7-6

Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_039PUP	FN:37	PRODUCER	22-Nov-2011 10:41	7044.0 FT	1309.5 FT
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Output DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_044PUP	FN:42	PRODUCER	22-Nov-2011 11:09	7042.5 FT	1309.5 FT
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OP System Version: 18C0-147

HILTB-FTB	18C0-147	ECS-HP	18C0-147
ECC-B	18C0-147	HNGC-B	18C0-147
HNGS-BA	18C0-147	EDTC-B	SRPC-4072-Q4_2010_OP18

Changed Parameter Summary

DLIS Name

New Value

Previous Value

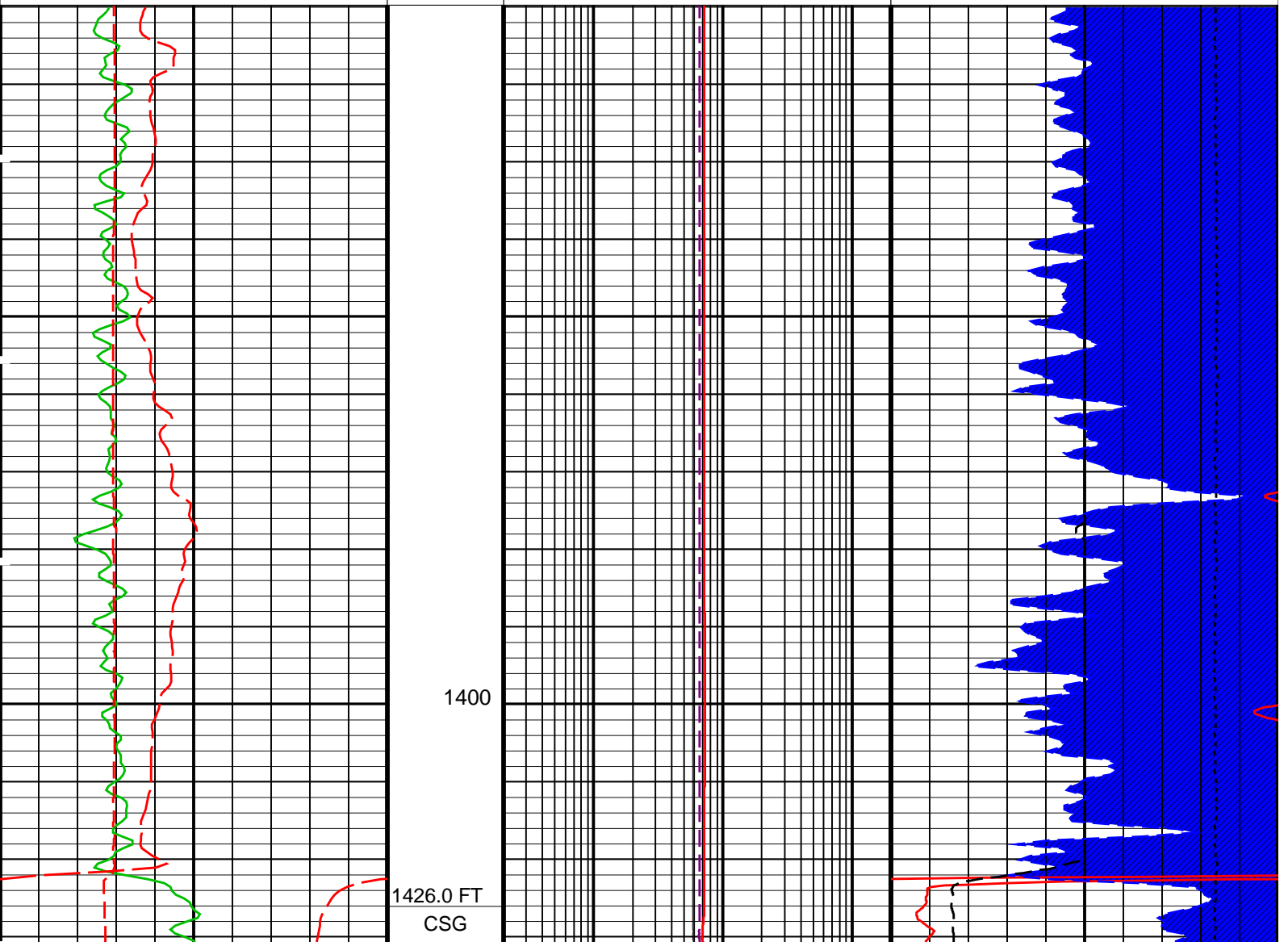
Depth & Time

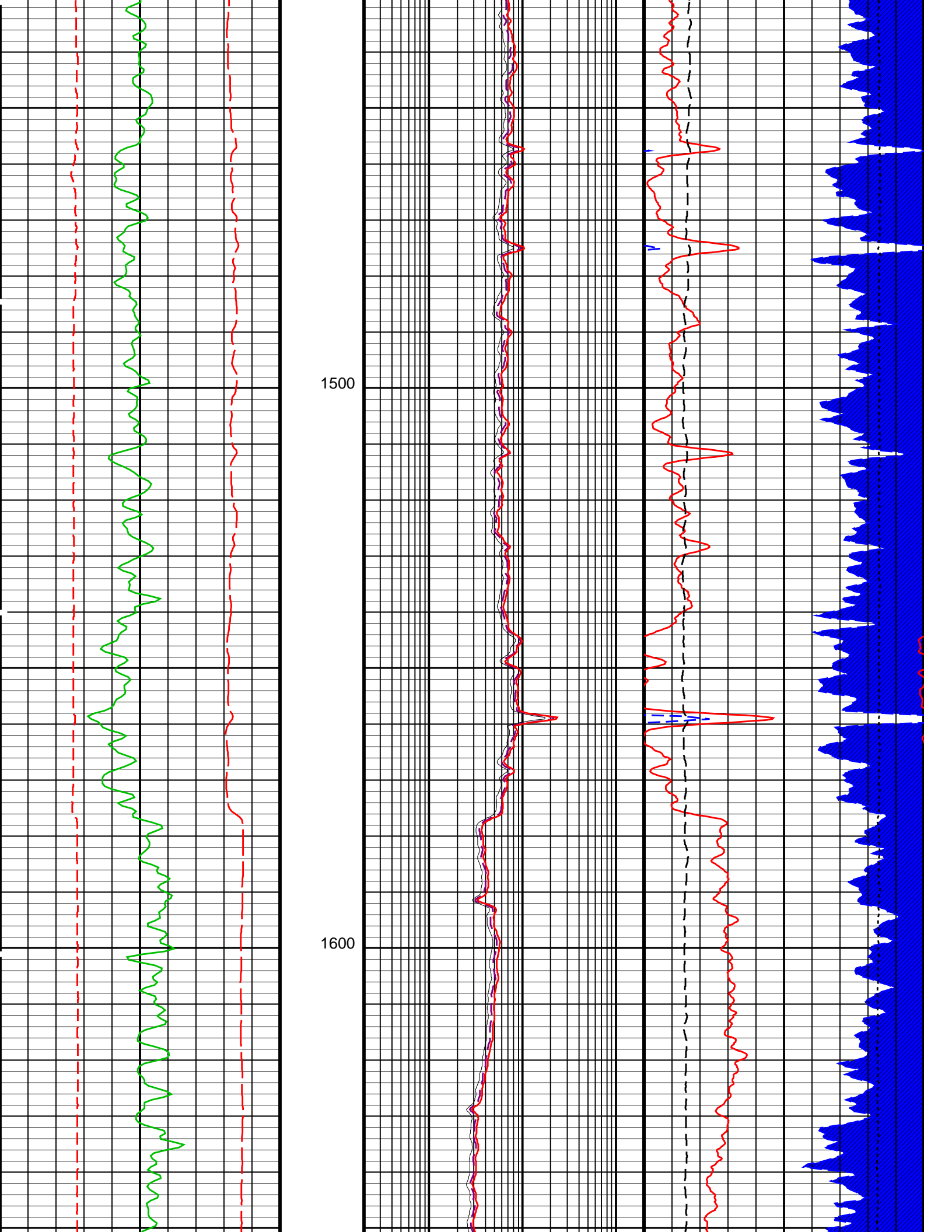
MATR	SANDSTONE	SANDSTONE	7042.5 11:11:07
	LIMESTONE	SANDSTONE	6562.0 11:11:22
MDEN	2.65 G/C3	2.65 G/C3	7042.5 11:11:07
	2.71 G/C3	2.65 G/C3	6562.0 11:11:22

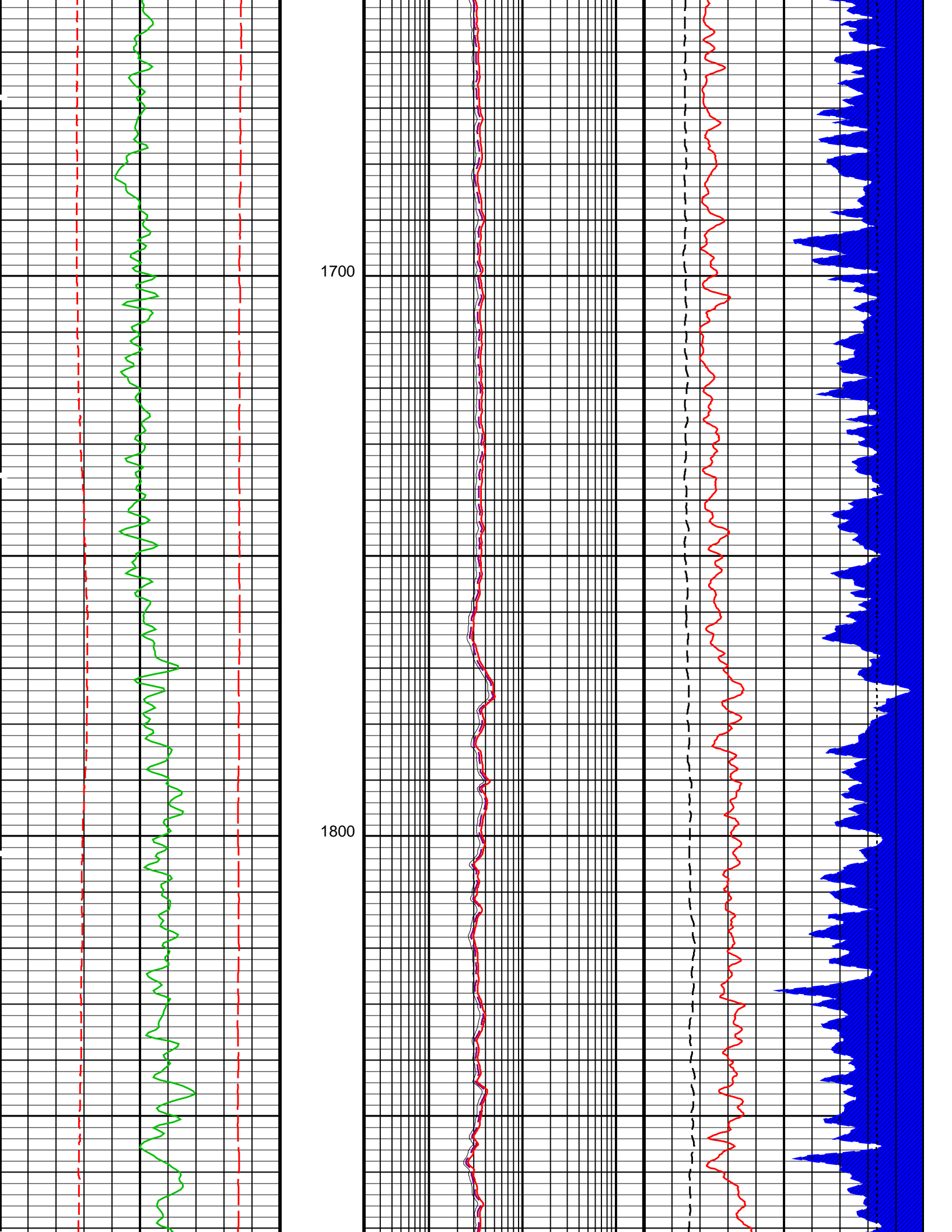
PIP SUMMARY

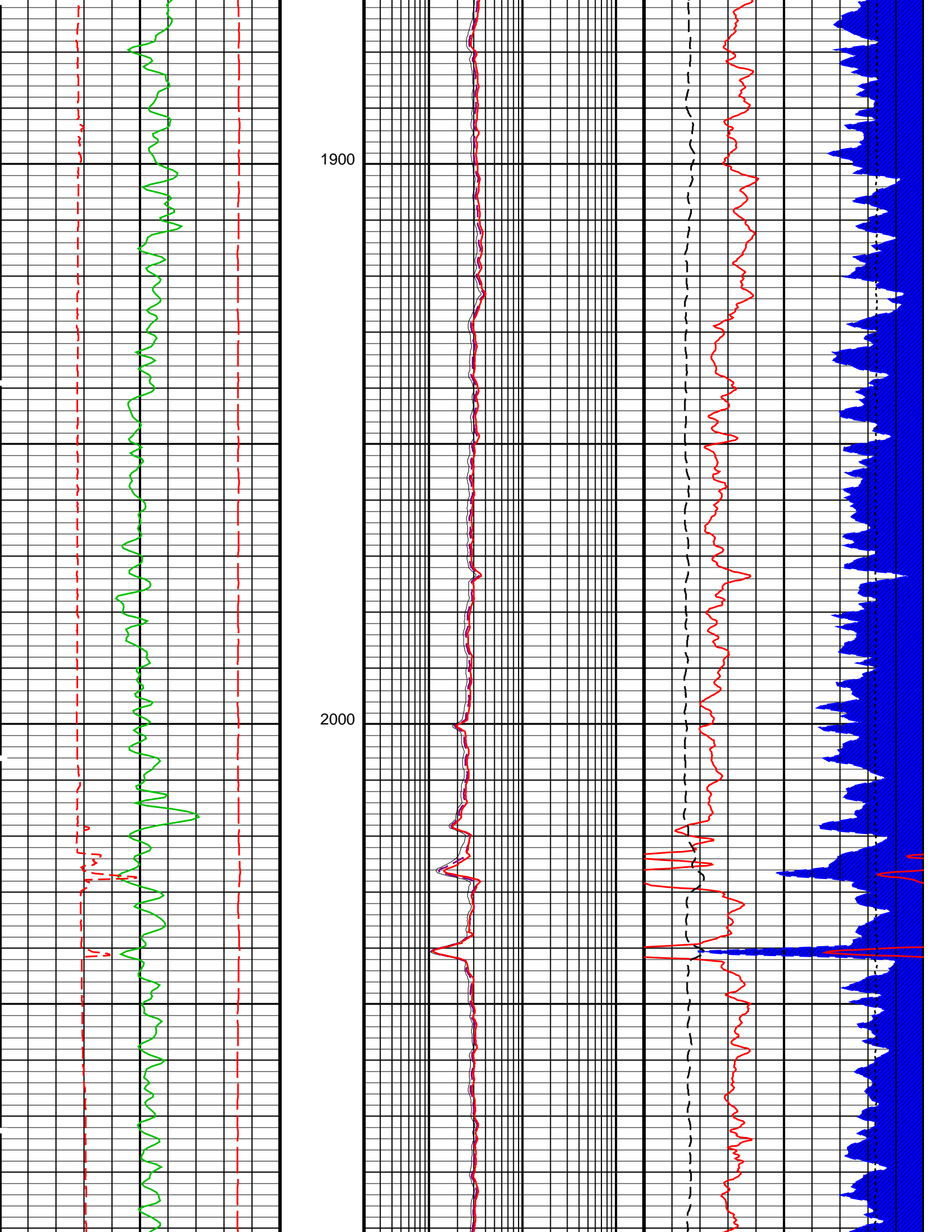
Time Mark Every 60 S

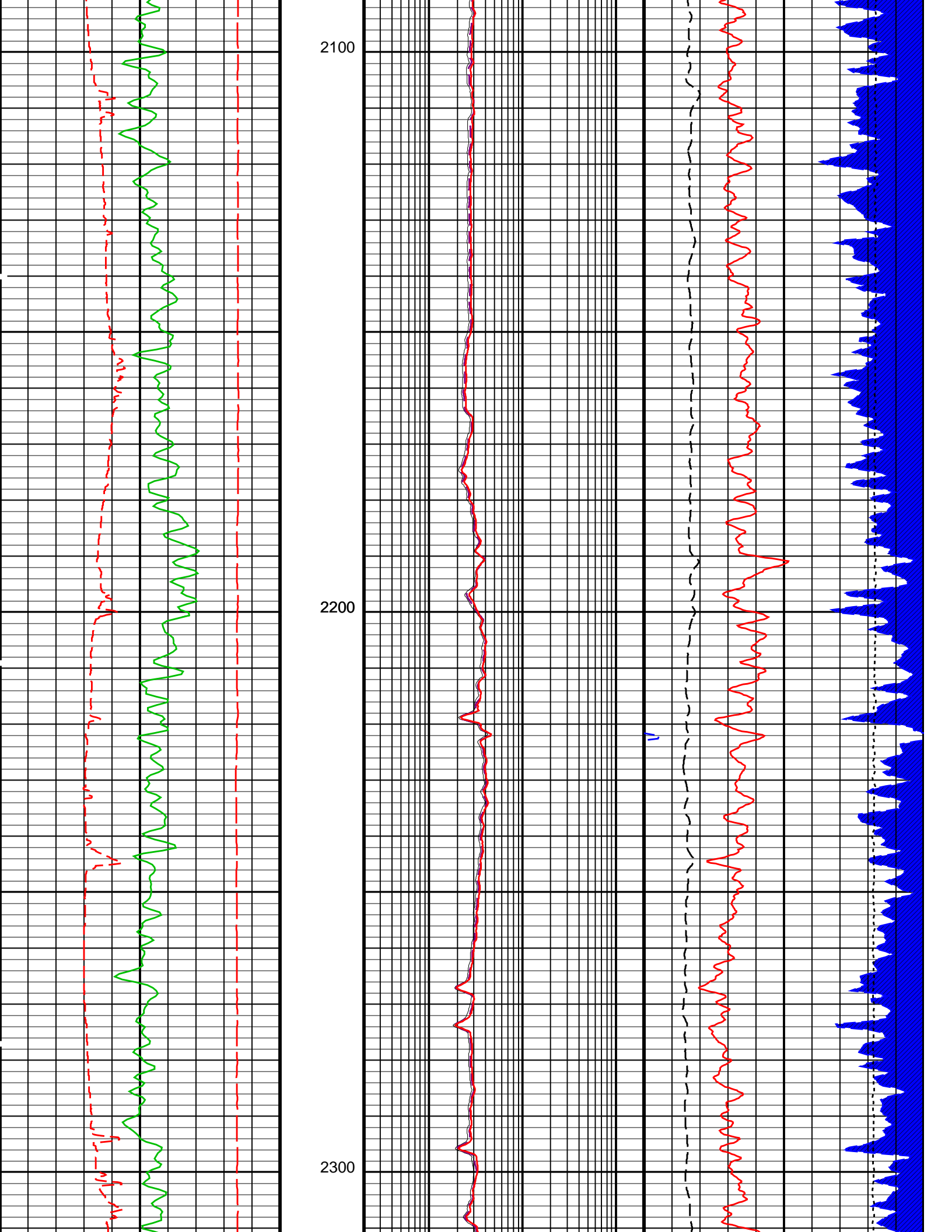
		Std. Res. Formation $\frac{Pe (PEFZ)}{0 \text{ --- } 10}$
		Alpha Processed Neutron Porosity (NPOR) $\frac{0.3 \text{ --- } -0.1}{(V/V)}$
		Tension (TENS) (LBF) $\frac{10000 \text{ --- } 0}{}$
SP (SP) (MV) -160 --- 40	AIT-H 90 Inch Investigation (AHT90) (OHMM) 0.2 --- 200	GAS EFFECT From DPHZ to NPOR 1
HILT Caliper (HCAL) (IN) 6 --- 16	AIT-H 30 Inch Investigation (AHT30) (OHMM) 0.2 --- 200	NPOR BACKUP From NPOR 2 to T3
Gamma Ray (GR_EDTC) (GAPI) 0 --- 200	Stuck Stretch (STIT) 0 (F) 50	AIT-H 10 Inch Investigation (AHT10) (OHMM) 0.2 --- 200
		Std. Res. Density Porosity (DPHZ) (V/V) 0.3 --- -0.1

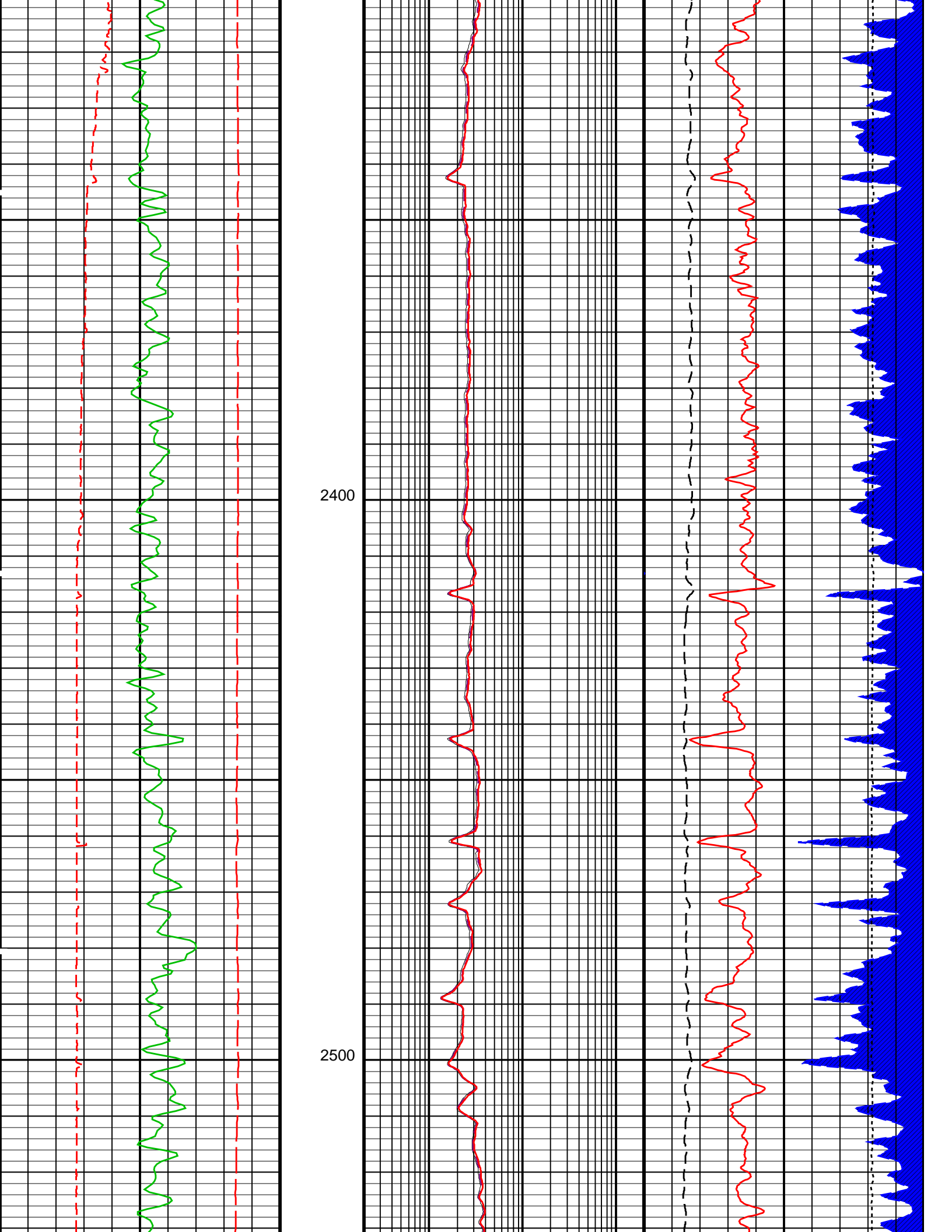


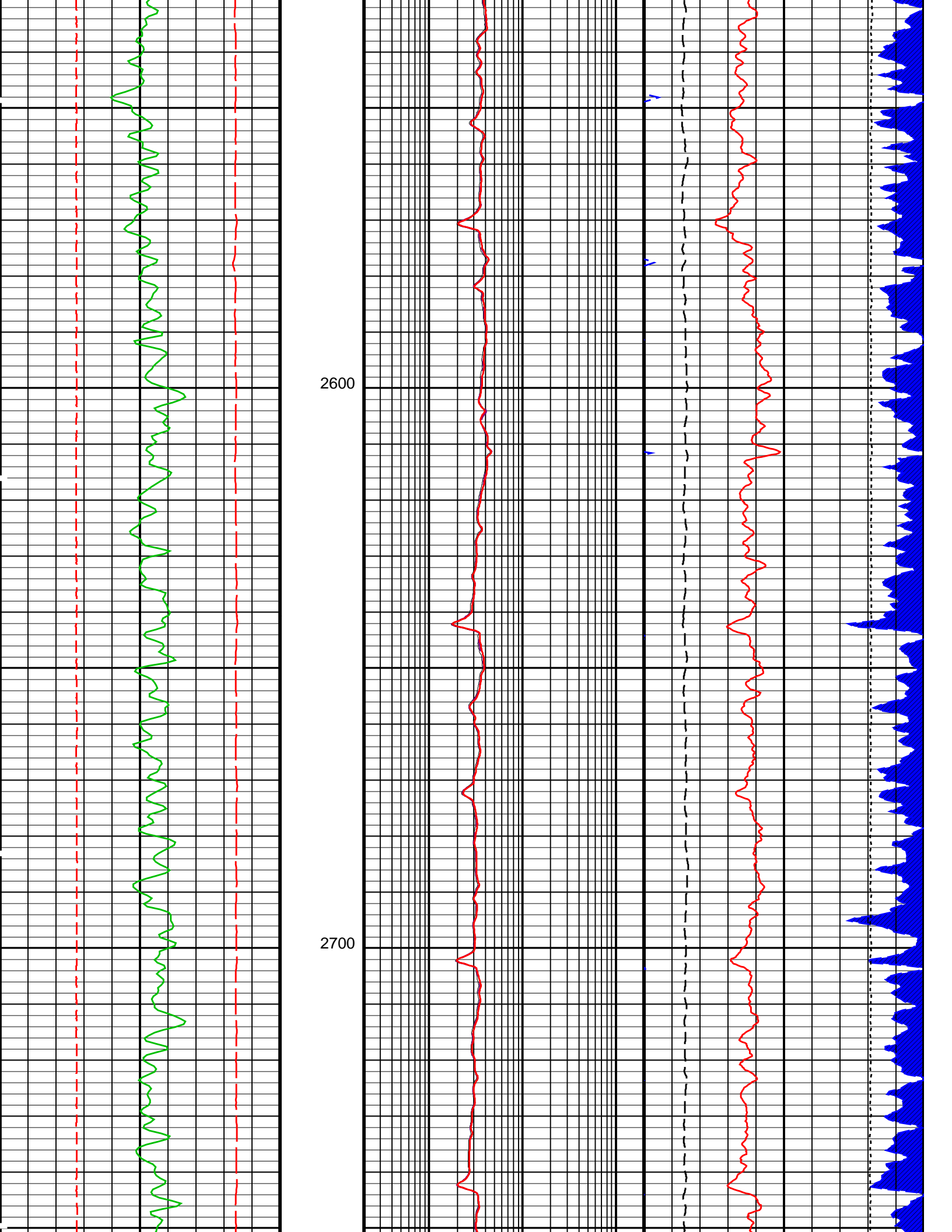


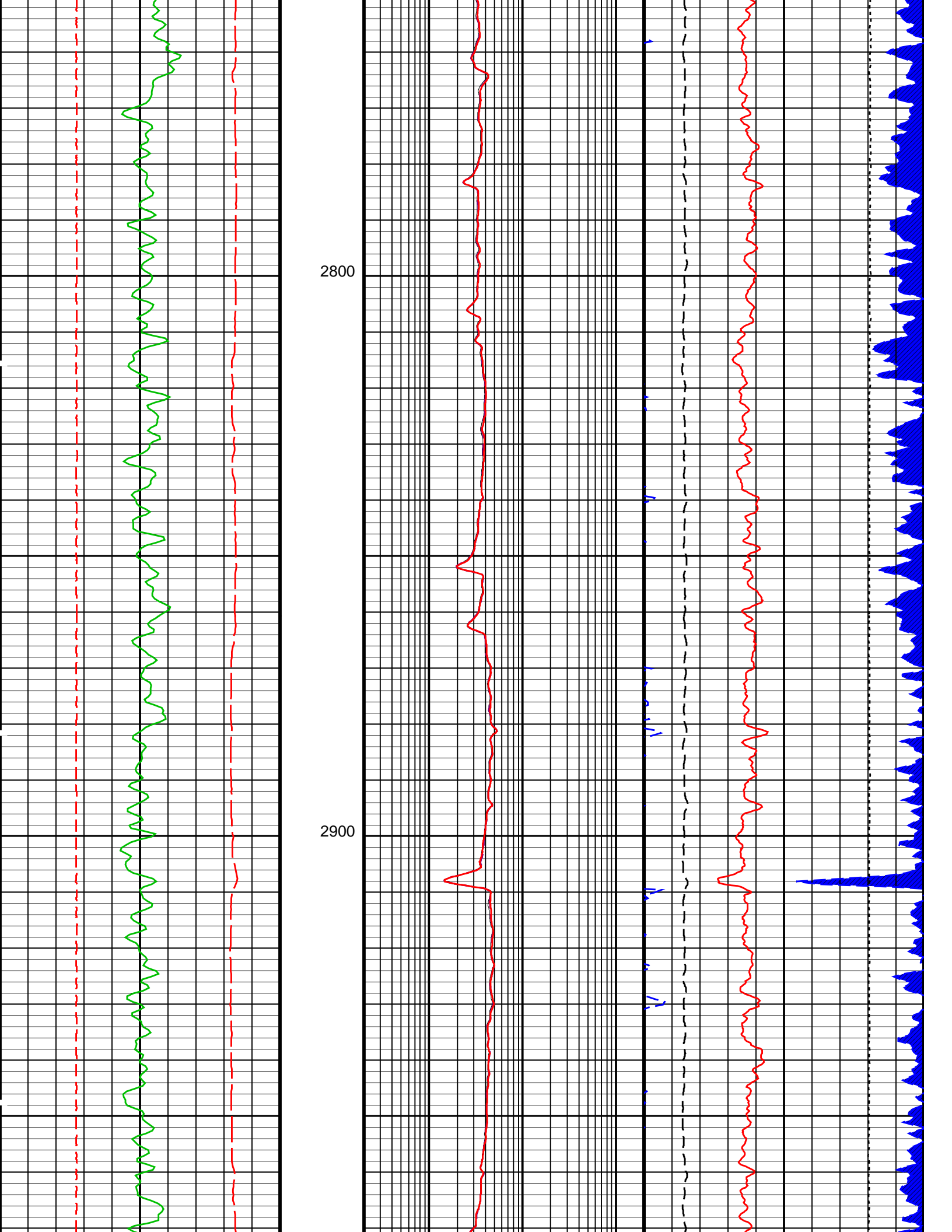


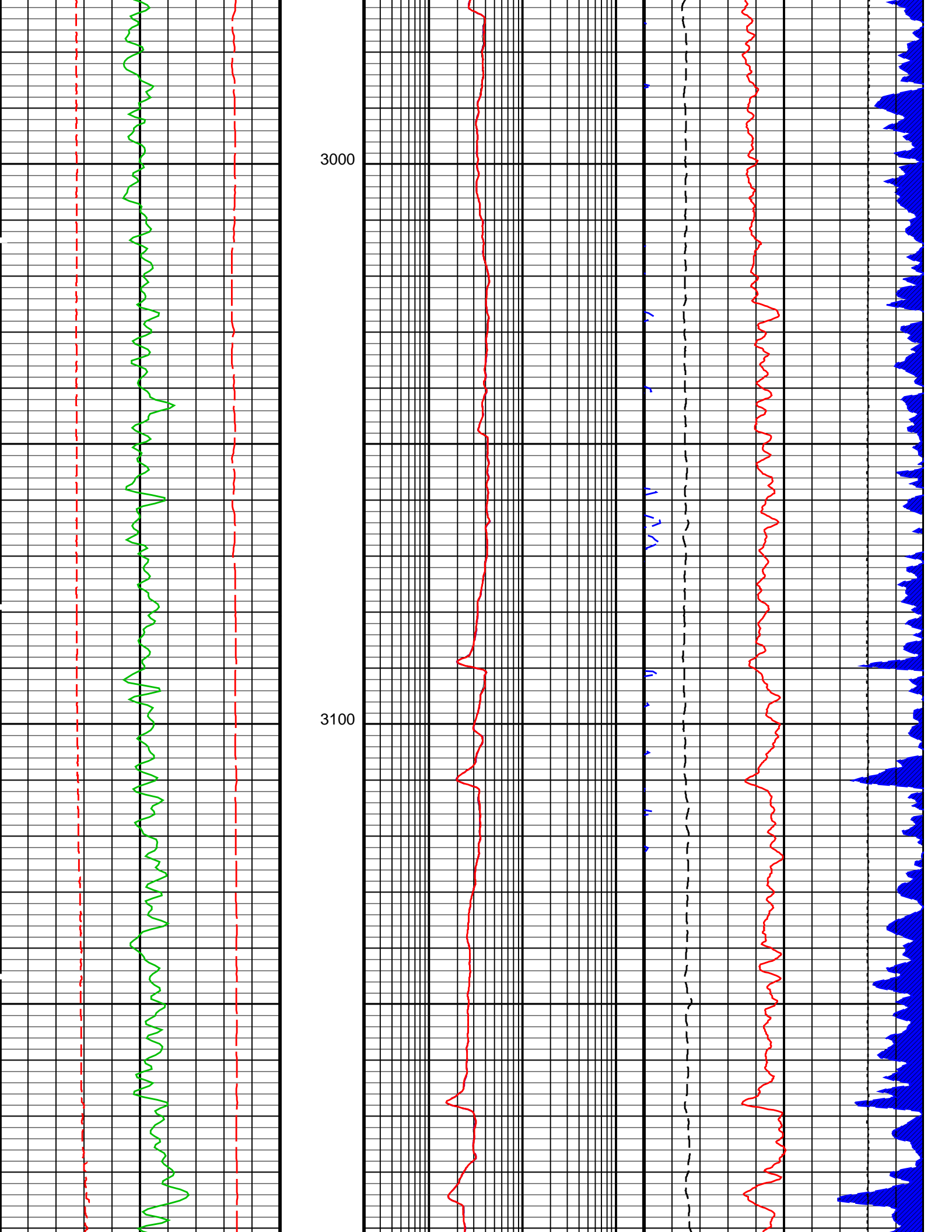


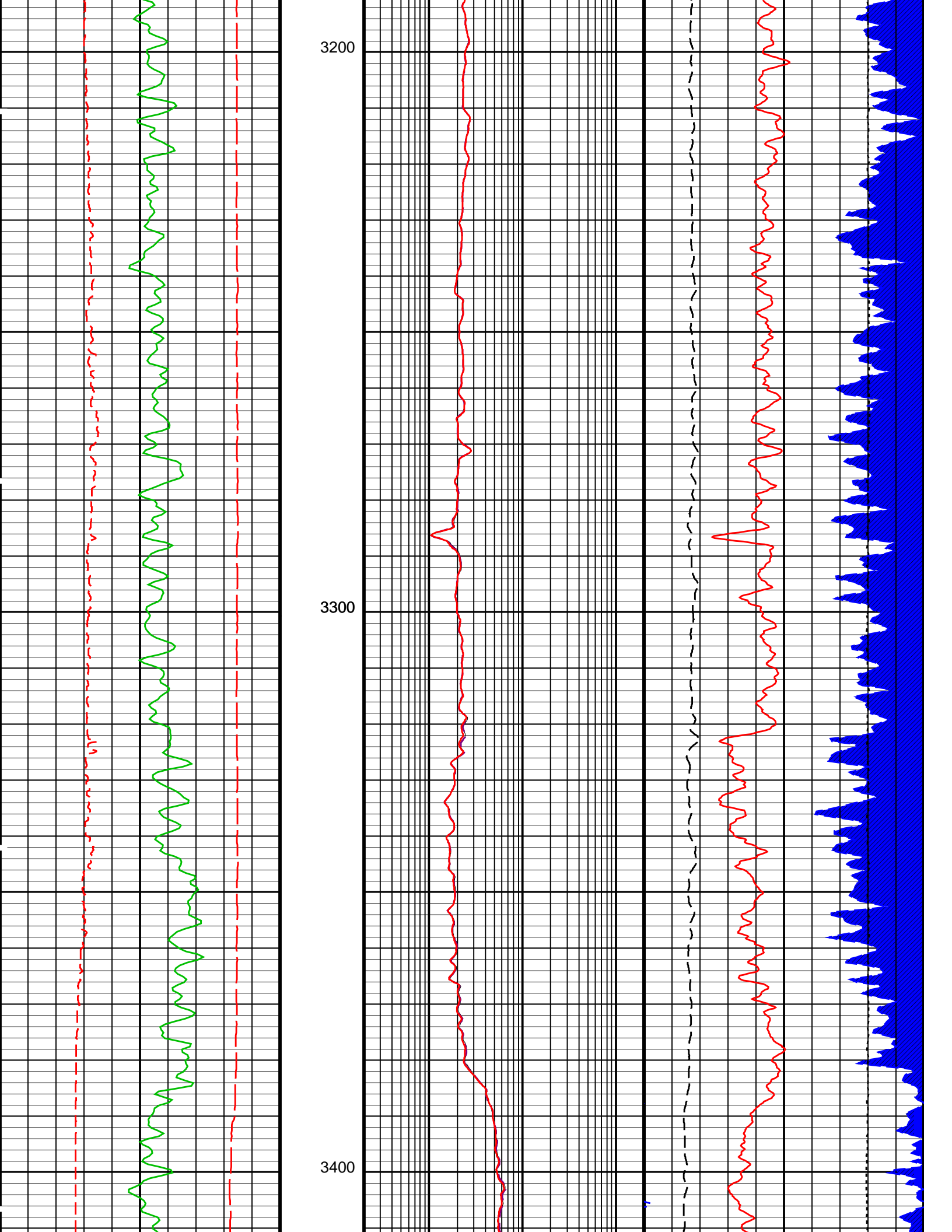


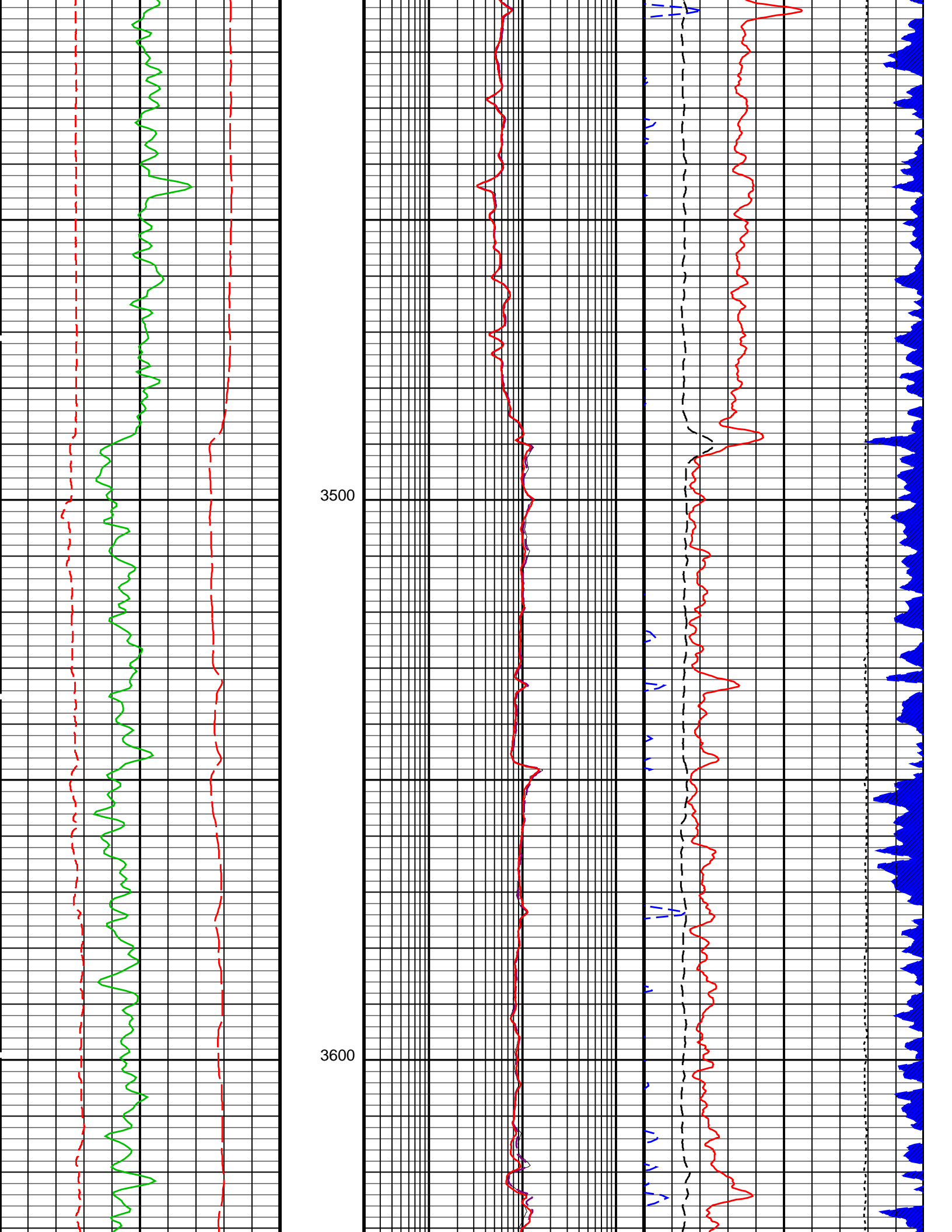


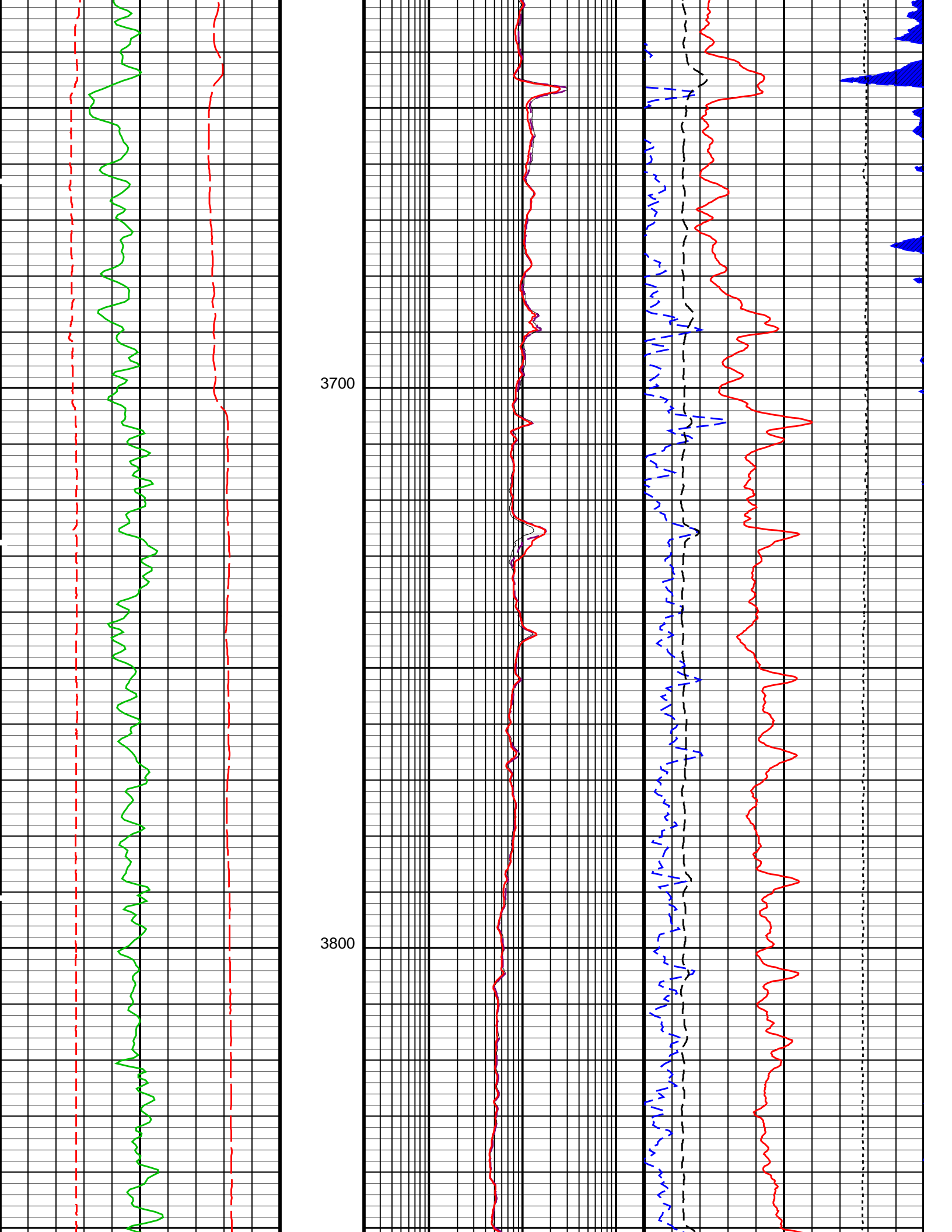


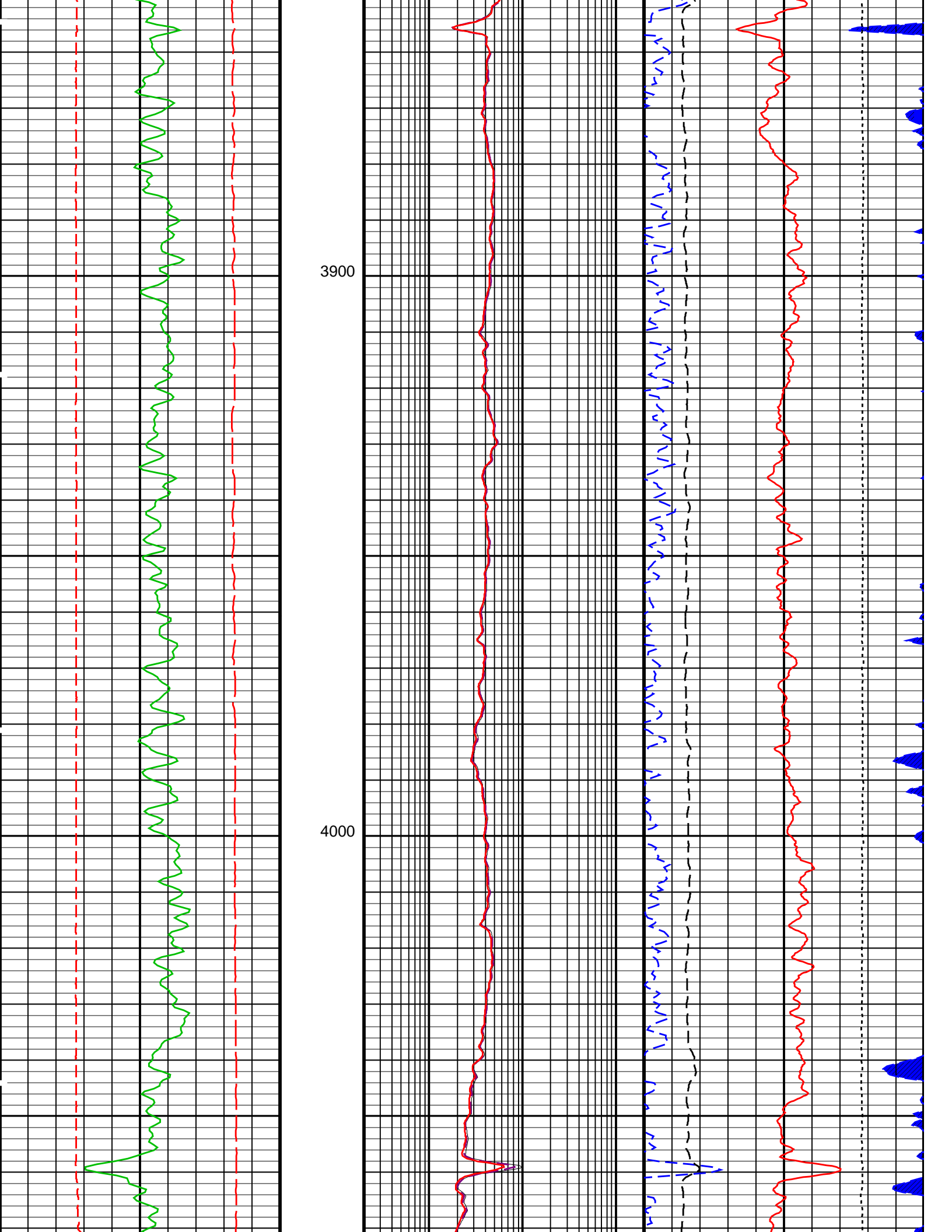


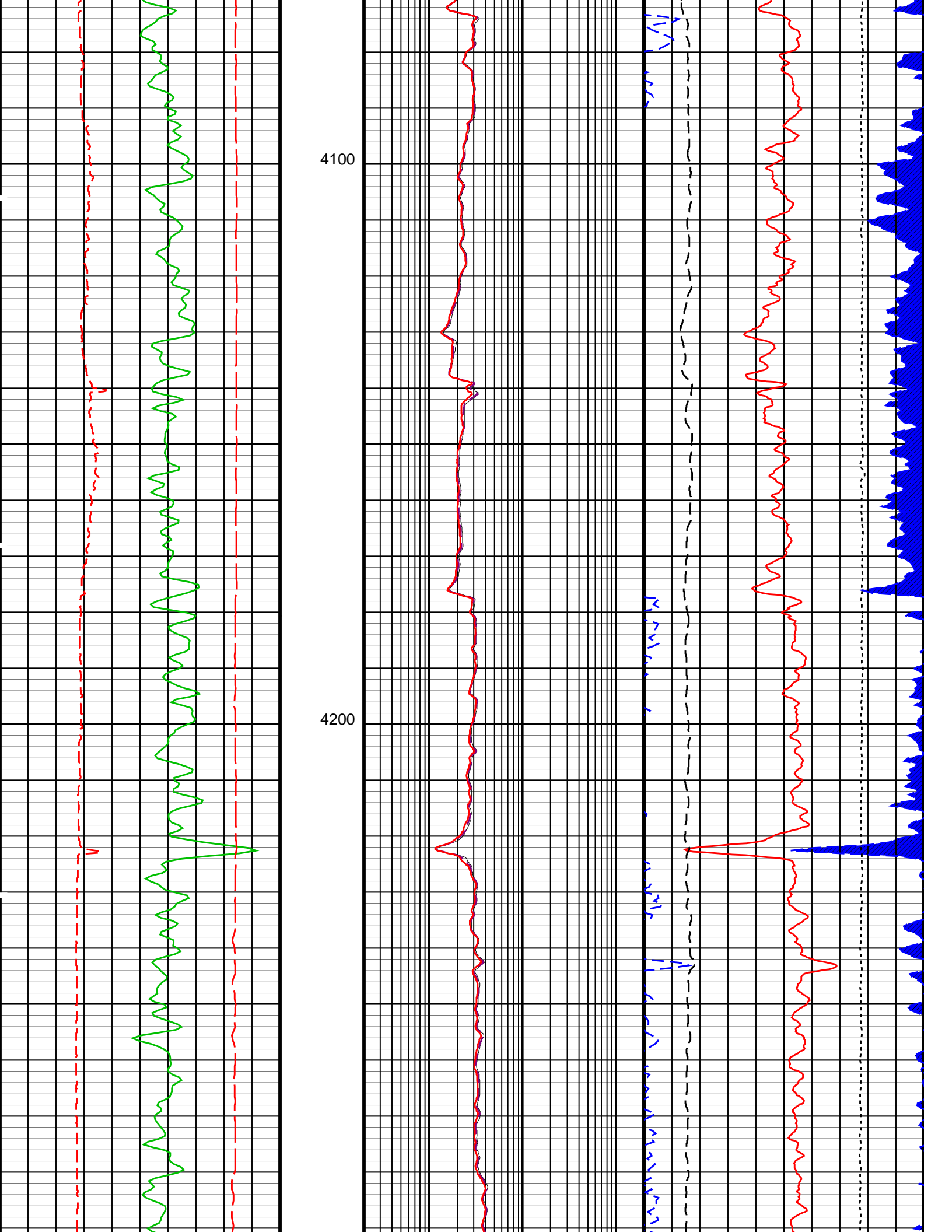


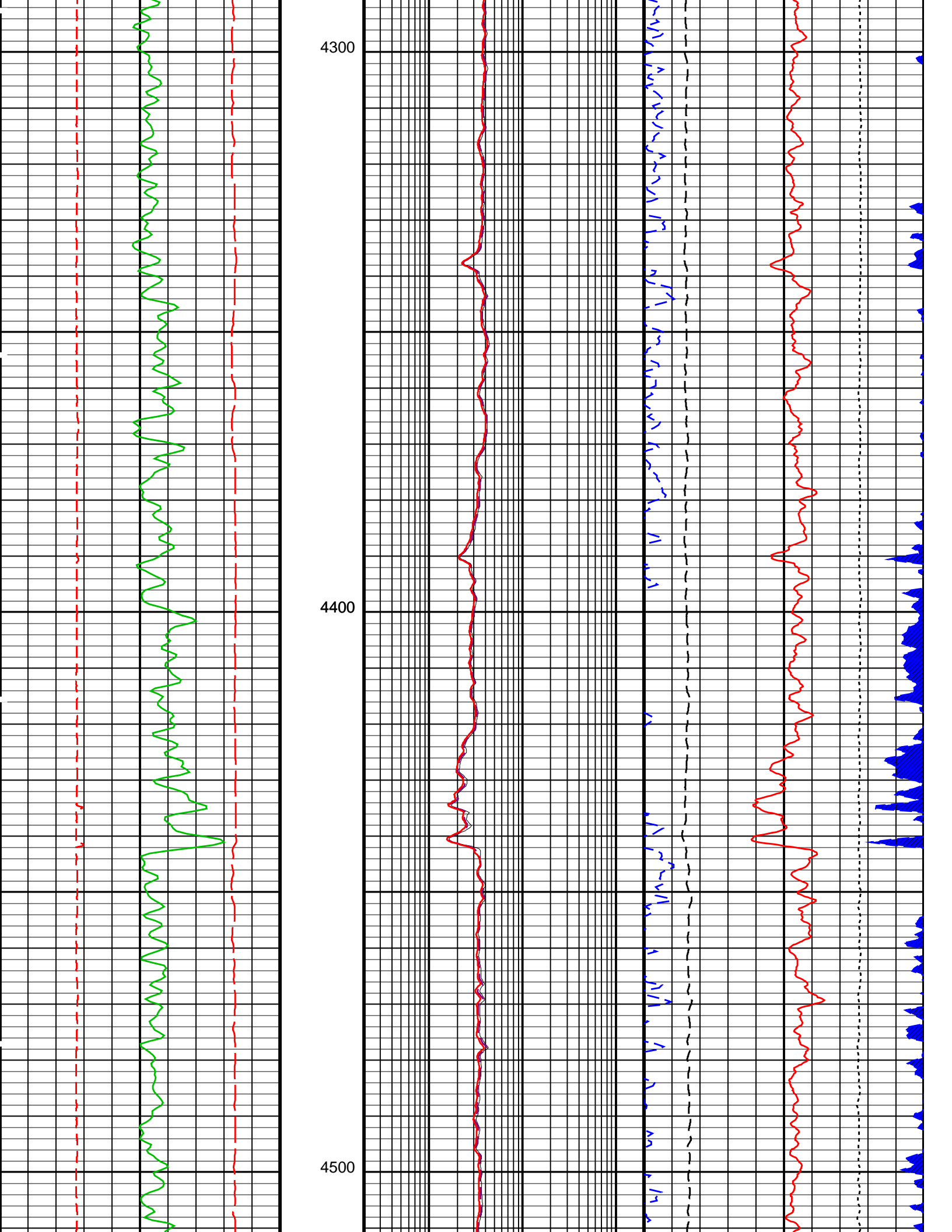


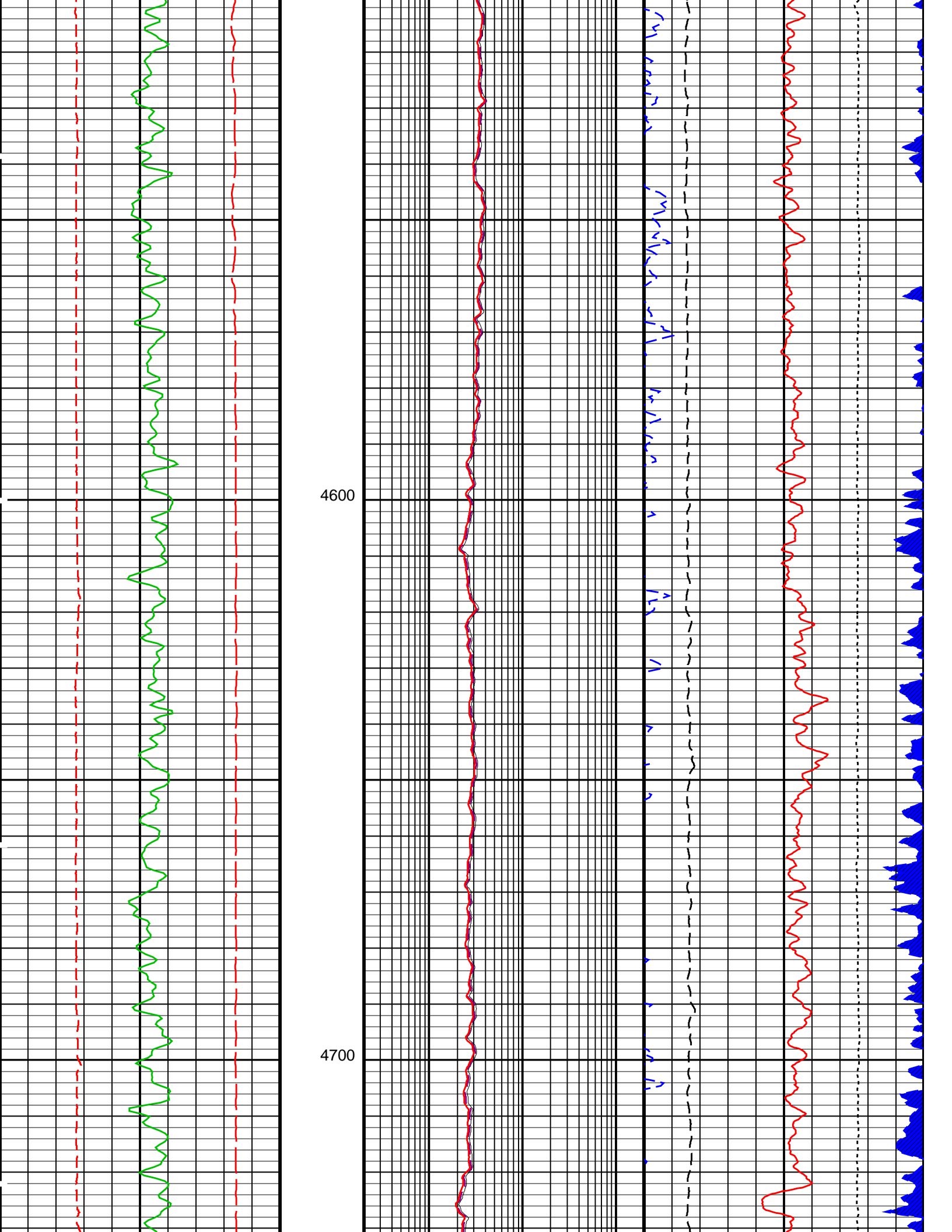


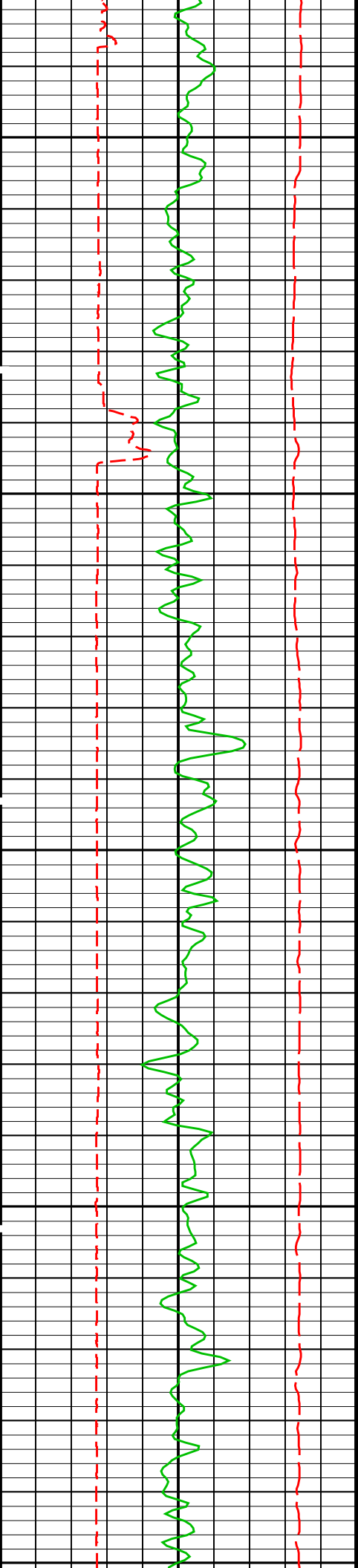






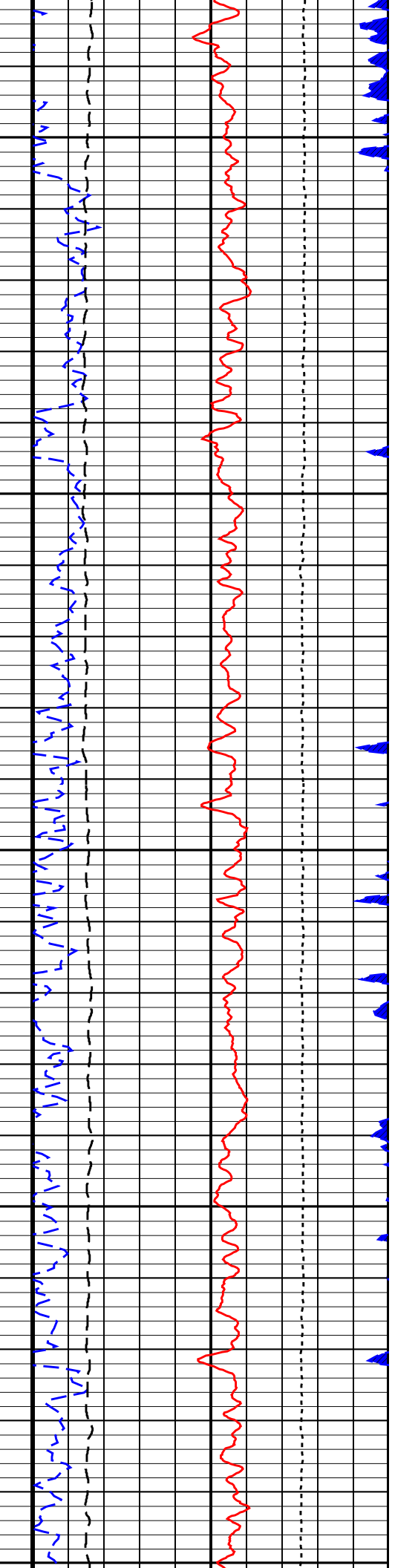
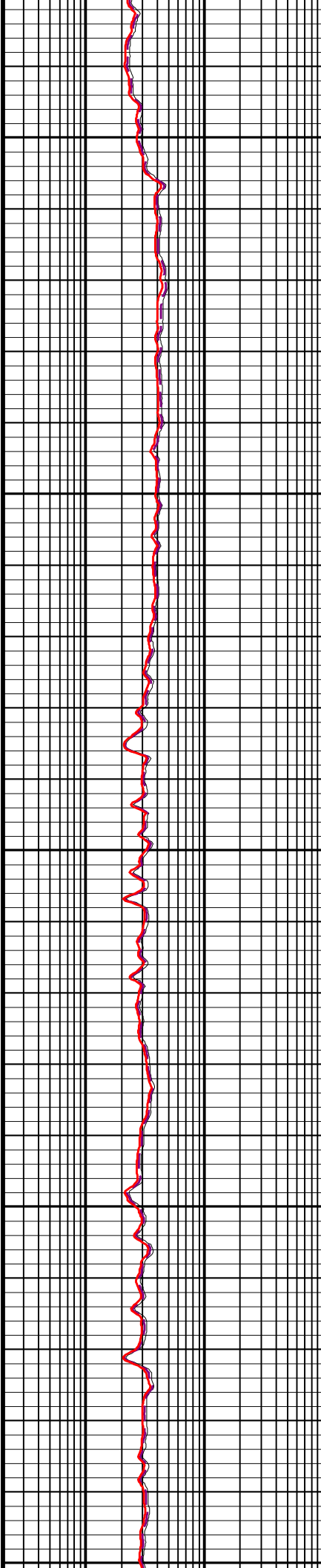


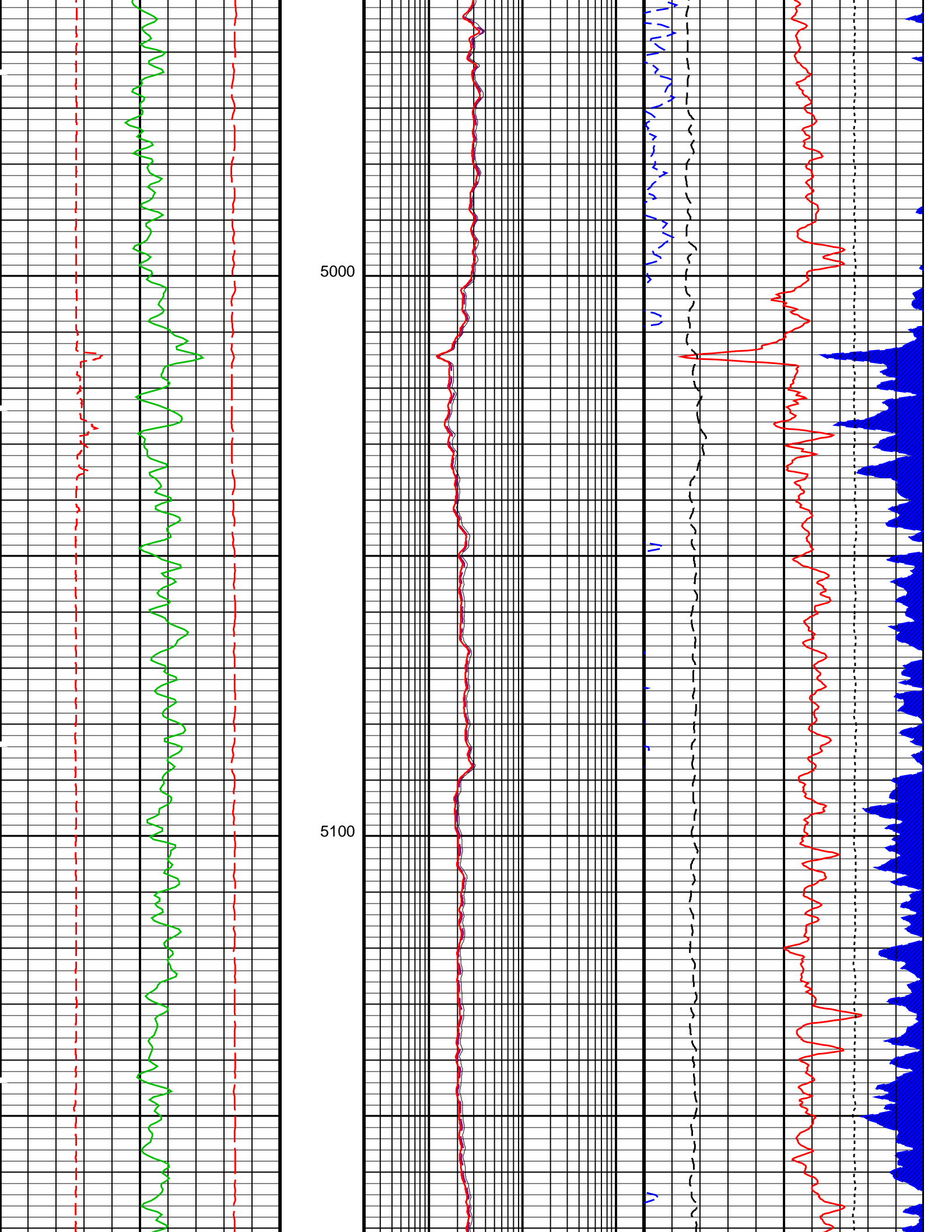


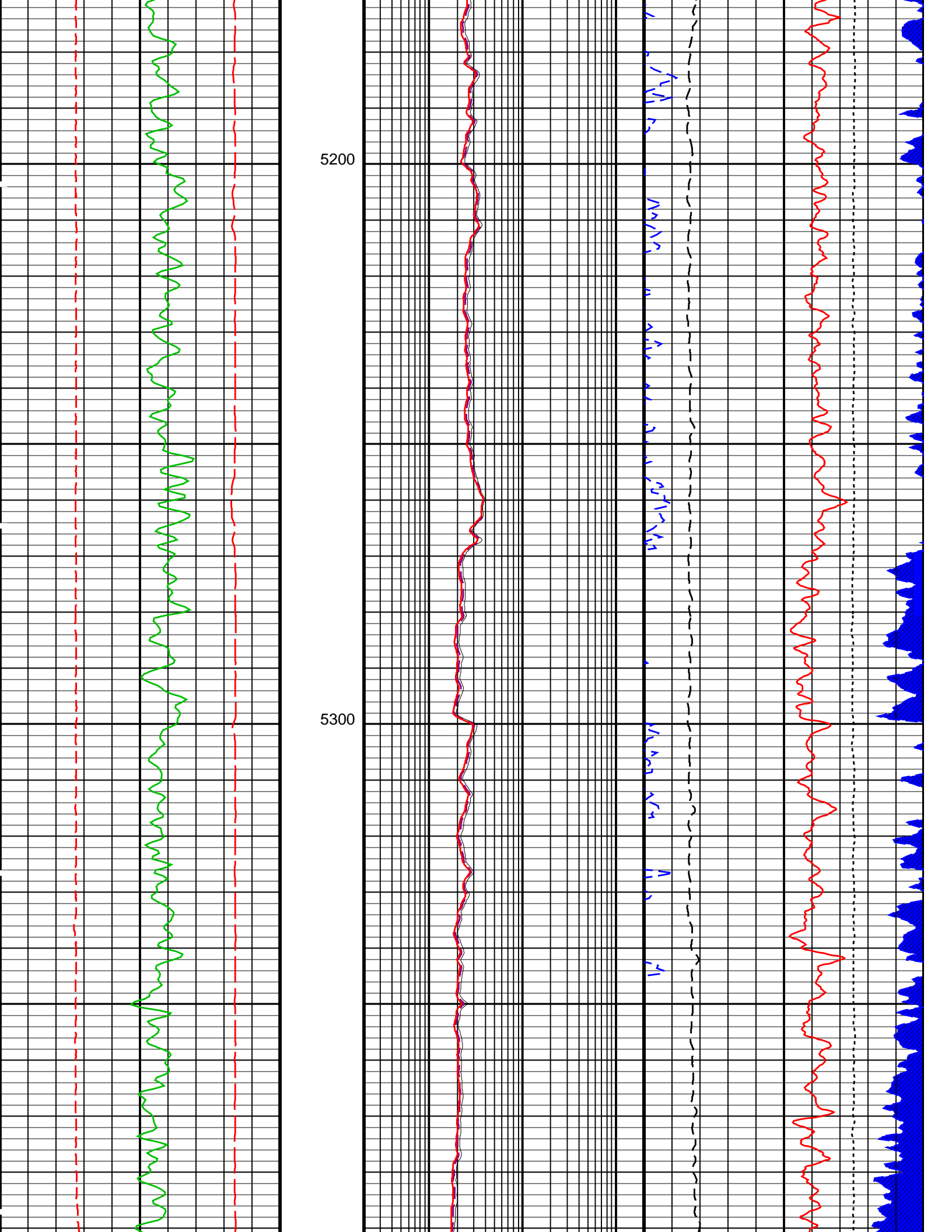


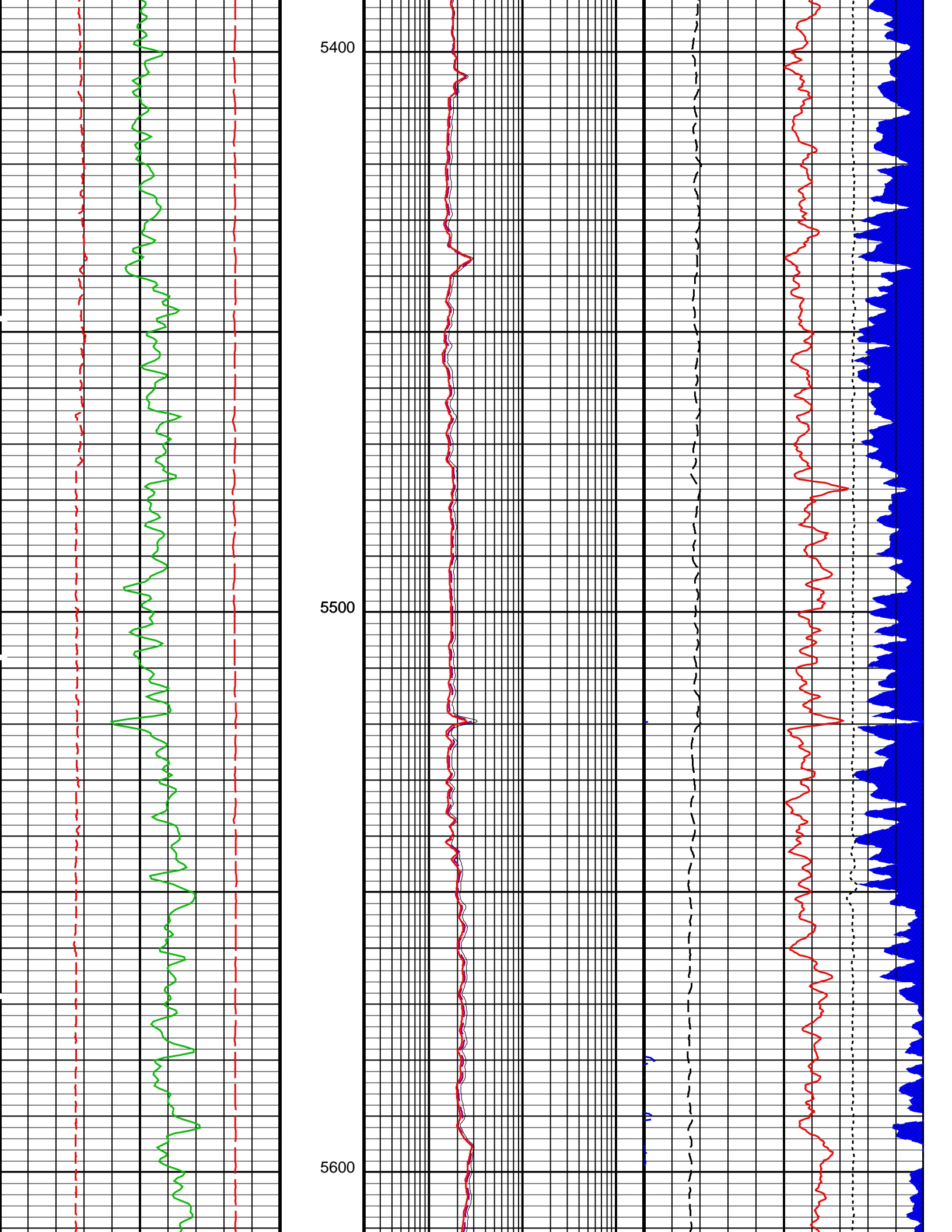
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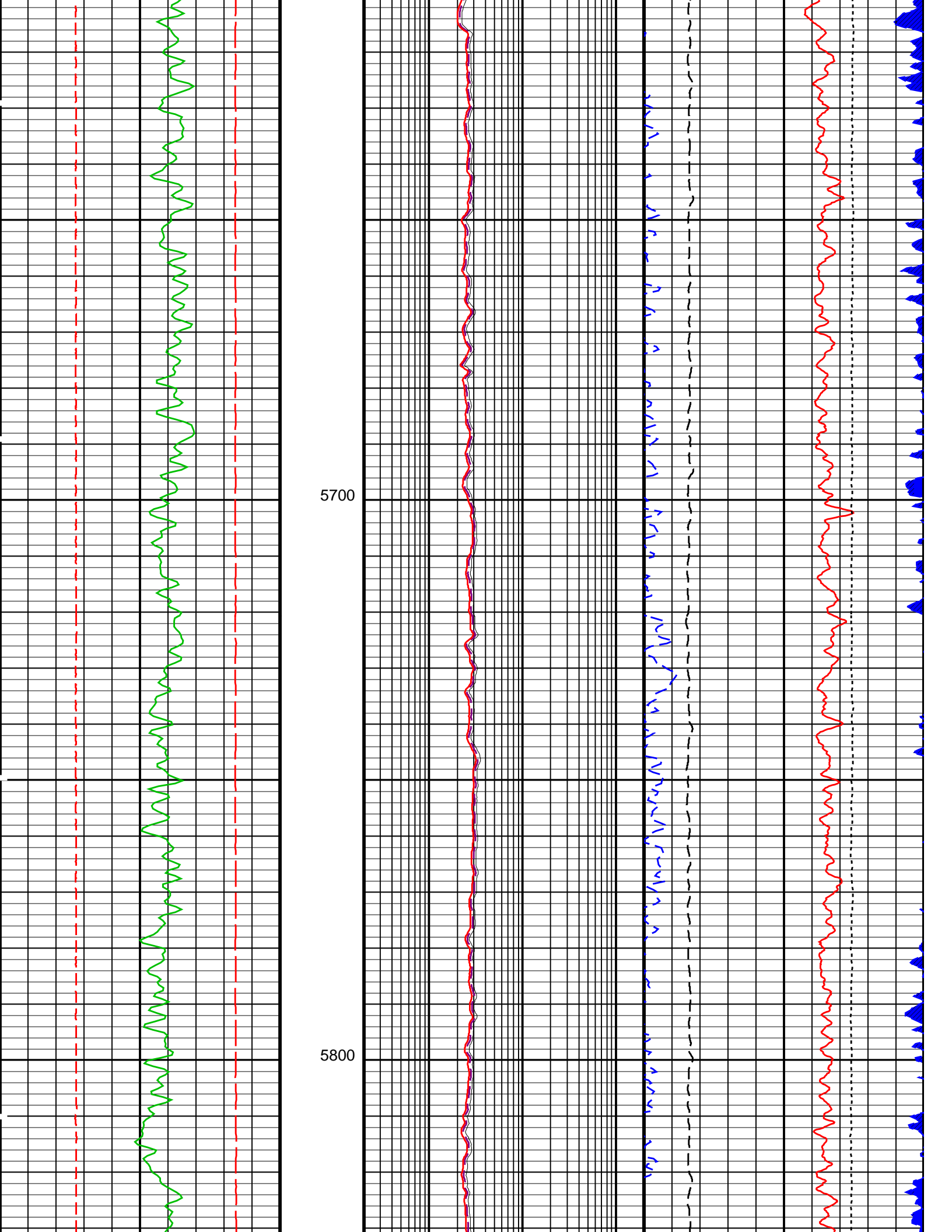
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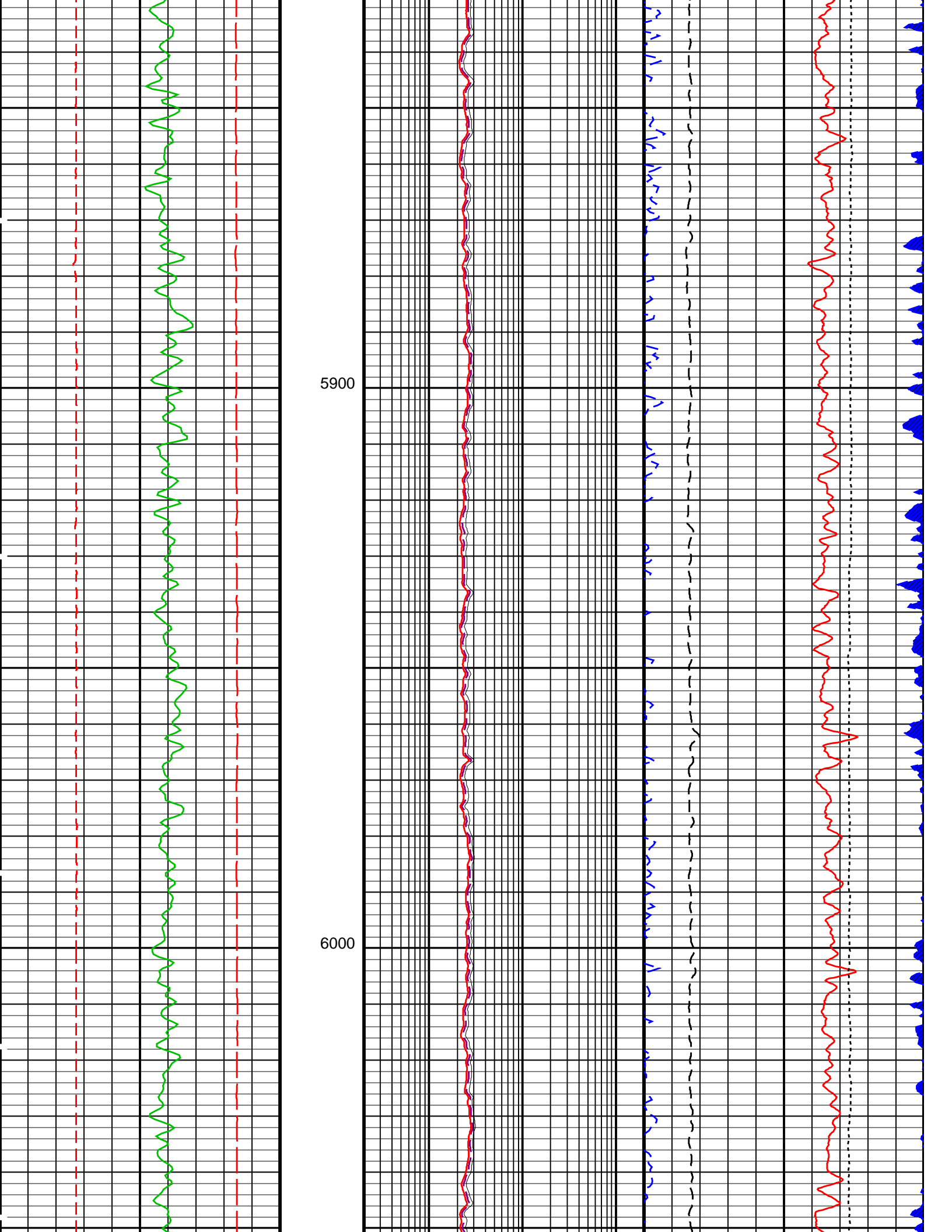


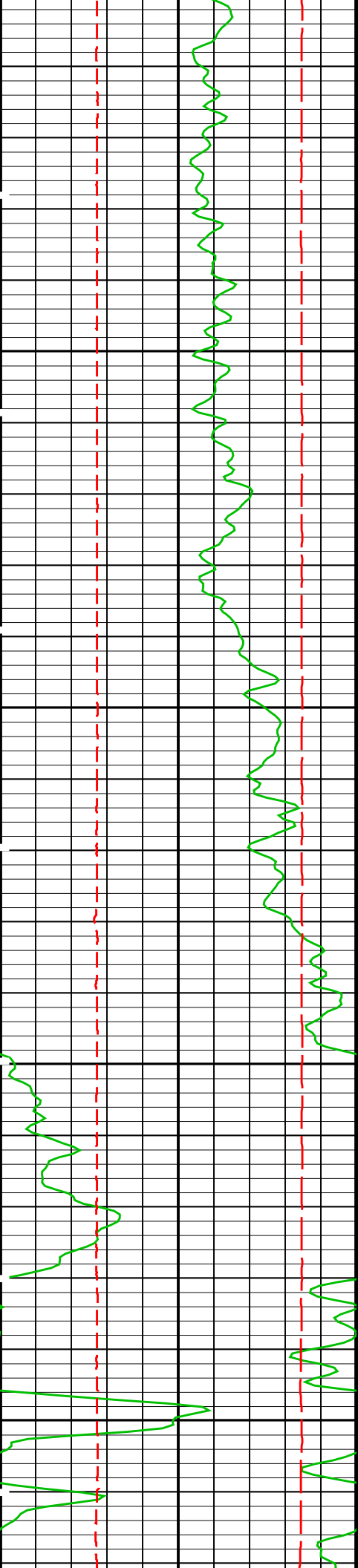






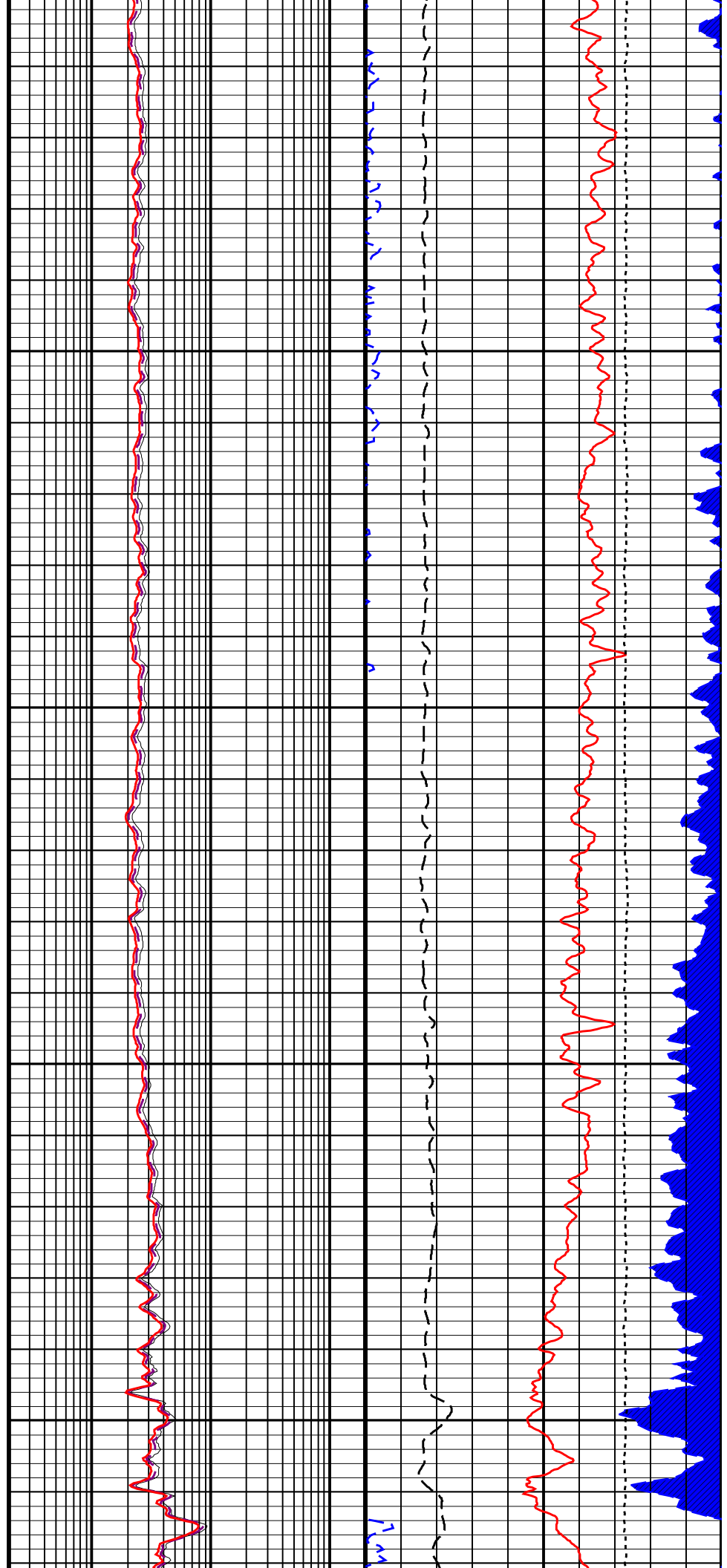


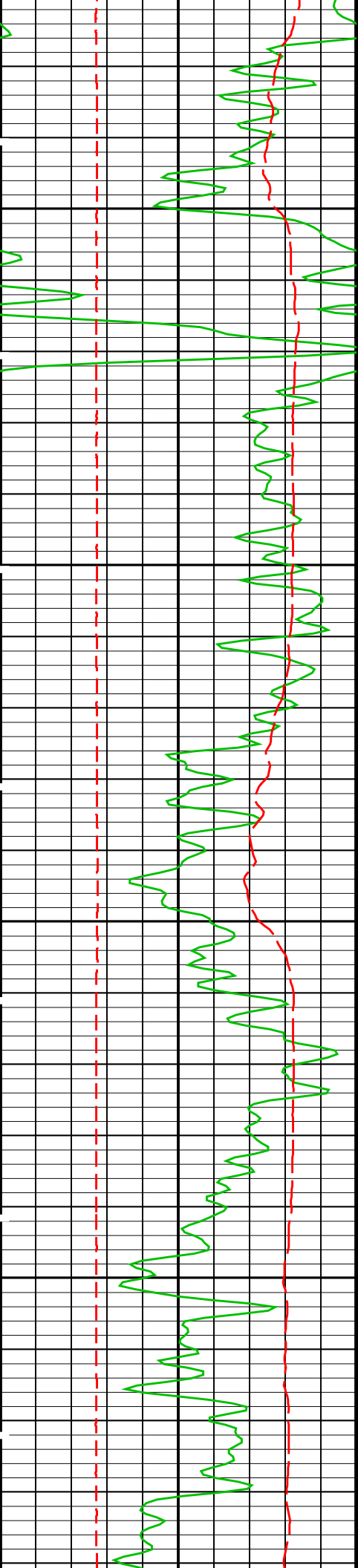




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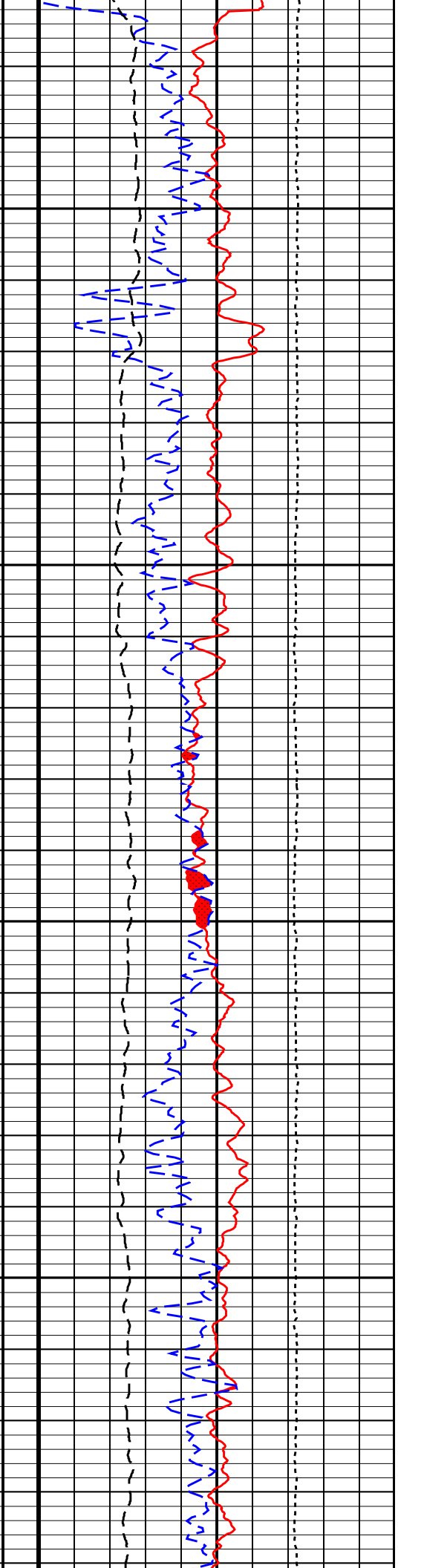
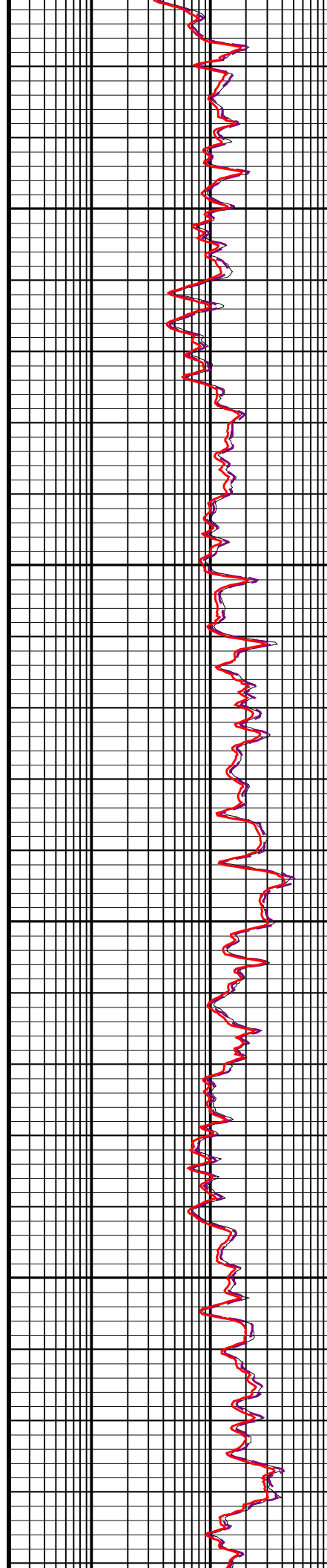
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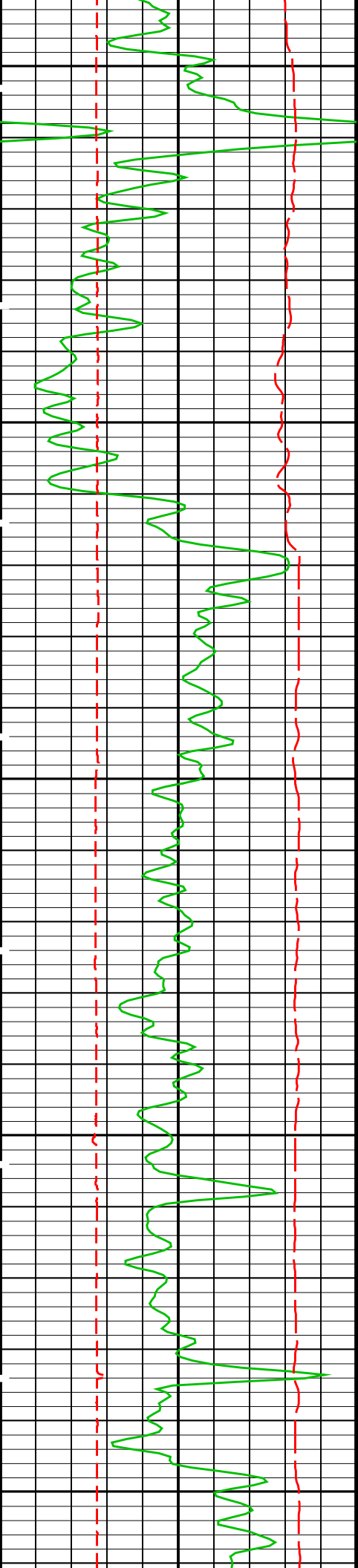




6300

6400

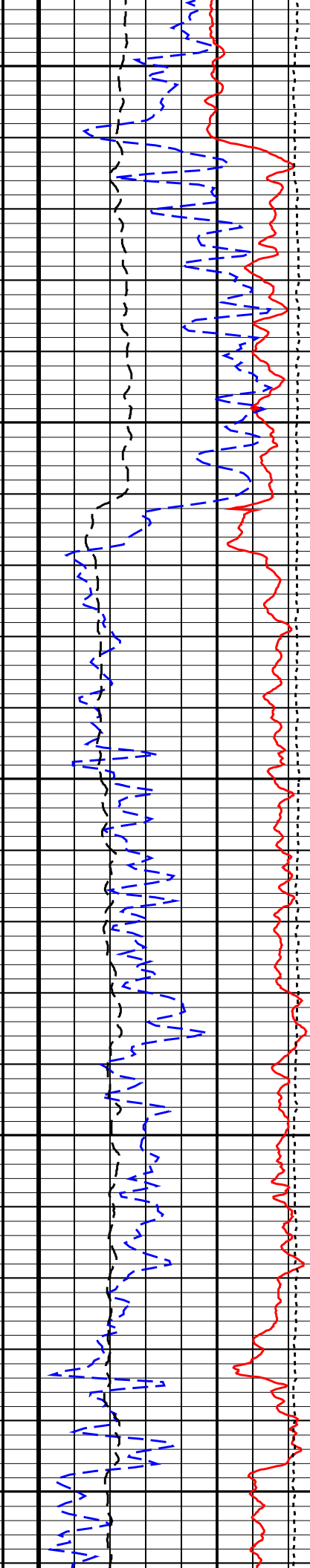
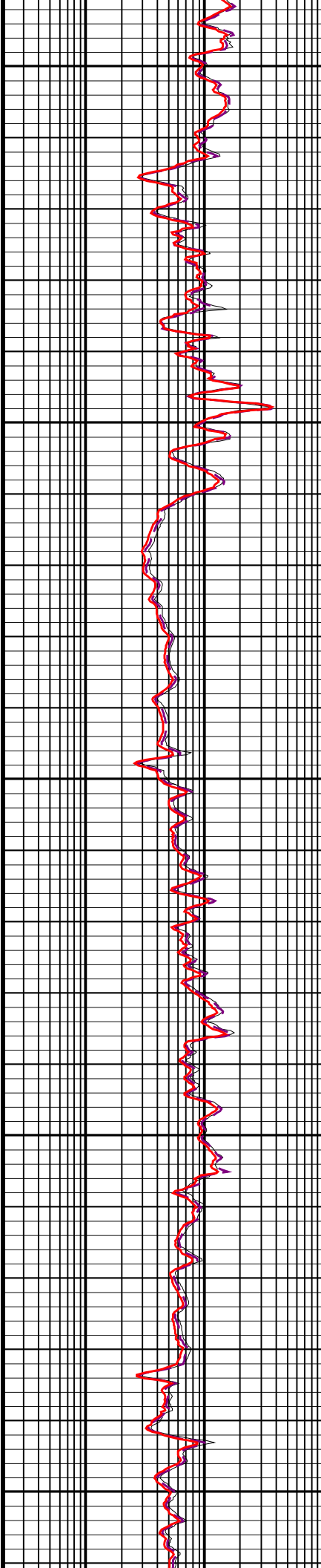


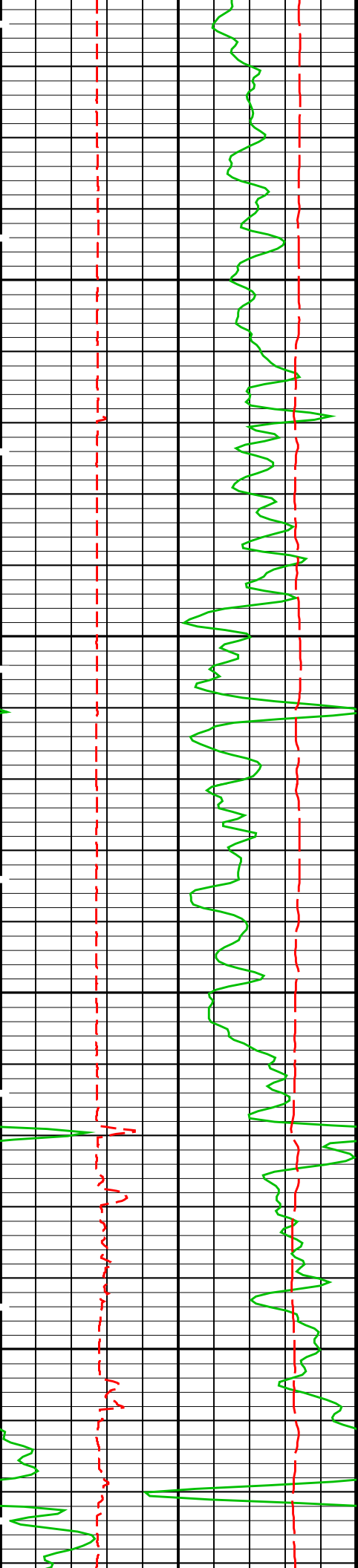


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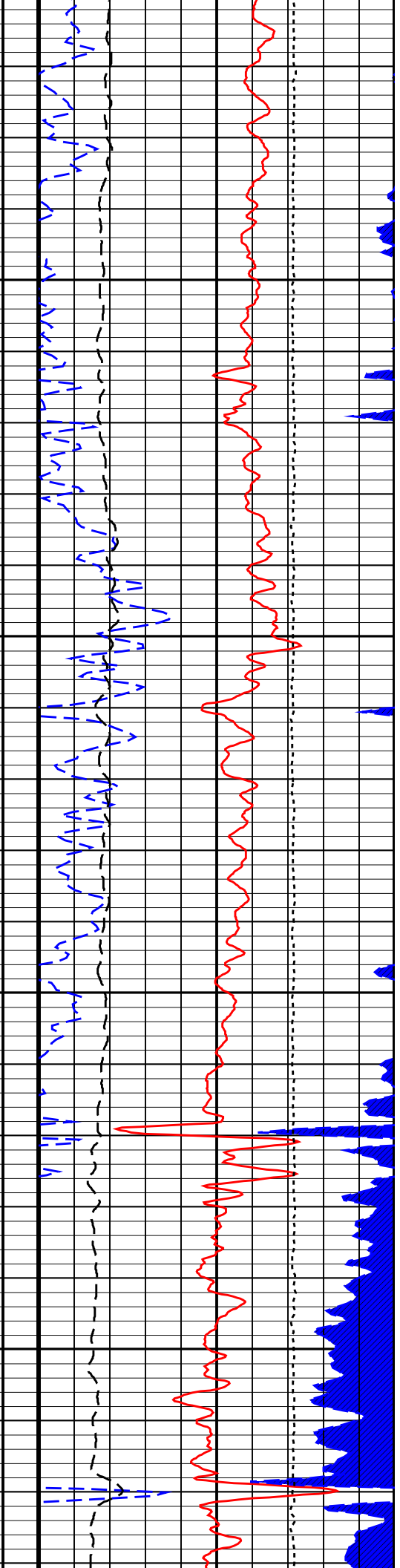
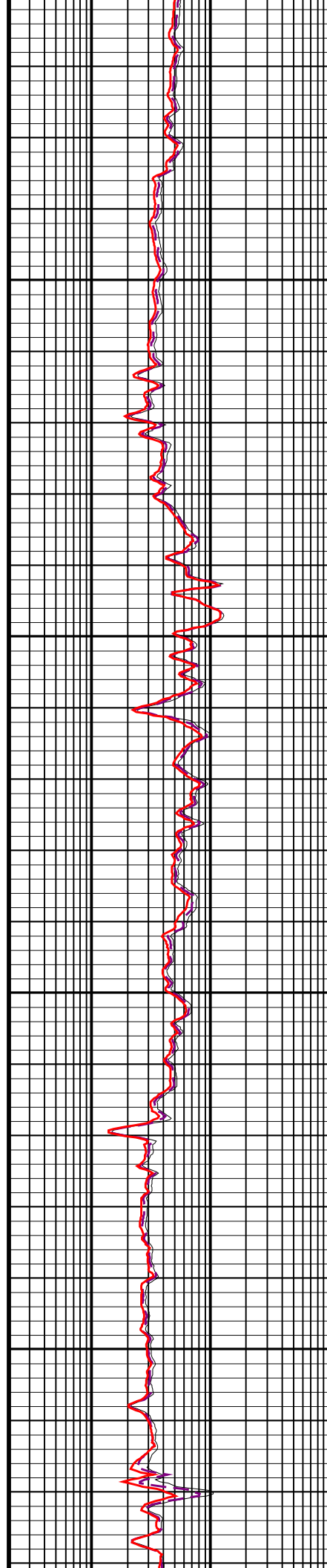
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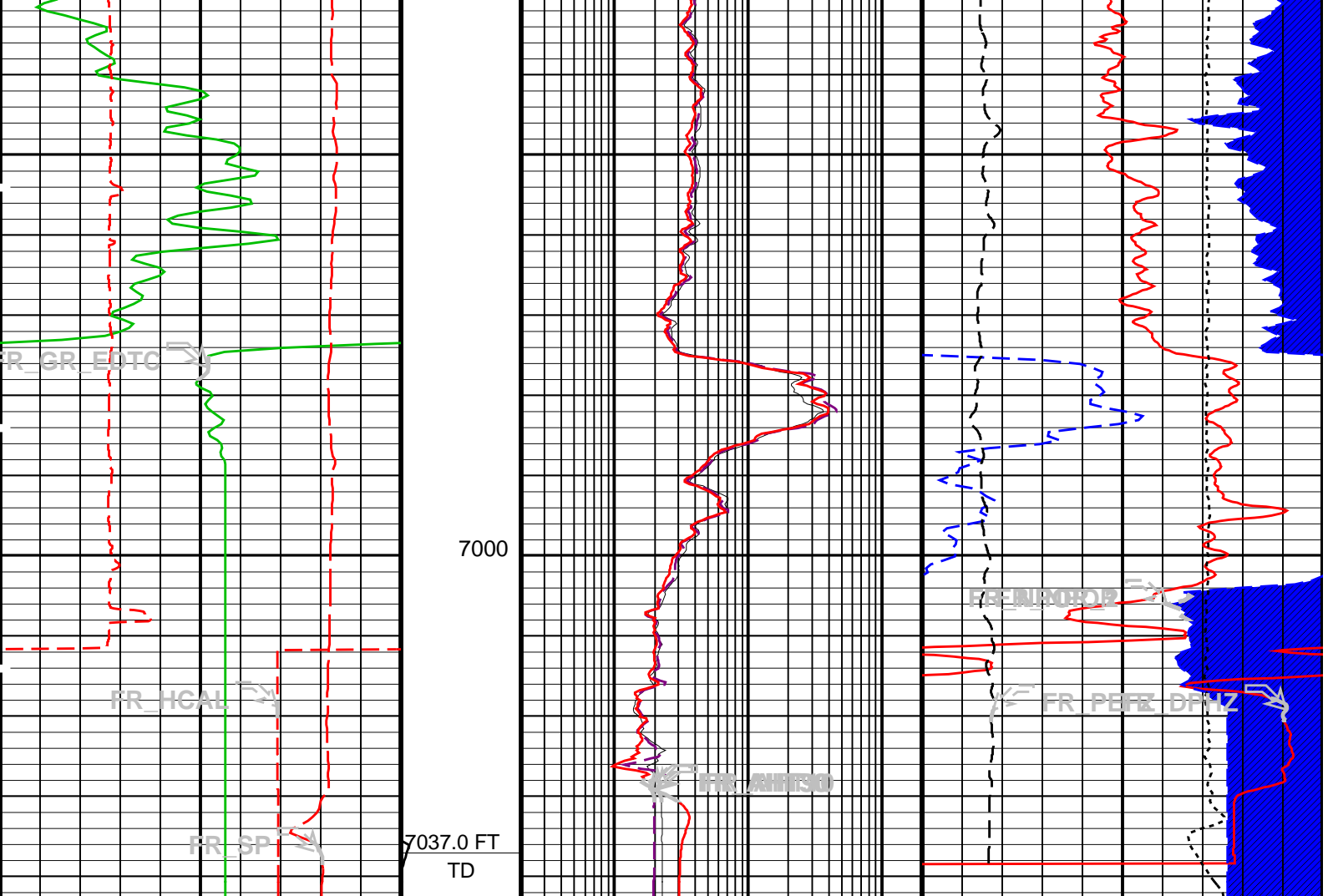




6800

6900





Gamma Ray (GR_EDTC) (GAPI)	0 200	Stuck Stretch (STIT) (F) 50	AIT-H 10 Inch Investigation (AHT10) (OHMM)	0.2 200	Std. Res. Density Porosity (DPHZ) (V/V)	0.3 -0.1
HILT Caliper (HCAL) (IN)	6 16		AIT-H 30 Inch Investigation (AHT30) (OHMM)	0.2 200	NPOR BACKUP From NPOR 2 to T3	
SP (SP) (MV)	-160 40		AIT-H 90 Inch Investigation (AHT90) (OHMM)	0.2 200	GAS EFFECT From DPHZ to NPOR 1	
					Tension (TENS) (LBF)	10000 0
					Alpha Processed Neutron Porosity (NPOR) (V/V)	0.3 -0.1
					Std. Res. Formation Pe (PEFZ) (----)	0 10

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
HILTB-FTB: High resolution Integrated Logging Tool-DTS		
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	
AHFRSV	Array Induction Response Set Version for Four ft Resolution	41.70.24.20	
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	
AHRPV	Array Induction Radial Parametrization Code Version Number	232	
AHSTA	Array Induction Tool Standoff	1	IN
AHTRSV	Array Induction Response Set Version for Two ft Resolution	41.70.24.20	
BHFL	Borehole Fluid Type	WATER	
BHFL_TLD	HILT Nuclear Mud Base	WATER	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	193	DEGF
BSCO	Borehole Salinity Correction Option	NO	
CCCO	Casing & Cement Thickness Correction Option	NO	
DHC	Density Hole Correction	BS	
FD	Fluid Density	1	G/C3
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
FSAL	Formation Salinity	-50000	PPM
FSCO	Formation Salinity Correction Option	NO	
GCLF	Germany Coal-like Formation Option	NO	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	AITH_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
HSCO	Hole Size Correction Option	YES	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
MCCO	Mud Cake Correction Option	NO	
MCOR	Mud Correction	NATU	
MDEN	Matrix Density	2.65	G/C3
MWCO	Mud Weight Correction Option	NO	
NAAC	HRDD APS Activation Correction	OFF	
NMT	HILT Nuclear Mud Type	NOBARITE	
NPRM	HRDD Processing Mode	HiRes	
NSAR	HRDD Depth Sampling Rate	1	IN
PTCO	Pressure/Temperature Correction Option	NO	
SDAT	Standoff Data Source	SOCN	
SHT	Surface Hole Temperature	68	DEGF
SOCN	Standoff Distance	0.125	IN
SOCO	Standoff Correction Option	YES	
SPNV	SP Next Value	0	MV
HNGS-BA: Hostile Natural Gamma Ray Sonde			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	193	DEGF
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	AITH_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
SHT	Surface Hole Temperature	68	DEGF
EDTC-B: Enhanced DTS Cartridge			
BHFL	Borehole Fluid Type	WATER	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	193	DEGF
BSCO	Borehole Salinity Correction Option	NO	
CCCO	Casing & Cement Thickness Correction Option	NO	
FSCO	Formation Salinity Correction Option	NO	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	AITH_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
HSCO	Hole Size Correction Option	YES	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
MCCO	Mud Cake Correction Option	NO	
MCOR	Mud Correction	NATU	
MWCO	Mud Weight Correction Option	NO	
PTCO	Pressure/Temperature Correction Option	NO	
SDAT	Standoff Data Source	SOCN	
SHT	Surface Hole Temperature	68	DEGF
SOCN	Standoff Distance	0.125	IN
SOCO	Standoff Correction Option	YES	
FEQL: Formation Evaluation Quick Look			
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
HOLEV: Integrated Hole/Cement Volume			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	193	DEGF
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	AITH_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	

MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
SHT	Surface Hole Temperature	68	DEGF
PERT: Preliminary Evaluation – Real Time			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	193	DEGF
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	AITH_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
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	2.5	FT
TDD	Total Depth – Driller	7067.00	FT
TDL	Total Depth – Logger	7037.00	FT
System and Miscellaneous			
BS	Bit Size	8.750	IN
BSAL	Borehole Salinity	-50000.00	PPM
CSIZ	Current Casing Size	9.625	IN
CWEI	Casing Weight	36.00	LB/F
DFD	Drilling Fluid Density	9.20	LB/G
DO	Depth Offset for Playback	0.0	FT
DORL	Depth Offset for Repeat Analysis	0.0	FT
FLEV	Fluid Level	25.00	FT
MST	Mud Sample Temperature	193.75	DEGF
PP	Playback Processing	RECOMPUTE	
RMFS	Resistivity of Mud Filtrate Sample	1.0117	OHMM
TD	Total Depth	7037	FT

Format: combo Vertical Scale: 5" per 100' Graphics File Created: 22-Nov-2011 11:09

OP System Version: 18C0-147

HILTB-FTB	18C0-147	ECS-HP	18C0-147
ECC-B	18C0-147	HNGC-B	18C0-147
HNGS-BA	18C0-147	EDTC-B	SRPC-4072-Q4_2010_OP18

Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_039PUP	FN:37	PRODUCER	22-Nov-2011 10:41	7044.0 FT	1309.5 FT
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Output DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_044PUP	FN:42	PRODUCER	22-Nov-2011 11:09
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**COMBO LOG 5" = 100'
Repeat Pass**

MAXIS Field Log

Company: Carrizo Oil & Gas Inc Well: Barracuda 20-14-7-6

Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_039PUP	FN:37	PRODUCER	22-Nov-2011 10:41	7044.0 FT	1309.5 FT
DEFAULT	AIT_TLD_MCFL_CNL_038PUP	FN:36	PRODUCER	22-Nov-2011 10:39	7057.5 FT	6489.0 FT

Output DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_044PUP	FN:42	PRODUCER	22-Nov-2011 11:09
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OP System Version: 18C0-147

HILTB-FTB 18C0-147
 ECC-B 18C0-147
 HNGS-BA 18C0-147

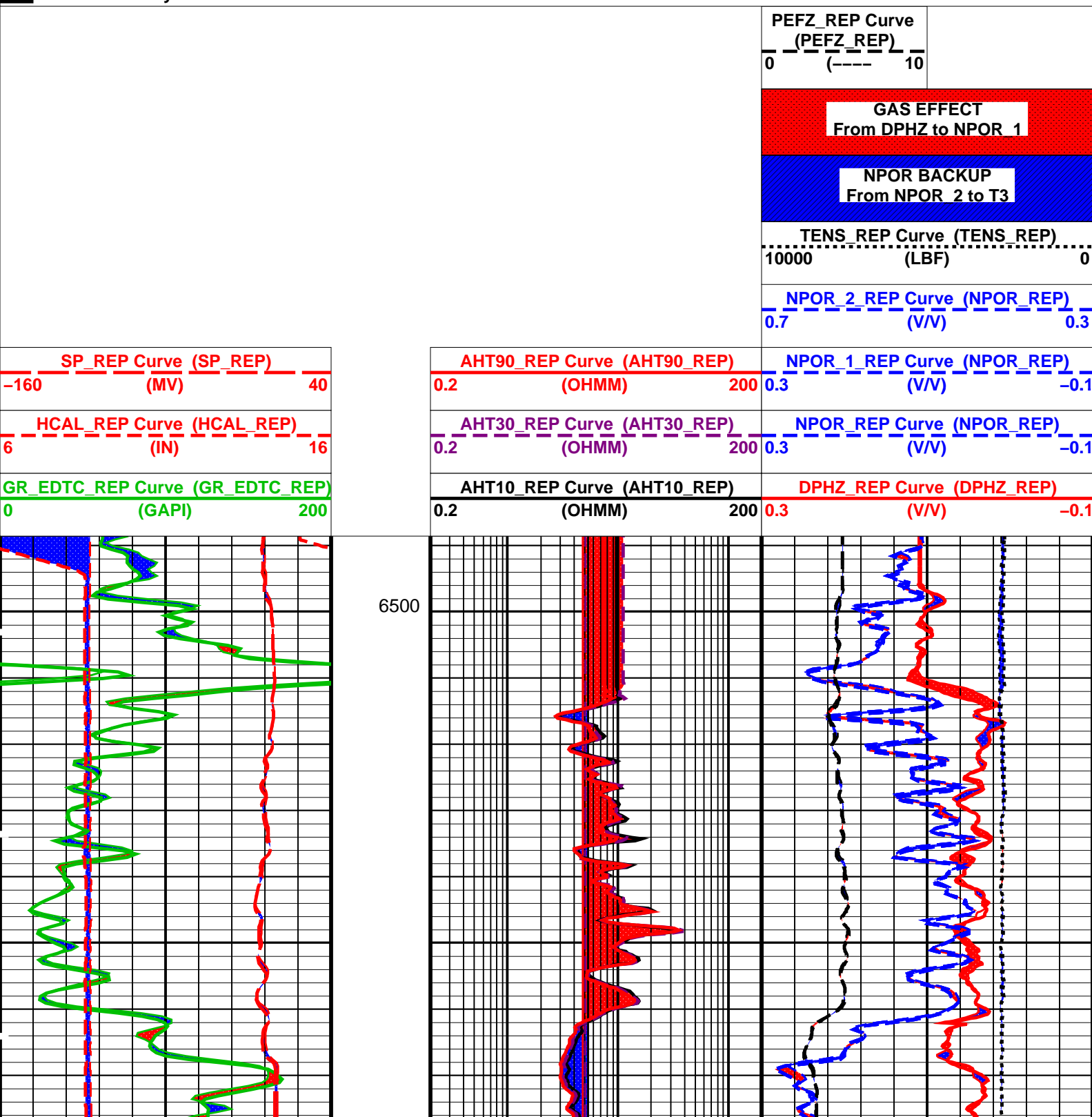
ECS-HP 18C0-147
 HNGC-B 18C0-147
 EDTC-B SRPC-4072-Q4_2010_OP18

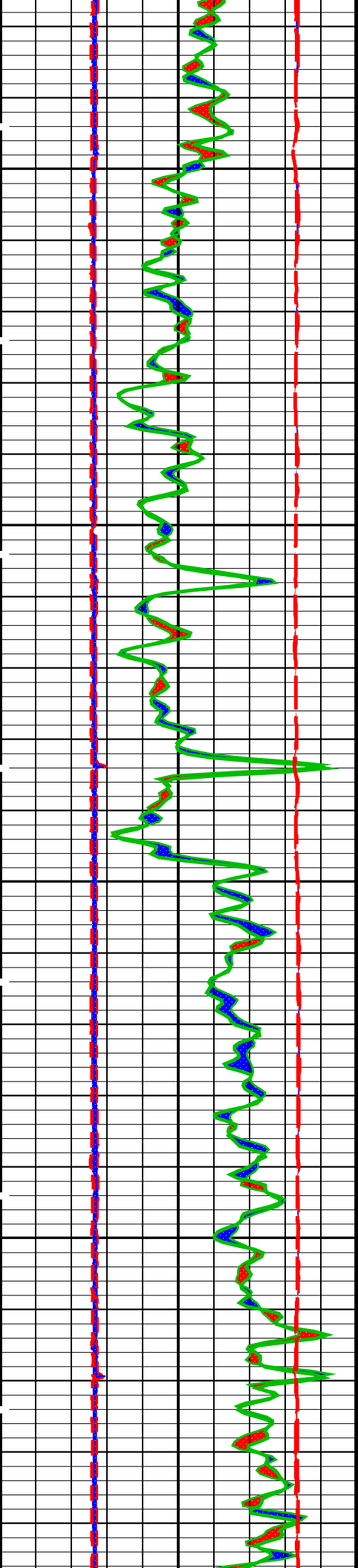
Changed Parameter Summary

DLIS Name	New Value	Previous Value	Depth & Time
MATR	SANDSTONE	SANDSTONE	7042.5 11:11:07
	LIMESTONE	SANDSTONE	6562.0 11:11:22
MDEN	2.65 G/C3	2.65 G/C3	7042.5 11:11:07
	2.71 G/C3	2.65 G/C3	6562.0 11:11:22

PIP SUMMARY

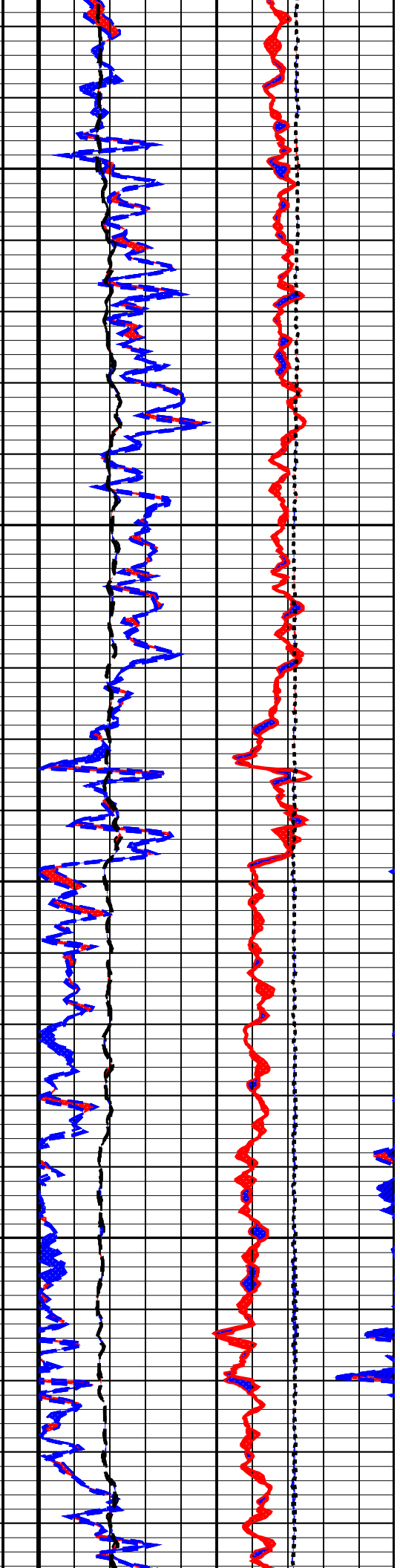
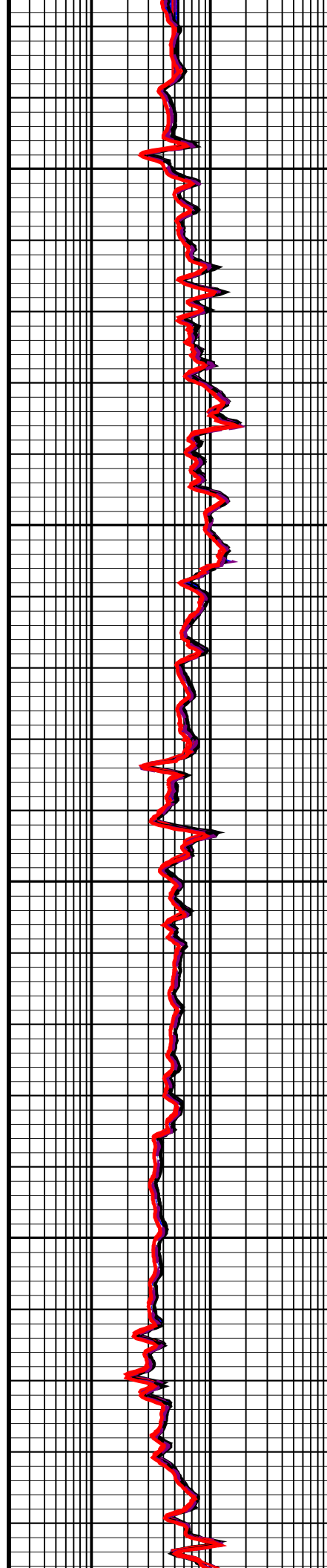
Time Mark Every 60 S

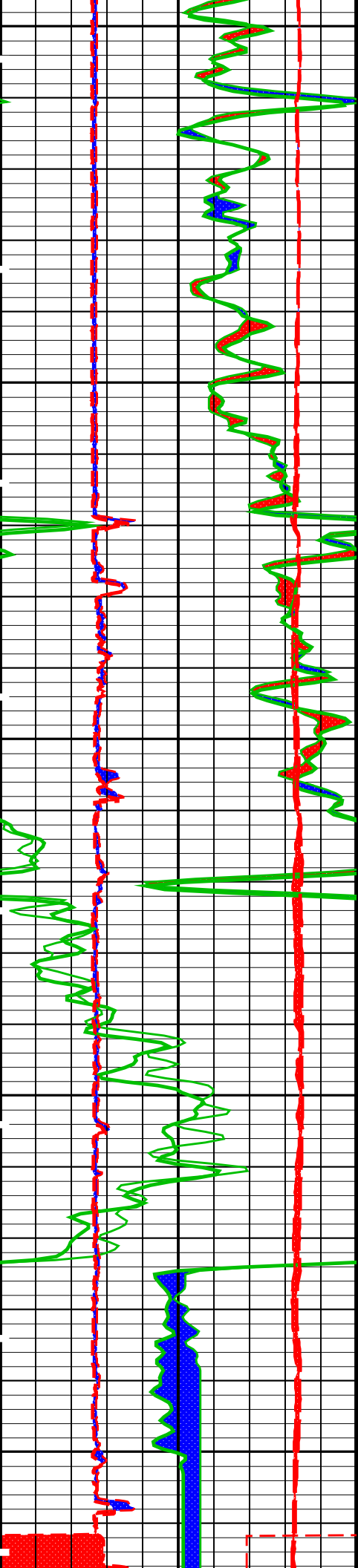




6600

6700

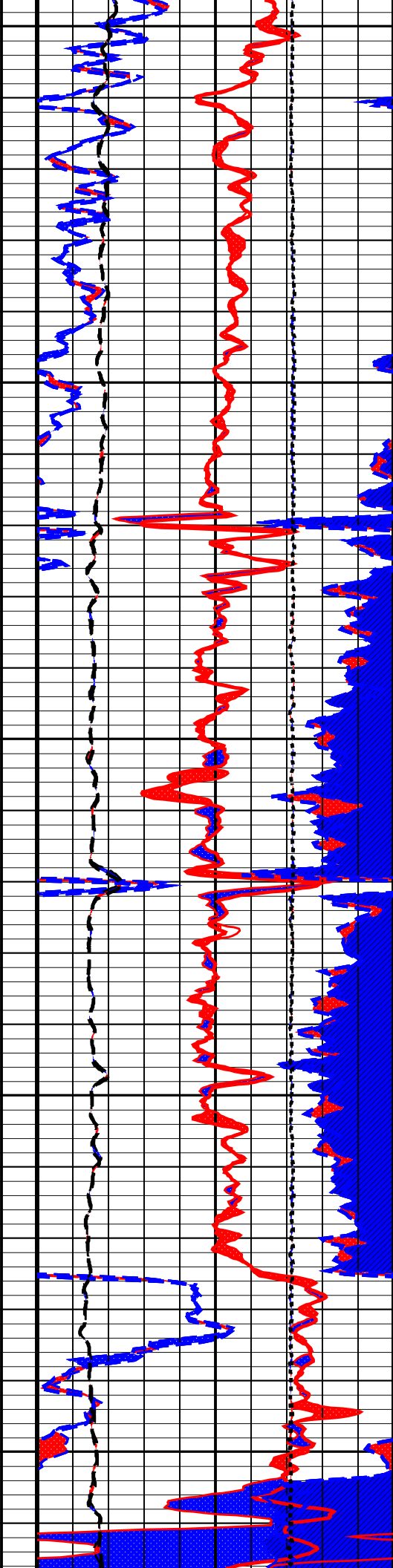
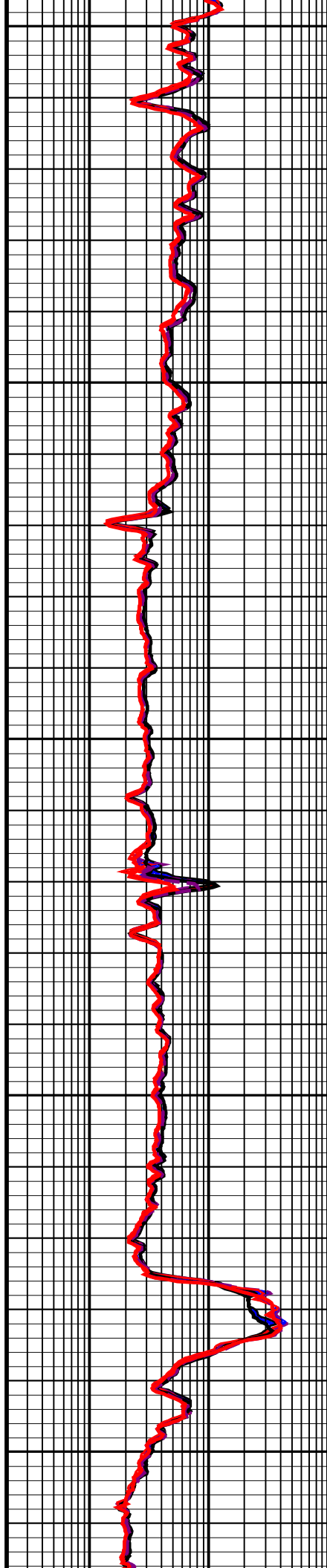


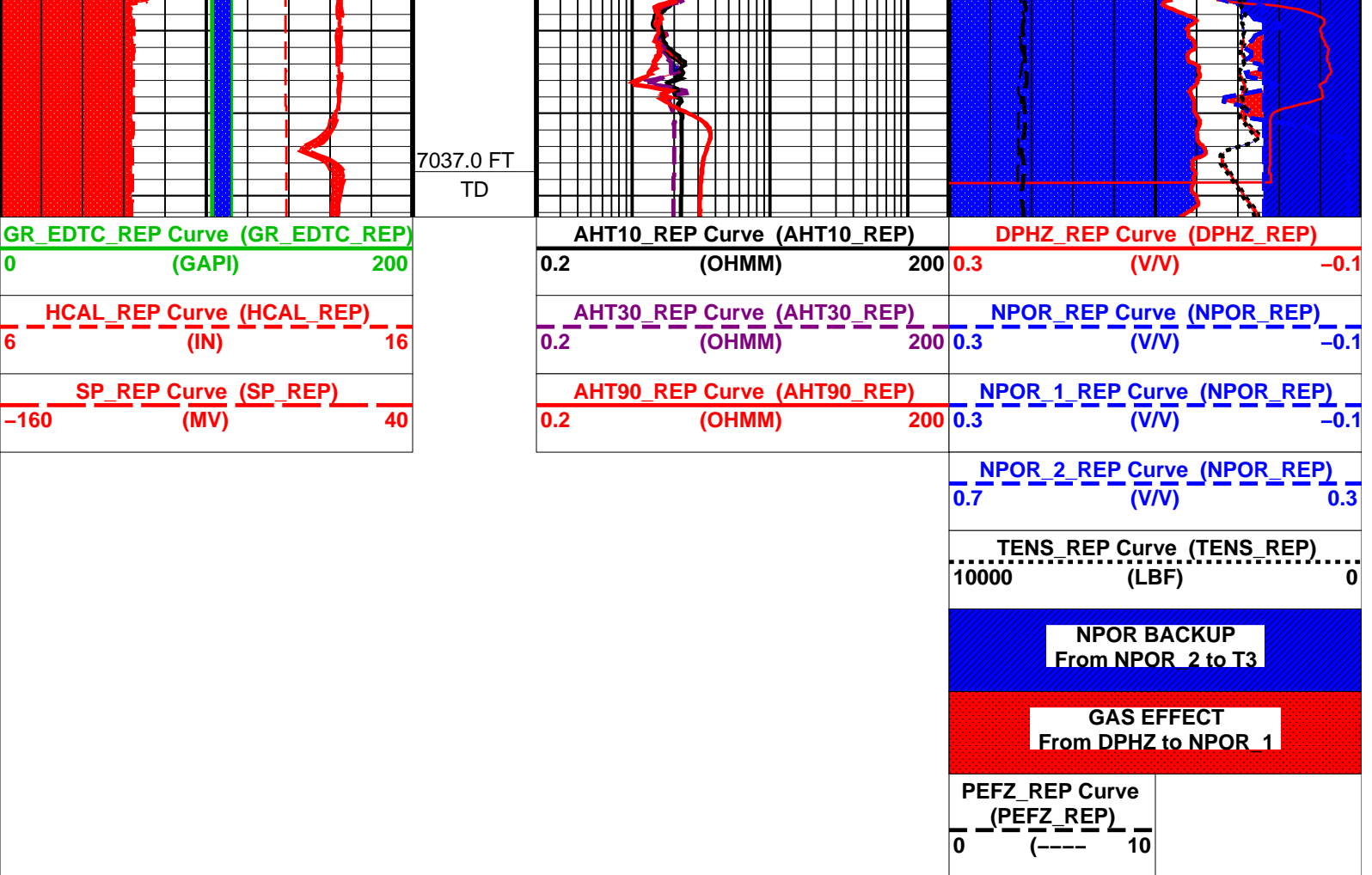


6800

6900

7000





Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
HILTB-FTB: High resolution Integrated Logging Tool-DTS		
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
AHFRSV	Array Induction Response Set Version for Four ft Resolution	41.70.24.20
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
AHRPV	Array Induction Radial Parametrization Code Version Number	232
AHSTA	Array Induction Tool Standoff	1 IN
AHTRSV	Array Induction Response Set Version for Two ft Resolution	41.70.24.20
BHFL	Borehole Fluid Type	WATER
BHFL_TLD	HILT Nuclear Mud Base	WATER
BHS	Borehole Status	OPEN
BHT	Bottom Hole Temperature (used in calculations)	193 DEGF
BSCO	Borehole Salinity Correction Option	NO
CCCO	Casing & Cement Thickness Correction Option	NO
DHC	Density Hole Correction	BS
FD	Fluid Density	1 G/C3
FEXP	Form Factor Exponent	2
FNUM	Form Factor Numerator	1
FSAL	Formation Salinity	-50000 PPM
FSCO	Formation Salinity Correction Option	NO
GCLF	Germany Coal-like Formation Option	NO
GCSE	Generalized Caliper Selection	HCAL
GDEV	Average Angular Deviation of Borehole from Normal	0 DEG
GGRD	Geothermal Gradient	0.01 DF/F
GRSE	Generalized Mud Resistivity Selection	AITH_RESIST
GTSE	Generalized Temperature Selection	HSTS_HTEM
HSCO	Hole Size Correction Option	YES
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE
MCCO	Mud Cake Correction Option	NO

MCOR	Mud Correction		NATU	
MDEN	Matrix Density	2.65	G/C3	
MWCO	Mud Weight Correction Option	NO		
NAAC	HRDD APS Activation Correction	OFF		
NMT	HILT Nuclear Mud Type	NOBARITE		
NPRM	HRDD Processing Mode	HiRes		
NSAR	HRDD Depth Sampling Rate	1	IN	
PTCO	Pressure/Temperature Correction Option	NO		
SDAT	Standoff Data Source	SOCN		
SHT	Surface Hole Temperature	68	DEGF	
SOCN	Standoff Distance	0.125	IN	
SOCO	Standoff Correction Option	YES		
SPNV	SP Next Value	0	MV	
HNGS-BA: Hostile Natural Gamma Ray Sonde				
BHS	Borehole Status	OPEN		
BHT	Bottom Hole Temperature (used in calculations)	193	DEGF	
GCSE	Generalized Caliper Selection	HCAL		
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG	
GGRD	Geothermal Gradient	0.01	DF/F	
GRSE	Generalized Mud Resistivity Selection	AITH_RESIST		
GTSE	Generalized Temperature Selection	HSTS_HTEM		
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE		
SHT	Surface Hole Temperature	68	DEGF	
EDTC-B: Enhanced DTS Cartridge				
BHFL	Borehole Fluid Type	WATER		
BHS	Borehole Status	OPEN		
BHT	Bottom Hole Temperature (used in calculations)	193	DEGF	
BSCO	Borehole Salinity Correction Option	NO		
CCCO	Casing & Cement Thickness Correction Option	NO		
FSCO	Formation Salinity Correction Option	NO		
GCSE	Generalized Caliper Selection	HCAL		
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG	
GGRD	Geothermal Gradient	0.01	DF/F	
GRSE	Generalized Mud Resistivity Selection	AITH_RESIST		
GTSE	Generalized Temperature Selection	HSTS_HTEM		
HSCO	Hole Size Correction Option	YES		
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE		
MCCO	Mud Cake Correction Option	NO		
MCOR	Mud Correction	NATU		
MWCO	Mud Weight Correction Option	NO		
PTCO	Pressure/Temperature Correction Option	NO		
SDAT	Standoff Data Source	SOCN		
SHT	Surface Hole Temperature	68	DEGF	
SOCN	Standoff Distance	0.125	IN	
SOCO	Standoff Correction Option	YES		
FEQL: Formation Evaluation Quick Look				
FEXP	Form Factor Exponent	2		
FNUM	Form Factor Numerator	1		
HOLEV: Integrated Hole/Cement Volume				
BHS	Borehole Status	OPEN		
BHT	Bottom Hole Temperature (used in calculations)	193	DEGF	
GCSE	Generalized Caliper Selection	HCAL		
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG	
GGRD	Geothermal Gradient	0.01	DF/F	
GRSE	Generalized Mud Resistivity Selection	AITH_RESIST		
GTSE	Generalized Temperature Selection	HSTS_HTEM		
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE		
SHT	Surface Hole Temperature	68	DEGF	
PERT: Preliminary Evaluation - Real Time				
BHS	Borehole Status	OPEN		
BHT	Bottom Hole Temperature (used in calculations)	193	DEGF	
FEXP	Form Factor Exponent	2		
FNUM	Form Factor Numerator	1		
GCSE	Generalized Caliper Selection	HCAL		
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG	
GGRD	Geothermal Gradient	0.01	DF/F	
GRSE	Generalized Mud Resistivity Selection	AITH_RESIST		
GTSE	Generalized Temperature Selection	HSTS_HTEM		
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE		
SHT	Surface Hole Temperature	68	DEGF	
STI: Stuck Tool Indicator				
TDL	Total Depth - Logger	7037.00	FT	
System and Miscellaneous				
BS	Bit Size	8.750	IN	
BSAL	Borehole Salinity	-50000.00	PPM	
CSIZ	Current Casing Size	9.625	IN	
CWEI	Casing Weight	36.00	LB/F	
DFD	Drilling Fluid Density	9.20	LB/G	
DO	Depth Offset for Playback	0.0	FT	
DORL	Depth Offset for Repeat Analysis	0.0	FT	
FLEV	Fluid Level	25.00	FT	
MST	Mud Sample Temperature	193.75	DEGF	
PP	Playback Processing	RECOMPUTE		
RMFS	Resistivity of Mud Filtrate Sample	1.0117	OHMM	
TD	Total Depth	7037	FT	

OP System Version: 18C0-147

HILTB-FTB	18C0-147	ECS-HP	18C0-147
ECC-B	18C0-147	HNGC-B	18C0-147
HNGS-BA	18C0-147	EDTC-B	SRPC-4072-Q4_2010_OP18

Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_039PUP	FN:37	PRODUCER	22-Nov-2011 10:41	7044.0 FT	1309.5 FT
DEFAULT	AIT_TLD_MCFL_CNL_038PUP	FN:36	PRODUCER	22-Nov-2011 10:39	7057.5 FT	6489.0 FT

Output DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_044PUP	FN:42	PRODUCER	22-Nov-2011 11:09
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BEFORE CALIBRATIONS

MAXIS Field Log

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
High resolution Integrated Logging Tool-DTS Wellsite Calibration - Electronics Calibration Check - Thru Cal Mag. & Phase							
Before: 22-Nov-2011 0:20							
Thru Cal Magnitude - 0	0	N/A	0.6297	N/A	N/A	N/A	V
Thru Cal Magnitude - 1	0	N/A	1.290	N/A	N/A	N/A	V
Thru Cal Magnitude - 2	0	N/A	0.6397	N/A	N/A	N/A	V
Thru Cal Magnitude - 3	0	N/A	0.7229	N/A	N/A	N/A	V
Thru Cal Magnitude - 4	0	N/A	1.360	N/A	N/A	N/A	V
Thru Cal Magnitude - 5	0	N/A	1.973	N/A	N/A	N/A	V
Thru Cal Magnitude - 6	0	N/A	1.973	N/A	N/A	N/A	V
Thru Cal Magnitude - 7	0	N/A	1.411	N/A	N/A	N/A	V
Phase - 0	0	N/A	52.08	N/A	N/A	N/A	DEG
Phase - 1	0	N/A	51.06	N/A	N/A	N/A	DEG
Phase - 2	0	N/A	47.30	N/A	N/A	N/A	DEG
Phase - 3	0	N/A	46.51	N/A	N/A	N/A	DEG
Phase - 4	0	N/A	40.15	N/A	N/A	N/A	DEG
Phase - 5	0	N/A	38.25	N/A	N/A	N/A	DEG
Phase - 6	0	N/A	38.24	N/A	N/A	N/A	DEG
Phase - 7	0	N/A	34.48	N/A	N/A	N/A	DEG
High resolution Integrated Logging Tool-DTS Wellsite Calibration - Electronics Calibration Check - Auxilliary							
Before: 22-Nov-2011 0:20							
Array Induction SPA Plus	990.5	N/A	993.4	N/A	N/A	N/A	MV
Array Induction SPA Zero	0	N/A	-0.003630	N/A	N/A	N/A	MV
Array Induction Temperature PI	0.9150	N/A	0.9216	N/A	N/A	N/A	V
Array Induction Temperature Ze	0	N/A	-5.445E-006	N/A	N/A	N/A	V
High resolution Integrated Logging Tool-DTS Wellsite Calibration - Stab Measurement Summary							
Before: 22-Nov-2011 0:22							
BS Window Ratio	0.7410	N/A	0.7416	N/A	N/A	N/A	
BS Window Sum	10310	N/A	10310	N/A	N/A	N/A	CPS
SS Window Ratio	0.4850	N/A	0.4867	N/A	N/A	N/A	
SS Window Sum	9783	N/A	9781	N/A	N/A	N/A	CPS
LS Window Ratio	0.2963	N/A	0.2941	N/A	N/A	N/A	
LS Window Sum	1132	N/A	1125	N/A	N/A	N/A	CPS

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

Before: 22–Nov–2011 0:22

BS PM High Voltage (Command)	1509	N/A	1554	N/A	N/A	N/A	V
SS PM High Voltage (Command)	1934	N/A	1955	N/A	N/A	N/A	V
LS PM High Voltage (Command)	1322	N/A	1345	N/A	N/A	N/A	V

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

Before: 22–Nov–2011 0:22

BS Crystal Resolution	11.06	N/A	11.25	N/A	N/A	N/A	%
SS Crystal Resolution	10.94	N/A	11.01	N/A	N/A	N/A	%
LS Crystal Resolution	8.810	N/A	8.846	N/A	N/A	N/A	%

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

Before: 22–Nov–2011 5:46

Raw B0 Resistivity	3875	N/A	3827	N/A	N/A	N/A	OHMM
Raw B1 Resistivity	3830	N/A	3801	N/A	N/A	N/A	OHMM
Raw B2 Resistivity	3830	N/A	5000	N/A	N/A	N/A	OHMM

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

Before: 22–Nov–2011 0:19

HILT Caliper Zero Measurement	8.000	N/A	9.676	N/A	N/A	N/A	IN
HILT Caliper Plus Measurement	12.00	N/A	13.97	N/A	N/A	N/A	IN

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

Before: 22–Nov–2011 0:17

Gamma Ray Background	30.00	N/A	82.52	N/A	N/A	N/A	GAPI
Gamma Ray (Jig – Bkgd)	165.0	N/A	165.0	N/A	N/A	15.00	GAPI

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

Before: 22–Nov–2011 0:19

CNTC Background	28.58	N/A	28.86	N/A	N/A	4.287	CPS
CFTC Background	30.22	N/A	30.88	N/A	N/A	4.533	CPS

High resolution Integrated Logging Tool-DTS Wellsite Calibration – Accelerometer Calibration

Before: 22–Nov–2011 5:46

Z–Axis Acceleration	32.19	N/A	31.79	N/A	N/A	N/A	F/S2
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Hostile Natural Gamma Ray Sonde Wellsite Calibration – Detector 1 Check

Master: 6–Nov–2011 14:53 Before: 6–Nov–2011 15:02

Na 511 Peak Loc	40.00	38.49	38.51	N/A	N/A	1.000	
Na 511 Peak Res	15.50	15.21	15.29	N/A	N/A	2.000	%
High Voltage	1150	1025	1025	N/A	N/A	N/A	V
Na 1785 Peak Loc	142.6	138.2	139.2	N/A	N/A	7.000	
Na 1785 Peak Res	8.500	8.744	8.622	N/A	N/A	2.000	%
Temperature	59.90	61.08	61.03	N/A	N/A	N/A	DEGF
Na Count Rate	45.00	16.26	16.01	N/A	N/A	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration – Detector 2 Check

Master: 6–Nov–2011 14:53 Before: 6–Nov–2011 15:02

Na 511 Peak Loc	40.00	39.48	39.65	N/A	N/A	1.000	
Na 511 Peak Res	15.50	15.43	14.50	N/A	N/A	2.000	%
High Voltage	1150	969.5	970.8	N/A	N/A	N/A	V
Na 1785 Peak Loc	142.6	140.2	141.8	N/A	N/A	7.000	
Na 1785 Peak Res	8.500	8.639	7.786	N/A	N/A	2.000	%
Temperature	59.90	62.29	62.24	N/A	N/A	N/A	DEGF
Na Count Rate	45.00	16.21	15.87	N/A	N/A	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration – Ratio Of Detector 1 To Detector 2

Master: 6–Nov–2011 14:53 Before: 6–Nov–2011 15:02

Coincidence Count Rate Ratio	1.000	0.9994	1.007	N/A	N/A	0.05000	
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Enhanced DTS Cartridge Wellsite Calibration – EDTC Accelerometer Calibration

Before: 22–Nov–2011 5:47

EDTC Z–Axis Acceleration	32.19	N/A	32.01	N/A	N/A	N/A	F/S2
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Enhanced DTS Cartridge Wellsite Calibration – Detector Calibration

Before: 21–Nov–2011 23:01

Gamma Ray (Jig – Bkg)	149.3	N/A	149.3	N/A	N/A	13.57	GAPI
Gamma Ray (Calibrated)	165.0	N/A	165.0	N/A	N/A	15.00	GAPI

The GLS–VJ source activity is acceptable.

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

NCT–B Water Temperature 77.3 DEGF.
 Thermal Housing Size 3.371 IN.
 NSR–F serial number 5068

High resolution Integrated Logging Tool-DTS / Equipment Identification

Primary Equipment:

Array Induction Tool – H
 Rm/SP Bottom Nose
 Array Induction Sonde
 HILT high-Resolution Mechanical Sonde
 HILT Rxo Gamma-ray Device
 HILT Micro Cylindrically Focused Log Dev
 GR Logging Source
 HILT High Res. Control Cartridge

AIT – H
 AHRM – A
 AHIS – BA 216
 HRMS – B
 HRGD – B
 MCFL –
 GLS – VJ 5416
 HRCC – B

Auxiliary Equipment:

High resolution Integrated Logging Tool-DTS Wellsite Calibration

Electronics Calibration Check – Thru Cal Mag. & Phase

Idx	Phase	Value	Thru Cal Magnitude V	Nominal	Value	Phase DEG	Nominal
0	Before	0.6297		0.6050	52.08		71.00
1	Before	1.290		1.270	51.06		70.00
2	Before	0.6397		0.6230	47.30		66.00
3	Before	0.7229		0.7040	46.51		65.00
4	Before	1.360		1.337	40.15		59.00
5	Before	1.973		1.955	38.25		57.00
6	Before	1.973		1.955	38.24		57.00
7	Before	1.411		1.415	34.48		53.00
		60.00 % (Minimum)	(Nominal)	140.0 % (Maximum)	Nom -60.00 (Minimum)	(Nominal)	Nom + 60.00 (Maximum)

Before: 22-Nov-2011 0:20

High resolution Integrated Logging Tool-DTS Wellsite Calibration

Electronics Calibration Check – Auxilliary

Phase	Array Induction SPA Plus MV	Value	Phase	Array Induction SPA Zero MV	Value		
Before		993.4	Before		-0.003630		
		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		
Before		0.9216	Before		-5.445E-00		
		0.8700 (Minimum)	0.9150 (Nominal)	0.9600 (Maximum)	-0.05000 (Minimum)	0 (Nominal)	0.05000 (Maximum)

Before: 22-Nov-2011 0:20

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		0.7416	Before		0.4867	Before		0.2941		
		0.7039 (Minimum)	0.7410 (Nominal)	0.7780 (Maximum)	0.4608 (Minimum)	0.4850 (Nominal)	0.5093 (Maximum)	0.2815 (Minimum)	0.2963 (Nominal)	0.3111 (Maximum)
Phase	BS Window Sum CPS	Value	Phase	SS Window Sum CPS	Value	Phase	LS Window Sum CPS	Value		
Before		10310	Before		9781	Before		1125		
		9793 (Minimum)	10310 (Nominal)	10820 (Maximum)	9294 (Minimum)	9783 (Nominal)	10270 (Maximum)	1075 (Minimum)	1132 (Nominal)	1188 (Maximum)

Before: 22-Nov-2011 0:22

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		1554	Before		1955	Before		1345		
		1409 (Minimum)	1509 (Nominal)	1609 (Maximum)	1834 (Minimum)	1934 (Nominal)	2034 (Maximum)	1222 (Minimum)	1322 (Nominal)	1422 (Maximum)

Before: 22-Nov-2011 0:22

High resolution Integrated Logging Tool–DTS Wellsite Calibration											
Crystal Quality Resolutions Calibration											
Phase	BS Crystal Resolution %		Value	Phase	SS Crystal Resolution %		Value	Phase	LS Crystal Resolution %		Value
Before			11.25	Before			11.01	Before			8.846
	10.06 (Minimum)	11.06 (Nominal)	12.06 (Maximum)		9.943 (Minimum)	10.94 (Nominal)	11.94 (Maximum)		7.810 (Minimum)	8.810 (Nominal)	9.810 (Maximum)

Before: 22–Nov–2011 0:22

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			3827	Before			3801	Before			5000
	3565 (Minimum)	3875 (Nominal)	4185 (Maximum)		3524 (Minimum)	3830 (Nominal)	4136 (Maximum)		3524 (Minimum)	3830 (Nominal)	4136 (Maximum)

Before: 22–Nov–2011 5:46

High resolution Integrated Logging Tool–DTS Wellsite Calibration							
HILT Caliper Calibration							
Phase	HILT Caliper Zero Measurement IN		Value	Phase	HILT Caliper Plus Measurement IN		Value
Before			9.676	Before			13.97
	6.000 (Minimum)	8.000 (Nominal)	10.00 (Maximum)		9.000 (Minimum)	12.00 (Nominal)	15.00 (Maximum)

Before: 22–Nov–2011 0:19

High resolution Integrated Logging Tool–DTS Wellsite Calibration							
Detector Calibration							
Phase	Gamma Ray Background GAPI		Value	Phase	Gamma Ray (Jig – Bkgd) GAPI		Value
Before			82.52	Before			165.0
	0 (Minimum)	30.00 (Nominal)	120.0 (Maximum)		157.1 (Minimum)	165.0 (Nominal)	206.3 (Maximum)

Before: 22–Nov–2011 0:17

High resolution Integrated Logging Tool–DTS Wellsite Calibration							
Zero Measurement							
Phase	CNTC Background CPS		Value	Phase	CFTC Background CPS		Value
Before			28.86	Before			30.88
	5.000 (Minimum)	28.58 (Nominal)	40.00 (Maximum)		5.000 (Minimum)	30.22 (Nominal)	40.00 (Maximum)

Before: 22–Nov–2011 0:19

High resolution Integrated Logging Tool–DTS Wellsite Calibration			
Accelerometer Calibration			
Phase	Z–Axis Acceleration F/S2	Value	
Before		31.79	
	31.53 (Minimum)	32.19 (Nominal)	32.84 (Maximum)

Before: 22–Nov–2011 5:46

Elemental Capture Cartridge – B / Equipment Identification	
Primary Equipment: ECC Cartridge	ECC – B
Auxiliary Equipment: ECC Housing	ECH – A

Hostile Natural Gamma Ray Cartridge – B / Equipment Identification	
Primary Equipment: HNGC Cartridge	HNGC – B
Auxiliary Equipment: HNGC Housing	HNGH – A

Hostile Natural Gamma Ray Sonde / Equipment Identification

Primary Equipment:

HNGS Sonde

HNGS – BA

Auxiliary Equipment:

HNGS Sonde Housing

HNSH – BA

Gamma Source Radioactive

GSR – U

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 1 Check

Phase	Na 511 Peak Loc	Value	Phase	Na 511 Peak Res %	Value	Phase	High Voltage V	Value
Master		38.49	Master		15.21	Master		1025
Before		38.51	Before		15.29	Before		1025
	37.50 (Minimum) 40.00 (Nominal) 43.50 (Maximum)			12.00 (Minimum) 15.50 (Nominal) 19.00 (Maximum)			900.0 (Minimum) 1150 (Nominal) 1600 (Maximum)	
Phase	Na 1785 Peak Loc	Value	Phase	Na 1785 Peak Res %	Value	Phase	Temperature DEGF	Value
Master		138.2	Master		8.744	Master		61.08
Before		139.2	Before		8.622	Before		61.03
	135.0 (Minimum) 142.6 (Nominal) 150.3 (Maximum)			7.000 (Minimum) 8.500 (Nominal) 11.00 (Maximum)			-20.00 (Minimum) 59.90 (Nominal) 140.0 (Maximum)	
Phase	Na Count Rate CPS	Value						
Master		16.26						
Before		16.01						
	10.00 (Minimum) 45.00 (Nominal) 100.0 (Maximum)							
Master: 6–Nov–2011 14:53			Before: 6–Nov–2011 15:02					

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 2 Check

Phase	Na 511 Peak Loc	Value	Phase	Na 511 Peak Res %	Value	Phase	High Voltage V	Value
Master		39.48	Master		15.43	Master		969.5
Before		39.65	Before		14.50	Before		970.8
	37.50 (Minimum) 40.00 (Nominal) 43.50 (Maximum)			12.00 (Minimum) 15.50 (Nominal) 19.00 (Maximum)			900.0 (Minimum) 1150 (Nominal) 1600 (Maximum)	
Phase	Na 1785 Peak Loc	Value	Phase	Na 1785 Peak Res %	Value	Phase	Temperature DEGF	Value
Master		140.2	Master		8.639	Master		62.29
Before		141.8	Before		7.786	Before		62.24
	135.0 (Minimum) 142.6 (Nominal) 150.3 (Maximum)			7.000 (Minimum) 8.500 (Nominal) 11.00 (Maximum)			-20.00 (Minimum) 59.90 (Nominal) 140.0 (Maximum)	
Phase	Na Count Rate CPS	Value						
Master		16.21						
Before		15.87						
	10.00 (Minimum) 45.00 (Nominal) 100.0 (Maximum)							
Master: 6–Nov–2011 14:53			Before: 6–Nov–2011 15:02					

Hostile Natural Gamma Ray Sonde Wellsite Calibration		
Ratio Of Detector 1 To Detector 2		
Phase	Coincidence Count Rate Ratio	Value
Master		0.9994
Before		1.007
	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)	
Master: 6–Nov–2011 14:53		
Before: 6–Nov–2011 15:02		

Primary Equipment:
 EDTC Gamma Ray Detector
 Enhanced DTS Cartridge

EDTG – A/B
 EDTC – B

Auxiliary Equipment:
 EDTC Housing

EDTH – B

Enhanced DTS Cartridge Wellsite Calibration			
EDTC Accelerometer Calibration			
Phase	EDTC Z-Axis Acceleration F/S2		Value
Before			32.01
	31.53 (Minimum)	32.19 (Nominal)	32.84 (Maximum)
Before: 22–Nov–2011 5:47			

Enhanced DTS Cartridge Wellsite Calibration											
Detector Calibration											
Phase	Gamma Ray Background GAPI		Value	Phase	Gamma Ray (Jig – Bkg) GAPI		Value	Phase	Gamma Ray (Calibrated) GAPI		Value
Before			78.18	Before			149.3	Before			165.0
	0 (Minimum)	30.00 (Nominal)	120.0 (Maximum)		135.7 (Minimum)	149.3 (Nominal)	162.9 (Maximum)		150.0 (Minimum)	165.0 (Nominal)	180.0 (Maximum)
Before: 21–Nov–2011 23:01											

Company: **Carrizo Oil & Gas Inc**

Schlumberger

Well: **Barracuda 20–14–7–60**

Field: **Wildcat**

County: **Weld**

State: **Colorado**

Platform Express

Triple Combo