

HALLIBURTON

RESERVOIR
MONITORING TOOL
ELITE

Company

URSA OPERATING COMPANY LLC

Well

MONUMENT RIDGE B 31B-17-7-95

Field

PARACHUTE

County

GARFIELD

State

CO

Company

URSA OPERATING COMPANY LLC

Well

MONUMENT RIDGE B 31B-17-7-95

Field

PARACHUTE

County

GARFIELD

State

CO

API No.:

05045229000000

Serv #:

903682721

Other Services

Location:

SHL: 910' FSL & 144' FEL
BHL: 666' FNL & 1987' FEL

Sec: 8

Twp: 7S

Rge: 95W

CBL-M

Permanent Datum

GROUND LEVEL

Elevation

5702'

Elevation

Log Measured From

KB

17' Ft. above perm. datum

K.B. 5719'
D.F. 5719'
G.L. 5702'

Drilling Measured From

KB

Date @ Time Logged

1 DEC 2016 @ 02:00

Type Fluid in Hole

FRESH WATER

Run No.

ONE

Density of Fluid

8.4 PPG

Depth - Driller

7755'

Fluid Level

SURFACE

Depth - Logger

7571'

Cement Top Est. Logged

1920'

Bottom - Logged Interval

7564'

Equipment / Location

11808537 / RS, WY

Top - Log Interval

1793'

Recorded by

P. DIMPFL

Max. Recorded Temp.

225 degF

Witnessed by

R. TOLLE

CEMENTING DATA

Surface

Protection

Production

Liner

String

String

String

Date / Time Cemented

N/A

N/A

N/A

N/A

Primary / Squeeze

N/A

N/A

N/A

N/A

Expected Compressive Strength

N/A

psi@ N/A hrs

N/A

psi@ N/A hrs

N/A

psi@ N/A hrs

Cement Volume

N/A

N/A

N/A

N/A

N/A

N/A

Cement Type / Weight

N/A

/ N/A

N/A

/ N/A

N/A

/ N/A

Formulation

N/A

N/A

N/A

N/A

N/A

N/A

Mud Type / Mud Wgt.

N/A

/ N/A

N/A

/ N/A

N/A

/ N/A

Borehole Record

Casing & Tubing Record

Run Number

Bit

From

To

Size

Weight

From

To

ONE

24"

SURFACE

60'

16"

75.5 #

SURFACE

60'

TWO

12.25"

60'

1843'

8.625"

32.0 #

SURFACE

1843'

THREE

7.875"

1843'

7755'

4.5"

11.6 #

SURFACE

7744'

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Comments

ESTIMATED TOP OF CEMENT : 1920'
GAMMA BLANKET : 408 GAPI
FREE PIPE CALIBRATION DEPTH : 340'

DATA SPLICED AT 3860'

THANK YOU FOR CHOOSING HALLIBURTON ENERGY SVCS.
YOUR CREW TODAY: P. DIMPFL, T. HOWELL, B. RICHARDSON

Service Ticket No.

903682721

API No.

05045229000000

PGM Ver

15.10.29001

The Well Name, Location, Borehole Description, and / or Cementing Data Furnished by Client

EQUIPMENT DATA

XHU

Run No.

ONE

Serial No.

12146425

Model No.

XHU-3

Diameter

1 11/16"

GAMMA

Run No.

ONE

Serial No.

11224503

Model No.

TTTCU-02

Diameter

1 11/16"

RMTI

Run No.

ONE

Serial No.

12095949

Model No.

RMTI

Diameter

2.25"

CBL

Run No.

ONE

Serial No.

12091451

Model No.

CBLM

Diameter

2.75"

LOGGING DATA

General Data

Pass

No

Depths

From

To

Well Head

Pressure

Speed

Ft/Min

Logging Run Comments

ONE	3850'	3620'	0 PSI	20	REPEAT			
TWO	7571'	3778'	0 PSI	20	MAIN			
	GAMMA		SIGMA		AMPLITUDE			
Pass	Scale		Scale		Scale		Scale	
No.	L	R	L	R	L	R	L	L
ONE	0	200	60	0	0	100		
TWO	0	200	60	0	0	100		
DIRECTIONAL INFORMATION								
Maximum Deviation			deg. @		KOP			

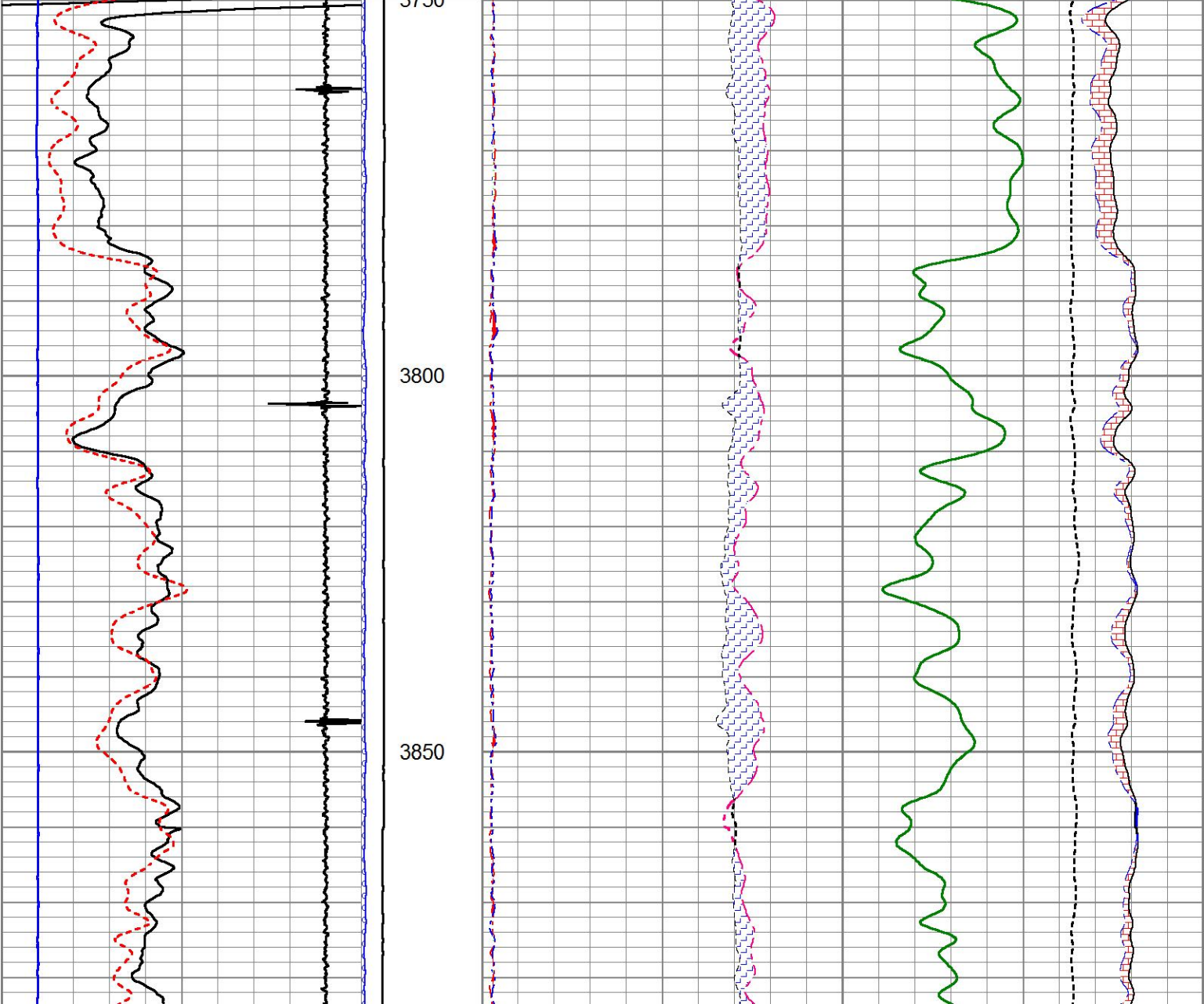
MAIN PASS

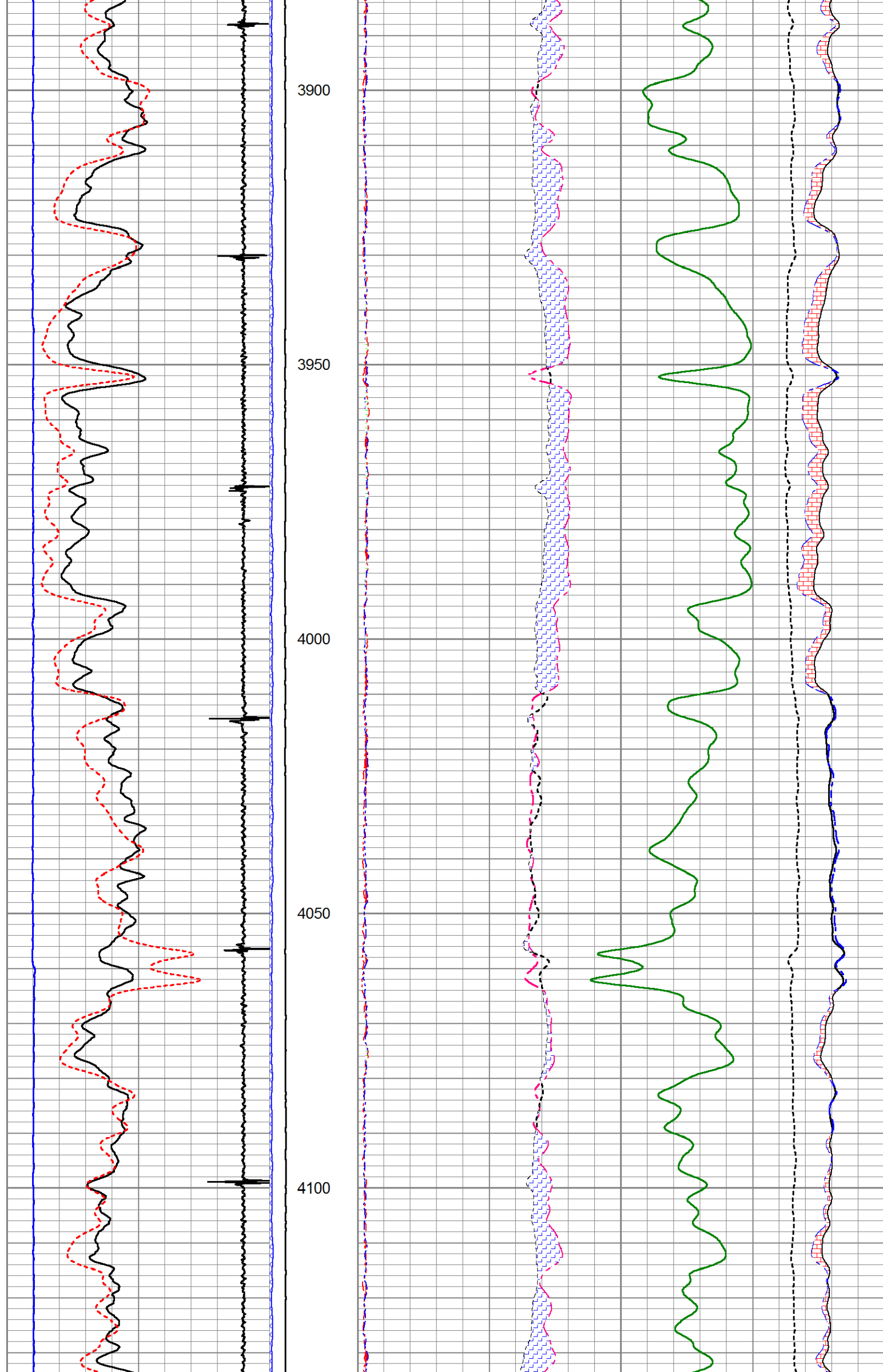
HALLIBURTON

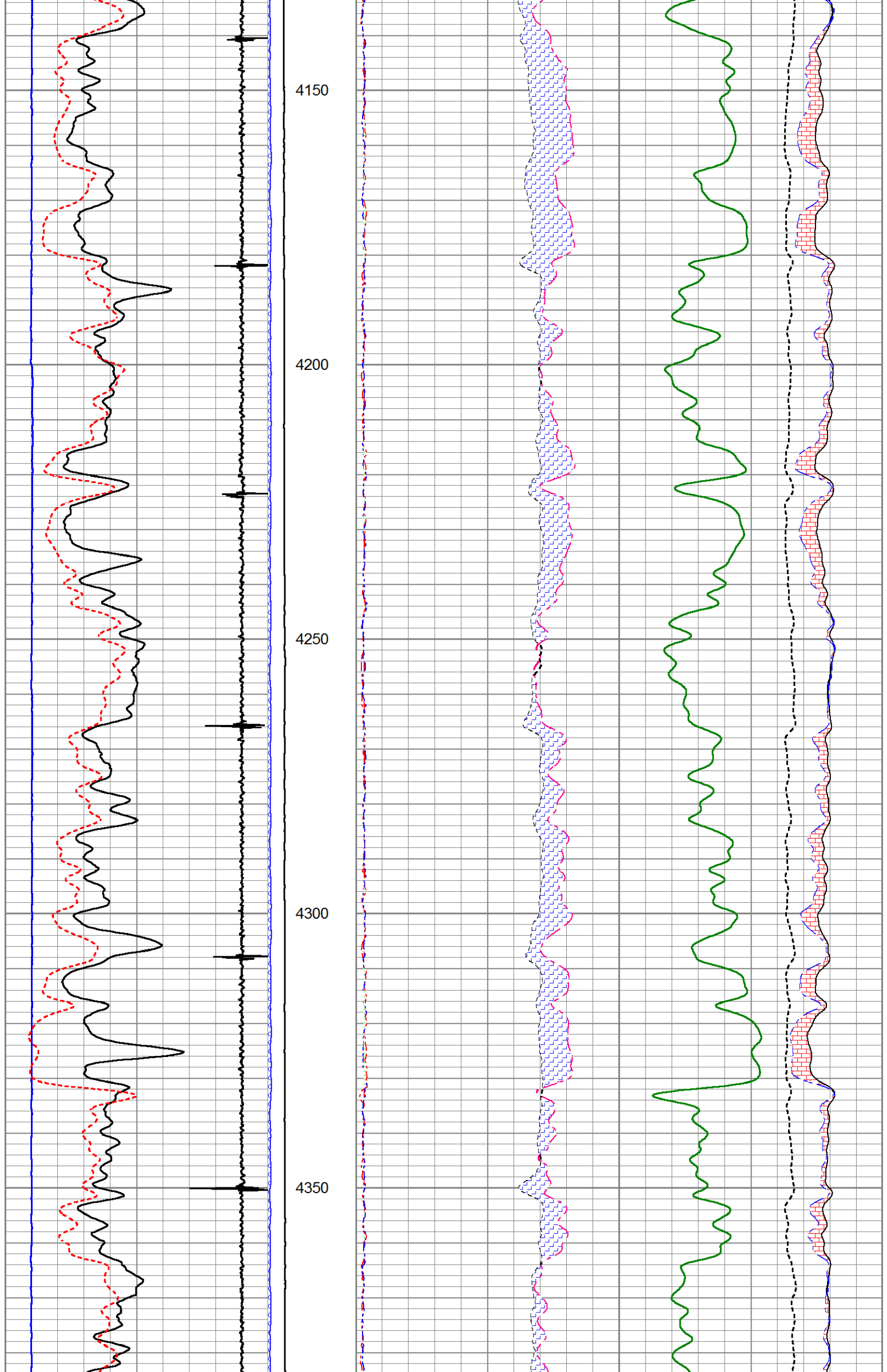
5" = 100'

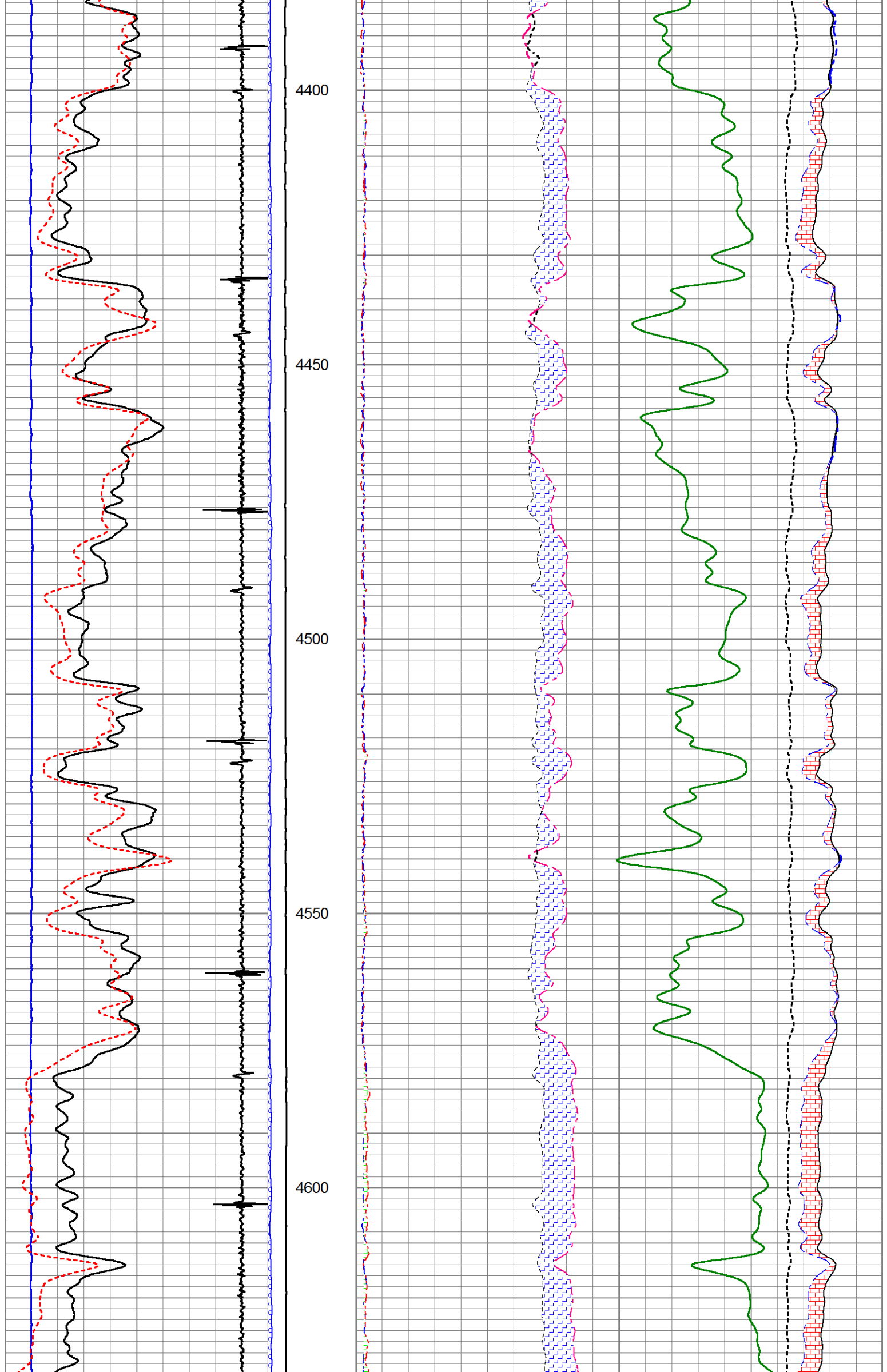
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Dataset Pathname	merge1
Presentation Format	!1!!rmt_rmti
Dataset Creation	Fri Dec 02 08:51:08 2016
Charted by	Depth in Feet scaled 1:240

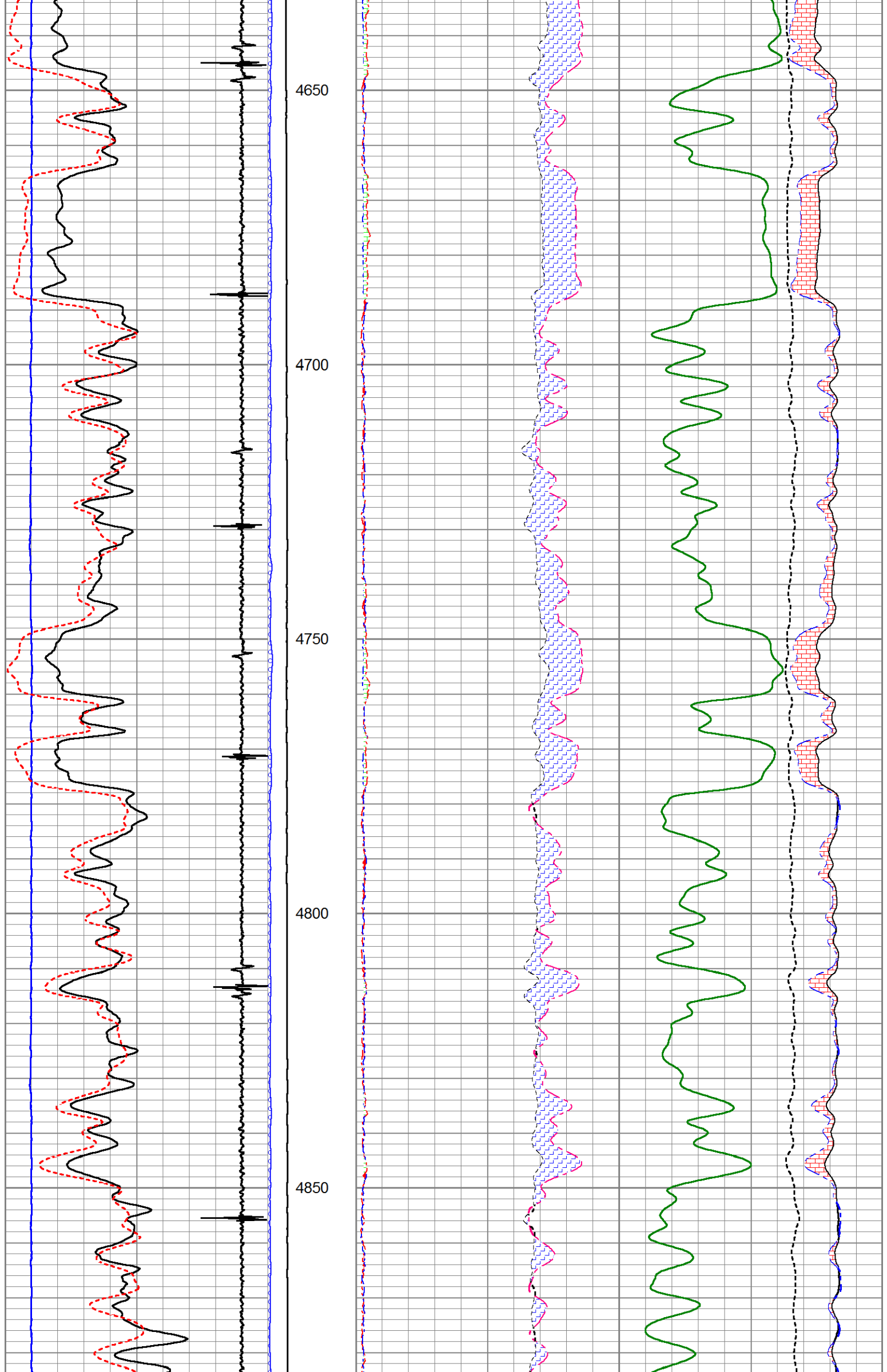
0	GR	200	LTEN	60	SGFF				0	
2700	CCL	-300		0	(lb5000	2	RNF (Ratio Near/Far)	0.5	100000	FSIN
0	LSPD (ft/min)	200	0	OAI1100	1.65	RIN (Ratio Near/Far Incl)	0.65	60000	NCAP	0
10	SGINear	40			0	NFTR (Near Fit Error)	100	60000	FCAP	0
					0	FFTR (Far Fit Error)	100			

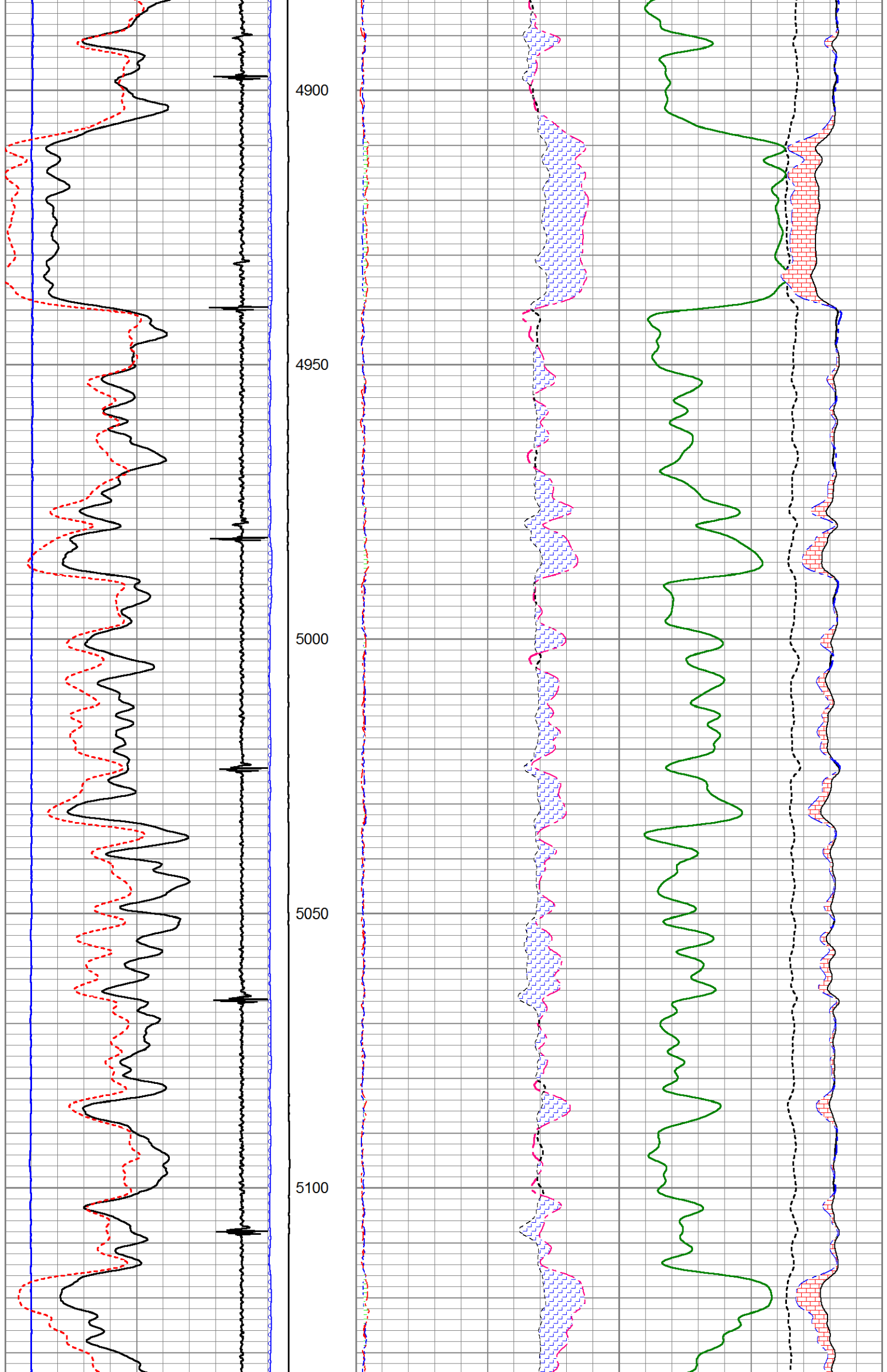


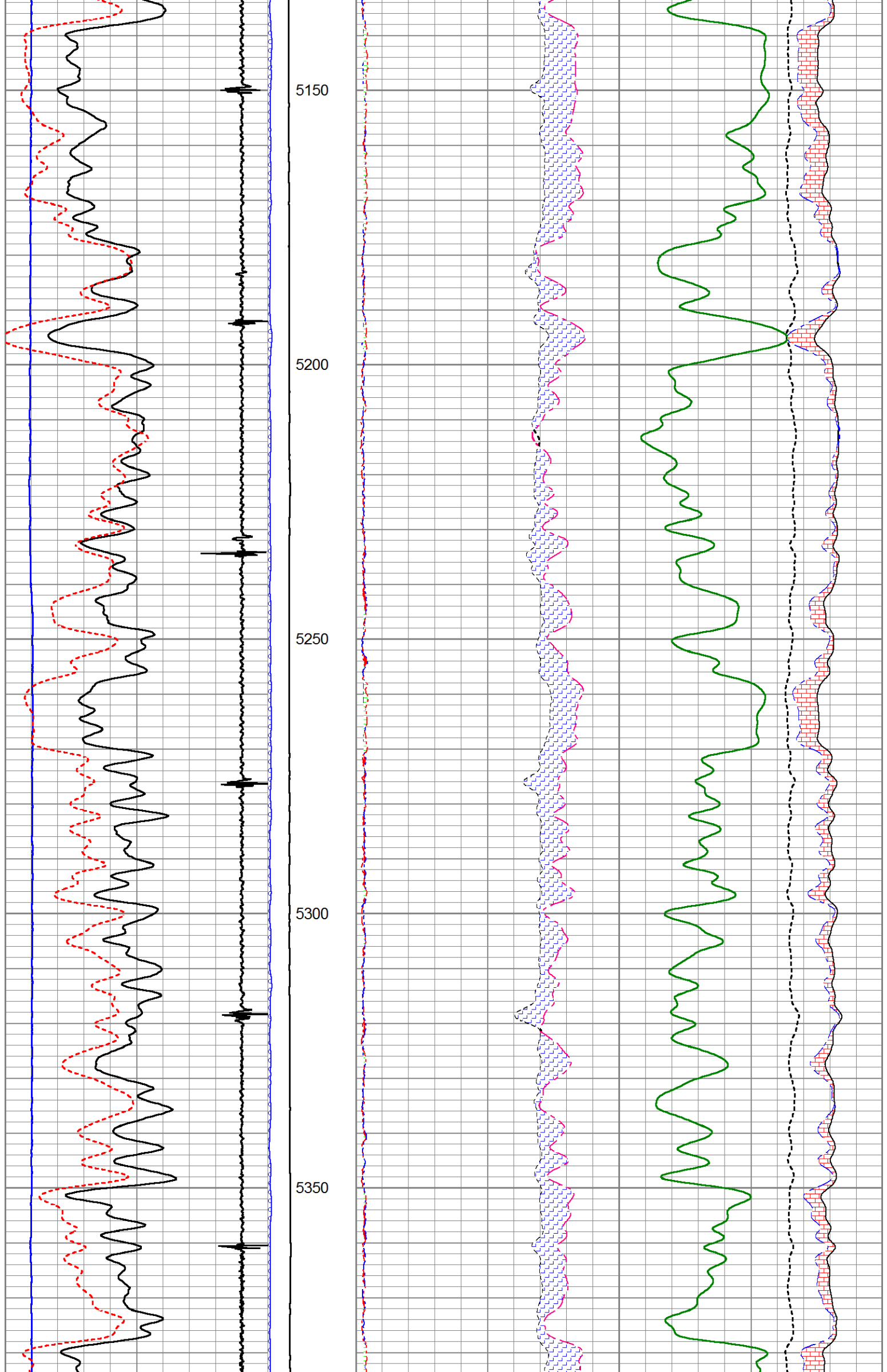


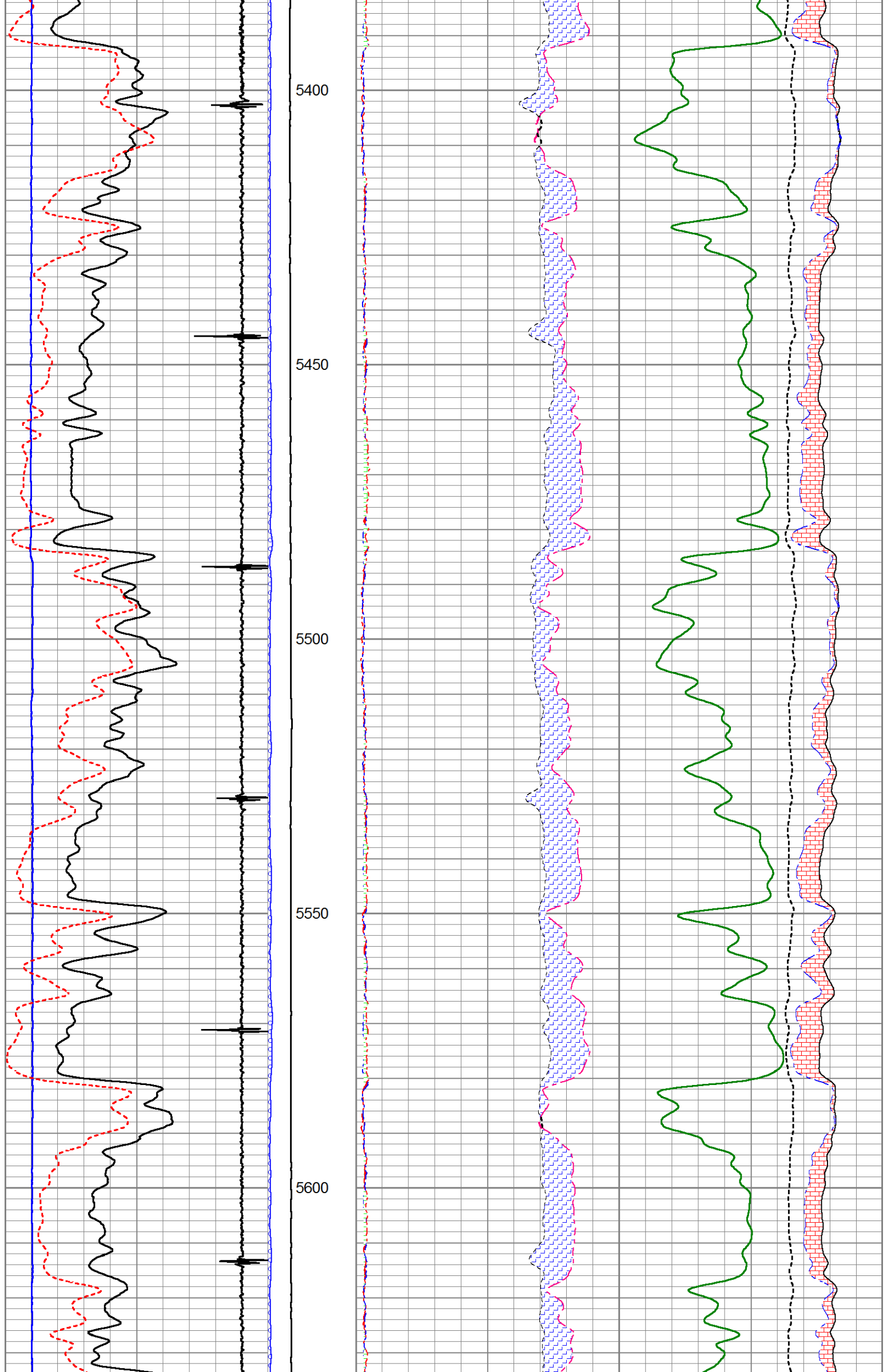


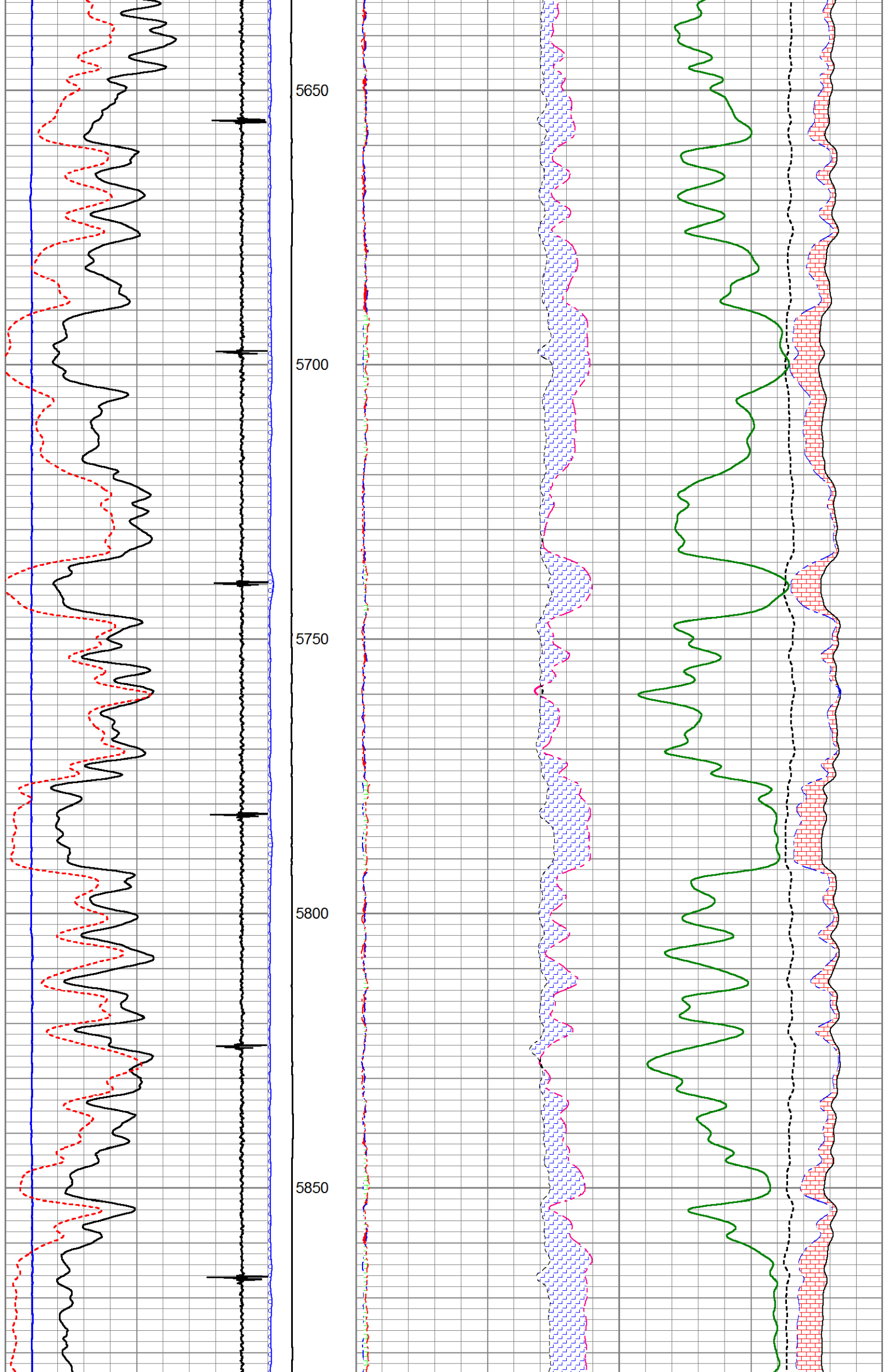


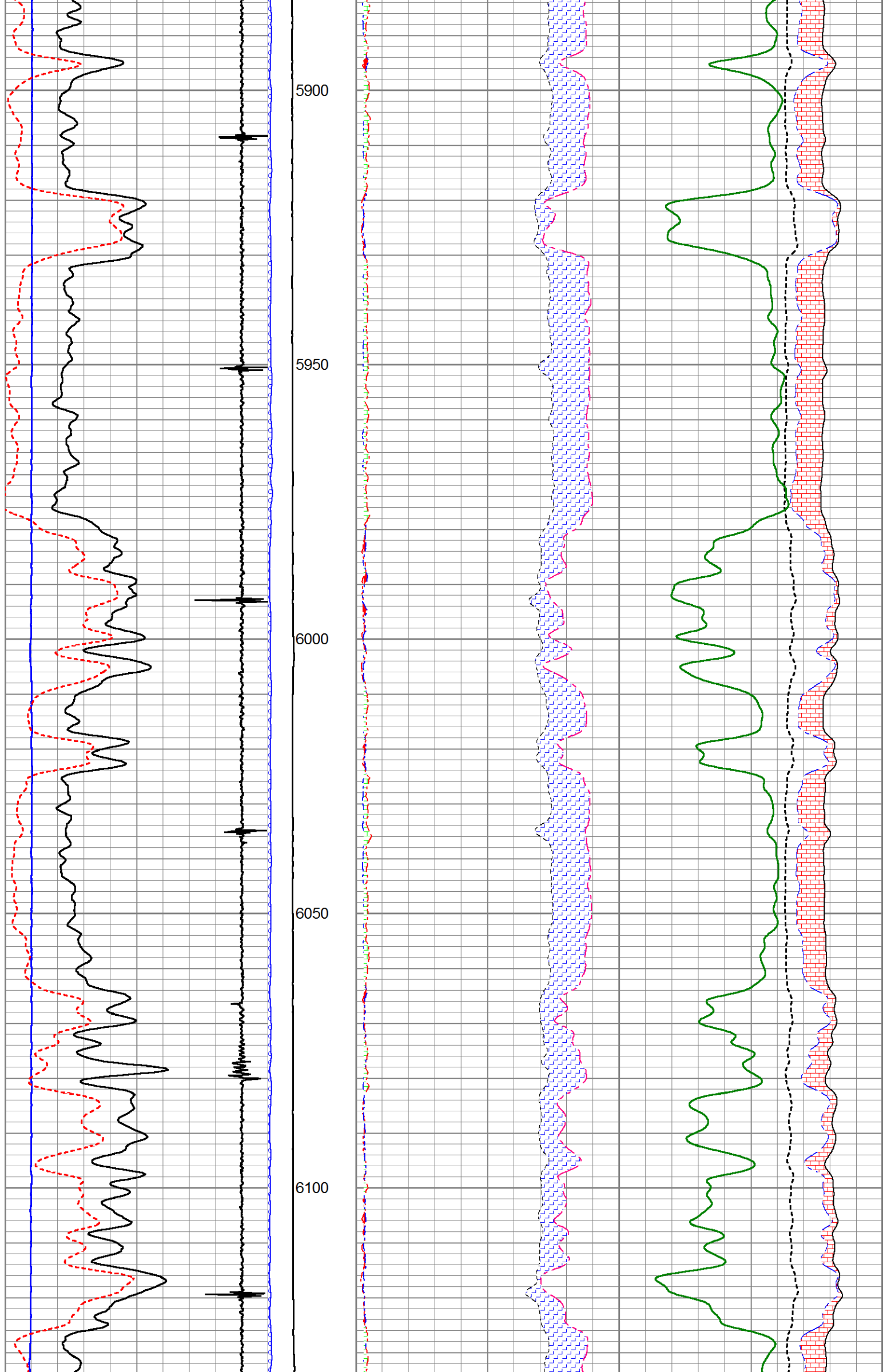


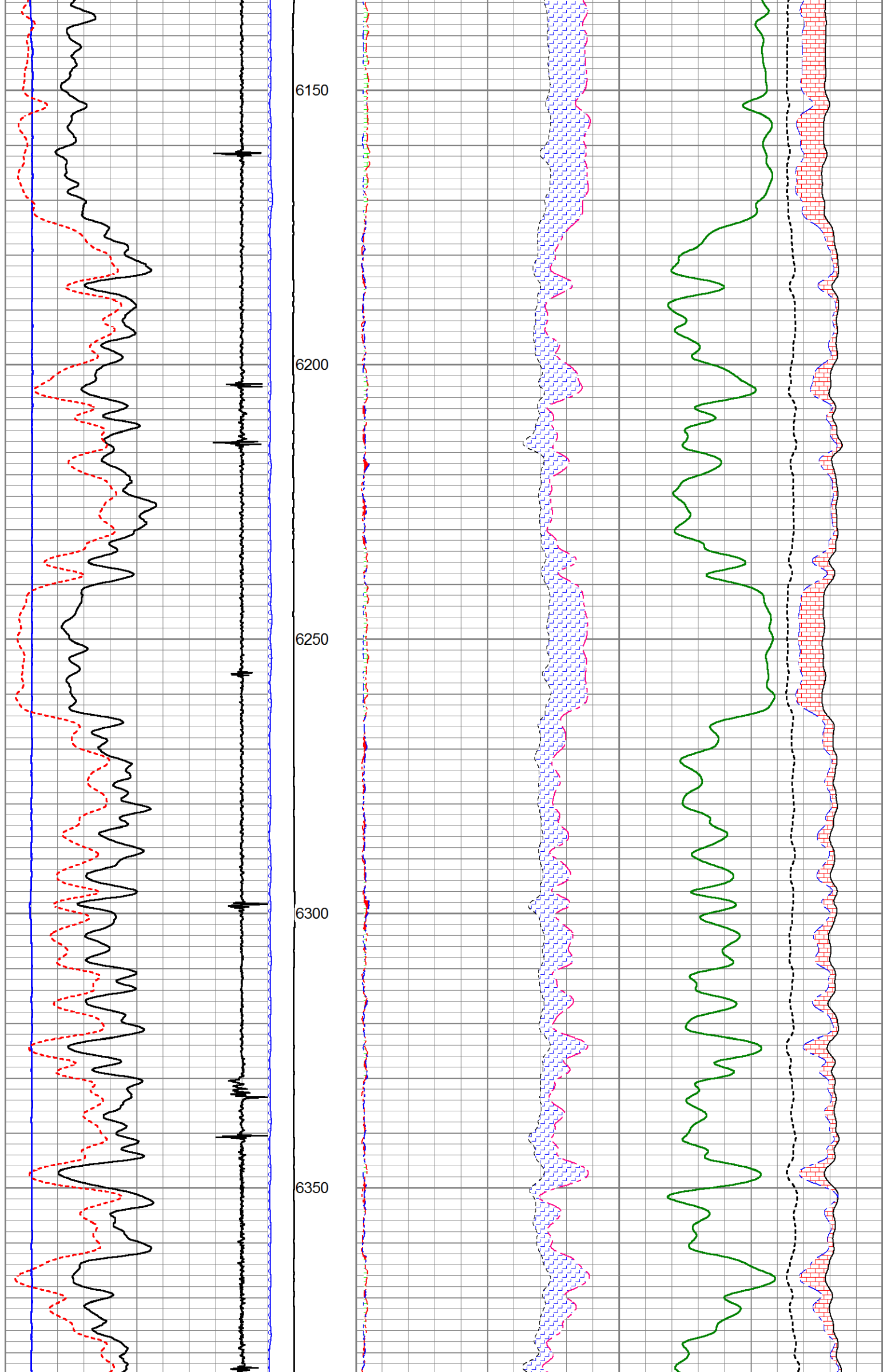


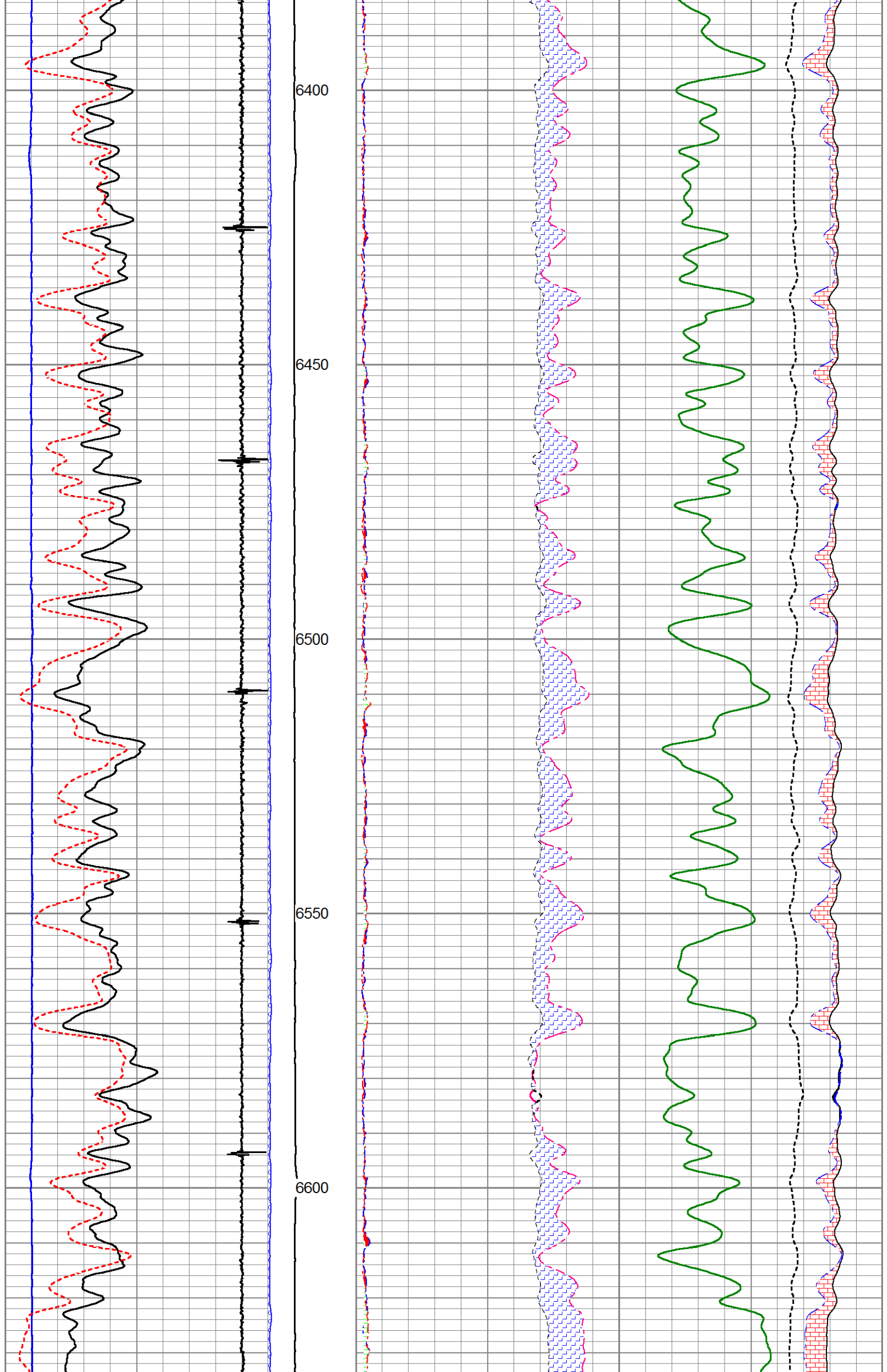


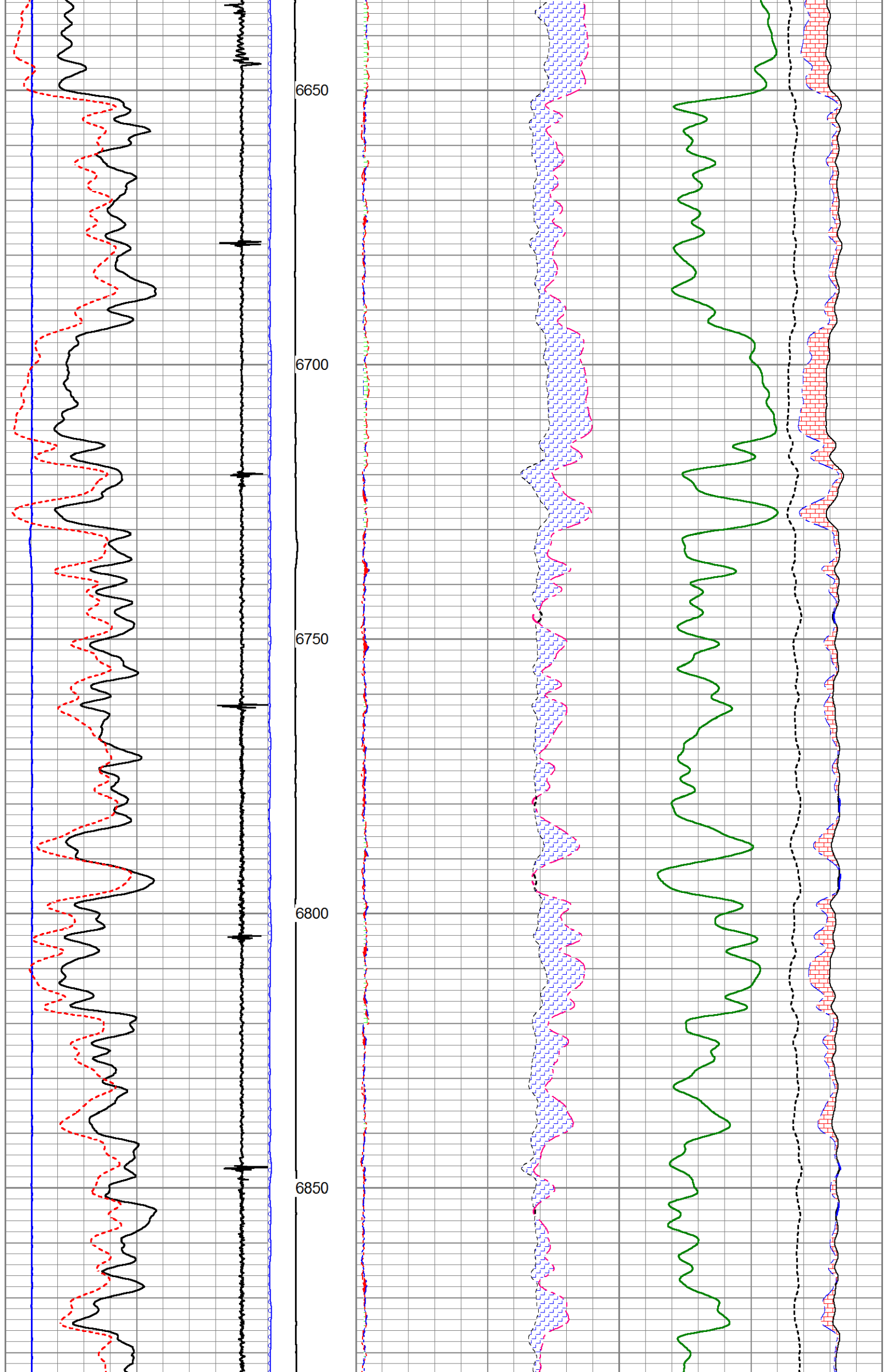


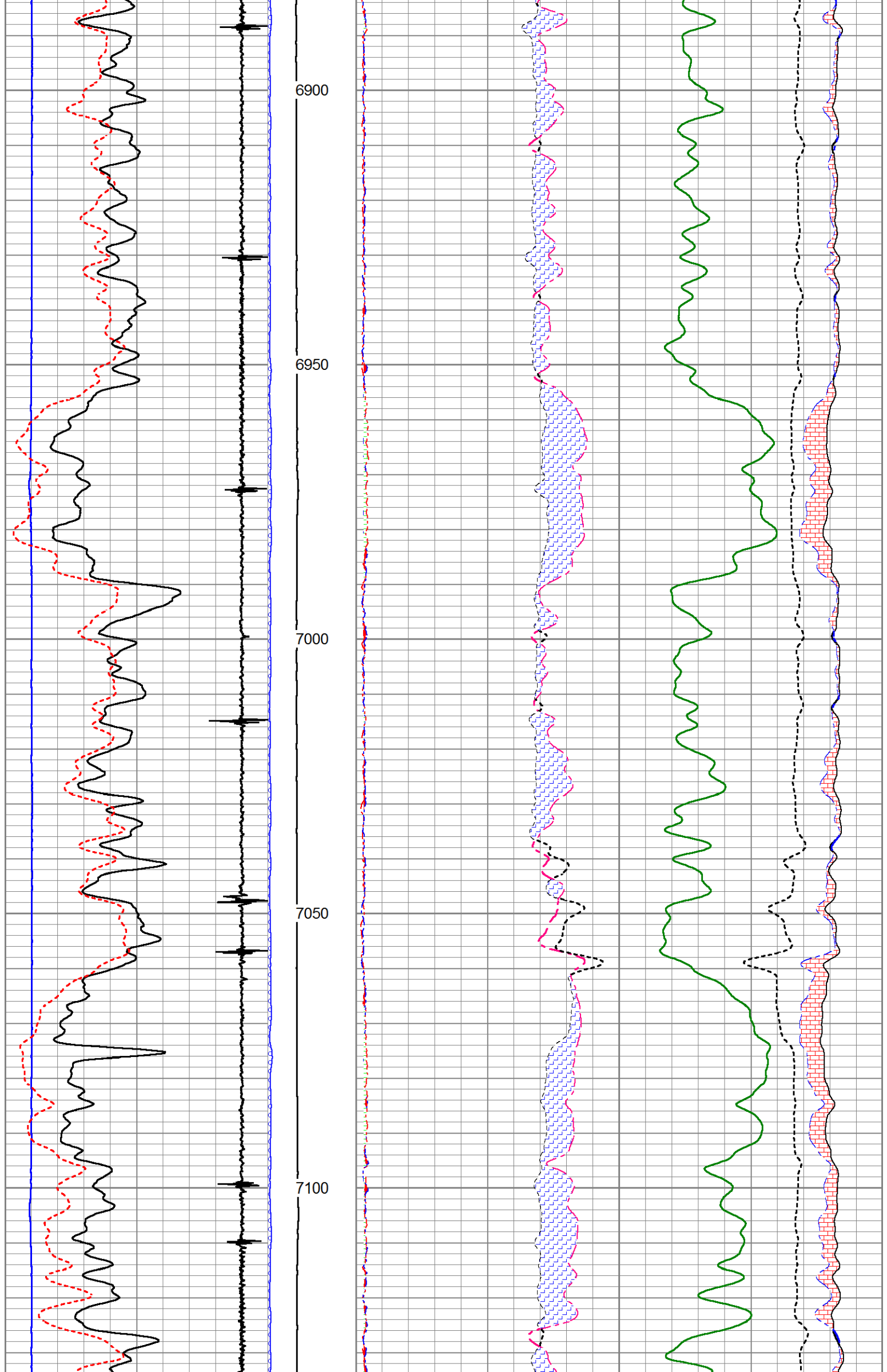


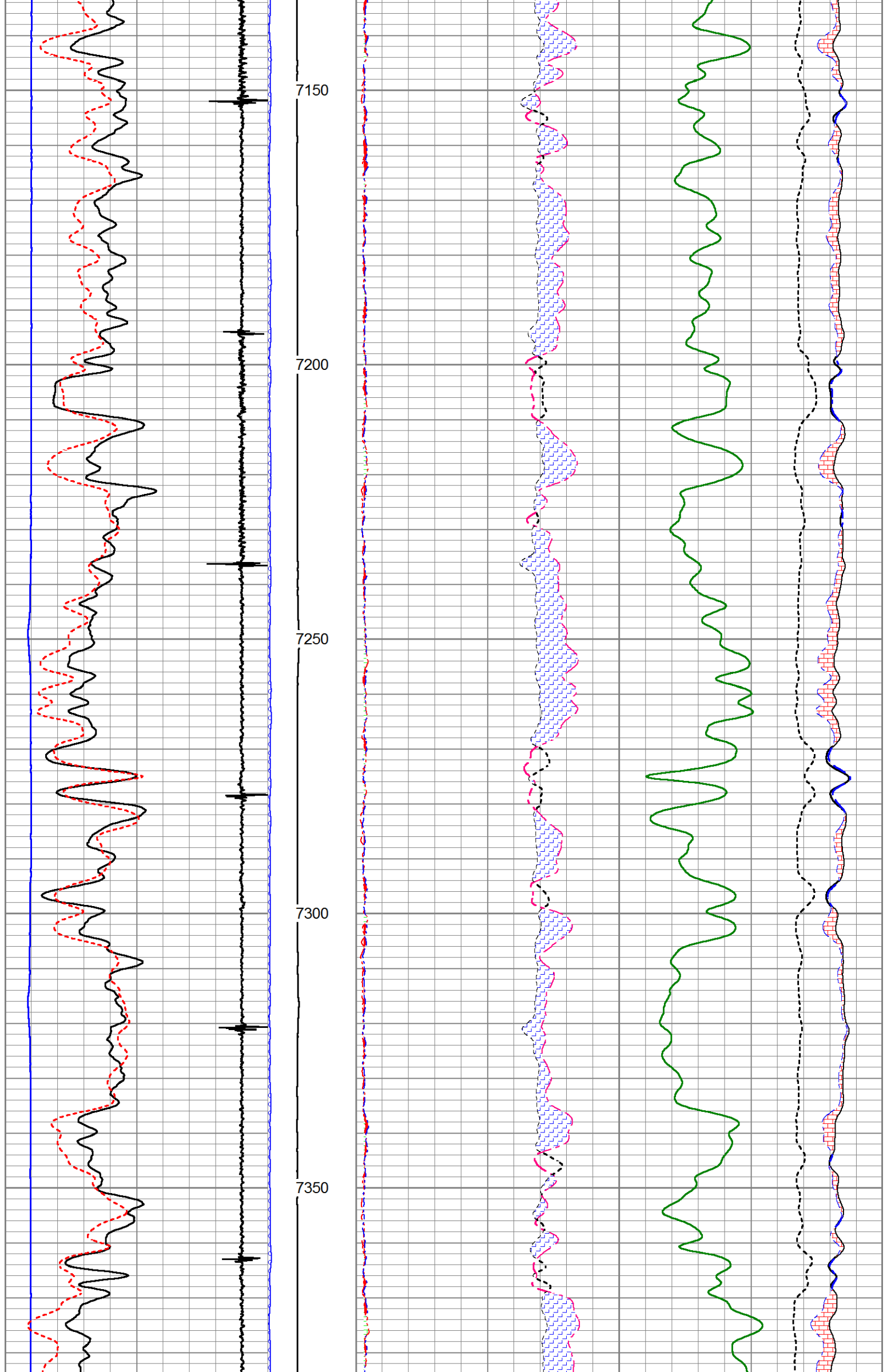


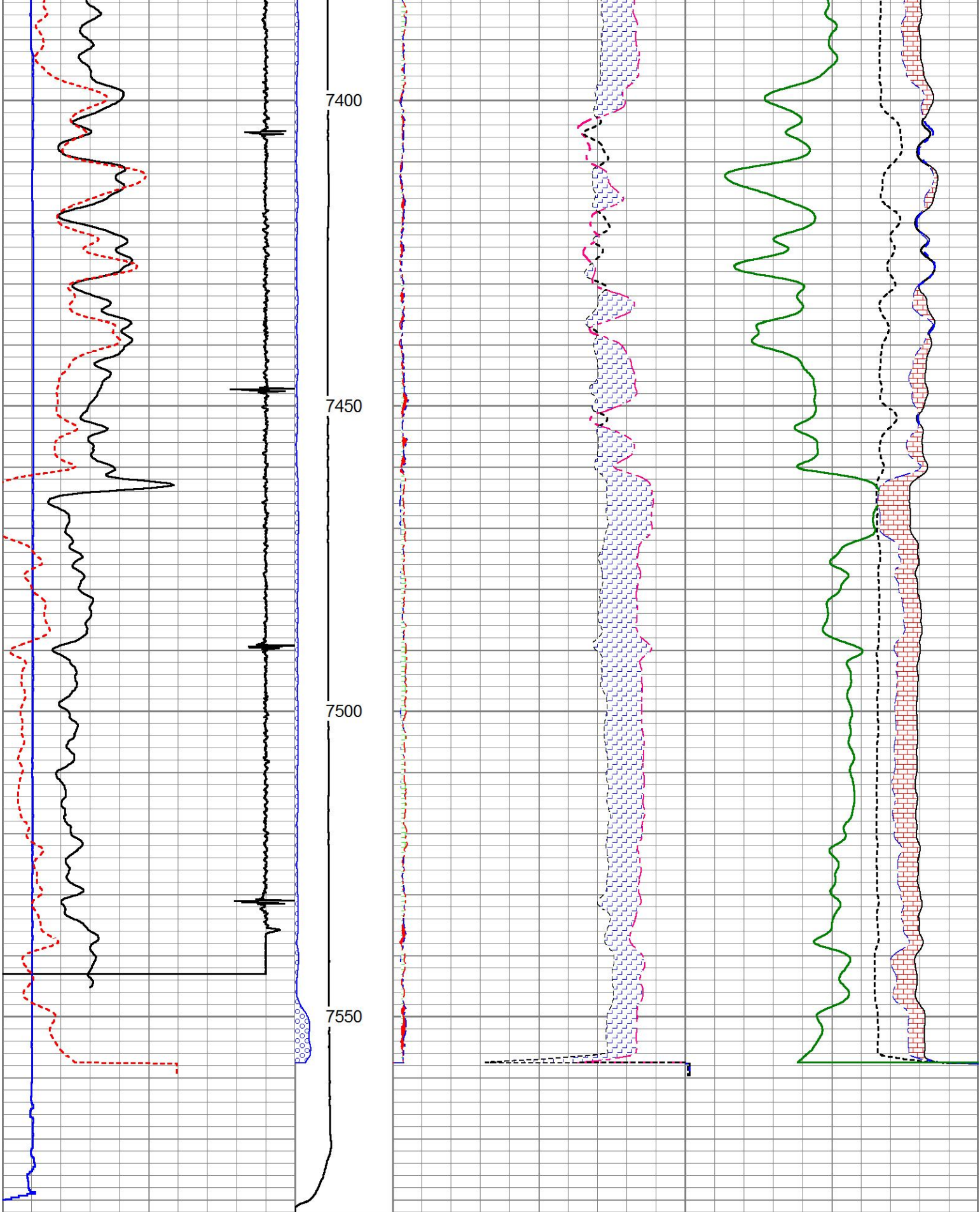












0	GR	200	LTEN	60	SGFF					0
2700	CCL	-300	0	(lb 5000)	2	RNF (Ratio Near/Far)	0.5	100000	FSIN	0
0	LSPD (ft/min)	200	0	OAI1100	1.65	RIN (Ratio Near/Far Incl)	0.65	60000	NCAP	0
10	SGINear	40			0	NFTR (Near Fit Error)	100	60000	FCAP	0
					0	FFTR (Far Fit Error)	100			

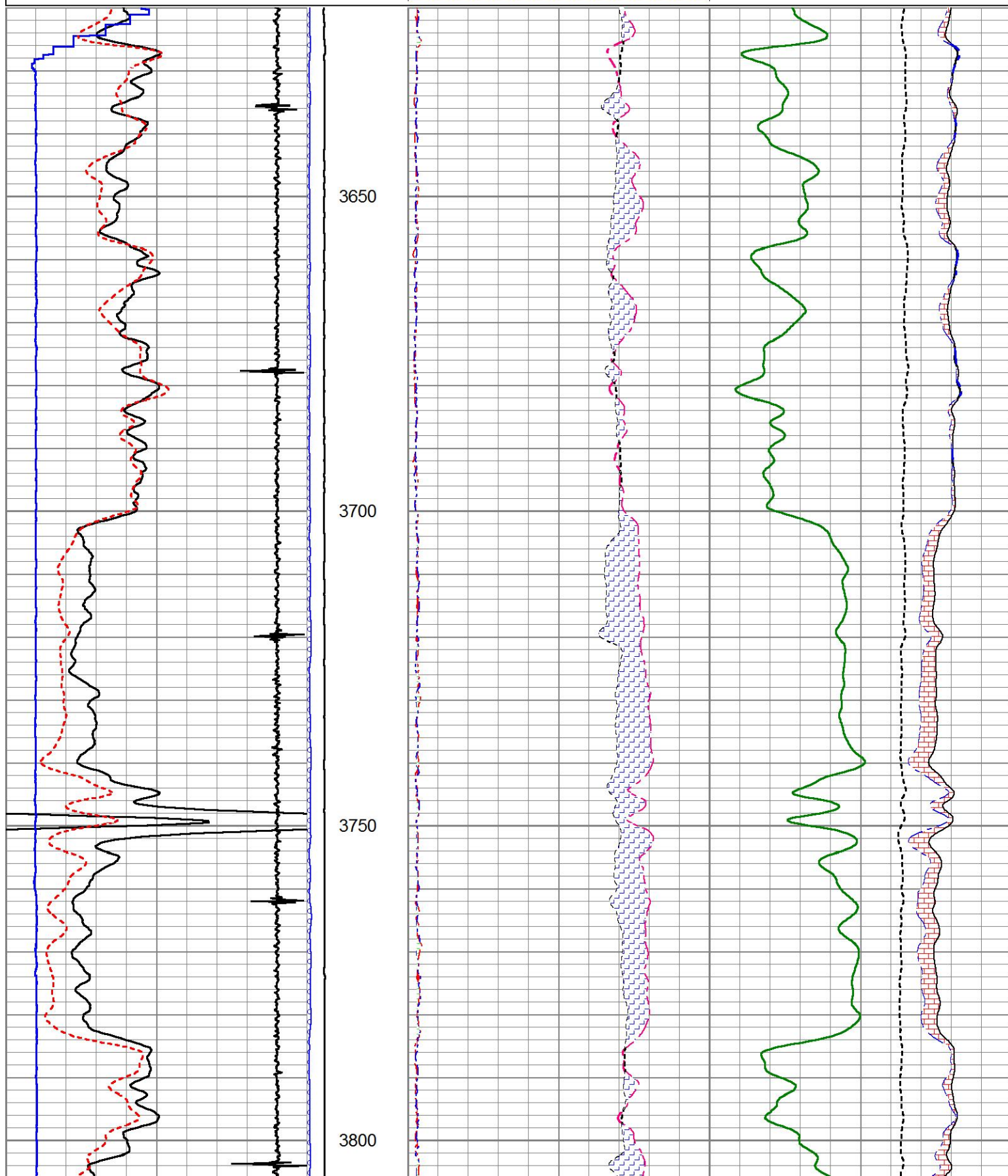
MAIN PASS

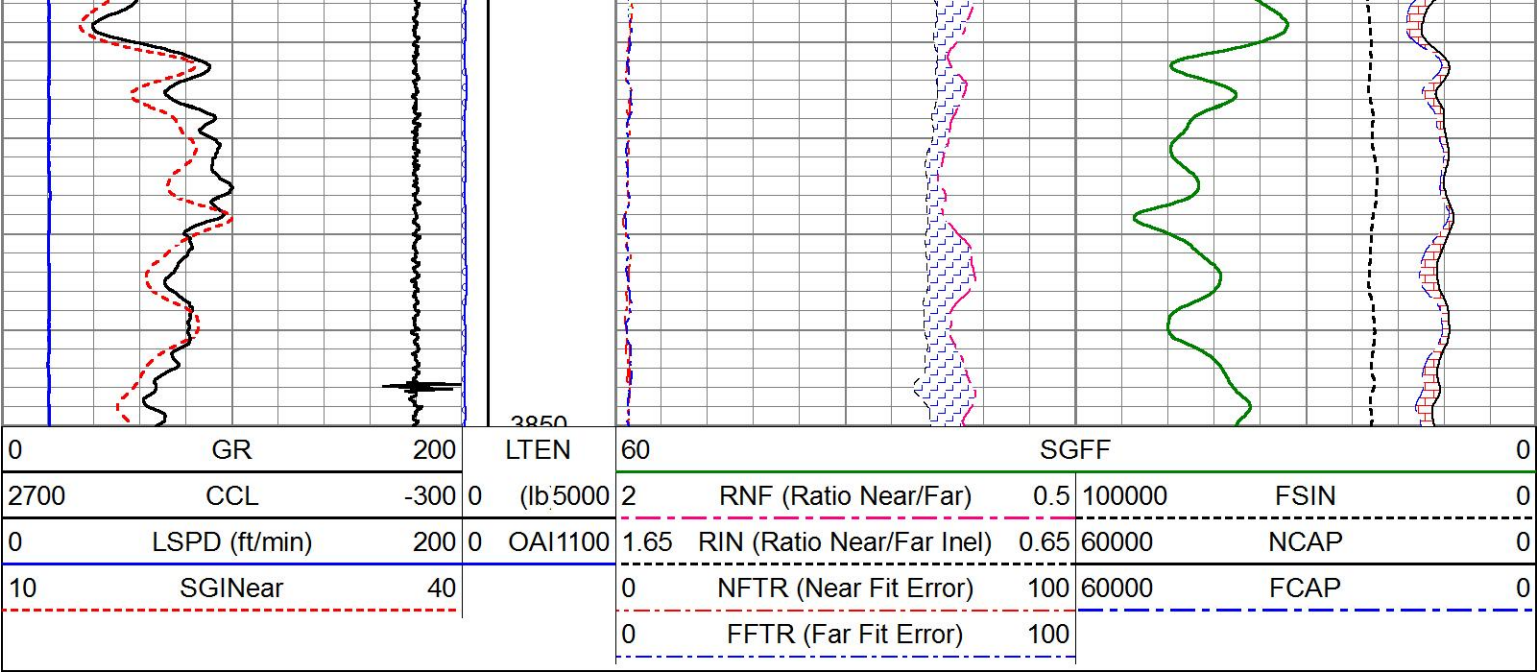
HALLIBURTON

5" = 100'

Database File	c:\users\h180706\desktop\mr_b_31b_17_7_95.db
Dataset Pathname	MAIN1
Presentation Format	!1!!rmt_rmti
Dataset Creation	Thu Dec 01 16:57:01 2016
Charted by	Depth in Feet scaled 1:240

0	GR	200	LTEN	60	SGFF					0
2700	CCL	-300		0 (lb/5000)	2	RNF (Ratio Near/Far)	0.5	100000	FSIN	0
0	LSPD (ft/min)	200	0 OAI1100	1.65	RIN (Ratio Near/Far Incl)	0.65	60000	NCAP	0	
10	SGINear	40		0	NFTR (Near Fit Error)	100	60000	FCAP	0	
				0	FFTR (Far Fit Error)	100				





REPEAT PASS

HALLIBURTON

5" = 100'

Log Variables

Database: c:\users\h180706\desktop\mr_b_31b_17_7_95.db
Dataset: field/well/run1/MAIN1/_vars_

Top - Bottom

BHSAL1	BHSAL2	BHTEMP_Src	BITSIZE in	BORSAL kppm	BOTTEMP degF	CASED?	CASEOD in
1	0	TEMP	7.875	150	220	Yes	4.5
CASETHCK in	CASEWGHT lb/ft	LTH	MSGGN	MudWgt lb/gal	PERFS	POROS1	POROS2
0.25	11.6	Sandstone	1	8.4	0	1	0
RHO�F	SO in	SRFTEMP degF	TDEPTH ft	UHSGC	USERFTT usec/ft	ZREF MRayl	
0.25	0	20	7400	NONE	0	1.7	

Calibration Report

Database File: c:\users\h180706\desktop\mr_b_31b_17_7_95.db
Dataset Pathname: MAIN1
Dataset Creation: Thu Dec 01 16:57:01 2016

Cement Bond Log Shop Calibration Report

Serial-Model: 12091451-A
Calibration Performed: Thu Dec 01 13:19:47 2016

Free Pipe Calibration

TT	Measured	Units
Amplitude	244.6	usec
Log Base Line	552.0	mV
	5.9	mV

Calibration References and Gain

Name	Value	Units
Pipe O.D.	4.500	in
Pipe Weight	11.6	lb/ft
Pipe Ref. Amp.	81.2	mV
Amp. Gain	0.149	

Reservoir Monitor Tool I Calibration Report					
Serial-Model:		12095949-A			
Shop Calibration Performed:		Thu Nov 24 11:32:44 2016			
Carbon/Oxygen Mode					
Stabilization					
Result	Logged	Expected Value	Diff.	Tol.	Units
GENV	90.00	80.00	10.00	+/-15.00	V
ITCR2	3153	3250	-97	+/-250	cps
Near Detector					
	Channel	Expected Value	Amplitude	FWHM	Tol.
H	60	60 +/-2	0.0259	5.51	<6.00
Fe	206	206 +/-2	0.0966	-----	-----
NGAIN = 0.996	NZOFF = 0.5				
Far Detector					
	Channel	Expected Value	Amplitude	FWHM	Tol.
H	60	60 +/-2	0.0356	5.76	<6.50
Fe	210	208 +/-2	0.0903	-----	-----
FGAIN = 0.990	FZOFF = 0.5				
Flask Temperature	50.0 degF				
Result	Logged	Expected Value	Diff.	Tol.	Units
COIR2	0.45	0.45	-0.00	+/-0.02	
LIRI2	1.36	1.36	0.00	+/-0.05	
TCCR2	5059	5000	59	+/-1000	cps
ITCR2	3123	3200	-77	+/-250	cps
Sigma Mode					
Stabilization					
Result	Logged	Expected Value	Diff.	Tol.	Units
GENV	90.00	80.00	10.00	+/-15.00	V
FCAP	9856	10000	-144	+/-500	cps
Horizontal Water Tank					
Result	Logged	Expected Value	Diff.	Tol.	Units
N/F Normalizer	0.96	0.95	0.01		
N/F Inel Norm	0.62	0.61	0.01		
RNF	1.04	1.07	-0.03	+/-0.12	
RINC	1.61	1.64	-0.03	+/-0.18	
SGFN	24.07	24.00	0.07	+/-0.50	cu
SGFF	22.92	22.85	0.07	+/-0.50	cu
FSIN	23621	24000	-379	+/-2000	cps
FCAP	9956	10000	-44	+/-1000	cps
NFTR	0.82			<5.00	
FFTR	0.92			<5.00	
NBKG	190			<500	cps
FBKG	97			<500	cps
RTN	0.40	0.40	-0.00	+/-0.10	usec
RTF	0.42	0.40	0.02	+/-0.10	usec
Calibration Software Modules					
HRMTI Module	2015.5.4.0				
RMTI Module	2015.10.16.1				

HRMTI Module	2015.5.4.0
RMTI Module	2015.10.16.1

Gamma Ray Calibration Report

Type / Serial: 002 / 11214503

SHOP CALIBRATION

Wed Nov 09 16:25:32 2016

Background	Counts/Sec.	Gain	Offset	Jig	Units
Calibrator	34.1				cps
	297.9				cps
		1.3950			GAPI/cps

PRIMARY VERIFICATION

Background	42.3		cps
Calibrator	413.8		cps
Difference		371.5	GAPI


BEFORE SURVEY VERIFICATION

Background	0.0		cps
Calibrator	0.0		cps
Difference		0.0	GAPI

AFTER SURVEY VERIFICATION

Background	0.0		cps
Calibrator	0.0		cps
Difference		0.0	GAPI

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			STNDCH-STND_CH 1.4375 IN CABLE HEAD	1.50	1.44	1.00
CCL	35.82					
GR	33.56		TTTCU-002 (11214503) Through Tubing Telemetry Cartridge - Ultrawire	7.65	1.69	100.00
			XHU-003 (000001) Crossover Halliburton 1553 to Ultrawire	1.58	1.69	7.00
RmtTFGT RmtTNGT	22.91 22.41		RMTI-A (12095949) Halliburton RMTI Tool	14.00	2.13	77.00

RmtFP5V	14.66		X-OVER-GoxSondex	0.27	1.69	1.00
RmtNFwvMcsP	14.66		Go Box x Sondex Pin CrossOver			
RmtCommFWa	14.66		CENT-CASTM-CENT	2.16	3.13	25.00
			CAST M INLINE CENTRALIZER			
Temp	9.57					
TT3FT	7.32		HCBLM-A (12091451)	9.38	2.75	116.00
AMP3FT	7.32		Halliburton HCBLM Tool			
WVF5FT	6.36					
WVF3FT	2.84		CENT-CASTM-CENT	2.16	3.13	25.00
			CAST M INLINE CENTRALIZER			
			AUH-001 (11072111)	0.38	1.69	3.00
			Adaptor Ultrawire/Halliburton			
LLMTEN	0.00		BUL-001 (000001)	0.30	1.69	1.50
			Bullnose			
Dataset: mr_b_31b_17_7_95.db: field/well/run1/MAIN1						
Total length: 39.39 ft						
Total weight: 356.50 lb						
O.D.: 3.13 in						

Company	URSA OPERATING COMPANY LLC				
Well	MONUMENT RIDGE B 31B-17-7-95				
Field	PARACHUTE				
County	GARFIELD		State	CO	
HALLIBURTON	RESERVOIR MONITORING TOOL ELITE				