

HALLIBURTON

RESERVOIR
MONITORING TOOL
ELITE

CompanyURSA OPERATING COMPANY LLC

WellMONUMENT RIDGE B 24C-08-7-95

FieldPARACHUTE

CountyGARFIELDStateCO

CompanyURSA OPERATING COMPANY LLC

WellMONUMENT RIDGE B 24C-08-7-95

FieldPARACHUTE

CountyGARFIELDStateCO

API No.:05045229070000

Serv #:903679454

Other Services

Location:SHL: 990' FSL & 144' FEL

BHL: 517' FSL & 1983' FEL

Sec: 8

Twp: 7S

Rge: 95W

CBL-M

Permanent DatumGROUND LEVEL

Elevation5702'

Elevation

Log Measured FromKB

17' Ft. above perm. datum

K.B. 5719'

D.F. 5719'

G.L. 5702'

Drilling Measured FromKB

Date @ Time Logged28 NOV 2016 @ 05:00

Type Fluid in Hole

FRESH WATER

Run No. ONE

Density of Fluid

8.4 PPG

Depth - Driller8105'

Fluid Level

SURFACE

Depth - Logger7934'

Cement Top Est. Logged

1850'

Bottom - Logged Interval7930'

Equipment / Location

11808537 / RS. WY

Top - Log Interval3800'

Recorded by

B. RIDDEL

Max. Recorded Temp.21.1 degF

Witnessed by

R. TOLLE

CEMENTING DATA

Surface

Protection

Liner

String

String

Date / Time Cemented

String

N/A

Primary / Squeeze

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'

1874'

8.625"

32.0 #

SURFACE

1874'

THREE

7.875"

1874'

8105'

4.5"

11.6 #

SURFACE

8105'

<<< Fold Here >>>

HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF THE LOG DATA, CONVERSION OF LOG DATA TO PHYSICAL ROCK PARAMETERS OR RECOMMENDATIONS WHICH MAY BE GIVEN BY HALLIBURTON PERSONNEL OR WHICH APPEAR ON THE LOG OR IN ANY OTHER FORM. ANY USER OF SUCH DATA, INTERPRETATIONS, CONVERSIONS, OR RECOMMENDATIONS AGREES THAT HALLIBURTON IS NOT RESPONSIBLE EXCEPT WHERE DUE TO GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, FOR ANY LOSS, DAMAGES, OR EXPENSES RESULTING FROM THE USE THEREOF.

Comments

ESTIMATED TOP OF CEMENT : 1850'
GAMMA BLANKET : 408 GAPI
FREE PIPE CALIBRATION DEPTH : 255'

PULLED TENSION @ 5007', 4645', 4206' & 3956'

THANK YOU FOR CHOOSING HALLIBURTON ENERGY SVCS.
YOUR CREW TODAY: BLAKE RIDDEL, DANIEL FLINDERS, BRAD BRUDERER

Service Ticket No.	903679454	API No.	05045229070000	PGM Ver	15.10.29001
The Well Name, Location, Borehole Description, and / or Cementing Data Furnished by Client					
EQUIPMENT DATA					
XHU		GAMMA		RMTI	
CBL					
Run No.	ONE	Run No.	ONE	Run No.	ONE
Serial No.	12146425	Serial No.	11224503	Serial No.	12095949
Model No.	XHU-3	Model No.	TTTC-U2	Model No.	RMTI
Diameter	1 11/16"	Diameter	1 11/16"	Diameter	2.25"
LOGGING DATA					
General Data					
Pass	Depths		Well Head	Speed	Logging Run Comments
No	From	To	Pressure	Ft/Min	

ONE	3950'	3780'	0 PSI	20	REPEAT			
TWO	7934'	3800'	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			

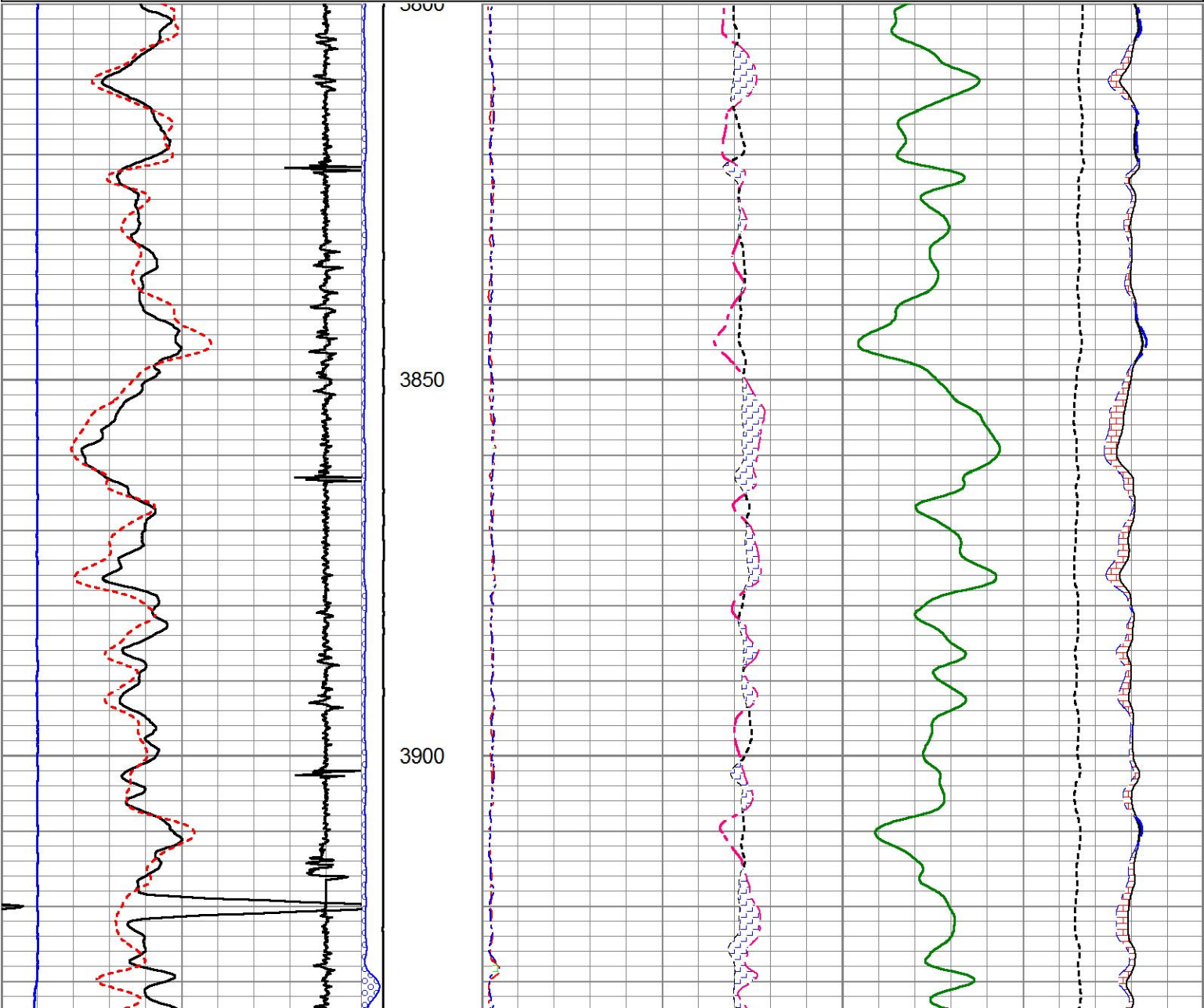
MAIN PASS

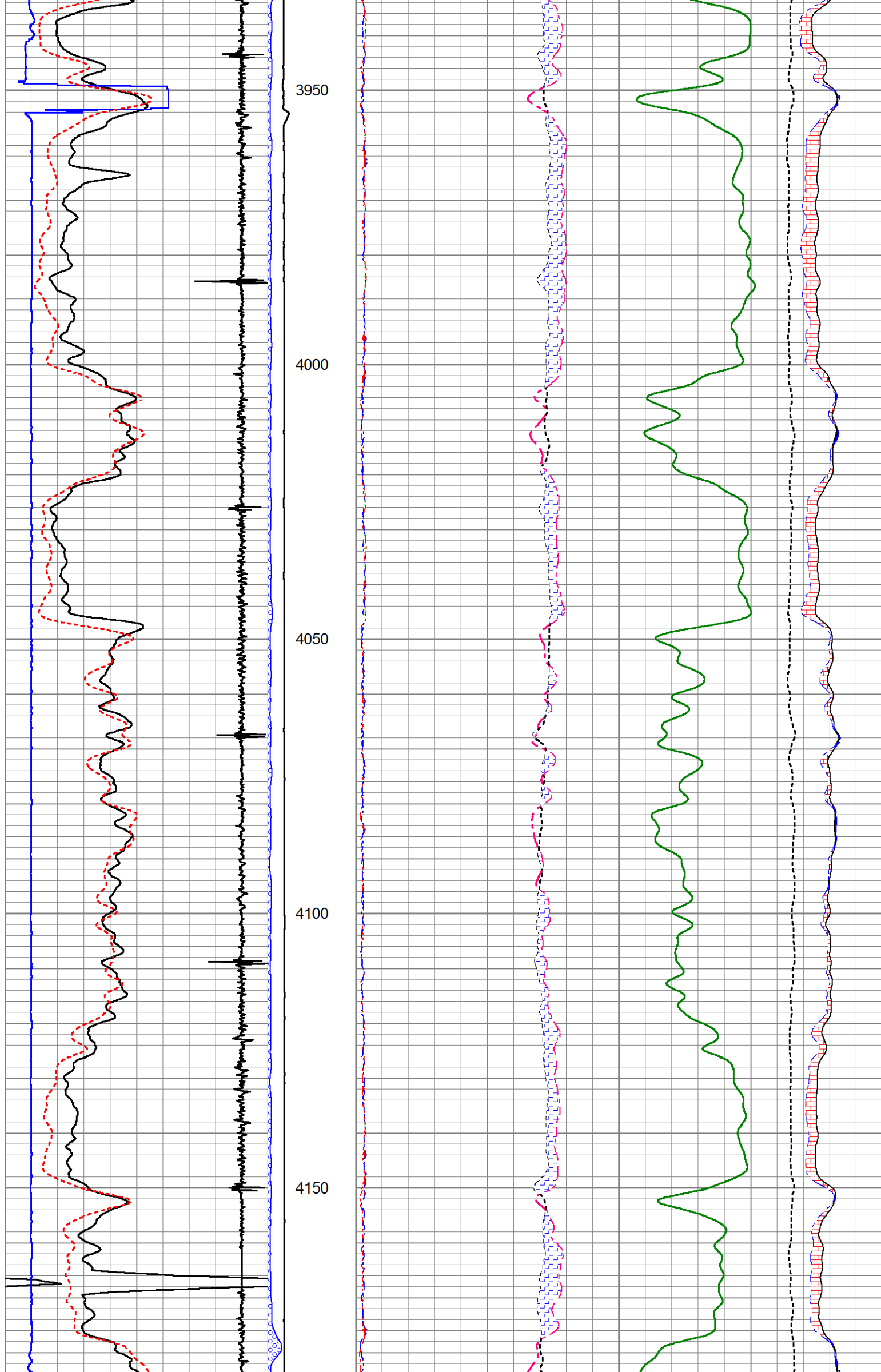
HALLIBURTON

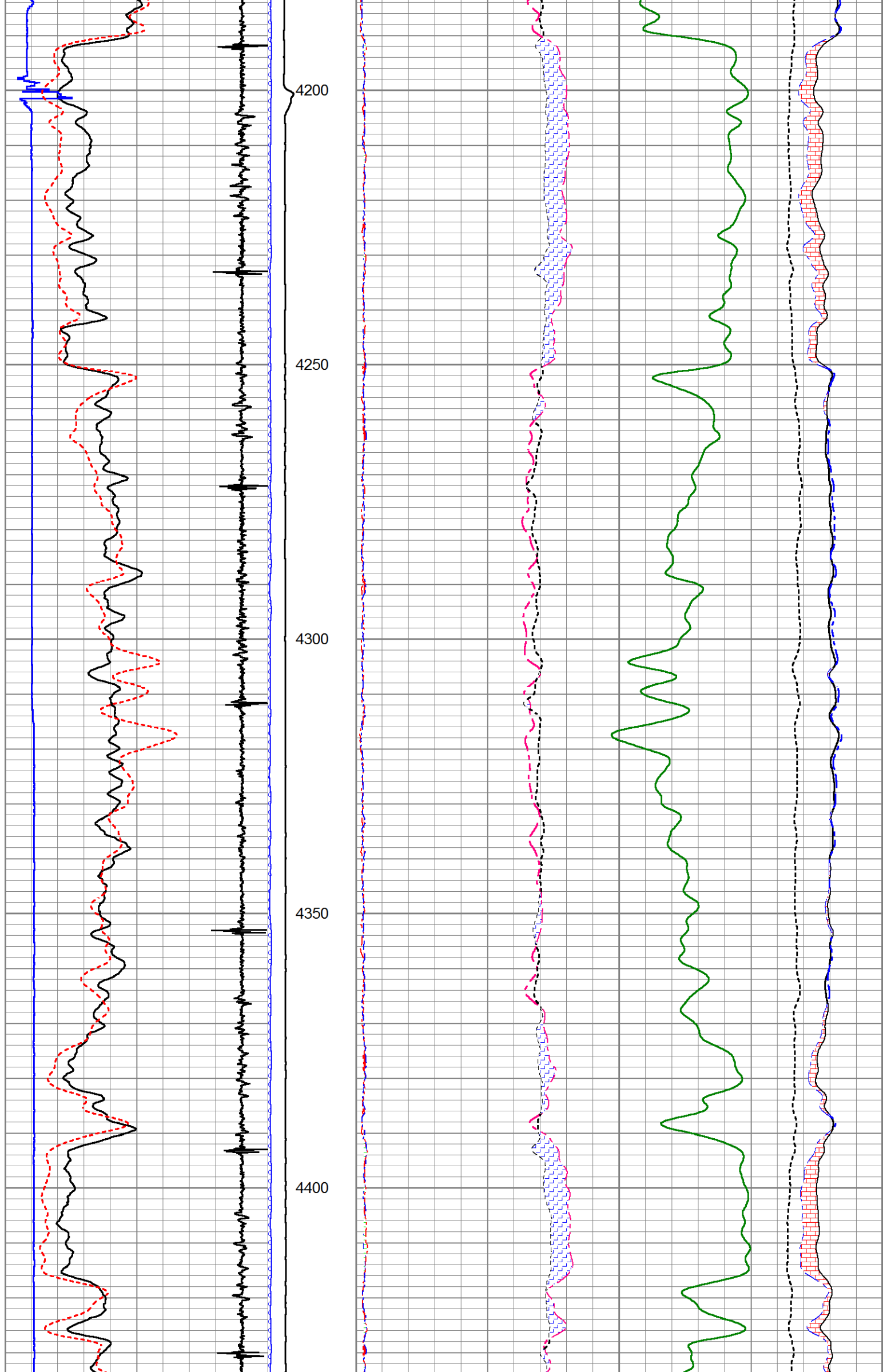
5"= 100'

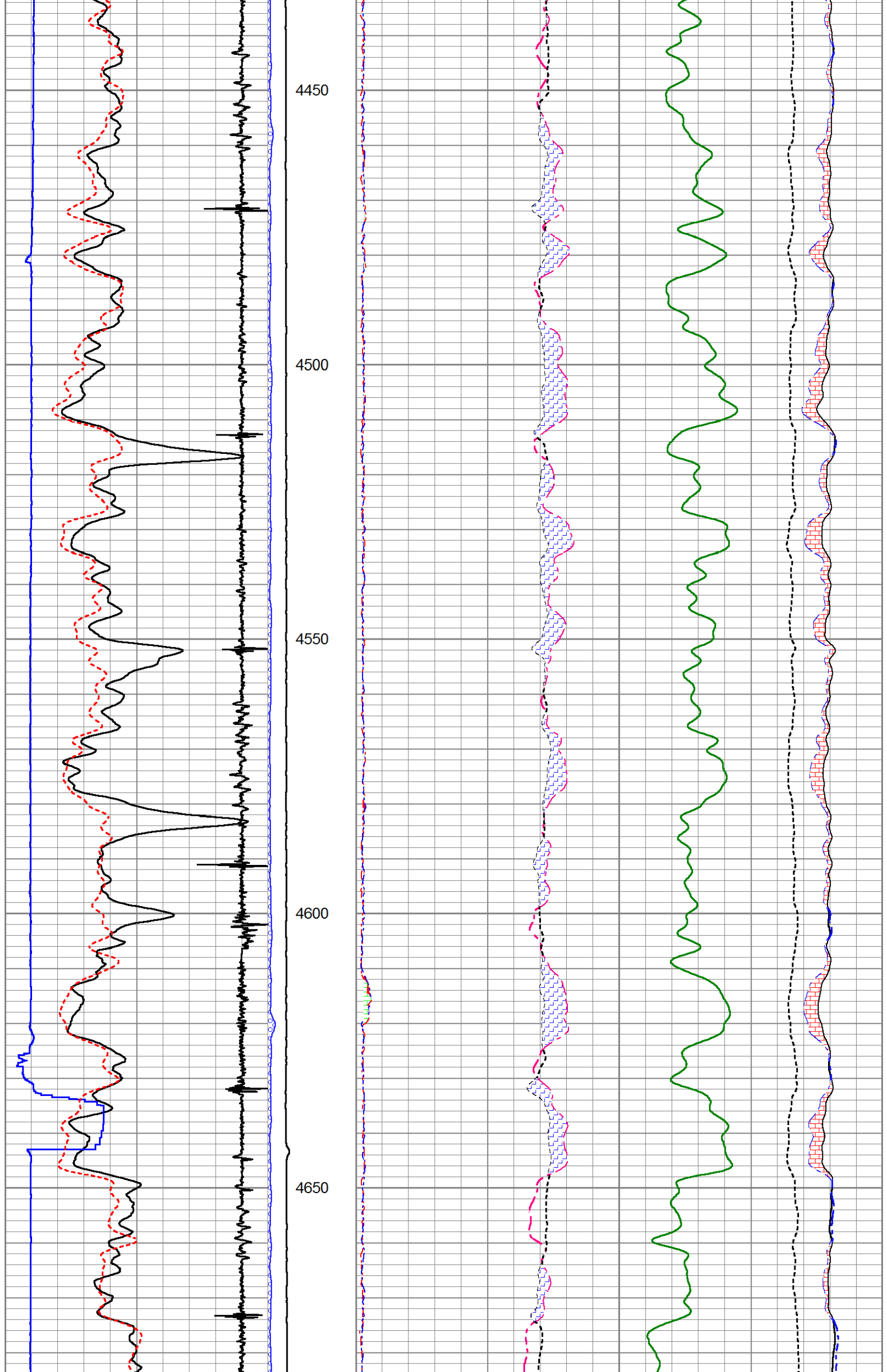
Database File mr_b_24c_08_7_95.db
Dataset Pathname pass11.1
Presentation Format !1!!RM~1
Dataset Creation Mon Nov 28 12:20:14 2016
Charted by Depth in Feet scaled 1:240

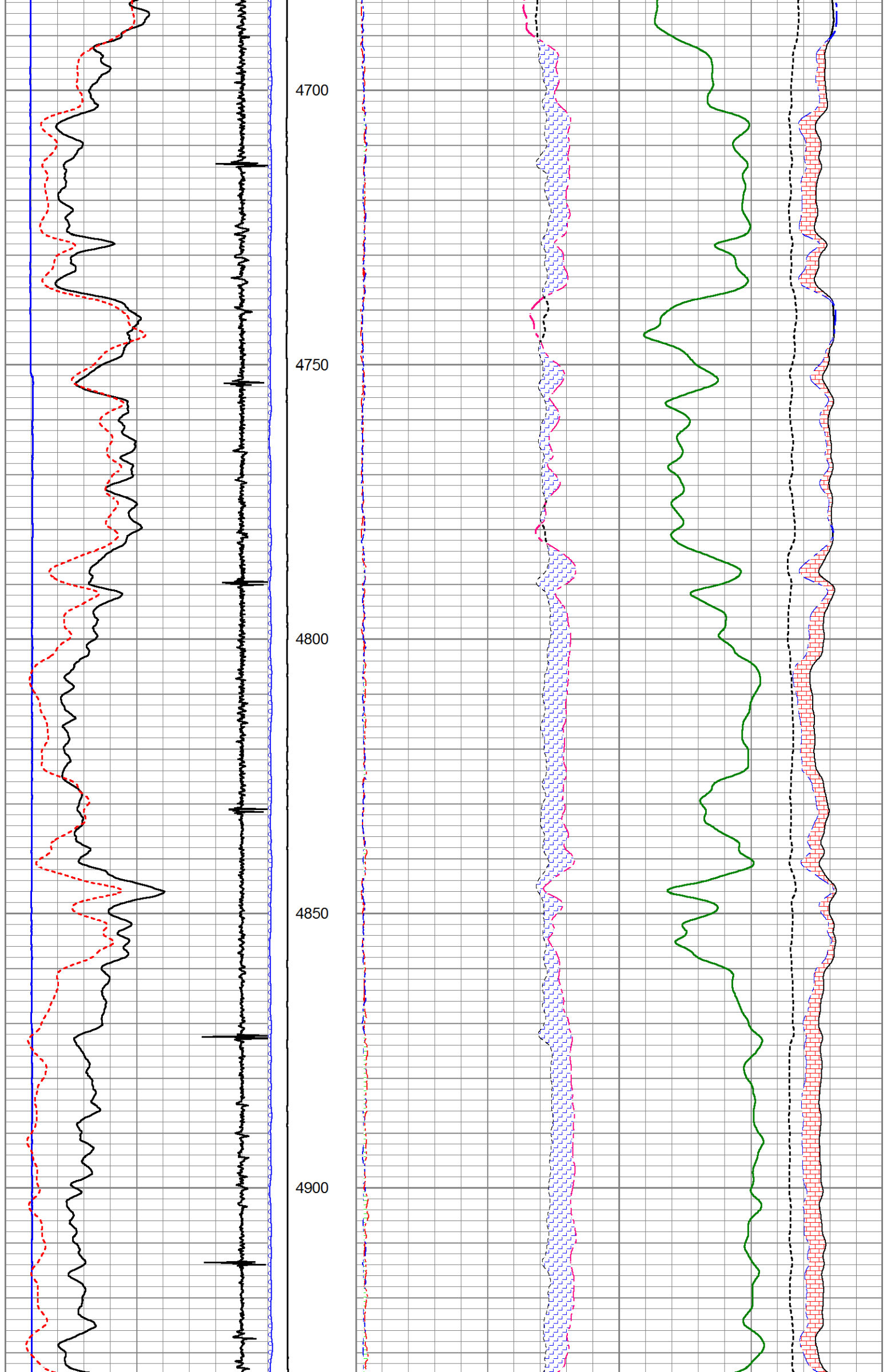
0	GR	200	LTEN	60	SGFF				0
2700	CCL	-300	0 (lb5000	2	RNF (Ratio Near/Far)	0.5	100000	FSIN	0
0	LSPD (ft/min)	200	0 OAI1100	1.65	RIN (Ratio Near/Far Incl)	0.65	60000	NCAP	0
10	SGINear	40		0	NFTR (Near Fit Error)	100	60000	FCAP	0
				0	FFTR (Far Fit Error)	100			

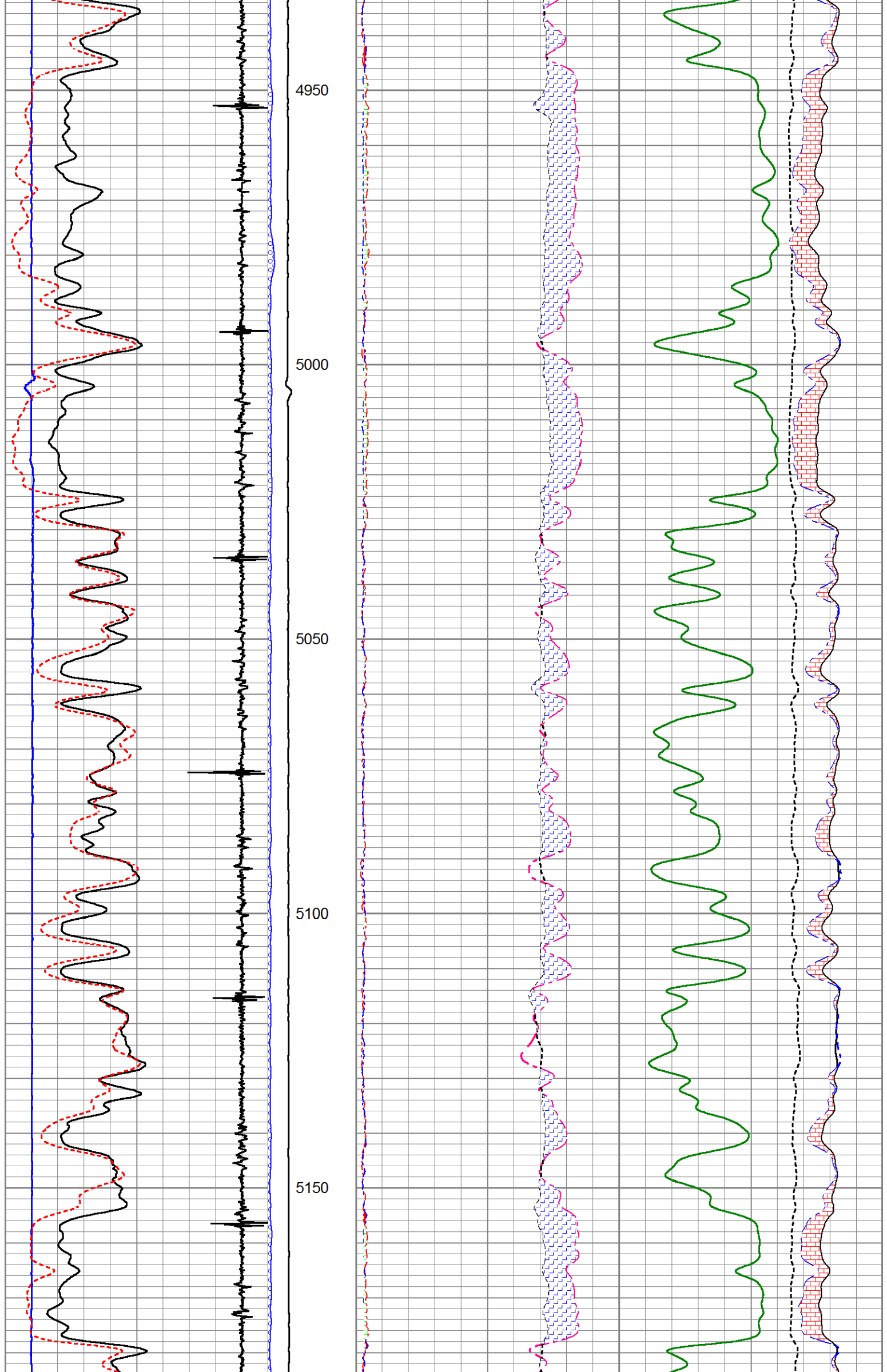


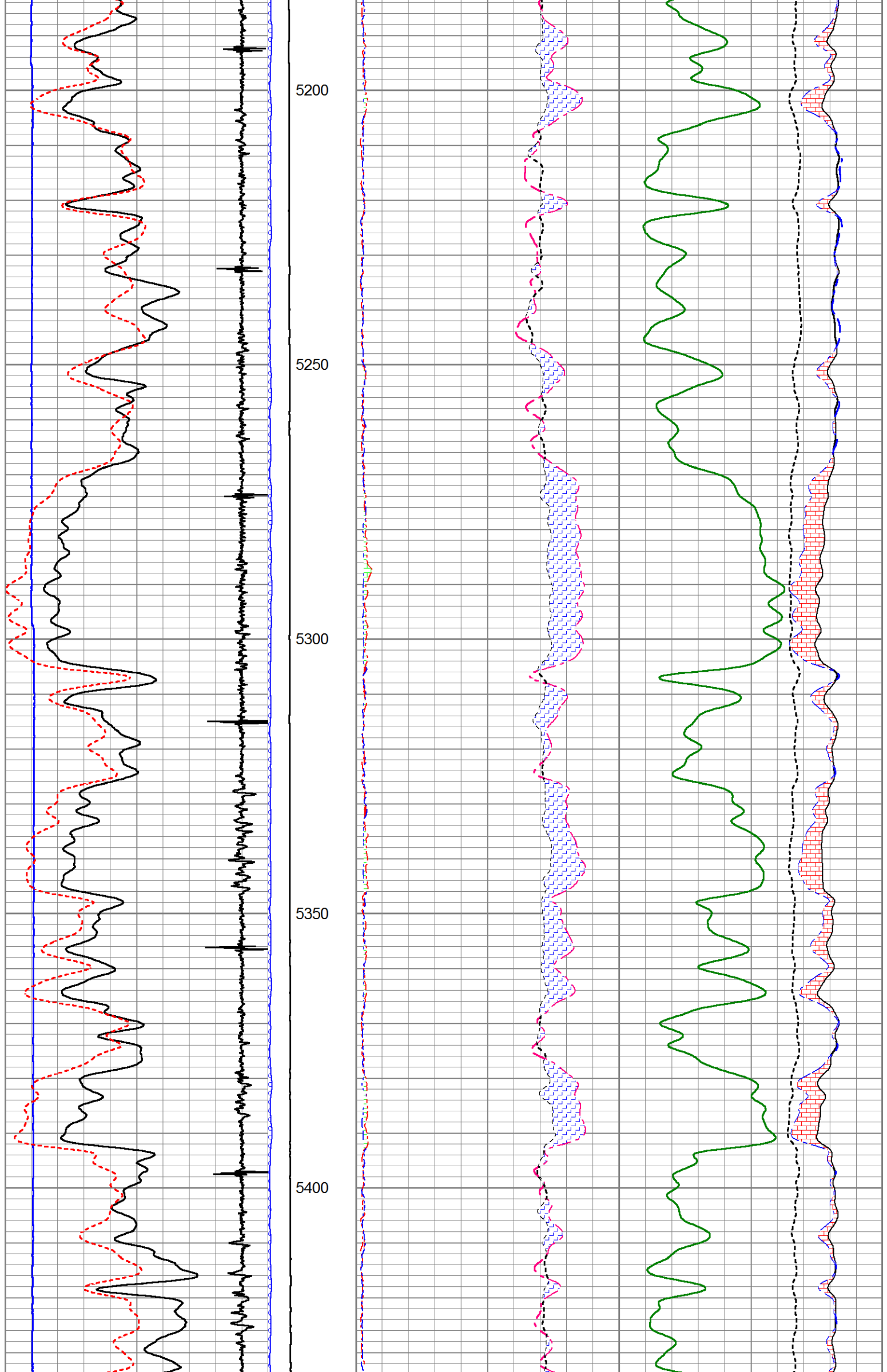


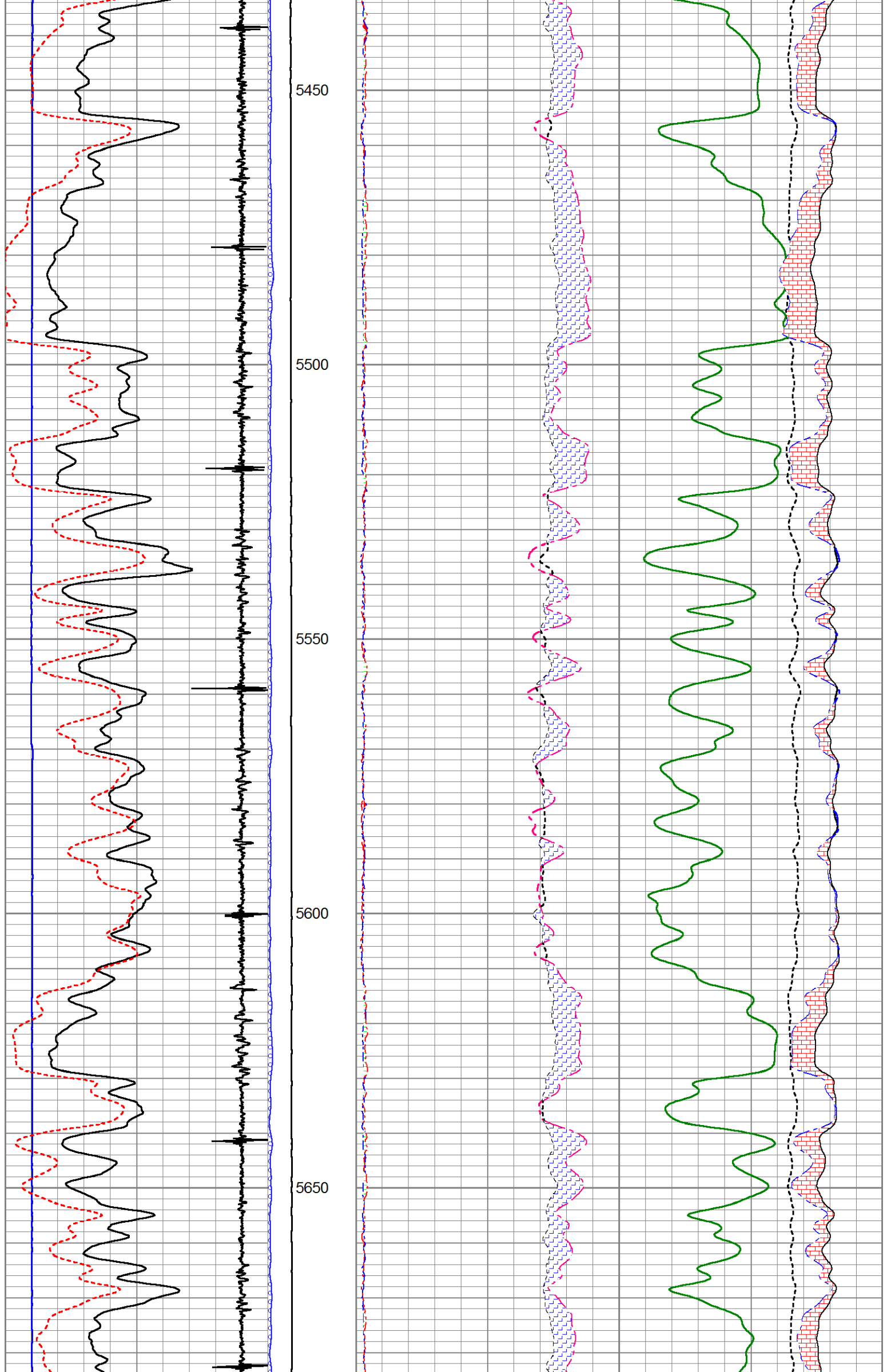


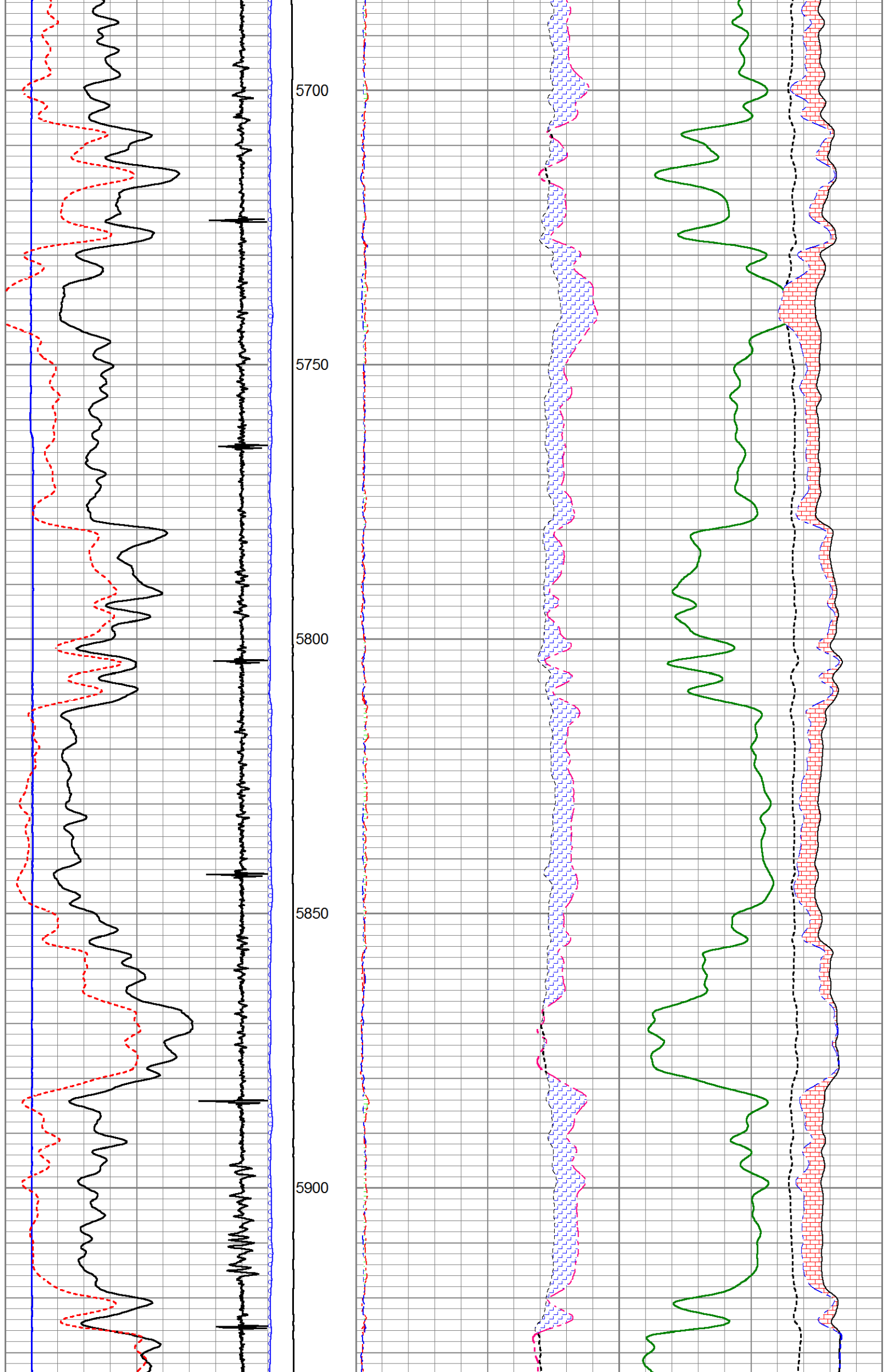


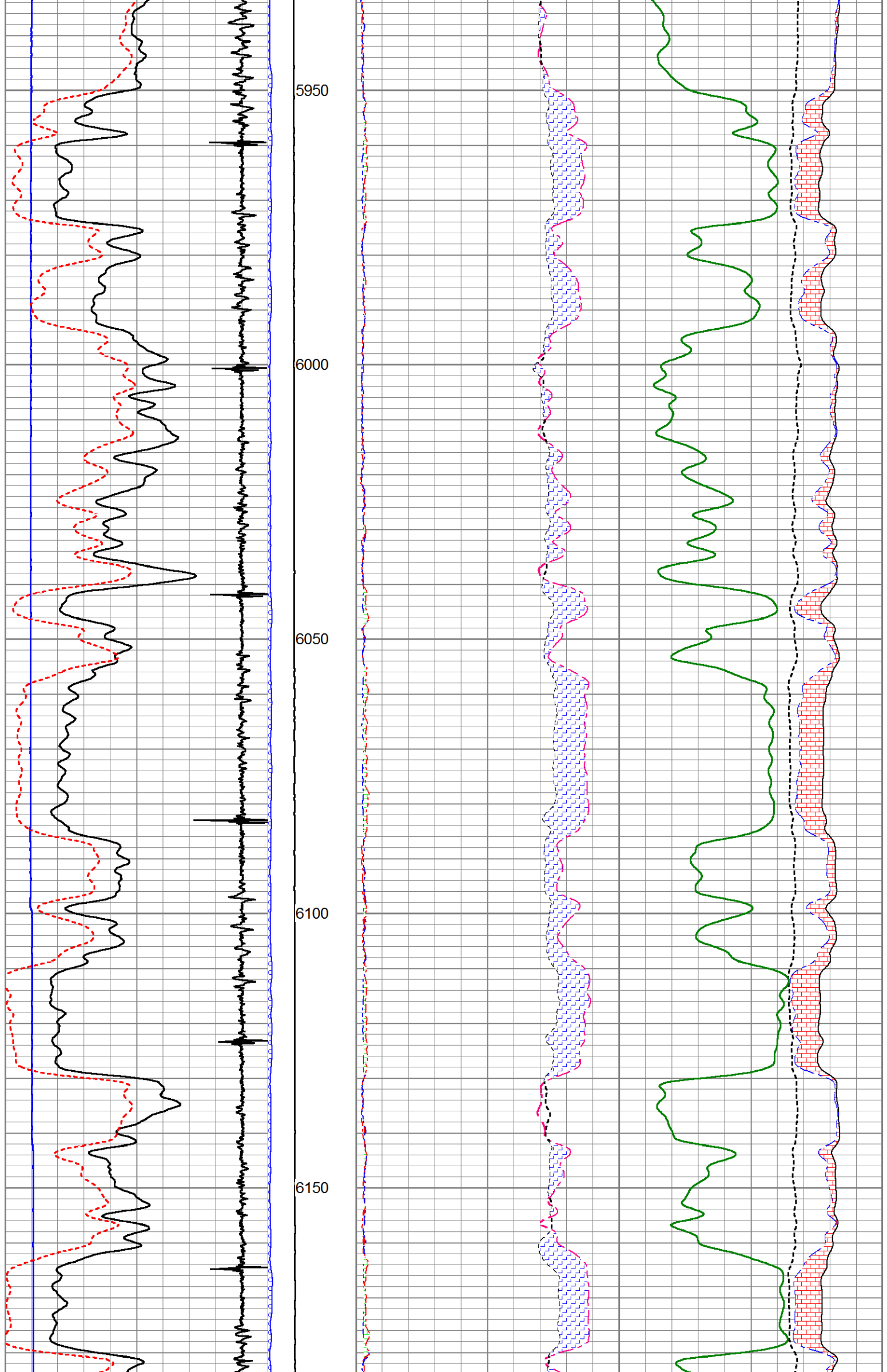


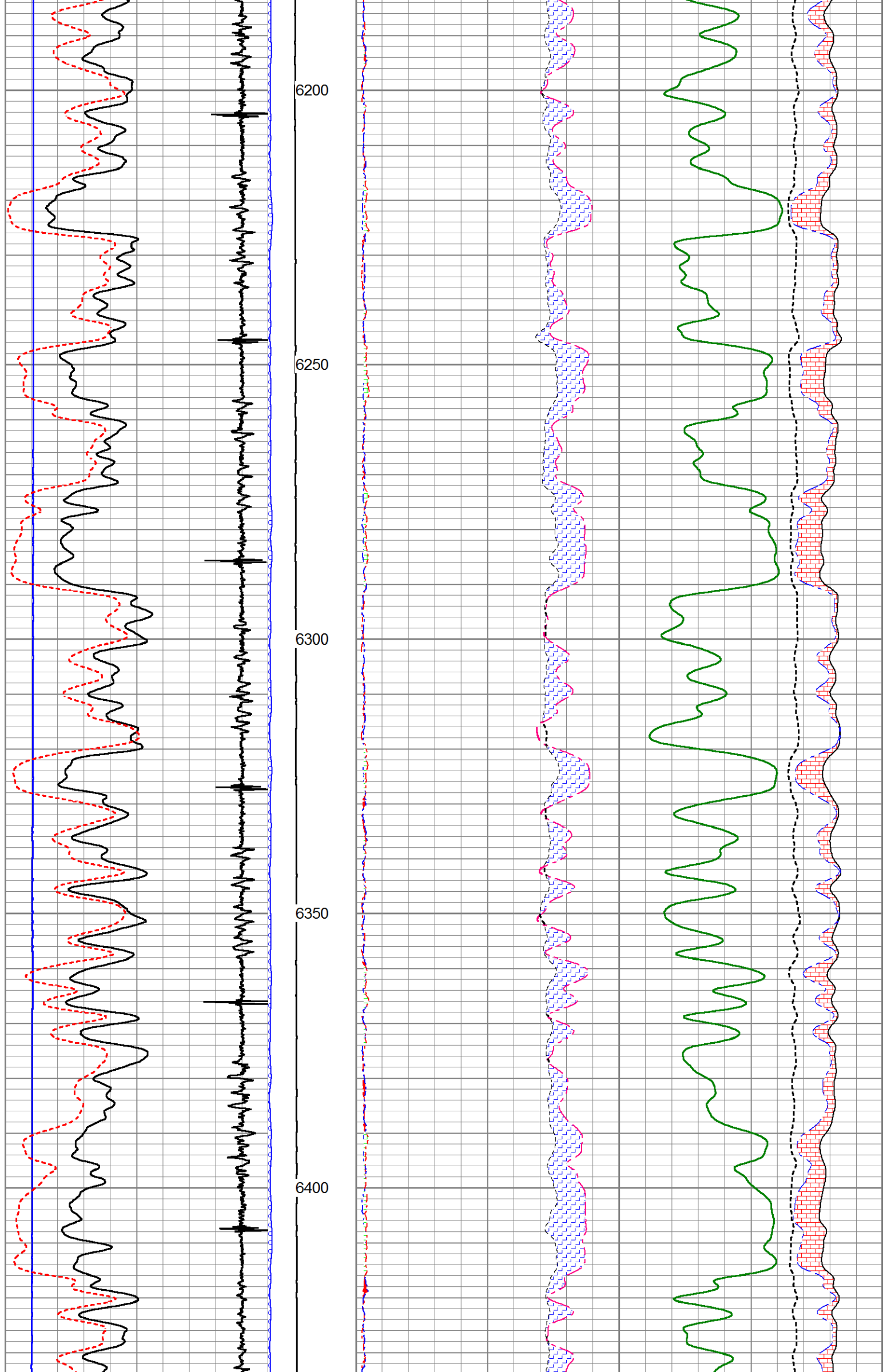


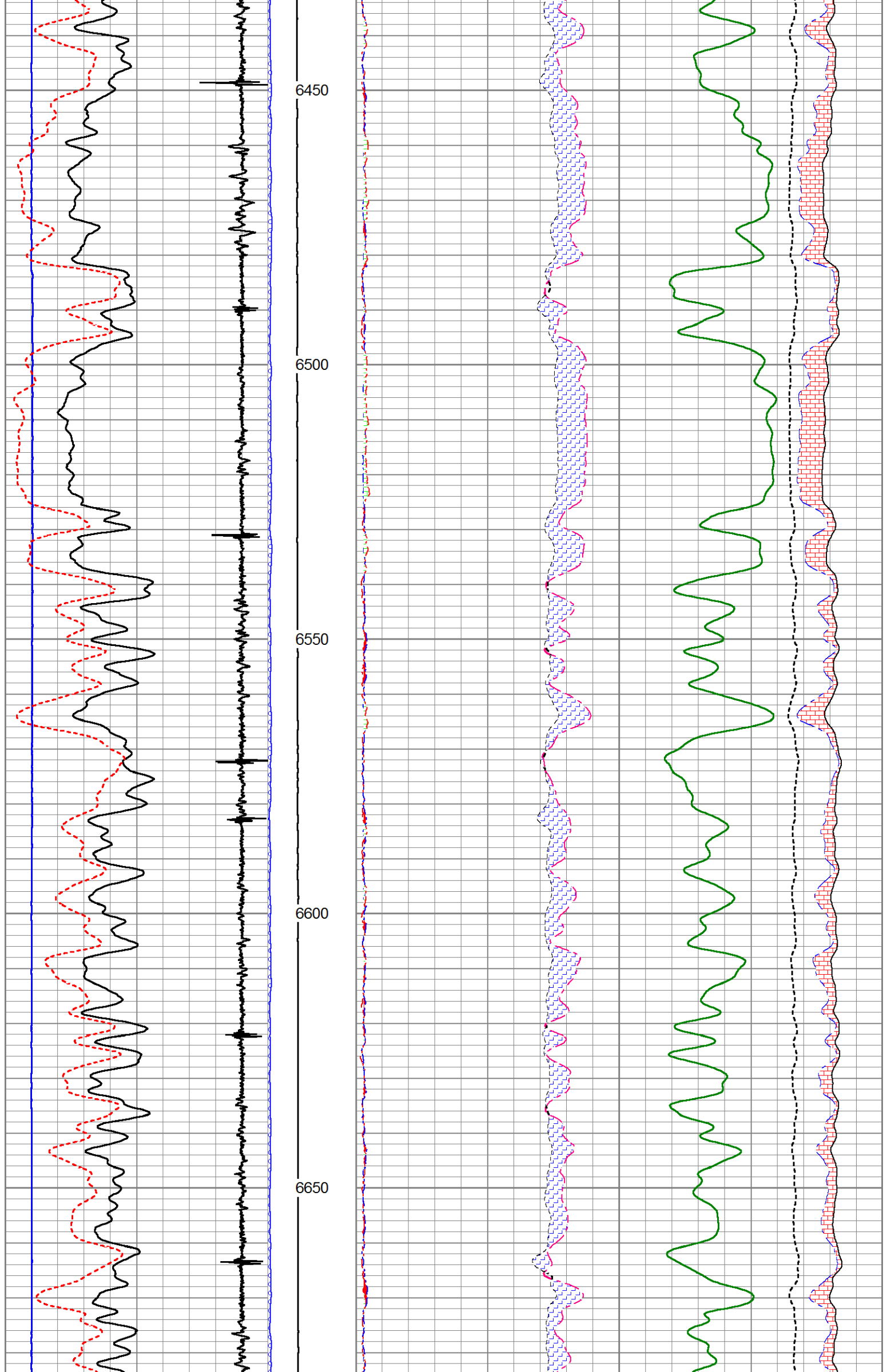


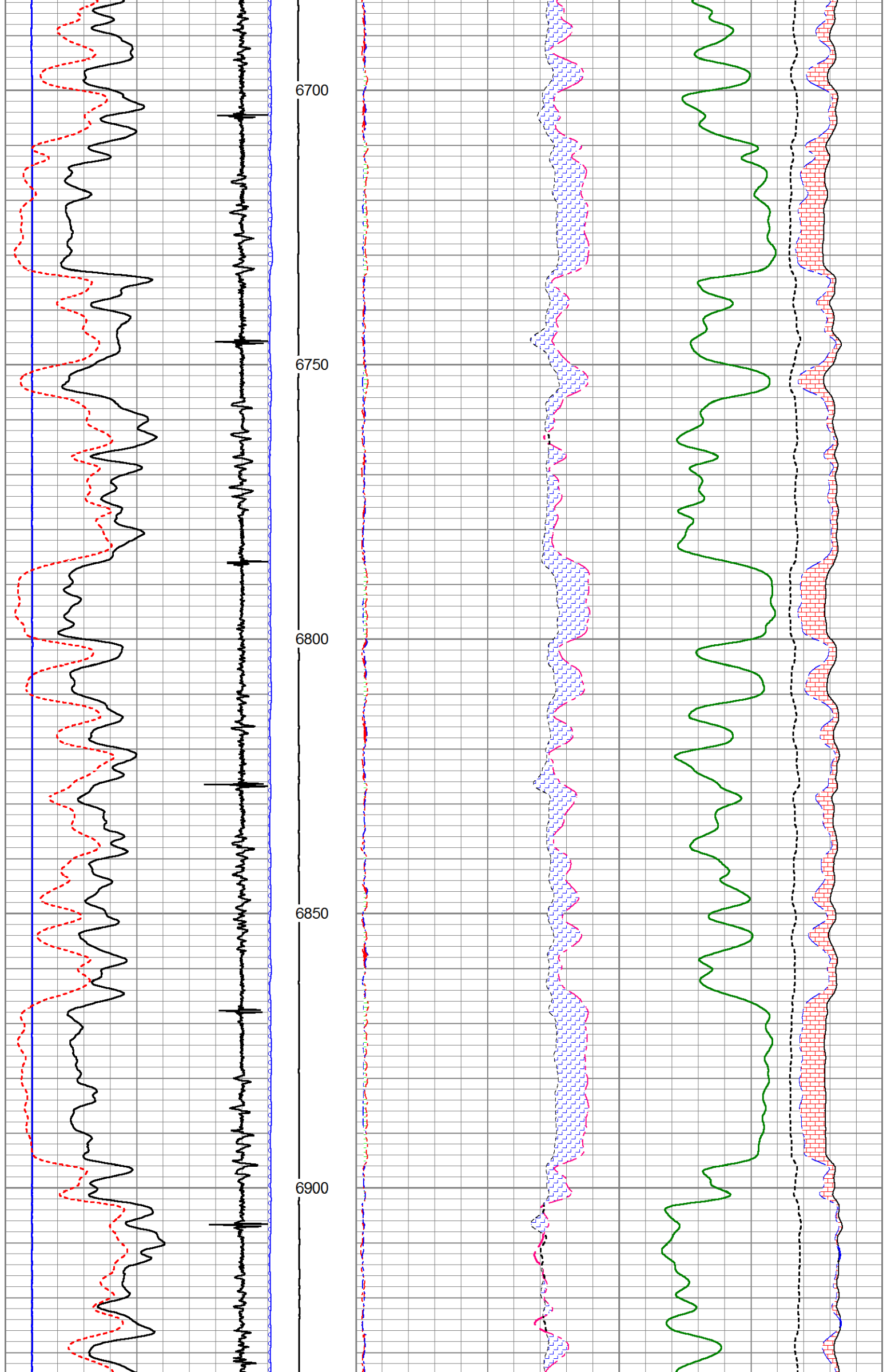


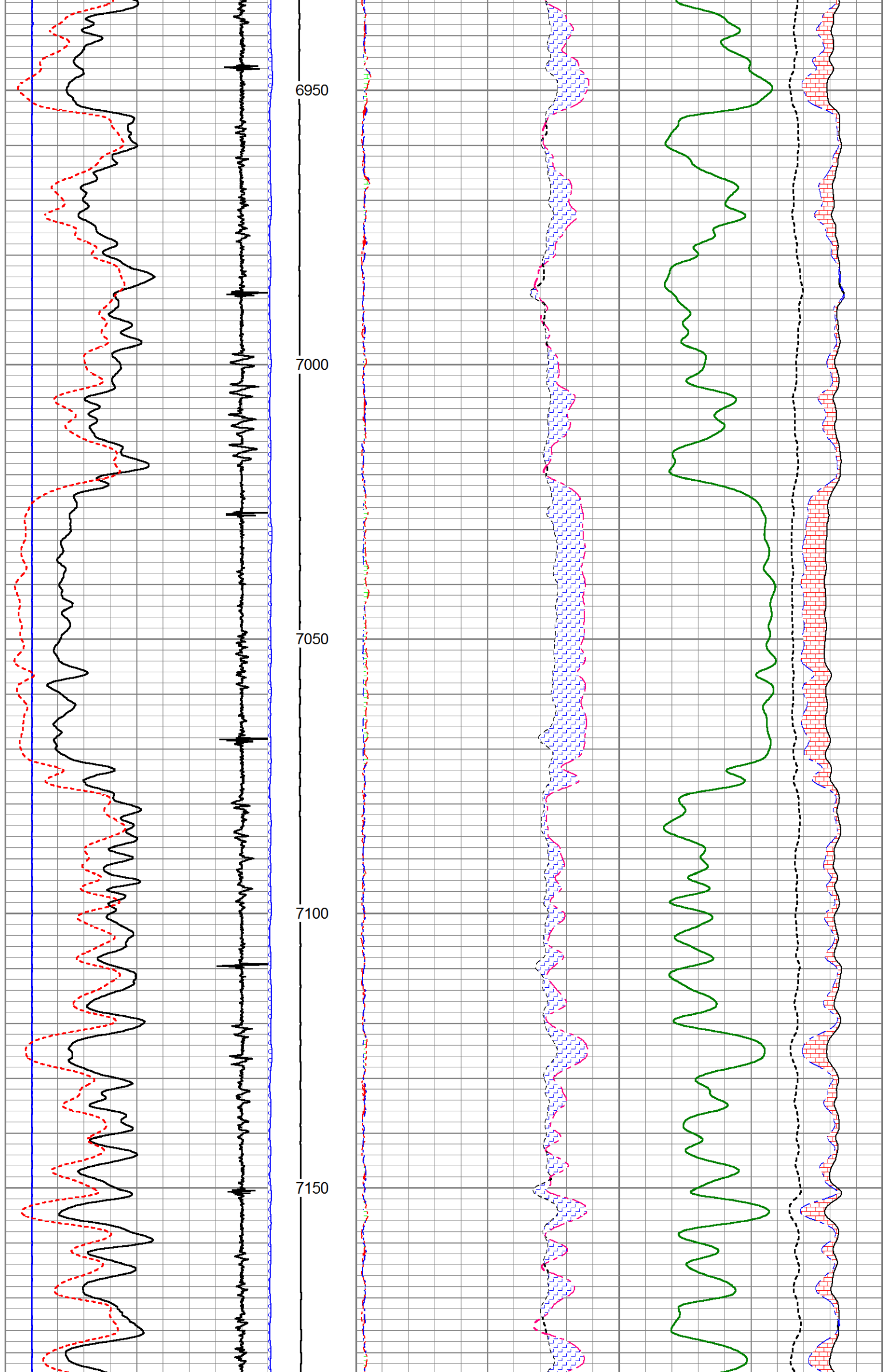


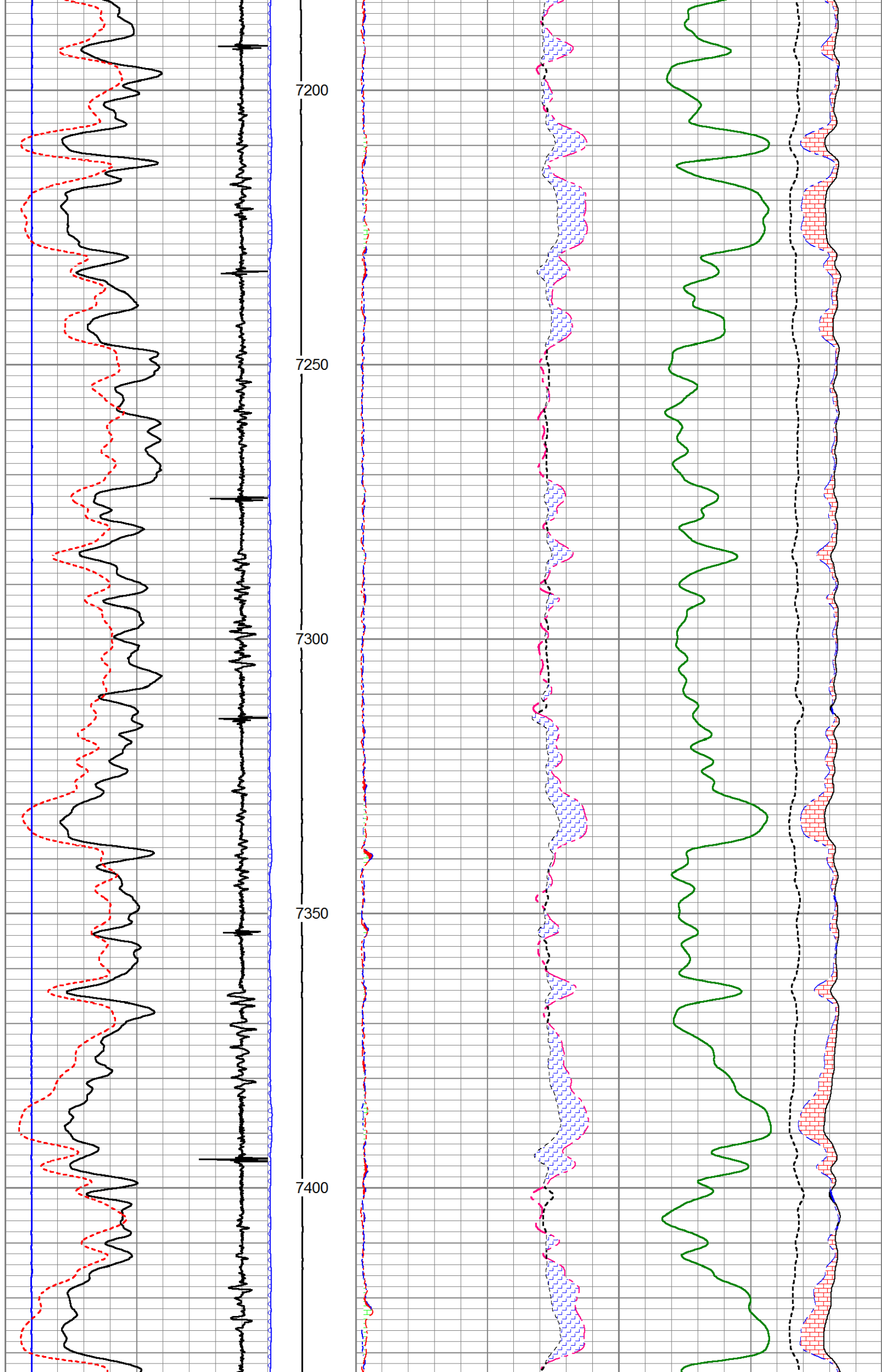


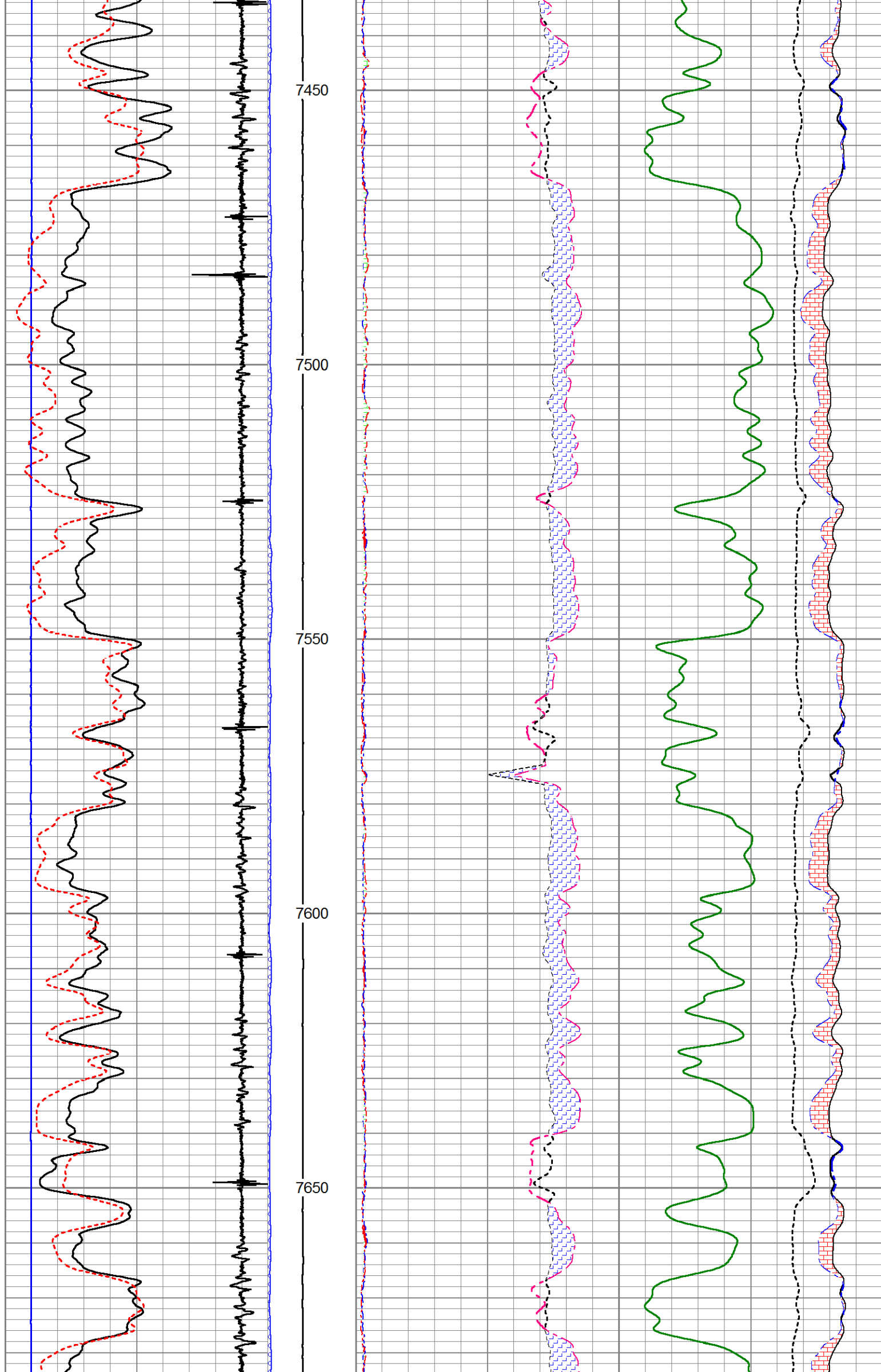


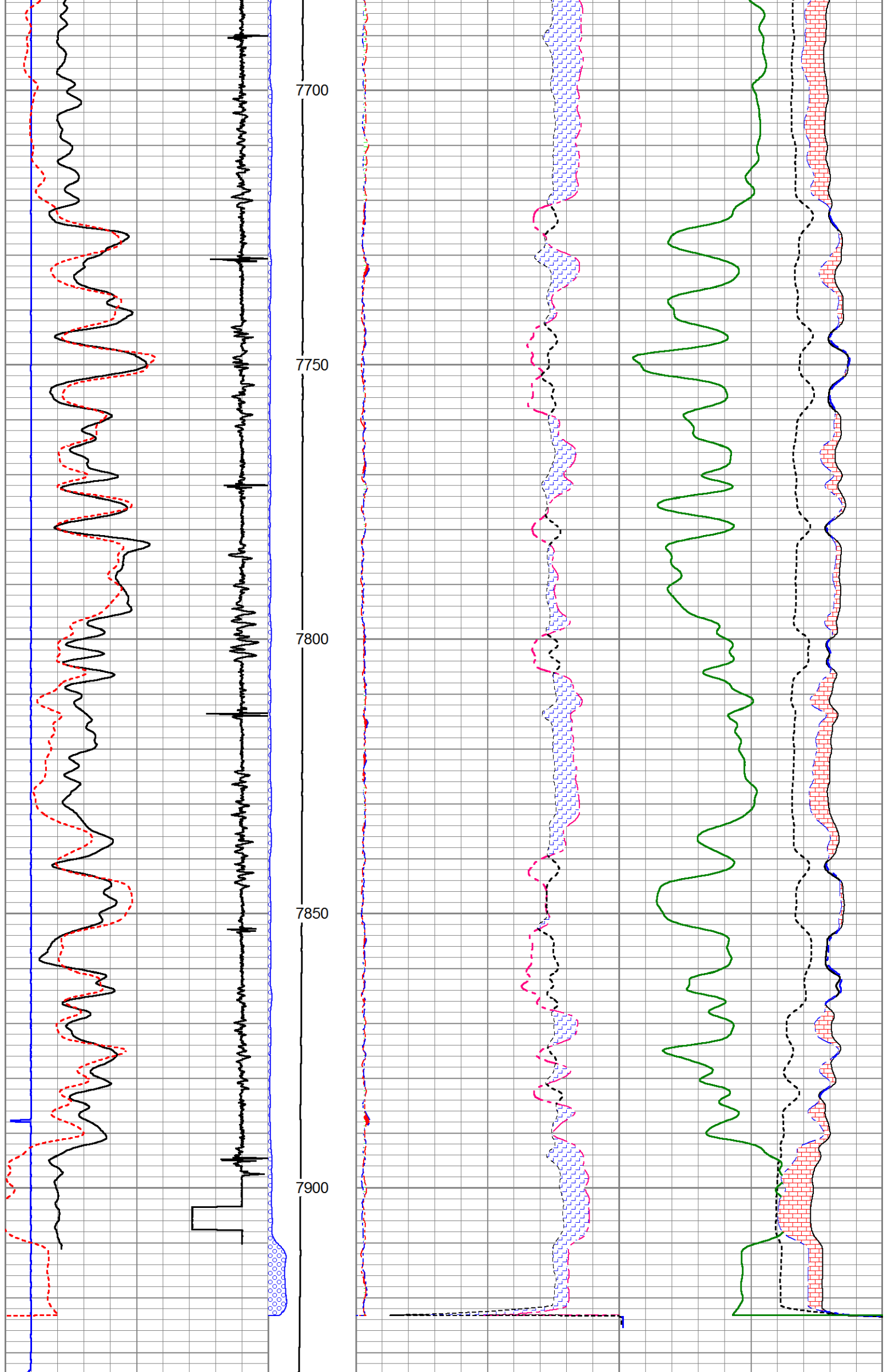












0	GR	200	LTEN	60	SGFF	0
2700	CCL	-300	0 (lb/5000)	2	RNF (Ratio Near/Far)	0.5 100000 FSIN
0	LSPD (ft/min)	200	0 OAI1100	1.65	RIN (Ratio Near/Far Incl)	0.65 60000 NCAP
10	SGINear	40		0	NFTR (Near Fit Error)	100 60000 FCAP
				0	FFTR (Far Fit Error)	100

MAIN PASS

HALLIBURTON

5"= 100'

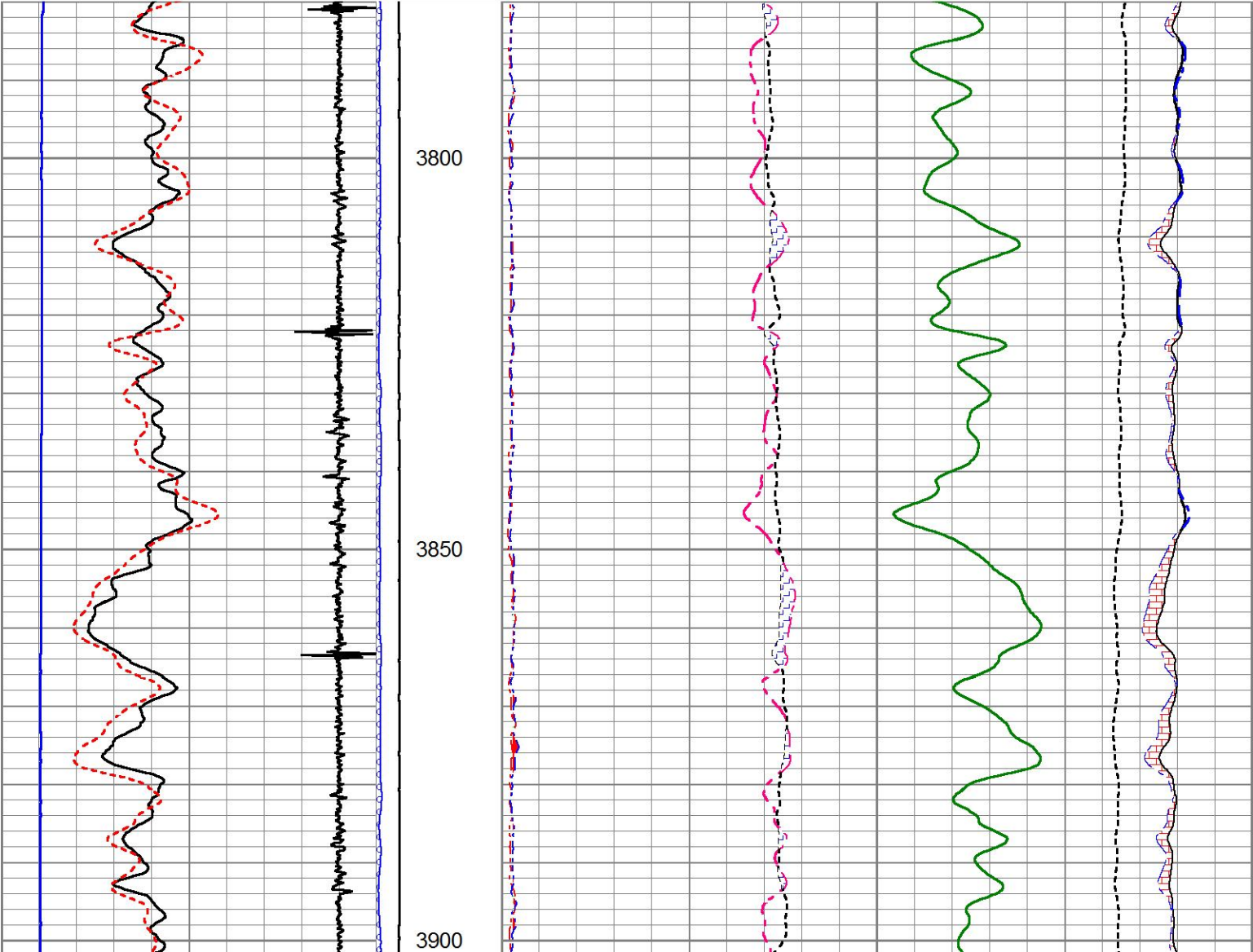
REPEAT PASS

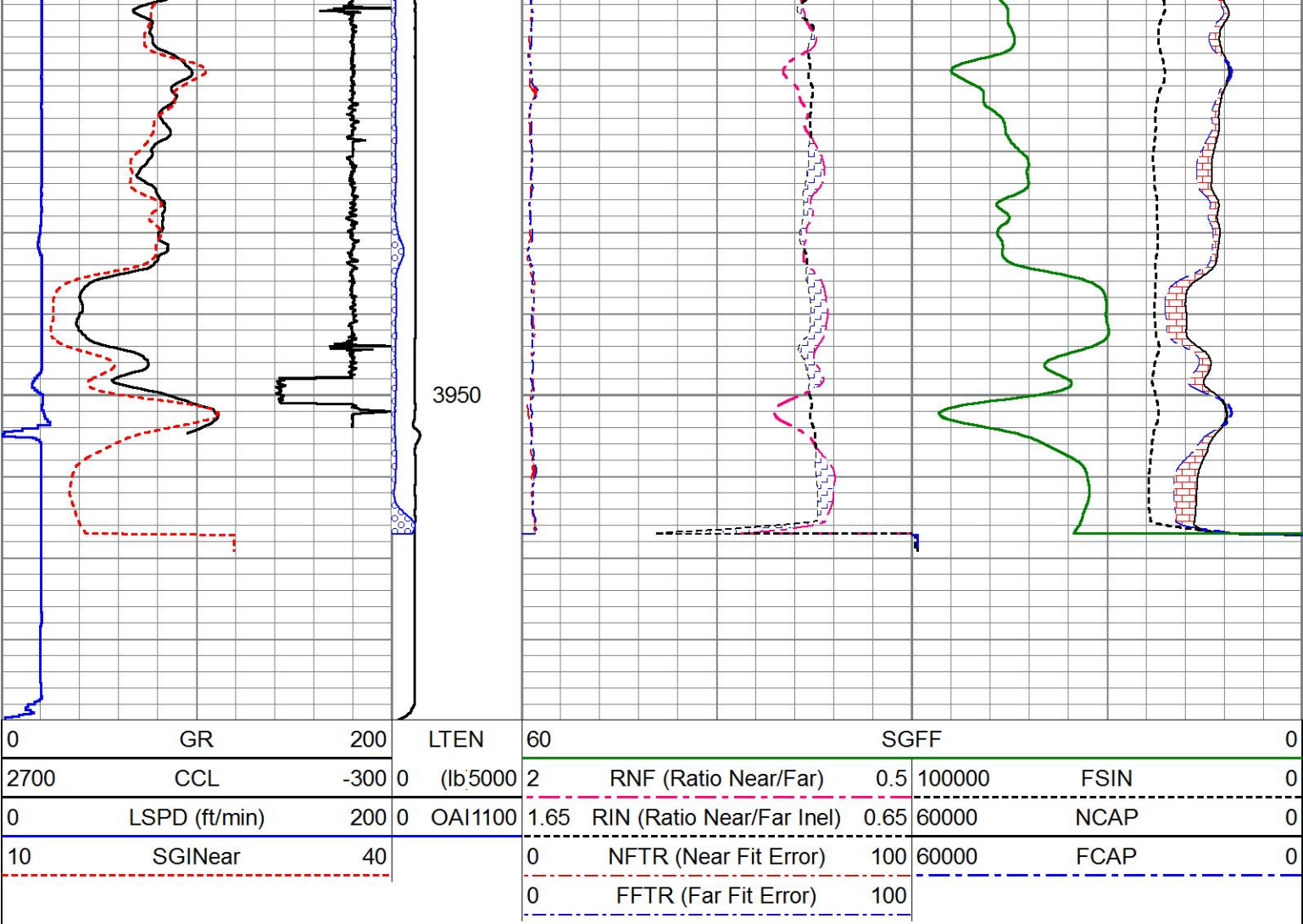
HALLIBURTON

5" = 100'

Database File	mr_b_24c_08_7_95.db
Dataset Pathname	pass4
Presentation Format	!1!!RM~1
Dataset Creation	Mon Nov 28 05:18:39 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	LSPD (ft/min)	200	0 OAI1100	1.65	RIN (Ratio Near/Far Incl)	0.65 60000 NCAP
10	SGINear	40		0	NFTR (Near Fit Error)	100 60000 FCAP
				0	FFTR (Far Fit Error)	100





REPEAT PASS

HALLIBURTON

5" = 100'

Log Variables

DatabaseC:\ProgramData\Warrior\Data\mr_b_24c_08_7_95.db
Dataset field/well/run1/pass11.1/_vars_

Top - Bottom

BHSAL1	BHSAL2	BHTEMP_Src	BITSIZE	BORSAL	BOTTEMP	CASED?	CASEOD
1	0	TEMP	in 7.875	kppm 150	degF 210	Yes	in 4.5
CASETHCK	CASEWGHT	LTH	MSGGN	MudWgt	PERFS	POROS1	POROS2
in 0.5	lb/ft 11.6	Sandstone	1	lb/gal 8.4	0	1	0
RHO�F	SO	SRFTEMP	TDEPTH	UHSGC	USERFTT	ZREF	
0.25	in 0	degF 40	ft 7700	NONE	usec/ft 0	MRayl 1.7	

Calibration Report

Database File mr_b_24c_08_7_95.db
Dataset Pathname pass11.1
Dataset Creation Mon Nov 28 12:20:14 2016

Cement Bond Log Shop Calibration Report

Serial-Model: 11836468-A
Calibration Performed: (Derived)

Free Pipe Calibration

TT	Measured	Units
Amplitude	245.7	usec
Log Base Line	227.1	mV
	10.2	mV
Calibration References and Gain		
Name	Value	Units
Pipe O.D.	4.500	in
Pipe Weight	11.6	lb/ft
Pipe Ref. Amp.	31.0	mV
Amp. Gain	0.142	

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				
Log Data Acquisition Software Modules					
HRMTI Module	2015.5.4.0				
RMTI Module	2015.10.16.1				

Gamma Ray Calibration Report					
Serial Number:	11214503				
Tool Model:	002				
Performed:	Wed Nov 09 16:25:32 2016				
Calibrator Value:	368.0	GAPI			
Background Reading:	34.1	cps			
Calibrator Reading:	297.9	cps			
Sensitivity:	1.3950	GAPI/cps			

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
CCL	35.82		STNDCH-STND_CH 1.4375 IN CABLE HEAD	1.50	1.44	1.00
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	22.91					
RmtTNGT	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
RmtNFwwMcsPI	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 (11836468)	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_24c_08_7_95.db: field/well/run1/pass11.1						
Total length: 39.39 ft						
Total weight: 356.50 lb						
O.D.: 3.13 in						

Company	URSA OPERATING COMPANY LLC				
Well	MONUMENT RIDGE B 24C-08-7-95				
Field	PARACHUTE				
County	GARFIELD		State	CO	
HALLIBURTON	RESERVOIR MONITORING TOOL ELITE				