

HALLIBURTON

GAMMA RAY COLLAR
RESERVOIR MONITOR
LOG
(GR-RMTI)

CompanyURSA OPERATING CO., LLC.
WellTOMPKINS 21C-08-07-95
FieldPARACHUTE
CountyGARFIELDStateCO

CompanyURSA OPERATING CO., LLC.
WellTOMPKINS 21C-08-07-95
FieldPARACHUTE
CountyGARFIELDStateCO

API No.: 05045228220000
Location:
N/A

Serv #: 903507612
Other Services

Sec: 8 Twp: 7S Rge: 95W

GR-CBL

Permanent Datum
Log Measured From
Drilling Measured From

G.L.
K.B.
K.B.

Elevation
17.0 Ft. above perm. datum
5532.0'

K.B.
D.F.
G.L.

Elevation
5549.0'
5532.0'

Date @ Time Logged
Run No.
Depth - Driller
Depth - Logger
Bottom - Logged Interval
Top - Log Interval
Max. Recorded Temp.
CEMENTING DATA
Date / Time Cemented
Primary / Squeeze
Expected
Compressive Strength
Cement Volume
Cement Type / Weight
Formulation
Mud Type / Mud Wgt.

8/30/2016
ONE
7631' E.D.
7561'
7555'
3600'
N/A
Surface
String

Type Fluid in Hole
Density of Fluid
Fluid Level
Cement Top Est. Logged
Equipment / Location
Recorded by
Witnessed by
Protection
String

WATER
8.45#
SURFACE
N/A
11591000 /
DAN DUTY
MR. O. MOLINAR
Liner

Borehole Record
Run Number
ONE
TWO
THREE

Bit
24.0"
12.25"
7.875"

From
SURF
77'
1855'

To
77'
1855'
7672'

Size
16.0"
8.625"
4.5"

Weight
75.5#
32.0#
11.6#

From
SURF.
SURF.
SURF.

To
77'
1855'
7672'

Casing & Tubing Record
FLOAT
COLLAR

7631'

<<< 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

NO OPEN HOLE LOGS RUN ON THIS WELL USED 17' K.B. FOR DEPTH CONTROL
RMTI LOGGED TD TO 500' ABOVE WILLAMS FORK AS PER CUSTOMERS REQUEST
CBL LOGGED TO BOTTOM OF SURFACE CASING PER CUSTOMERS REQUEST" THANK YOU FOR USING HALLIBURTON ENERGY SERVICES "
YOUR CREW FOR TODAY: F. ALIAS; F. NAVARRO

MBU. #BK0606

RIG: HES CRANE

Service Ticket No.	903507612	API No.	045-22822	PGM Ver	15.10.29001
The Well Name, Location, Borehole Description, and / or Cementing Data Furnished by Client					
EQUIPMENT DATA					
XHU		GAMMA		RMTI	
Run No.	ONE	Run No.	ONE	Run No.	ONE
Serial No.	12029128	Serial No.	12157979	Serial No.	11680597
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	

No.	FROM	TO	Pressure	Gamma				
ONE	7555'	7350'	0 PSI	20'	REPEAT			
TWO	7555'	3600'	0 PSI	20'	MAIN			
	GAMMA							
Pass	Scale		Scale		Scale		Scale	
No.	L	R	L	R	L	R	L	L
ONE	0	200						
TWO	0	200						
DIRECTIONAL INFORMATION								
Maximum Deviation			deg. @		KOP			

<div>HALLIBURTON</div>	Company	URSA OPERATING CO., LLC.		
	Well	TOMPKINS 21C-08-07-95		
	Field	PARACHUTE		
	County	GARFIELD		
	State	CO		Country U.S.A.

HALLIBURTON

MAIN PASS

Database File

ursa-tom-21c3_sigma.db

Dataset Pathname

pass1

Presentation Format

!1!!rmt_rmti

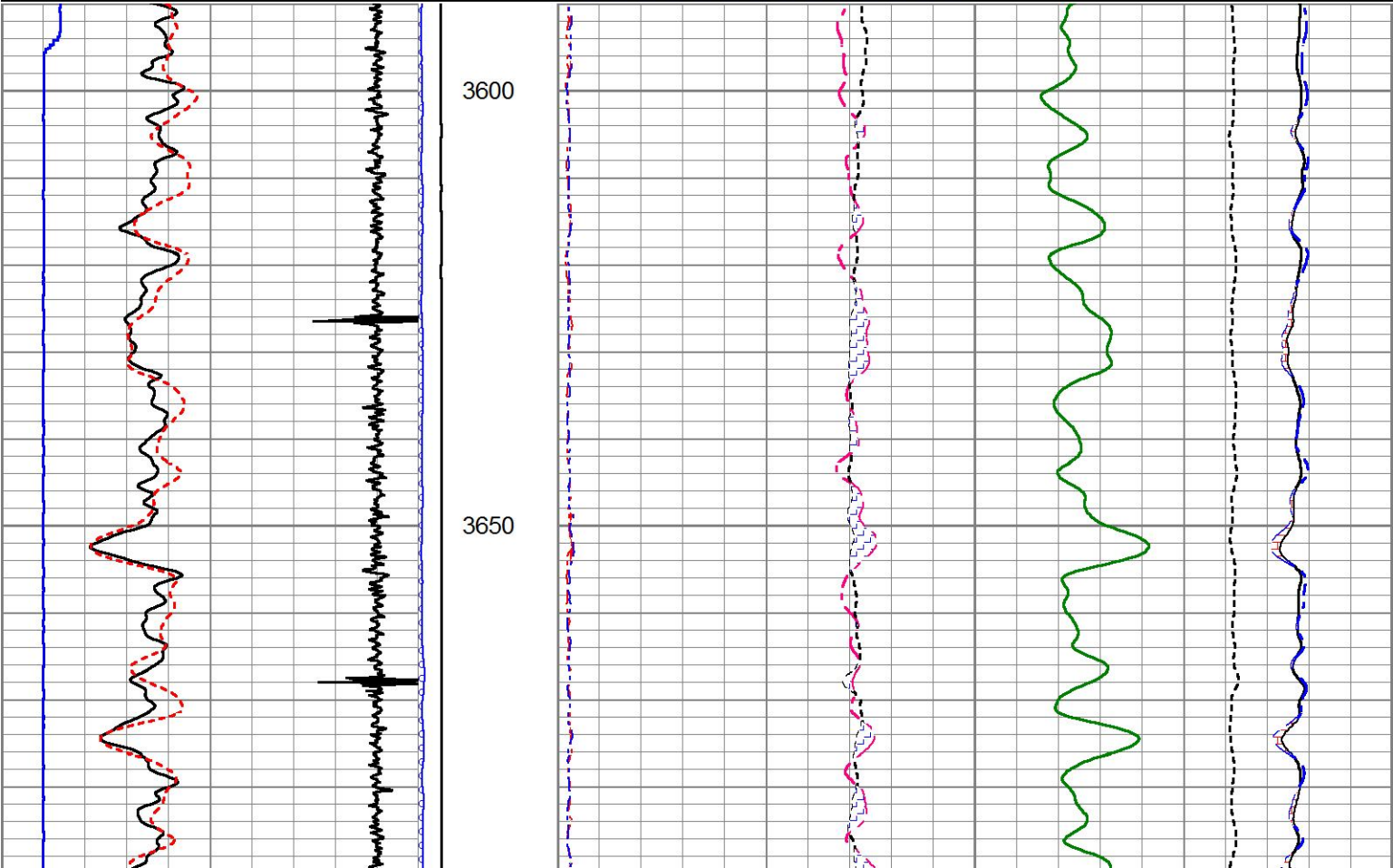
Dataset Creation

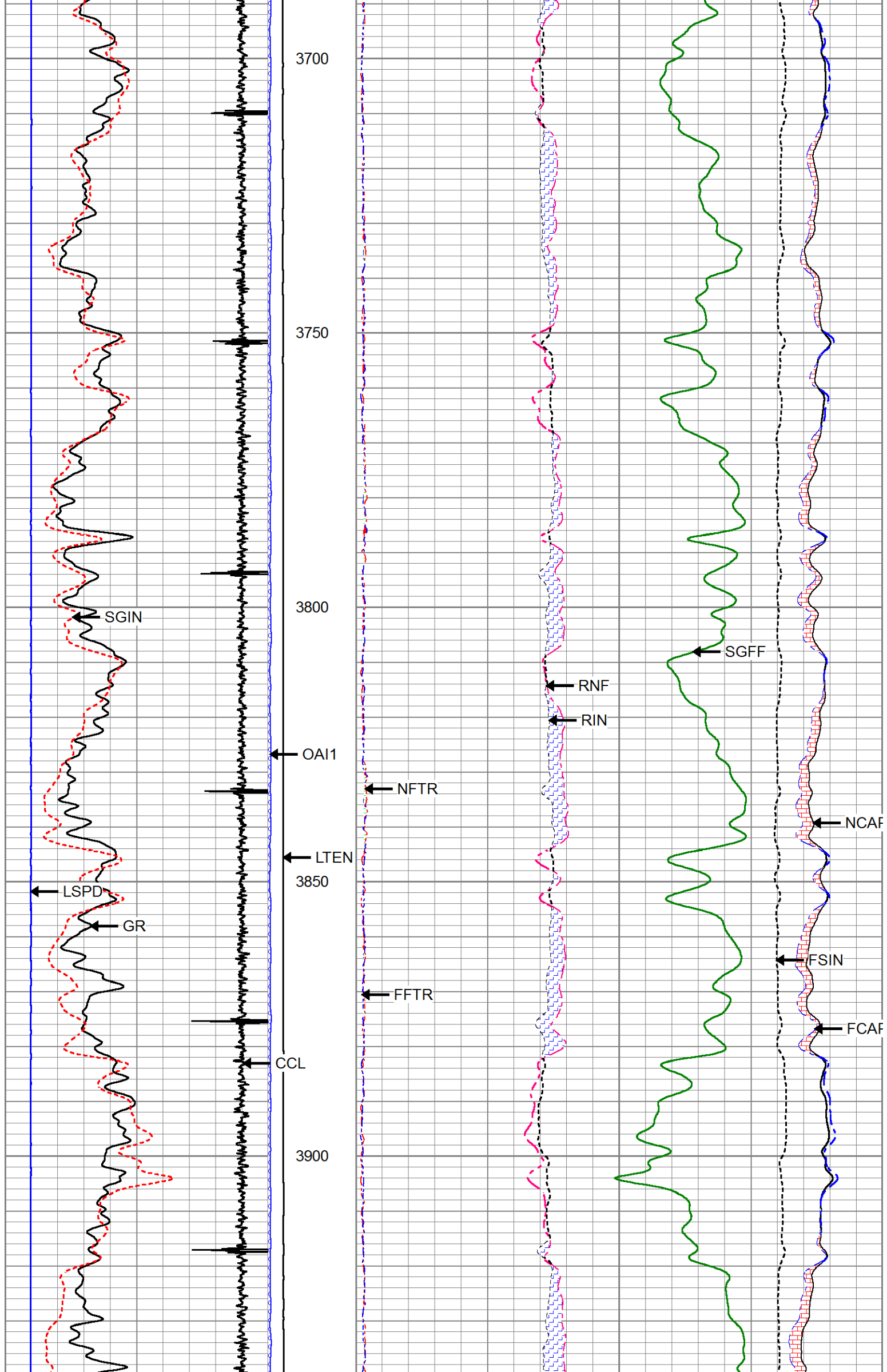
Wed Aug 31 08:02:44 2016

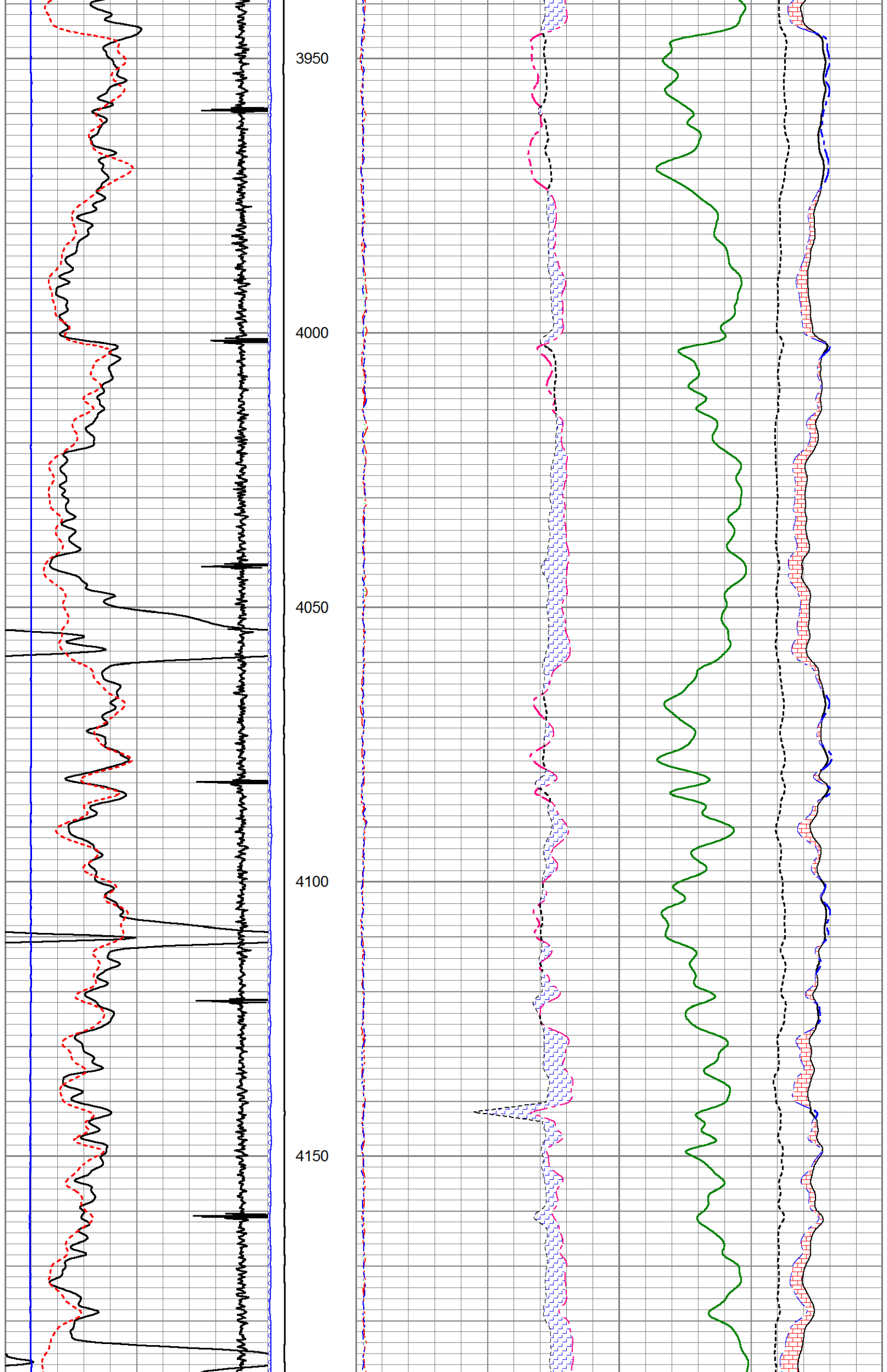
Charted by

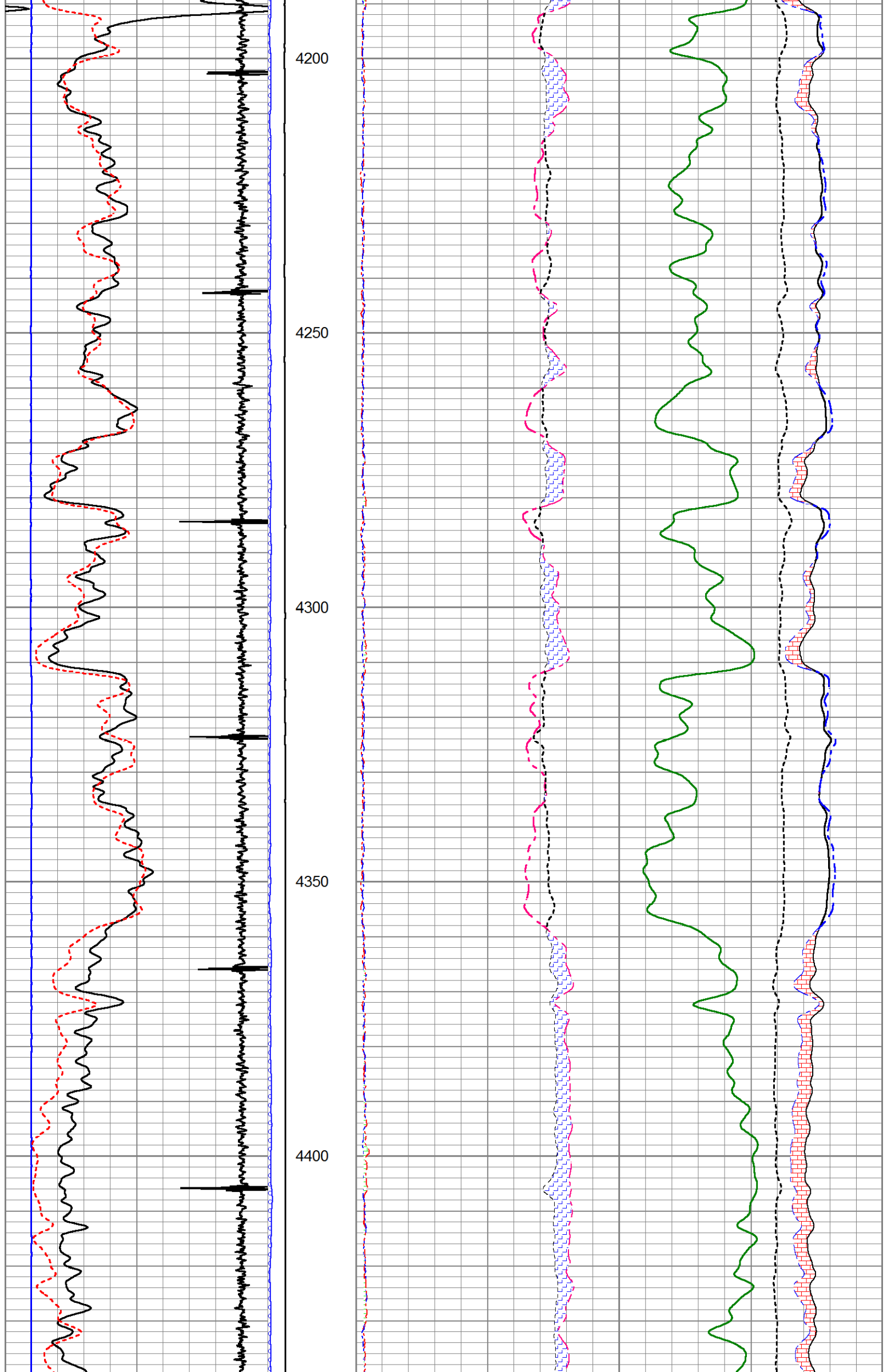
Depth in Feet scaled 1:240

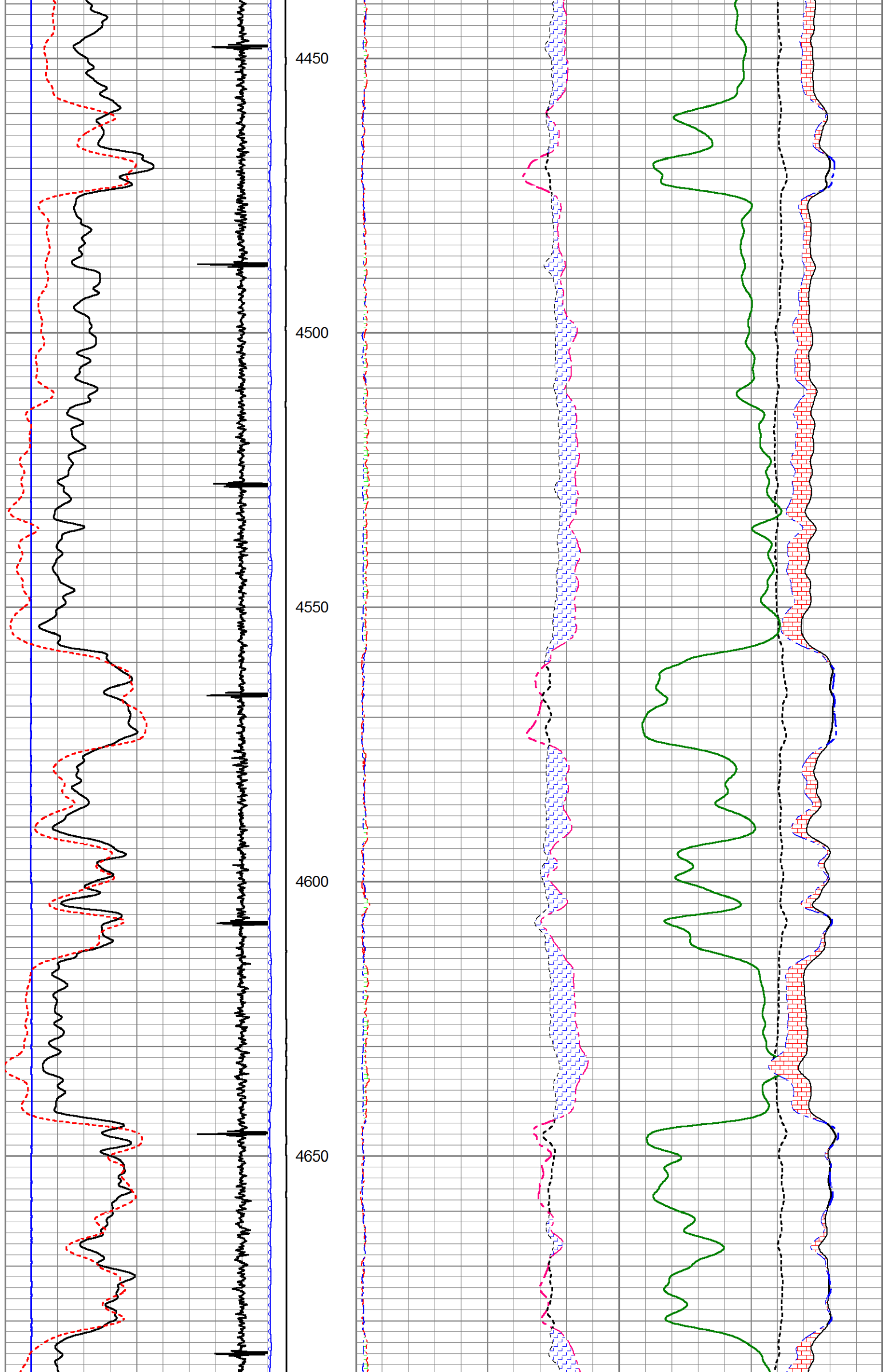
0	GR	200	LTEN	60	SGFF				0
2700	CCL	-300	0 (lb/5000	2	RNF (Ratio Near/Far)	0.5	100000	FSIN	0
0	LSPD (ft/min)	200	0 OAI1100	1.65	RIN (Ratio Near/Far Incl)	0.65	60000	NCAP	0
10	SGINear	40		0	NFTR (Near Fit Error)	100	60000	FCAP	0
				0	FFTR (Far Fit Error)	100			

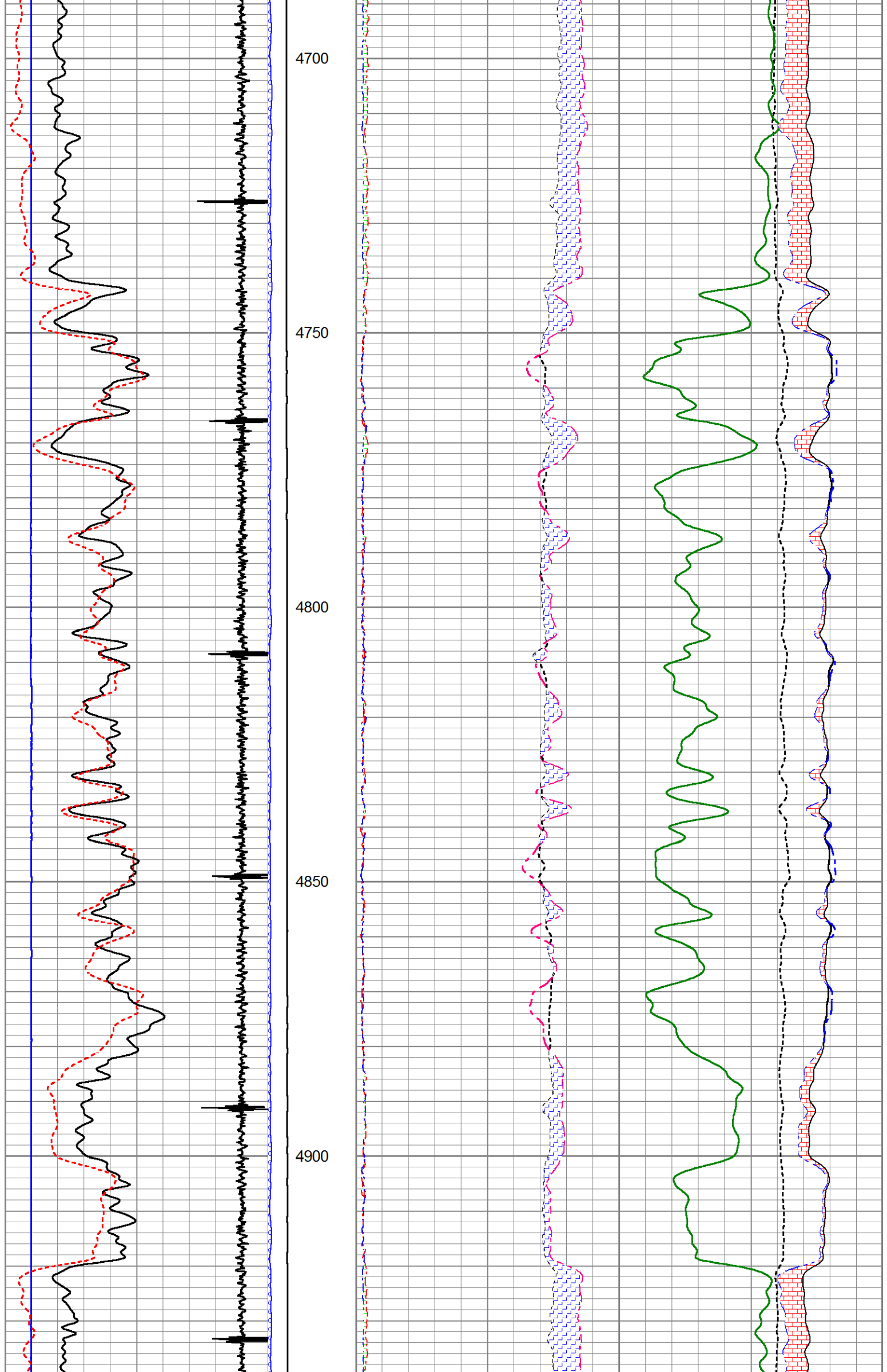


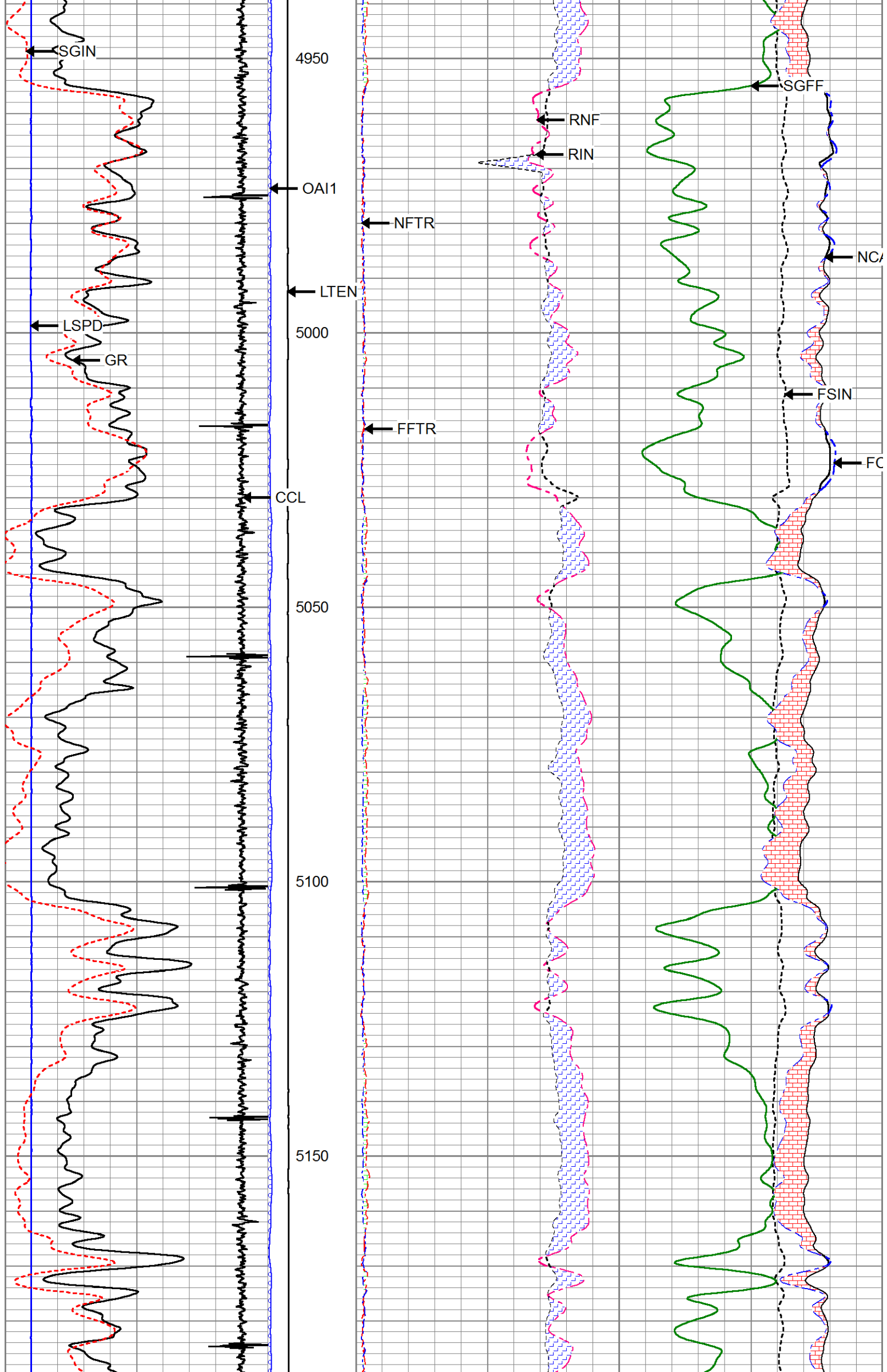


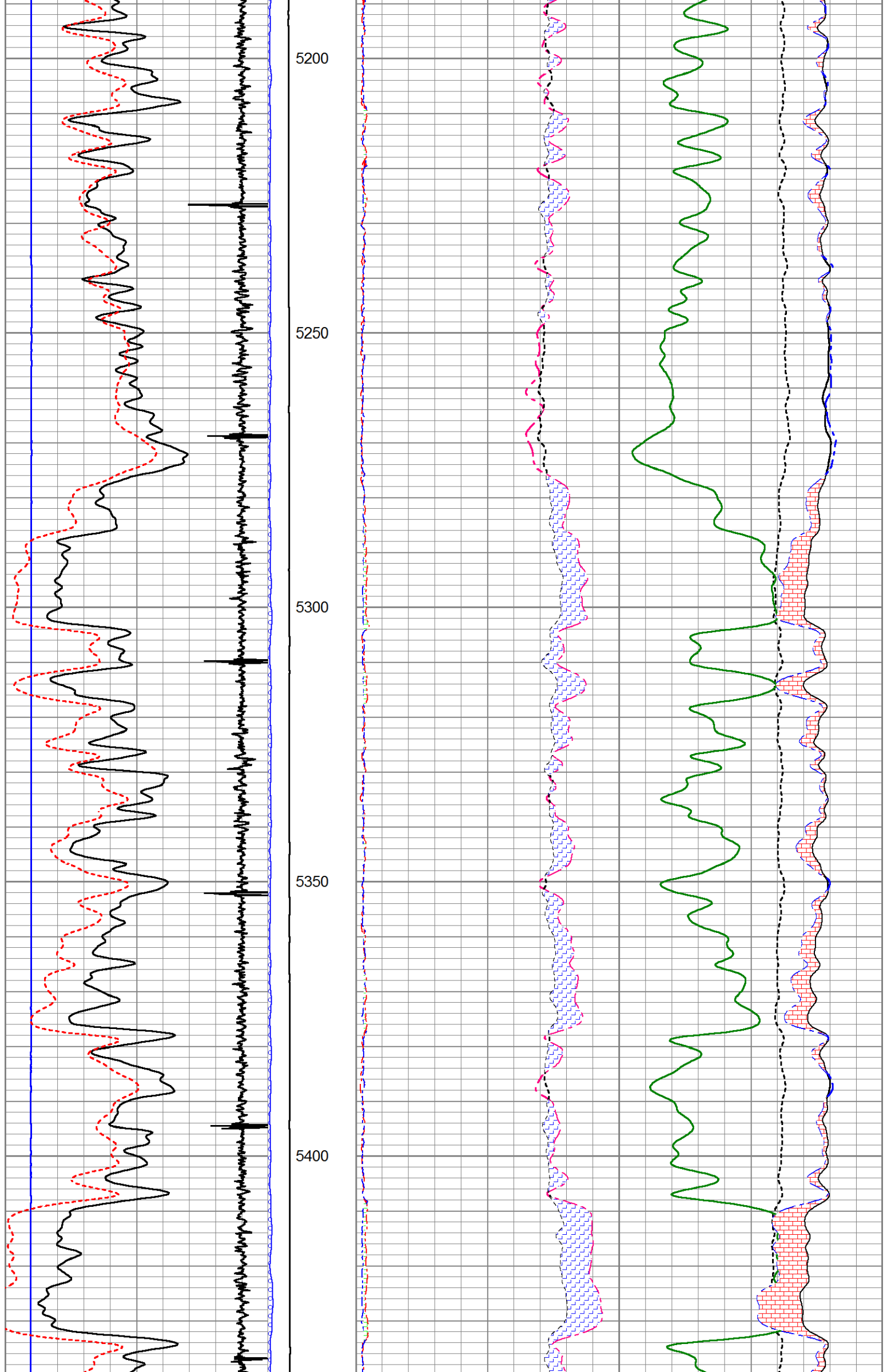


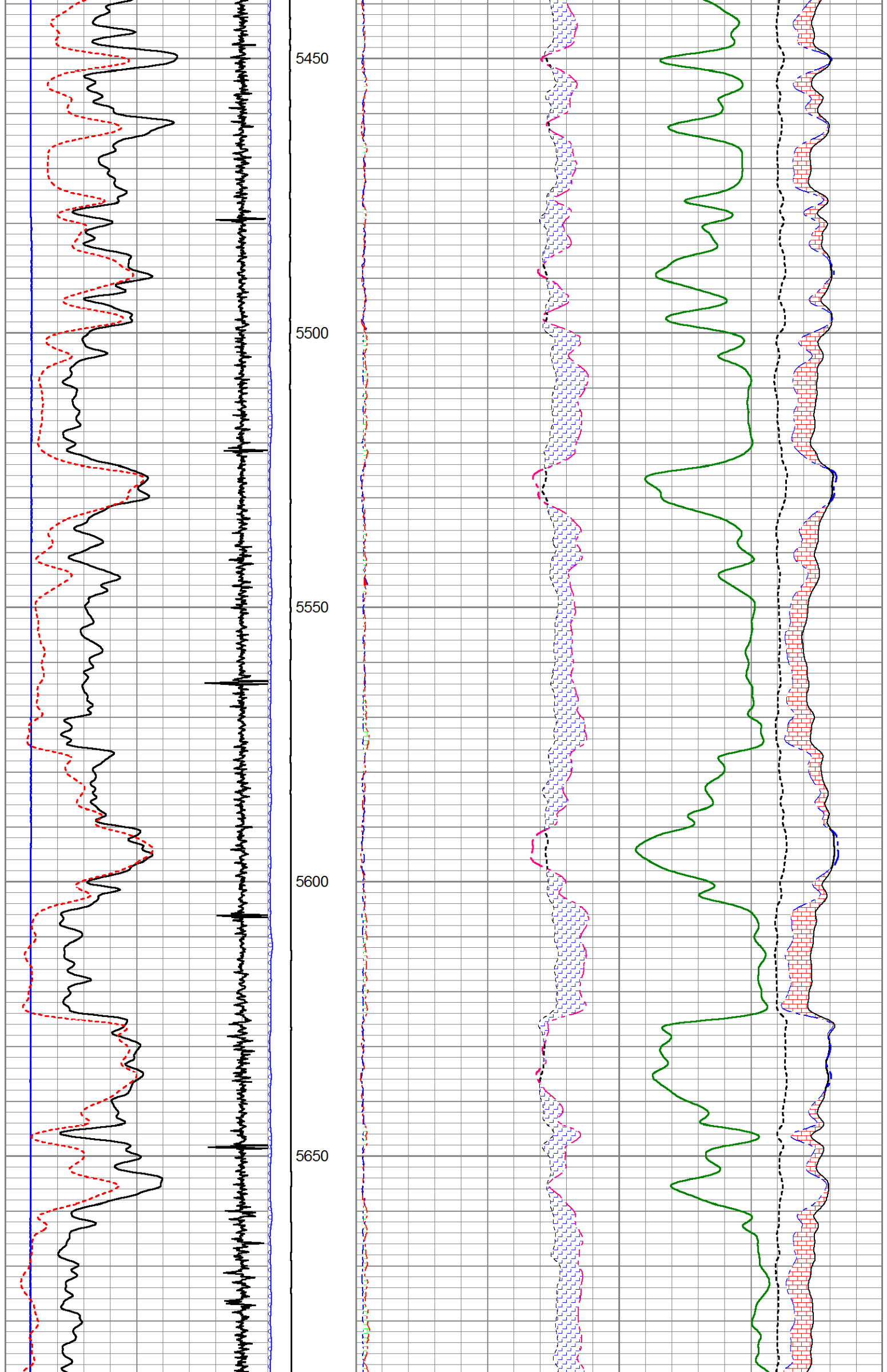


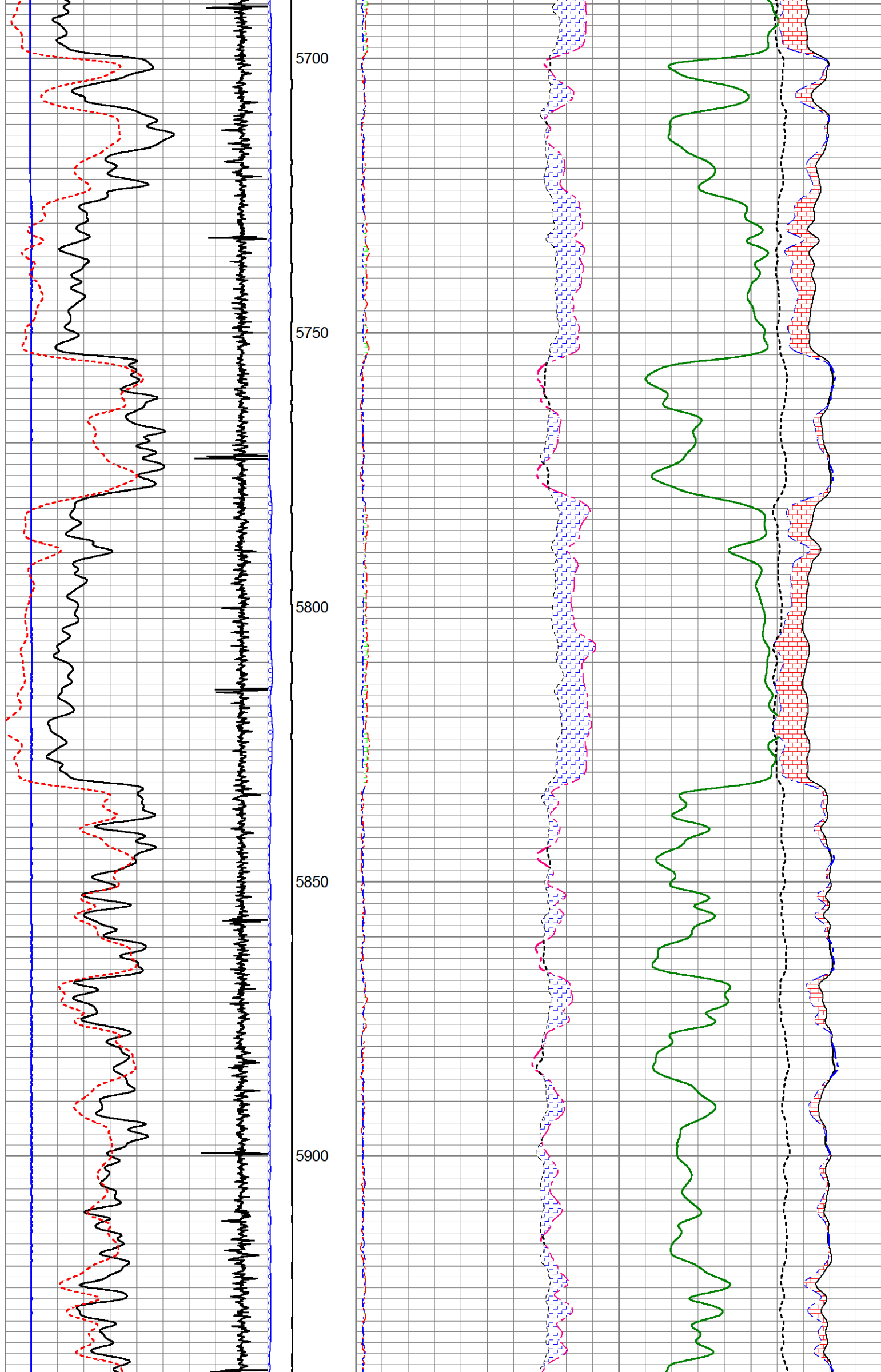


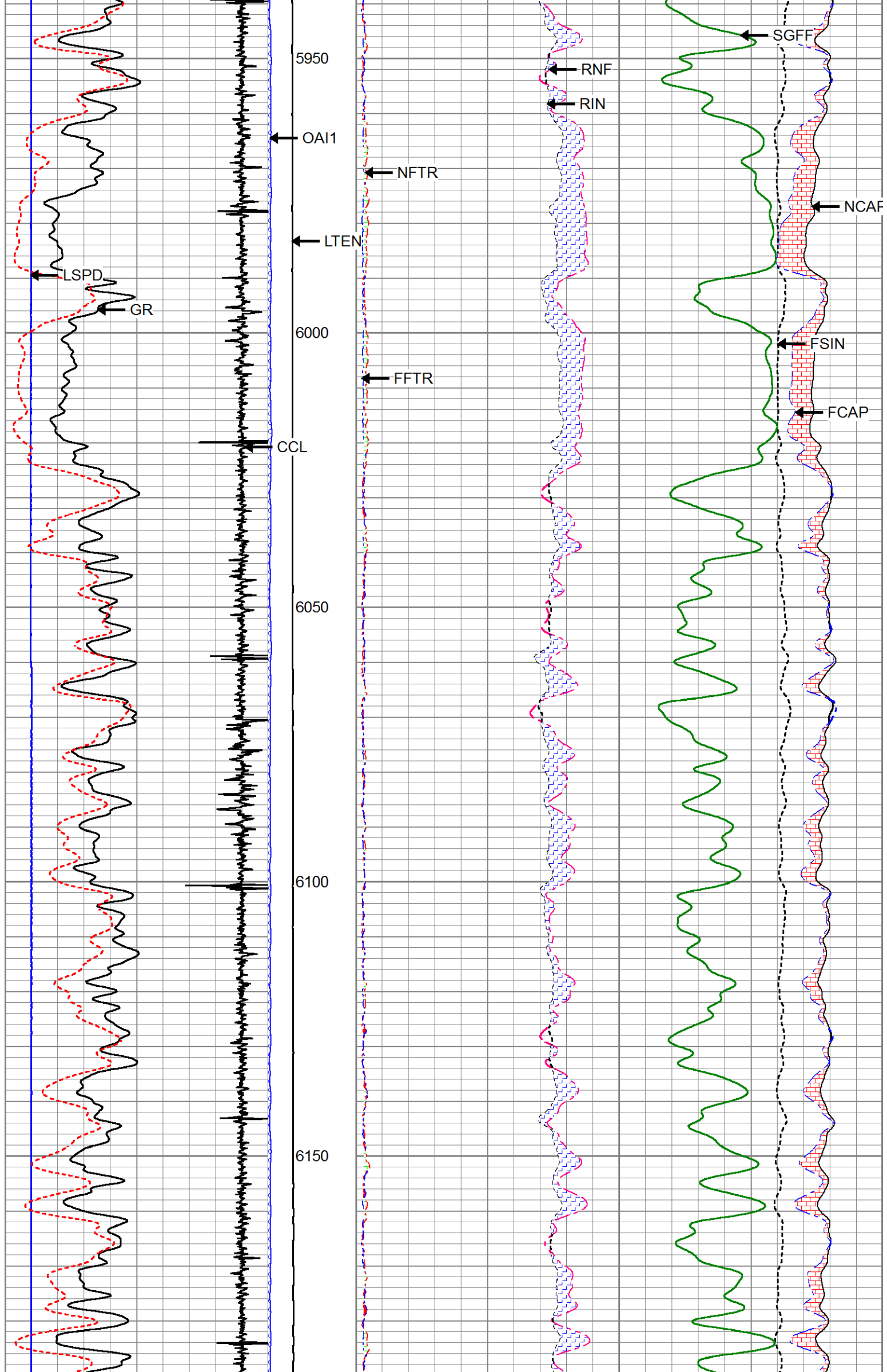


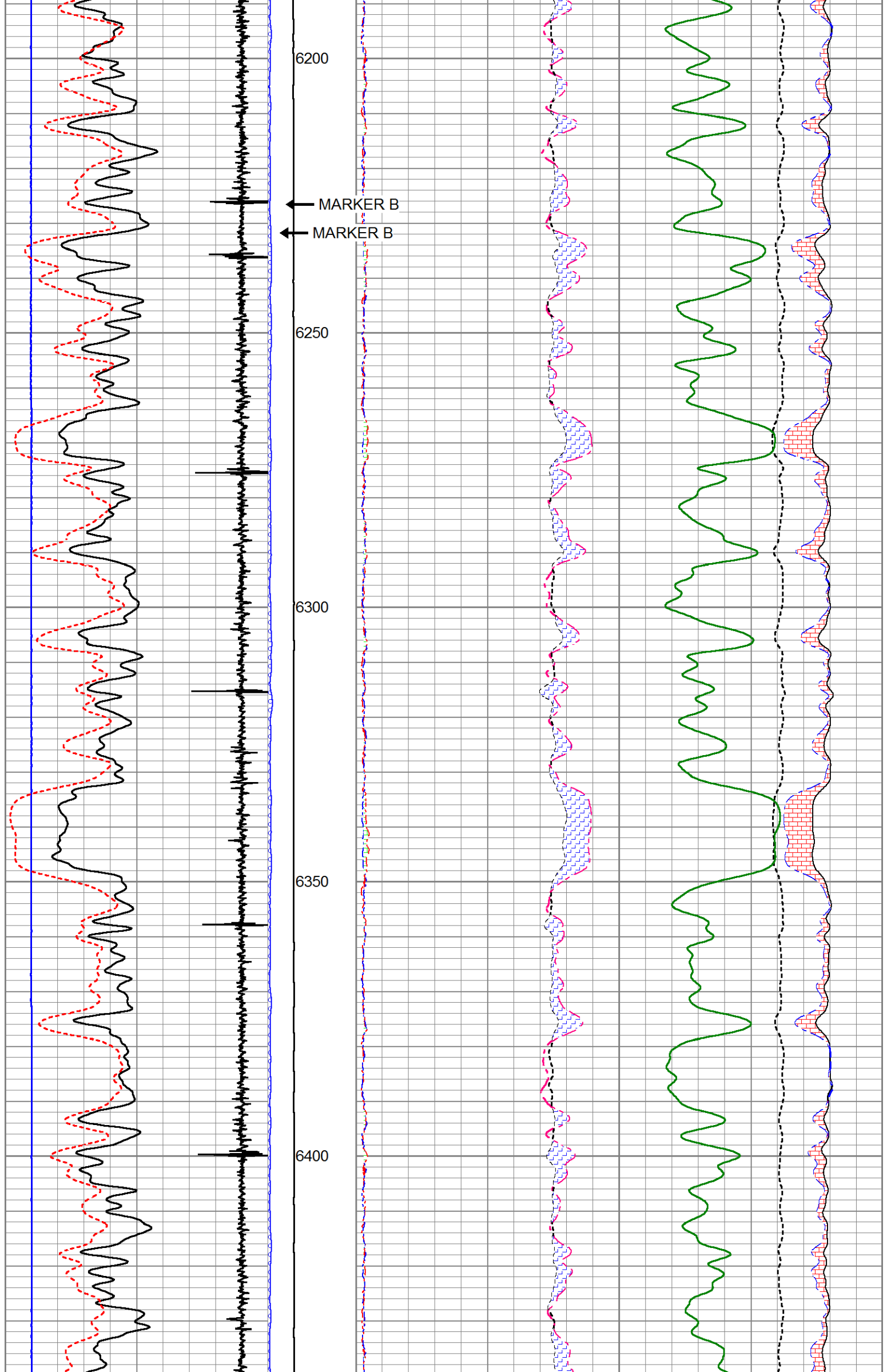


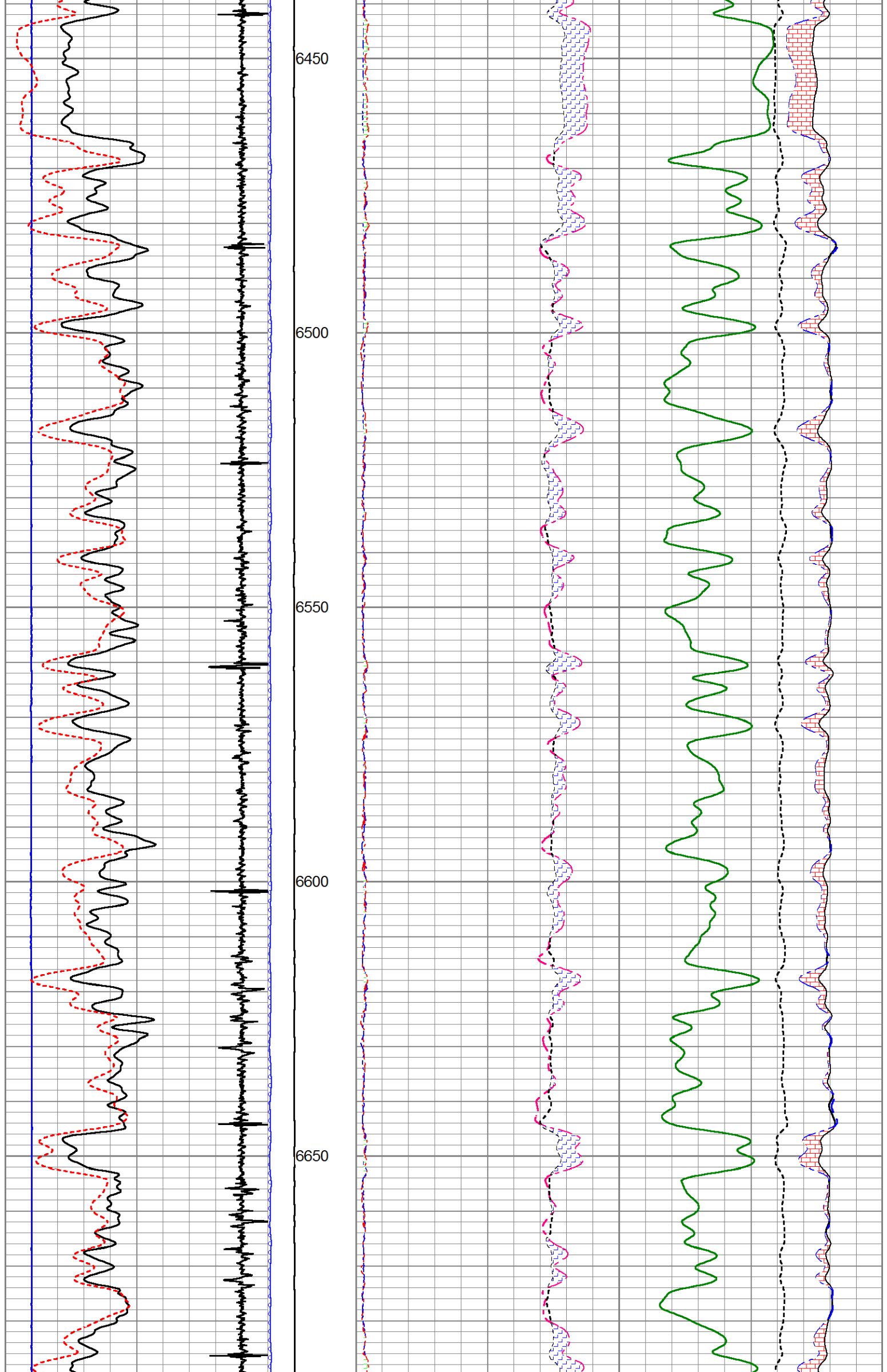


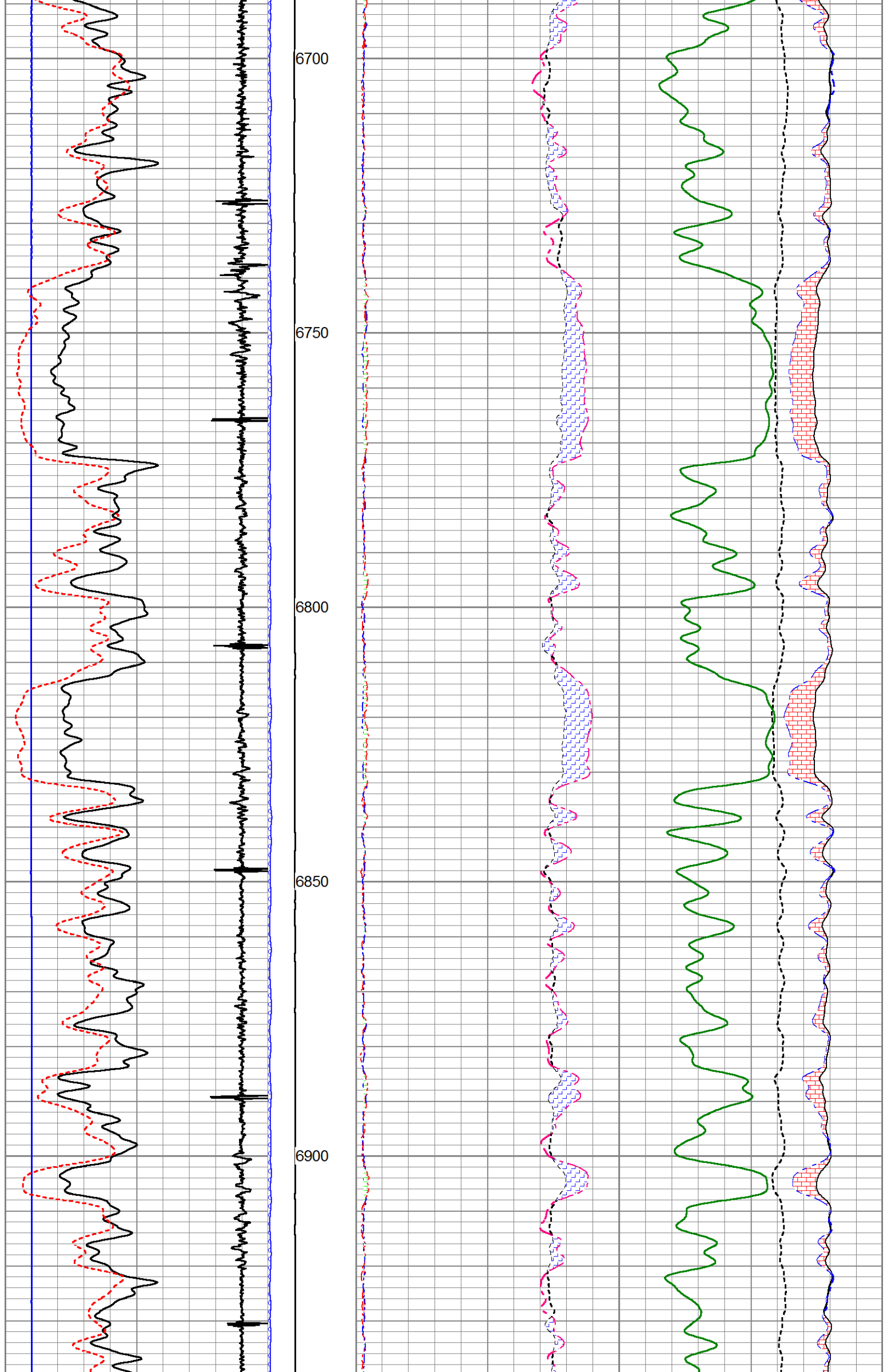


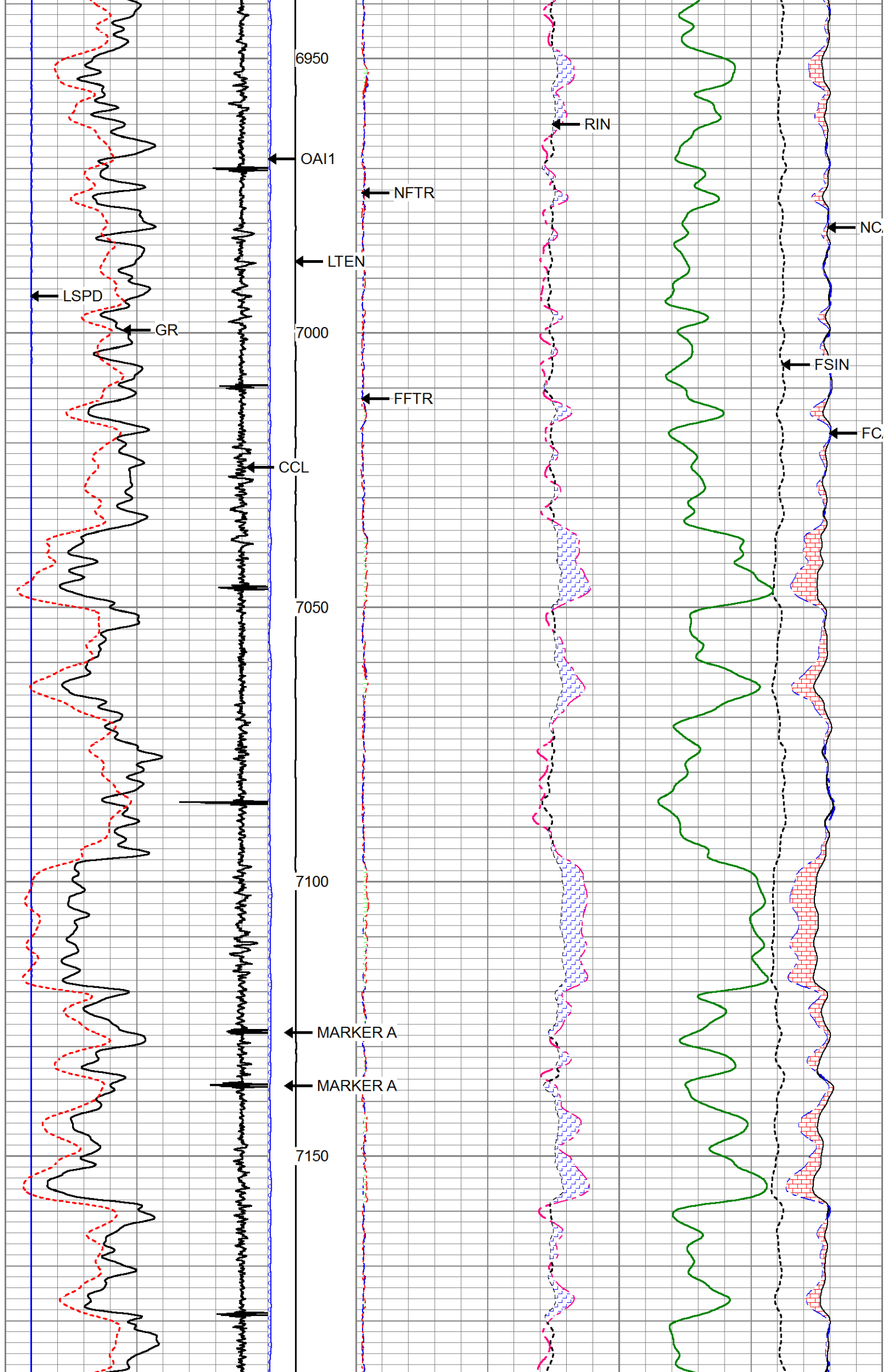


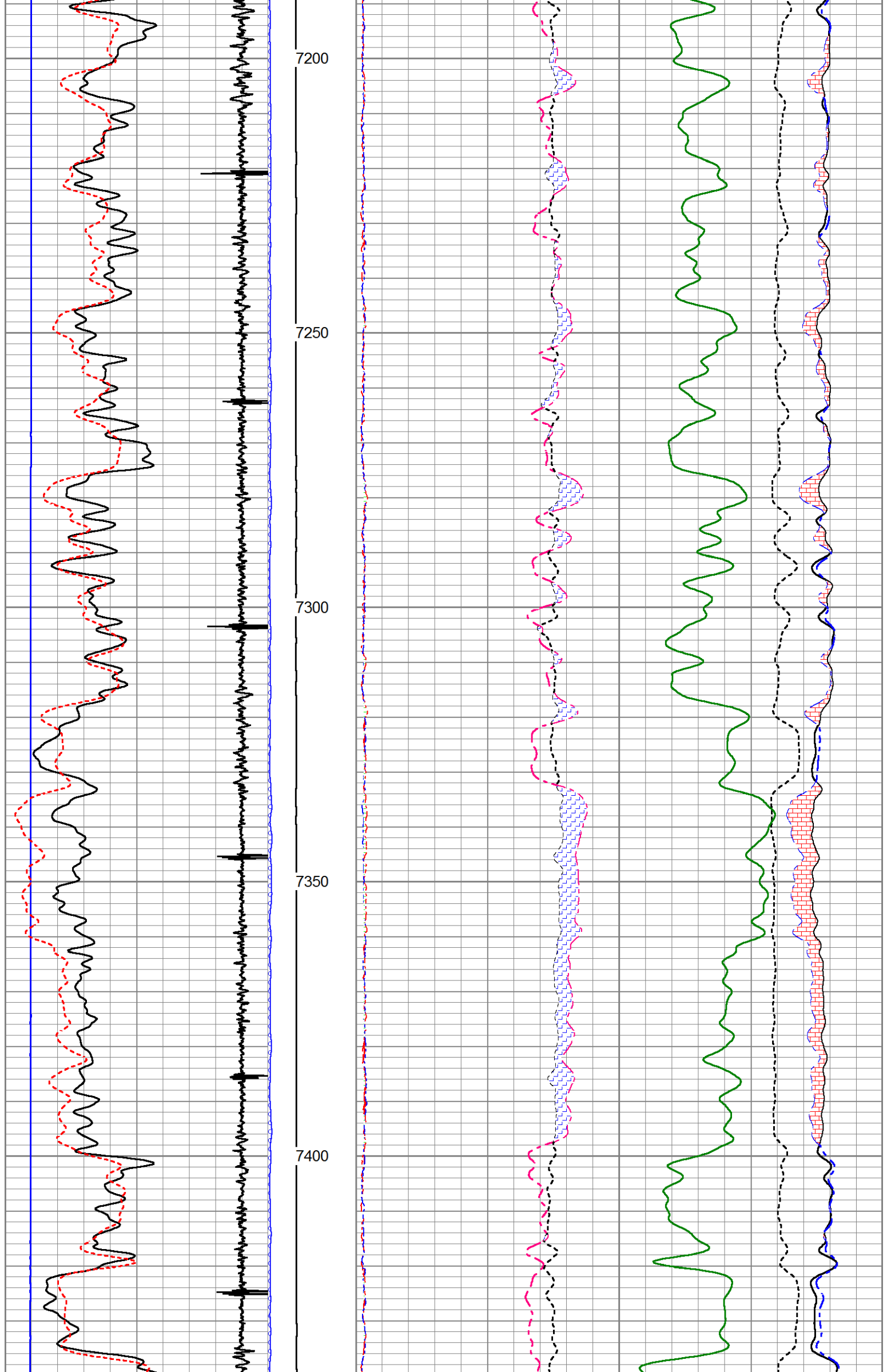


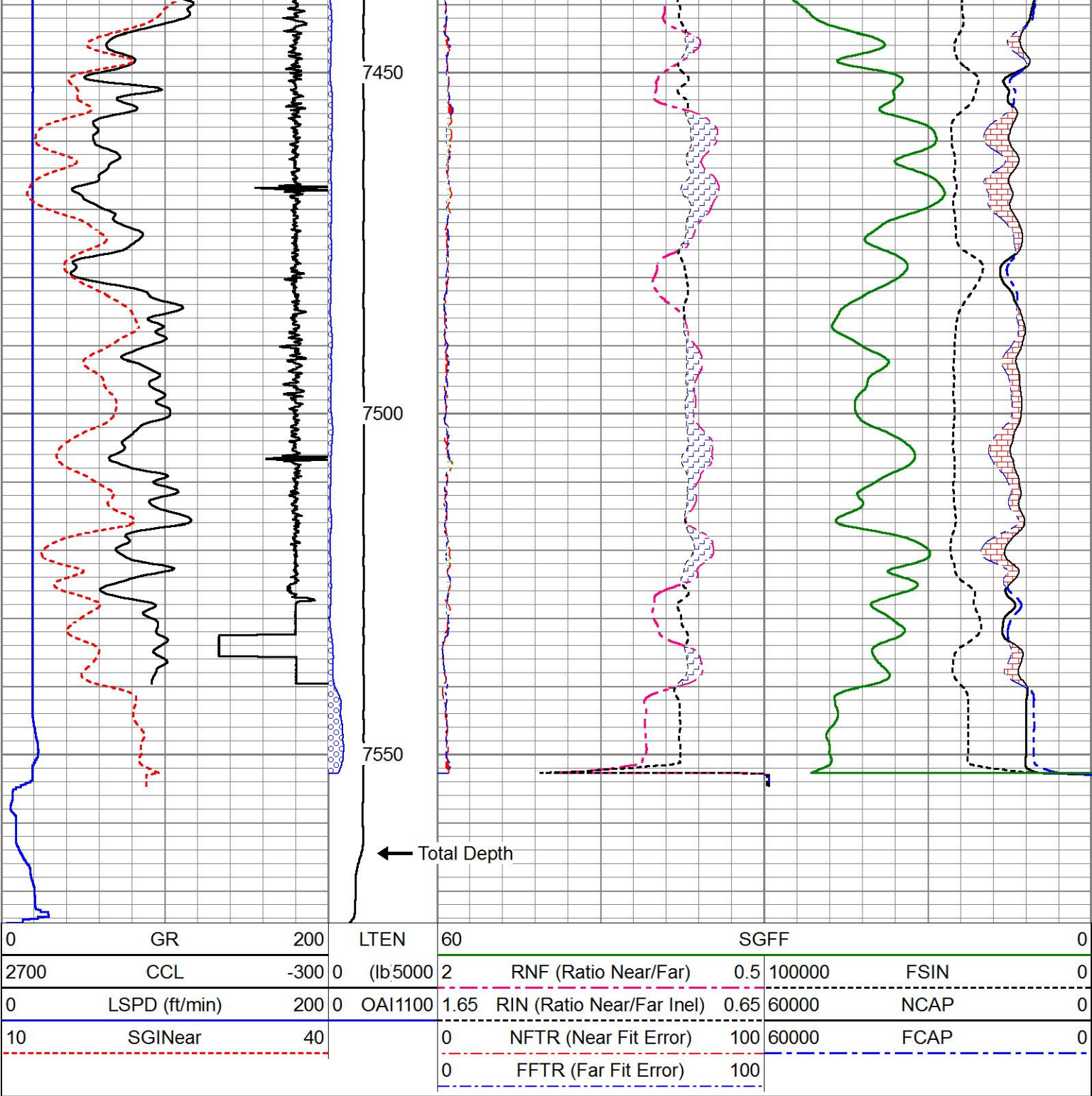












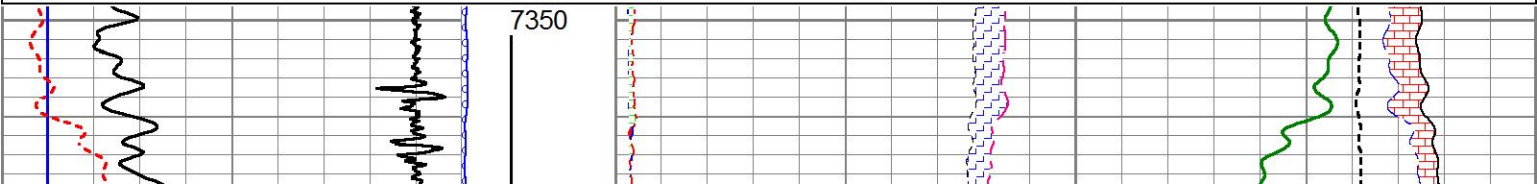
HALLIBURTON

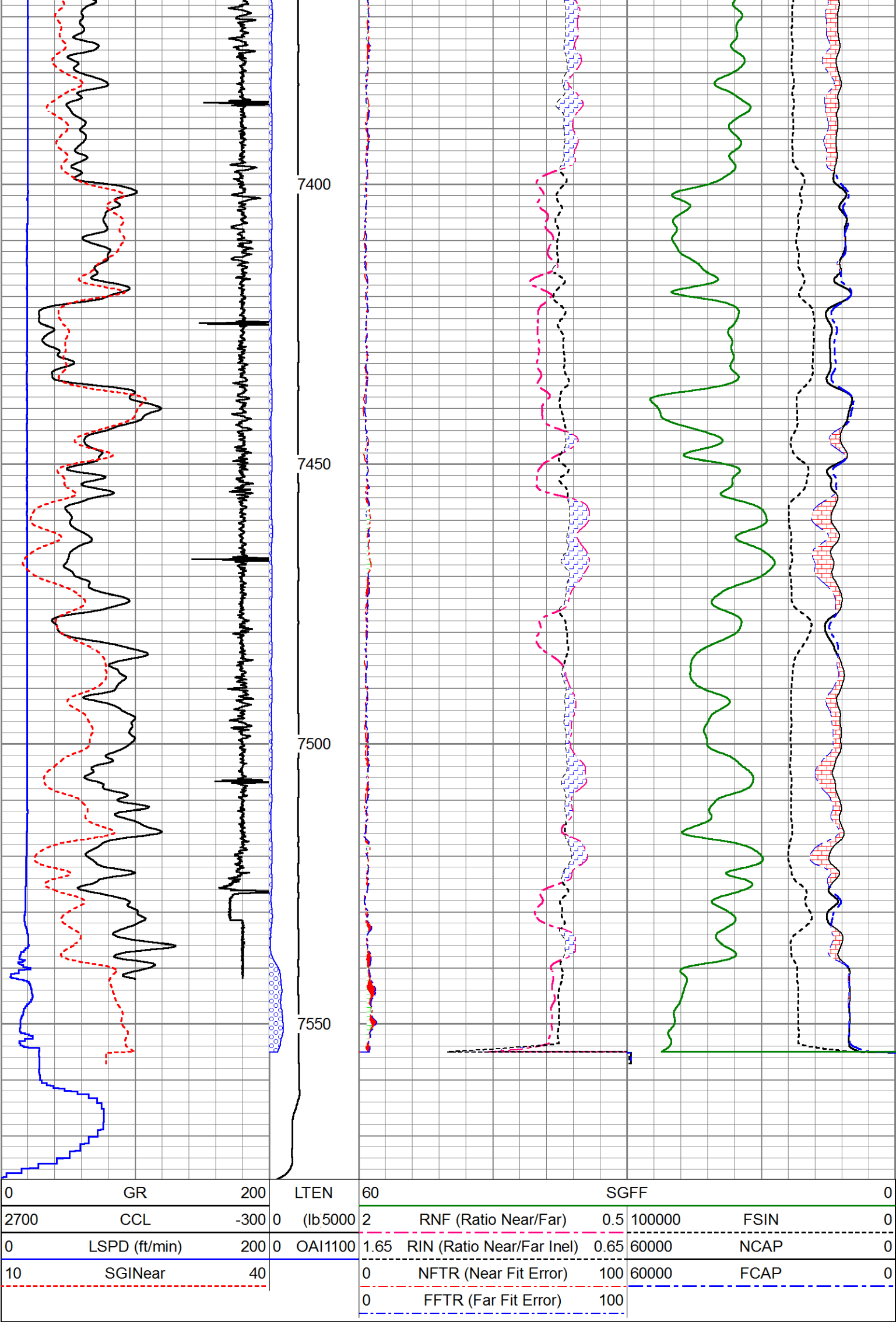
REPEAT PASS

Database File
Dataset Pathname
Presentation Format
Dataset Creation
Charted by

ursa-tom-21c_sigma.db
pass3
!1!!rmt_rmti
Tue Aug 30 15:37:57 2016
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	(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			

Top - Bottom							
BHSAL1 1	BHSAL2 0	BHTEMP_Src TEMP	BITSIZE in 7.875	BORSAL kppm 150	BOTTEMP degF 120	CASED? Yes	CASEID in 5.012
CASEOD in 4.5	CASETHCK in 0.25	CASEWGHT lb/ft 11.6	LTH Sandstone	MSGGN 1	MudWgt lb/gal 8.45	PERFS 0	POROS1 1
POROS2 0	RHOCF 0.25	SO in 0	SRFTEMP degF 0	TDEPTH ft 0	UHSGC NONE	USERFTT usec/ft 0	ZREF MRayl 1.7

Calibration Report			
Database File	ursa-tom-21c3_sigma.db		
Dataset Pathname	pass1		
Dataset Creation	Wed Aug 31 08:02:44 2016		
Cement Bond Log Shop Calibration Report			
Serial-Model:		12091451-A	
Calibration Performed:		Tue Aug 30 10:10:25 2016	
Free Pipe Calibration			
TT	Measured	Units	
	245.6	usec	
Amplitude	573.8	mV	
Log Base Line	7.6	mV	
Calibration References and Gain			
Name	Value	Units	
Pipe O.D.	4.500	in	
Pipe Weight	11.6	lb/ft	
Pipe Ref. Amp.	79.0	mV	
Amp. Gain	0.120		
Reservoir Monitor Tool I Calibration Report			
Serial-Model:		11680597-A	
Shop Calibration Performed:		Sat Aug 27 17:21:57 2016	

Carbon/Oxygen Mode					
Stabilization					
Result	Logged	Expected Value	Diff.	Tol.	Units
GENV	84.00	80.00	4.00	+/-15.00	V
ITCR2	3130	3250	-120	+/-250	cps
Near Detector					
	Channel	Expected Value	Amplitude	FWHM	Tol.
H	60	60 +/-2	0.0278	5.69	<6.00
Fe	207	206 +/-2	0.0967	-----	-----
NGAIN = 0.992	NZOFF = 0.8				
Far Detector					
	Channel	Expected Value	Amplitude	FWHM	Tol.
H	60	60 +/-2	0.0382	5.90	<6.50
Fe	209	208 +/-2	0.0926	-----	-----
FGAIN = 0.992	FZOFF = 0.8				

Flask Temperature	57.6 degF				
Result	Logged	Expected Value	Diff.	Tol.	Units
COIR2	0.44	0.45	-0.01	+/-0.02	
LIRI2	1.37	1.36	0.01	+/-0.05	
TCCR2	3766	4000	-234	+/-1000	cps
ITCR2	3102	3200	-98	+/-250	cps

Sigma Mode					
Stabilization					
Result	Logged	Expected Value	Diff.	Tol.	Units
GENV	84.00	80.00	4.00	+/-15.00	V
FCAP	9744	10000	-256	+/-500	cps
Horizontal Water Tank					
Result	Logged	Expected Value	Diff.	Tol.	Units
N/F Normalizer	0.92	0.95	-0.03		
N/F Inel Norm	0.60	0.61	-0.01		
RNF	1.09	1.07	0.02	+/-0.12	
RINC	1.68	1.64	0.04	+/-0.18	
SGFN	24.13	24.00	0.13	+/-0.50	cu
SGFF	22.93	22.85	0.08	+/-0.50	cu
FSIN	23037	24000	-963	+/-2000	cps
FCAP	9704	10000	-296	+/-1000	cps
NFTR	0.80			<5.00	
FFTR	0.91			<5.00	
NBKG	216			<500	cps
FBKG	105			<500	cps
RTN	0.37	0.40	-0.03	+/-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


Type / Serial:	002 / 12105780
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SHOP CALIBRATION		Wed Aug 17 17:47:54 2016			
	Counts/Sec.	Gain	Offset	Jig	Units
Background	27.8				cps
Calibrator	295.2				cps
		1.3760			GAPI/cps
PRIMARY VERIFICATION					
Background	39.3				cps
Calibrator	407.7				cps
Difference				368.5	GAPI
BEFORE SURVEY VERIFICATION					
Background	0.0				cps
Calibrator	0.0				cps
Difference				0.0	GAPI
AFTER SURVEY VERIFICATION					
Background	0.0				cps

	Calibrator Difference	0.0	0.0	cps GAPI
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Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
CCL	35.78		STNDCH-STND_CH 1.4375 IN CABLE HEAD	1.50	1.44	1.00
GR	33.52		TTTCU-002 (12105780) 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	22.87 22.37		RMTI-A (11680597) Halliburton RMTI Tool	14.00	2.13	77.00
RmtFP5V RmtNFwvMcsP RmtCommFWa	14.62 14.62 14.62		X-OVER-SondexxGo Sondex Box x Go Pin Cross Over	0.31	1.69	1.00
			CENT-CASTM-CENT CAST M INLINE CENTRALIZER	2.16	3.13	25.00
Temp	9.49					
TT3FT AMP3FT WVF5FT	7.24 7.24 6.28		HCBLM-A (12091451) Halliburton HCBLM Tool	9.38	2.75	116.00
WVF3FT	2.76	CENT-CASTM-CENT CAST M INLINE CENTRALIZER	2.16	3.13	25.00	
		AUH-001 (000001) Adaptor Ultrawire/Halliburton	0.38	1.69	3.00	
LLMTEN	0.00	BUL-006 (000002) Bullnose Terminator	0.22	1.69	1.20	

Dataset:	ursa-tom-21c3_sigma.db: field/well/run1/pass1
Total length:	39.35 ft
Total weight:	356.20 lb
O.D.:	3.13 in

	Company	URSA OPERATING CO., LLC.		
	Well	TOMPKINS 21C-08-07-95		
	Field	PARACHUTE		
	County	GARFIELD		
	State	CO	Country	U.S.A.