

GAMMA RAY COLLAR RESERVOIR MONITOR LOG

(GR-RMTI)

Company				URSA OPERATING CO., LLC.				
Well				TOMPKINS 31A-08-07-95				
Field				PARACHUTE				
County				GARFIELD State CO				
Company				URSA OPERATING CO., LLC.				
Well				TOMPKINS 31A-08-07-95				
Field				PARACHUTE				
County				GARFIELD State CO				
API No.: 05045224710000				Serv #: 903507632				
Location:				Other Services				
N/A				GR-CBL				
Sec: 8 Twp: 7S Rge: 95W								
Permanent Datum				G.L.		Elevation 5532.0'		
Log Measured From				K.B. , 17.0 Ft. above perm. datum		K.B. 5549.0'		
Drilling Measured From				K.B.		D.F. ----- G.L. 5532.0'		
Date @ Time Logged				8/30/2016		Type Fluid in Hole WATER		
Run No.				ONE		Density of Fluid 8.45#		
Depth - Driller				7028' E.D.		Fluid Level SURFACE		
Bottom - Logged Interval				6996' 6990'		Cement Top Est. Logged N/A		
Top - Log Interval				3600'		Equipment / Location 11591000 / BKSFD		
Max. Recorded Temp.				N/A		Recorded by DAN DUTY		
CEMENTING DATA				Surface		Witnessed by MR. O. MOLINAR		
Date / Time Cemented				String		Protection String		
Primary / Squeeze								
Expected Compressive Strength				psi@ hrs		psi@ hrs		
Cement Volume								
Cement Type / Weight				/		/		
Formulation								
Mud Type / Mud Wgt.				/		/		
Borehole Record				Casing & Tubing Record				
Run Number		Bit	From	To	Size	Weight	From	To
ONE		24.0"	SURF	77'	16.0"	75.5#	SURF.	77'
TWO		12.25"	77'	1758'	8.625"	32.0#	SURF.	1758'
THREE		7.875"	1758'	7069'	4.5"	11.6#	SURF.	7069'
					FLOAT	COLLAR		7028'

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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.	903507632	API No.	045-22471	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	

ONE	6990'	6790'	0 PSI	20'	REPEAT			
TWO	6990'	3600'	0 PSI	20'	MAIN			
	GAMMA							
Pass	Scale		Scale		Scale		Scale	
No.	L	R	L	R	L	R	L	L
1-3	0	200						
4	0	200						
DIRECTIONAL INFORMATION								
Maximum Deviation			deg. @		KOP			

<div>HALLIBURTON</div>	Company	URSA OPERATING CO., LLC.		
	Well	TOMPKINS 31A-08-07-95		
	Field	PARACHUTE		
	County	GARFIELD		
	State	CO		Country U.S.A.

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MAIN PASS

Database File

ursa-tom-31a_sigma2.db

Dataset Pathname

pass3

Presentation Format

!1!!rmt_rmti

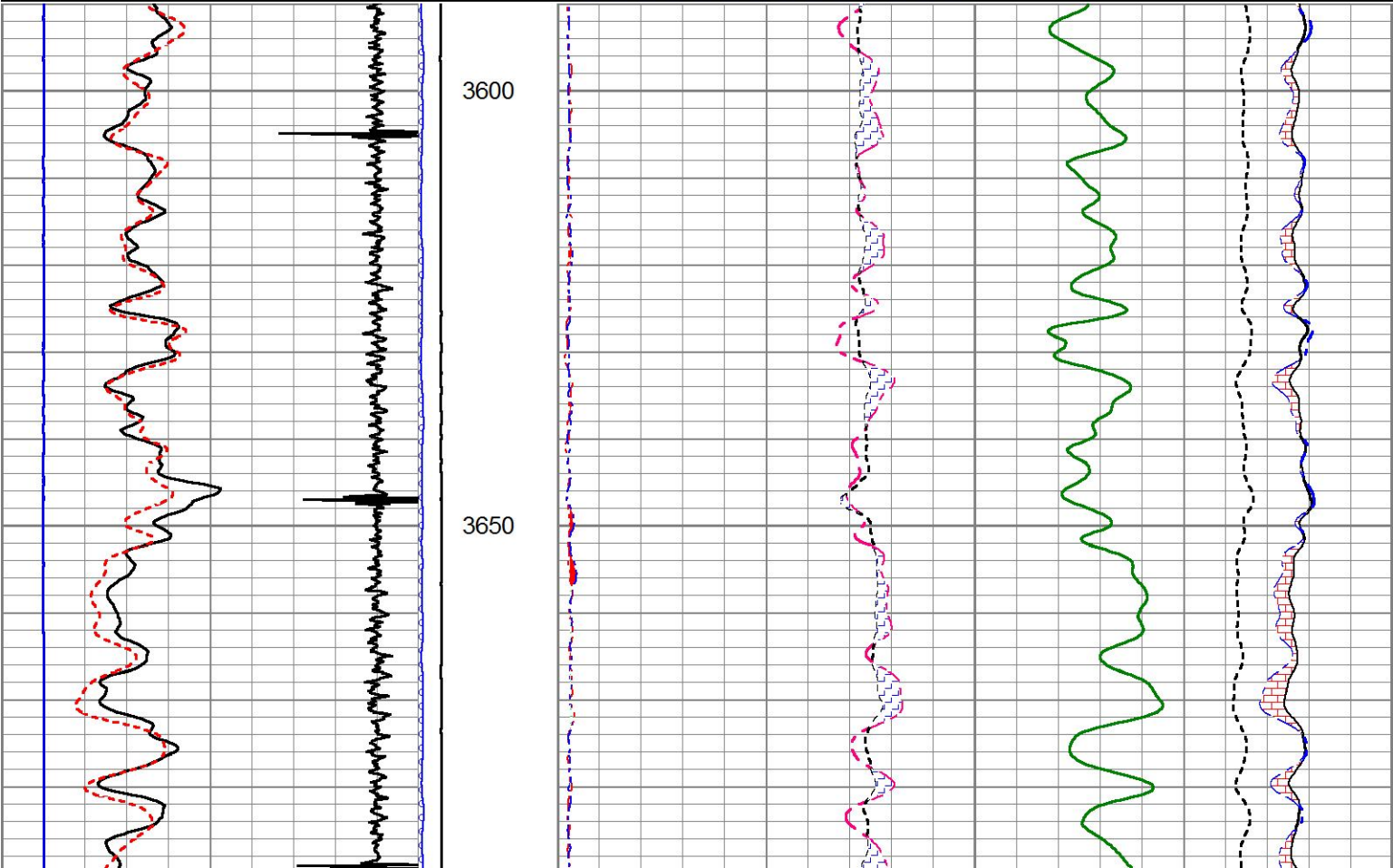
Dataset Creation

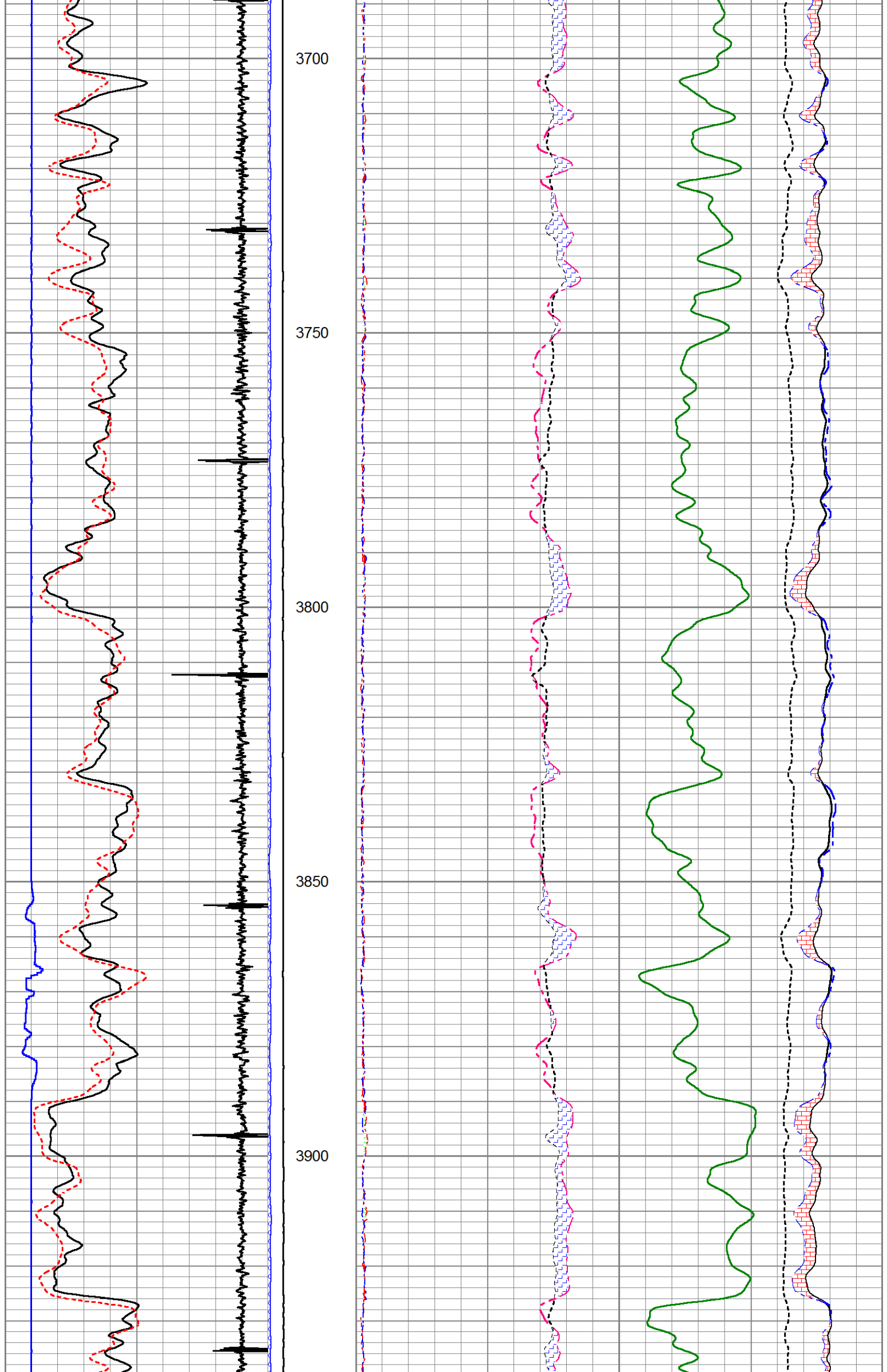
Tue Aug 30 10:47:23 2016

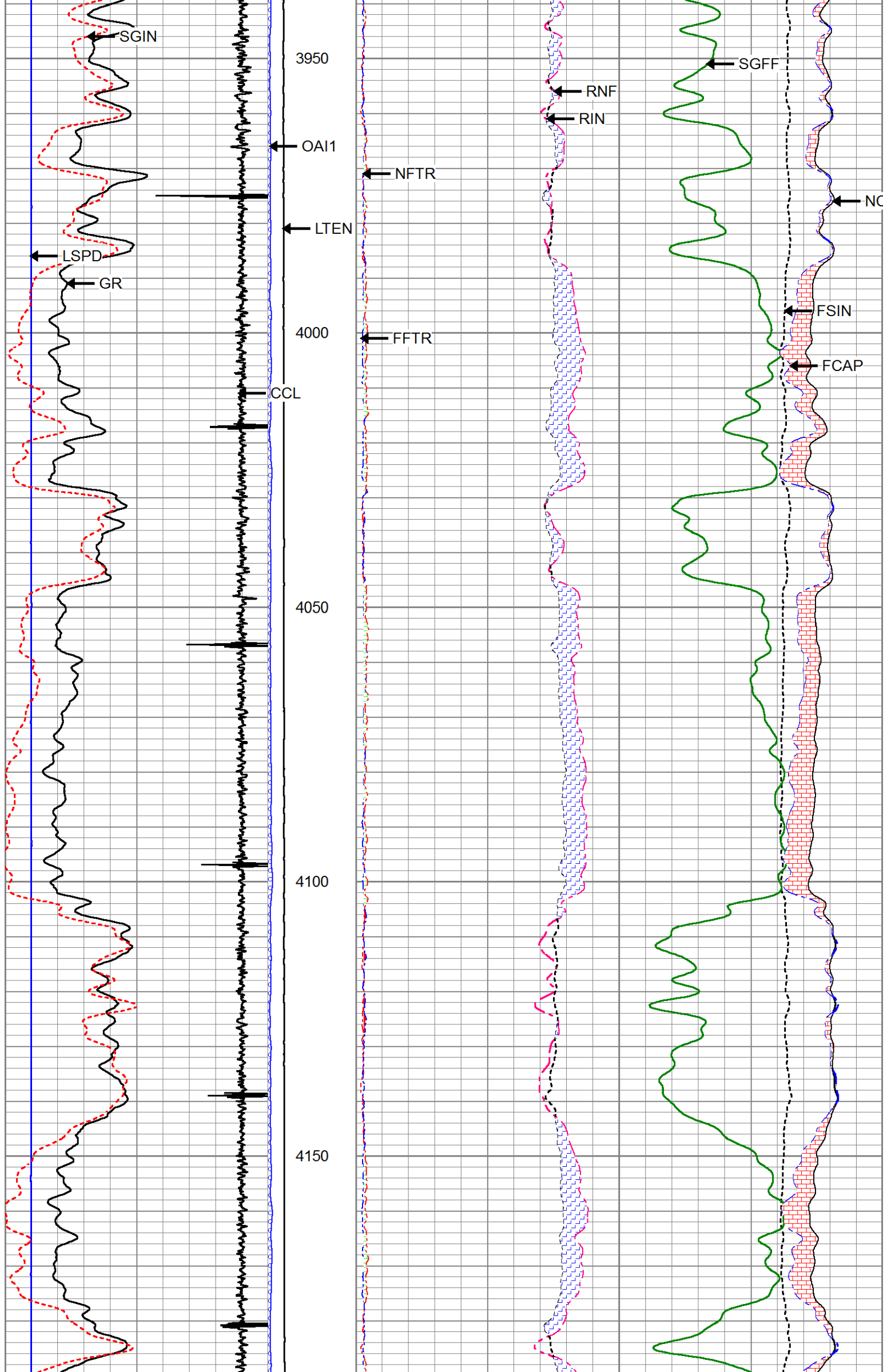
Charted by

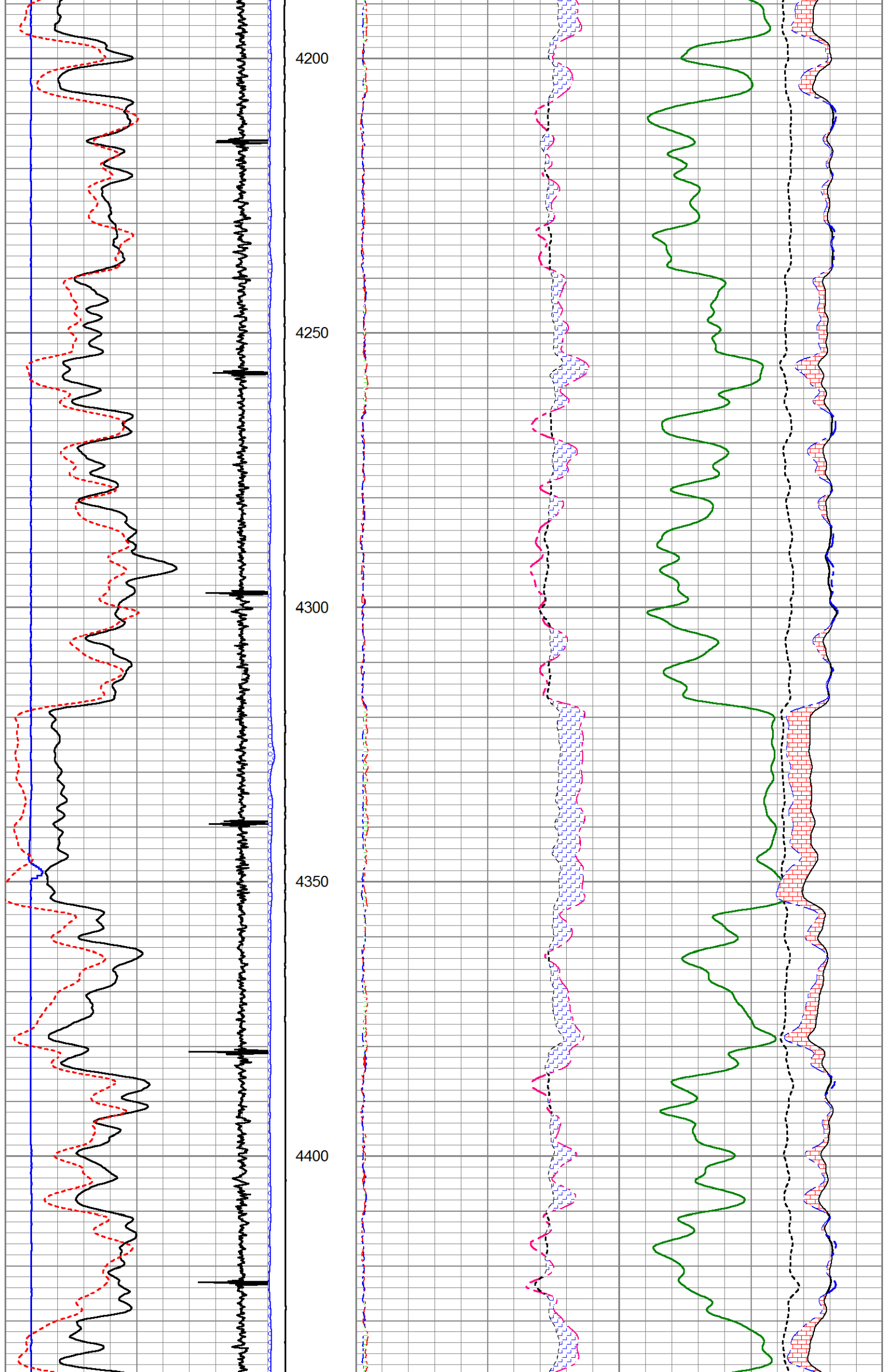
Depth in Feet scaled 1:240

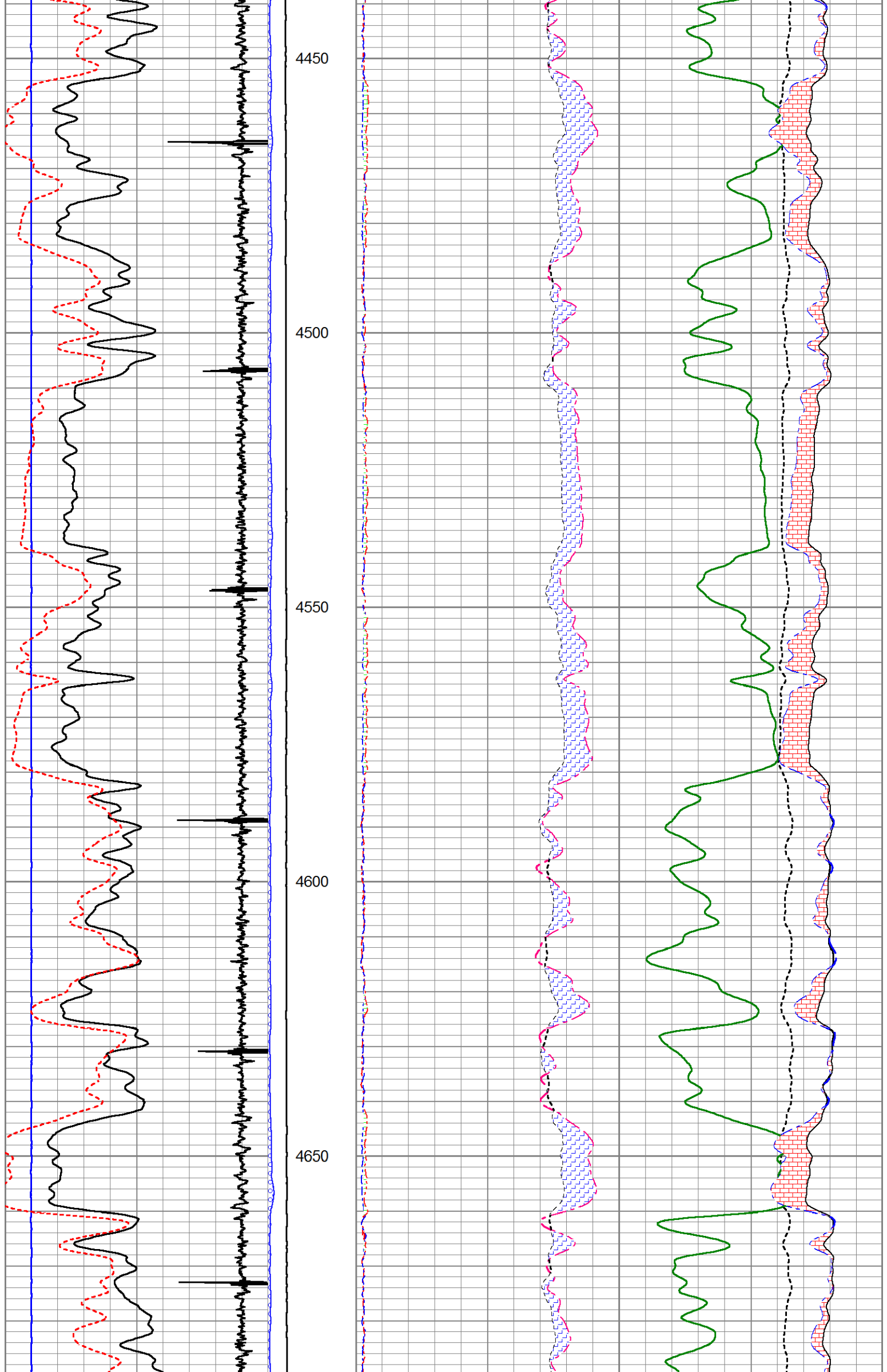
0	GR	200	LTEN	60	SGFF				0
2700	CCL	-300	0 (lb/5000	2	RNF (Ratio Near/Far)	0.5	100000	FSIN	0
0	LSPD (ft/min)	200	0 OAI1100	1.65	RIN (Ratio Near/Far Incl)	0.65	60000	NCAP	0
10	SGINear	40		0	NFTR (Near Fit Error)	100	60000	FCAP	0
				0	FFTR (Far Fit Error)	100			

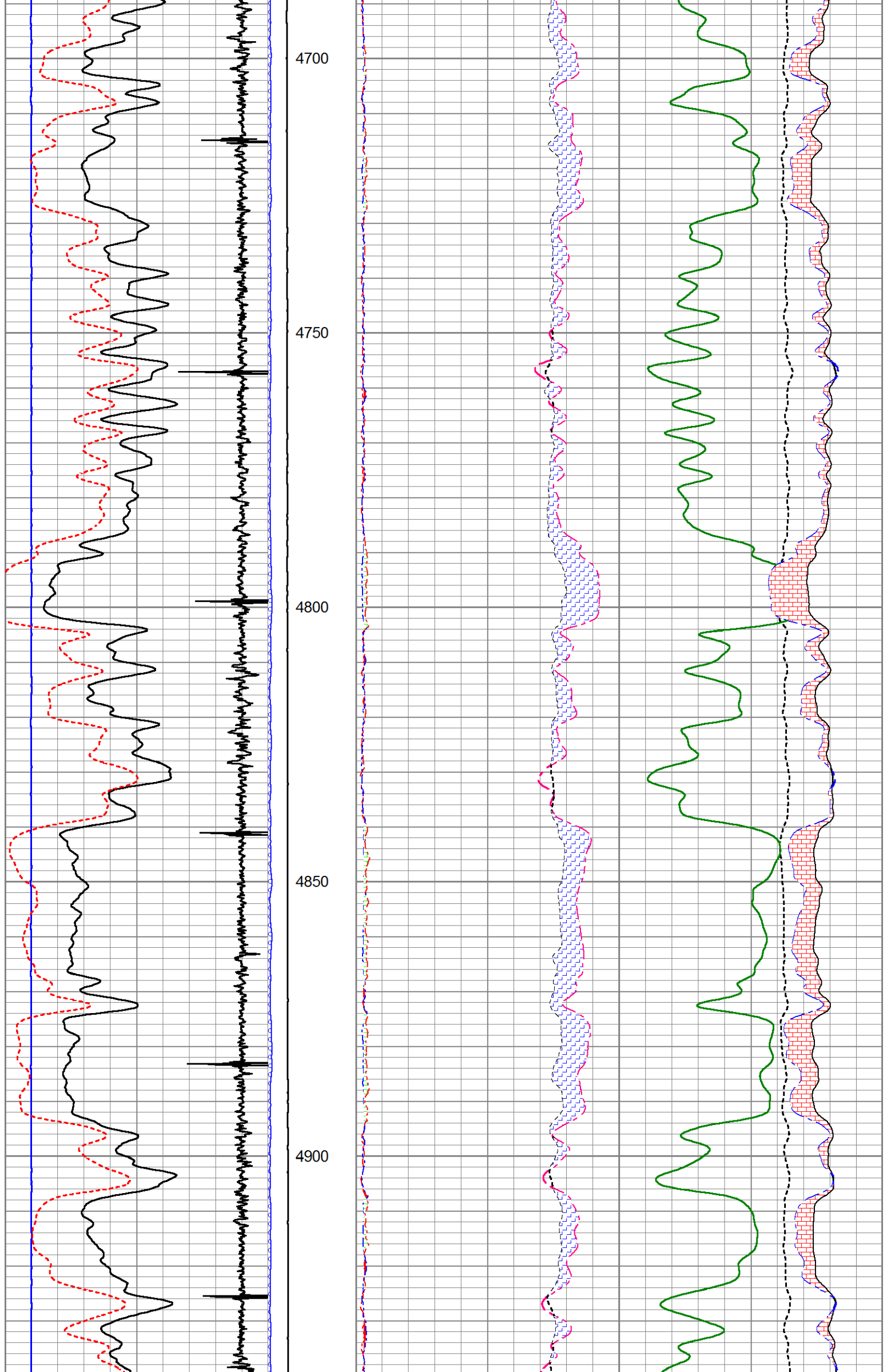


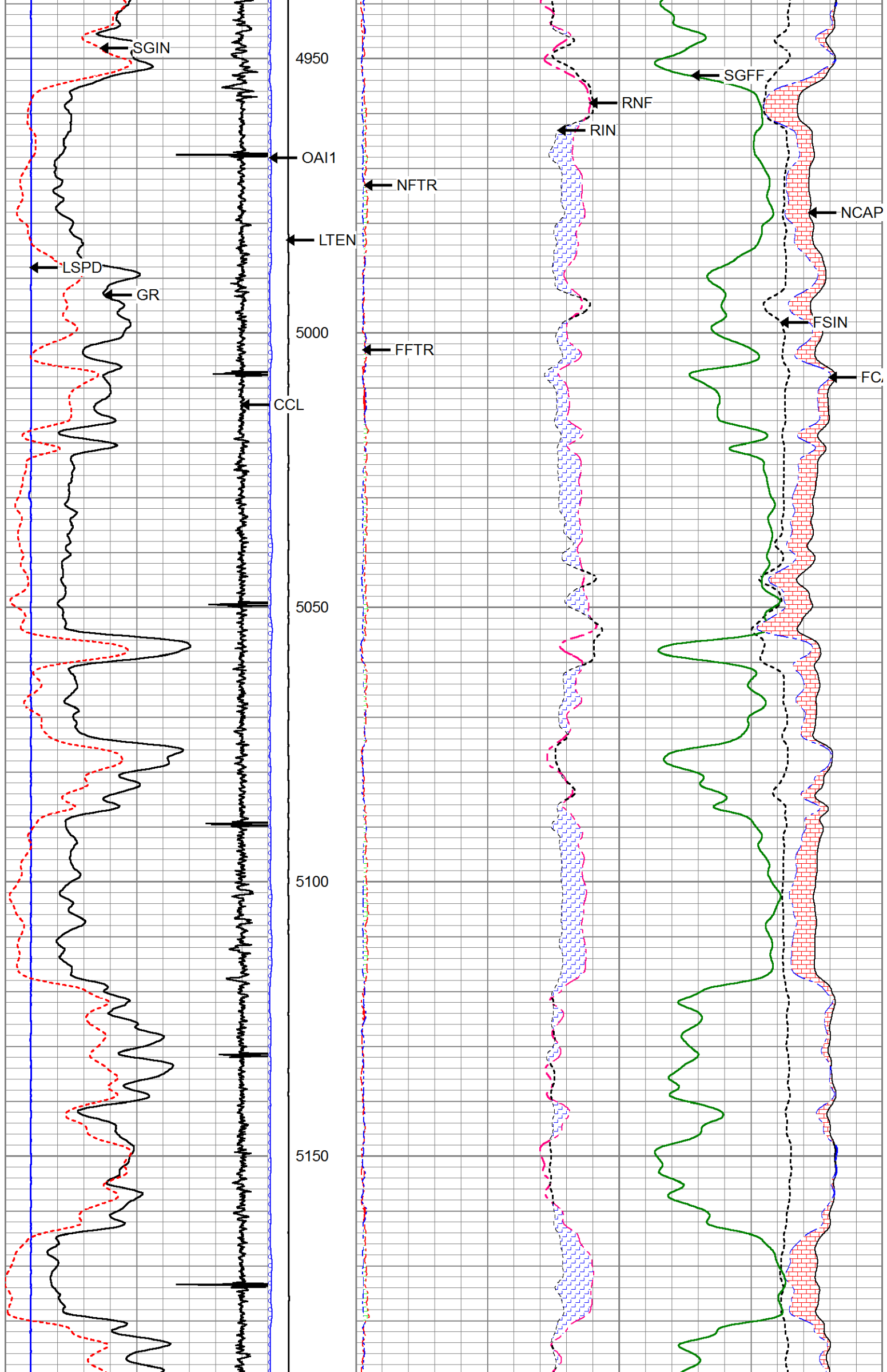


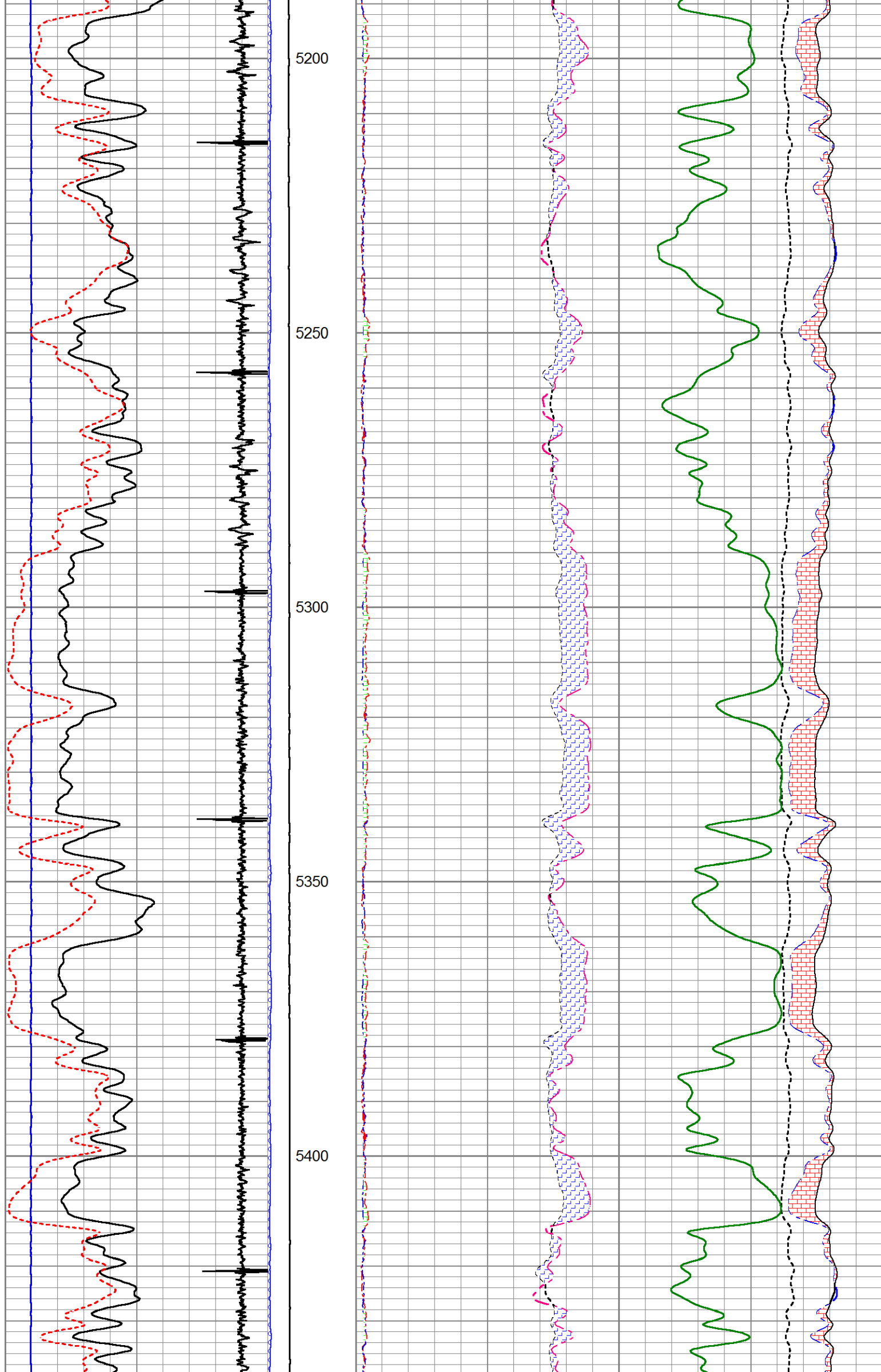


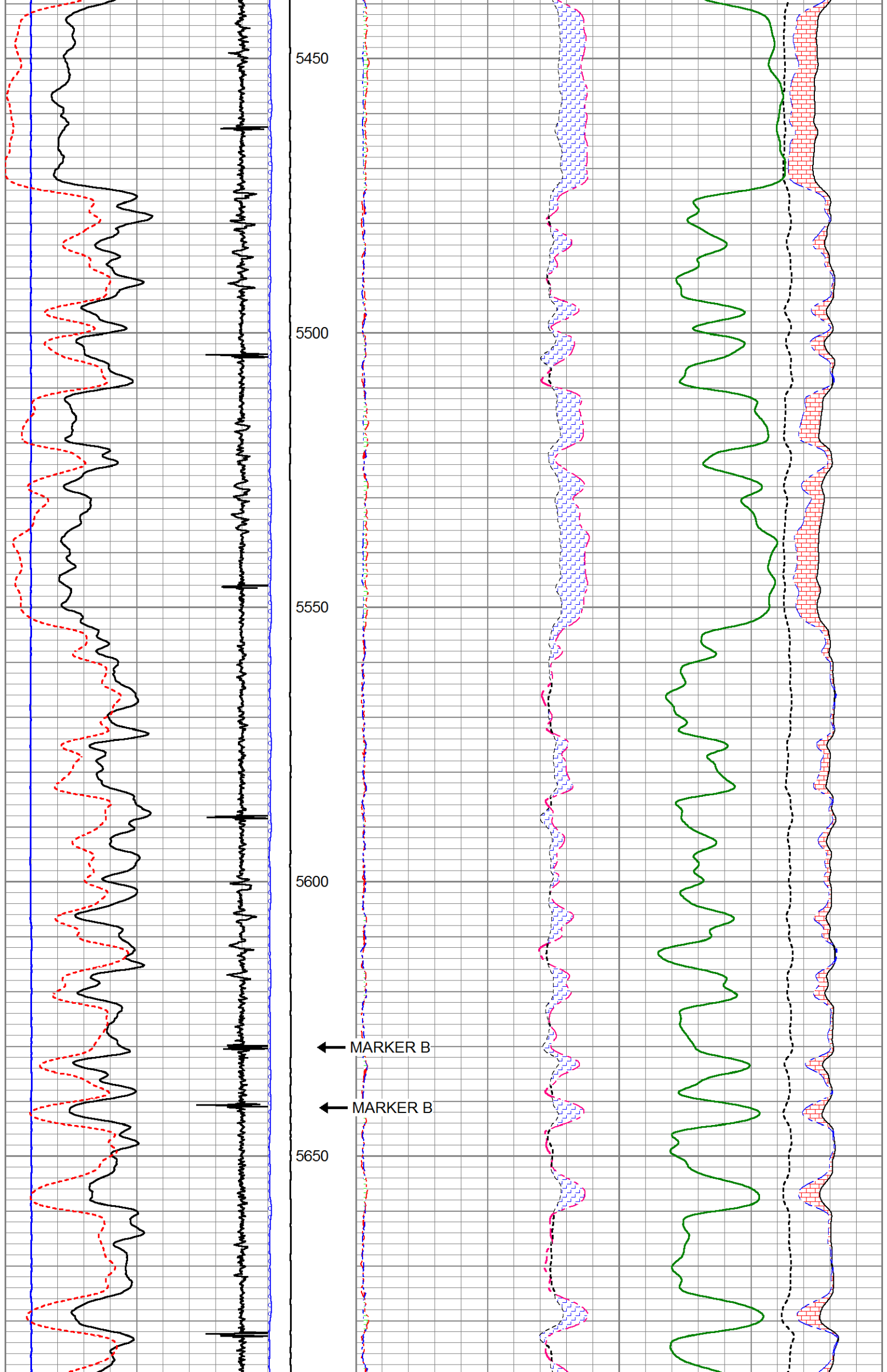


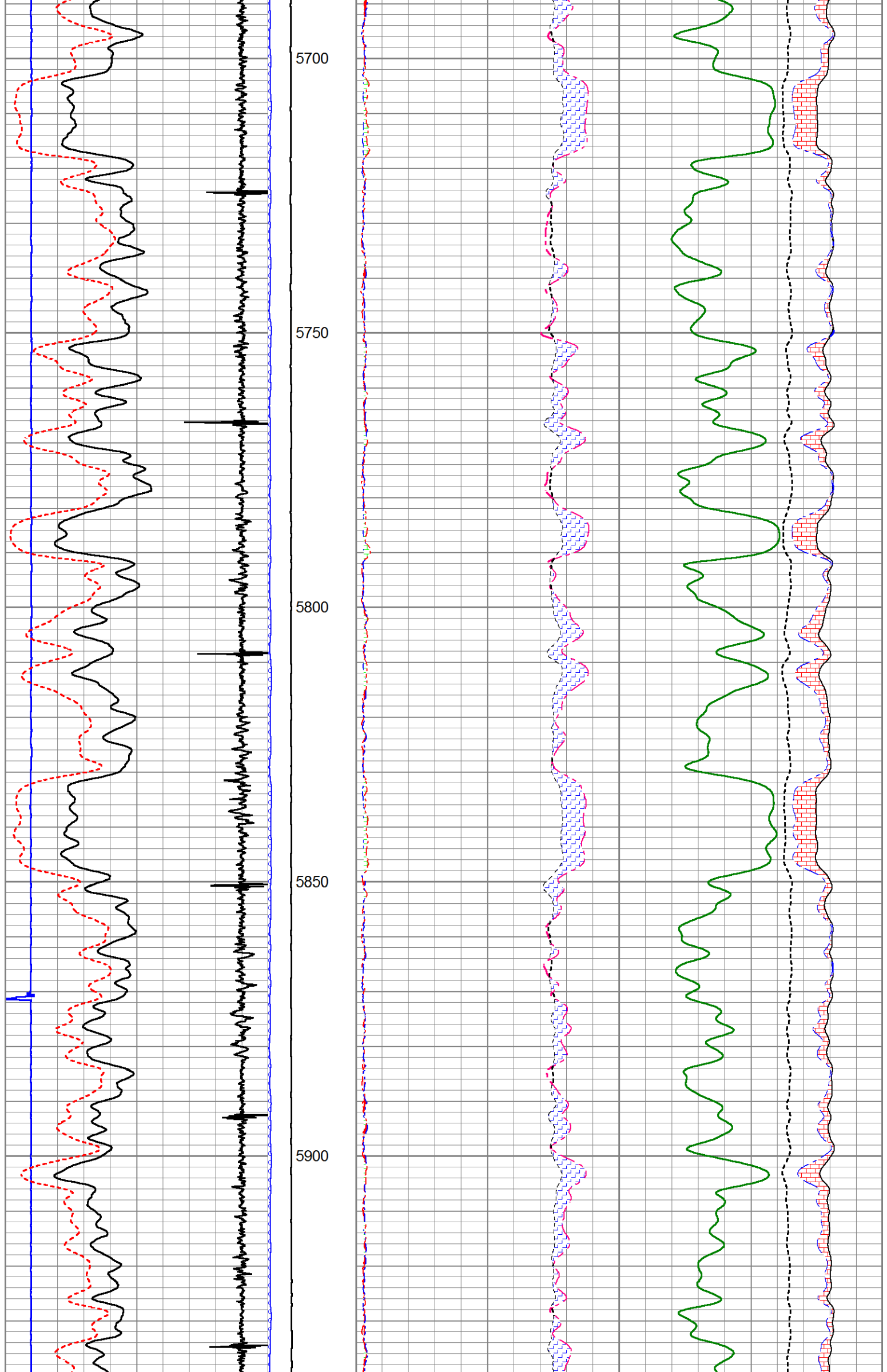


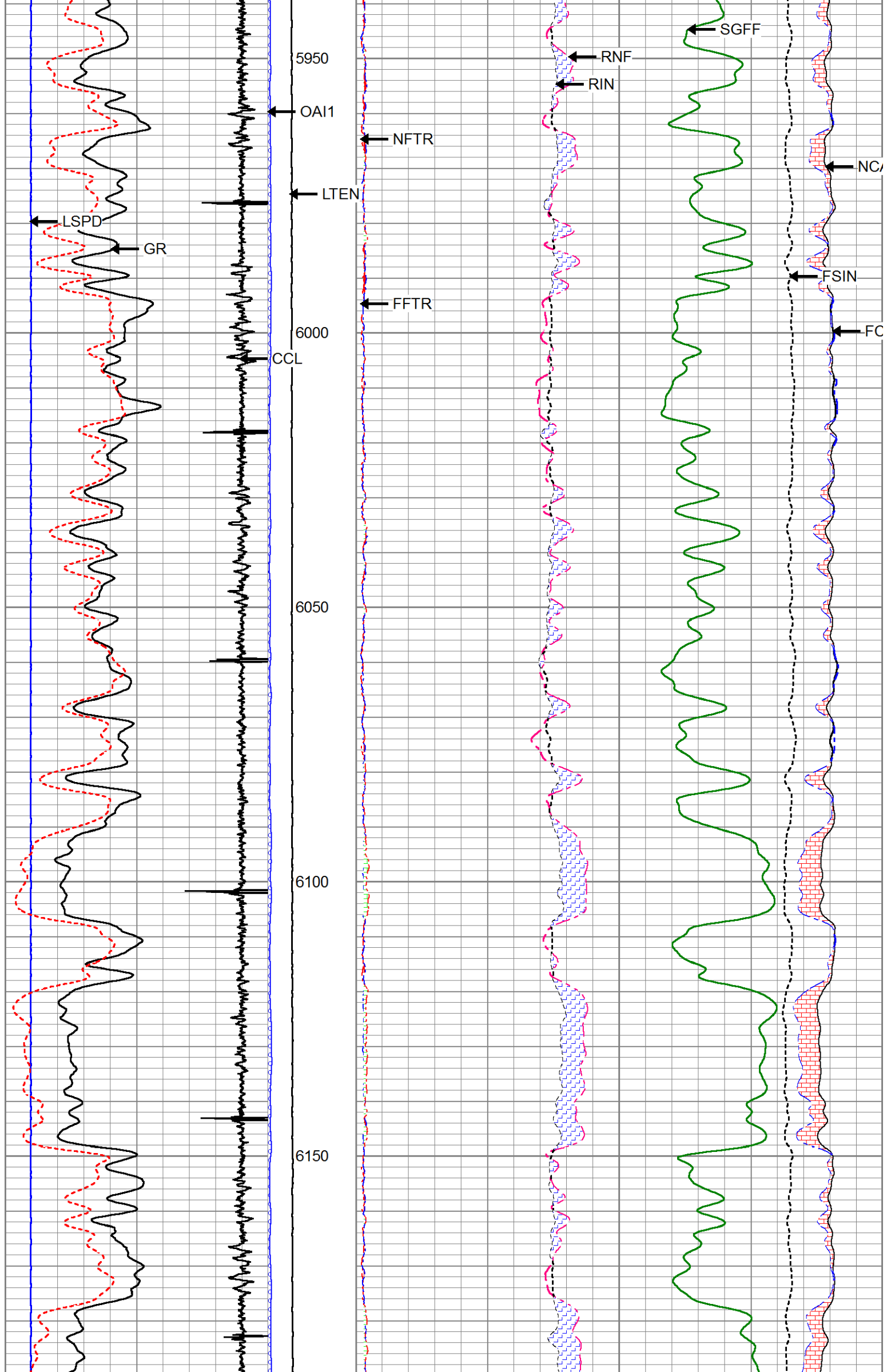


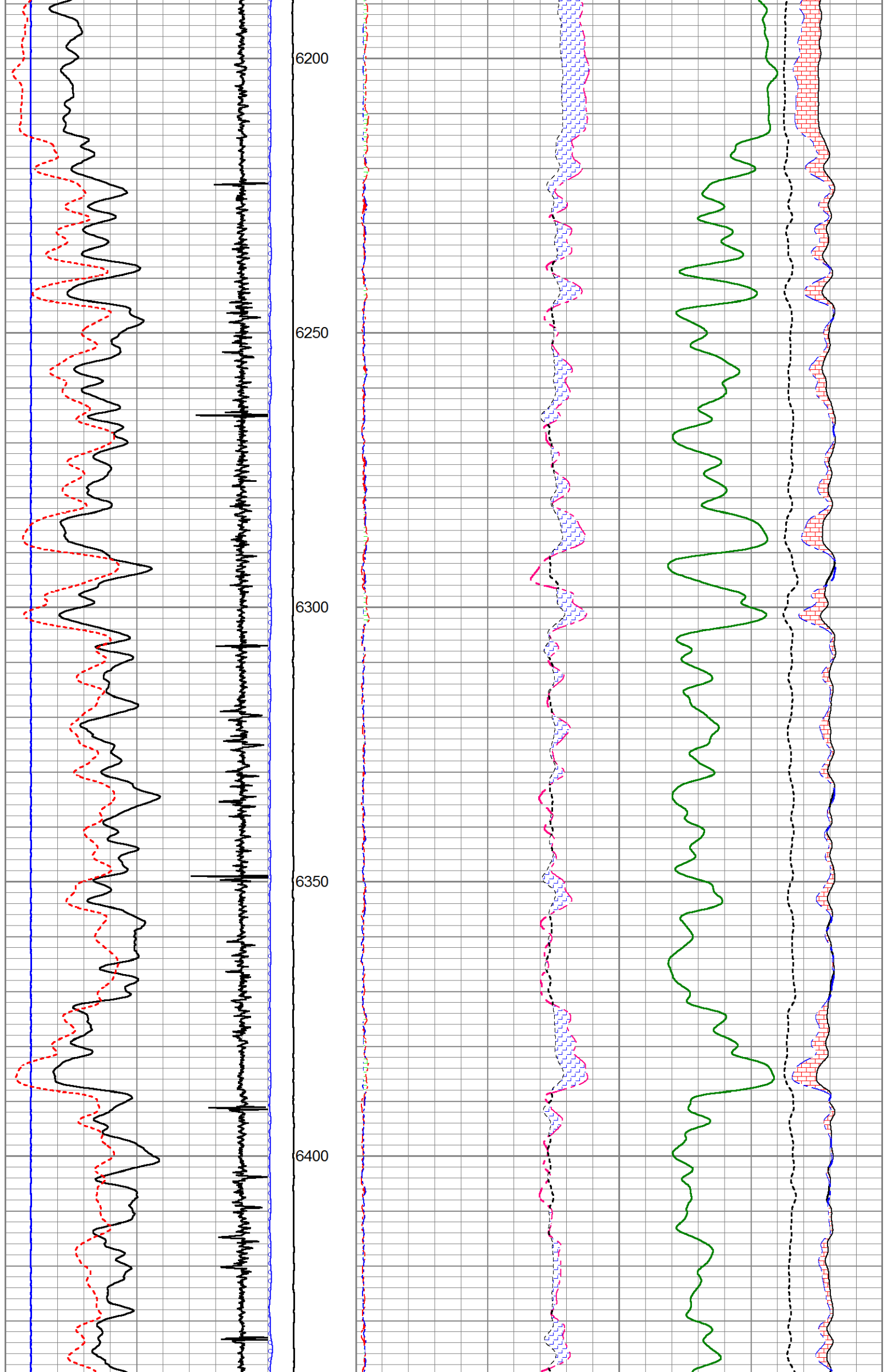


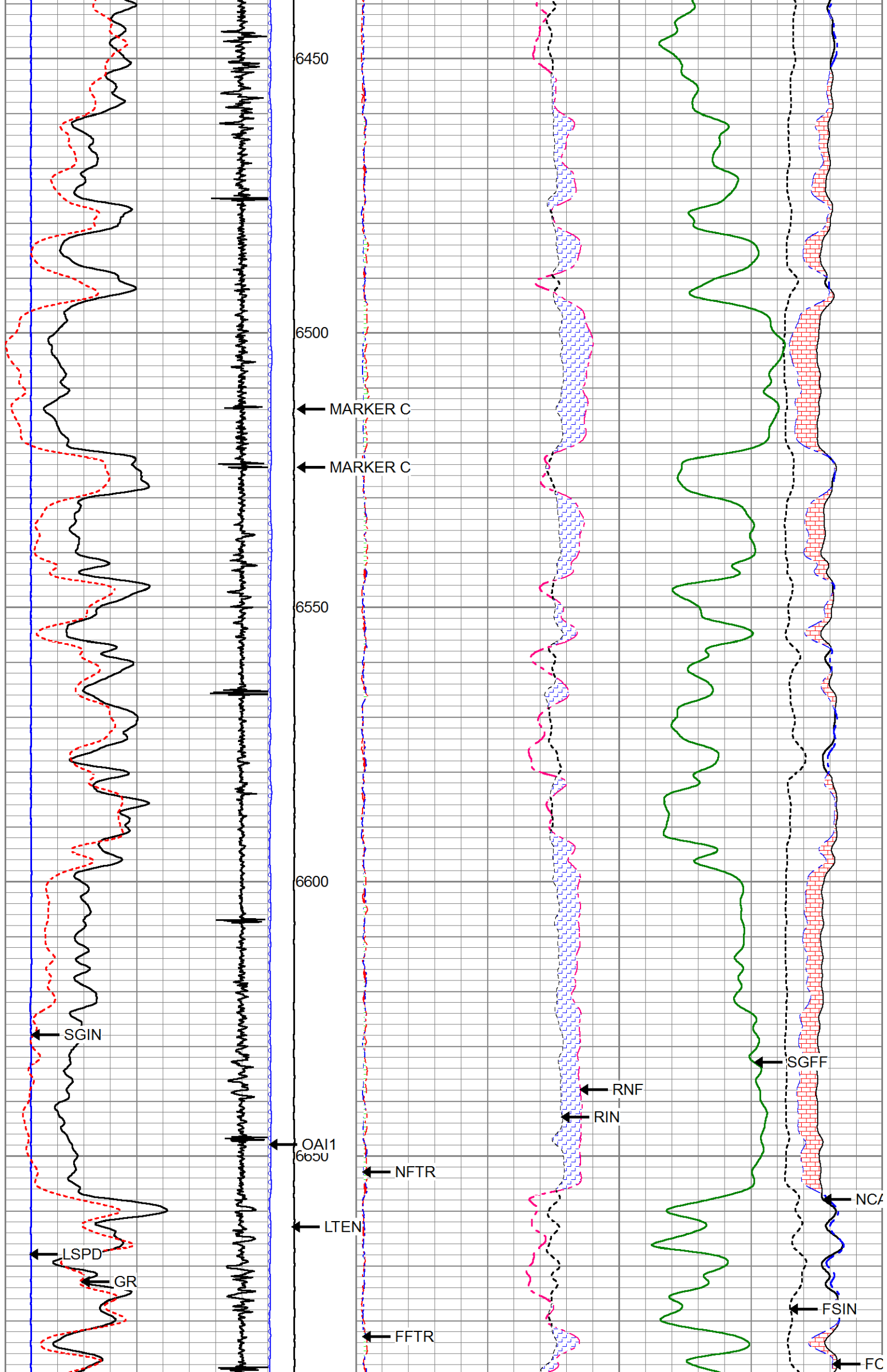


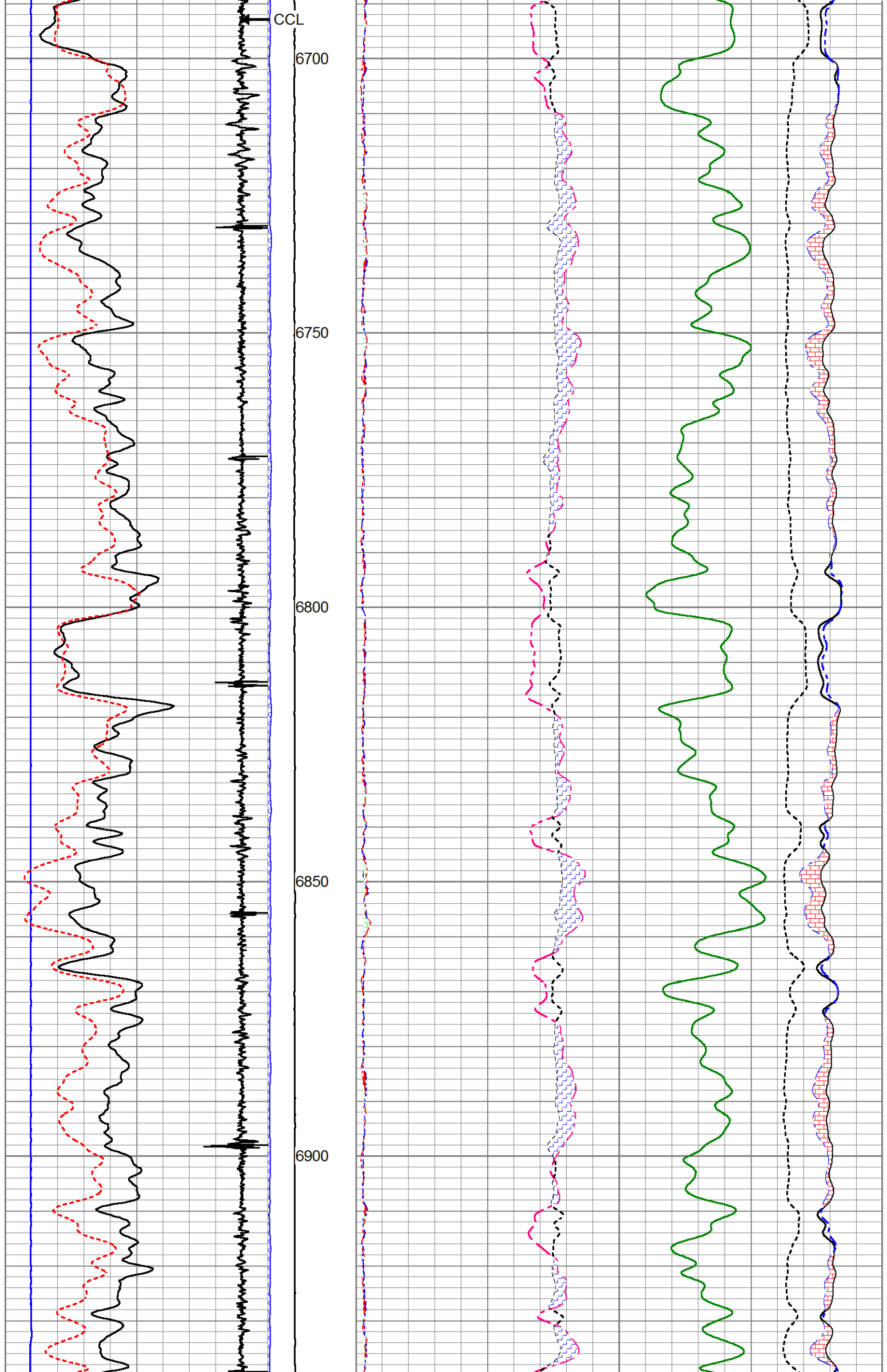


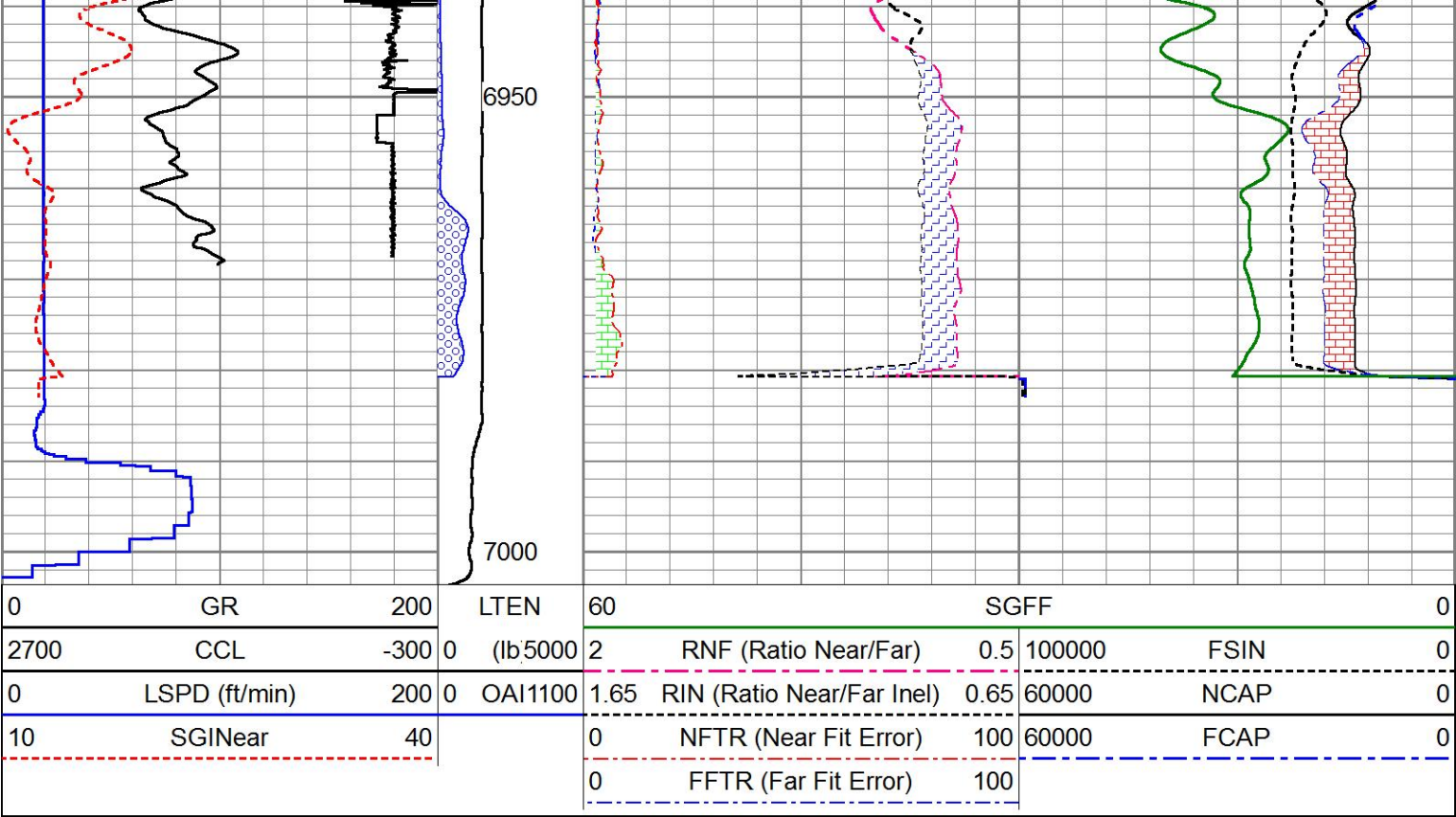












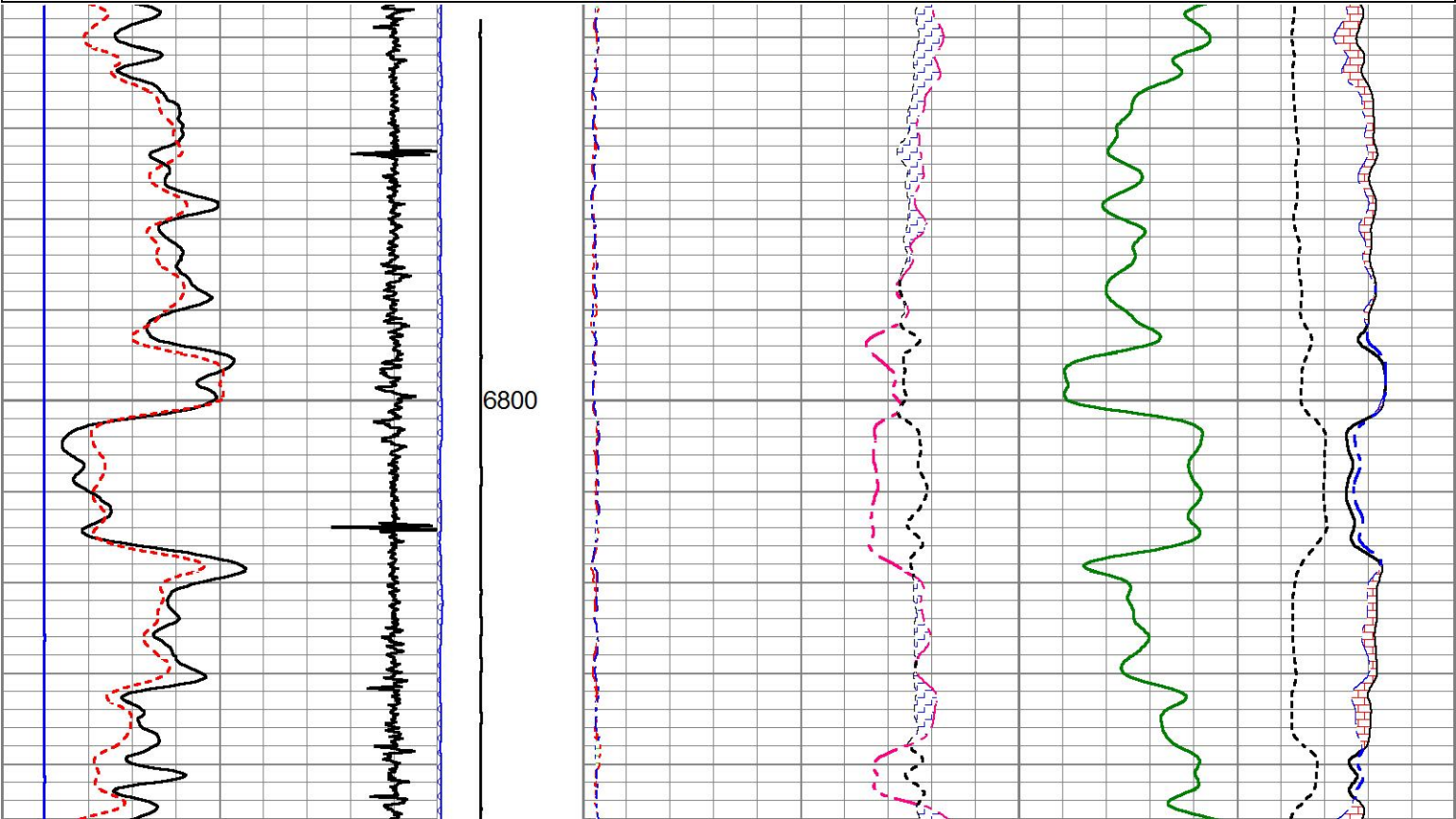
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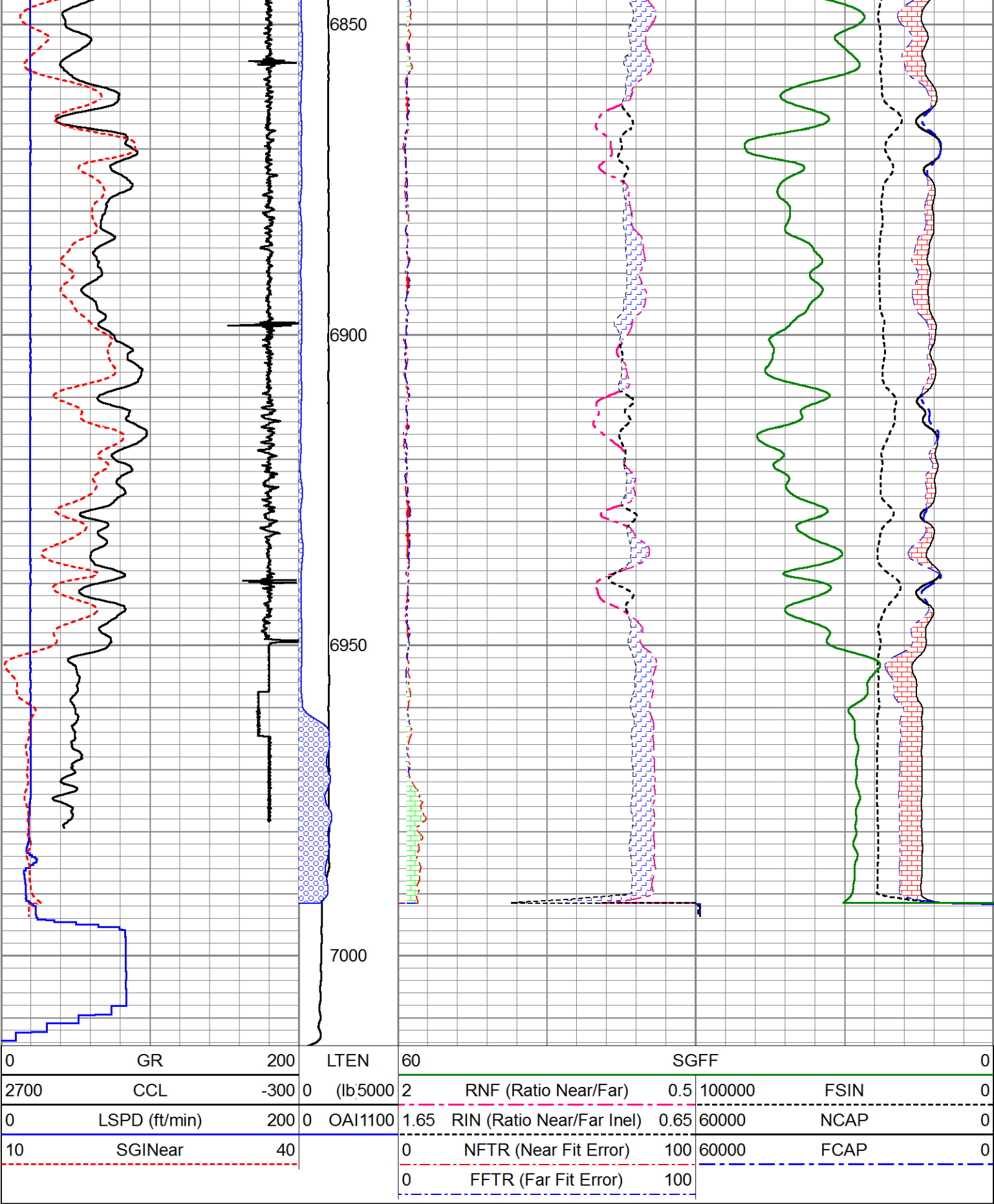
REPEAT PASS

Database File
Dataset Pathname
Presentation Format
Dataset Creation
Charted by

ursa-tom-31a_sigma2.db
pass2
!1!!rmt_rmti
Tue Aug 30 10:33:37 2016
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			





Log Variables

DatabaseD:\Warrior_data\ursa-tom-31d_sigmacbl.db
Dataset field/well/run1/pass5/_vars_


Top - Bottom

BHSAL1	BHSAL2	BHTEMP_Src	BITSIZE in	BORSAL kppm	BOTTEMP degF	CASED?	CASEID in
1	0	TEMP	7.875	150	120	Yes	5.012
CASEOD in	CASETHCK in	CASEWGHT lb/ft	LTH Sandstone	MSGGN	MudWgt lb/gal	PERFS	POROS1
4.5	0.25	11.6		1	8.45	0	1
POROS2	RHOCF	SO in	SRFTEMP degF	TDEPTH ft	UHSGC	USERFTT usec/ft	ZREF MRayl

0	0.25	0	0	0	NONE	0	1.7
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Database File		ursa-tom-31a_sigma2.db		Calibration Report	
Dataset Pathname		pass2			
Dataset Creation		Tue Aug 30 10:33:37 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	245.6	Units		
Amplitude		573.8	usec		
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					
H	Channel	Expected Value	Amplitude	FWHM	Tol.
Fe	60	60 +/-2	0.0278	5.69	<6.00
NGAIN = 0.992	207	206 +/-2	0.0967	----	----
Far Detector					
H	Channel	Expected Value	Amplitude	FWHM	Tol.
Fe	60	60 +/-2	0.0382	5.90	<6.50
FGAIN = 0.992	209	208 +/-2	0.0926	----	----
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

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			
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	0.0				cps
Difference				0.0	GAPI

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	22.87		RMTI-A (11680597) Halliburton RMTI Tool	14.00	2.13	77.00
RmtTNGT	22.37					
RmtFP5V	14.62		X-OVER-SondexxGo	0.31	1.69	1.00
RmtNFwvMcsPI	14.62		Sondex Box x Go Pin Cross Over			
RmtCommFWa	14.62		CENT-CASTM-CENT CAST M INLINE CENTRALIZER	2.16	3.13	25.00
Temp	9.49		HCBLM-A (12091451) Halliburton HCBLM Tool	9.38	2.75	116.00
TT3FT	7.24					
AMP3FT	7.24					
WVF5FT	6.28		CENT-CASTM-CENT CAST M INLINE CENTRALIZER	2.16	3.13	25.00
WVF3FT	2.76					
LLMTEN	0.00					
			AUH-001 (000001) Adaptor Ultrawire/Halliburton	0.38	1.69	3.00
			BUL-006 (000002) Bullnose Terminator	0.22	1.69	1.20
Dataset: ursa-tom-31a_sigma2.db: field/well/run1/pass3 Total length: 39.35 ft Total weight: 356.20 lb O.D.: 3.13 in						

<div>HALLIBURTON</div>	Company	URSA OPERATING CO., LLC.
	Well	TOMPKINS 31A-08-07-95
	Field	PARACHUTE
	County	GARFIELD

	State	CO	Country	U.S.A.
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