

HALLIBURTON

RESERVOIR MONITOR TOOL - ELITE

Company URSA OPERATING CO., LLC.
 Well WATSON RANCH B 33C-17-07-95
 Field PARACHUTE
 County GARFIELD State CO

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API No.: 05-045-22802-0000 Serv. #: 902452078
 Location: SURFACE HOLE LOCATION:
 1069' FSL & 1890' FWL
 BOTTOM HOLE LOCATION:
 1828' FSL & 1996' FEL

Sec: 17 Twp: 07S Rge: 95W
 GROUND LEVEL Elevation 5585'
 KB, 17 Ft. above perm. datum
 KB
 Elevation
 K.B. 5602'
 D.F. 5601'
 G.L. 5585'

Other Services
 GAUGE RING
 CBL

Permanent Datum	GROUND LEVEL		Elevation	5585'	WATER		
Log Measured From	KB		17 Ft. above perm. datum		K.B. 5602'		
Drilling Measured From	KB				D.F. 5601'		
	KB				G.L. 5585'		
Date @ Time Logged	04 JUNE 2015		Type Fluid in Hole	WATER			
Run No.	ONE		Density of Fluid	8.4#			
Depth - Driller	7108'		Fluid Level	FULL			
Depth - Logger	6900'		Cement Top Est. Logged	N/A			
Bottom - Logged Interval	6900'		Equipment / Location	10971668 / G.J.			
Top - Log Interval	3629'		Recorded by	D. SOLIS			
Max. Recorded Temp.	214 DEG F		Witnessed by	R. TOLLE			
CEMENTING DATA	Surface	String	Protection	Production	Liner		
Date / Time Cemented	N/A		String	N/A		N/A	
Primary / Squeeze	N/A		String	N/A		N/A	
Expected Compressive Strength	psi@ hrs		psi@ hrs	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	12.25"	SURFACE	1789'	8.625"	32.0#	SURFACE	1789'
TWO	7.875"	1789'	7108'	4.5"	11.6#	SURFACE	7108'

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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

HES CBL LOG DATED: 04 JUNE 2015 IS THE PRIMARY DEPTH REFERENCE FOR THIS WELL.

GR-RMT-CBL RAN IN COMBINATION.

LOG INTERVALS PER CUSTOMER REQUEST.

SHORT JOINTS @: 2988' - 2998', 5518' - 5528', AND 6412' - 6422'.

THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES.

Service Ticket No. 902452078 API No. 05-045-22802-0000 PGM Ver 14.11.12001

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

EQUIPMENT DATA

TELEMETRY		CEMENT BOND TOOL		RESERVOIR MONITOR TOOL	
Run No.	ONE	Run No.	ONE	Run No.	ONE
Serial No.	11224503	Serial No.	11002214	Serial No.	12095949
Model No.	TTTC-U-002	Model No.	RBT-004	Model No.	RMTI-A
Diameter	1.688"	Diameter	3.125"	Diameter	2.125"

LOGGING DATA

General Data

Pass	Depths		Well Head	Speed	Logging Run Comments
No	From	To	Pressure	Ft/Min	

ONE	6900'	3629'	0	25	MAIN LOG SECTION			
	GAMMA RAY		NEAR BORE SI (SGBN)		RATIO (RNF)		SGIN	
Pass	Scale		Scale		Scale		Scale	
No.	L	R	L	R	L	R	L	L
ONE	0	200	200	0	2	0.5	60	0
DIRECTIONAL INFORMATION								
Maximum Deviation	N/A	deg. @	N/A	KOP	N/A			

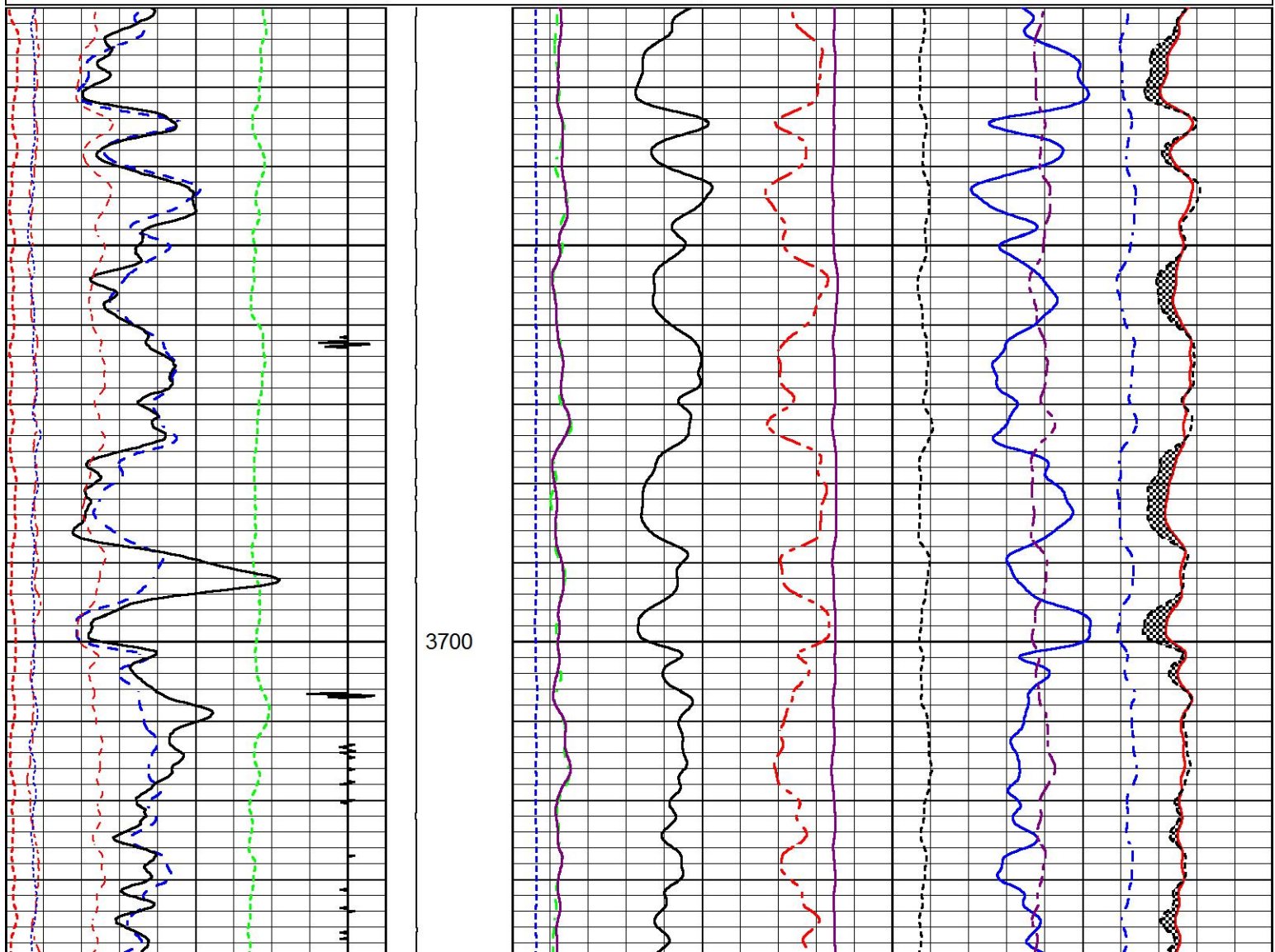
MAIN LOG SECTION

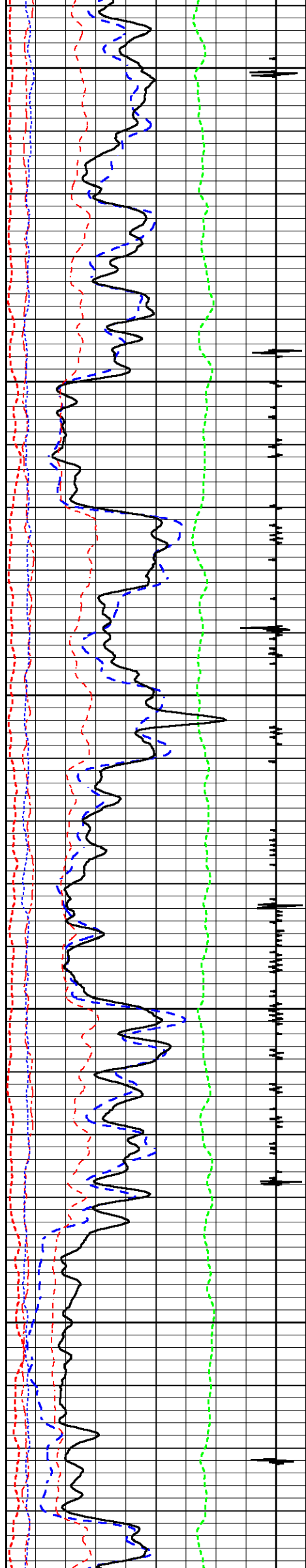
HALLIBURTON

5" = 100'

Database File watson_b_33c_combo.db
 Dataset Pathname MAIN1
 Presentation Format RMTE_M~1
 Dataset Creation Thu Jun 04 13:55:08 2015
 Charted by Depth in Feet scaled 1:240

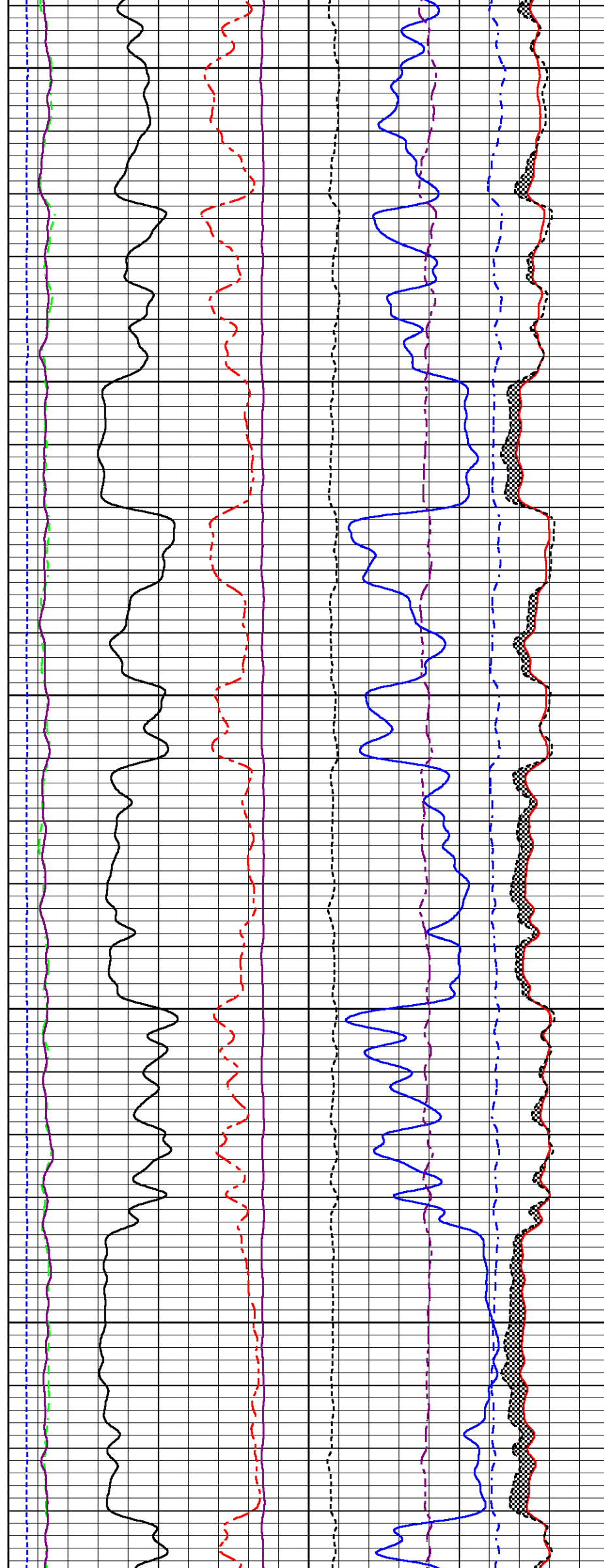
200	Near Bore Si (SGBN)	0	TENSION	60	SGIN	0
0	OAI	100		2	RATIO (RNF)	0.5 60000 Near Counts (NCAP)
10	FAR FIT ERR (SGFF)	40		0	RIN	15 60000 Far Counts (FCAP)
0	GAMMA RAY (GAPI)	200		0	RICF	6 100000 FAR INTEL CT (FSIN)
0	NEAR FIT ERR (SGFN)	100		0	H YIELD (YH2)	1 10000(NEAR INTEL CT (NSIN)
-5400	CCL	600		0	H YIELD (YH1)	1 ET INL NEAR (NNI
0	IN FIT ERR (CFTR1) NEAR	1			INOX2	50000 -1000
0	IN FIT ERR (CFTR2) FAR	1			-1500	1500

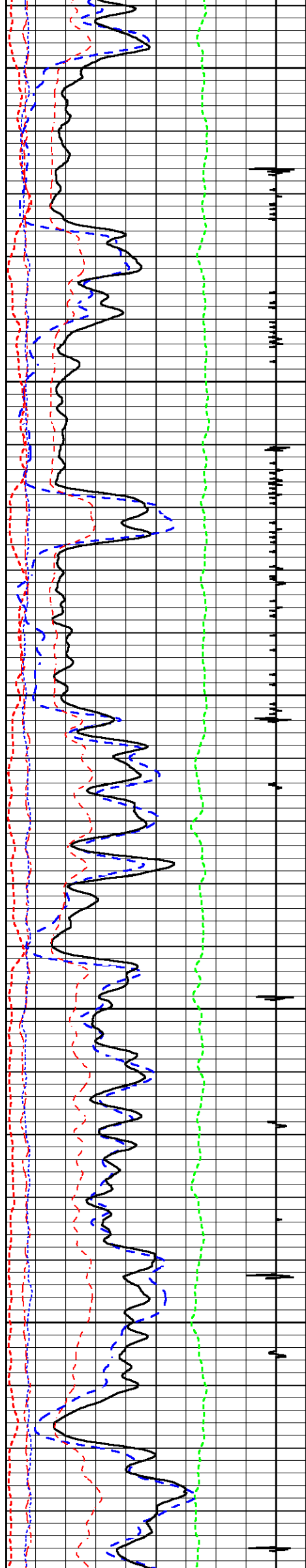




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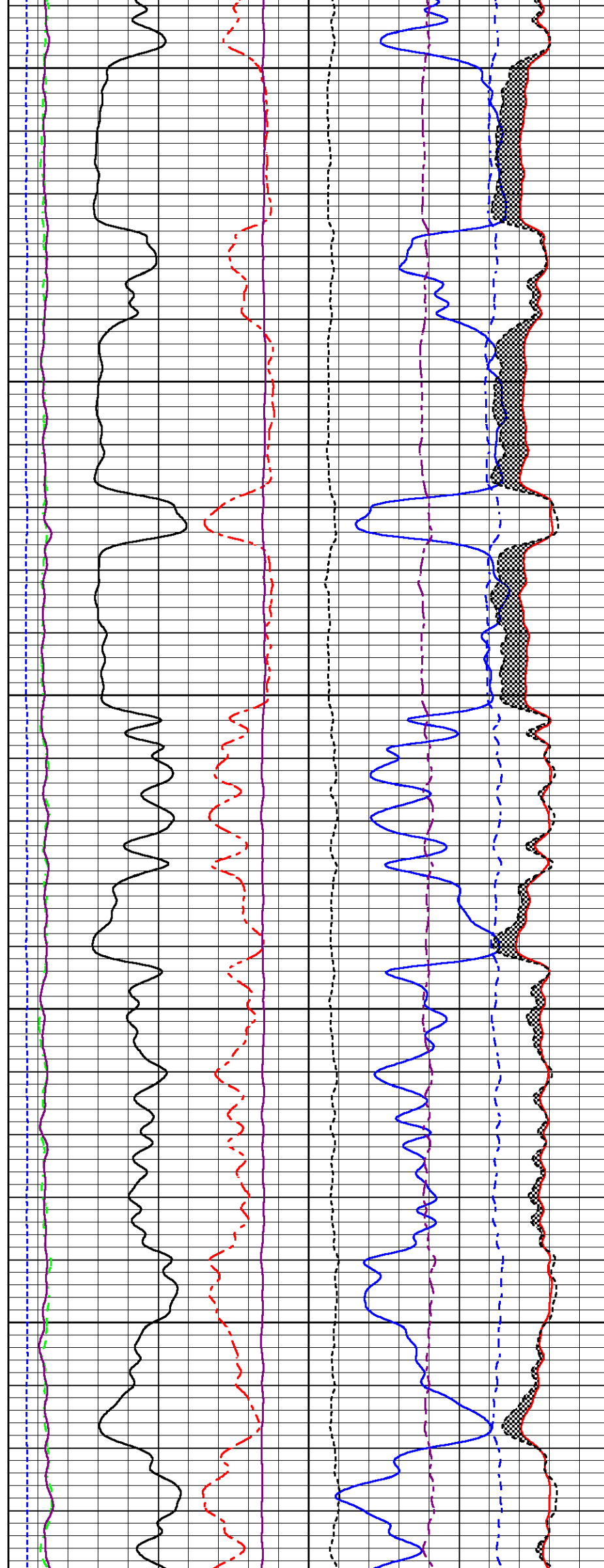


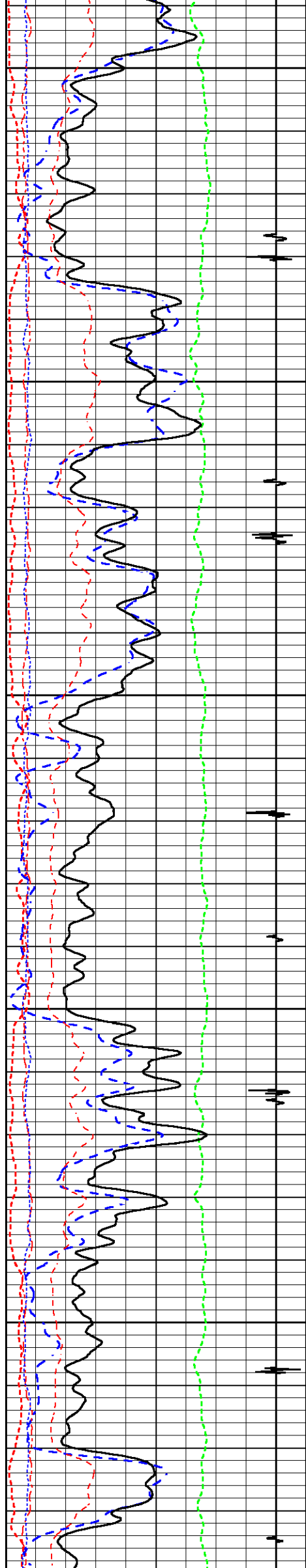


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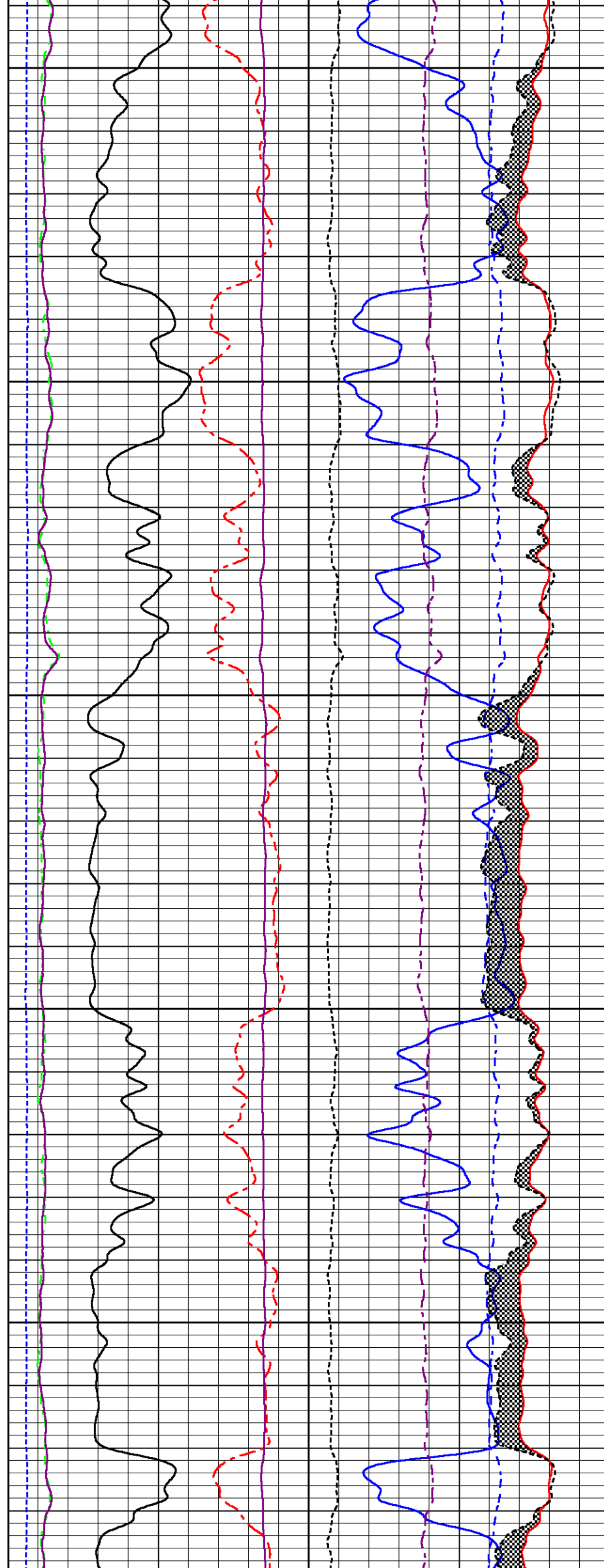
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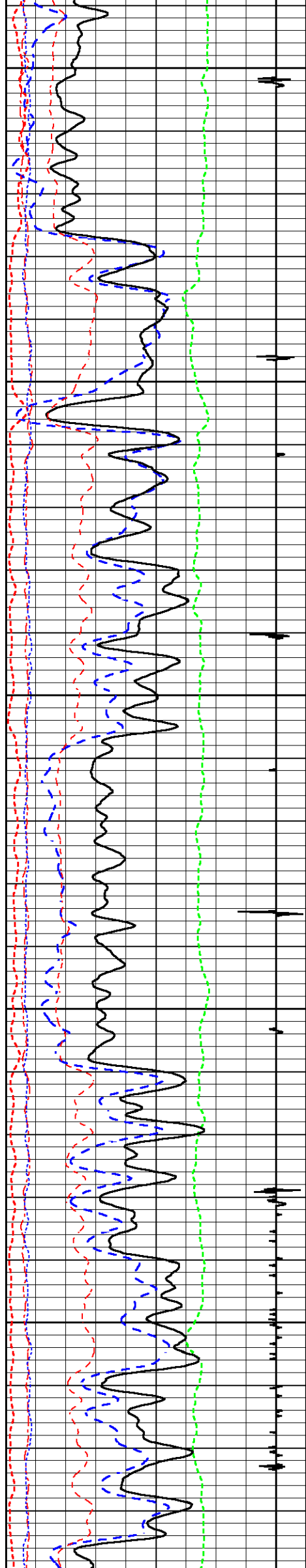




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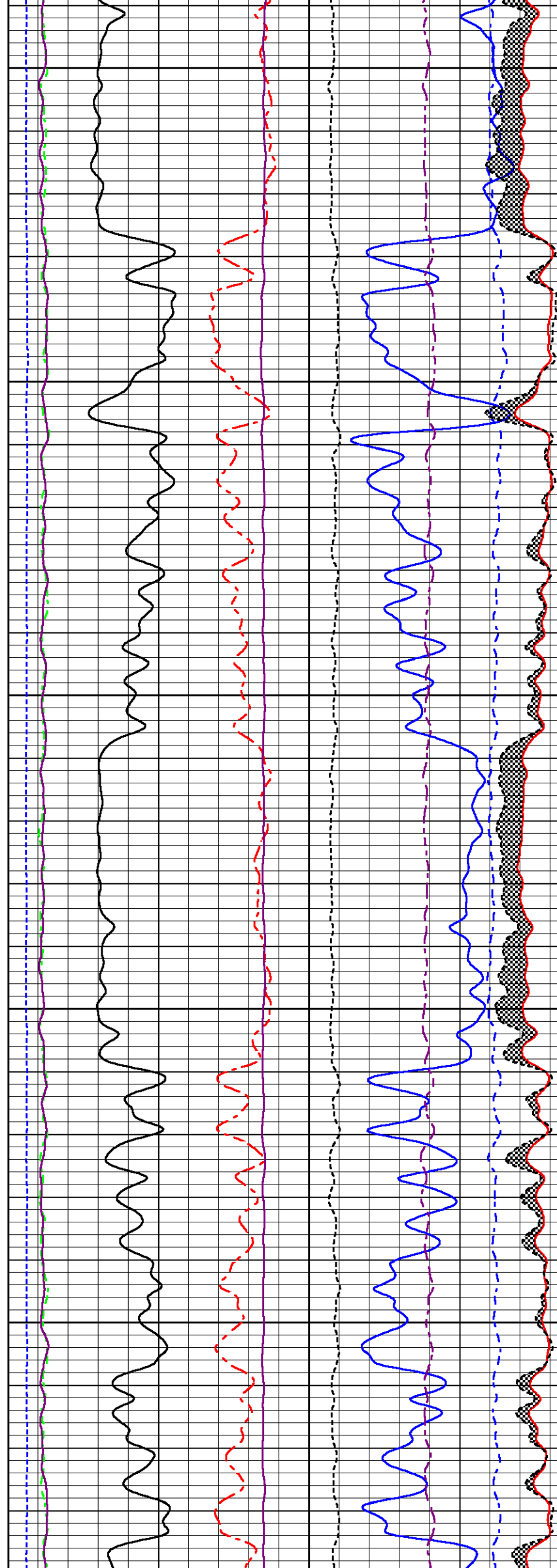


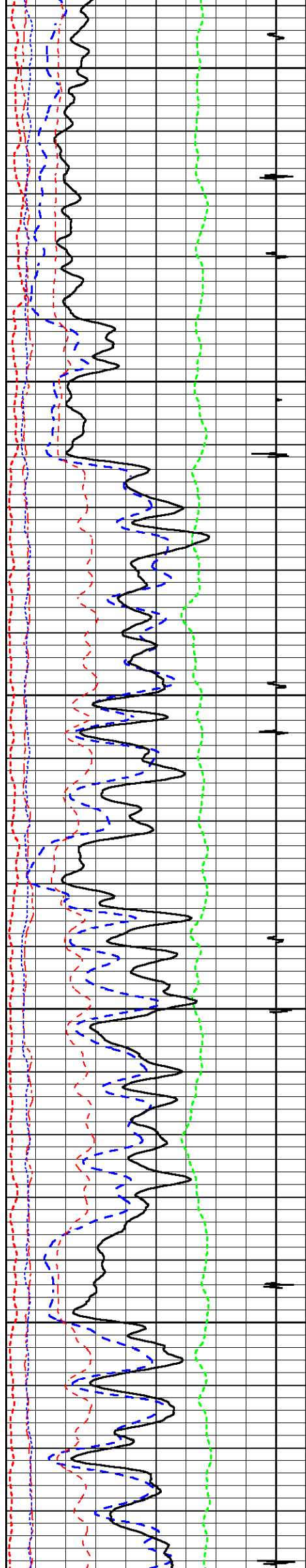


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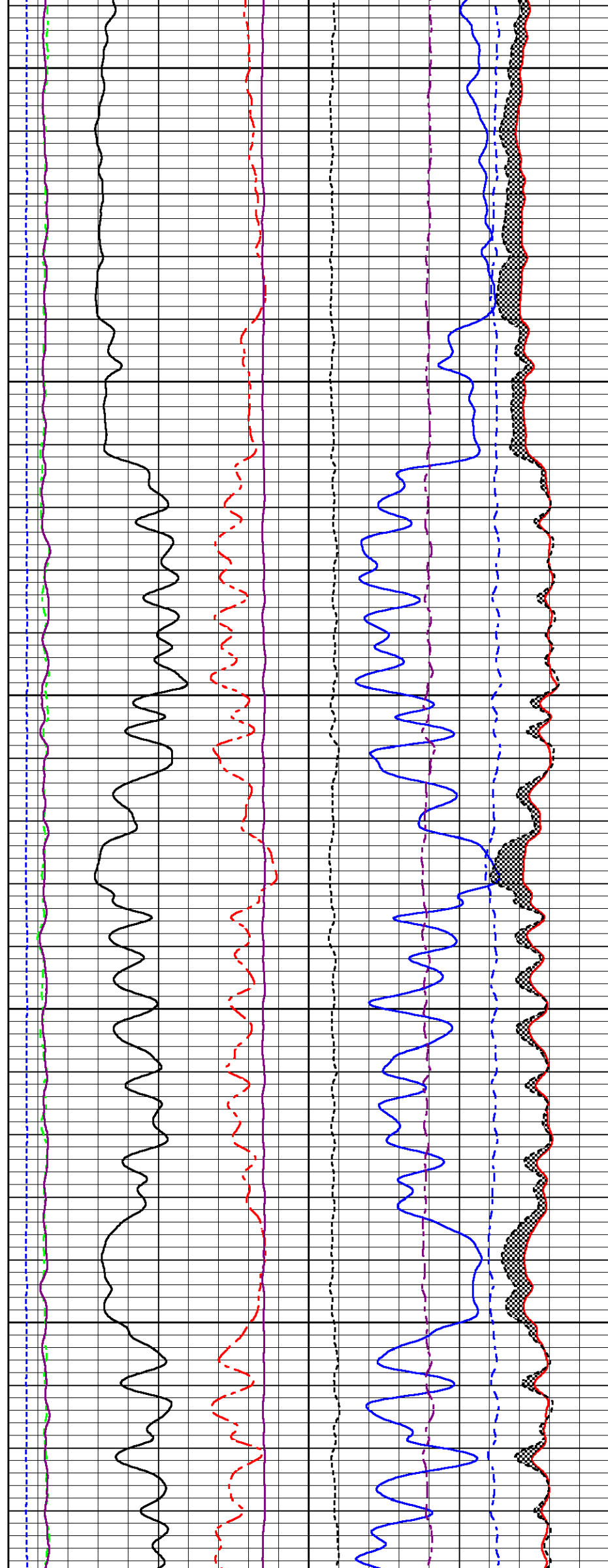
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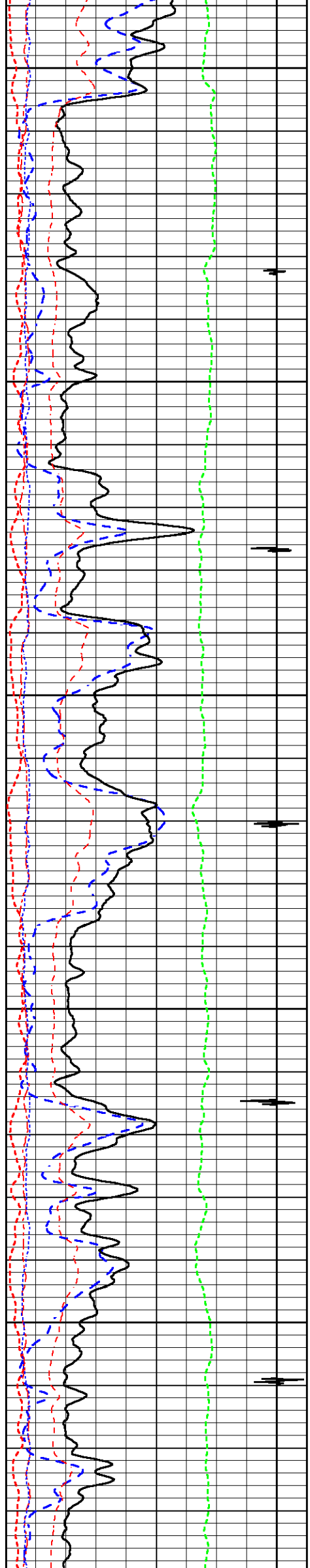




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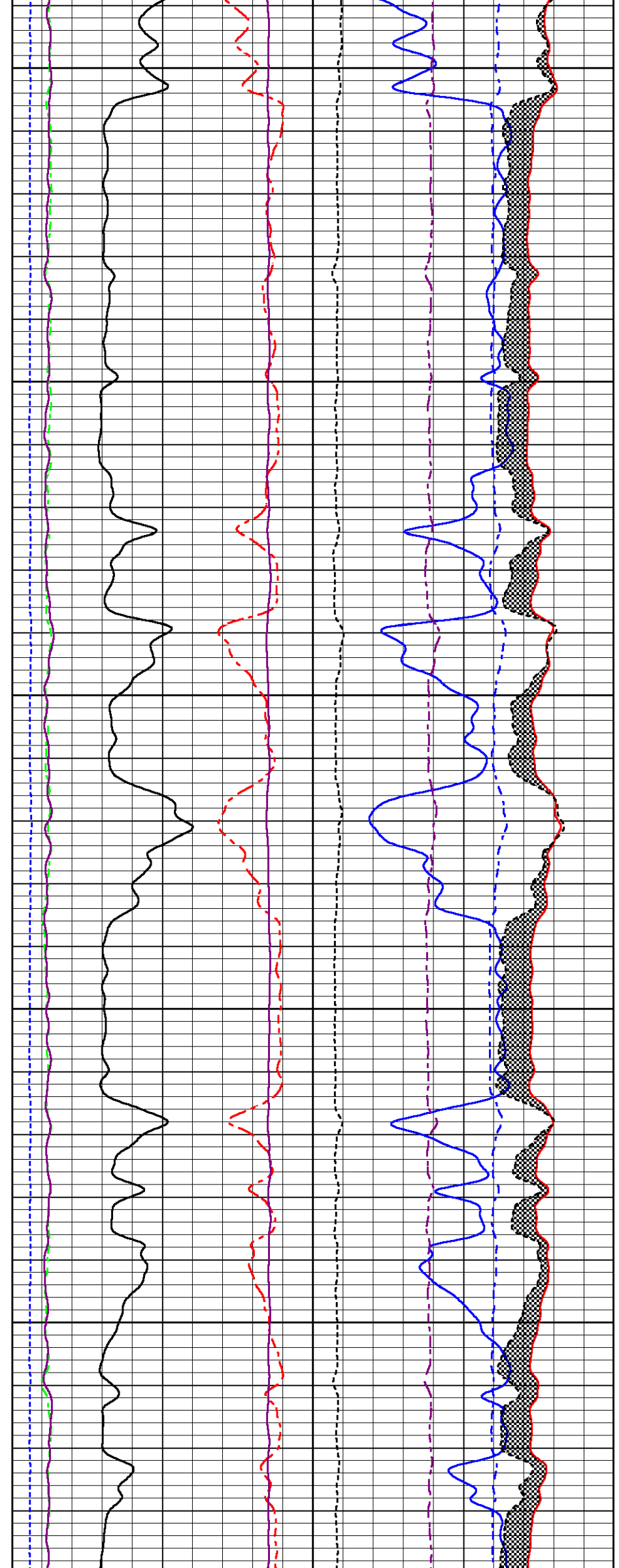


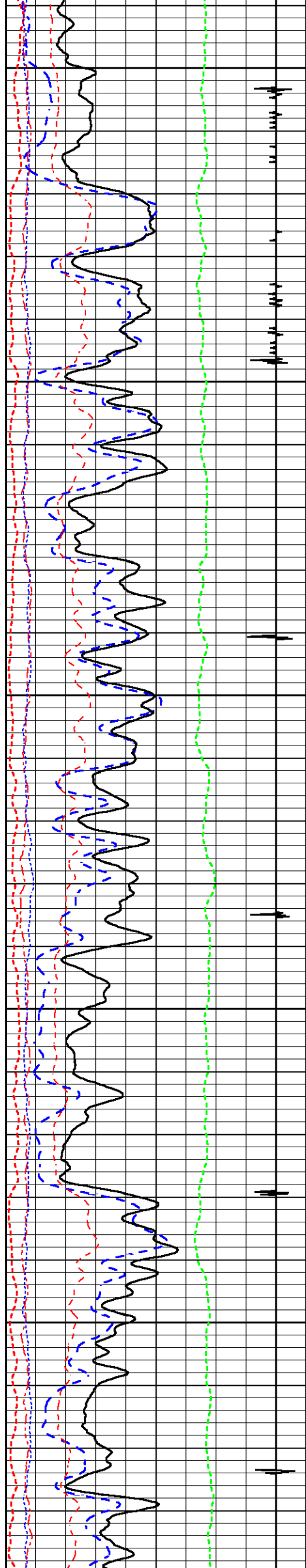


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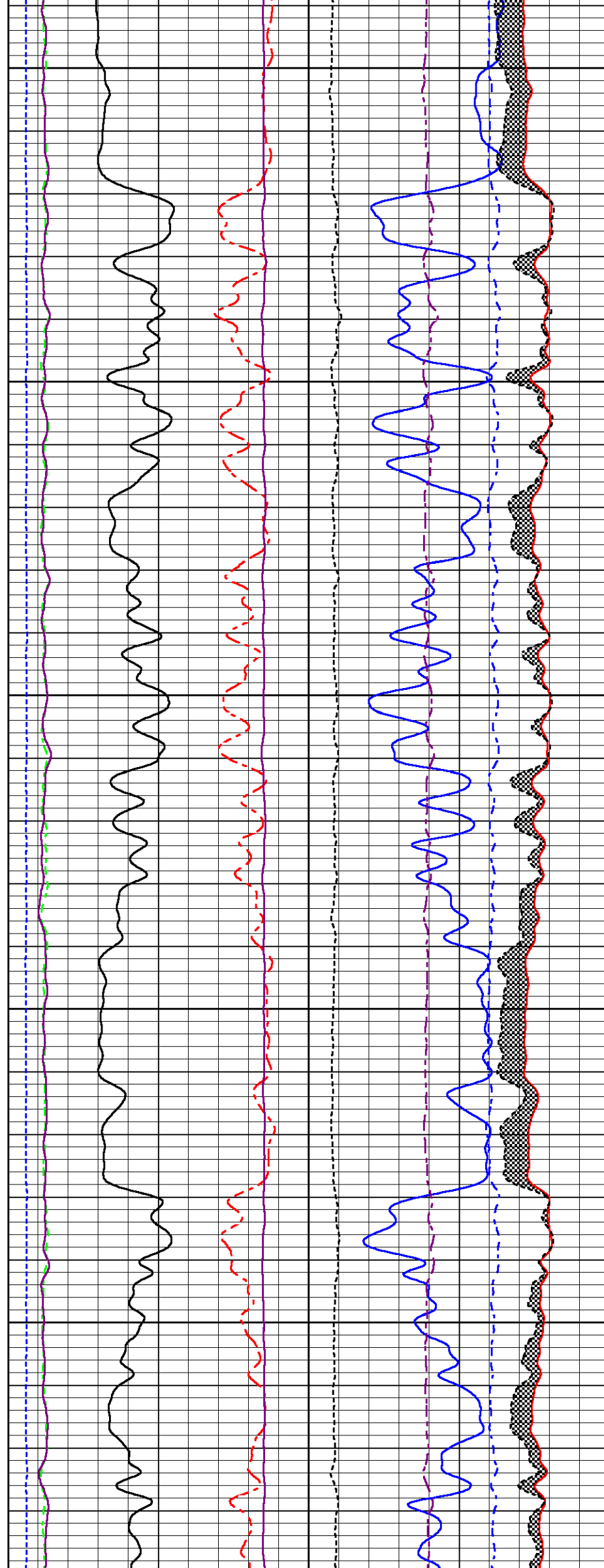
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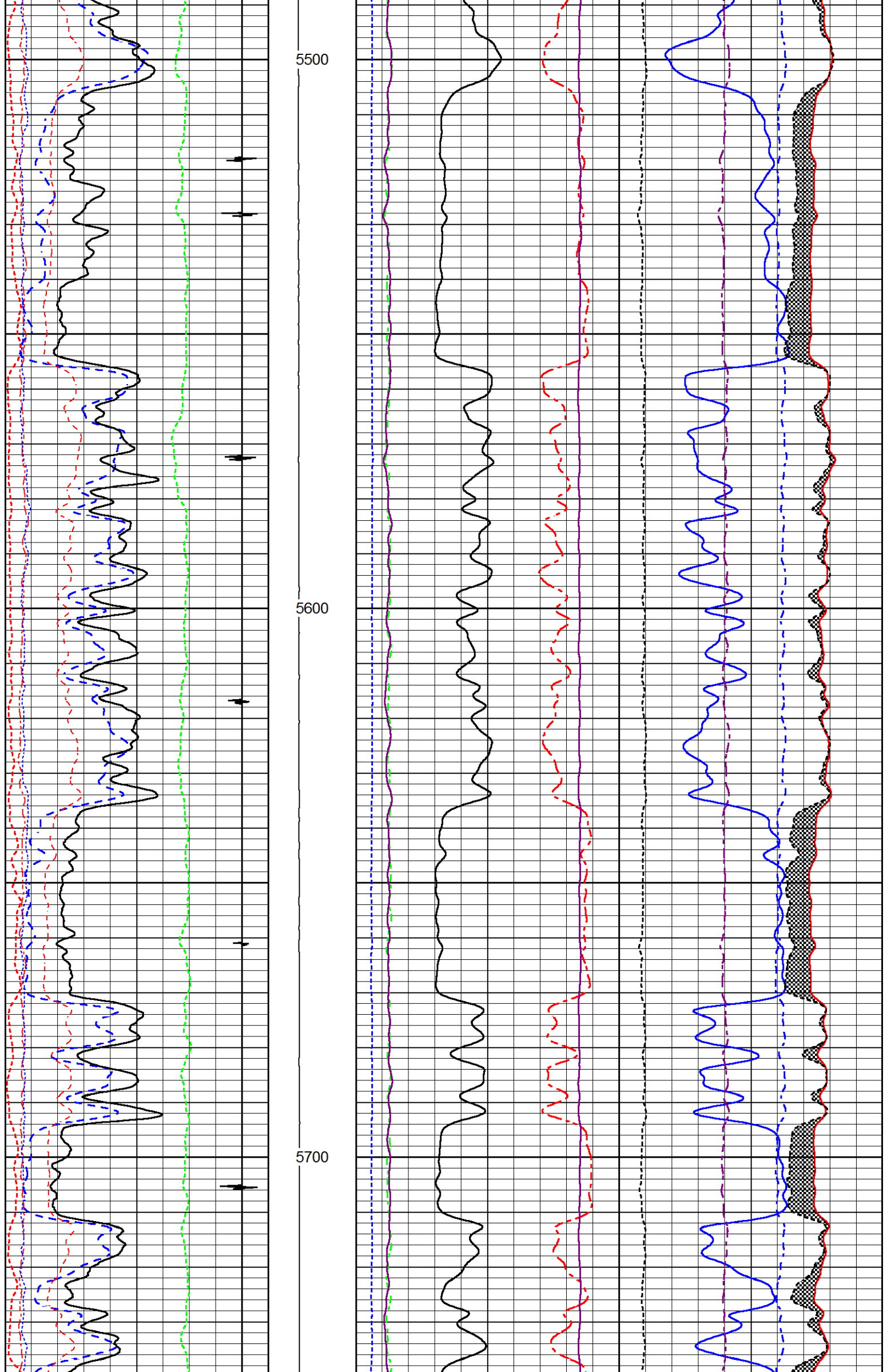


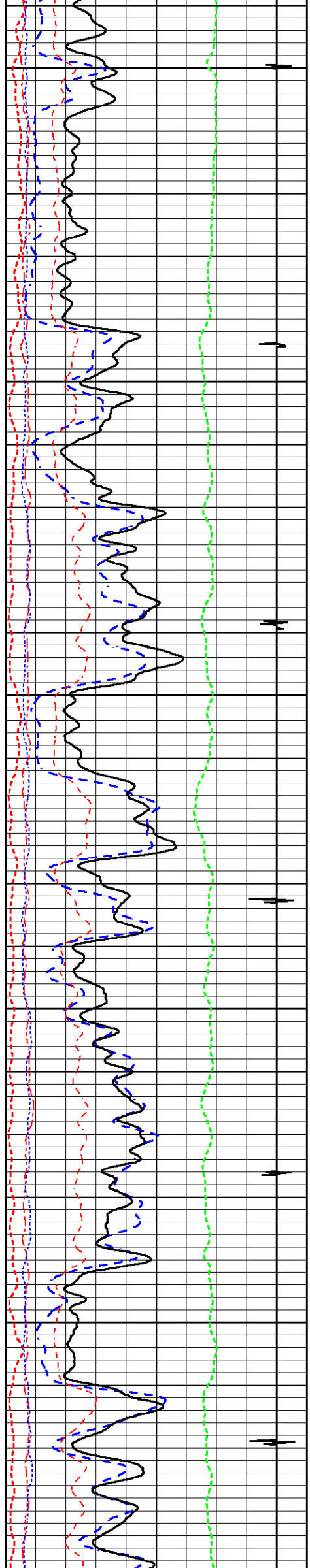


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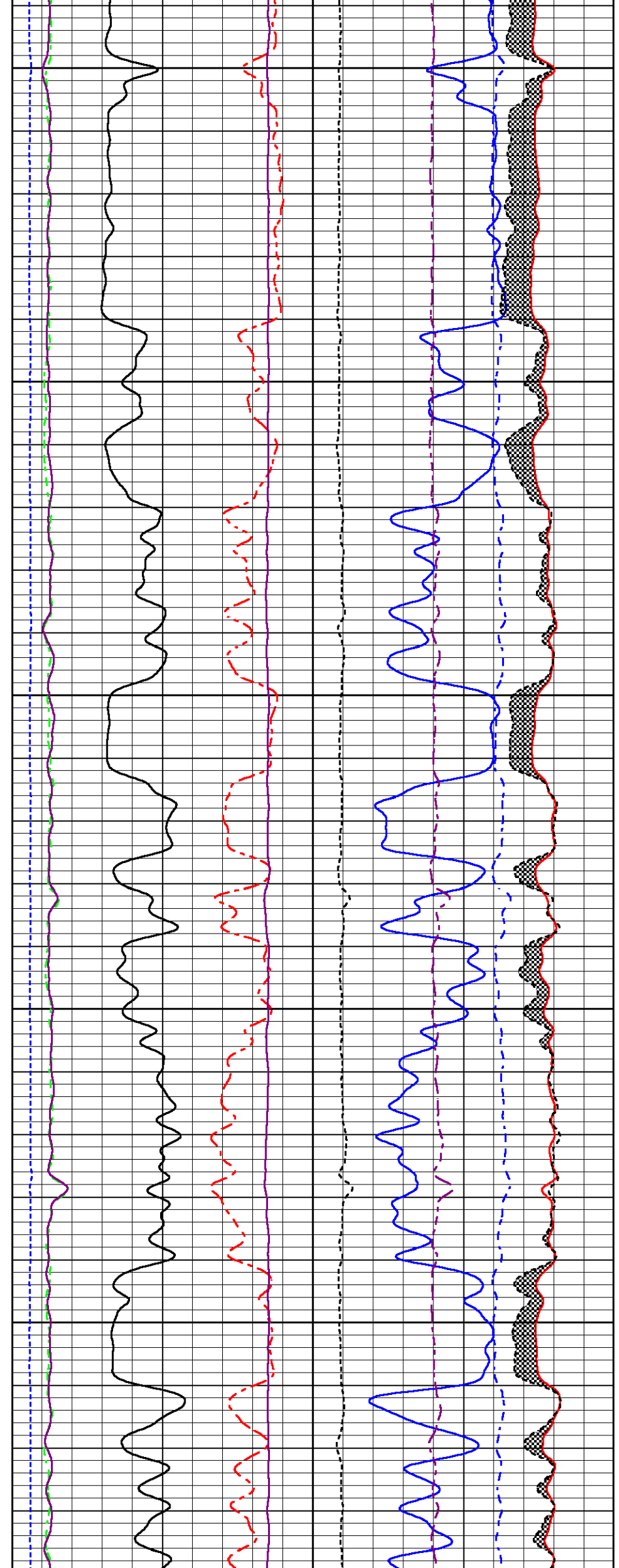


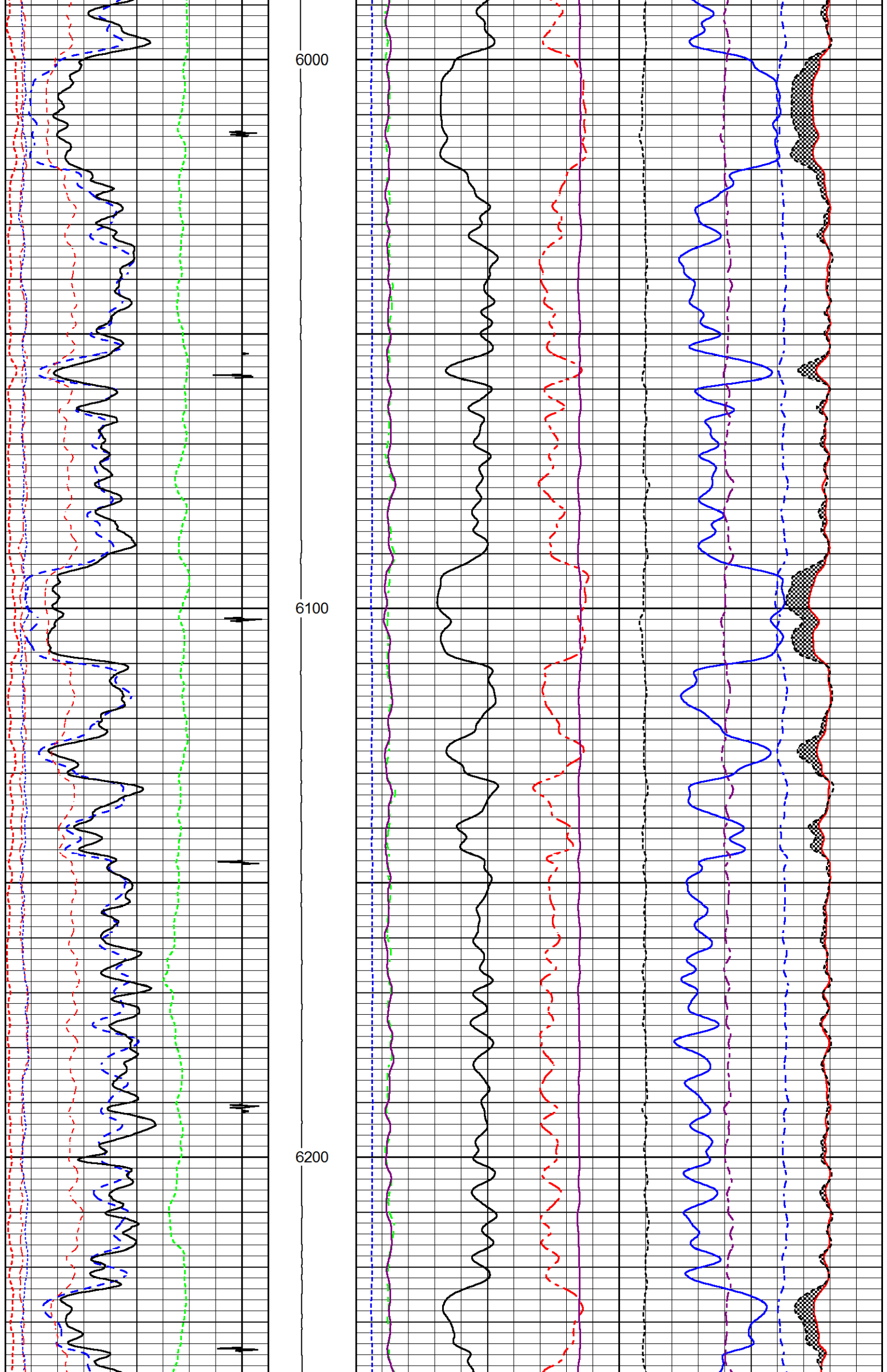


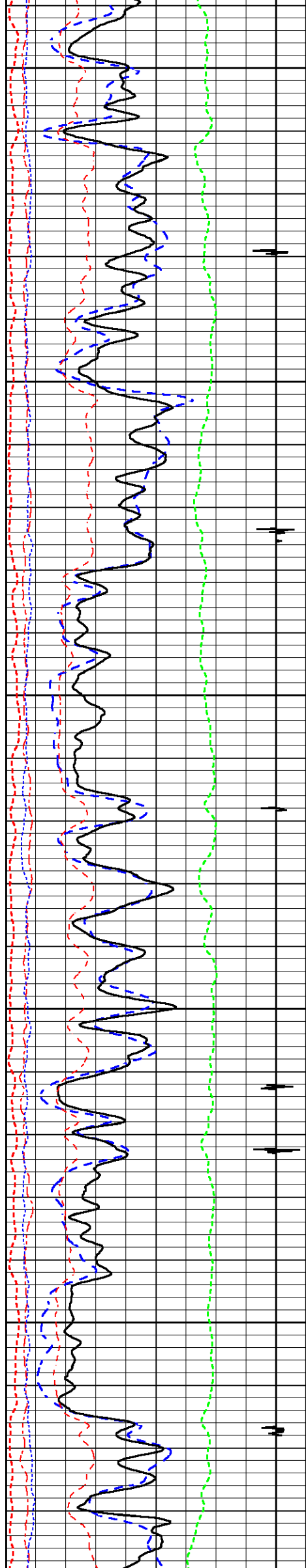


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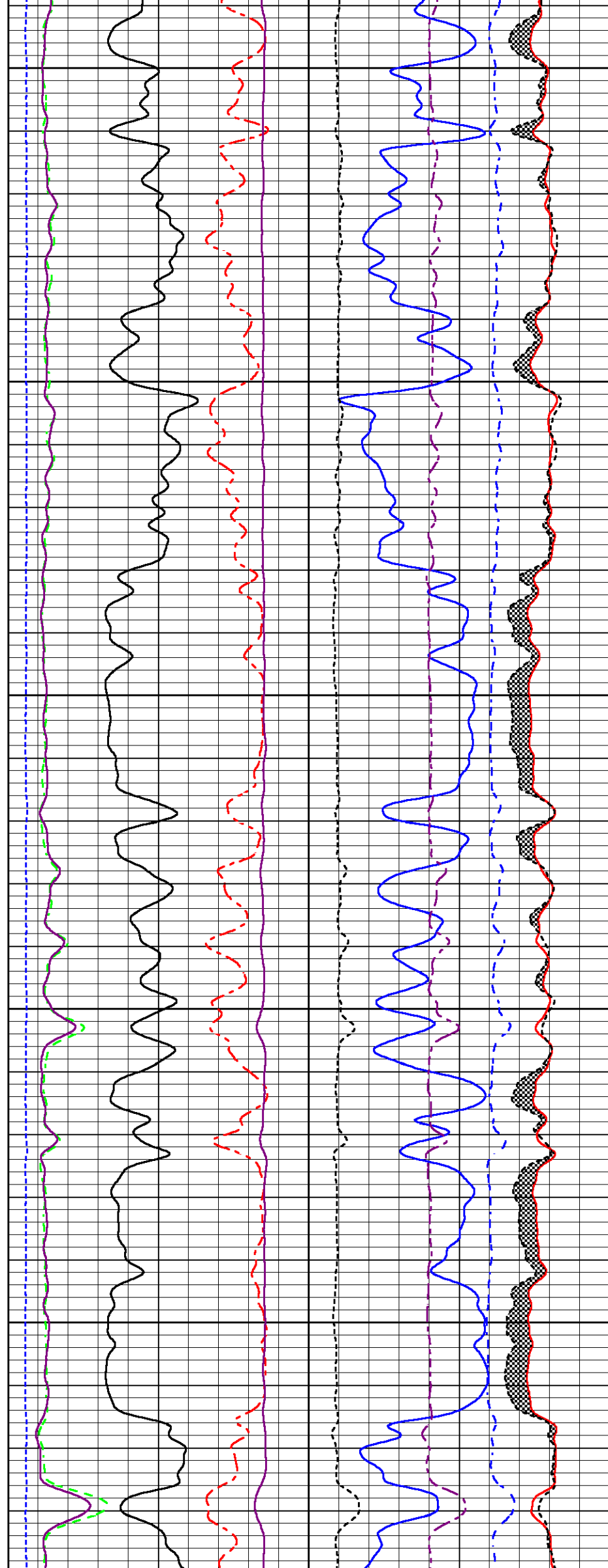


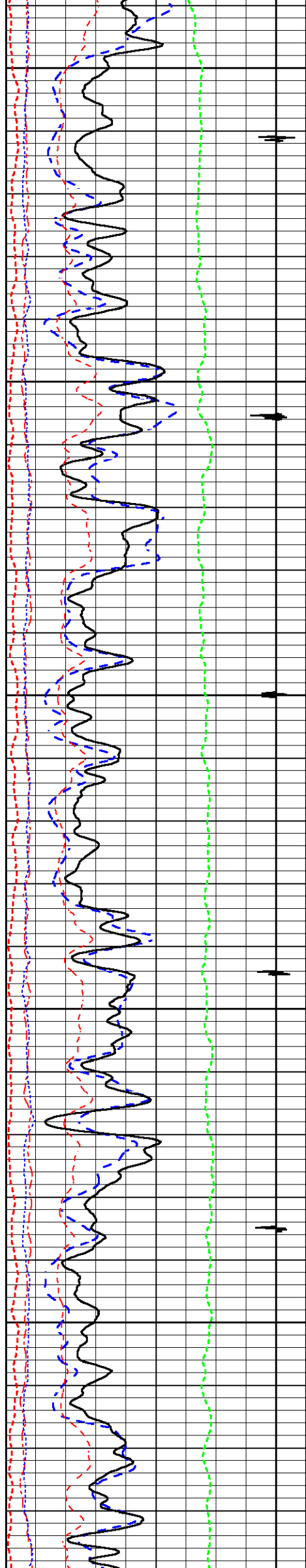




6300

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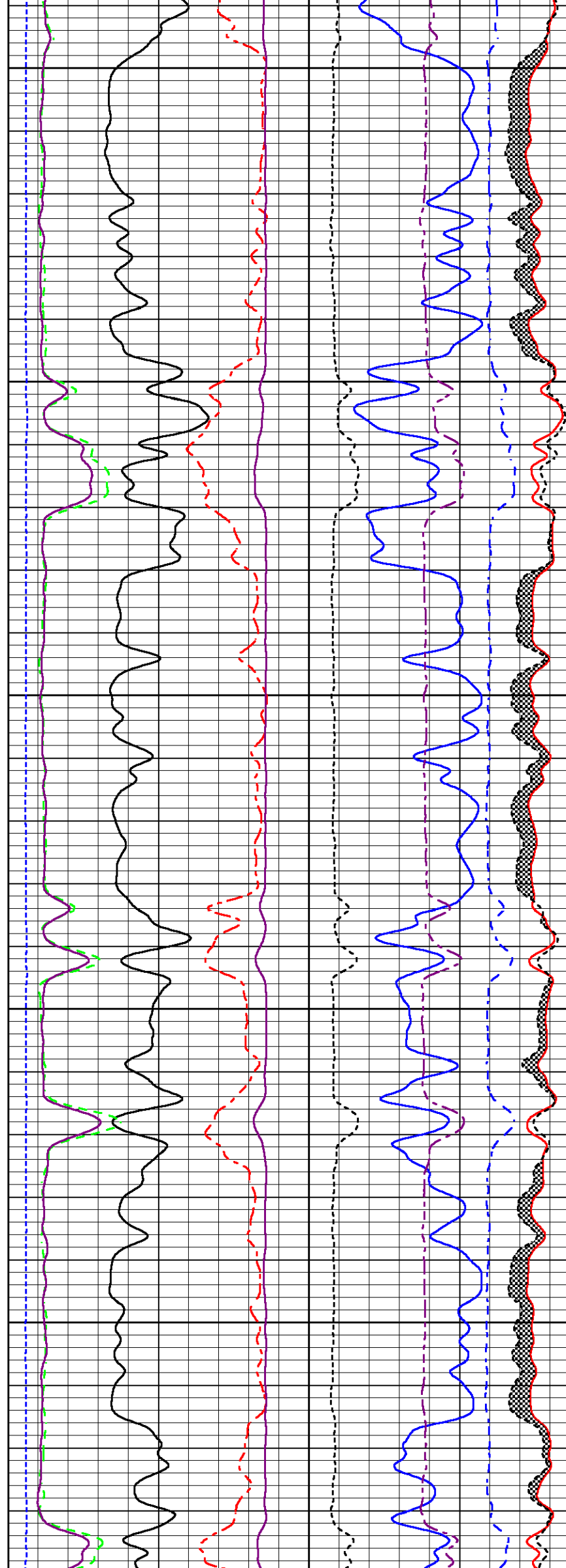


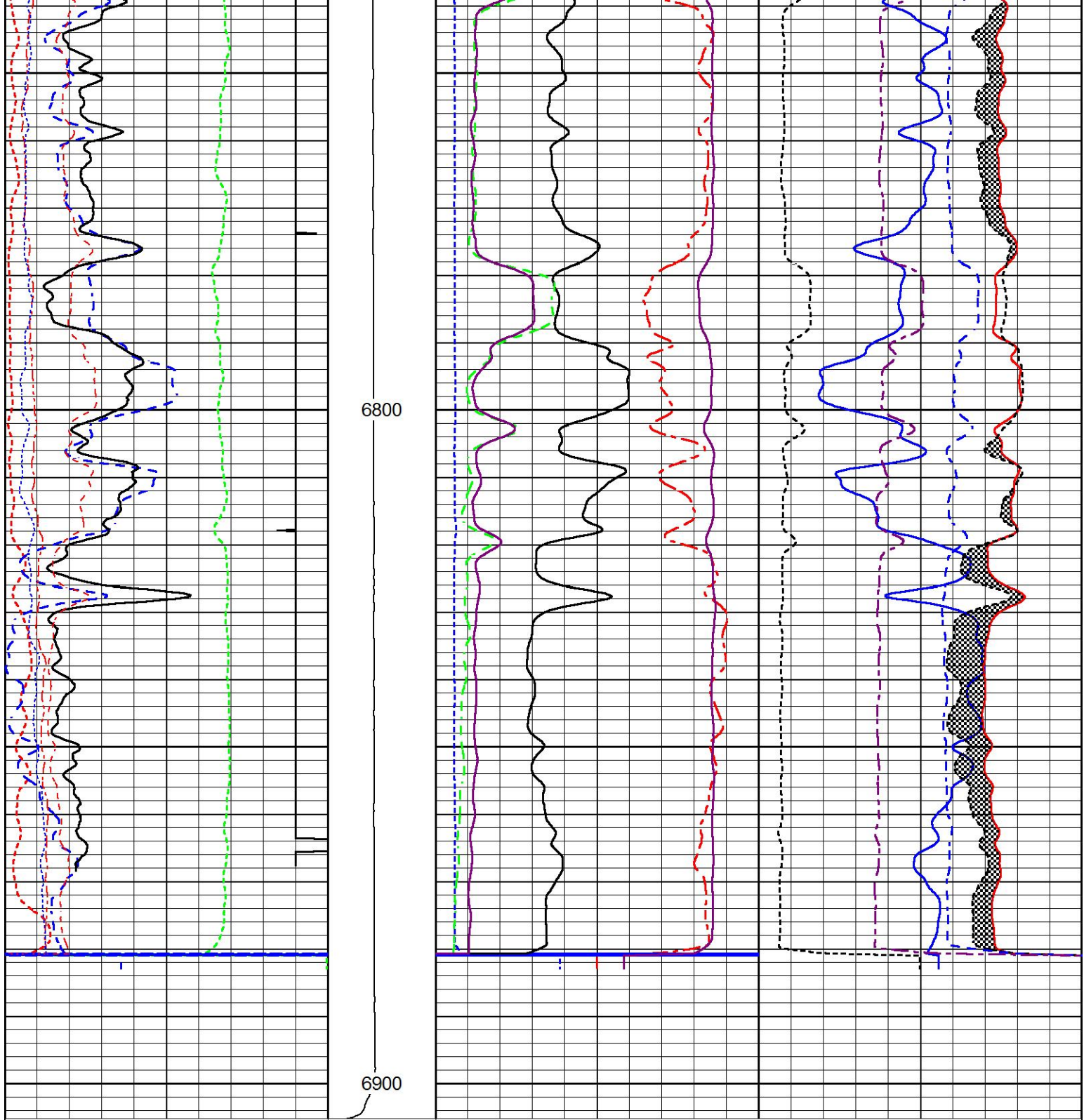


6500

6600

6700





200	Near Bore Si (SGBN)	0
0	OAI	100
10	FAR FIT ERR (SGFF)	40
0	GAMMA RAY (GAPI)	200
0	NEAR FIT ERR (SGFN)	100
-5400	CCL	600
0	IN FIT ERR (CFTR1) NEAR	1
0	IN FIT ERR (CFTR2) FAR	1

TENSION	60	SGIN	0
2	RATIO (RNF)	0.5	60000
0	RIN	15	60000
0	RICF	6	100000
0	H YIELD (YH2)	1	10000
0	H YIELD (YH1)	1	ET INL NEAR (NNII)
	INOX2	50000	-1000
	-1500	1500	

MAIN LOG SECTION

HALLIBURTON

5" = 100'

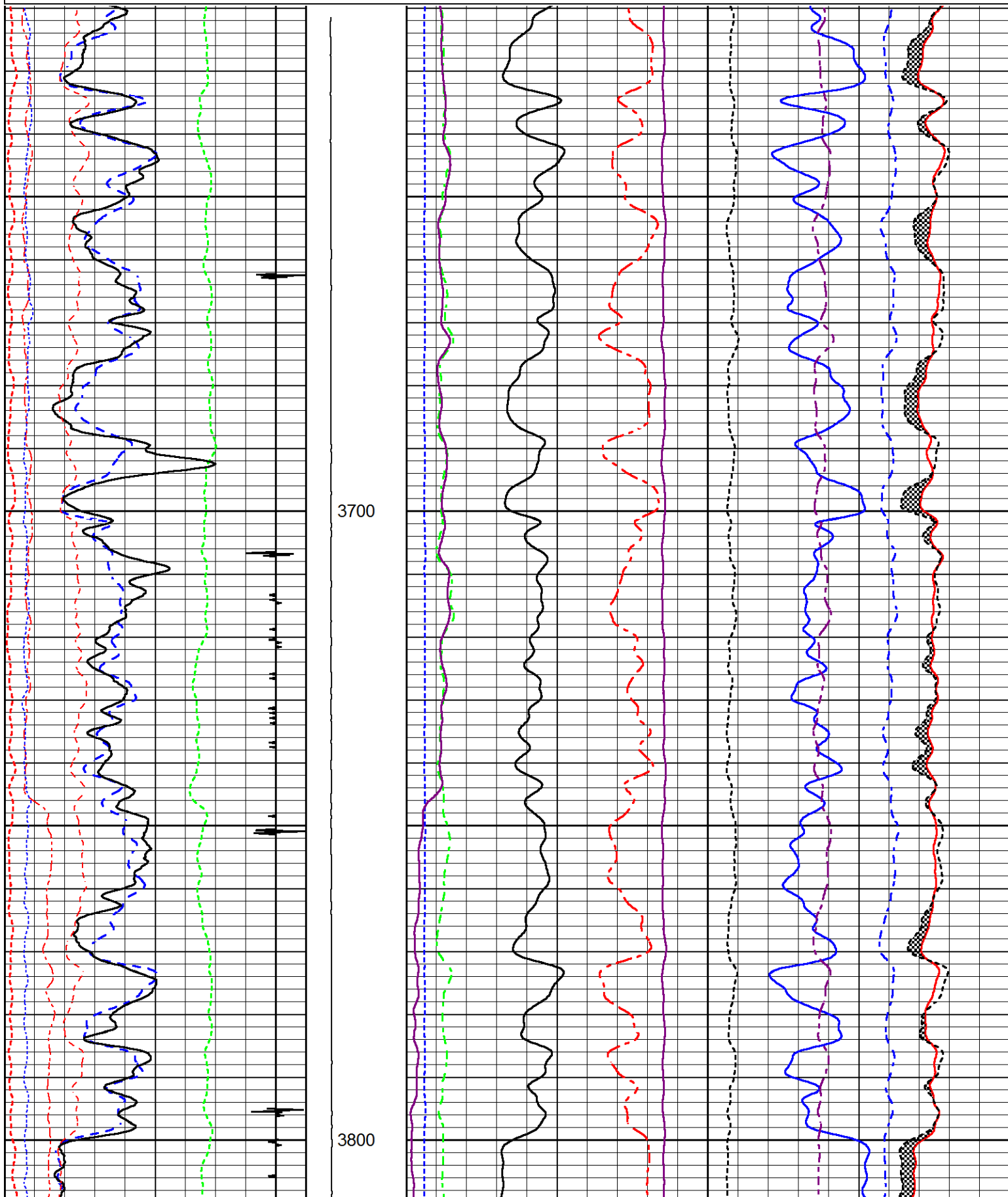
REPEAT LOG SECTION

HALLIBURTON

5" = 100'

Database File watson_b_33c_combo.db
 Dataset Pathname RMTRPT1
 Presentation Format RMTE_M~1
 Dataset Creation Thu Jun 04 13:18:44 2015
 Charted by Depth in Feet scaled 1:240

200	Near Bore Si (SGBN)	0	TENSION	60	SGIN	0
0	OAI	100		2	RATIO (RNF)	0.5
10	FAR FIT ERR (SGFF)	40		0	RIN	15
0	GAMMA RAY (GAPI)	200		0	RICF	6
0	NEAR FIT ERR (SGFN)	100		0	H YIELD (YH2)	1
-5400	CCL	600		0	H YIELD (YH1)	1
0	IN FIT ERR (CFTR1) NEAR	1			INOX2	50000
0	IN FIT ERR (CFTR2) FAR	1				-1000
						-1500
						1500





200	Near Bore Si (SGBN)	0	TENSION	60	SGIN	0
0	OAI	100	2	RATIO (RNF)	0.5	60000 Near Counts (NCAP)
10	FAR FIT ERR (SGFF)	40	0	RIN	15	60000 Far Counts (FCAP)
0	GAMMA RAY (GAPI)	200	0	RICF	6	100000 FAR INTEL CT (FSIN)
0	NEAR FIT ERR (SGFN)	100	0	H YIELD (YH2)	1	10000(NEAR INTEL CT (NSIN)
-5400	CCL	600	0	H YIELD (YH1)	1	ET INL NEAR (NNI)
0	IN FIT ERR (CFTR1) NEAR	1		INOX2	50000	-1000
0	IN FIT ERR (CFTR2) FAR	1		-1500	1500	

REPEAT LOG SECTION

HALLIBURTON

5" = 100'

Log Variables

DatabaseD:\Warrior_data\watson_b_33c_combo.db
Dataset field/well/run1/MAIN2/_vars_

Top - Bottom

BHTEMP_Src	BHSAL2	BHSAL1	POROS2	POROS1	LTH	UHSGC	RHOFCF
ITEMPX	0	1	0	1	Sandstone	NONE	0.25
SO in	BORSAL kppm	CASED?	PPT usec	CASEWGHT lb/ft	MAXAMPL mV	MINAMPL mV	MINATTN db/ft
0	150	Yes	0	11.6	0	1	0.8
SRFTEMP degF	MudWgt lb/gal	CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BITSIZE in
0	8.4	0.25	4.5	0	0	100	7.875

Calibration Report

Database File watson_b_33c_combo.db
Dataset Pathname MAIN1
Dataset Creation Thu Jun 04 13:55:08 2015

Segmented Cement Bond Log Calibration Report

Serial Number: 11002214
Tool Model: 004

Calibration Casing Diameter: 4.500 in

Master Calibration, performed Thu Jun 04 08:40:05 2015:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	-0.195	0.877	1.500	81.196	74.313	16.017
5FT	-0.205	0.490	1.500	81.196	114.642	25.010
S1	-0.193	0.992	0.000	100.000	84.421	16.282
S2	-0.197	0.785	0.000	100.000	101.902	20.027
S3	-0.195	1.048	0.000	100.000	80.455	15.706
S4	-0.197	0.919	0.000	100.000	89.610	17.670
S5	-0.194	0.811	0.000	100.000	99.423	19.323
S6	-0.197	0.743	0.000	100.000	106.389	20.918
S7	-0.196	0.673	0.000	100.000	115.056	22.588
S8	-0.197	0.693	0.000	100.000	112.289	22.148

Calibration Report

Serial Number:	11002214
Tool Model:	004
Performed:	
Reference (degF)	Reading ()
Low: 0.000	0.000
High: 1.000	1.000
Gain = 1.000	Offset = 0.000

Reservoir Monitor Tool I Calibration Report

Serial-Model:	12095949-A
Shop Calibration Performed:	Wed May 27 10:12:02 2015

Carbon/Oxygen Mode

Stabilization

Result	Logged	Expected Value	Diff.	Tol.	Units
GENV	82.00	80.00	2.00	+/-15.00	V
ITCR2	3281	3250	31	+/-250	cps

Near Detector

	Channel	Expected Value	Amplitude	FWHM	Tol.
H	60	60 +/-2	0.0270	5.32	<6.00
Fe	207	206 +/-2	0.0961	----	----
NGAIN = 0.993		NZOFF = 0.7			

Far Detector

	Channel	Expected Value	Amplitude	FWHM	Tol.
H	60	60 +/-2	0.0360	5.72	<6.50
Fe	209	208 +/-2	0.0918	----	----
FGAIN = 0.991		FZOFF = 0.5			

Flask Temperature 63.5 degF

Result	Logged	Expected Value	Diff.	Tol.	Units
COIR2	0.45	0.45	-0.00	+/-0.02	
LIRI2	1.65	1.64	0.01	+/-0.05	
TCCR2	5061	5000	61	+/-1000	cps
ITCR2	3240	3200	40	+/-250	cps

Sigma Mode

Stabilization

Result	Logged	Expected Value	Diff.	Tol.	Units
GENV	82.00	80.00	2.00	+/-15.00	V
FCAP	10080	10000	80	+/-500	cps

Horizontal Water Tank

Result	Logged	Expected Value	Diff.	Tol.	Units
N/F Normalizer	0.91	0.95	-0.04		
N/F Inel Norm	0.58	0.61	-0.03		
RNF	1.10	1.07	0.03	+/-0.12	
RINC	1.71	1.64	0.07	+/-0.18	
SGFN	24.09	24.00	0.09	+/-0.50	cu
SGFF	22.90	22.85	0.05	+/-0.50	cu
FSIN	24192	24000	192	+/-2000	cps
FCAP	10177	10000	177	+/-1000	cps
NFTR	0.84			<5.00	
FFTR	0.88			<5.00	
NBKG	179			<500	cps
FBKG	93			<500	cps
RTN	0.40	0.40	0.00	+/-0.10	usec
RTF	0.43	0.40	0.03	+/-0.10	usec

Calibration Software Modules

HRMTI Module	2013.11.14.0
RMTI Module	2014.8.28.1

Log Data Acquisition Software Modules

HRMTI Module	2013.11.14.0
RMTI Module	2014.8.28.1

Gamma Ray Calibration Report

Type / Serial: 002 / 11224503

SHOP CALIBRATION

Thu Jun 04 08:32:15 2015

	Counts/Sec.	Gain	Offset	Jig	Units
Background	36.8				cps
Calibrator	322.4				cps
		1.4100			GAPI/cps

PRIMARY VERIFICATION


	Counts/Sec.	Offset	Units
Background	53.3		cps
Calibrator	467.2		cps
Difference		413.8	GAPI

BEFORE SURVEY VERIFICATION

	Counts/Sec.	Offset	Units
Background	0.0		cps
Calibrator	0.0		cps
Difference		0.0	GAPI

AFTER SURVEY VERIFICATION

	Counts/Sec.	Offset	Units
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	37.31		STNDCH-STND_CH 1.4375 IN CABLE HEAD	1.50	1.44	1.00

GR	35.05		TTTCU-002 (11224503) Through Tubing Telemetry Cartridge - Ultrawire	7.65	1.69	100.00
			XHU-003 (12461939) Crossover Halliburton 1553 to Ultrawire	1.58	1.69	7.00
RmtTFGT	24.39					
RmtTNGT	23.89		RMTI-A (12095949) Halliburton RMTI Tool	14.00	2.13	77.00
RmtFP5V	16.14					
RmtCommFWa	16.14		X-OVER-SondexxGo Sondex Box x Go Pin Cross Over	0.31	1.69	1.00
			AUH-001 (11072111) Adaptor Ultrawire/Halliburton	0.38	1.69	3.00
			CENT-Probe_275 Probe 2 3/4 Centralizer	2.88	2.75	20.00
CBLTEMP	8.23					
			RBT-004 (11002214) Radial Bond Tool (UW 3 1/8) 20K Rated	9.48	3.13	140.00
			CENT-Probe_275 Probe 2 3/4 Centralizer	2.88	2.75	20.00
LLMTEN	0.00					
			BUL-006 (000002) Bullnose Terminator	0.22	1.69	1.20
			Dataset: watson_b_33c_combo.db: field/well/run1/MAIN1			
			Total length: 40.88 ft			
			Total weight: 370.20 lb			
			O.D.: 3.13 in			

Company URSA OPERATING CO., LLC.
 Well WATSON RANCH B 33C-17-07-95
 Field PARACHUTE
 County GARFIELD State CO

