

HALLIBURTON

RESERVOIR MONITOR
TOOL - ELITE

Company				URSA OPERATING CO, LLC			
Well				WATSON RANCH B 34A-17-07-95			
Field				PARACHUTE			
County				GARFIELD State CO			
Sec: 17 Twp: 07S Rge: 95W				Company URSA OPERATING CO, LLC			
				Well WATSON RANCH B 34A-17-07-95			
				Field PARACHUTE			
				County GARFIELD State CO			
API No.: 05-045-228070000				Serv. #: 902452568		Other Services	
Location: SURFACE HOLE LOCATION: 1047' FSL & 1941' FWL BOTTOM HOLE LOCATION: 1272' FSL & 2006' FEL				CBL JB/GR			
Permanent Datum				GROUND LEVEL		Elevation 5585 ft	
Log Measured From				KB		K.B. 5602 ft	
Drilling Measured From				KB		D.F. 5601 ft	
Date @ Time Logged				04 JUNE 2015		Type Fluid in Hole	
Run No.				ONE		Density of Fluid	
Depth - Driller				7020'		Fluid Level	
Depth - Logger				6754'		Cement Top Est. Logged	
Bottom - Logged Interval				6754'		Equipment / Location	
Top - Log Interval				3537'		Recorded by	
Max. Recorded Temp.				175.0 degF		Witnessed by	
CEMENTING DATA				Surface		Protection	
Date / Time Cemented				String		Production	
Primary / Squeeze				N/A		String	
Expected Compressive Strength				psi@		hrs	
Cement Volume				psi@		hrs	
Cement Type / Weight				/		/	
Formulation				/		/	
Mud Type / Mud Wgt.				/		/	
Borehole Record				Casing & Tubing Record			
Run Number		Bit	From	To	Size	Weight	From
ONE		12.25"	SURFACE	1762	8.625"	24#	SURFACE
TWO		7.875"	1762'	7020'	4.5"	11.6#	SURFACE

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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: 03 JUNE 2015 IS THE PRIMARY DEPTH REFERENCE FOR THIS WELL.

GR-RMT-CBL RAN IN COMBINATION

LOG INTERVALS PER CUSTOMER REQUEST

SHORT JOINTS @: 3019' - 3029', 5090' - 5100' AND 6029' - 6039',

****THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES****

Service Ticket No.	902452568	API No.	05-045-22807-0000	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.	10000028	Serial No.	12082235	Serial No.	11680606
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	

No.	6754'	3537'	0	60	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			deg. @		KOP			

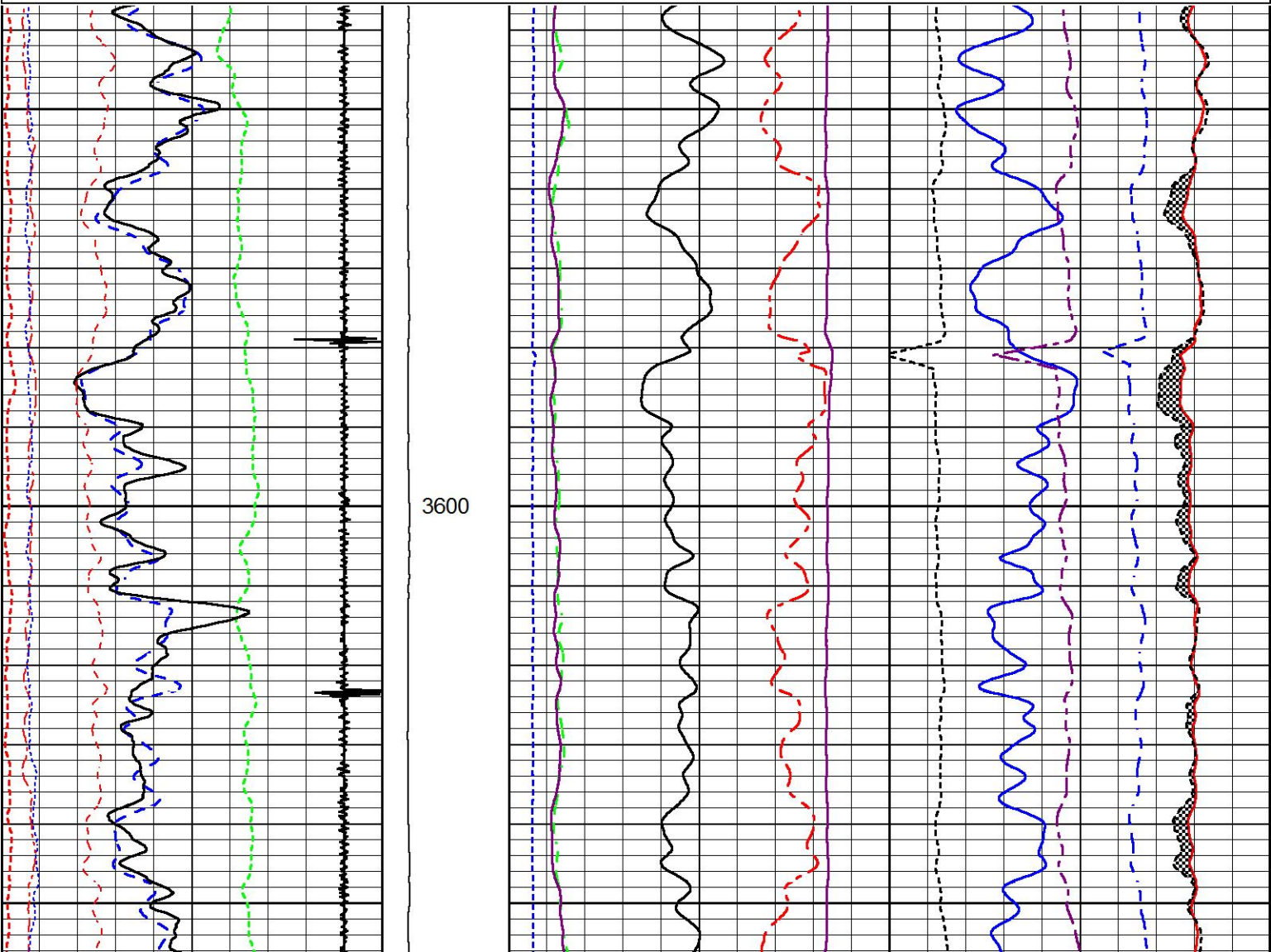
HALLIBURTON

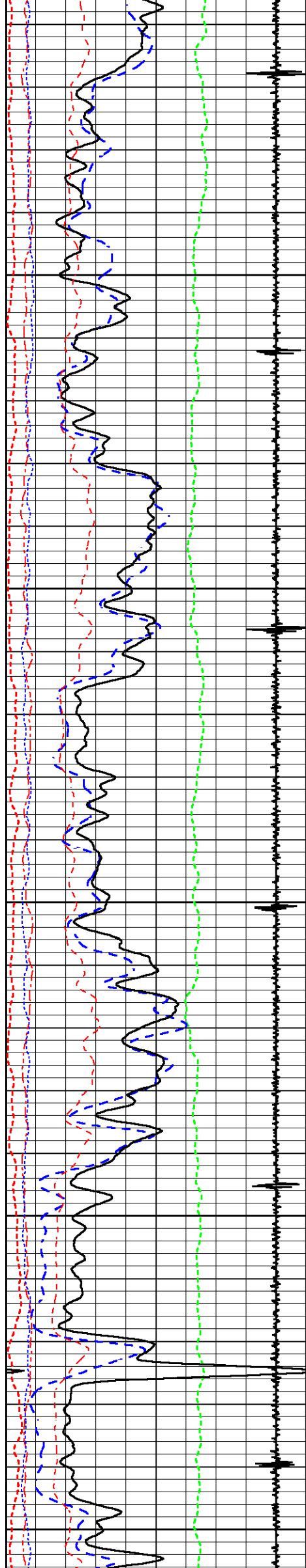
MAIN LOG SECTION

5" = 100'

Database File	watson_b_34a_combo.db
Dataset Pathname	MAIN
Presentation Format	RMTE_M~1
Dataset Creation	Wed Jun 03 21:27:25 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			-1500	1500
						-1000

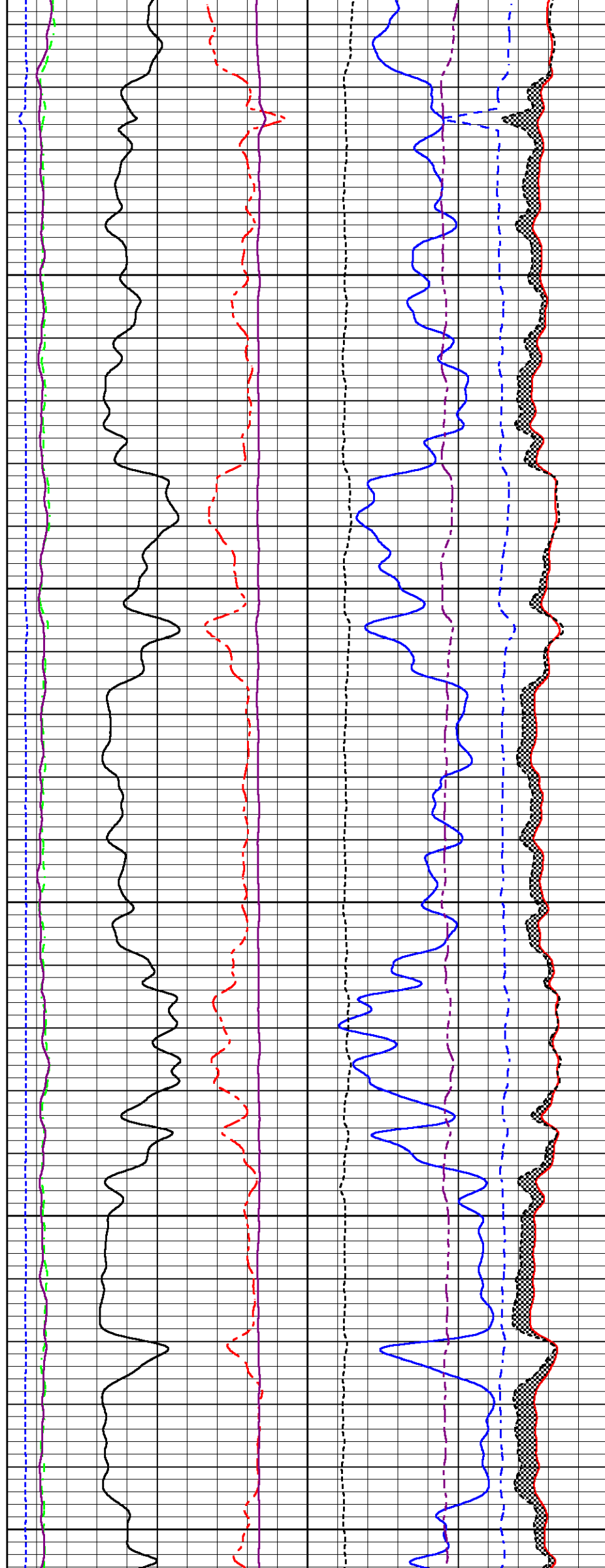


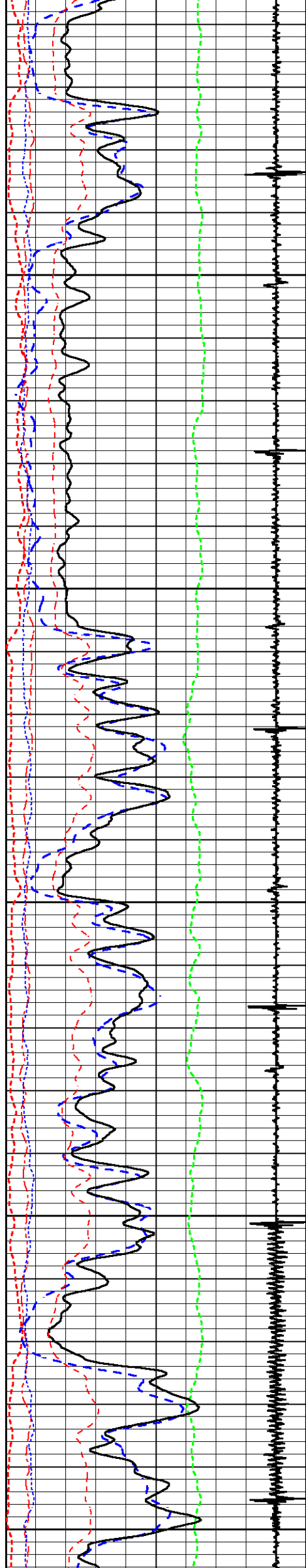


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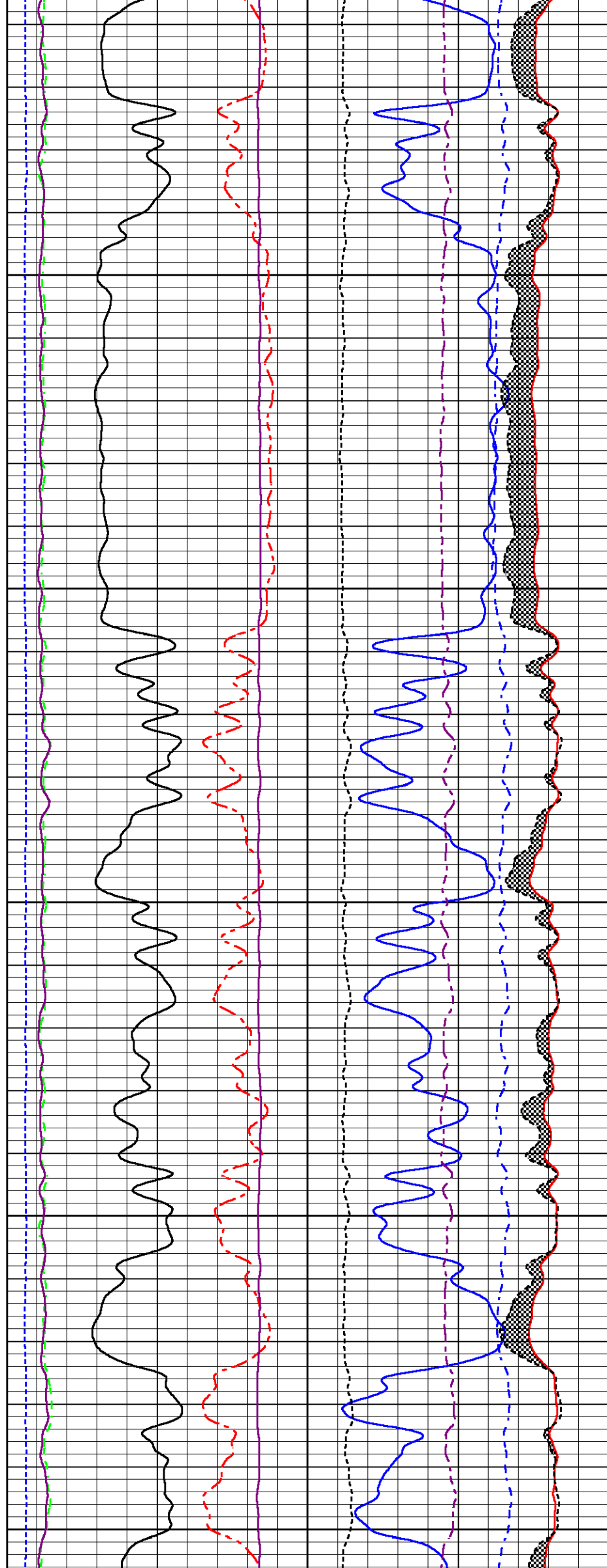
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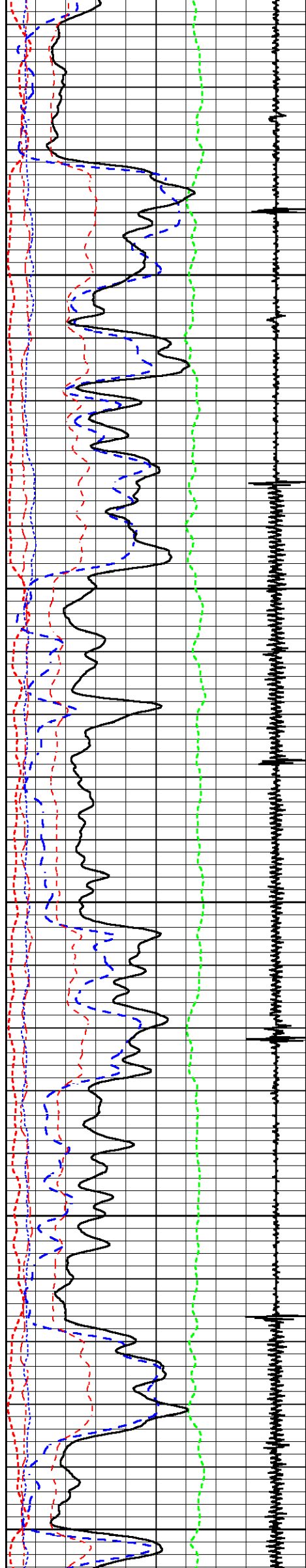




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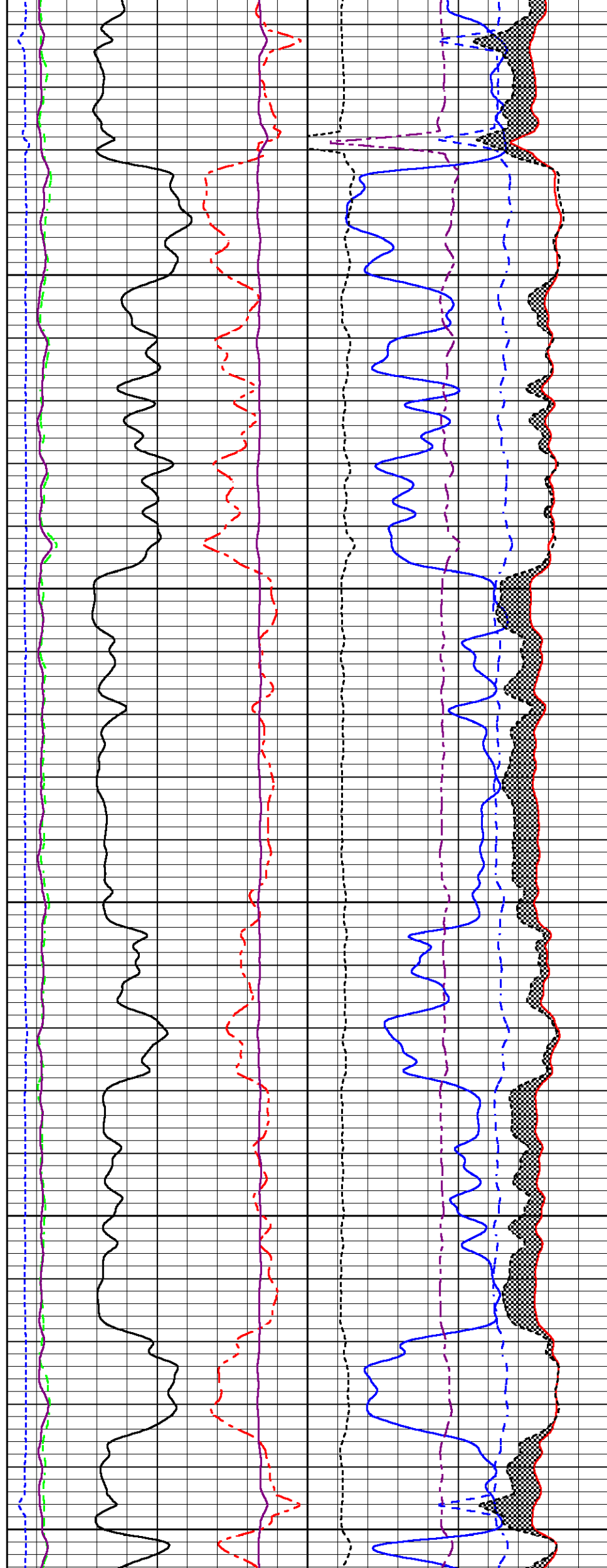


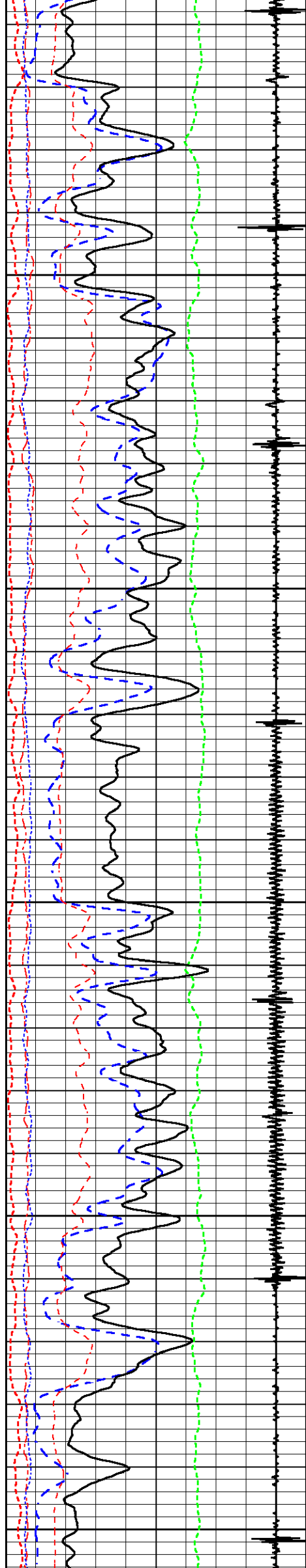


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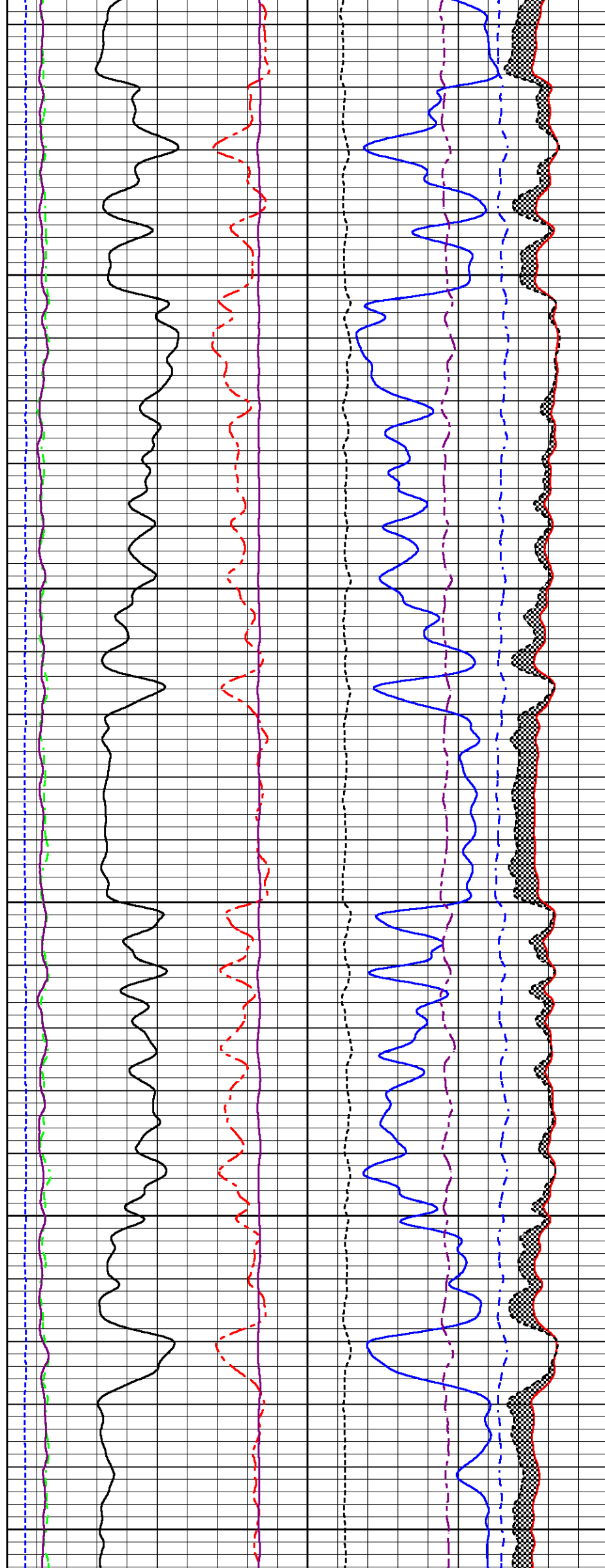
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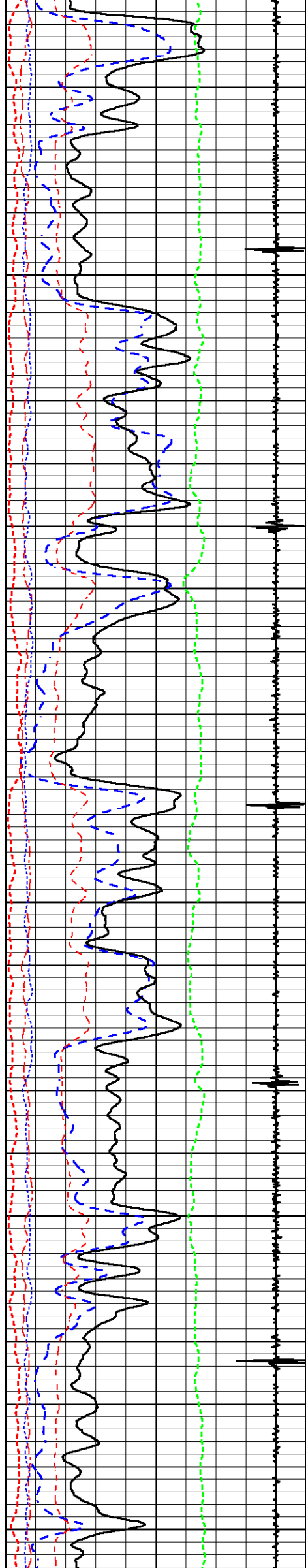




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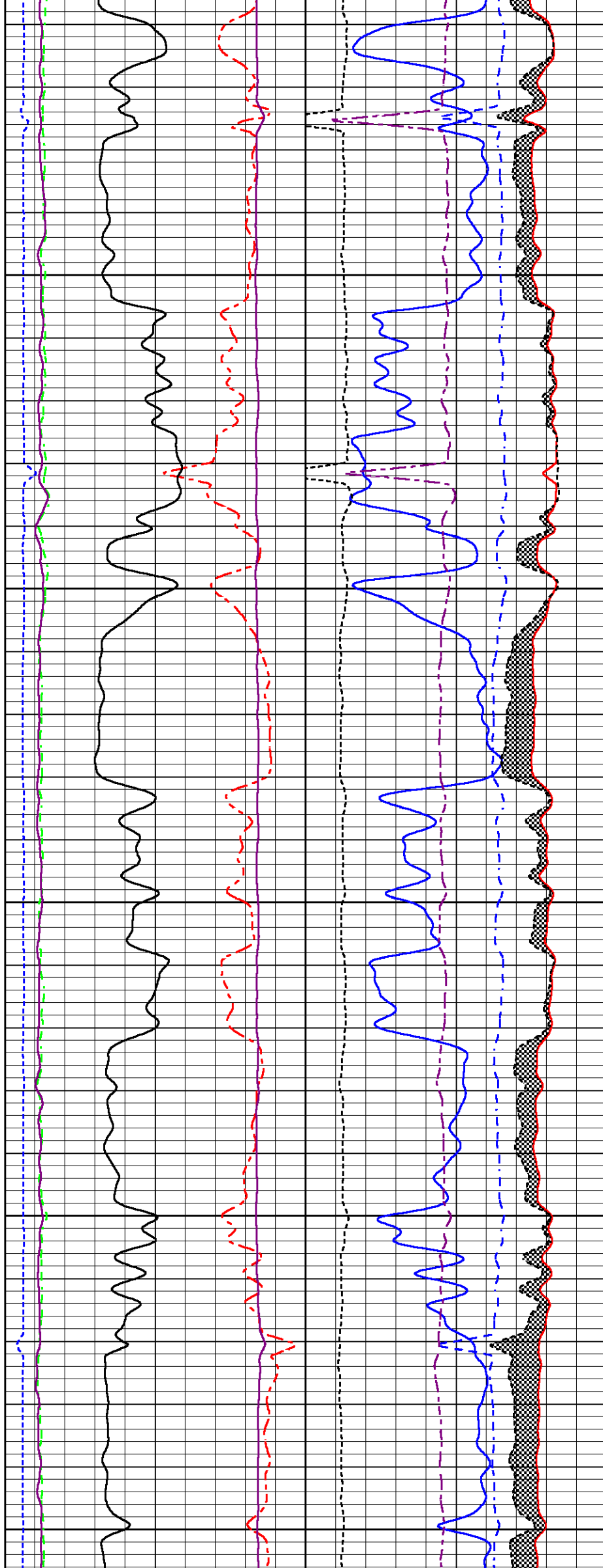


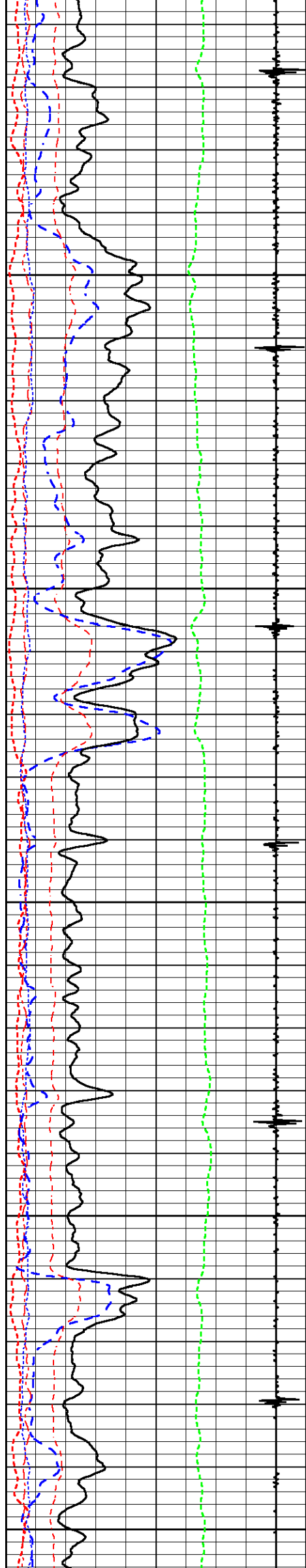


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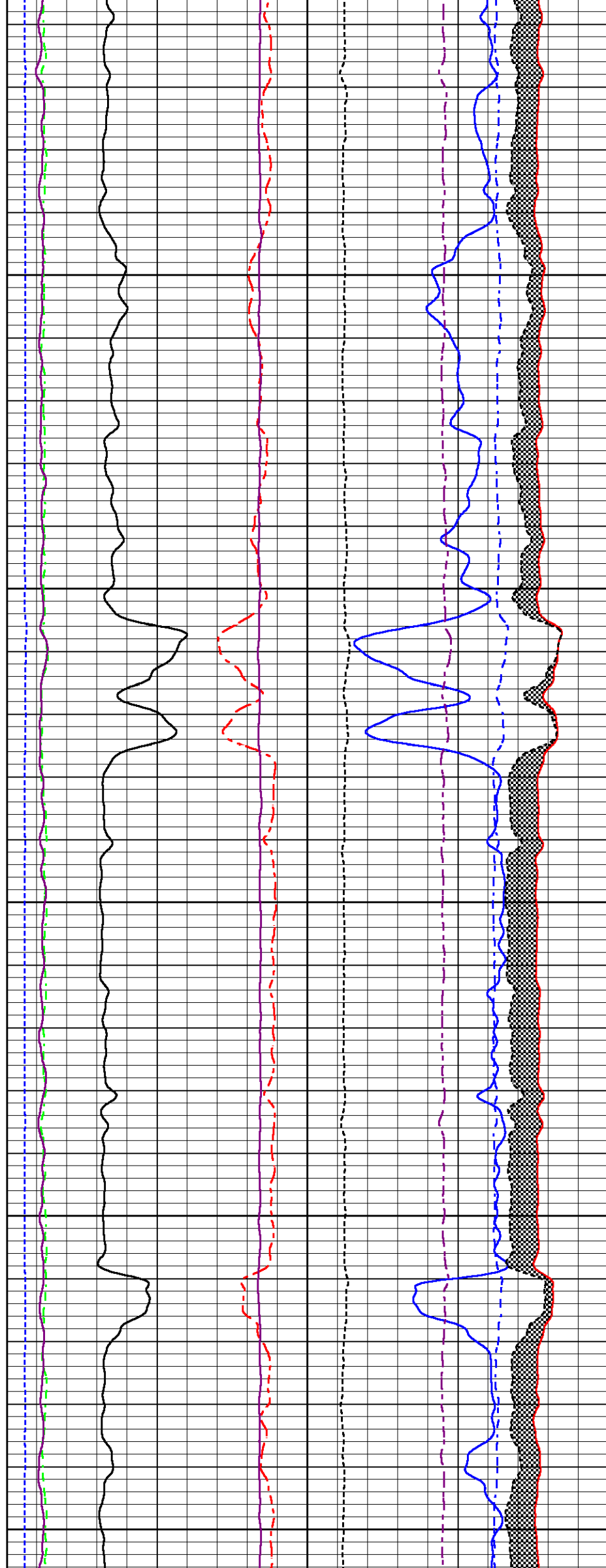
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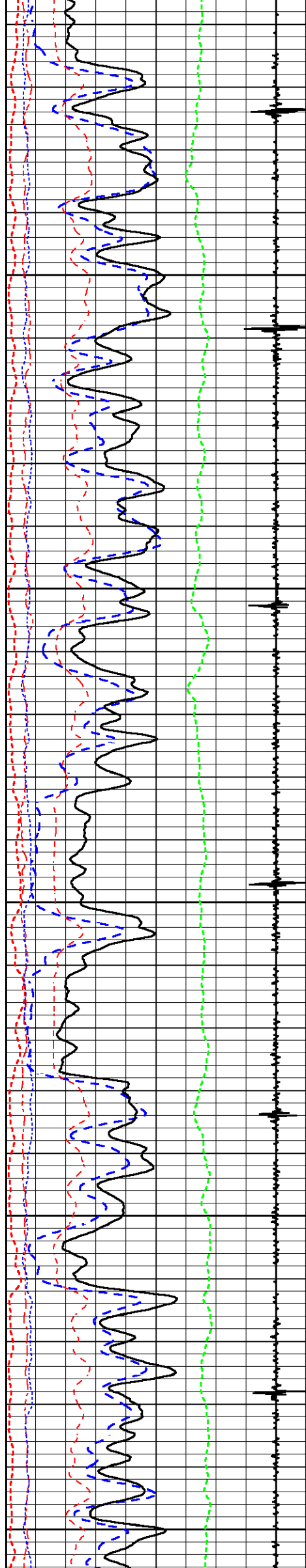




5000

5100

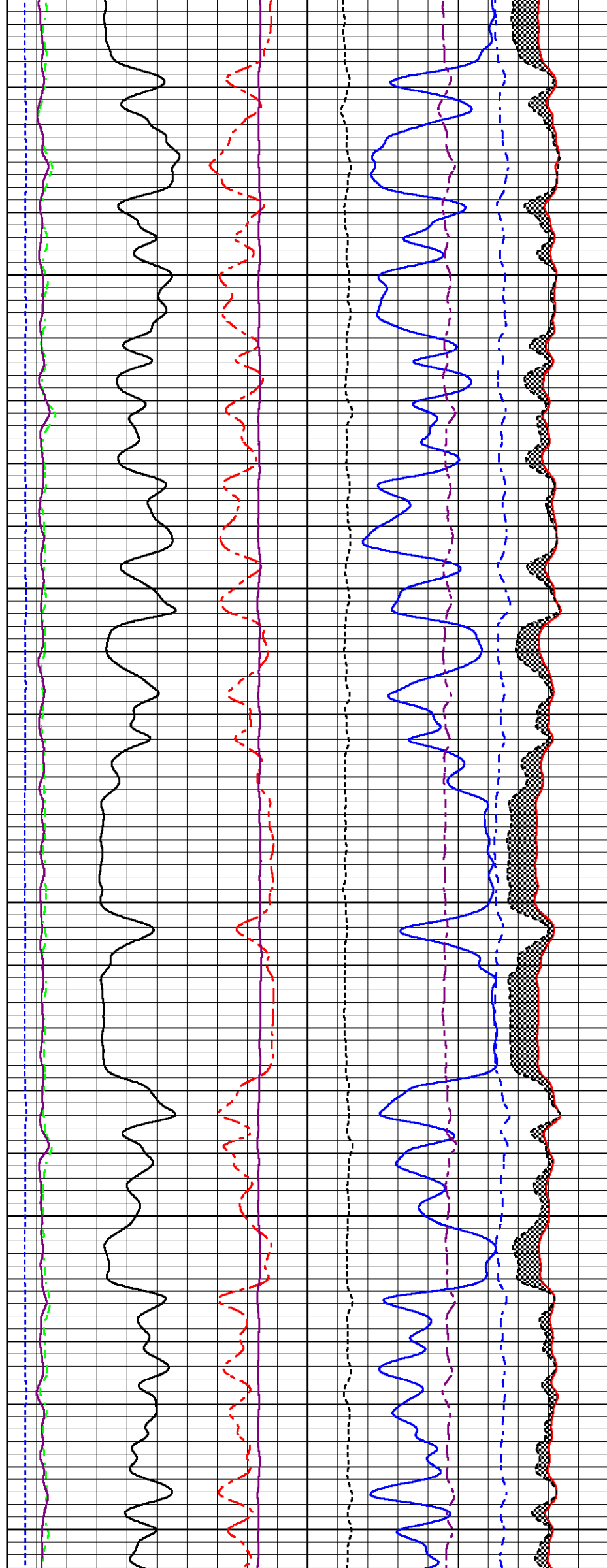


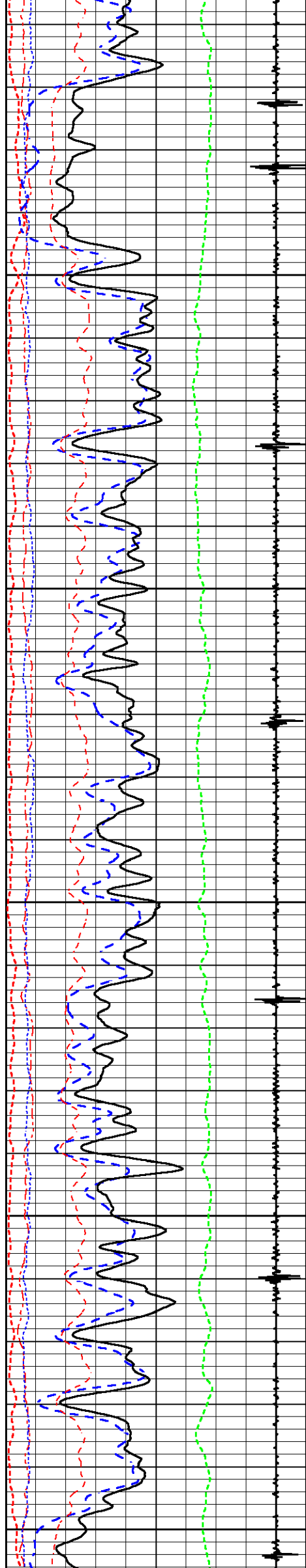


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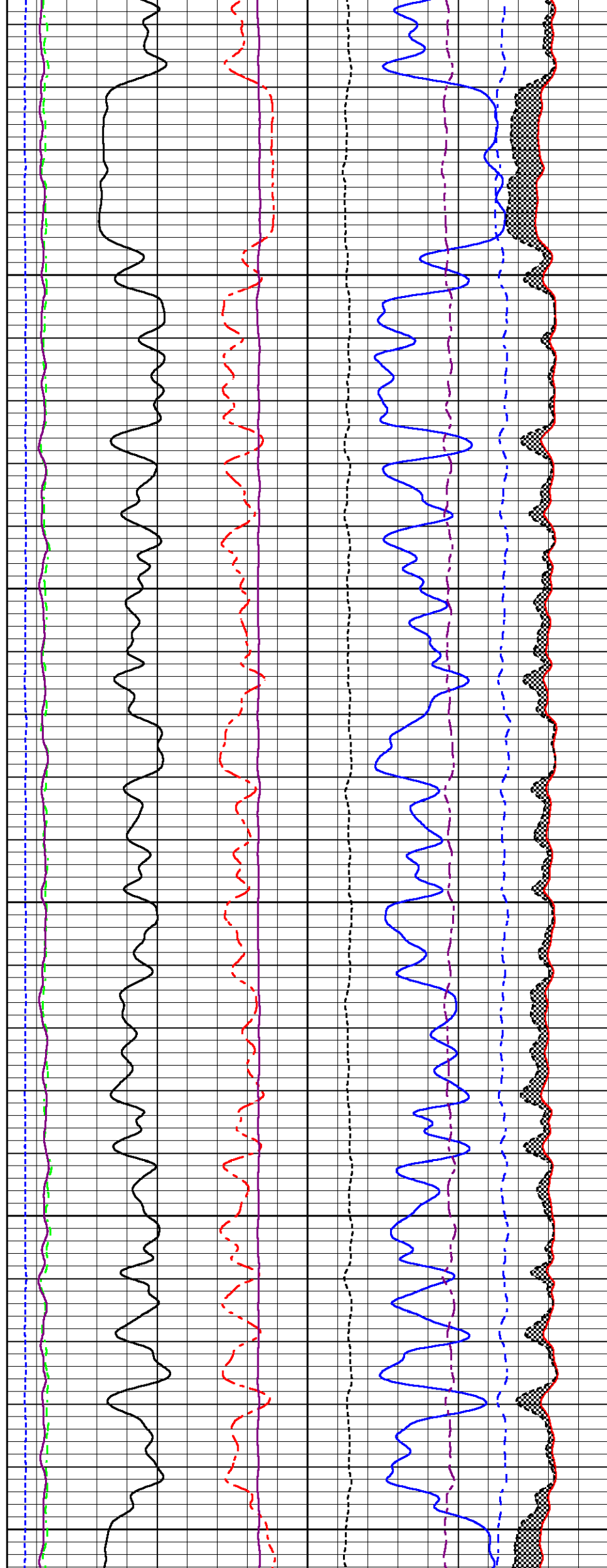
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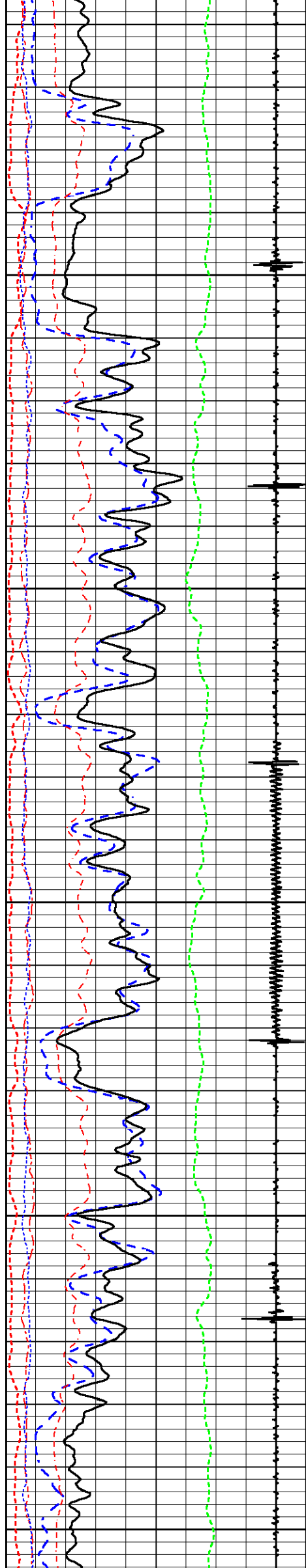




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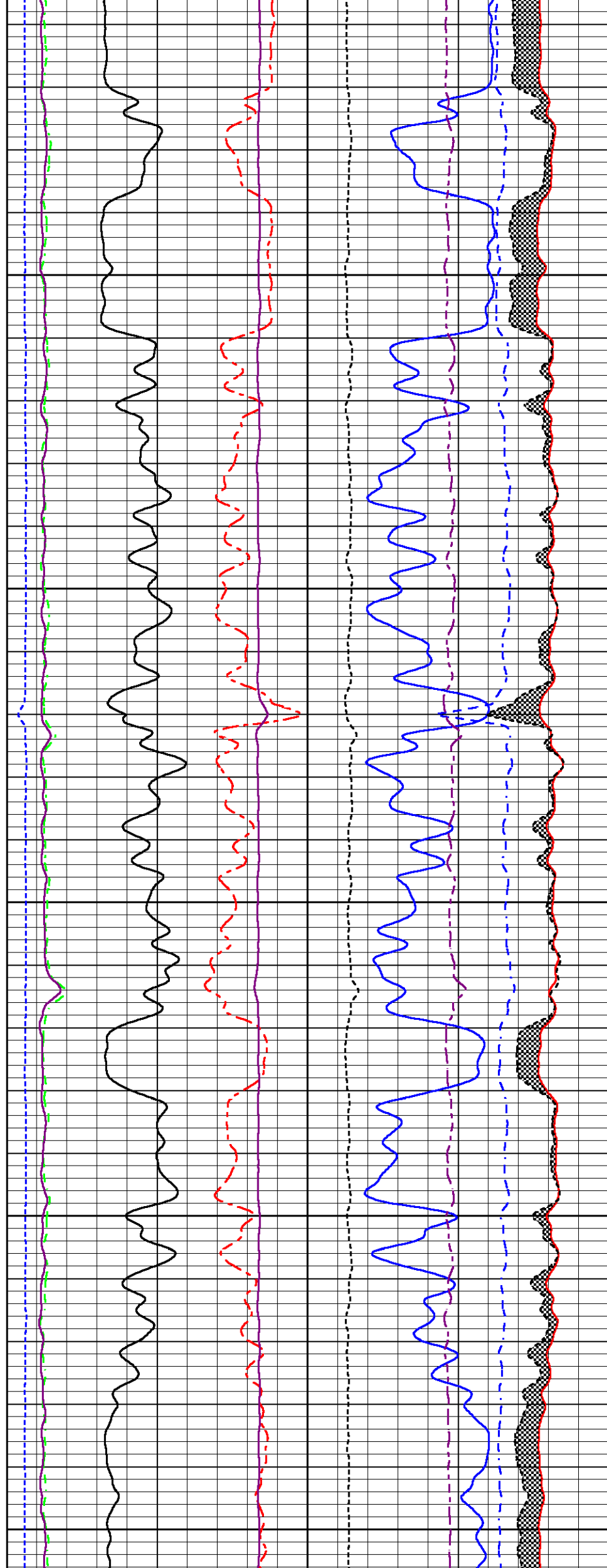


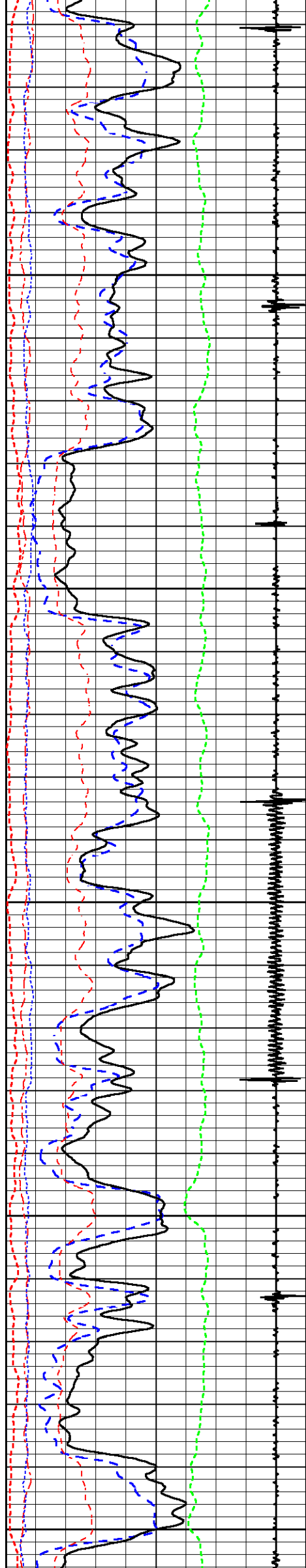


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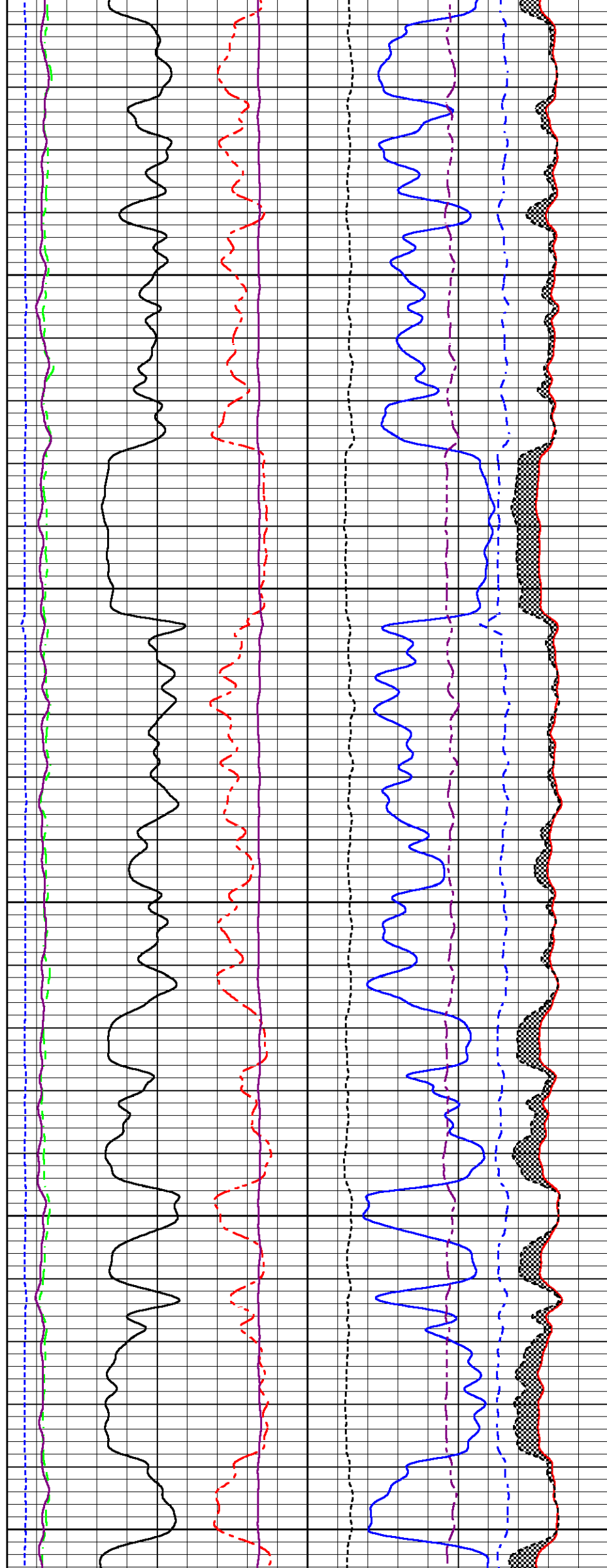
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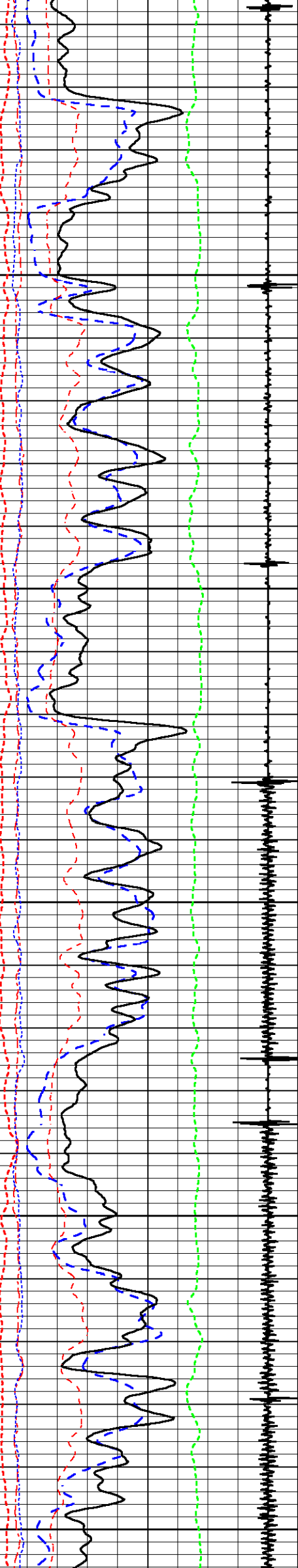




6000

6100

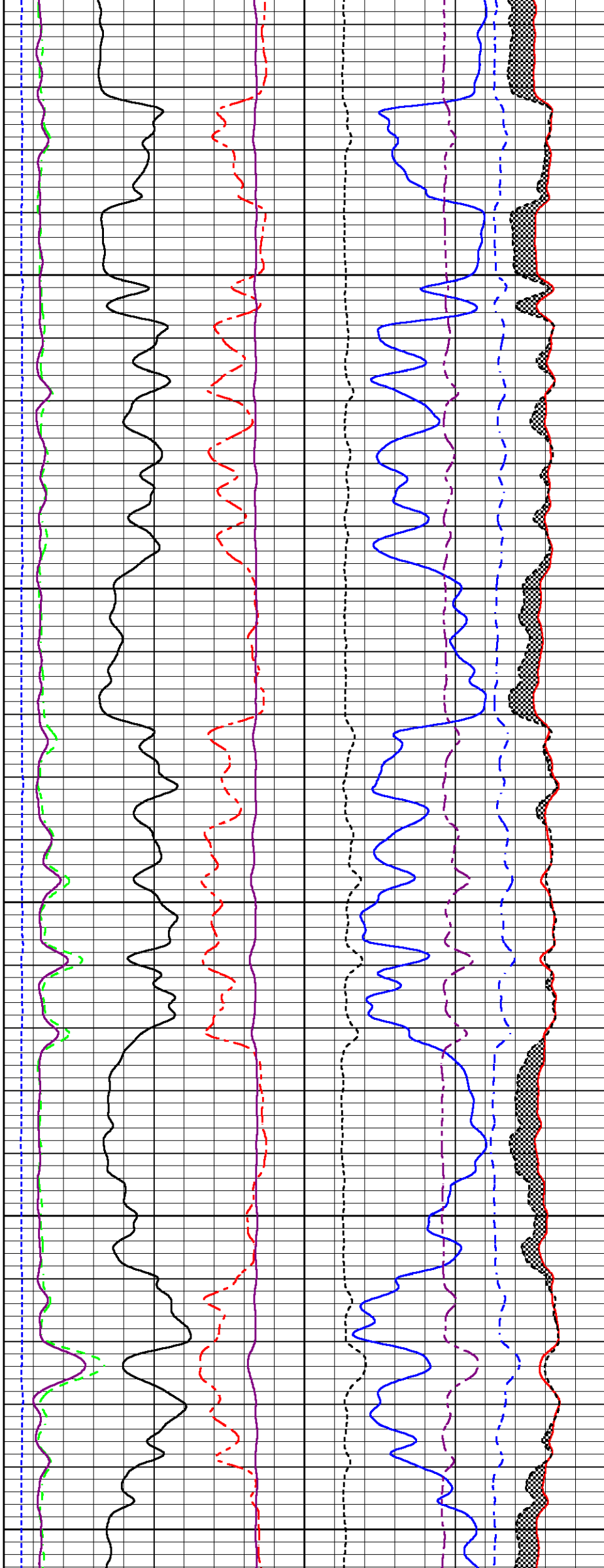


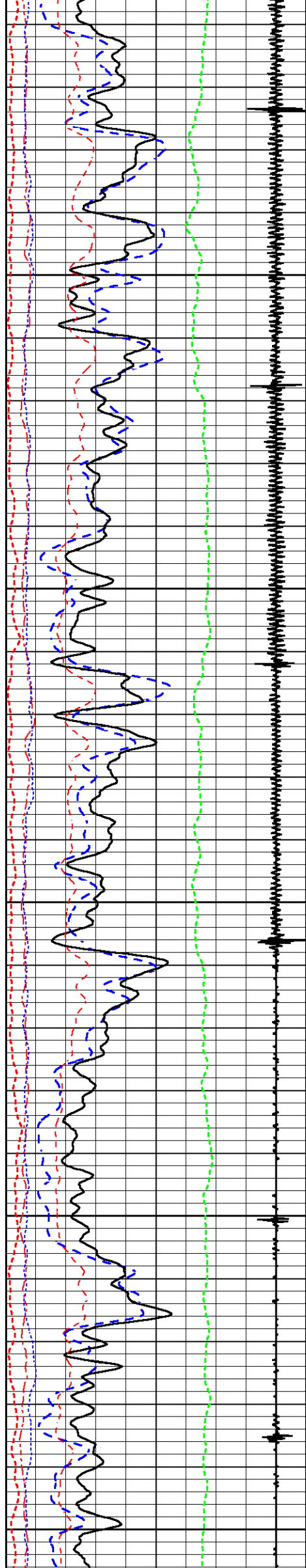


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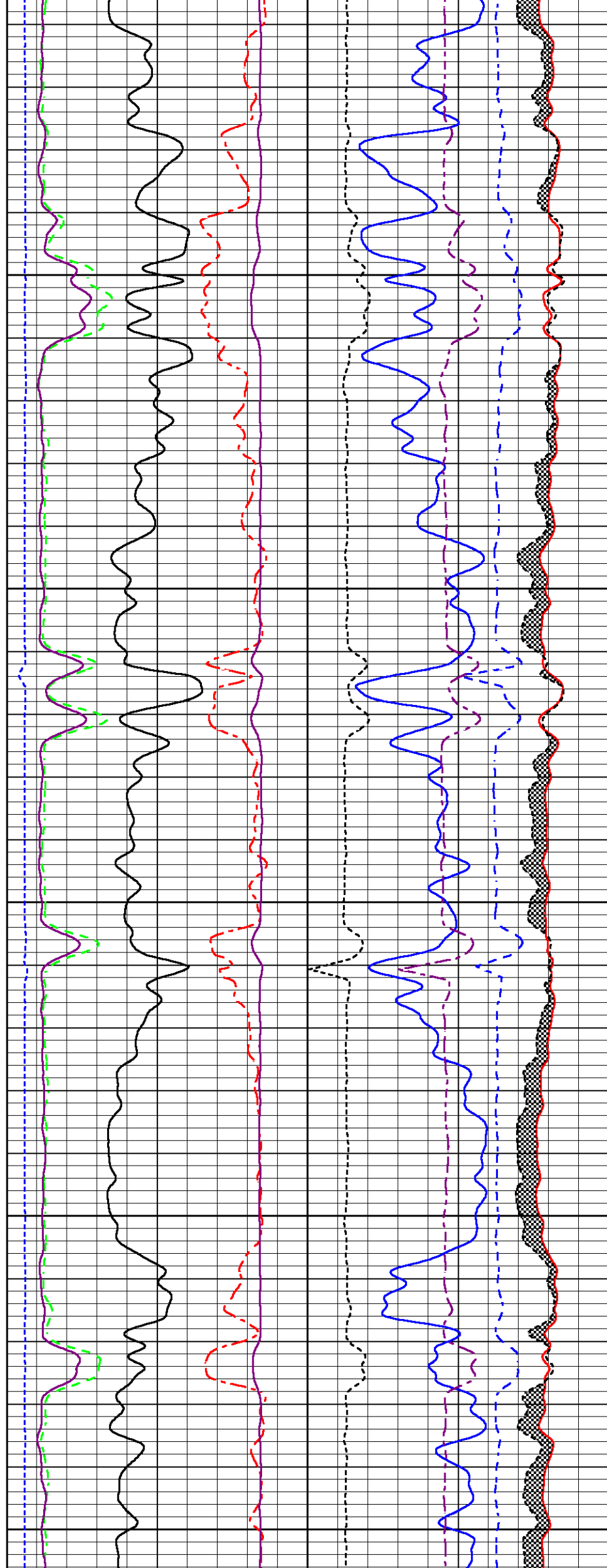
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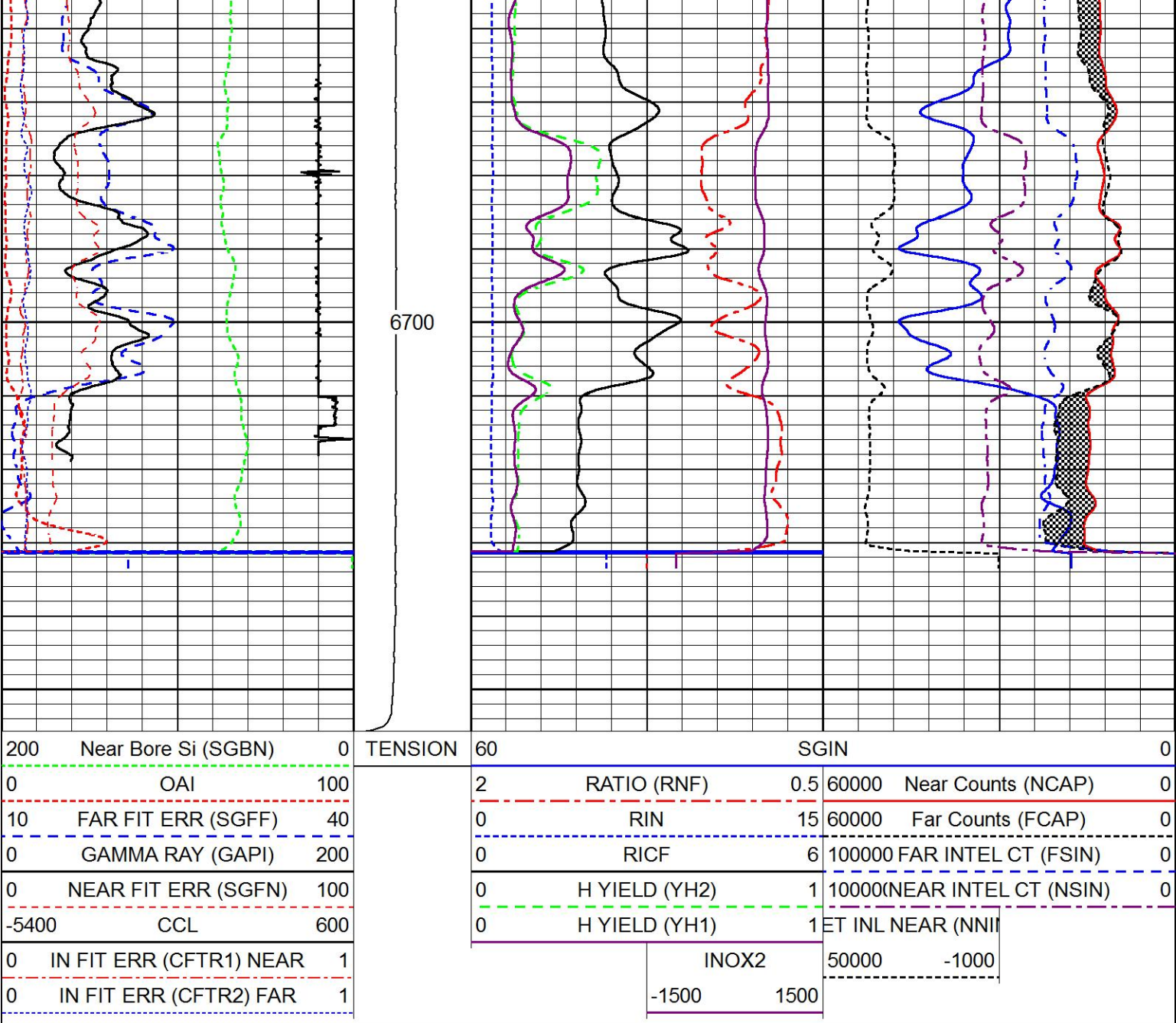




6500

6600





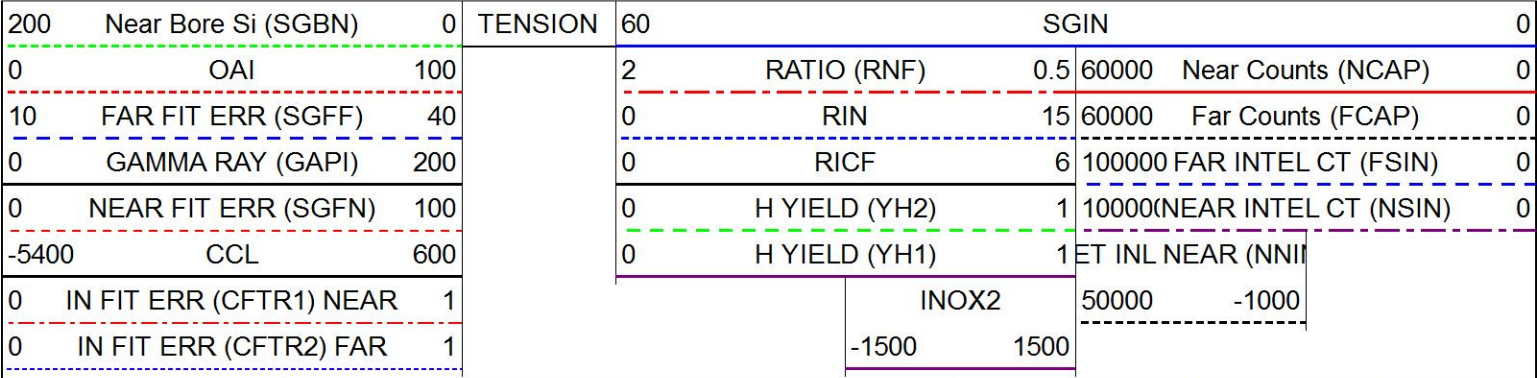
MAIN LOG SECTION

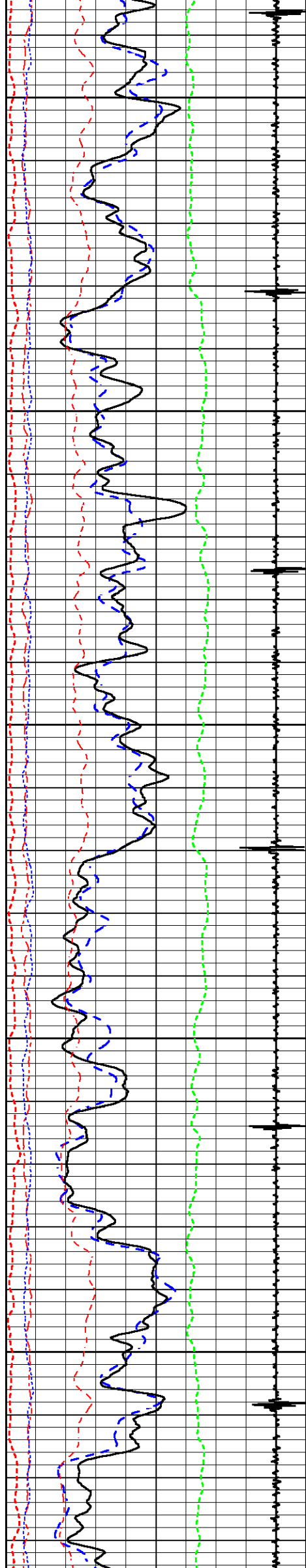
5" = 100'

REPEAT LOG SECTION

5" = 100'

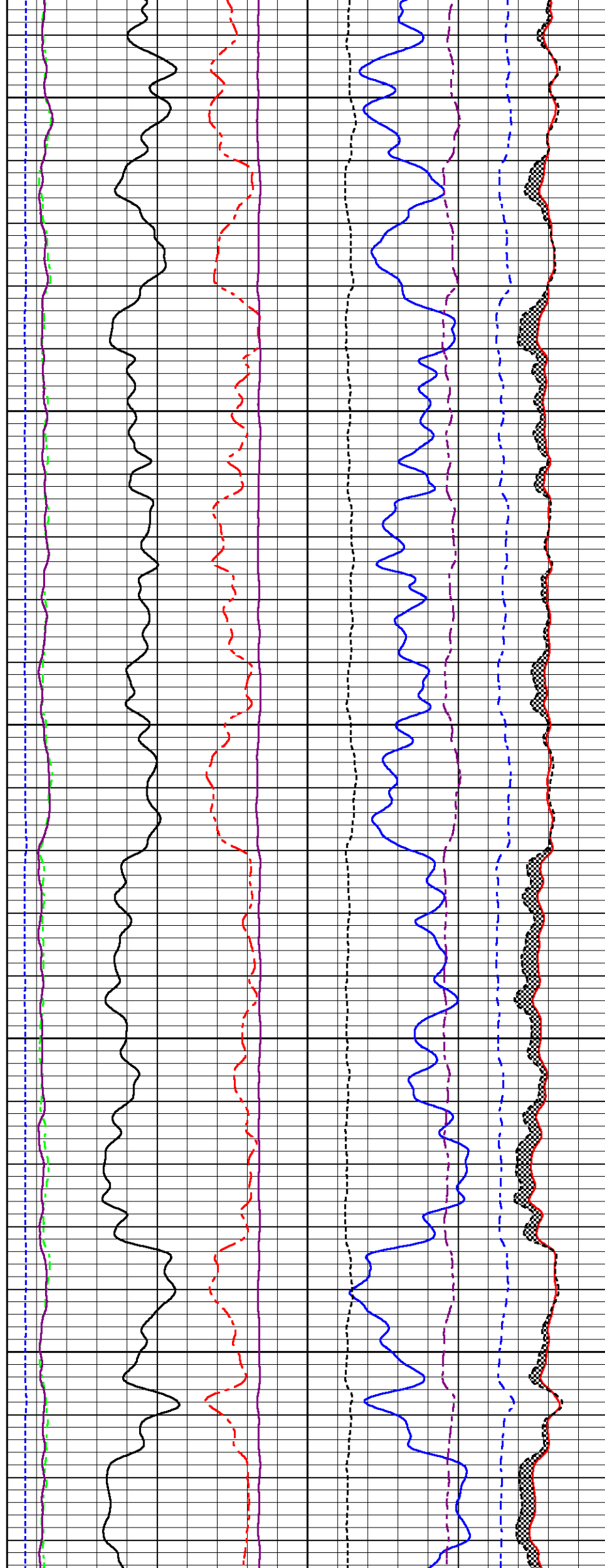
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Dataset Pathname REPEAT
Presentation Format RMTE_M~1
Dataset Creation Wed Jun 03 20:49:33 2015
Charted by Depth in Feet scaled 1:240

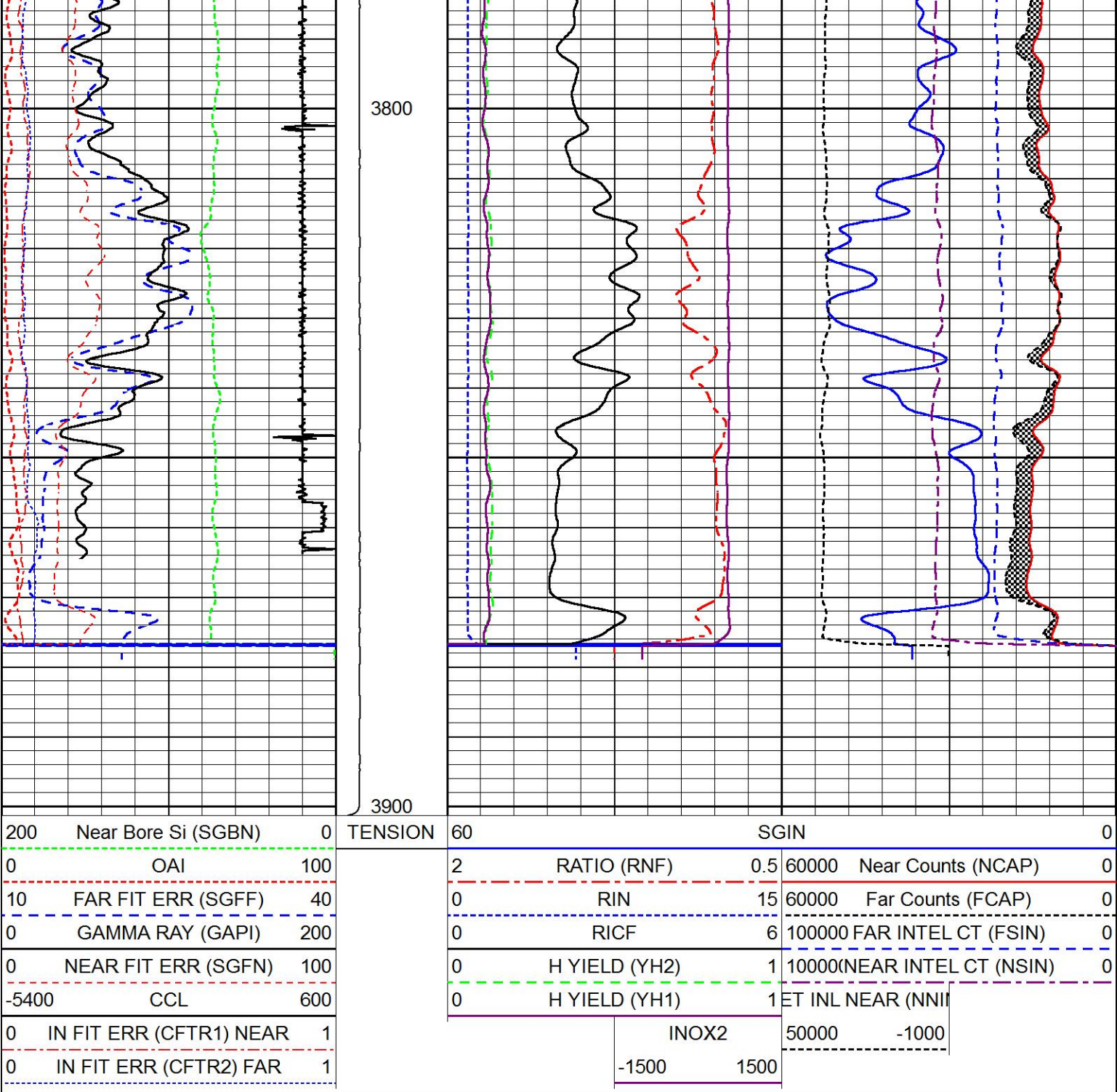




3600

3700





REPEAT LOG SECTION

HALLIBURTON

5" = 100'

Log Variables DatabaseD:\Warrior_data\watson_b_34a_combo.db
Dataset field\well\run1\MAIN_vars_

Top - Bottom

MSGGN	USERFTT usec/ft	ZREF MRayl	BHTEMP_Src	BHSAL2	BHSAL1	POROS2	POROS1
1	0	1.7	ITEMPX	0	1	0	1
LTH	UHSGC	RHO CF	SO in	BORSAL kppm	CASED?	PPT usec	CASEWGHT lb/ft
Sandstone	NONE	0.25	0	150	Yes	0	11.6
MAXAMPL mV	MINAMPL mV	MINATTN db/ft	SRFTEMP degF	MudWgt lb/gal	CASETHCK in	CASEOD in	PERFS
0	1	0.8	0	8.4	0.25	4.5	0
TDEPTH ft	BOTTEMP degF	BITSIZE in					
0	180	7.875					

0	100	7.075
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Calibration Report	
Database File	watson_b_34a_combo.db
Dataset Pathname	MAIN
Dataset Creation	Wed Jun 03 21:27:25 2015

Segmented Cement Bond Log Calibration Report
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Serial Number:	12082235	
Tool Model:	004	
Calibration Casing Diameter:	4.500	in
Calibration Depth:	136.007	ft

Master Calibration, performed Wed Jun 03 10:22:21 2015:						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	-0.013	0.728	0.000	82.000	110.637	1.453
5FT	-0.013	0.678	0.000	82.000	118.543	1.592
S1	-0.007	0.758	0.000	100.000	130.644	0.957
S2	-0.008	0.742	0.000	100.000	133.232	1.116
S3	-0.005	0.716	0.000	100.000	138.718	0.677
S4	-0.008	0.687	0.000	100.000	143.987	1.135
S5	-0.005	0.708	0.000	100.000	140.298	0.685
S6	-0.005	0.720	0.000	100.000	137.883	0.673
S7	-0.004	0.746	0.000	100.000	133.453	0.479
S8	-0.004	0.749	0.000	100.000	132.787	0.533

Calibration Report		
	Serial Number:	12082235
	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:	11680606-A
Shop Calibration Performed:	Mon Jun 01 14:01:58 2015

Carbon/Oxygen Mode					
Stabilization					
Result	Logged	Expected Value	Diff.	Tol.	Units
GENV	75.00	80.00	-5.00	+/-15.00	V
ITCR2	3230	3250	-20	+/-250	cps
Near Detector					
	Channel	Expected Value	Amplitude	FWHM	Tol.
H	60	60 +/-2	0.0244	5.81	<6.00
Fe	206	206 +/-2	0.0944	-----	-----
NGAIN = 0.998	NZOFF = 0.2				
Far Detector					
	Channel	Expected Value	Amplitude	FWHM	Tol.
H	60	60 +/-2	0.0365	5.60	<6.50
Fe	209	208 +/-2	0.0910	-----	-----
FGAIN = 0.994	FZOFF = 0.2				

Flask Temperature	65.6 degF				
Result	Logged	Expected Value	Diff.	Tol.	Units
COIR2	0.45	0.45	-0.00	+/-0.02	
LIRI2	1.64	1.64	-0.00	+/-0.05	
TCCR2	5062	5000	62	+/-1000	cps
ITCR2	3213	3200	13	+/-250	cps

Sigma Mode					
Stabilization					
Result	Logged	Expected Value	Diff.	Tol.	Units
GENV	76.00	80.00	-4.00	+/-15.00	V
FCAP	10334	10000	334	+/-500	cps
Horizontal Water Tank					
Result	Logged	Expected Value	Diff.	Tol.	Units
N/F Normalizer	0.94	0.95	-0.01		
N/F Inel Norm	0.61	0.61	0.00		
RNF	1.07	1.07	-0.00	+/-0.12	
RINC	1.63	1.64	-0.01	+/-0.18	
SGFN	24.06	24.00	0.06	+/-0.50	cu
SGFF	22.87	22.85	0.02	+/-0.50	cu
FSIN	25058	24000	1058	+/-2000	cps
FCAP	10528	10000	528	+/-1000	cps
NFTR	0.86			<5.00	
FFTR	0.91			<5.00	
NBKG	133			<500	cps
FBKG	102			<500	cps
RTN	0.44	0.40	0.04	+/-0.10	usec
RTF	0.47	0.40	0.07	+/-0.10	usec




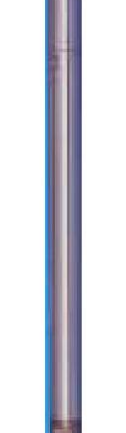
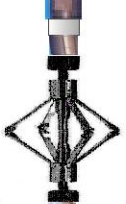


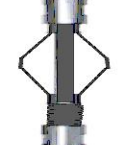
Calibration Software Modules	
HRMTI Module	2013.11.14.0
RMTI Module	2014.8.28.1
Log Data Acquisition Software Modules	
HRMTI Module	2013.11.14.0
RMTI Module	2014.8.28.1

Gamma Ray Calibration Report

Type / Serial:	002 / 10000028
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SHOP CALIBRATION		Wed Jun 03 00:21:49 2015			
	Counts/Sec.	Gain	Offset	Jig	Units
Background	39.9				cps
Calibrator	330.3				cps
		1.4048			GAPI/cps
PRIMARY VERIFICATION					
Background	55.8				cps
Calibrator	458.8				cps
Difference				403.0	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	37.26		STNDCH-STND_CH 1.4375 IN CABLE HEAD	1.50	1.44	1.00
GR	35.00		TTTCU-002 (10000028) Through Tubing Telemetry Cartridge - Ultrawire	7.65	1.69	100.00
RmtTFGT	24.35		XHU-003 (12218041) Crossover Halliburton 1553 to Ultrawire	1.58	1.69	7.00
RmtTNGT	23.85		RMTI-A (11680606) Halliburton RMTI Tool	14.00	2.13	77.00
RmtFP5V	16.10		X-OVER-SondexxGo Sondex Box x Go Pin Cross Over	0.31	1.69	1.00
			AUH-001 (000001) Adaptor Ultrawire/Halliburton	0.38	1.69	3.00
RmtCommFWa	16.10		CENT-CSSMid3.00Roller CSS 3.00" MIDDLE ROLLER CENTRALIZER	2.75	3.00	36.00
CBLTEMP	8.31		RBT-004 (12082235) Radial Bond Tool (UW 3 1/8) 20K Rated	9.48	3.13	140.00
LLMTEN	0.00		CENT-Probe_275 Probe 2 3/4 Centralizer	2.88	2.75	20.00
			BUL-001 (000001) Bullnose	0.30	1.69	1.50

	Dataset:	watson_b_34a_combo.db: field/well/run1/MAIN
	Total length:	40.83 ft
	Total weight:	386.50 lb
	O.D.:	3.13 in

Company	URSA OPERATING CO, LLC		
Well	WATSON RANCH B 34A-17-07-95		
Field	PARACHUTE		
County	GARFIELD	State	CO
HALLIBURTON	RESERVOIR MONITOR TOOL - ELITE		