

HALLIBURTON

RESERVOIR MONITOR
TOOL - ELITE

Company		URSA OPERATING CO, LLC		Company		URSA OPERATING CO, LLC		Other Services	
Well		WATSON RANCH B 33D-17-07-95		Well		WATSON RANCH B 33D-17-07-95		CBL	
Field		PARACHUTE		Field		PARACHUTE		JB/GR	
County		GARFIELD State CO		County		GARFIELD State CO			
Permanent Datum		GROUND LEVEL		Sec:17 Twp:07S Rge:95W		Elevation			
Log Measured From		KB		17 ft. above perm. datum		K.B. 5602 ft			
Drilling Measured From		KB				D.F. 5601 ft			
						G.L. 5585 ft			
Date @ Time Logged		04 JUNE 2015		Type Fluid in Hole		WATER			
Run No.		ONE		Density of Fluid		8.4 ppg			
Depth - Driller		7067'		Fluid Level		FULL			
Depth - Logger		6802'		Cement Top Est. Logged		SEE LOG			
Bottom - Logged Interval		6802'		Equipment / Location		11698439 /		GJ, CO	
Top - Log Interval		3589'		Recorded by		P. DIMPFL			
Max. Recorded Temp.		186.0 degF		Witnessed by		R. TOLLE			
CEMENTING DATA		Surface		Protection				Liner	
		String		String		String			
Date / Time Cemented		N/A		N/A		N/A		N/A	
Primary / Squeeze									
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 1771'		8.625" 24#		SURFACE 1771'			
TWO		7.875" 1700' 7076'		4.5" 11.6#		SURFACE 7067'			

<<< 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

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 @: 6375' - 6385', 5479' - 5489', 3030' - 3040'

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

Service Ticket No.	902453076	API No.	05-045-22806-0000	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.	6802'	3589'	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			

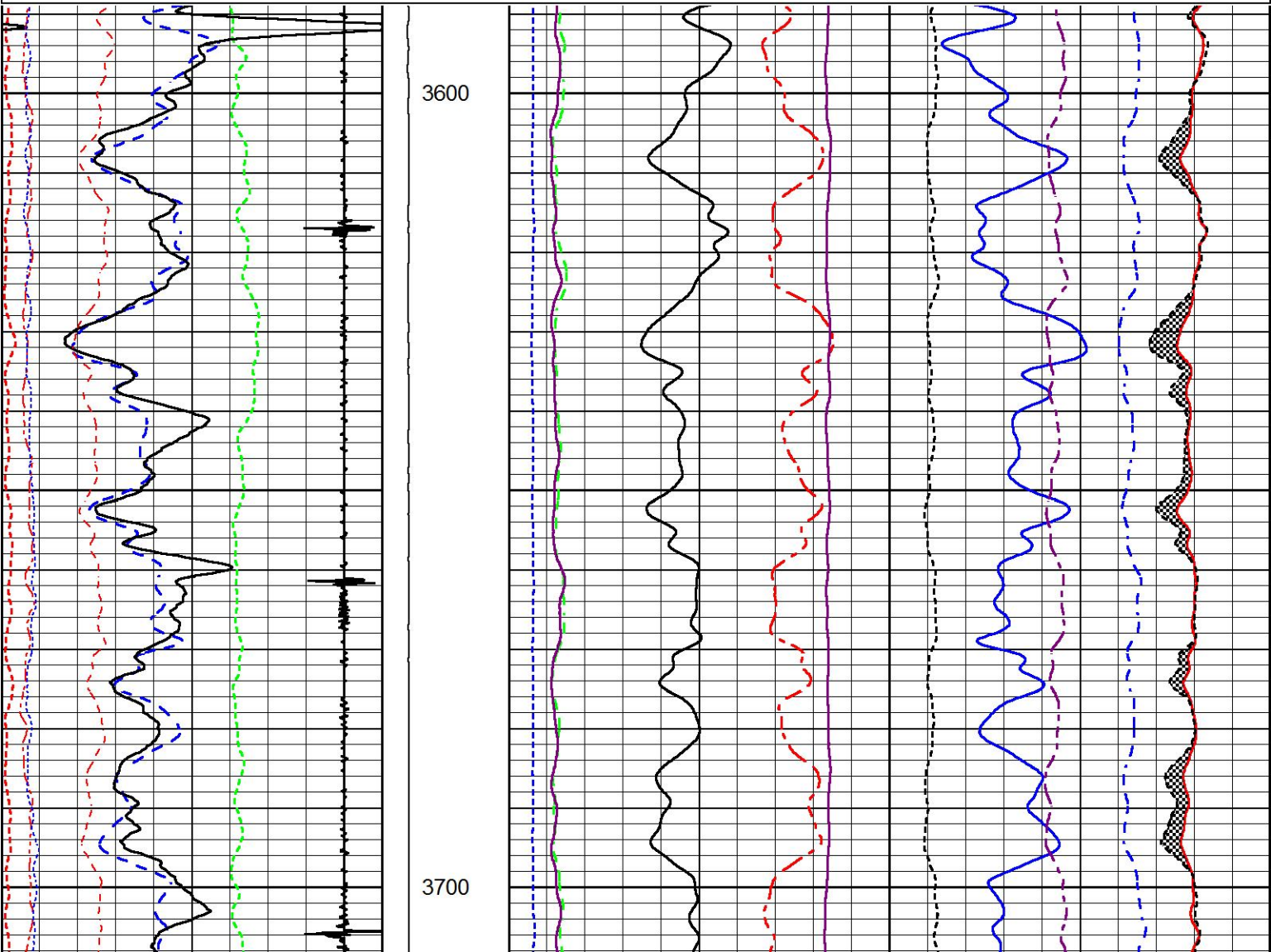
HALLIBURTON

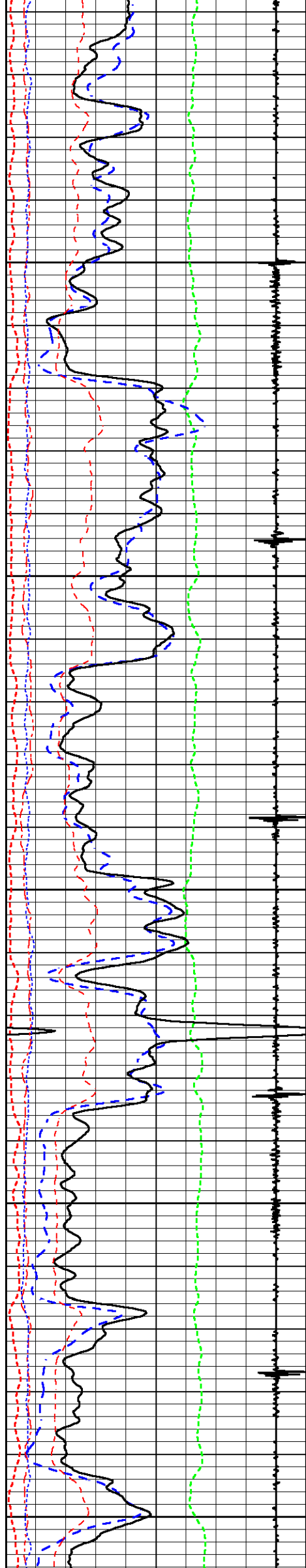
MAIN LOG SECTION

5" = 100'

Database File	watson_b_33d_combo.db
Dataset Pathname	MAIN
Presentation Format	RMTE_M~1
Dataset Creation	Thu Jun 04 07:03:41 2015
Charted by	Depth in Feet scaled 1:240

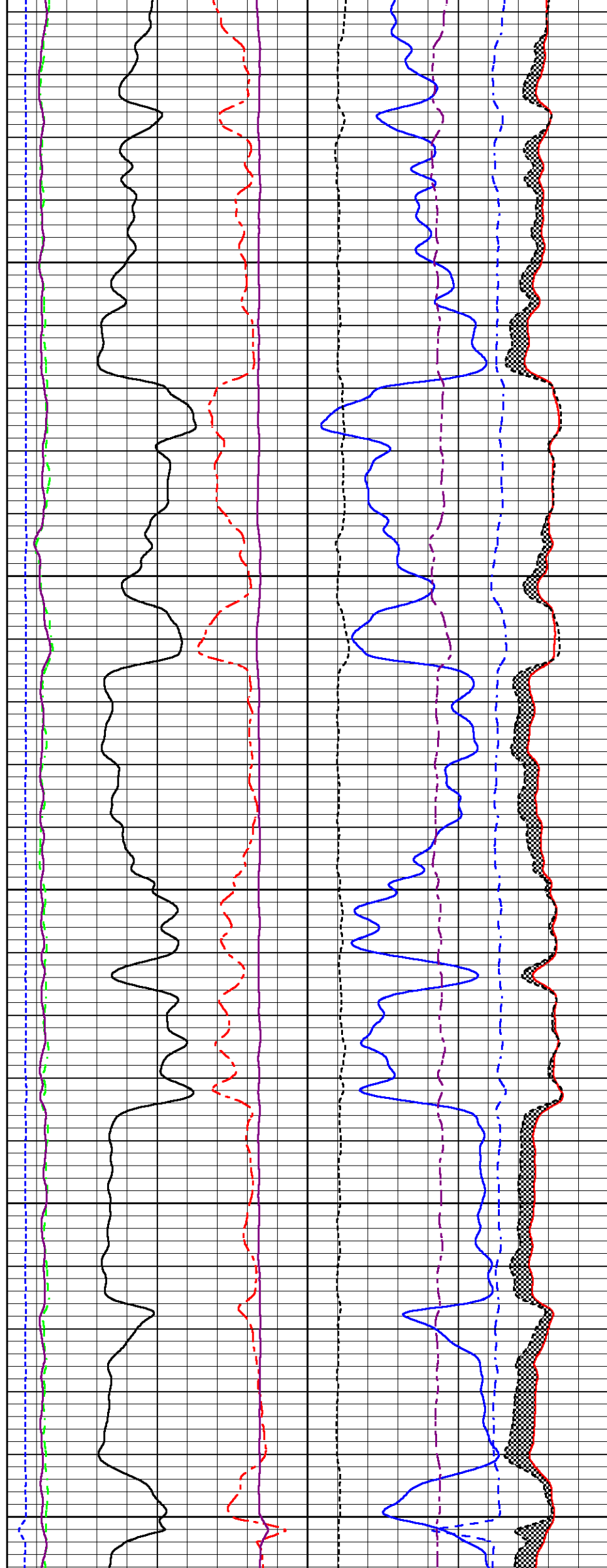
200	Near Bore Si (SGBN)	0	TENSION	60	SGIN	0
0	OAI	100		2	RATIO (RNF)	0.5
10	FAR FIT ERR (SGFF)	40		0	RIN	15
0	GAMMA RAY (GAPI)	200		0	RICF	6
0	NEAR FIT ERR (SGFN)	100		0	H YIELD (YH2)	1
-5400	CCL	600		0	H YIELD (YH1)	1
0	IN FIT ERR (CFTR1) NEAR	1			INOX2	50000
0	IN FIT ERR (CFTR2) FAR	1				-1000
			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

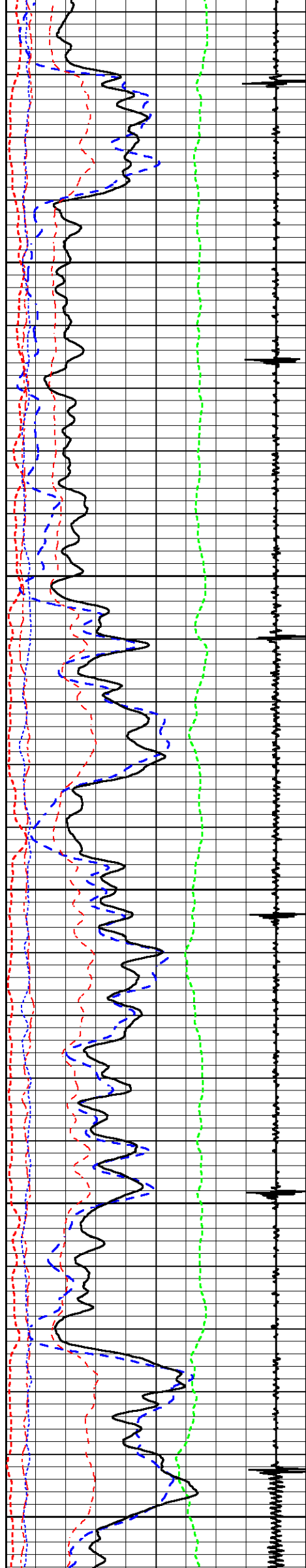




3800

3900

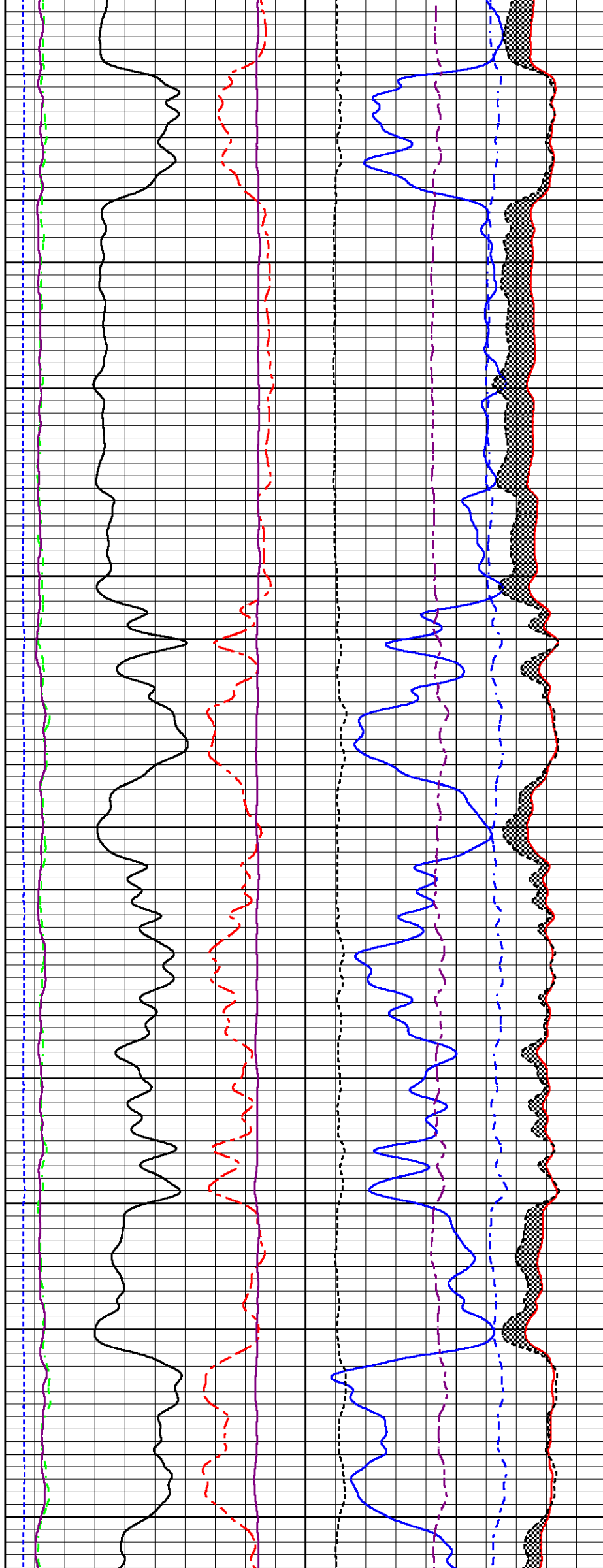


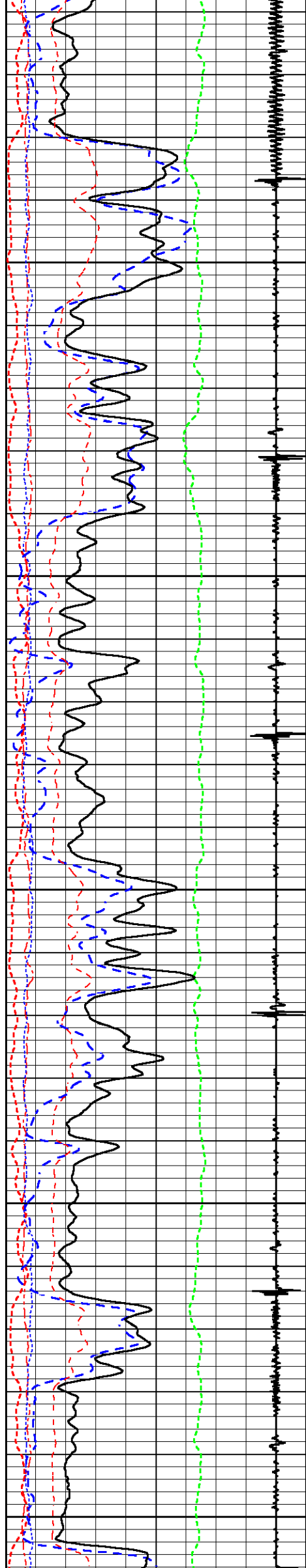


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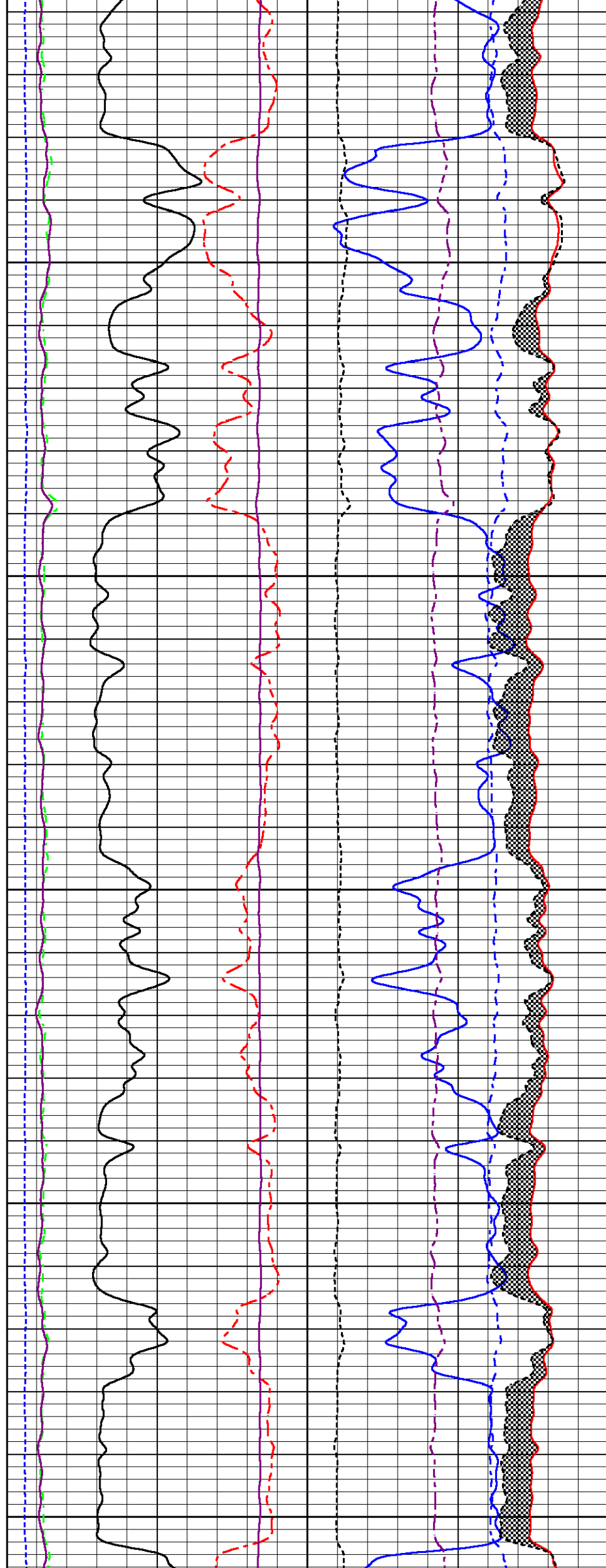
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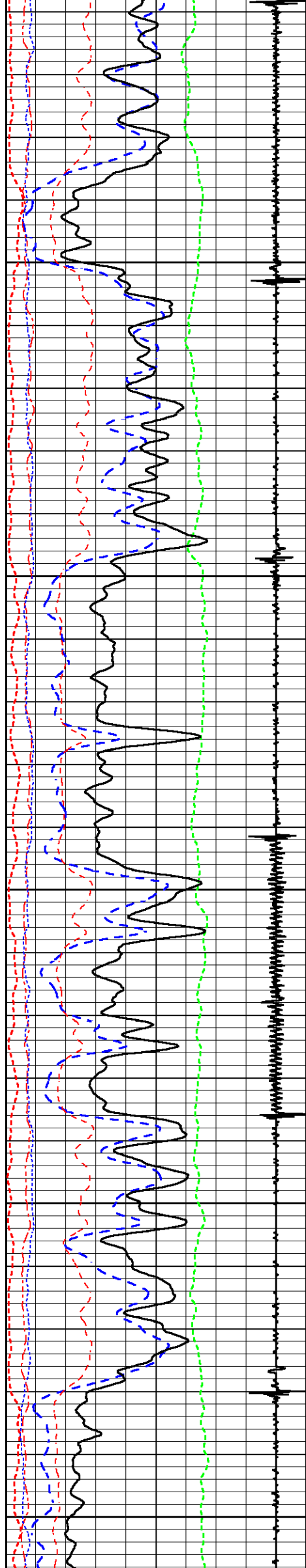




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4400

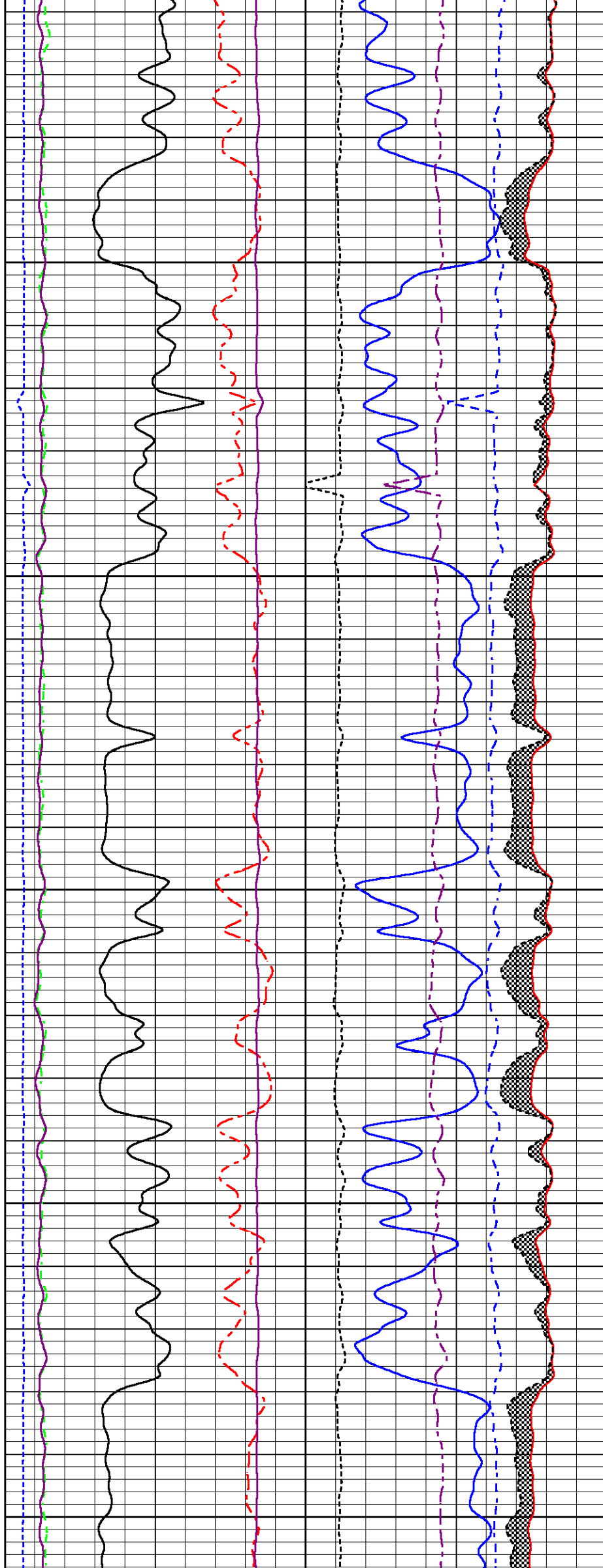


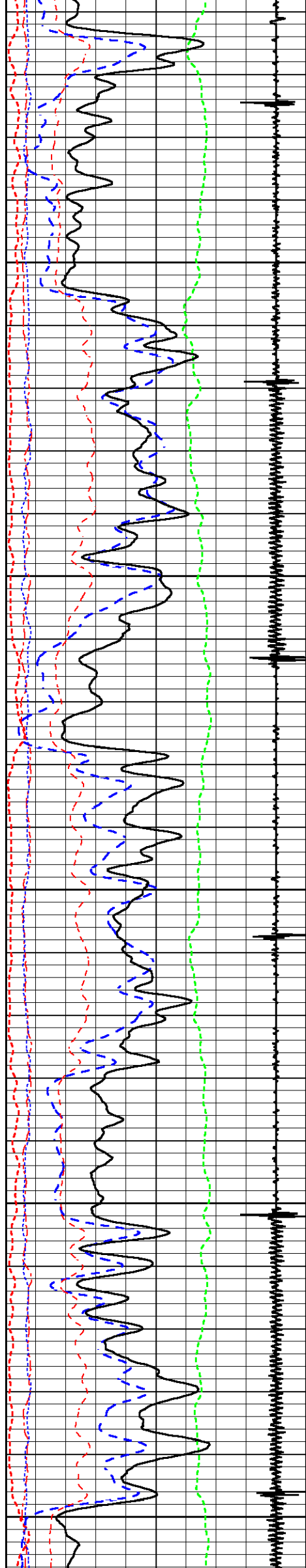


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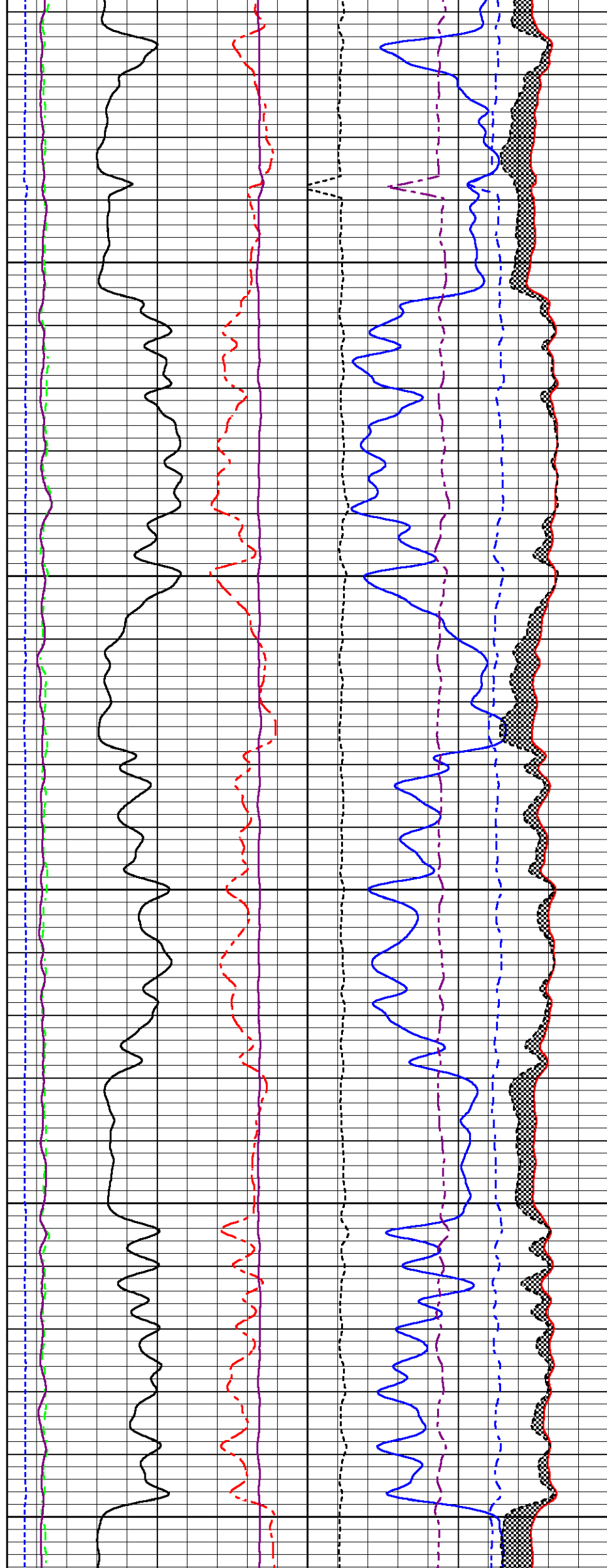
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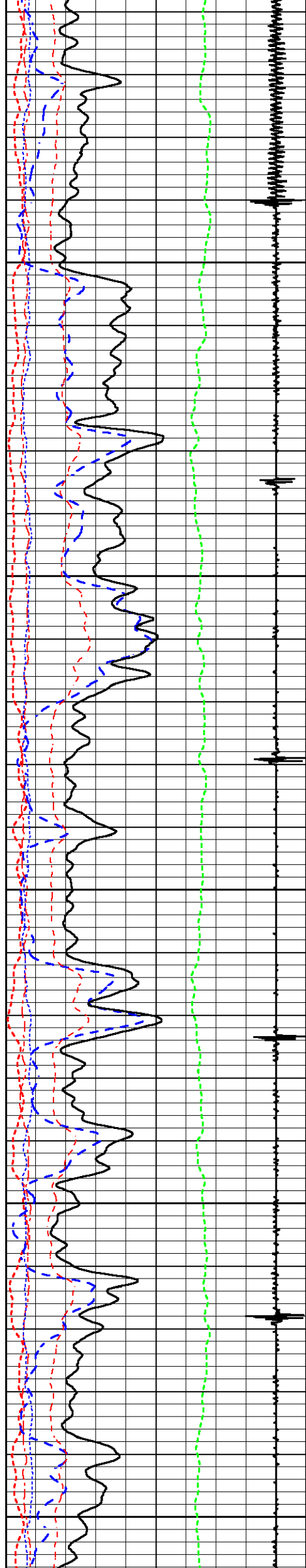




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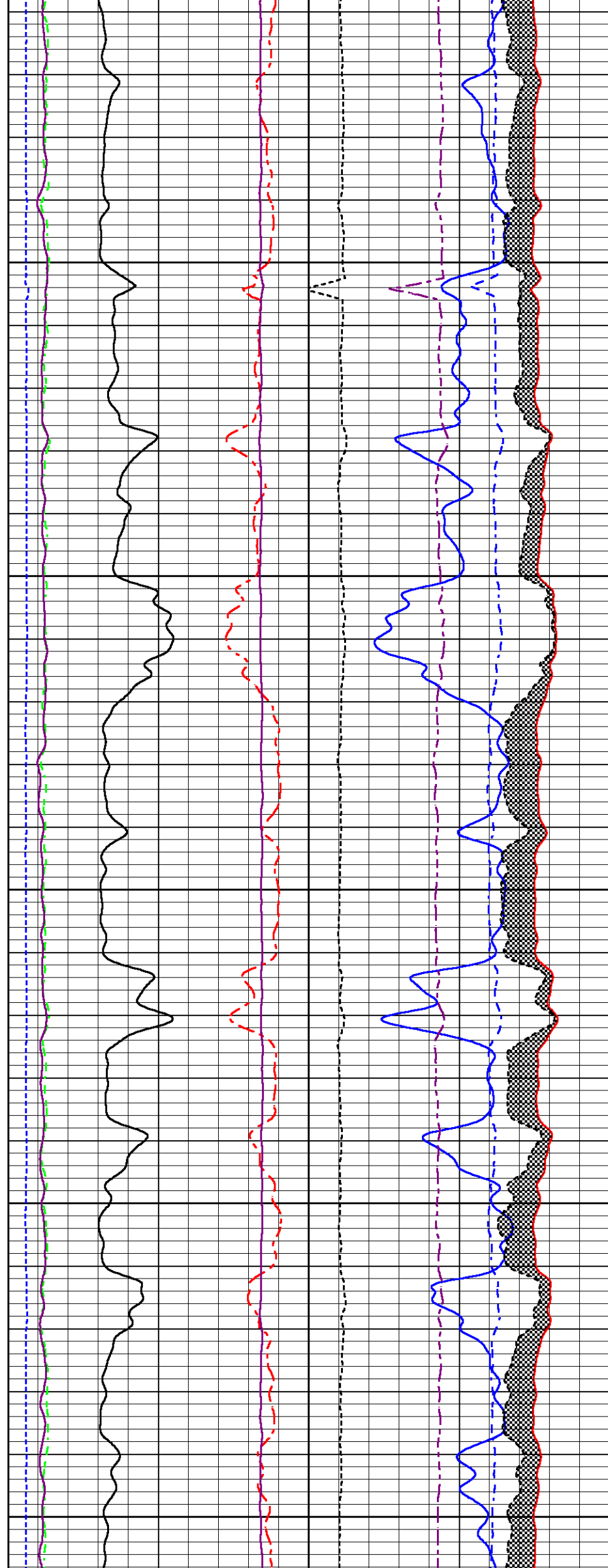


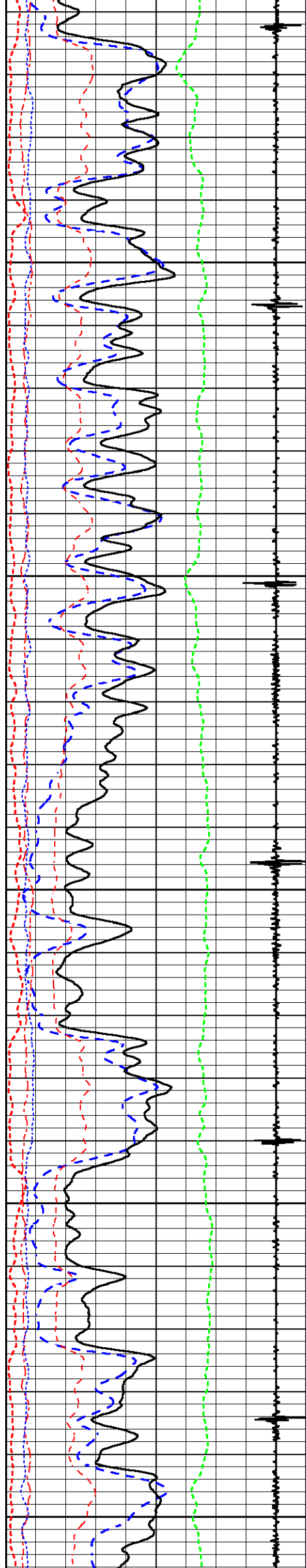


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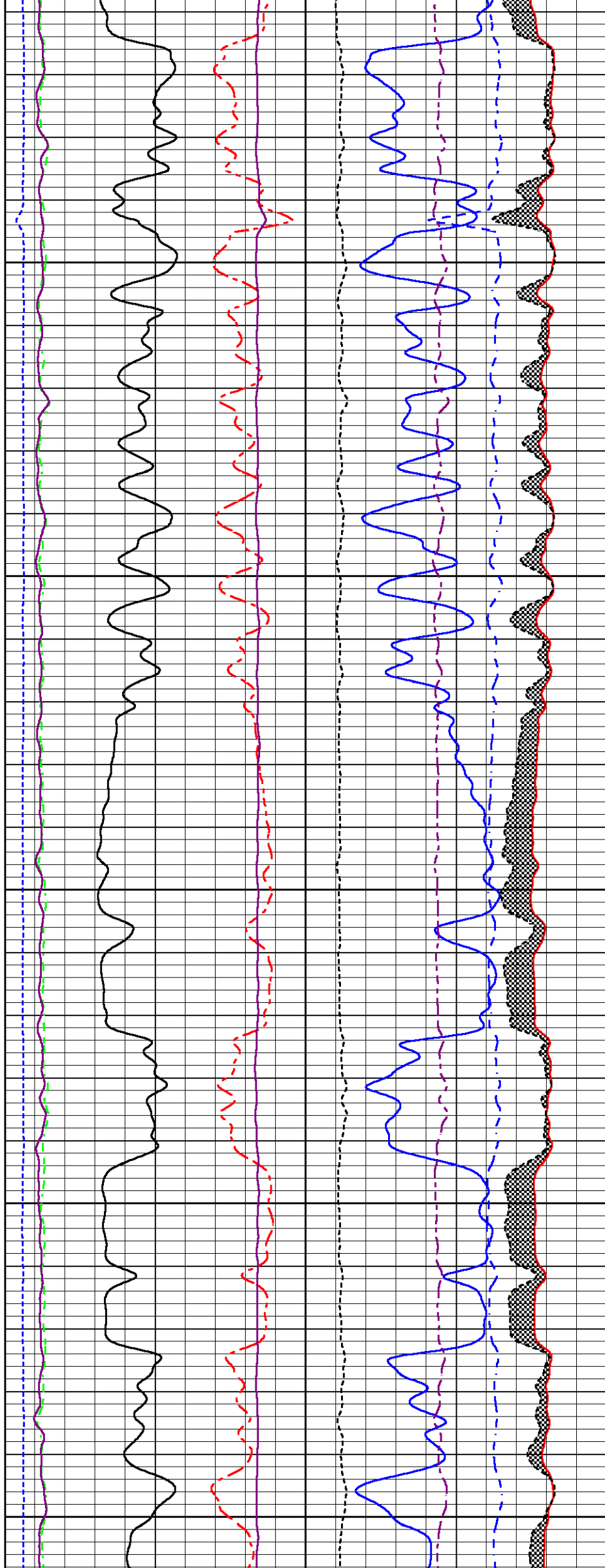
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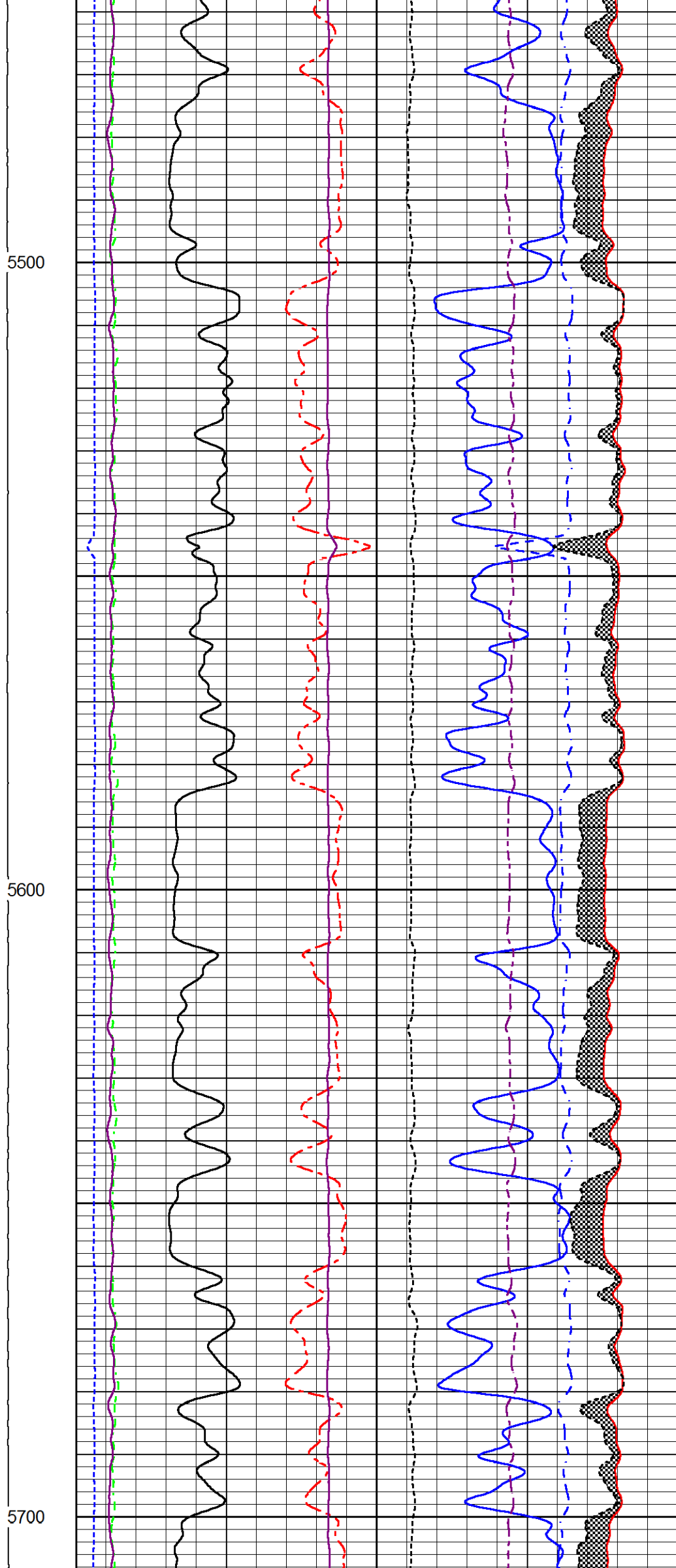
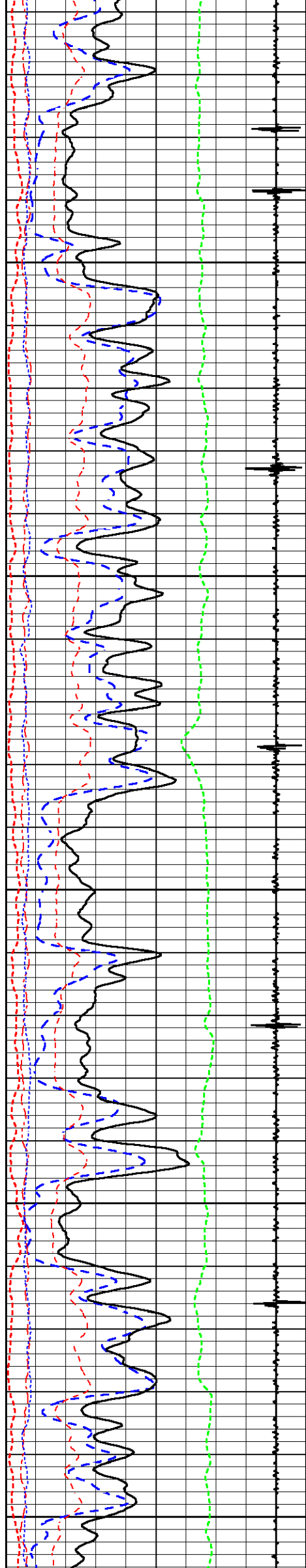


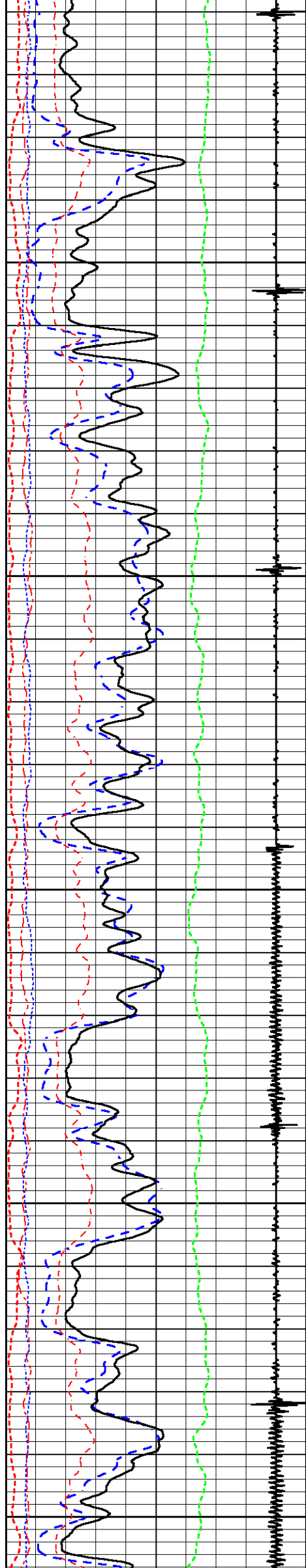


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5400

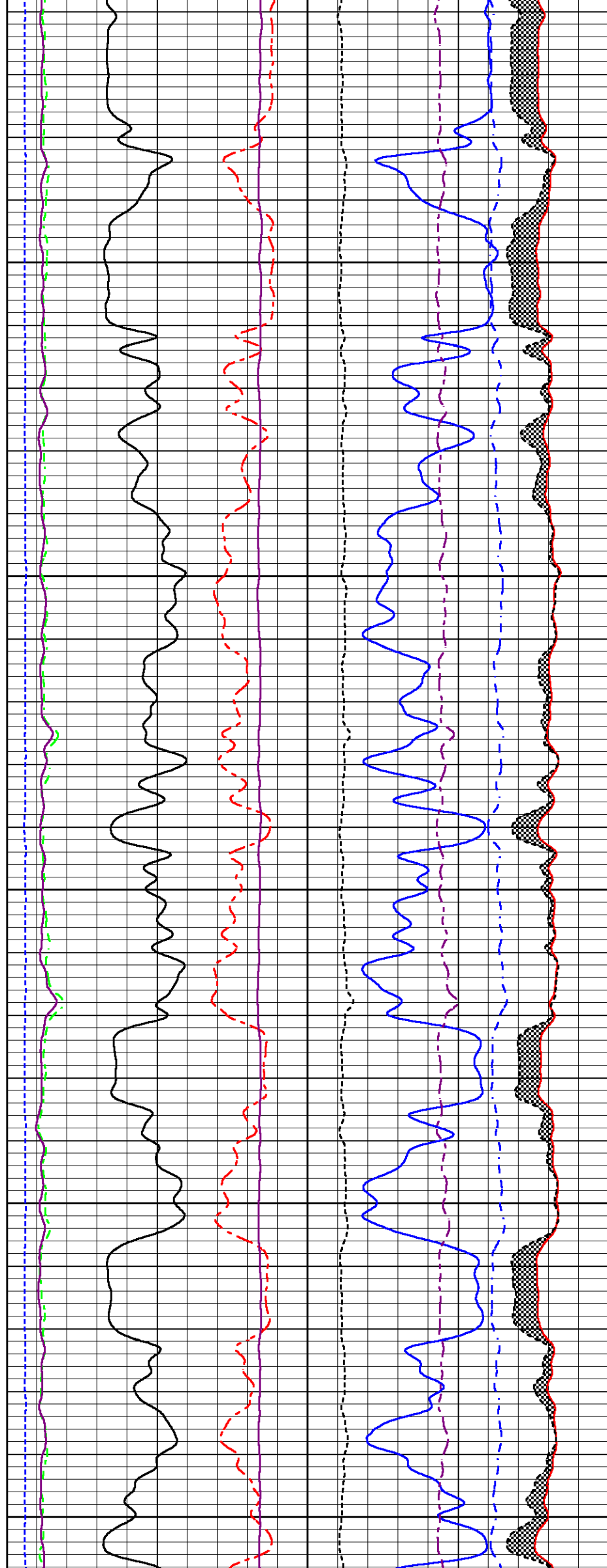


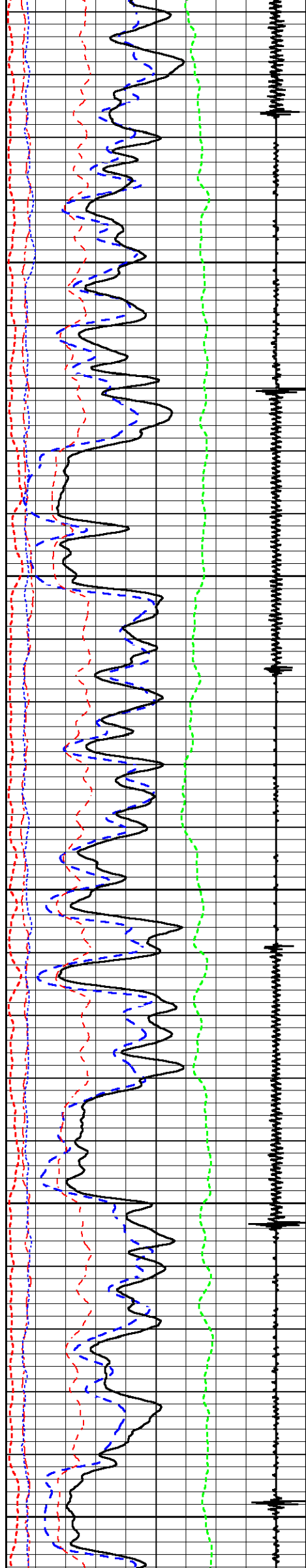




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5900

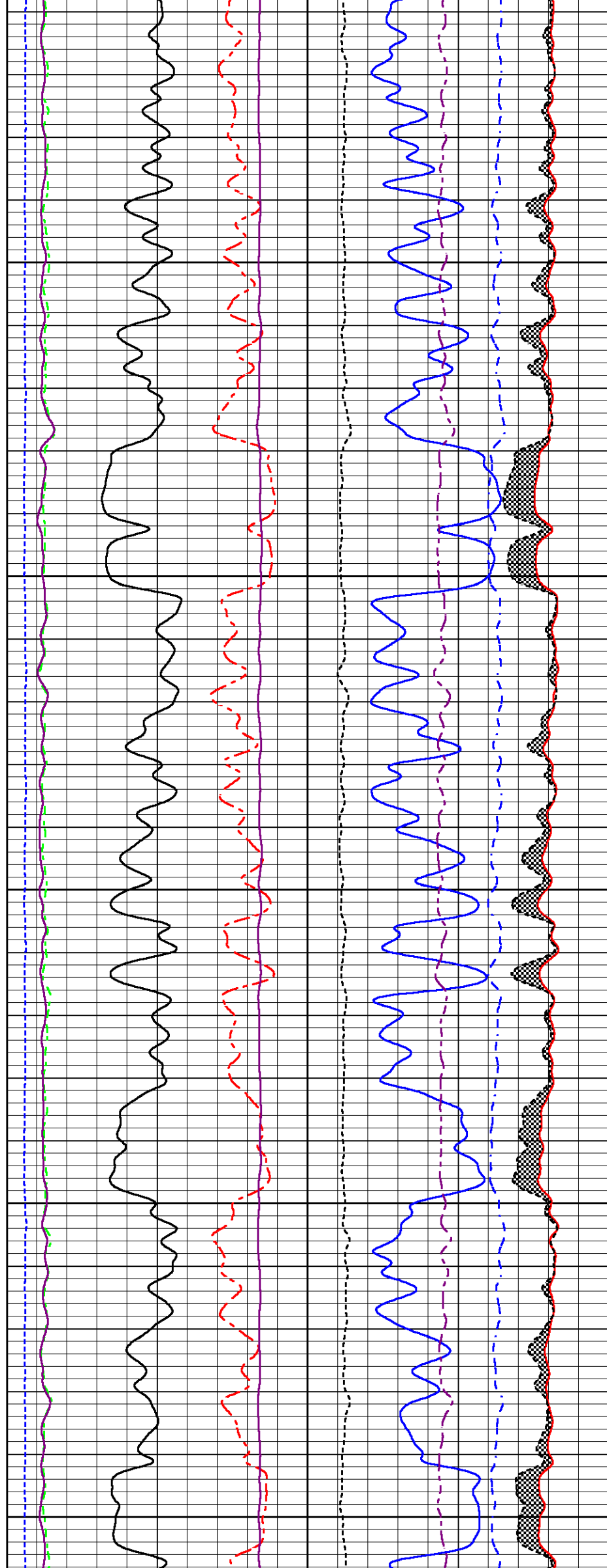


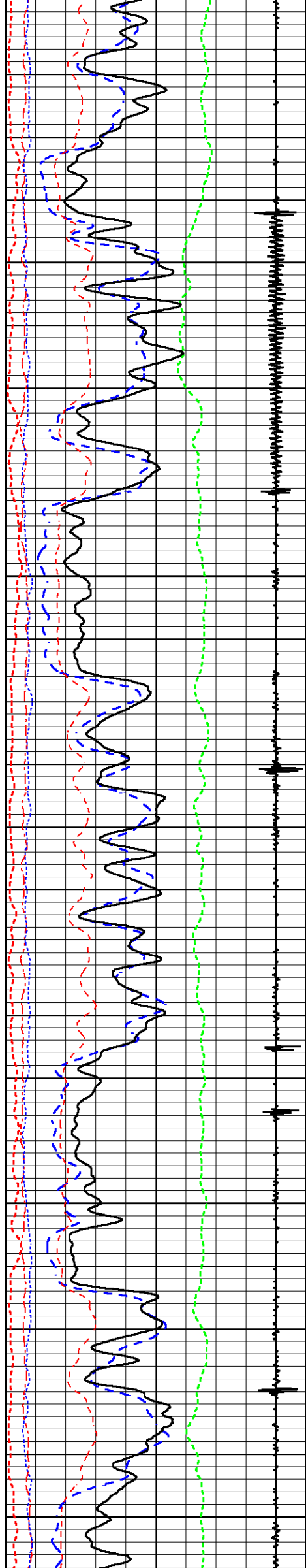


6000

6100

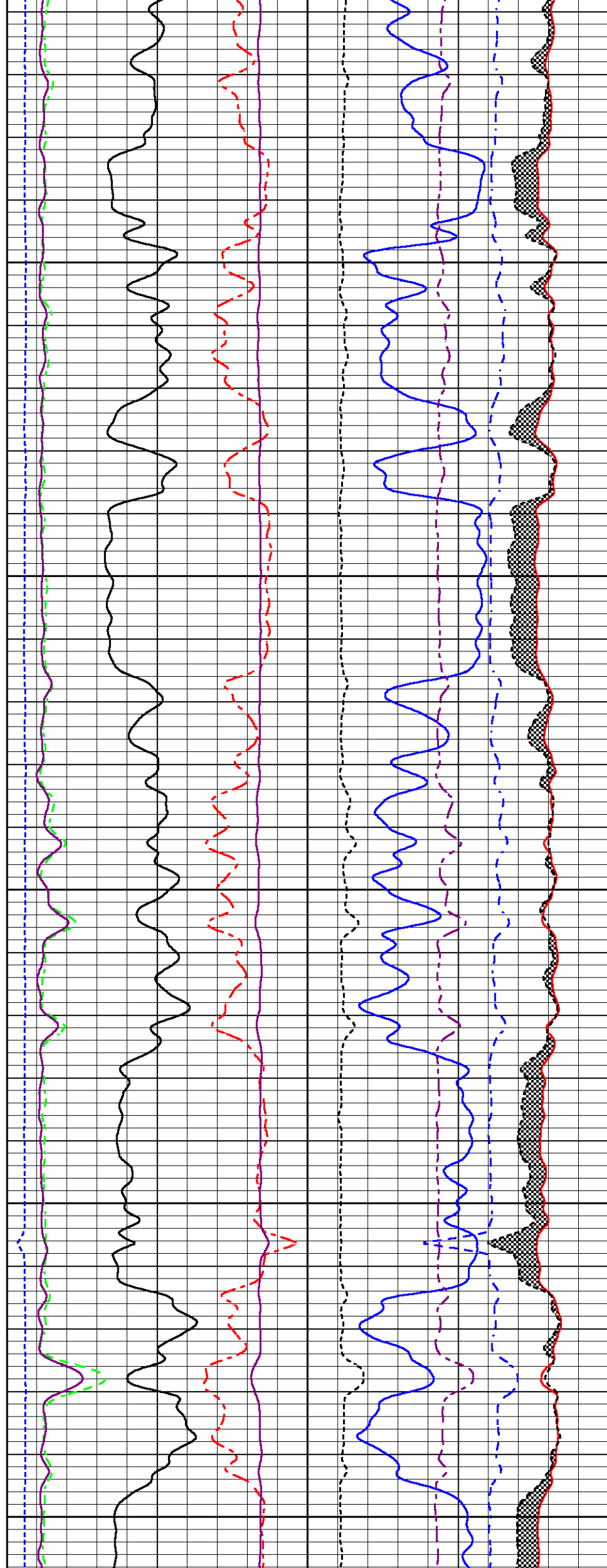
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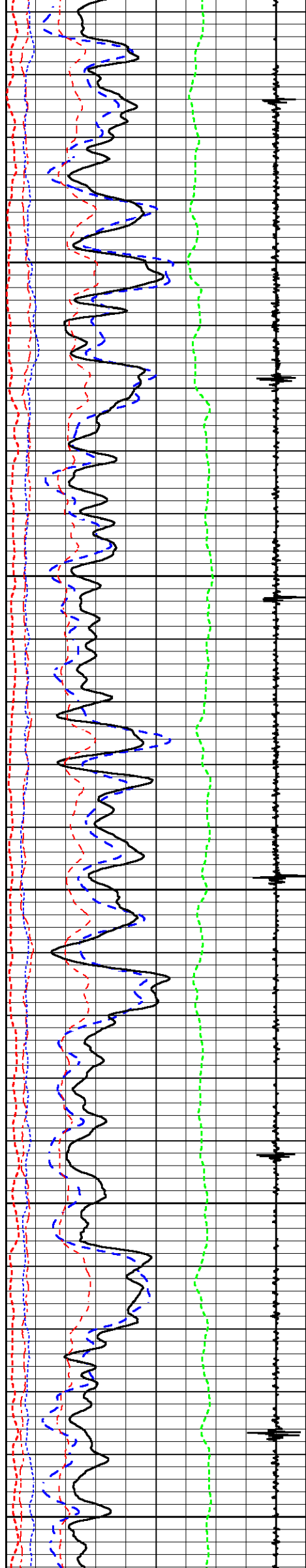




6300

6400

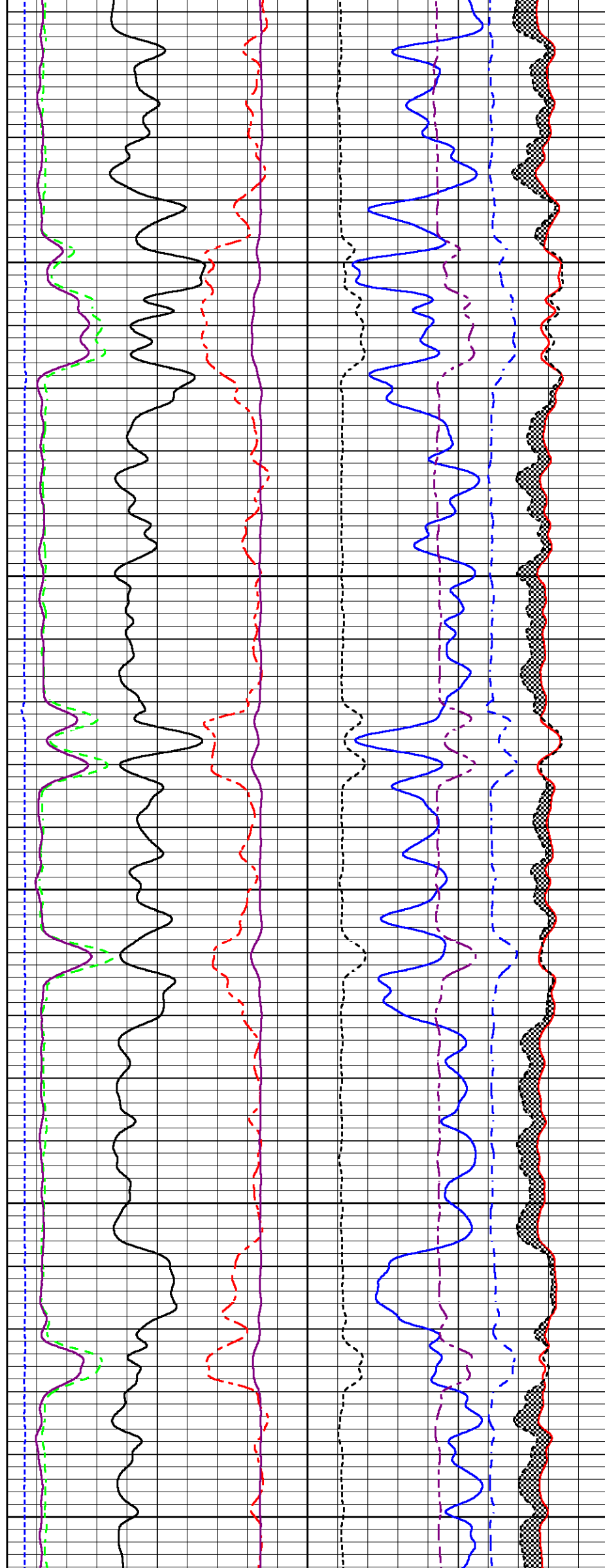


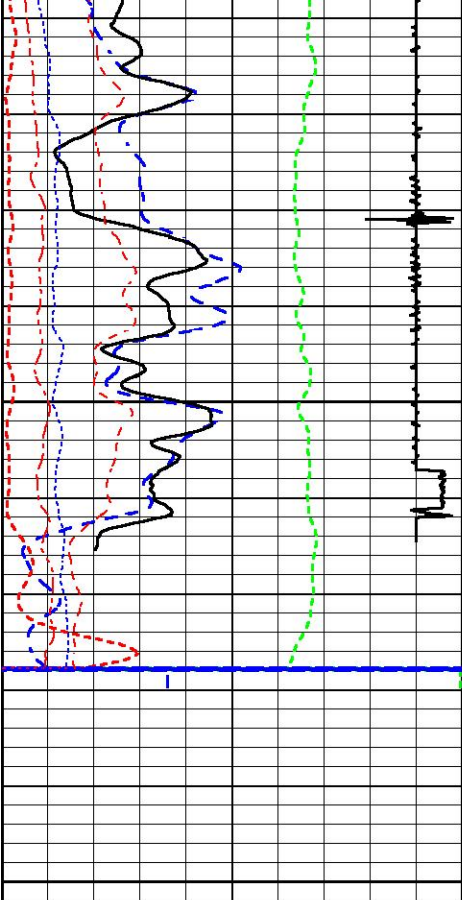


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6600

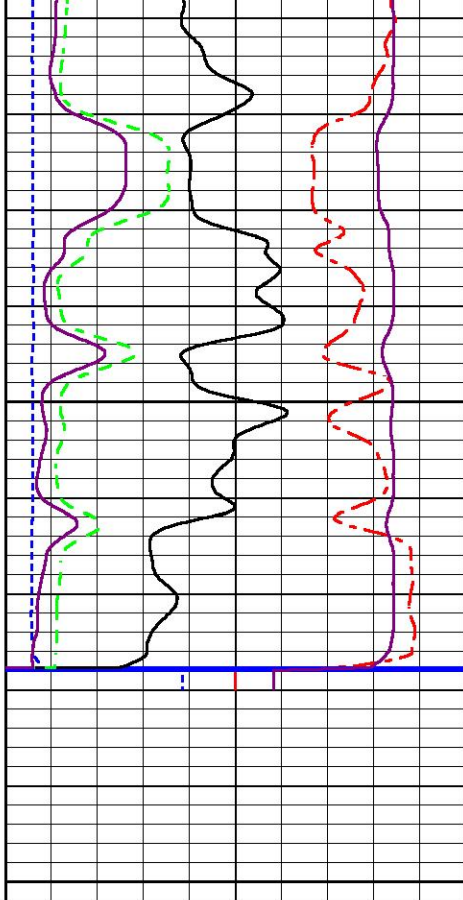
6700



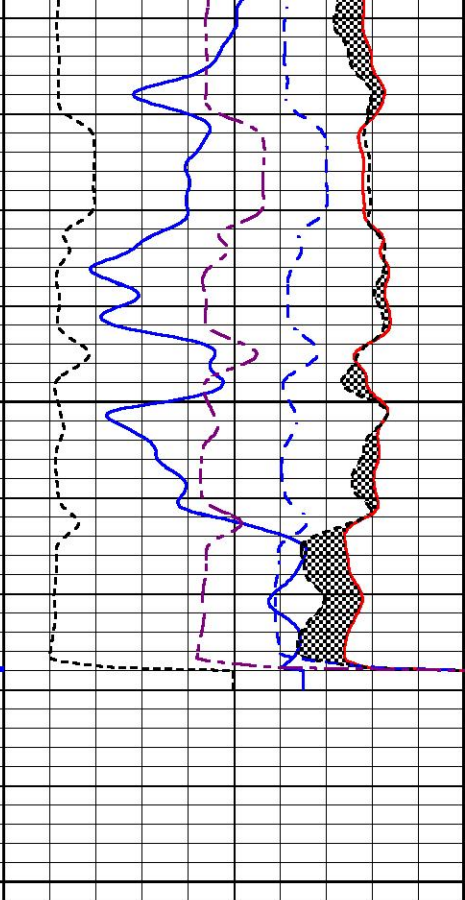


200	Near Bore Si (SGBN)	0
0	OAI	100
10	FAR FIT ERR (SGFF)	40
0	GAMMA RAY (GAPI)	200
0	NEAR FIT ERR (SGFN)	100
-5400	CCL	600
0	IN FIT ERR (CFTR1) NEAR	1
0	IN FIT ERR (CFTR2) FAR	1

6800



60	TENSION	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	



0	Near Counts (NCAP)	0
0	Far Counts (FCAP)	0
0	FAR INTEL CT (FSIN)	0
0	(NEAR INTEL CT (NSIN)	0
	ET INL NEAR (NNII)	
	50000	-1000

MAIN LOG SECTION

5" = 100'

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REPEAT LOG SECTION

5" = 100'

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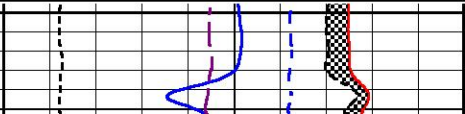
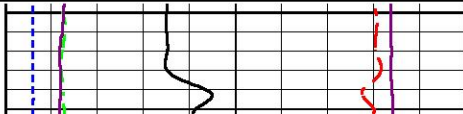
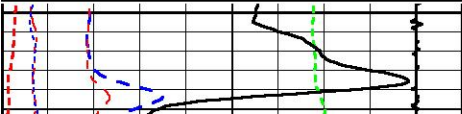
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Dataset Pathname REPEAT
Presentation Format RMTE_M~1
Dataset Creation Thu Jun 04 06:30:40 2015
Charted by Depth in Feet scaled 1:240

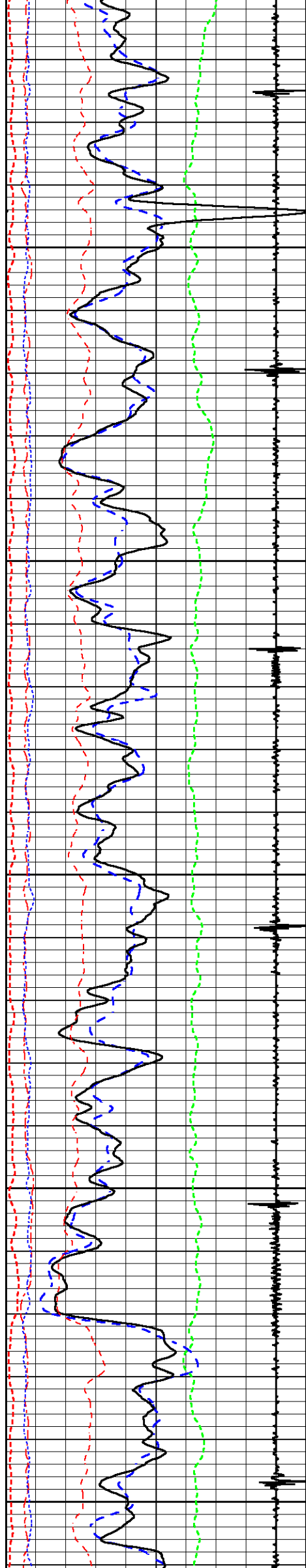
200	Near Bore Si (SGBN)	0
0	OAI	100
10	FAR FIT ERR (SGFF)	40
0	GAMMA RAY (GAPI)	200
0	NEAR FIT ERR (SGFN)	100
-5400	CCL	600
0	IN FIT ERR (CFTR1) NEAR	1
0	IN FIT ERR (CFTR2) FAR	1

TENSION

60	SGIN	0
2	RATIO (RNF)	0.5
0	RIN	15
0	RICF	6
0	H YIELD (YH2)	1
0	H YIELD (YH1)	1
	INOX2	50000
	-1500	1500

0	Near Counts (NCAP)	0
0	Far Counts (FCAP)	0
0	FAR INTEL CT (FSIN)	0
0	(NEAR INTEL CT (NSIN)	0
	ET INL NEAR (NNII)	
	50000	-1000

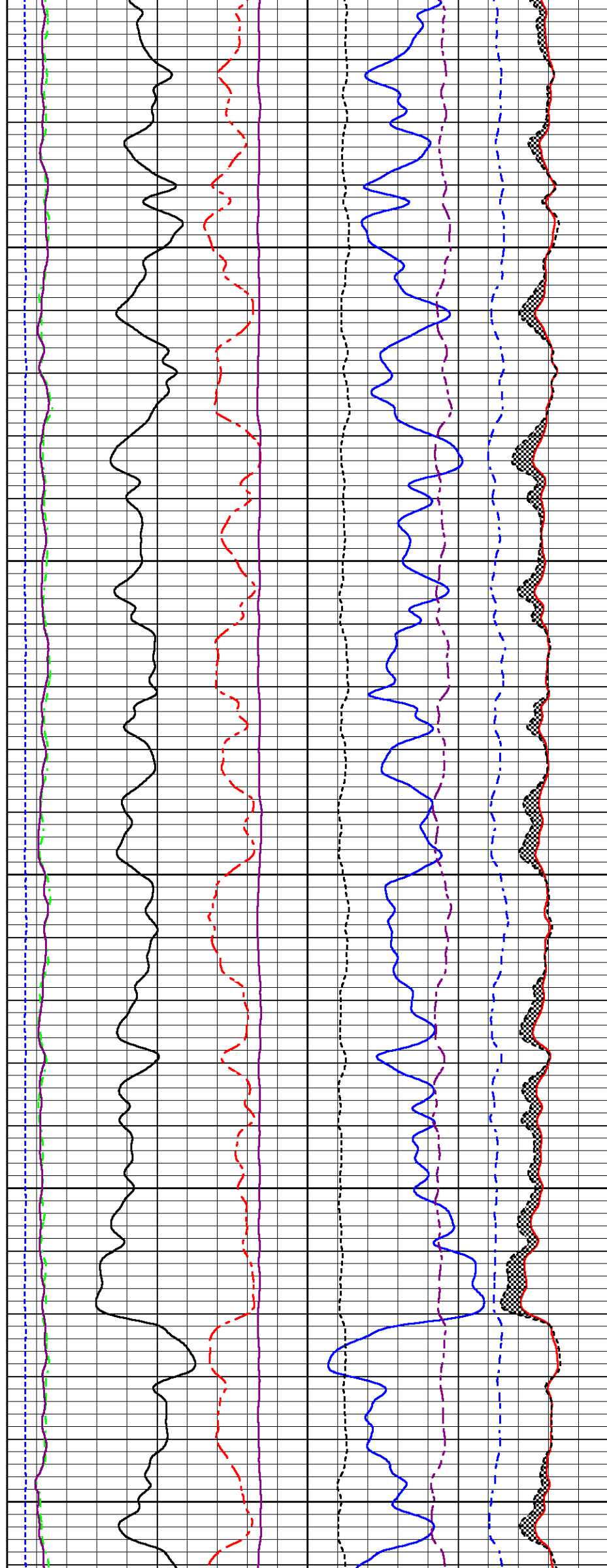


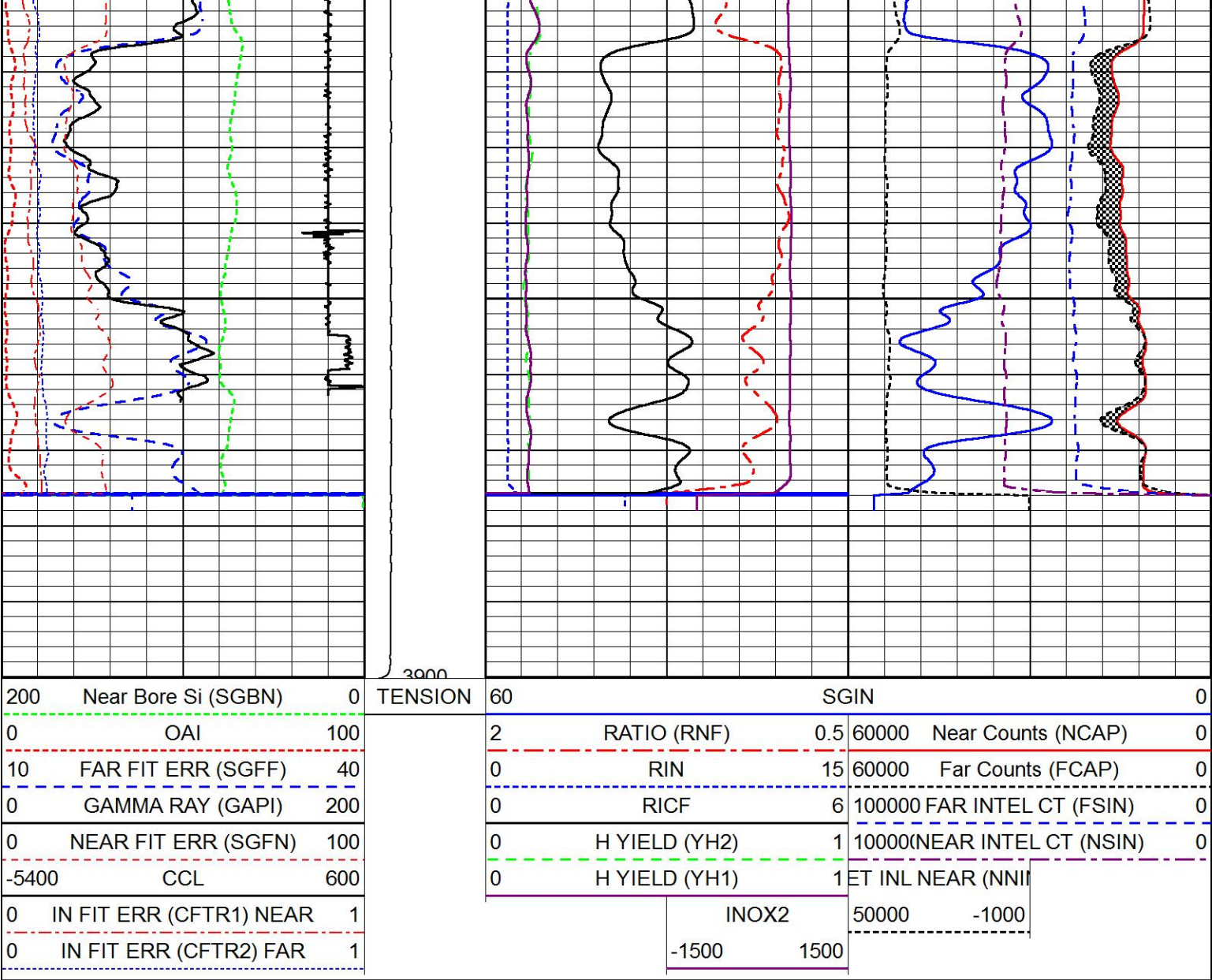


3600

3700

3800





REPEAT LOG SECTION

5" = 100'

Log Variables

DatabaseD:\Warrior_data\watson_b_33d_combo.db
Dataset field\well\run1\MAIN_vars_

Top - Bottom

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

Calibration Report


Database File watson_b_33d_combo.db
Dataset Pathname MAIN
Dataset Creation Thu Jun 04 07:03:41 2015

Segmented Cement Bond Log Calibration Report						
<div>Serial Number:12082235 Tool Model:004 Calibration Casing Diameter:4.500 in Calibration Depth:136.007 ft</div>						
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						
<div>Serial Number:12082235 Tool Model:004 Performed: Reference (degF)Reading () Low:0.0000.000 High:1.0001.000 Gain = 1.000Offset = 0.000</div>						
Reservoir Monitor Tool I Calibration Report						
<div>Serial-Model:11680606-A Shop Calibration Performed:Mon Jun 01 14:01:58 2015</div>						
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						
H	Channel	Expected Value	Amplitude	FWHM	Tol.	
Fe	60	60 +/-2	0.0244	5.81	<6.00	
NGAIN = 0.998	206	206 +/-2	0.0944	-----	-----	
Far Detector						
H	Channel	Expected Value	Amplitude	FWHM	Tol.	
Fe	60	60 +/-2	0.0365	5.60	<6.50	
FGAIN = 0.994	209	208 +/-2	0.0910	-----	-----	
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			
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)
			STNDCH-STND_CH	1.50	1.44	1.00

				1.4375 IN CABLE HEAD			
CCL	37.26						
GR	35.00			TTTCU-002 (10000028) Through Tubing Telemetry Cartridge - Ultrawire	7.65	1.69	100.00
				XHU-003 (12218041) Crossover Halliburton 1553 to Ultrawire	1.58	1.69	7.00
RmtTFGT RmtTNGT	24.35 23.85			RMTI-A (11680606) Halliburton RMTI Tool	14.00	2.13	77.00
RmtFP5V RmtCommFWa	16.10 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
				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
				CENT-Probe_275 Probe 2 3/4 Centralizer	2.88	2.75	20.00
LLMTEN	0.00			BUL-001 (000001) Bullnose	0.30	1.69	1.50
Dataset: watson_b_33d_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 33D-17-07-95		
Field	PARACHUTE		
County	GARFIELD	State	CO
HALLIBURTON	RESERVOIR MONITOR TOOL - ELITE		