

HALLIBURTON

RESERVOIR MONITOR LOG  
GR-CCL

Company	URSA OPERATING COMPANY		
Well	BMC D 22B-18-07-95		
Field	WILDCAT		
County	GARFIELD	State	CO
Company URSA OPERATING COMPANY			
Well BMC D 22B-18-07-95			
Field WILDCAT			
County GARFIELD State CO			
API No.:	05045233140000	Serv #:	904058182
Location: SHL: 1254' FNL 2331' FWL		Other Services	
BHL:1928' FNL & 1901' FWL		JB-GR	

Permanent Datum	Ground Level	Elevation	5268'	Elevation
Log Measured From	KB	17 Ft. above perm. datum		K.B. 5285'
Drilling Measured From	KB			D.F. 5286'
				G.L. 5268'
Date @ Time Logged	27-MAY-2017	Type Fluid in Hole	FRESH WATER	
Run No.	ONE	Density of Fluid	8.4 PPG	
Depth - Driller	6667 FT	Fluid Level	FULL	
Depth - Logger	6245 FT	Cement Top Est. Logged	N/A	
Bottom - Logged Interval	6232 FT	Equipment / Location	11808537 / RS	
Top - Log Interval	3000 FT	Recorded by	Pedro Gonzalez Baqueiro	
Max. Recorded Temp.	190 °F	Witnessed by	Luke Grieger	
CEMENTING DATA		Protection	Liner	
	String	String		
Date / Time Cemented				
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
ONE	24"	SURFACE	60'	16"
TWO	12.25"	SURFACE	1730'	8.625"
THREE	7.875"	SURFACE	6668.8'	4.5"
				Weight
				From
				To

<<< 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 Reservoir Monitor Log First run in to the Hole  
Log Correlated By the KB 17'  
Log Interval per customer Request  
Log Ran in combo with CBL-M tool

**\*\*THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES ROCK SPRING WY\*\***

MAIN PASS

HALLIBURTON

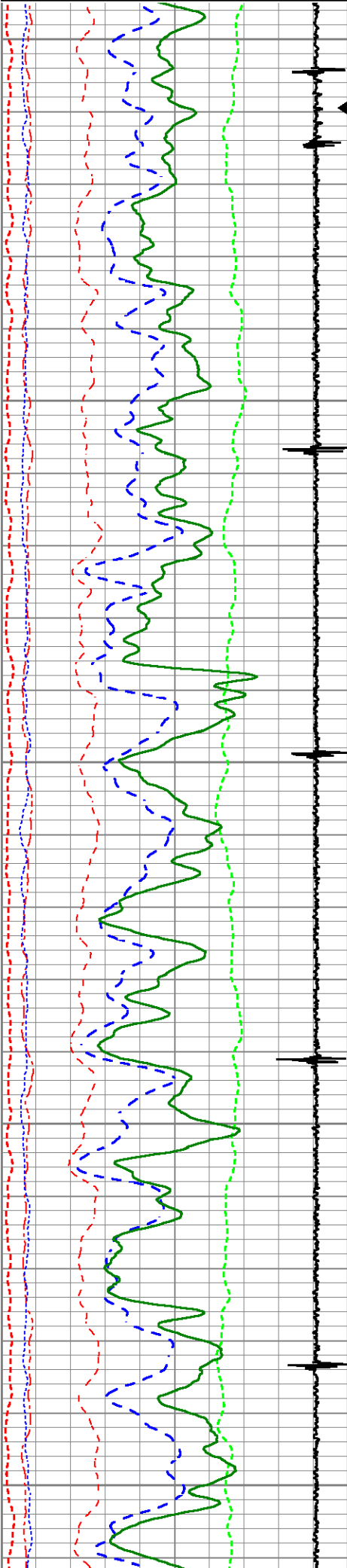
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Database File bmc d 22b-18-07-95.db  
Dataset Pathname WC/BMC\_D\_22B-18-07-95/run1/MAIN  
Presentation Format RMTE\_M~1  
Dataset Creation Sat May 27 20:15:45 2017  
Charted by Depth in Feet scaled 1:240

200	Near Bore Si (SGBN)	0	TENSION	0	RATIO (RNF)	1
0	OAI	100	(lb 1800	60	SGIN	0
10	543 FT FFB (2055)	12	2	20000	N. G. 1 (NGAP)	0

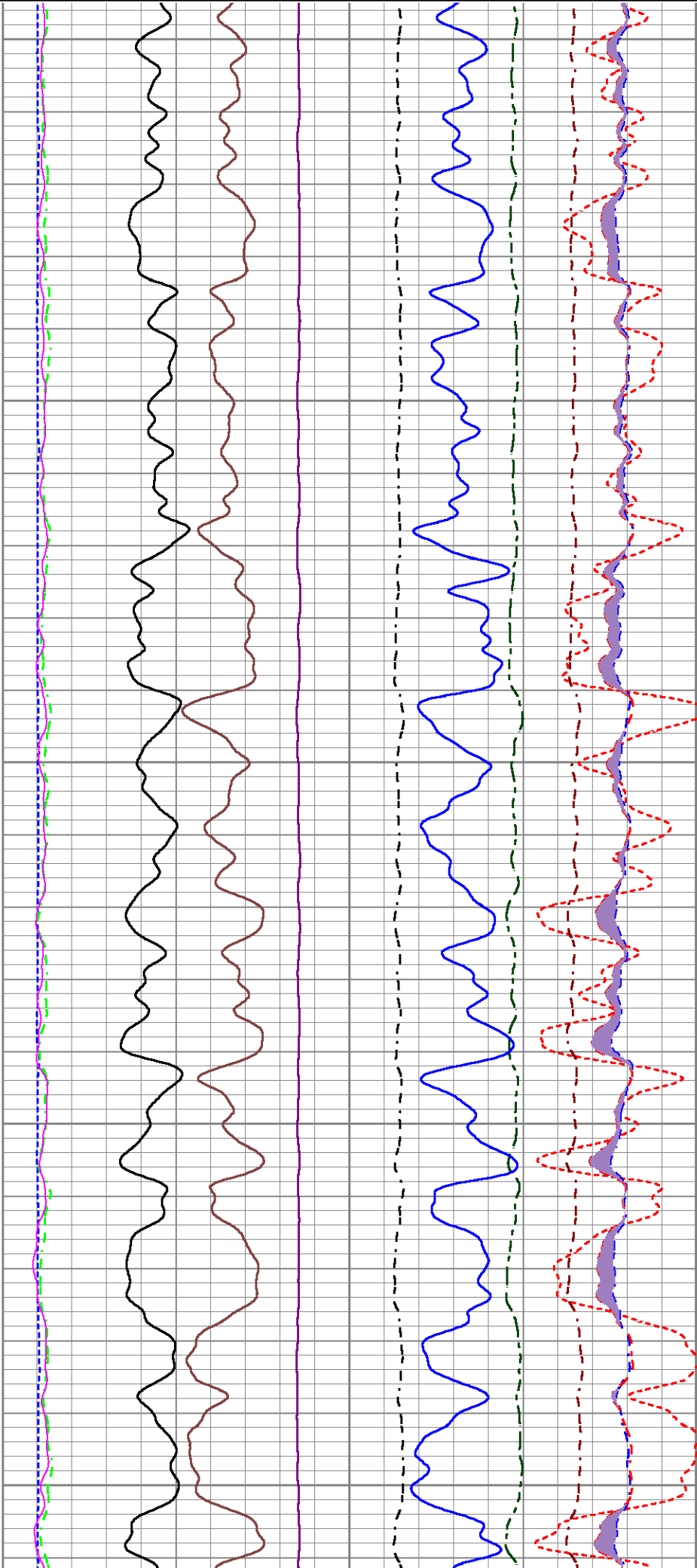
0	FAR FIT ERR (SGFF)	40
0	GR (GAPI)	150
0	NEAR FIT ERR (SGFN)	100
-5500	CCL	550
0	IN FIT ERR (CFTR1) NEAR	1
0	IN FIT ERR CFTR2) FAR	1

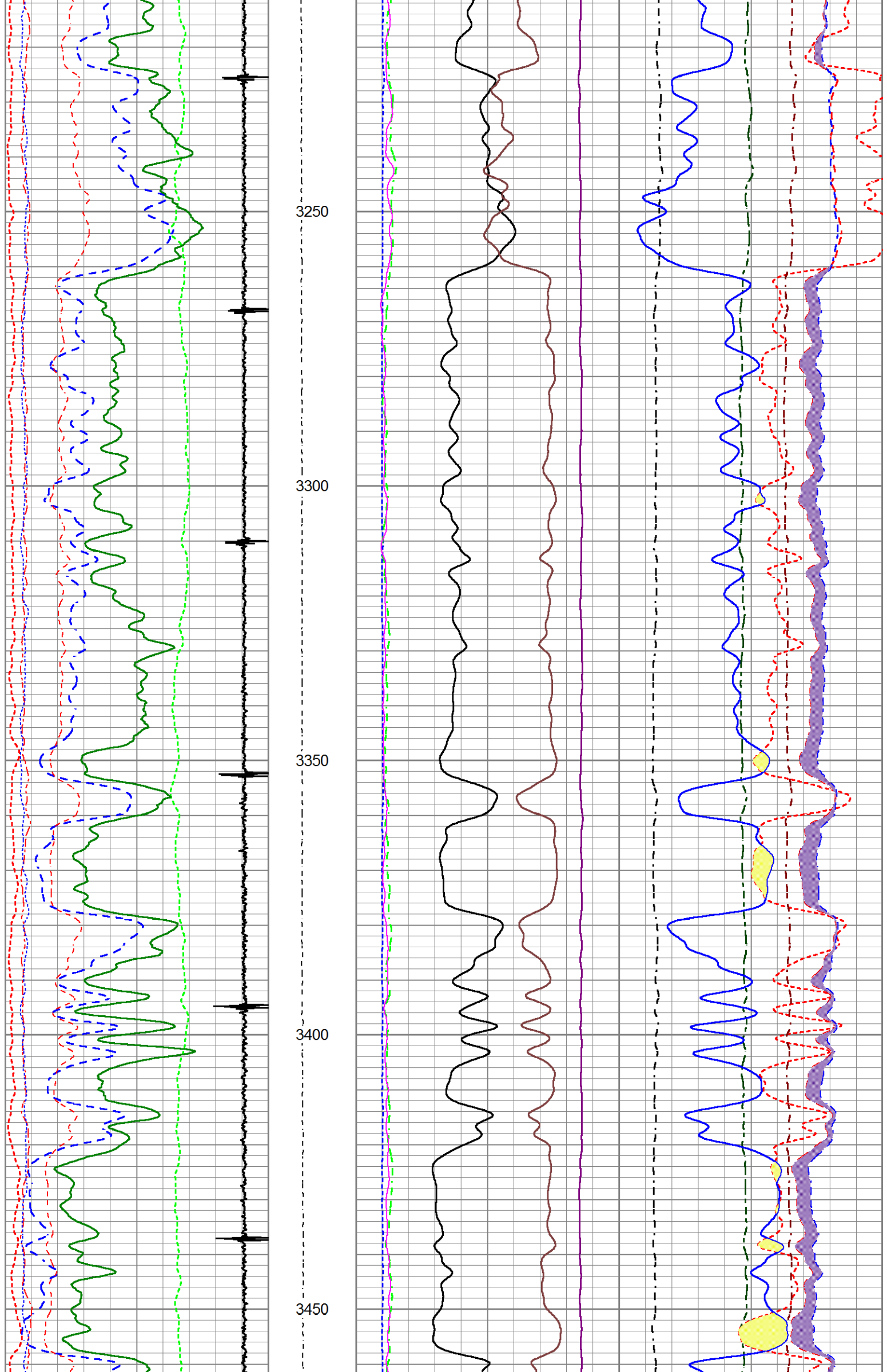
0	RIN	9	60000	Near Counts (NCAP)	0
0	RICF	6	60000	Far Counts (FCAP)	0
0	H YIELD (YH2)	1	100000	FAR INTEL CT (FSIN)	0
0	H YIELD (YH1)	1	10000	(NEAR INTEL CT (NSIN)	0
0.9	PHIT ( )	-0.1	ET INL NEAR (NNI		
	INOX2		50000	-1000	
	-1500	1500			



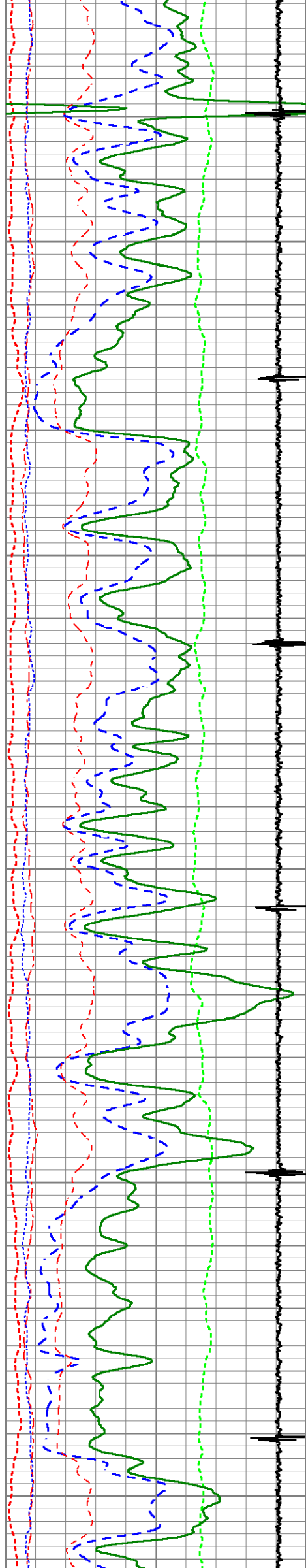
3000  
3050  
3100  
3150  
3200

SJ









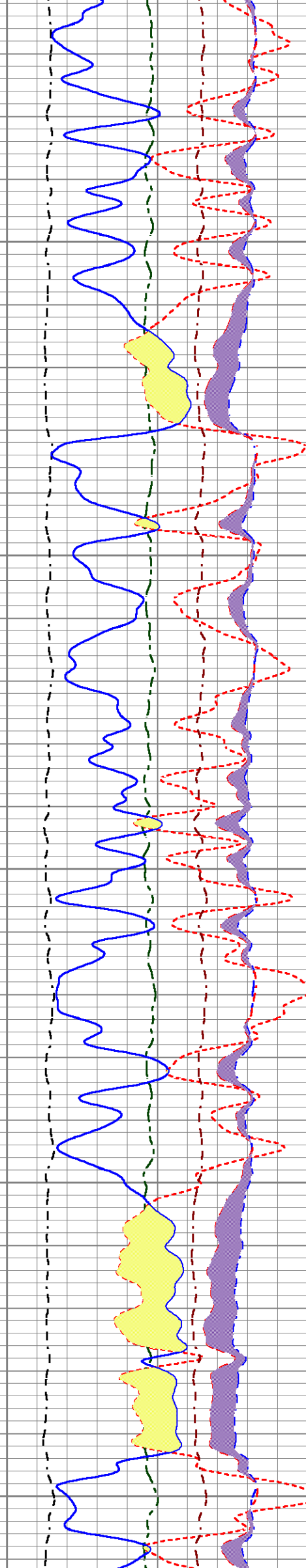
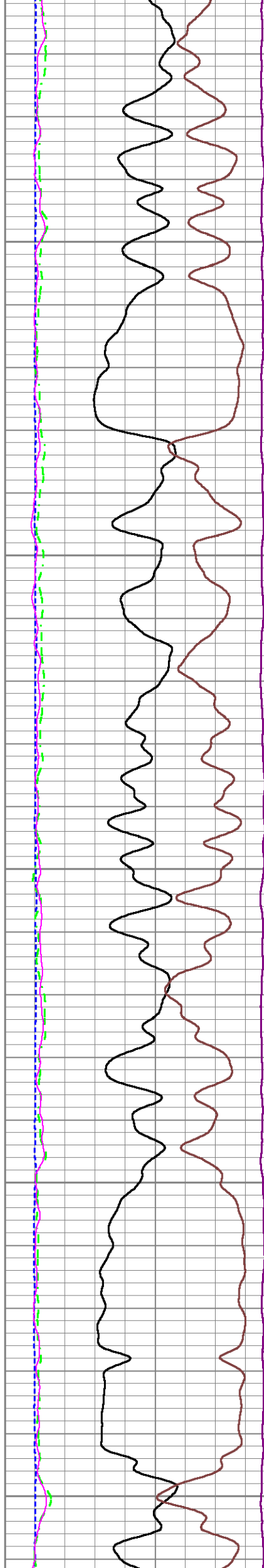
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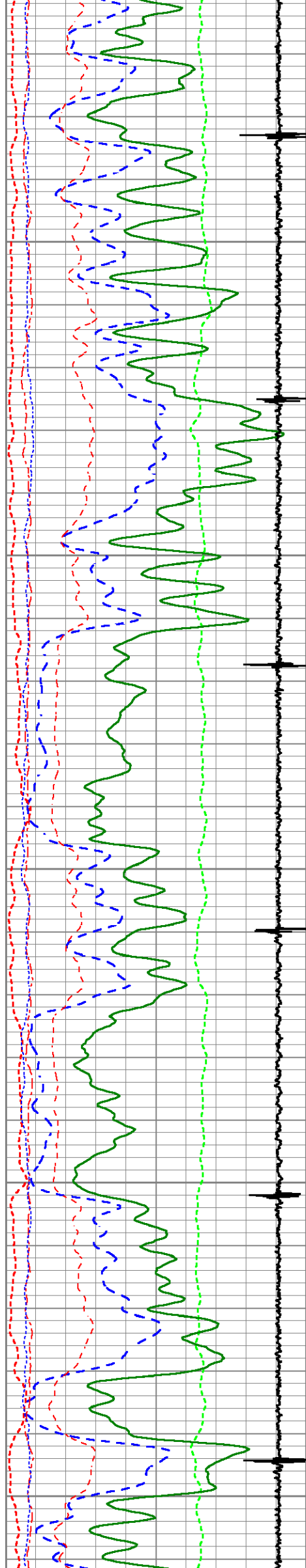
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3600

3650

3700





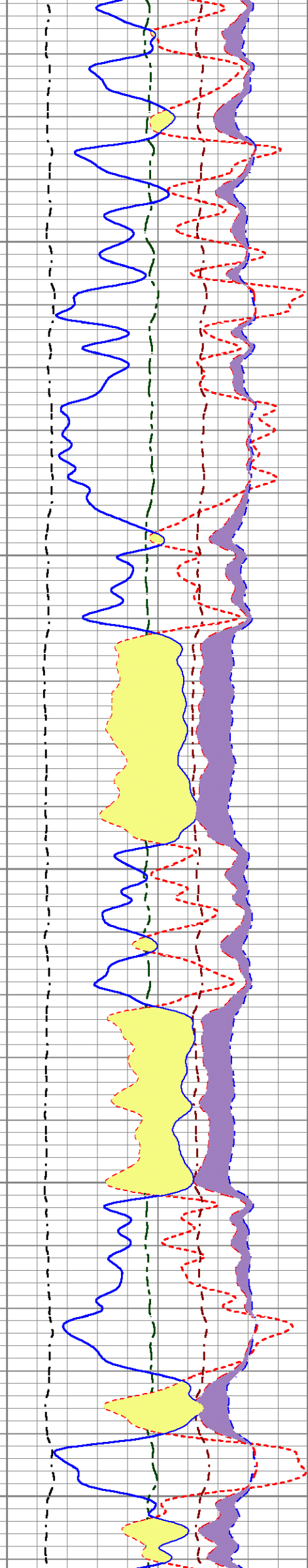
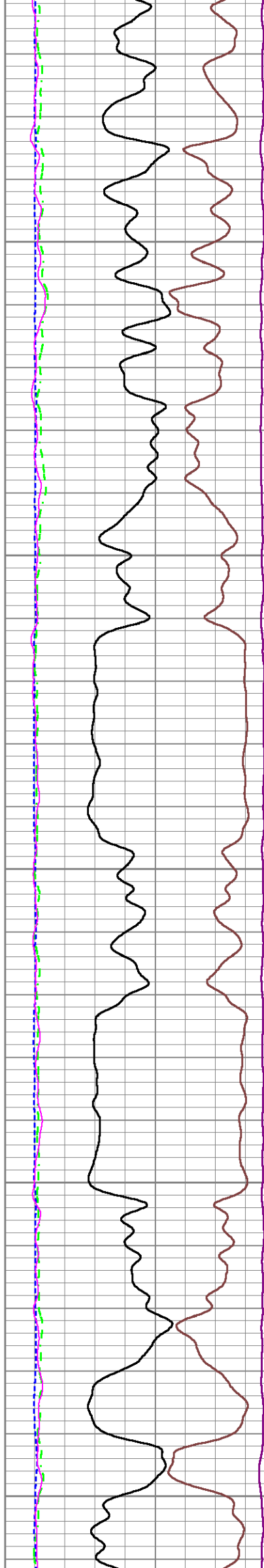
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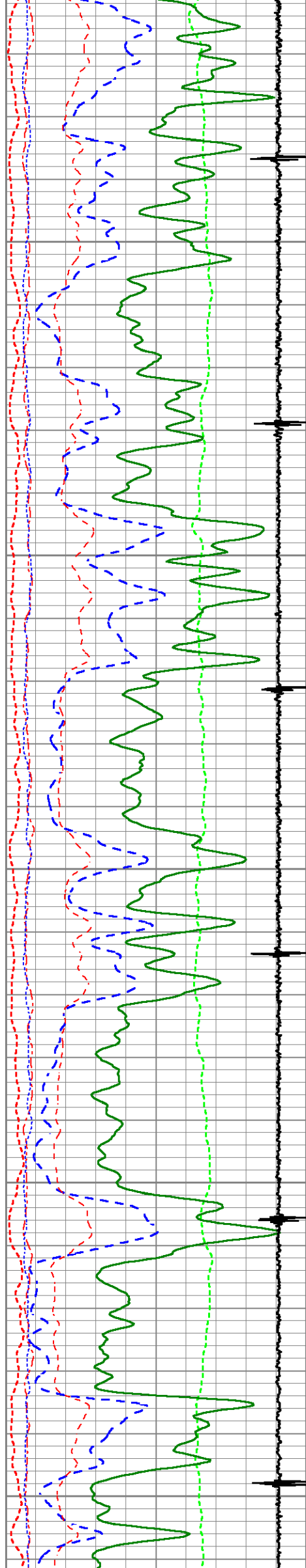
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3900

3950





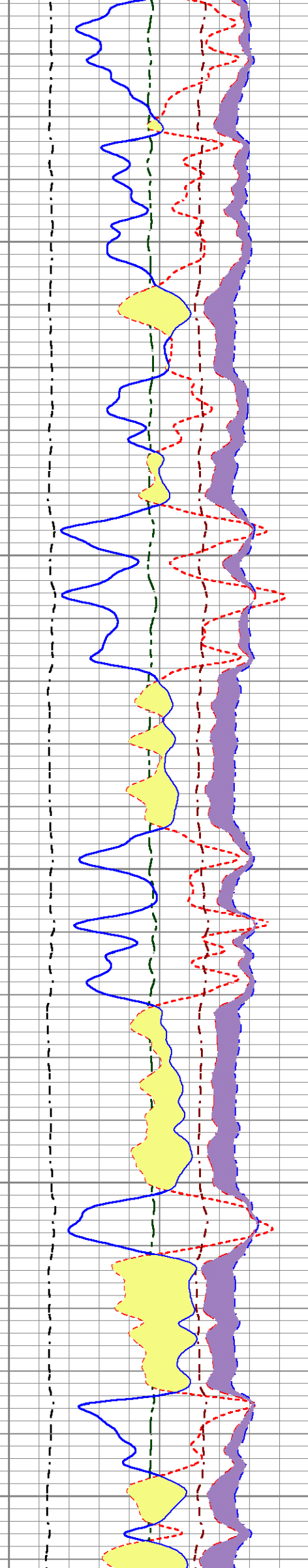
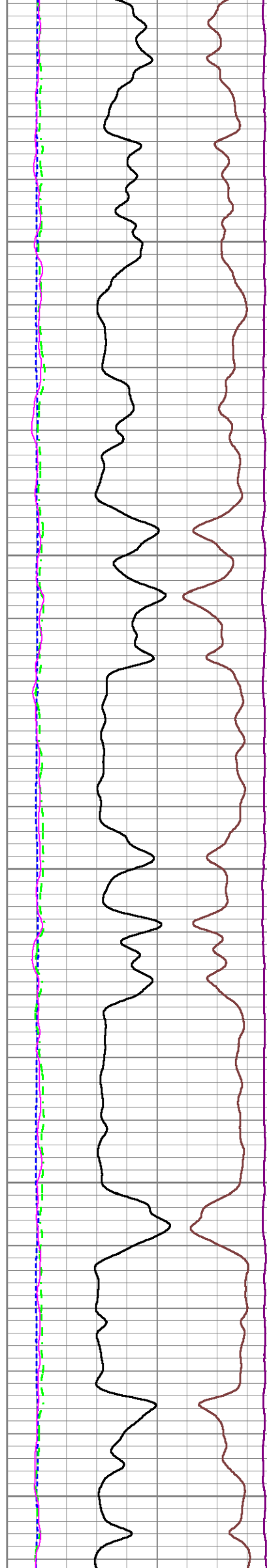
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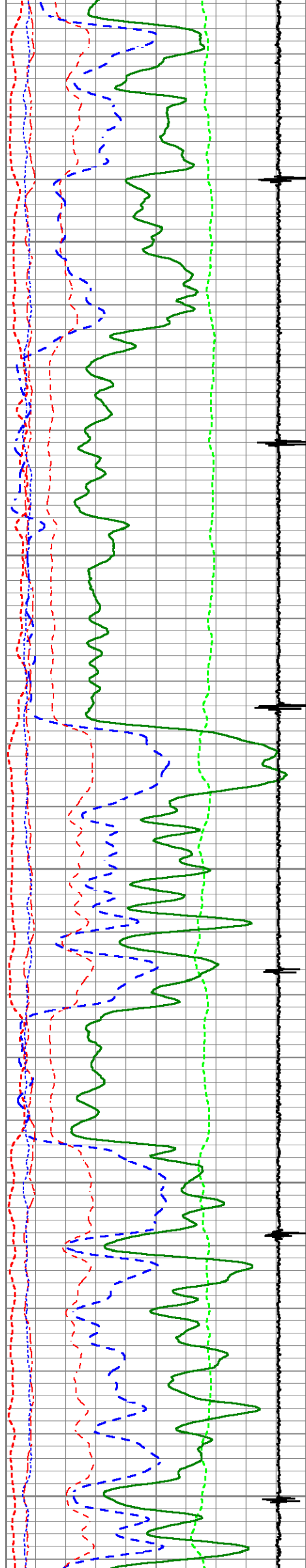
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4100

4150

4200





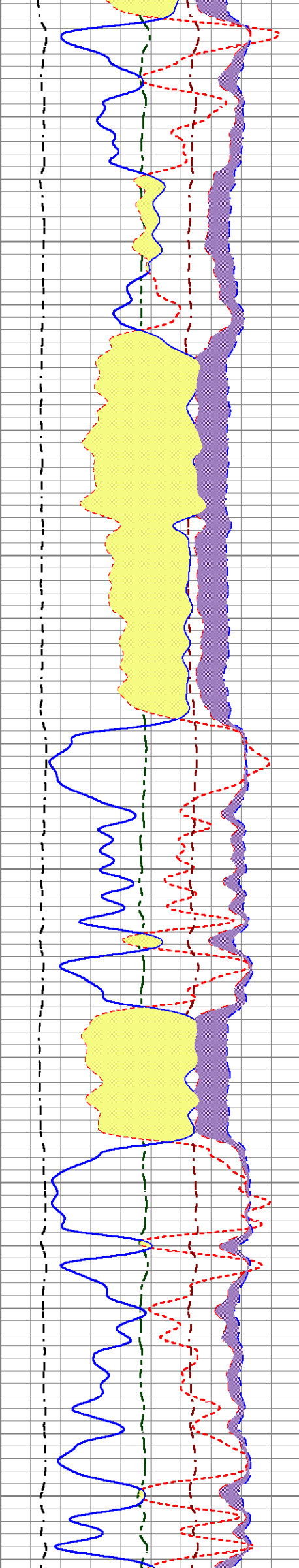
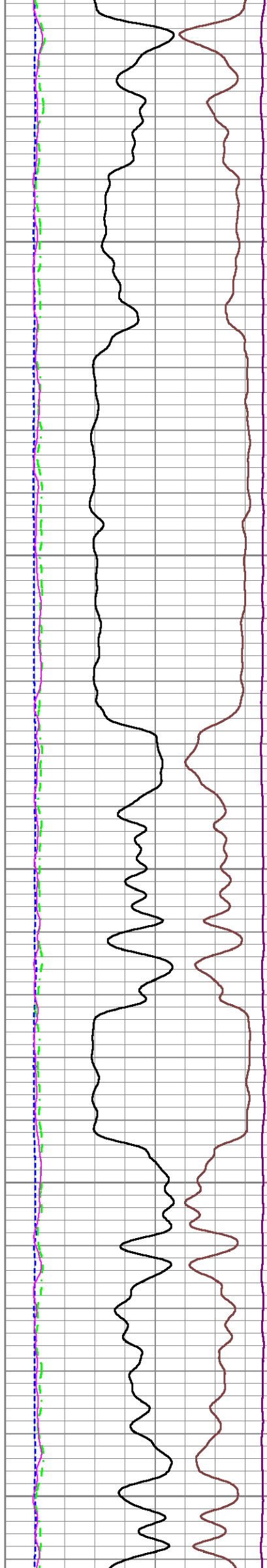
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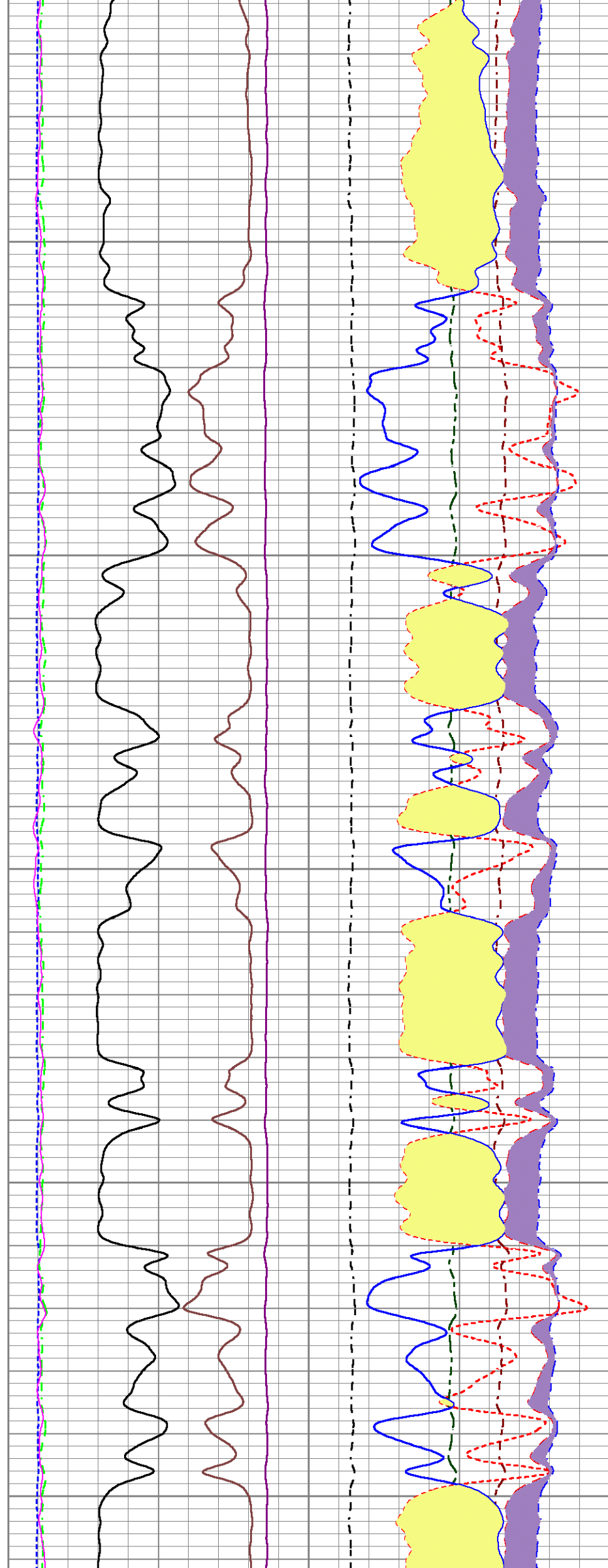
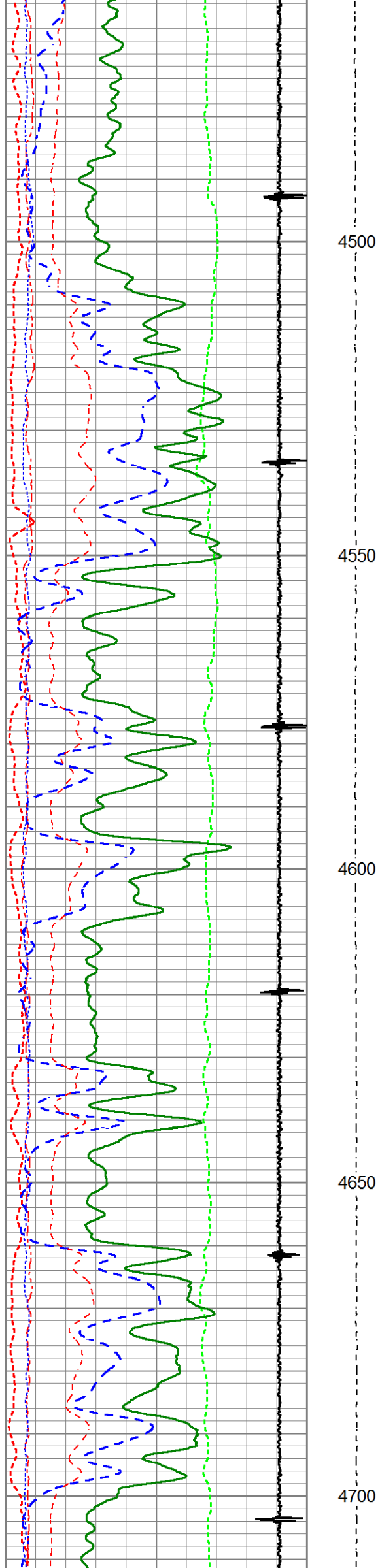
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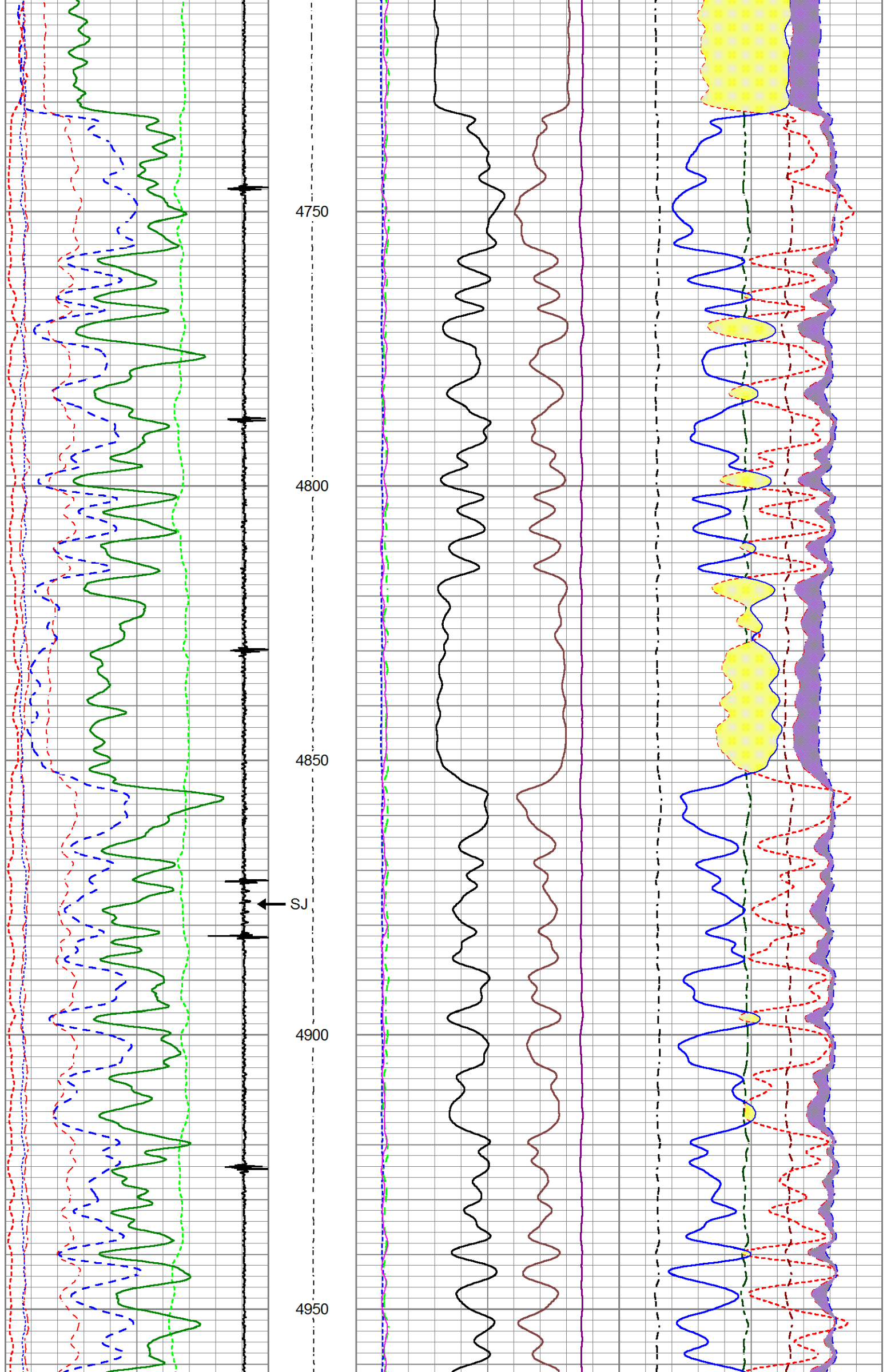
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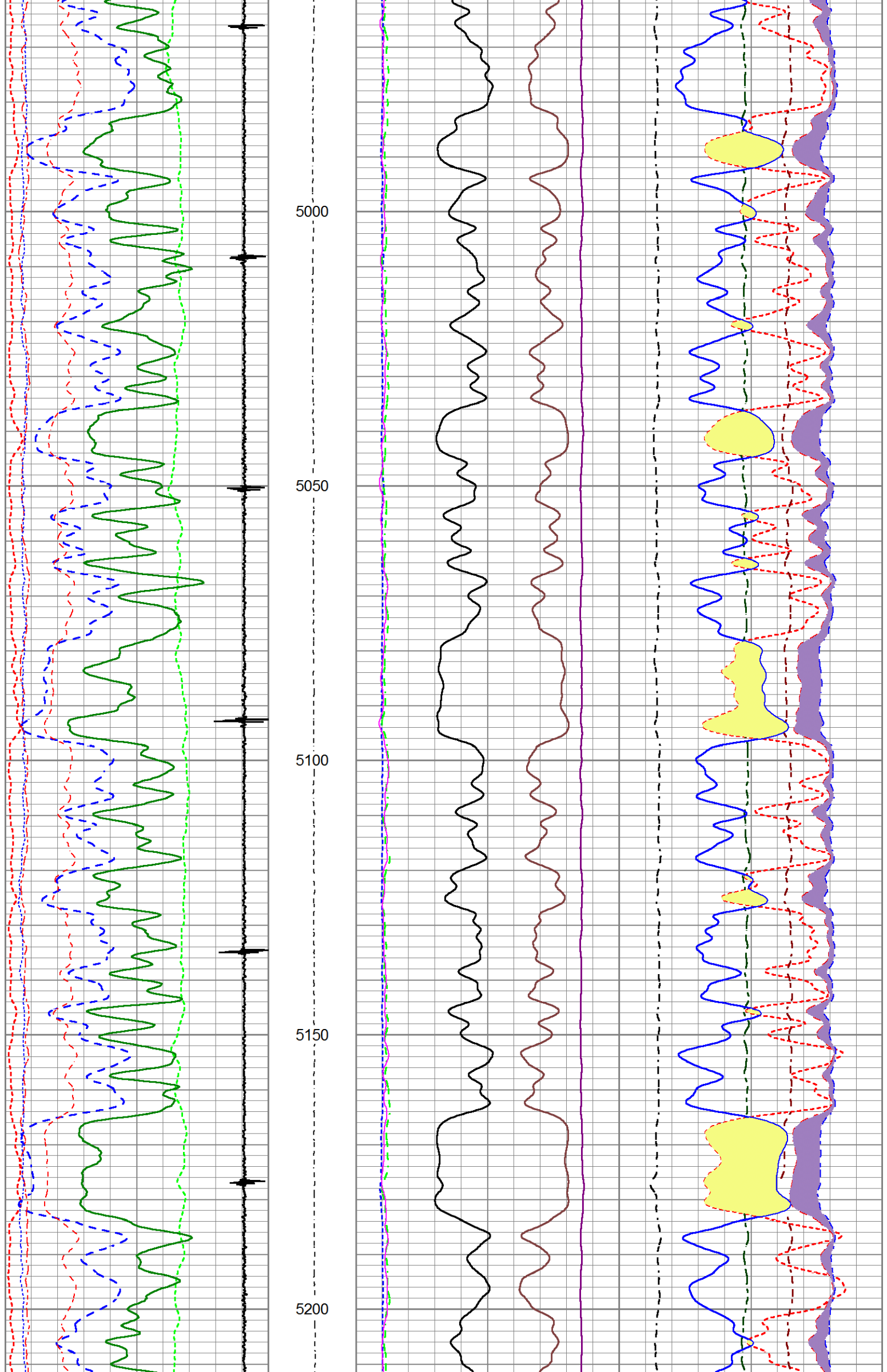


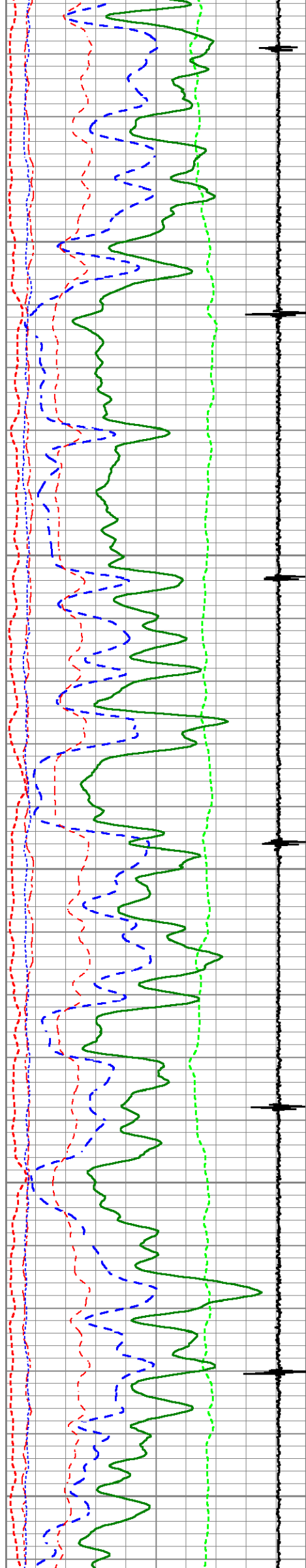












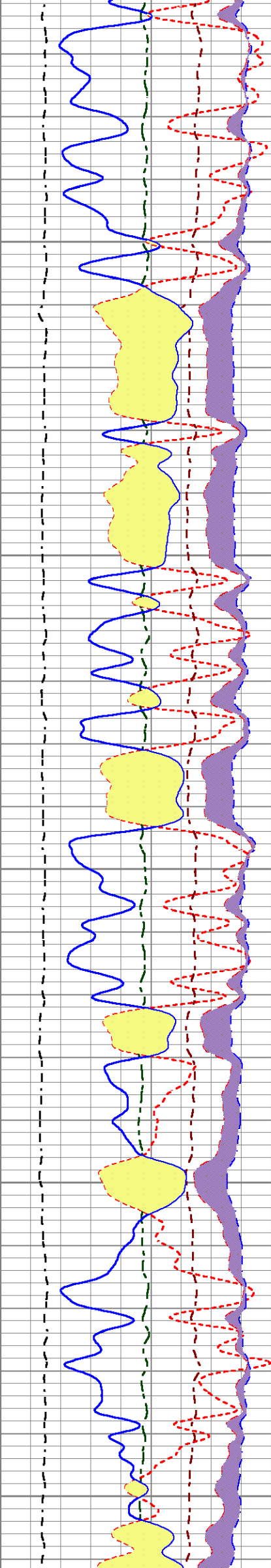
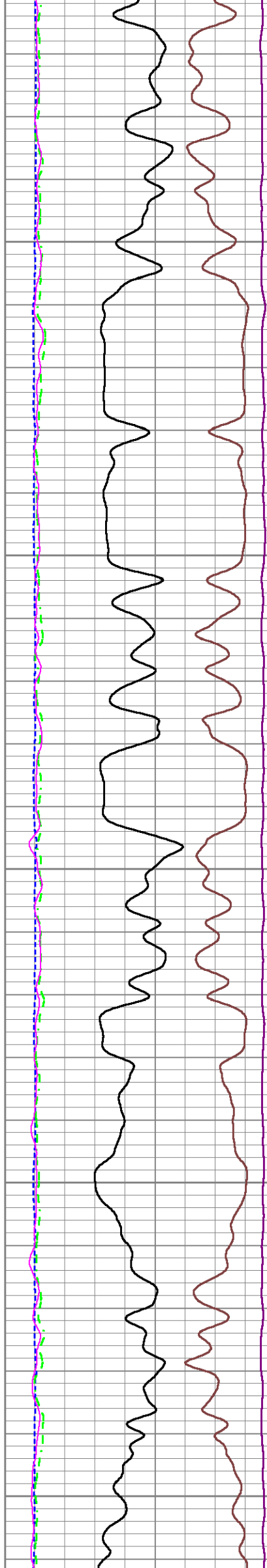
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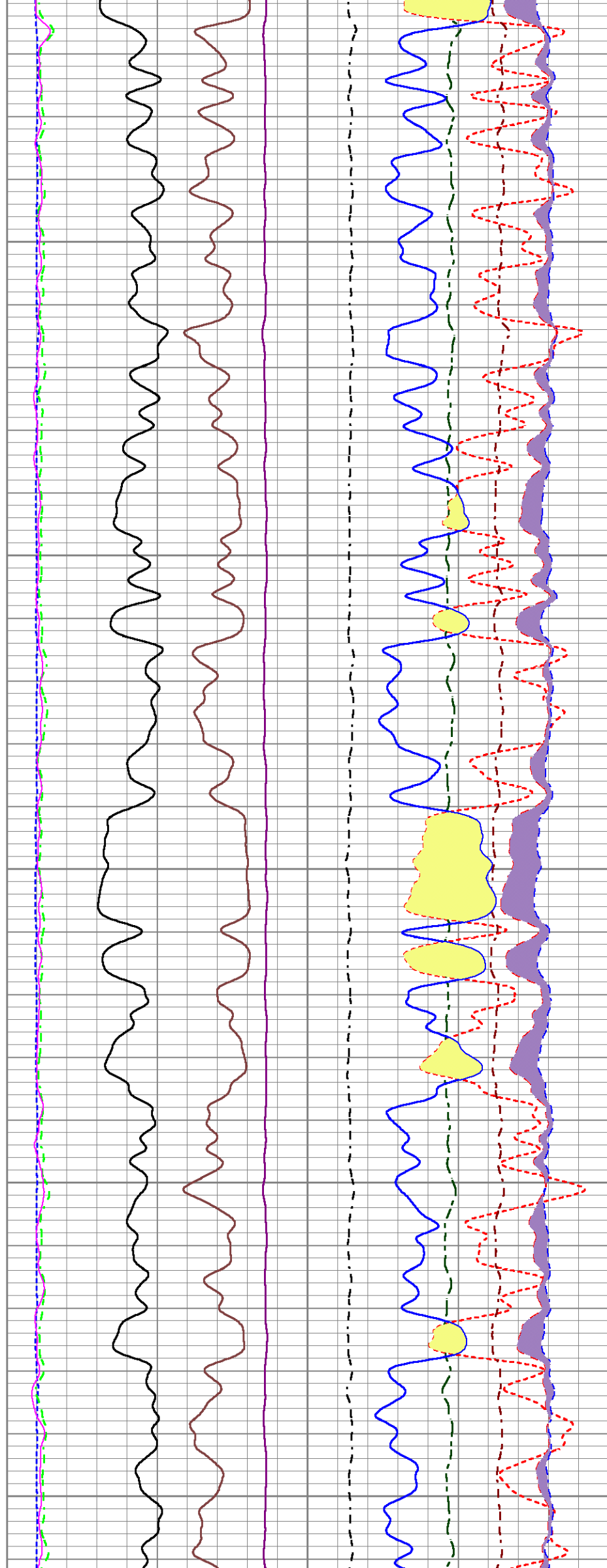
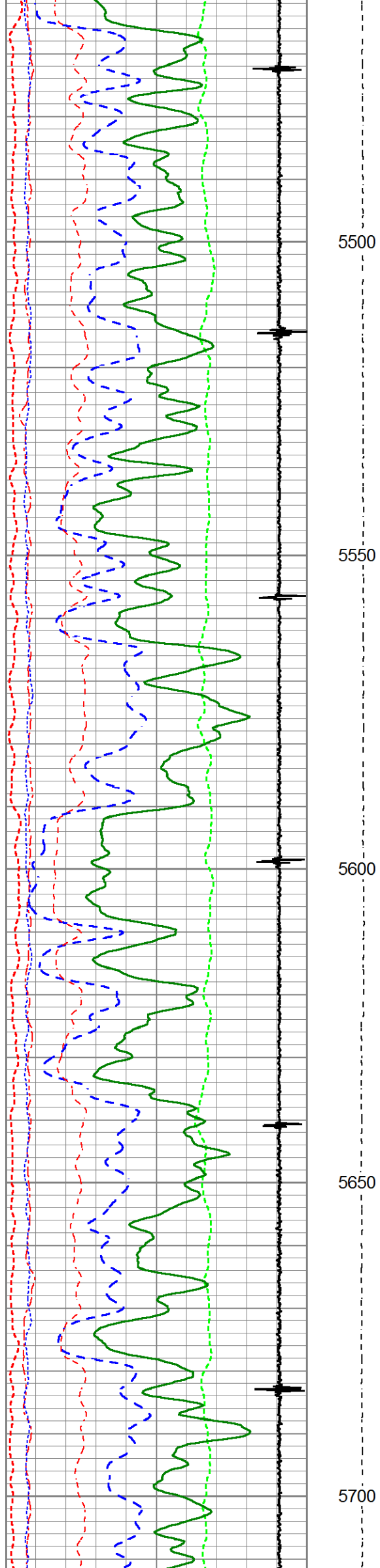
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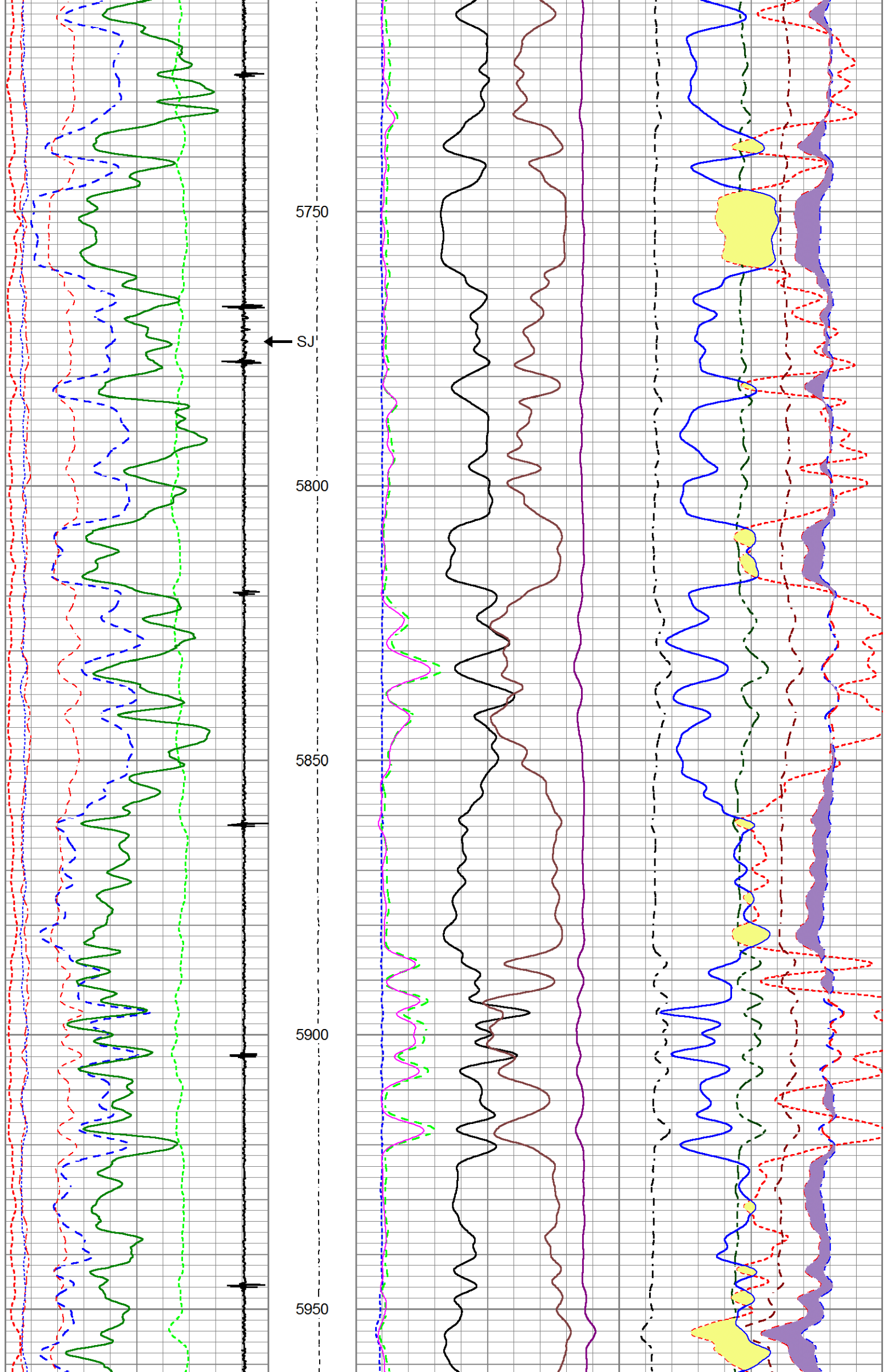
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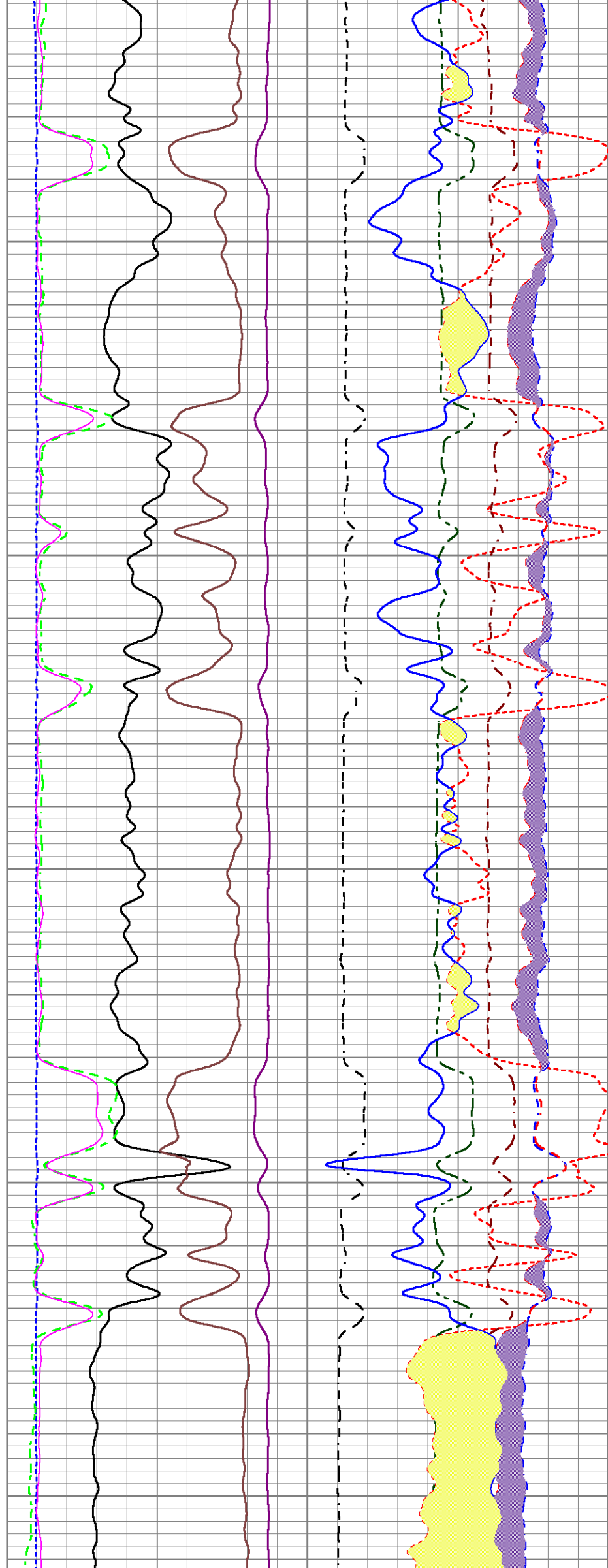
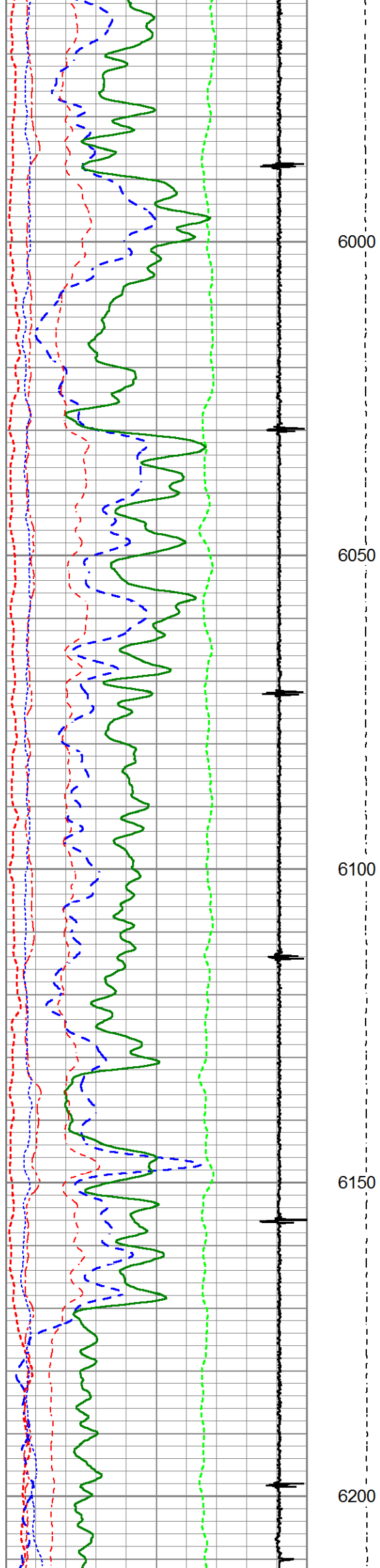
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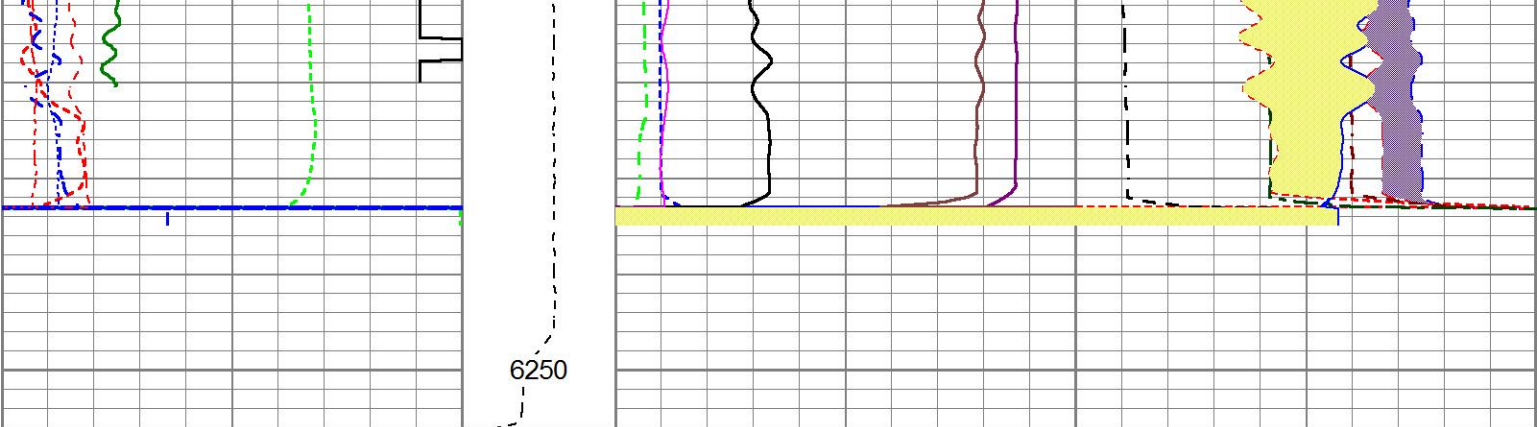












200	Near Bore Si (SGBN)	0	TENSION	0	RATIO (RNF)	1
0	OAI	100	0 (lb 1800	60	SGIN	0
10	FAR FIT ERR (SGFF)	40		0	RIN	9 60000 Near Counts (NCAP)
0	GR (GAPI)	150		0	RICF	6 60000 Far Counts (FCAP)
0	NEAR FIT ERR (SGFN)	100		0	H YIELD (YH2)	1 100000 FAR INTEL CT (FSIN)
-5500	CCL	550		0	H YIELD (YH1)	1 10000(NEAR INTEL CT (NSIN)
0	IN FIT ERR (CFTR1) NEAR	1		0.9	PHIT ( )	-0.1 ET INL NEAR (NNII
0	IN FIT ERR CFTR2) FAR	1			INOX2	50000 -1000
					-1500 1500	

MAIN PASS

5"=100'

HALLIBURTON

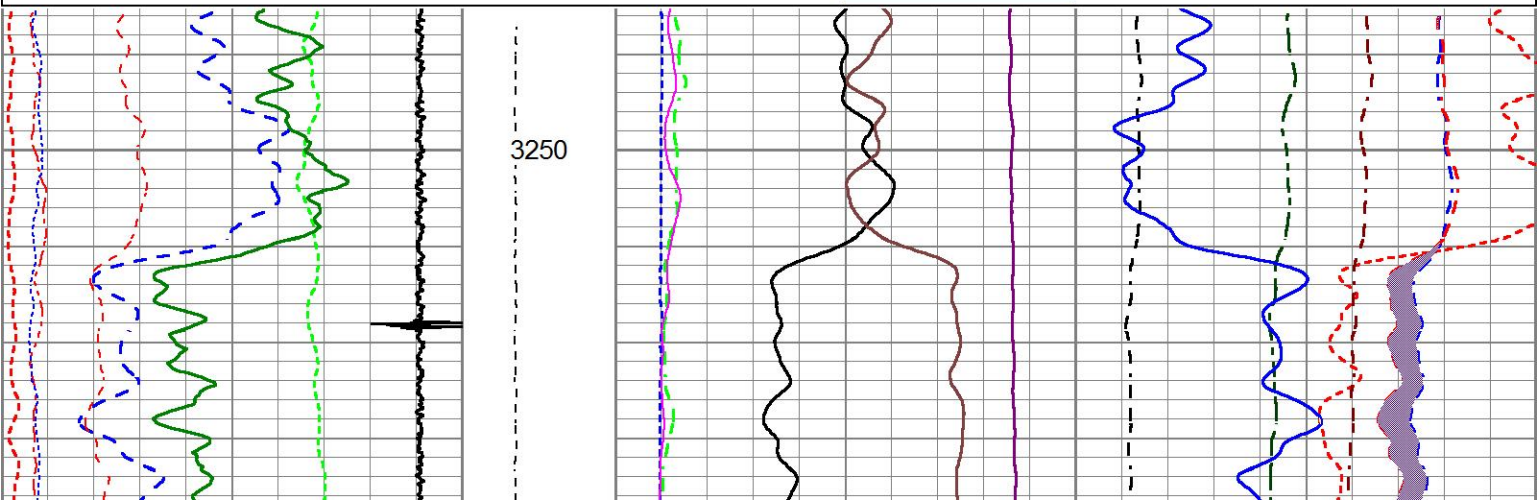
REPEAT PASS

5"=100'

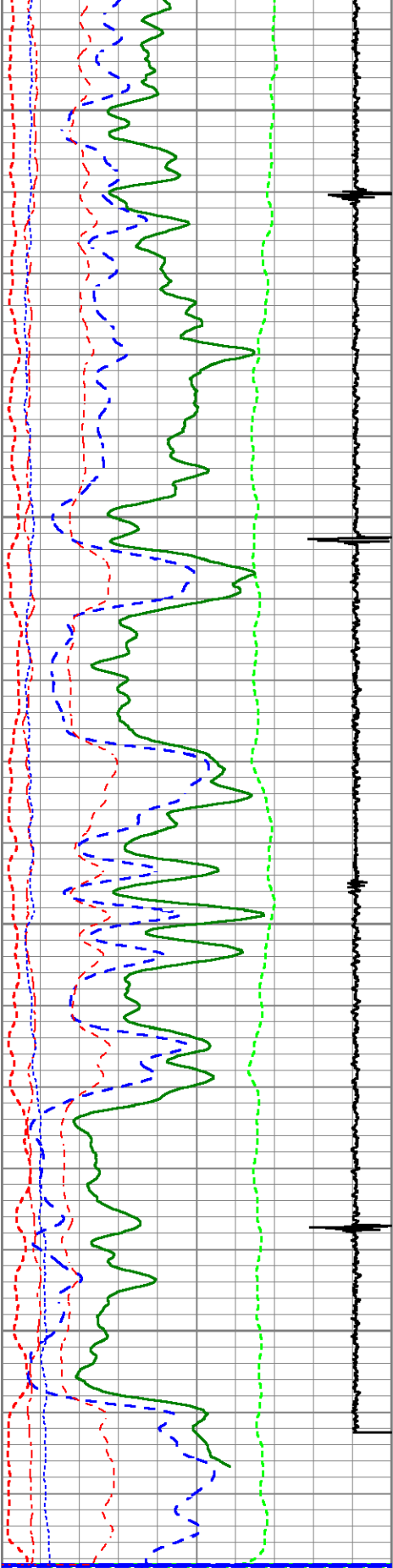
HALLIBURTON

Database File bmc d 22b-18-07-95.db  
Dataset Pathname WC/BMC\_D\_22B-18-07-95/run1/REPEAT  
Presentation Format RMTE\_M~1  
Dataset Creation Sat May 27 19:46:17 2017  
Charted by Depth in Feet scaled 1:240

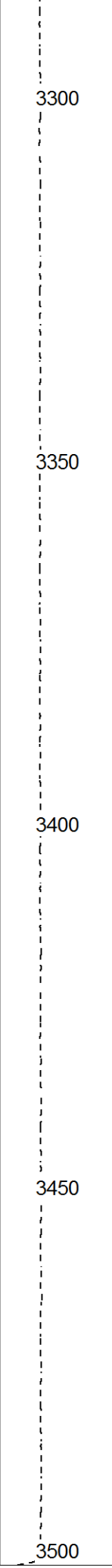
200	Near Bore Si (SGBN)	0	TENSION	0	RATIO (RNF)	1
0	OAI	100	0 (lb 1800	60	SGIN	0
10	FAR FIT ERR (SGFF)	40		0	RIN	9 60000 Near Counts (NCAP)
0	GR (GAPI)	150		0	RICF	6 60000 Far Counts (FCAP)
0	NEAR FIT ERR (SGFN)	100		0	H YIELD (YH2)	1 100000 FAR INTEL CT (FSIN)
-5500	CCL	550		0	H YIELD (YH1)	1 10000(NEAR INTEL CT (NSIN)
0	IN FIT ERR (CFTR1) NEAR	1		0.9	PHIT ( )	-0.1 ET INL NEAR (NNII
0	IN FIT ERR CFTR2) FAR	1			INOX2	50000 -1000
					-1500 1500	







200	Near Bore Si (SGBN)	0
0	OAI	100
10	FAR FIT ERR (SGFF)	40
0	GR (GAPI)	150
0	NEAR FIT ERR (SGFN)	100
-5500	CCL	550
0	IN FIT ERR (CFTR1) NEAR	1



TENSION	0
(lb 1800	60



0		RATIO (RNF)			1
60		SGIN			0
0	RIN	9	60000	Near Counts (NCAP)	0
0	RICF	6	60000	Far Counts (FCAP)	0
0	H YIELD (YH2)	1	100000	FAR INTEL CT (FSIN)	0
0	H YIELD (YH1)	1	10000	(NEAR INTEL CT (NSIN)	0
0.9	PHIT ( )	-0.1	ET INL NEAR (NNII		



0

IN FIT ERR CFTR2) FAR

1

INOX2

50000

-1000

-1500

1500

HALLIBURTON

REPEAT PASS

5"=100'

Calibration Report					
Database File	bmc d 22b-18-07-95.db				
Dataset Pathname	WC/BMC_D_22B-18-07-95/run1/MAIN				
Dataset Creation	Sat May 27 20:15:45 2017				
Cement Bond Log Shop Calibration Report					
Serial-Model:		12091451-A			
Calibration Performed:		Sat May 27 19:25:27 2017			
Free Pipe Calibration					
	Measured	Units			
TT	245.1	usec			
Amplitude	512.0	mV			
Log Base Line	4.7	mV			
Calibration References and Gain					
	Value	Units			
Name					
Pipe O.D.	4.500	in			
Pipe Weight	11.6	lb/ft			
Pipe Ref. Amp.	81.2	mV			
Amp. Gain	0.156				
Reservoir Monitor Tool I Calibration Report					
Serial-Model:		12376244-A			
Shop Calibration Performed:		Mon May 22 10:29:12 2017			
Carbon/Oxygen Mode					
Stabilization					
Result	Logged	Expected Value	Diff.	Tol.	Units
GENV	85.00	80.00	5.00	+/-15.00	V
ITCR2	3094	3250	-156	+/-250	cps
Near Detector					
	Channel	Expected Value	Amplitude	FWHM	Tol.
H	60	60 +/-2	0.0297	5.30	<6.00
Fe	207	206 +/-2	0.0985	-----	-----
NGAIN = 0.993	NZOFF = 0.8				
Far Detector					
	Channel	Expected Value	Amplitude	FWHM	Tol.
H	60	60 +/-2	0.0332	6.30	<6.50
Fe	209	208 +/-2	0.0907	-----	-----
FGAIN = 0.991	FZOFF = 0.5				
Flask Temperature	50.6 degF				
Result	Logged	Expected Value	Diff.	Tol.	Units
COIR2	0.45	0.45	-0.00	+/-0.02	
URIR2	1.26	1.26	0.00	+/-0.05	

LIRI2	1.36	1.36	0.00	+/-0.05	
TCCR2	4834	4000	834	+/-1000	cps
ITCR2	3081	3200	-119	+/-250	cps

Sigma Mode					
Stabilization					
Result	Logged	Expected Value	Diff.	Tol.	Units
GENV	87.00	80.00	7.00	+/-15.00	V
FCAP	9885	10000	-115	+/-500	cps
Horizontal Water Tank					
Result	Logged	Expected Value	Diff.	Tol.	Units
N/F Normalizer	0.96	0.95	0.01		
N/F Inel Norm	0.62	0.61	0.01		
RNF	1.05	1.07	-0.02	+/-0.12	
RINC	1.62	1.64	-0.02	+/-0.18	
SGFN	24.10	24.00	0.10	+/-0.50	cu
SGFF	22.95	22.85	0.10	+/-0.50	cu
FSIN	23623	24000	-377	+/-2000	cps
FCAP	9982	10000	-18	+/-1000	cps
NFTR	0.83			<5.00	
FFTR	0.92			<5.00	
NBKG	178			<500	cps
FBKG	99			<500	cps
RTN	0.41	0.40	0.01	+/-0.10	usec
RTF	0.43	0.40	0.03	+/-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
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Type / Serial:	002 / 11527445
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SHOP CALIBRATION		Mon May 22 11:40:46 2017			
	Counts/Sec.	Gain	Offset	Jig	Units
Background	22.8				cps
Calibrator	291.4				cps
		1.3703			GAPI/cps
PRIMARY VERIFICATION					
Background	32.5				cps
Calibrator	395.1				cps
Difference				362.6	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)
						



Company	URSA OPERATING COMPANY		
Well	BMC D 22B-18-07-95		
Field	WILDCAT		
County	GARFIELD	State	CO
<b>HALLIBURTON</b>		RESERVOIR MONITOR LOG GR-CCL	