

HALLIBURTON

**CASE I-M & CBL-M
CEMENT EVALUATION
PIPE INSPECTION LOG**

15 3/8" SCALE 1:250

Company	Aardwarmte Vierpolders		
Well	BRI-GT-01		
Field	Vierpolders		
County	Zuid-Holland		
Location	Country	THE NETHERLAND	
Date	16-AUG-2015		
Run Number	TWO		
Depth Driller	3091 m		
Depth Logger	NOT TAGGED		
Bottom Logged Interval	1247 m		
Top Logged Interval	6 m		
Open Hole Size	N/A		
Type Fluid	BRINE		
Density of Fluid	1.13 g/cc		
Fluid Level	92 m		
Max. Recorded Temperature	N/A		
Estimated Cement Top	N/A		
Operational Time			
Equipment Number	IJM_NL_OH		
Location	IJMIJUDEN		
Recorded By	M.BOURAHLA	W.KOWALSKI	
Witnessed By	KARL GOLLOB	PETER NUTTERS	
Bohrhole Record		Casing Record	
Run Number	Bit	From	To
ONE			9,625"
			13,375"
			47#
			68#
			2779 m
			1256 m
			1360 m
			0 m

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All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current price schedule.

Comments

1. LOG CORRELATED TO BAKER LWD GAMMA-RAY OPEN HOLE LOG DATED 28-JUL-2015
 2. TOOLS RUN AS PER TOOLSTRING DIAGRAM
 3. TOOL COULD NOT PASS BEYOND 1244 m, JUST ONE TRY TO AVOID DAMAGE OF CAST-M HEAD
 4. LOG INTERVAL AS PER CUSTOMER REQUEST.
 5. TOOL LOG FOR BOTH CEMENT AND PIPE INSPECTION AS PER CLIENT REQUEST.
 6. CAST-M SCANNING HEAD USED: WHITE 250 kHz, 7", 4spf
 7. BAD SIGNAL ABOVE 870 m DUE TO FLUID LOSSES.

THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES - WPS GE

CEMENT INSPECTION MODE

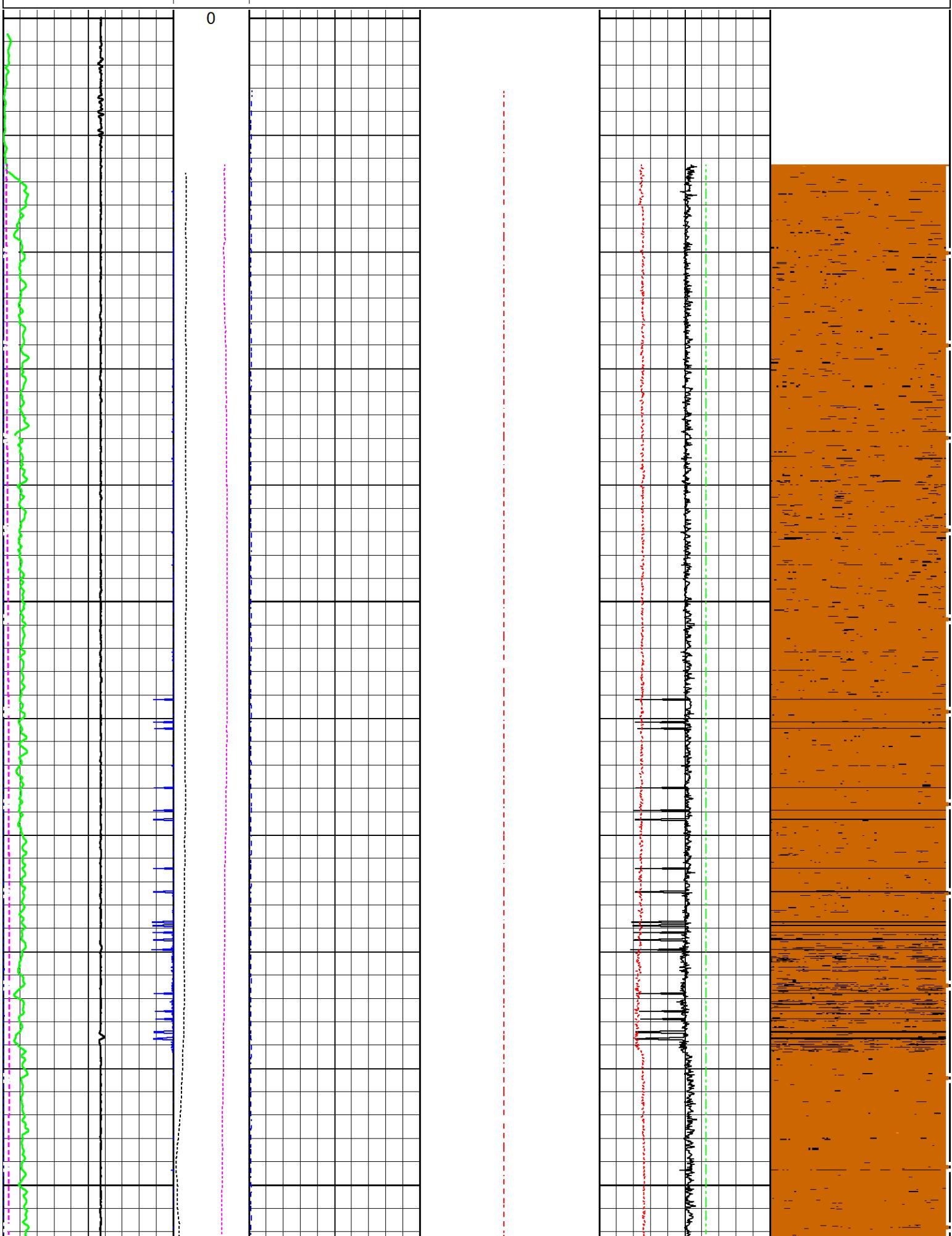
HALLIBURTON

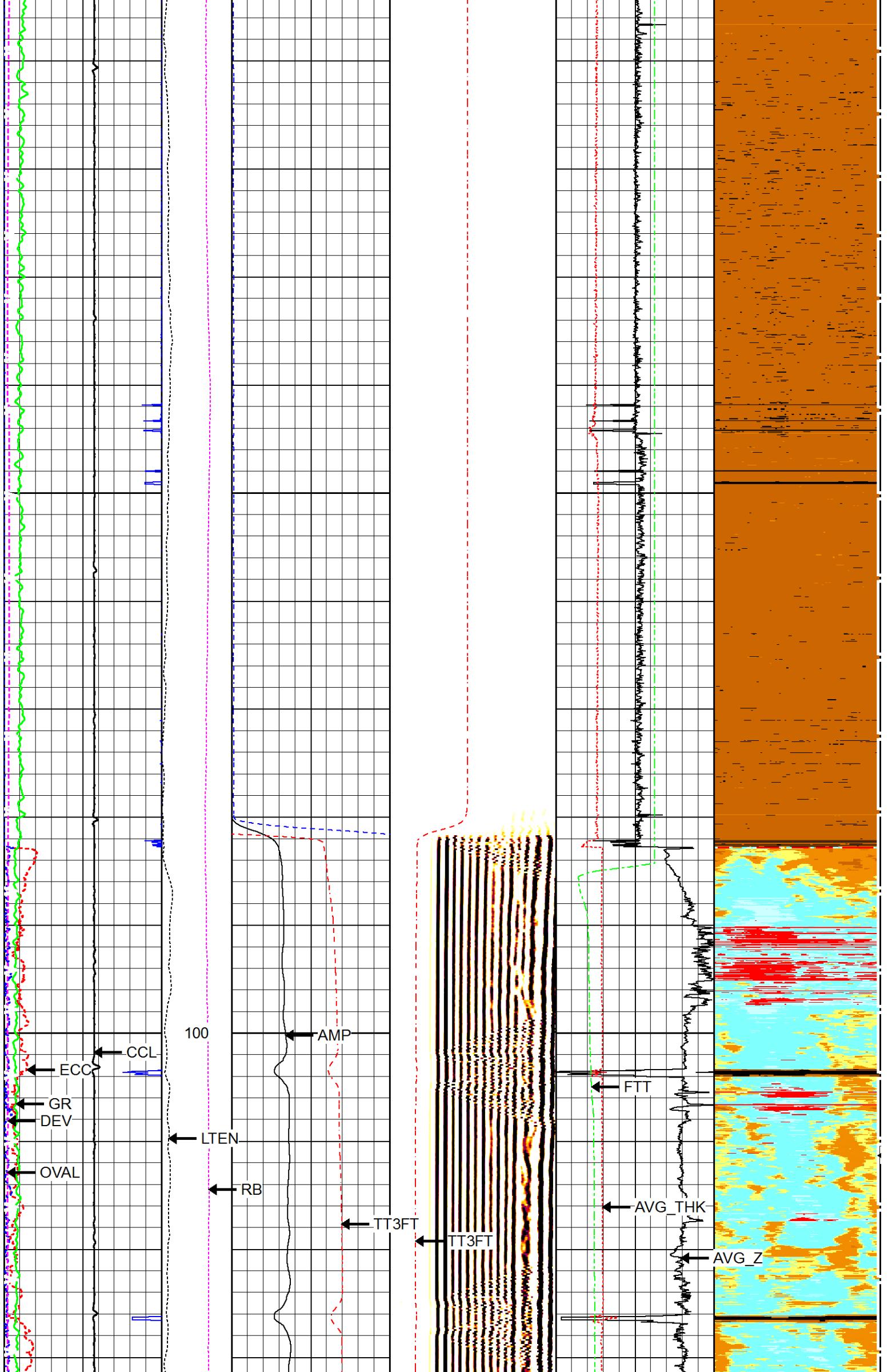
SCALE 1:200

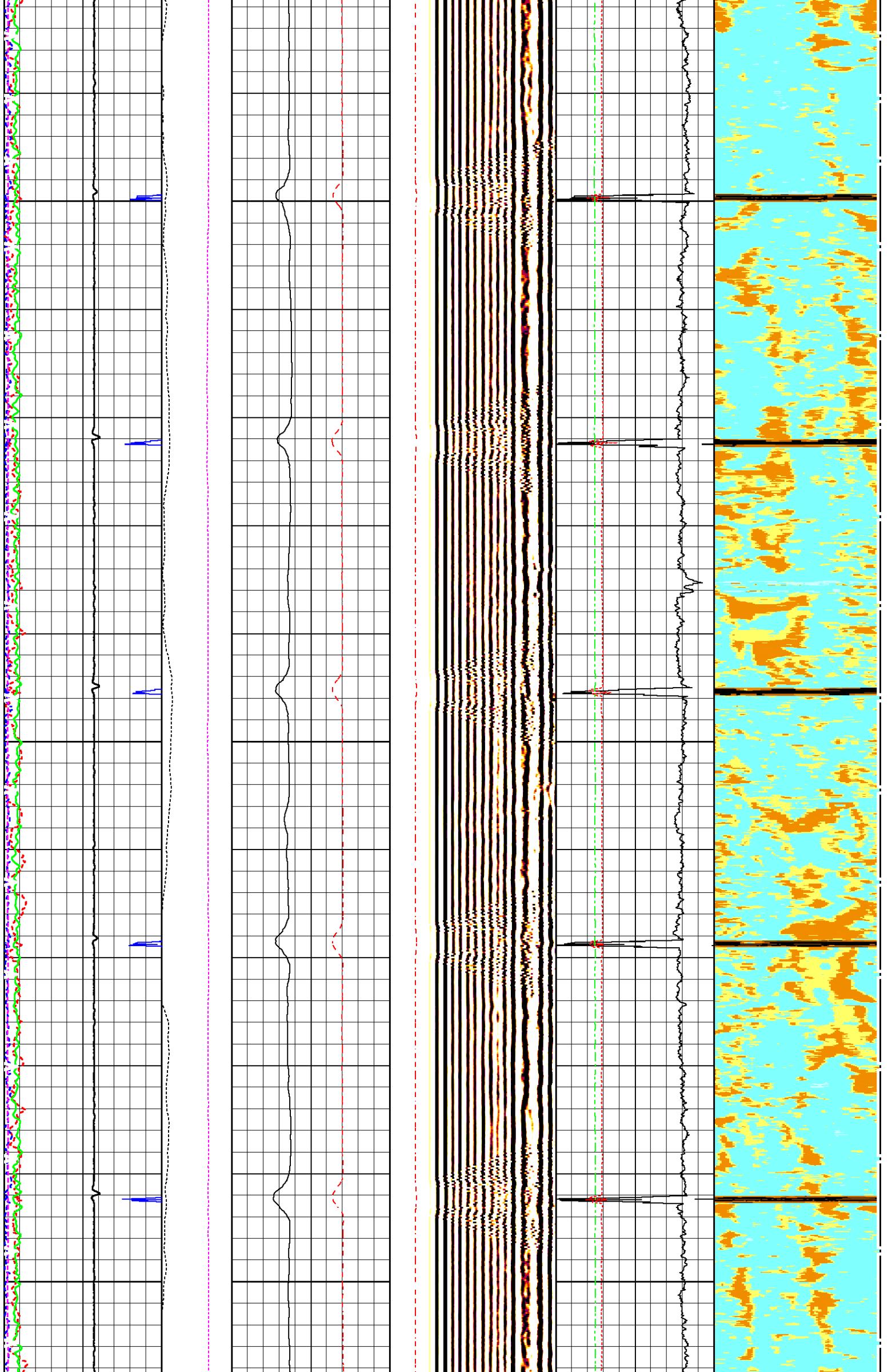
Presentation Format
Dataset Creation
Charted by

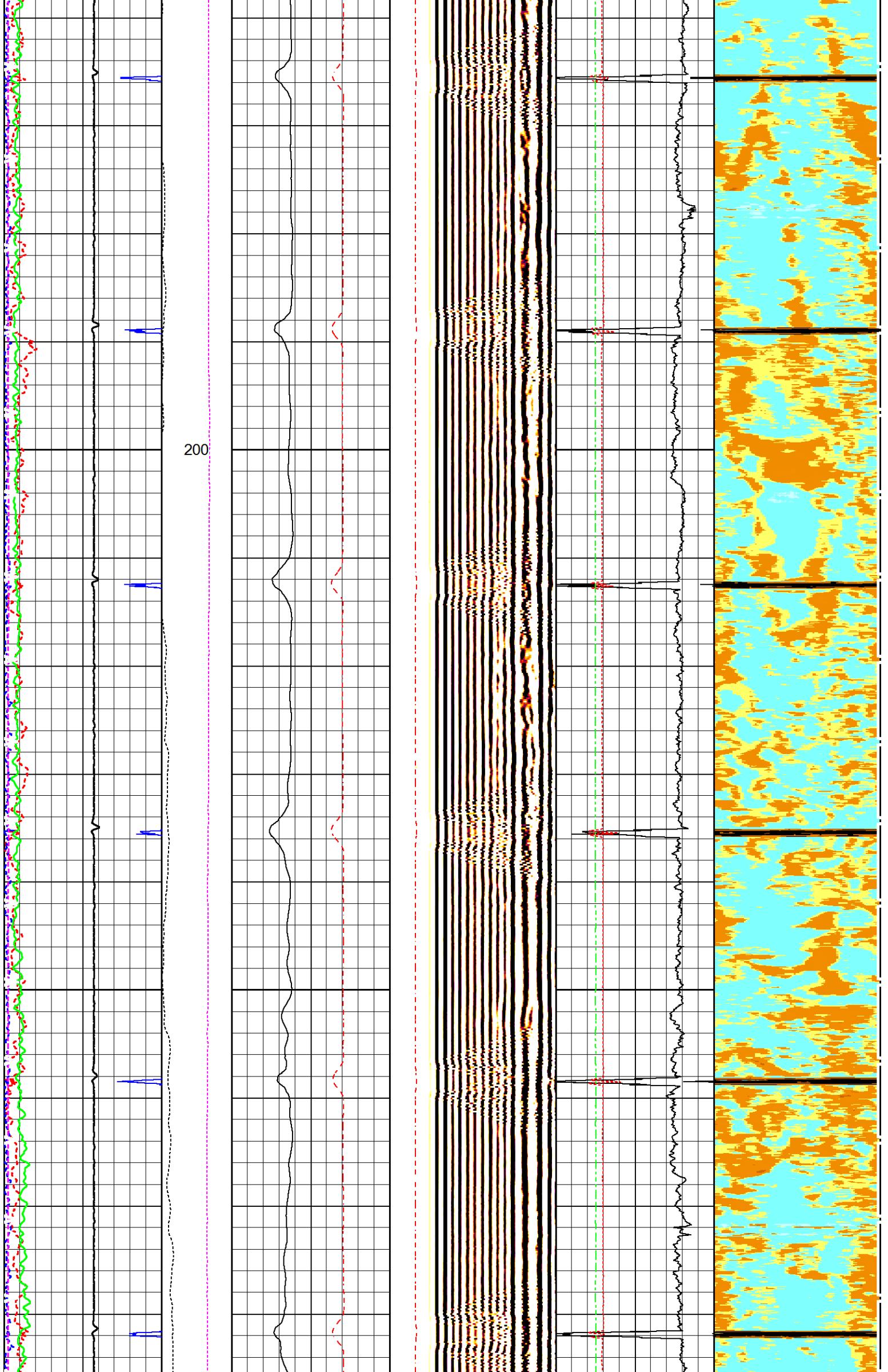
1hcastrbt1338
Mon Aug 17 06:27:46 2015
Depth in Meters scaled 1:200

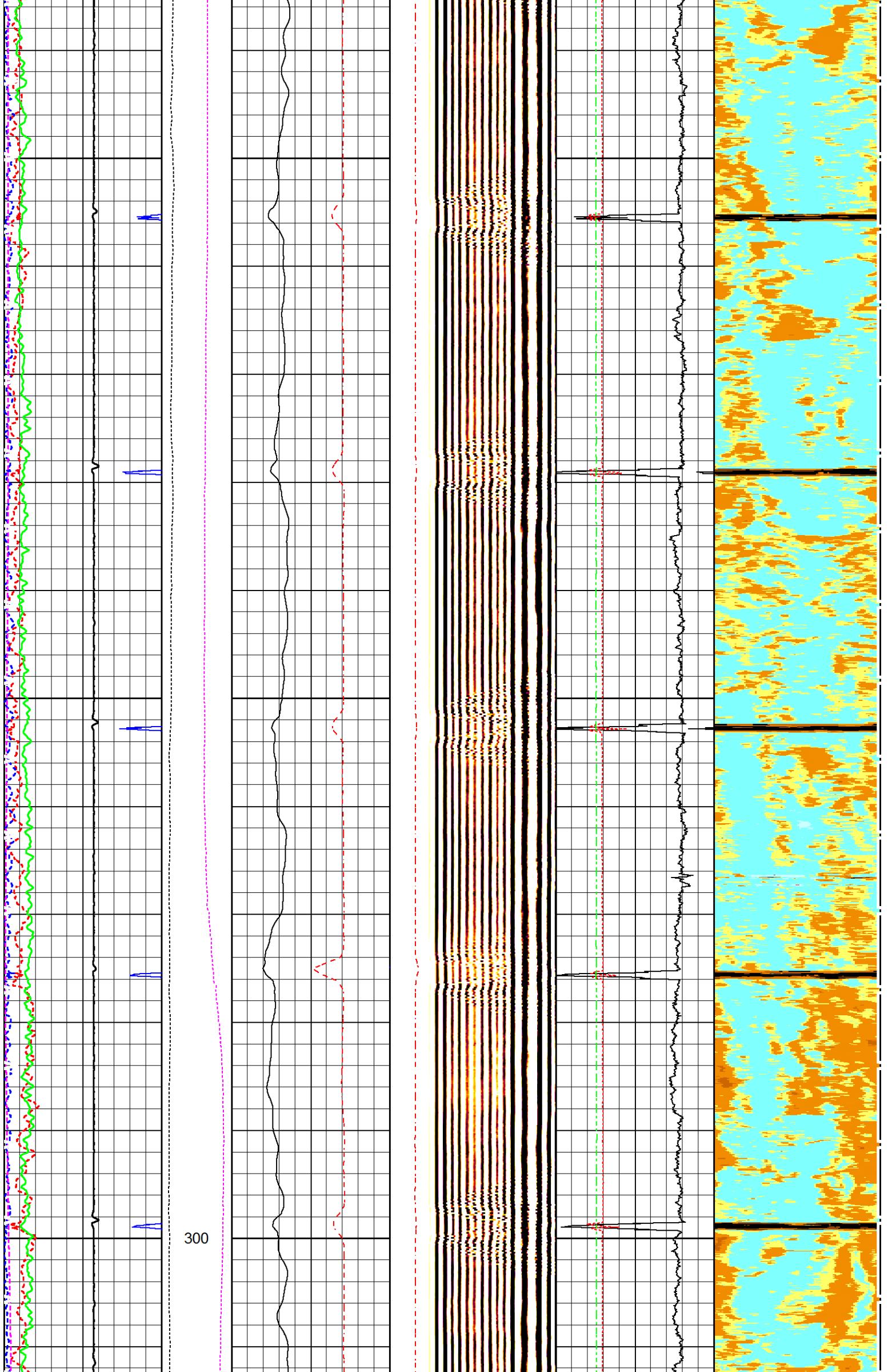
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0	OVAL (in)	0.2	(deg)	0	AAMP	20	10	110			Avg_Thk	0	0		6.15
0	GR (GAPI)	150	0	360			TT3FT				0.2 (in)	1.2			
0	DEV (deg)	60	L滕	423	(usec)	323		TT3FT			220 FTT (usec/ft)	120			
	ACCL		(lb)				200	(usec)	1200						
15000	CCL	20000		500	2500										

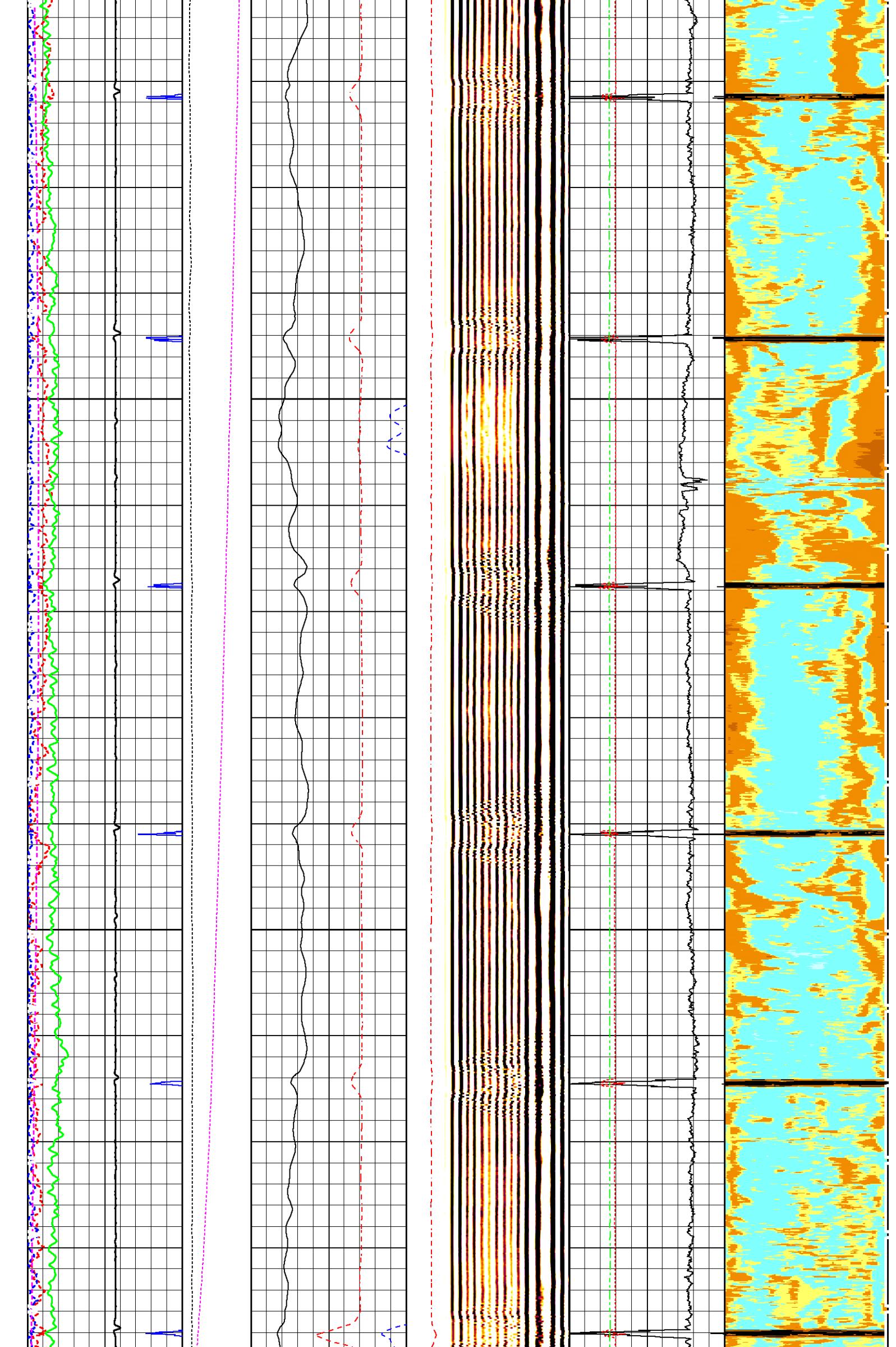


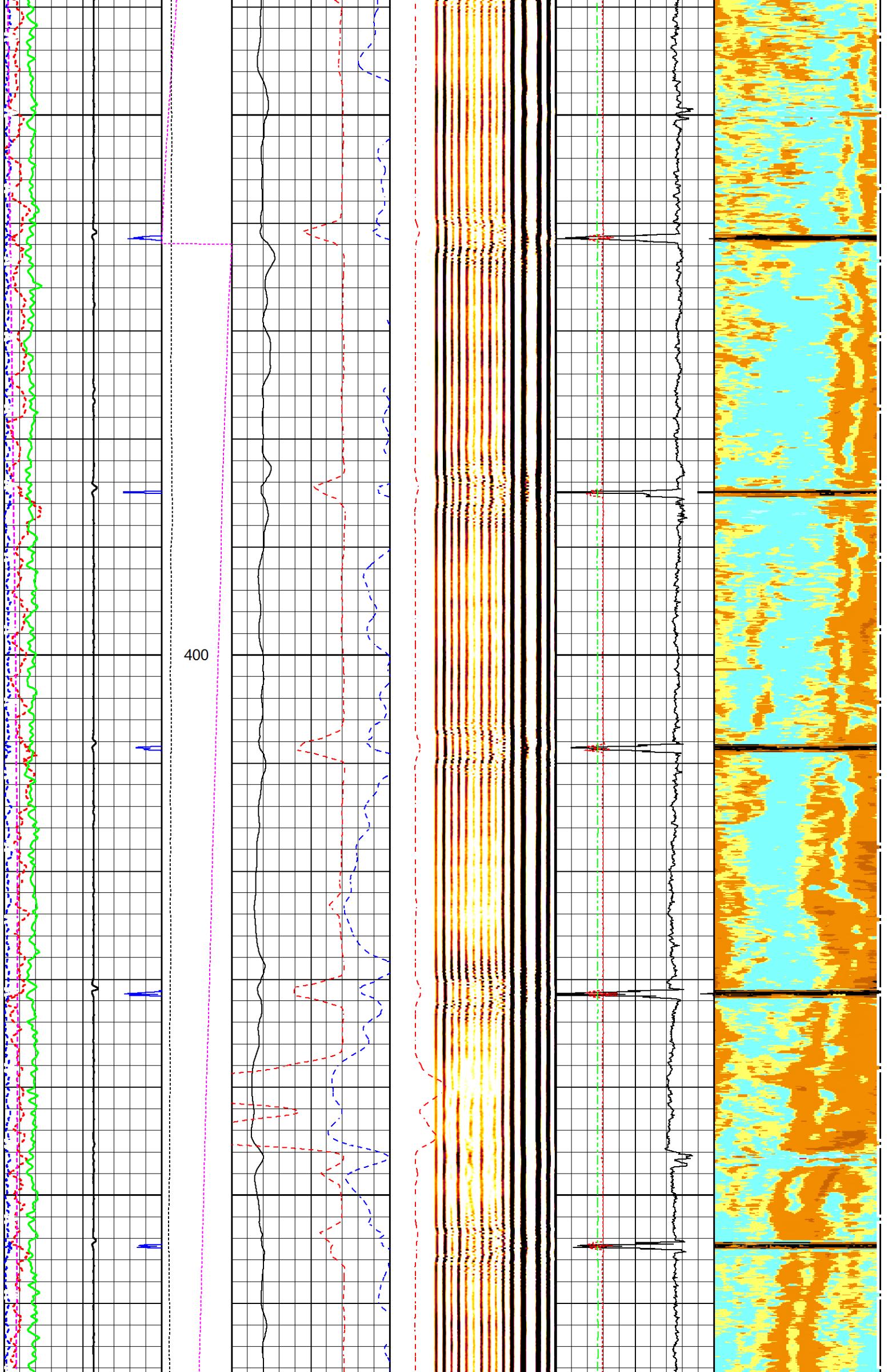


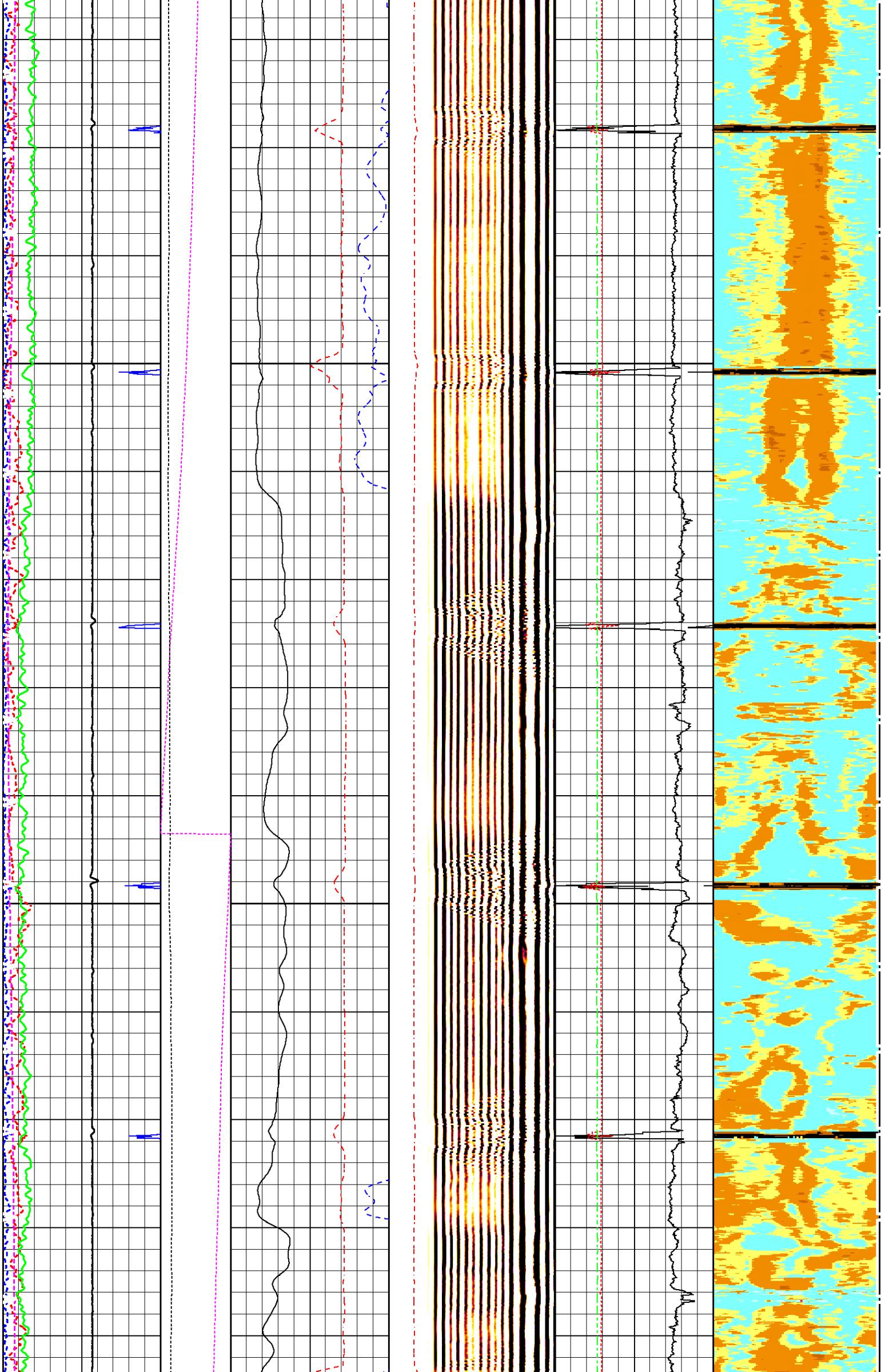


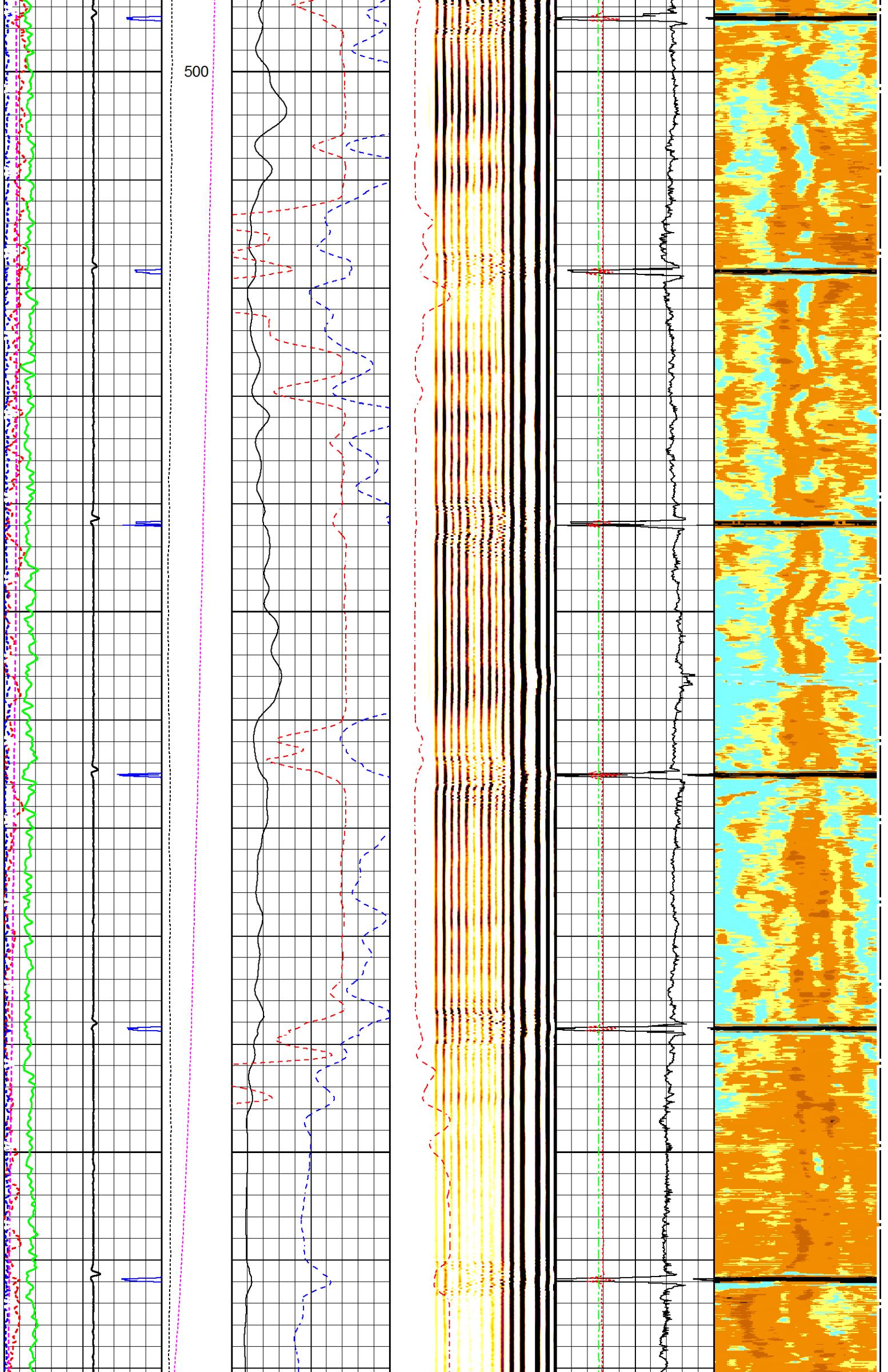


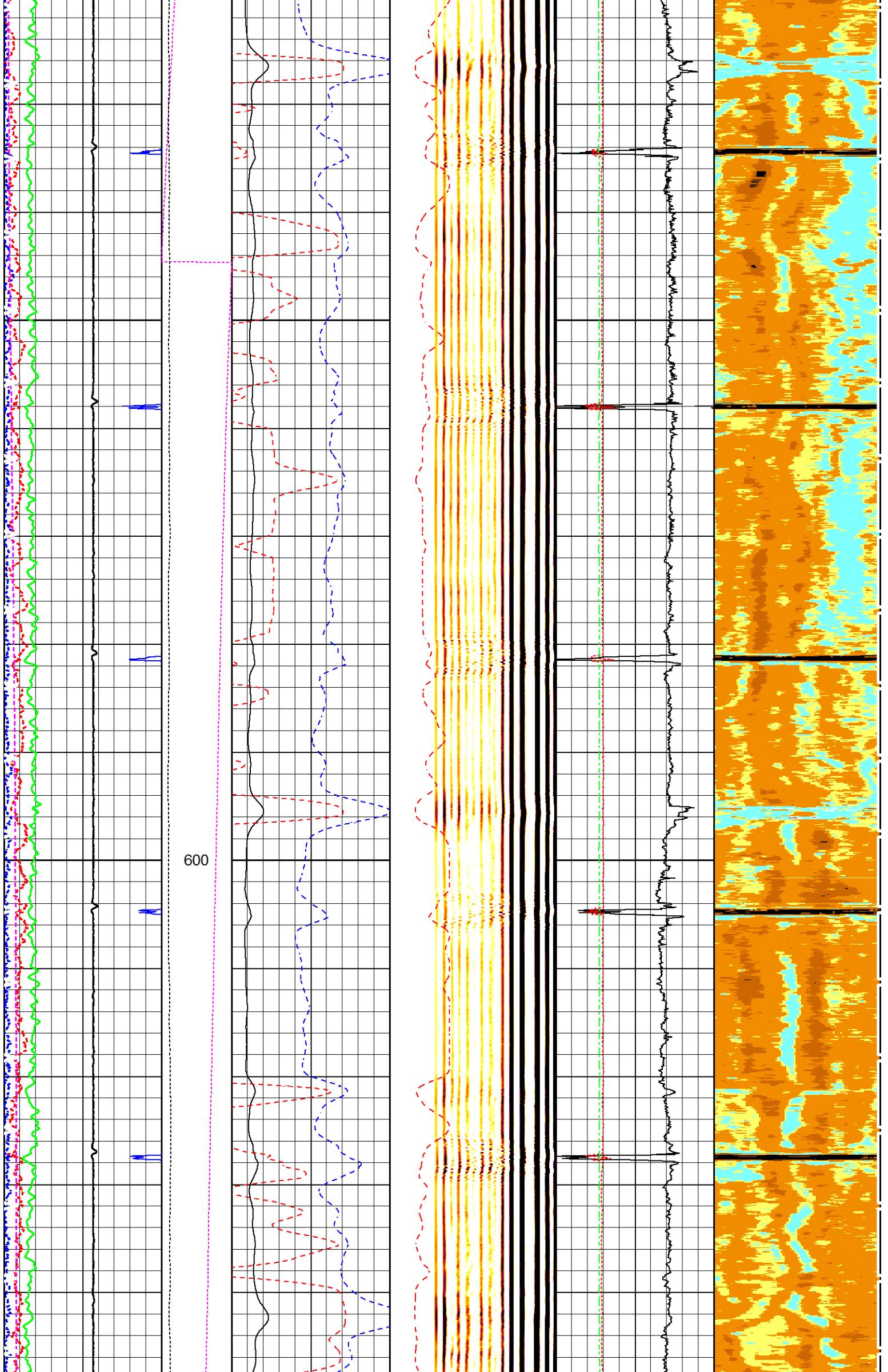


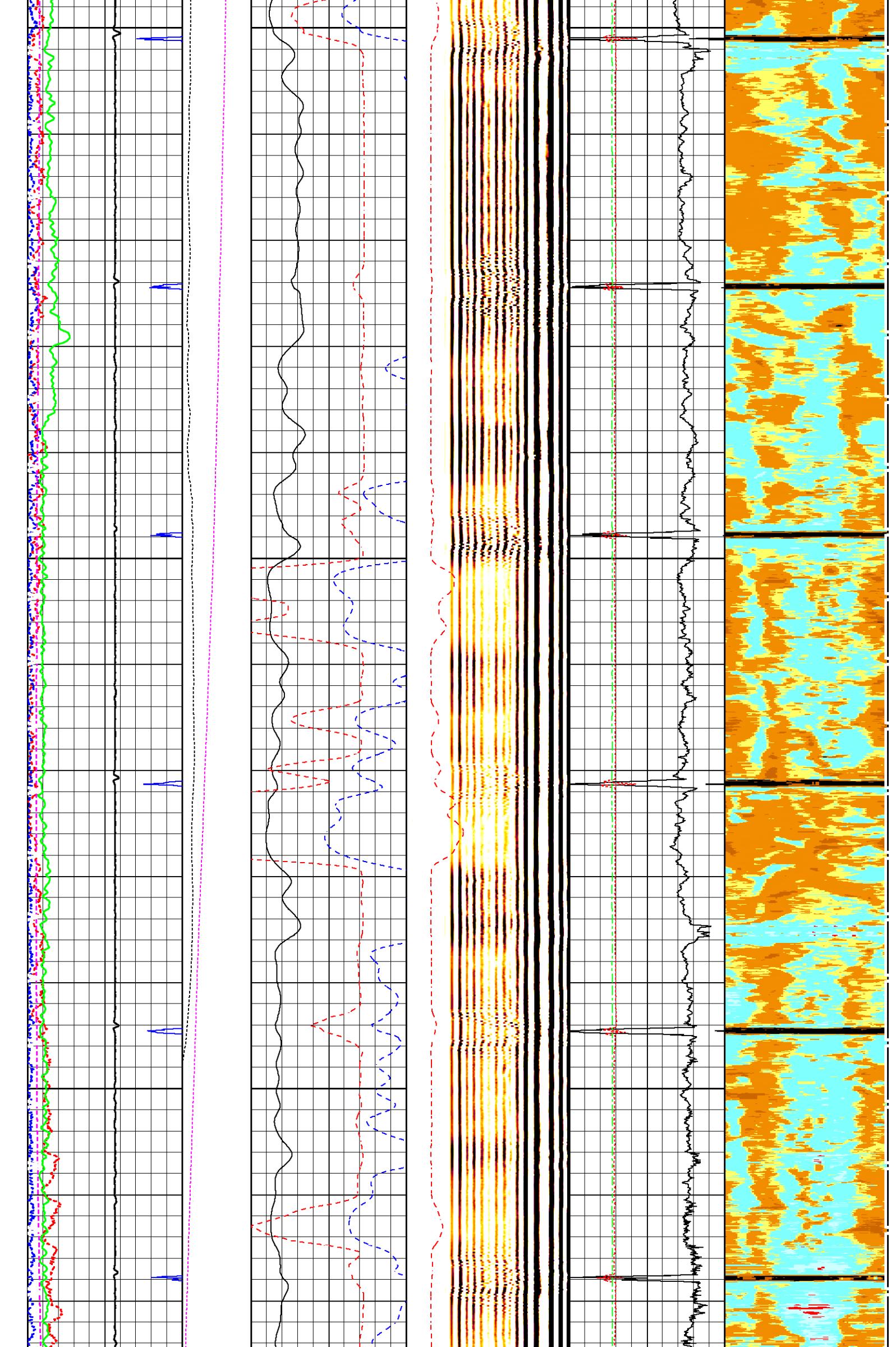


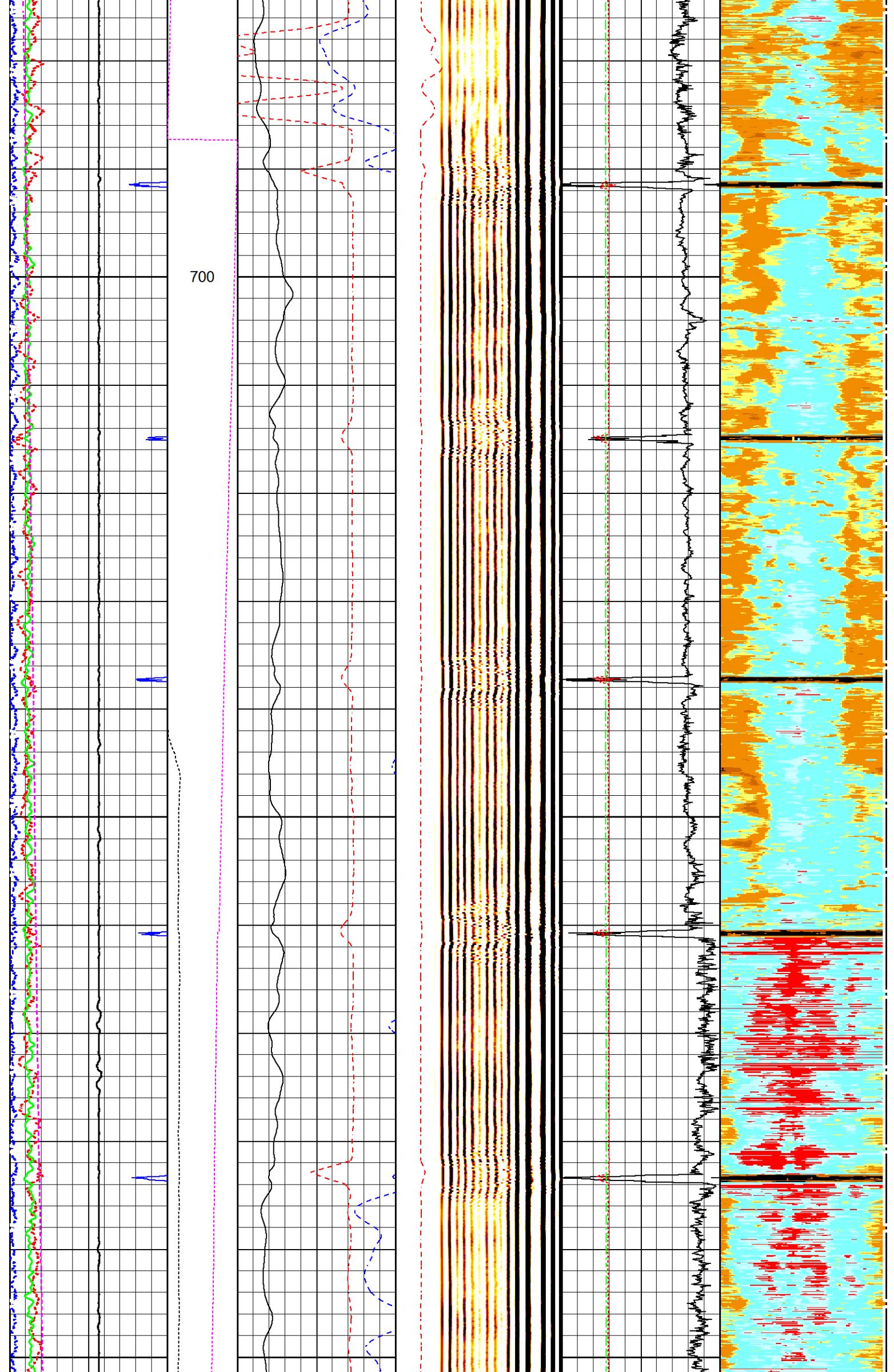


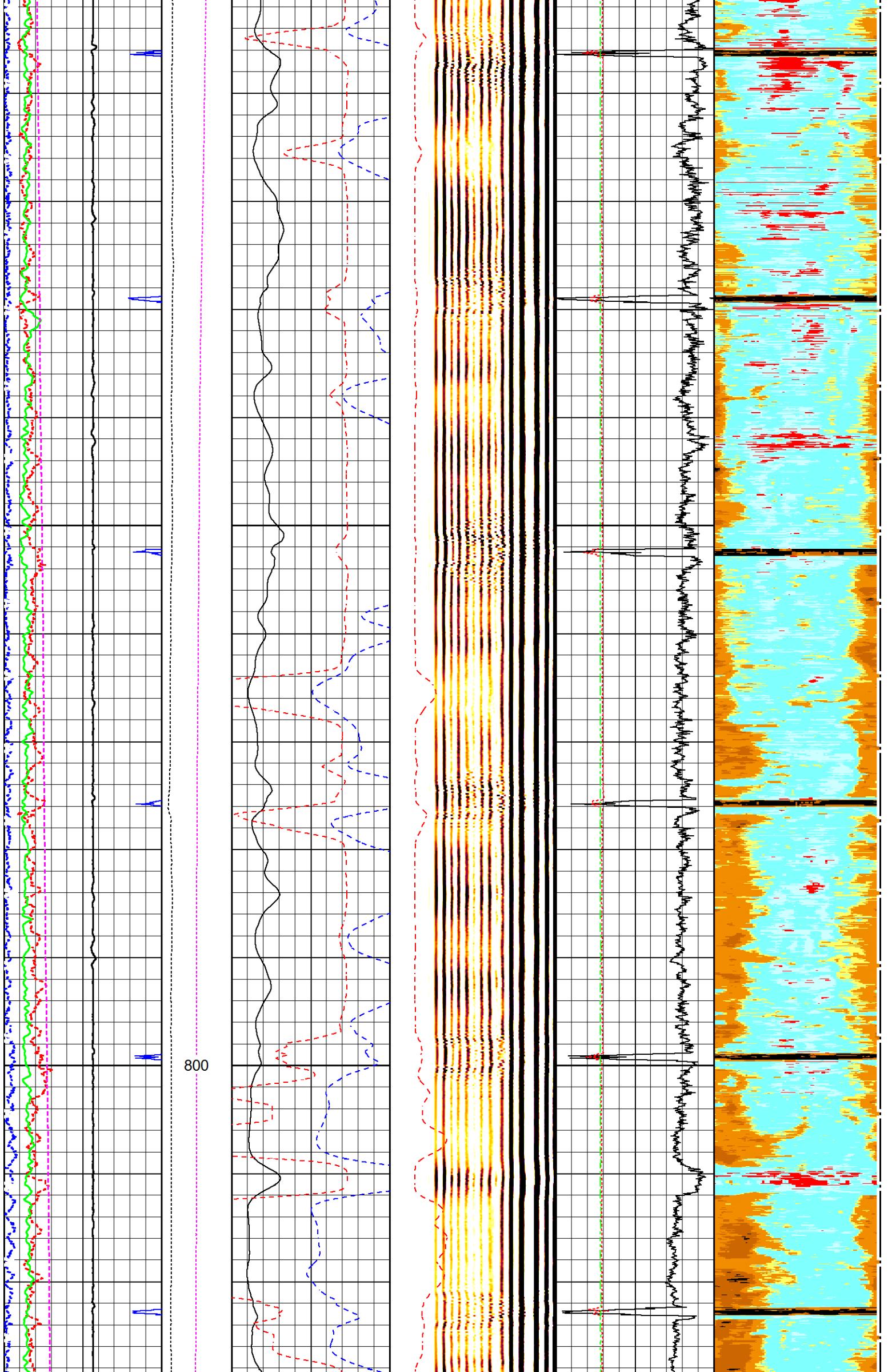


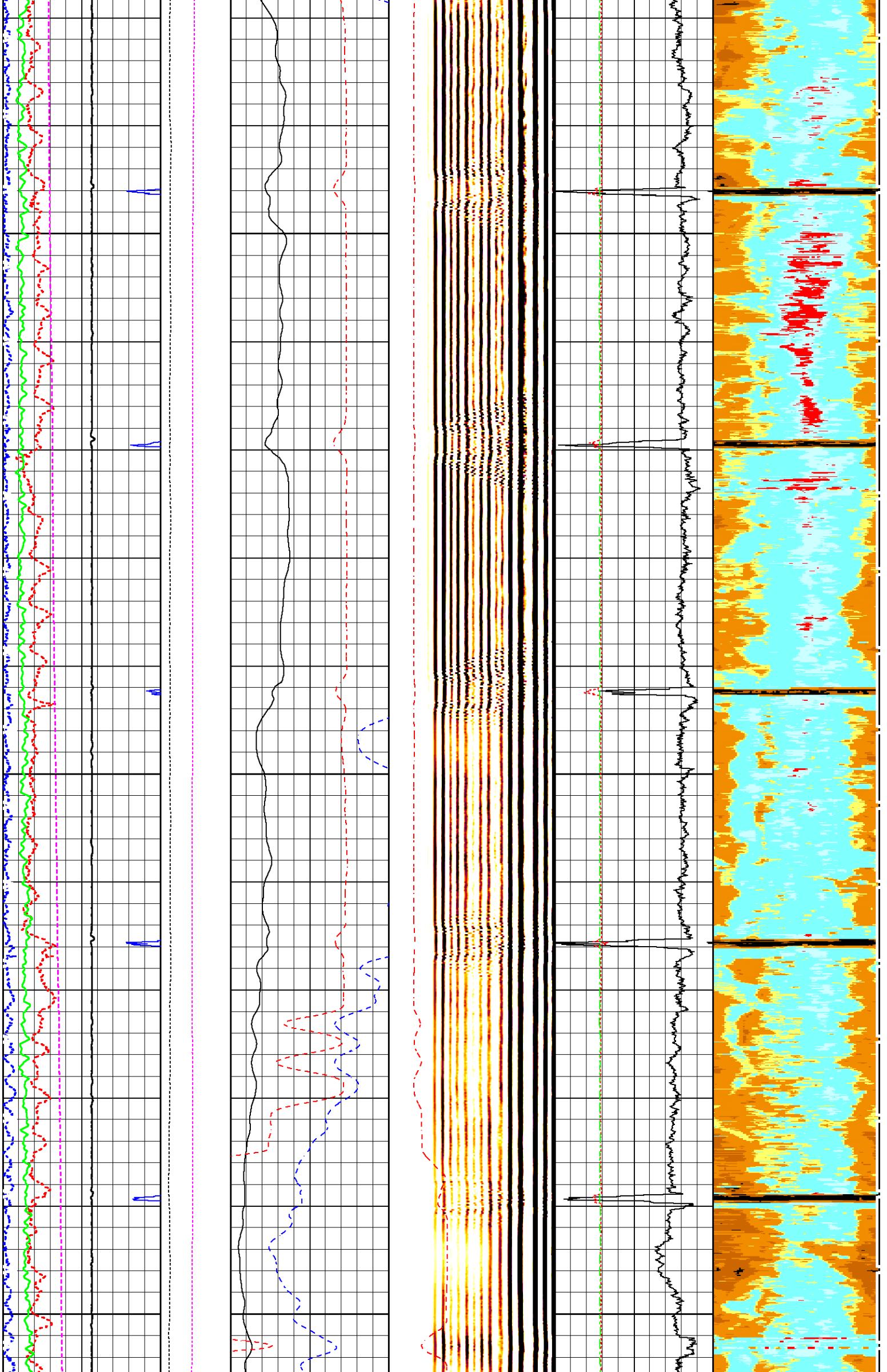


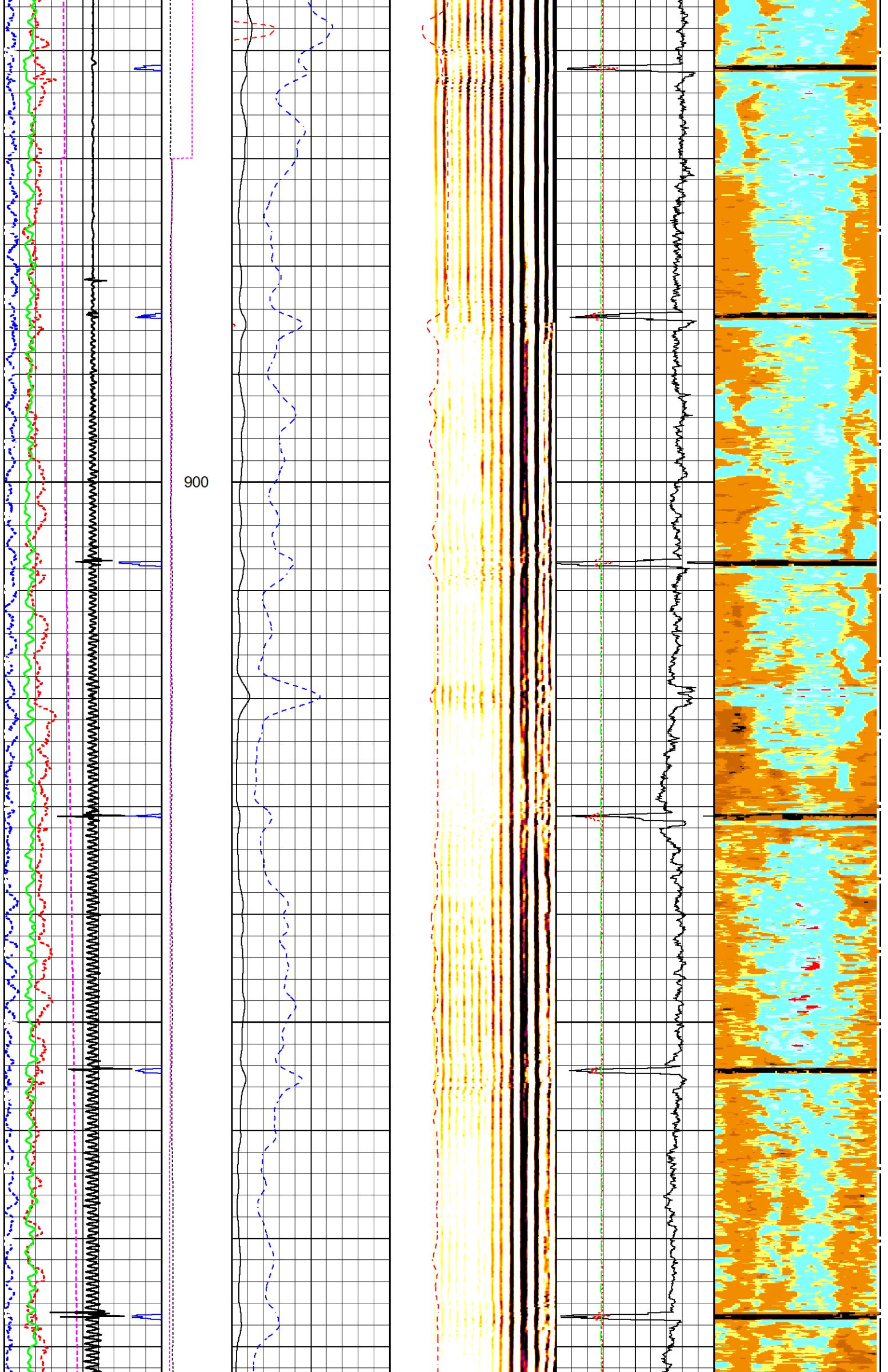


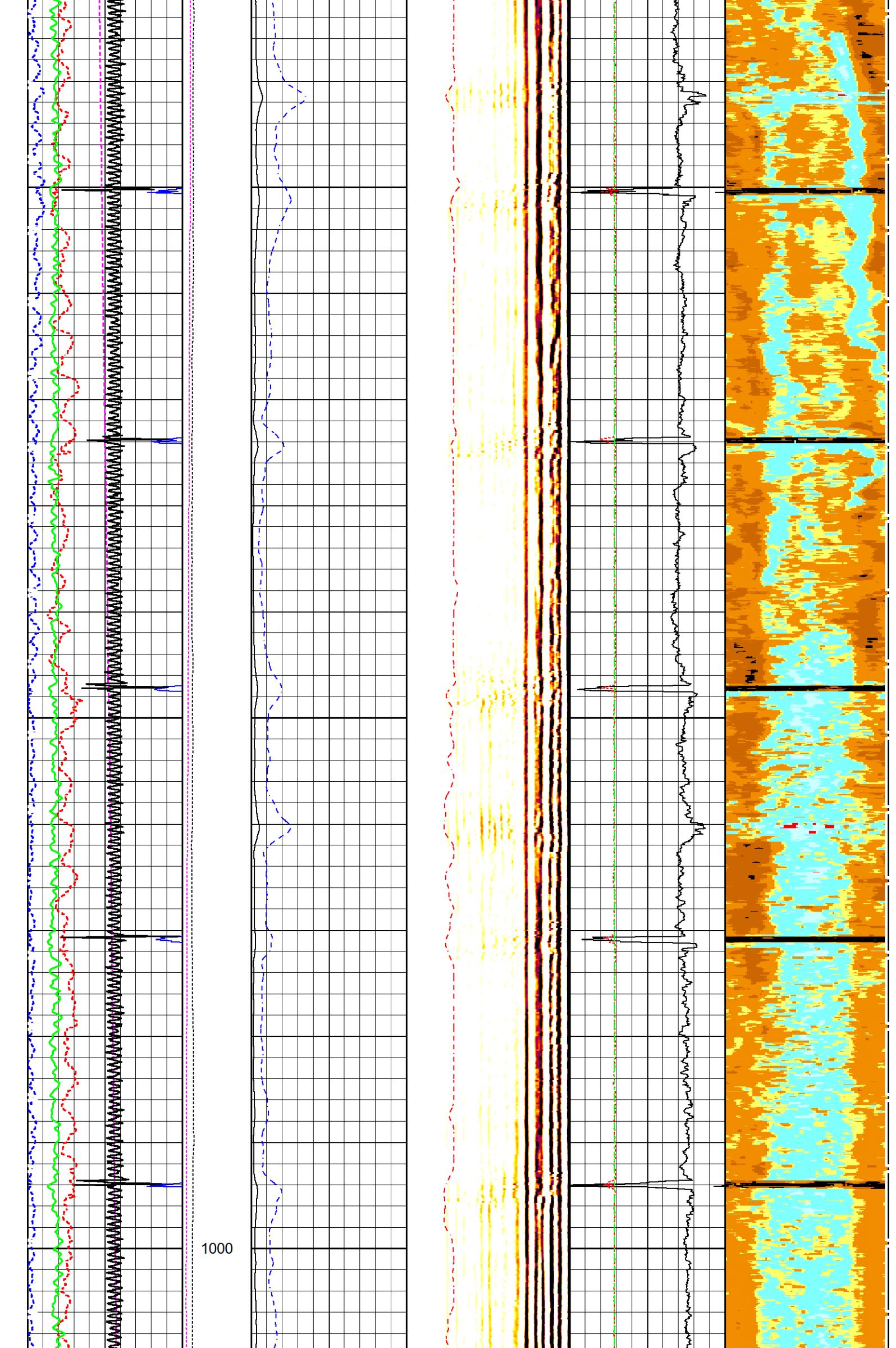


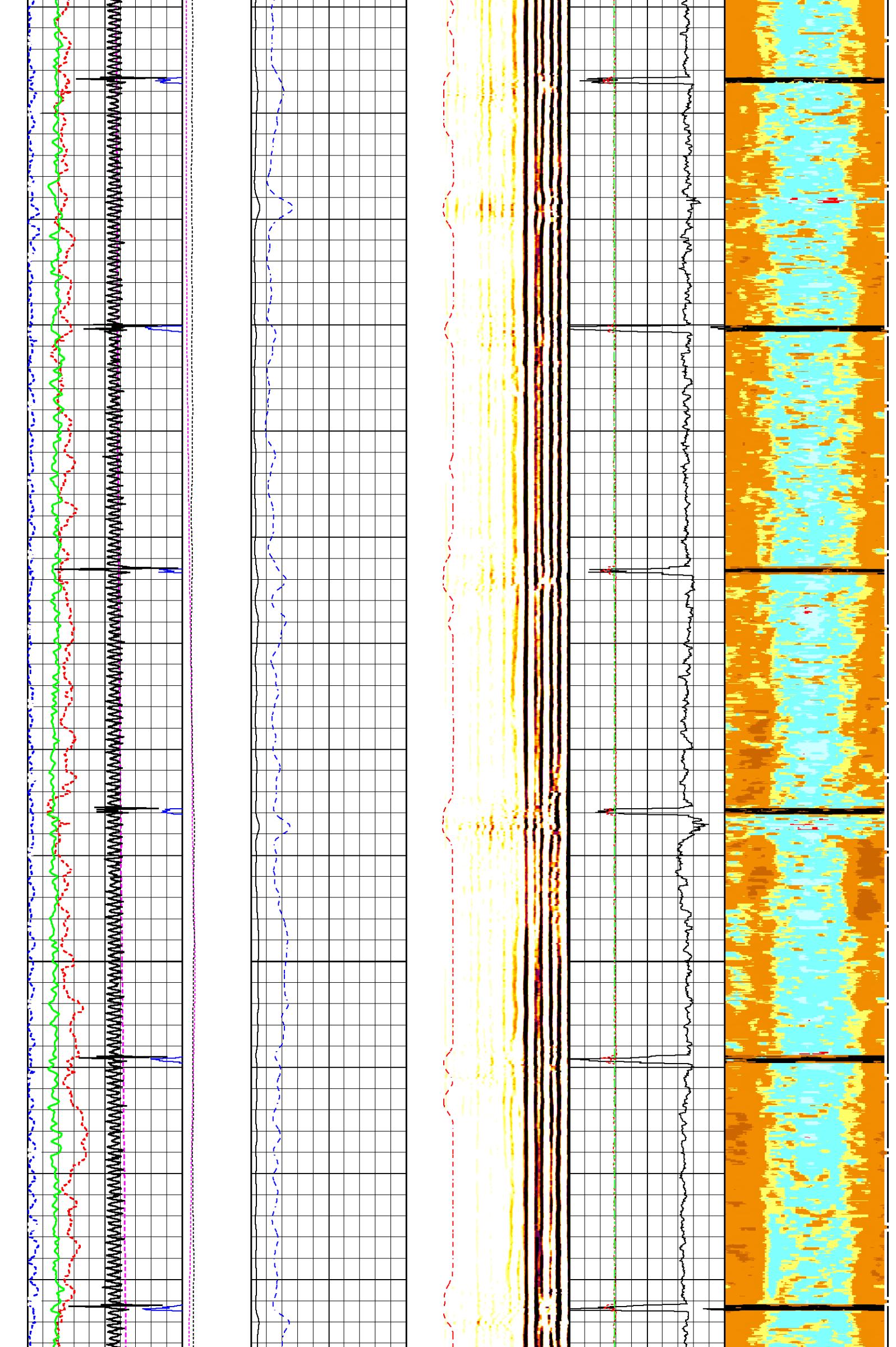


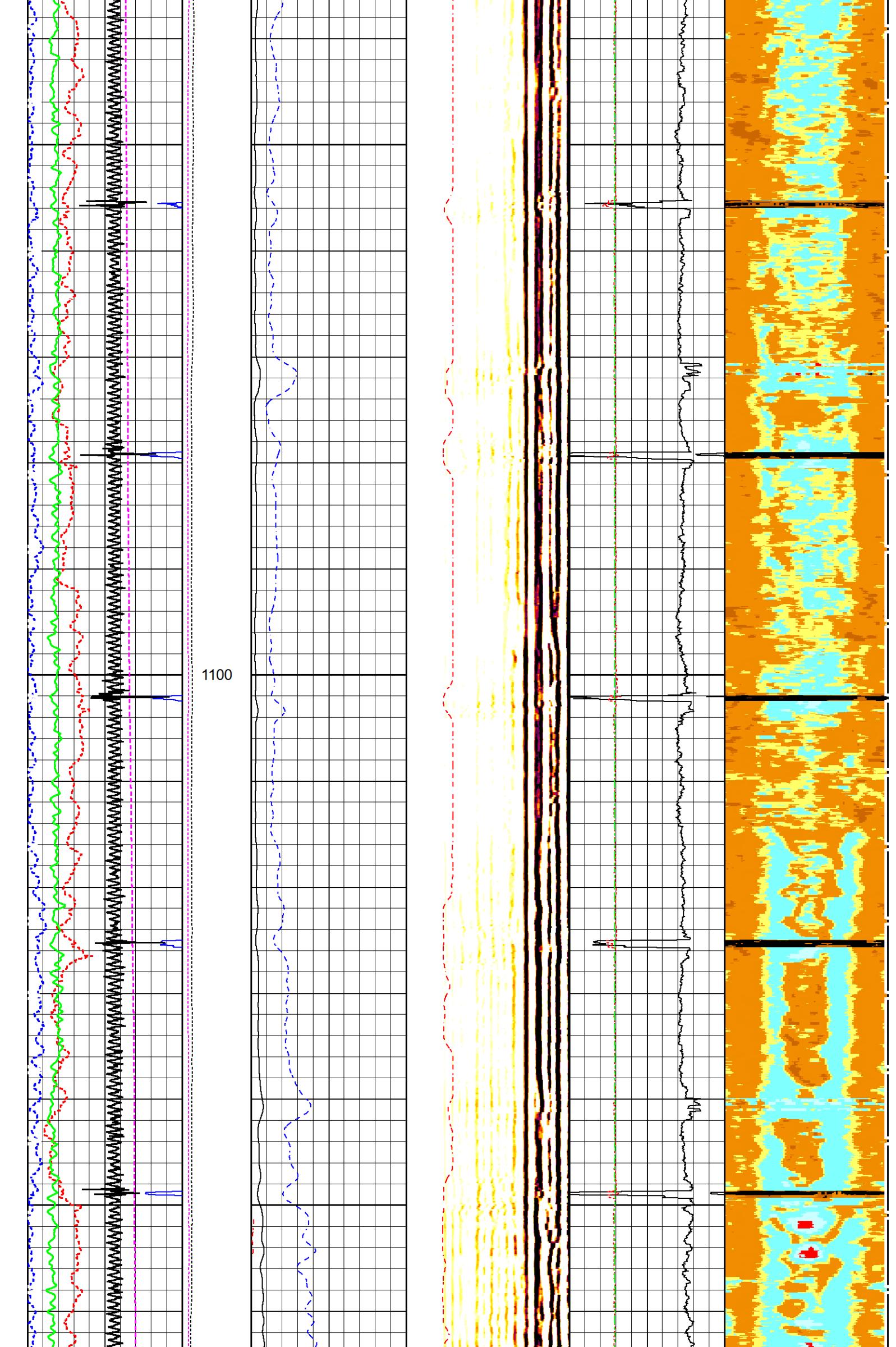


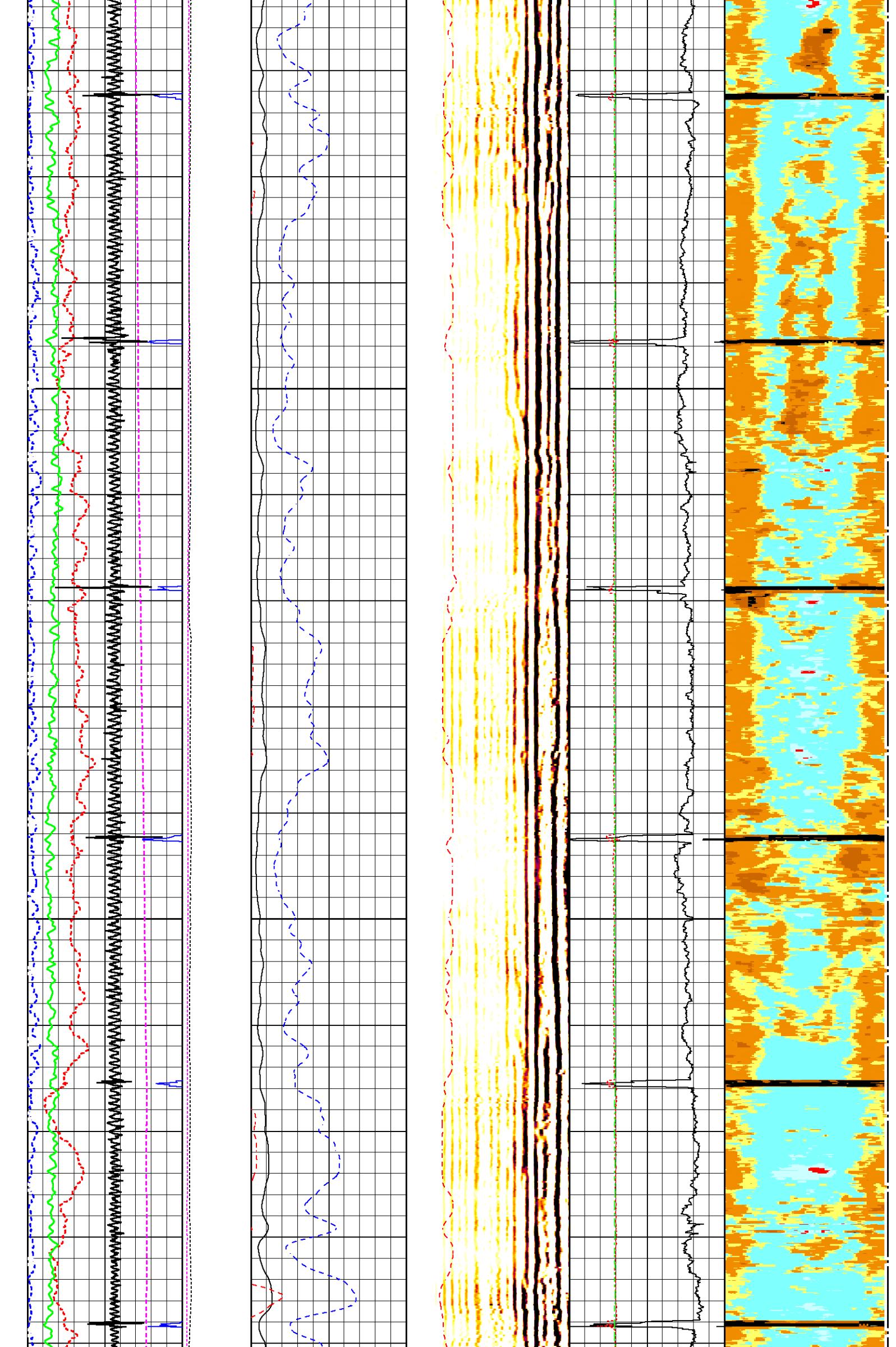


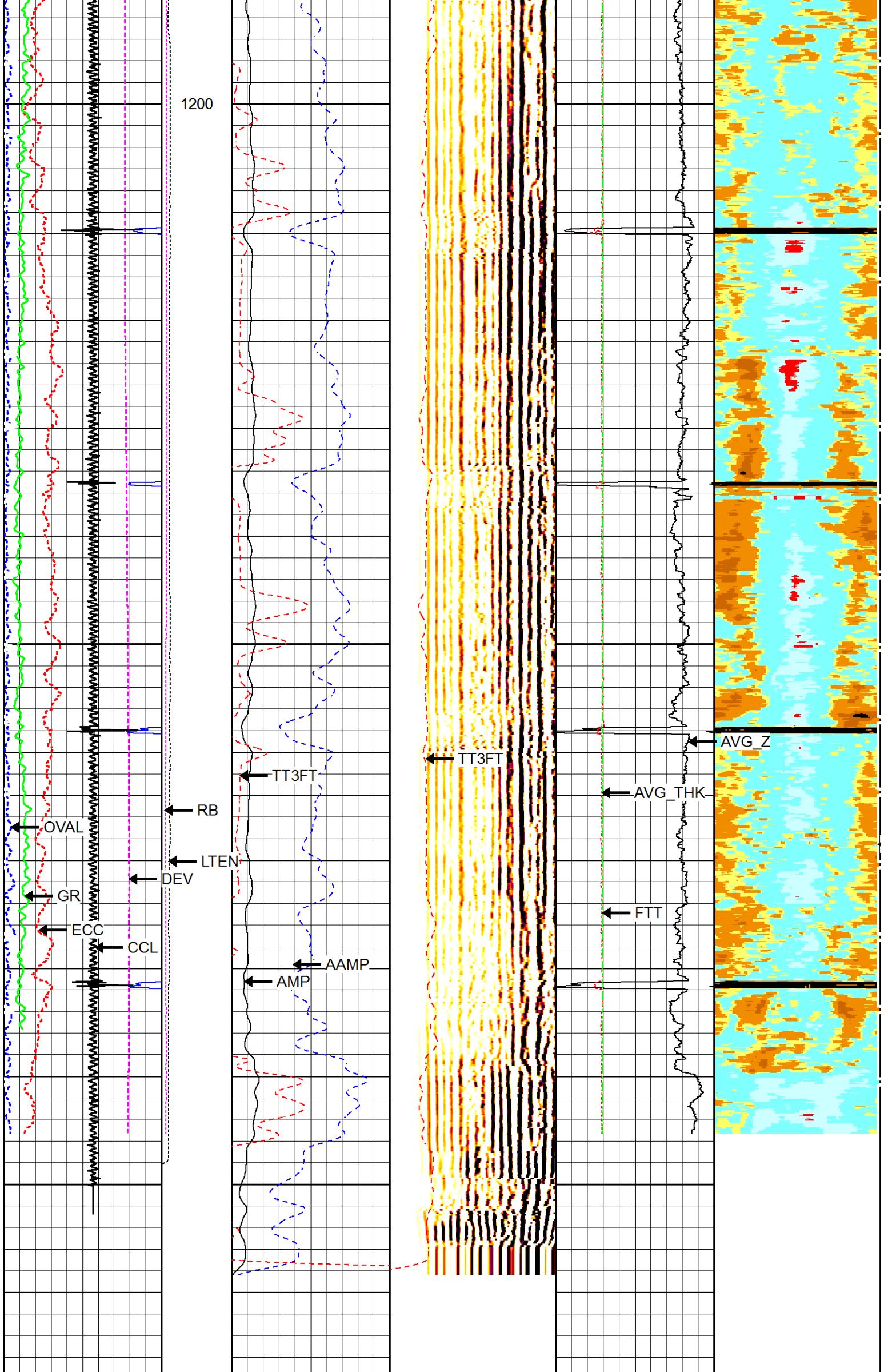


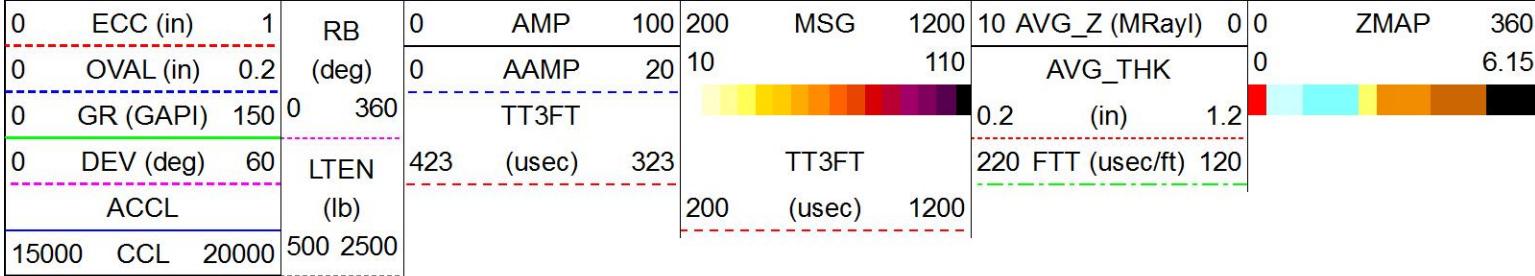








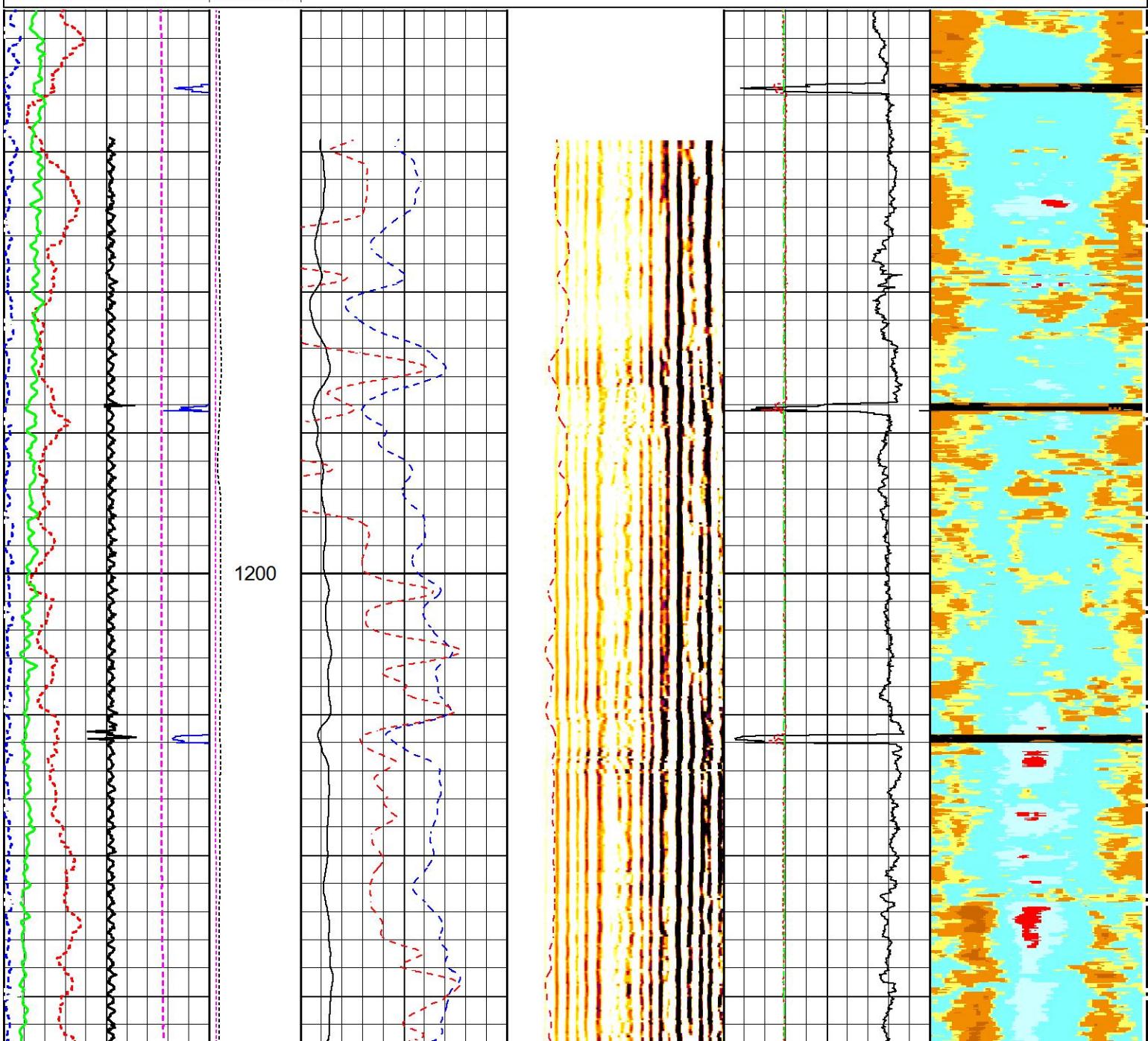
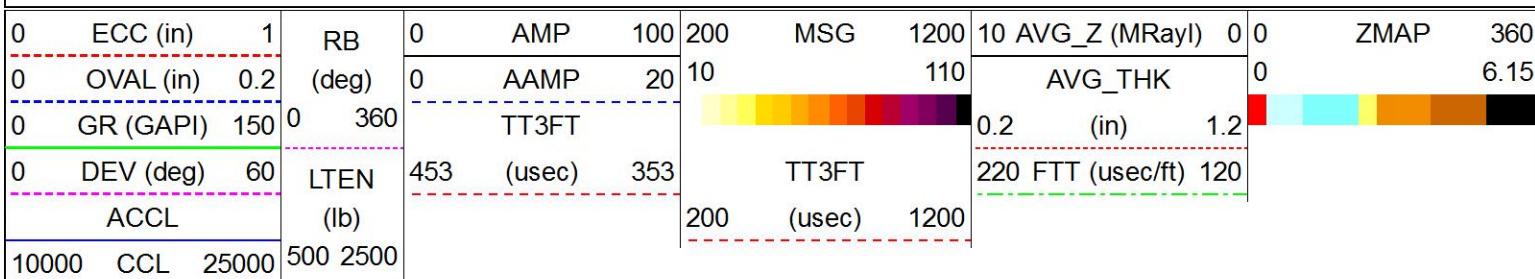


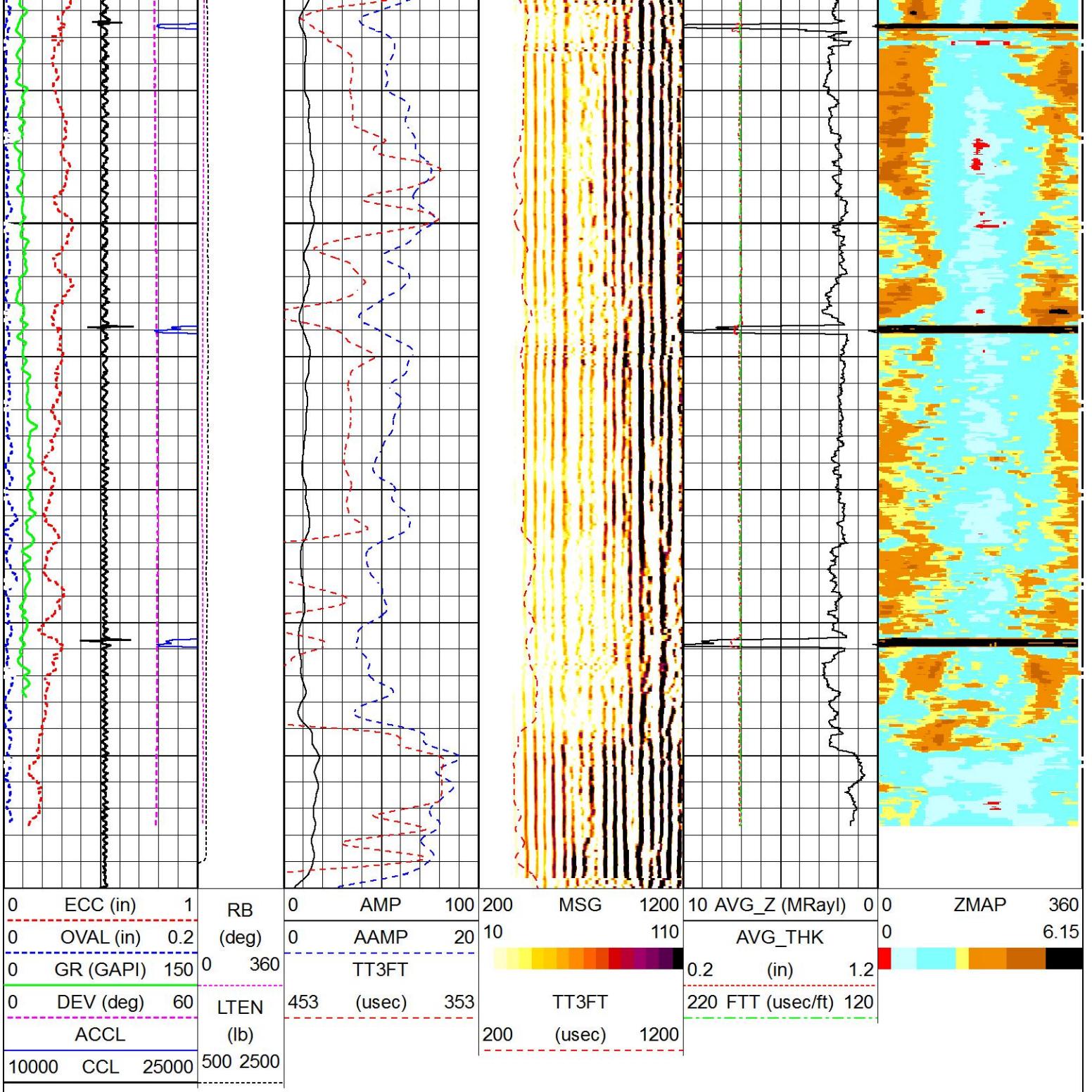


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REPEAT SECTION

Database File c:\wojtek\halliburton\jobs\nl\geomec\bri-gt-01\bri-gt-01.db
 Dataset Pathname merge3
 Presentation Format 1hcastrbt1338
 Dataset Creation Mon Aug 17 04:52:44 2015
 Charted by Depth in Meters scaled 1:200





HALLIBURTON

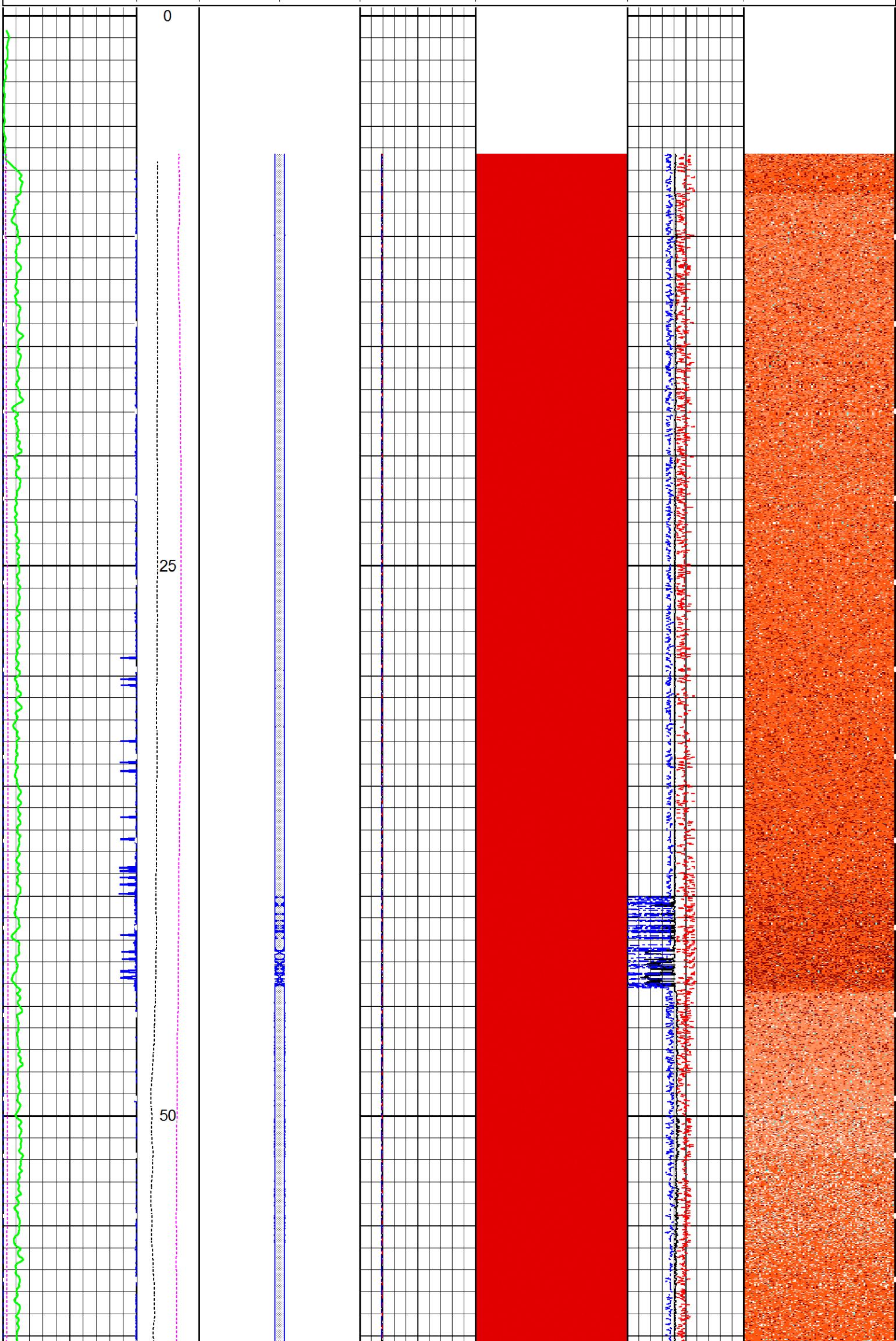
REPEAT SECTION

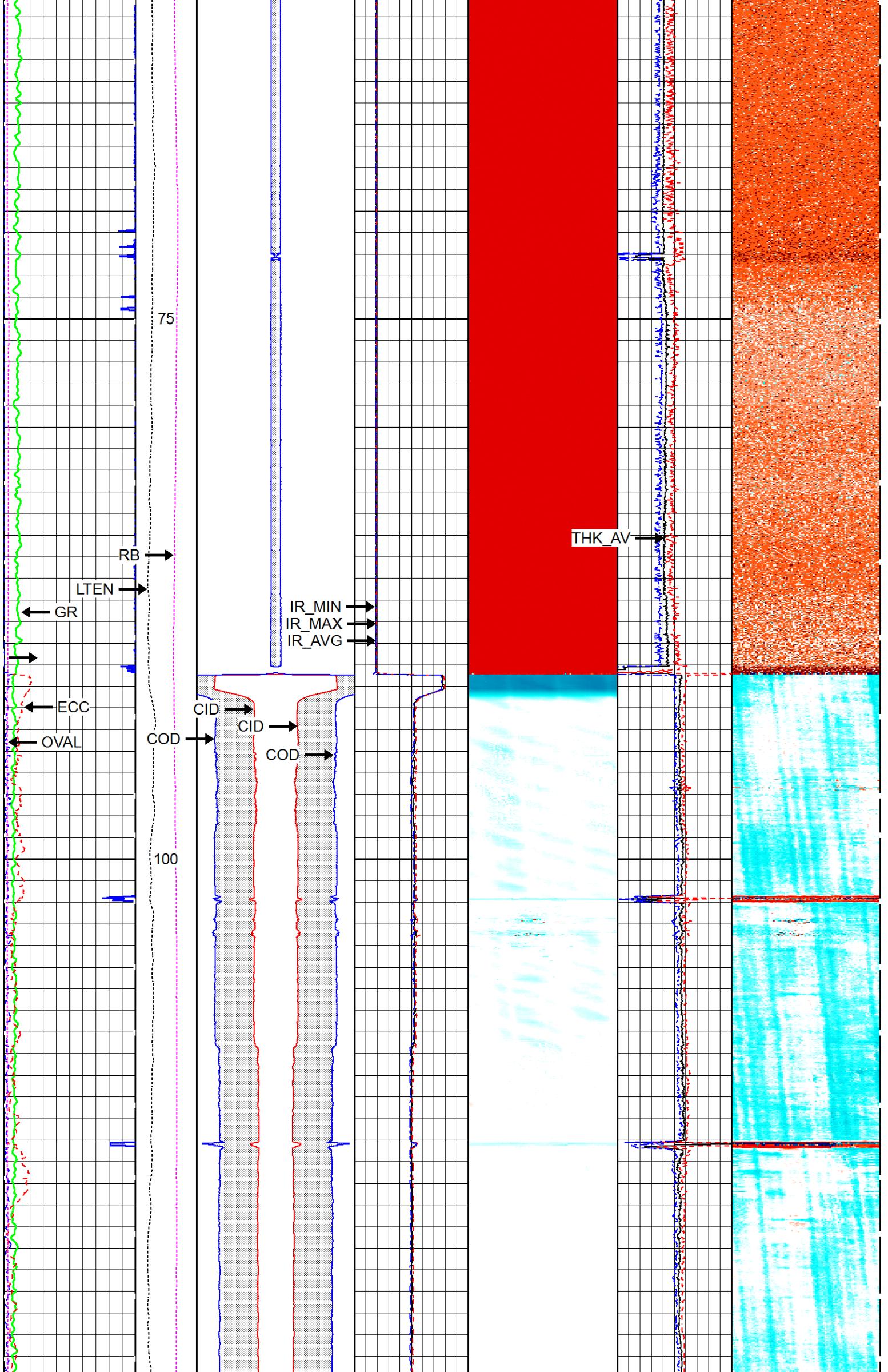
PIPE INSPECTION MODE

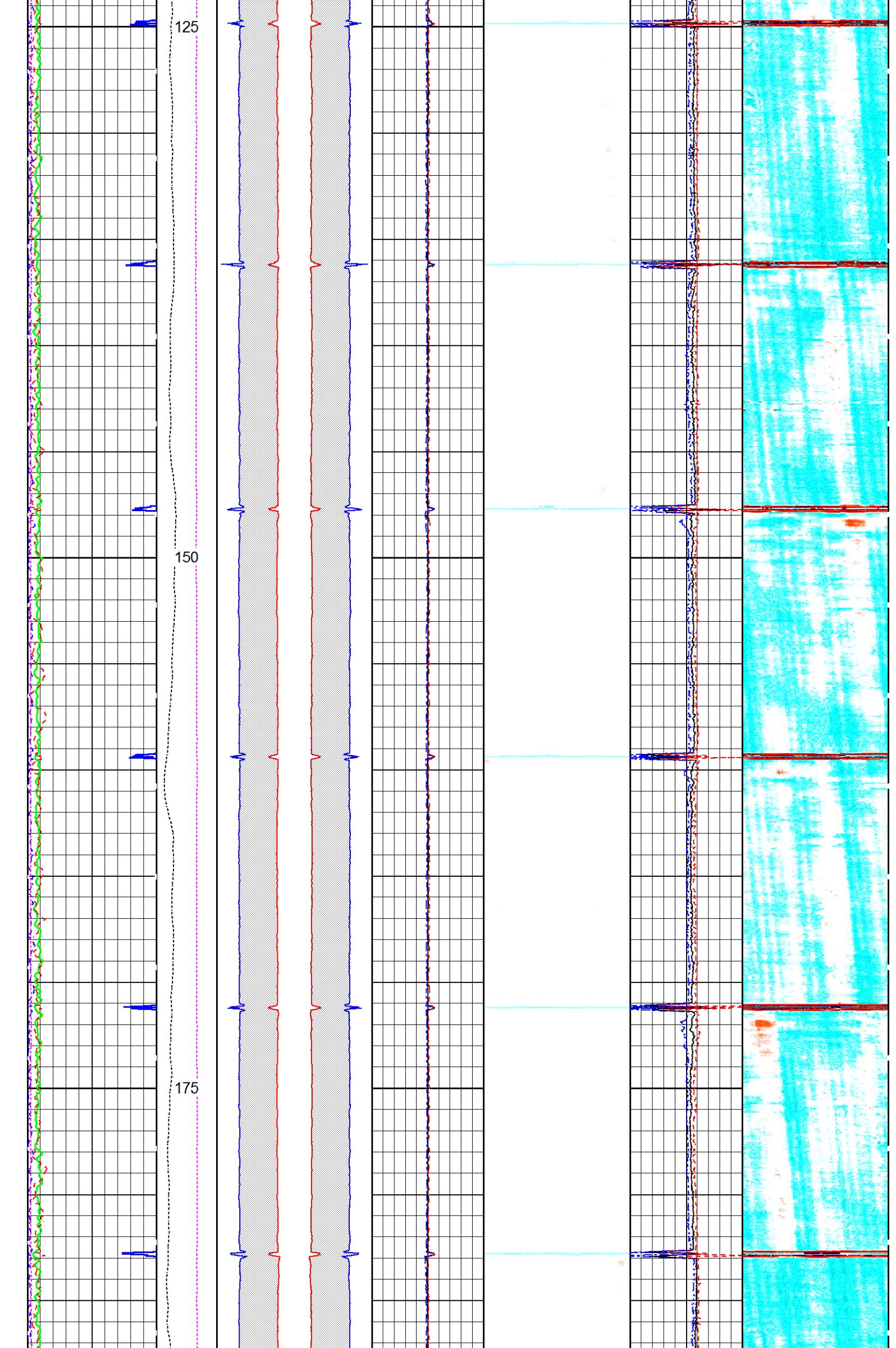
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 Presentation Format: hcastpim_1338
 Dataset Creation: Mon Aug 17 02:08:06 2015
 Charted by: Depth in Meters scaled 1:200

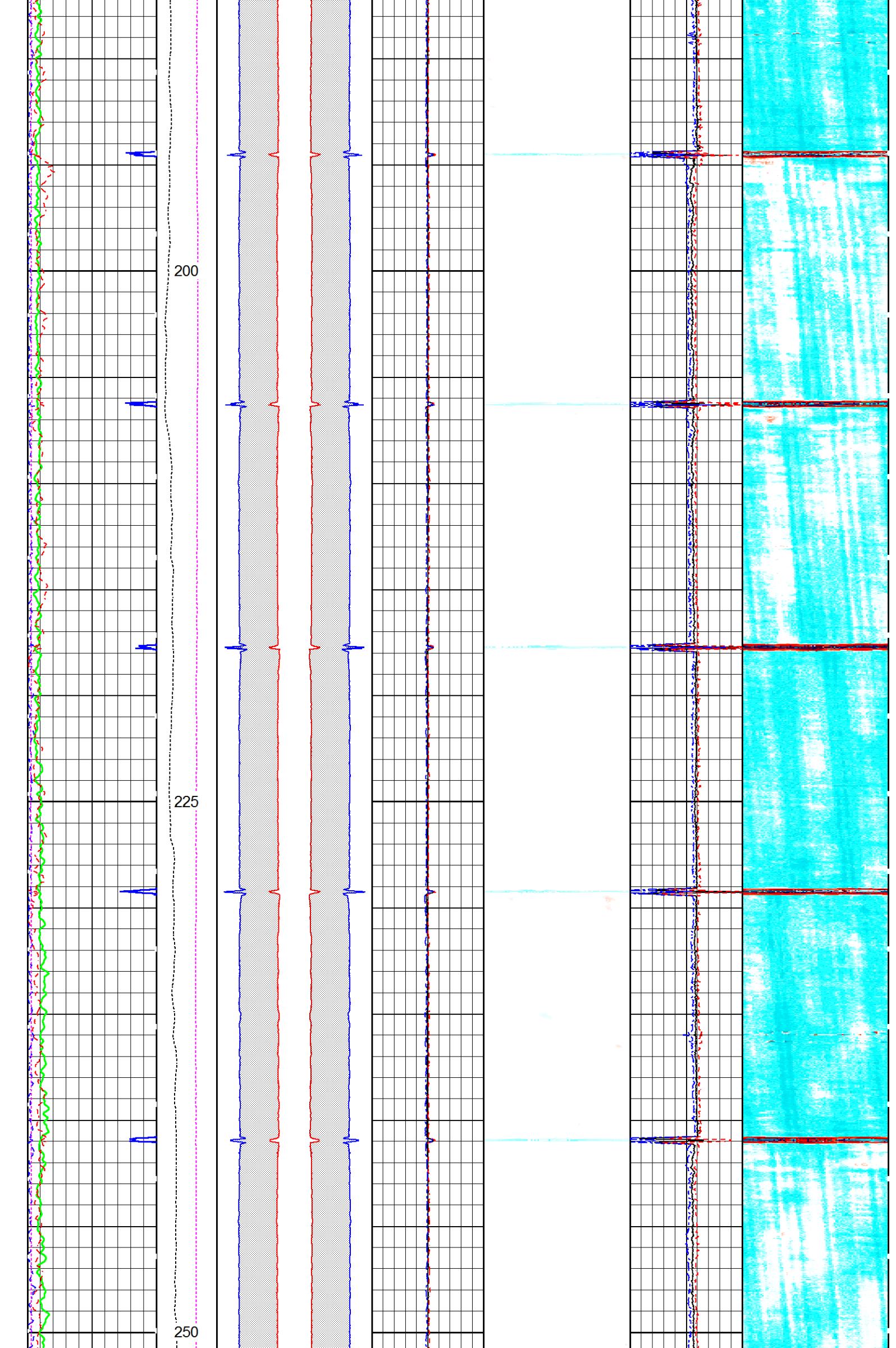
0	GR (GAPI)	150	LTEN	CID	CID	IR_AVG	0	IR	360	THK_AV	0	THICKNESS	360	
0	ECC (in)	1		(in)	(in)	5.27 (in)	7.27	5.27		0.38 (in)	0.58		0.38	0.58
0	OVAL (in)	0.2	0 (2500)	14.1	12.1	12.1	14.1							
	ACCL		RB	COD	COD	5.27 (in)	7.27							

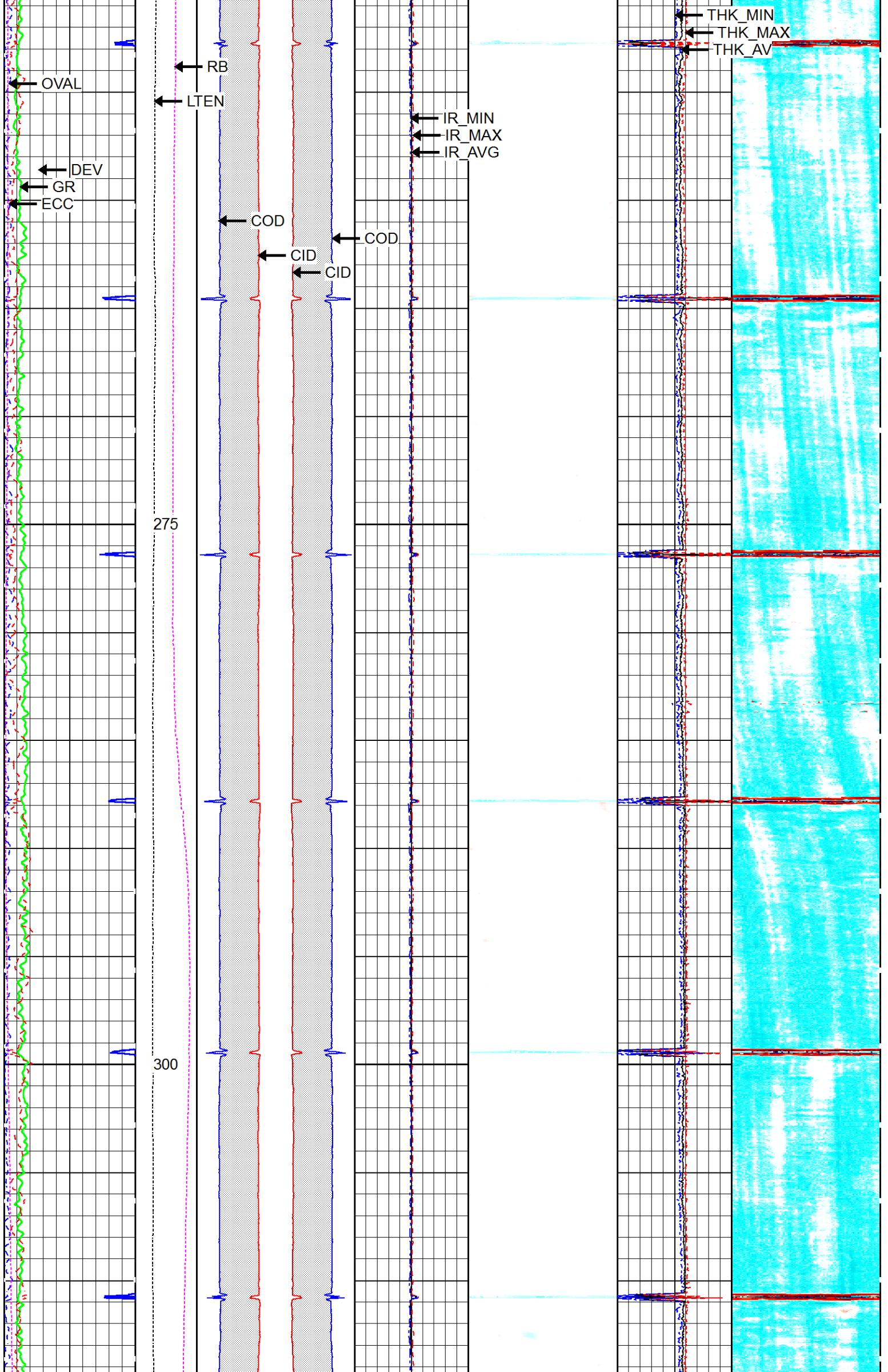
0	DEV (deg)	60	(deg)	(in)	(in)	IR_MIN		THK_MIN
-1	359	14.1	12.1	12.1	14.1	5.27 (in)	7.27	0.38 (in) 0.58

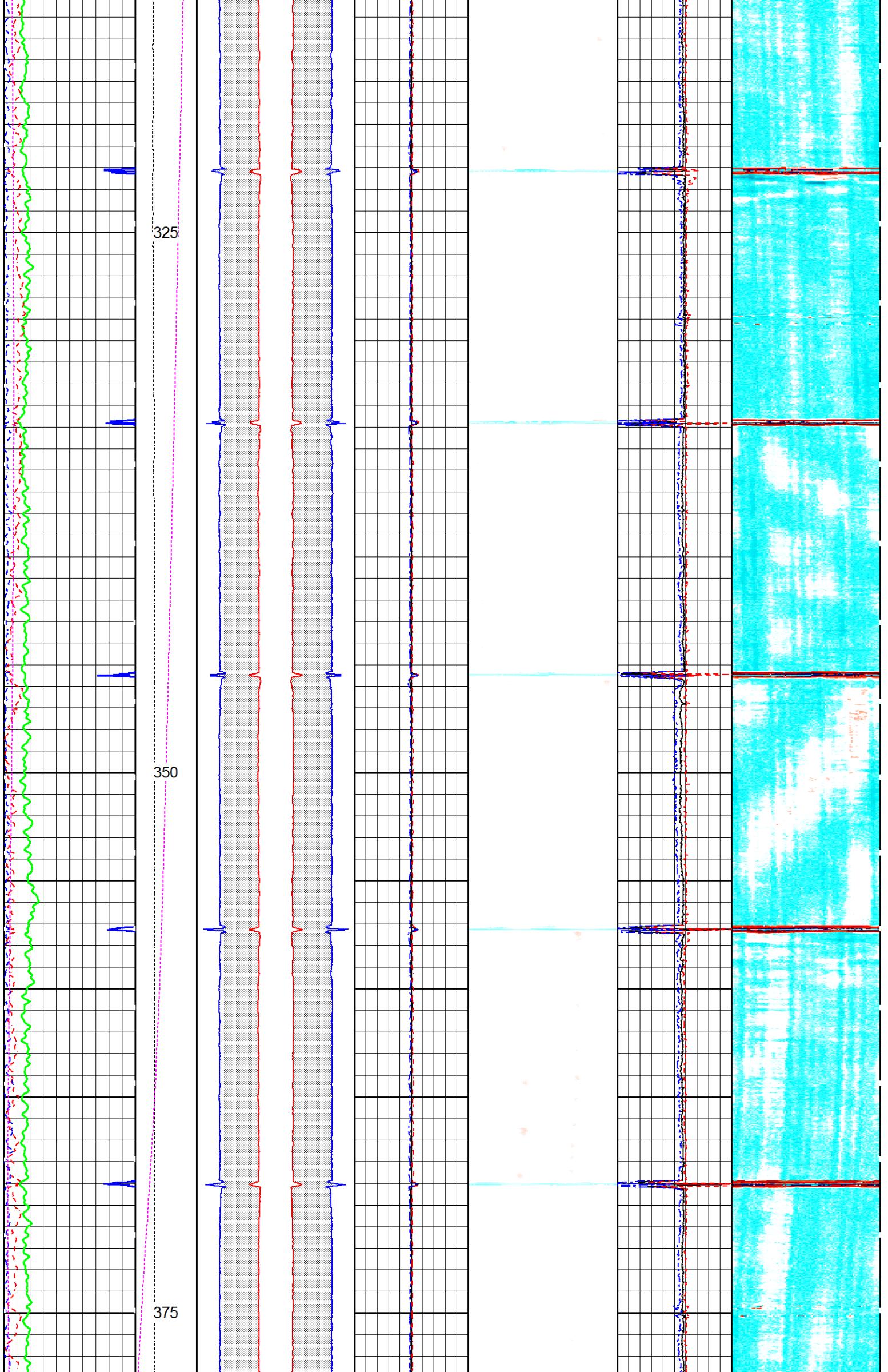


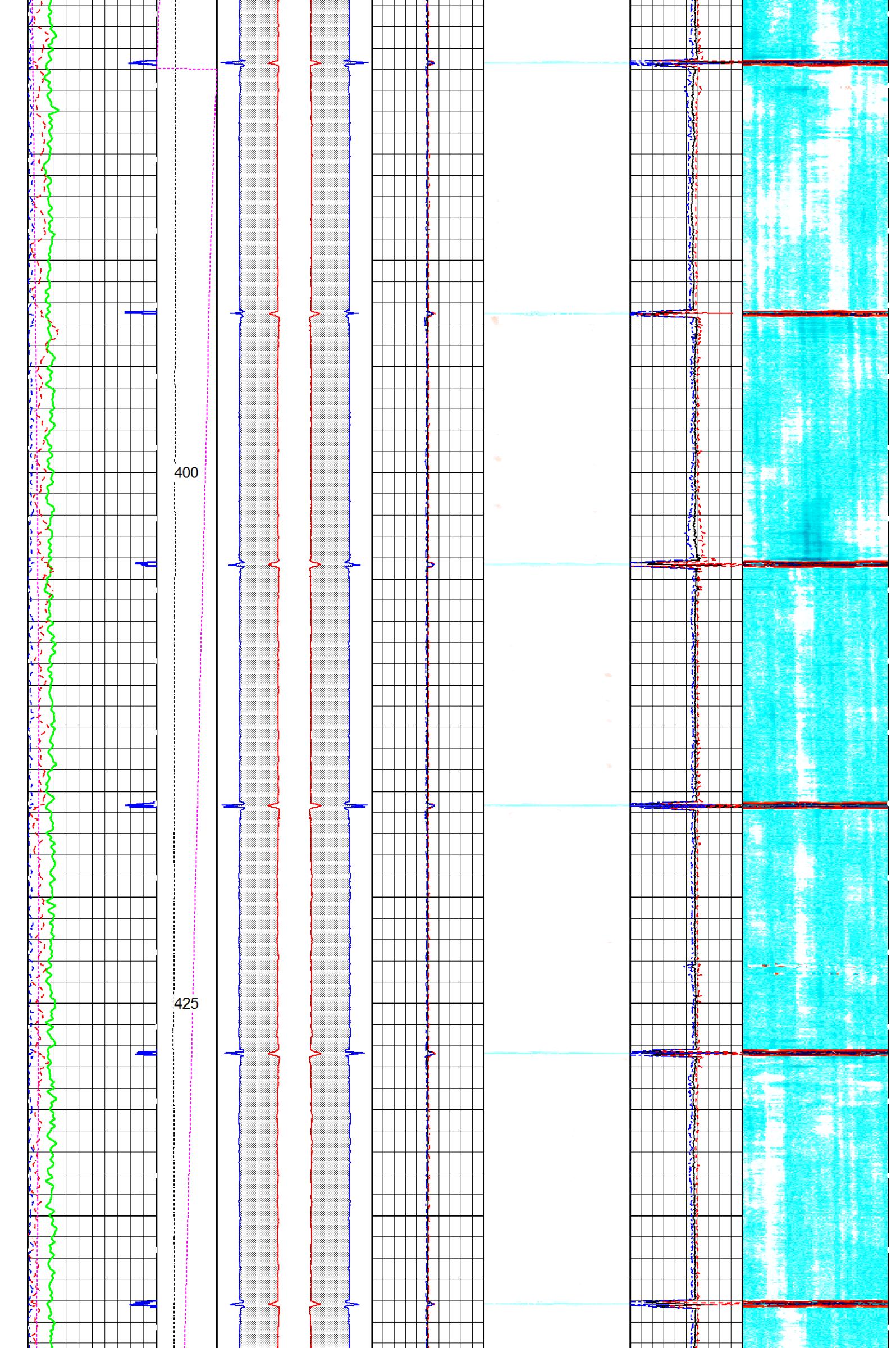


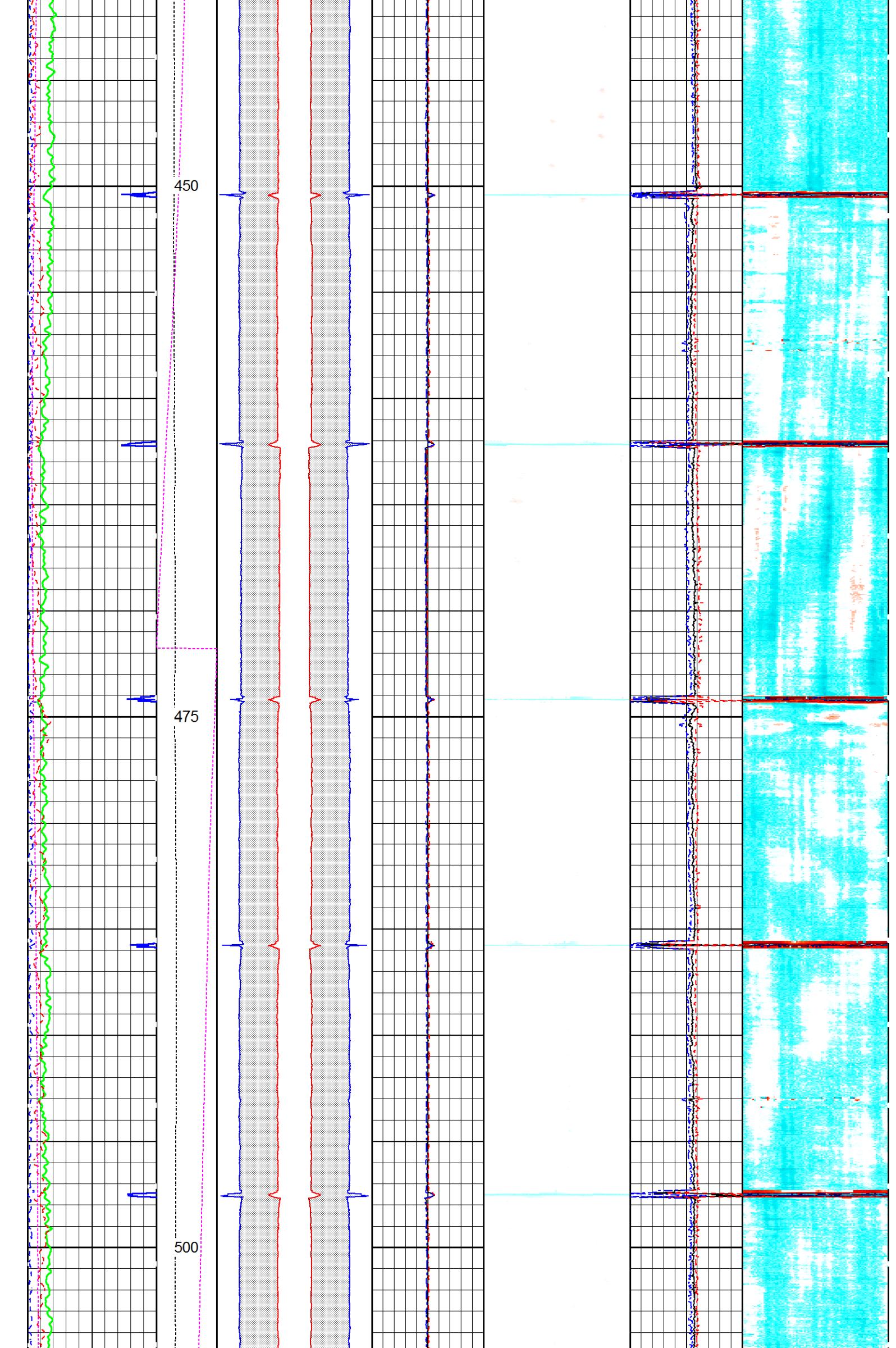






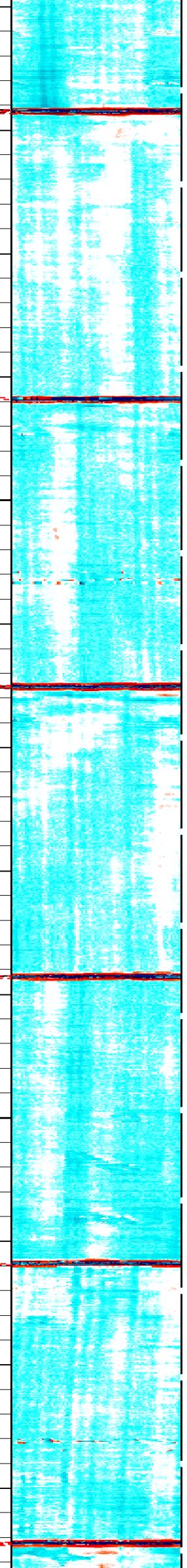


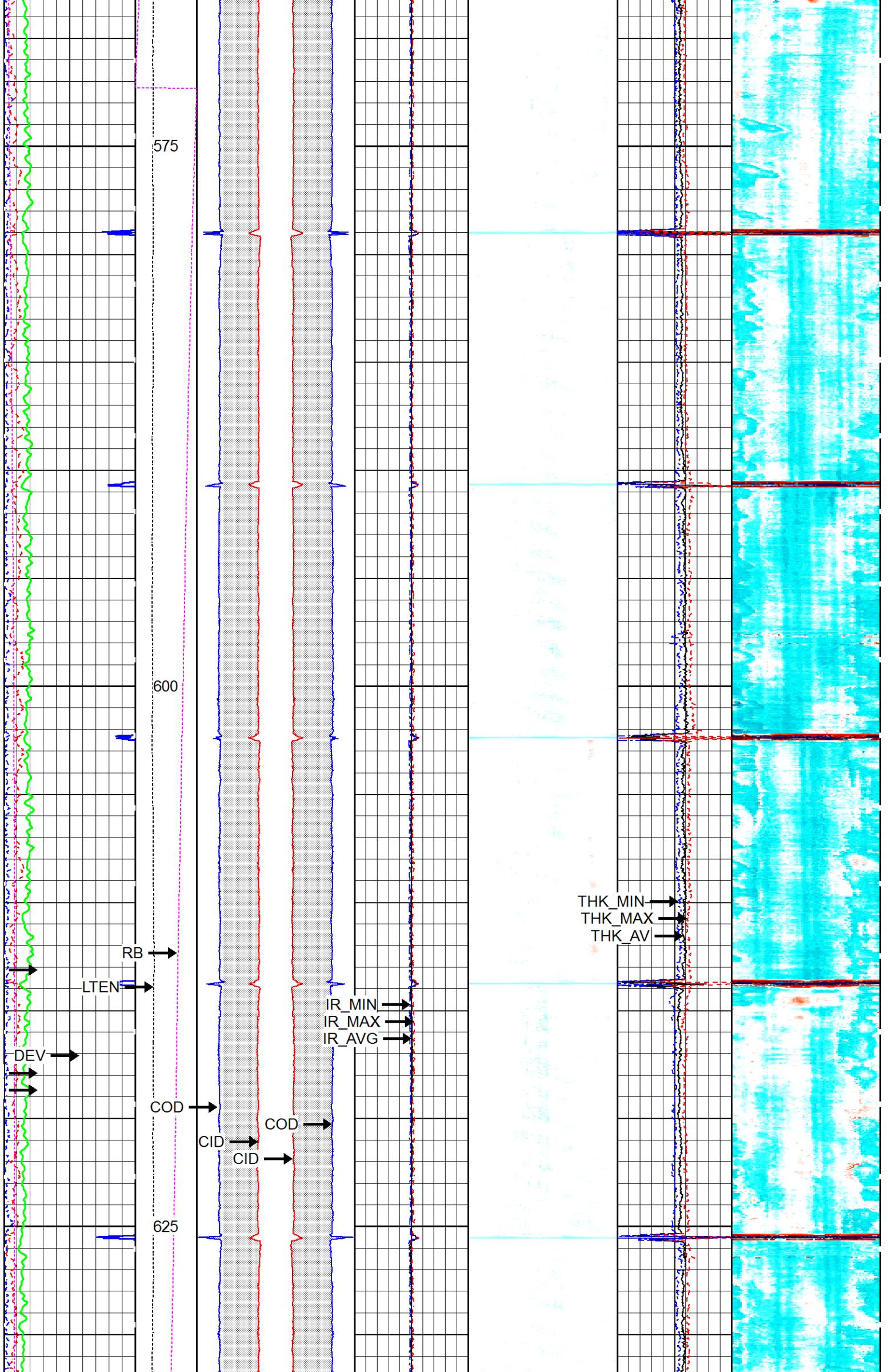


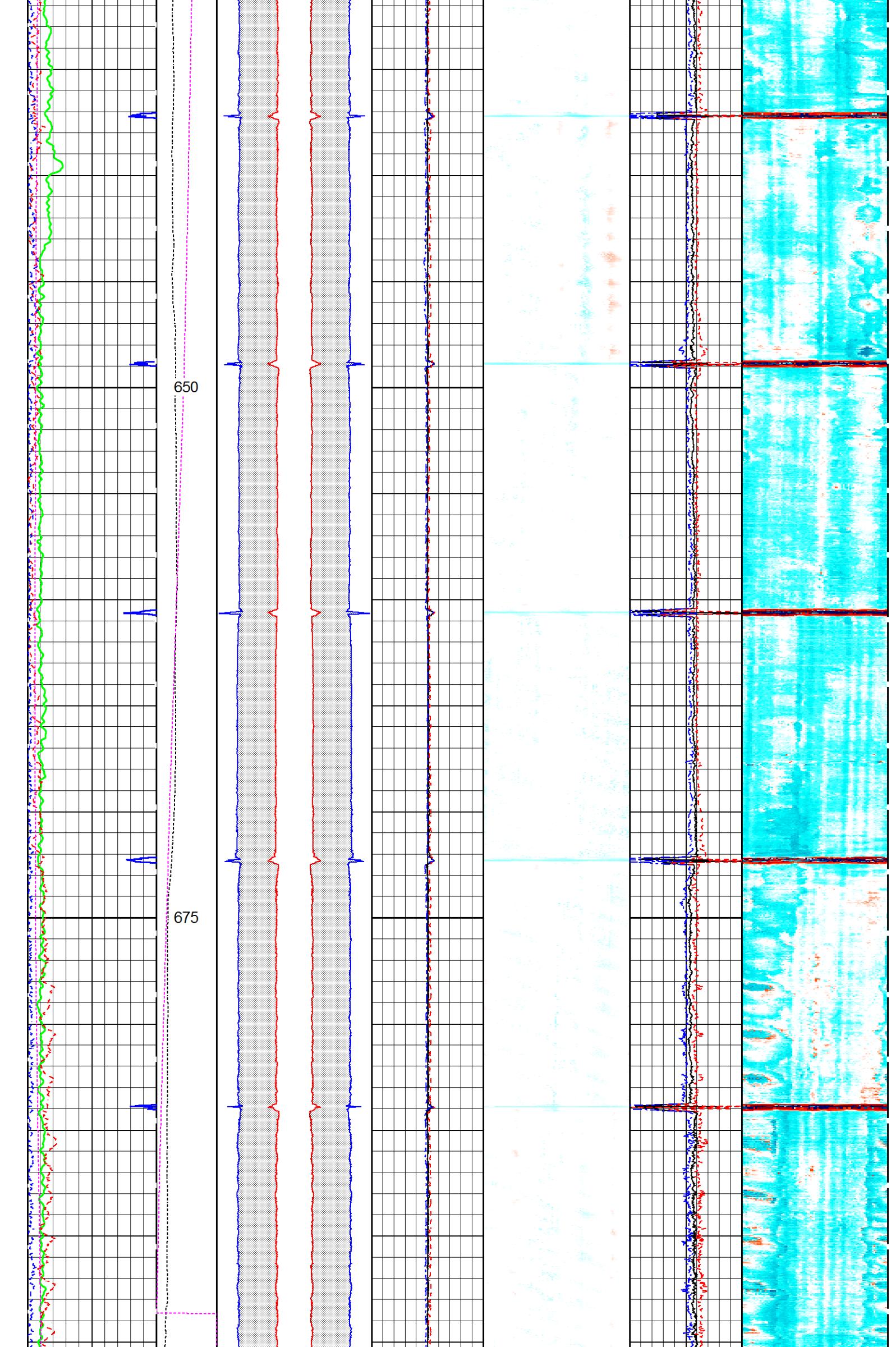


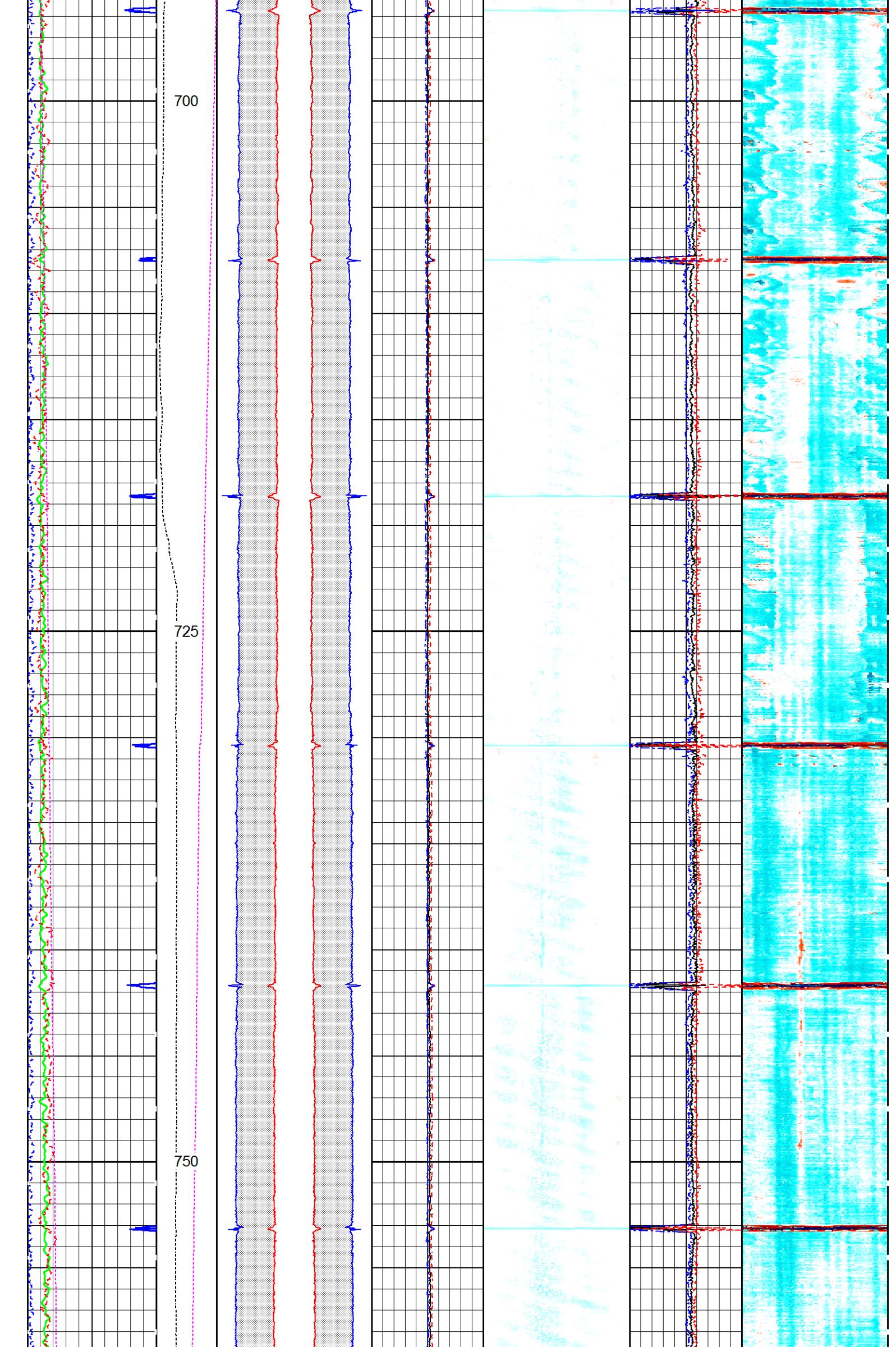
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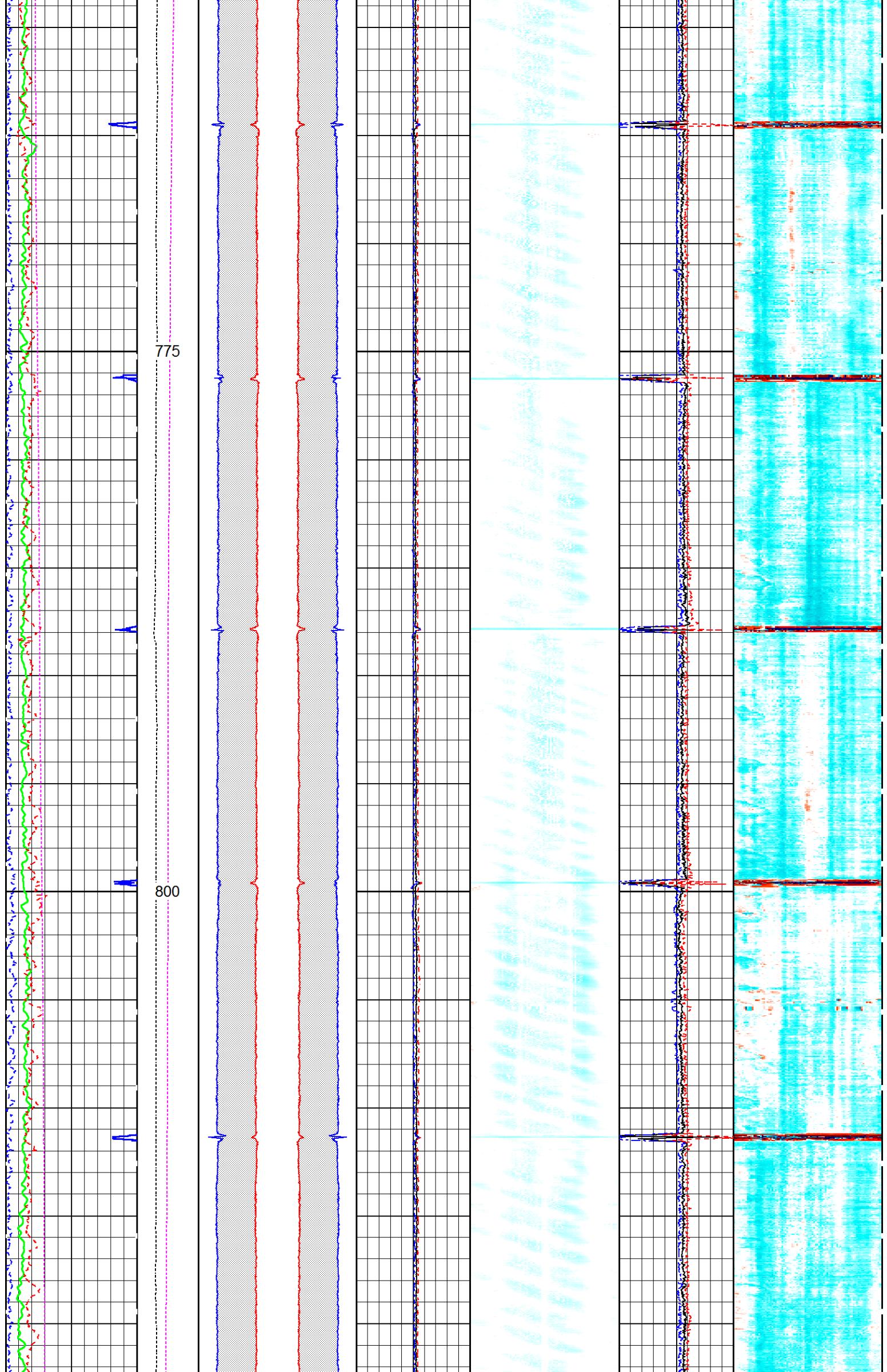
550







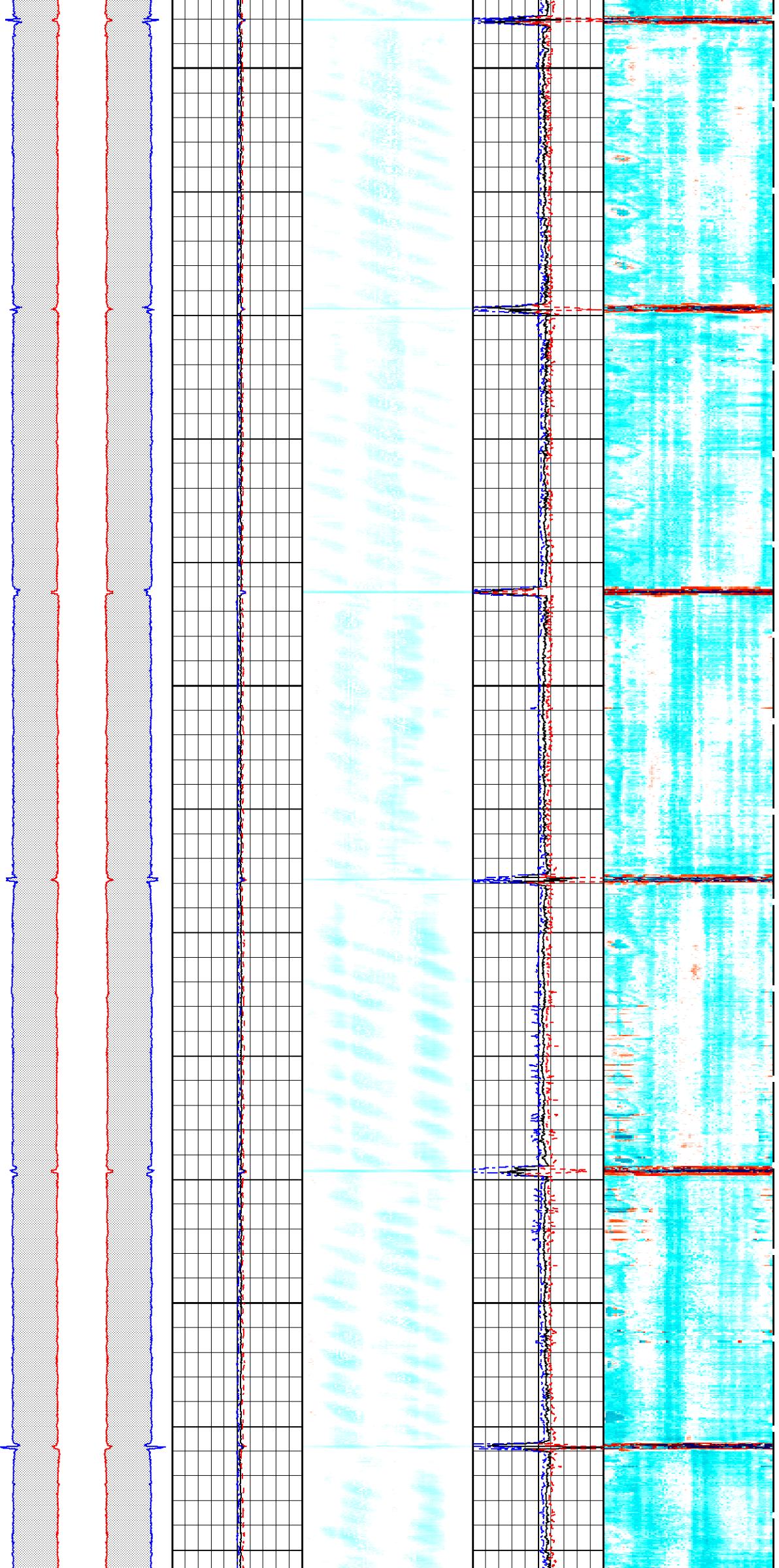


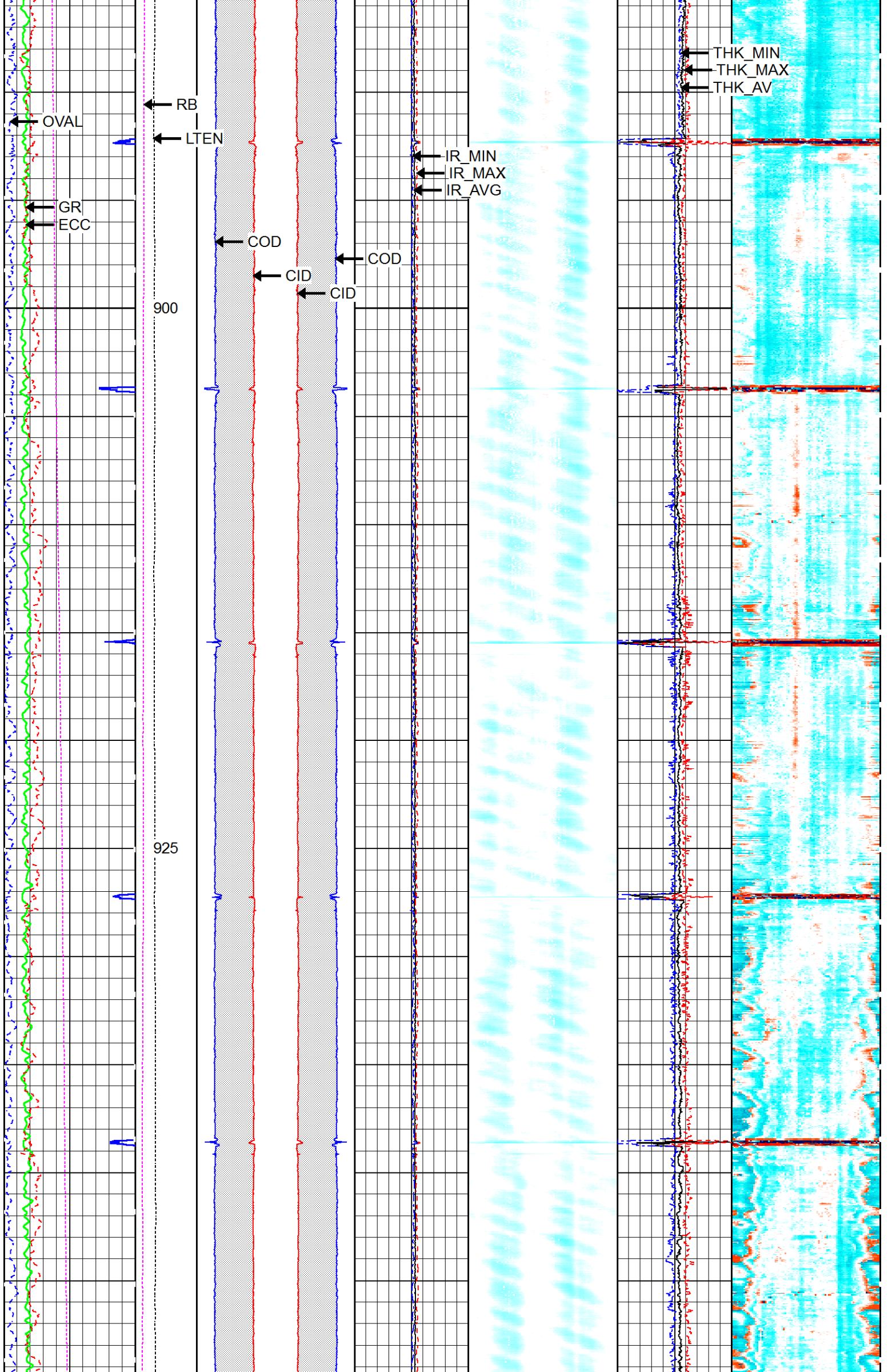


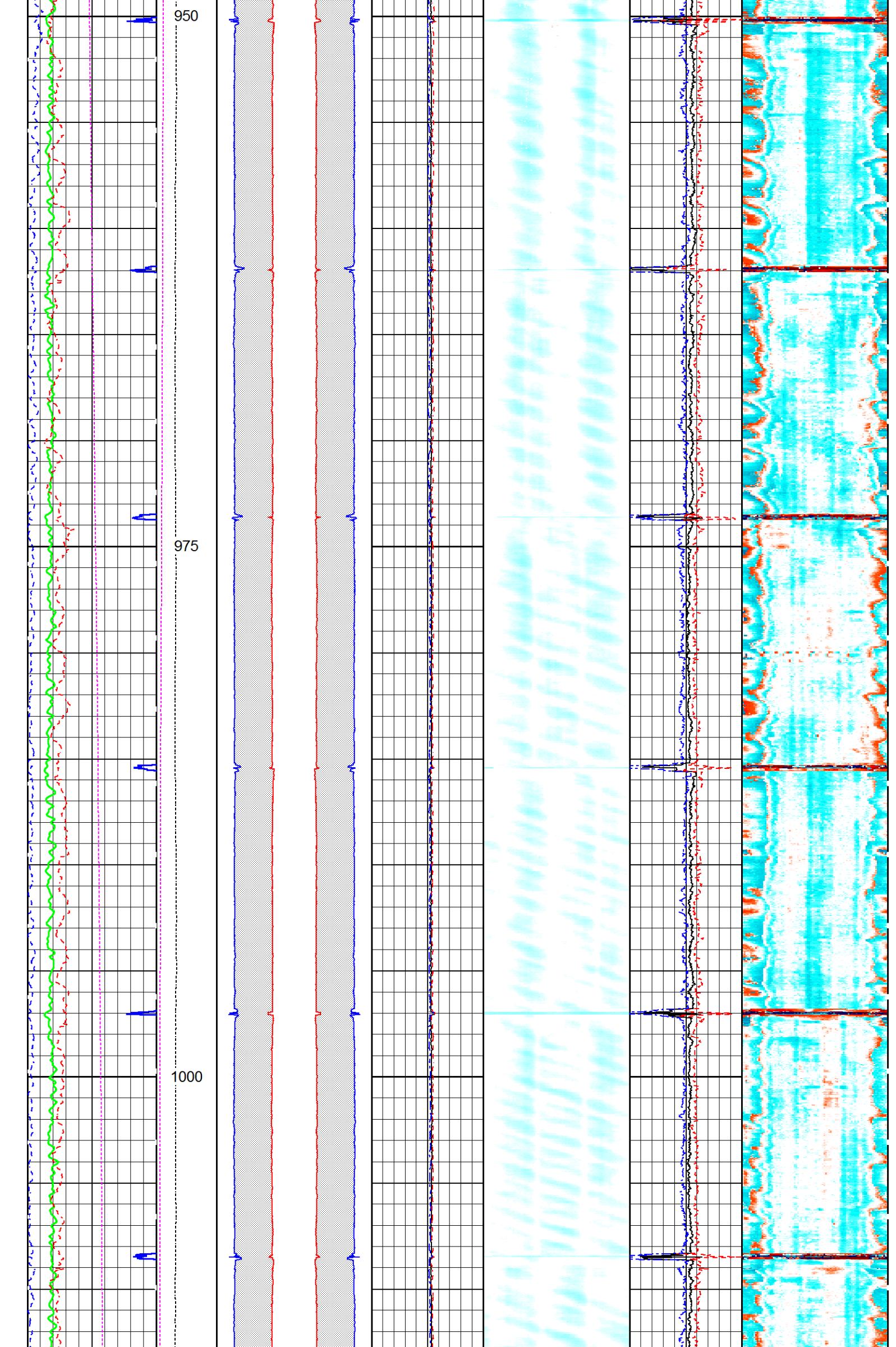
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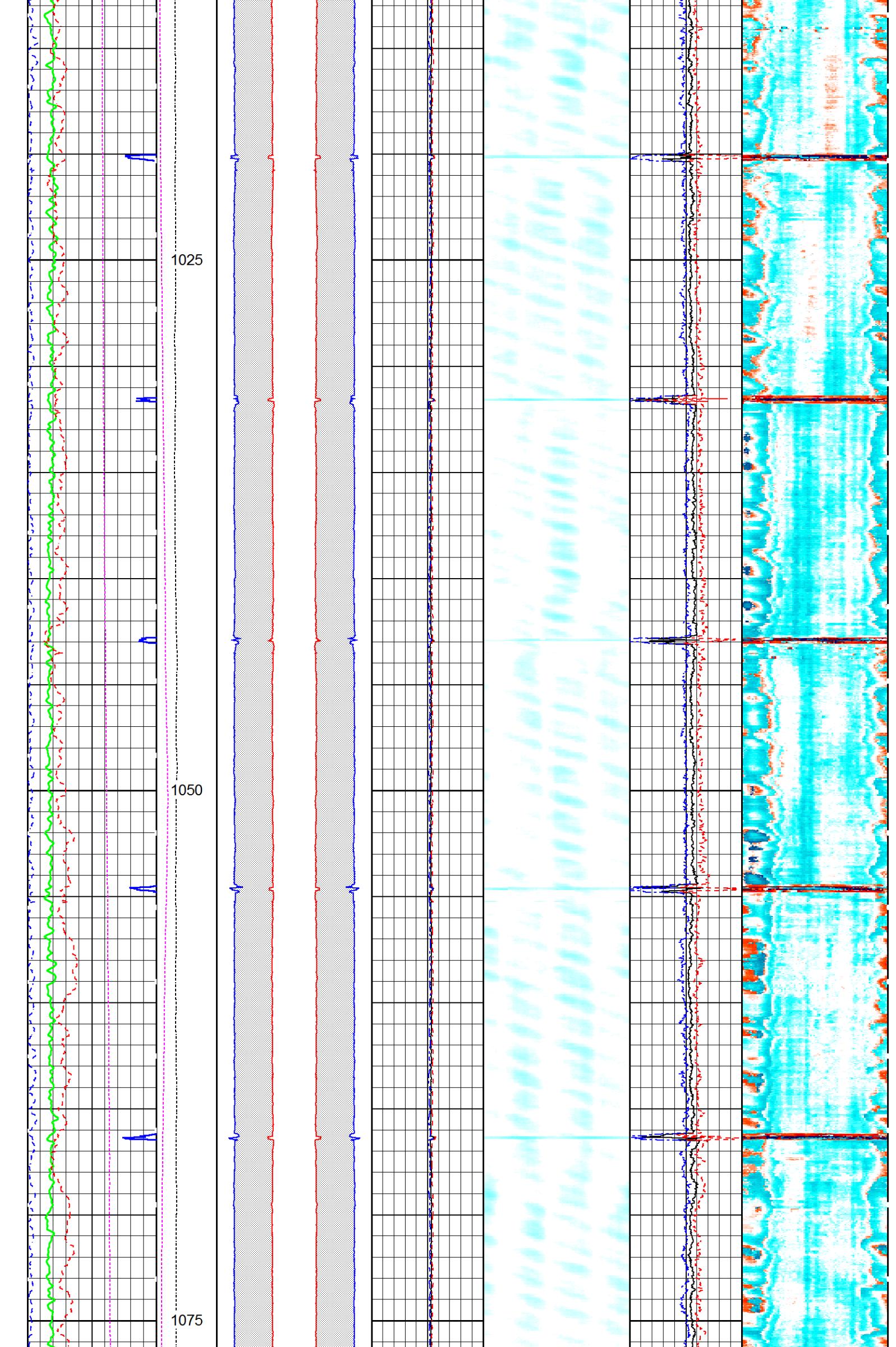
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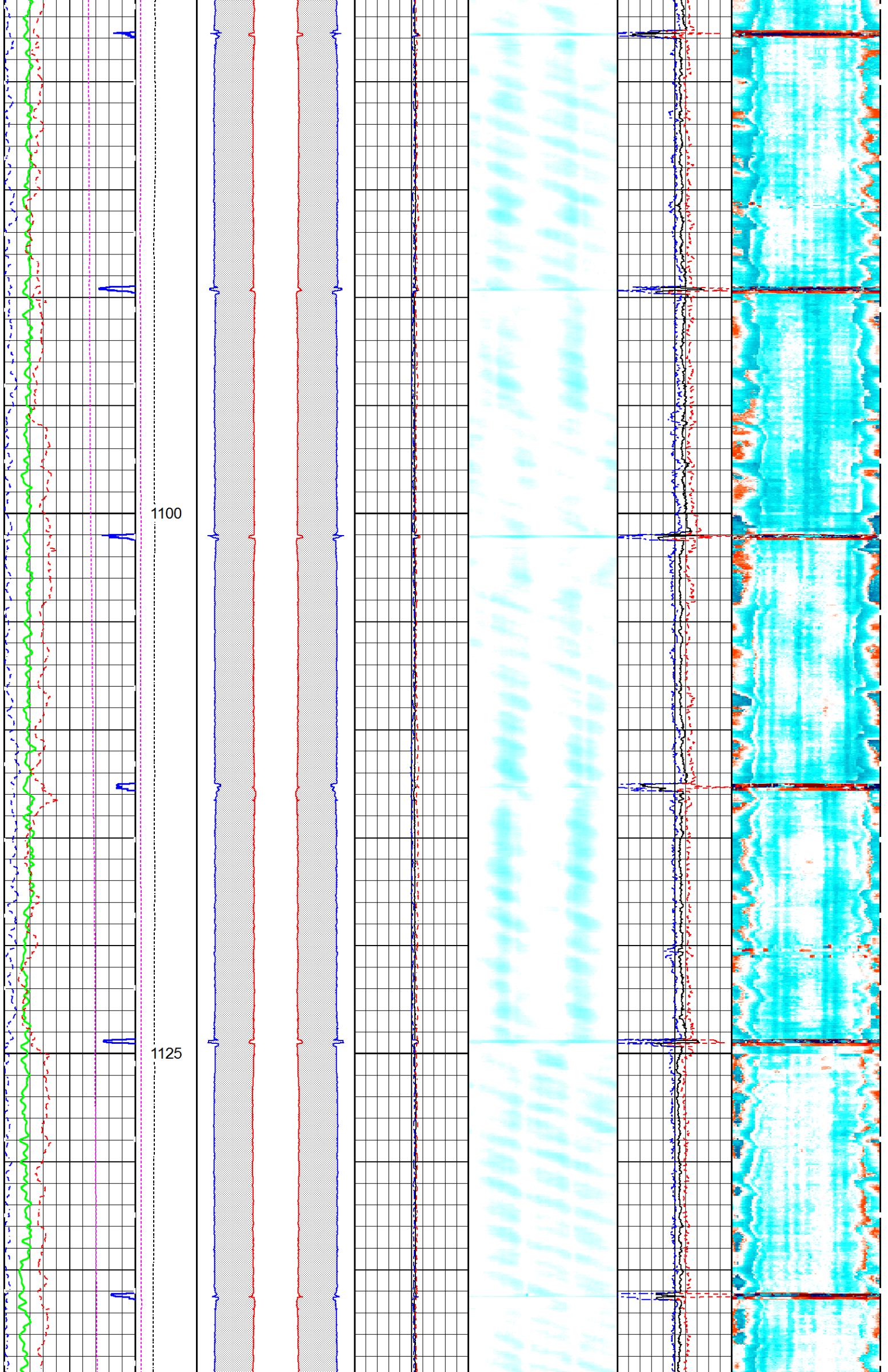
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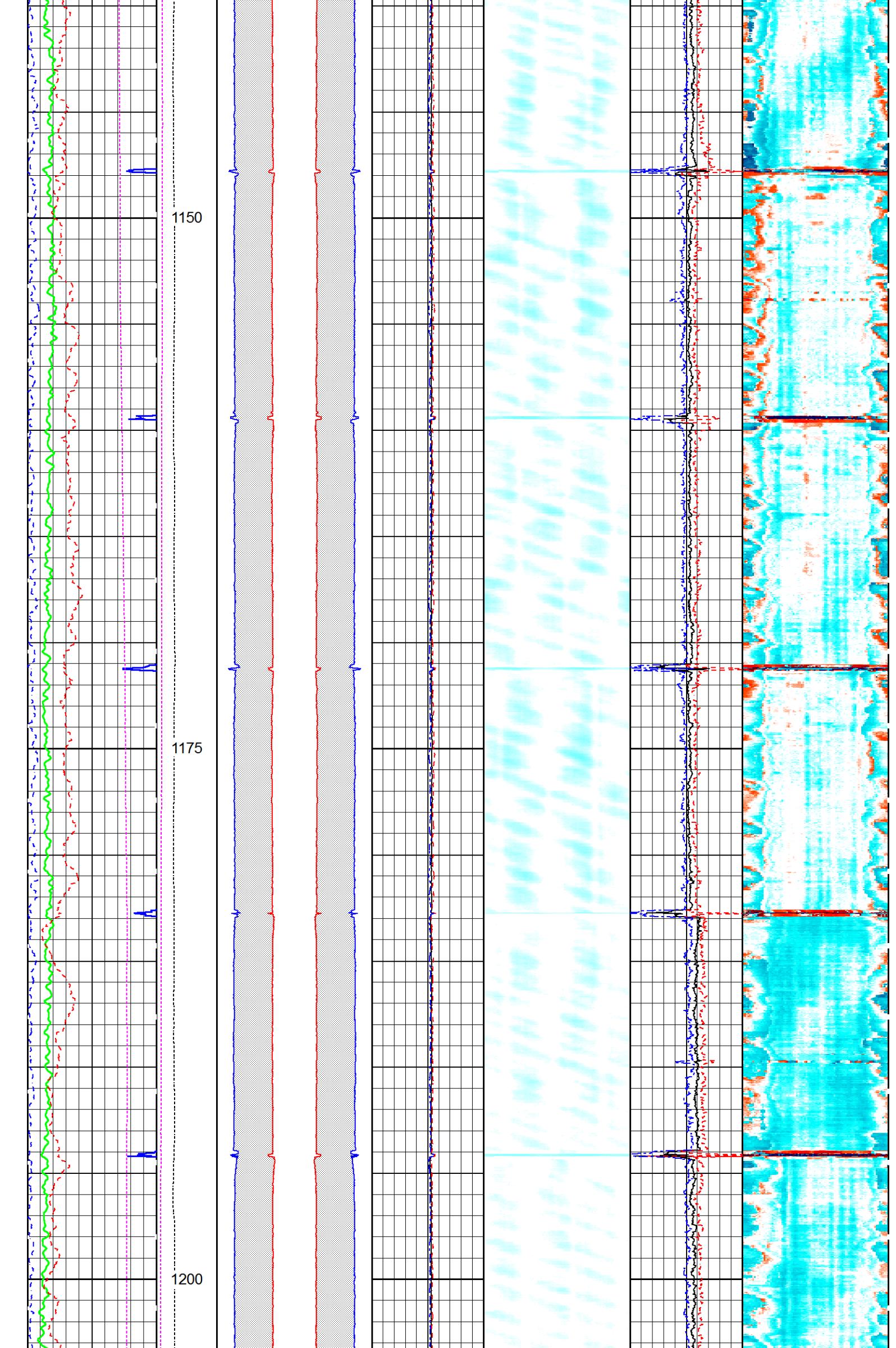


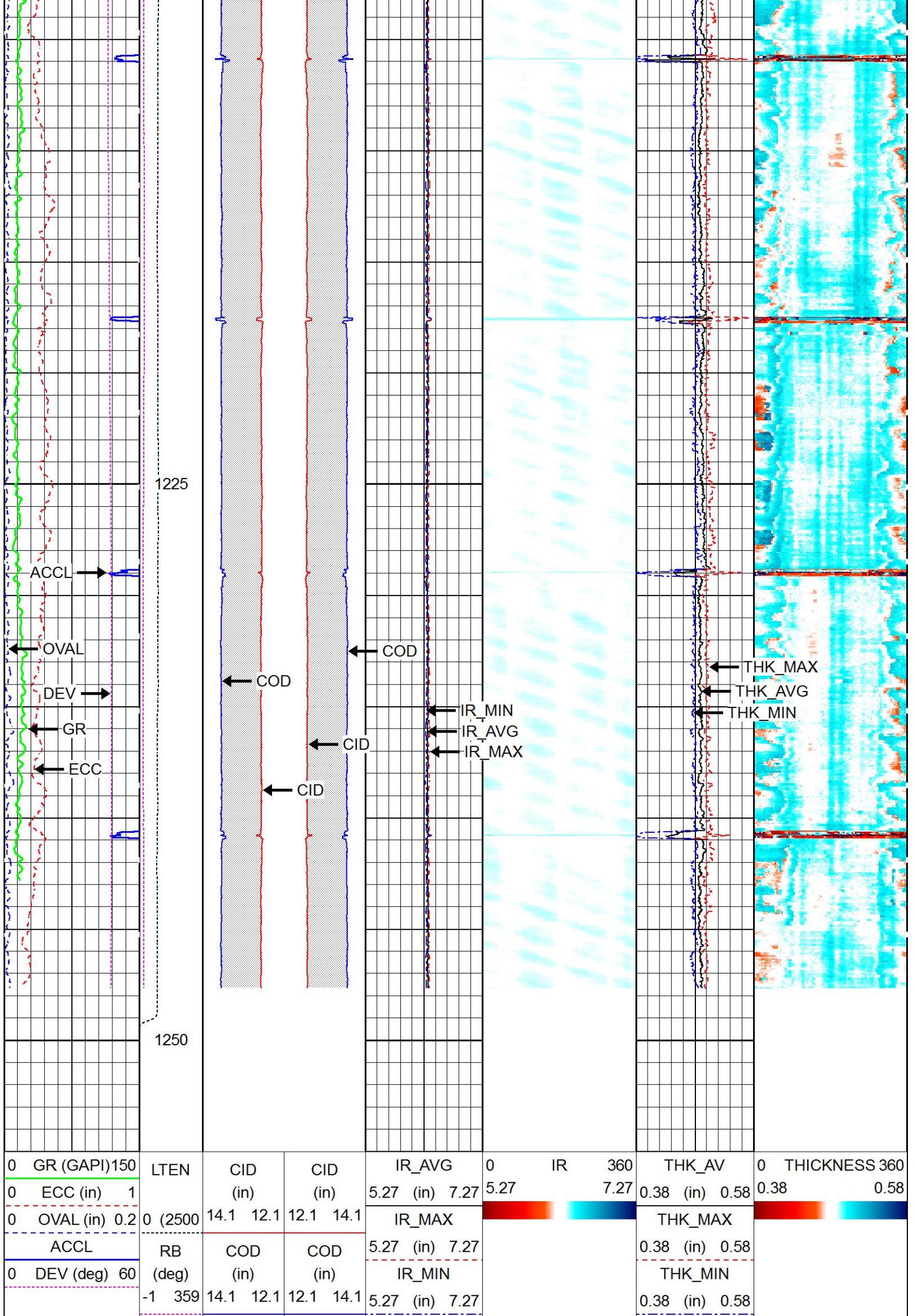












Calibration Report

Database File c:\wojtek\halliburton\jobs\nl\geomec\bri-gt-01\bri-gt-01.db
 Dataset Pathname merge2
 Dataset Creation Mon Aug 17 02:08:06 2015

Circumferential Acoustic Scanning Tool Downhole Calibration Report

Serial-Model: 11538114-ADJ SCAN

Calibration Performed: Sun Aug 16 15:55:49 2015

Averaged Results

Name	Value	Units
TT-Main	54.5	usec
Amp-Main	105.2	
Frq-Main	232.8	khz
TT-Mud	46.0	usec
Amp-Mud	32.3	
TT-LWv1	55.5	usec
TT-LWv2	105.6	usec
Amp-LWv1	111.5	
Amp-LWv2	52.6	
Frq-LWv	213.2	khz
TT-MWv1	45.3	usec
TT-MWv2	87.2	usec
Amp-MWv1	34.6	
Amp-MWv2	5.9	
Frq-MWv	313.8	khz

Calibrated Offsets

Name	Value
TCAL	4.3
MCAL	4.2

XY Accelerometers Calibration Report

Performed: Wed Aug 12 13:53:53 2015

Low Read. High Read. Low Ref. High Ref.

X Accelerometer	-0.979	1.026	gee	-1.000	1.000	gee
Y Accelerometer	-0.992	1.011	gee	-1.000	1.000	gee

Gamma Ray Calibration Report

Type / Serial: 002 / 10008897

SHOP CALIBRATION (Not Performed)

	Counts/Sec.	Gain	Offset	Jig	Units
Background	0.0				cps
Calibrator	1.0		1.0000		GAPI/cps

PRIMARY VERIFICATION

Background	0.0			cps
Calibrator	0.0			cps
Difference			0.0	GAPI

BEFORE SURVEY VERIFICATION

Background	0.0			cps
Calibrator	0.0			cps
Difference			0.0	GAPI

AFTER SURVEY VERIFICATION

AFTER SURVEY VERIFICATION

Background	0.0	cps
Calibrator	0.0	cps
Difference	0.0	GAPI

Calibration Report

Database File c:\wojtek\halliburton\jobs\nl\geomec\bri-gt-01\bri-gt-01.db
 Dataset Pathname pass10
 Dataset Creation Mon Aug 17 03:40:33 2015

Segmented Cement Bond Log Calibration Report

Serial Number: 12235042

Tool Model: 004

Calibration Casing Diameter: 5.500 in

Calibration Depth: 1022.050 m

Master Calibration, performed Mon Oct 13 10:24:04 2014:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset

3FT	0.000	0.925	0.000	71.921	77.800	-0.029
5FT	0.002	0.912	0.000	71.921	79.083	-0.195
S1	0.001	0.884	0.000	100.000	113.322	-0.141
S2	0.000	0.898	0.000	100.000	111.341	-0.031
S3	0.003	0.909	0.000	100.000	110.360	-0.368
S4	0.000	0.940	0.000	100.000	106.441	-0.043
S5	0.002	0.952	0.000	100.000	105.342	-0.260
S6	0.002	0.961	0.000	100.000	104.285	-0.255
S7	0.004	0.934	0.000	100.000	107.466	-0.417
S8	0.003	0.914	0.000	100.000	109.808	-0.322

Calibration Report

Serial Number: 12235042

Tool Model: 004

Performed:

Reference (degC) Reading ()

Low: -17.778 0.000

High: -17.222 1.000

Gain = 1.000 Offset = 0.000

Gamma Ray Calibration Report

Serial Number: 10980427
 Tool Model: PGR020
 Performed: (Not Performed)

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
 Calibrator Reading: 1.0 cps

Sensitivity: 1.0000 GAPI/cps

Sensor	Offset (m)	Schematic	Description	Length (m)	O.D. (in)	Weight (lb)
CCL	10.68					
GR	9.99		TTTCU-002 (10009938) Through Tubing Telemetry Cartridge - Ultrawire	2.33	1.69	40.00

			XHU-003 (10008389) Crossover Halliburton 1553 to Ultrawire	0.48	1.69	7.00
			CENT-CASTM-CENT CAST M INLINE CENTRALIZER	0.66	3.13	25.00
Temp	7.03					
TT3FT	6.34		HCBLM-A (11390783) Halliburton HCBLM Tool	2.86	2.75	116.00
AMP3FT	6.34					
			CENT-CASTM-CENT CAST M INLINE CENTRALIZER	0.66	3.13	25.00
			HAL-CAST-M-ELECT-CAST-M-Elect (11532.314) CAST M ELECTRONIC	2.75	30.00	
AccY2	0.00					
AccX2	0.00					
AccY1	0.00		HAL-CAST-M-7 SCAN (7_P002) 7 SCAN CASTM	2.01	7.00	276.00
AccX1	0.00					
SCAN	0.00					
LOCTIM	0.00					
UTCTIM	0.00					

Dataset: bri-gt-01.db: field/well/run1/pass5
 Total length: 11.31 m
 Total weight: 519.00 lb
 O.D.: 7.00 in

Sensor	Offset (m)	Schematic	Description	Length (m)	O.D. (in)	Weight (lb)
			STNDCH-STND_CH 1.4375 IN CABLE HEAD	0.33	1.69	3.00
			AGS-001 (10007230) Adaptor GO to Sondex	0.06	1.69	1.00
			XTU-XTU002 (10002700) Crossover Ultrawire Toolbus to Ultralink	0.55	1.69	9.50

		PGR #2 -PGR020 (10980427) UW Production Gamma Ray	0.59	1.69	9.50
GR#2	5.55				
CCL#3	5.08	CCL_SNDX #3 -CCL028 (12621021) UW Sondex CCL	0.50	3.13	22.00
		PRC-065 (10020652) Production Roller Centraliser (4 Arm)	0.98	2.75	42.00
CBLTEMP	2.61	RBT-004 (12235042) Radial Bond Tool (UW 3 1/8) 20K Rated	2.89	3.13	140.00
		PRC-065 (000008) Production Roller Centraliser (4 Arm)	0.98	2.75	42.00
LOCTIM	0.00	BUL-BUL06 (213933) UW Bullnose Terminator	0.07	1.69	1.20
Dataset: bri-gt-01.db: field/well/run1/pass10 Total length: 6.94 m Total weight: 270.20 lb O.D.: 3.13 in					

Company Aardwarmte Vierpolders
 Well BRI-GT-01
 Field Vierpolders
 County Zuid-Holland

Country THE NETHERLANDS

