



Baker Atlas

Segmented Bond Log
Gamma Ray

File No: EXXONMOBIL PRODUCTION COMPANY

Company: PCU 197-36A5

Well: PICEANCE CREEK

Field: RIO BLANCO

Country: RIO BLANCO

State: COLORADO

API No. 0510311240000

Location:

1849' FSL & 2813' FTL

SEC: 38 TWP: 1S RGE: 9W

Other Services: NONE

G.L. Elevation 7114 ft

K.B. 30.2 ft Above P. D.

Elevations

KB 7144.2 ft

DF 7143.2 ft

GL 7114 ft

Permanent Datum Log Measured From
Drill Measured From

Date: 23-AUG-2010

Run: ONE

Service Order: 578841

Depth Driller: 9208 ft

Depth Logger: 9184 ft

Bottom Logged Interval: 8184 ft

Top Logged Interval: 2500 ft

Time Started: 08:30

Time Finished: 10:30

Operator Rig Time: 4 HRS

Type of Fluid in Hole: MSA

Fluid Density: 9.4 lbm/gal

Fluid Salinity: N/A

Fluid Level: FULL

Logged Cement Top: N/A

Wellhead Pressure: 0 psi

Maximum Hole Deviation: N/A

Nominal Logging Speed: 30 fpm

Maximum Recorded Temperature: N/A

Reference Log: N/A

Reference Log Date: N/A

Equipment: 4271

Recorded By: TIM KAUTT

Witnessed By: MR. JOHN BOO

- FOLD HERE

In making interpretations of logs, our employees will give the customer the benefit of their best judgement. But since all interpretations are opinions based on inferences from electrical or other measurements, we cannot, and we do not guarantee the accuracy or correctness of any interpretation. We shall not be liable or responsible for any loss, cost, damages, or expenses whatsoever incurred or sustained by the customer resulting from any interpretation made by any of our employees.

Borehole Record

Bit Size From To

Casing Record

Size Weight Grade From To
7 in 28 lbm/ft P-110 SURFACE 9208 ft

Remarks

THE CREW OF 4271 THANKS YOU.

Equipment Data

Run	Trip	Tool	Series Number	Serial Number	Position
1	1	VDL	1424PA	121B51	CENTRALIZED
1	1	MANDREL	1428XA	1021B47D	CENTRALIZED
1	1	ELECTRONICS	1633EA	185804	CENTRALIZED

1	1	GAMMA RAY	1309KA	1058142	CENTRALIZED
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*MAIN SECTION
SECONDARY PRESENTATION*

SBT NORMALIZATION RESULTS

CURVE	PARAMETER	VALUE	UNITS	TOP	BOTTOM	COMMENT
ATC1	seg1 onormf1	-0.363	db/ft	2508.000	9176.000	
ATC2	seg2 onormf2	-0.365	db/ft	2508.000	9176.000	
ATC3	seg3 onormf3	1.166	db/ft	2508.000	9176.000	
ATC4	seg4 onormf4	-0.549	db/ft	2508.000	9176.000	
ATC5	seg5 onormf5	-0.121	db/ft	2508.000	9176.000	
ATC6	seg6 onormf6	0.232	db/ft	2508.000	9176.000	
ATC1	seg1 dnormf1	-0.252	db/ft	2508.000	9176.000	Good Confidence
ATC2	seg2 dnormf2	-0.358	db/ft	2508.000	9176.000	Good Confidence
ATC3	seg3 dnormf3	0.616	db/ft	2508.000	9176.000	Good Confidence
ATC4	seg4 dnormf4	-0.664	db/ft	2508.000	9176.000	Good Confidence
ATC5	seg5 dnormf5	0.067	db/ft	2508.000	9176.000	Good Confidence
ATC6	seg6 dnormf6	0.591	db/ft	2508.000	9176.000	Good Confidence

SBT PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
amp	fpamp	69.513	mv	2497.000	9176.000
amp	fpattn	1.193	dB/ft	2497.000	9176.000
atc	dbspread	4.589	dB/ft	2497.000	9176.000
atc	spacing	0.654	feet	2497.000	9176.000
cemr	casing od	7.000	inches	2497.000	9176.000
cemr	casing wt	26.000	lbm/ft	2497.000	9176.000
cemr	compress	500.000	psi	2497.000	9176.000
CN	Bit Size	7.875	inches	2508.000	9176.000
CN	Casing Thickness	0.381	inches	2497.000	9176.000
CN	Casing/Cement Correction	No		2508.000	9176.000

CN	CN Chiam	No		2508.000	9176.000
CN	Matrix	Limestone		2508.000	9176.000
CN	Salinity	0.000	ppm	2508.000	9176.000

DEPTH OFFSETS (for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES					
2346XA	-33.500	CCL					
1309XA	-30.750	GR					
2435XA	-30.250	LSN					
2435XA	-29.750	NEU	SSN				
1424XA	-11.000	ATC1	ATC2	ATC3	ATC4	ATC5	ATC6
		ATAV	ATMN	ATMX	AMAV	DEV	DTMN
		DTMX	RB	XATT	YATT		
1424PA	0.000	CHV	CYQ	SIG			

Created by : SBT, v5.0.003

Plotted by : PlotMgr, v5.4.504

Company : EXXONMOBIL PRODUCTION COMPANY

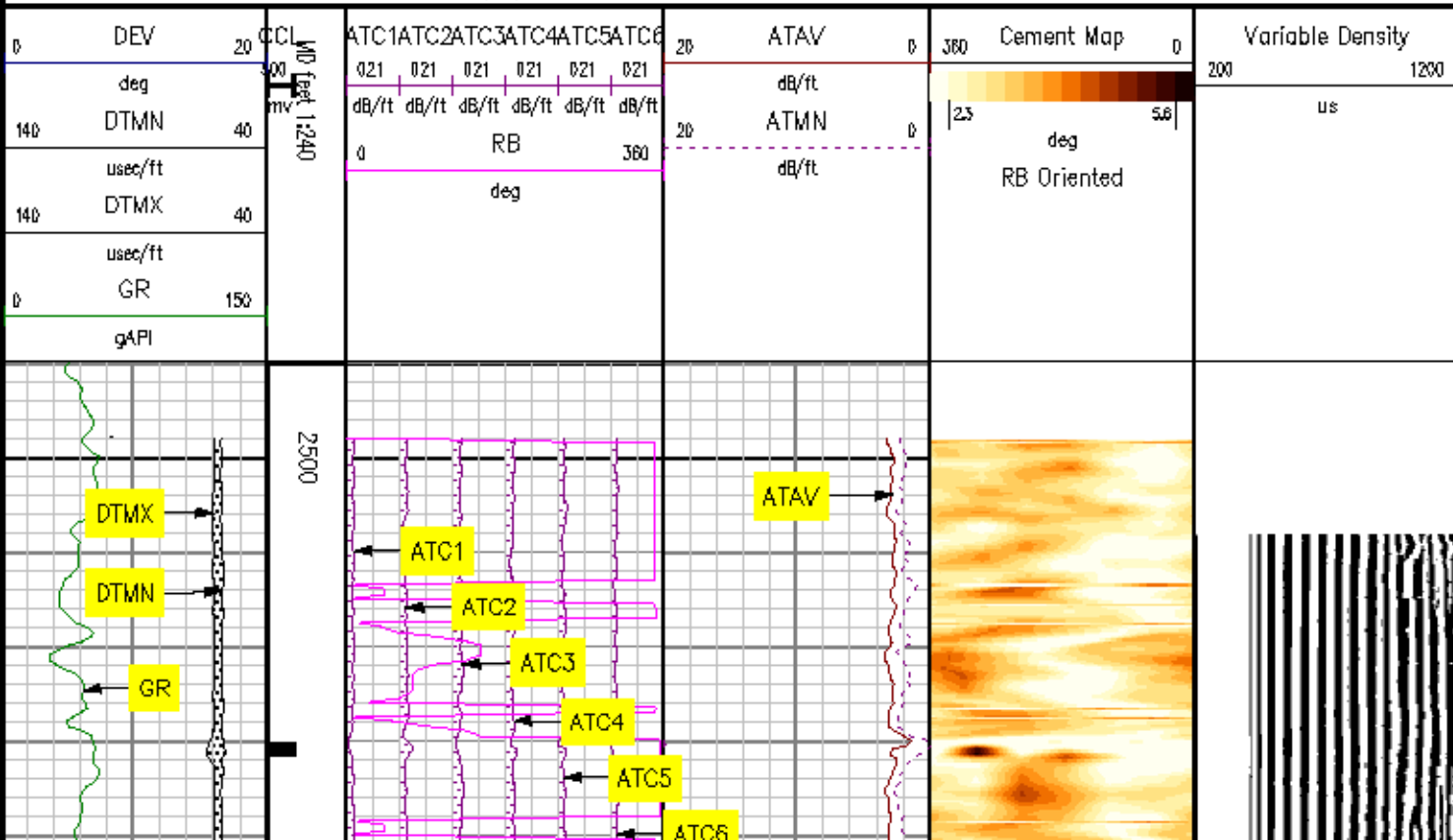
Well : PCU 197-36A5

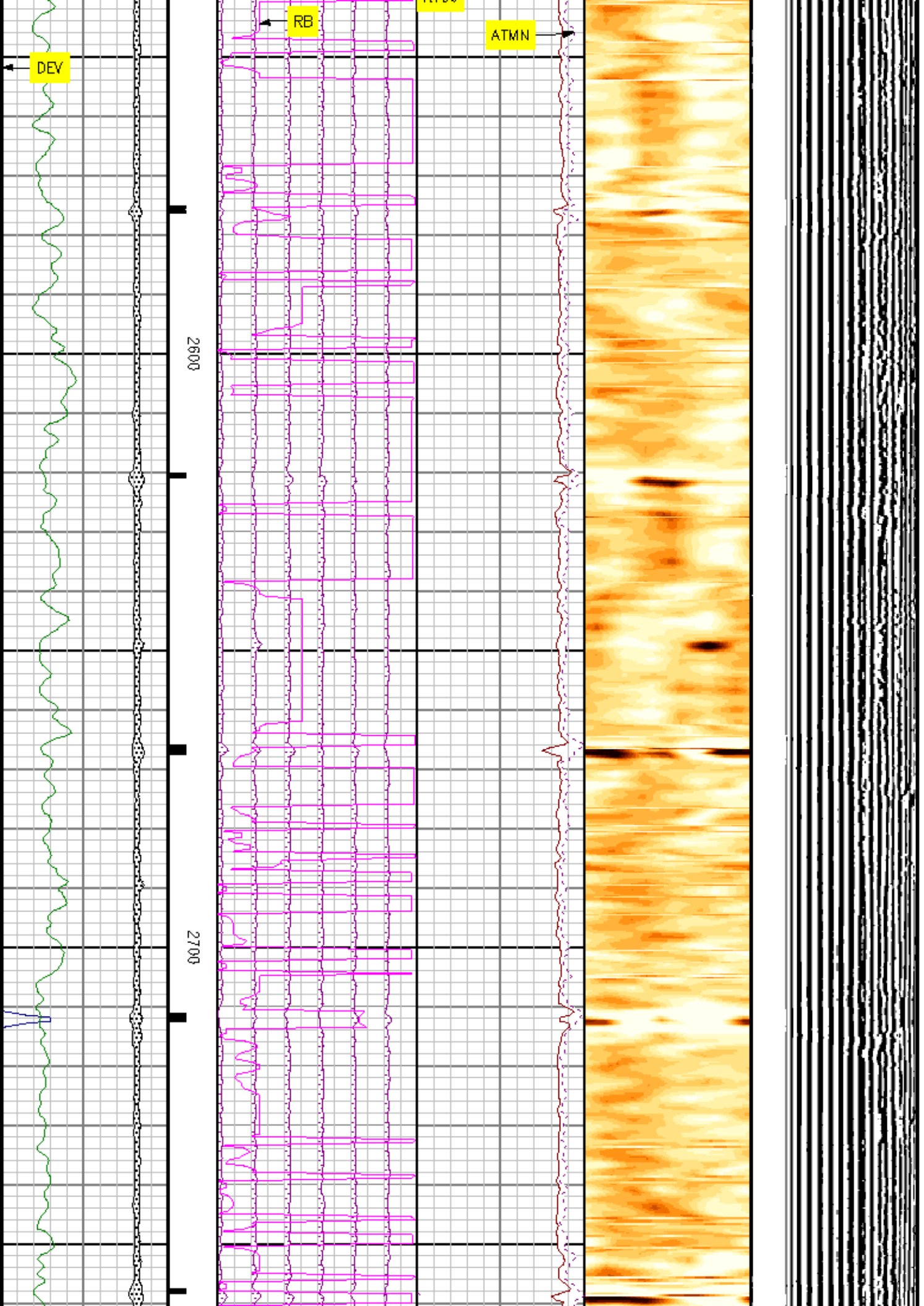
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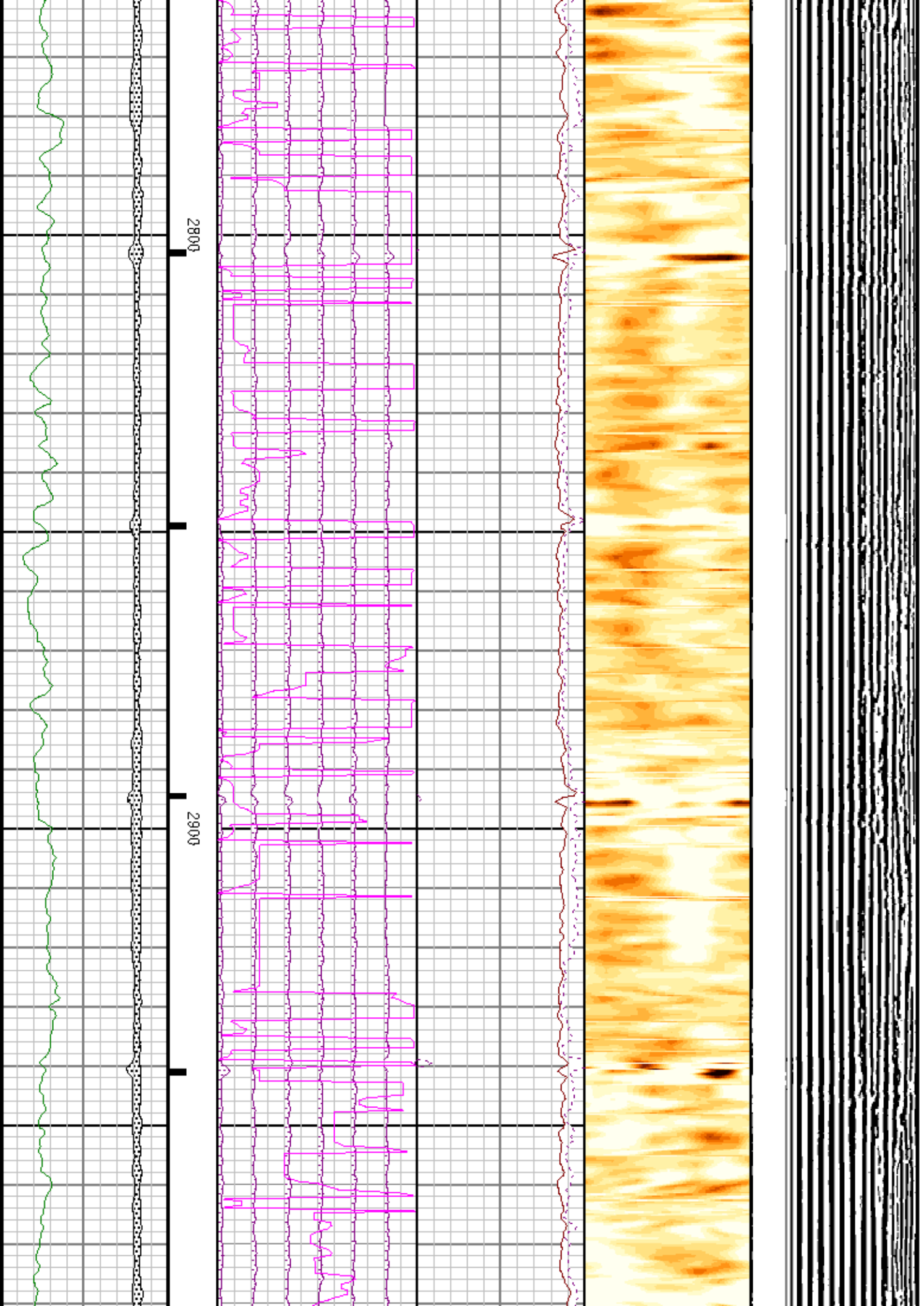
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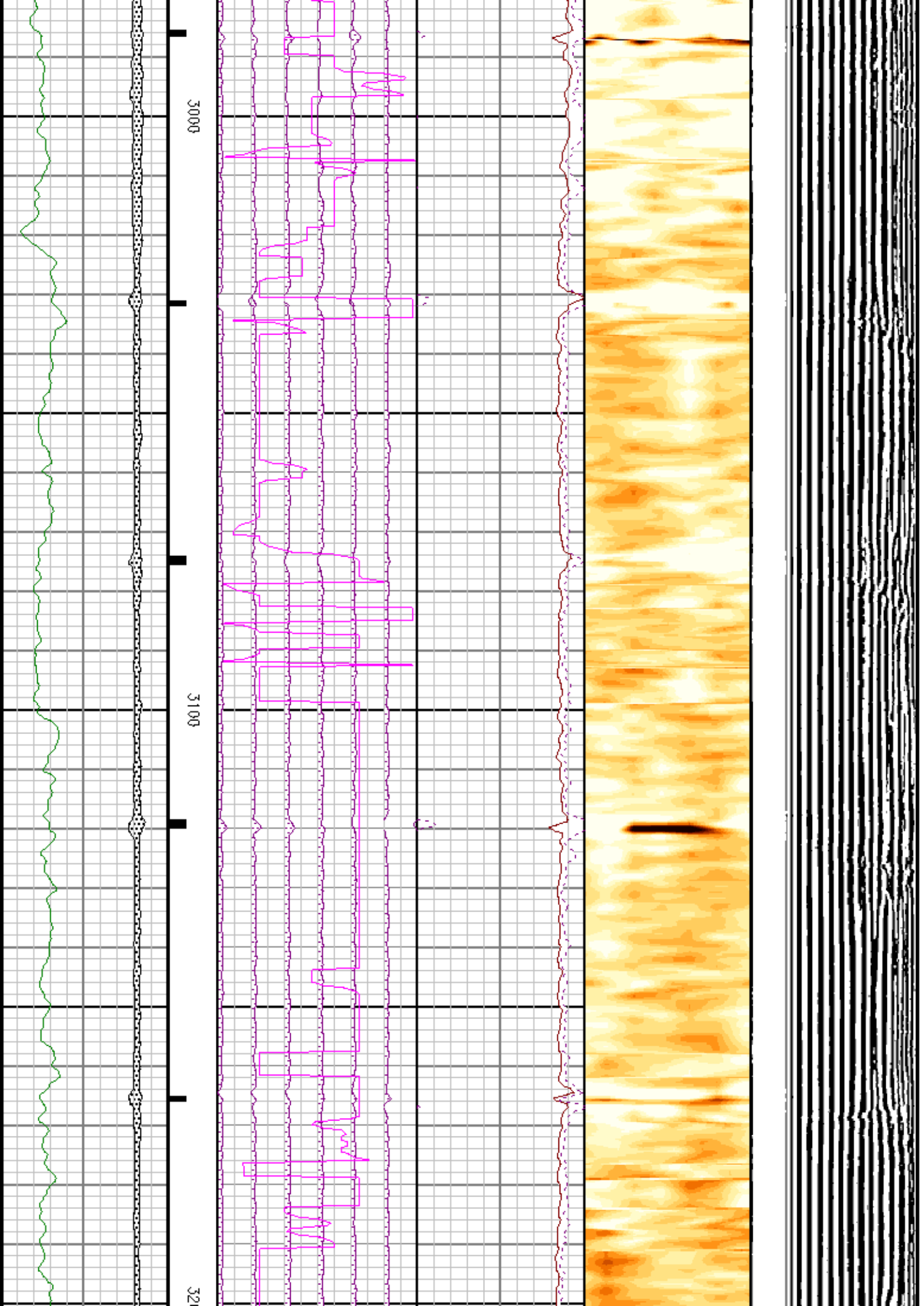
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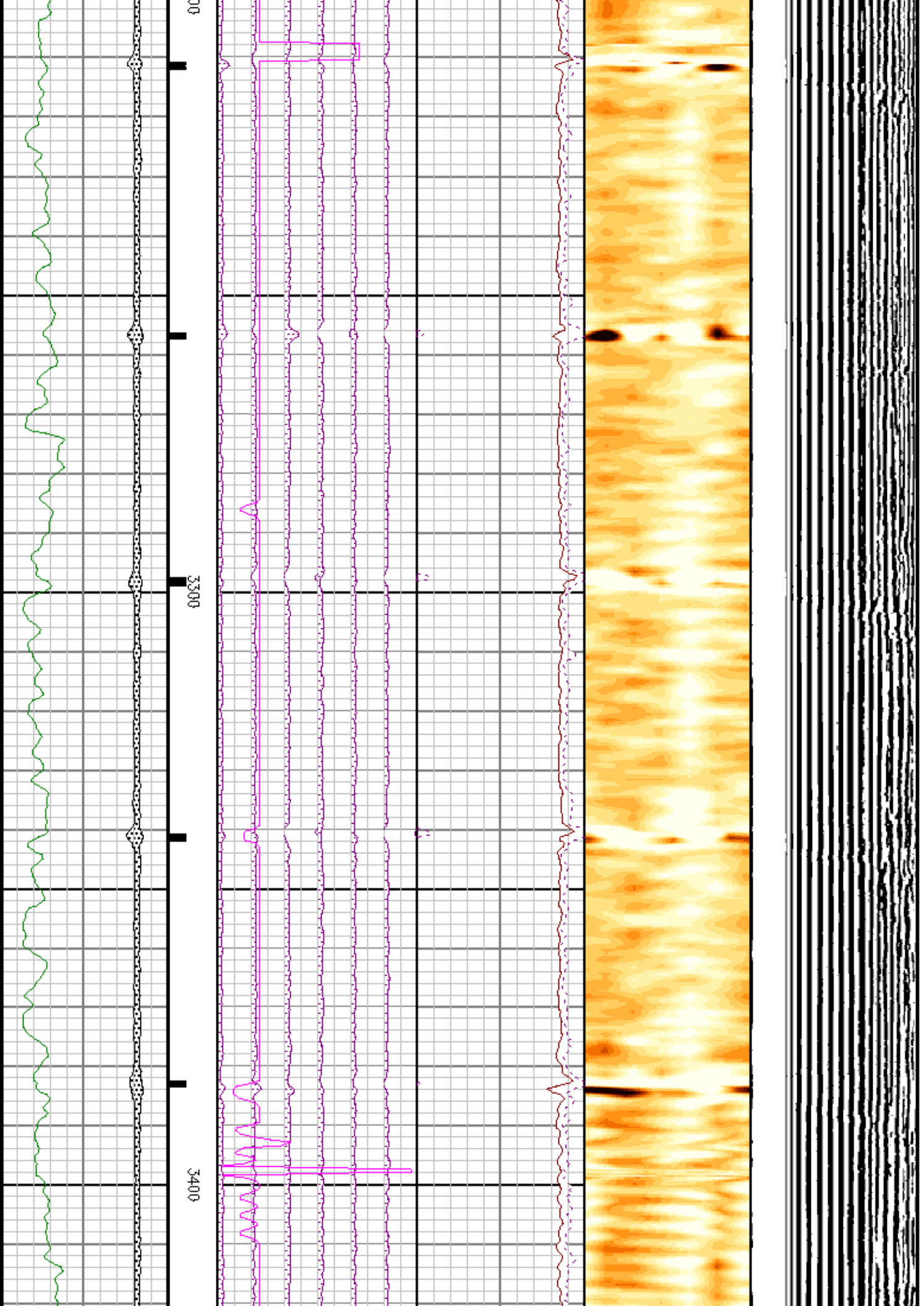
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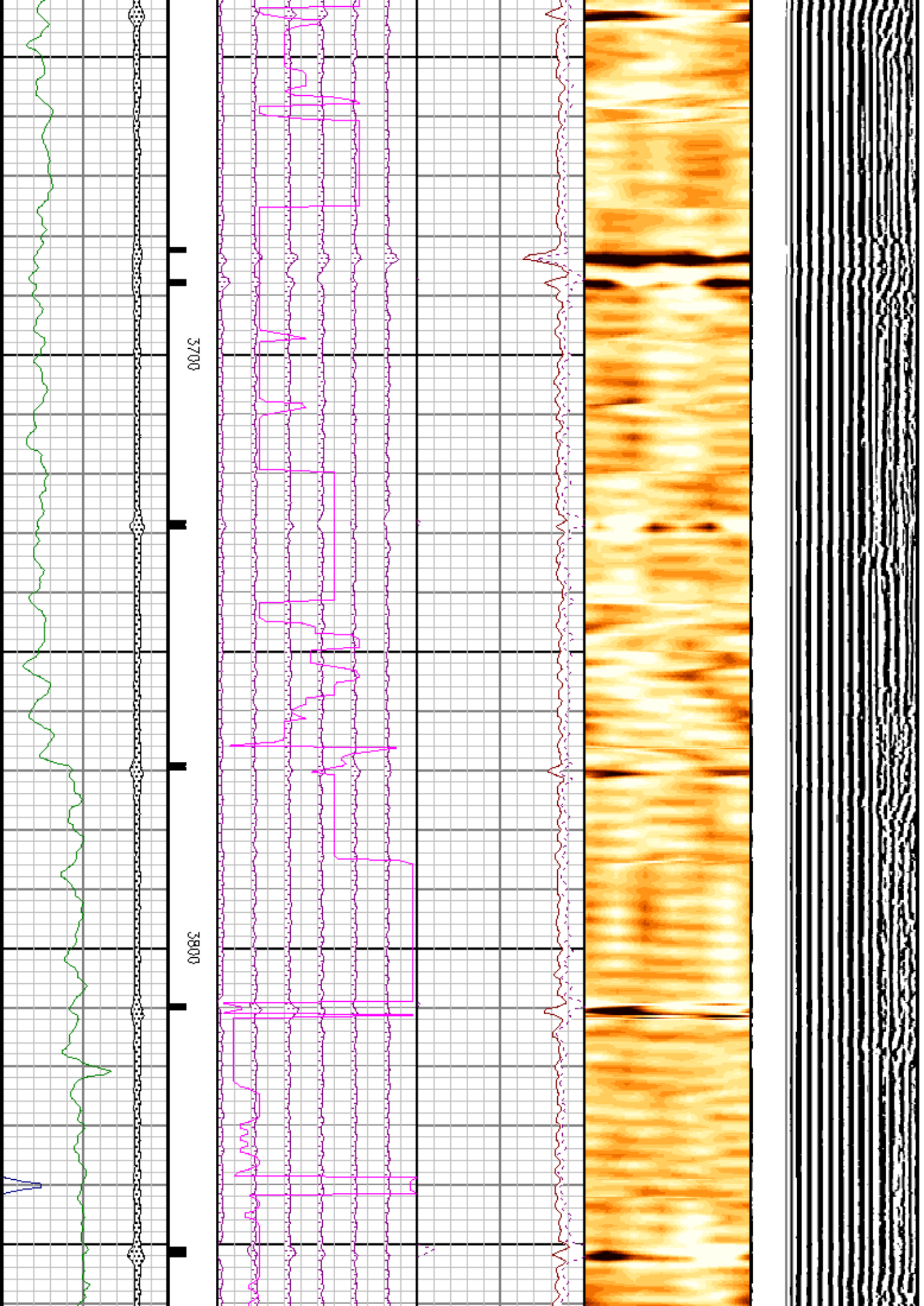


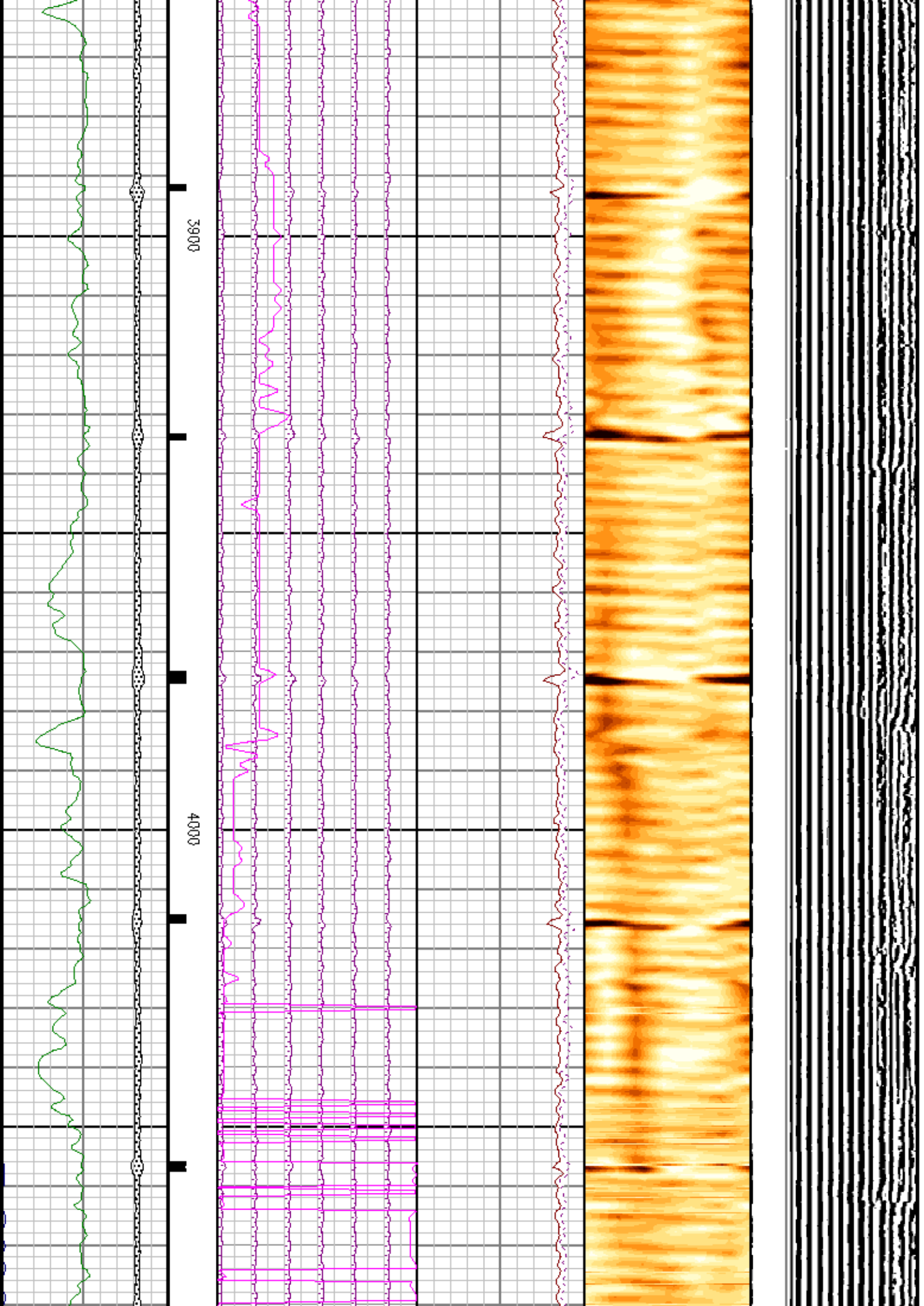


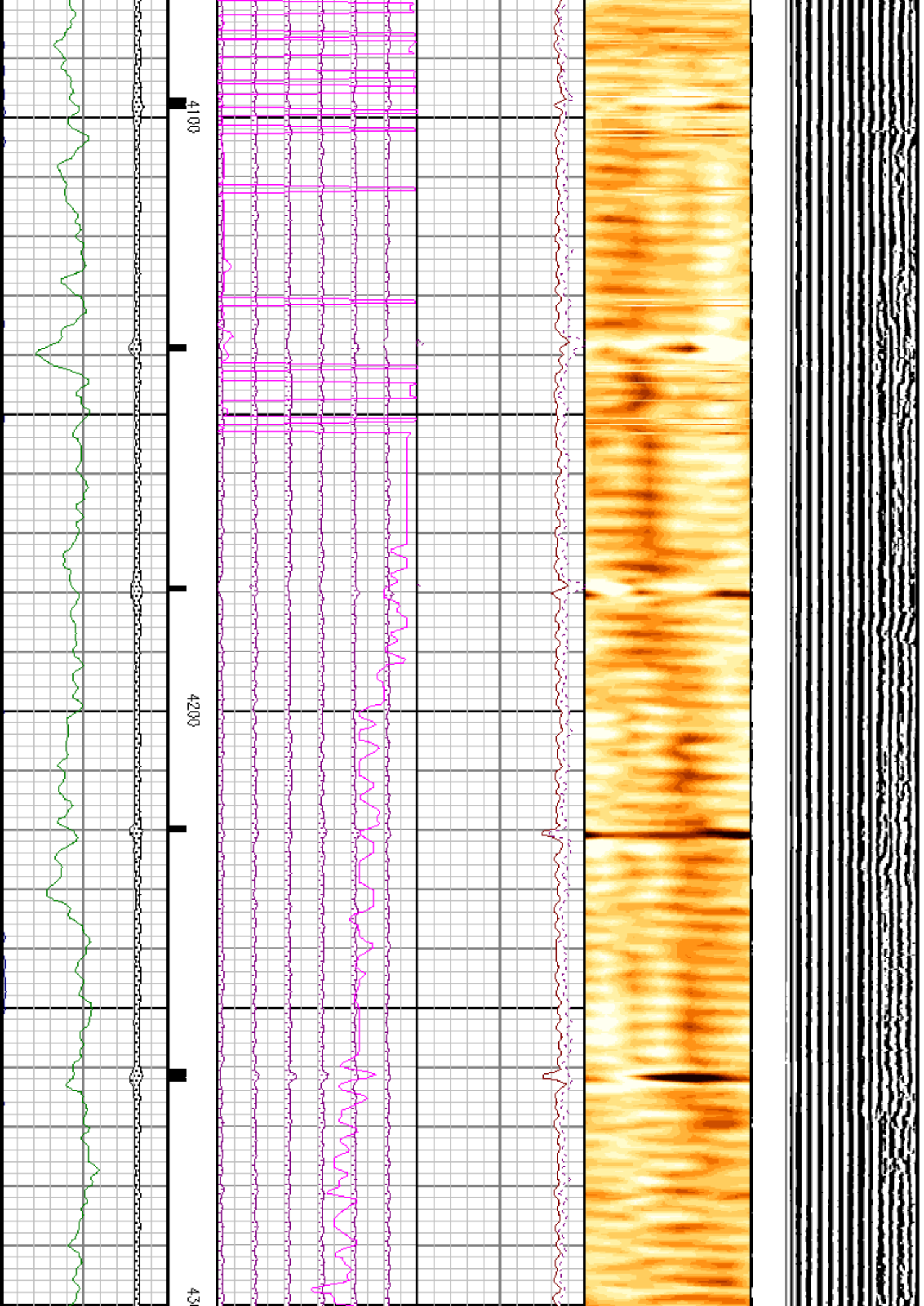


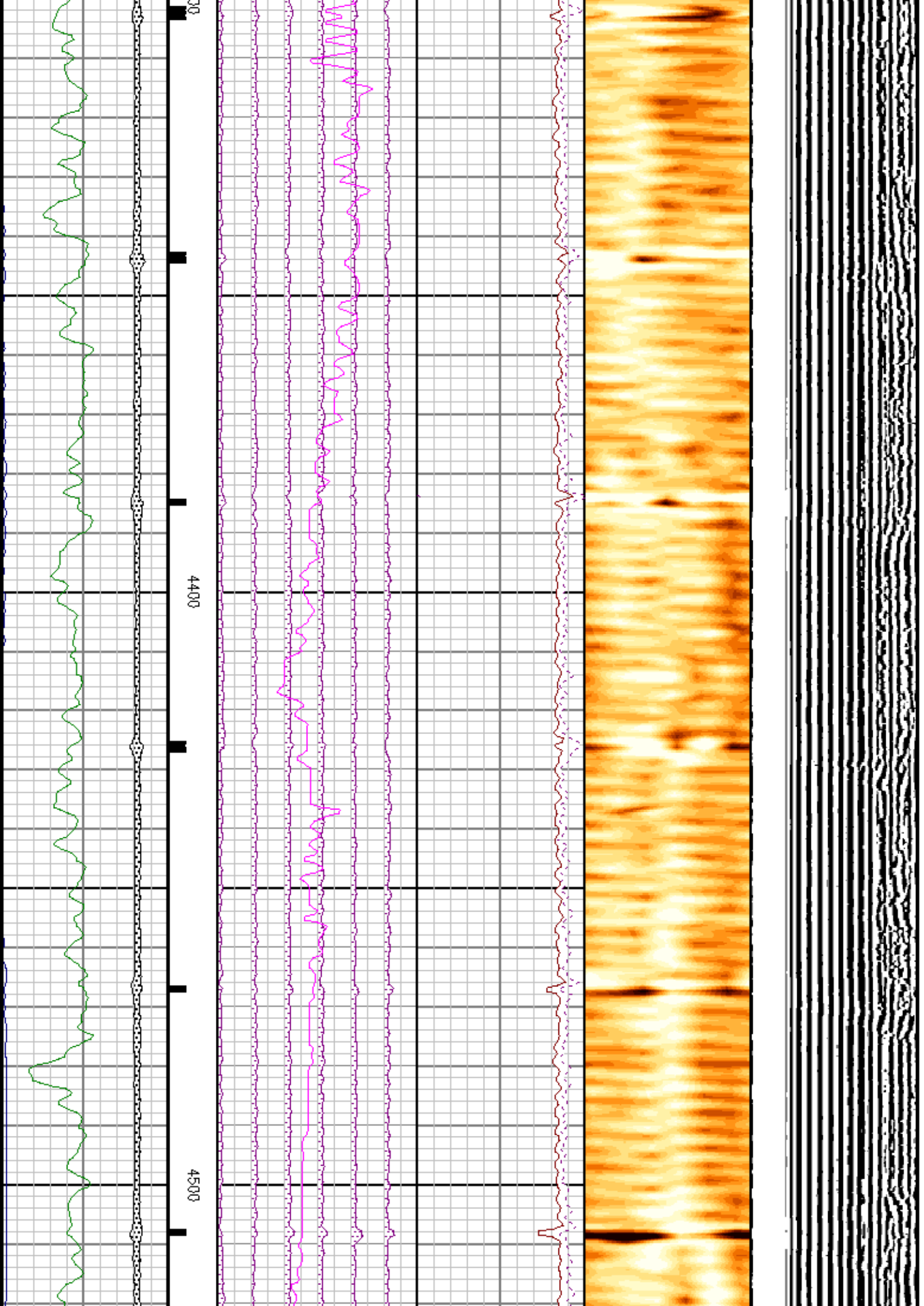


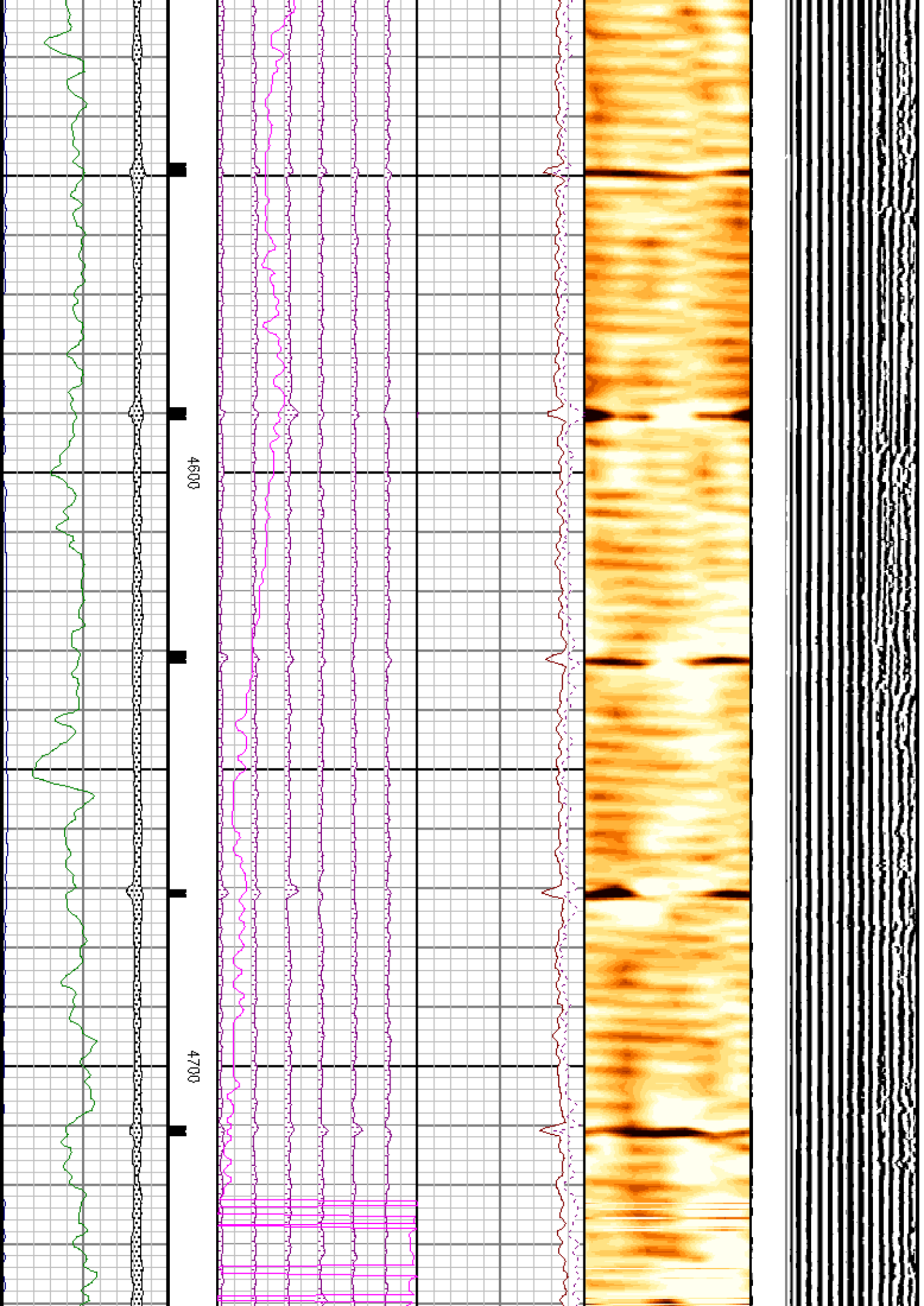


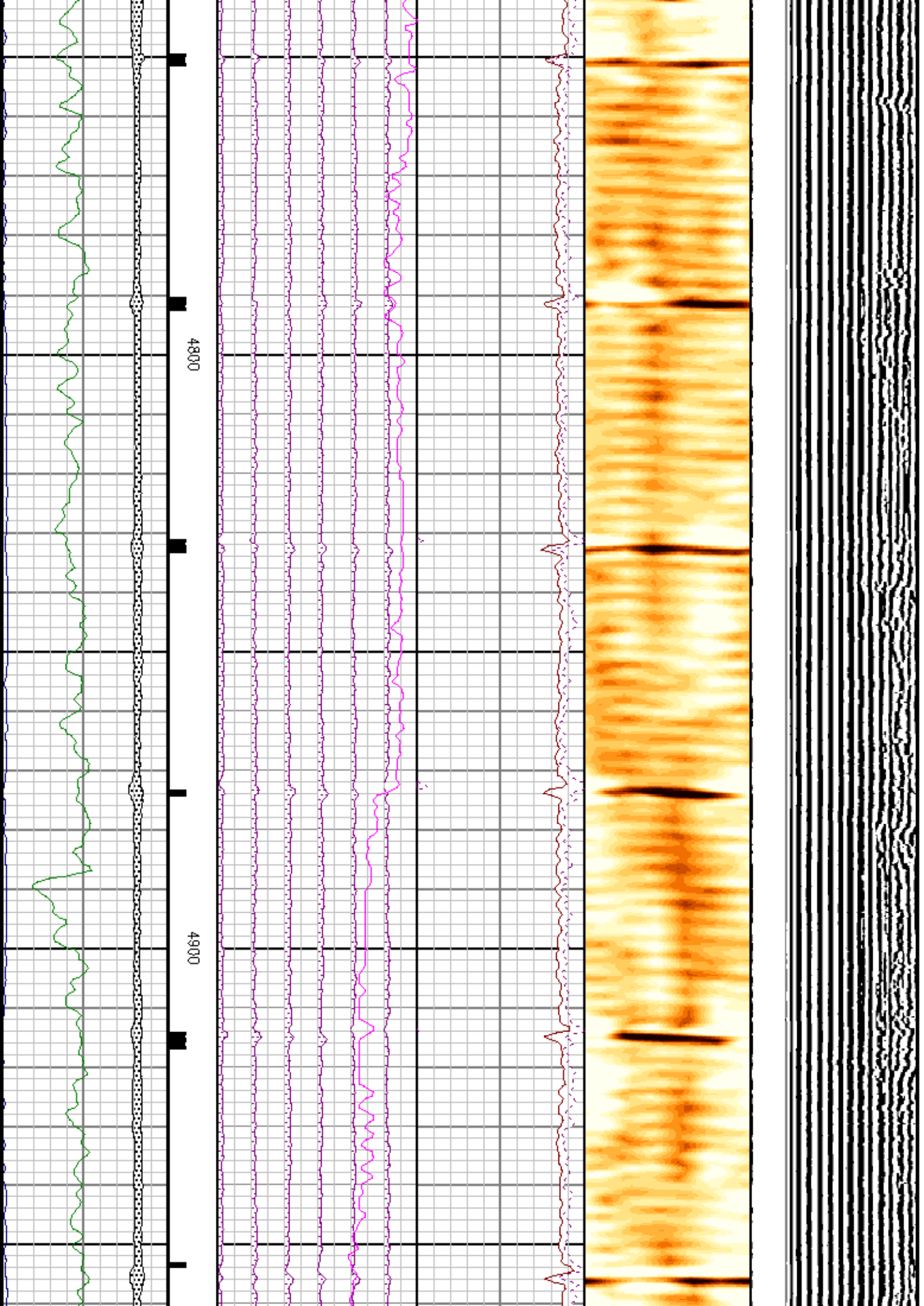


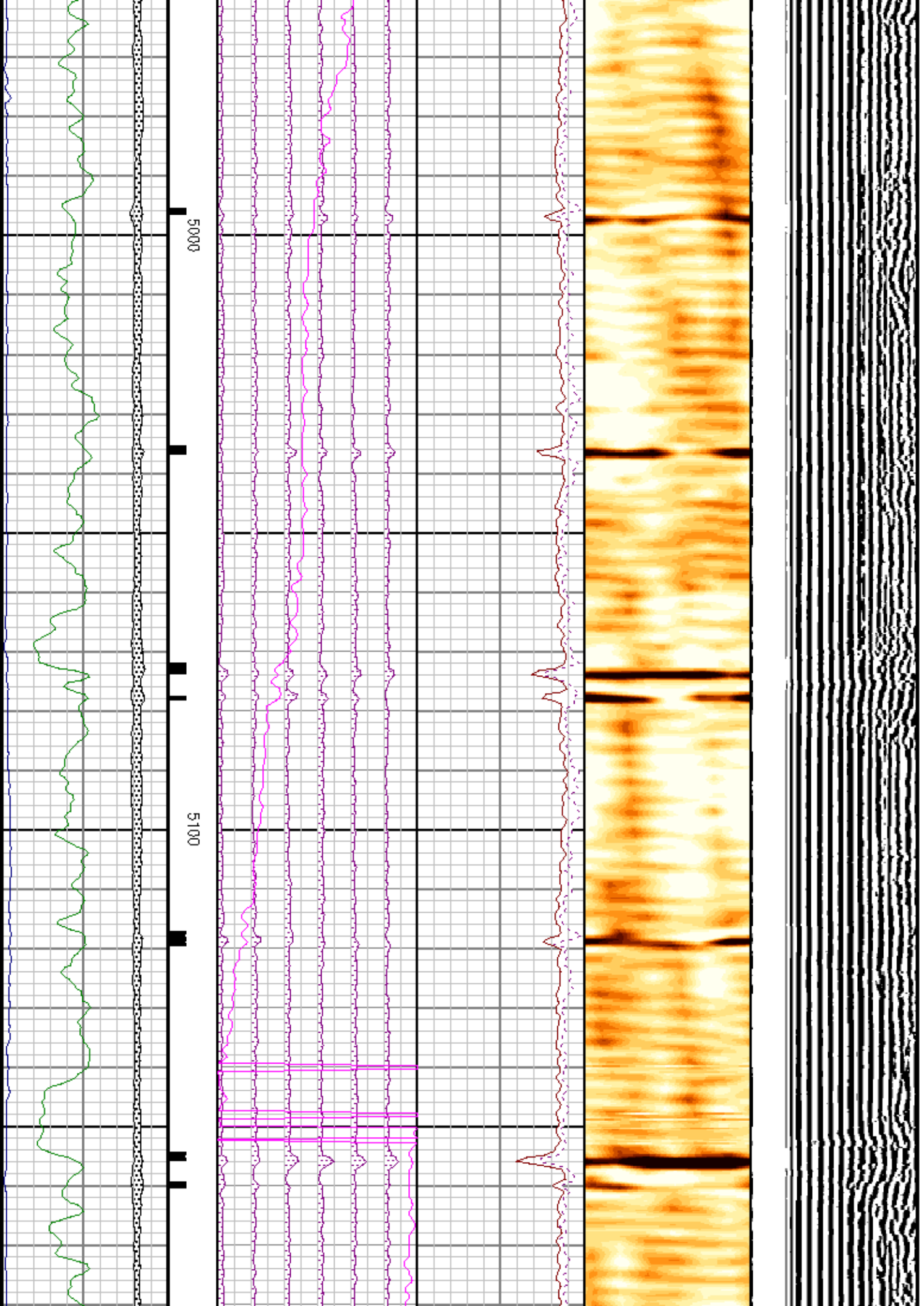


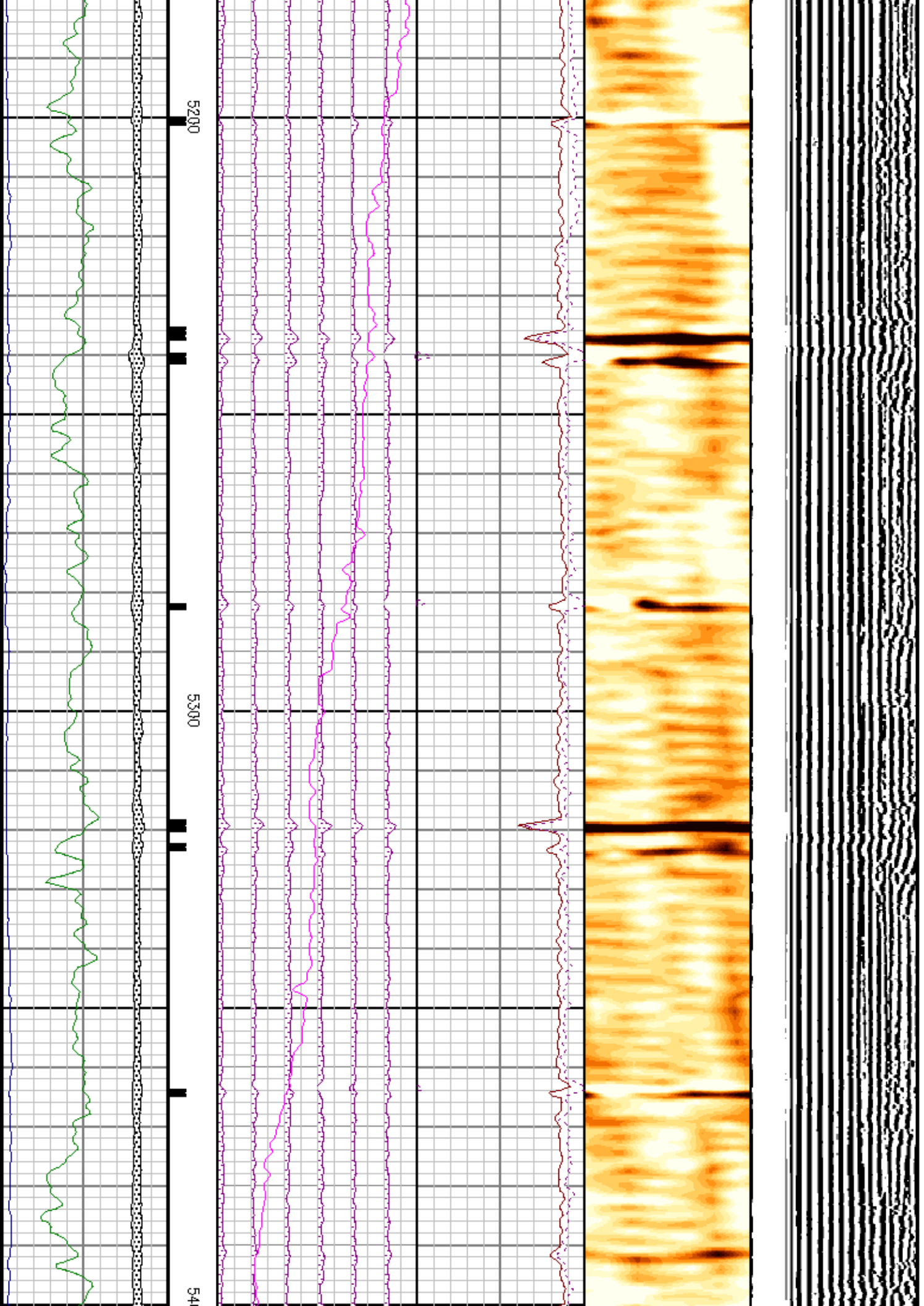


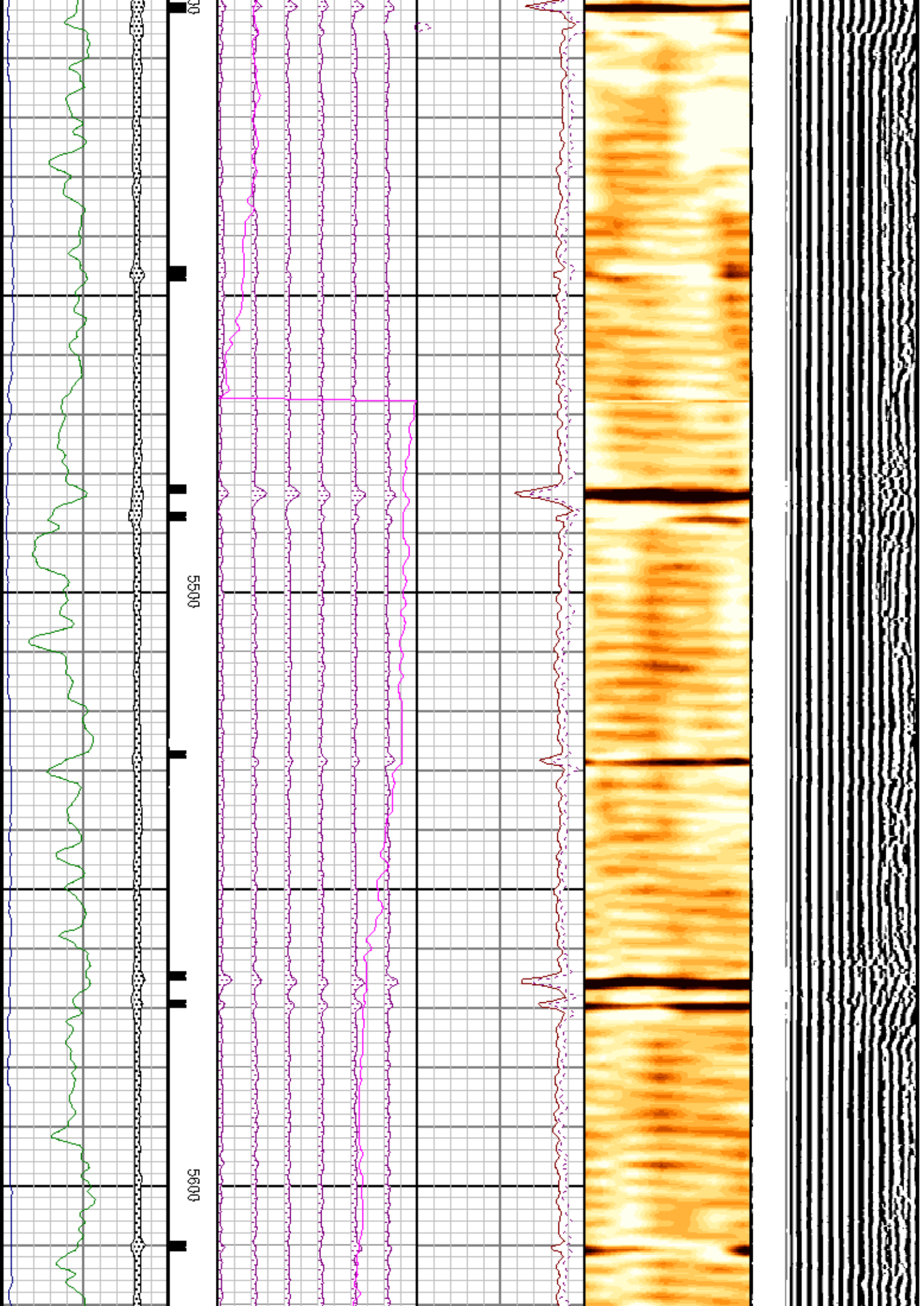


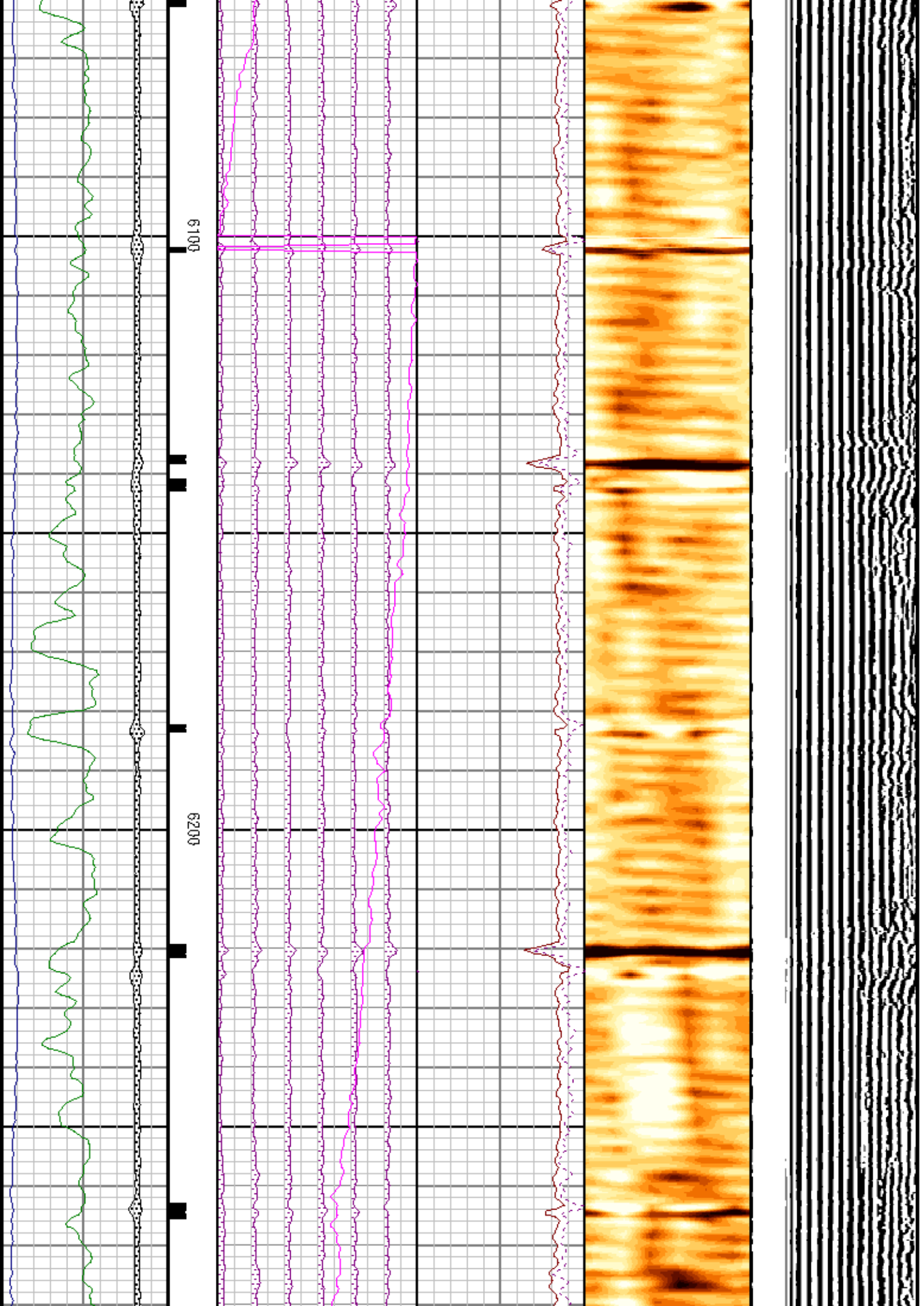


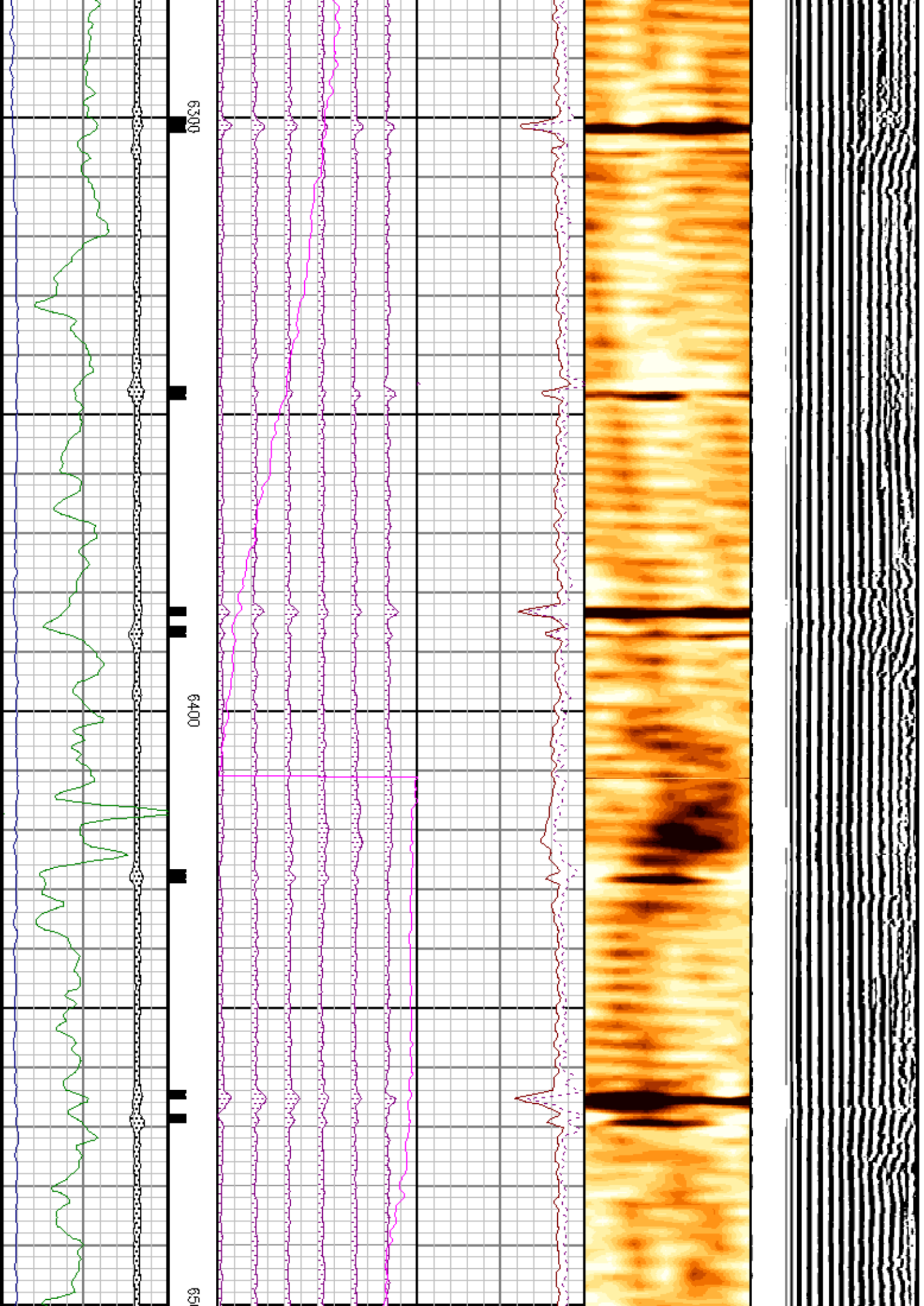


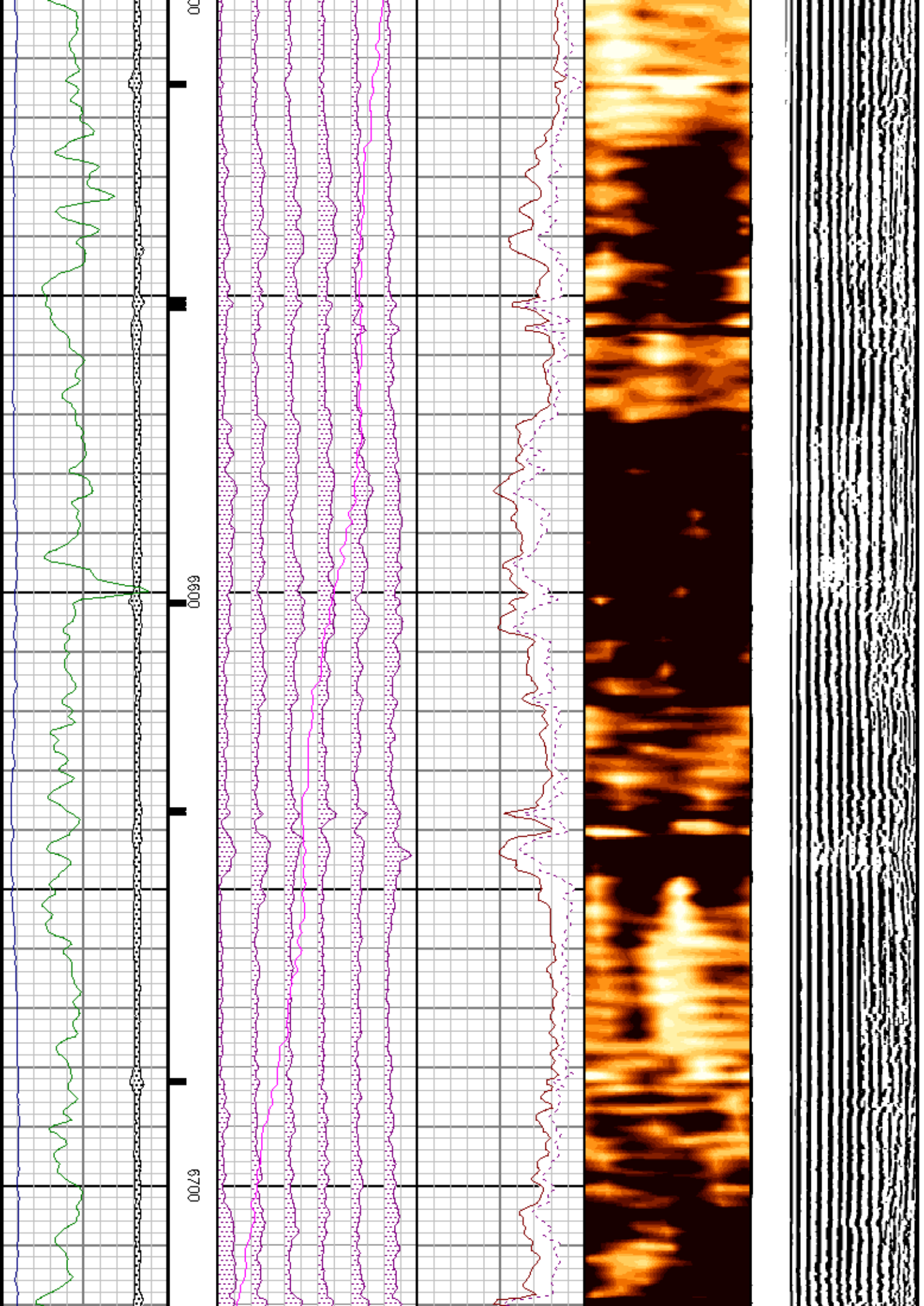


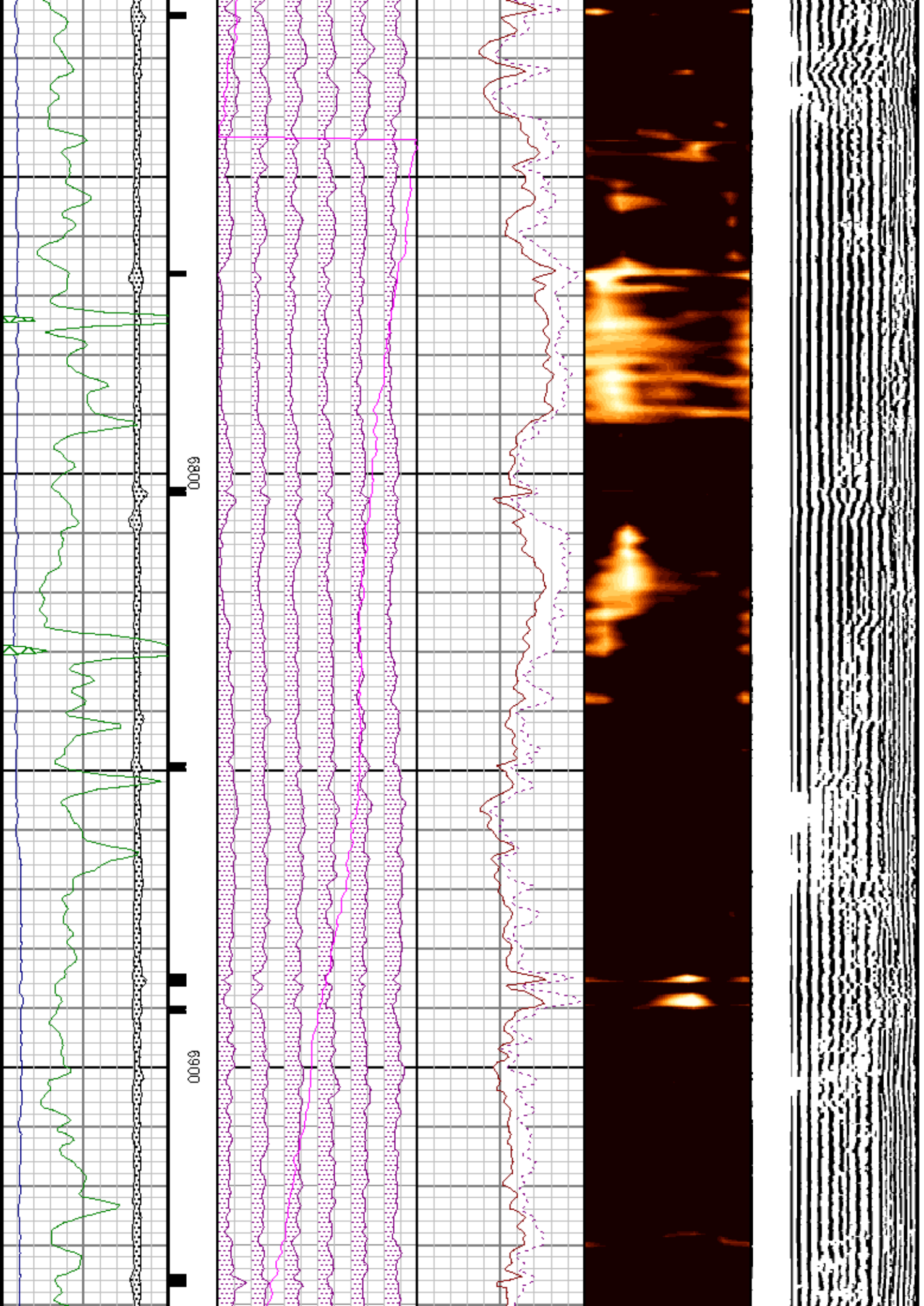


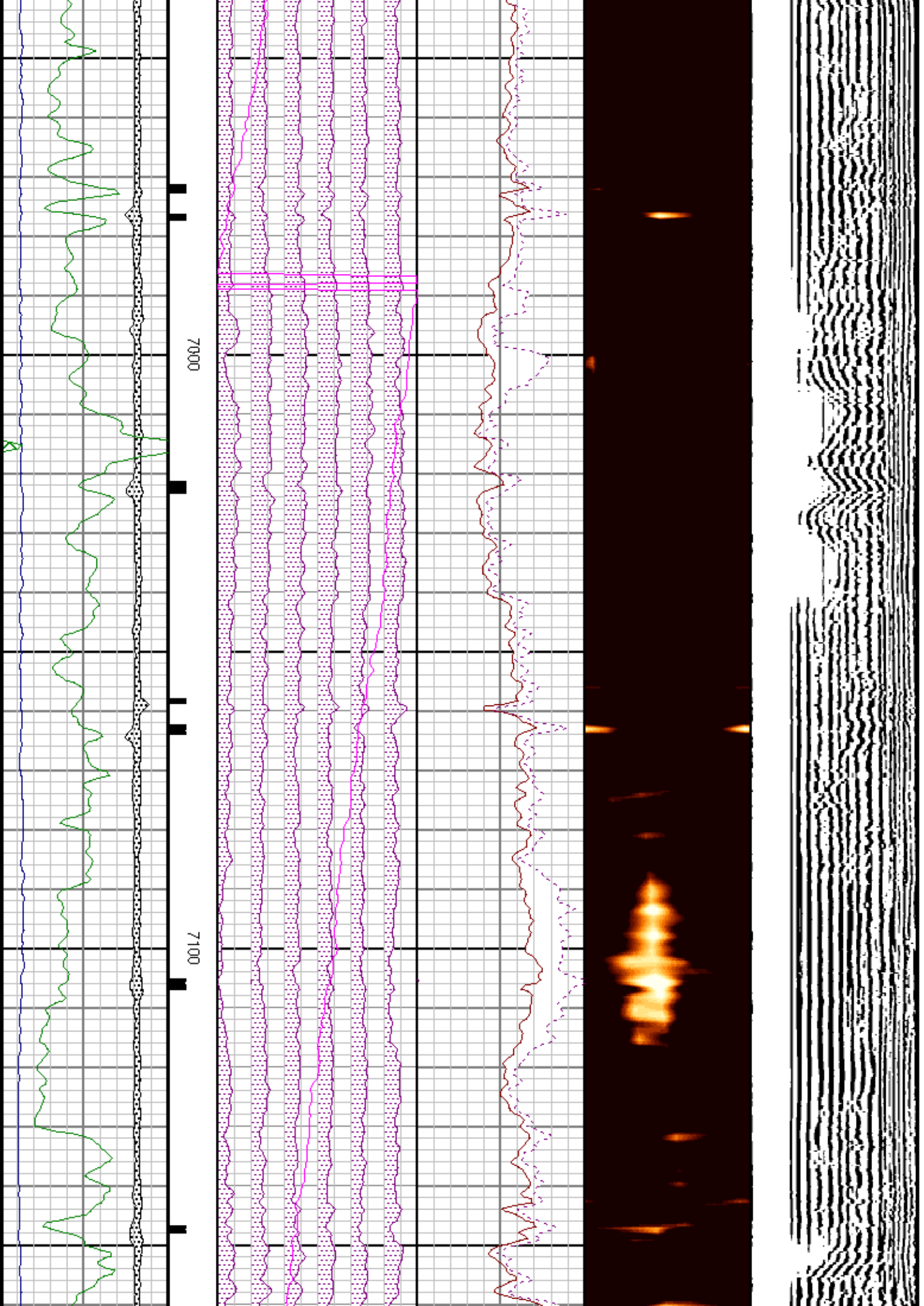


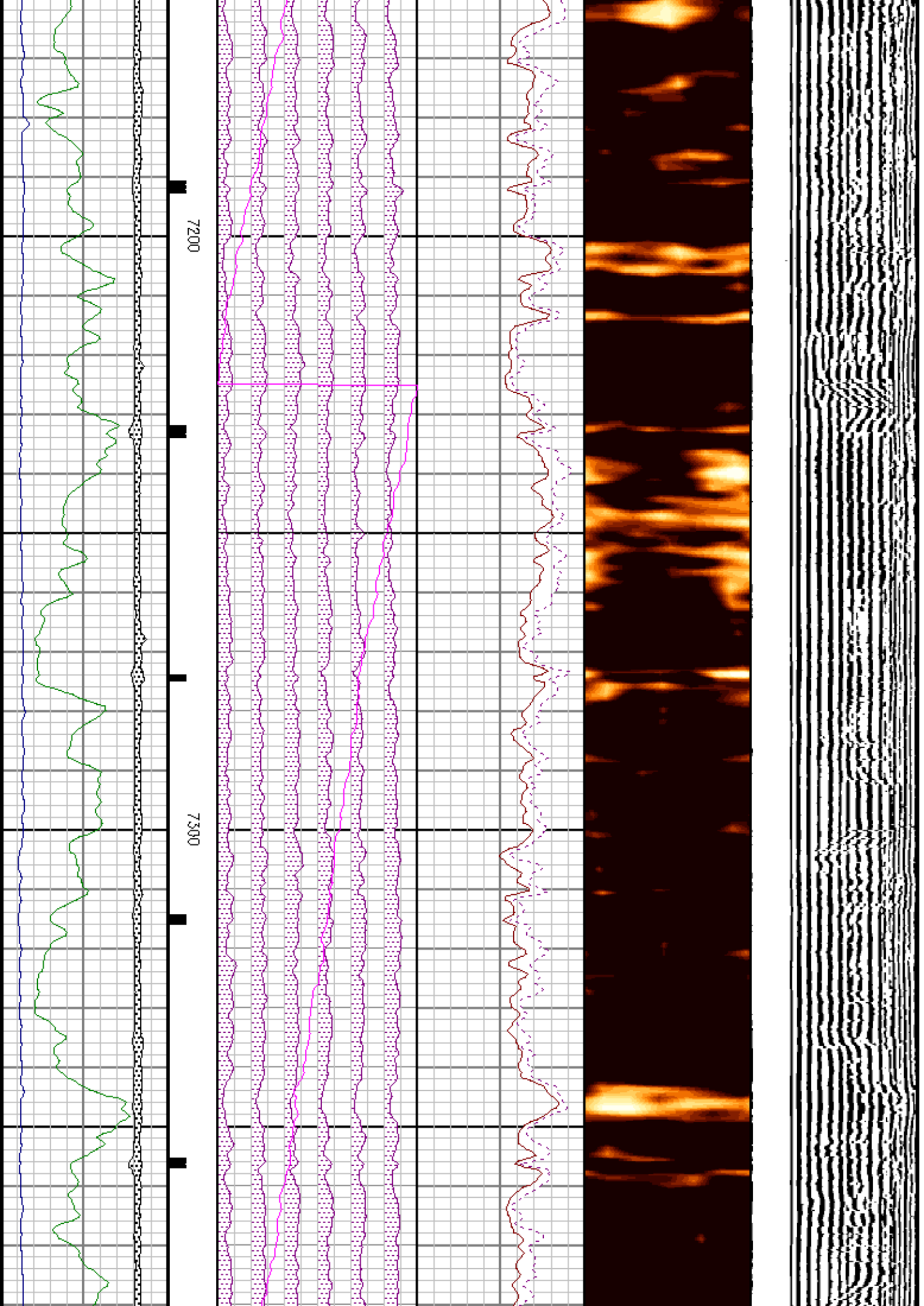


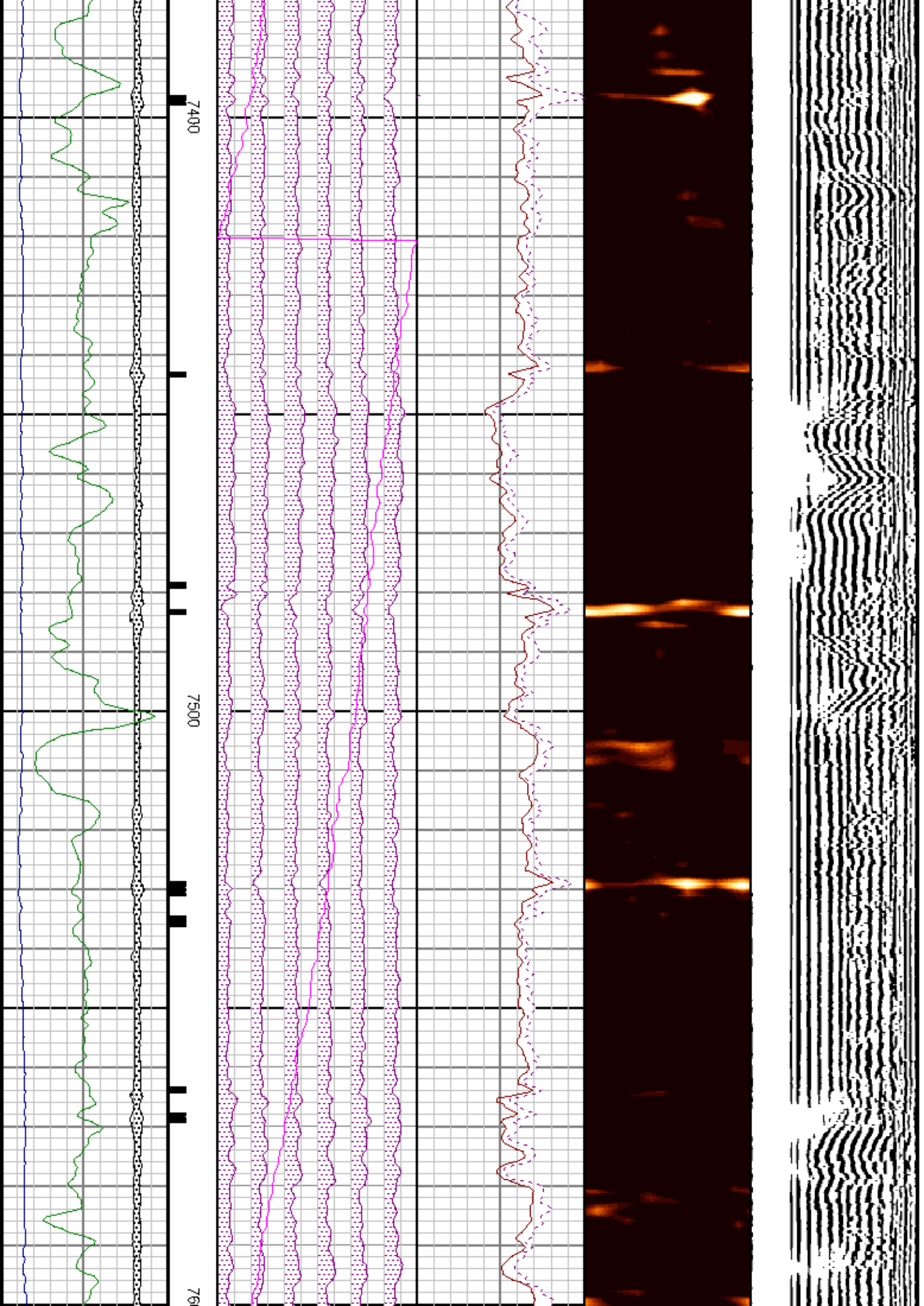








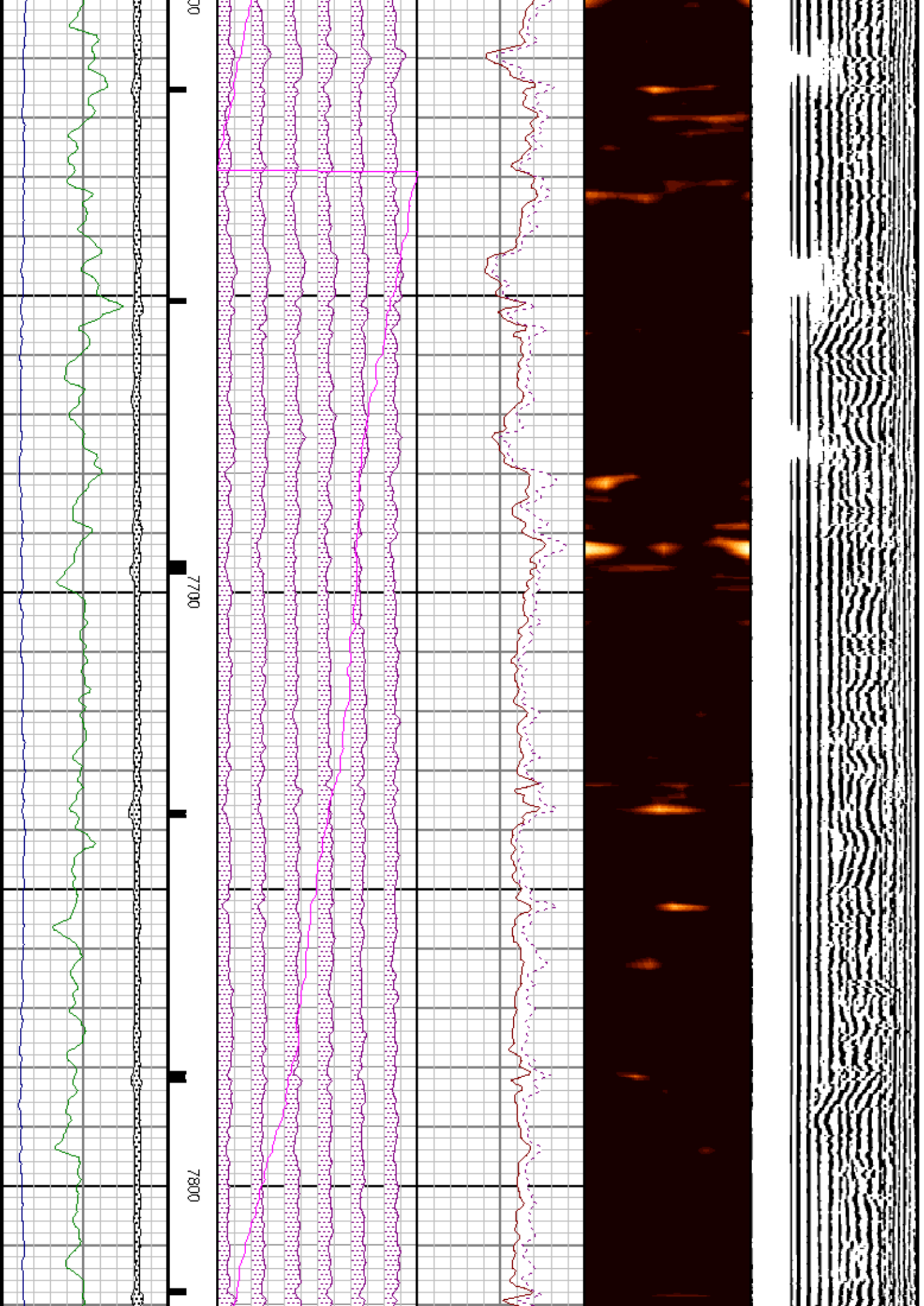


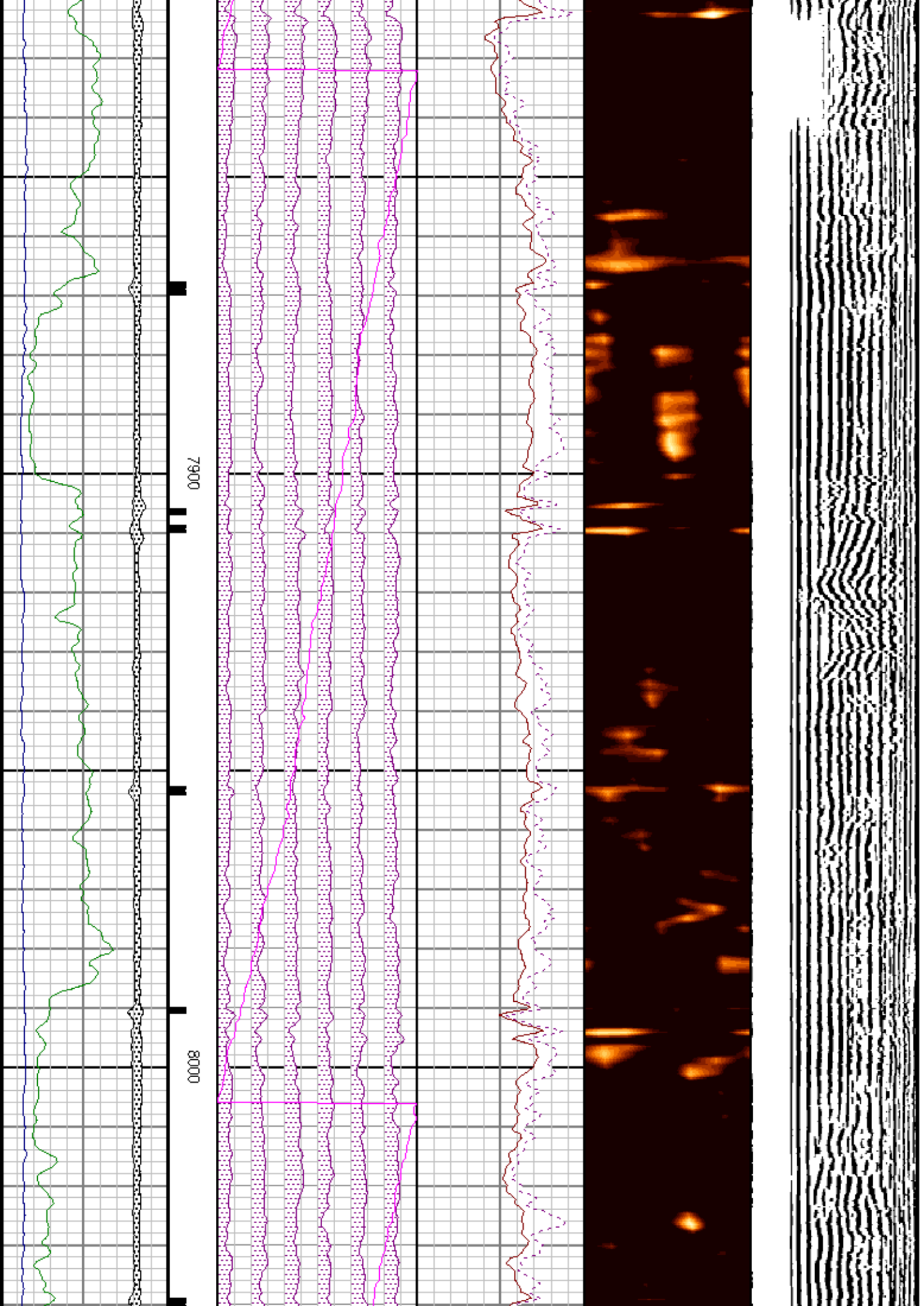


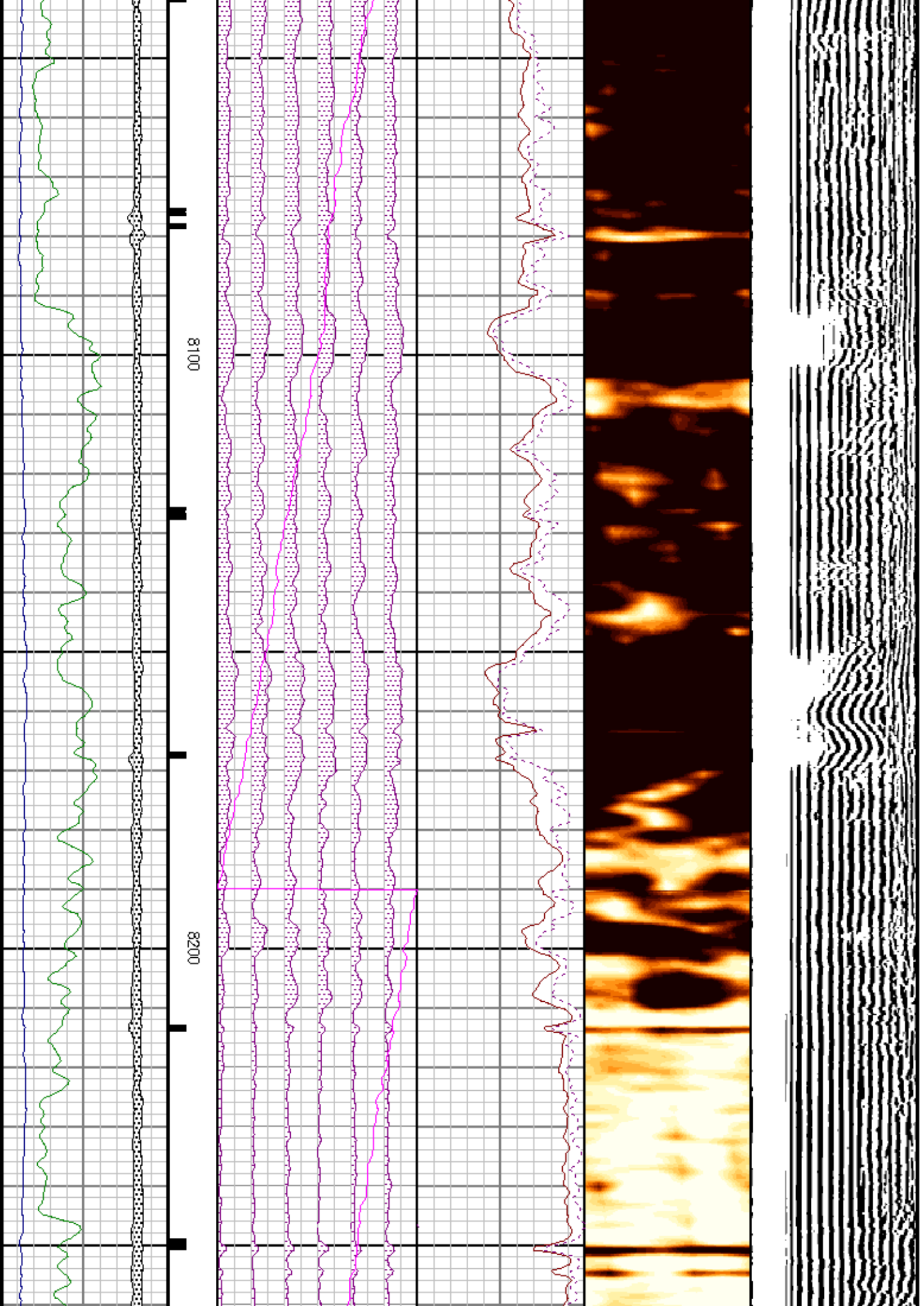
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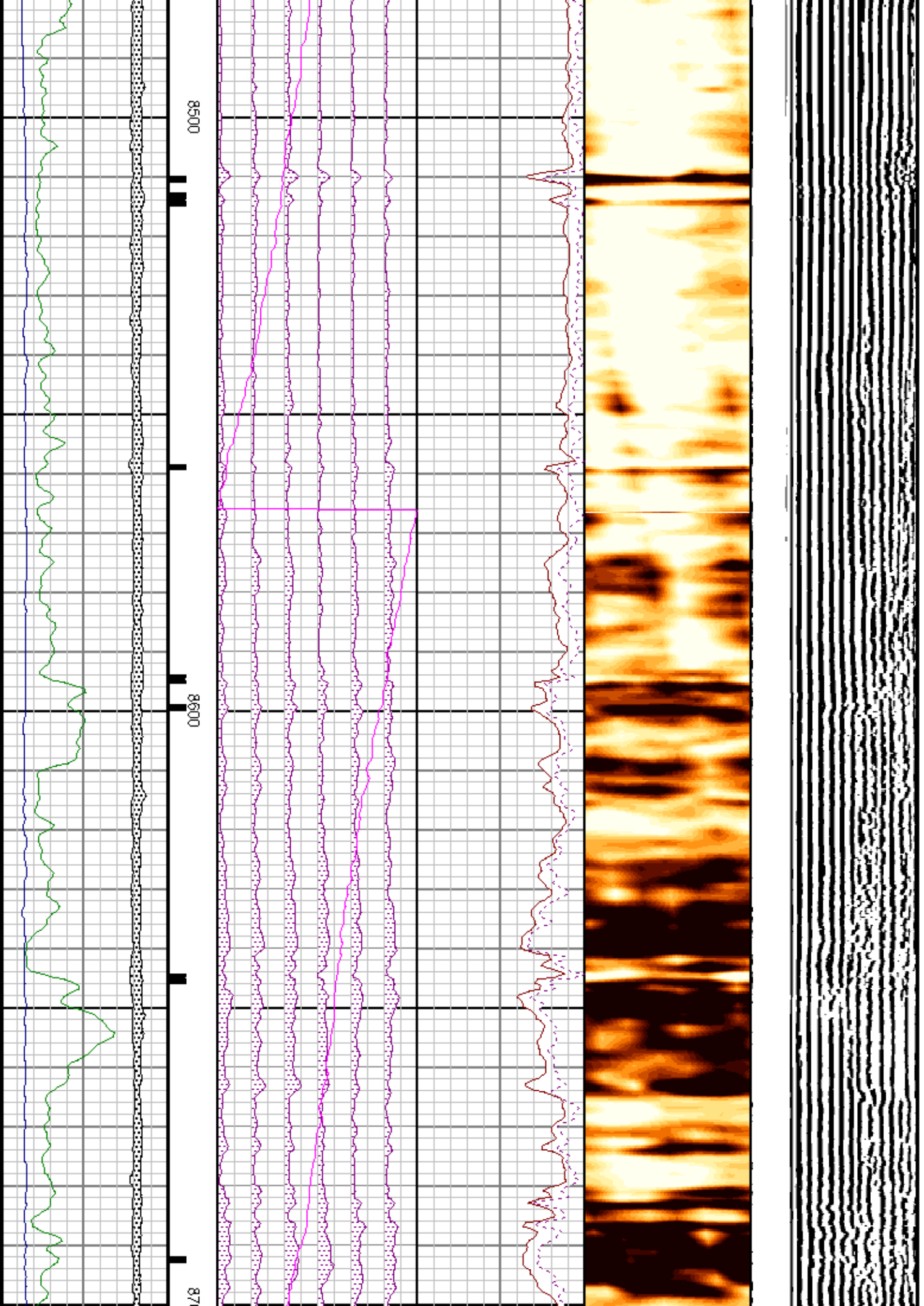
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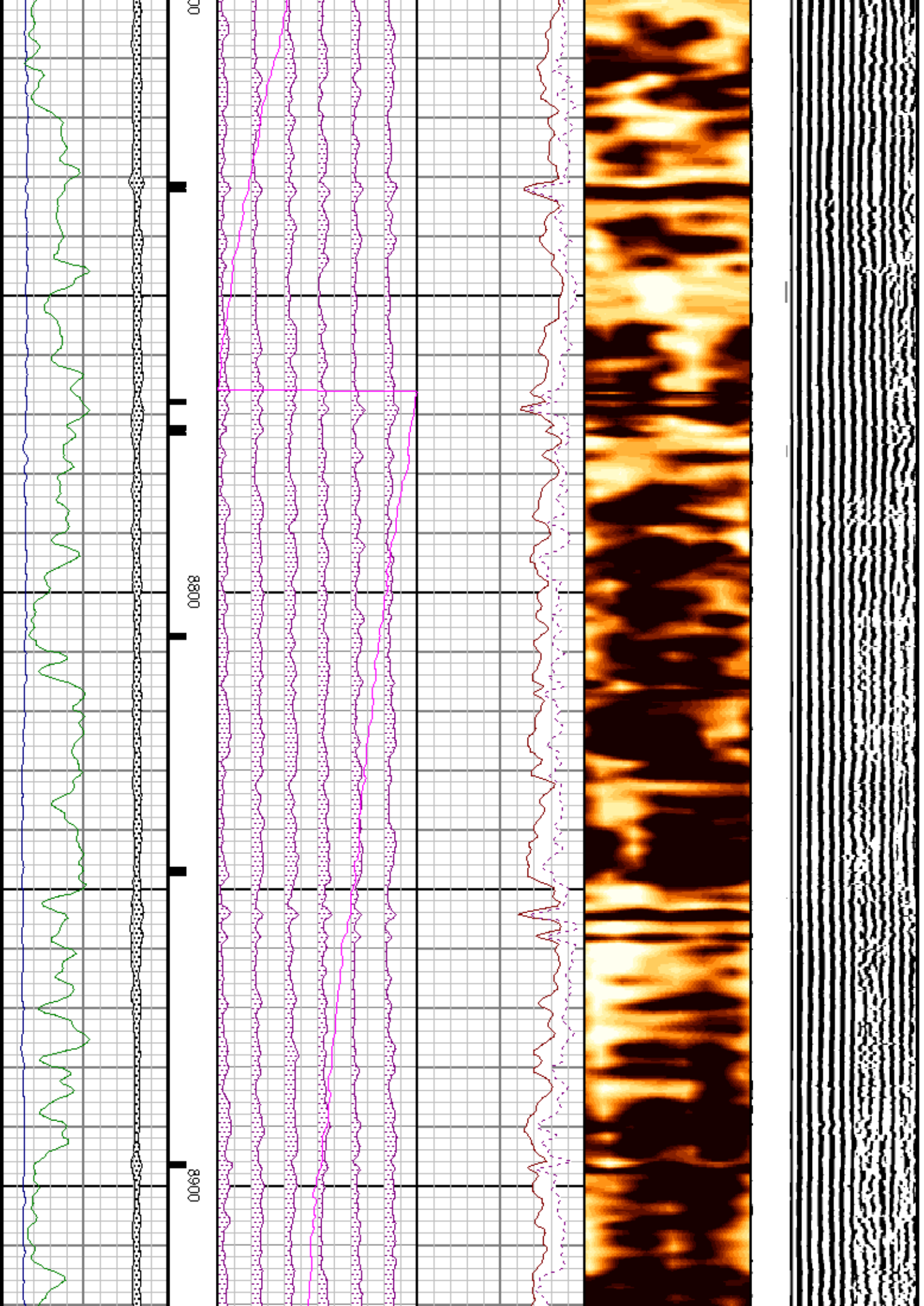
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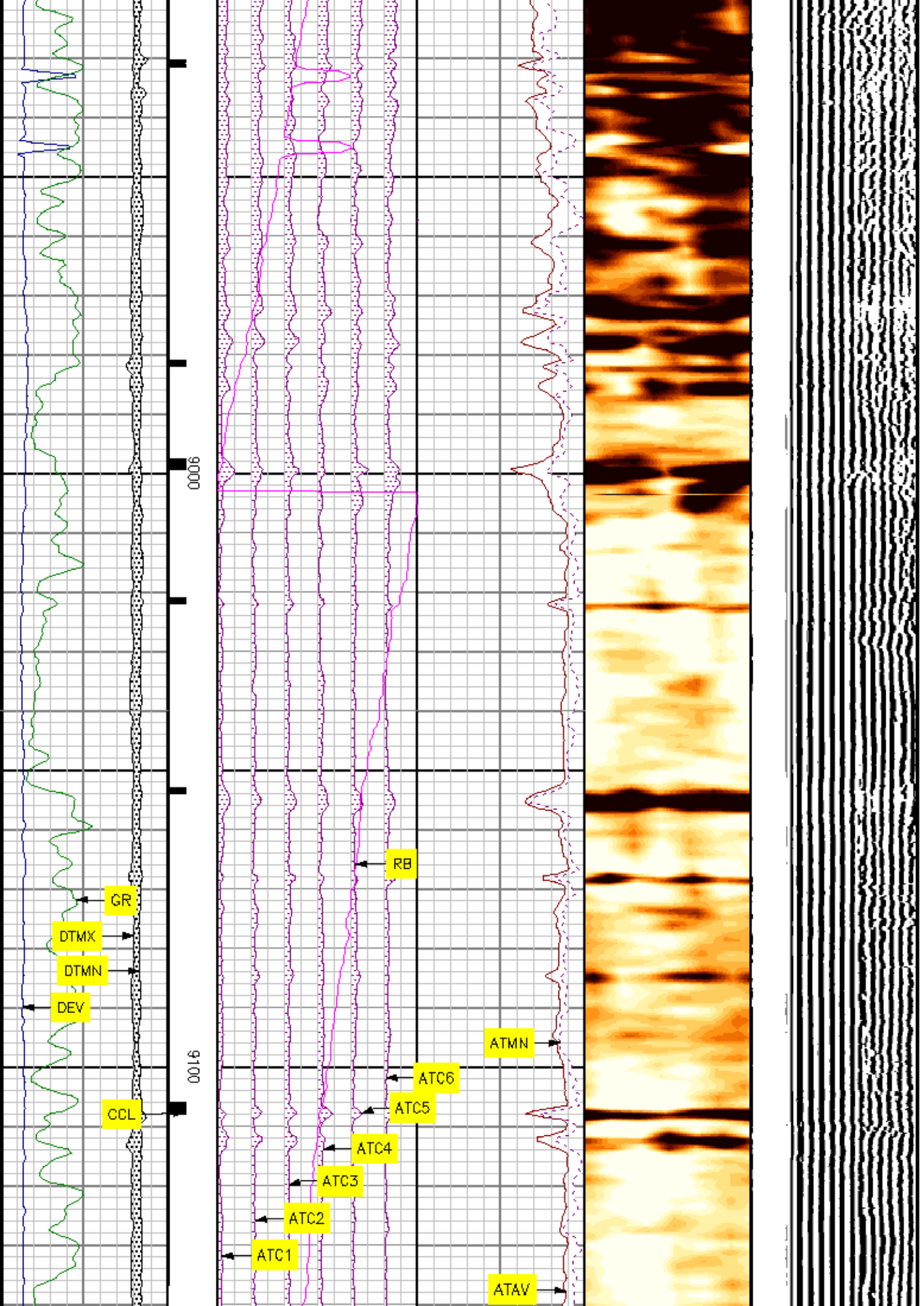


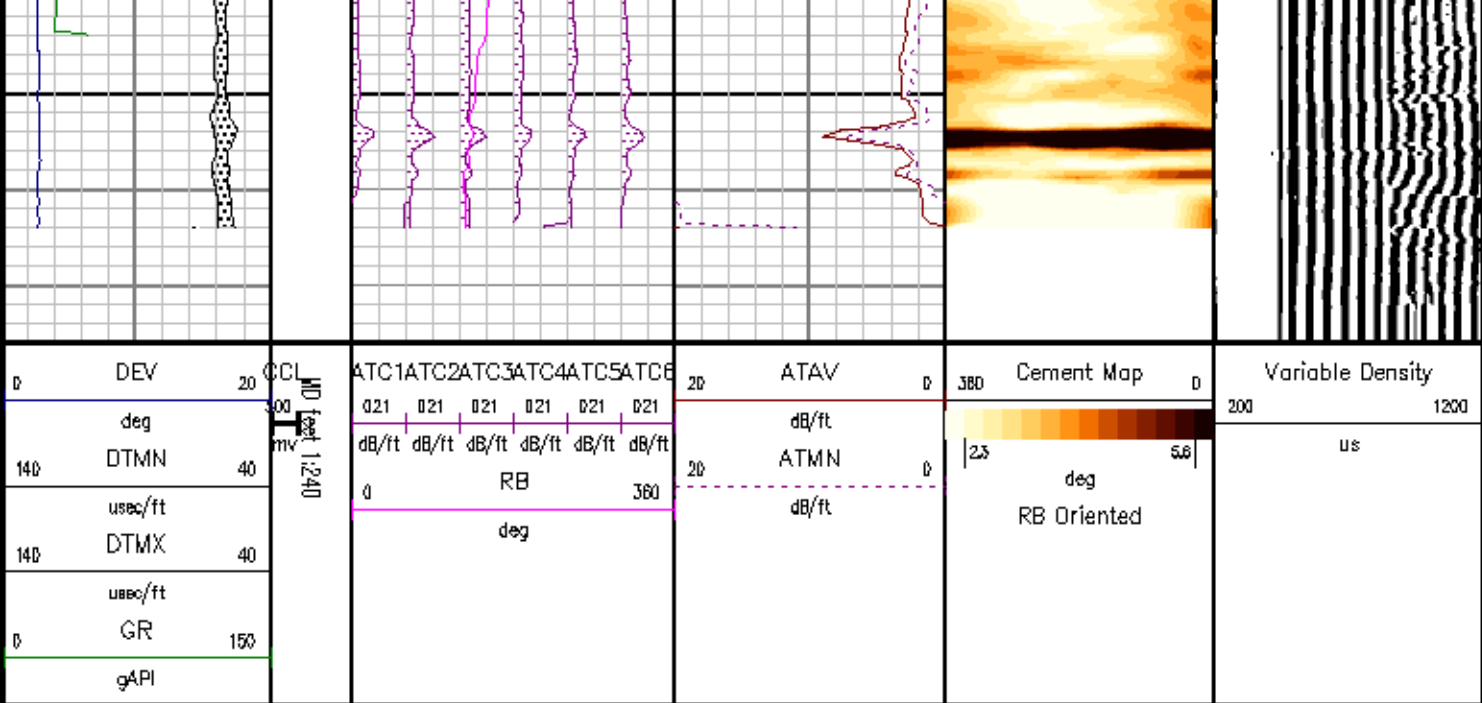












REPEAT SECTION

SBT NORMALIZATION RESULTS

CURVE	PARAMETER	VALUE	UNITS	TOP	BOTTOM	COMMENT
ATC1	seg1 onormf1	-0.363	db/ft	8914.313	9175.000	
ATC2	seg2 onormf2	-0.365	db/ft	8914.313	9175.000	
ATC3	seg3 onormf3	1.166	db/ft	8914.313	9175.000	
ATC4	seg4 onormf4	-0.549	db/ft	8914.313	9175.000	
ATC5	seg5 onormf5	-0.121	db/ft	8914.313	9175.000	
ATC6	seg6 onormf6	0.232	db/ft	8914.313	9175.000	
ATC1	seg1 dnormf1	-0.396	db/ft	8914.313	9175.000	Good Confidence
ATC2	seg2 dnormf2	-0.327	db/ft	8914.313	9175.000	Good Confidence
ATC3	seg3 dnormf3	0.838	db/ft	8914.313	9175.000	Good Confidence
ATC4	seg4 dnormf4	-0.509	db/ft	8914.313	9175.000	Good Confidence
ATC5	seg5 dnormf5	-0.056	db/ft	8914.313	9175.000	Good Confidence
ATC6	seg6 dnormf6	0.450	db/ft	8914.313	9175.000	Good Confidence

SBT PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
amp	fpamp	69.513	mv	8903.313	9175.000
amp	fpattn	1.193	dB/ft	8903.313	9175.000
atc	dbspread	4.589	dB/ft	8903.313	9175.000
atc	spacing	0.654	feet	8903.313	9175.000
cemr	casing od	7.000	inches	8903.313	9175.000
cemr	casing wt	26.000	lbm/ft	8903.313	9175.000
cemr	compress	500.000	psi	8903.313	9175.000
CN	Bit Size	7.875	inches	8914.313	9175.000
CN	Casing Thickness	0.381	inches	8903.313	9175.000
CN	Casing/Cement Correction	No		8914.313	9175.000
CN	CN Chism	No		8914.313	9175.000
CN	Matrix	Limestone		8914.313	9175.000
CN	Salinity	0.000	ppm	8914.313	9175.000

DEPTH OFFSETS (for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES					
2346XA	-33.500	CCL					
1309XA	-30.750	GR					
2435XA	-30.250	LSN					
2435XA	-29.750	NEU	SSN				
1424XA	-11.000	ATC1	ATC2	ATC3	ATC4	ATC5	ATC6
		ATAV	ATMN	ATMX	AMAV	DEV	DTMN
		DTMX	RB	XATT	YATT		
1424PA	0.000	CHV	CYQ	SIG			

Created by : SBT, v5.0.003

Plotted by : PlotMgr, v5.4.504

Company : EXXONMOBIL PRODUCTION COMPANT

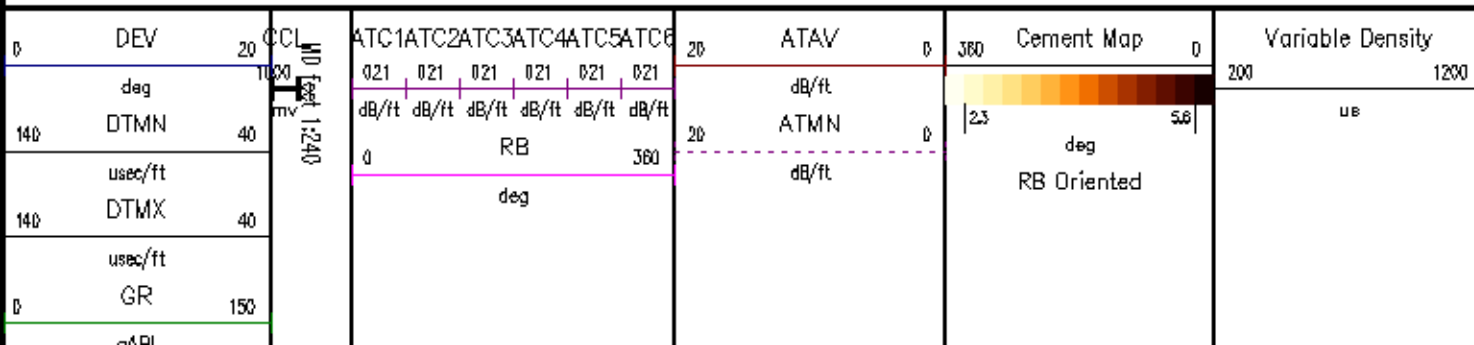
Well : PCU 197-36A5

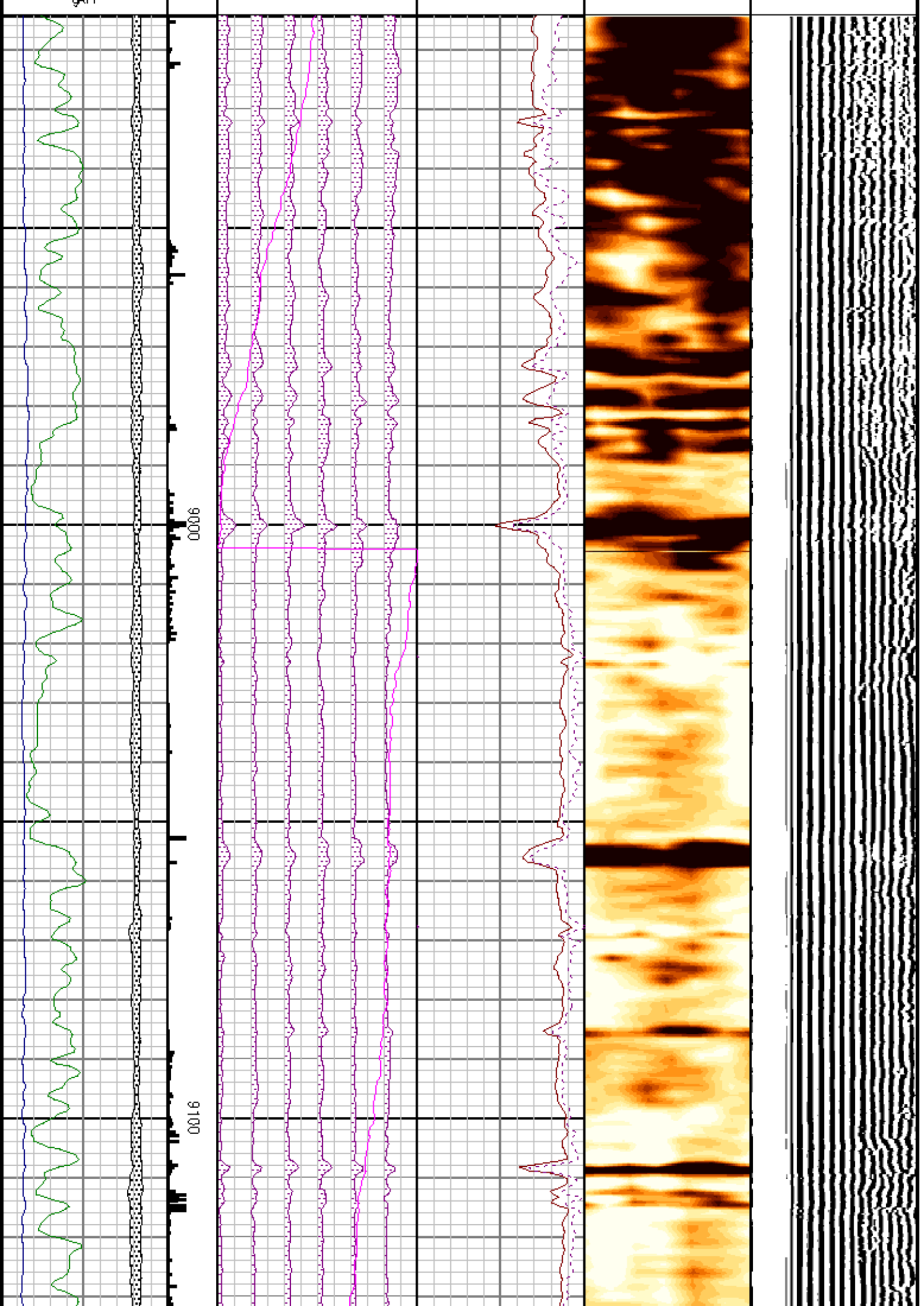
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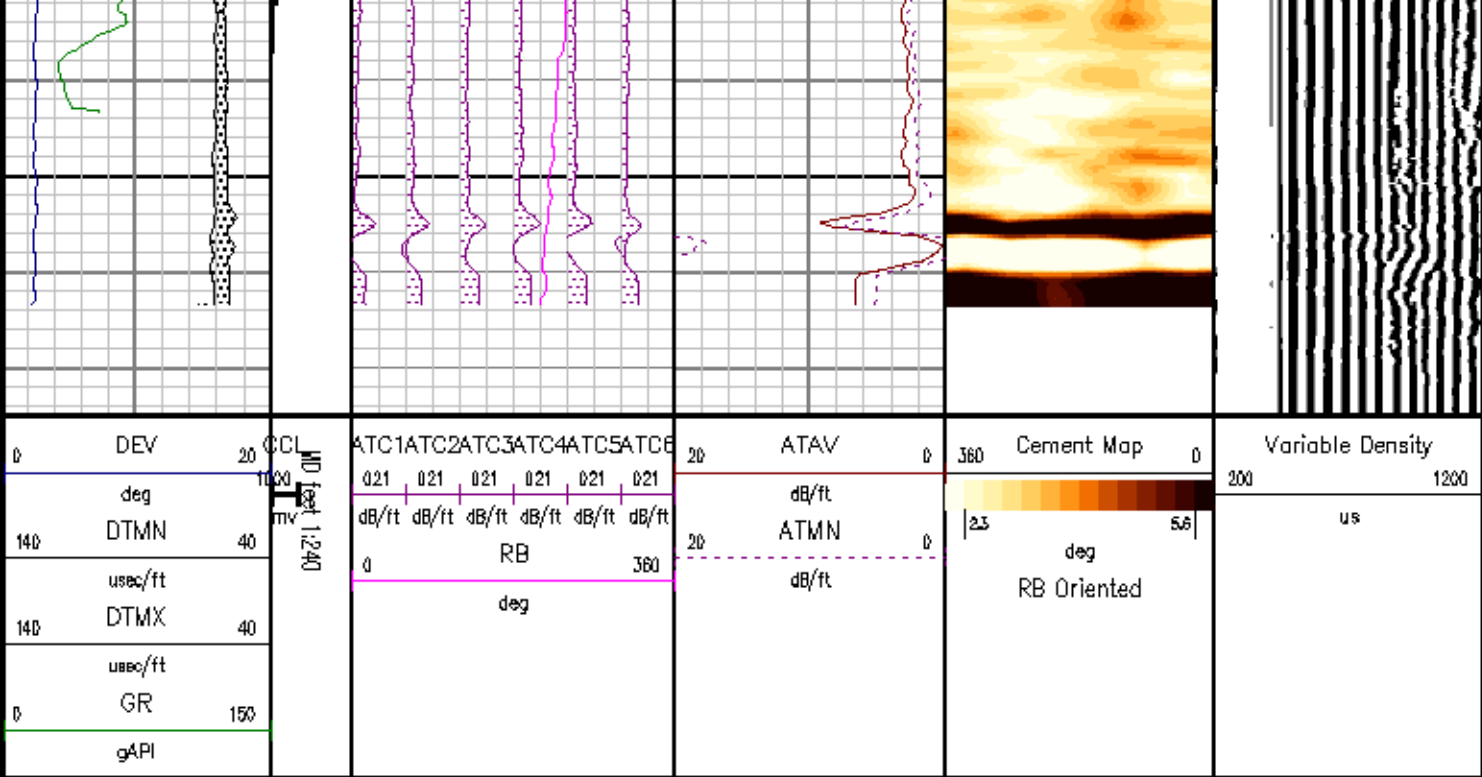
Mode : PlotMgr 5.4.504

Interval : 8914.50 - 9175.00 feet UP

Created : 8/23/2010 8:04:43 AM







NORALIZATION PASS

SBT NORMALIZATION RESULTS

CURVE	PARAMETER	VALUE	UNITS	TOP	BOTTOM	COMMENT
ATC1	seg1 cnormf1	-0.363	db/ft	1256.938	1685.563	
ATC2	seg2 cnormf2	-0.365	db/ft	1256.938	1685.563	
ATC3	seg3 cnormf3	1.166	db/ft	1256.938	1685.563	
ATC4	seg4 cnormf4	-0.549	db/ft	1256.938	1685.563	
ATC5	seg5 cnormf5	-0.121	db/ft	1256.938	1685.563	
ATC6	seg6 cnormf6	0.232	db/ft	1256.938	1685.563	
ATC1	seg1 dnormf1	-0.363	db/ft	1256.938	1685.563	Good Confidence
ATC2	seg2 dnormf2	-0.365	db/ft	1256.938	1685.563	Good Confidence
ATC3	seg3 dnormf3	1.166	db/ft	1256.938	1685.563	Good Confidence
ATC4	seg4 dnormf4	-0.549	db/ft	1256.938	1685.563	Good Confidence
ATC5	seg5 dnormf5	-0.121	db/ft	1256.938	1685.563	Good Confidence
ATC6	seg6 dnormf6	0.232	db/ft	1256.938	1685.563	Good Confidence

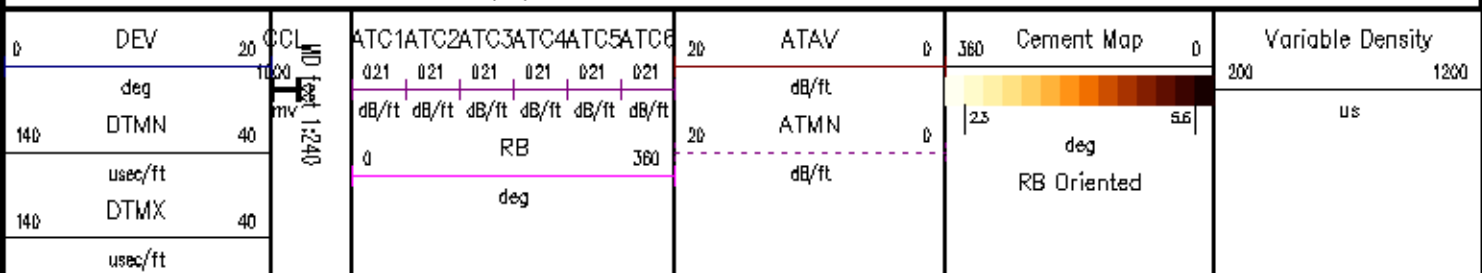
SBT PROCESSING

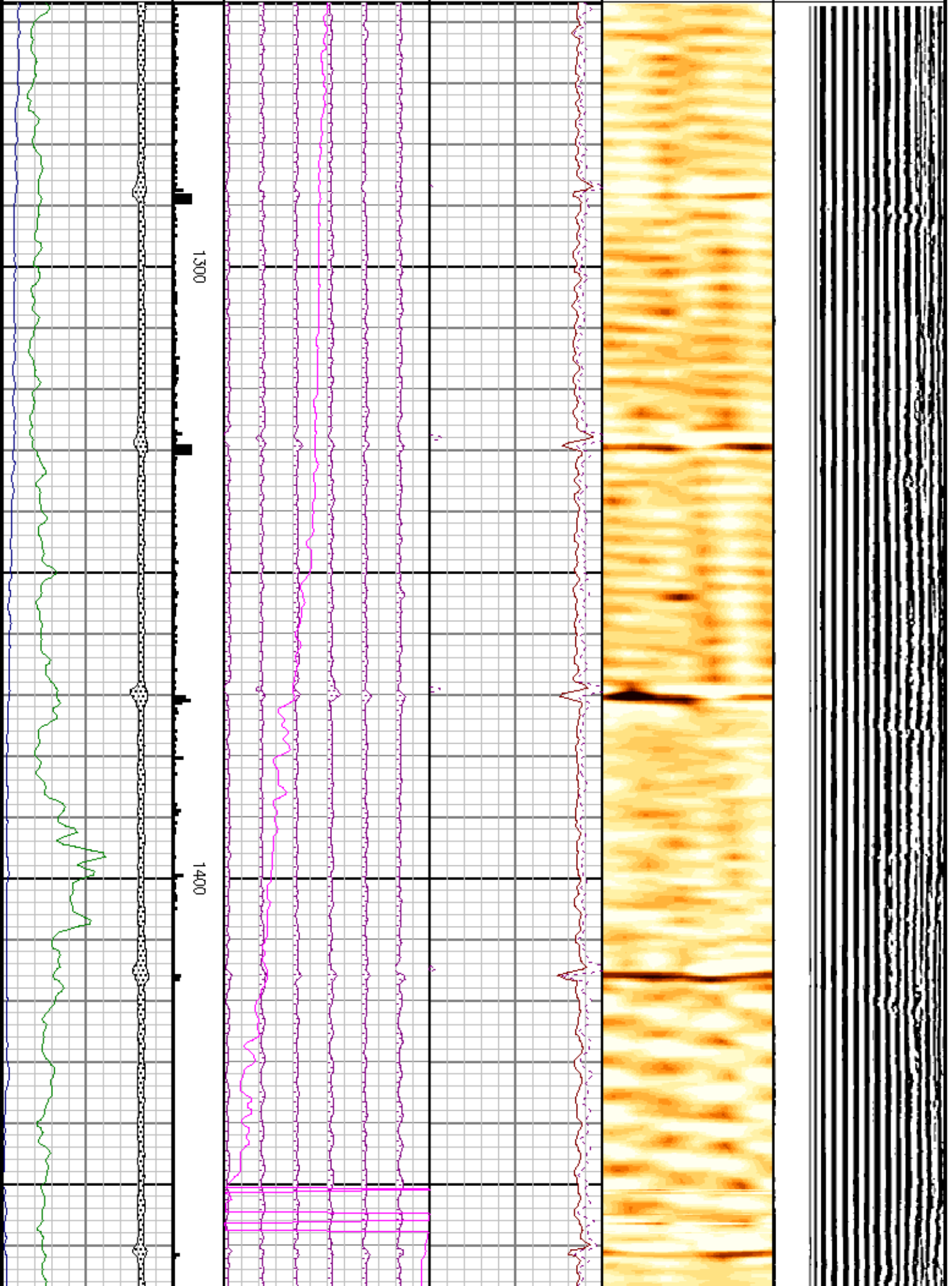
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
amp	fpamp	69.513	mv	1245.938	1685.000
amp	fpattn	1.193	dB/ft	1245.938	1685.000
atc	dbapread	4.589	dB/ft	1245.938	1685.000
atc	spacing	0.654	feet	1245.938	1685.000
cemr	casing od	7.000	inches	1245.938	1685.000
cemr	casing wt	26.000	lbm/ft	1245.938	1685.000
cemr	compressa	500.000	psi	1245.938	1685.000
CN	Bit Size	7.875	inches	1256.938	1685.563
CN	Casing Thickness	0.361	inches	1245.938	1685.000
CN	Casing/Cement Correction	No		1256.938	1685.563
CN	CN Chism	No		1256.938	1685.563
CN	Matrix	Limestone		1256.938	1685.563
CN	Salinity	0.000	ppm	1256.938	1685.563

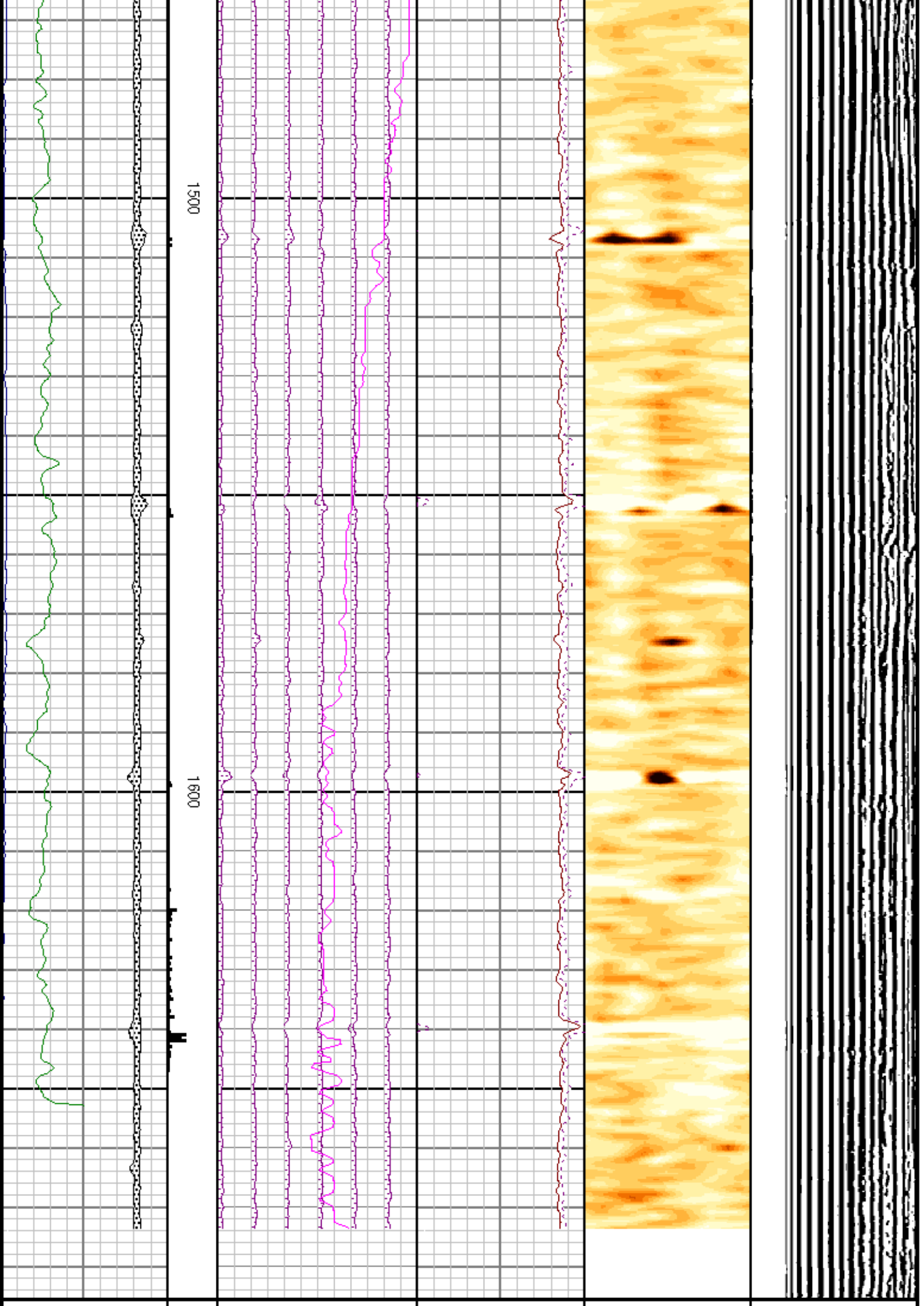
DEPTH OFFSETS (for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES					
2346XA	-33.500	CCL					
1309XA	-30.750	GR					
2435XA	-30.250	LSN					
2435XA	-29.750	NEU	SSN				
1424XA	-11.000	ATC1	ATC2	ATC3	ATC4	ATC5	ATC6
		ATAV	ATMN	ATMX	AMAV	DEV	DTMN
		DTMX	RB	XATT	YATT		
1424PA	0.000	CHV	CYQ	SIG			

Created by : SBT, v5.0.003
 Plotted by : PlatMgr, v5.4.504
 Company : EXXONMOBIL PRODUCTION COMPANT
 Well : PCU 197-36A5
 File Name : D:\WELLDATA\36\SBT\NORM1.ktf
 Mode : PlatMgr 5.4.504
 Interval : 1257.00 - 1685.50 feet UP
 Created : 8/23/2010 8:05:05 AM







0	DEV	20	0	ATC1	ATC2	ATC3	ATC4	ATC5	ATC6	20	ATAV	0	360	Cement Map	0	Variable Density	200	1200
140	deg		1000	dB/ft	dB/ft	dB/ft	dB/ft	dB/ft	dB/ft	20	dB/ft	0						
140	DTMN	40	mv							20	ATMN	0						
	usec/ft																	
140	DTMX	40																
	usec/ft																	
0	GR	150																
	gAPI																	

CALIBRATION SUMMARY

RB

Calibration File: C:\case\calver\RF\870AU.cal

CALIBRATION SUMMARY

DATE/TIME PERFORMED: Mon Aug 23 06:33:51 2010 TOOL SERIES: 1424XA ASSET: 870 SEQ: AU

	X-Att [raw]	Y-Att [raw]	RB [deg]	X-Max [deg]	Y-Max [deg]	OFFSET [deg]
PAD 2	-121.00	-429.00	0.00			
PAD 3	-435.60	-123.60	58.41	-449.71	445.43	-74.39

Verification File: C:\case\calver\RF\870AU.vp

PRIMARY VERIFICATION

DATE/TIME PERFORMED: Mon Aug 23 06:34:35 2010 TOOL SERIES: 1424XA ASSET: 870 SEQ: AU

	Pad 1	Pad 2	Pad 3	Pad 4	Pad 5	Pad 6
RB [deg]	301.19	0.82	58.23	115.89	178.02	239.24

GAMMA RAY

Calibration File: C:\case\calver\RF\386IU.cal

CALIBRATION SUMMARY

DATE/TIME PERFORMED: Tue Jul 27 09:51:42 2010 TOOL SERIES: 1309XA ASSET: 386 SEQ: JU

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K DAS	77.09	246.58	0.885	88.22	218.22	150.00

Verification File: C:\case\calver\GF\396.III.vp

PRIMARY VERIFICATION

DATE/TIME PERFORMED: Tue Jul 27 09:56:02 2010 TOOL SERIES: 1309XA ASSET: 396 SEQ: JU

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K DAS	74.02	244.60	0.885	65.51	216.47	150.96

PAD

Verification File: C:\case\calver\PAD\870AU.VK

DATE/TIME PERFORMED: Mon Aug 23 06:36:35 2010 TOOL SERIES: 1424XA ASSET: 870 SEQ: AU

	Pad 1	Pad 2	Pad 3	Pad 4	Pad 5	Pad 6
Noise Level	2.03	3.45	2.00	3.25	2.00	5.35
PAD Sensitivity	426.00	392.00	453.40	213.00	296.20	304.00

TOOL DIAGRAM

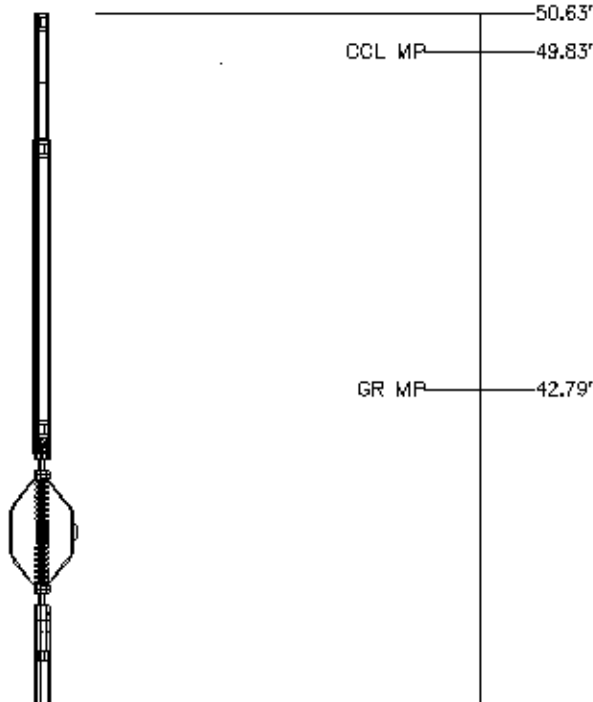
COLLAR LOCATOR

Series 2334XA
Mnemonic OCL
Diameter 3.25"
Weight 14.00 lb

GAMMA RAY (1309XA)

4 ARM BOW SPRING CENTRALIZER

Series 4341XA
Mnemonic CENT
Diameter 3.38"
Weight 84.00 lb
Length 4.12'

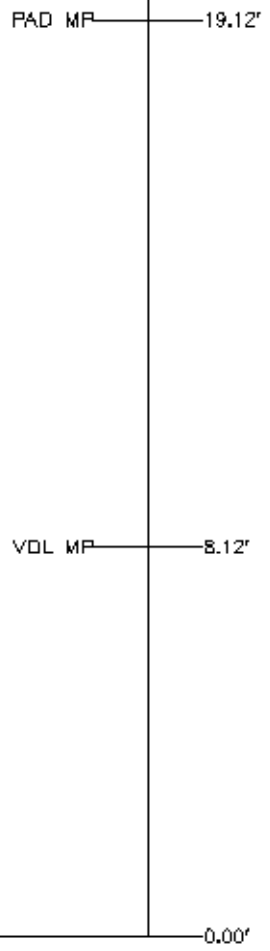


ACOUSTIC DIGITIZER (1633EA)

SEGMENTED BOND TOOL (1424XB)

SEGMENTED BOND TOOL VDL SUB	
Series	1424PA
Mnemonic	SBT
Diameter	3.38"
Weight	108.00 lb
Length	7.89'
Measure Point	4.00' VDL MP
Temp Rating	350.00 °F
Press Rating	20000.00 PSI

4 ARM BOW SPRING CENTRALIZER	
Series	4341XA
Mnemonic	CENT
Diameter	3.38"
Weight	84.00 lb
Length	4.12'



Total Length: 50.63'
 Total Weight: Not Available
 Max Diameter: 0' 3.63"

BAKER
HUGHES

Baker Atlas

CASE

Well	FCO 137-36A3		API No:
Field	PICEANCE CREEK		
County	RIO BLANCO	State	COLORADO
Location:			Elevations
1849' FSL & 2613' FWL			KB 7144.2 ft
			DF 7143.2 ft
			GL 7114 ft
SEC:	36	TWP:	1S
		RGE:	9W