



PIONEER
 Energy Services

**RADIAL
 SECTOR BOND LOG
 WITH GAMMA RAY**

CompanyANADARKO PETROLEUM CO.

Well NRC 28N-5HZ
 Field WATTENBERG
 County WELD State COLORADO

Company **ANADARKO PETROLEUM CO.**
 Well **NRC 28N-5HZ**
 Field **WATTENBERG**
 County **WELD** State **COLORADO**

Location: API # : 0512339155 Other Services
 500' FNL & 1350' FEL
 NWNE
 Permanent Datum GL Elevation 5,010'
 Log Measured From KB
 Drilling Measured From KB 16' G.L. 5,010'

Date of Service 27-JUL-2014

Run Number ONE

Depth Driller or PBTD 12,787'

Depth Logger 7,077'

Bottom Log Interval 7,077'

Top Log Interval SURFACE

Open Hole Size 8-5/8"

Type Fluid WATER

Fluid Level SURFACE

Fluid Density 8.33 PPG

Max. Recorded Temperature 222°F

Max. Wellhead Pressure 2500 PSI

Wellhead Connection 10K GE

Estimated Cement Top 855'

Unit Number 75

Wireline Size 9/32"

Location FORT MORGAN

Recorded By LEROY HOBBS

Witnessed By MIKE ASPA

Size WM/Ft

Top

Bottom

Tubing Record

Surface Casing 9-5/8" 36# SURFACE 1,351'

Production Casing 7" 26# SURFACE 7,466'

Liner Record 4-1/2" 11.6# 6,963' 12,780'

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All interpretations are opinions based on inferences from electrical or other measurements and Pioneer Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Pioneer Wireline Services, LLC will not 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.

Comments

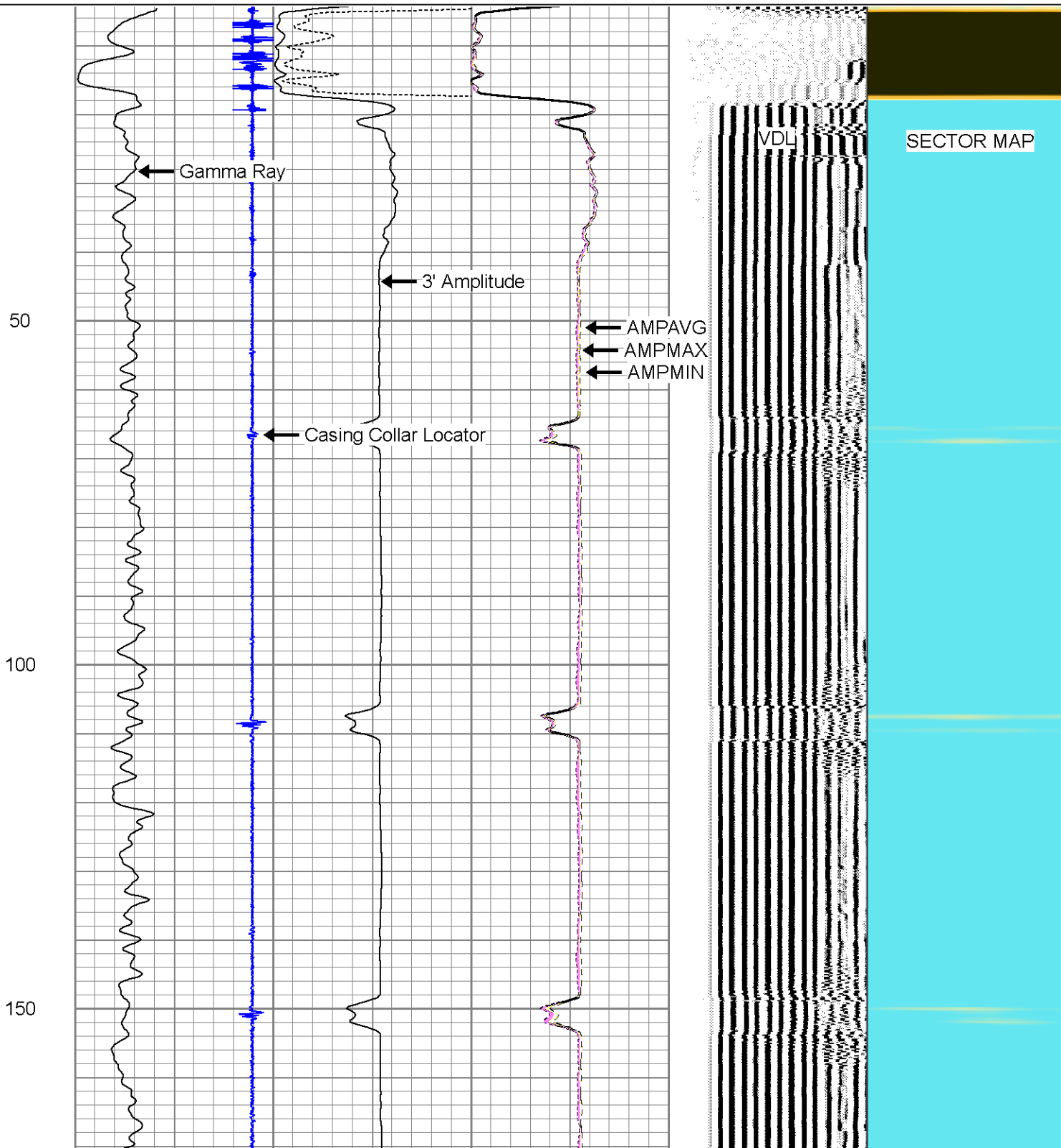
N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

THANK YOU FOR USING PIONEER Energy SERVICES

Your Pioneer Energy Services Crew	Tool Data - Services	Serial Number
Engineer: HOBBS Operator: SPILLMAN Operator: SALCIDO Operator:	RBL GR-CCL 110246	

Database File: nrc_28n-5hz.db
 Dataset Pathname: pass1
 Presentation Format: scbl02
 Dataset Creation: Sun Jul 27 12:48:35 2014 by Log 7.0 B1
 Charted by: Depth in Feet scaled 1:240

-9	CCL	1	3' Amplitude	0	AMPAVG	150	200	VDL	1200	1	SECTOR MAP	8
	Gamma Ray	0	(mV)	100	0	AMPMAX	150			10		60
0	(GAPI)	200	0	AMPx5 (mV)	20	0	AMPMIN	150				

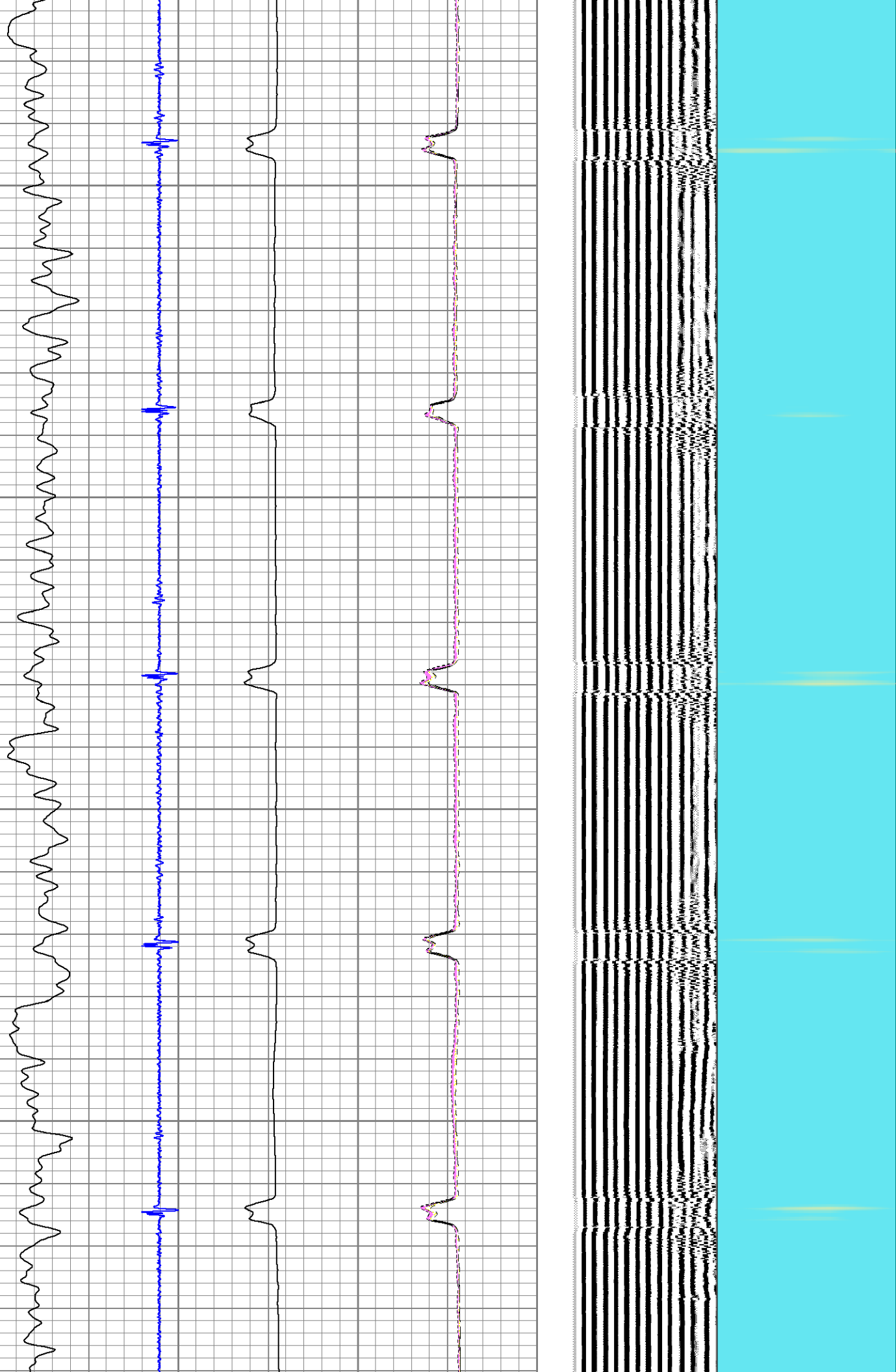


200

250

300

350



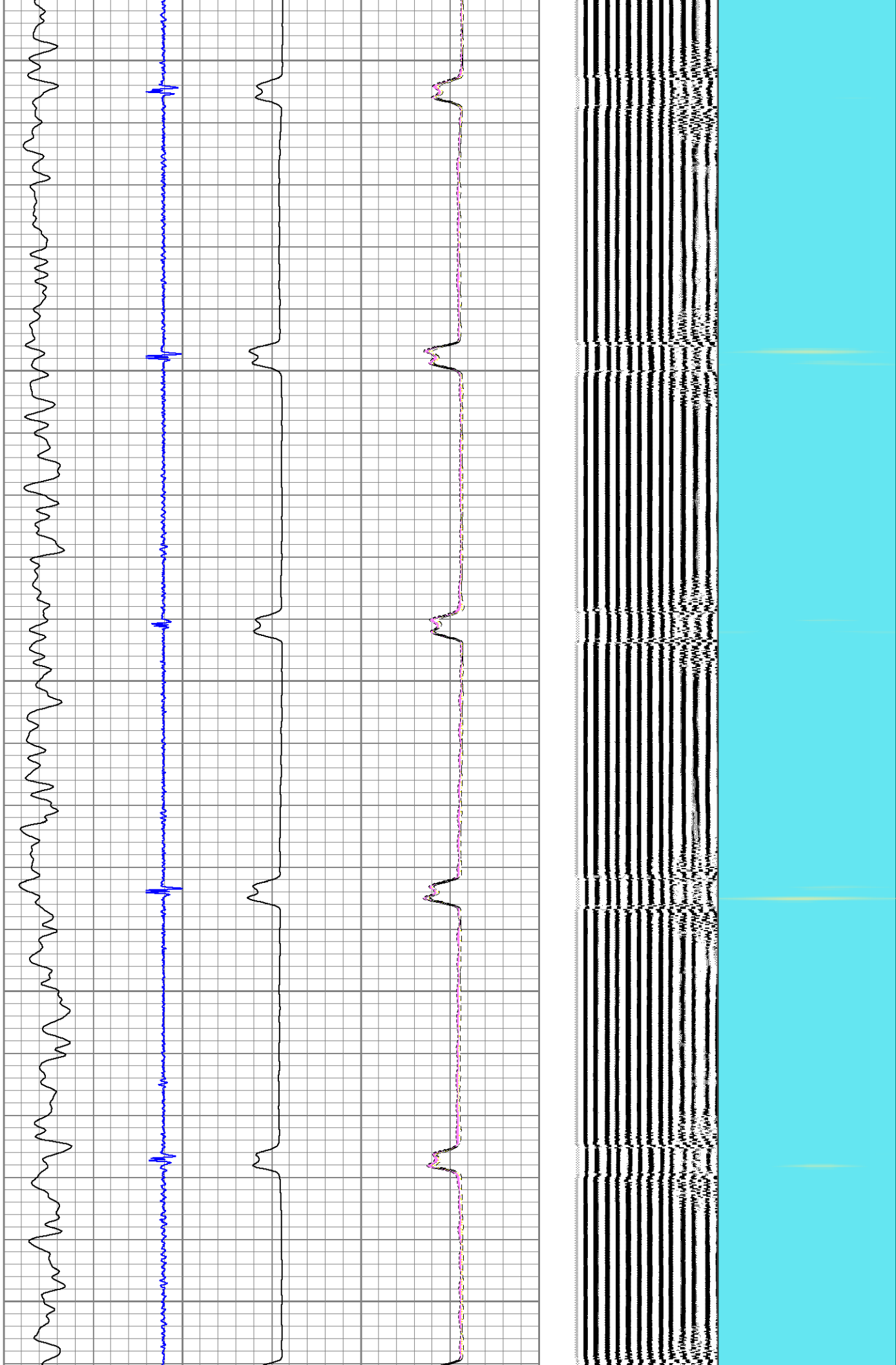
400

450

500

550

600

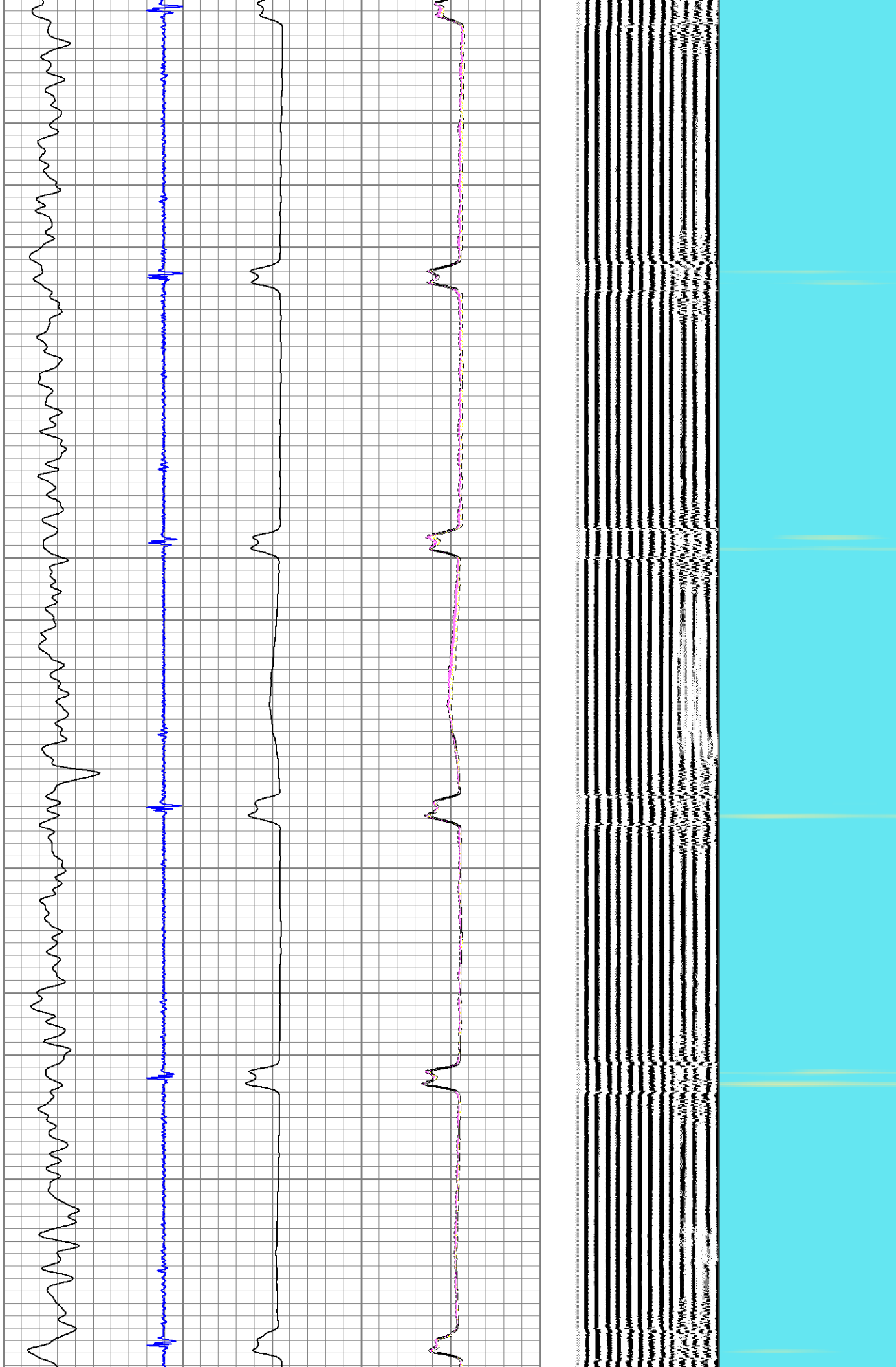


650

700

750

800



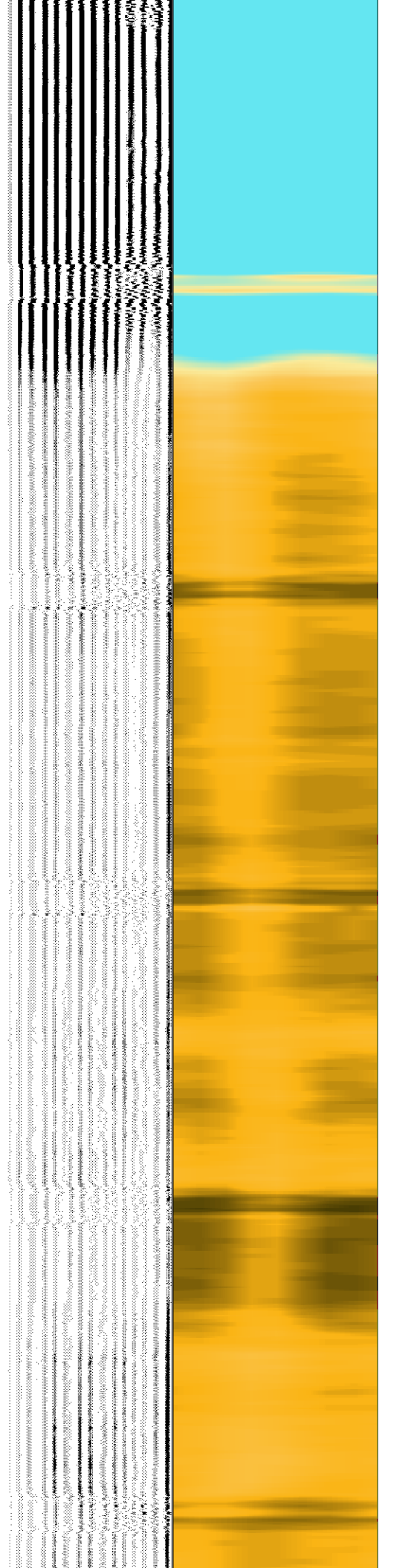
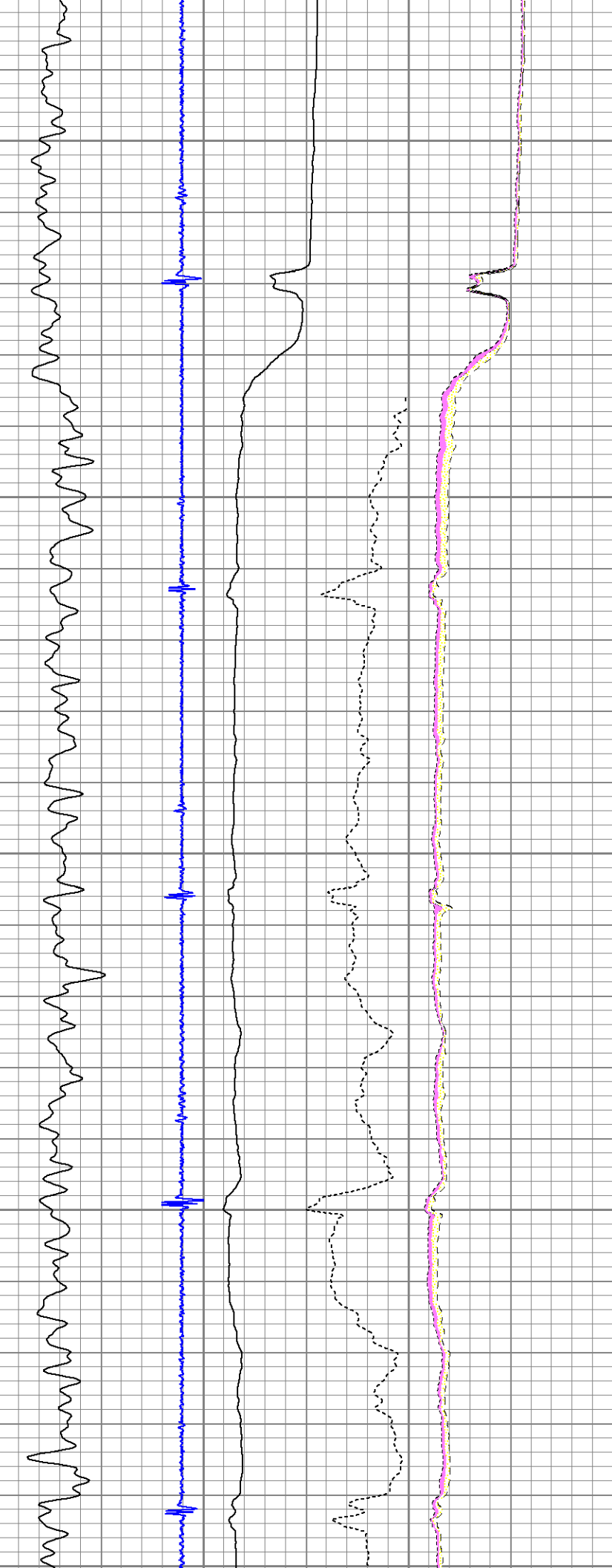
850

900

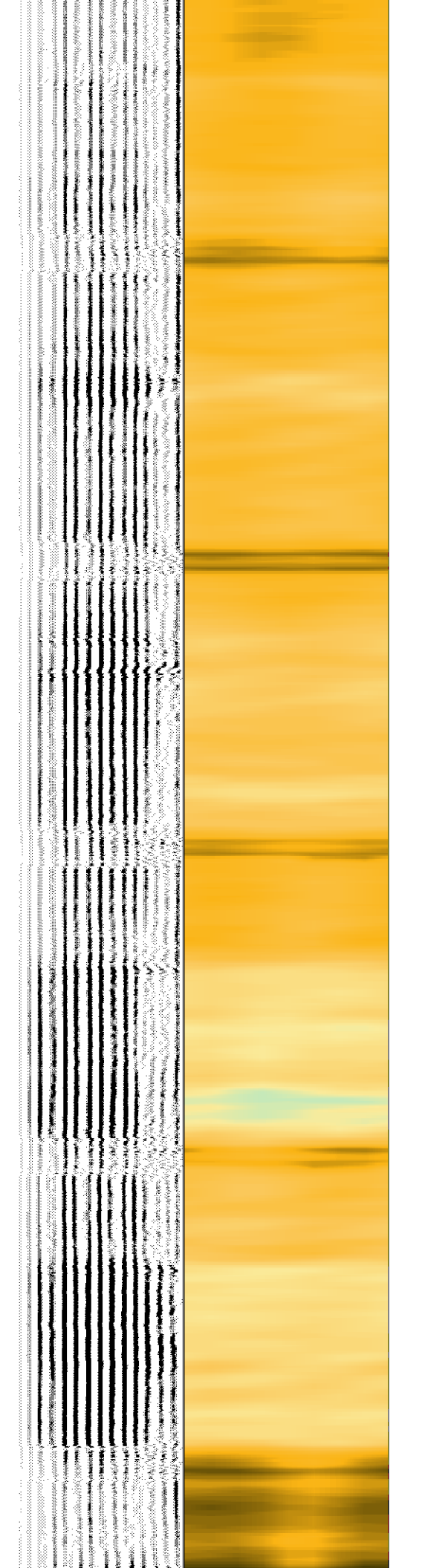
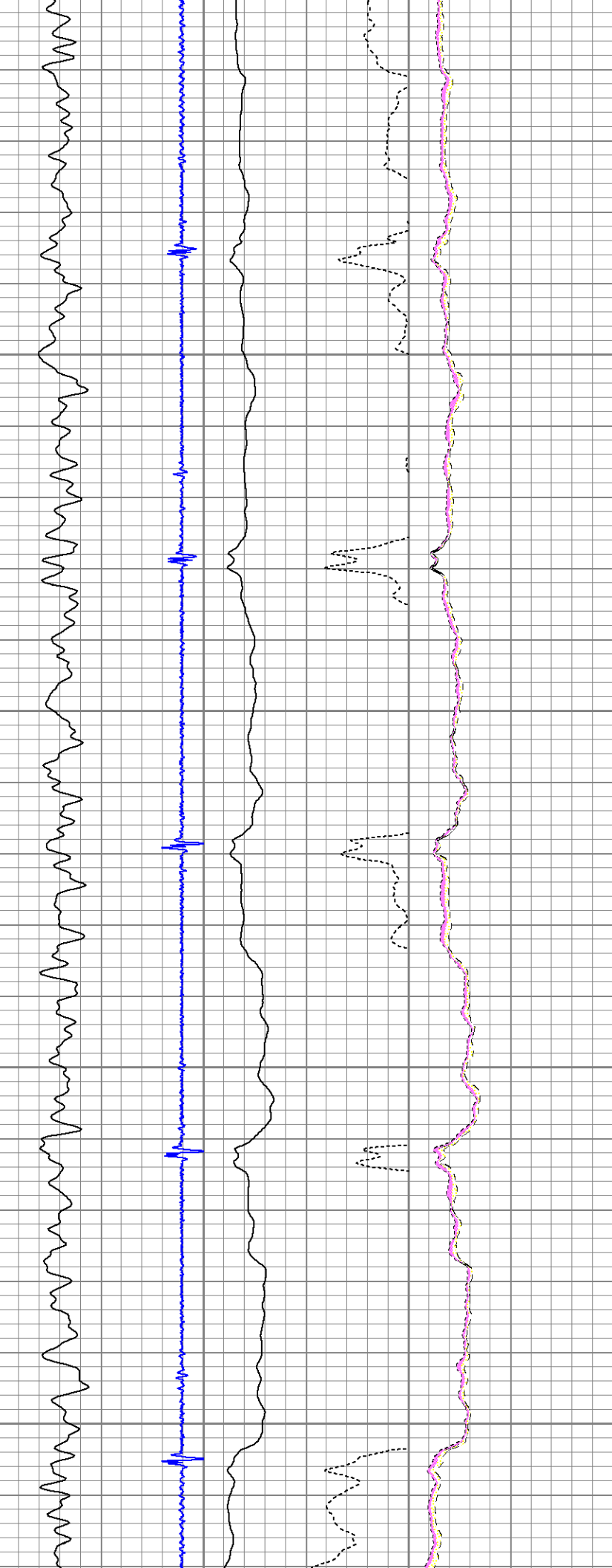
950

1000

1050



1050
1100
1150
1200
1250

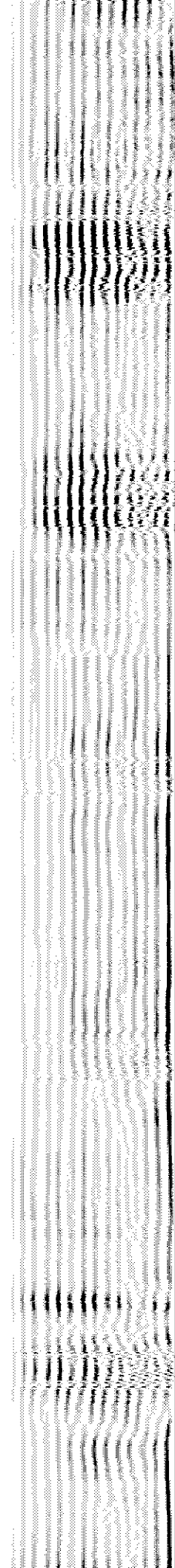
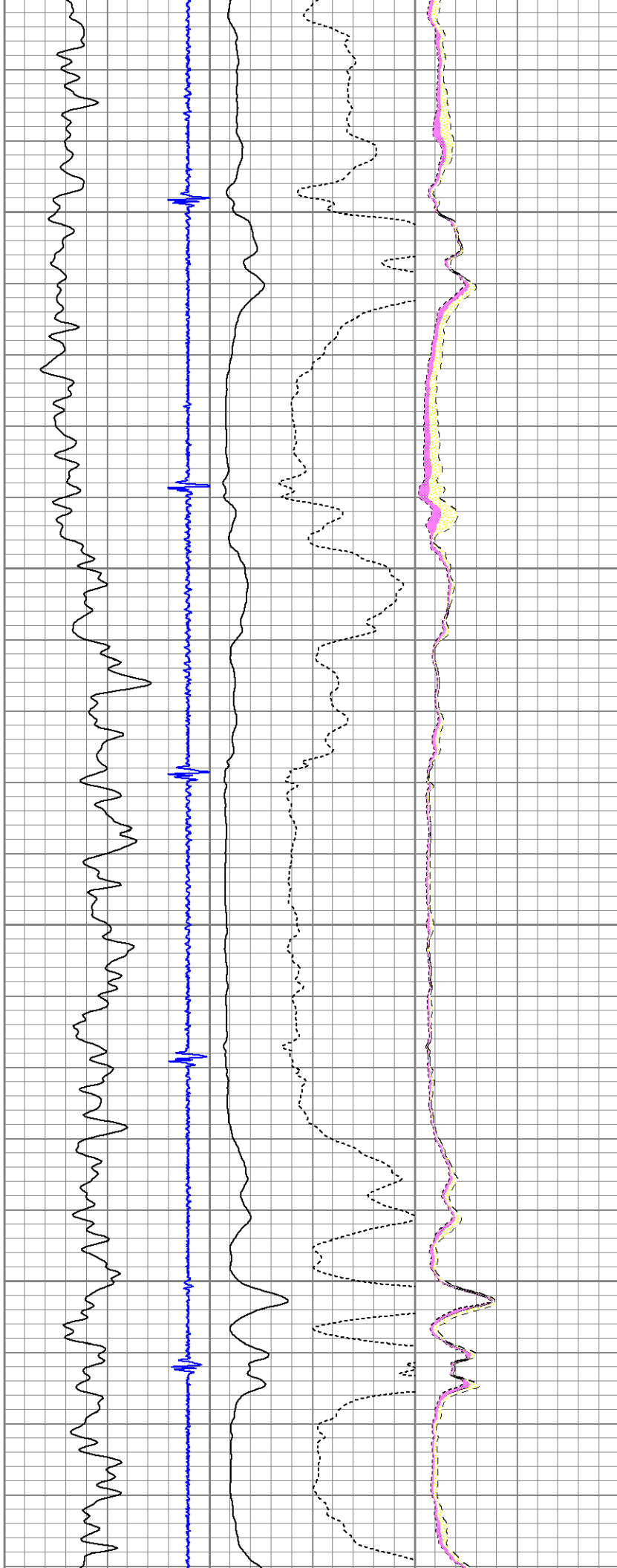


1300

1350

1400

1450



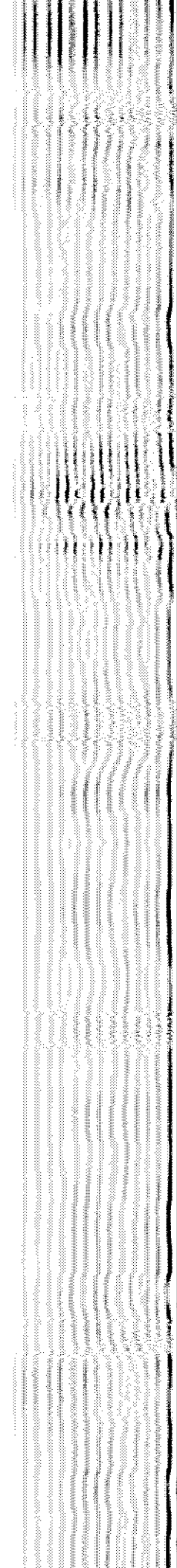
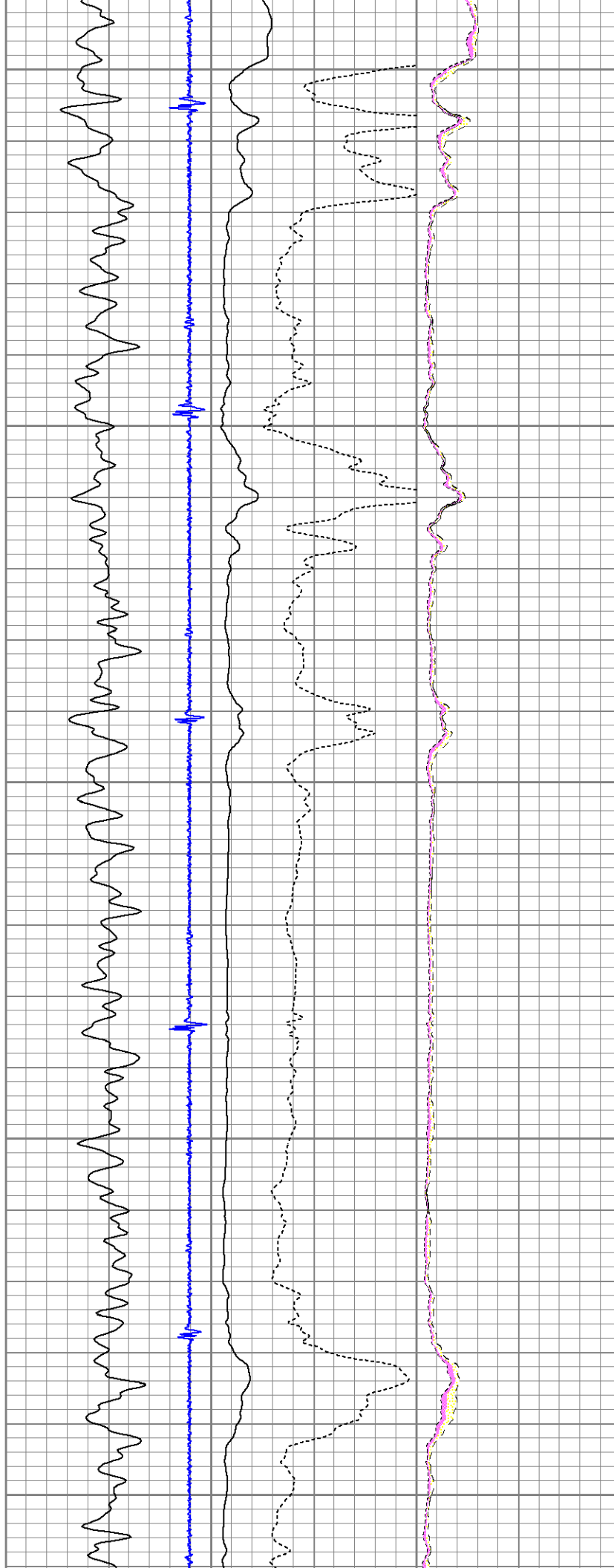
1500

1550

1600

1650

1700

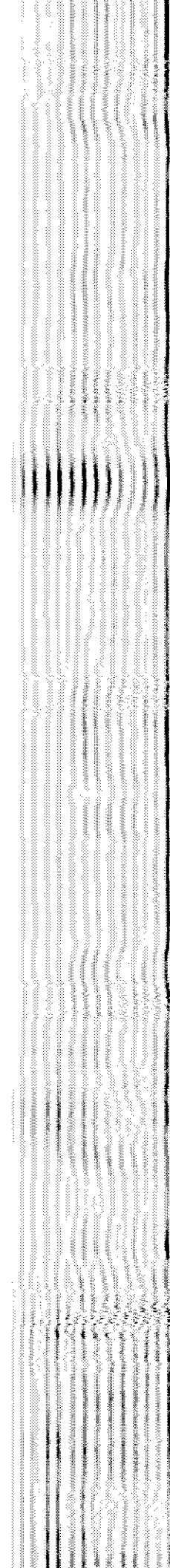
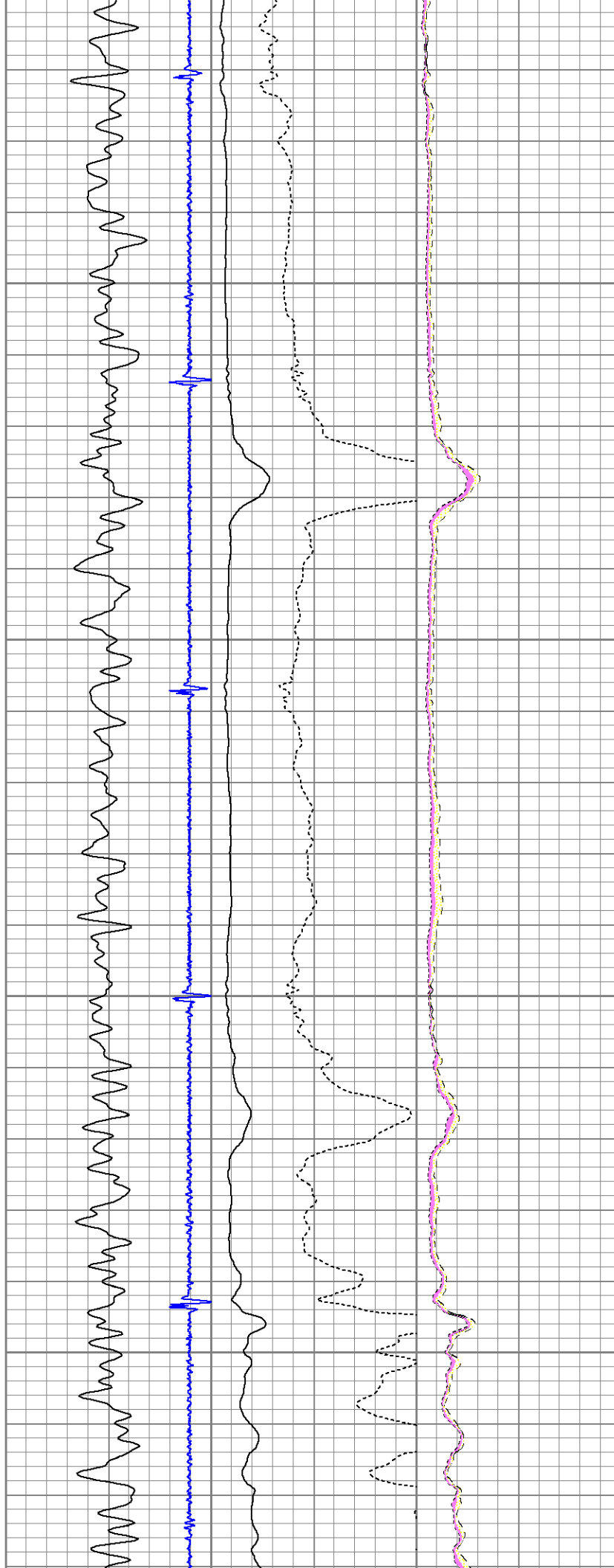


1750

1800

1850

1900



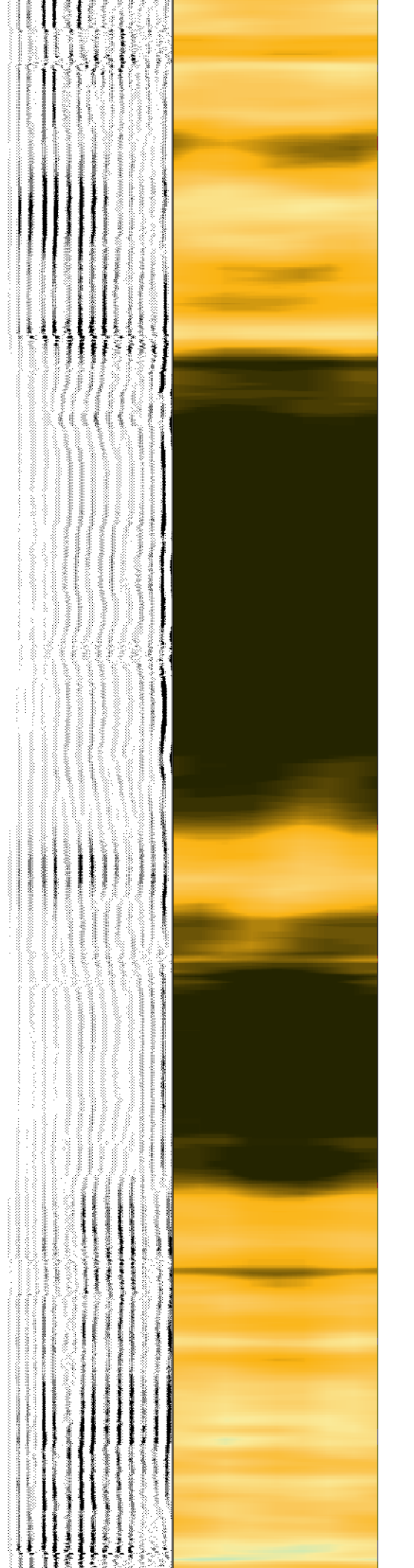
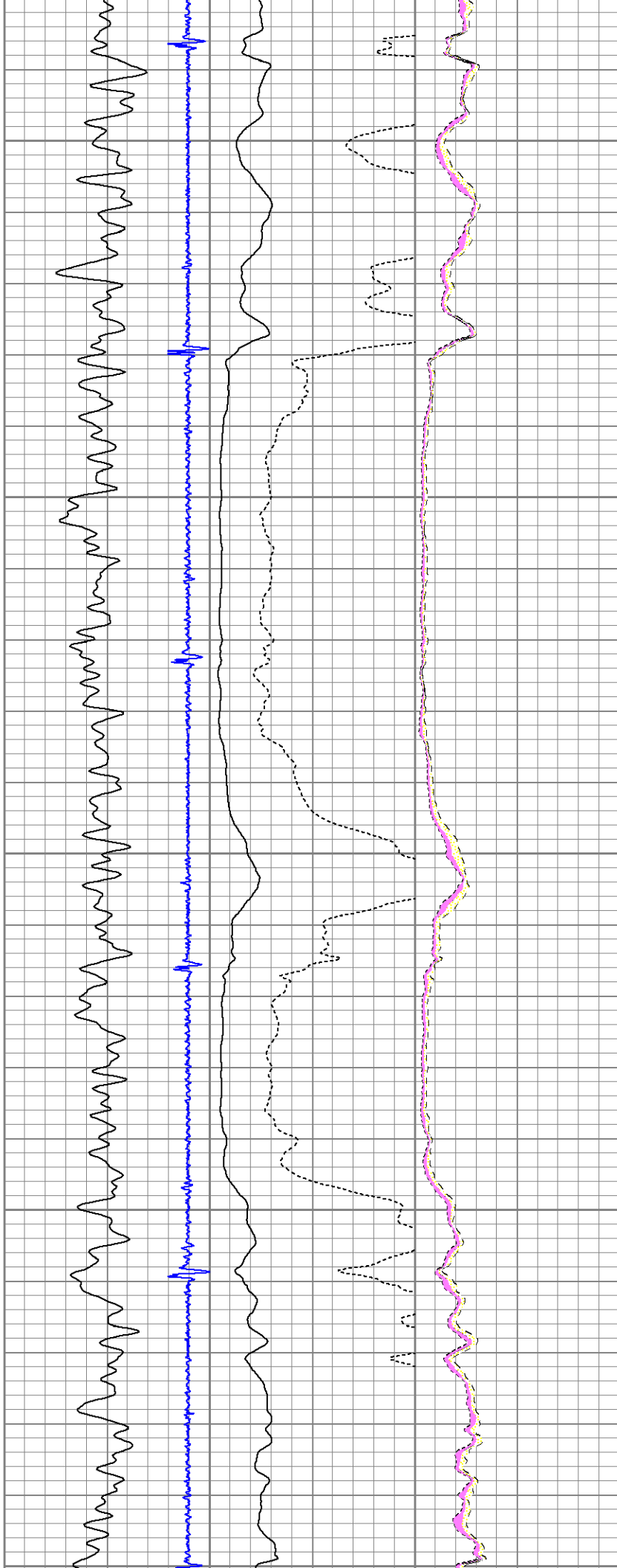
1950

2000

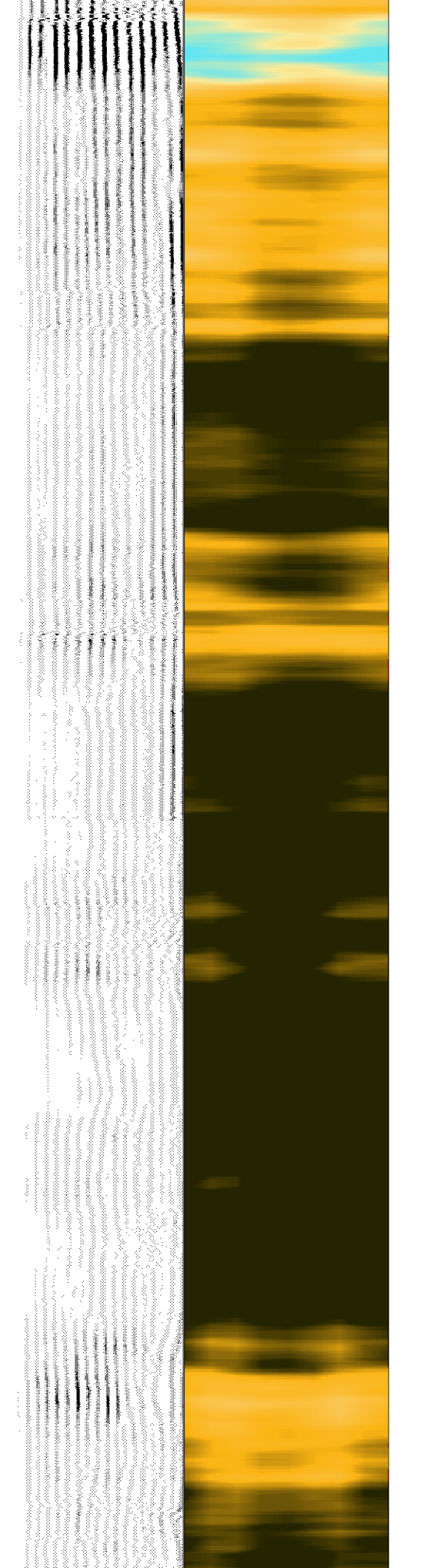
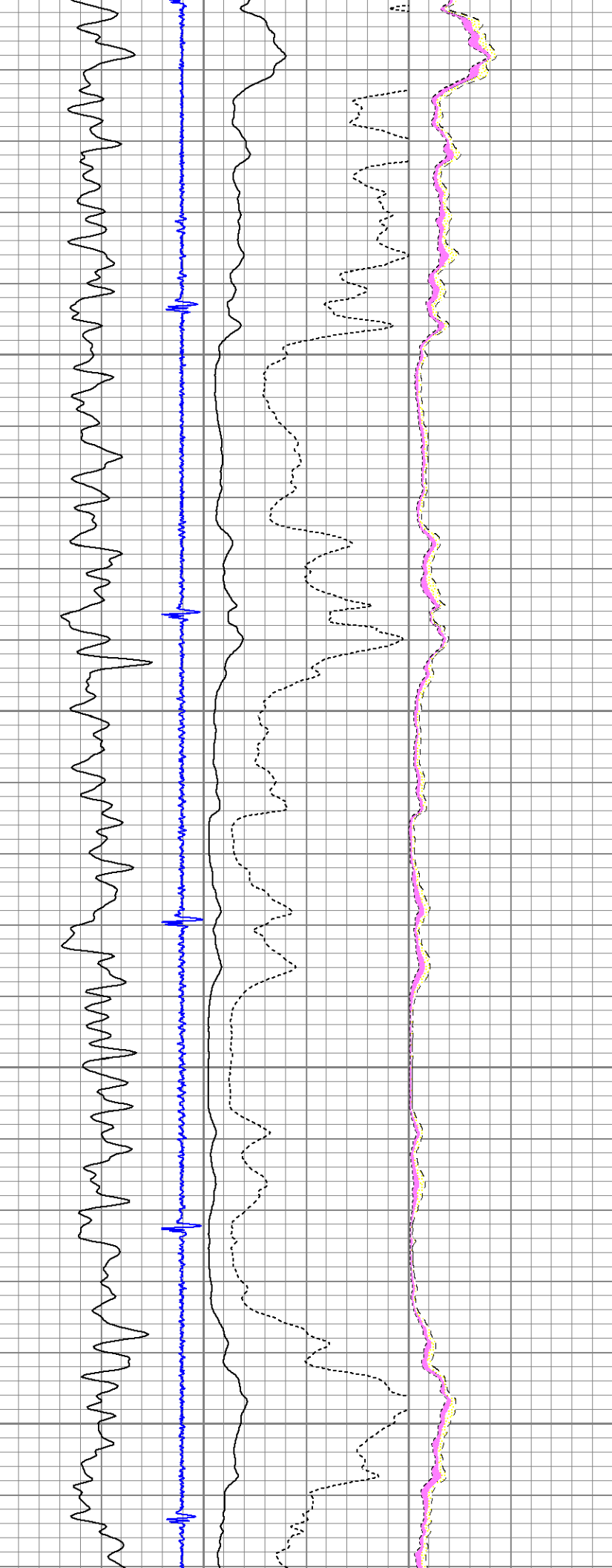
2050

2100

2150



2150
2200
2250
2300
2350

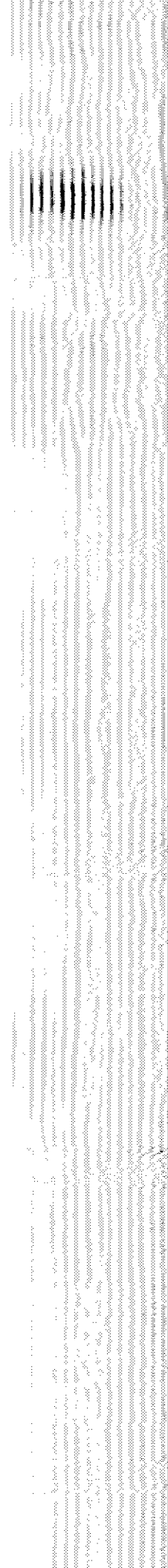
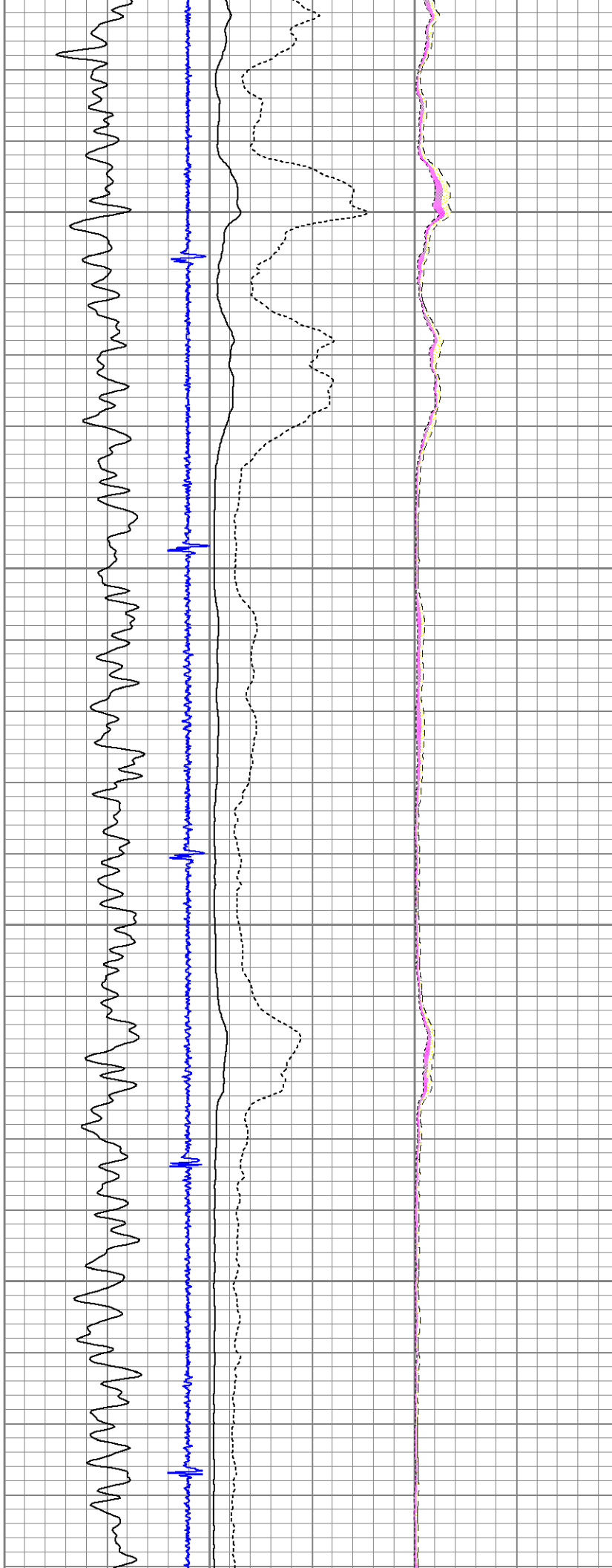


2400

2450

2500

2550



2600

2650

2700

2750

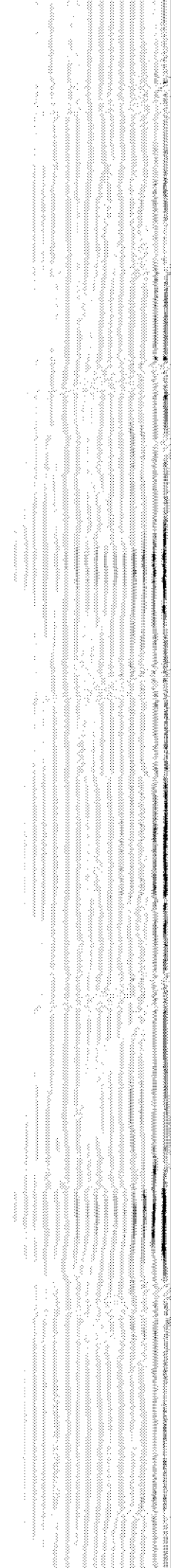
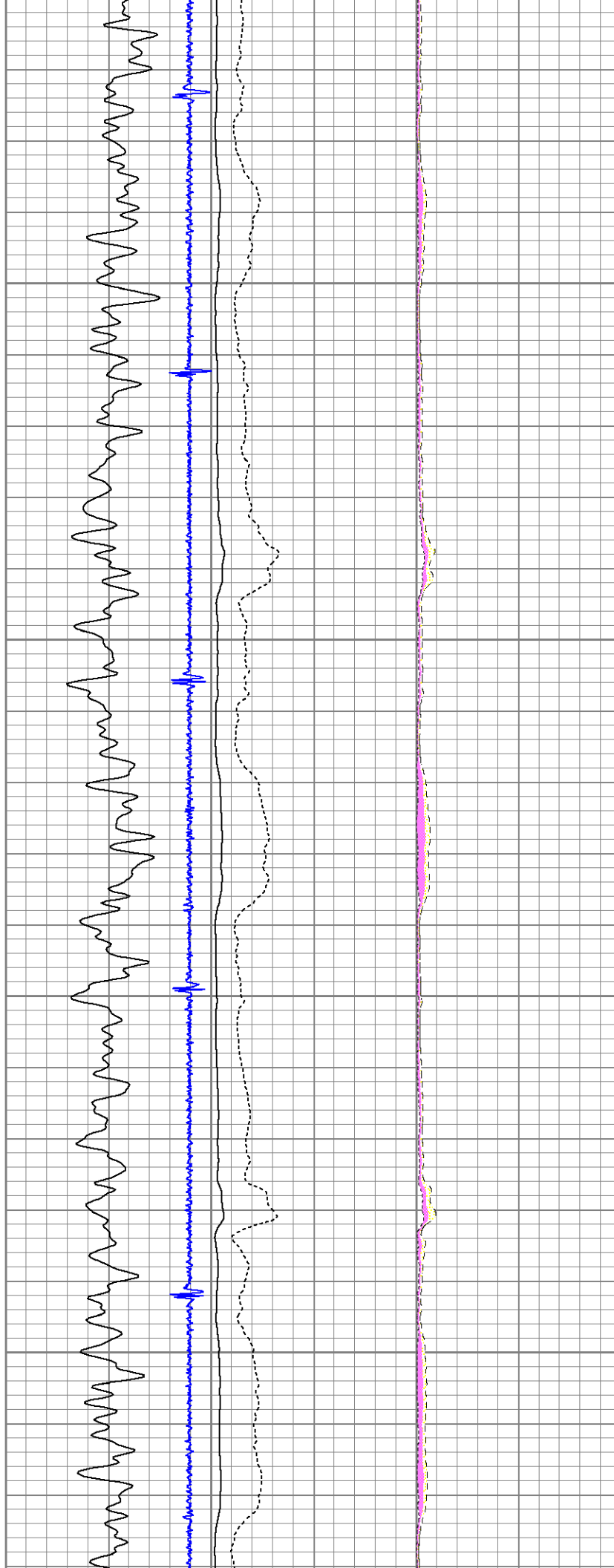
2800

2850

2900

2950

3000



3050

3100

3150

3200

3250



Seismic data visualization showing multiple stacked traces. The top trace displays high-frequency, high-amplitude oscillations. Below it, a blue trace shows sharp vertical spikes. The third trace is a dashed line showing broader features. The bottom trace consists of a pink line and a dashed yellow line that are nearly identical, showing small-scale variations. The vertical axis is labeled with values 3050, 3100, 3150, 3200, and 3250.

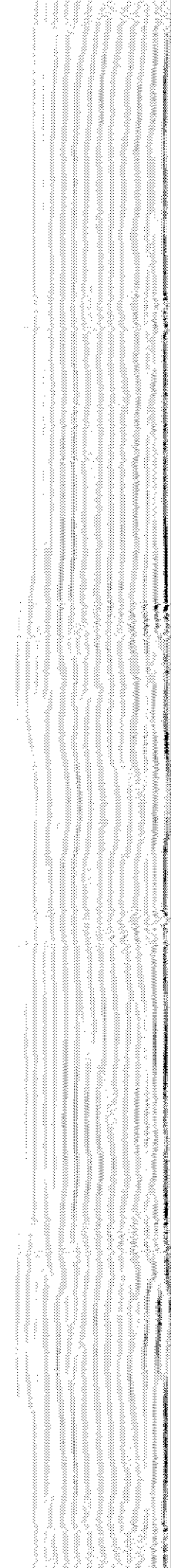
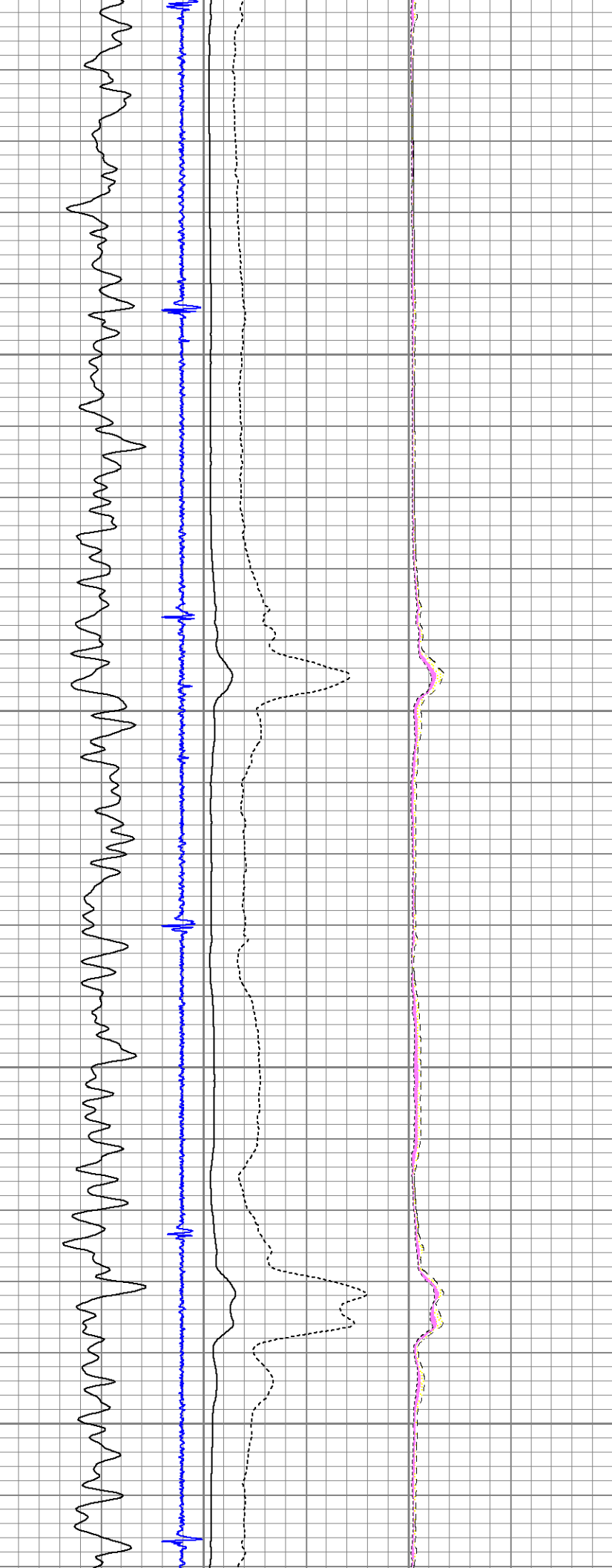
3250

3300

3350

3400

3450

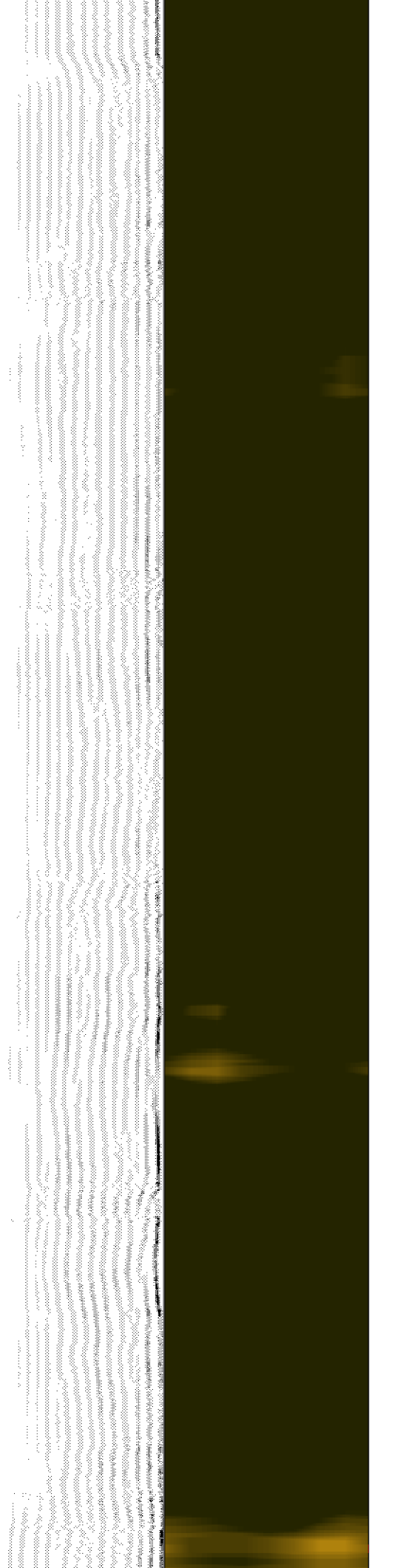
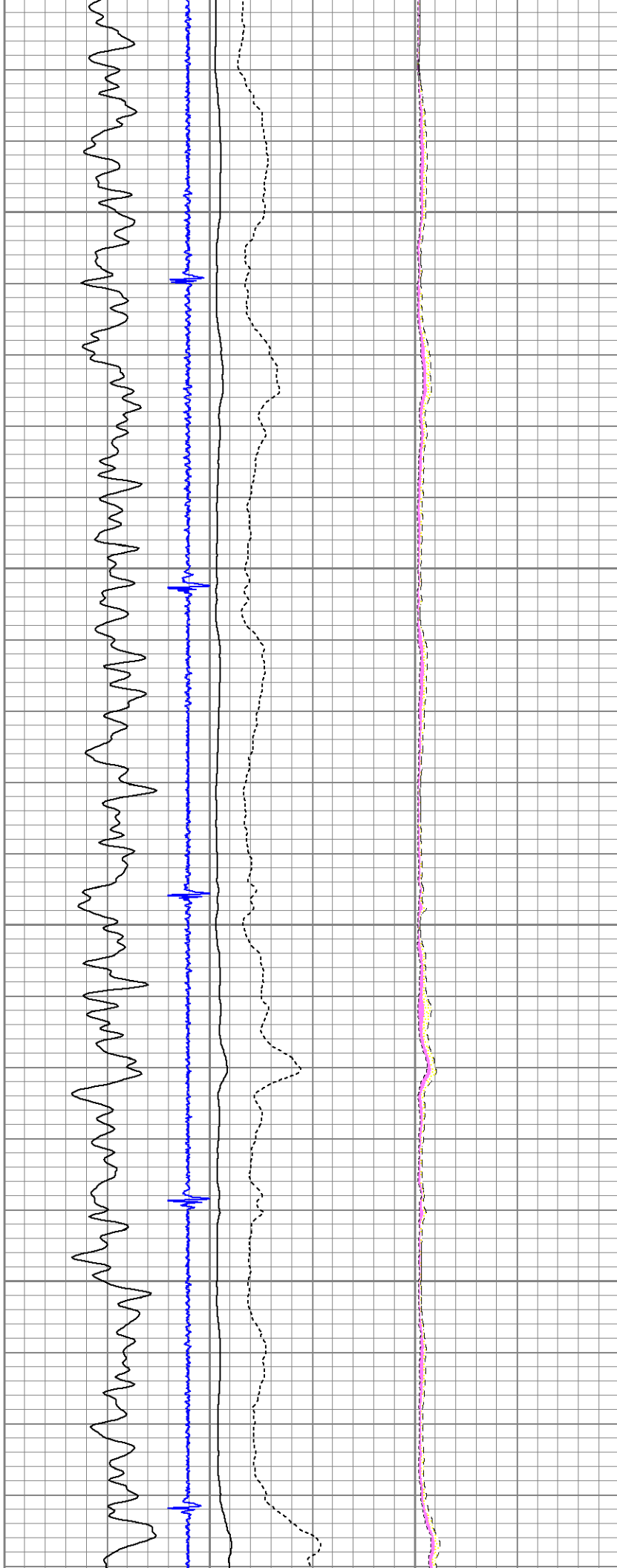


3500

3550

3600

3650



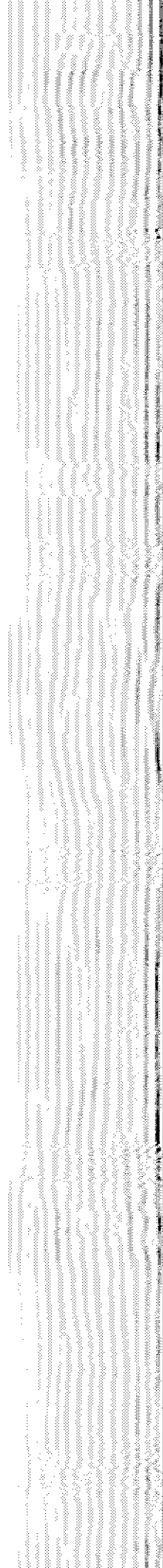
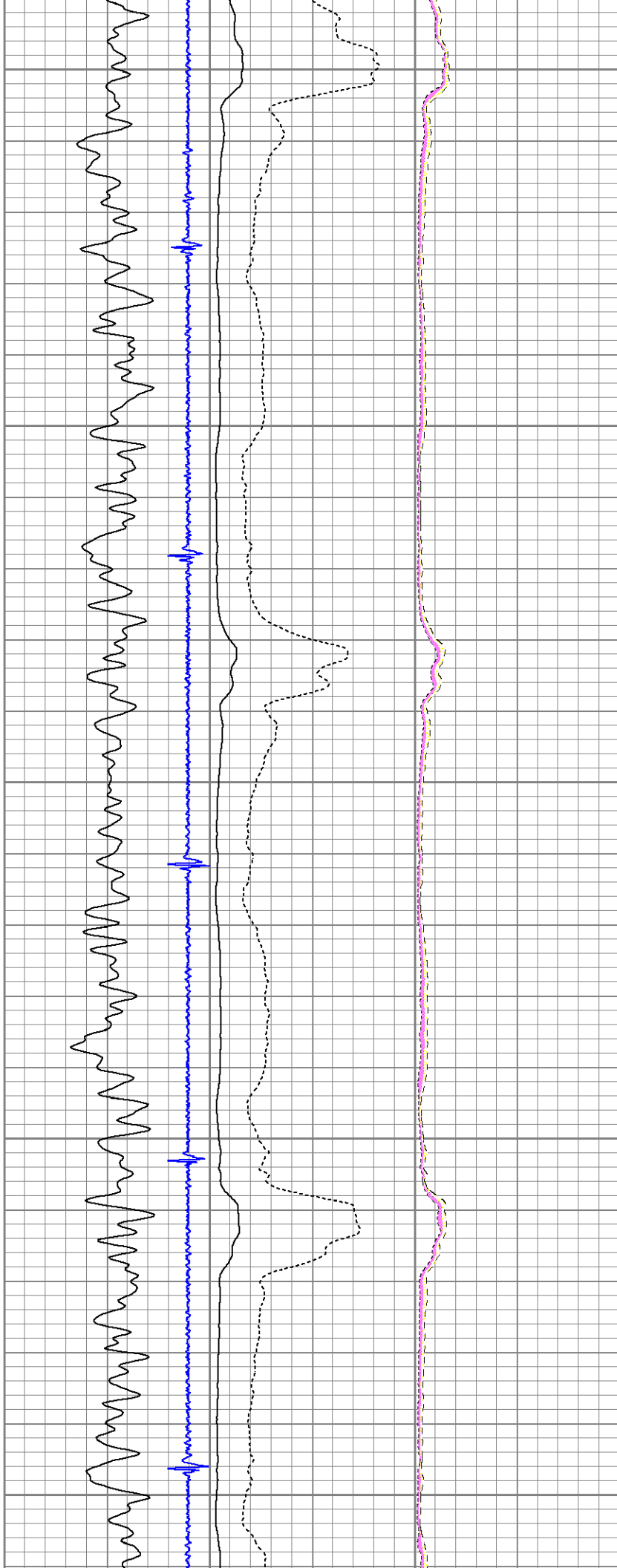
3700

3750

3800

3850

3900

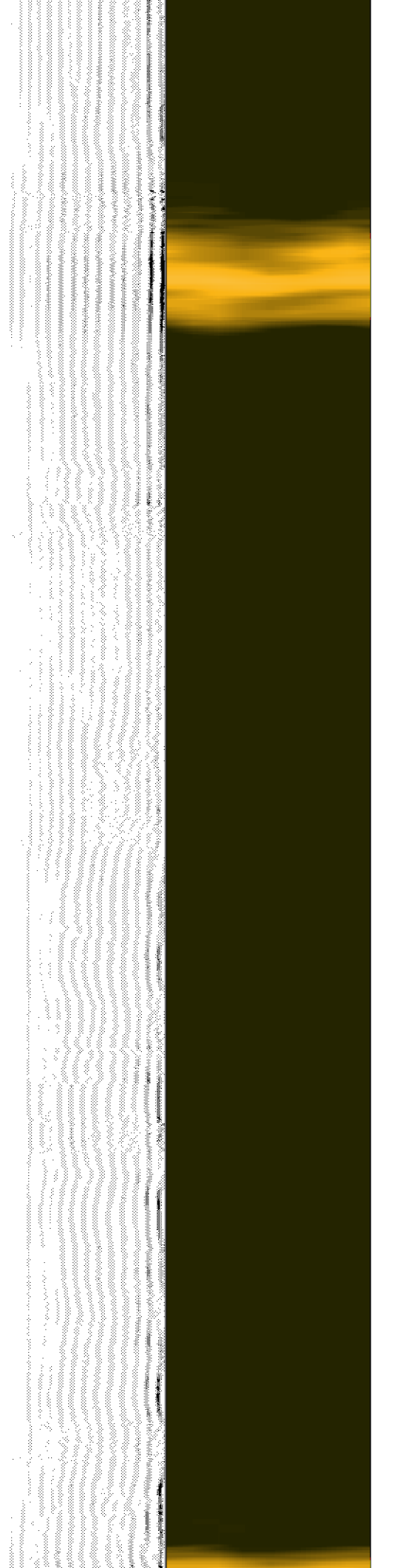
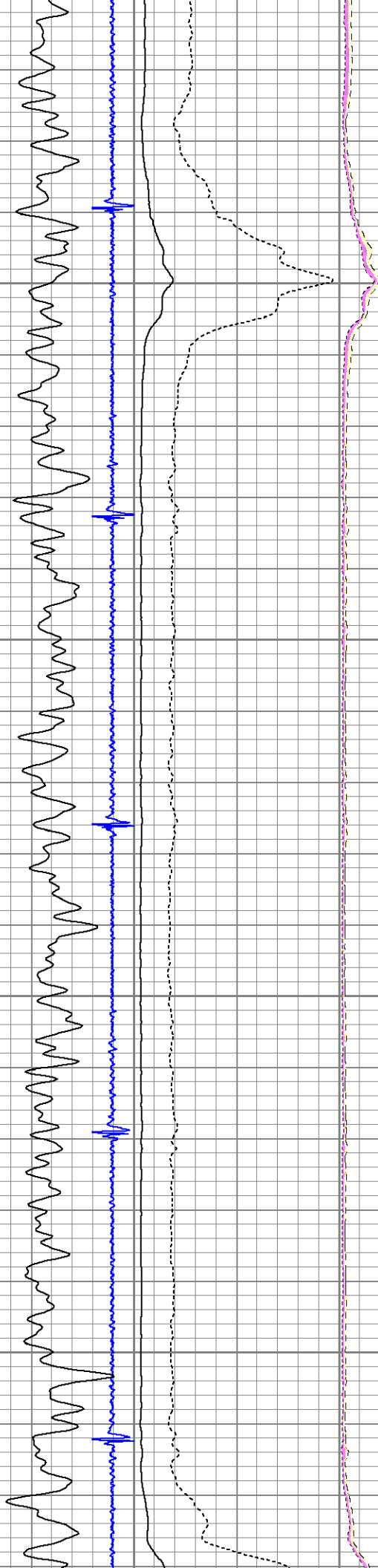


3950

4000

4050

4100



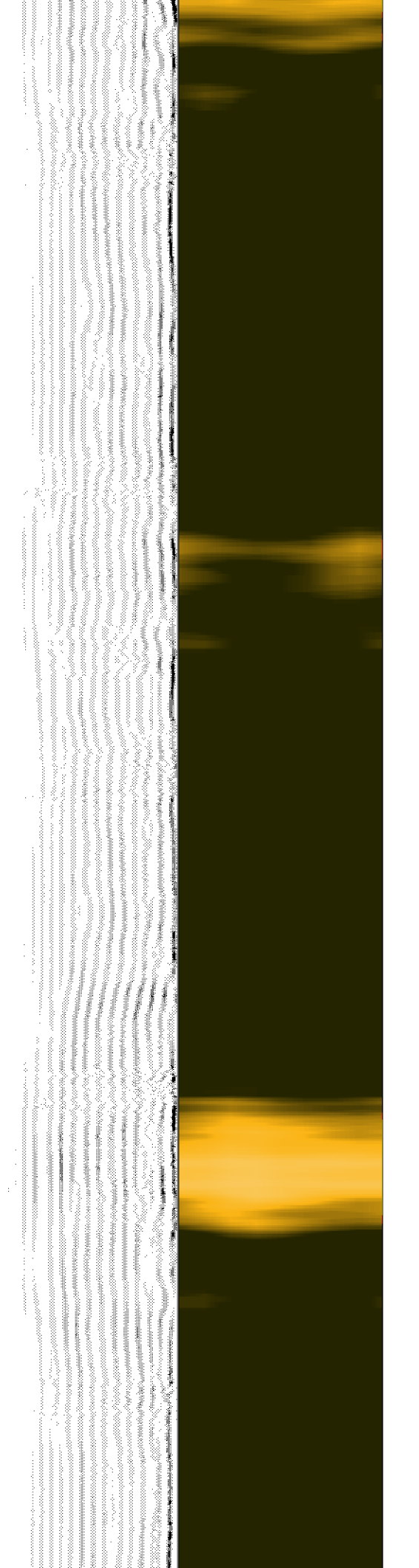
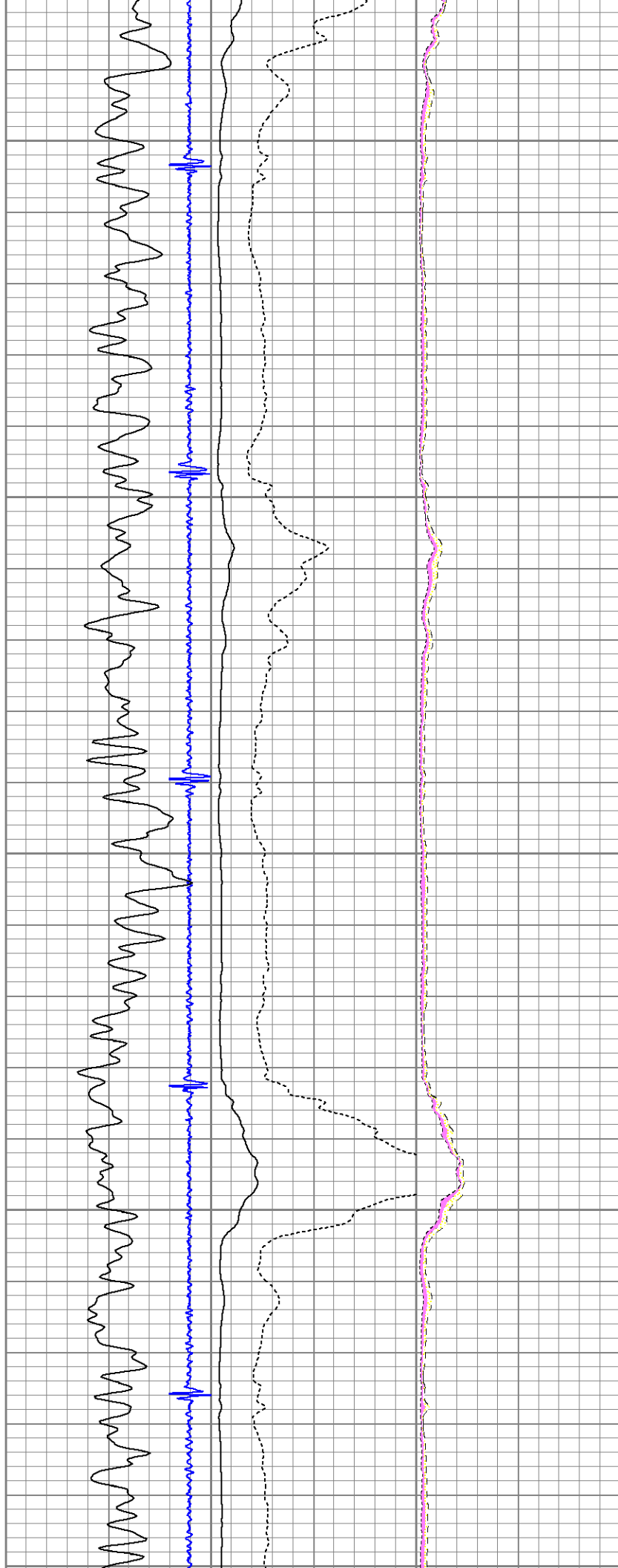
4150

4200

4250

4300

4350



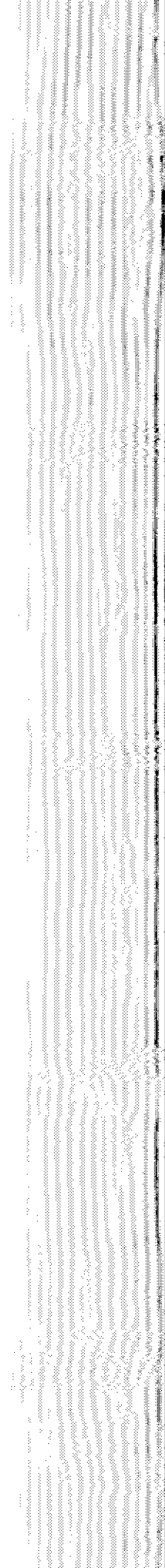
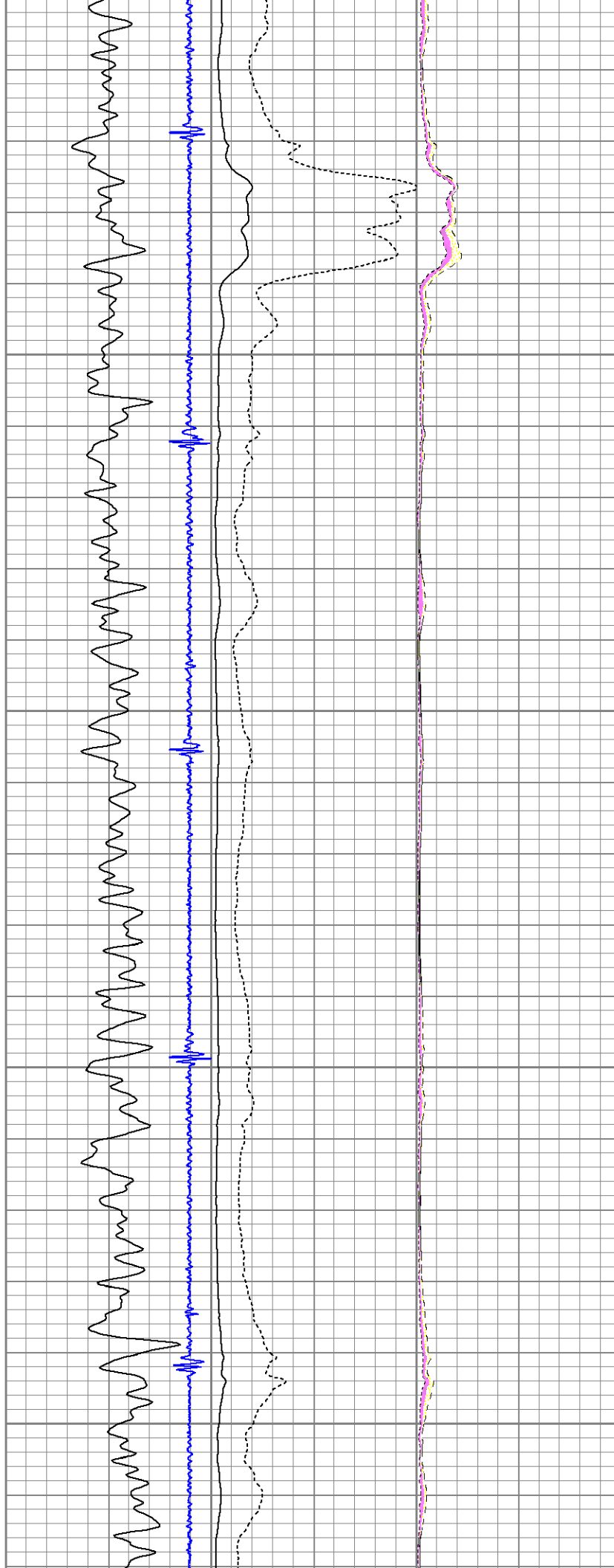
4350

4400

4450

4500

4550

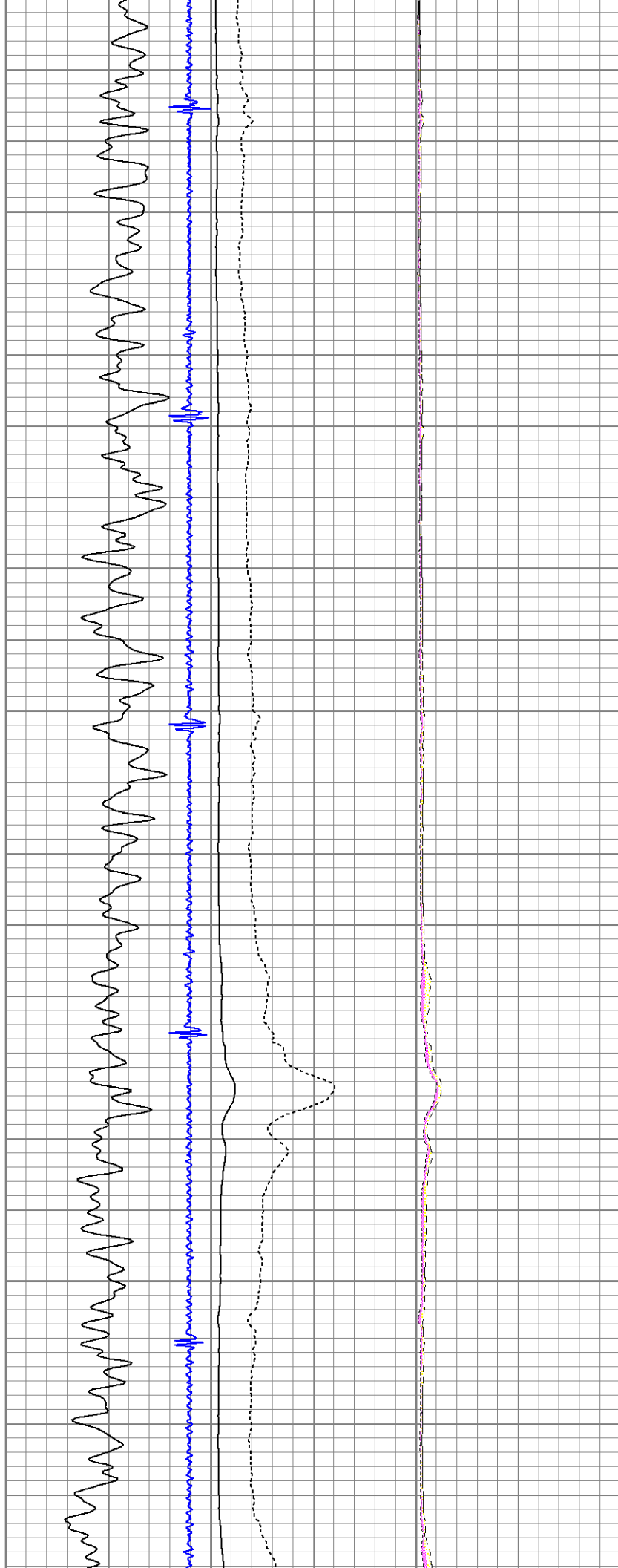


4600

4650

4700

4750



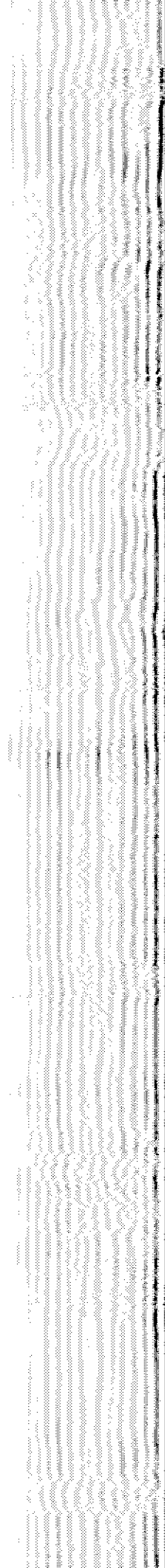
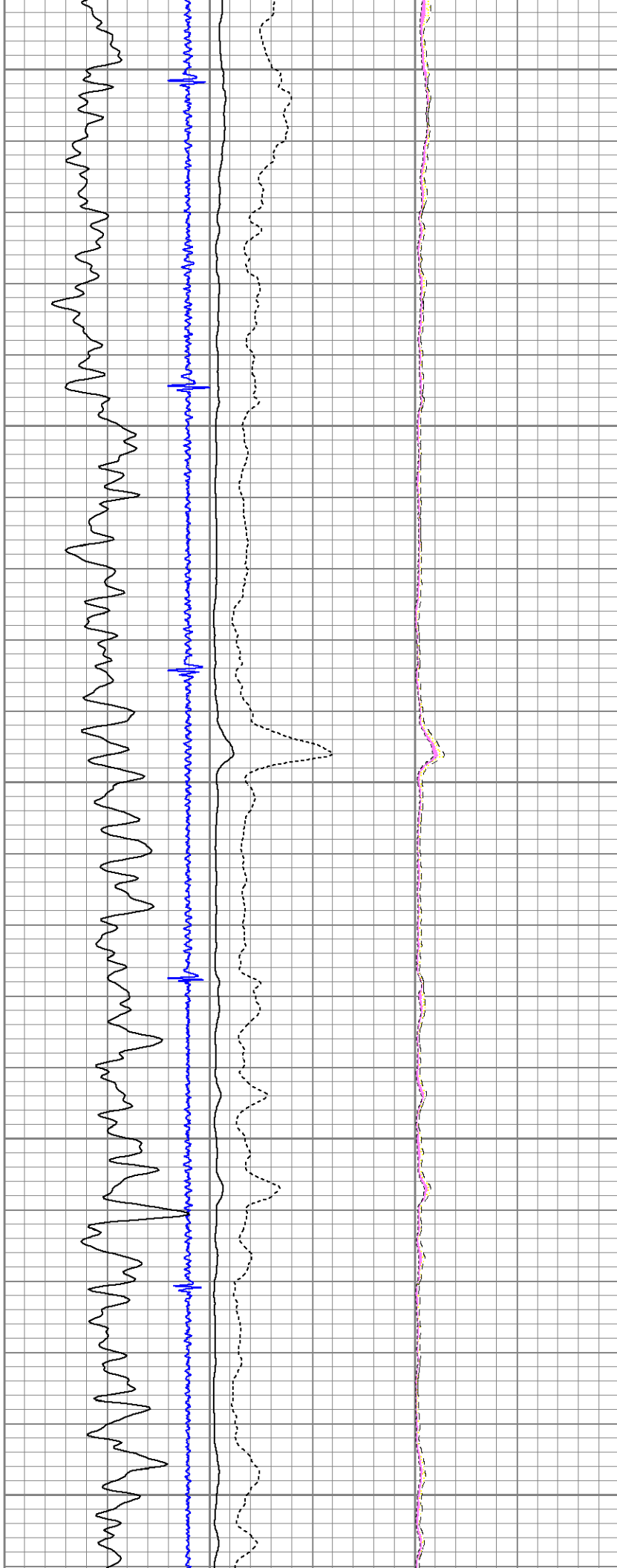
4800

4850

4900

4950

5000

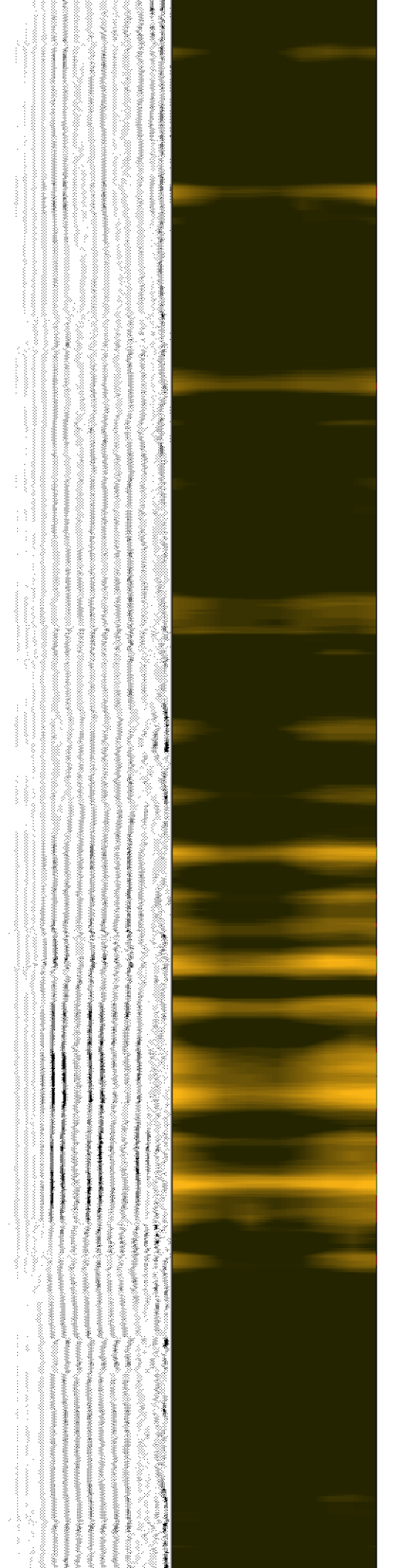
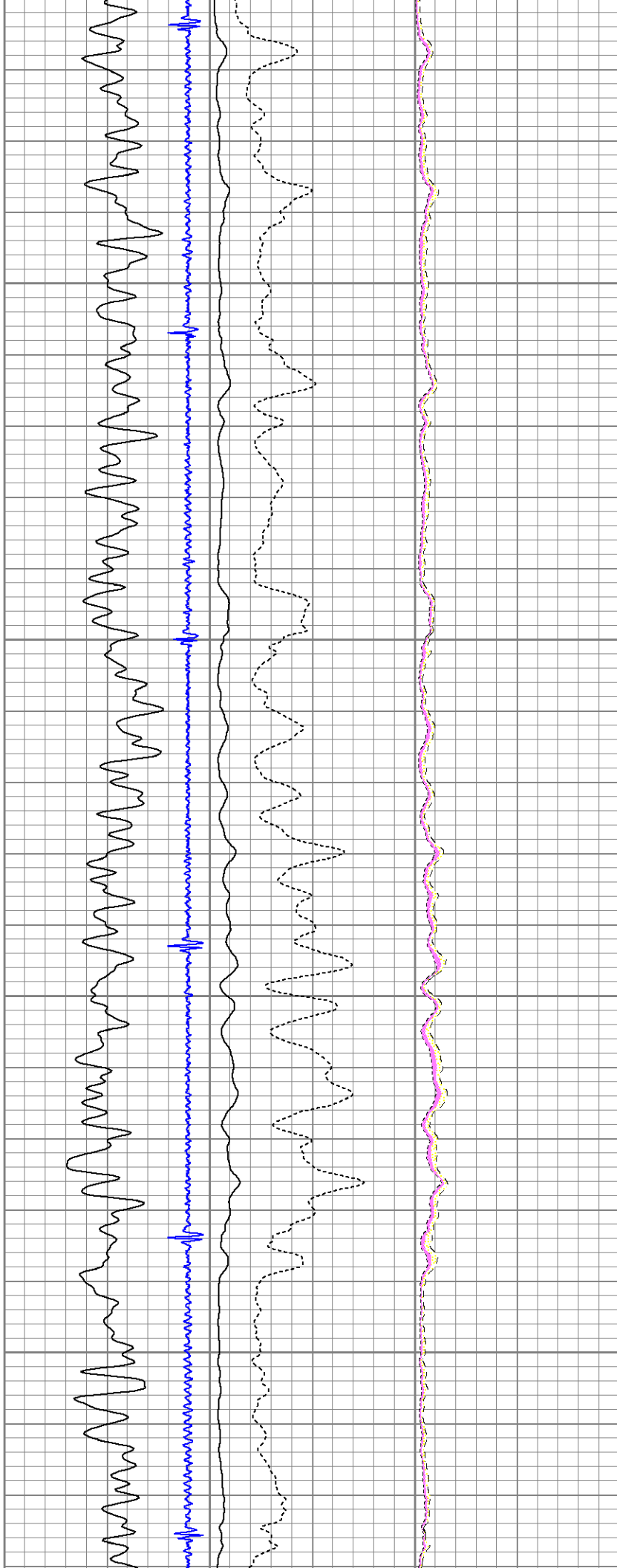


5050

5100

5150

5200



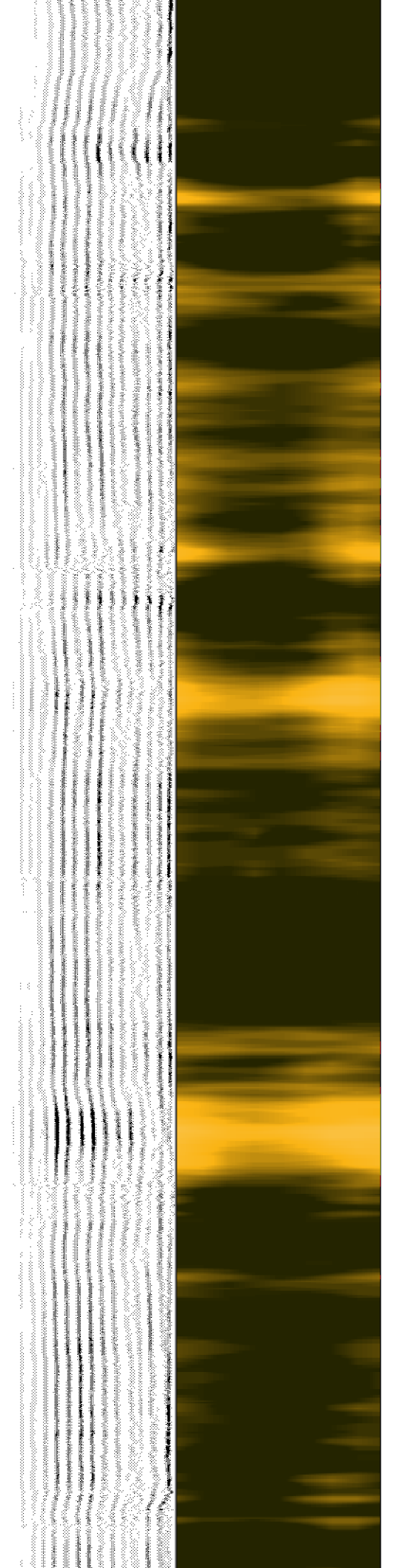
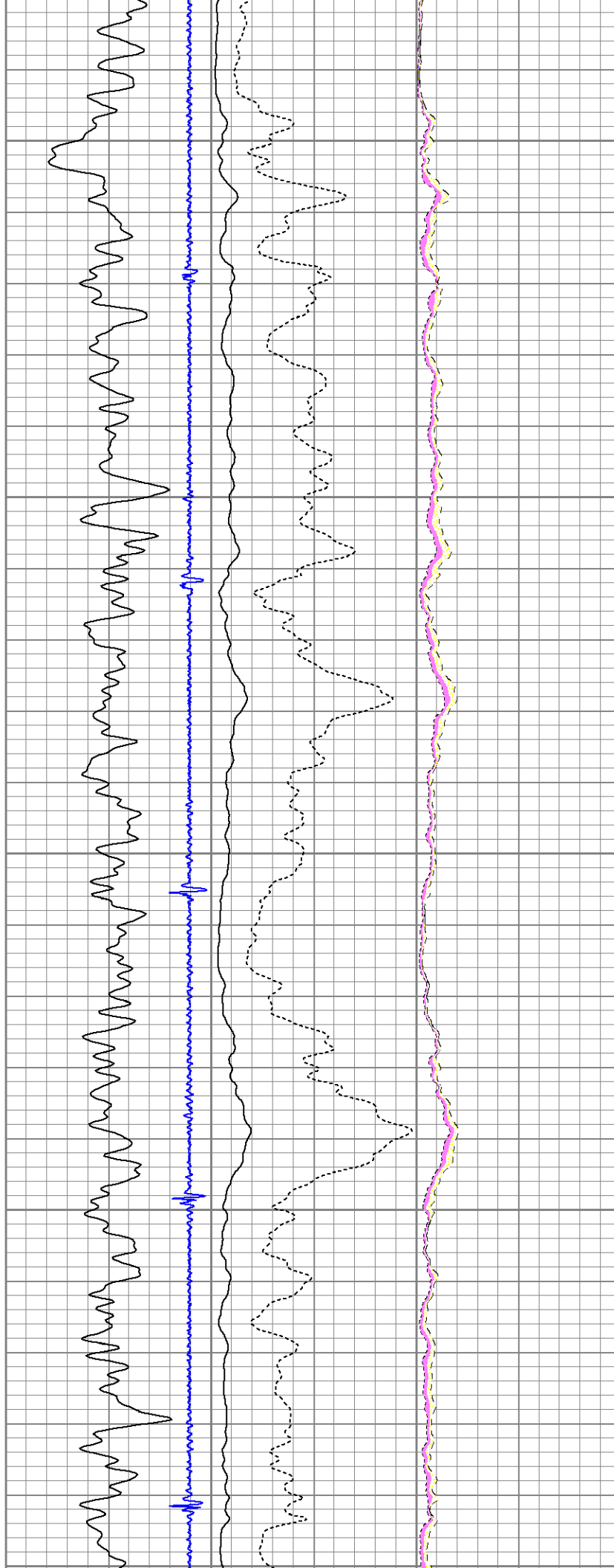
5250

5300

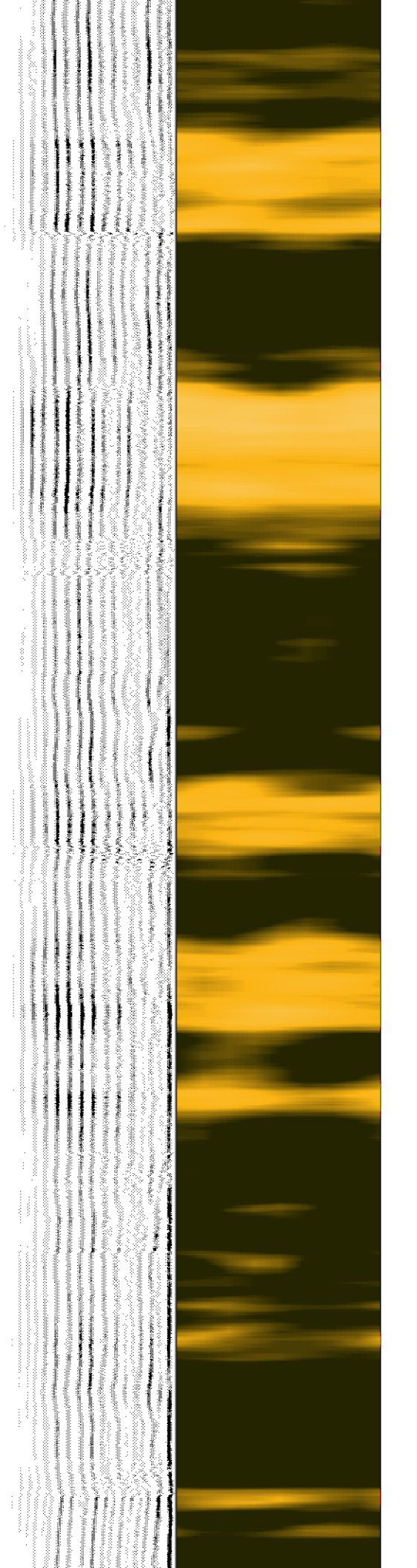
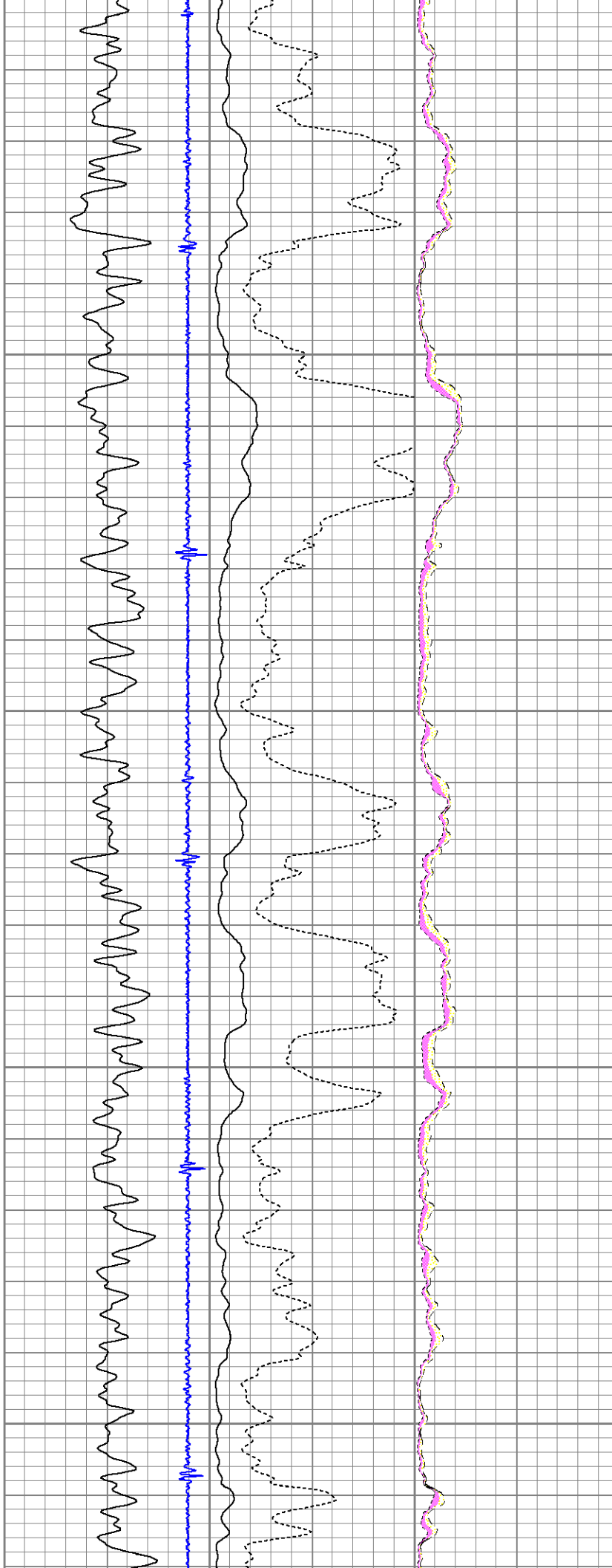
5350

5400

5450



5400
5500
5550
5600
5650

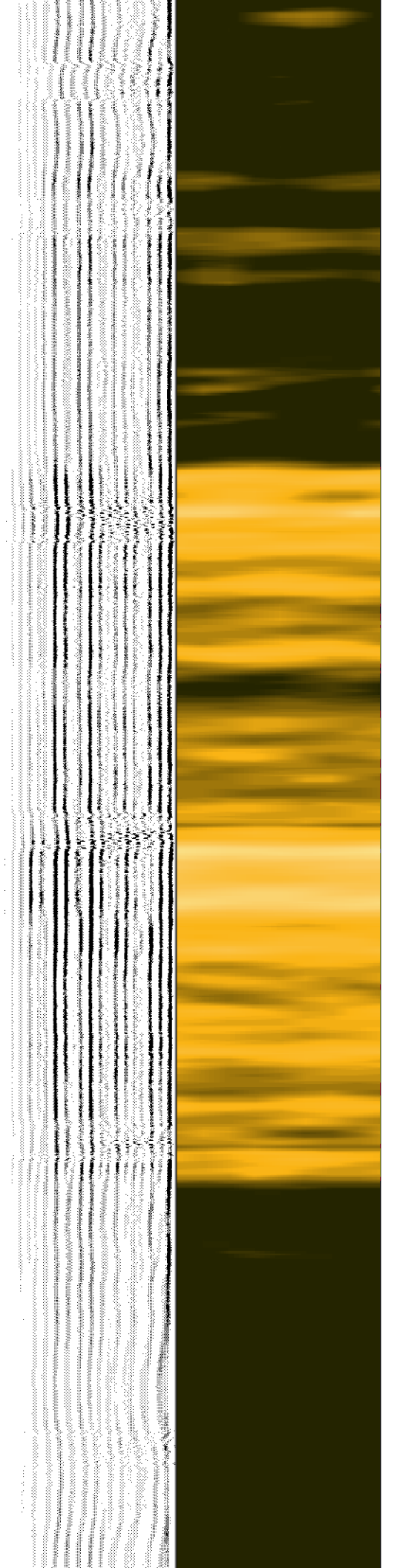
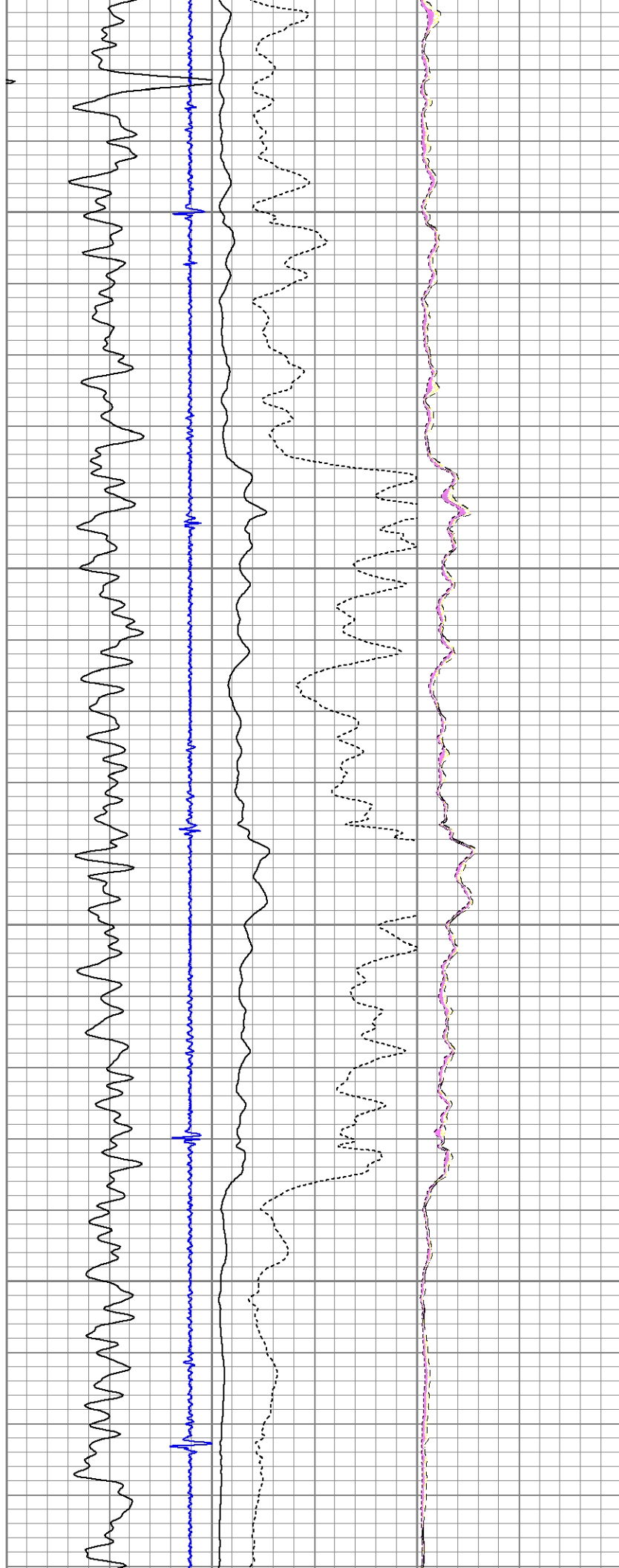


5700

5750

5800

5850



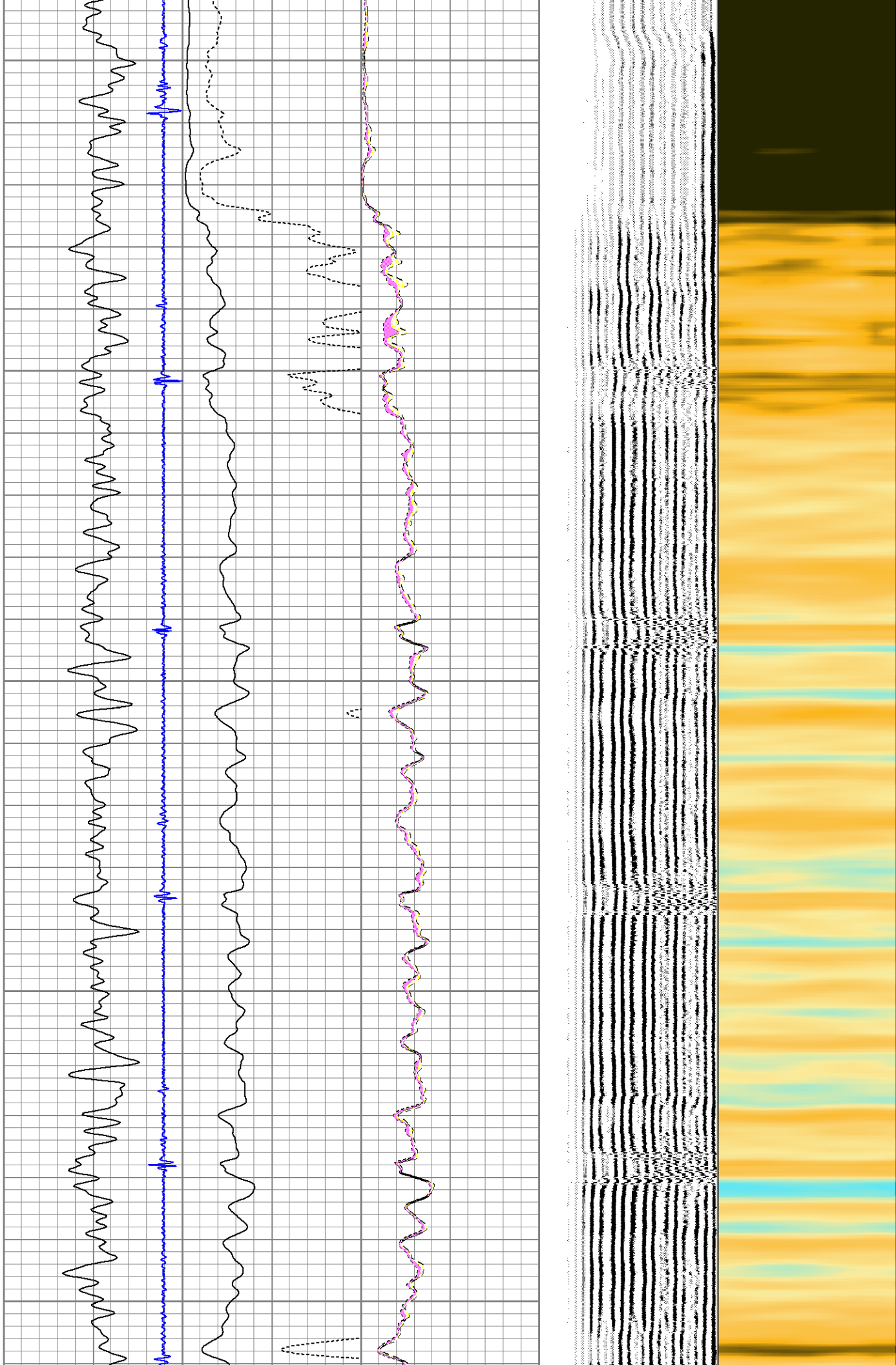
5900

5950

6000

6050

6100

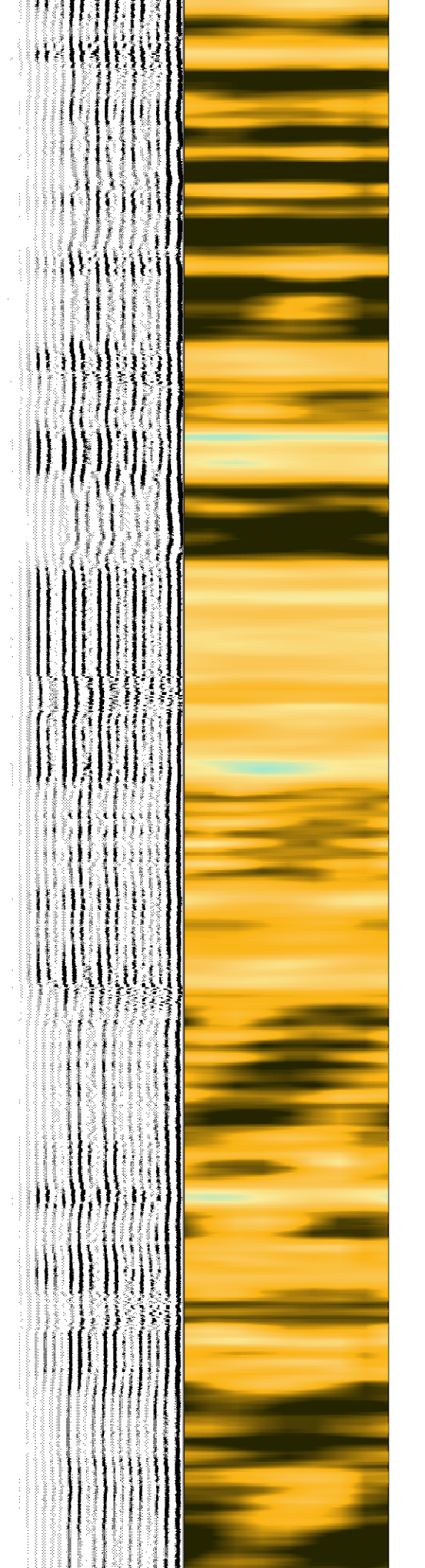
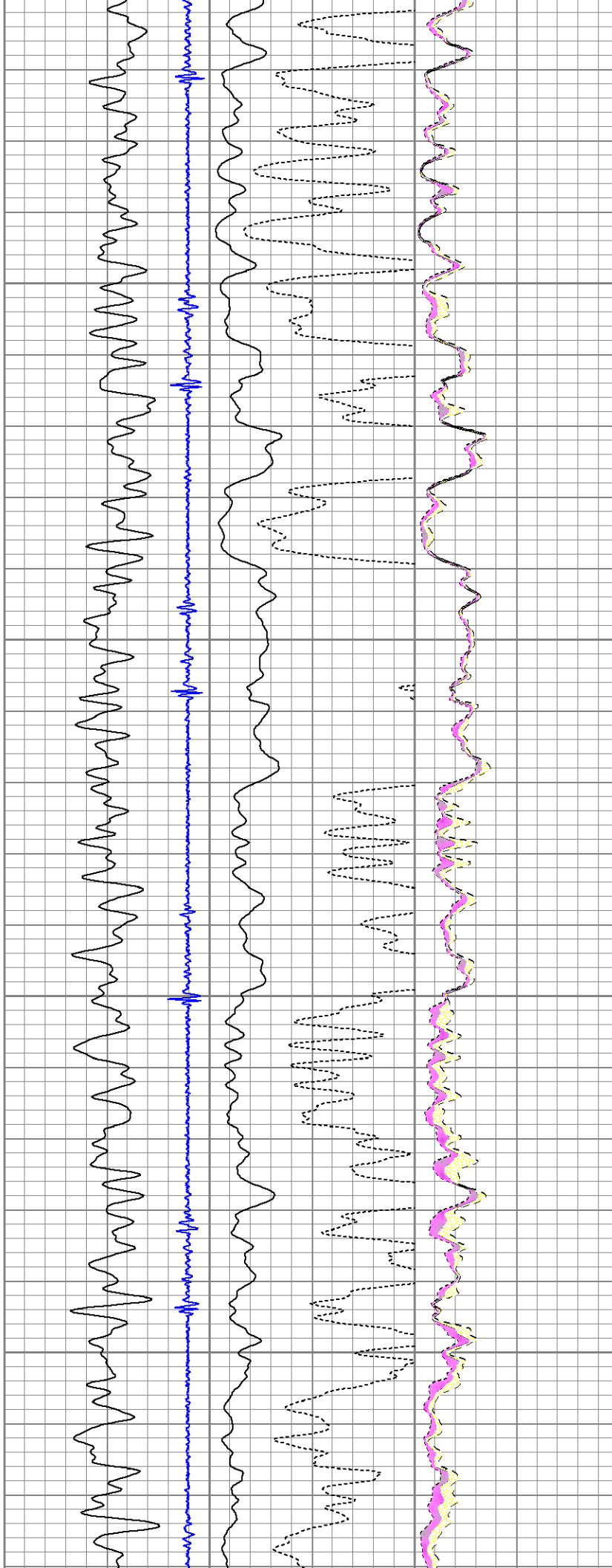


6150

6200

6250

6300



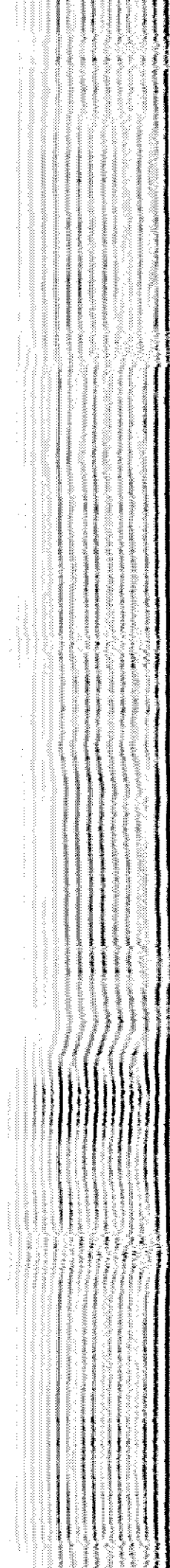
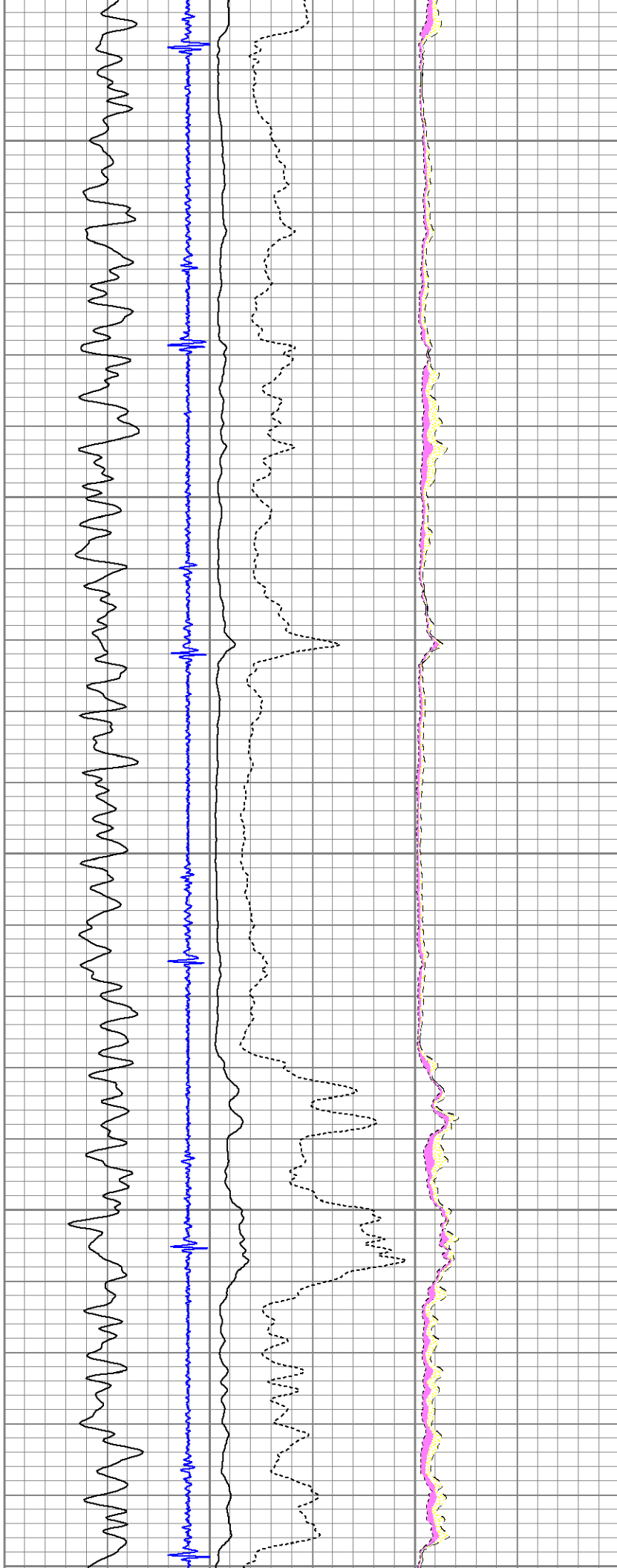
6350

6400

6450

6500

6550



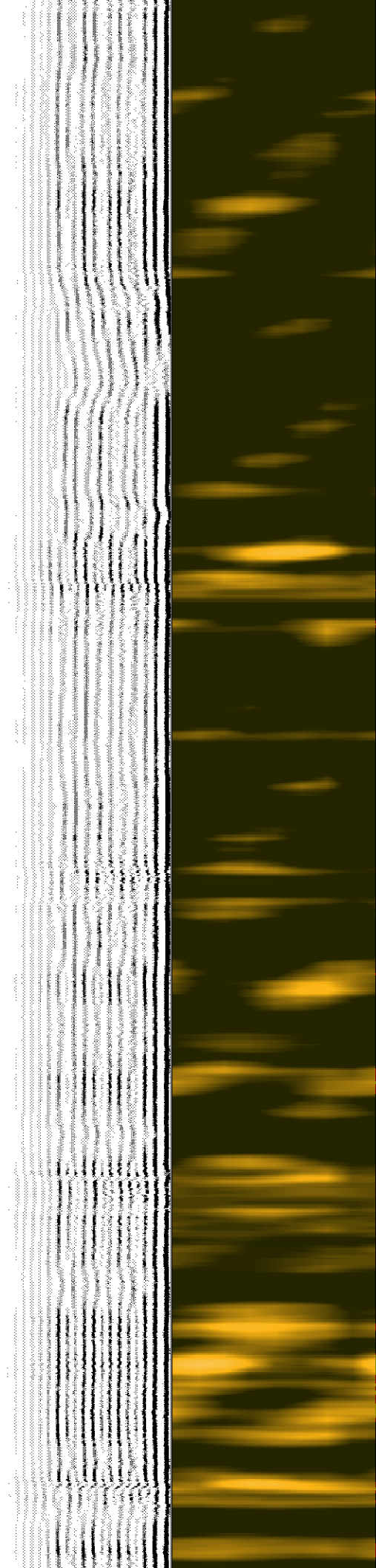
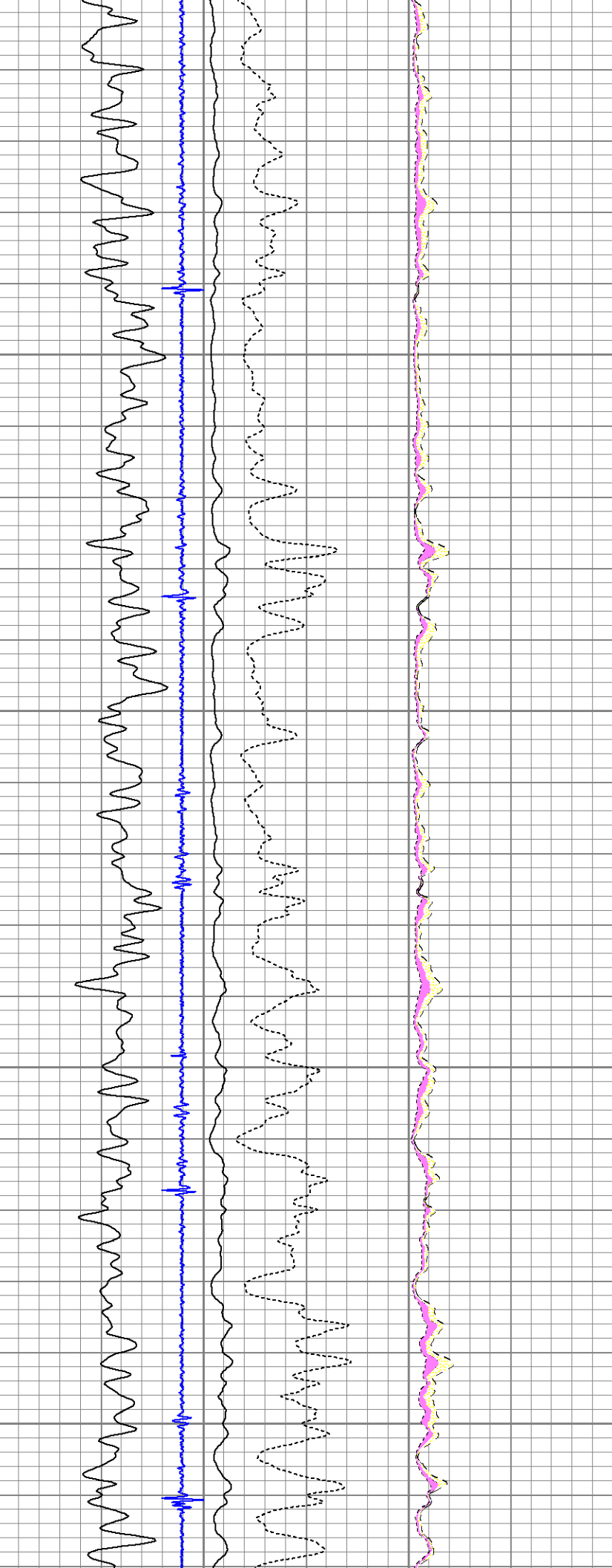
6630

6600

6650

6700

6750

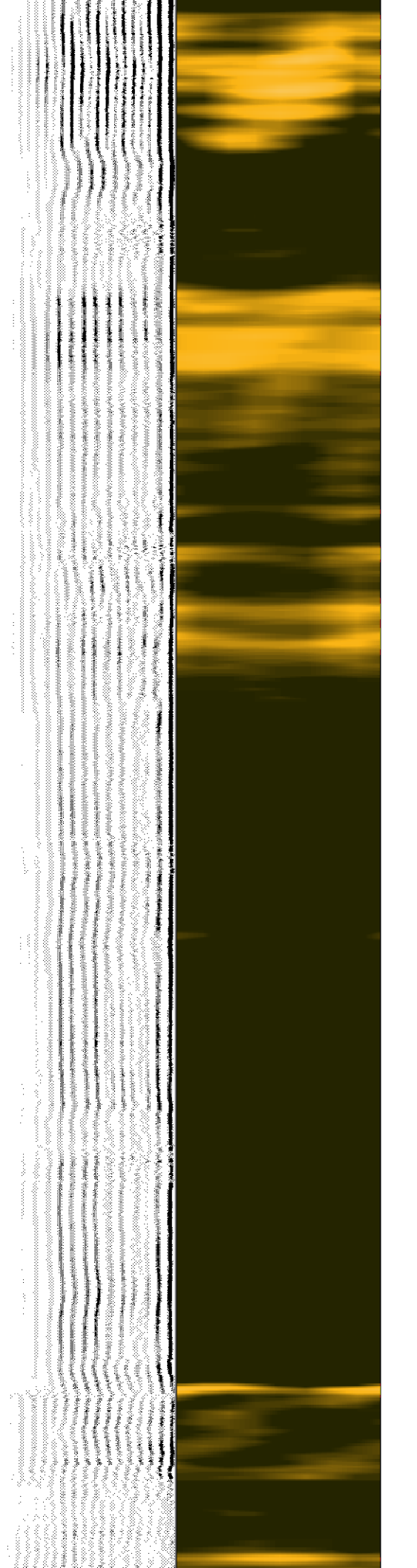
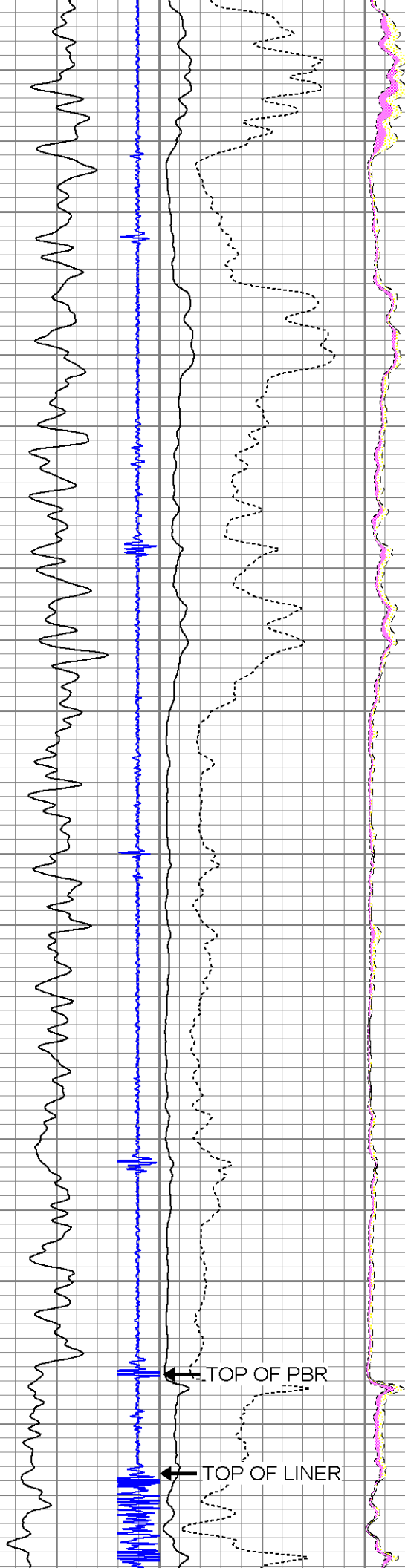


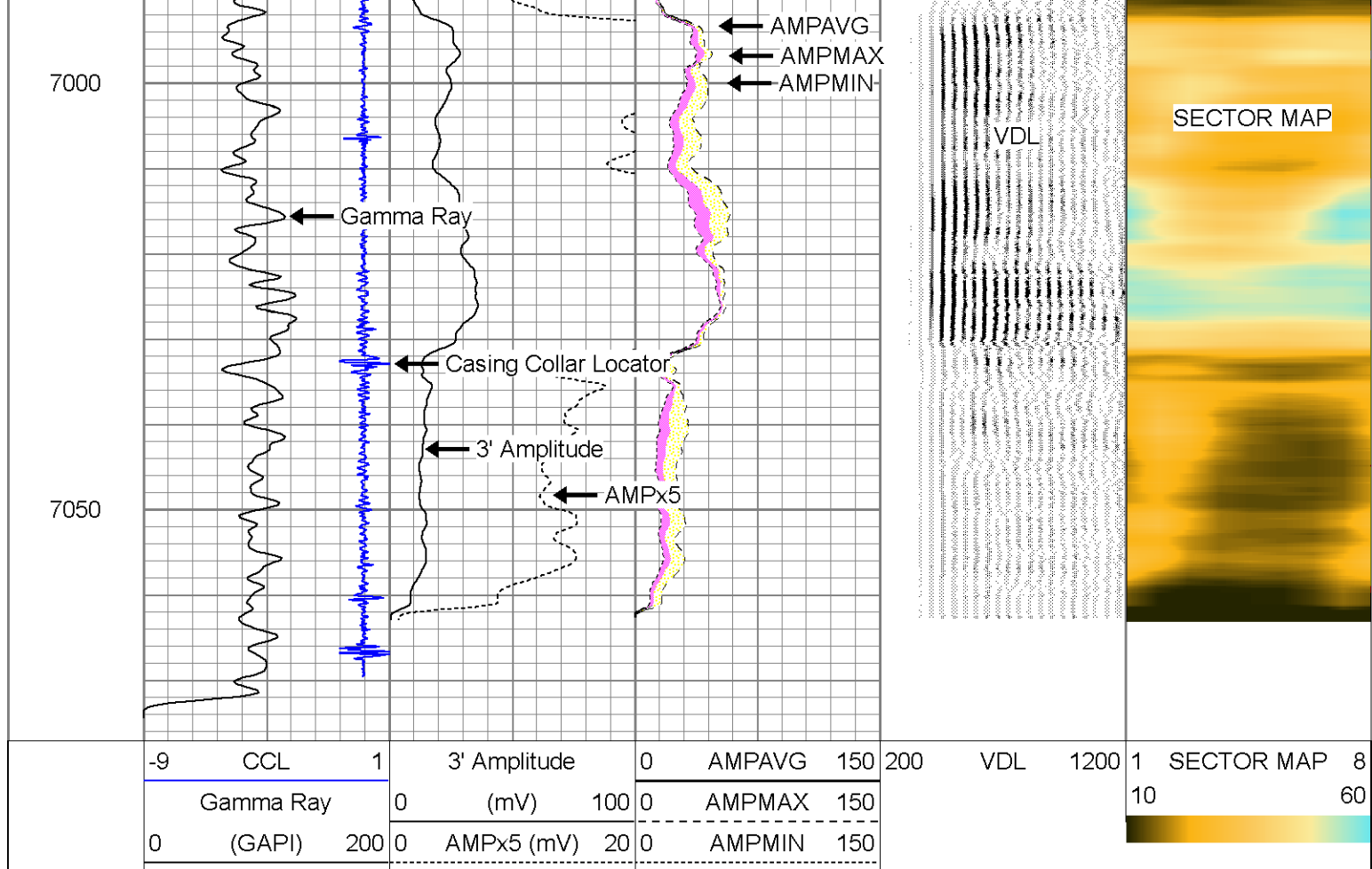
6800

6850

6900

6950





NRC 28N-5HZ

LOGGED UNDER 2800 PSI

Calibration Report

Database File: nrc_28n-5hz.db
 Dataset Pathname: pass1
 Dataset Creation: Sun Jul 27 12:48:35 2014 by Log 7.0 B1

Temperature Calibration Report

Serial Number: 0001
 Tool Model: 1.375TEMP
 Performed: Mon Jun 23 08:05:16 2014

	Reference	Reading
Low Reference:	56.00 degF	596.00 cps
High Reference:	100.00 degF	1200.00cps

Gain: 0.07
 Offset: 12.58
 Delta Spacing: 2

Gamma Ray Calibration Report

Serial Number: 111211
 Tool Model: Probe
 Performed: Fri May 16 11:10:50 2014

Calibrator Value: 1.0 GAPI

Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	1.0000	GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number:	Base
Tool Model:	Probe
Calibration Casing Diameter:	7.000 in
Calibration Depth:	392.294 ft

Master Calibration, performed Sun Jul 27 09:09:51 2014:

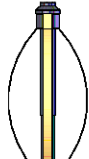
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.013	1.982	1.200	62.165	30.965	0.786
CAL	0.012	0.601				
5'	0.013	2.062	1.200	62.165	29.760	0.804
SUM						
S1	0.013	1.925	0.000	95.000	49.699	-0.658
S2	0.013	1.933	0.000	95.000	49.477	-0.661
S3	0.013	1.915	0.000	95.000	49.965	-0.662
S4	0.013	1.944	0.000	95.000	49.211	-0.651
S5	0.013	1.993	0.000	95.000	47.978	-0.637
S6	0.013	2.008	0.000	95.000	47.615	-0.632
S7	0.013	2.011	0.000	95.000	47.562	-0.634
S8	0.013	1.927	0.000	95.000	49.634	-0.658

Internal Reference Calibration, performed Wed Aug 21 11:08:58 2013:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.012	0.601	1.000	0.000

Air Zero Calibration, performed Mon Dec 09 06:54:41 2013:

	Raw (v)	Calibrated (v)	Results
	Zero	Zero	Offset
3'	0.000	0.000	0.000
5'	0.000	0.000	0.000
SUM			
S1	0.000	0.000	0.000
S2	0.000	0.000	0.000
S3	0.000	0.000	0.000
S4	0.000	0.000	0.000
S5	0.000	0.000	0.000
S6	0.000	0.000	0.000
S7	0.000	0.000	0.000
S8	0.000	0.000	0.000

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			PTS275	2.83	2.75	

