

# Schlumberger

GEOFRAME  
PROCESSED  
INTERPRETATION

# FMI Image

# 2000 – 4100'

## 25" Scale – True Dip

\* A Mark of Schlumberger

Using the following logs:

COMPANY:	Battelle Pacific Northwest Lab		
WELL:	Wallula Basalt Pilot #1		
FIELD:	Wildcat		
County:	Walla Walla		
State:	Washington		
COUNTRY:	USA		
Date Logged:	18-Apr-2009	Date Processed:	12-October-2009
Well Location:	Sec 10, T7N, R31E		
Elevations:	KB: -304.571m	DF: -304.571m	GL: -304.571m
API Number:		Job Number:	

FOLD HERE

The well name, location and borehole reference data were furnished by the customer.

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 interpretations made by any of our officers, agents or employees. These interpretations are also subject to Clause 4 of our General Terms and Conditions as set out in our current Price Schedule.

Field Recording:	Location: SACRAMENTO	Software Version: 17C0-154	Engineer: BEN GRAU
Office Recording:	ICS Center: Denver DCS	Baseline: GF 4.4	Log Analyst: A. Mioduchowski/K

### Mud and Borehole Measurements:

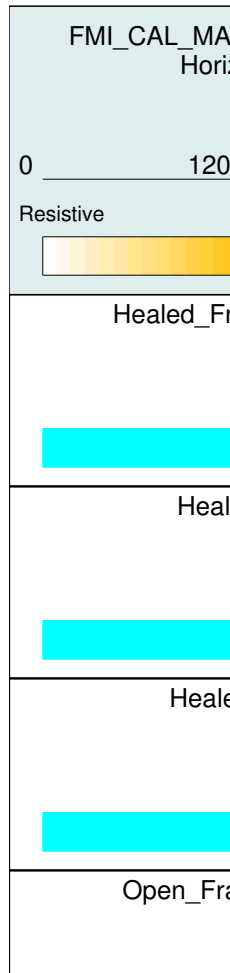
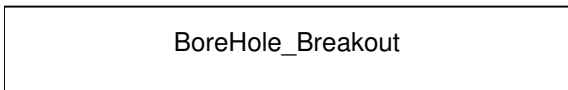
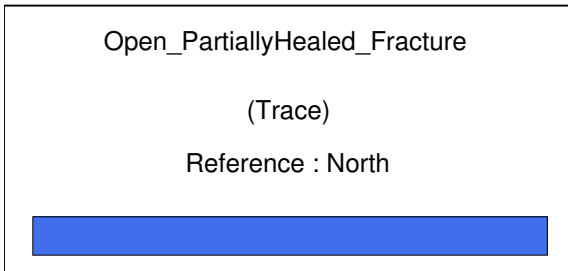
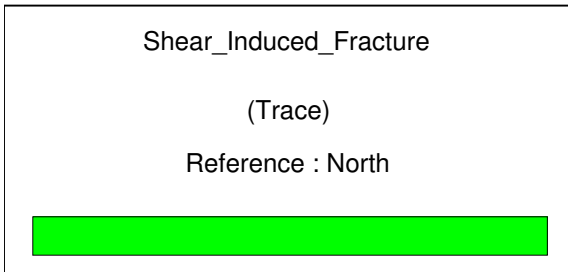
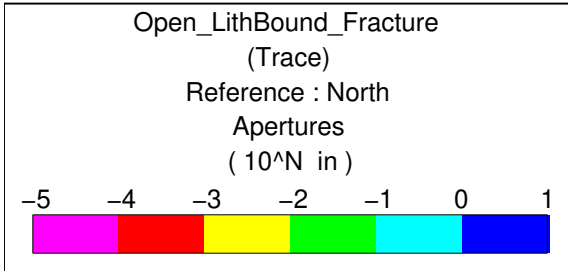
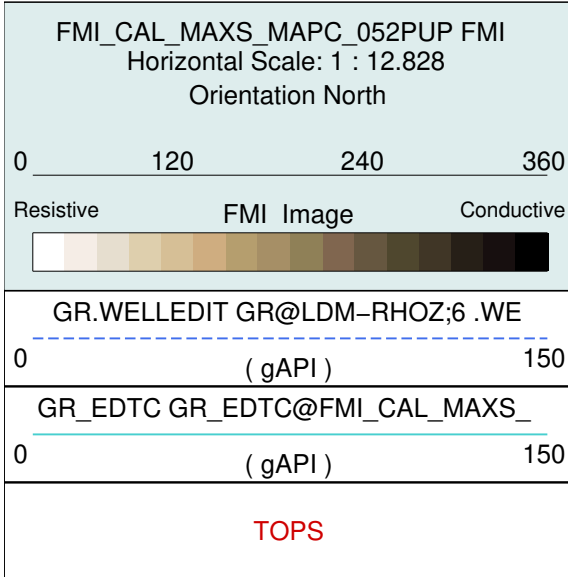
Rm @ Measured Temperature: 23.1ohm.m @	BHT: 100.5degF	Bitsize: 12.25in
Rmf @ Measured Temperature: @	Type Fluid in Hole:	FRESH WATER
Rmc @ Measured Temperature: @	Mud Density: 8.4lbm/gal	

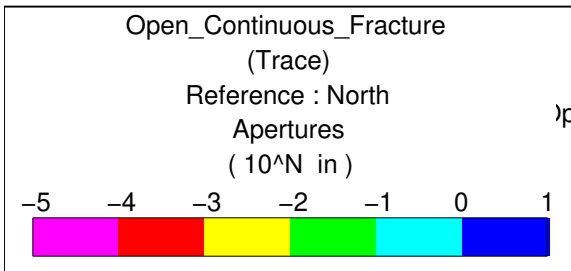
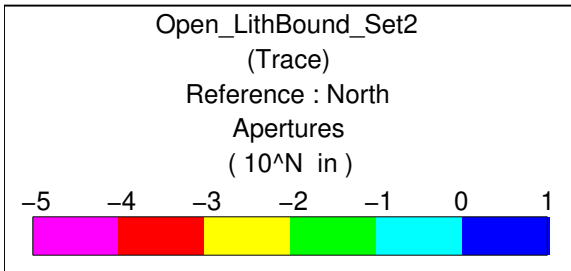
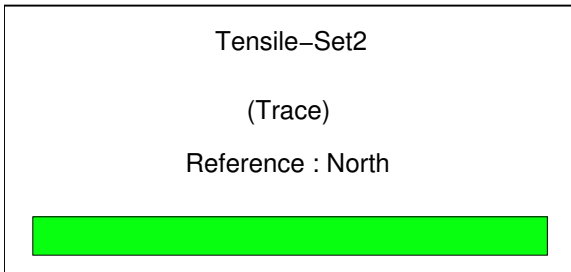
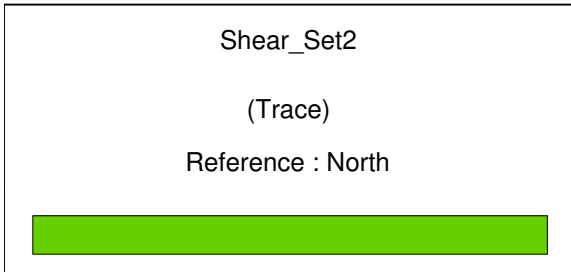
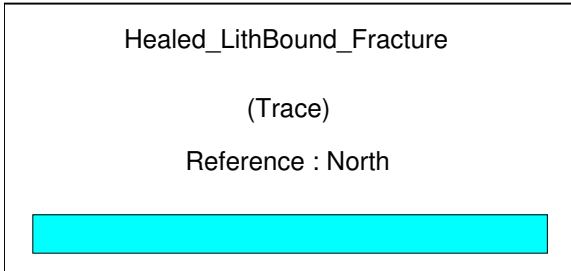
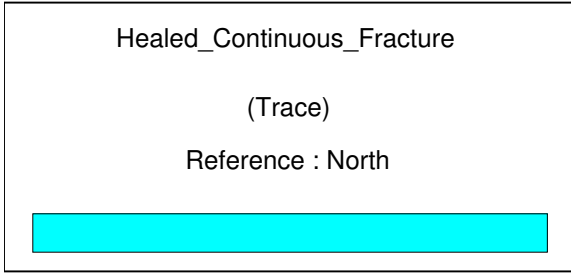
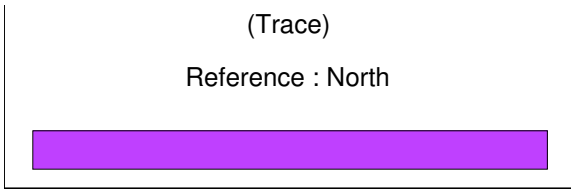
### Remarks:

Rm for aperture = 15.7 ohmm  
PEX log curves are depth adjusted to match FMI image



Segment tracing employed to measure joint/polygonal fracture texture (pink curves)



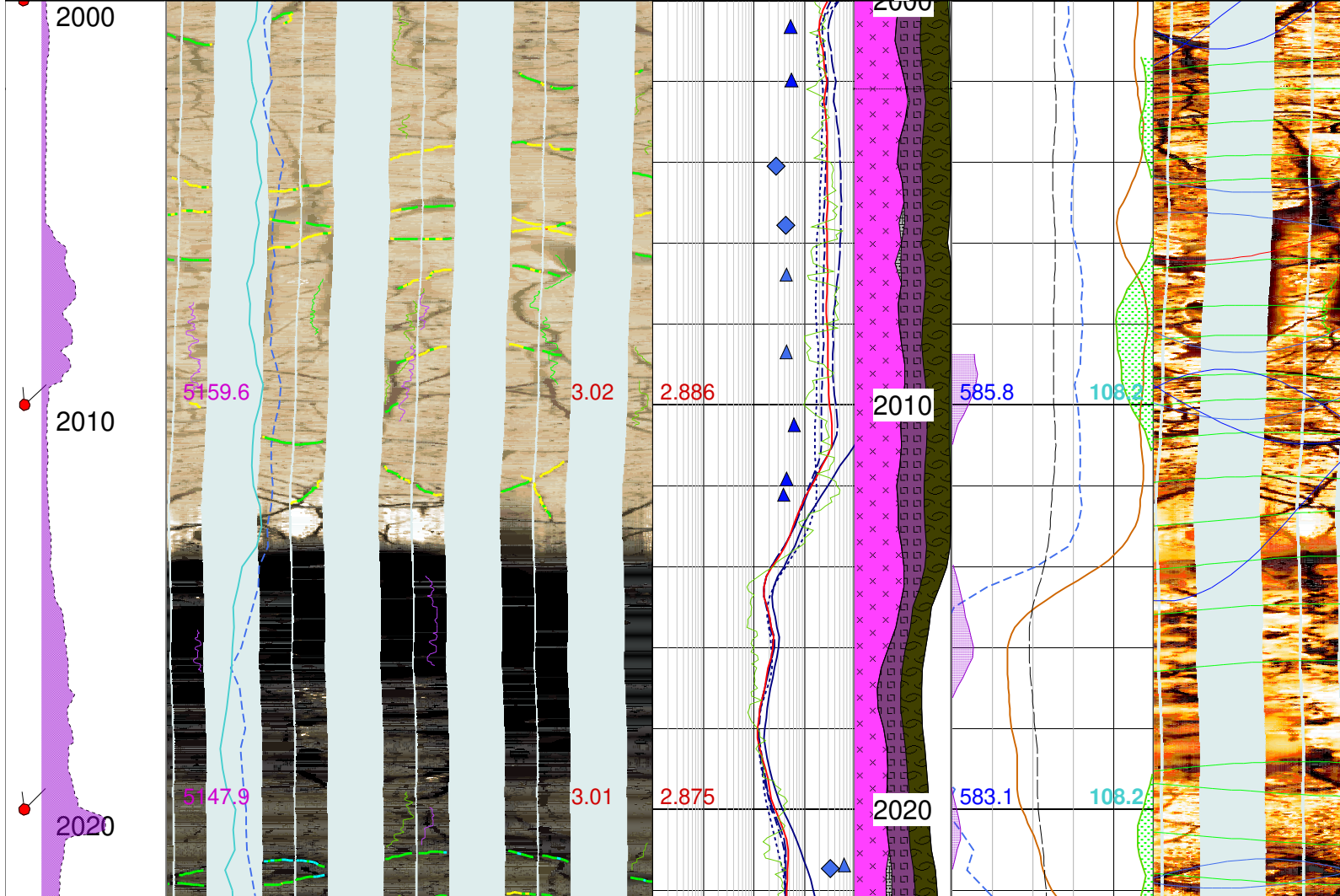
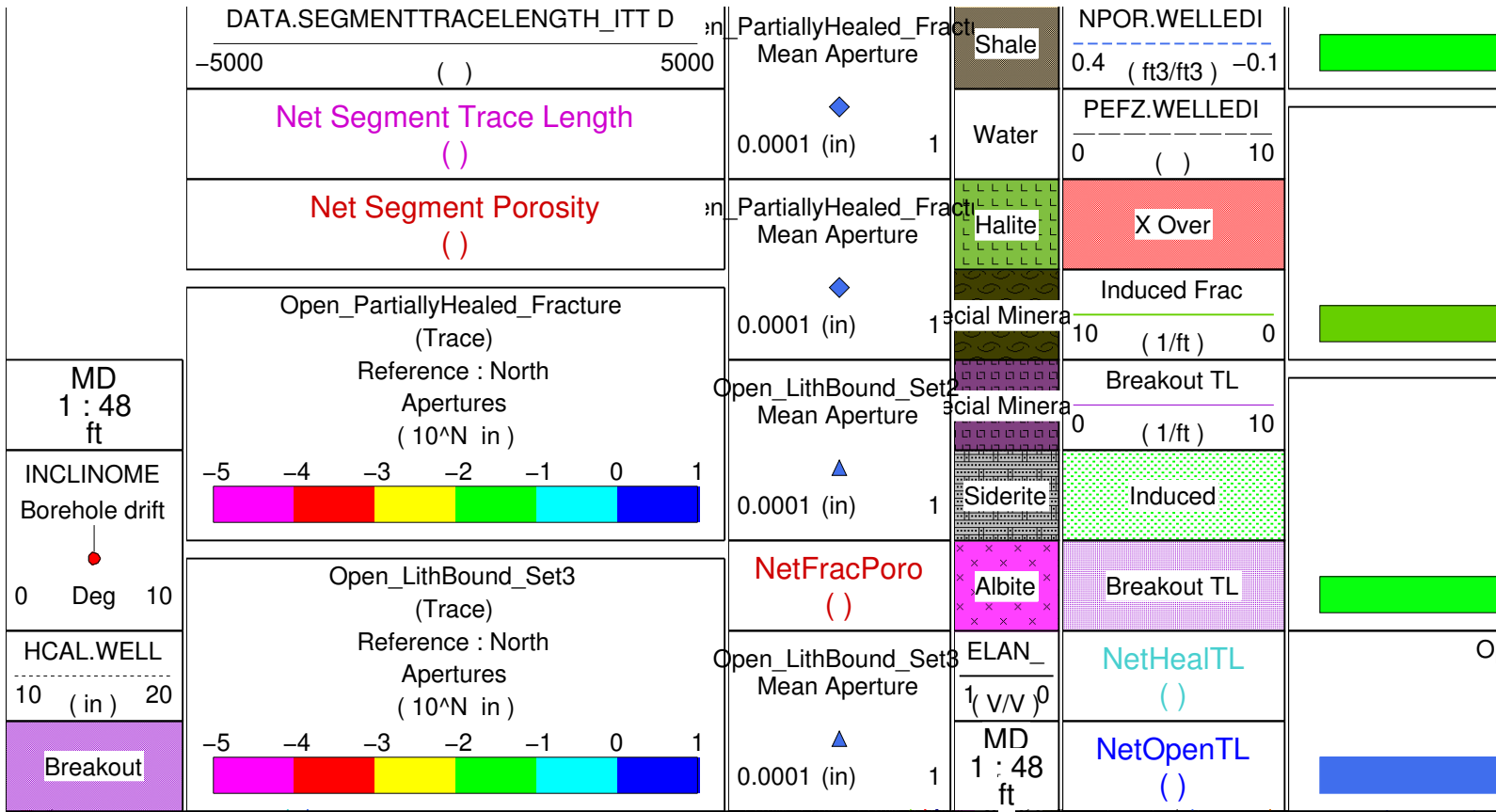


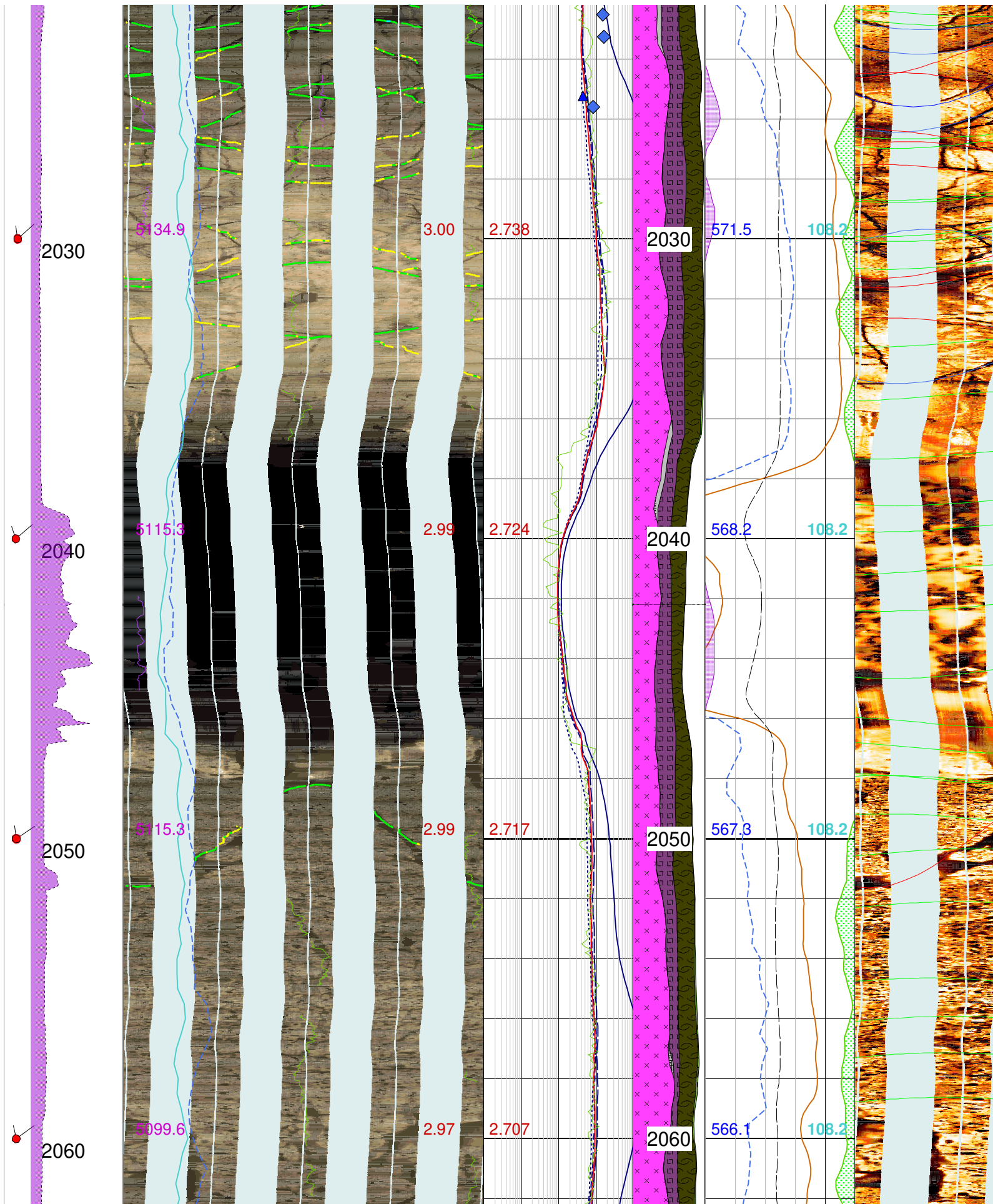
AHT10.WELLED	0.1 ( ohm.m ) <sup>1000</sup>
AHT20.WELLED	0.1 ( ohm.m ) <sup>1000</sup>
AHT30.WELLED	0.1 ( ohm.m ) <sup>1000</sup>
AHT60.WELLED	0.1 ( ohm.m ) <sup>1000</sup>
AHT90.WELLED	0.1 ( ohm.m ) <sup>1000</sup>
SRES@FMI_CAL	0.1 ( ohm.m ) <sup>1000</sup>

Open_LithBound_Fracture Mean Aperture	▲	0.0001 (in)	1
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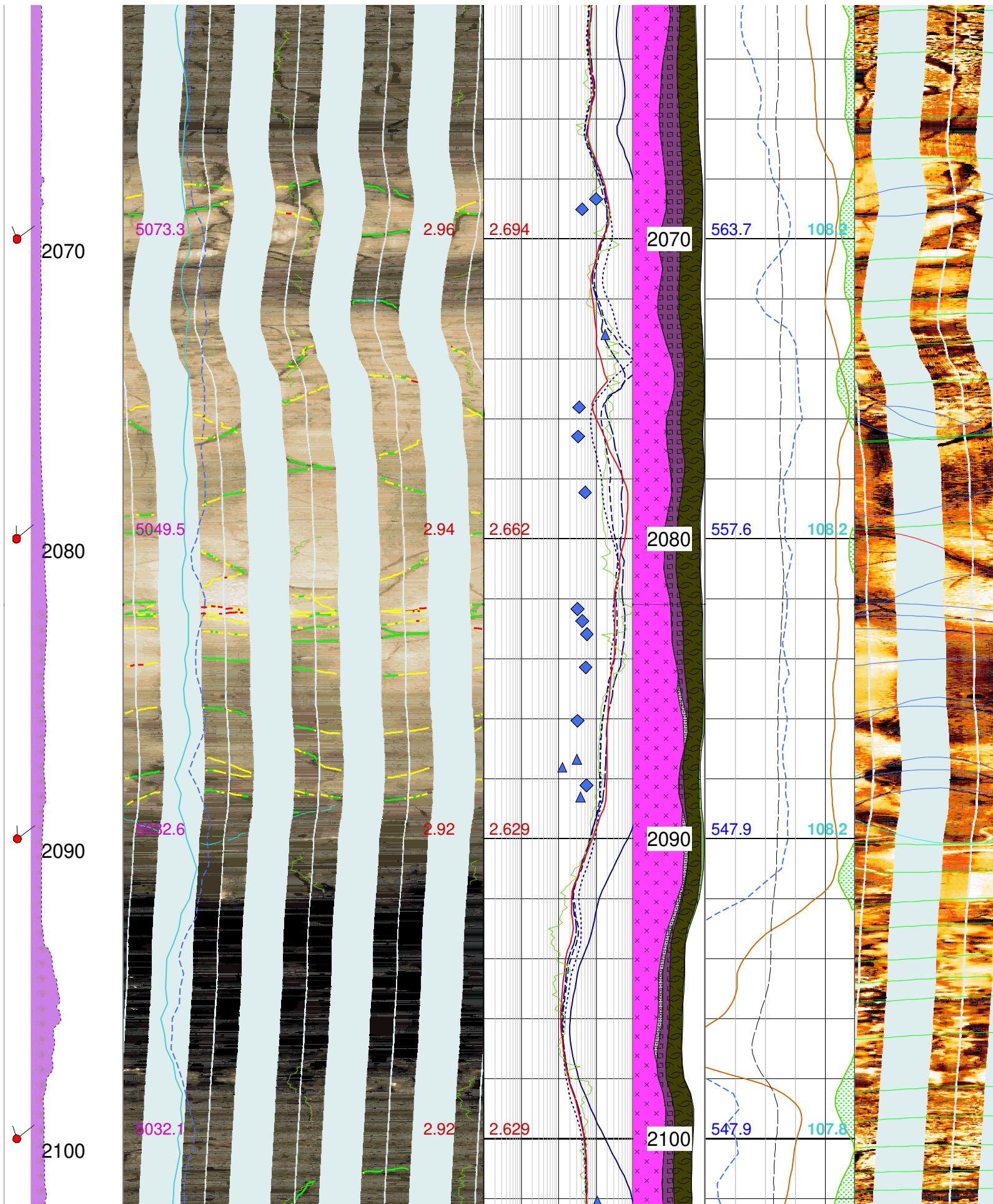
DPHZ.WELLEDI	0.4 ( ft3/ft3 ) -0.1
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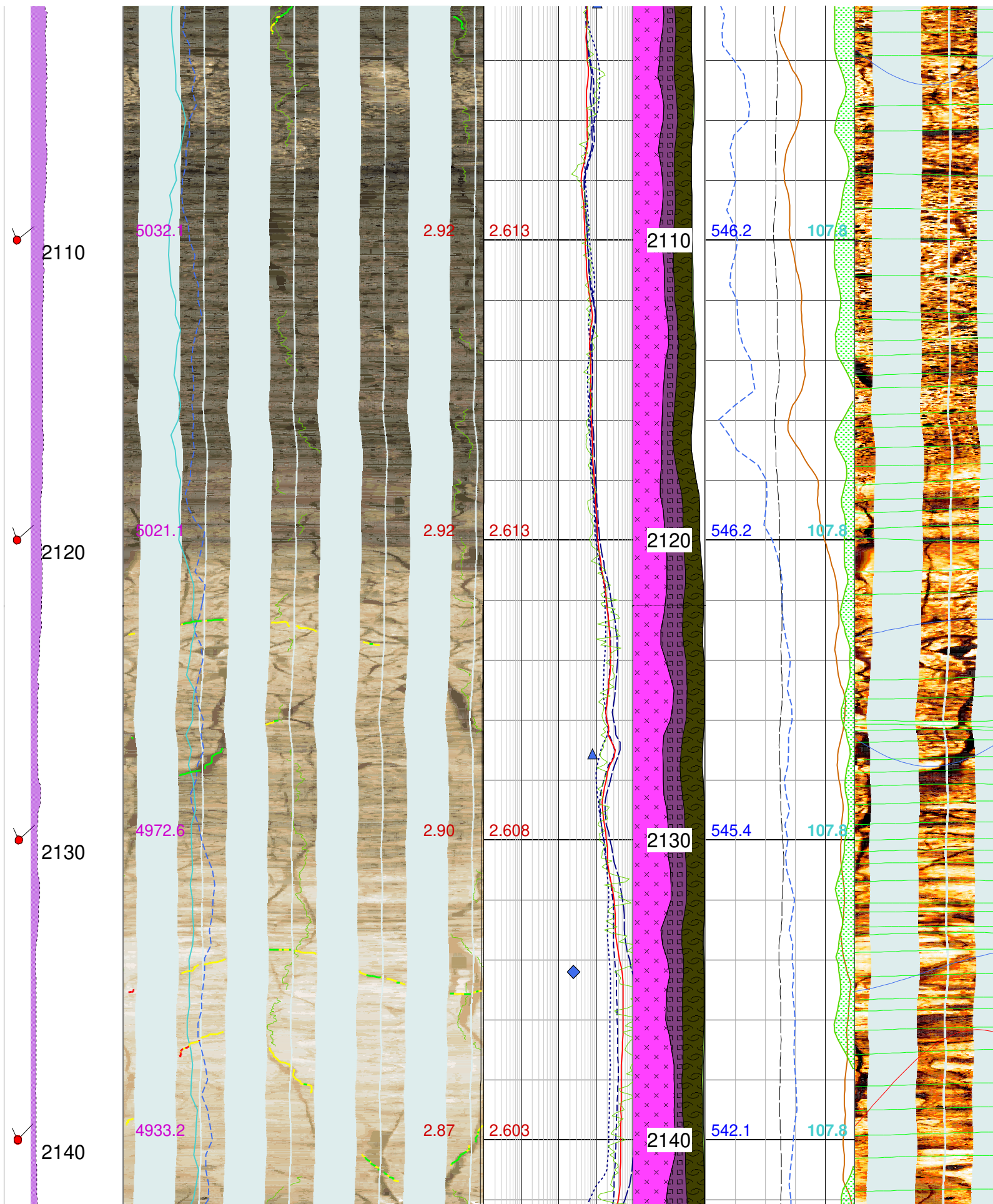




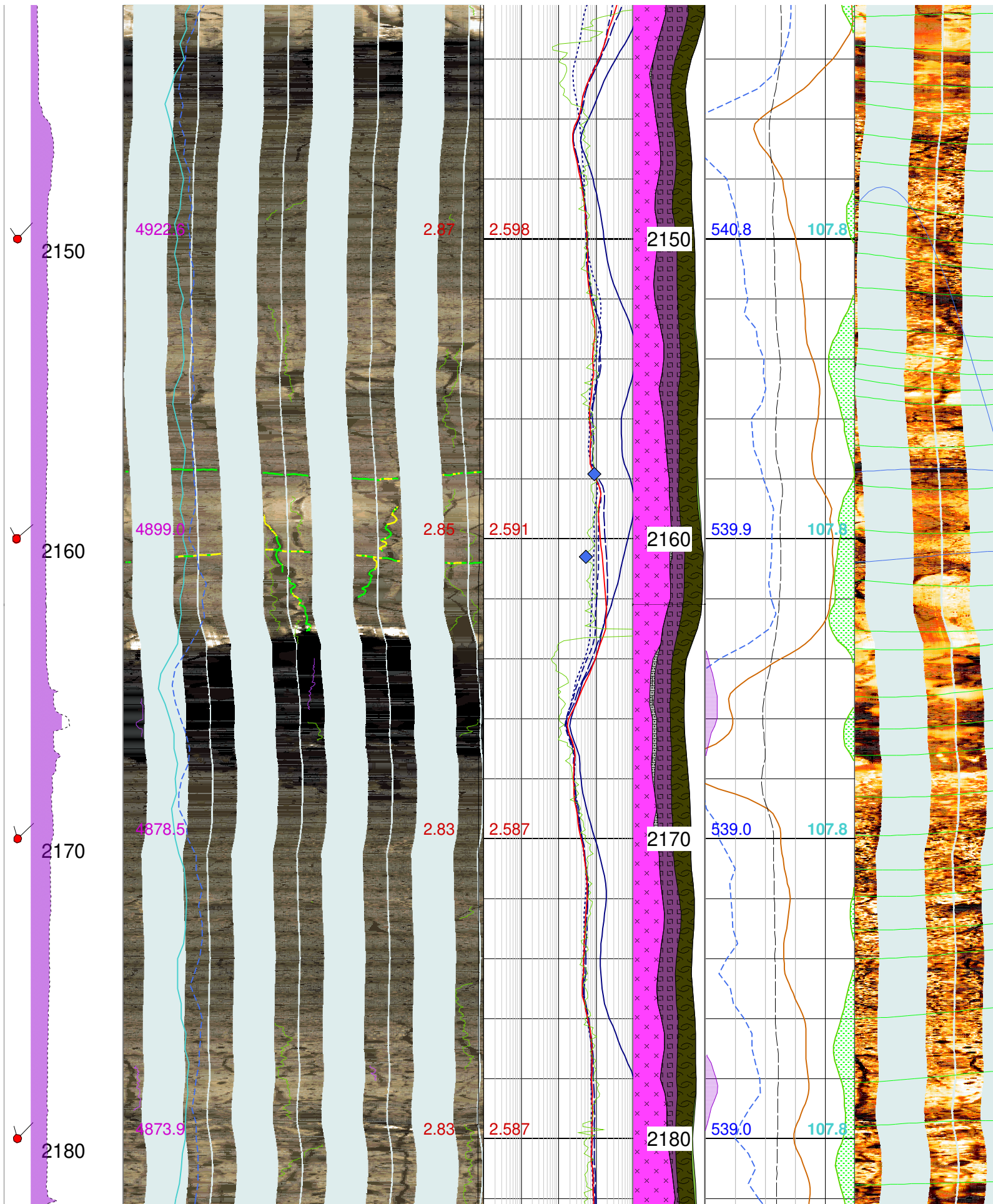


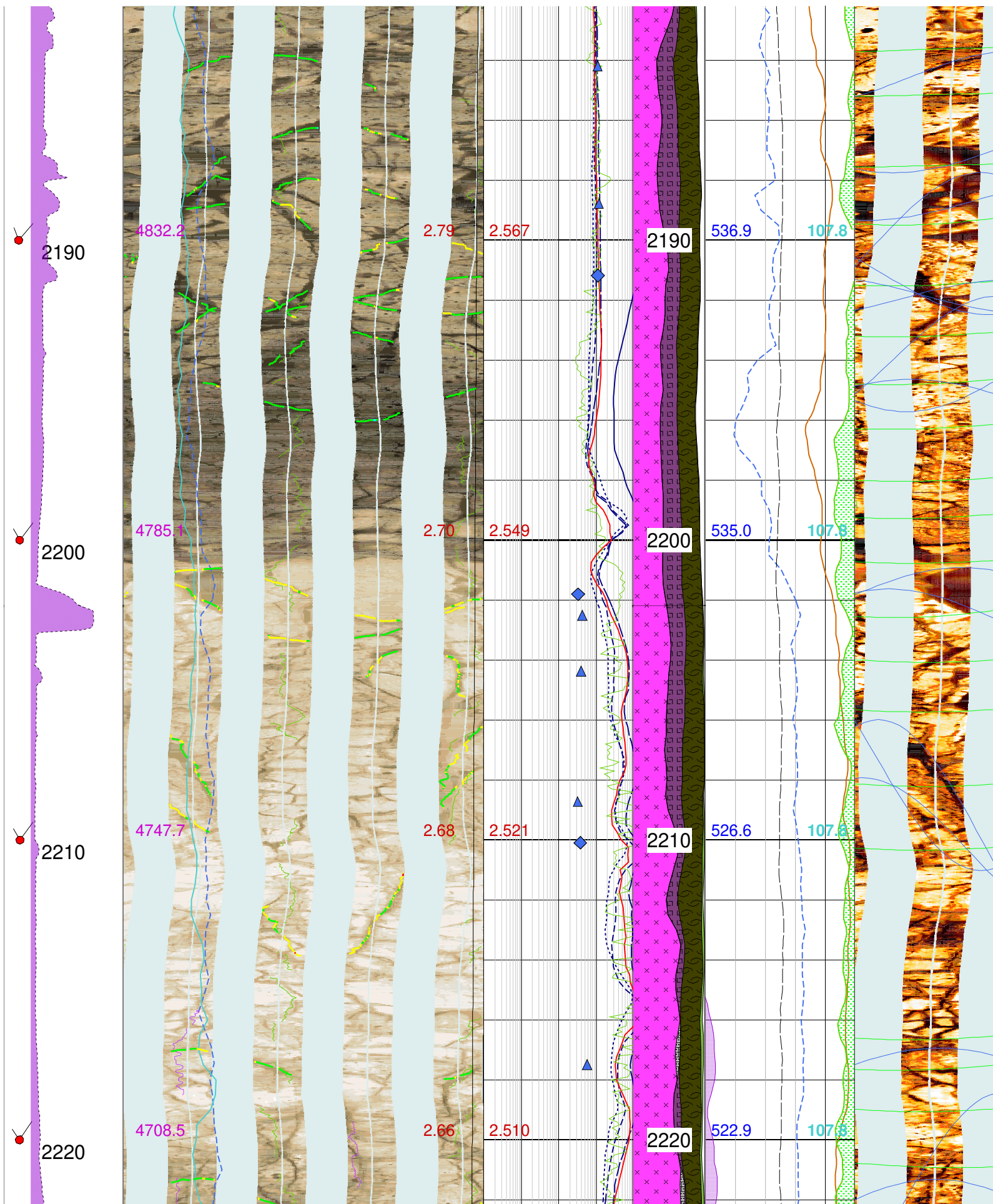




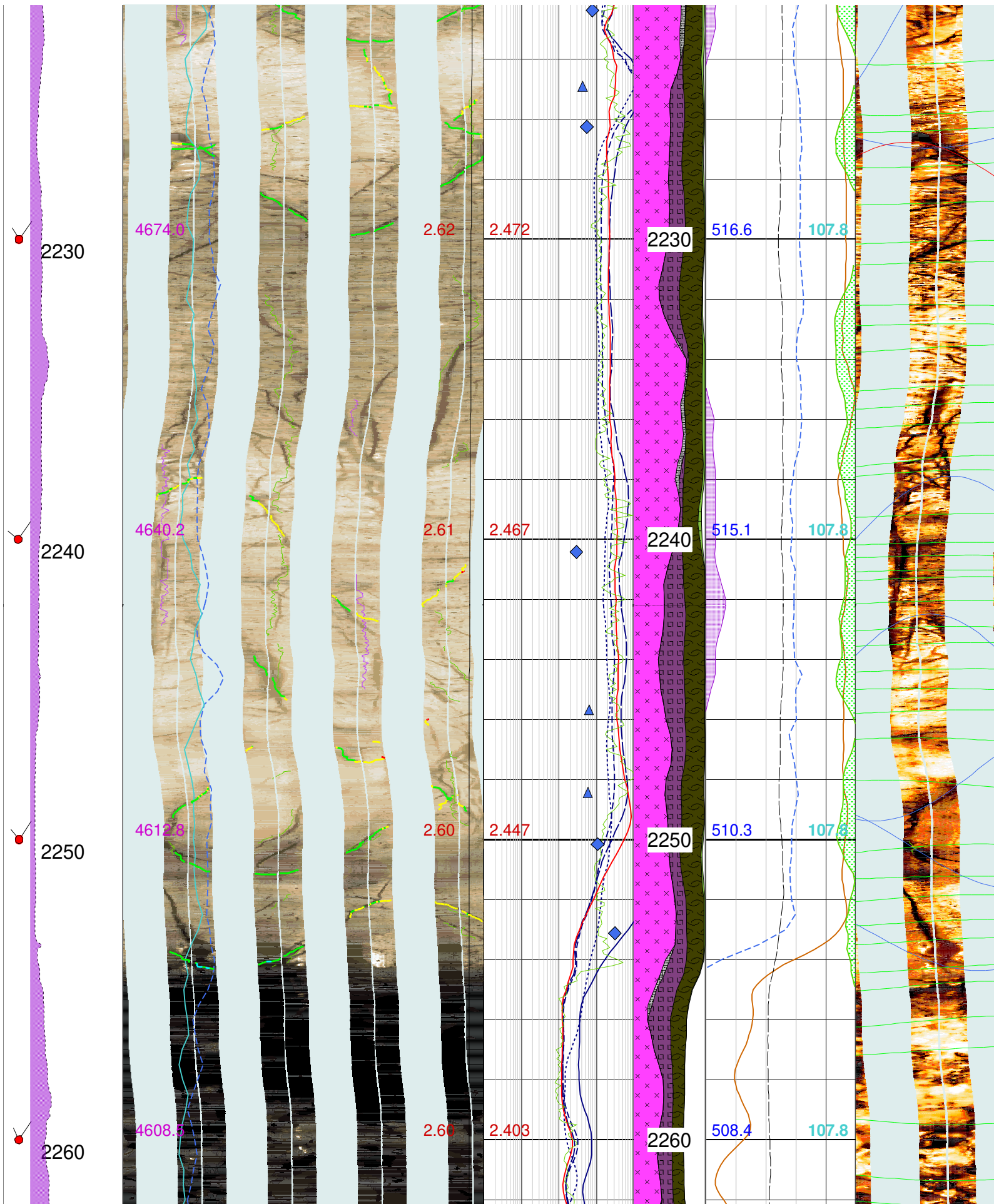


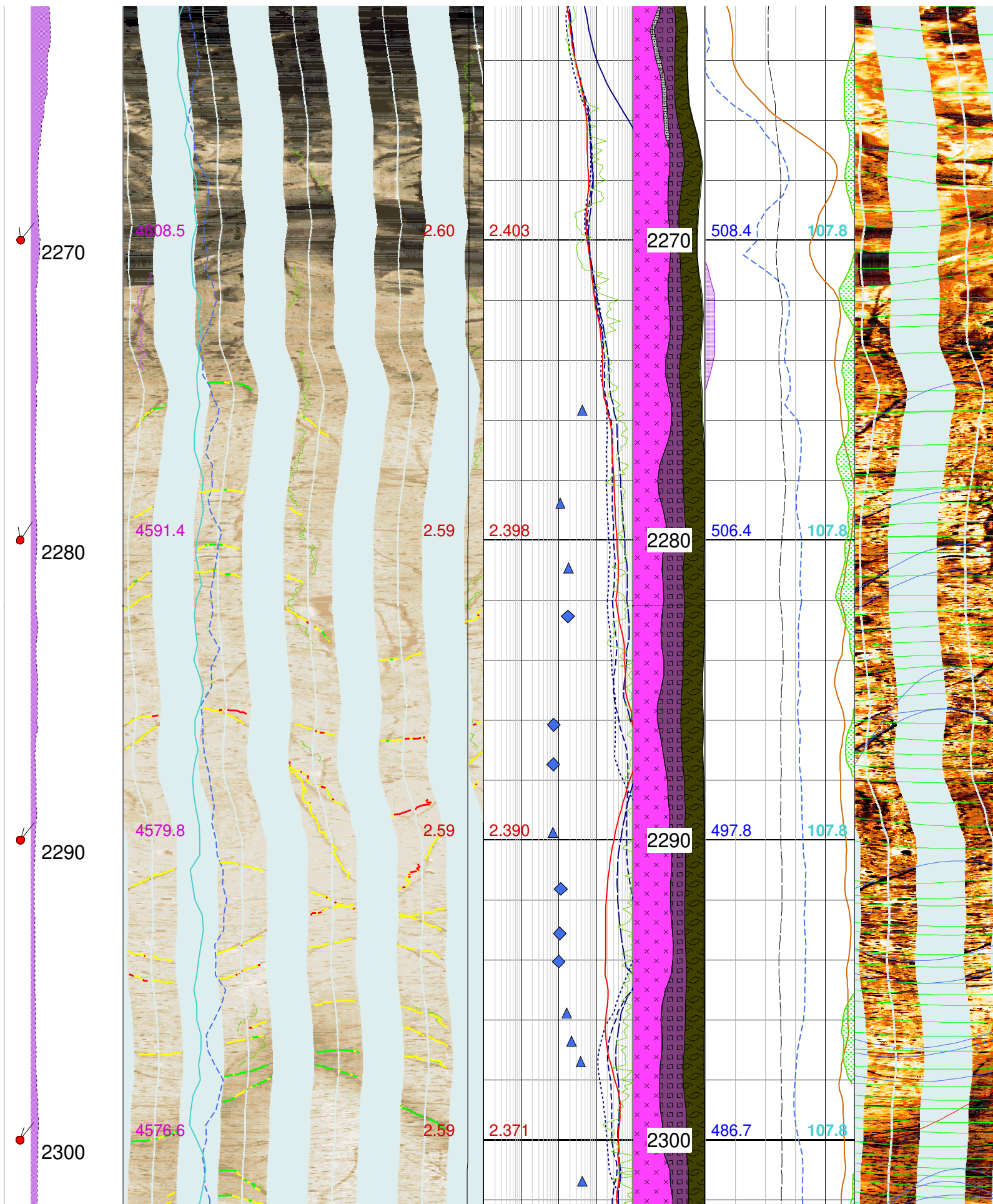




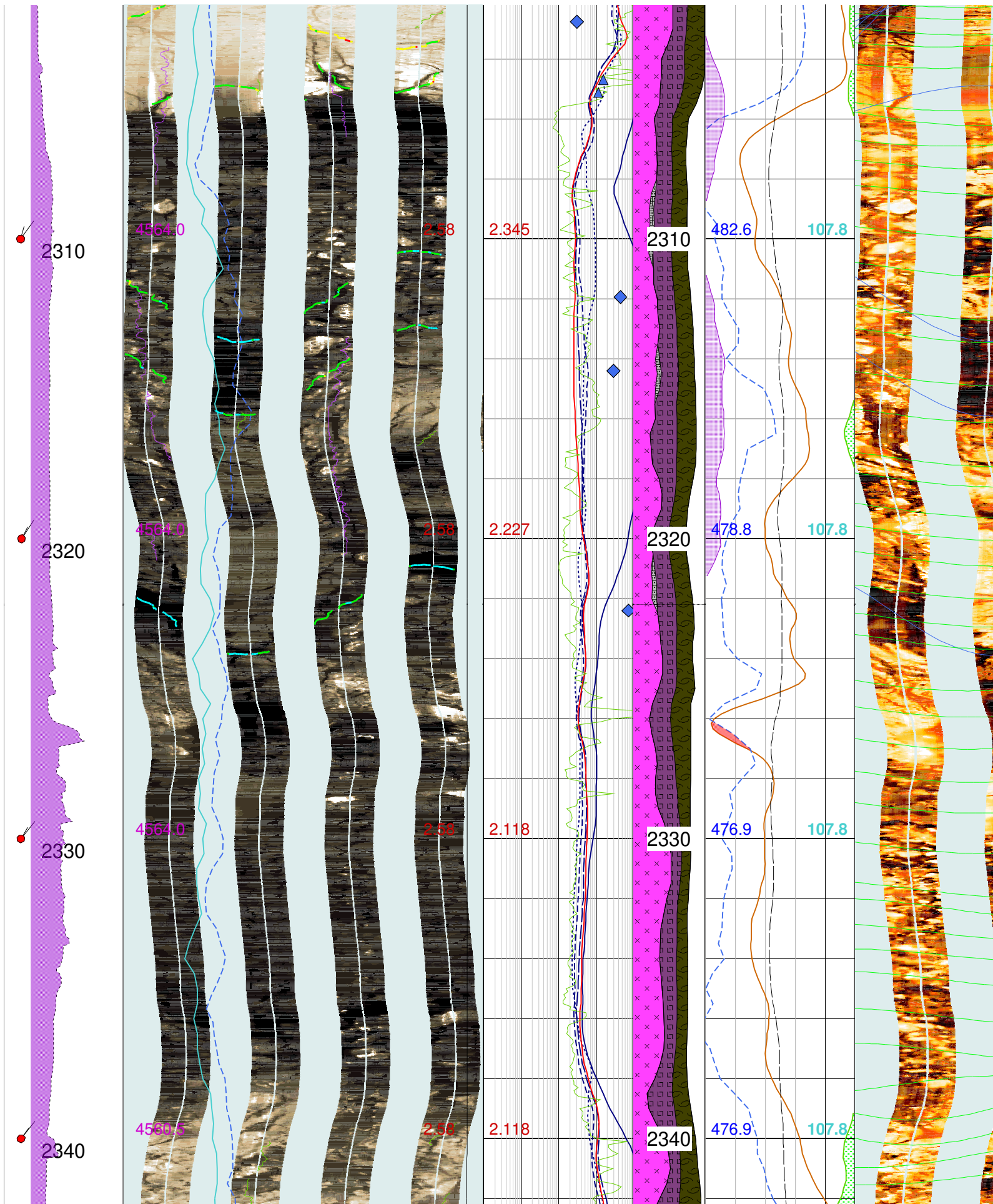


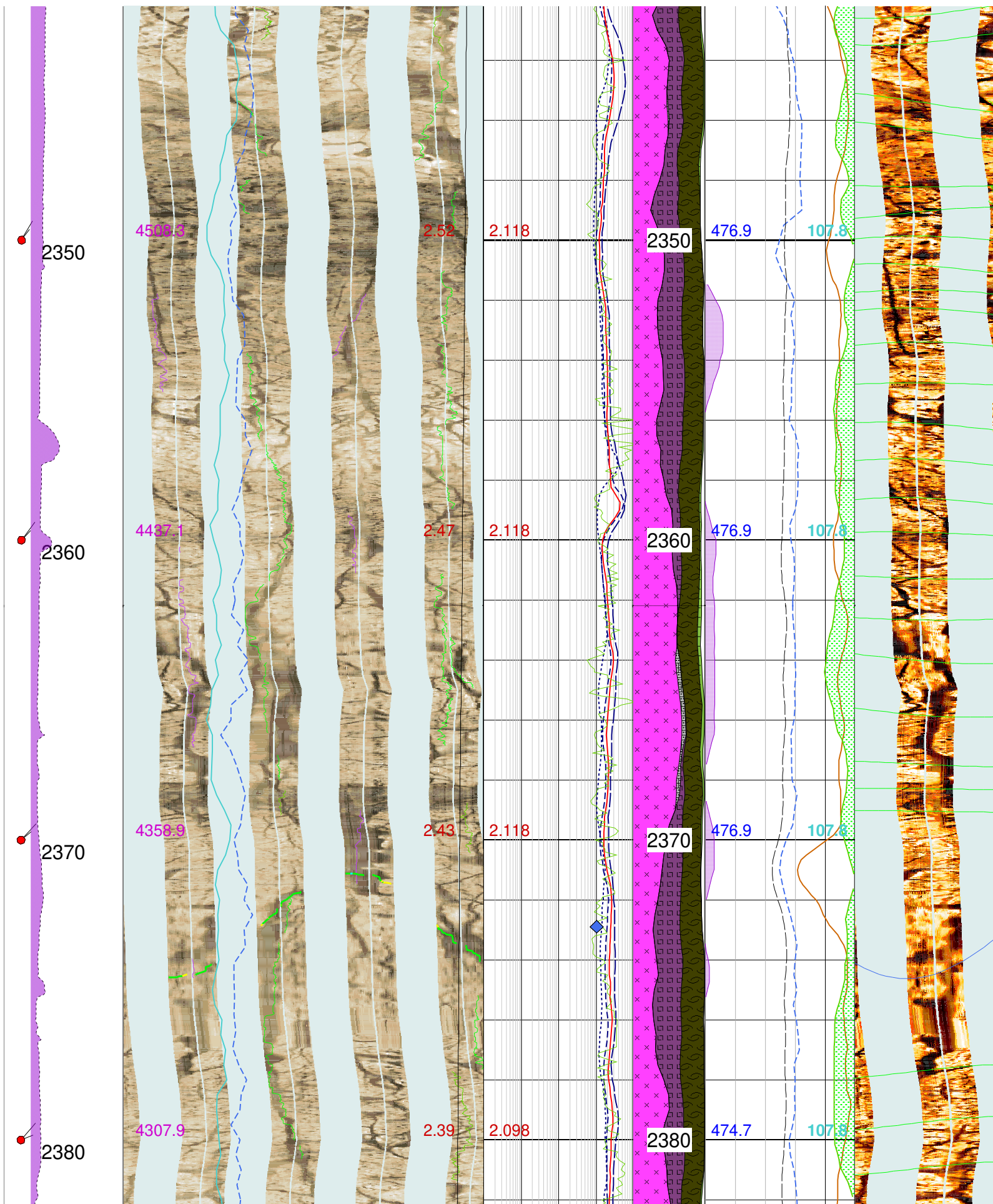




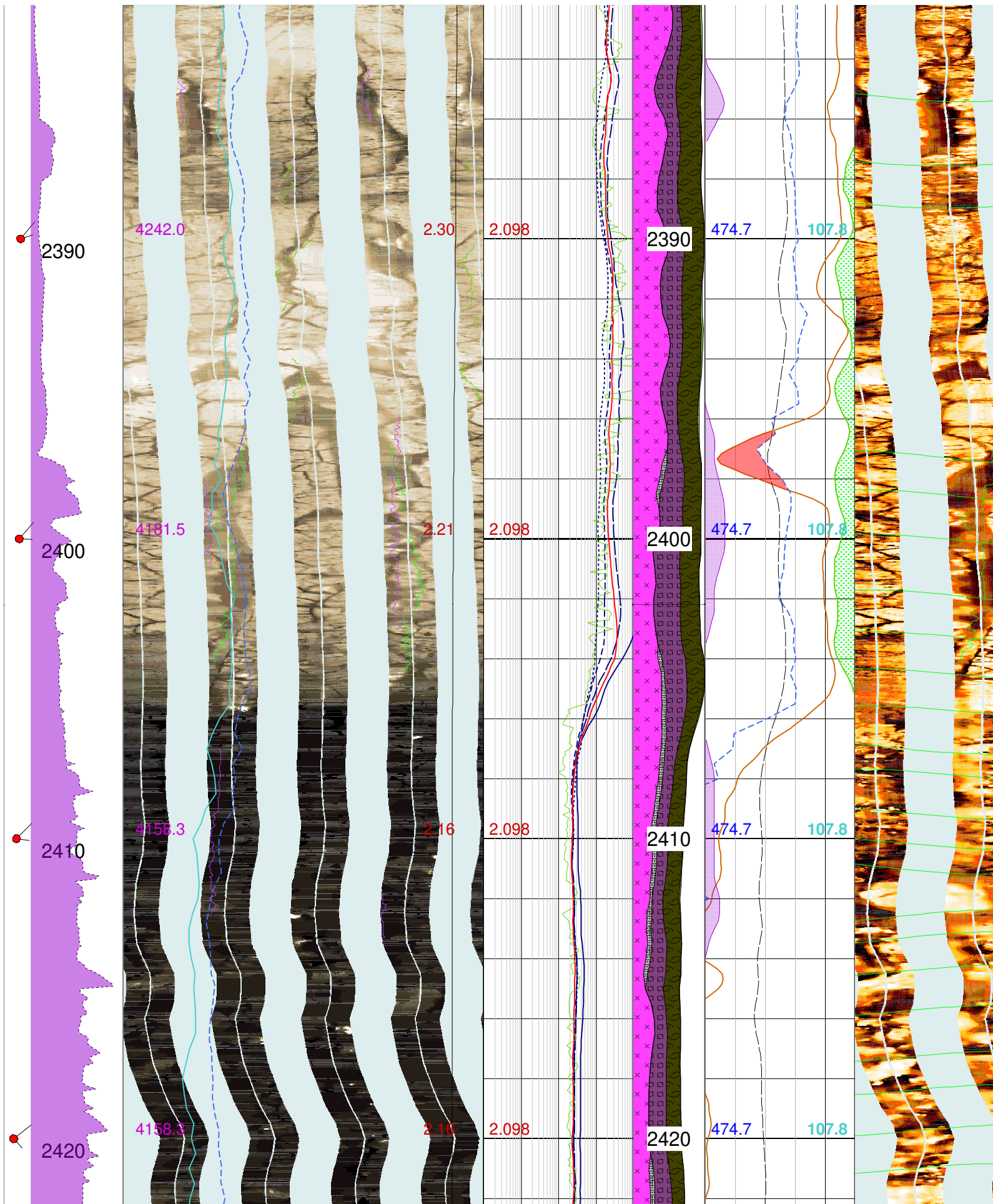


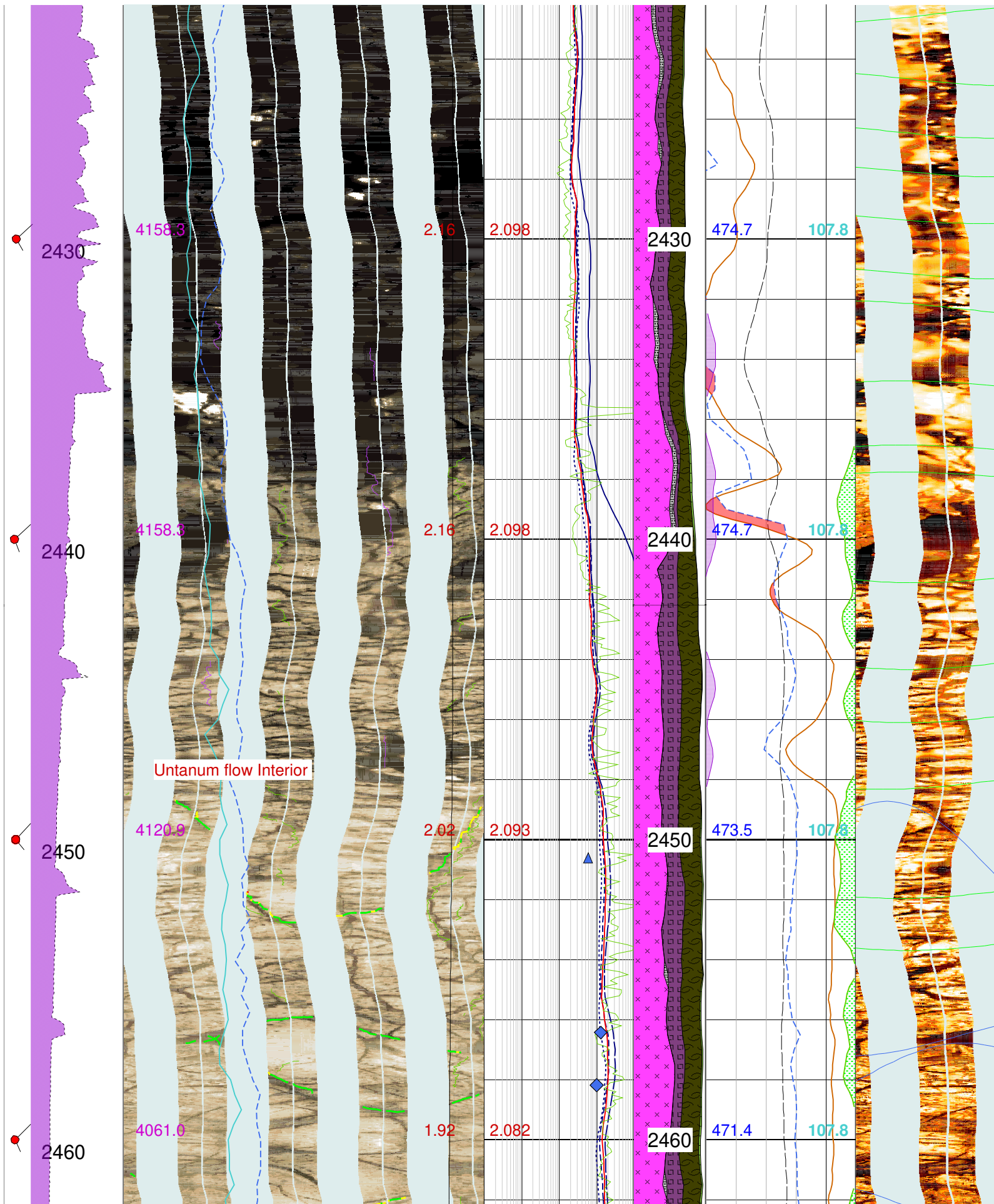




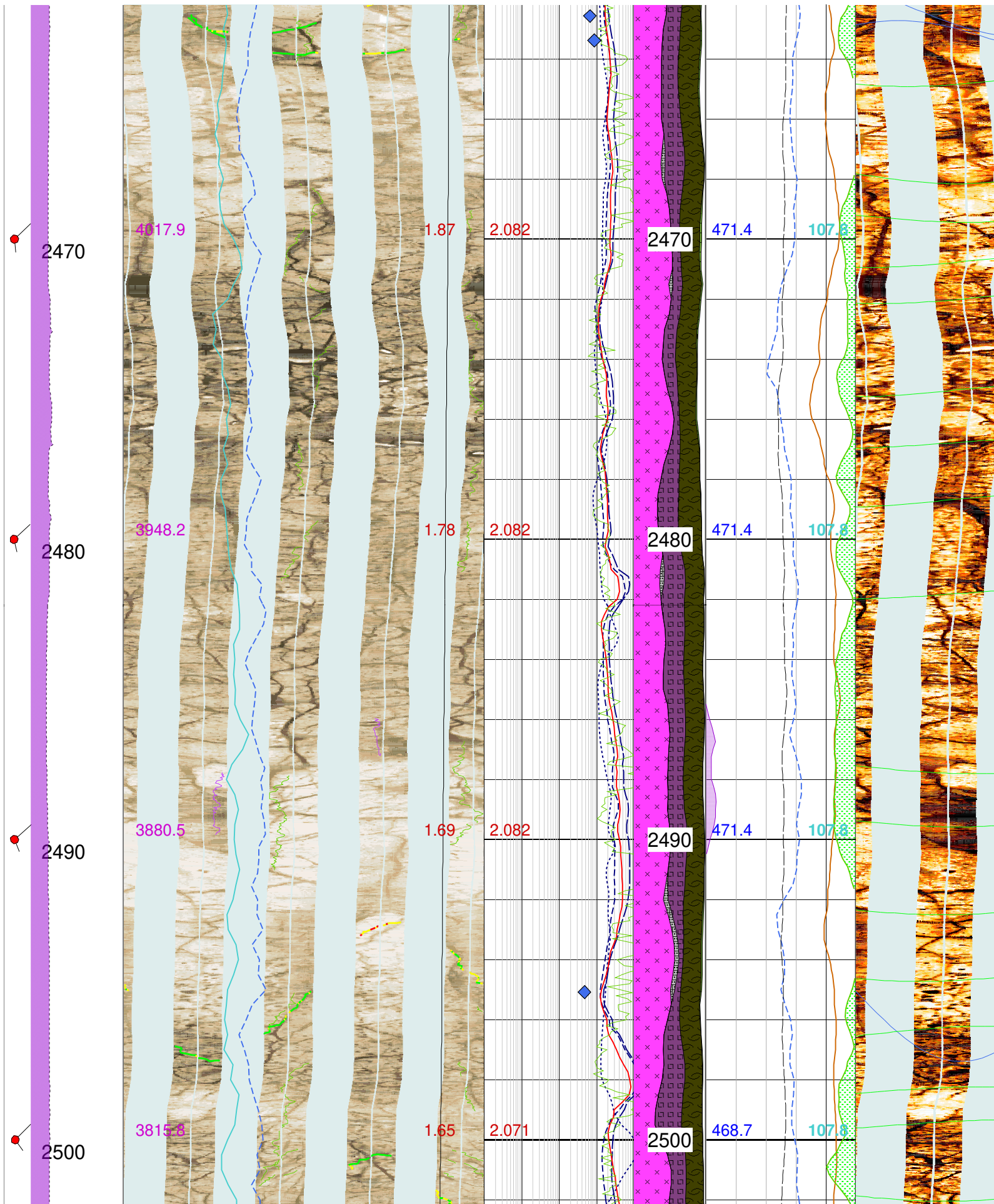


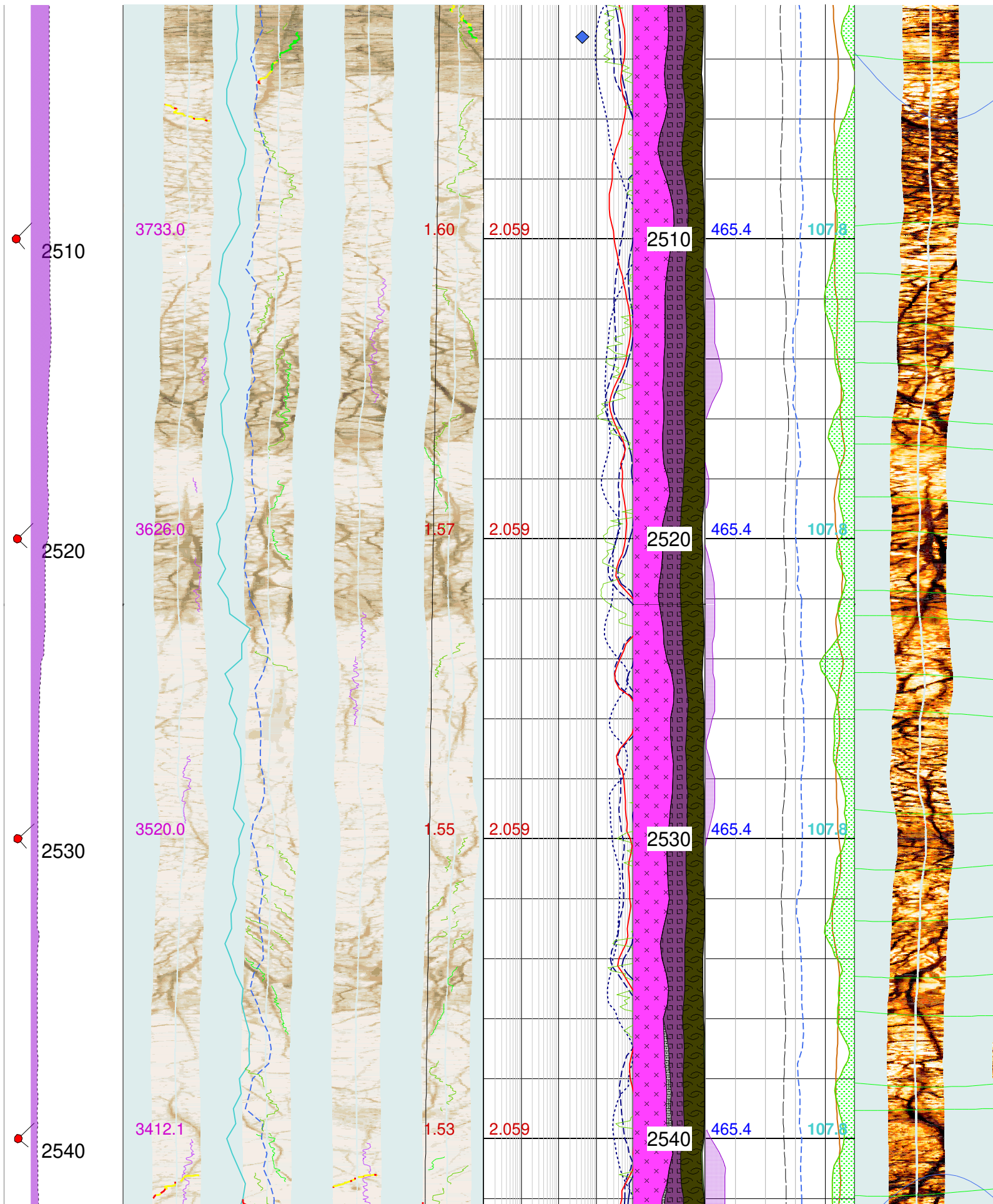




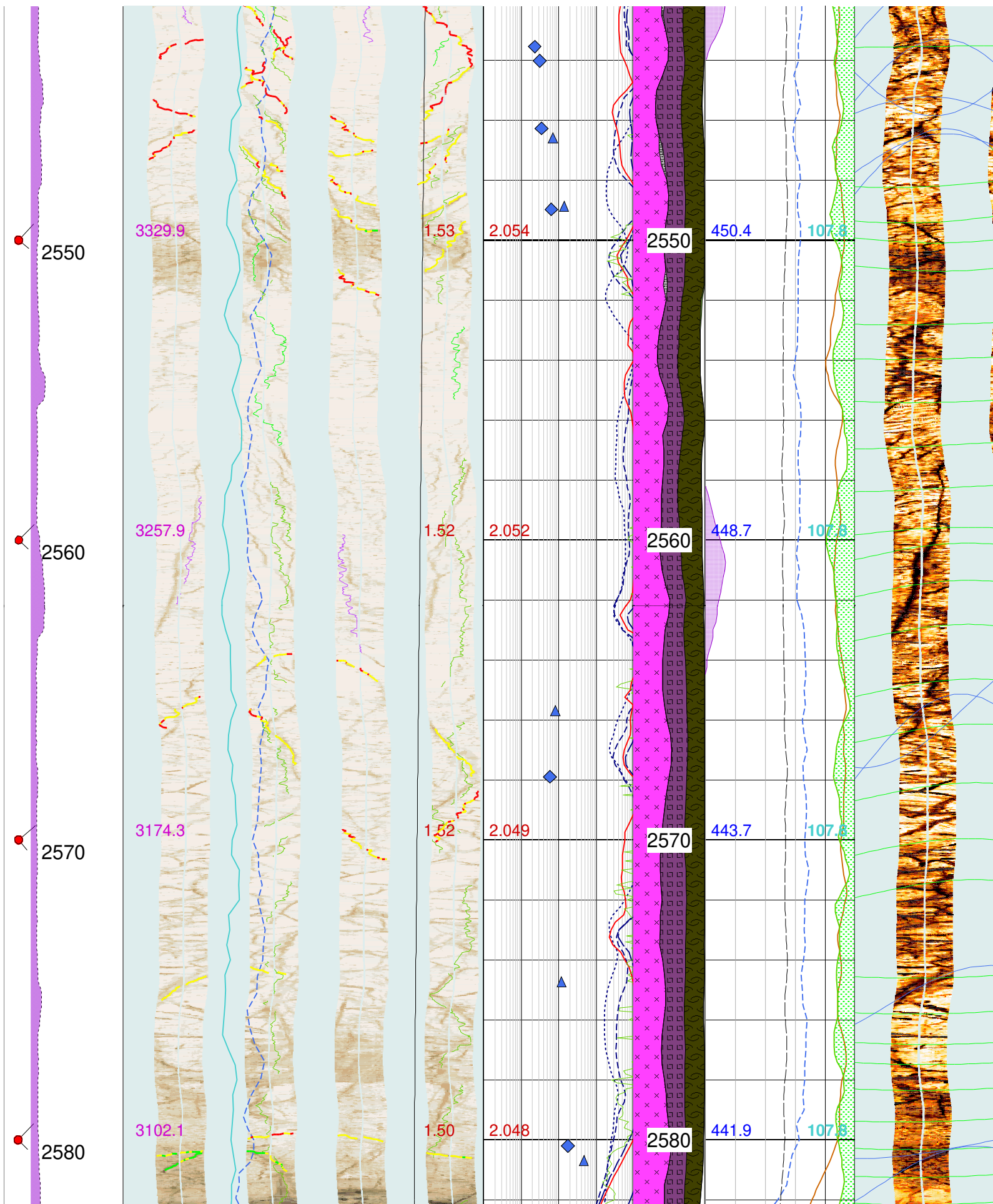




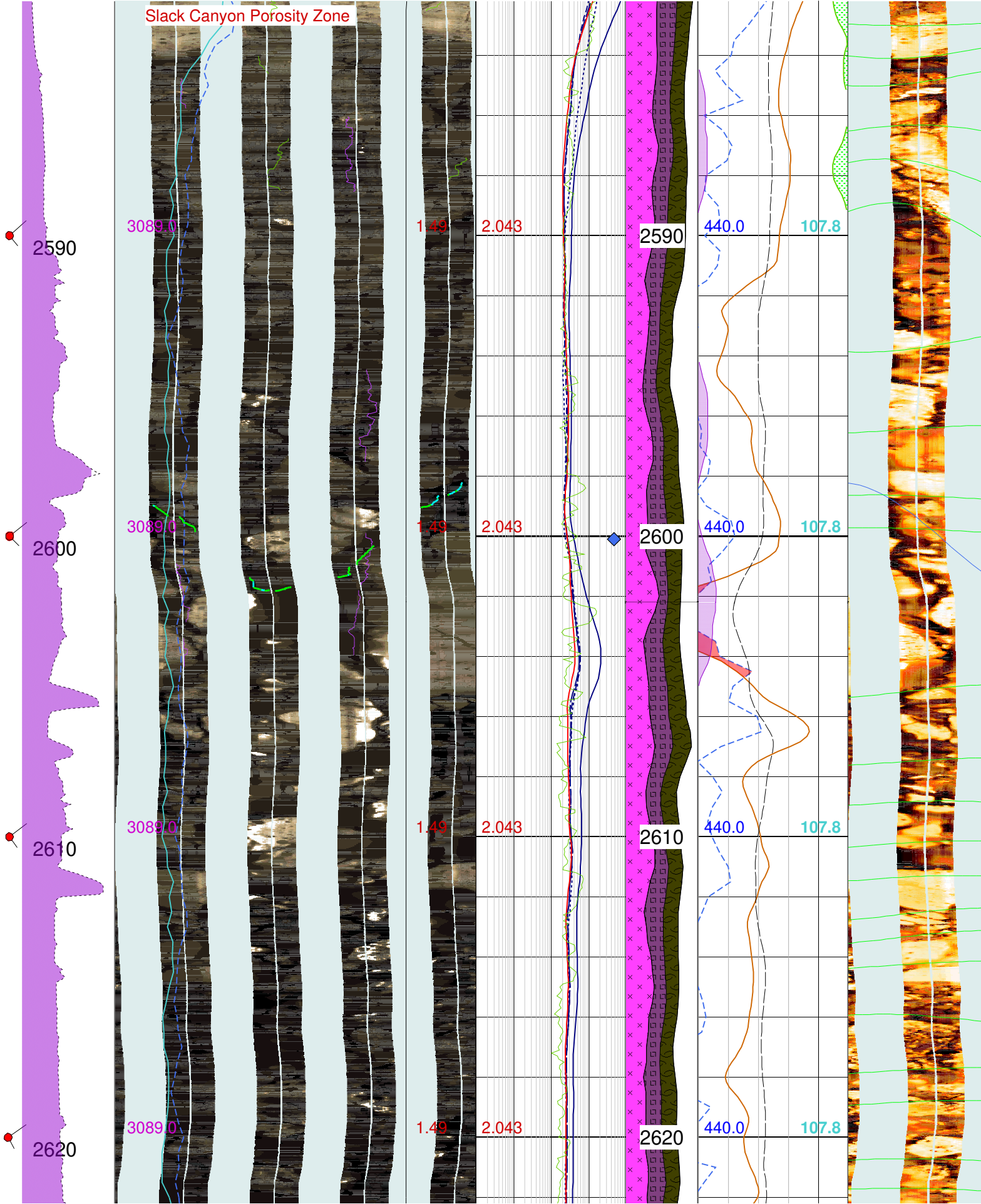




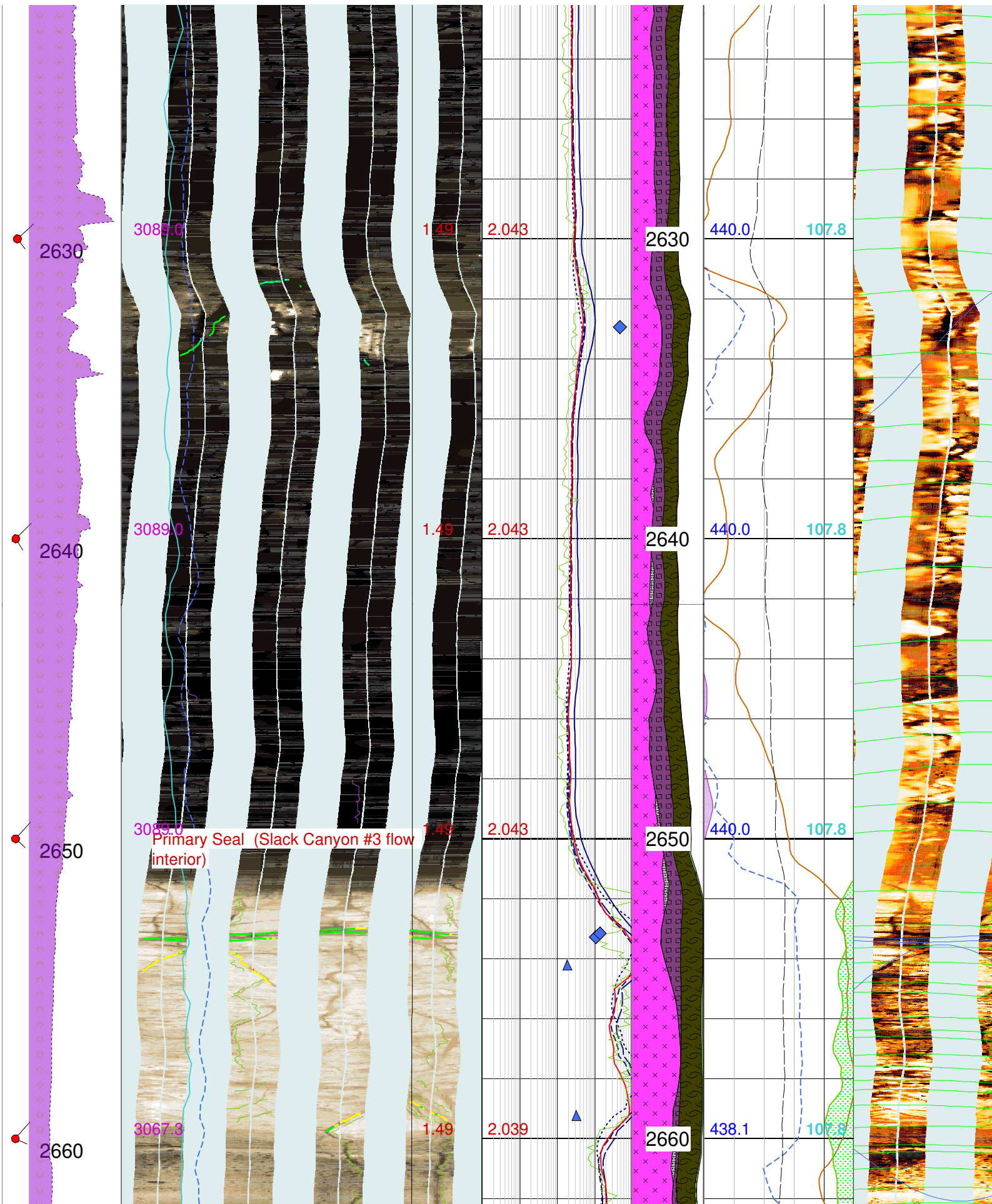


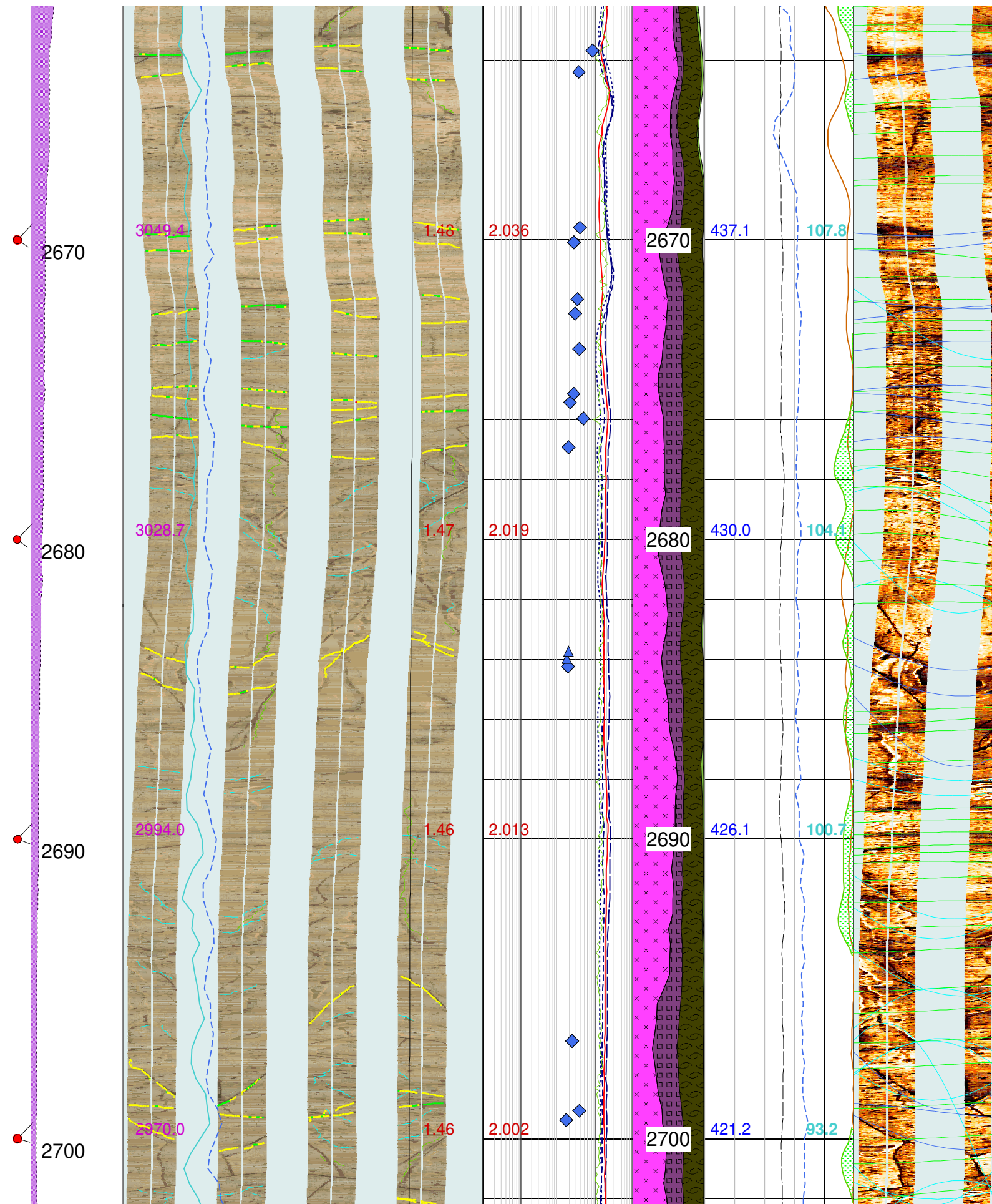


Slack Canyon Porosity Zone

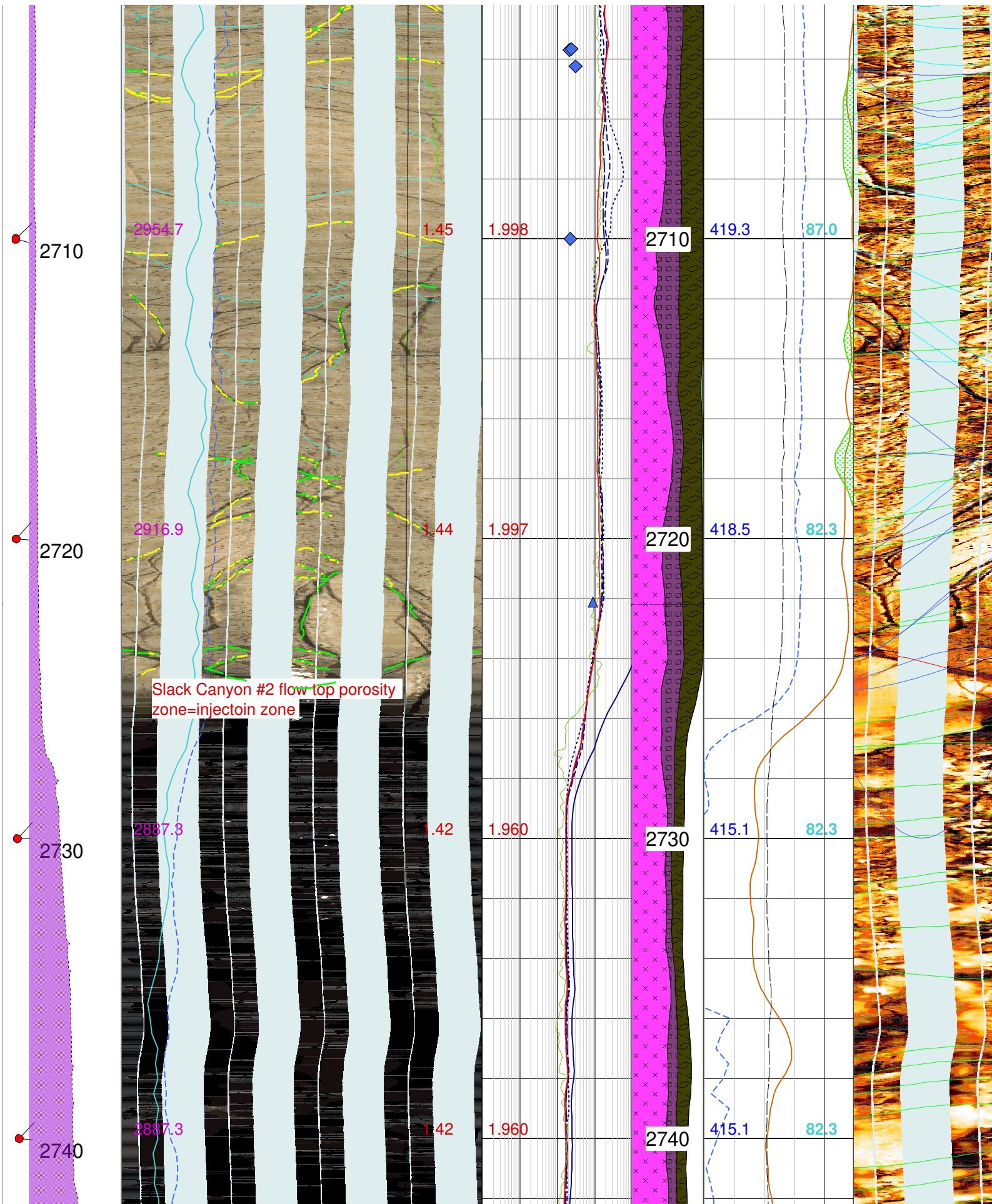


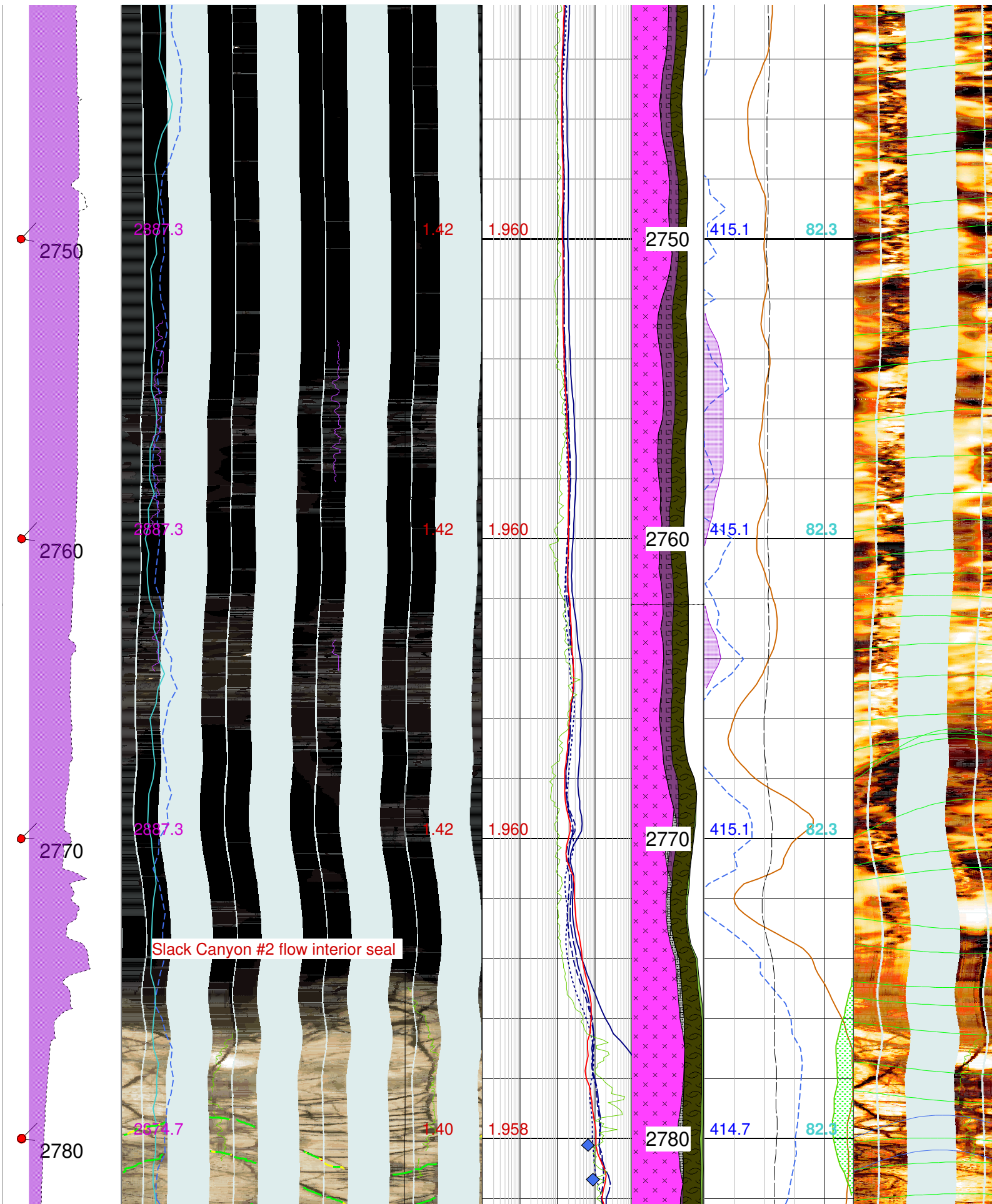




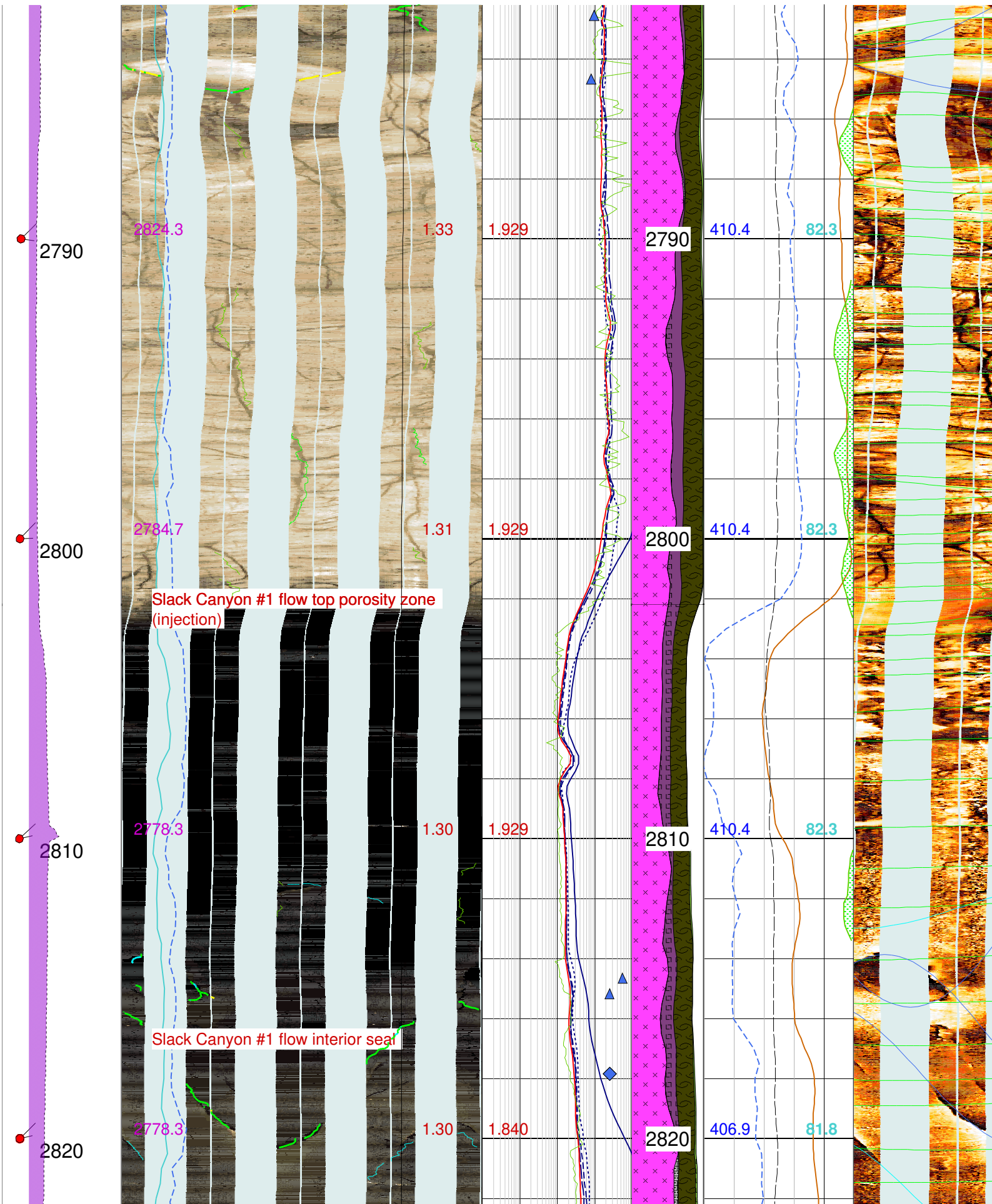


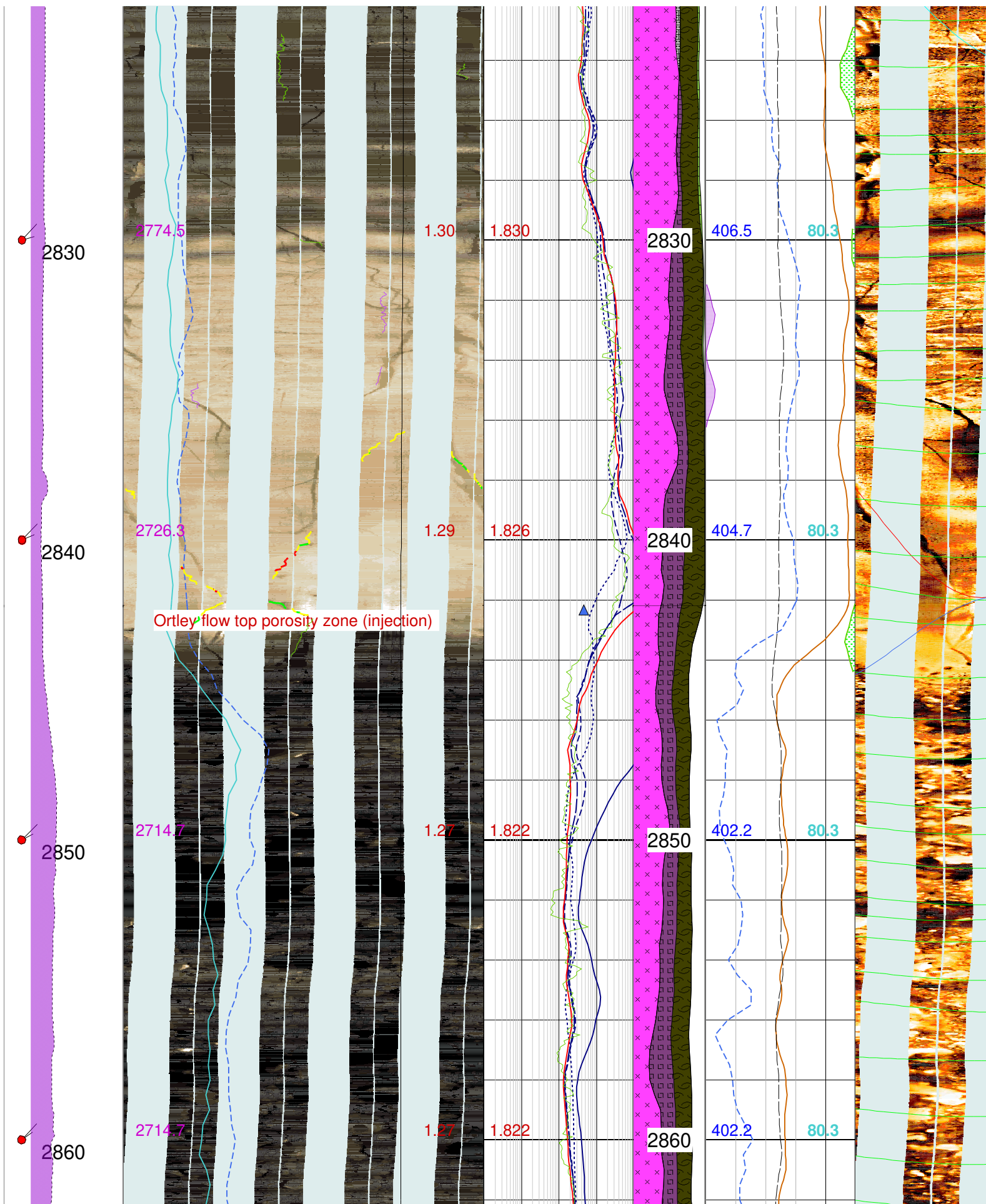




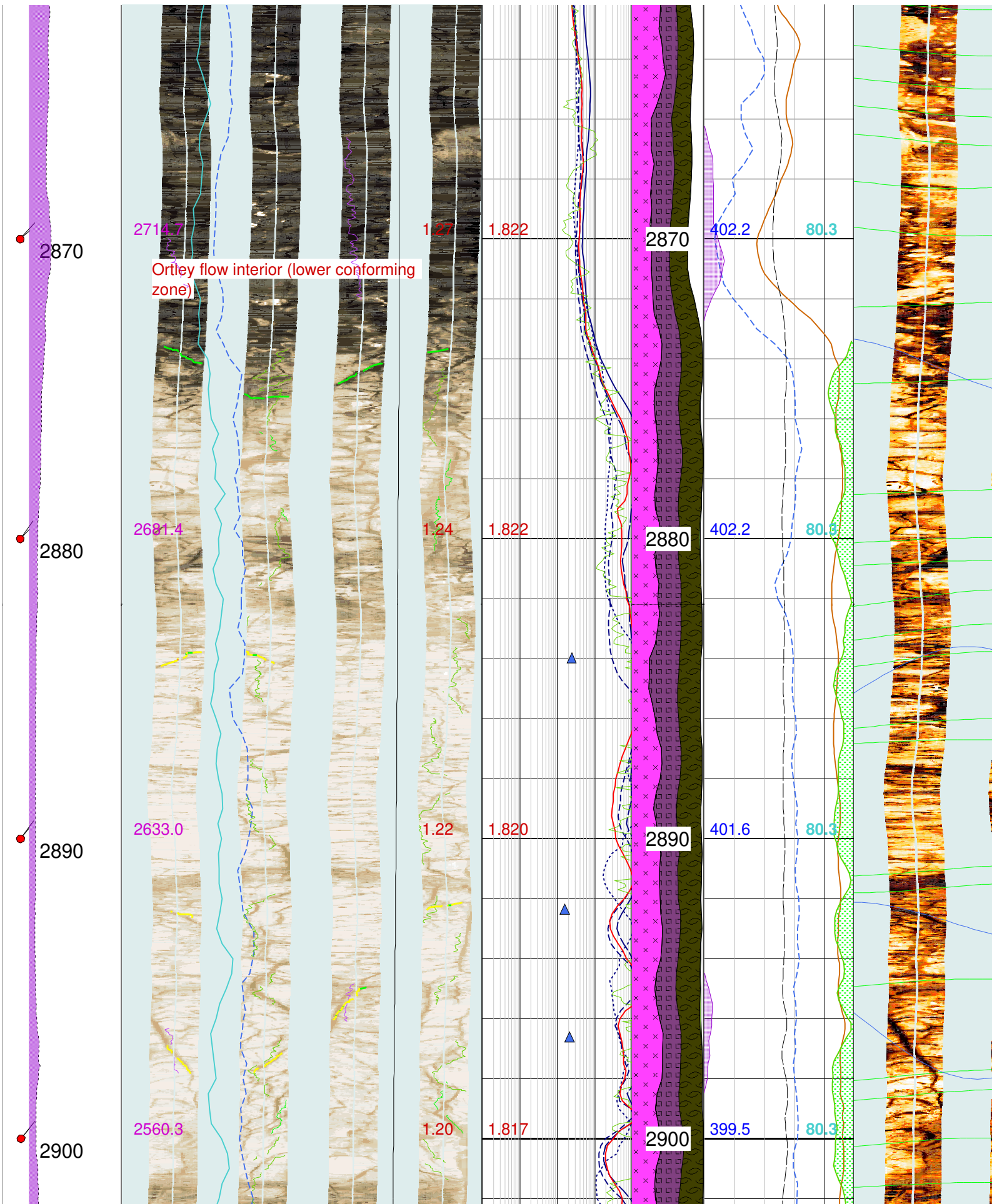


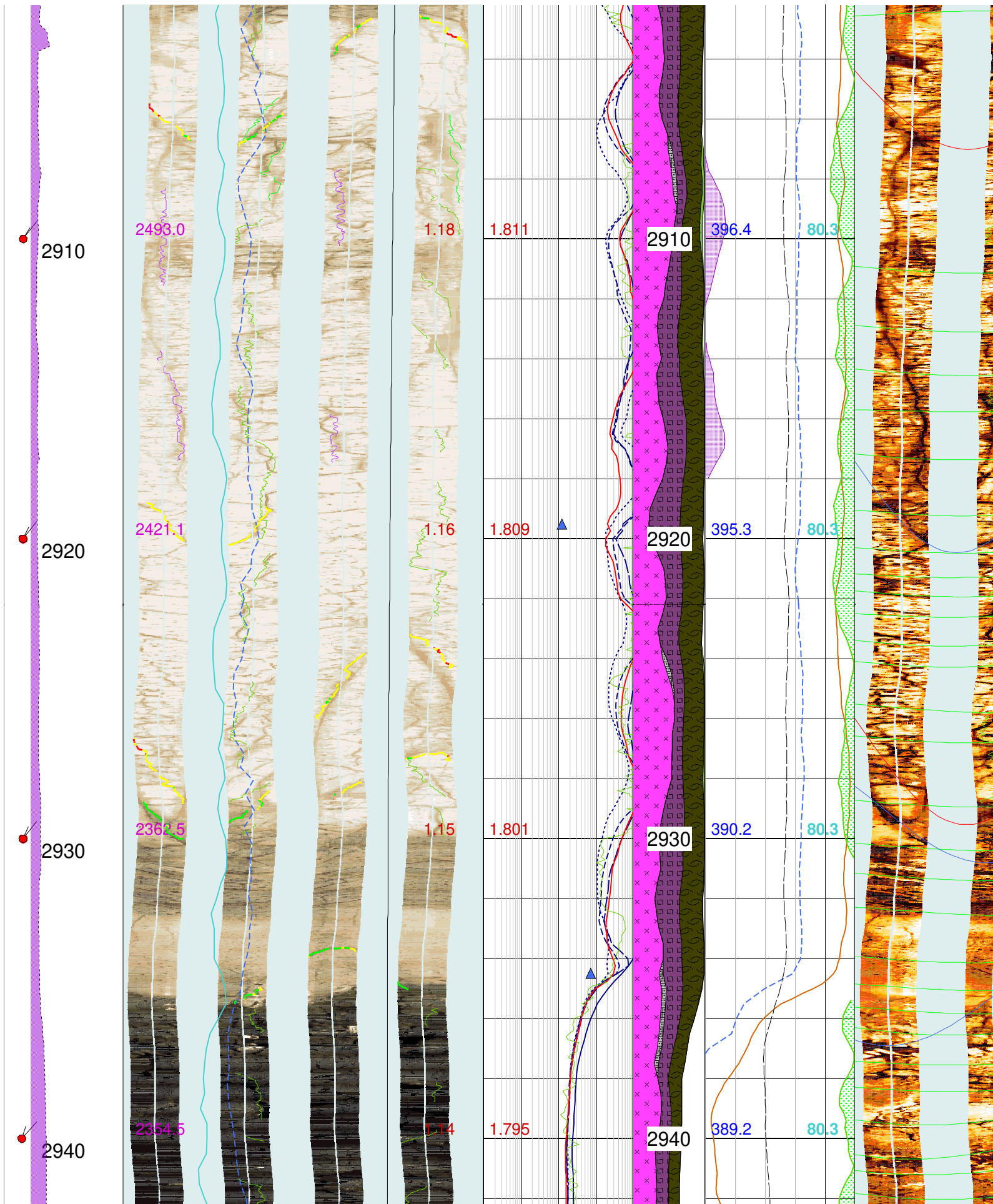




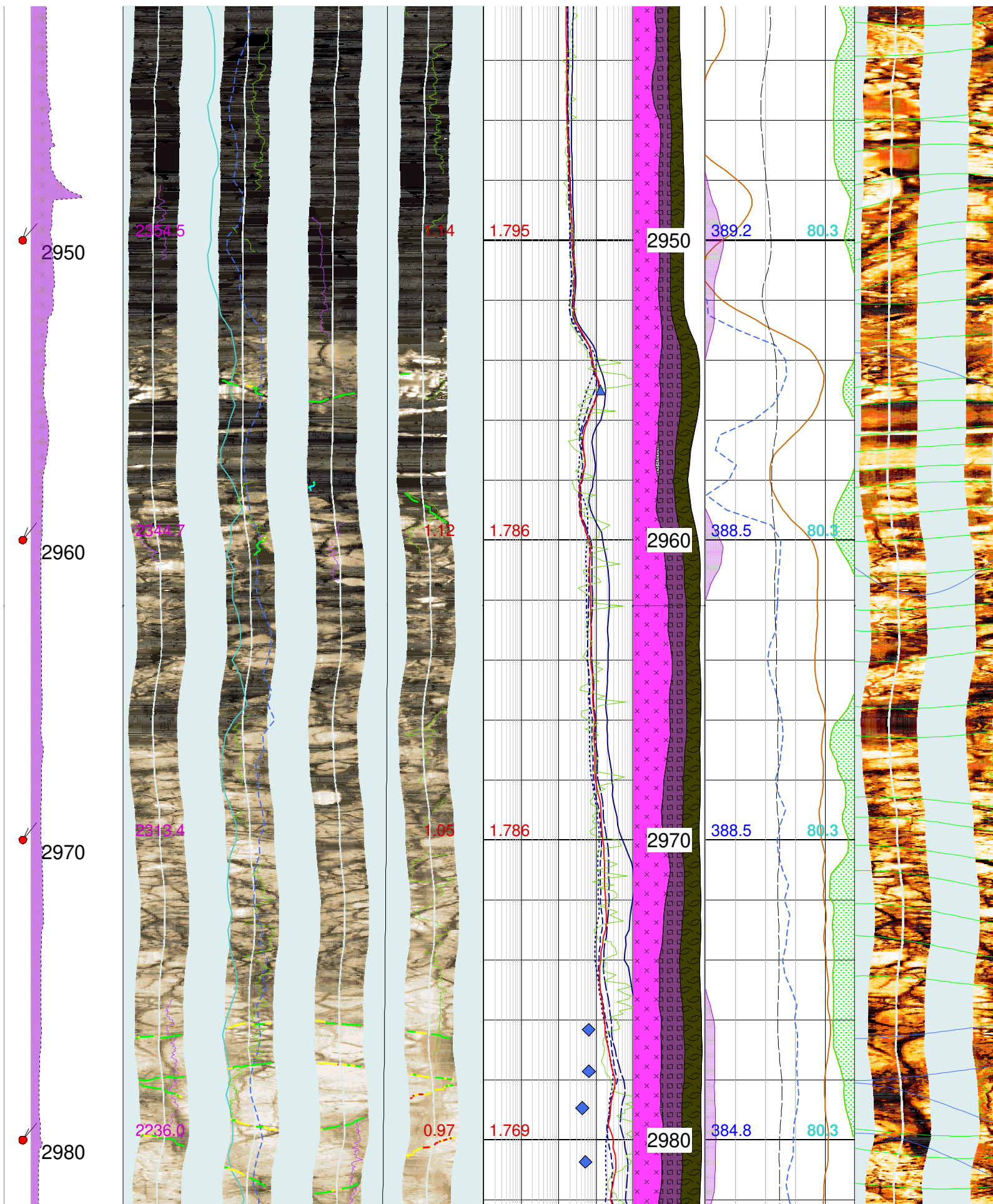


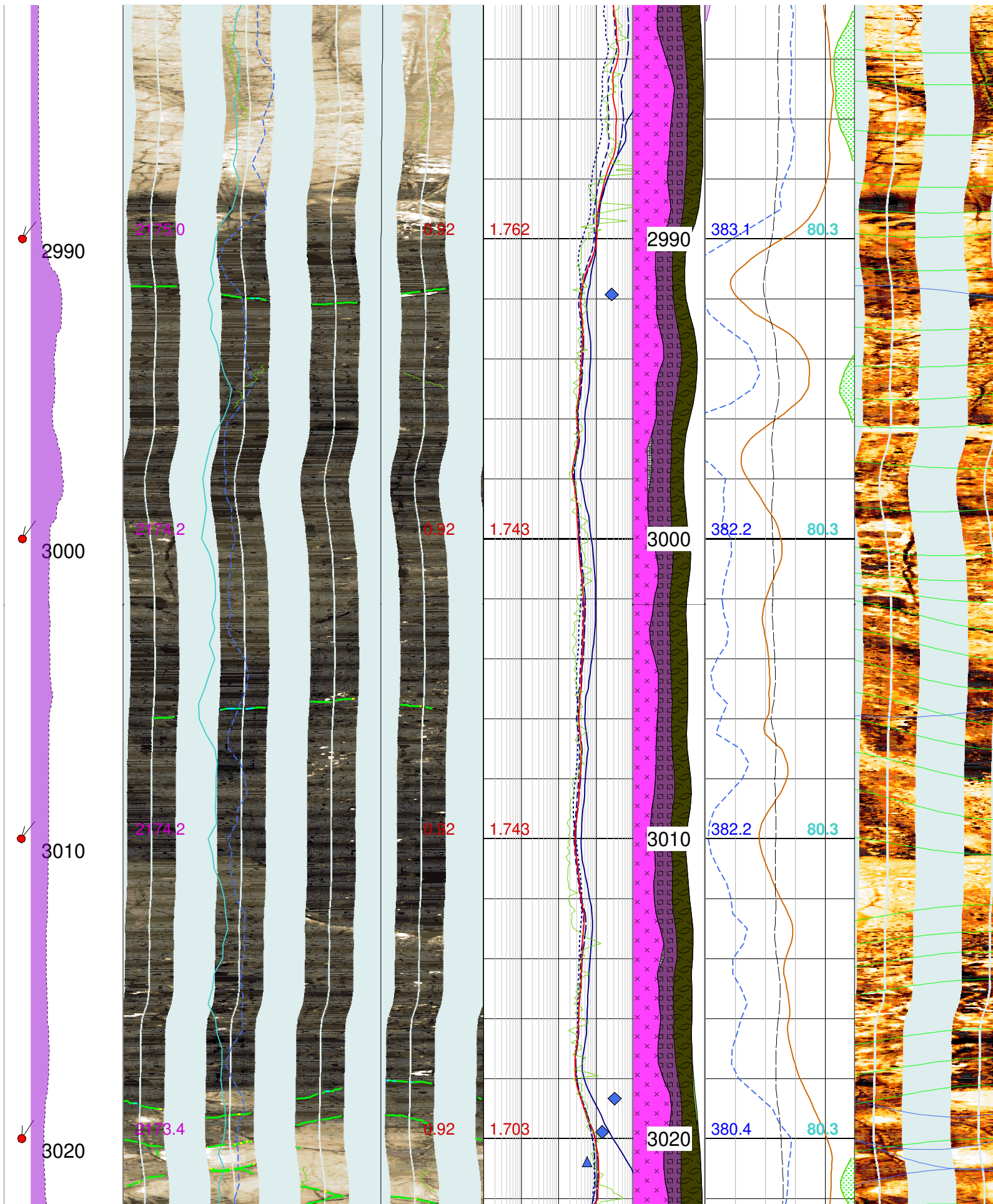




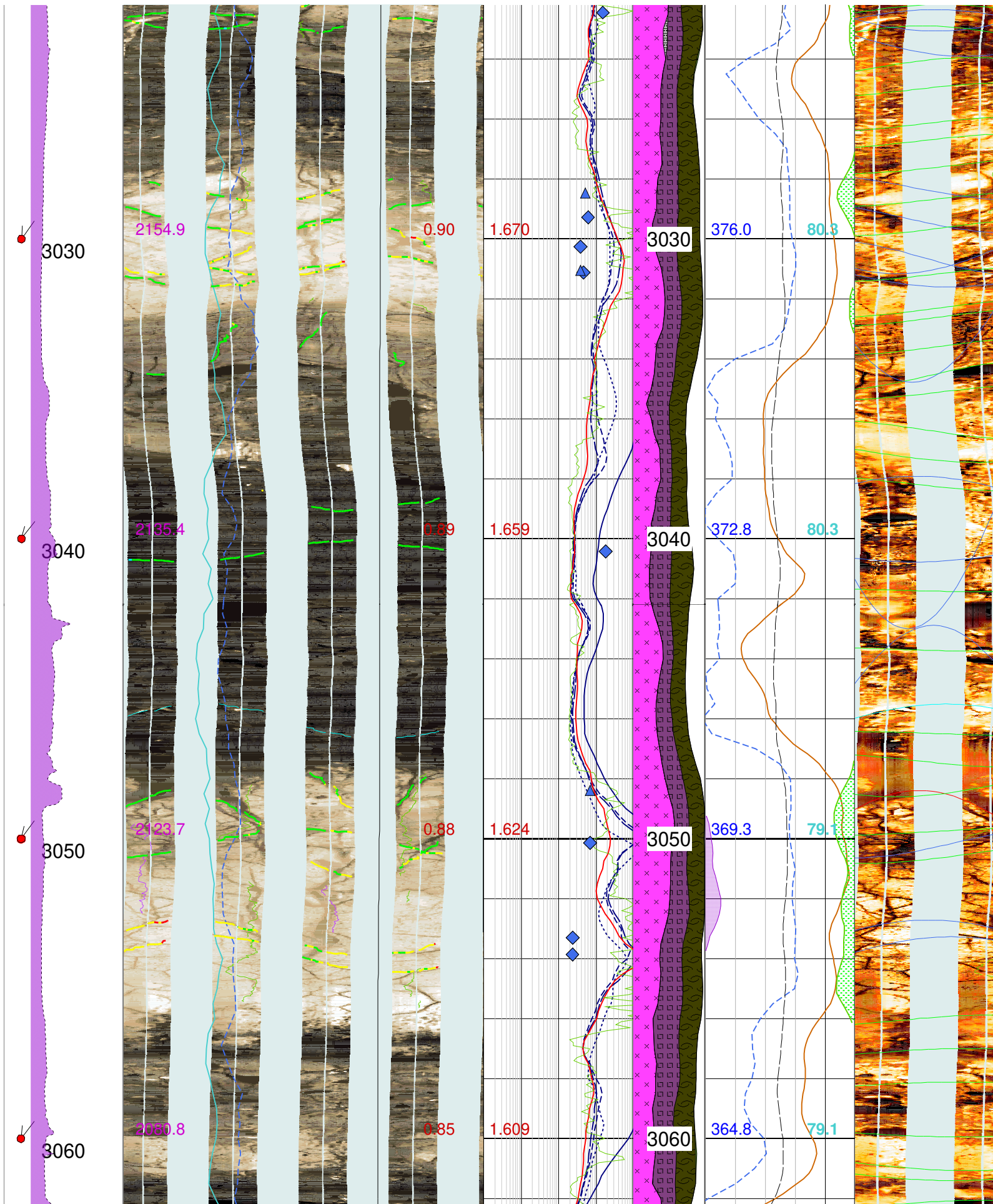


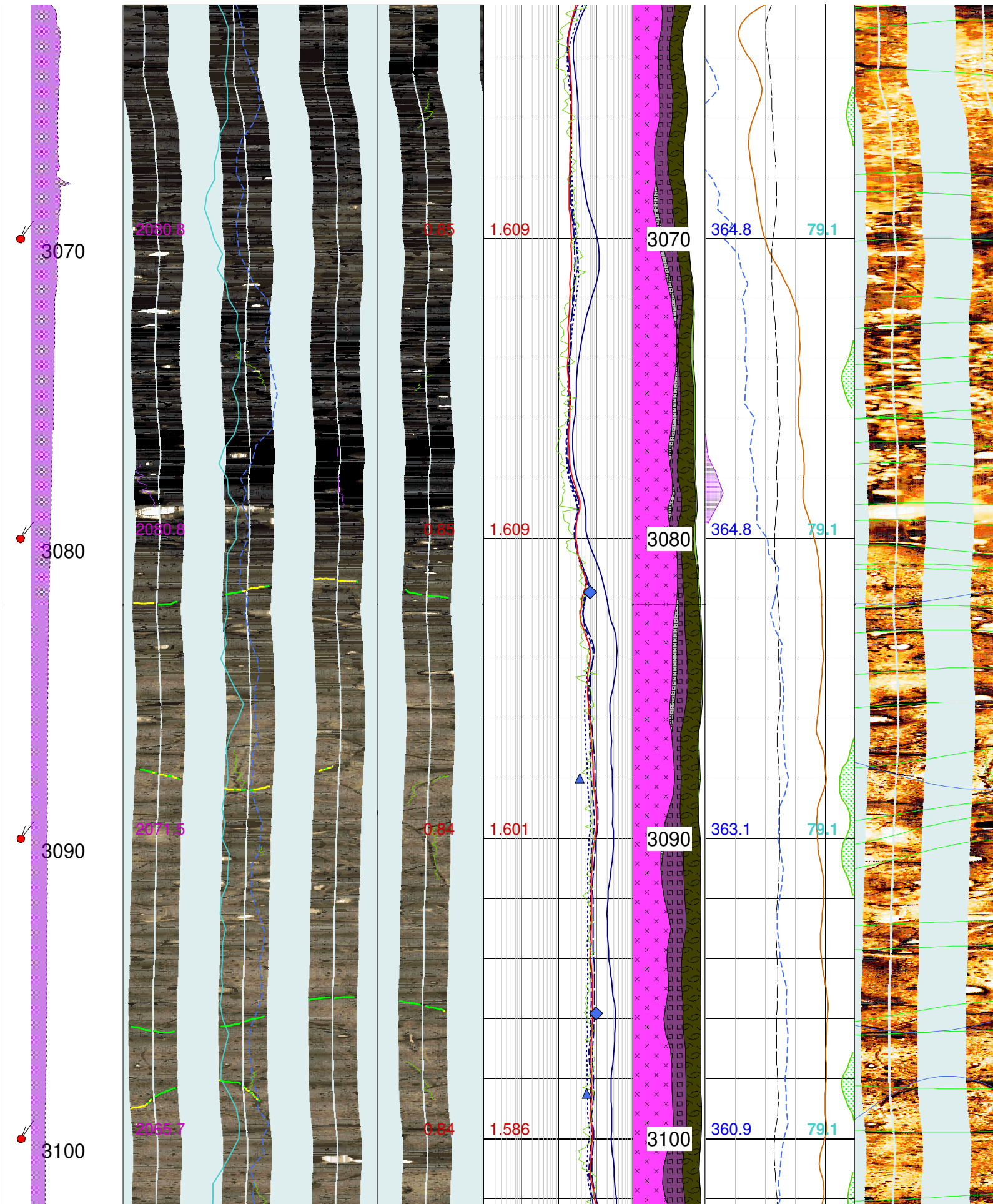




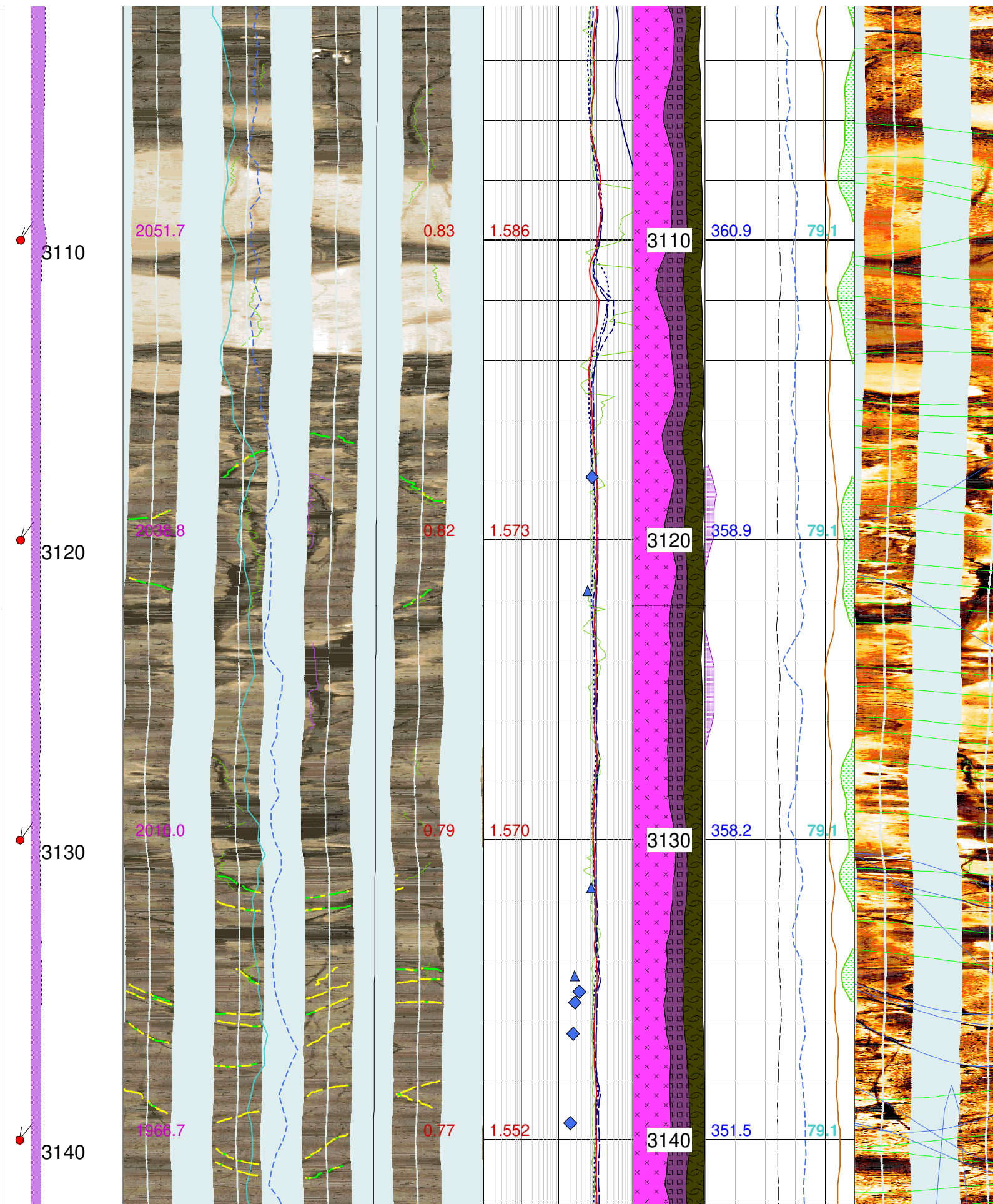


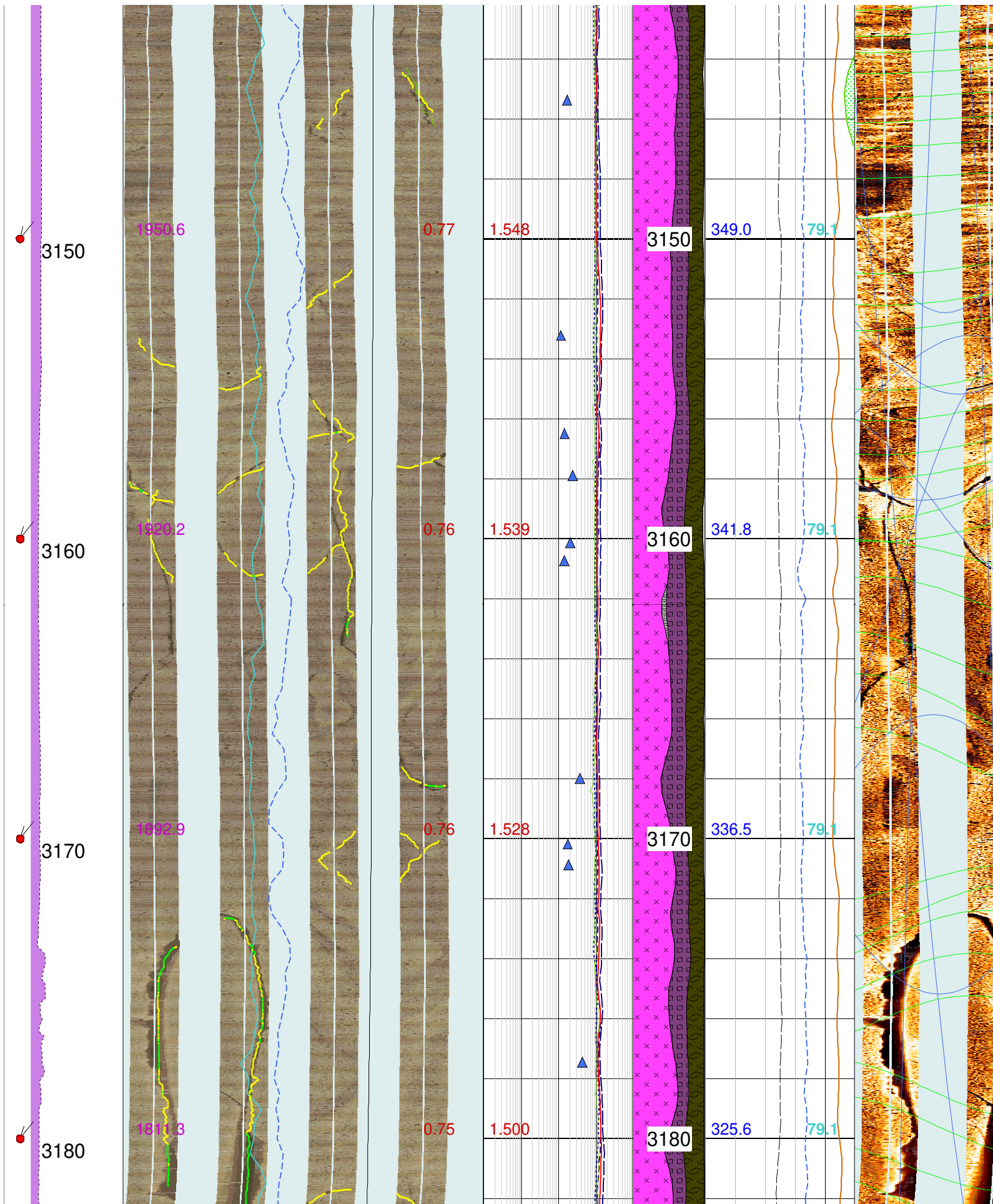




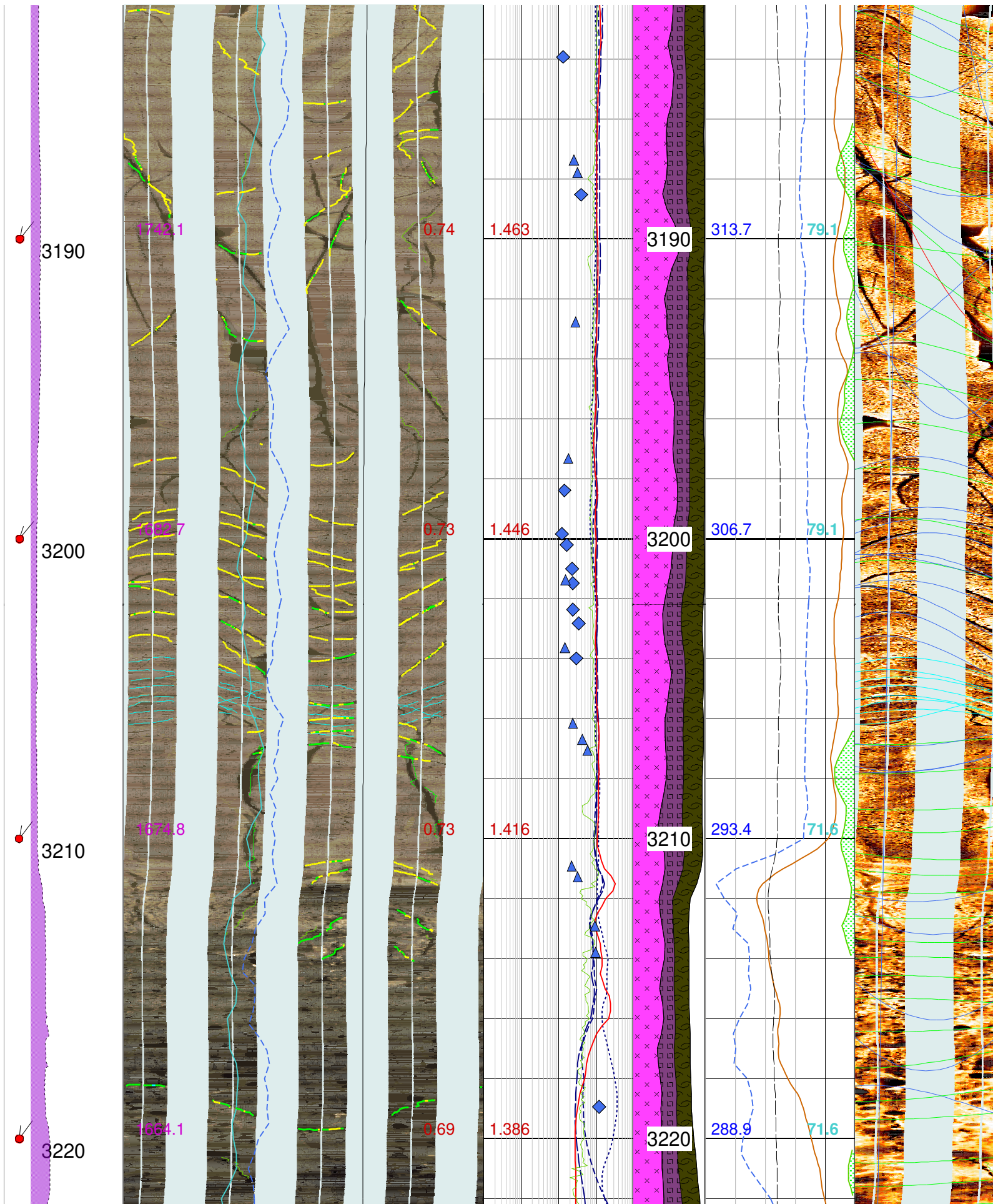


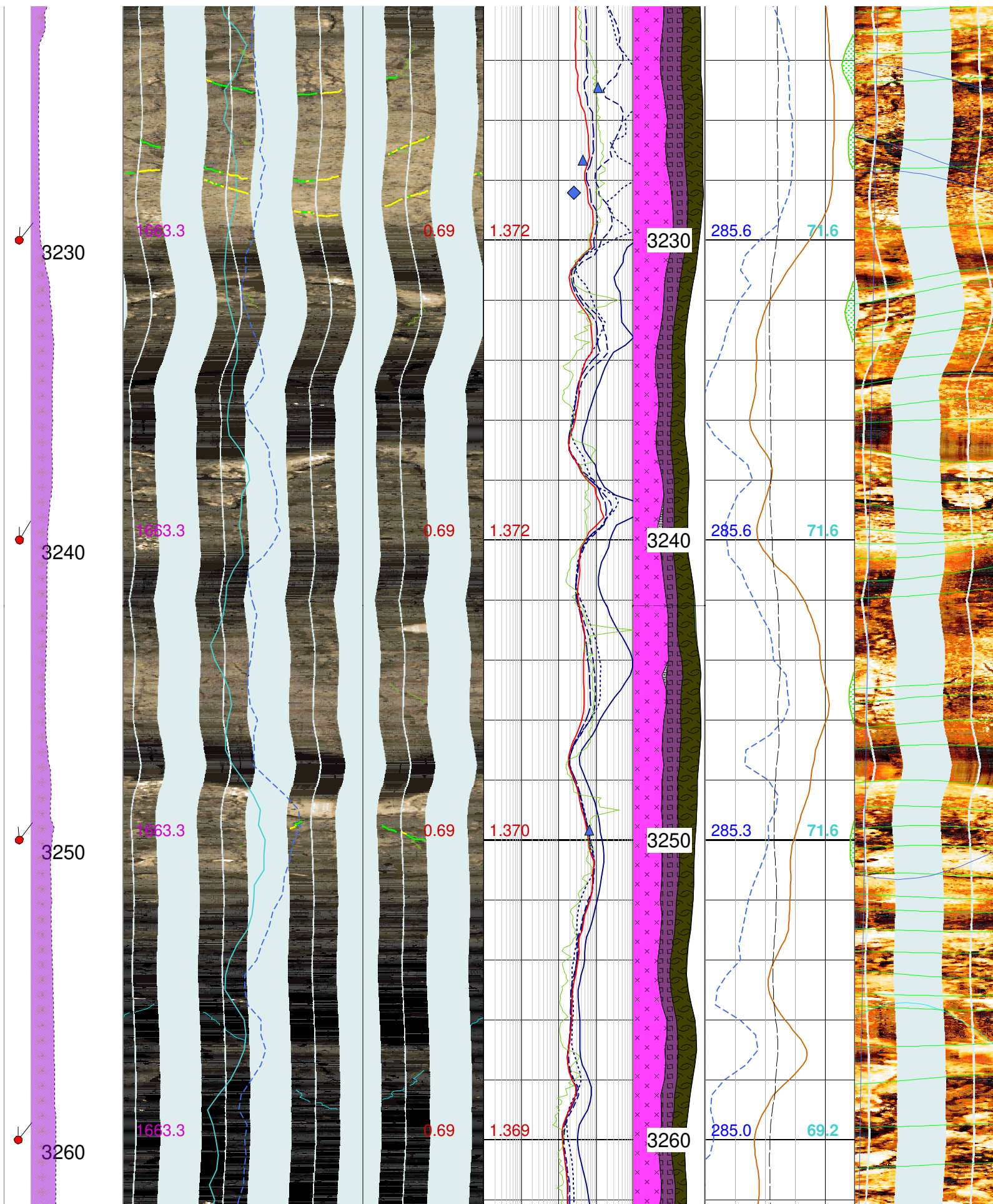




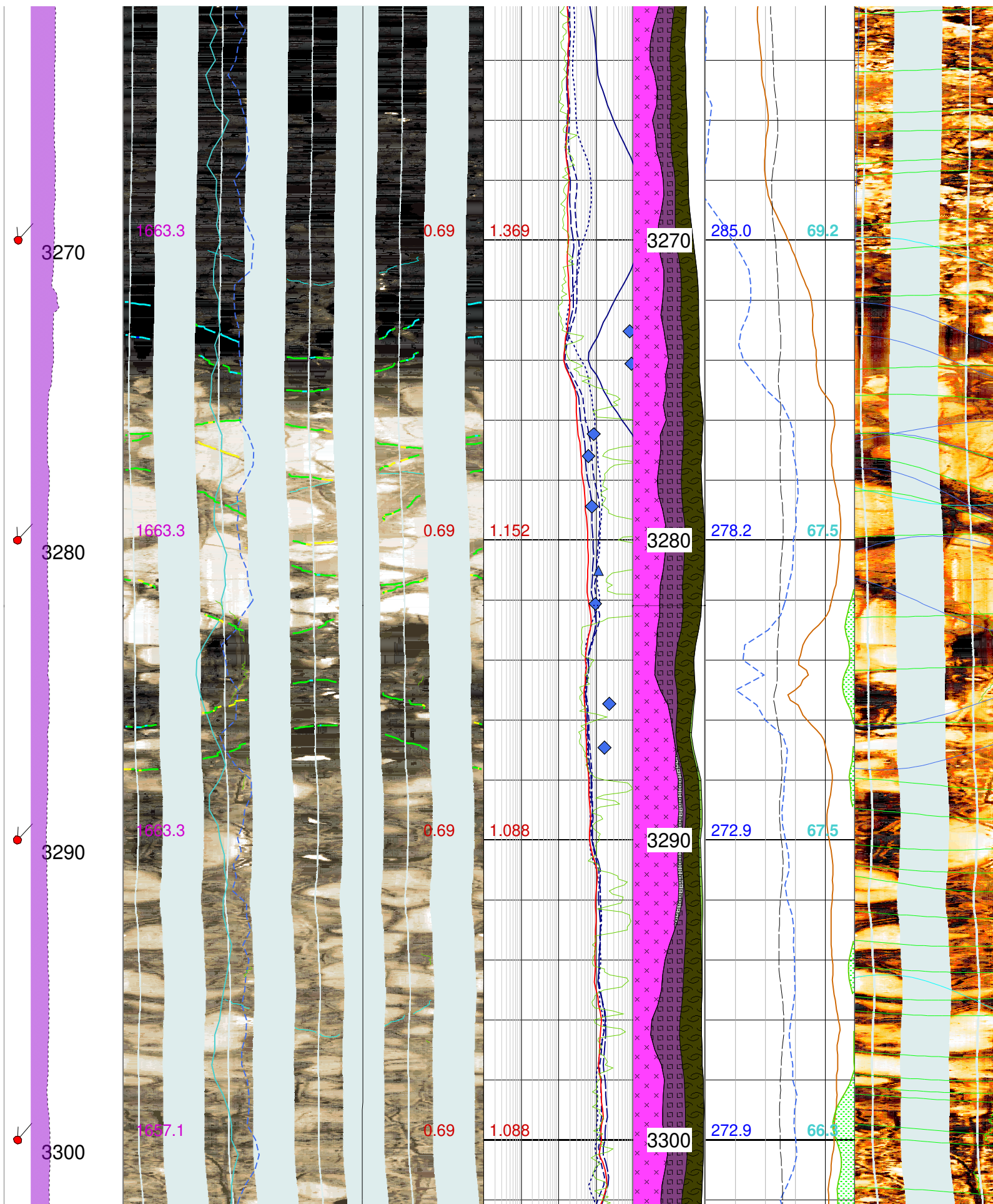




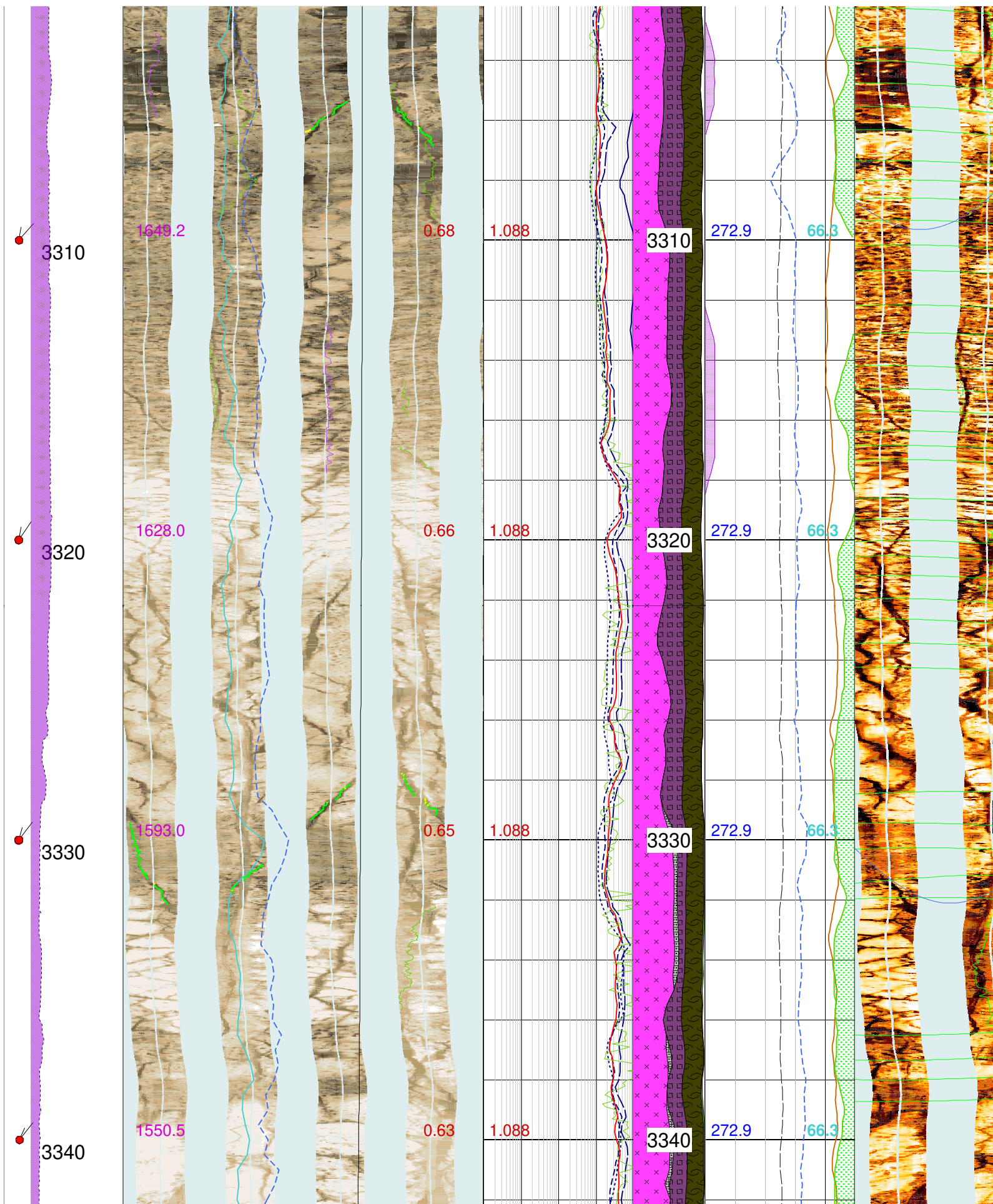


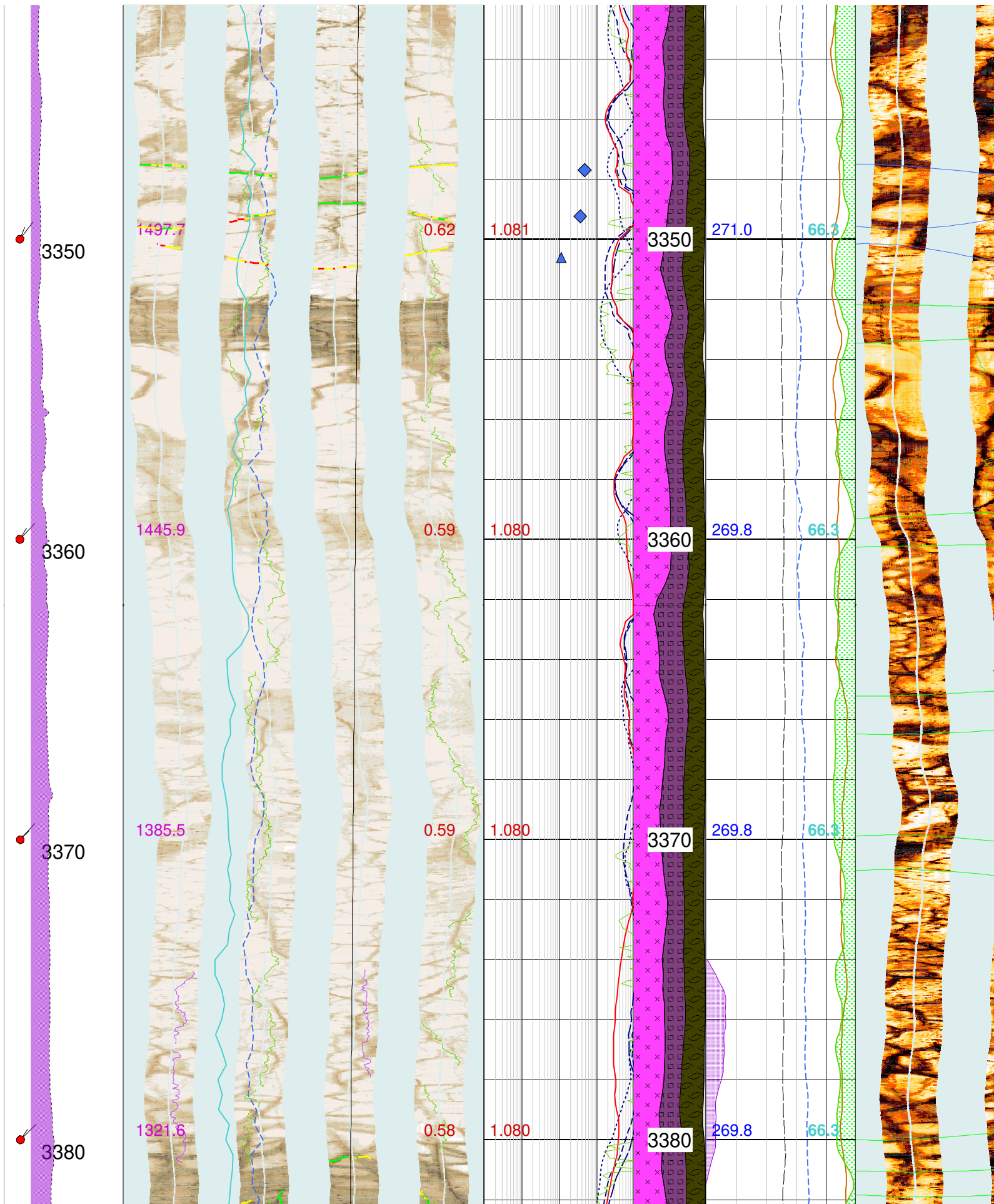




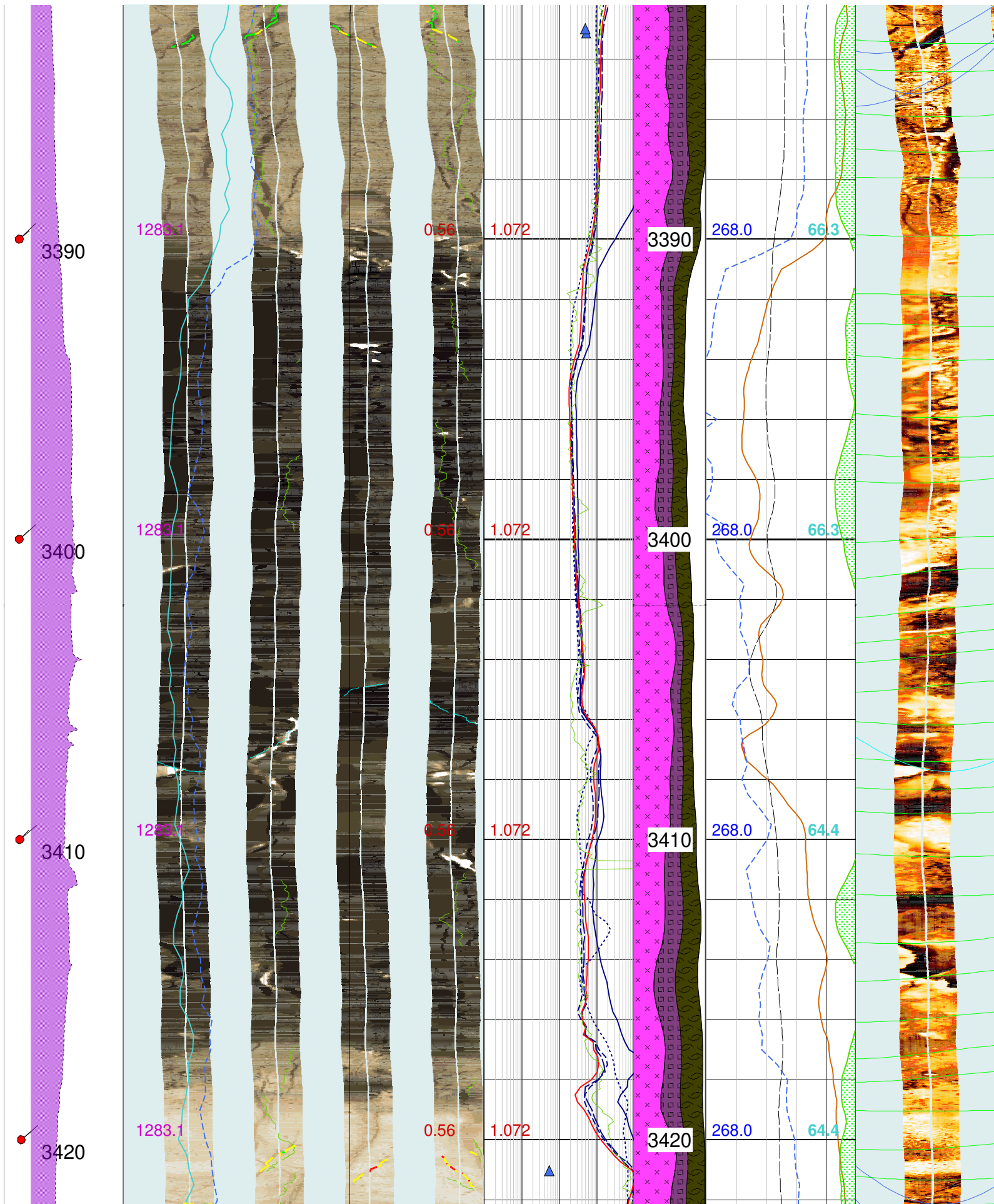


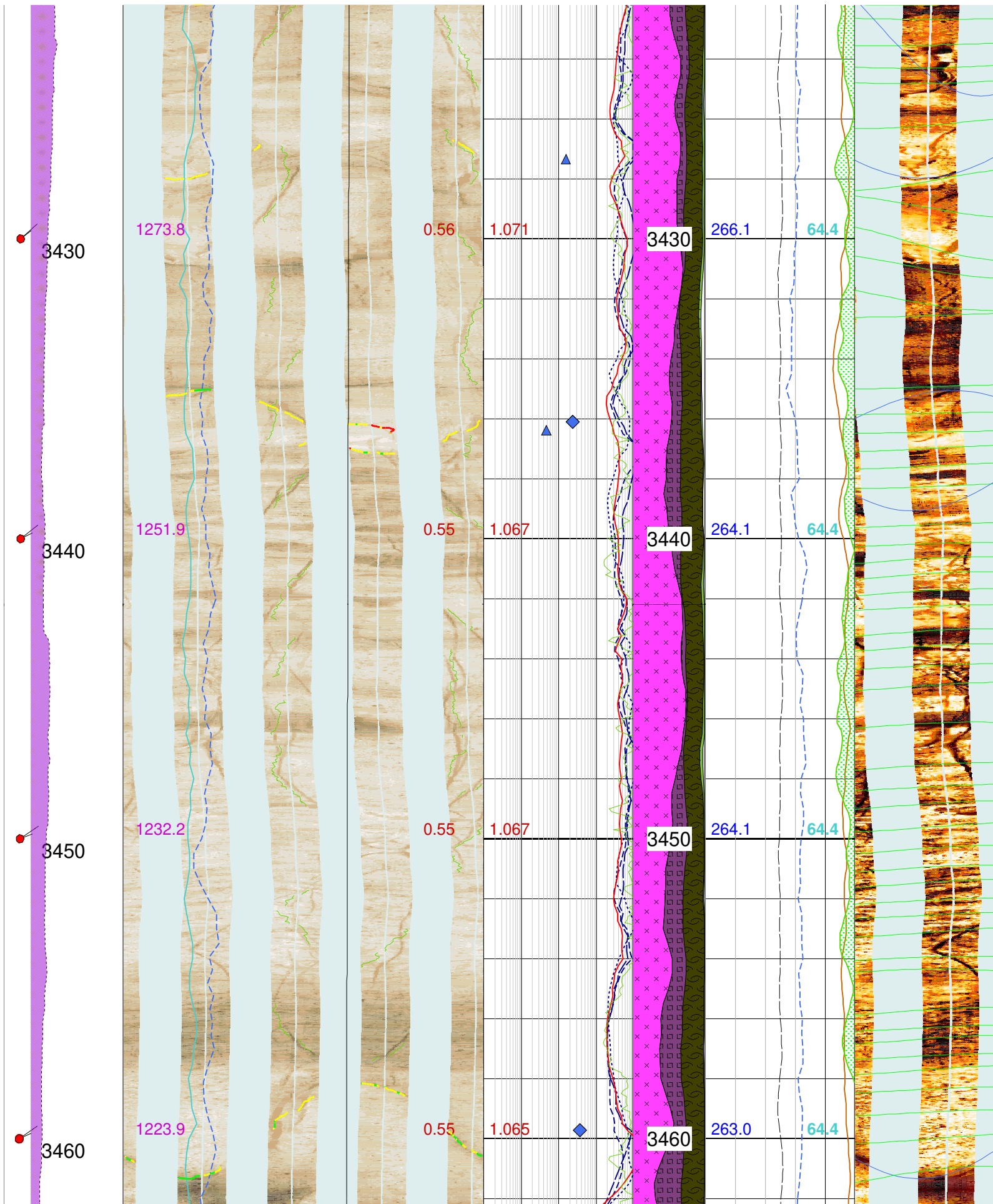




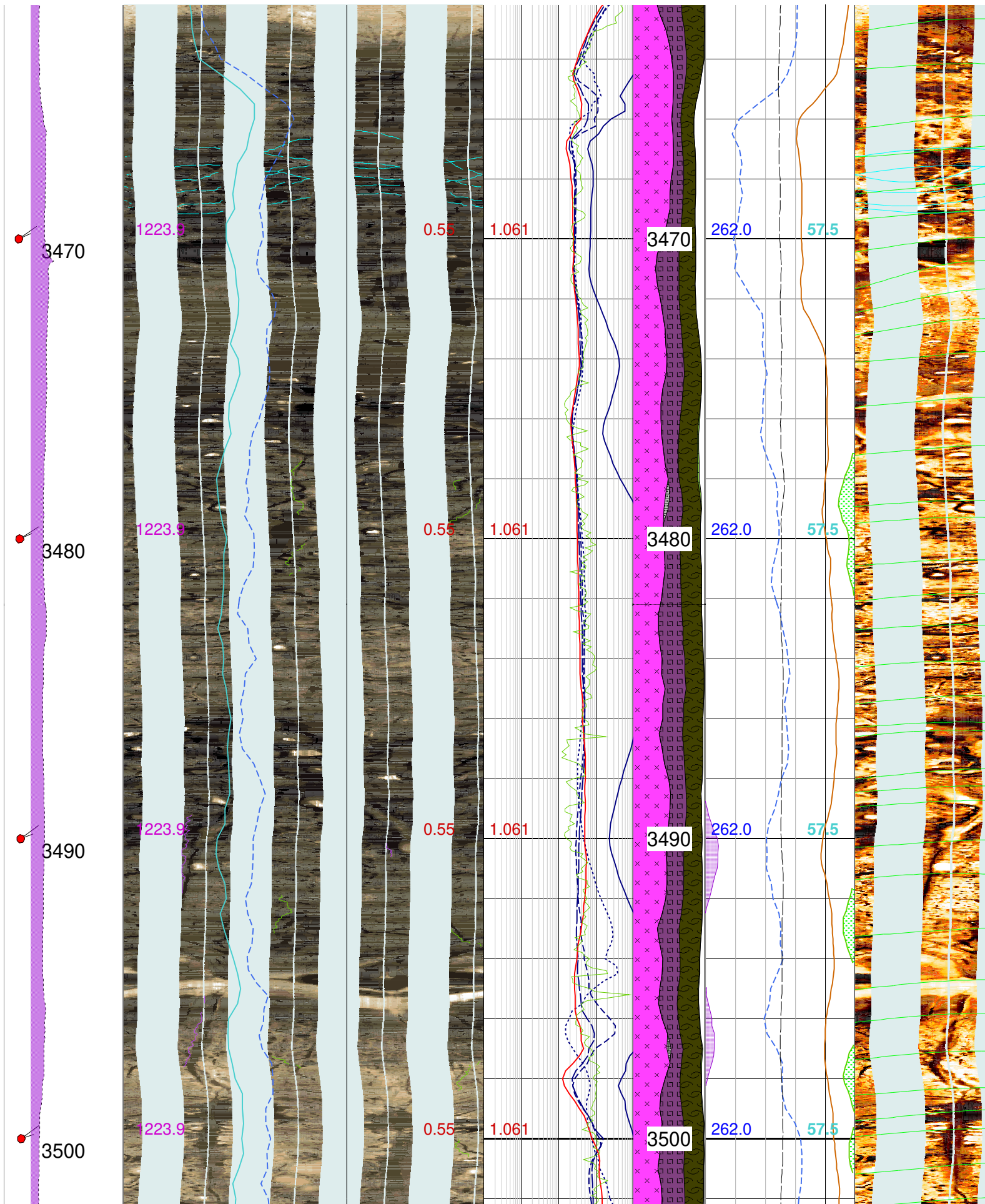


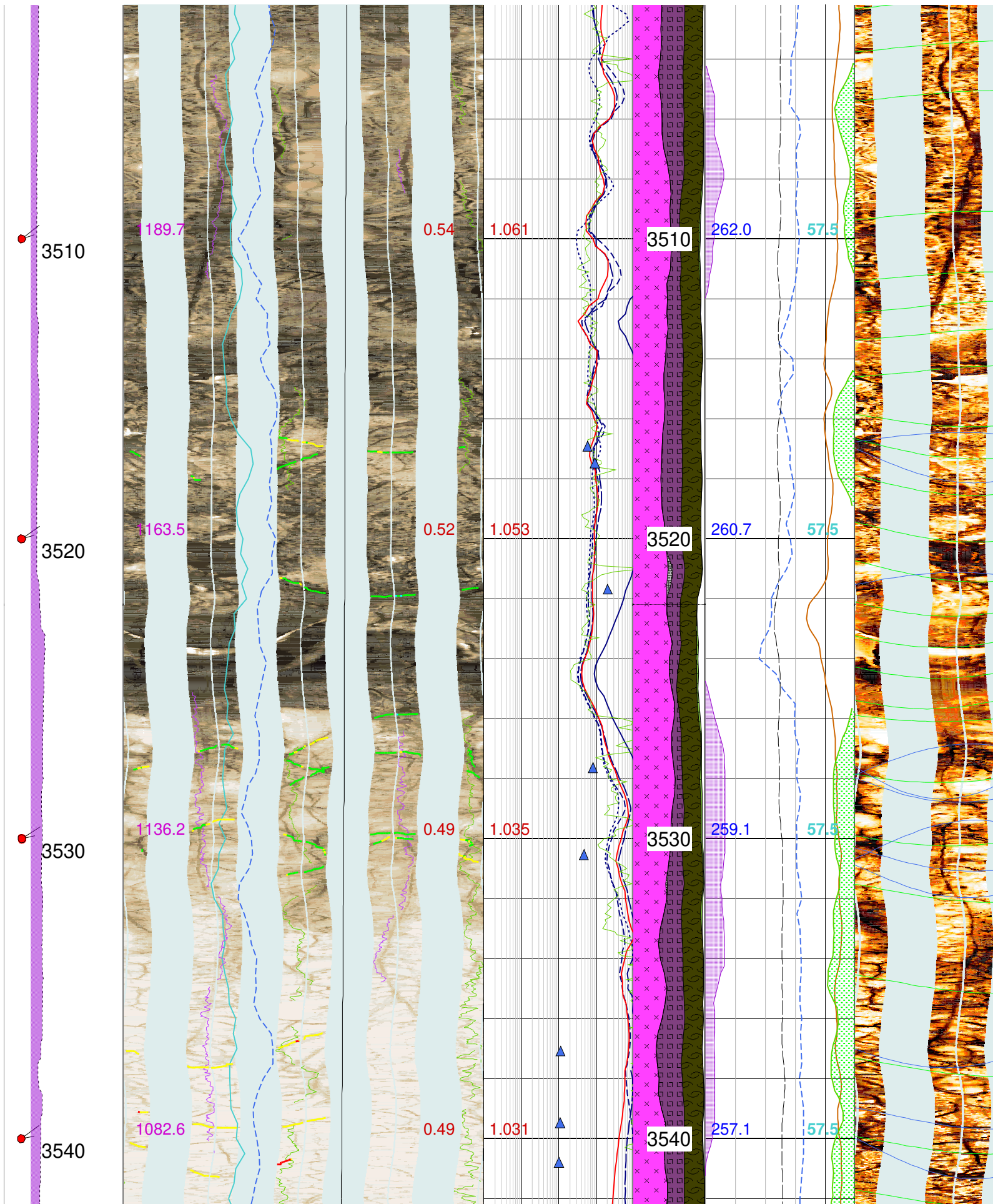




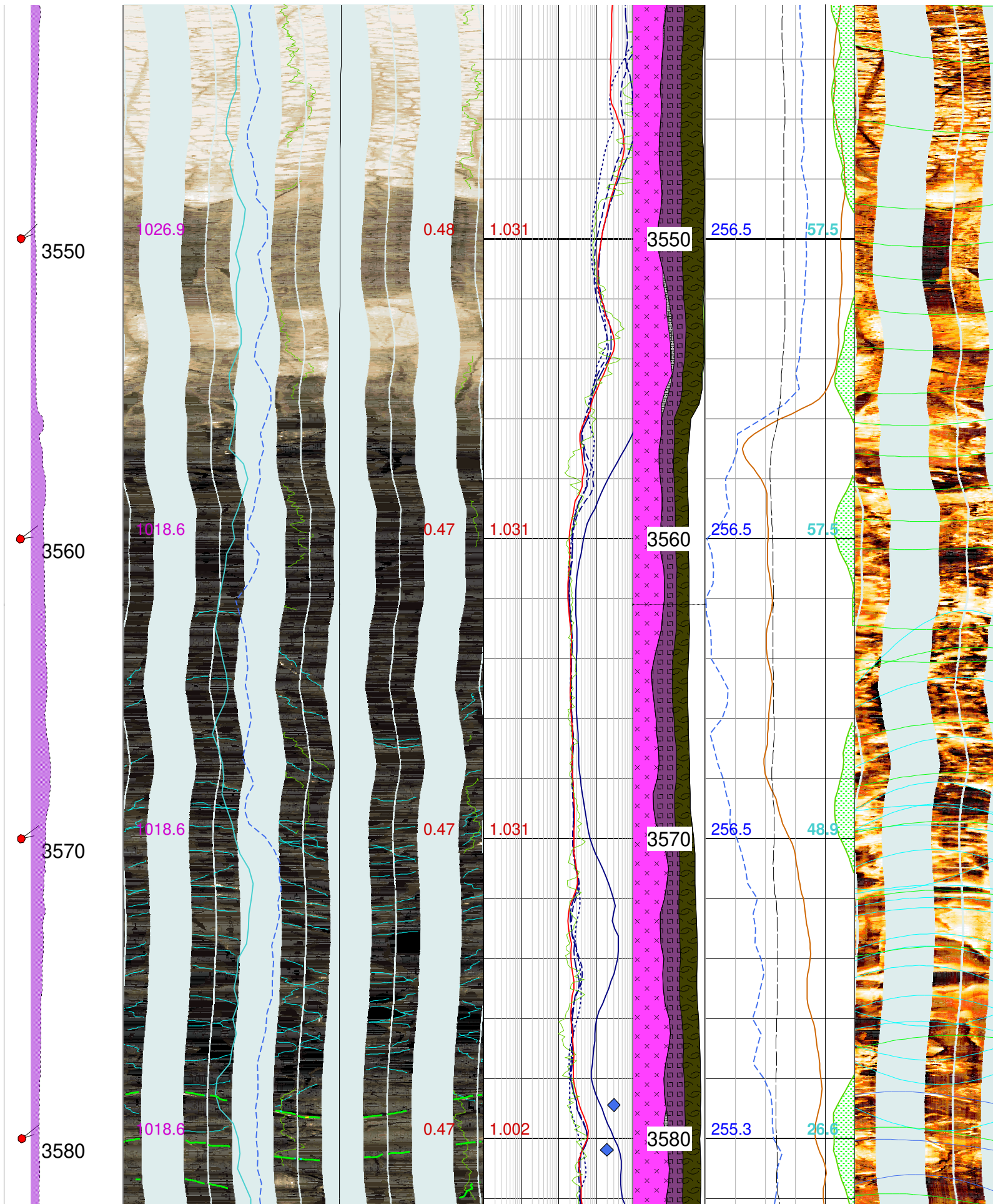


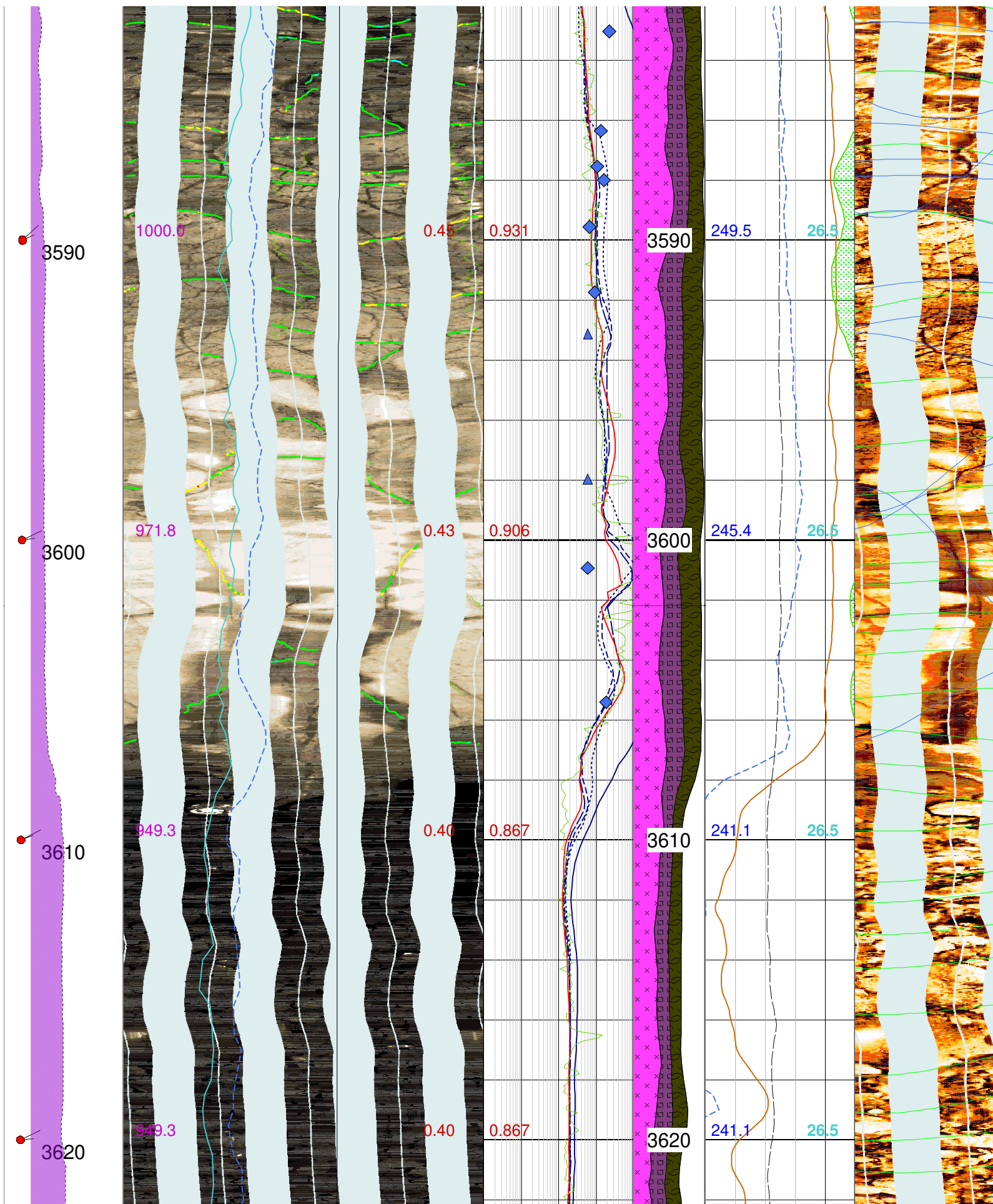




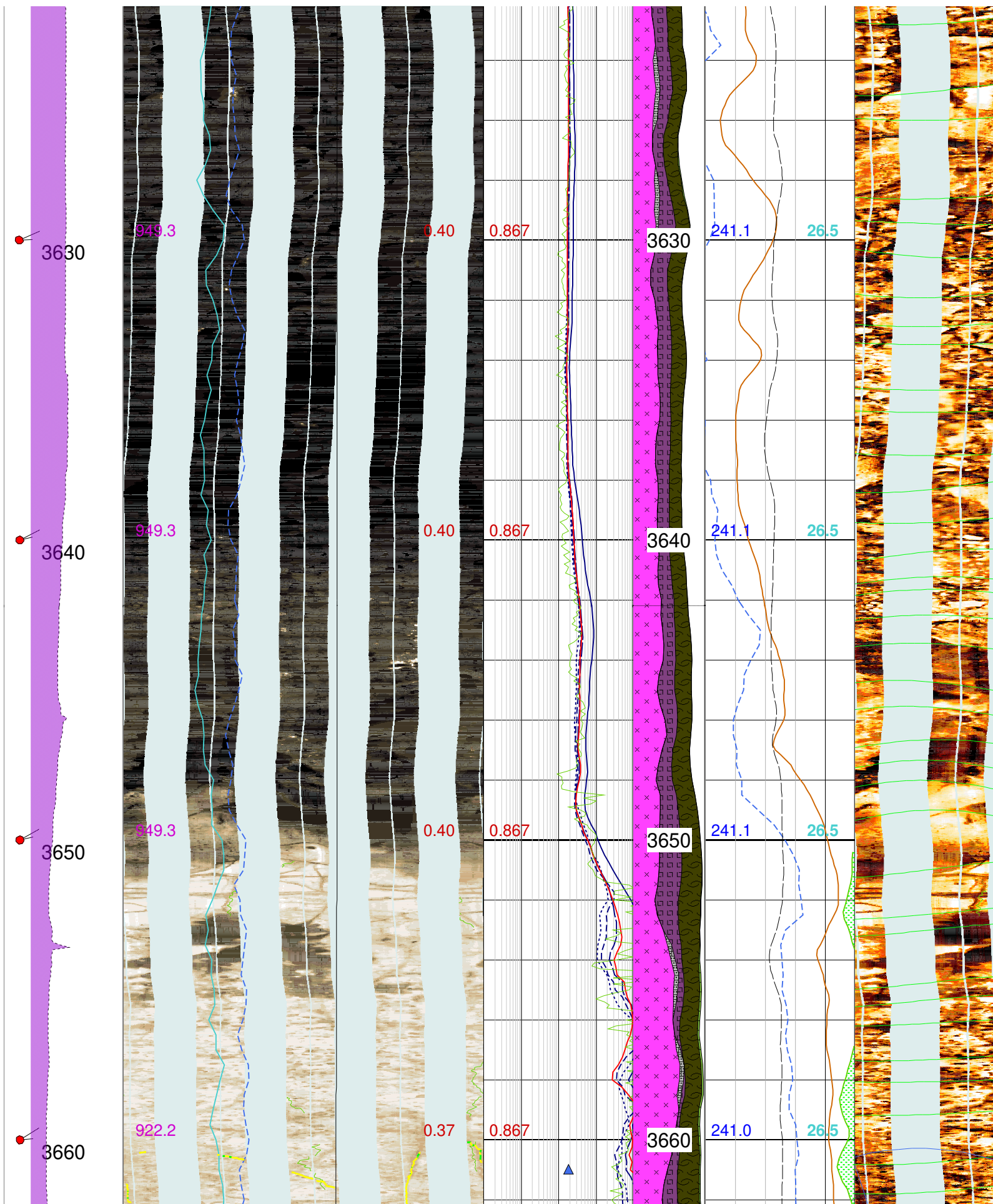


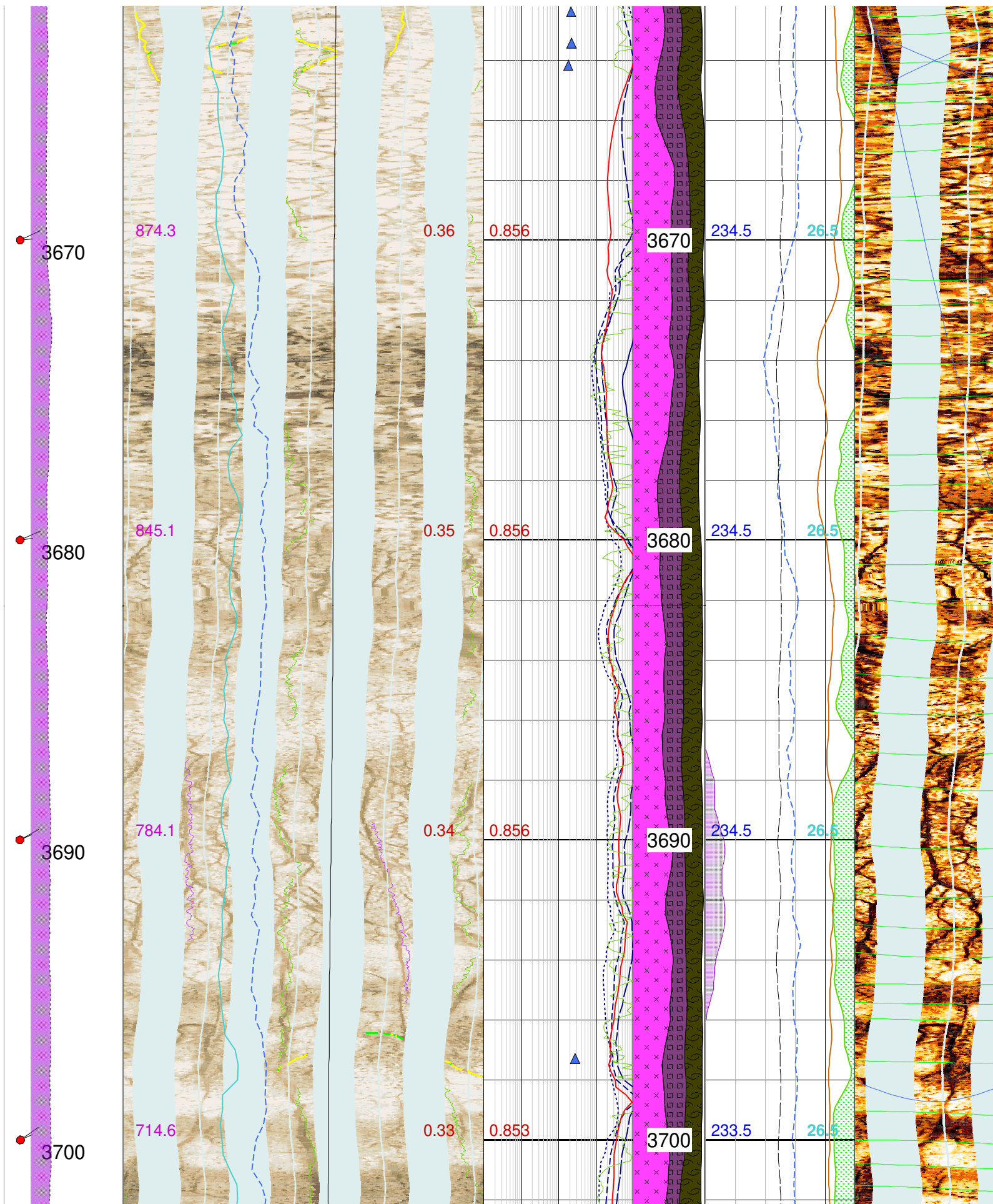




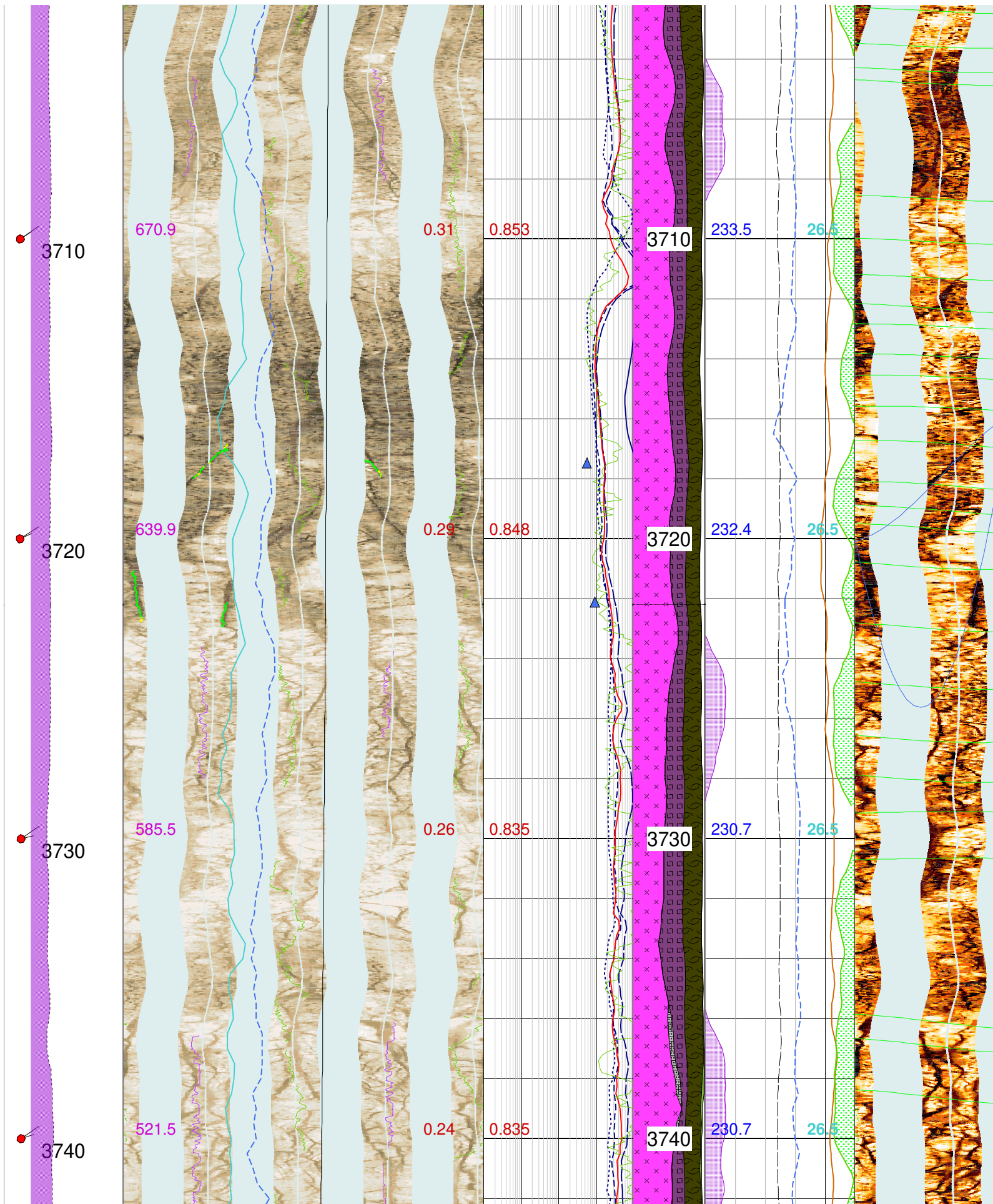




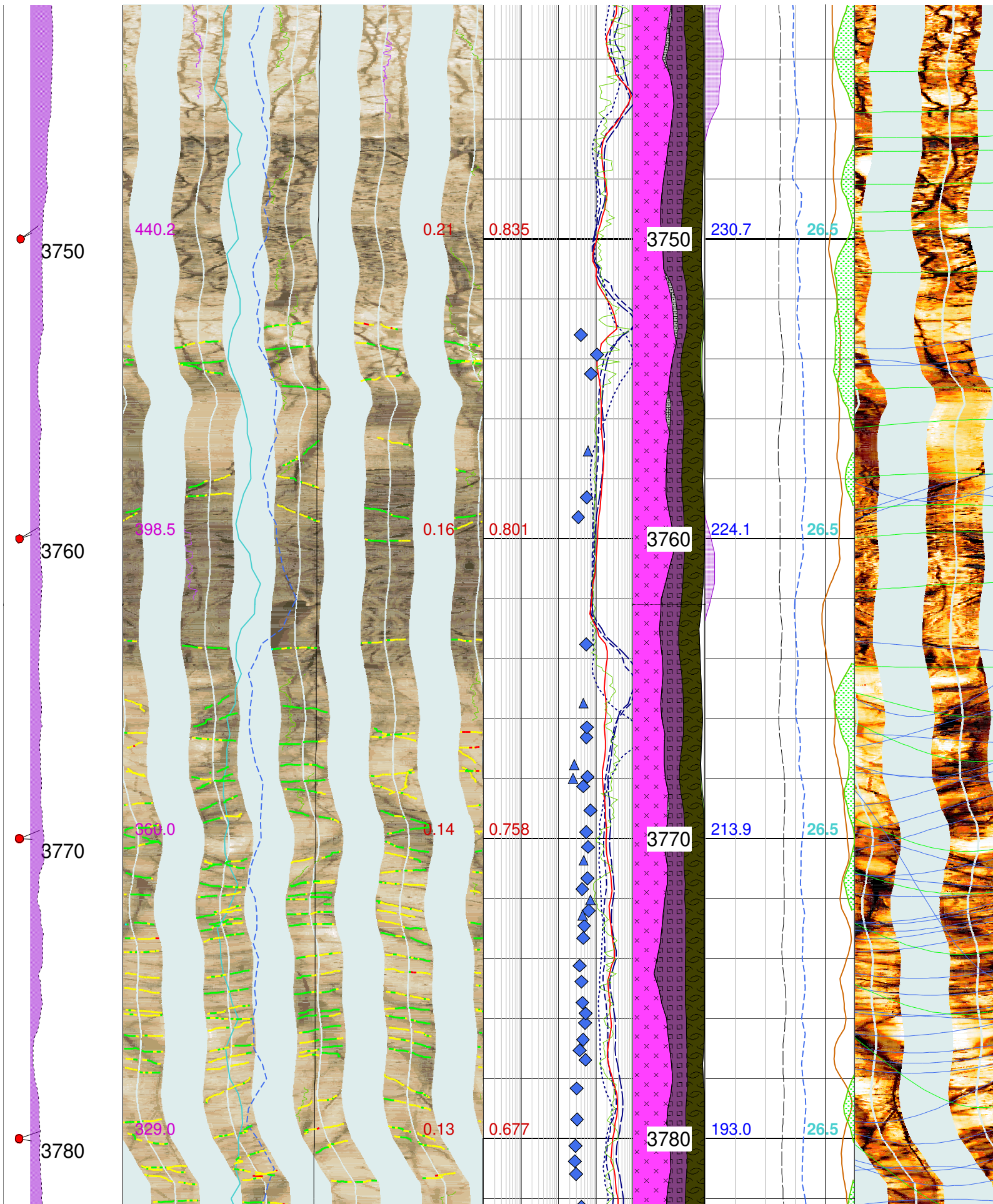




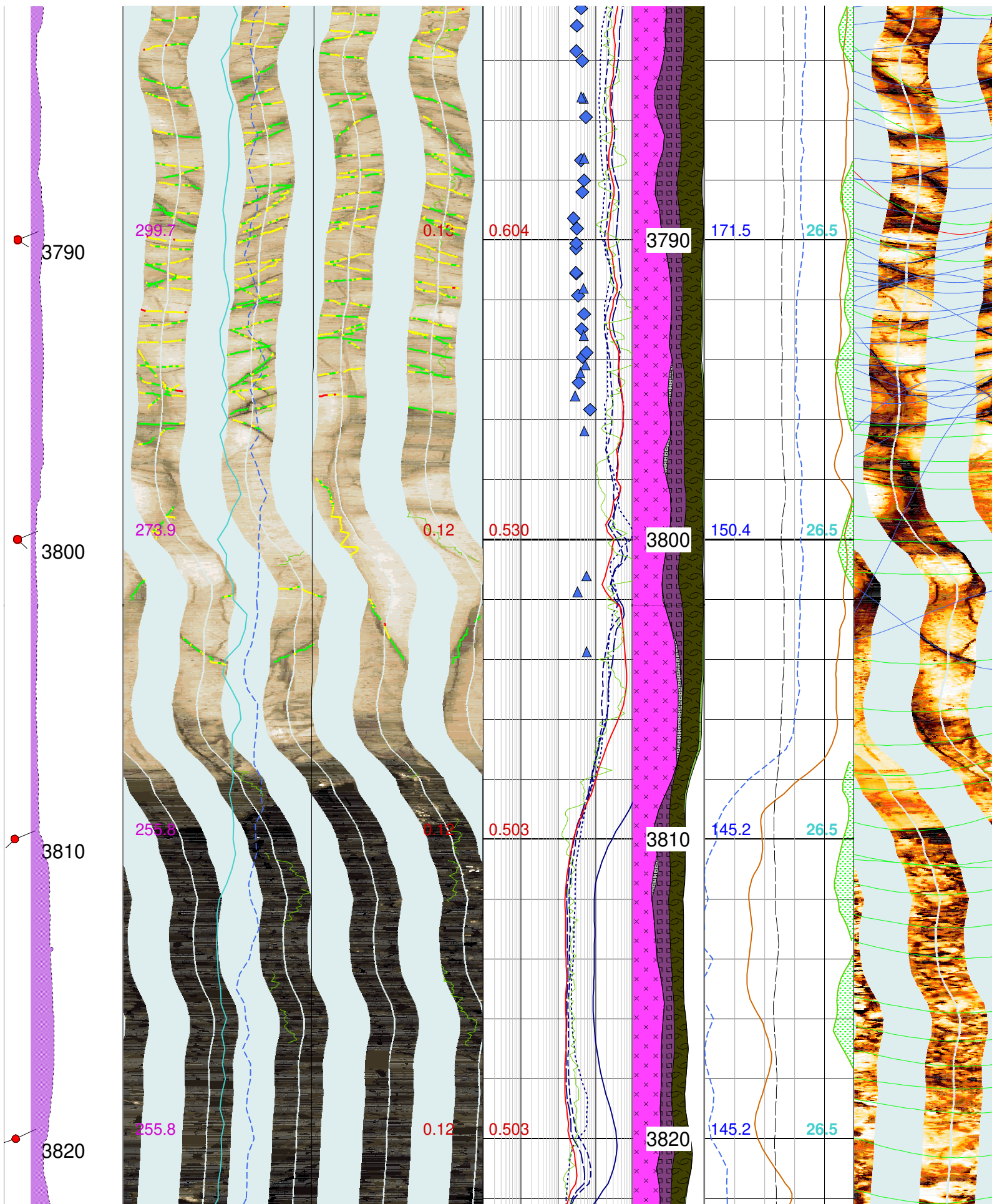


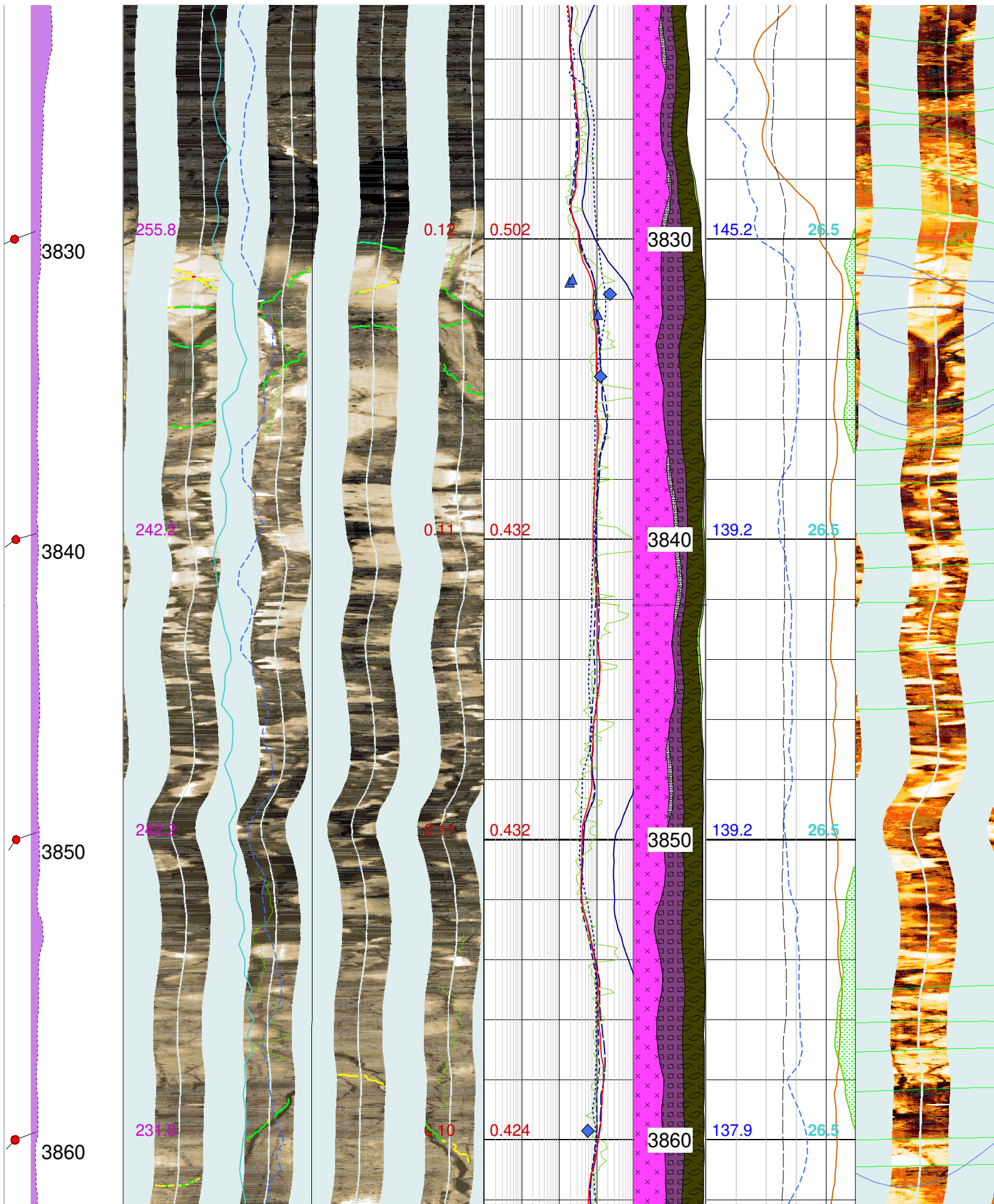




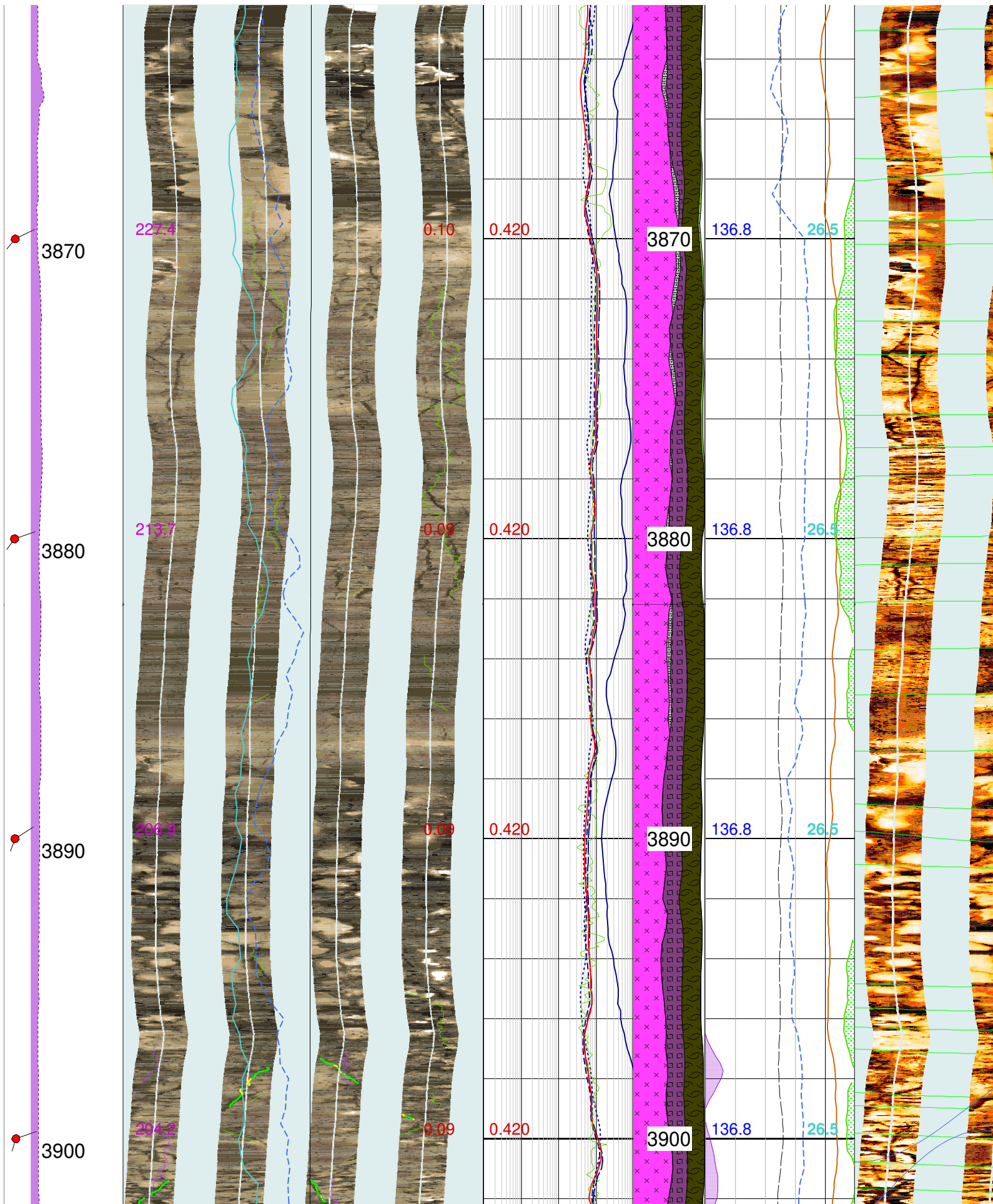


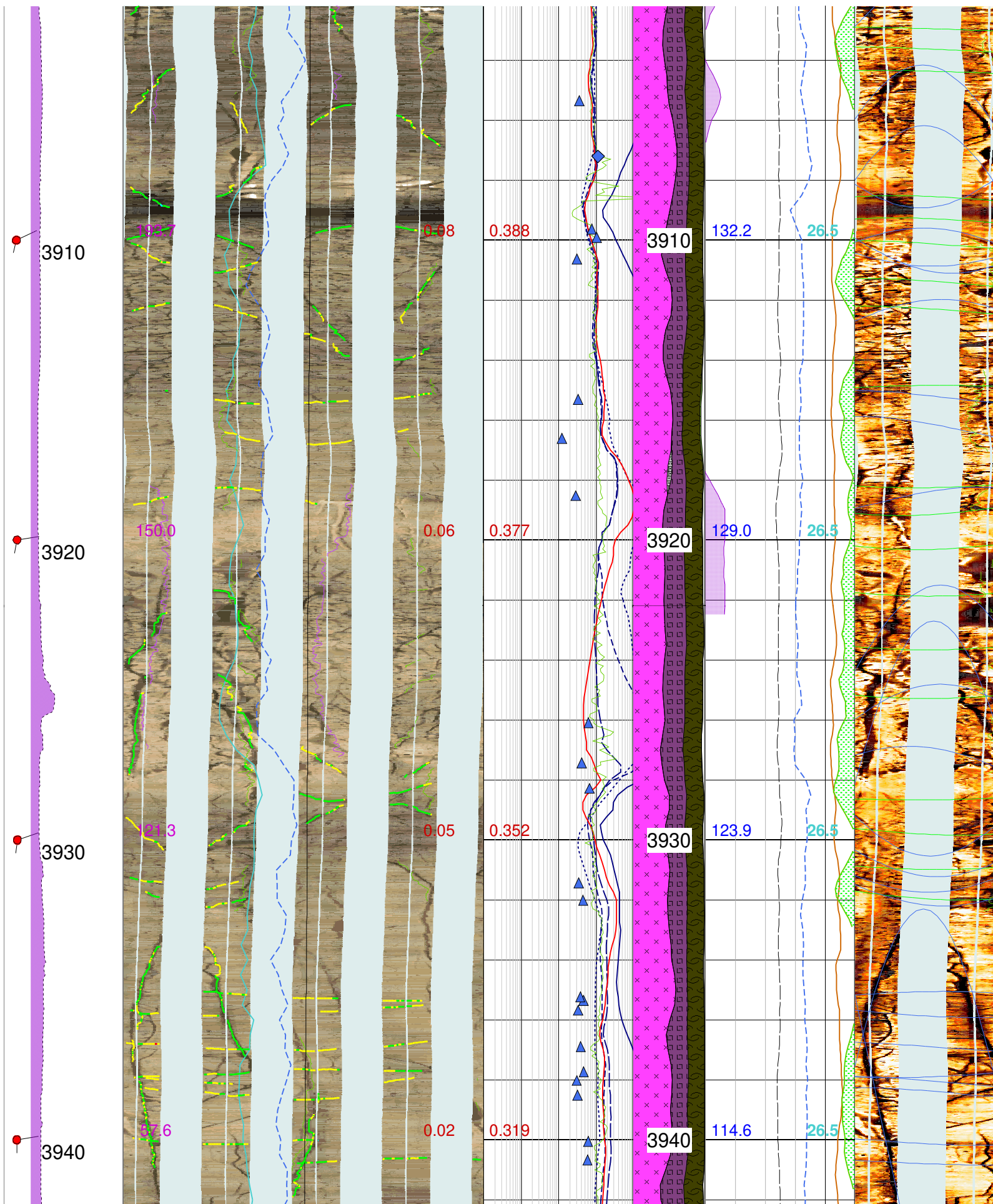




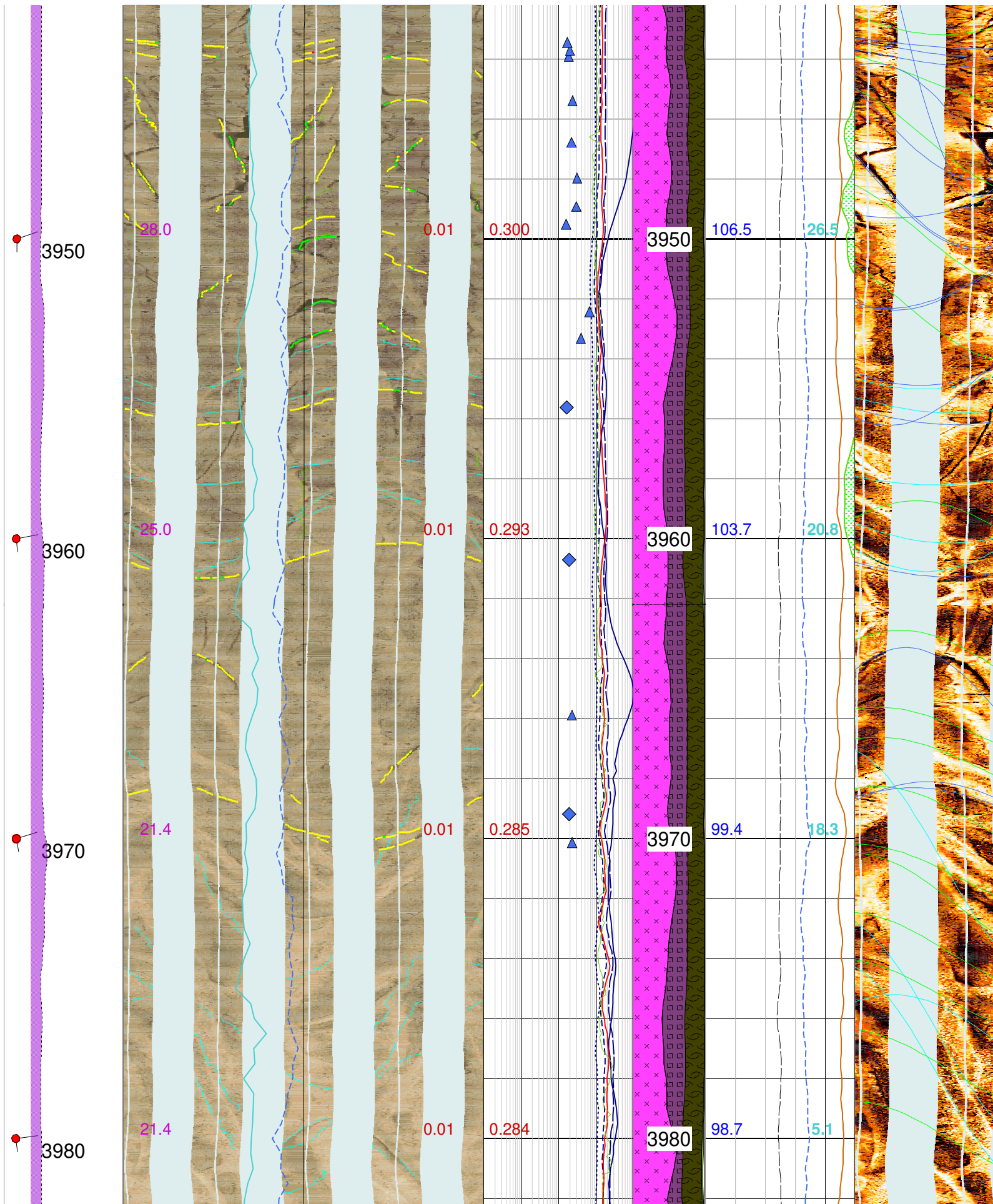


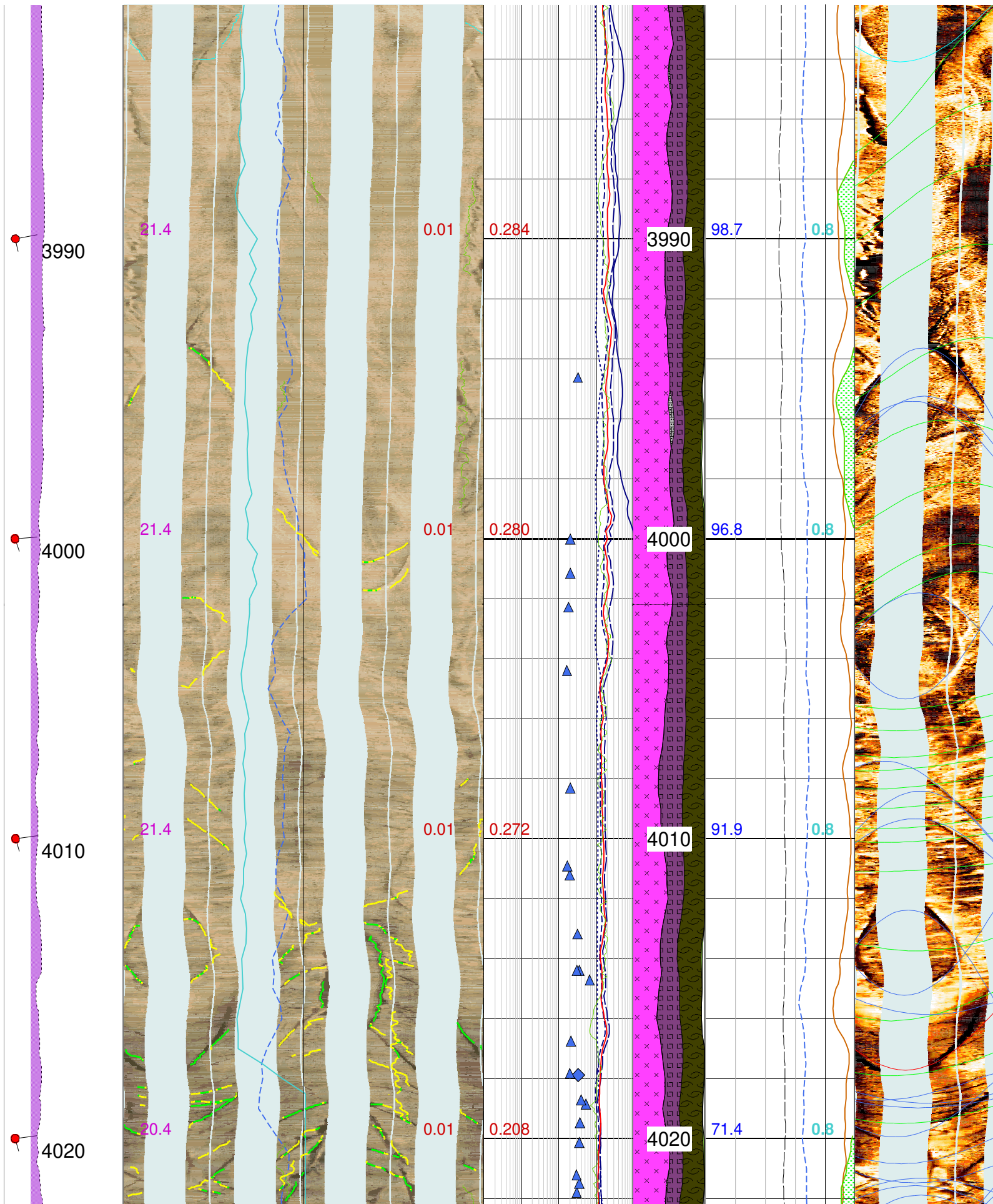




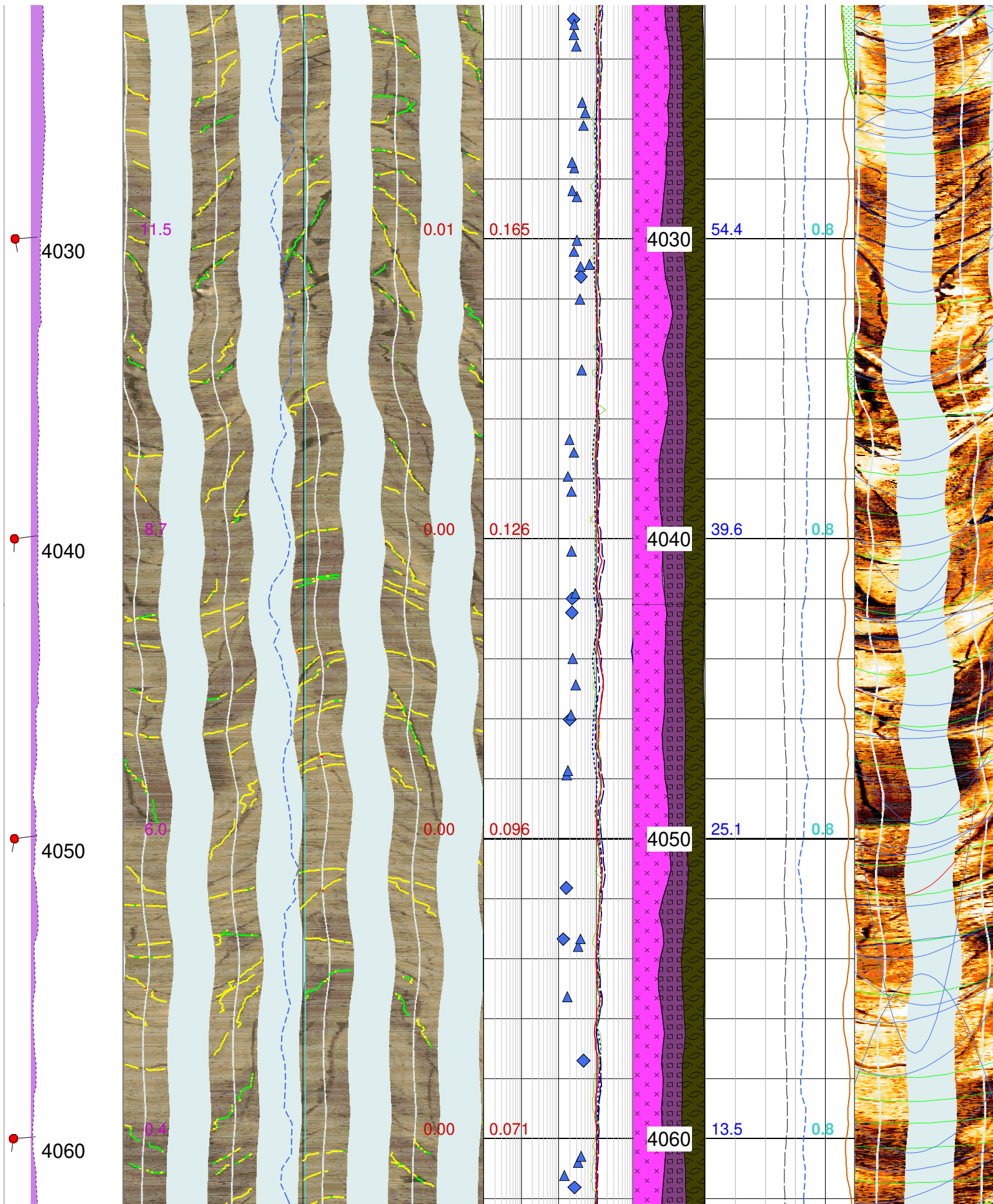


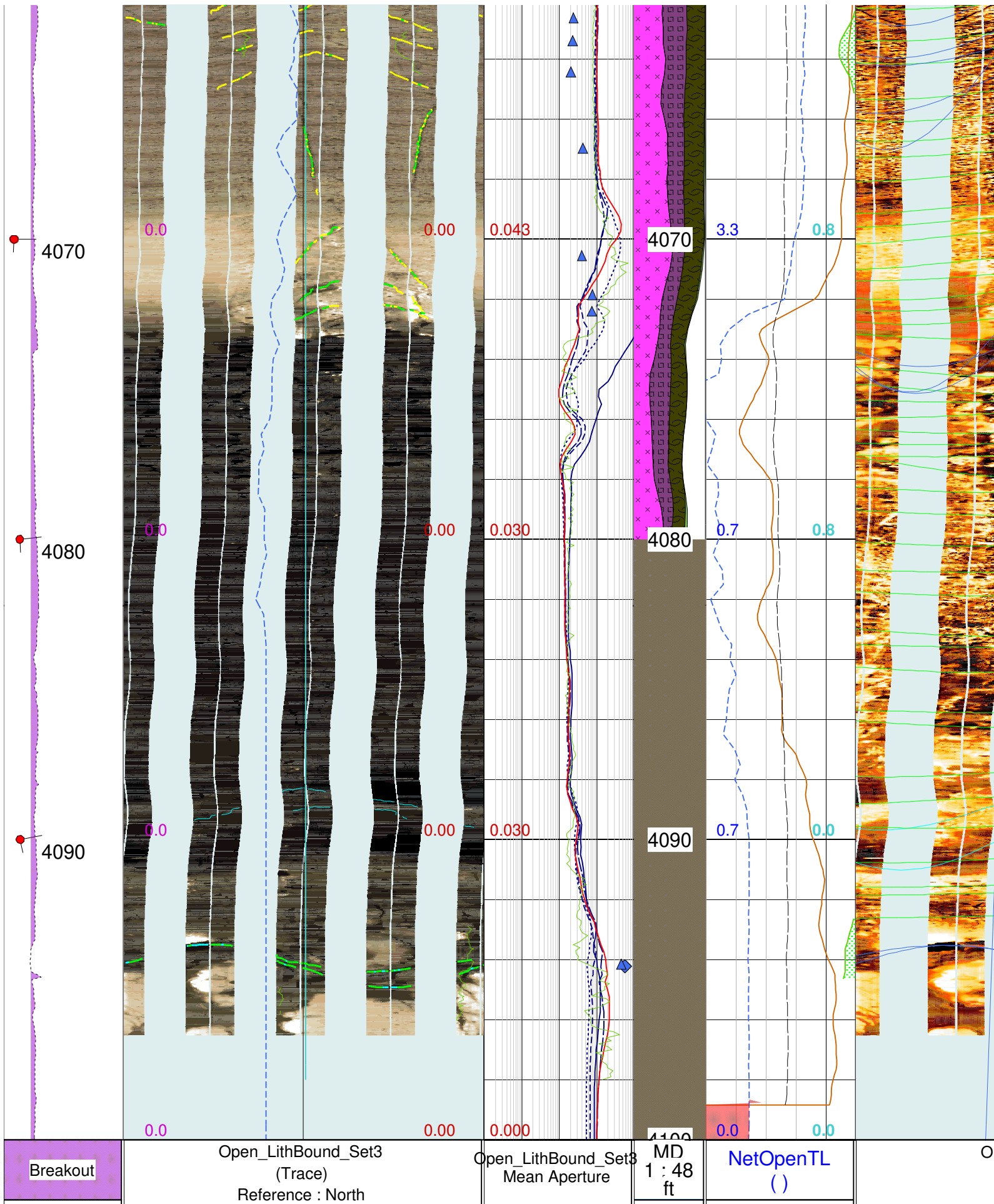










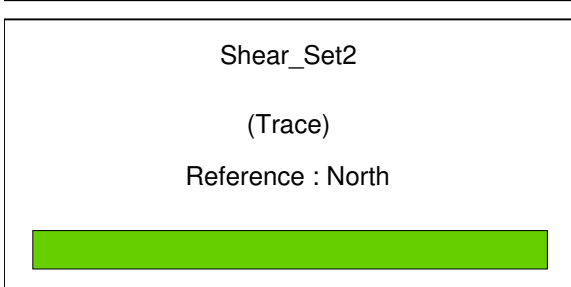
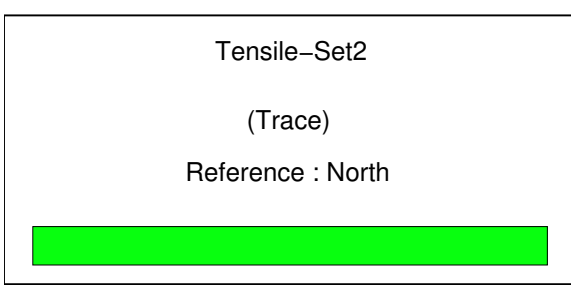
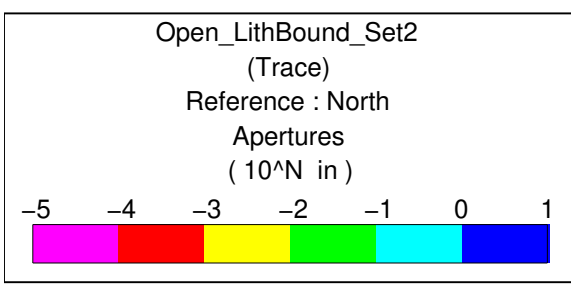
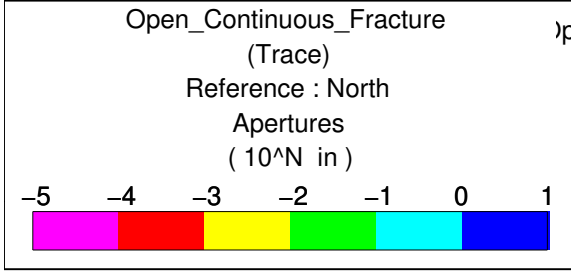
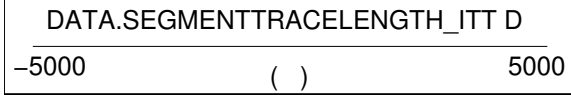
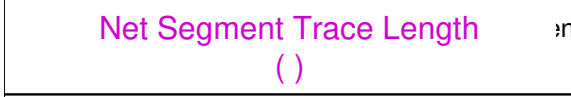
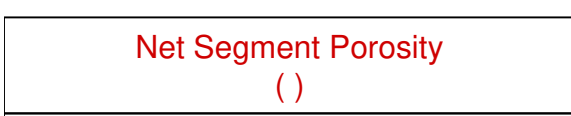
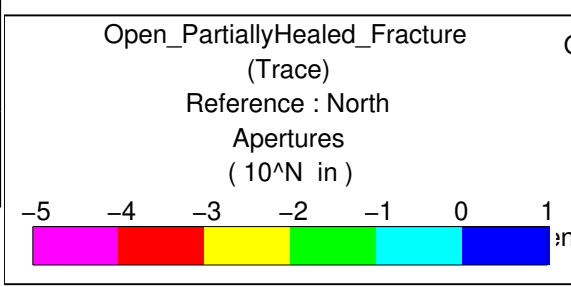
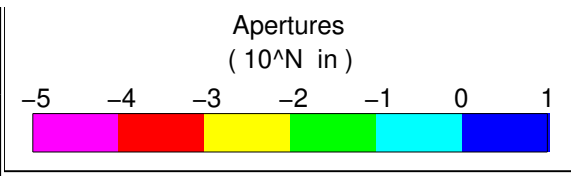




HCAL.WELL  
10 (in) 20

INCLINOME  
Borehole drift  
0 Deg 10

MD  
1 : 48  
ft



0.0001 (in) 1

NetFracPoro  
( )

Open\_LithBound\_Set2  
Mean Aperture  
0.0001 (in) 1

PartiallyHealed\_Fracture  
Mean Aperture  
0.0001 (in) 1

0.0001 (in) 1

PartiallyHealed\_Fracture  
Mean Aperture  
0.0001 (in) 1

0.0001 (in) 1

Open\_LithBound\_Fracture  
Mean Aperture  
0.0001 (in) 1

SRES@FMI\_CAL  
0.1 (ohm.m)<sup>1000</sup>

AHT90.WELLED  
0.1 (ohm.m)<sup>1000</sup>

AHT60.WELLED  
0.1 (ohm.m)<sup>1000</sup>

AHT30.WELLED  
0.1 (ohm.m)<sup>1000</sup>

AHT20.WELLED  
0.1 (ohm.m)<sup>1000</sup>

AHT10.WELLED  
0.1 (ohm.m)<sup>1000</sup>

Water  
NetHealTL  
( )

Halite  
Breakout TL

Social Minera  
Induced

Social Minera  
Breakout TL  
0 (1/ft) 10

Siderite  
Induced Frac  
10 (1/ft) 0

Albite  
X Over

ELAN\_  
1 (v/v)<sup>0</sup>  
PEFZ.WELLEDI  
0 ( ) 10

Shale  
NPOR.WELLEDI  
0.4 (ft3/ft3) -0.1

DPHZ.WELLEDI  
0.4 (ft3/ft3) -0.1

0.0001 (in) 1

0.1 (ohm.m)<sup>1000</sup>

0.1 (ohm.m)<sup>1000</sup>

0.1 (ohm.m)<sup>1000</sup>

0.1 (ohm.m)<sup>1000</sup>

0.1 (ohm.m)<sup>1000</sup>

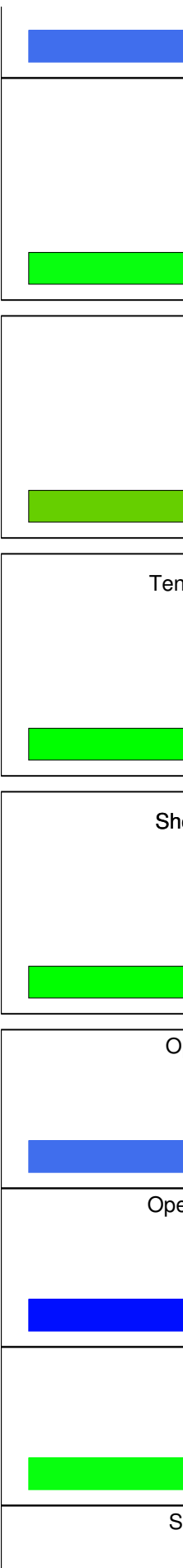
0.1 (ohm.m)<sup>1000</sup>

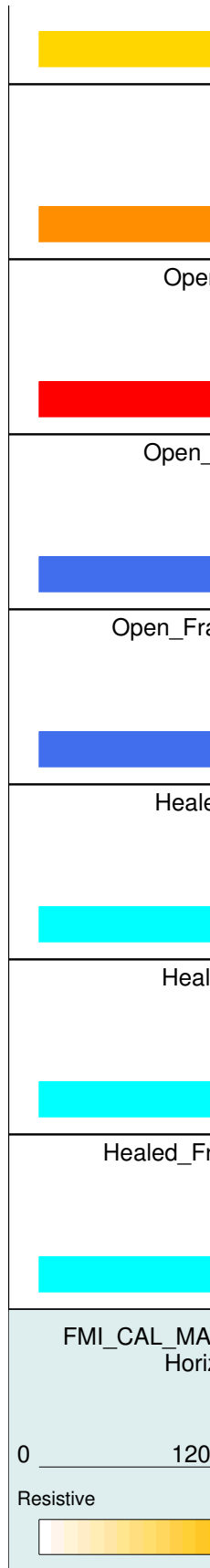
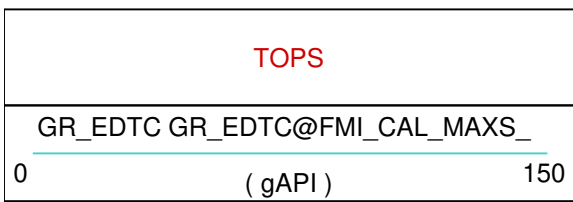
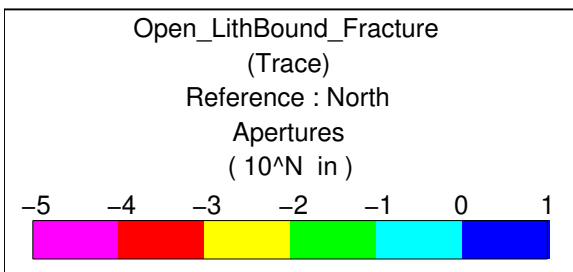
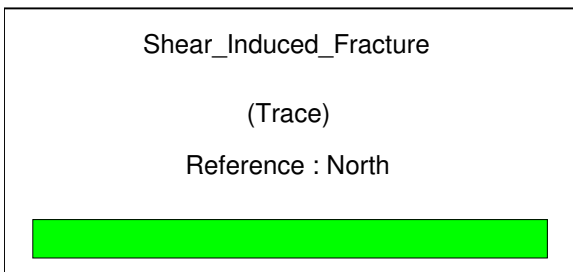
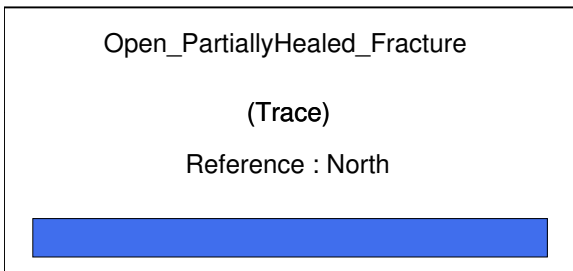
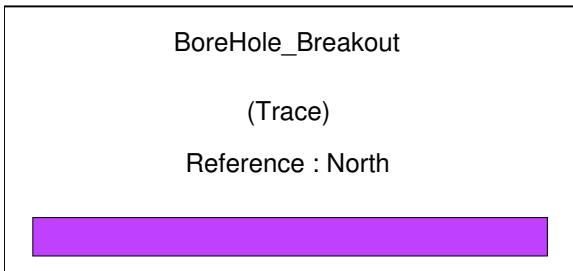
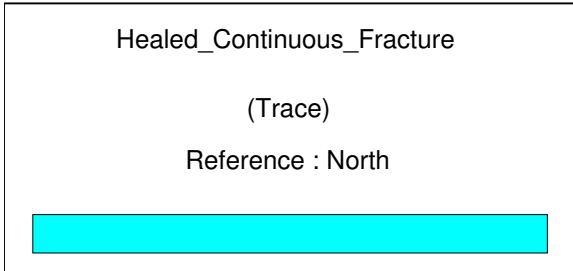
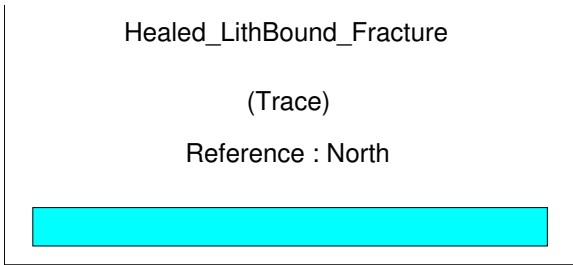
0.1 (ohm.m)<sup>1000</sup>

0.1 (ohm.m)<sup>1000</sup>

0.1 (ohm.m)<sup>1000</sup>

0.1 (ohm.m)<sup>1000</sup>







GR.WELLEDIT GR@LDM-RHOZ;6 .WE

0 ( gAPI ) 150

FMI\_CAL\_MAXS\_MAPC\_052PUP FMI  
Horizontal Scale: 1 : 12.828  
Orientation North

0 120 240 360

Resistive FMI Image Conductive

