

MONOPOLE - DIPOLE ARRAY SEMBLANCE

COMPANY: **MARATHON OIL COMPANY**

WELL: **596-19A-18**

FIELD: **GRAND VALLEY**

COUNTY: **GARFIELD** STATE: **COLORADO**

Location: **1621' FSL & 1285' FWL** Latitude: **Other Services:**

API: **05-045-18002** Longitude:

Licence:

Permanent Datum: G.L. Elevation: 8423

Log measured from G.L. 0 above Permanent Datum

Drilling measured from K.B.

Elevations: K.B.: 8447

D.F.: 8446

G.L.: 8423

Date	25-OCT-09	
Run Number	1	2
Service Order	3521276	
Depth Driller	10285.000	
Depth Logger	10108.000	
First Reading	10070	
Last Reading	2200	
Casing Driller	@	2266
Casing Logger		
Bit Size	8.750	
Hole Fluid Type	WATER	
Density	Viscosity	8.34
pH	Fluid Loss	
Sample Source	NONE	
Rm @ Measured Temperature	@	@
Rmt @ Measured Temperature	@	@
Rmc @ Measured Temperature	@	@
Source Rmt	Rmc	
Rm @ BHT	@	@
Time Since Circulation		
Maximum Recorded Temperature	267	@ TD
Equipment No.	Location	13029
Recorded By	D. KUNTZ	GDJCT
Witnessed By	S. NADJ	

All interpretation of log data are opinions based on inferences from electrical or other measurements. We do not guarantee the accuracy or correctness of any interpretation or recommendation and we shall not be liable or responsible for any loss, cost, damages or expenses incurred or sustained by anyone resulting from any interpretation or recommendation made by any of our employees or agents.

Rig:
Drilling Stopped
Circulation Stopped

Remarks:

Service Order # 3521276

Tool on Bottom

BHT

Equipment Data

Tool Type

Tool Type

Other

PLOT TYPE: MDA MONOPOLE-DIPOLE ARRAY SEMBLANCE

REMARKS:

Project: 3521276
Company: MARATHON OIL COMPANY
Well: 596-19A-18
Field: GRAND VALLEY
County: COLORADO
State: GARFIELD
Country: U.S.A.
Log Date: 25-OCT-09

MCG / MPD / MDN logged in combination.
MDA-UGR logged separately.
Logged through Casing.
Logging Unit 13029, Grand Junction, CO.
Recorded by D. Kuntz.

DTQC, DTPQ and DTSQ are flags for zones where the values of DTP and/or DTS may not be accurate. Caution should be excersised if DTP and DTS are used in analysis and interpretation where these flags occur. Any other curves that are dependent upon DTP and DTS should also be consider with caution. These include VPVS, POIS, SPHI, ITTP and ITTS.

Another flag of potentially inaccurate responses is the borehole rugosity as indicated by the caliper(s).

Poisson's Ratio:
 $POIS = (2 - (DTS/DTP)^2) / (2 * (1 - (DTS/DTP)^2))$

$VPVS = DTS/DTP$

DIPOLE Shear:
Receivers R2, R4, R6, R8. First receiver offset 11.7 feet.
Frequency pre-filtered 2500 - 5000 Hz fixed butter worth filter.
Applied a guided Hann time filter, start 1600 usec, stop 1900 usec.
Applied a guided front time filter, start 1600 usec.
Slowness filter 60 - 400 usec/ft.
Used guided semblance @ x32 resolution, variable wave tracking with width @ 300 usec.

MONOPOLE Compressional:

Receivers R1, R3, R5, R7. First receiver offset 9.0 feet.
Frequency pre-filtered 5000 - 21000 Hz fixed butterworth filter.
Applied a guided Hann time filter, start 600 usec, stop 750 usec.
Applied a guided front time filter, start 600 usec.
Slowness filter 40 - 160 usec/ft.
Used guided semblance @ x32 resolution, variable wave tracking with
width @ 70 usec.

CURVE DESCRIPTIONS:

CURVE LEGEND:

GRGC = Gamma Ray
VPVS = Velocity Ratio, Compressional Velocity Vp to Shear Velocity Vs
POIS = Poisson's Ratio
DTP = Delta T Compressional, From Monopole Semblance
DTS = Delta Time Shear, From Monopole Semblance
DTPQ = Delta T Compressional Quality Flag
DTSQ = Delta T Shear Quality Flag
ITTP = Compressional Integrated Travel Time from DTP
ITTS = Shear Integrated Travel Time from DTS
MWAVE = Monopole Waveform - First Receiver
MSEM = Monopole Compressional Semblance
DWAVE = Dipole Waveform - First Receiver
DSEM = Dipole Semblance

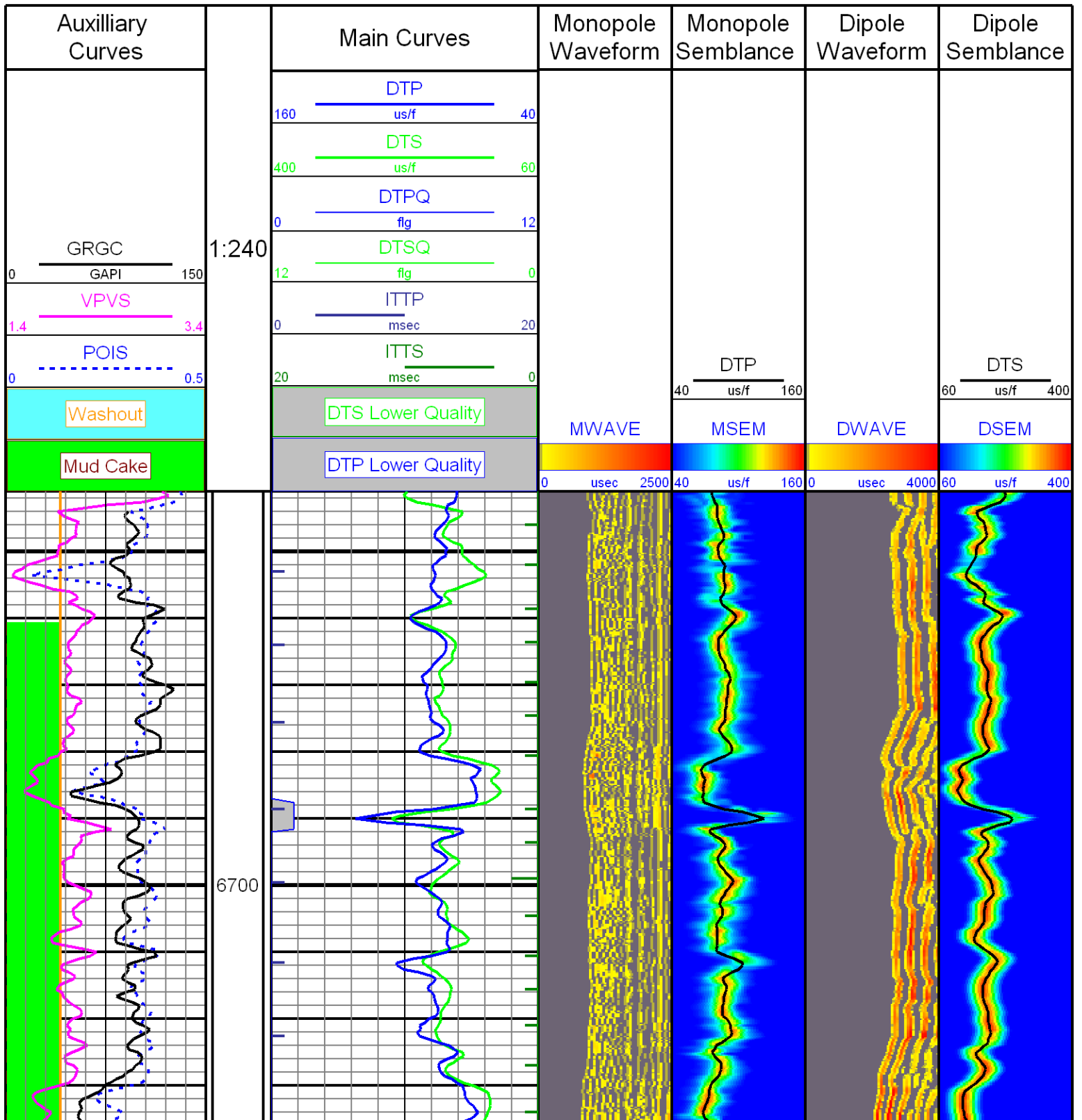
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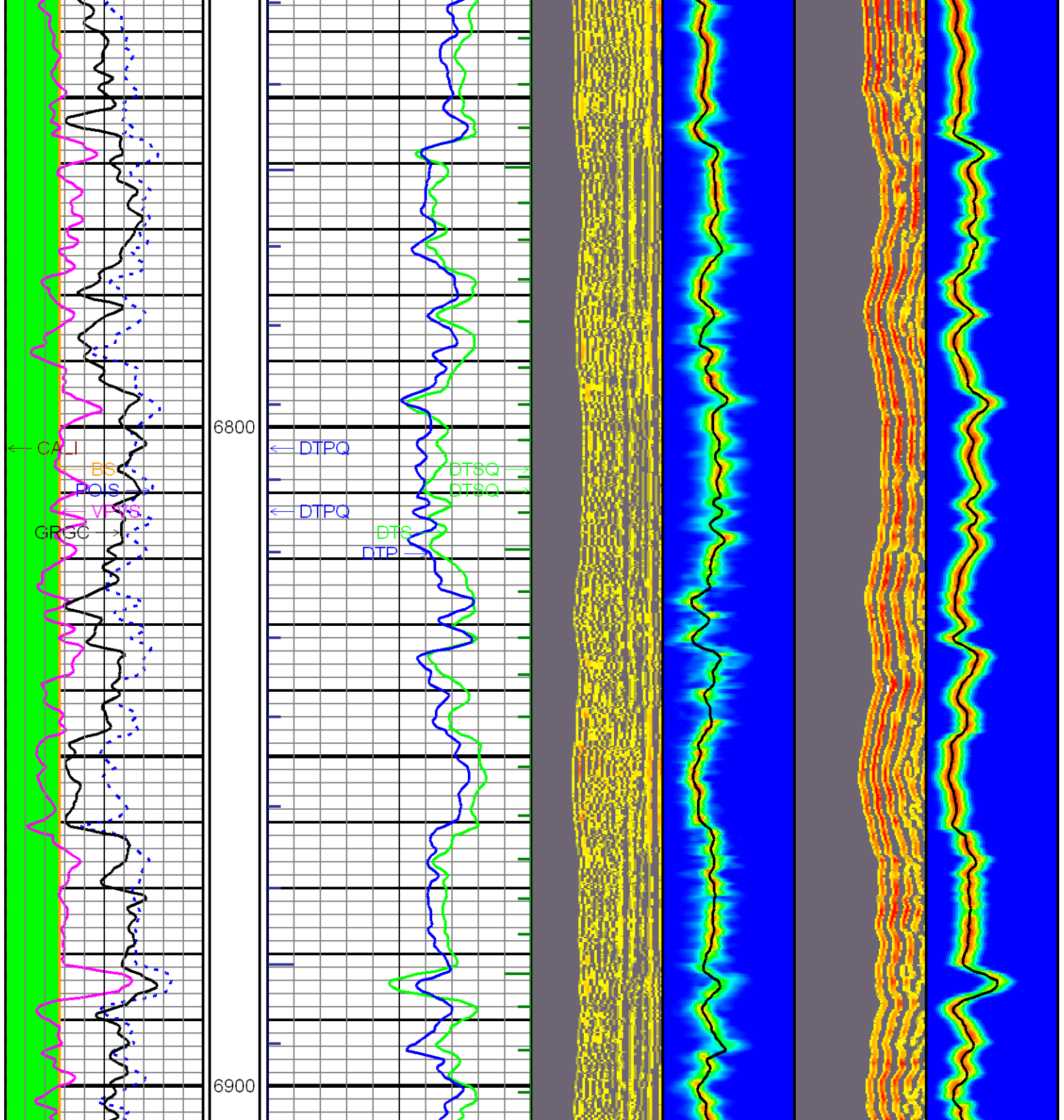
BOREHOLE ENVIRONMENT:

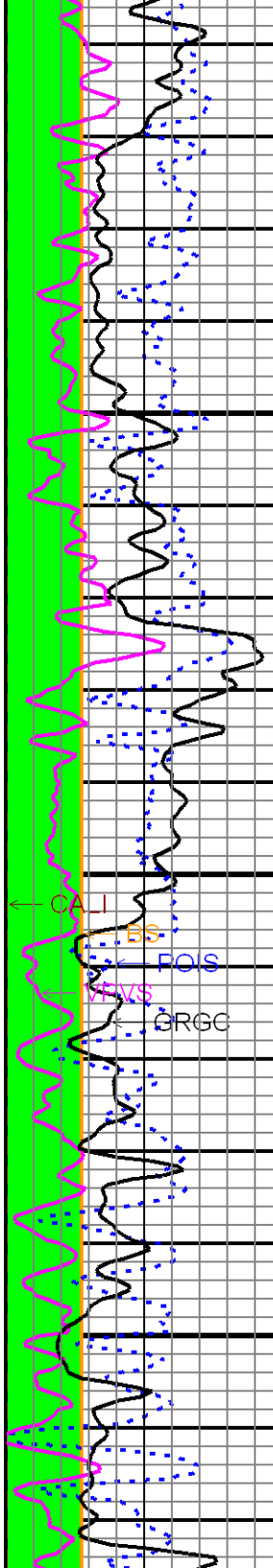
ANALYST: N. Harris
PROGRAM: ADA v7.12

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ANY INTERPRETATION, AND WE SHALL NOT, EXCEPT IN THE CASE OF GROSS OR WILLFULL
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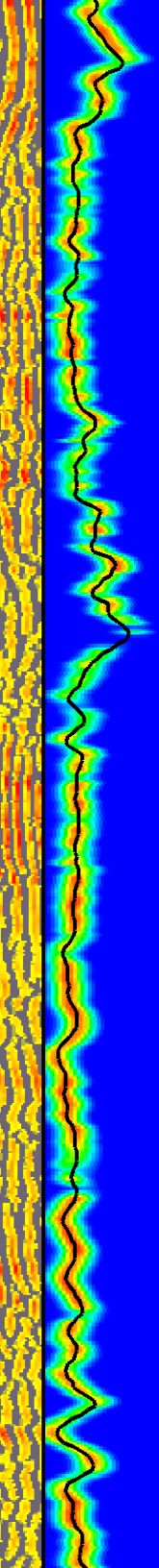
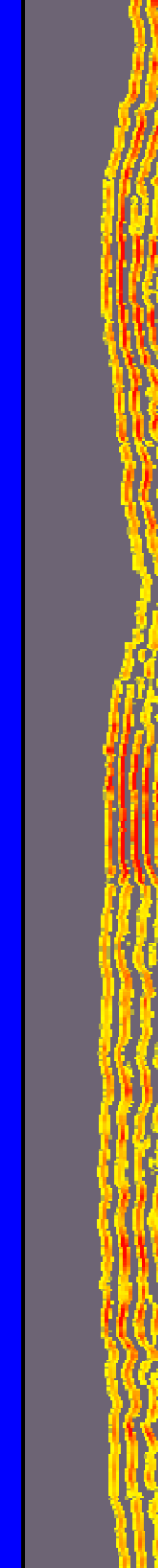
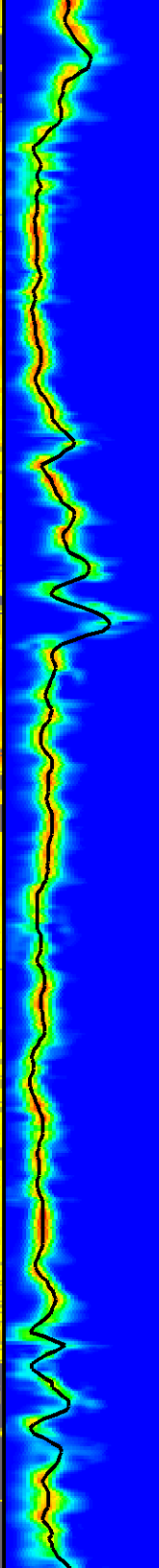
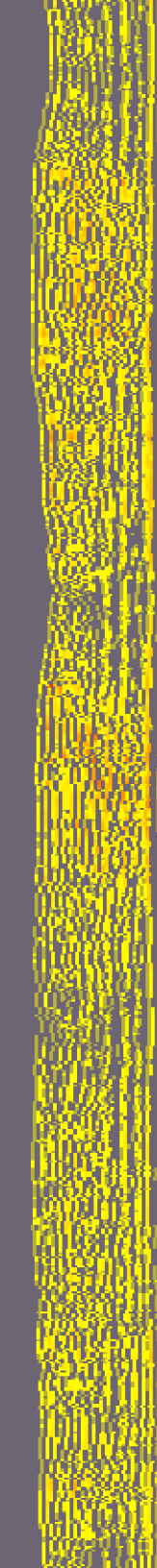
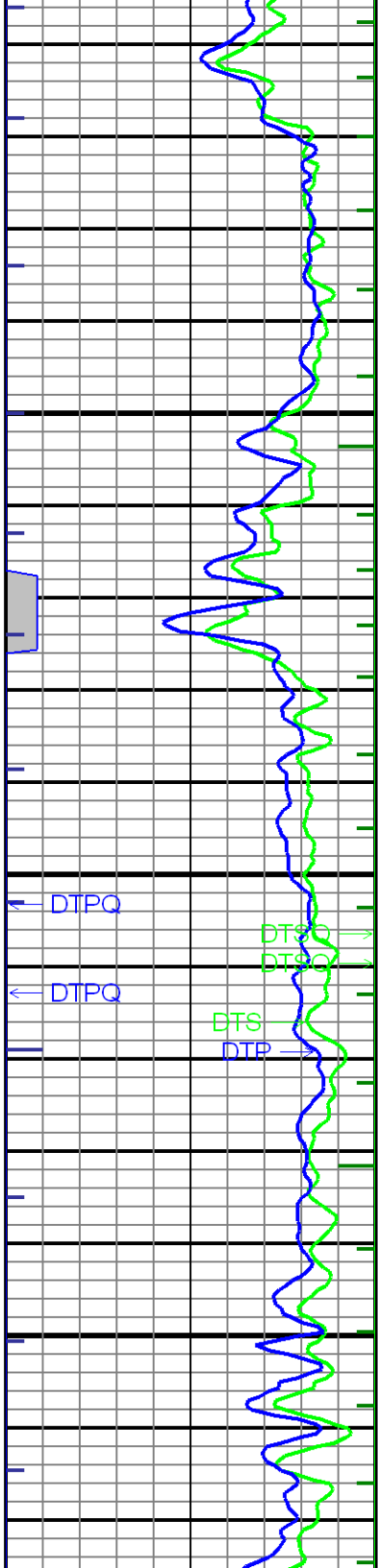
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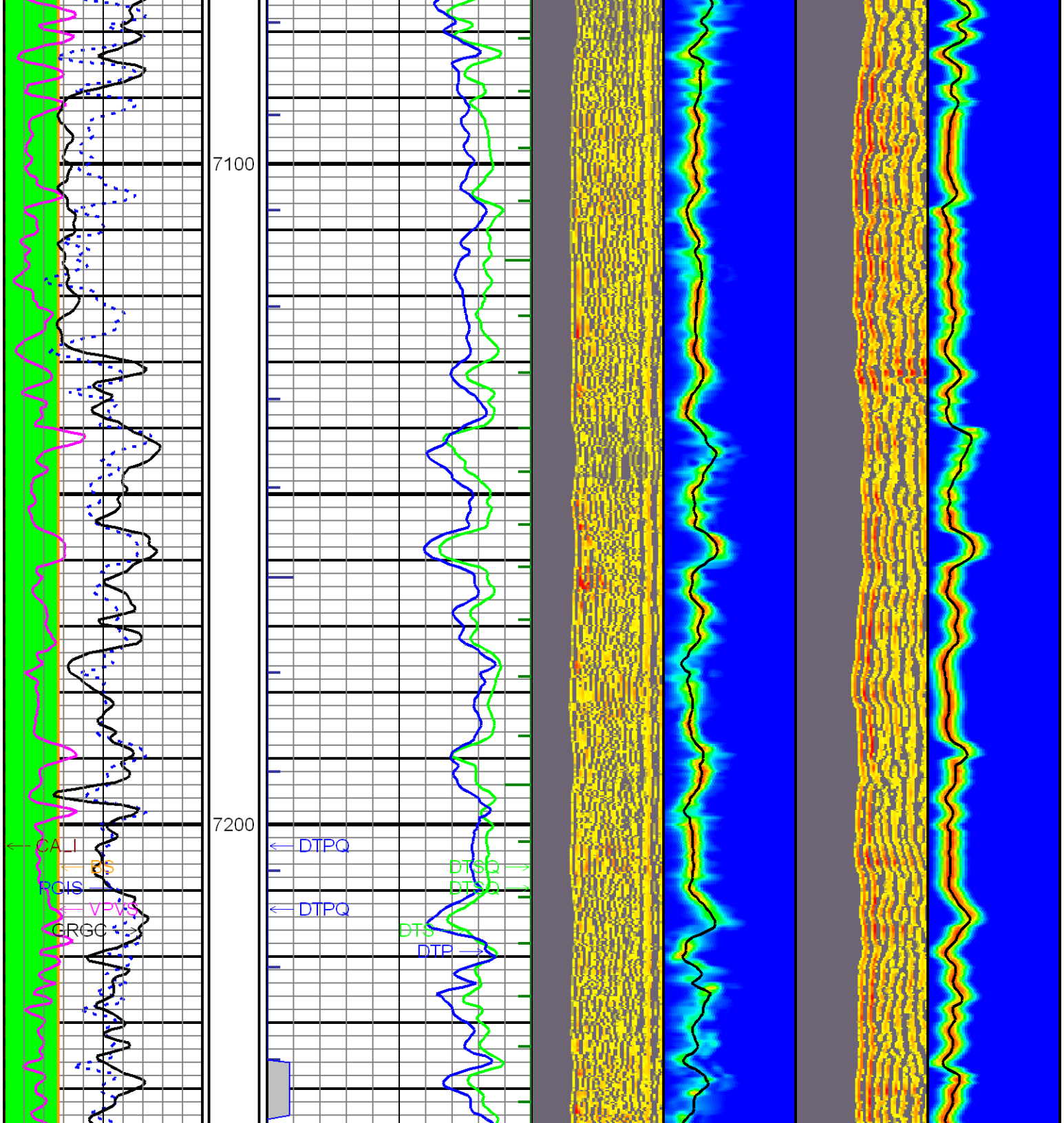


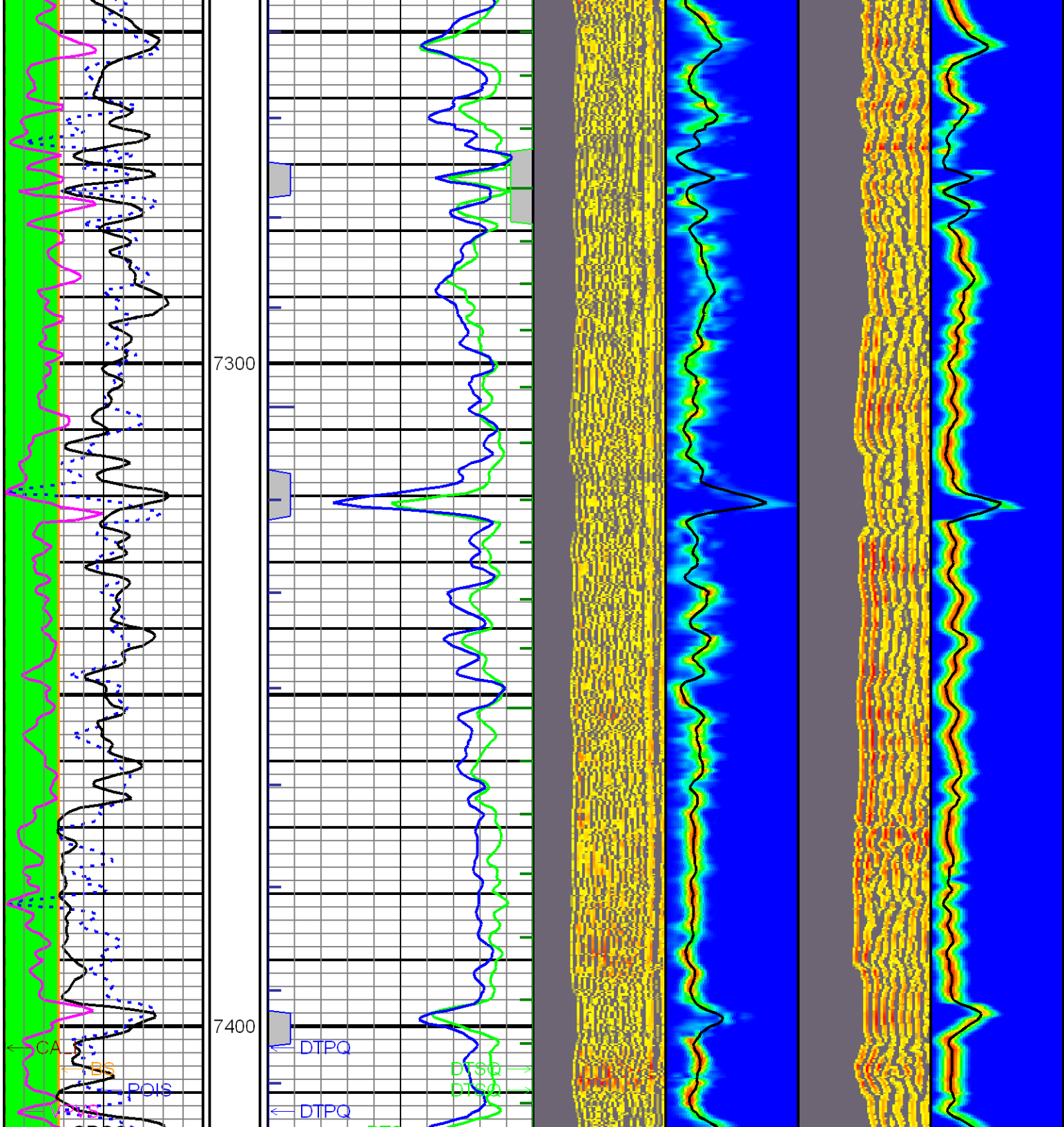


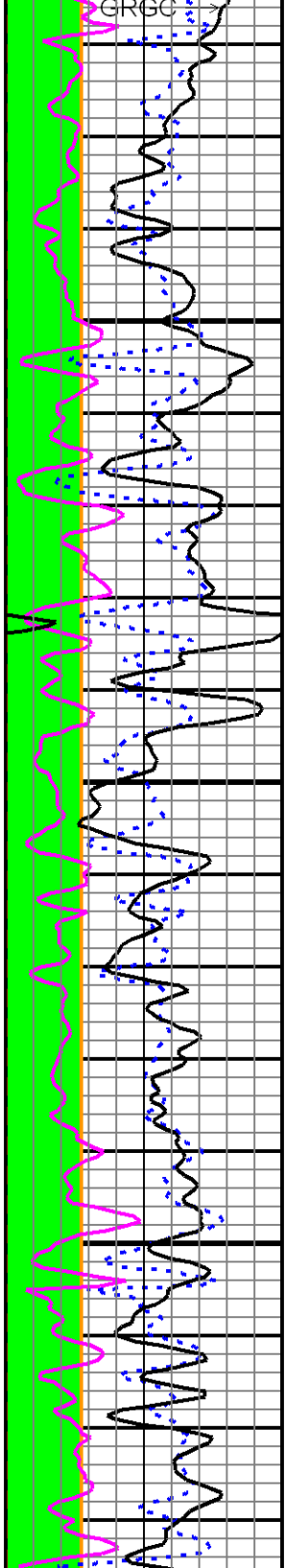


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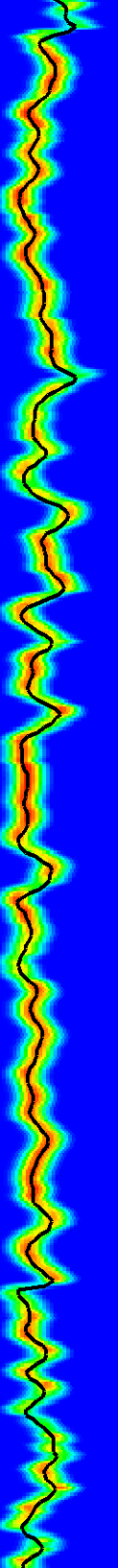
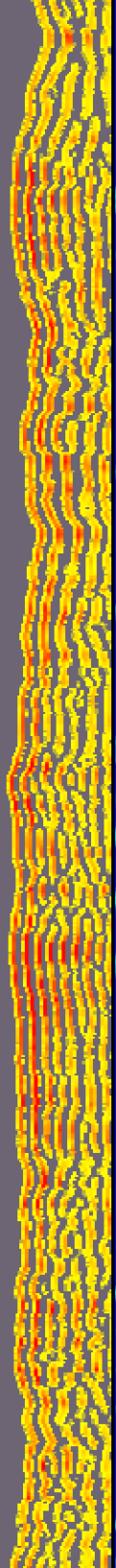
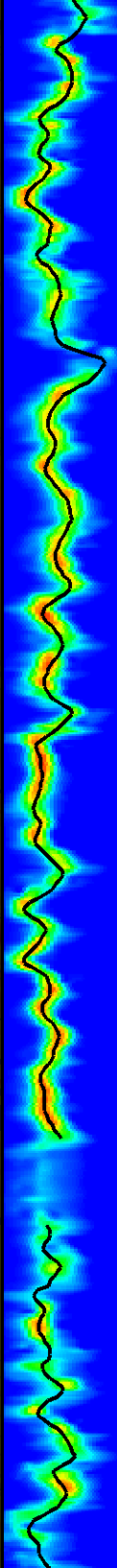
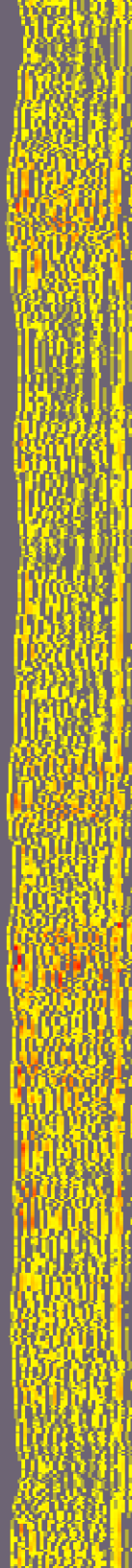
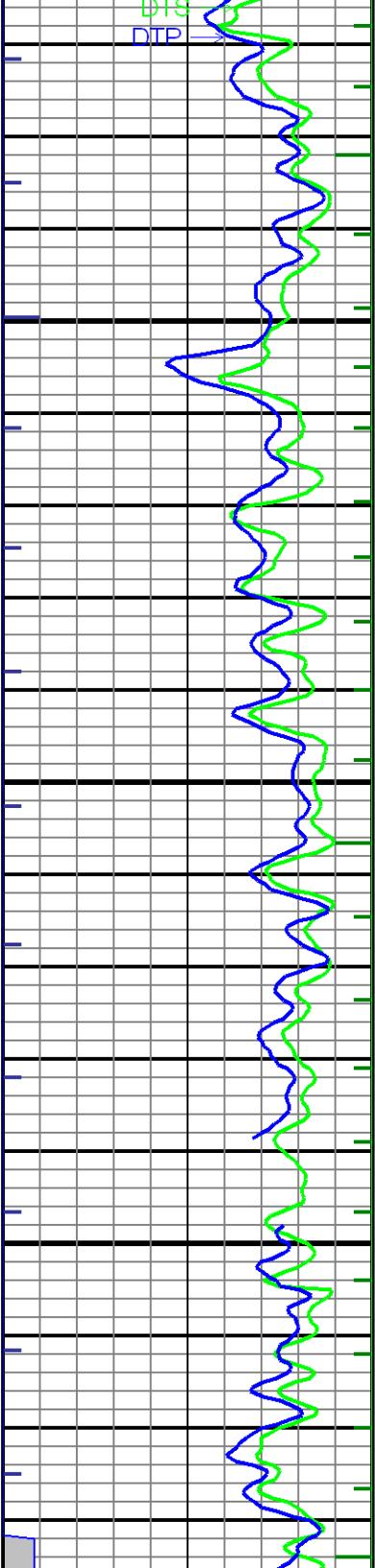


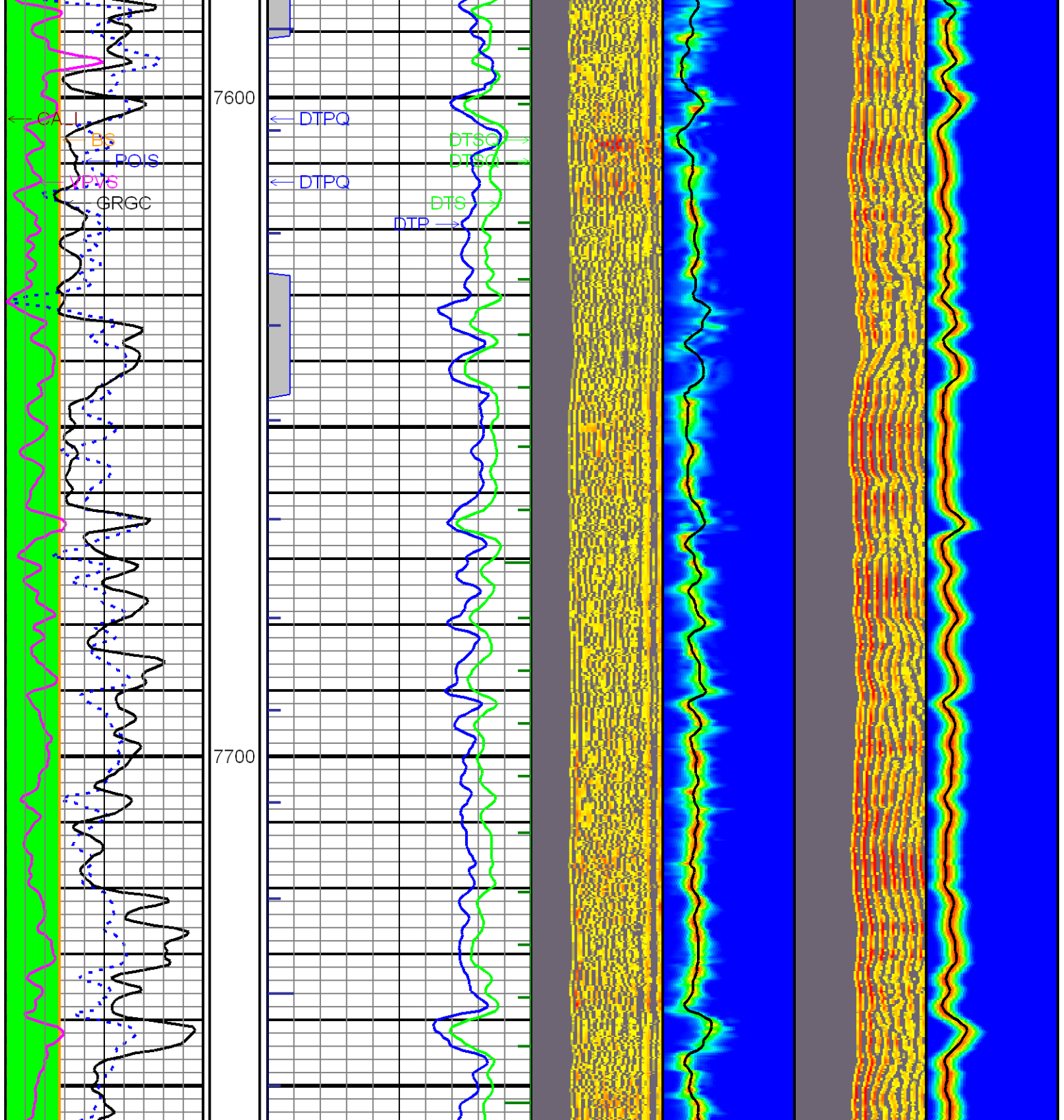


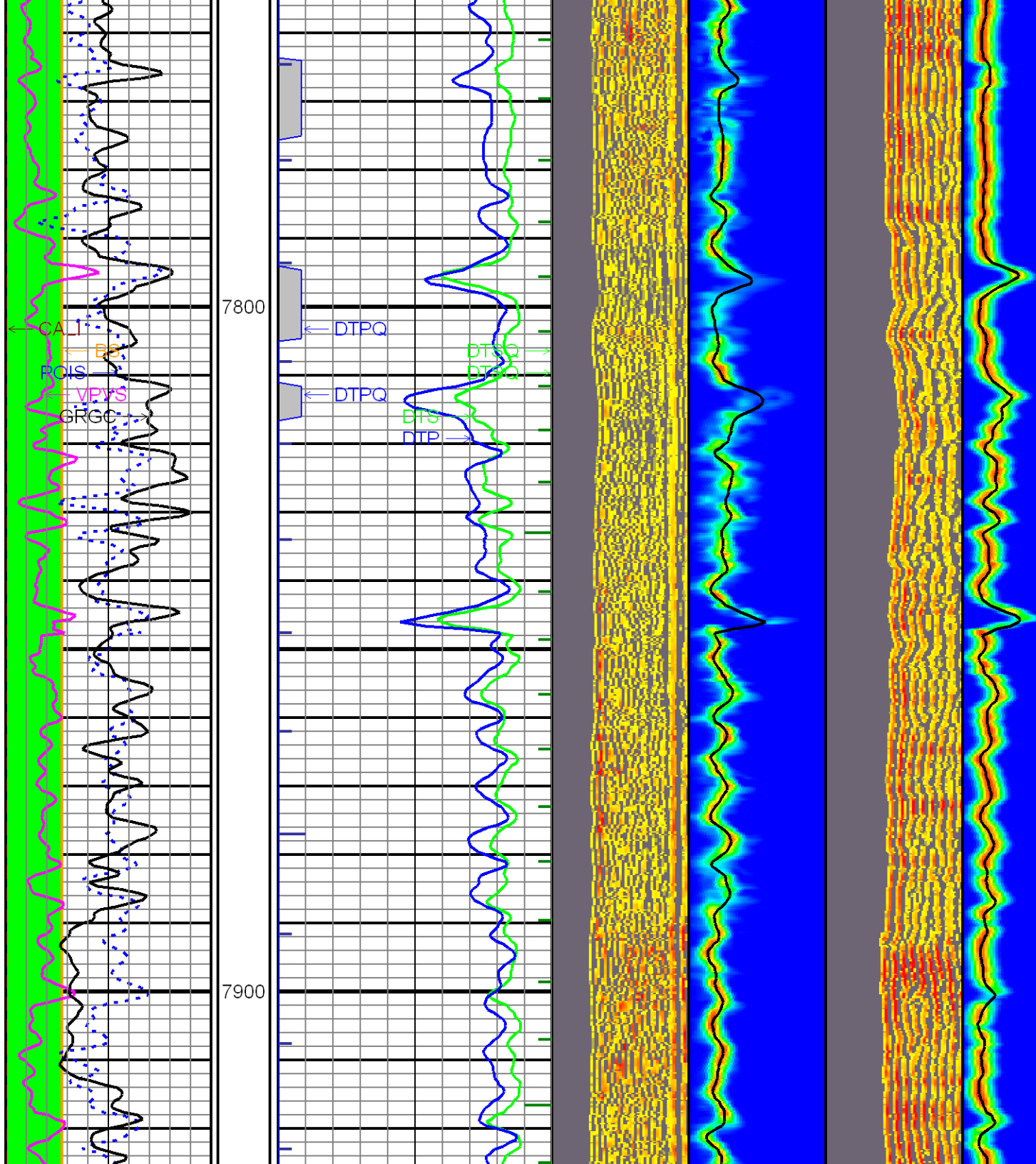


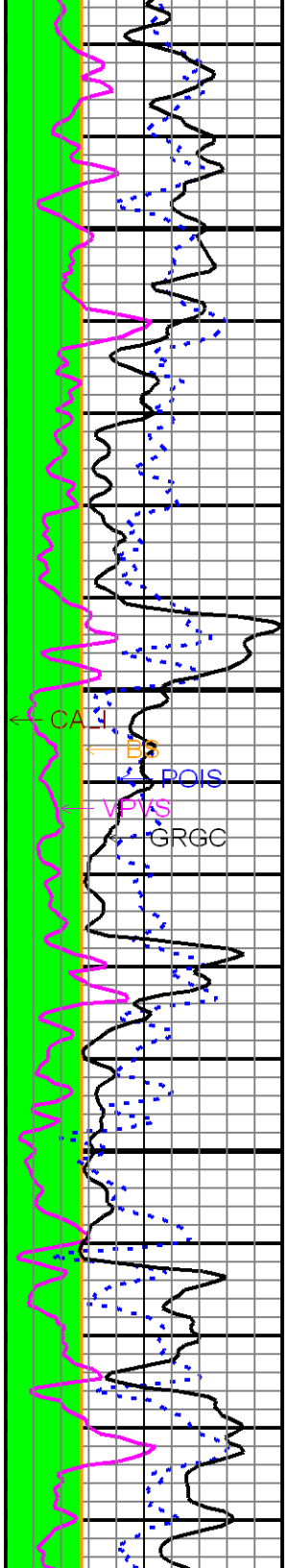


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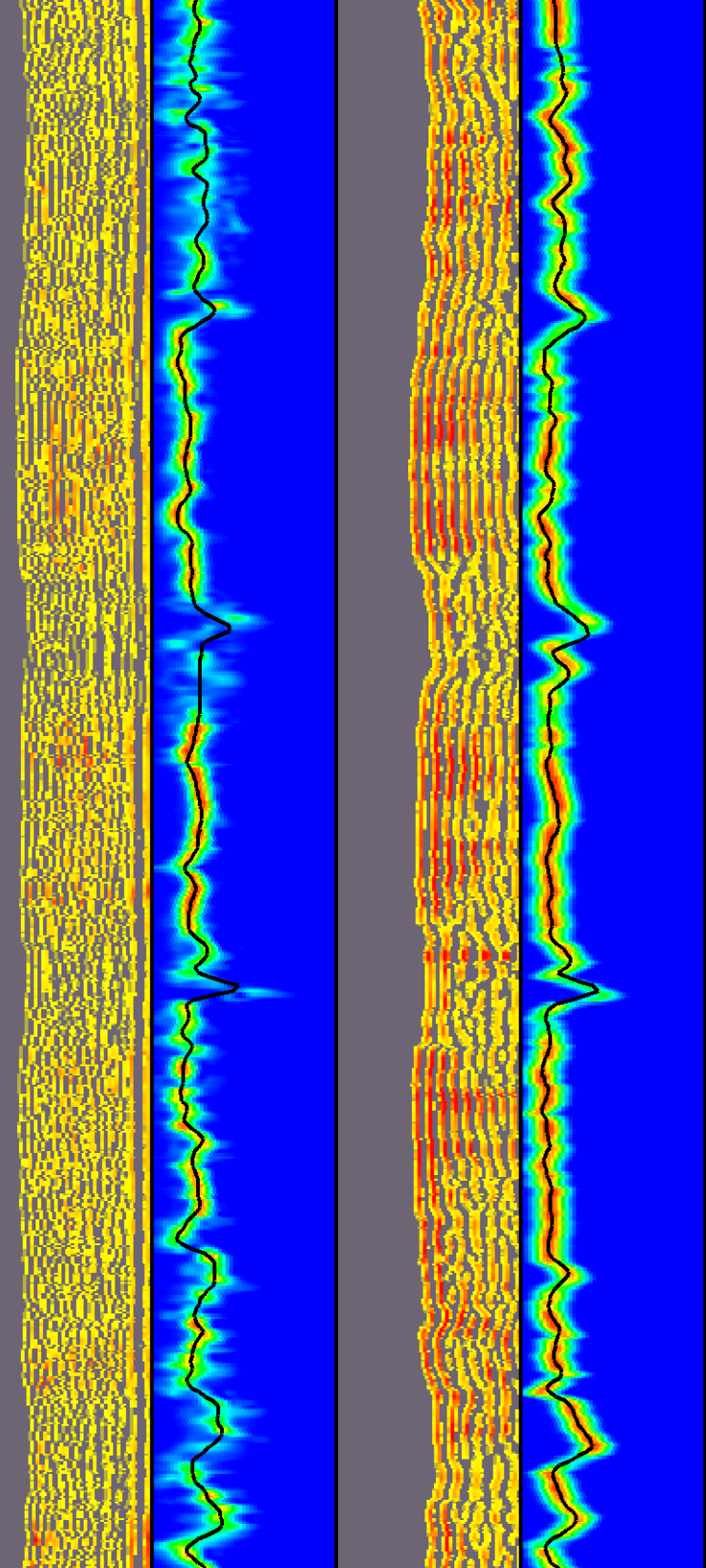
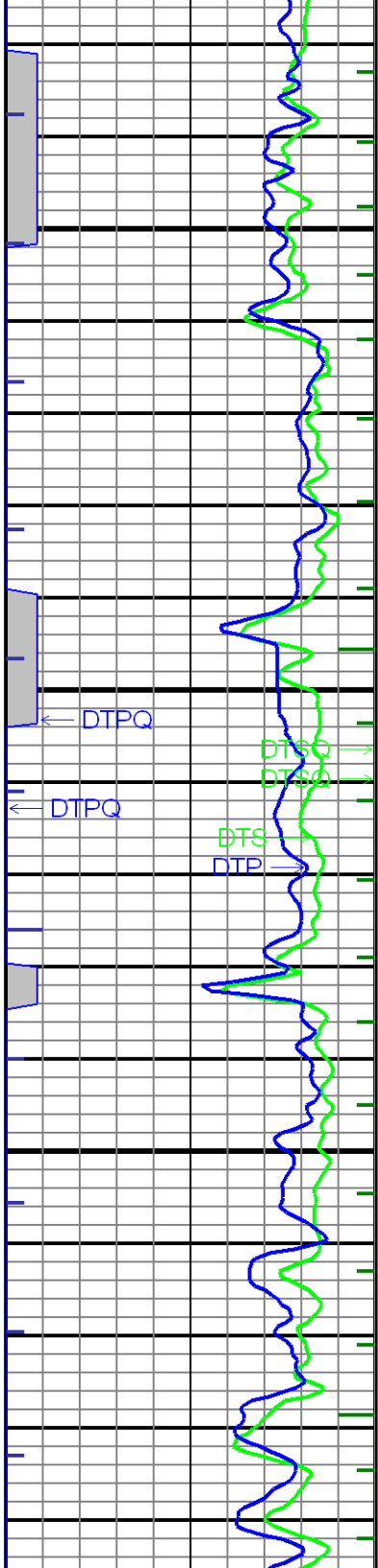


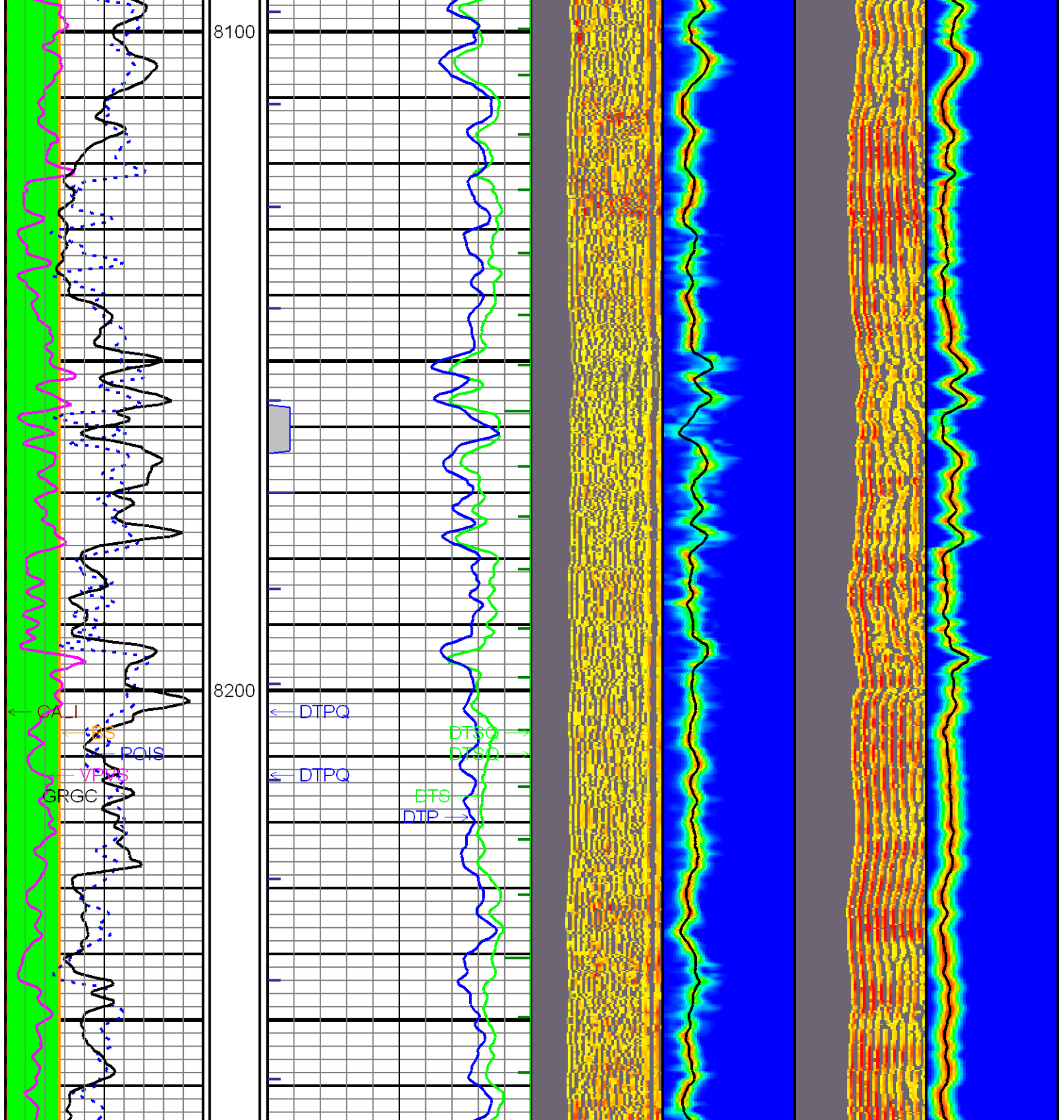


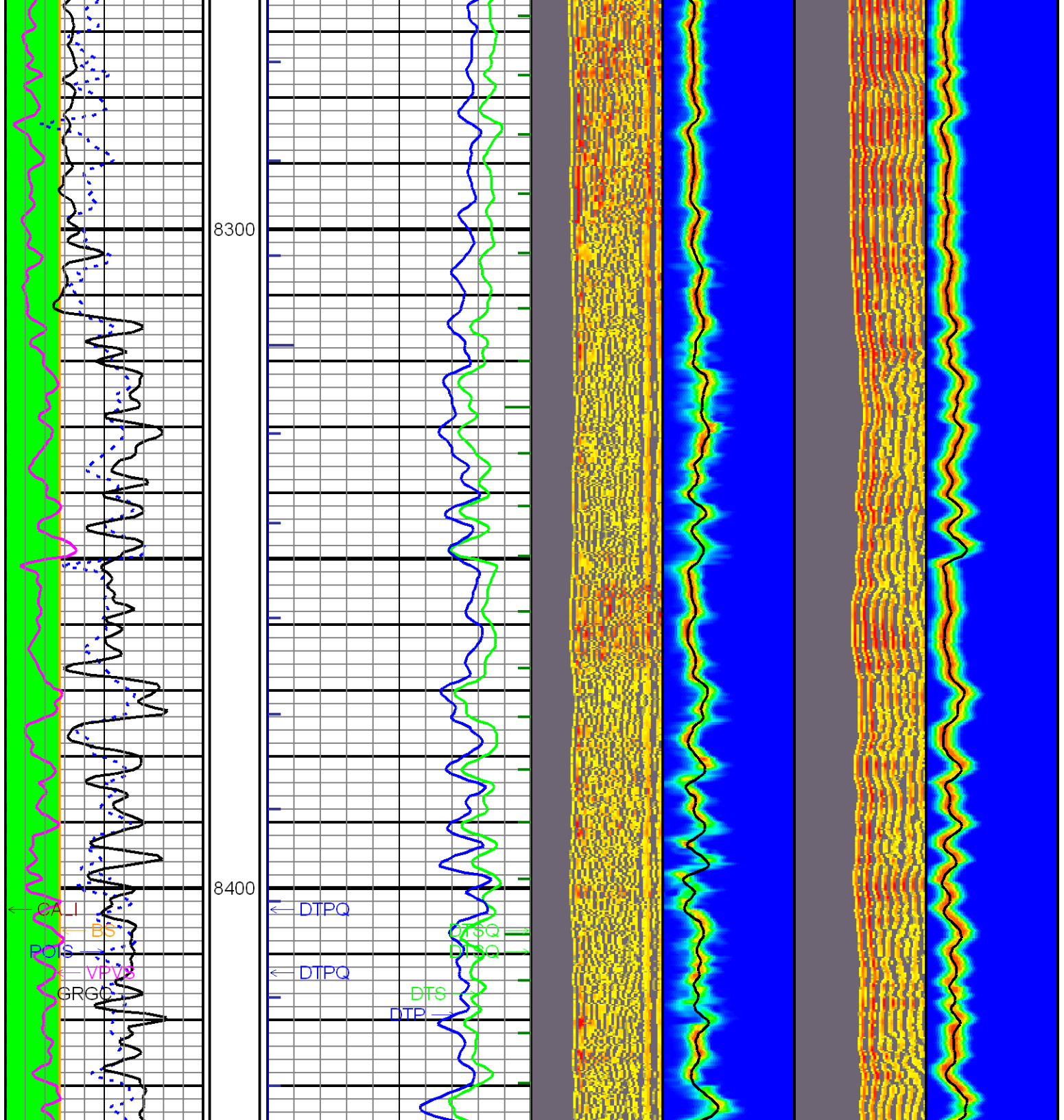


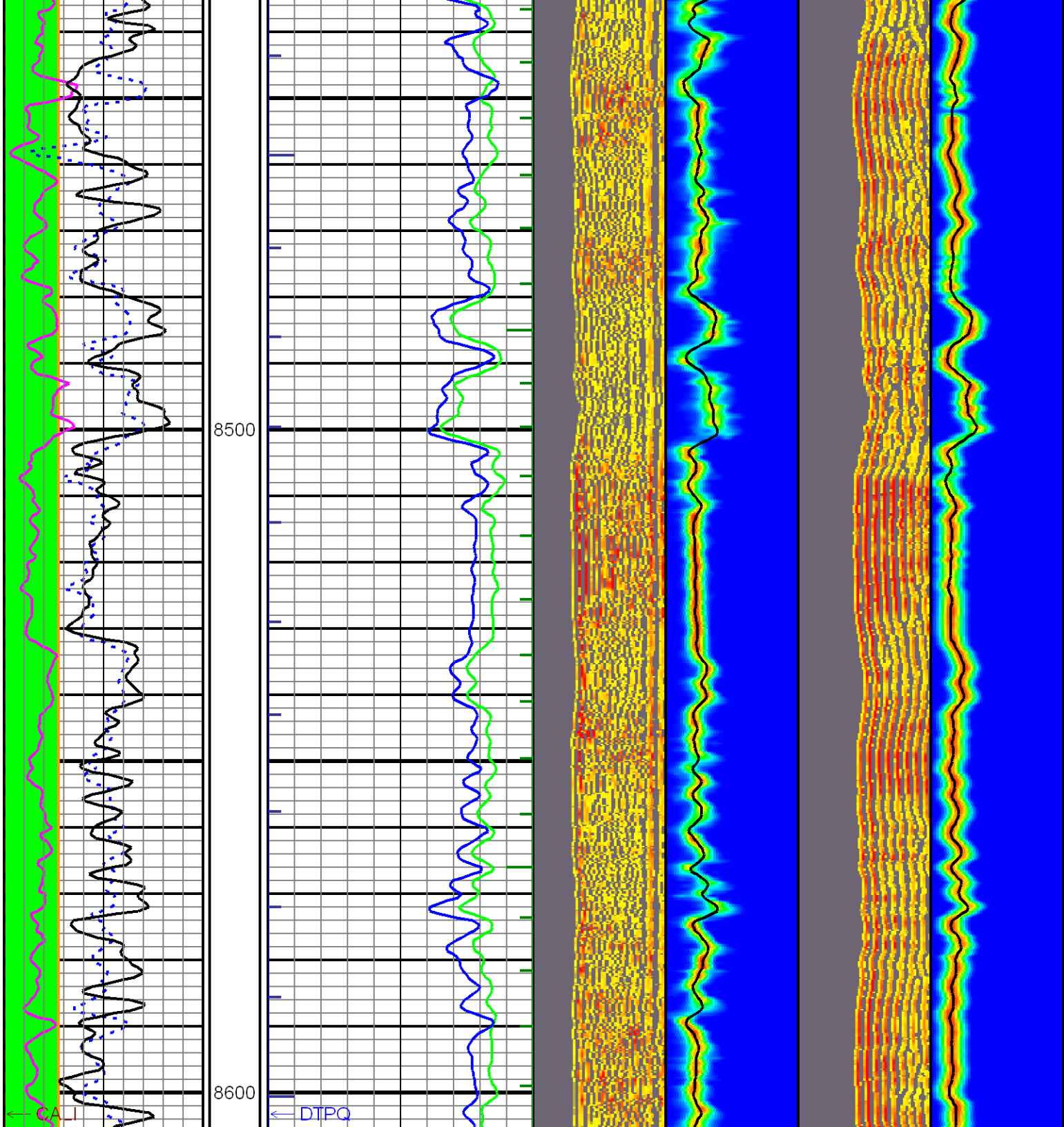


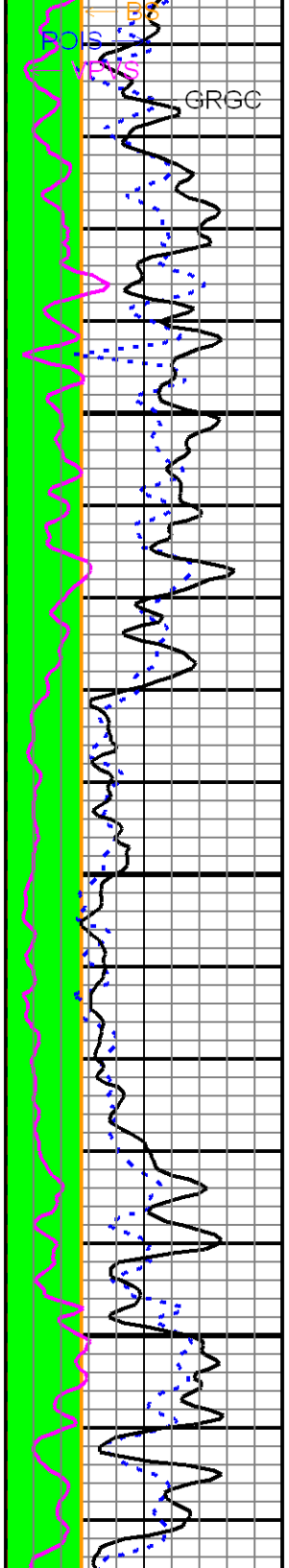
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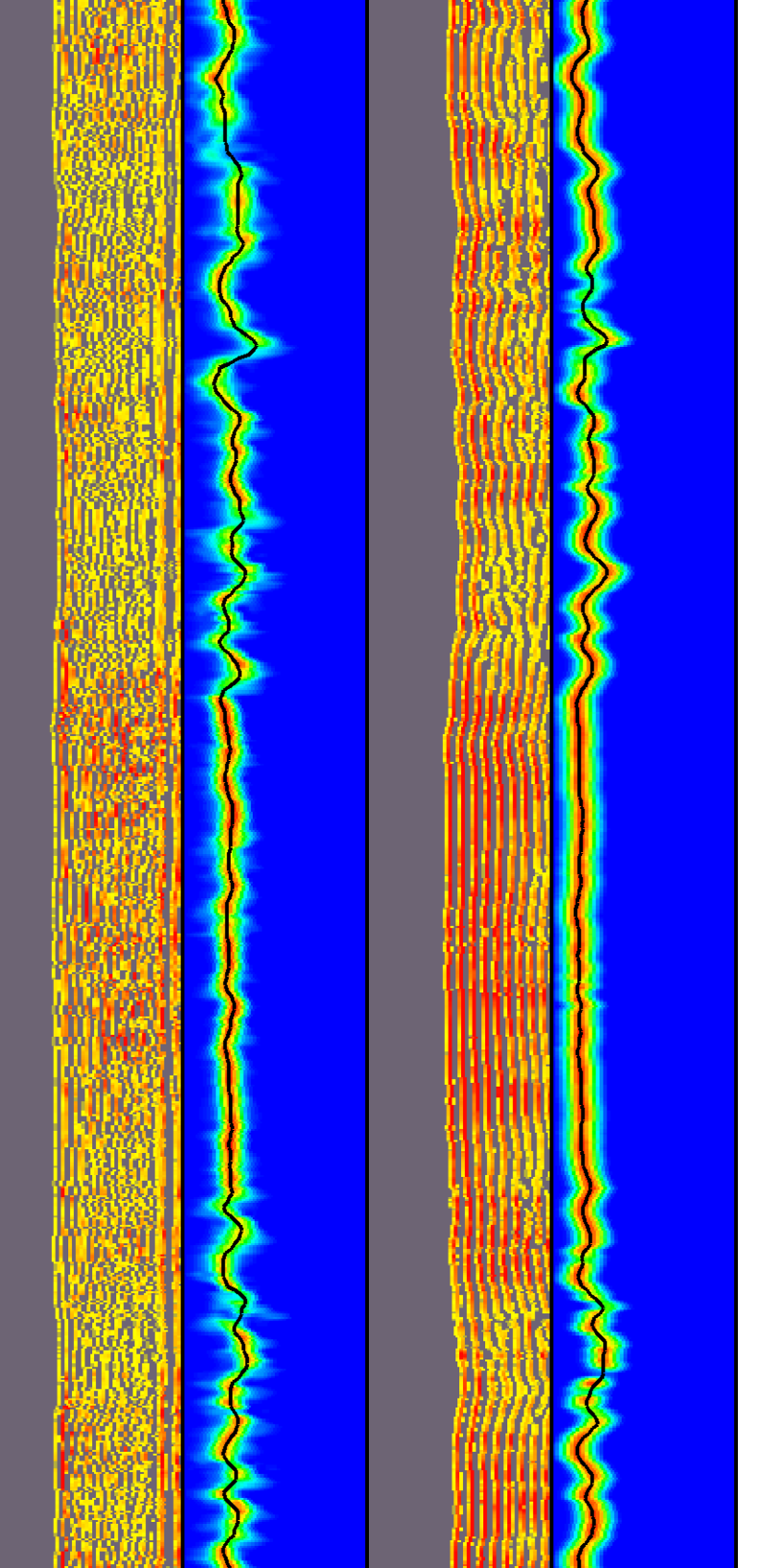
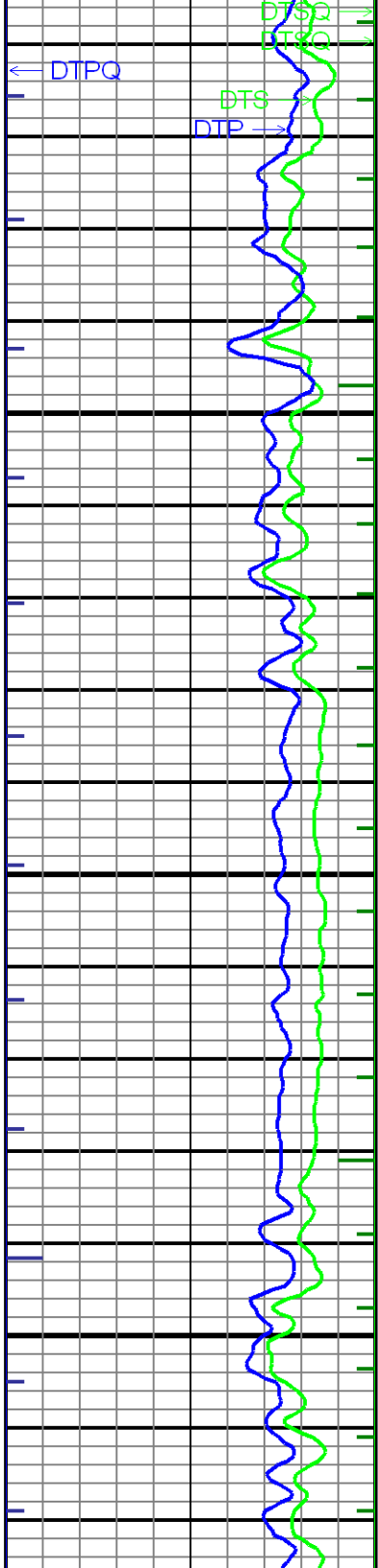


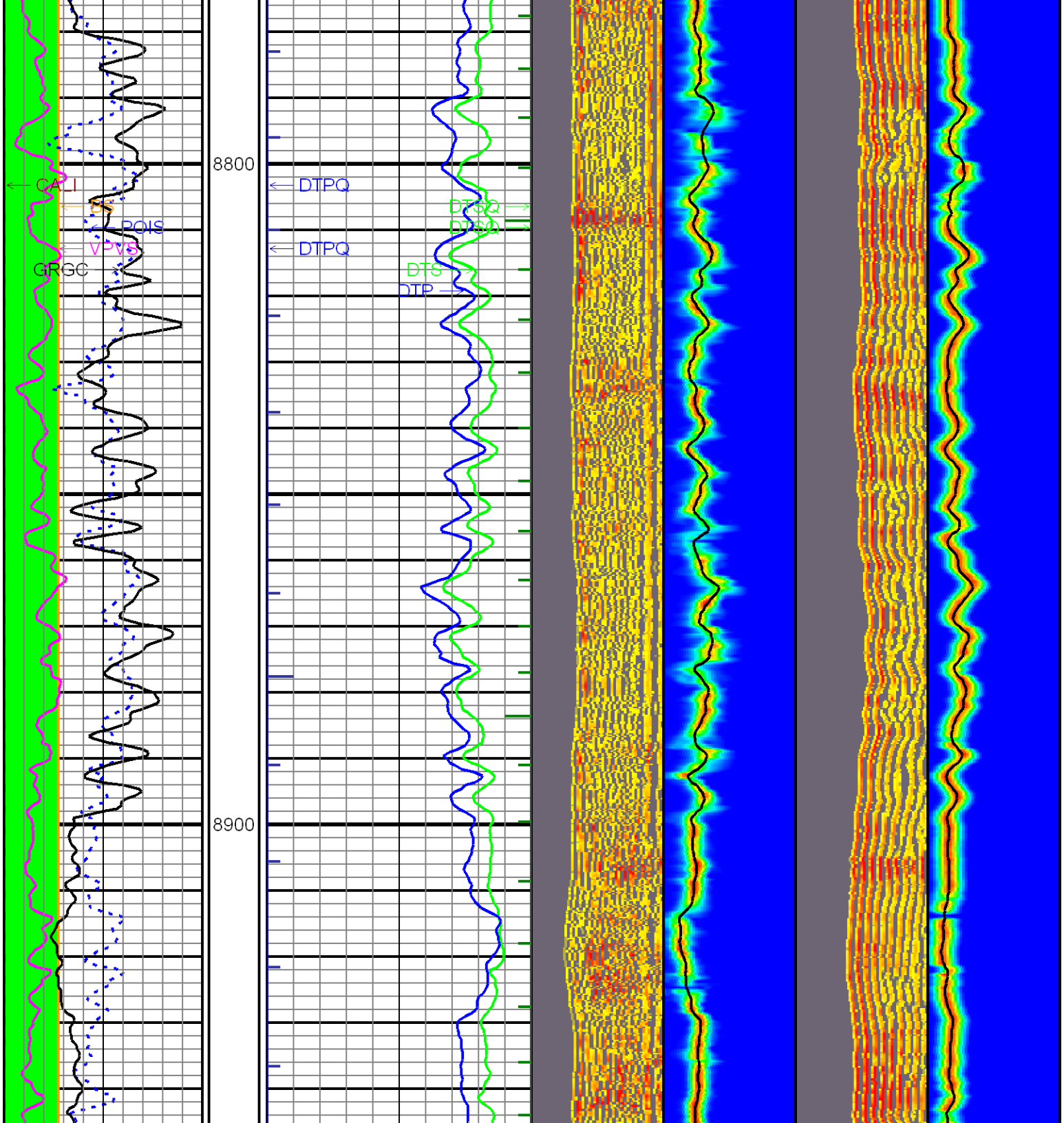


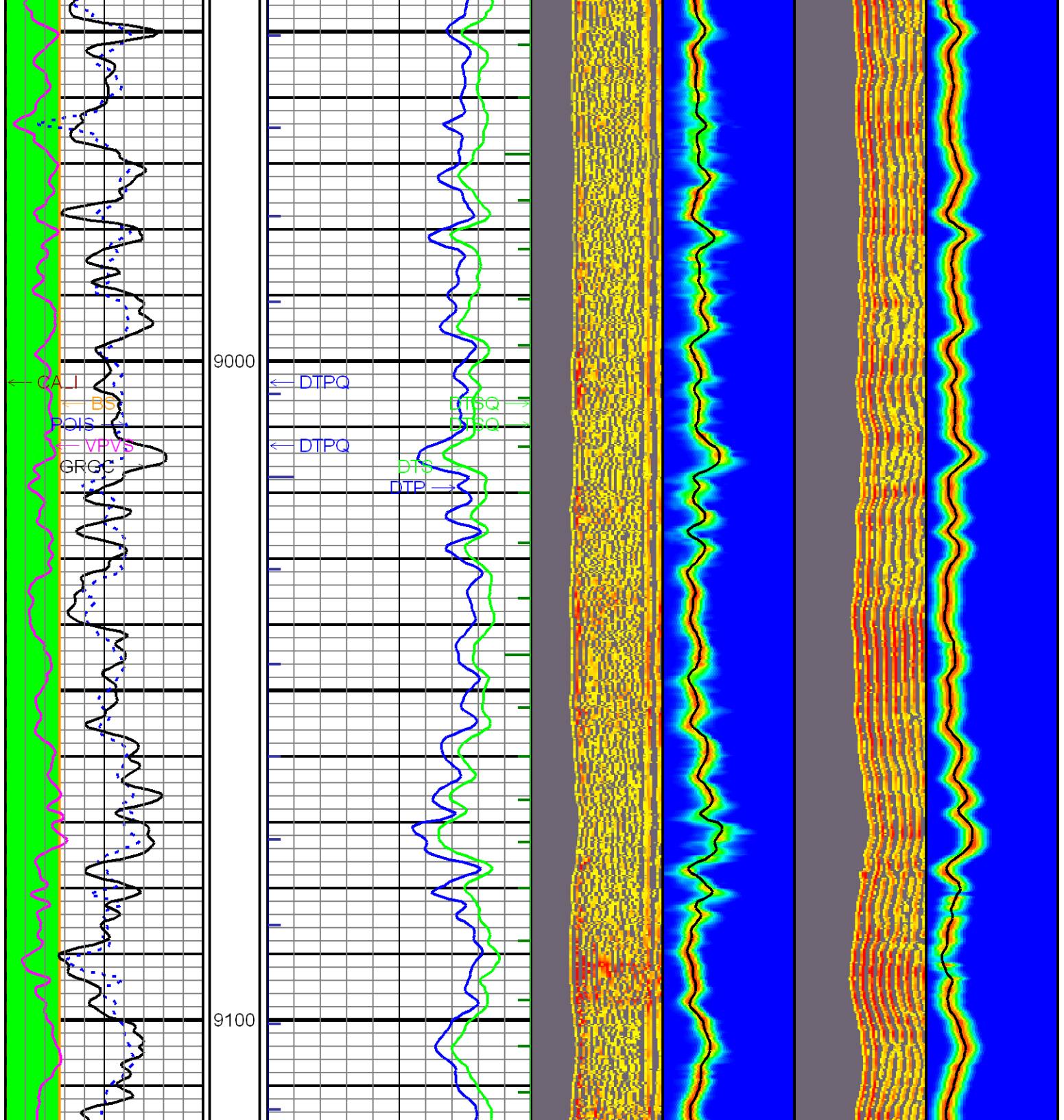


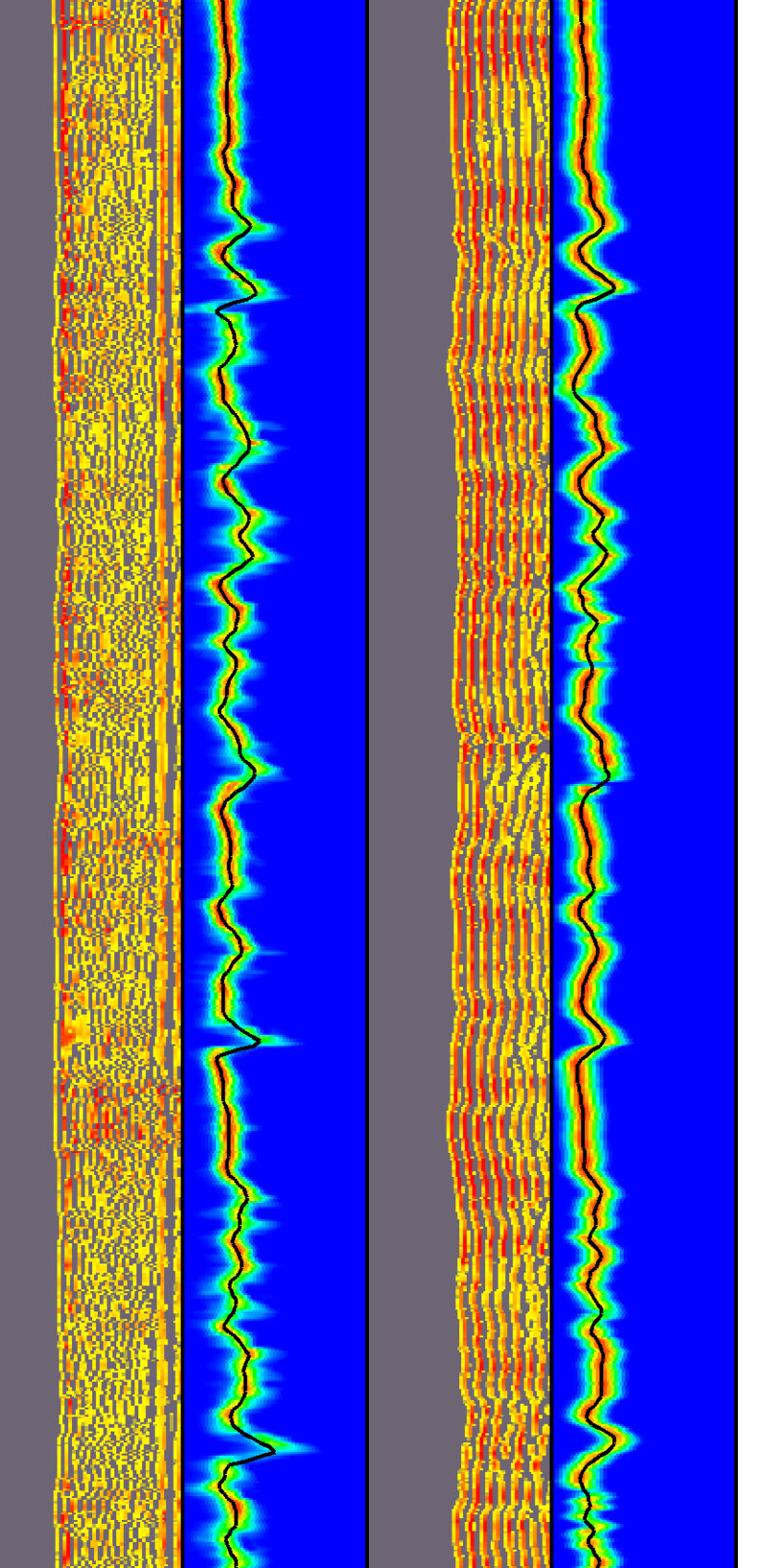
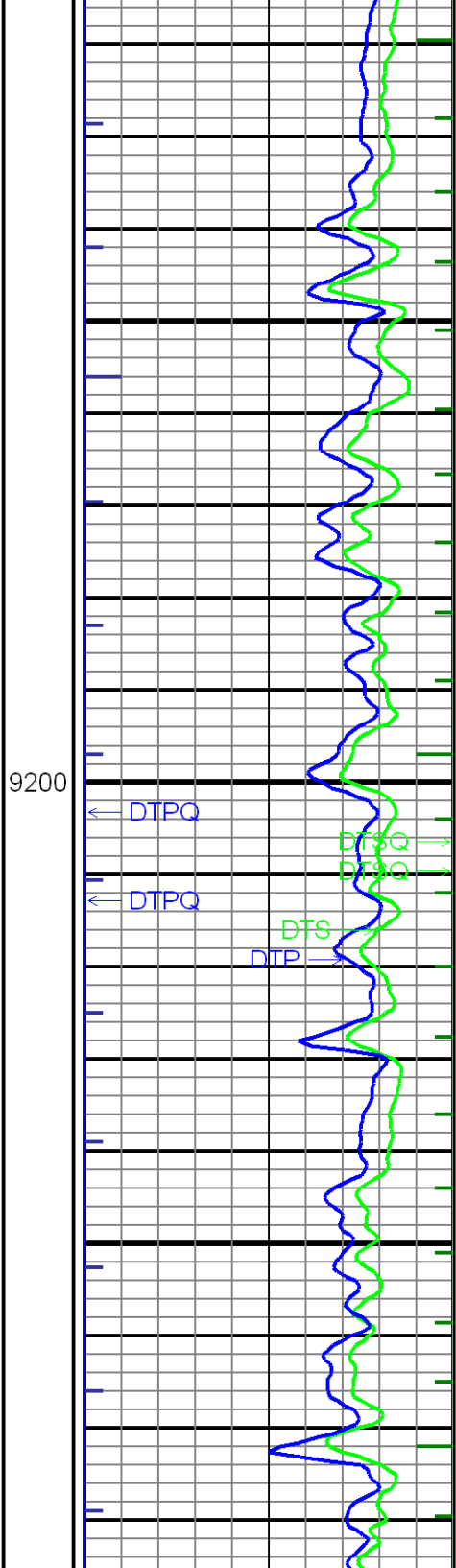
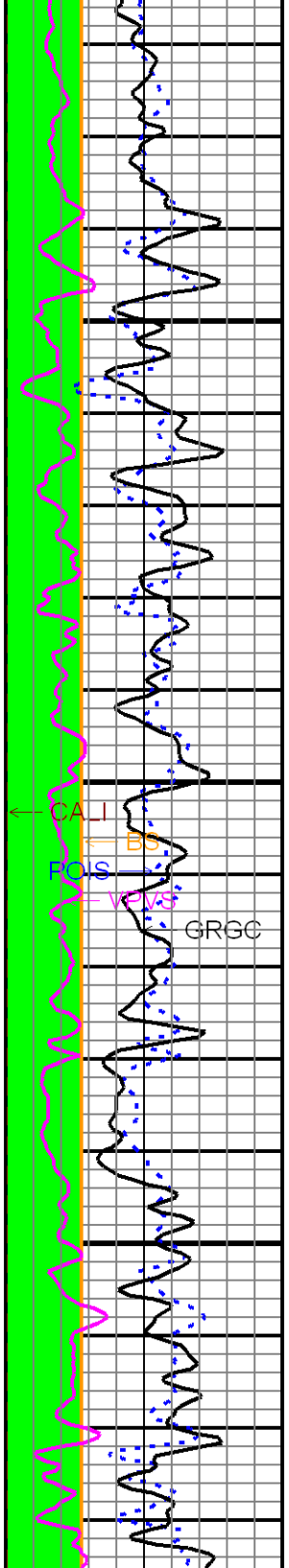


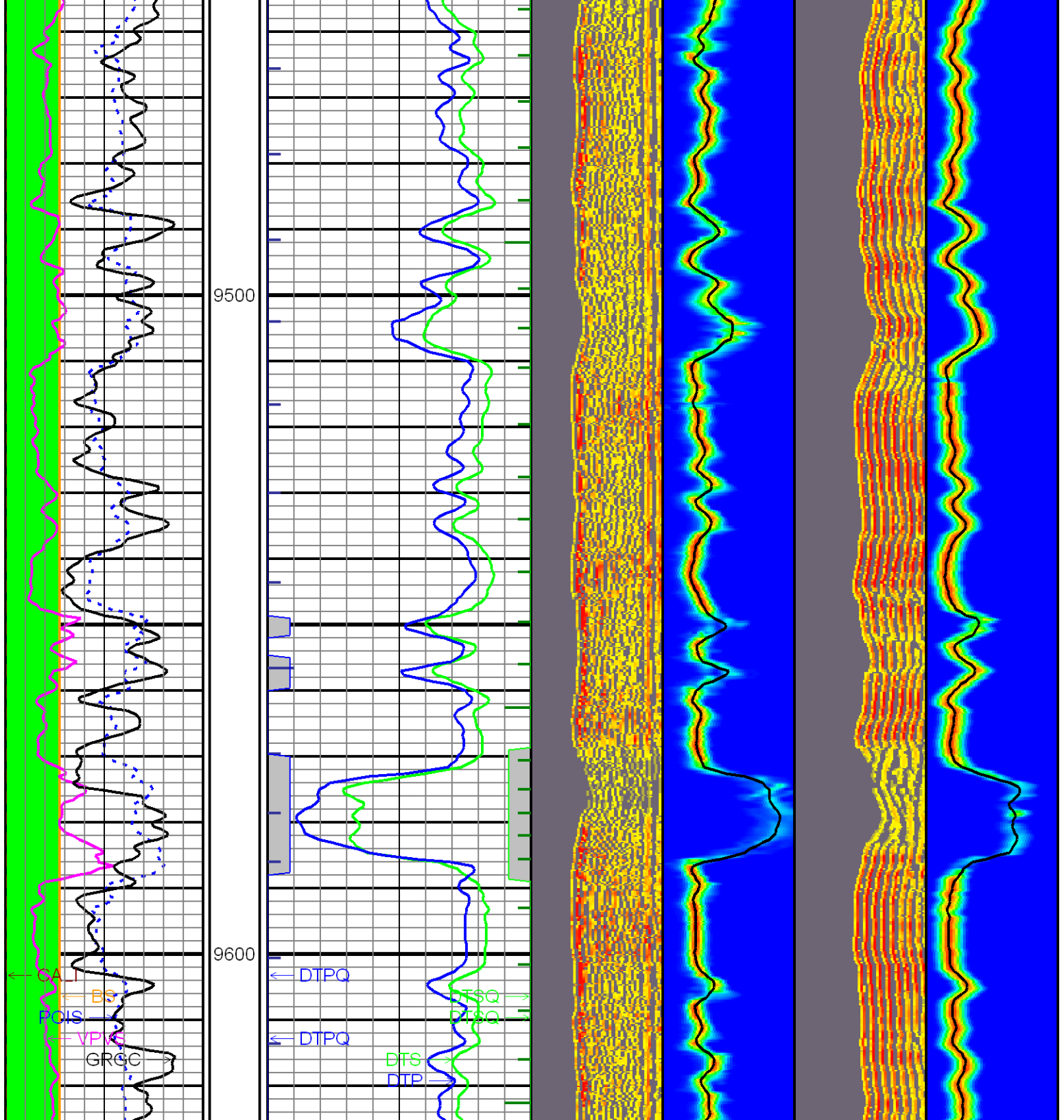
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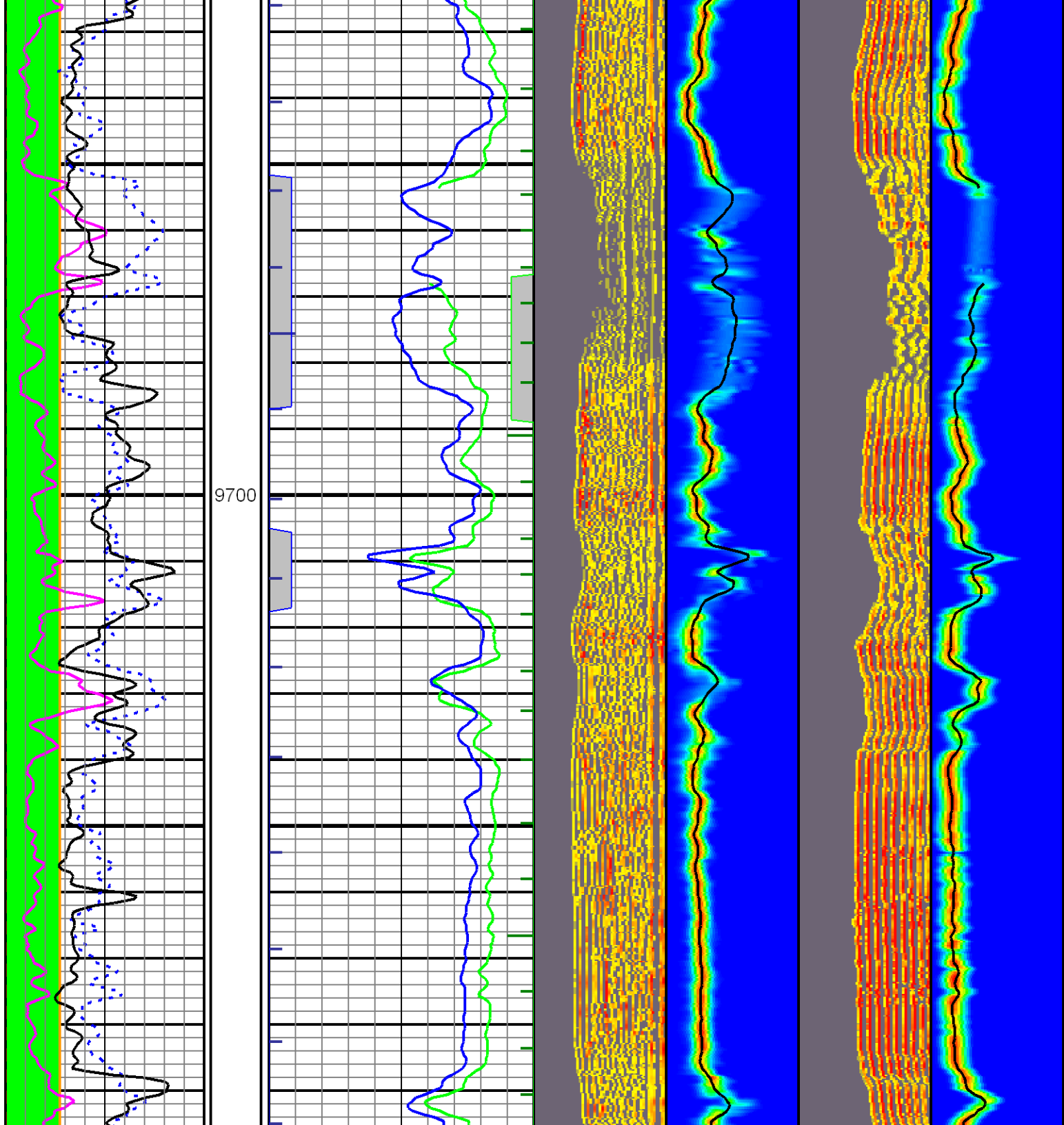


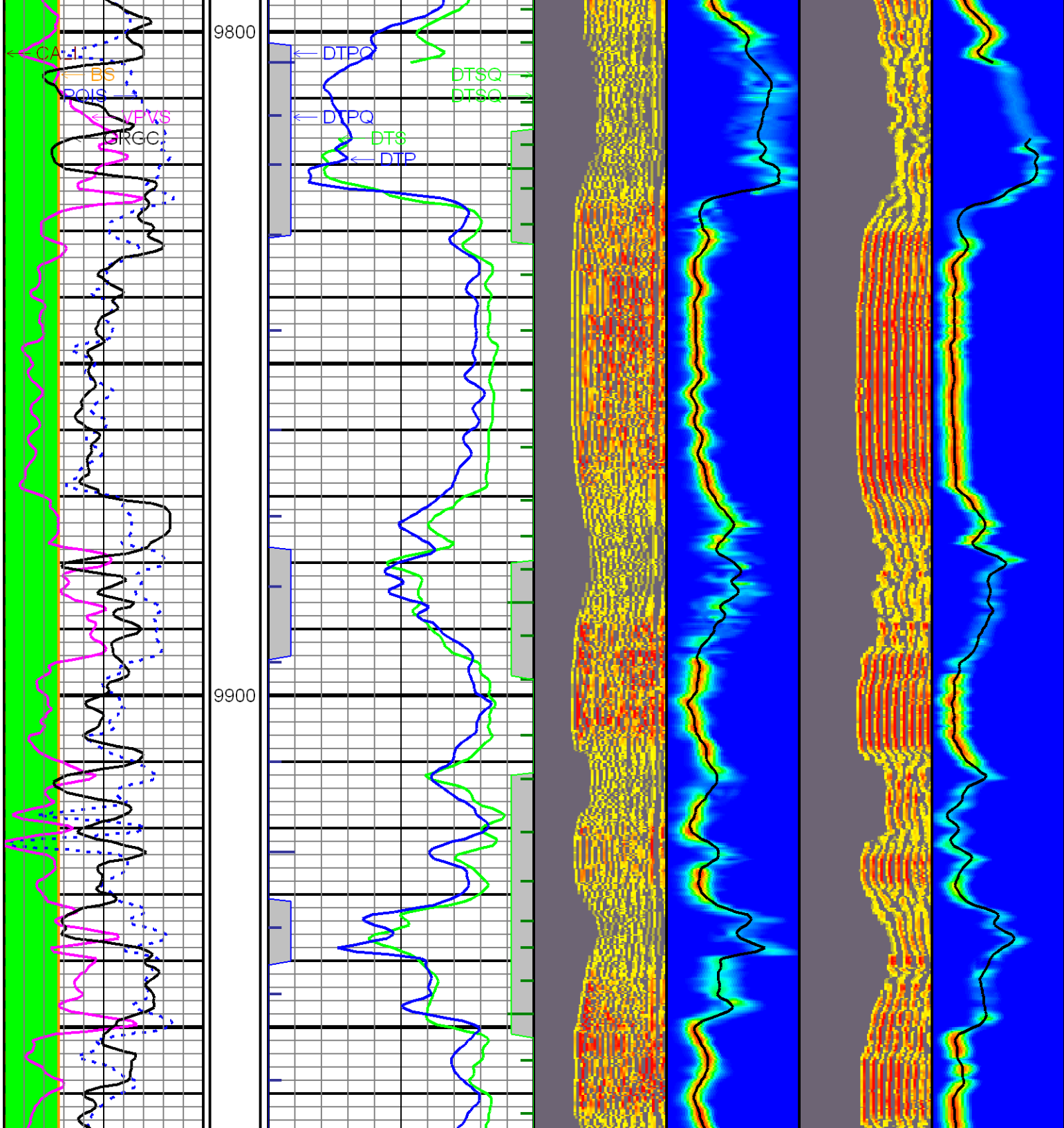


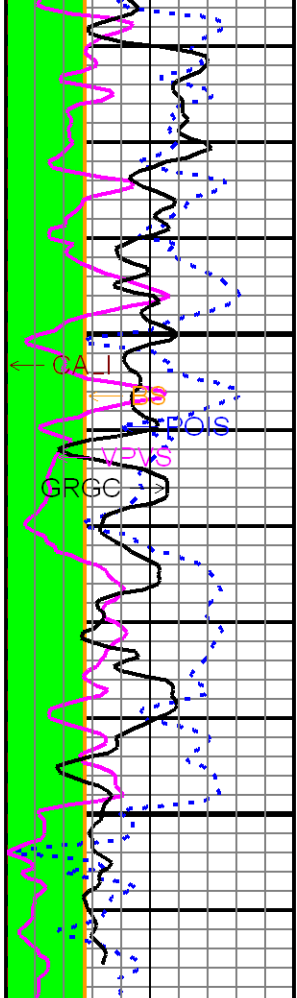












Mud Cake

Washout

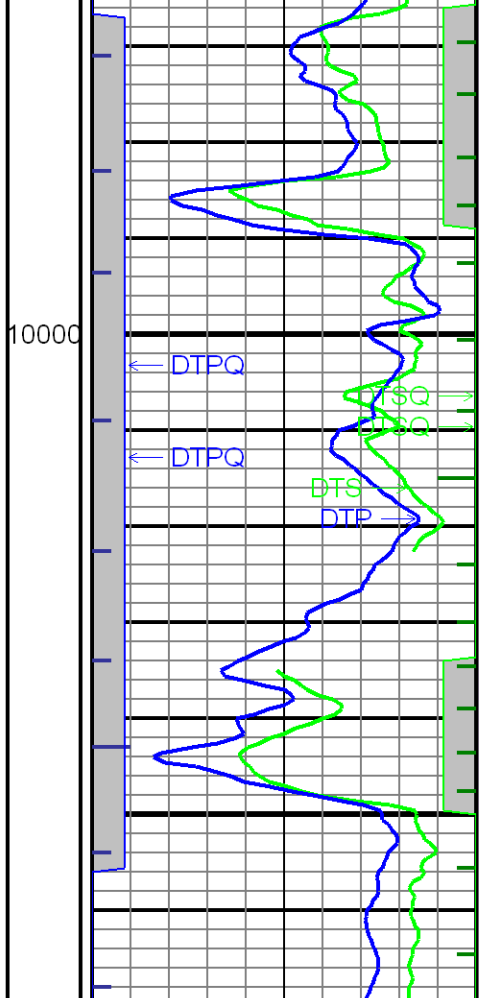
POIS
0 0.5

VPVS
1.4 3.4

GRGC
0 150
GAPI

1:240

Acoustic



DTP Lower Quality

DTS Lower Quality

ITTS
20 0
msec

ITTP
0 20
msec

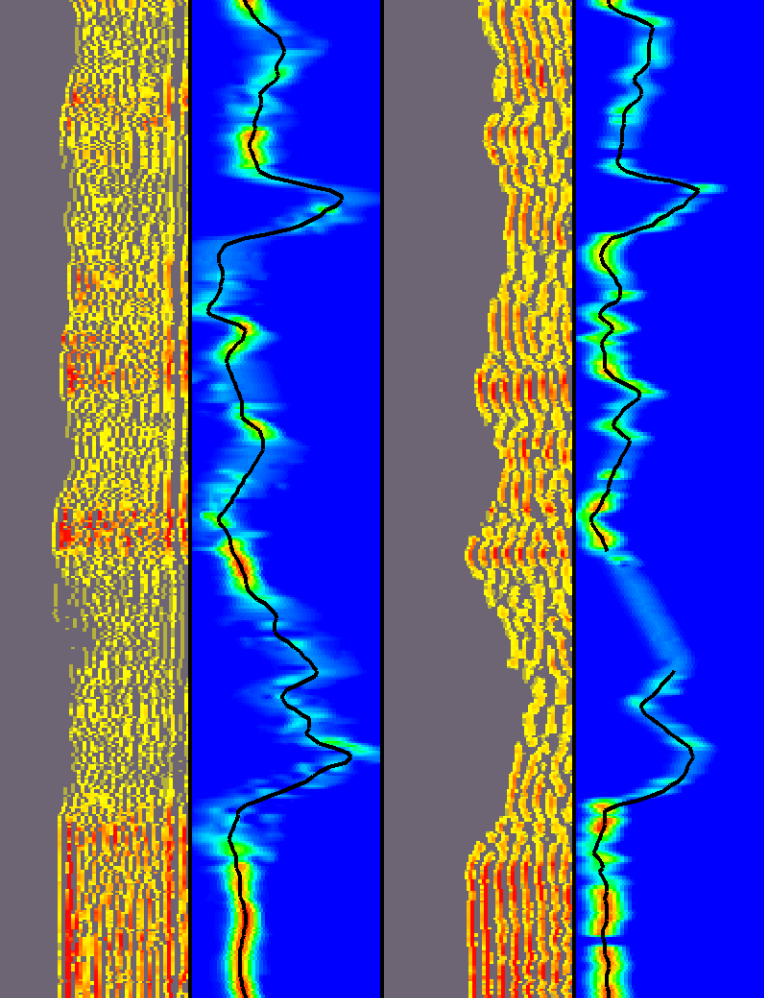
DTSQ
12 0
fig

DTPQ
0 12
fig

DTS
400 60
us/f

DTP
160 40
us/f

Mud



MWAVE MSEM DWAVE DSEM

0 2500 usec 40 160 us/f 0 4000 usec 60 400 us/f

DTP DTS

40 160 us/f 60 400 us/f

Mud

Mud

Di

Di

Mud

Auxiliary Curves		Main Curves	Monopole Waveform	Monopole Semblance	Dipole Waveform	Dipole Semblance
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WELL: 596-19A-18
FIELD: GRAND VALLEY
COUNTY: GARFIELD
STATE: COLORADO



Weatherford[®]

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SEMBLANCE