

| | | | | | | | | | | | |
|----------------------------|----------|---------------|-----------|----------|----------|-----------|--|--|--|--|--|
| Type | | Petrofree SBM | | | | | | | | | |
| Mud weight | ppg | 10.05 | | | | | | | | | |
| Solids | % | 13.3 | | | | | | | | | |
| Chlorides | mg/L | 204100 | | | | | | | | | |
| Rm | ohm.m@°C | n/a | | | | | | | | | |
| Rmf | ohm.m@°C | n/a | | | | | | | | | |
| Rmc | ohm.m@°C | n/a | | | | | | | | | |
| Potassium | % | 0.0 | | | | | | | | | |
| Environmental data | | | | | | | | | | | |
| GR | | | | | | | | | | | |
| Mud weight | ppg | 10.05 | | | | | | | | | |
| Bit size | in. | 8.5 | | | | | | | | | |
| Resistivity | | | | | | | | | | | |
| Neutron porosity | | | | | | | | | | | |
| Hole Size | in. | 8.5 | | | | | | | | | |
| Mud weight | ppg | 10.05 | | | | | | | | | |
| Temperature | °C | 120.0 | | | | | | | | | |
| Mud salinity | ppm | 27227 | | | | | | | | | |
| Formation salinity | | | | | | | | | | | |
| Recording rate 1 | SEC | 5 sec. | | | | | | | | | |
| Recording rate 2 | SEC | 5 sec. | | | | | | | | | |
| Filtering GR | | 3 pt. | | | | | | | | | |
| Filtering density | | 3 pt. | | | | | | | | | |
| Filtering Neutron | | 3 pt. | | | | | | | | | |
| Company representative | B. Steel | T. Paltridge | R. Bain | | | | | | | | |
| Schlumberger D&M Personnel | J. Dolan | M. Y. Tan | D. Hastie | T. Auger | C. Soper | B. Hanson | | | | | |

DISCLAIMER

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OTHER SERVICES FOR RUN2

Xceed* RSS
D&I Survey

REMARKS: RUN NUMBER 2

8-1/2 in. hole section was drilled from 845.0 m to 4955.0 m.

Depth is referenced to Driller's Depth.

All data presented is from tool memory.

GR corrected for mud weight, tool and bit size.

ARC*6 resistivity is corrected for bit size, mud resistivity and borehole temperature.

Neutron porosity is calculated with a limestone matrix and is corrected for bit size, borehole salinity, temperature and mud hydrogen index.

PEF readings were affected by the presence of Barite in the mud system.

Caliper data spikes are due to stick and slip while drilling.

Mud type is Petrofree SBM.

POOH due to TD.

EQUIPMENT DESCRIPTION

RUN2

DOWNHOLE EQUIPMENT

| | | | |
|---------------------------------|-------------|-------|-------|
| 6-3/4 in. ADN*6C | Neutron F | 34.72 | 36.69 |
| S/N: 0403 | Neutron N | 34.57 | |
| 8-1/4 in. Stabiliser | Density S | 33.70 | |
| NSR-M A202 | Density L | 33.60 | |
| GSR-J A1994 | UltraSonic | 33.22 | |
| Software: V8.3A02 | R-O Port | 32.46 | |
| 6-3/4 in. Sonic*6 | | | 30.09 |
| S/N: 34641 | Receiver | 27.03 | |
| Software: V6.4B01 | R-O Port | 26.63 | |
| | Transmitter | 23.59 | |
| 6-3/4 in. PowerPulse* | | | 22.80 |
| MDC FA28 | D&I | 18.55 | |
| MEC 1080 | | | |
| MDI 491 | | | |
| MVC 095 | | | |
| Software: V8.0C00 | | | |
| | R-O Port | 11.48 | |
| 8-3/8 in. In Line Stabiliser T5 | T3 | 11.38 | 14.89 |
| S/N: S15535-2 | T1 | 11.07 | |
| 6-3/4 in. ARC*6 | Gamma Ray | 10.77 | 13.79 |
| S/N: 669 | Receiver | 10.41 | |
| Software: V9.0B00 | T2 | 10.36 | |
| | T4 | 10.11 | |
| | ARC APRS | 9.80 | |
| | | 9.65 | |
| 6-3/4 in. Xceed* RSS | | | 7.88 |

S/N: 059



Reed Hycalog PDC Bit
RSX 162 S/N: 209390
OD 8-1/2 in.

0.00

0.23

Maximum string diameter 8.50 in.
All lengths in Meters

IDEAL Version: ID10_0C_04
IDF

Format: VISION Quad Density Log Vertical Scale: 1:200 Graphics File Created: 26-Jul-2005 11:47

PIP SUMMARY

⊢ Density Ticks, 0.1 ft

Rate of Penetration, Averaged over Last
5ft (ROP5_RM)
200 (M/HR) 0

Photoelectric Factor, Right (PER)
0 (----) 10

Photoelectric Factor, Left (PEL)
0 (----) 10

Photoelectric Factor, Up (PEU)
0 (----) 10
Horizontal Hole Diameter (HORD)
6 (IN) 16

Photoelectric Factor, Bottom (PEB)
0 (----) 10
Vertical Hole Diameter (VERD)
6 (IN) 16

Photoelectric Factor (PEF)
0 (----) 10
Bit Size (BS)
6 (IN) 16

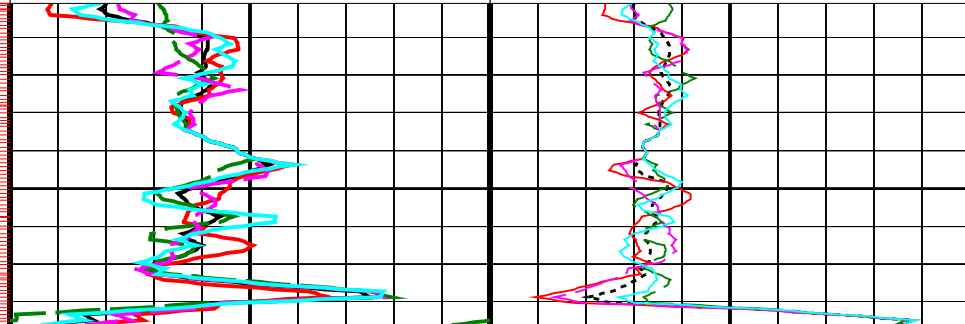
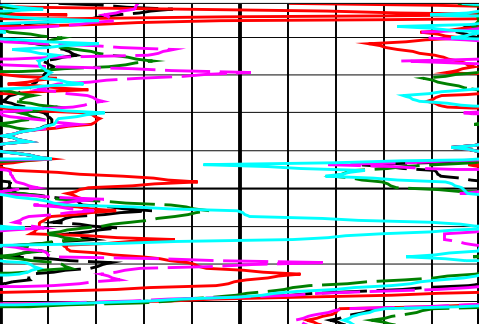
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1.85 (G/C3) 2.85
Bulk Density Correction, Right (DRHR)
-0.75 (G/C3) 0.25

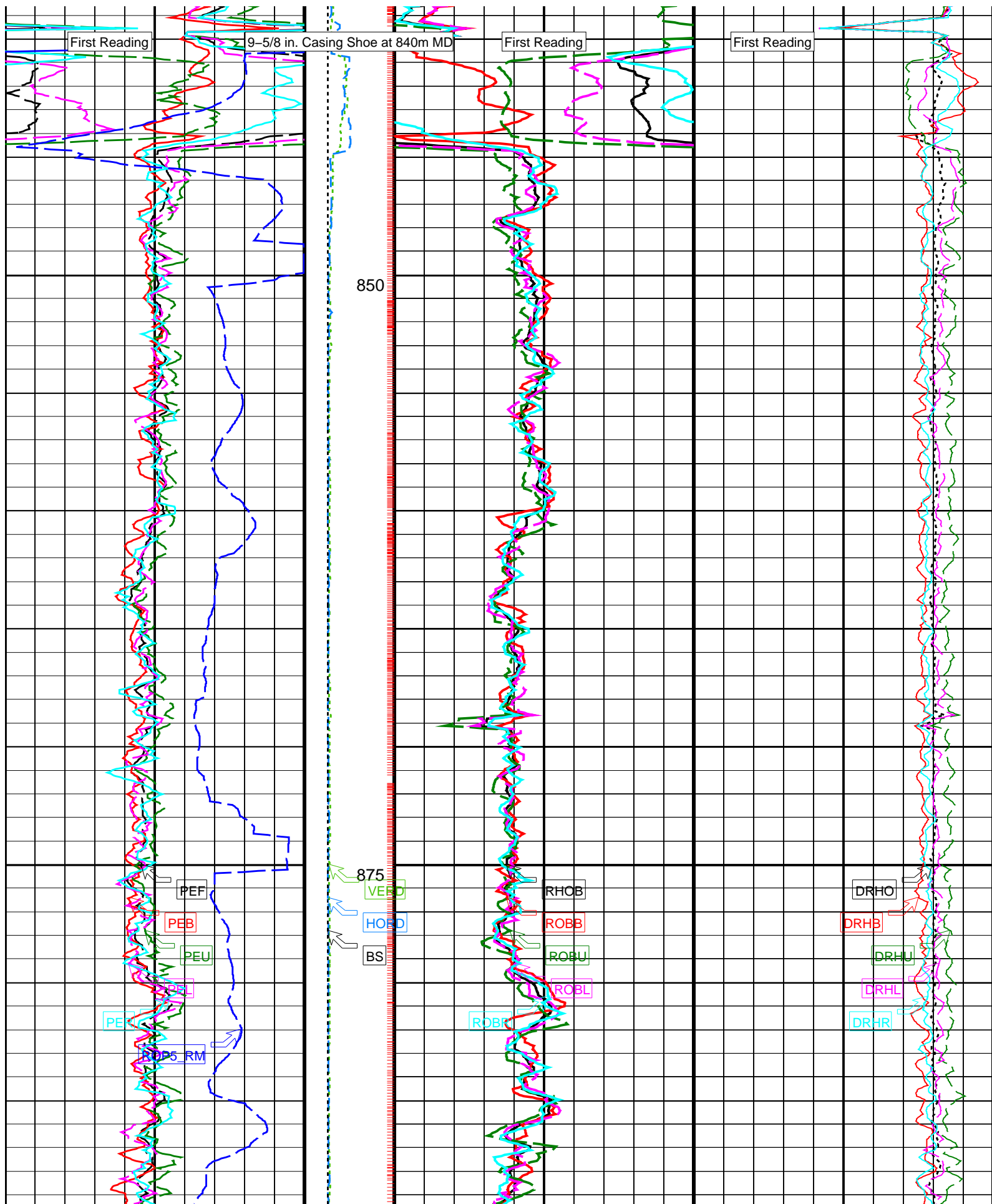
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Bulk Density Correction, Left (DRHL)
-0.75 (G/C3) 0.25

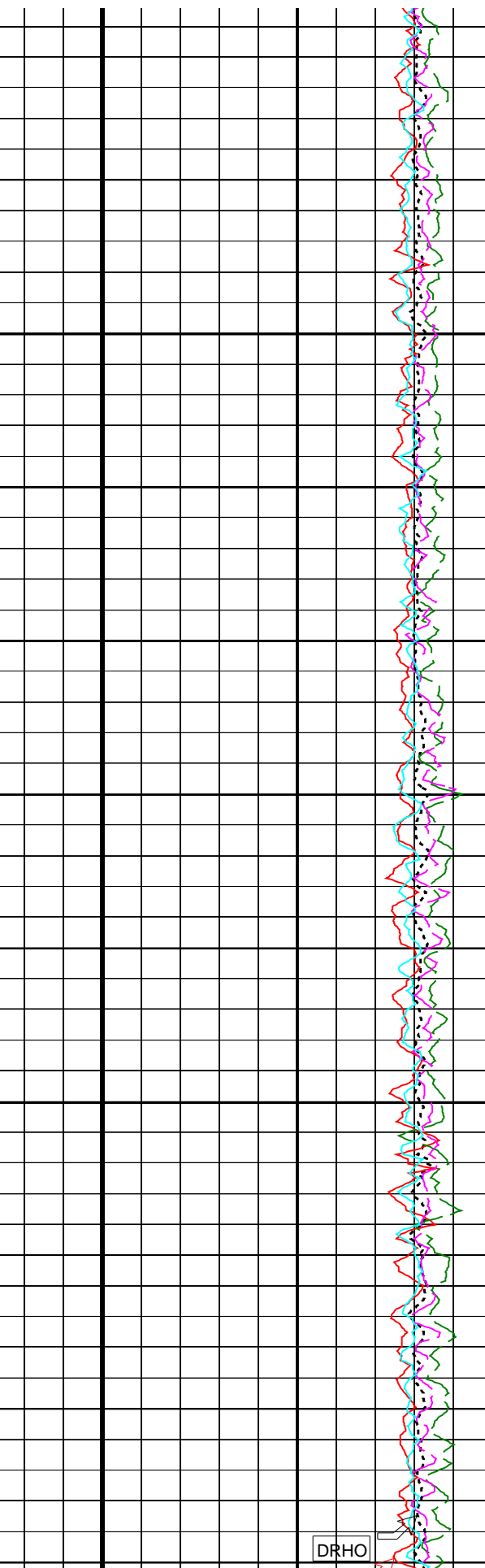
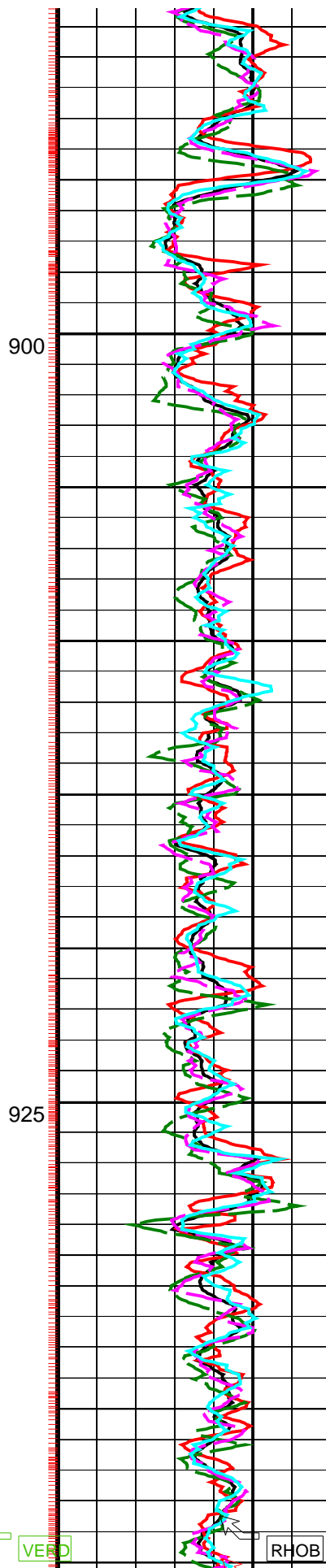
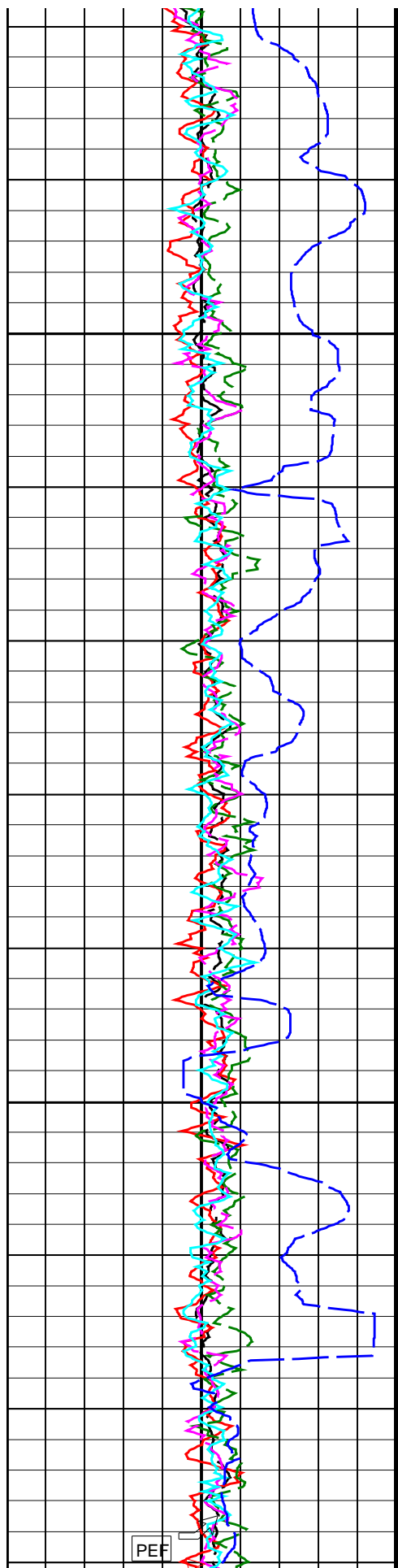
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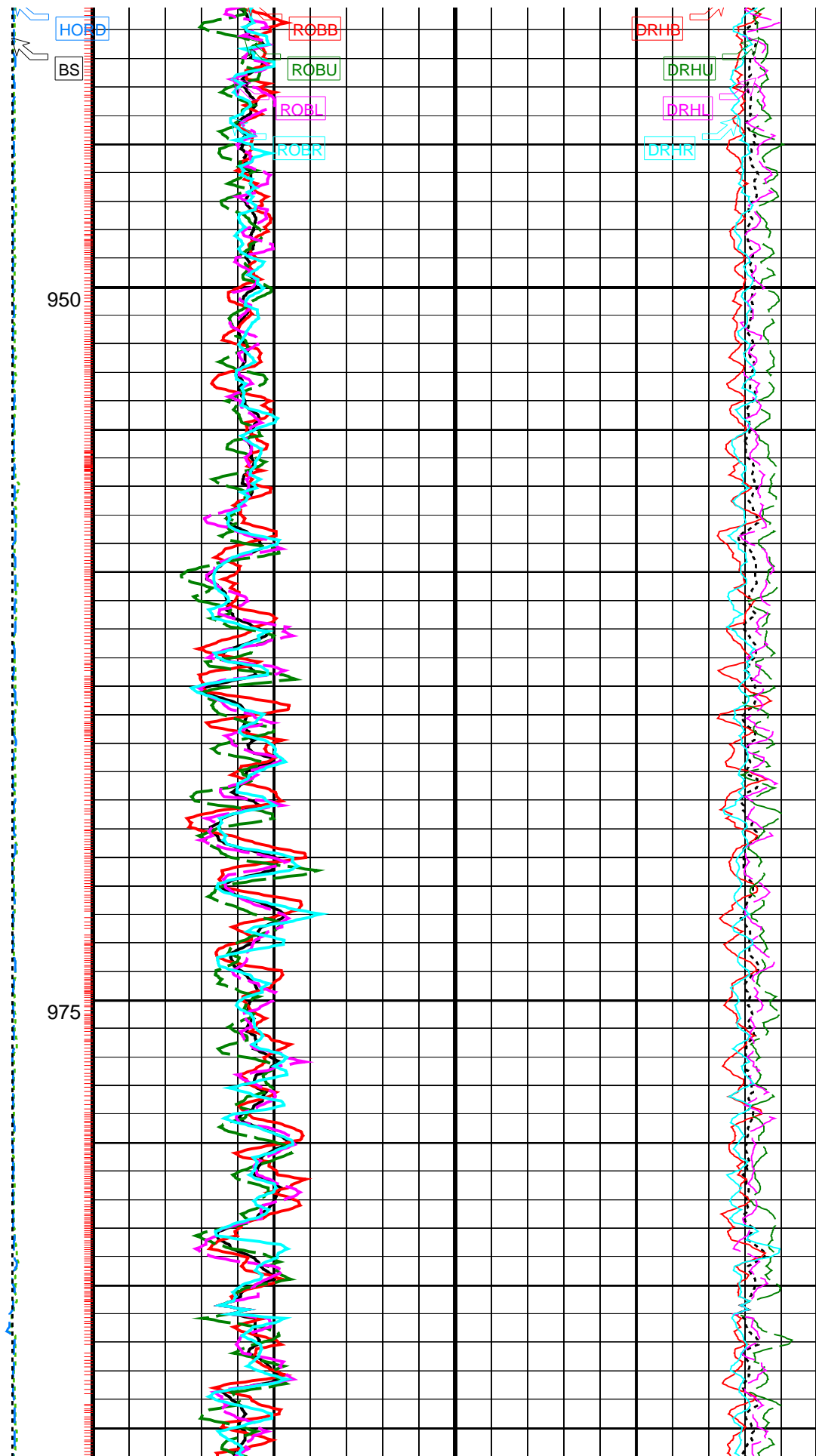
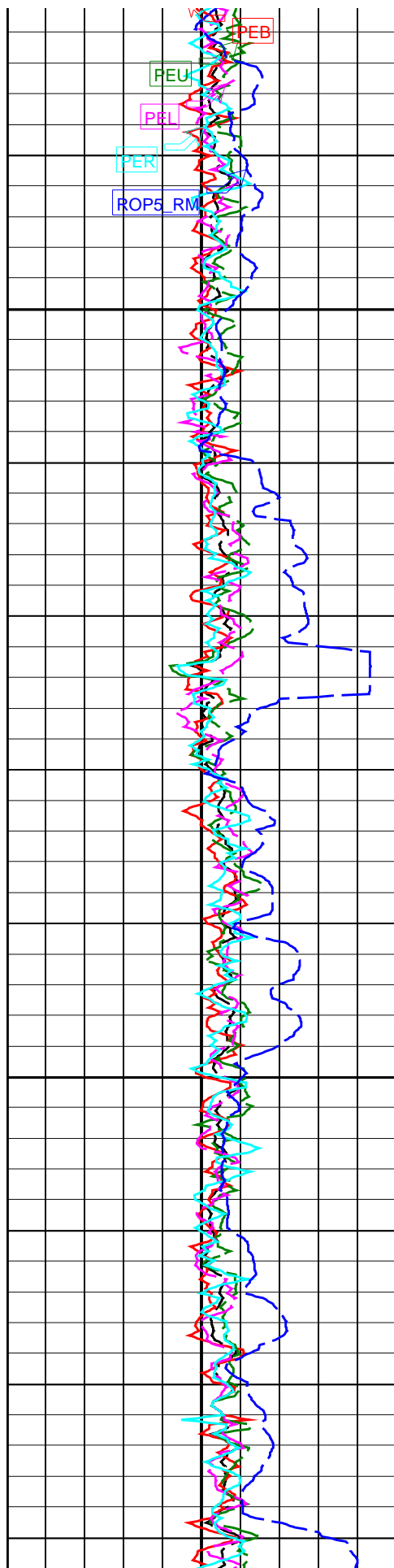
Bulk Density, Bottom (ROBB)
1.85 (G/C3) 2.85
Bulk Density Correction, Bottom (DRHB)
-0.75 (G/C3) 0.25

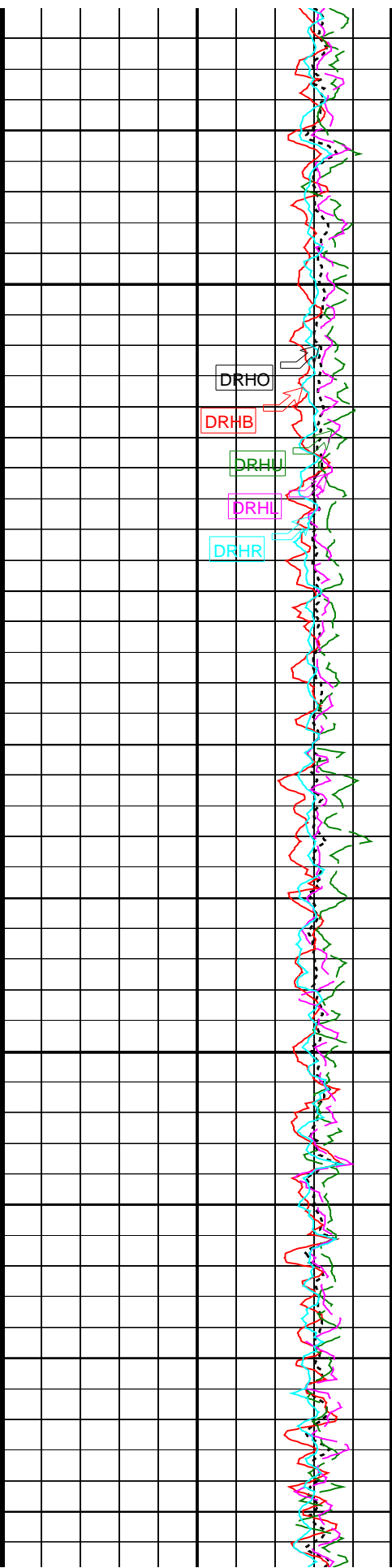
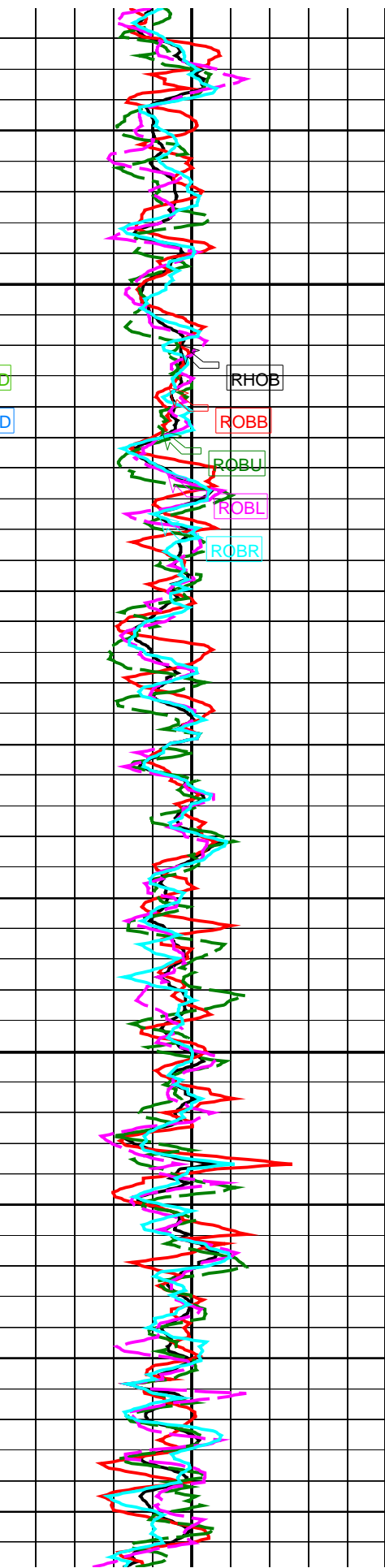
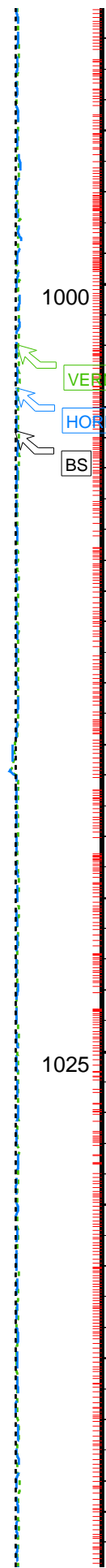
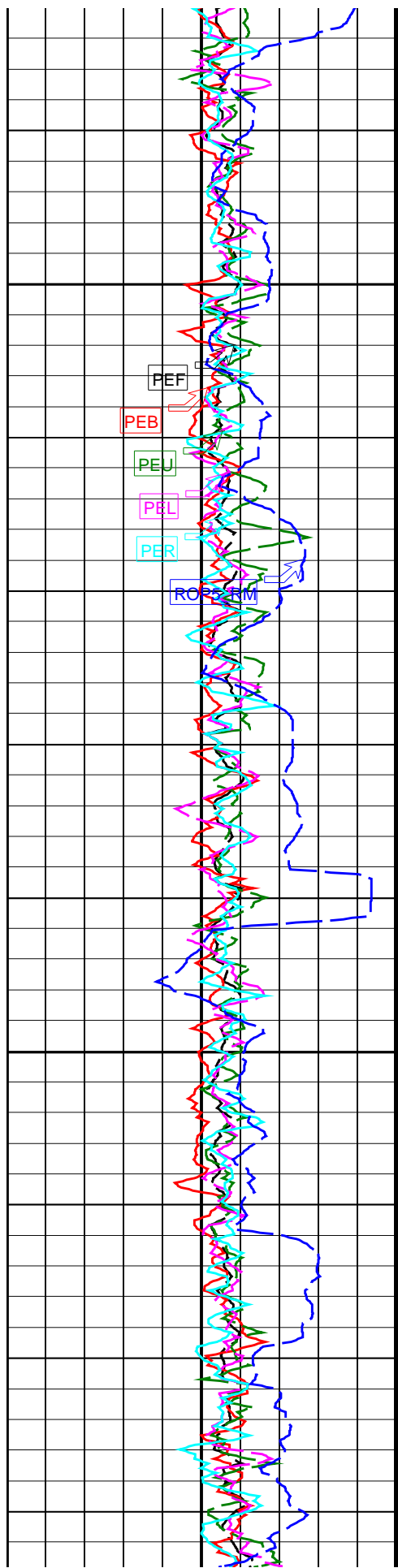
Bulk Density (RHOB)
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Bulk Density Correction (DRHO)
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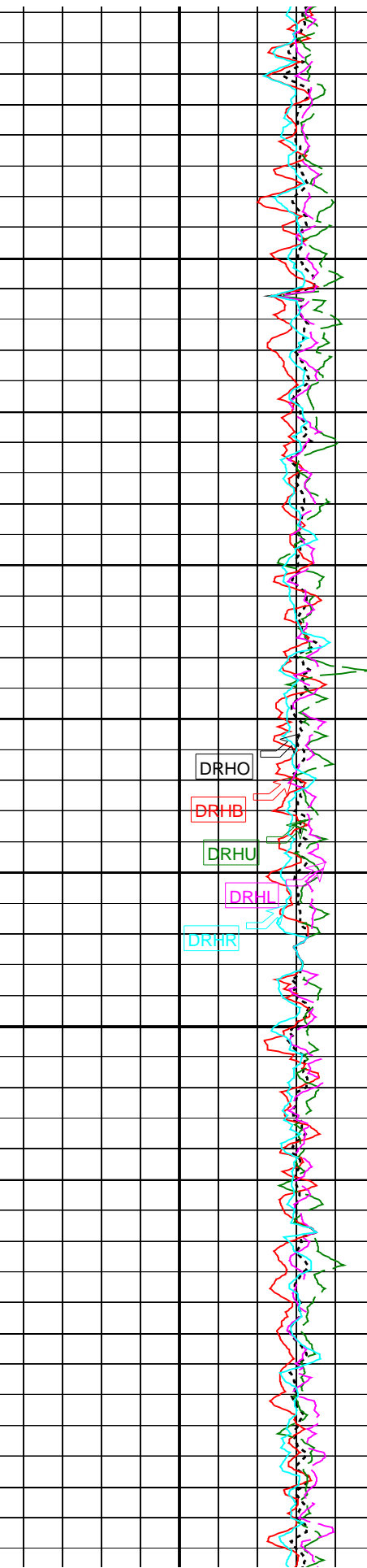
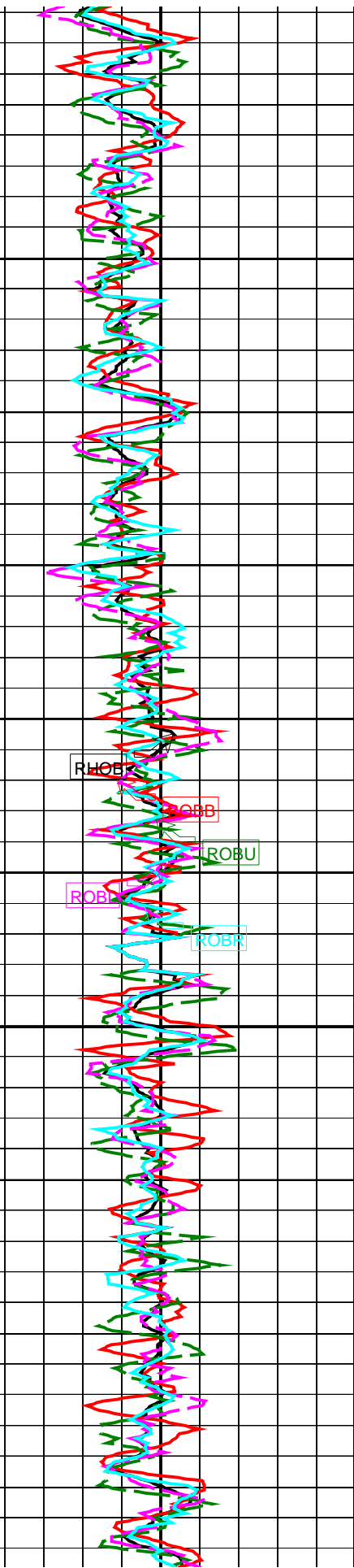
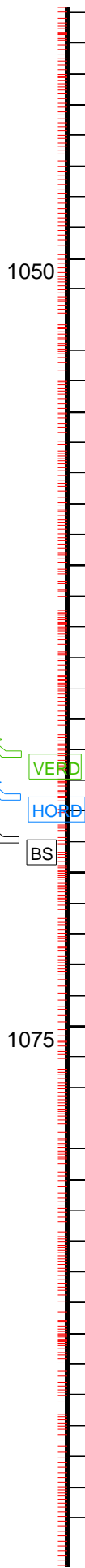
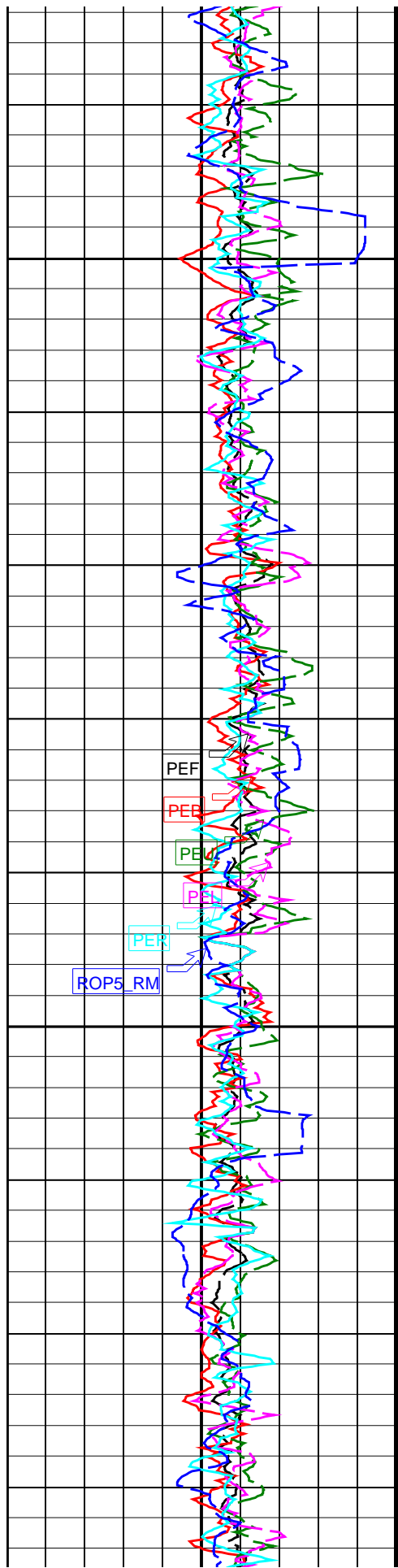


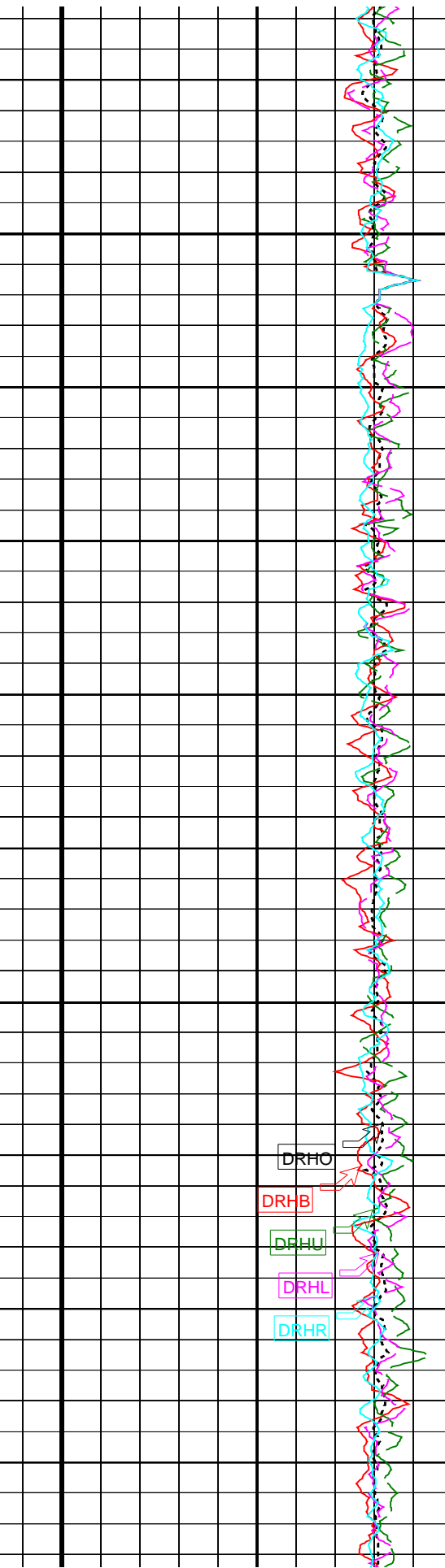
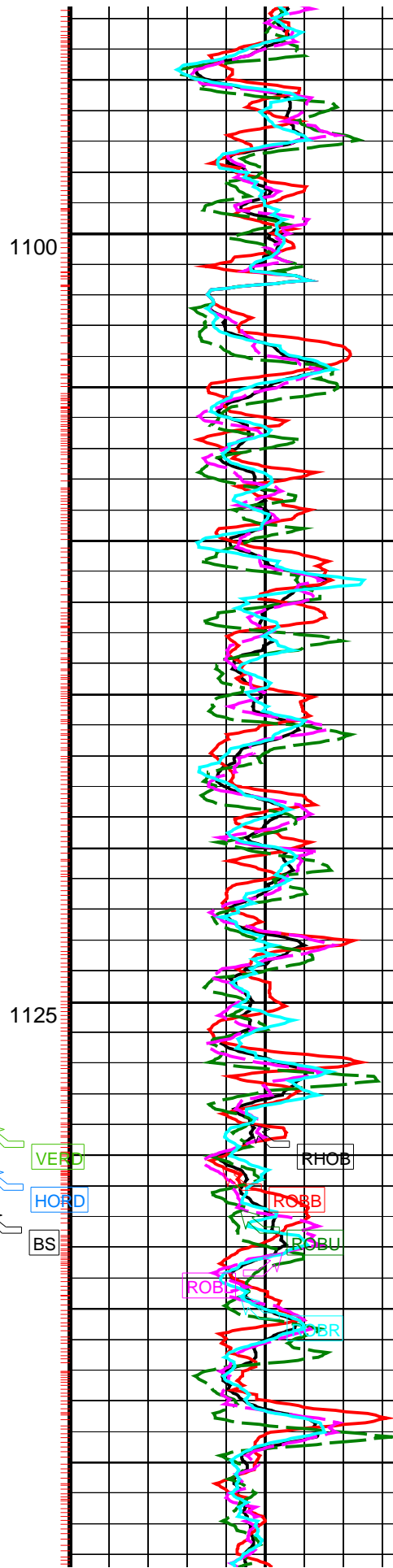
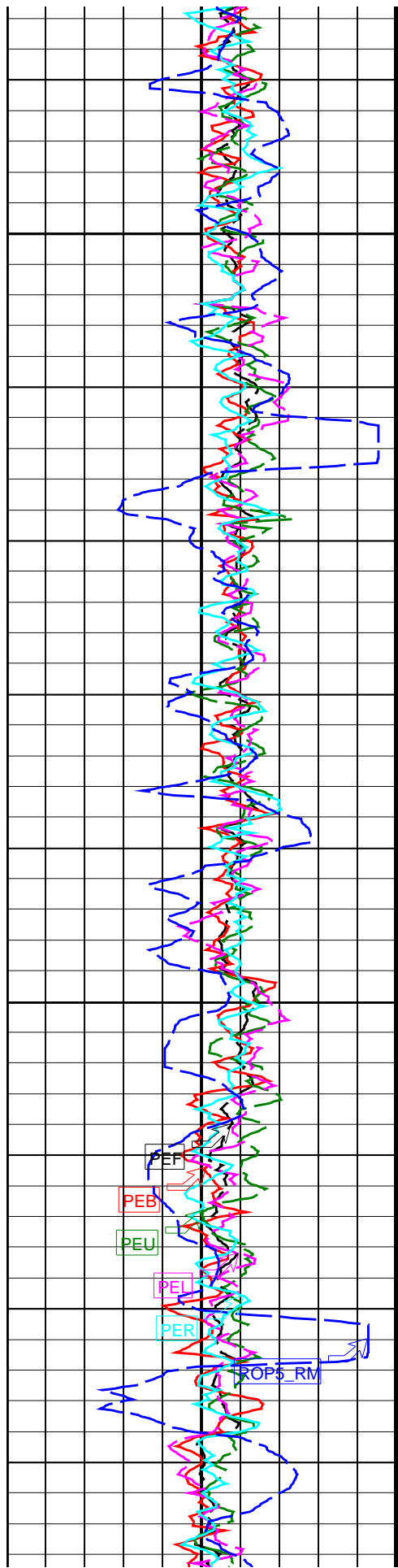


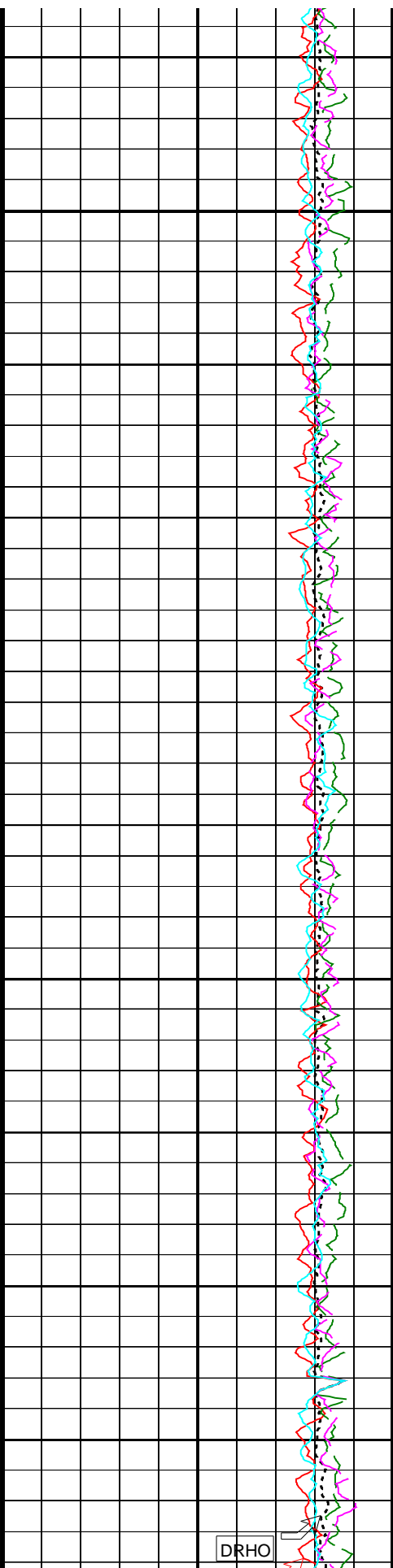
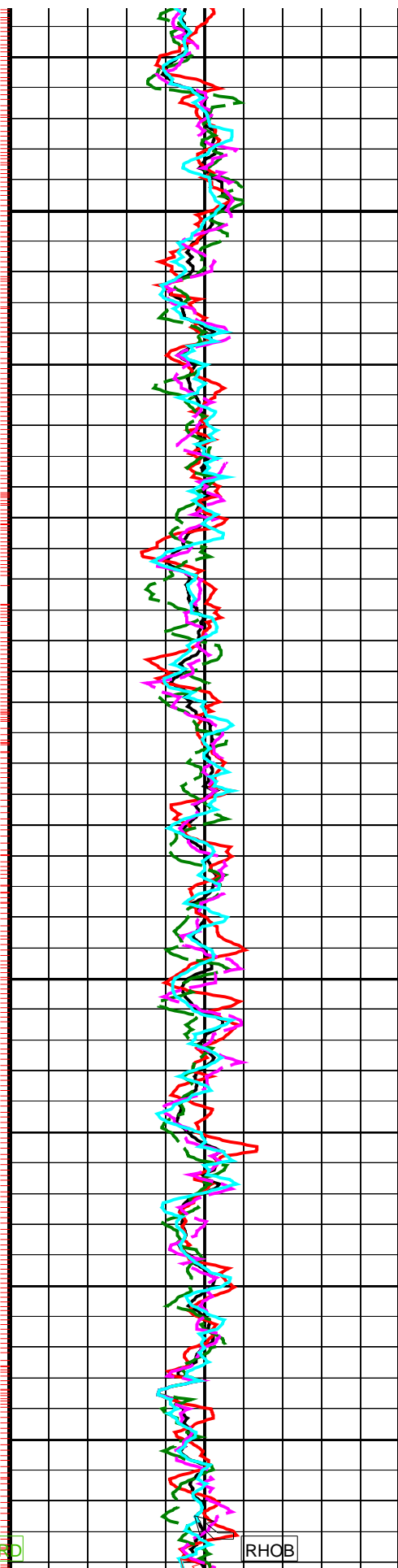
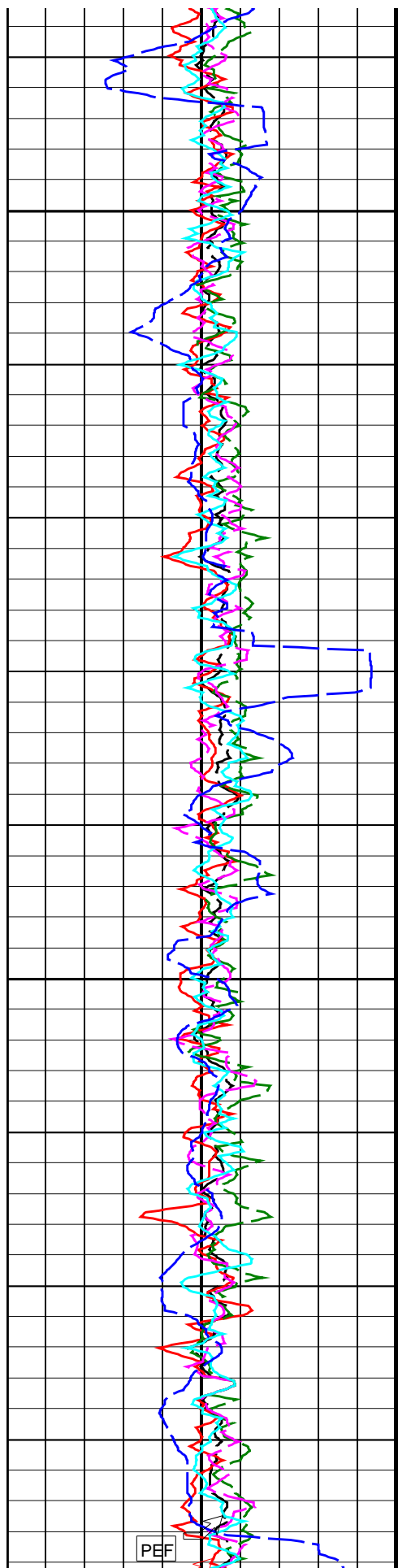


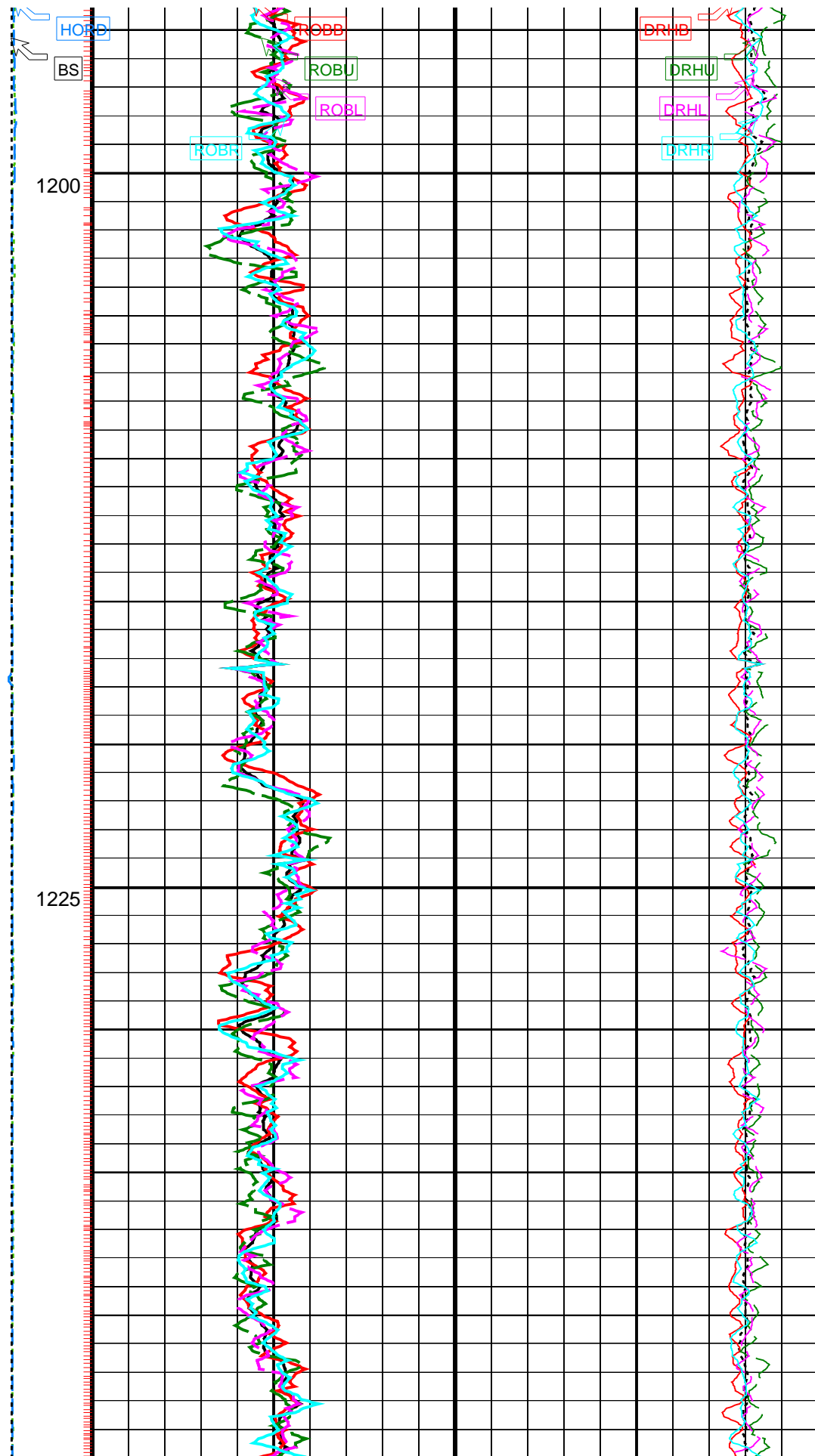
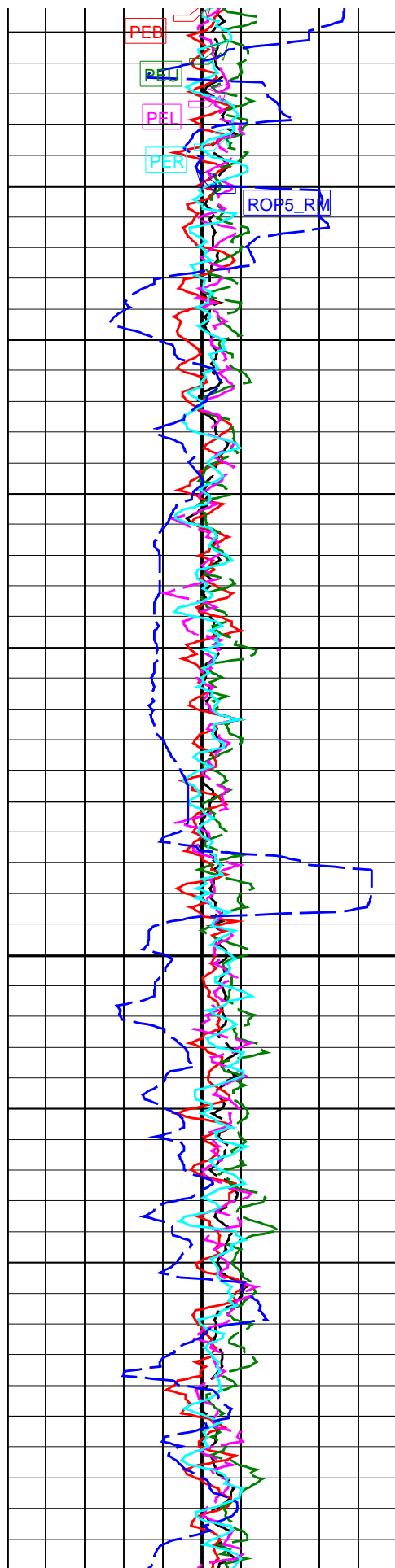


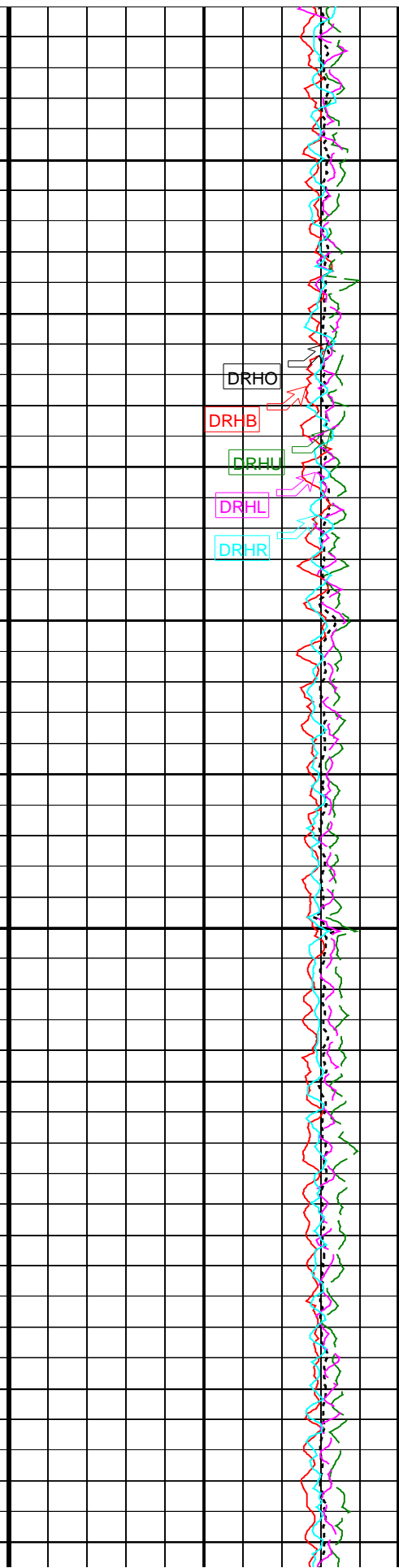
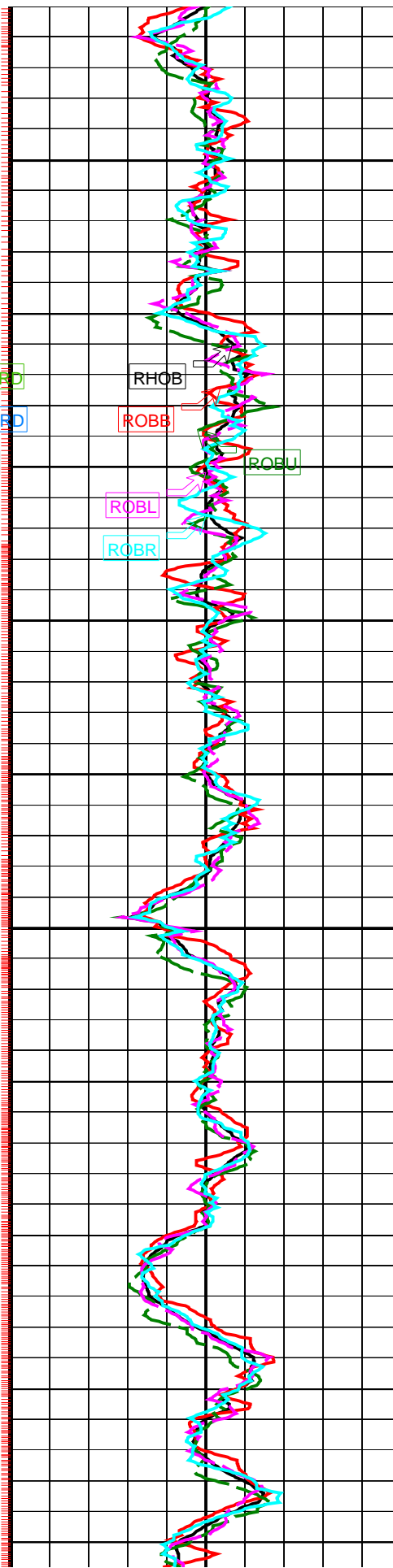
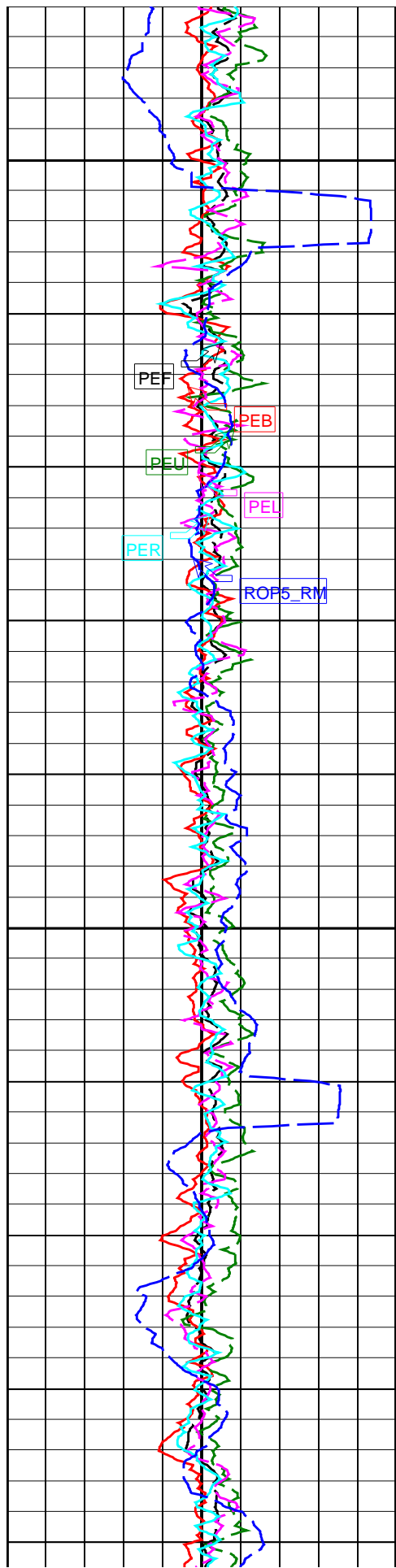


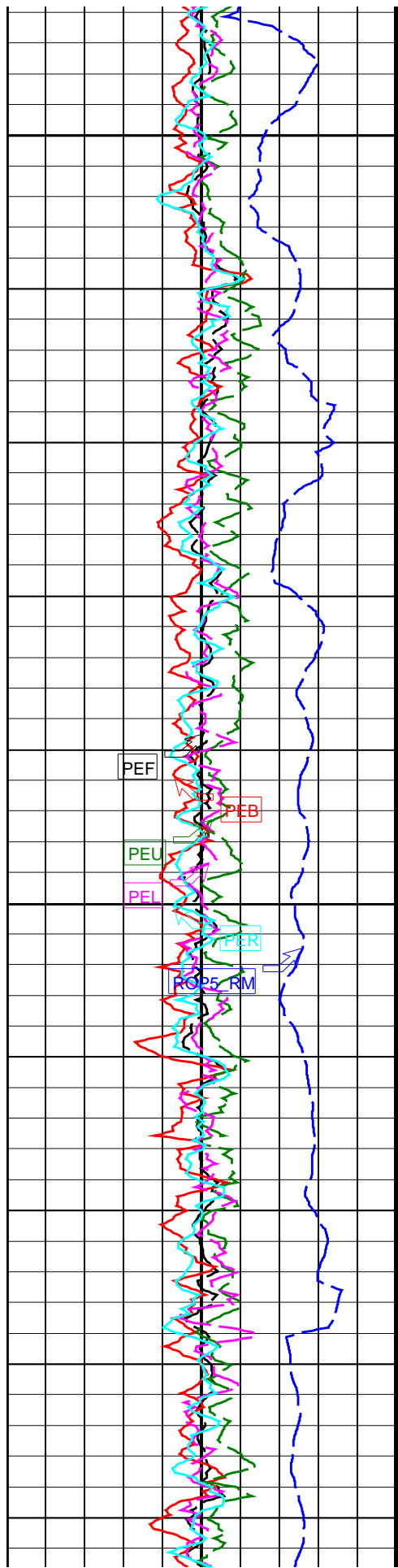












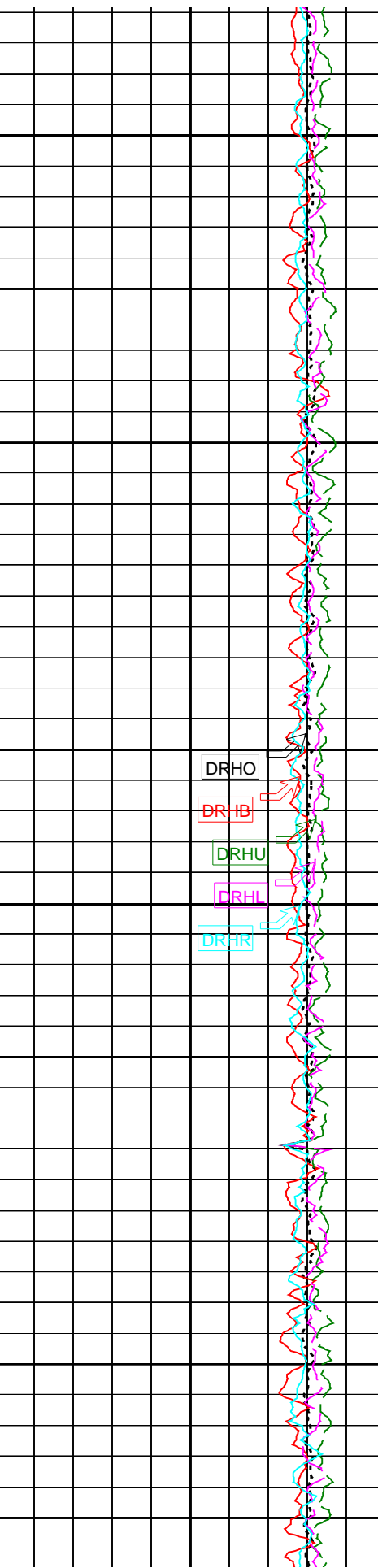
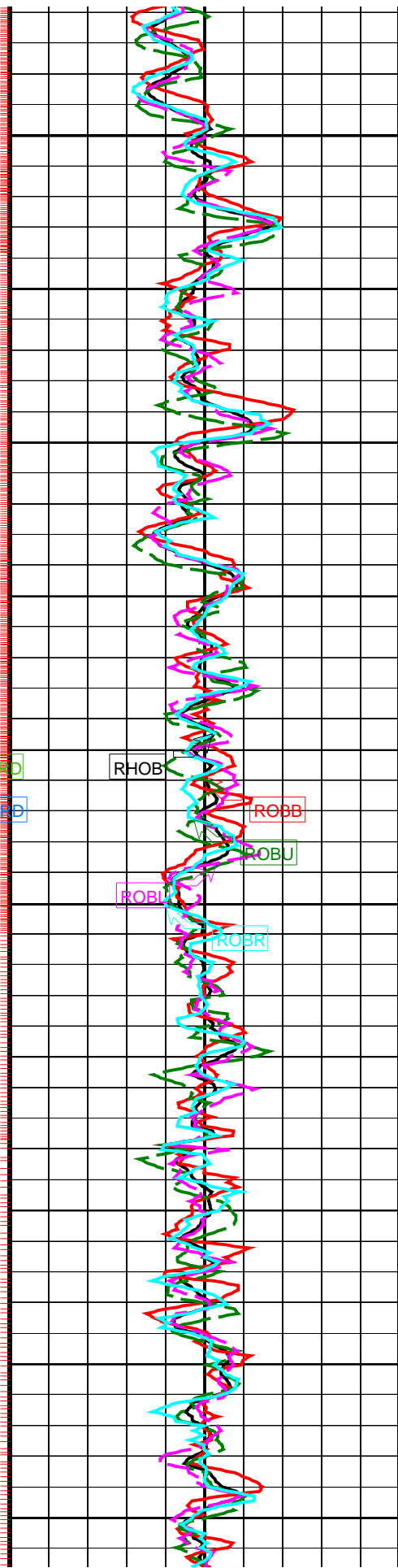
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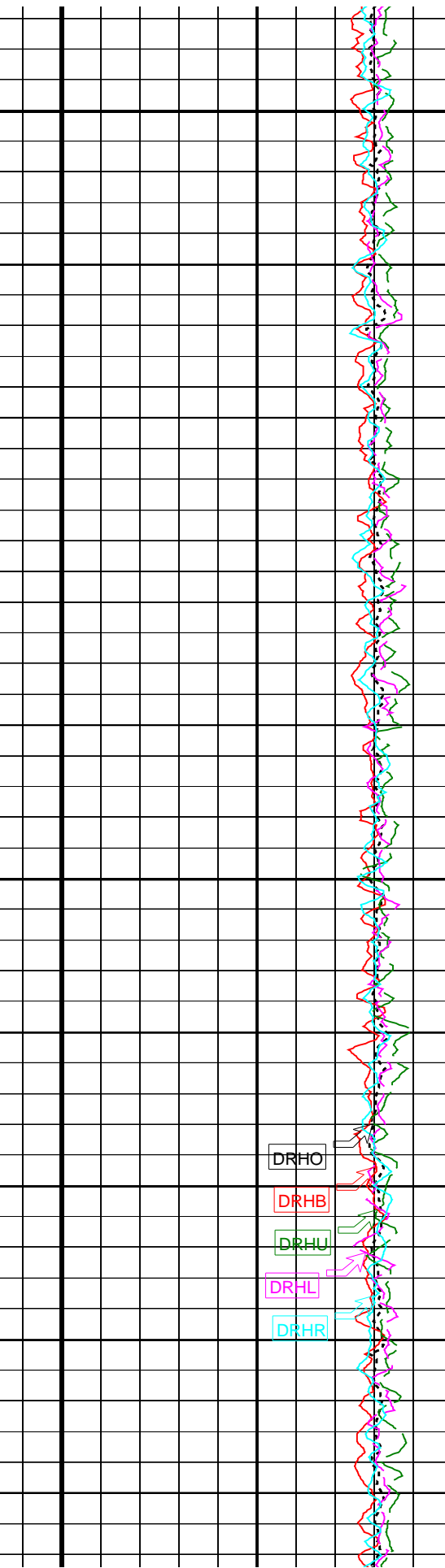
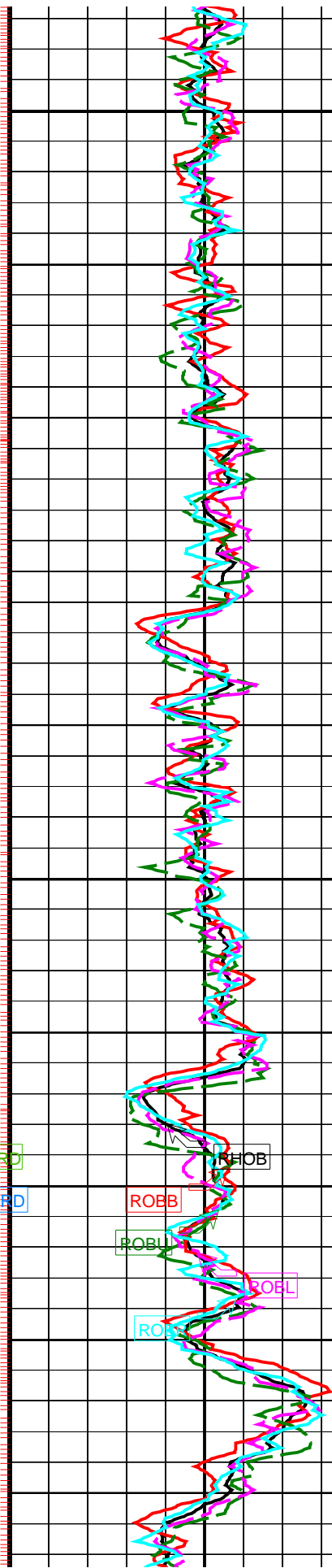
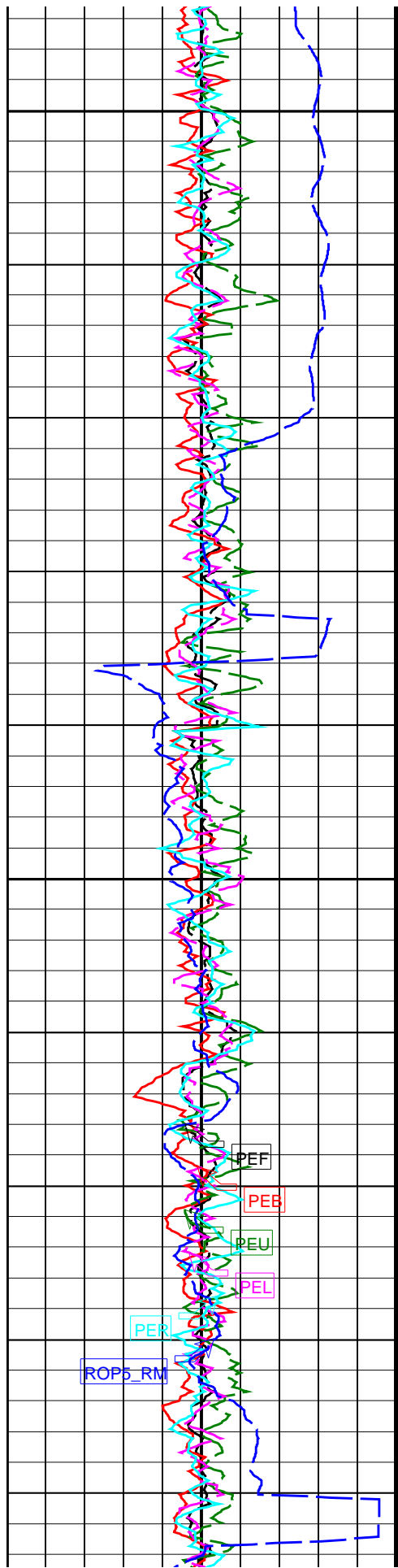
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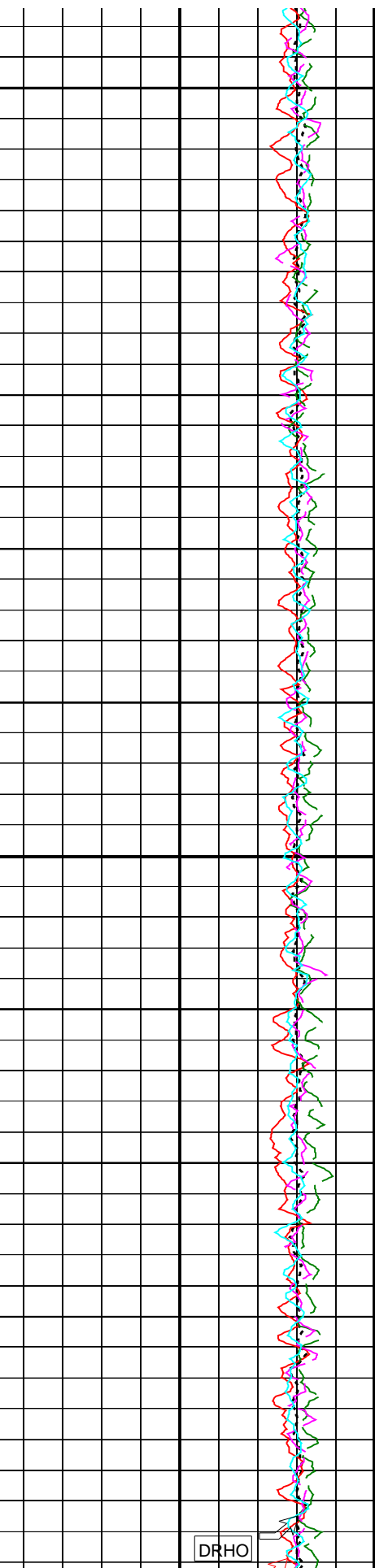
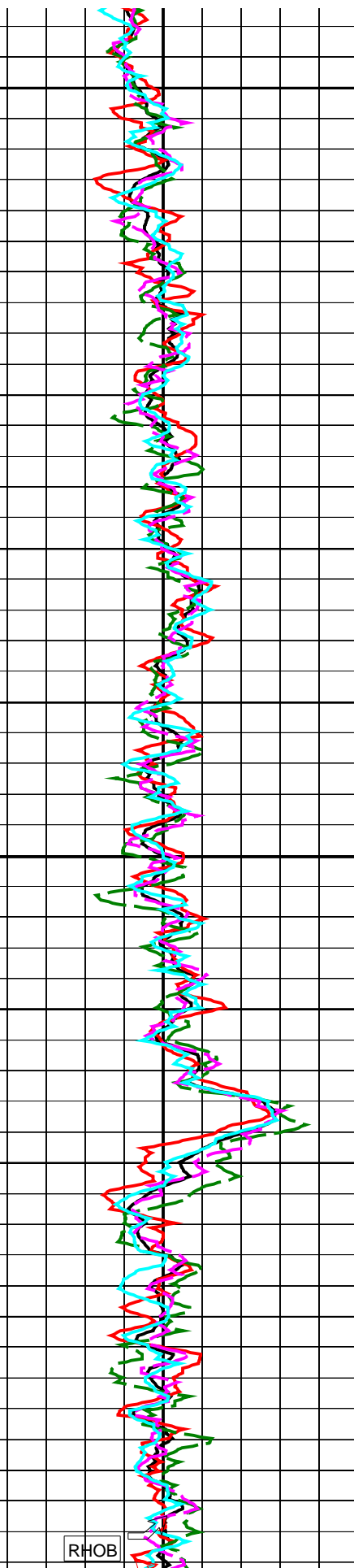
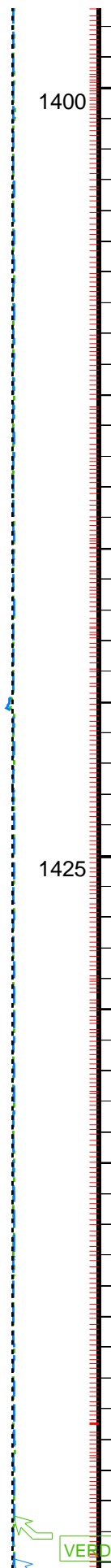
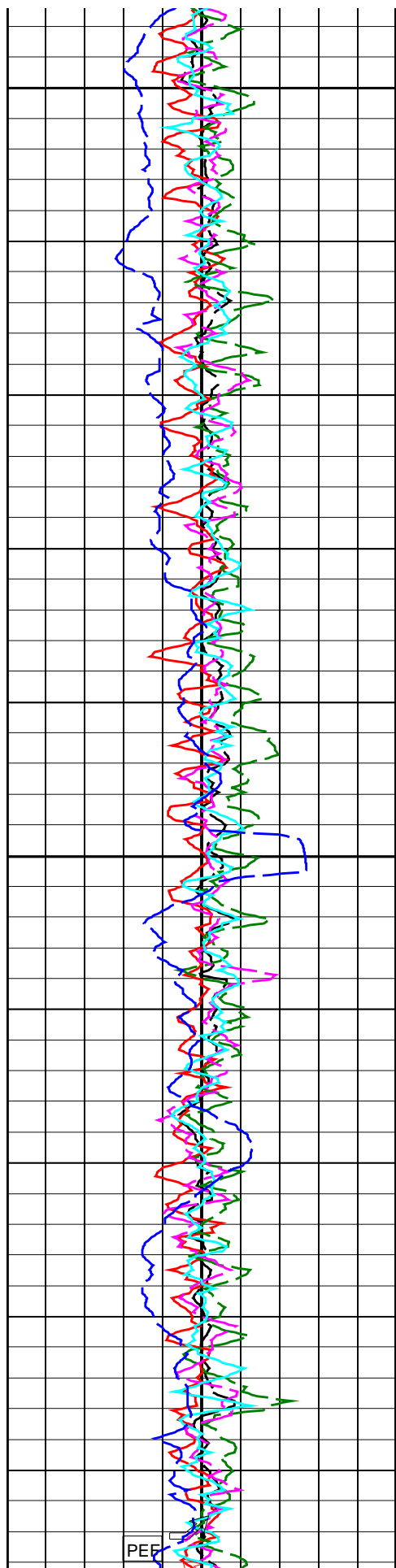
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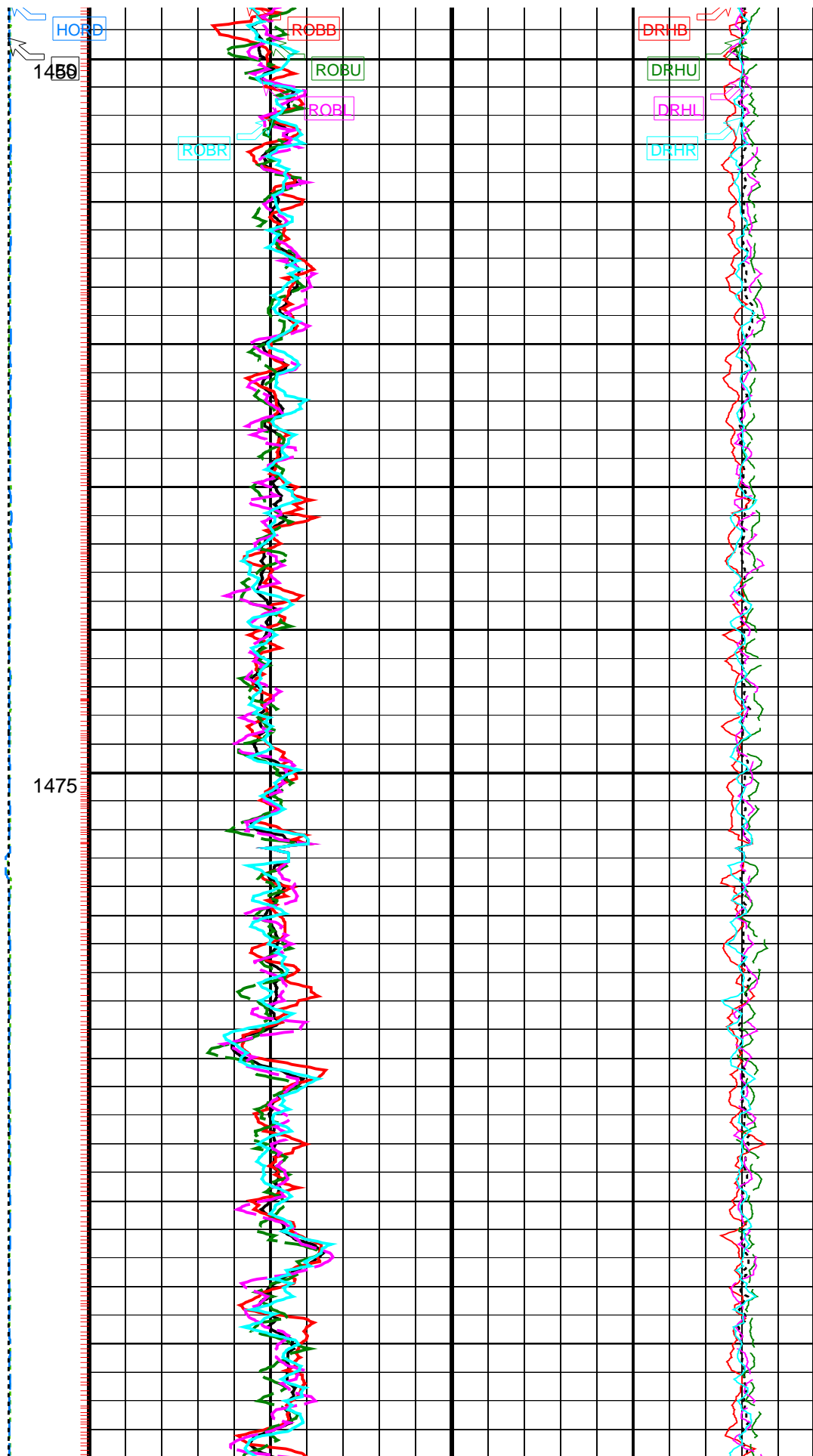
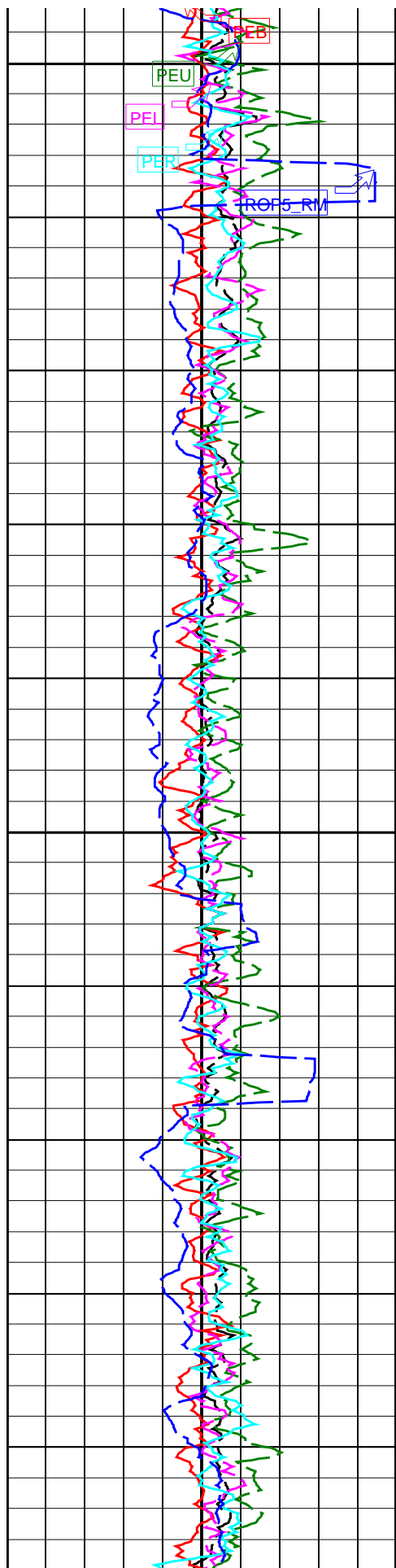
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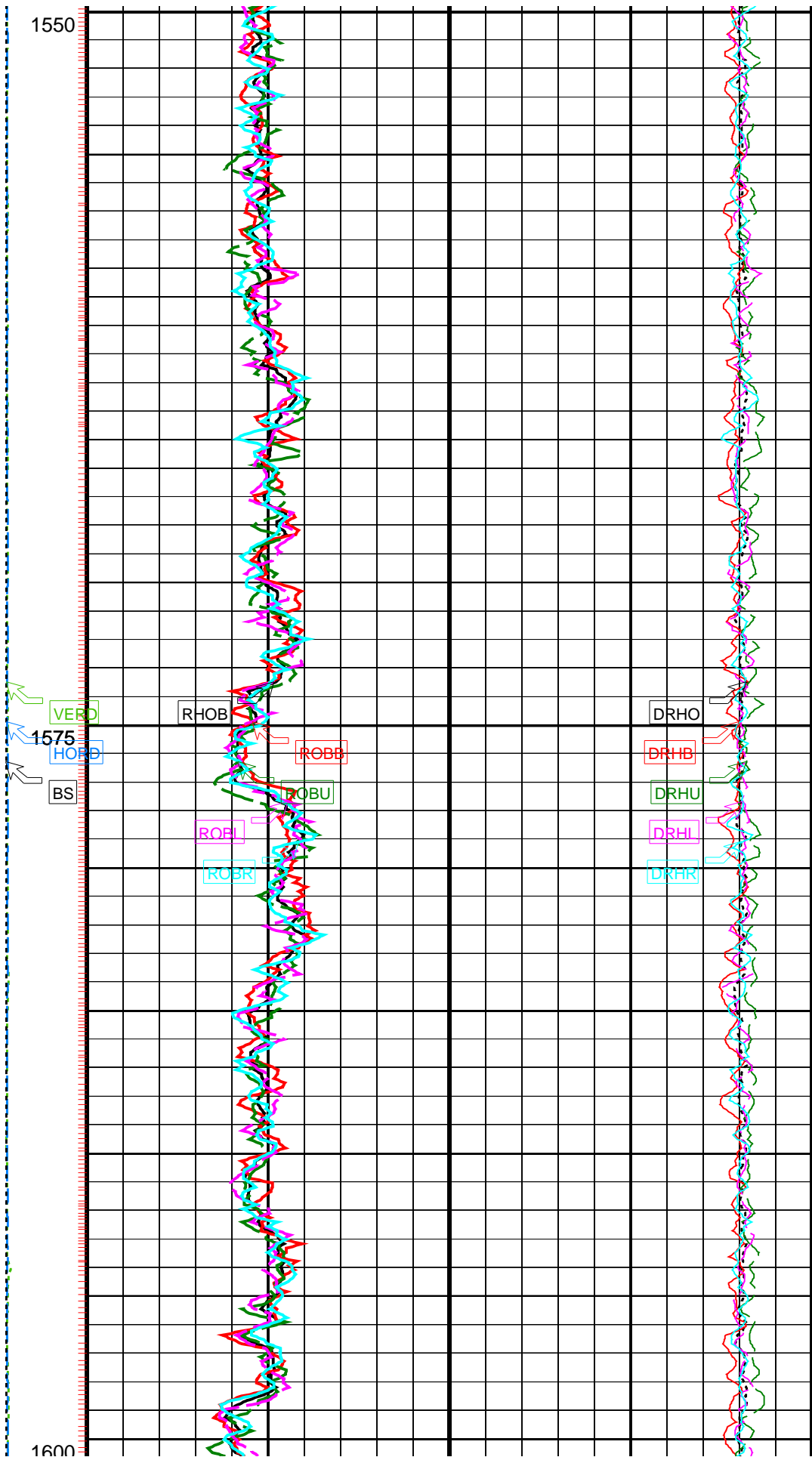
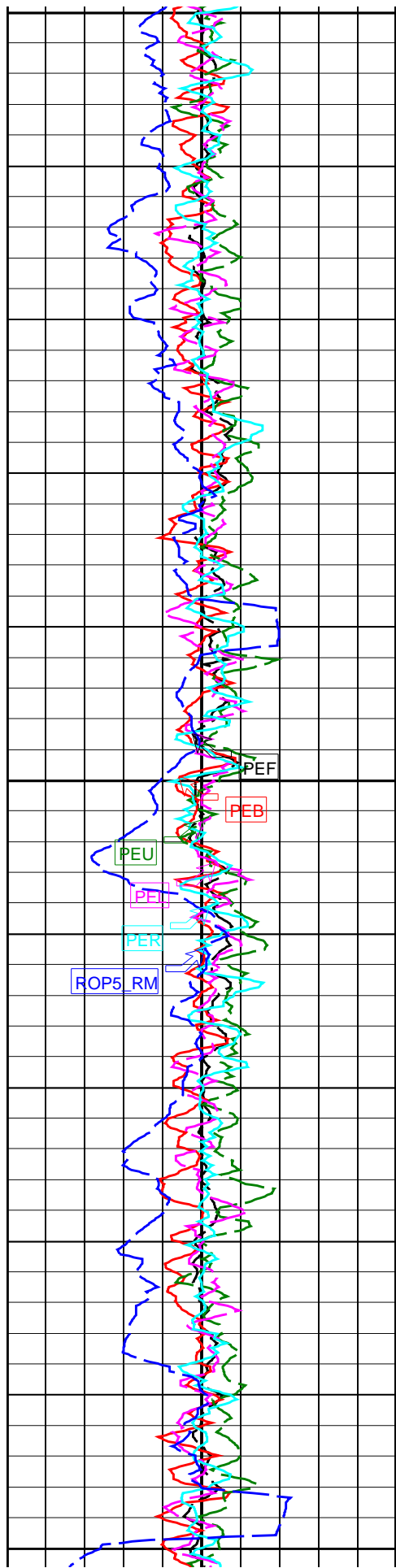
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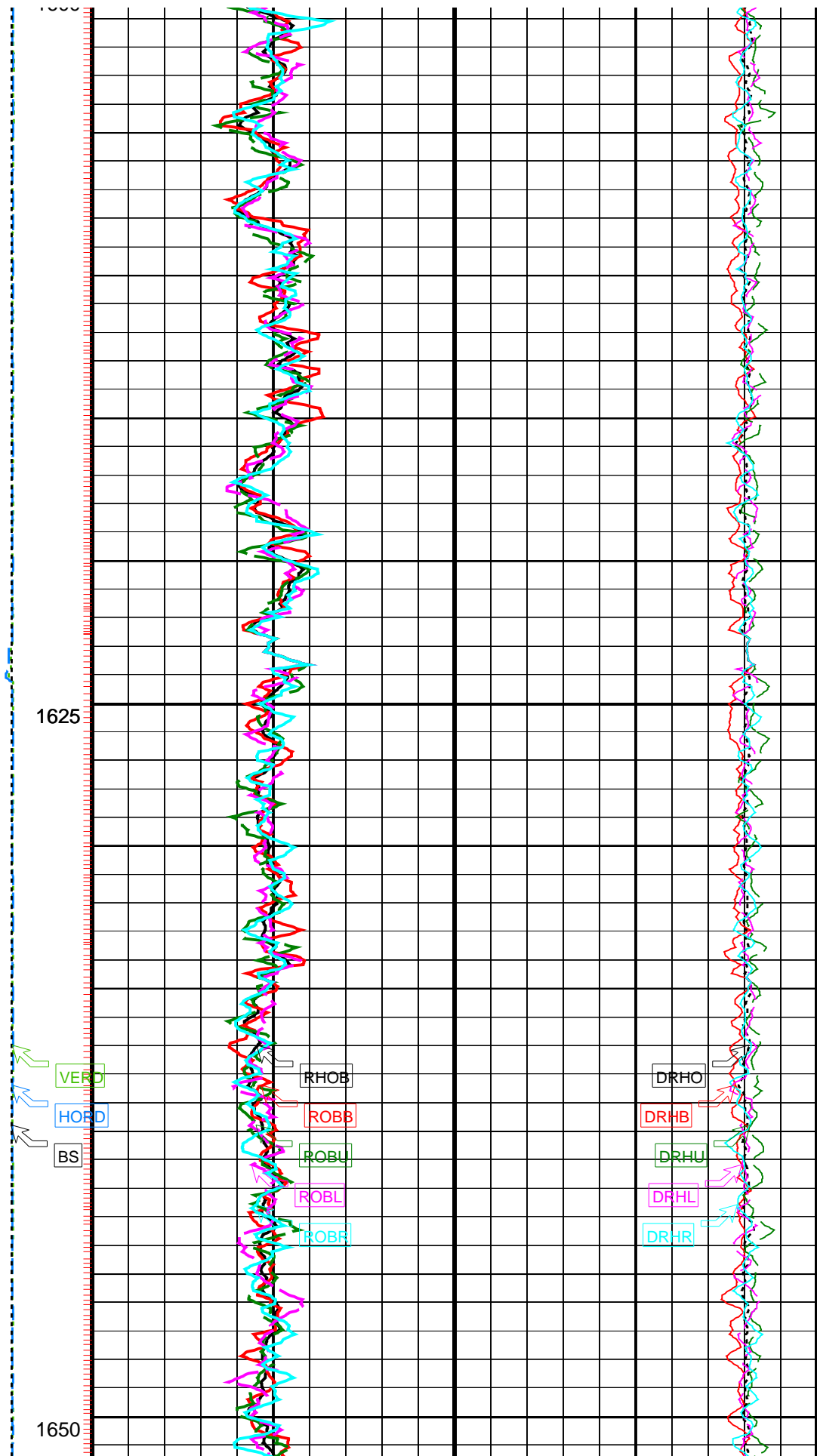
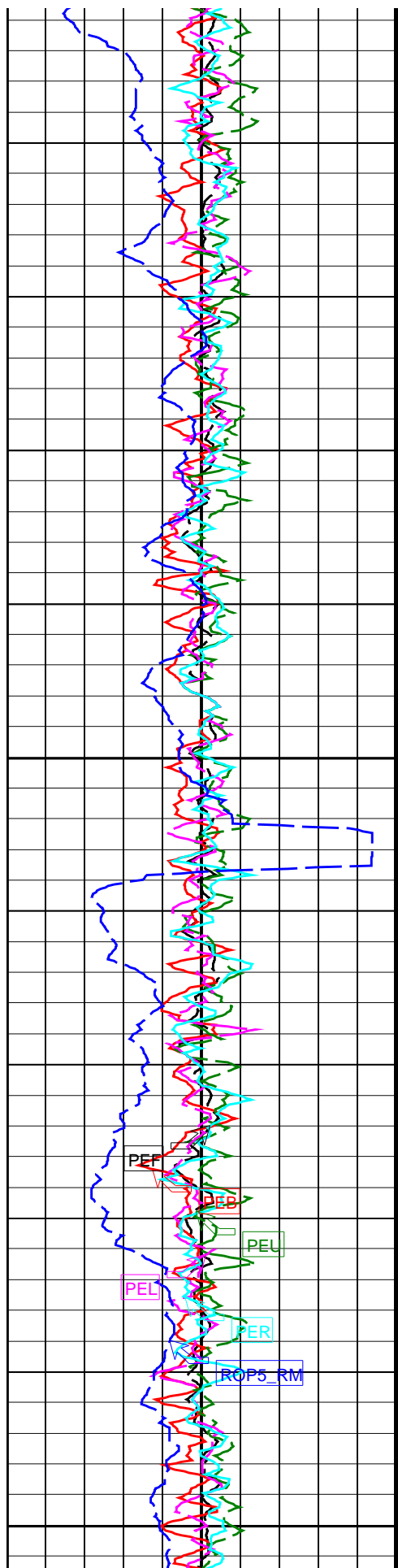


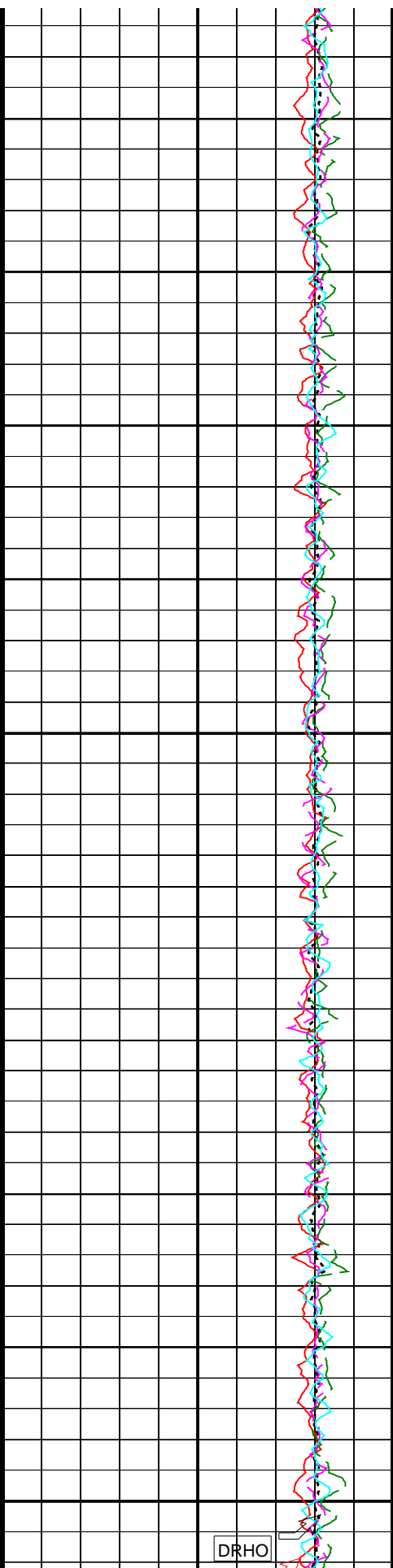
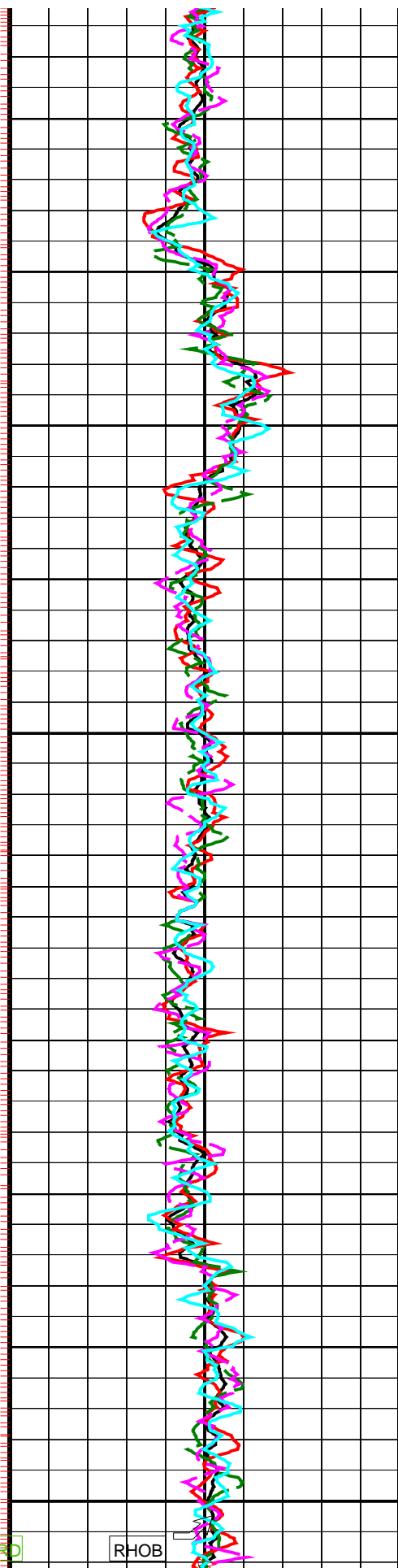
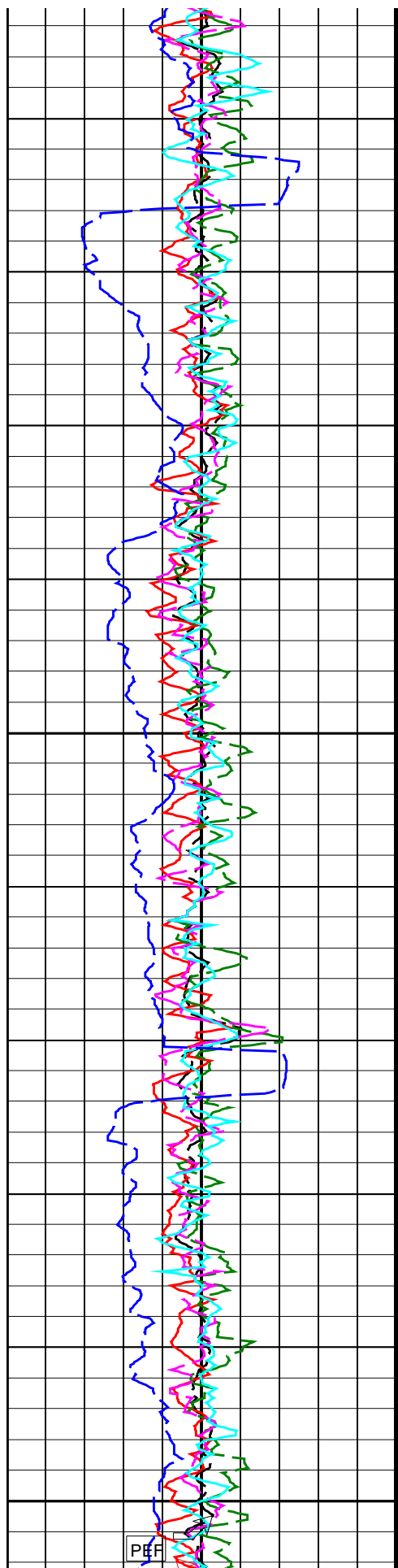


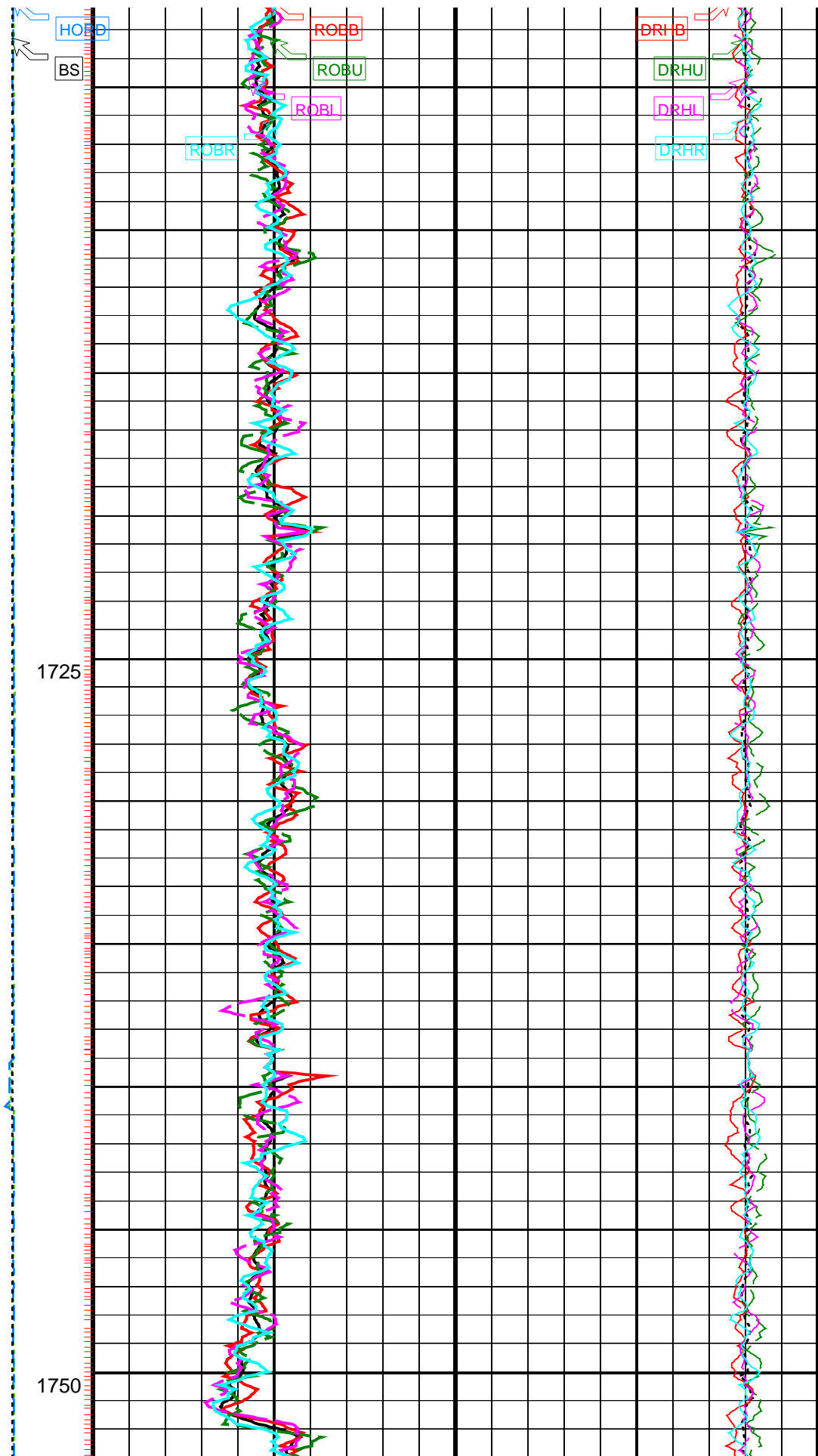
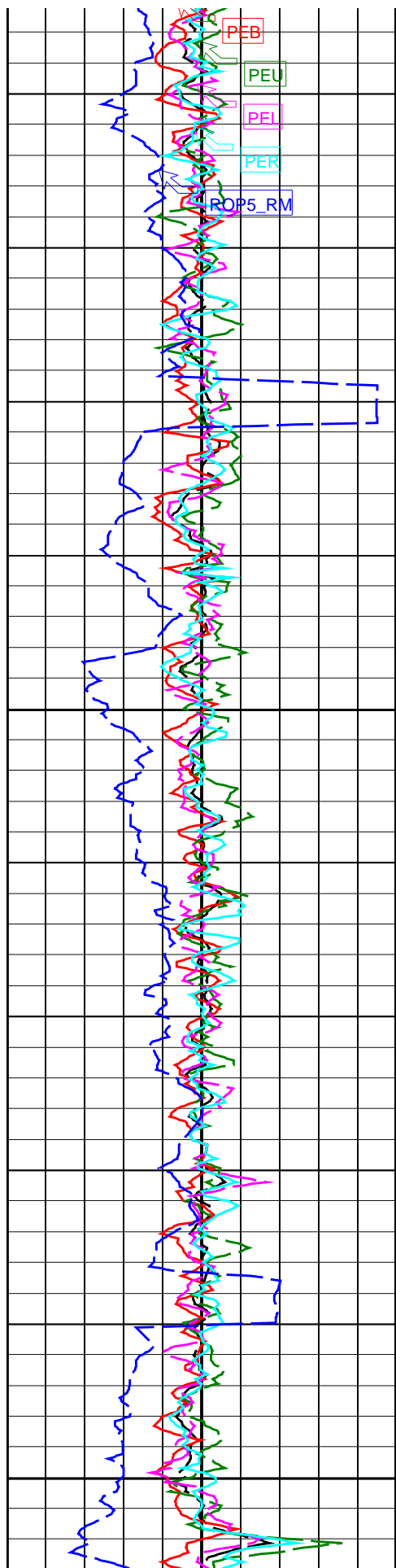


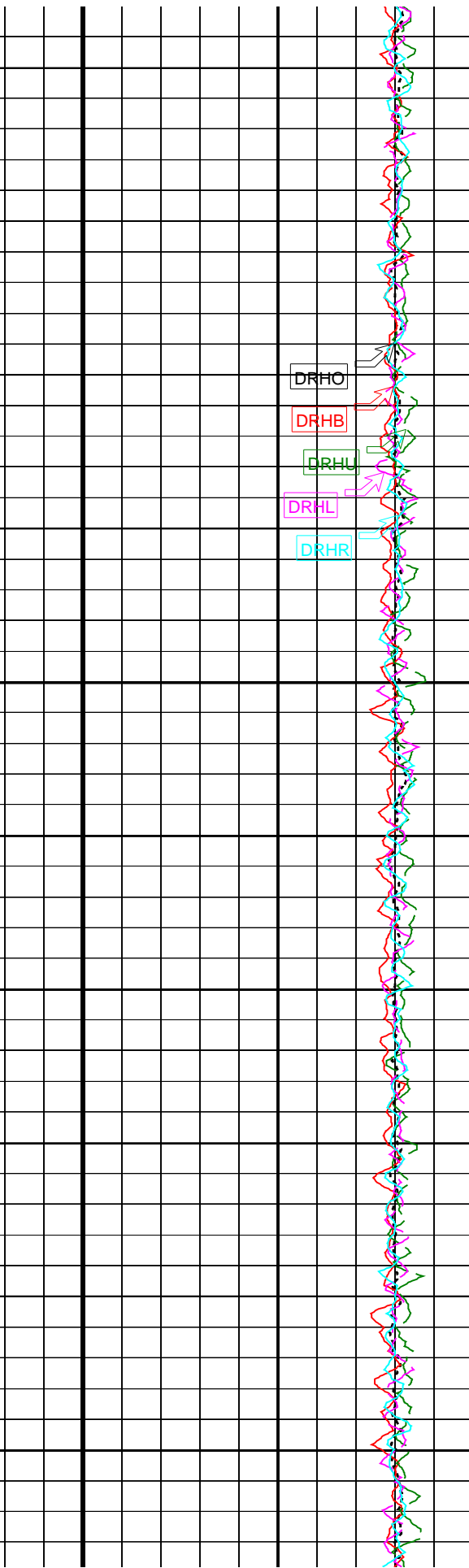
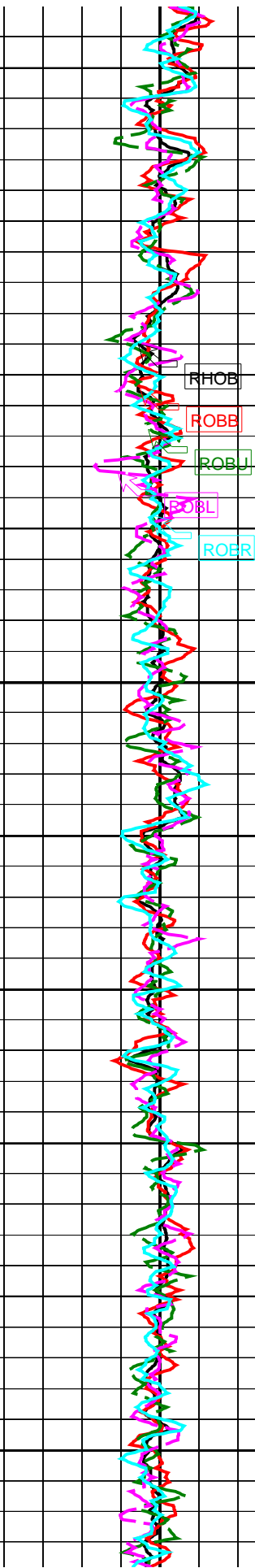
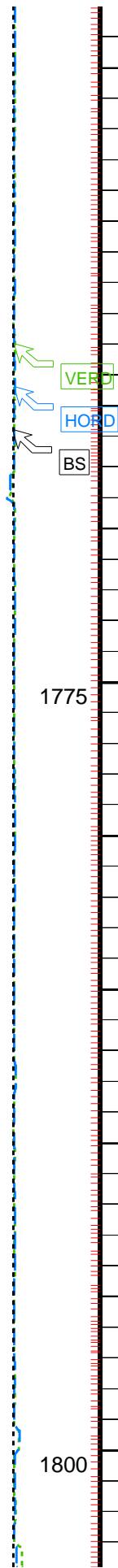
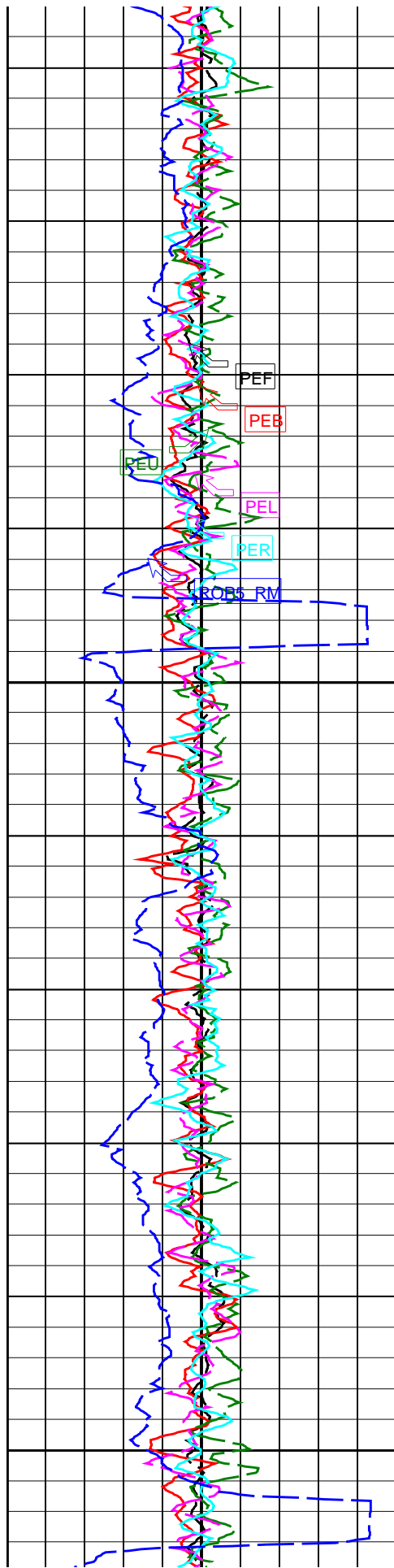


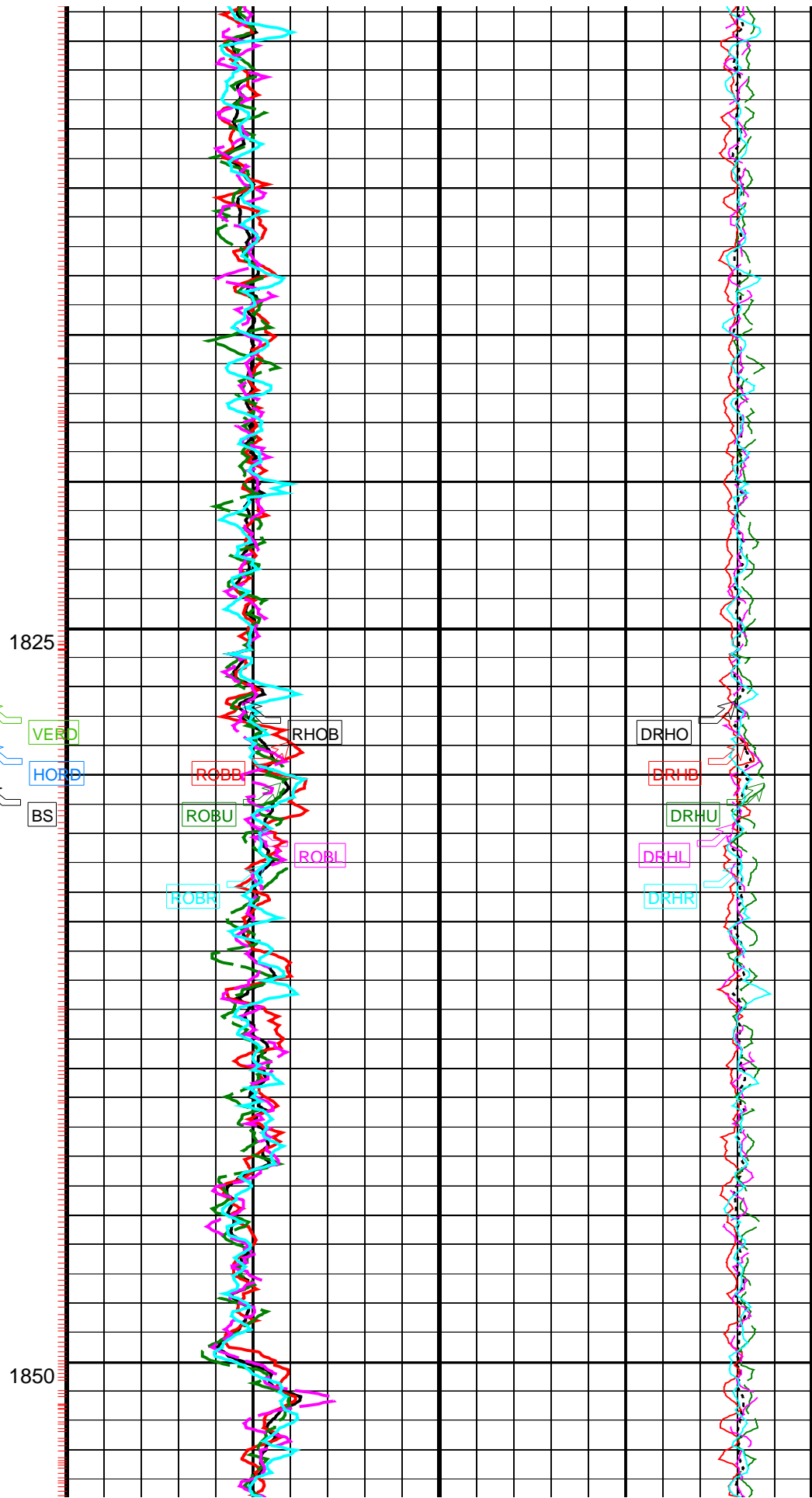
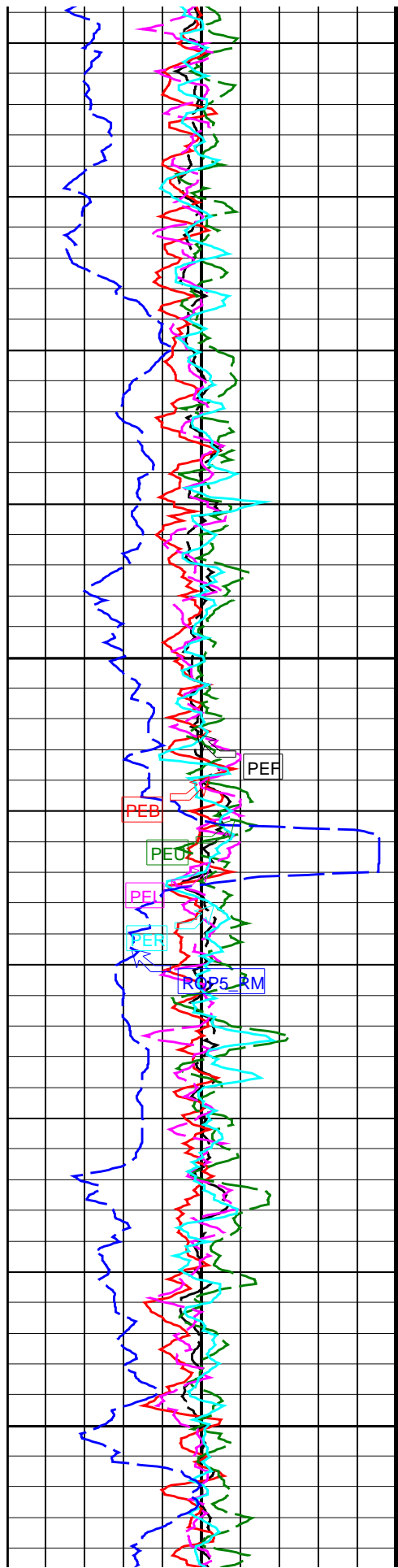


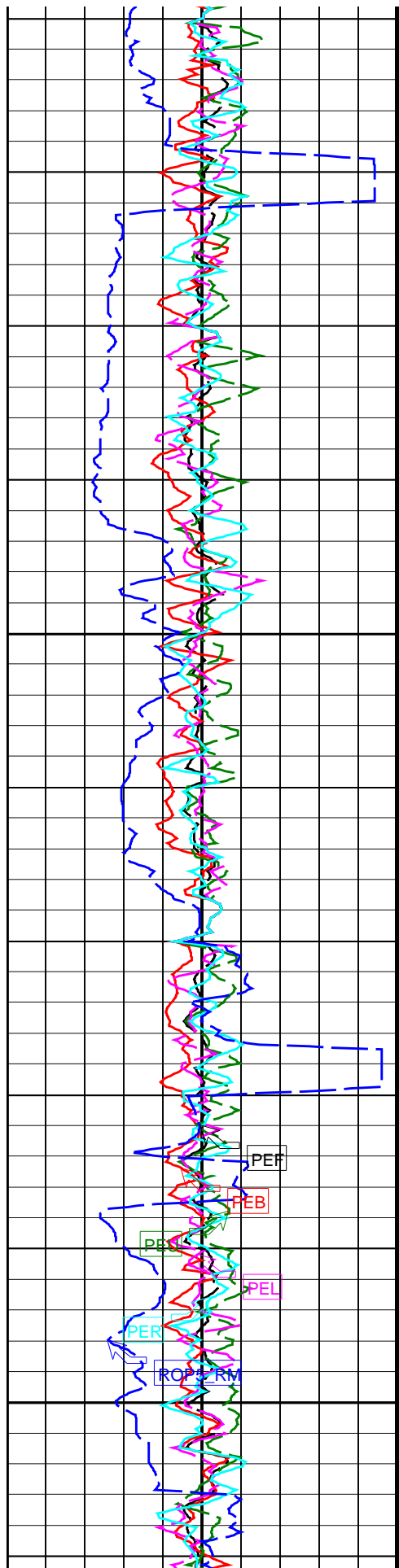












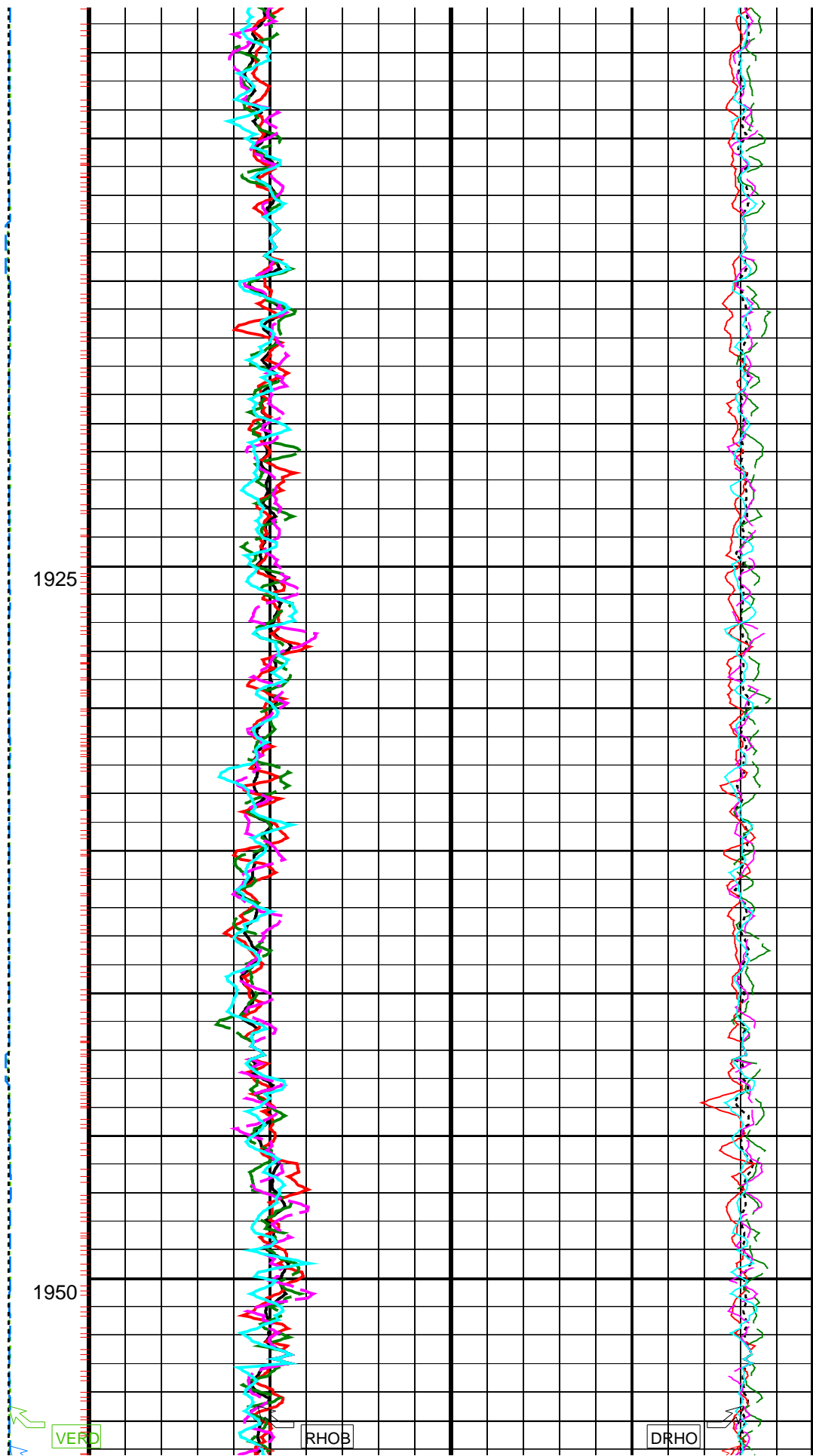
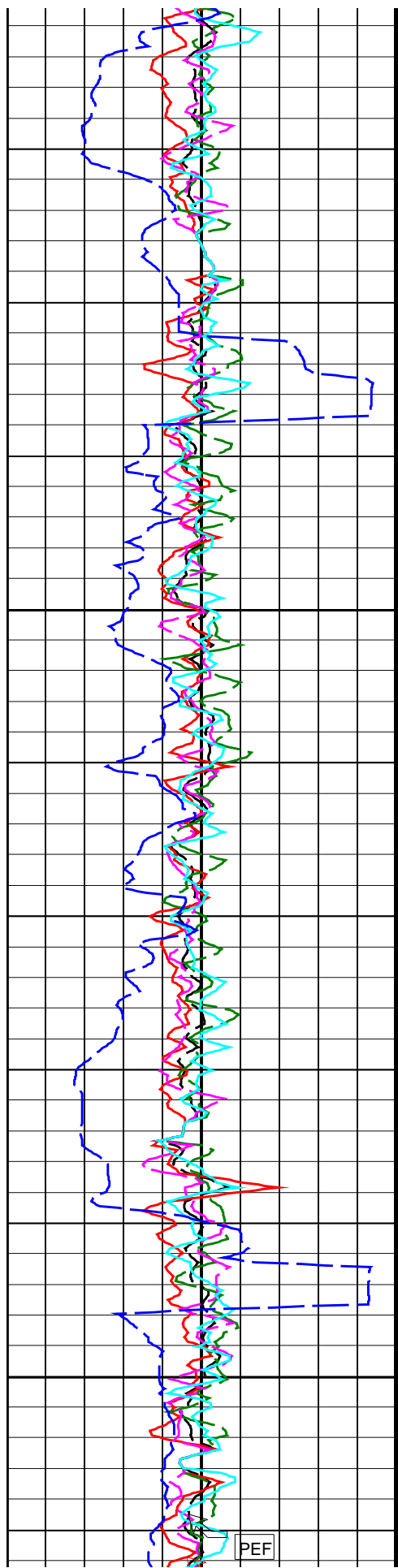
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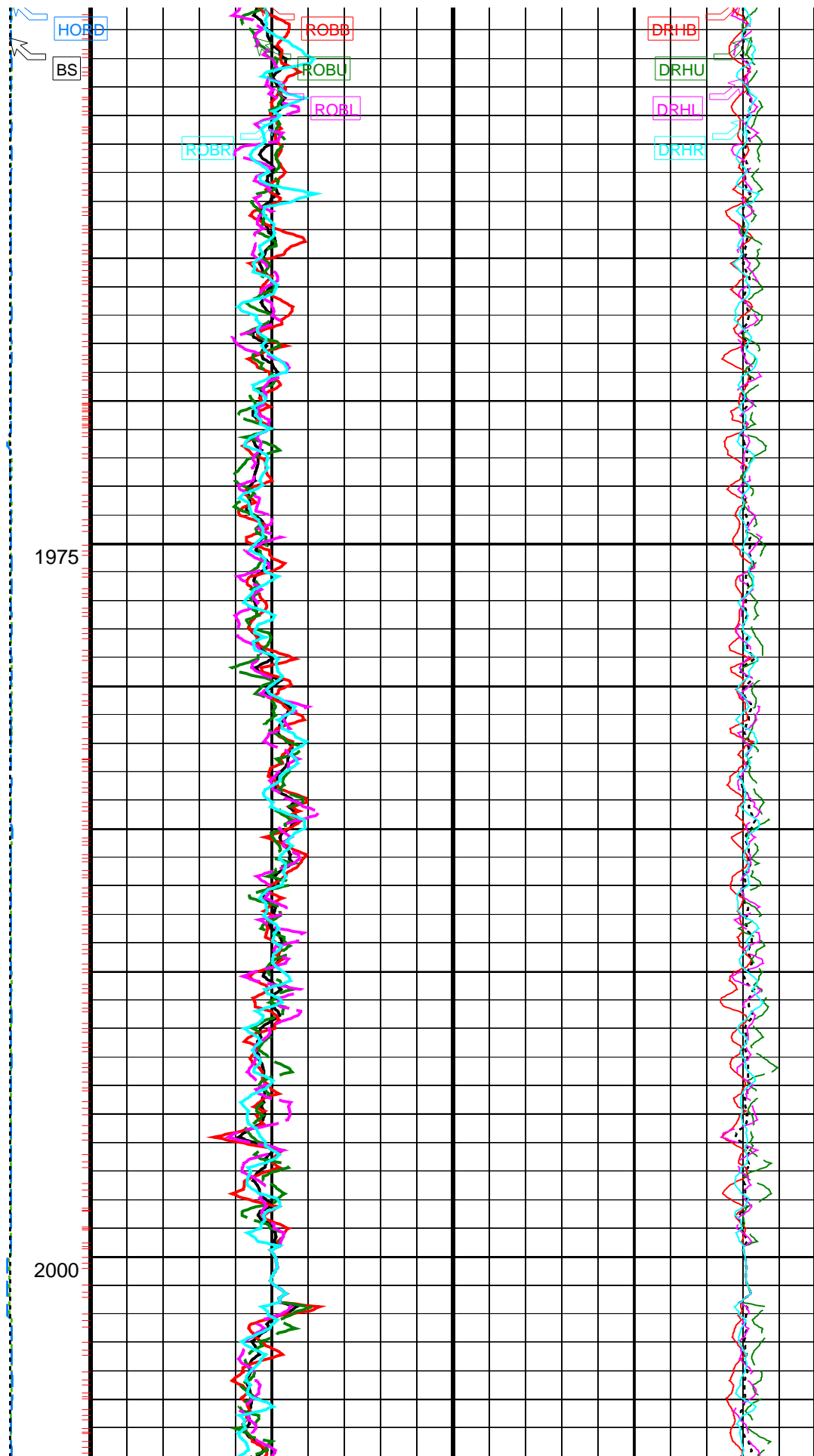
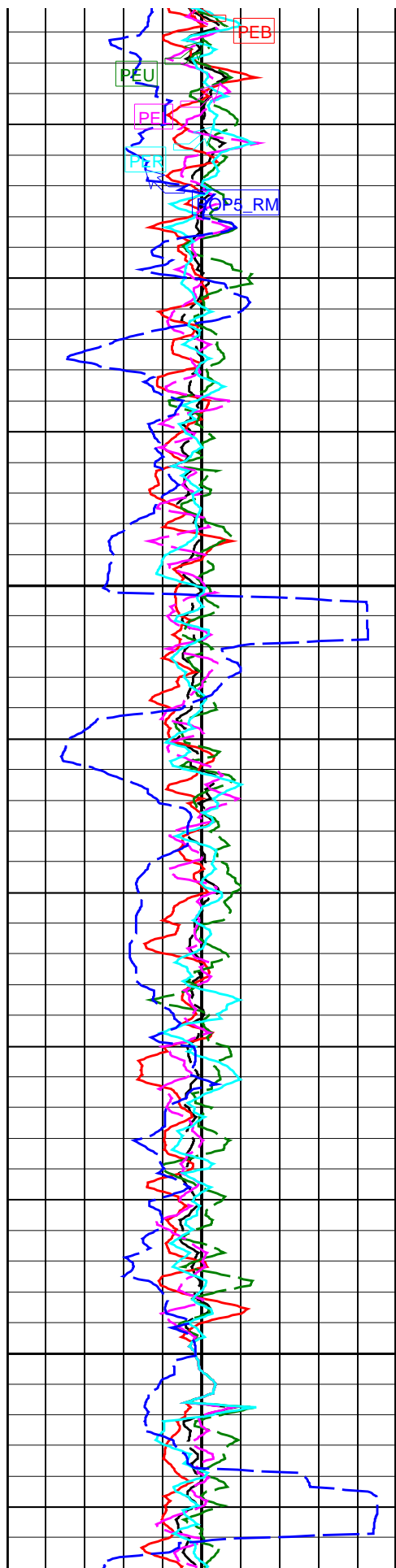
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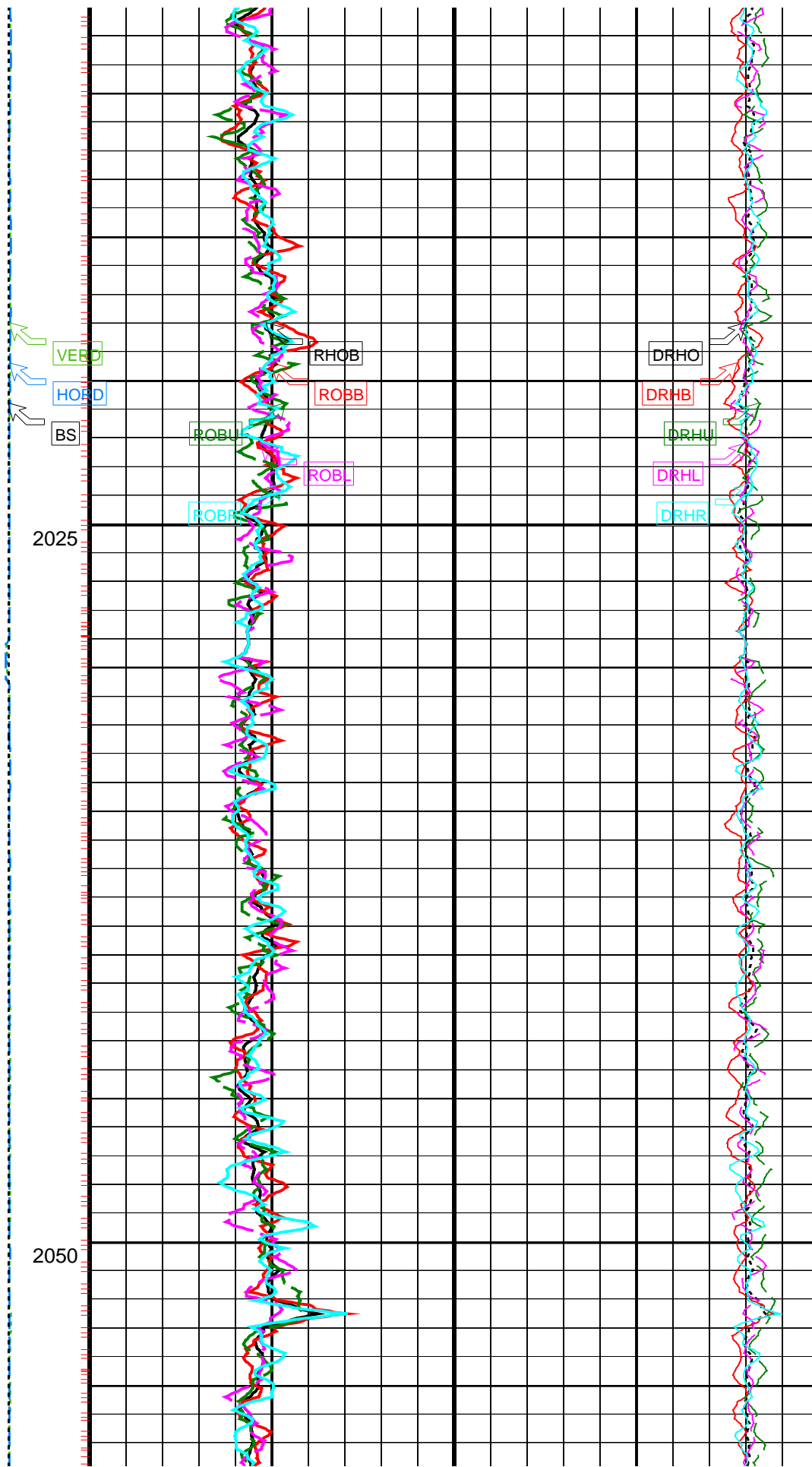
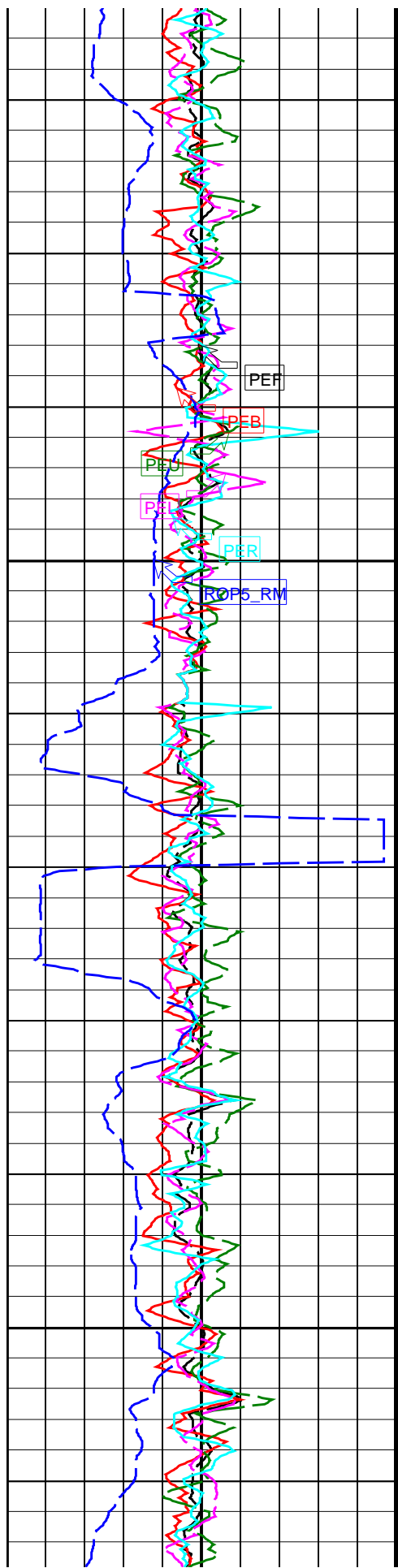
VERO
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BS

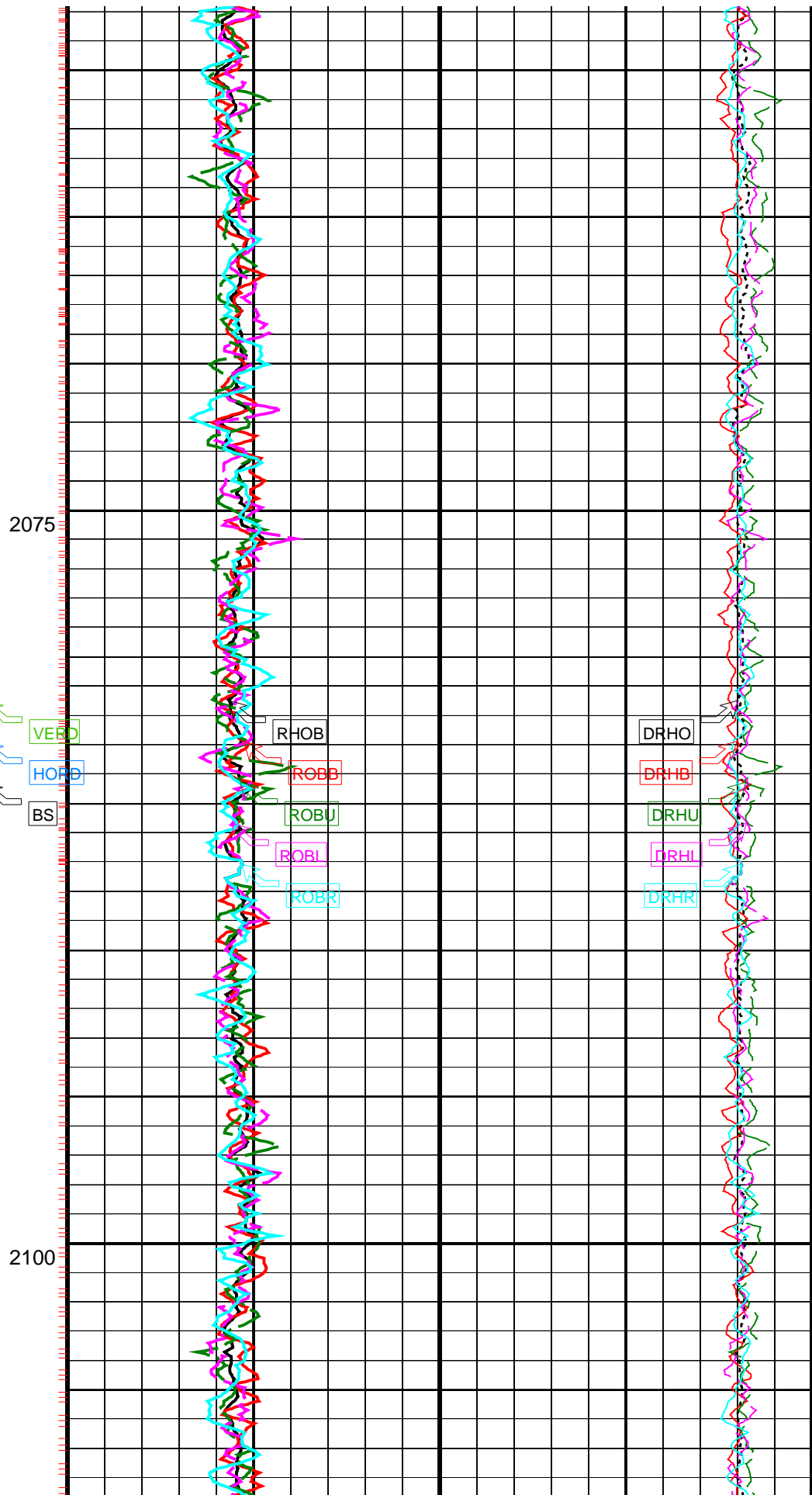
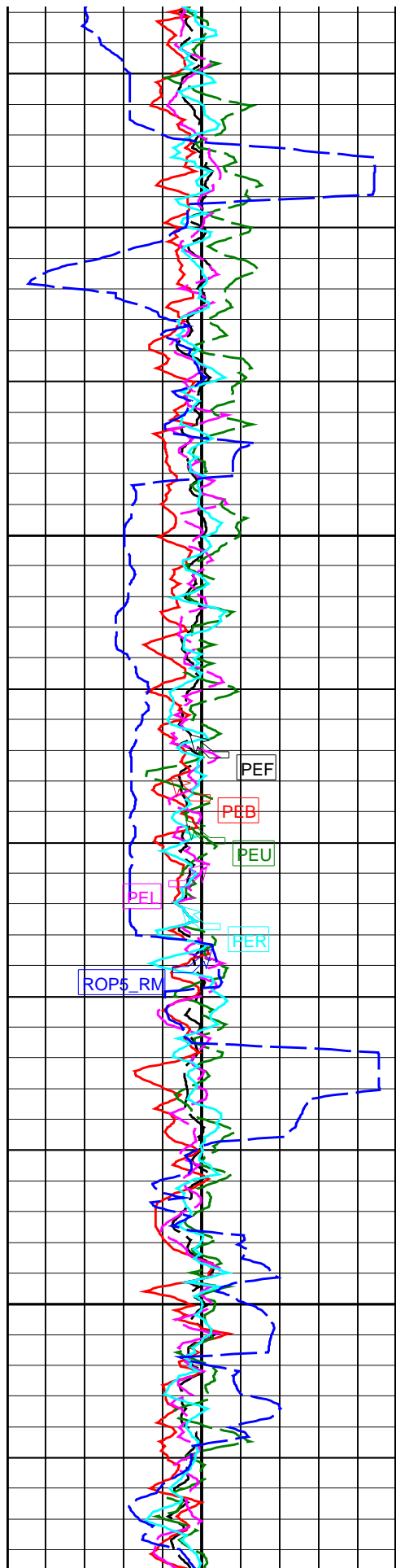
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ROBB
ROBU
ROBL
ROBR

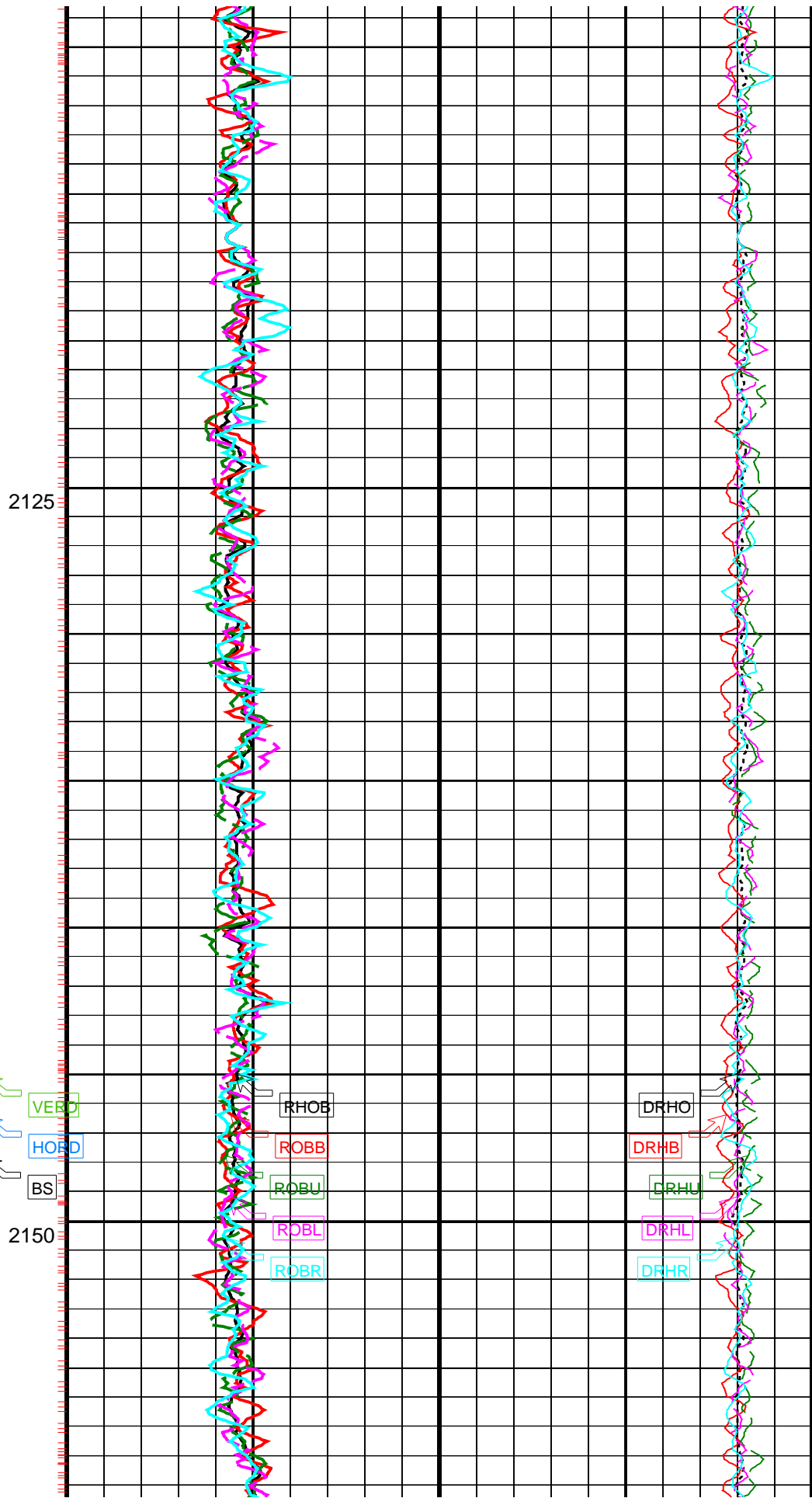
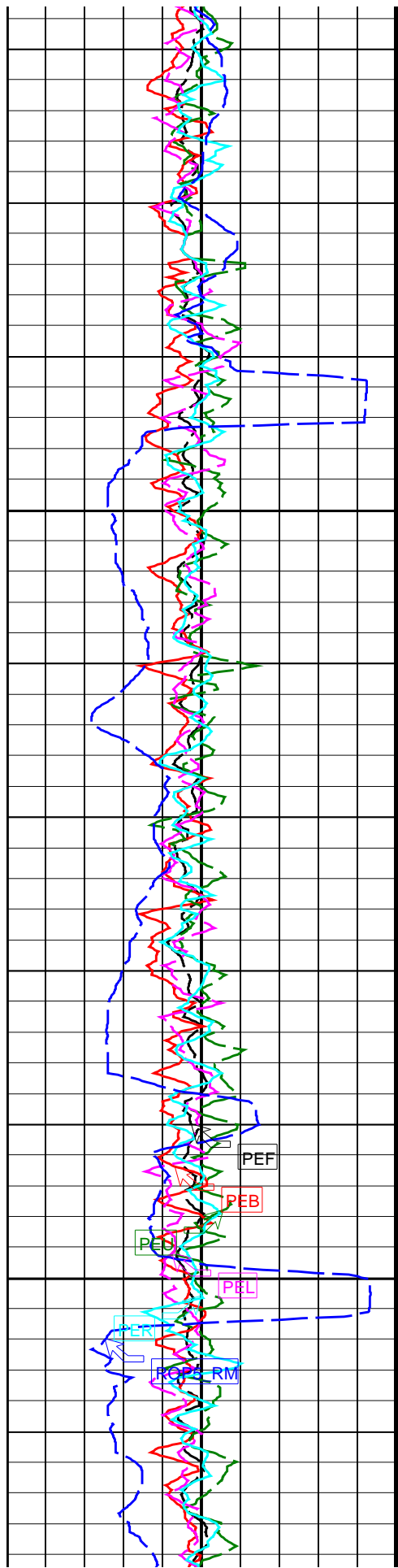
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DRHB
DRHU
DRHL
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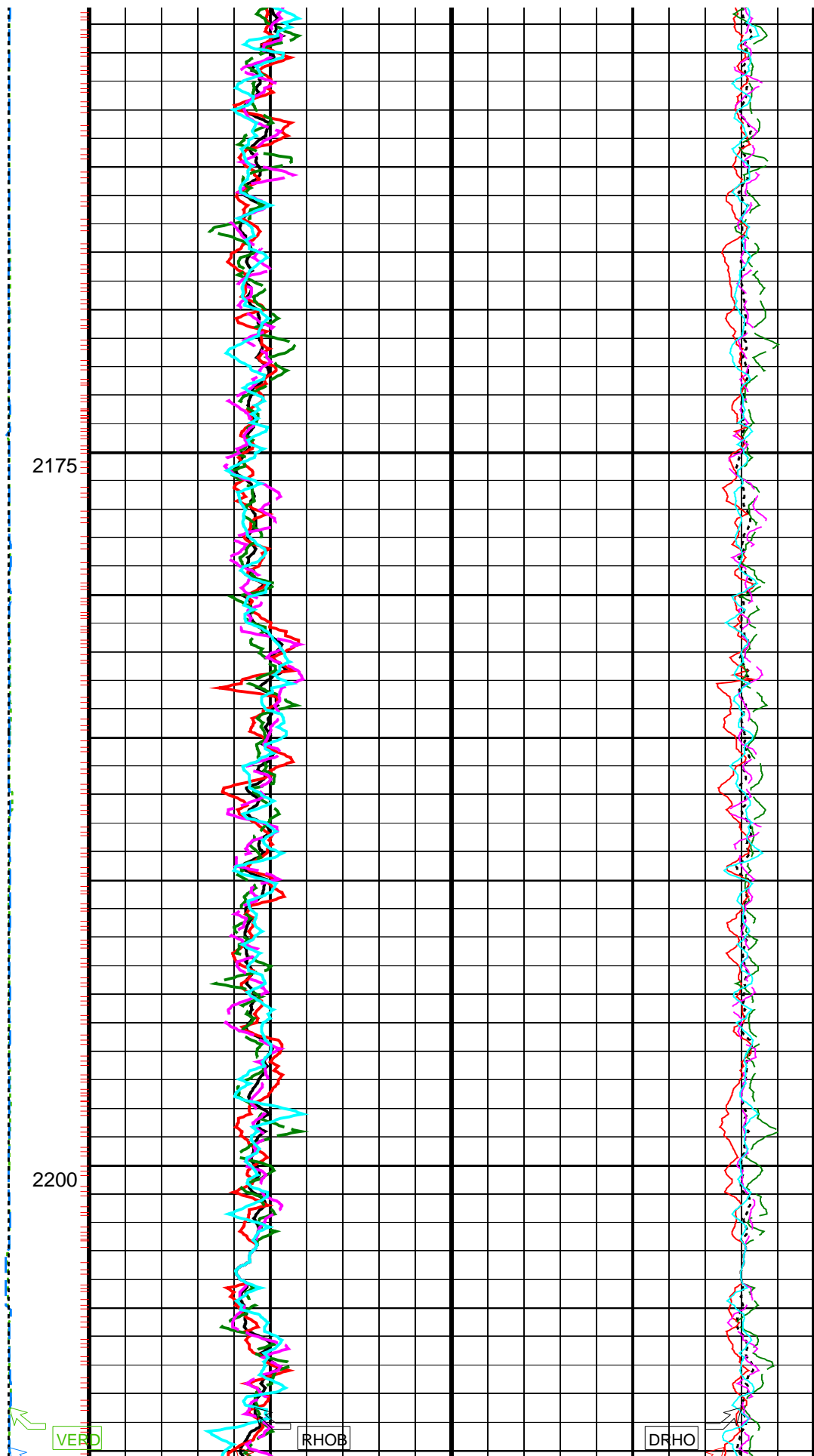
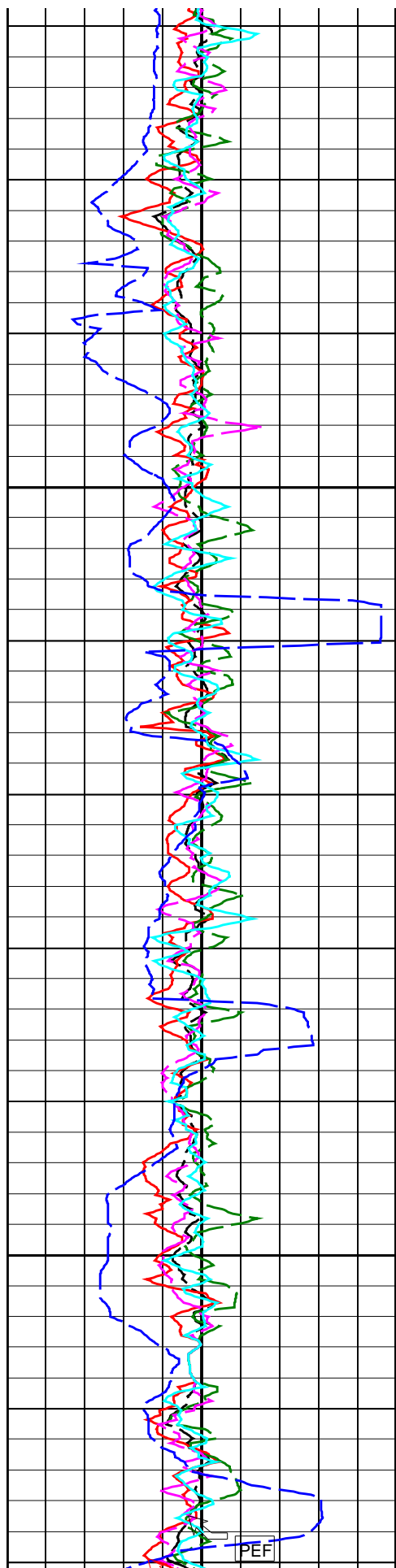


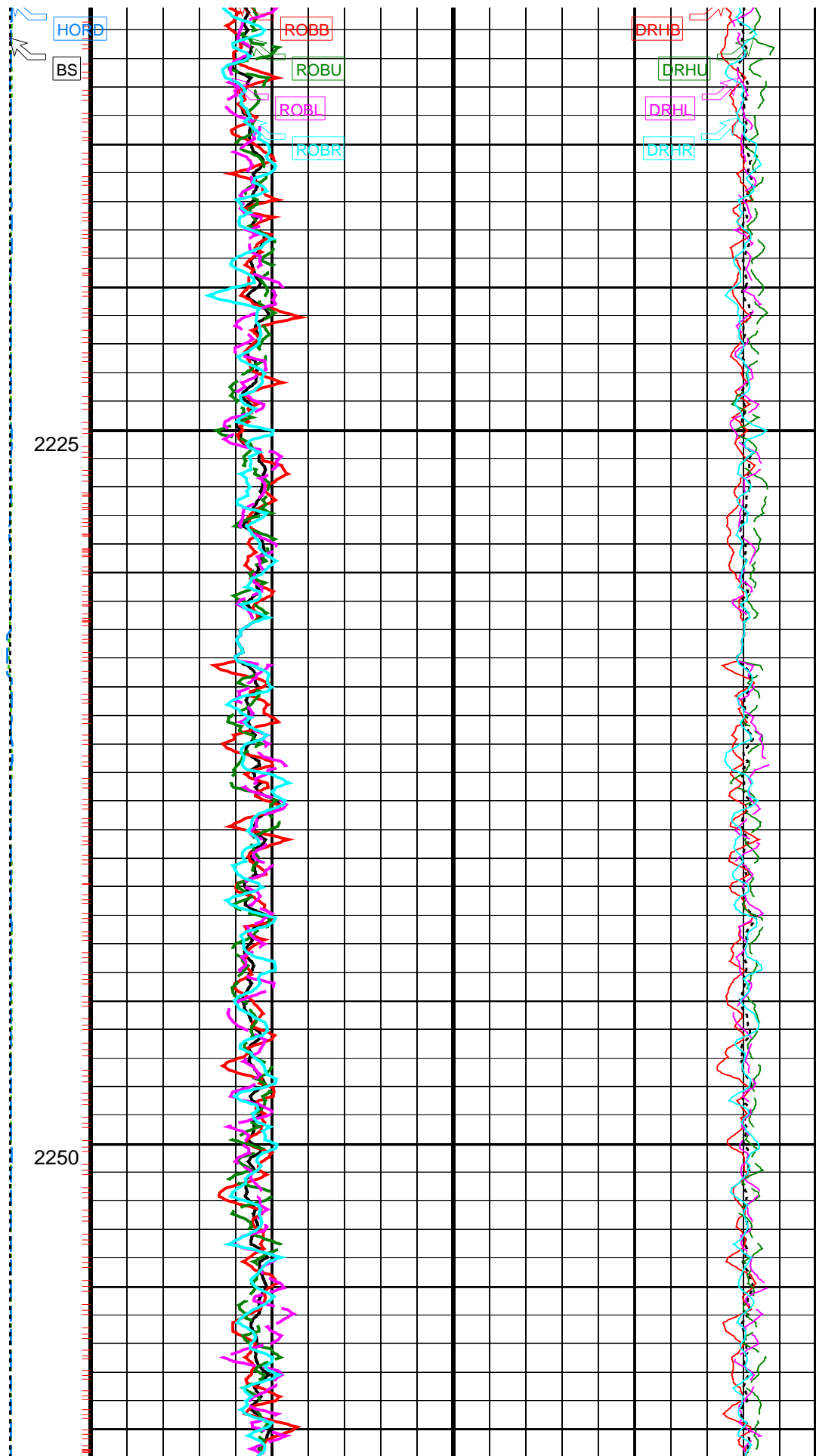
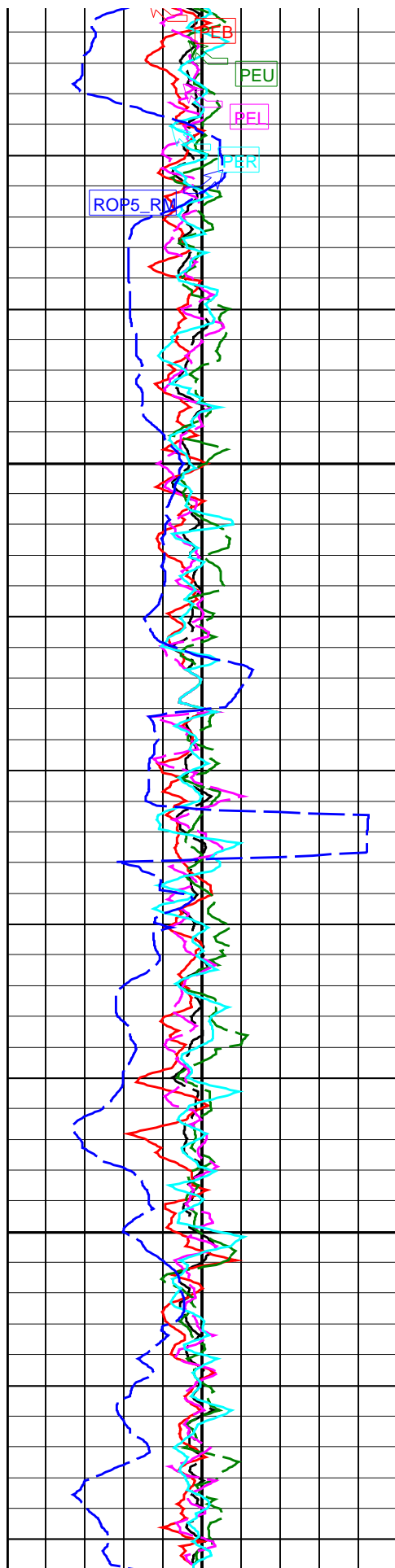


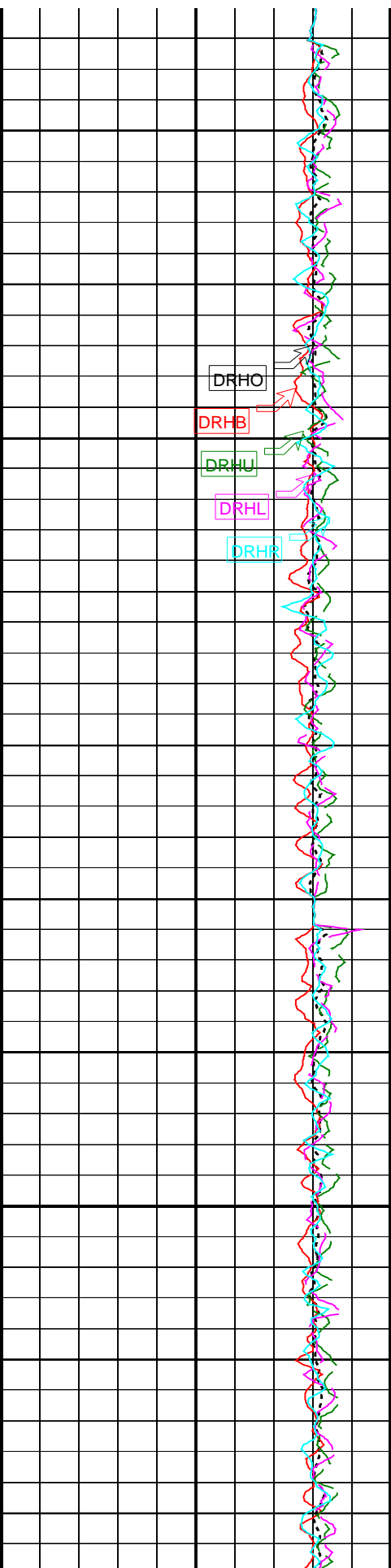
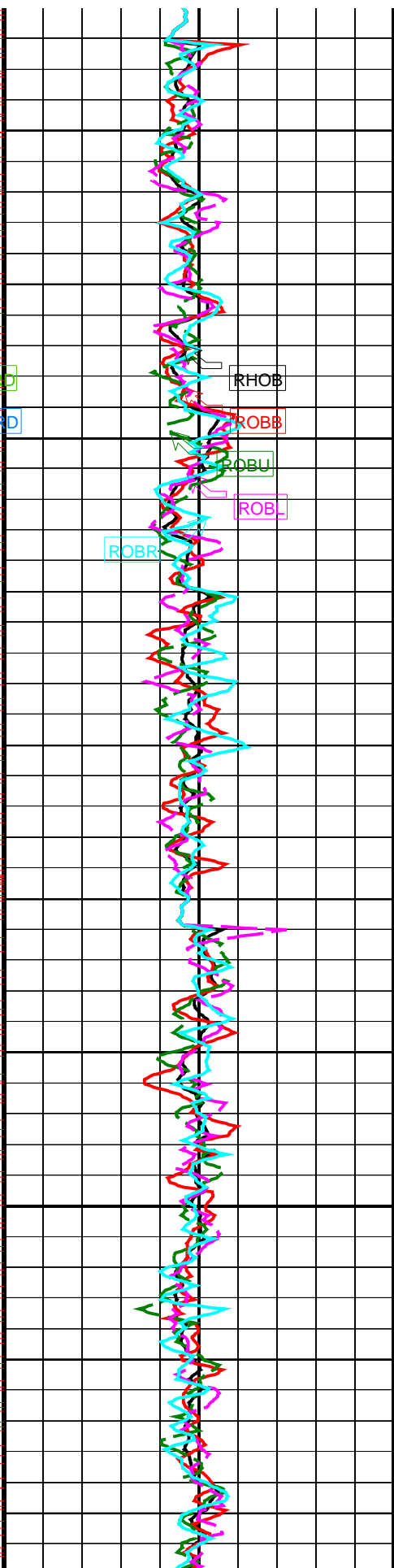
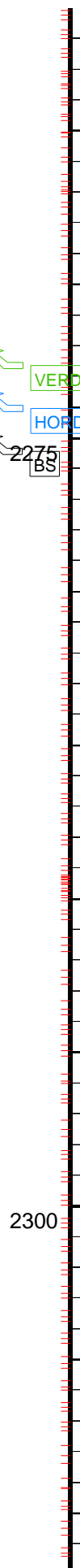
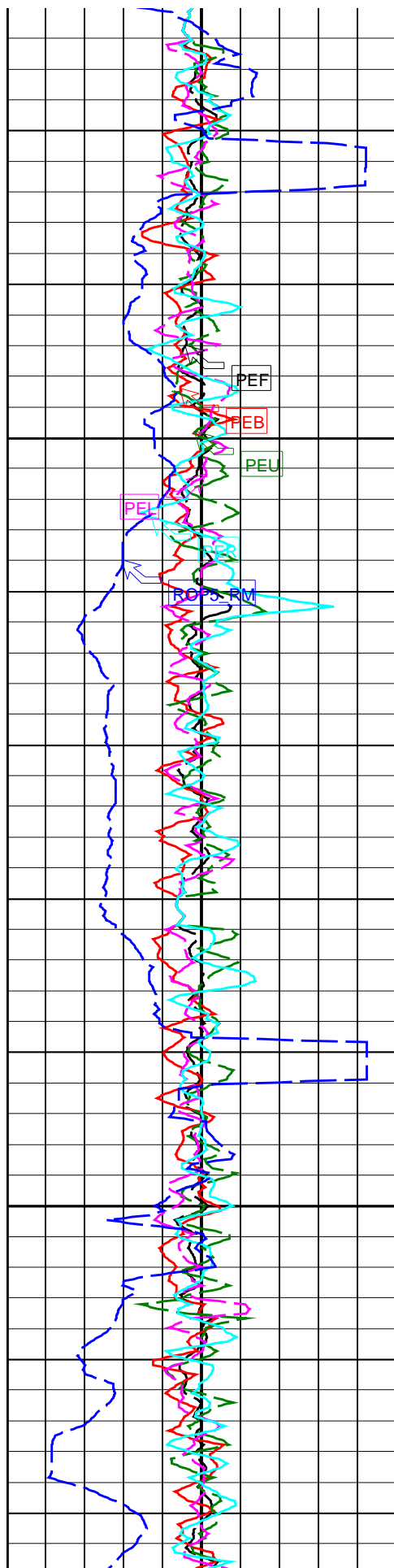


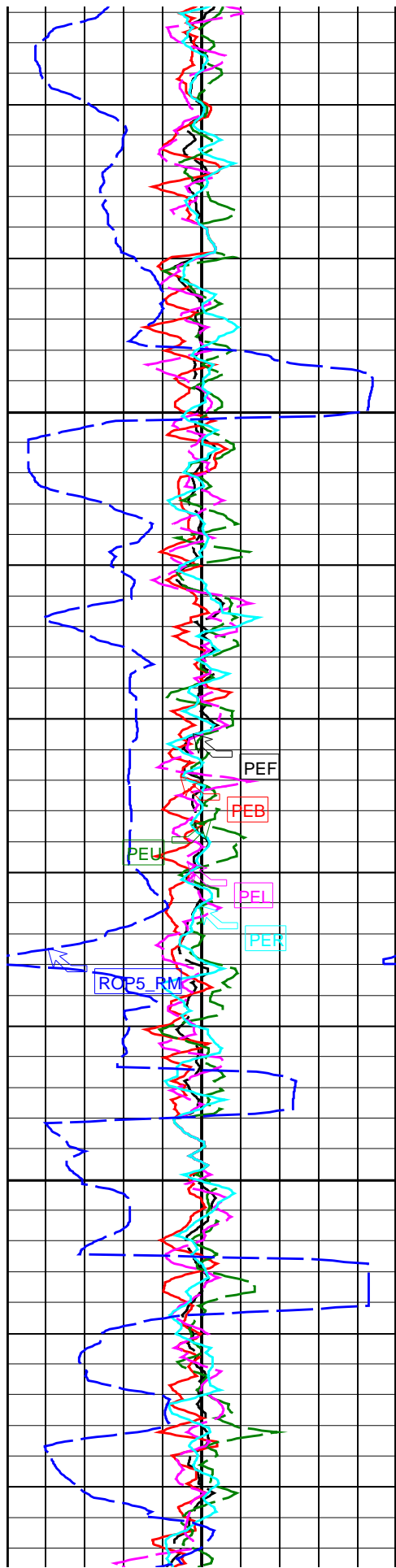






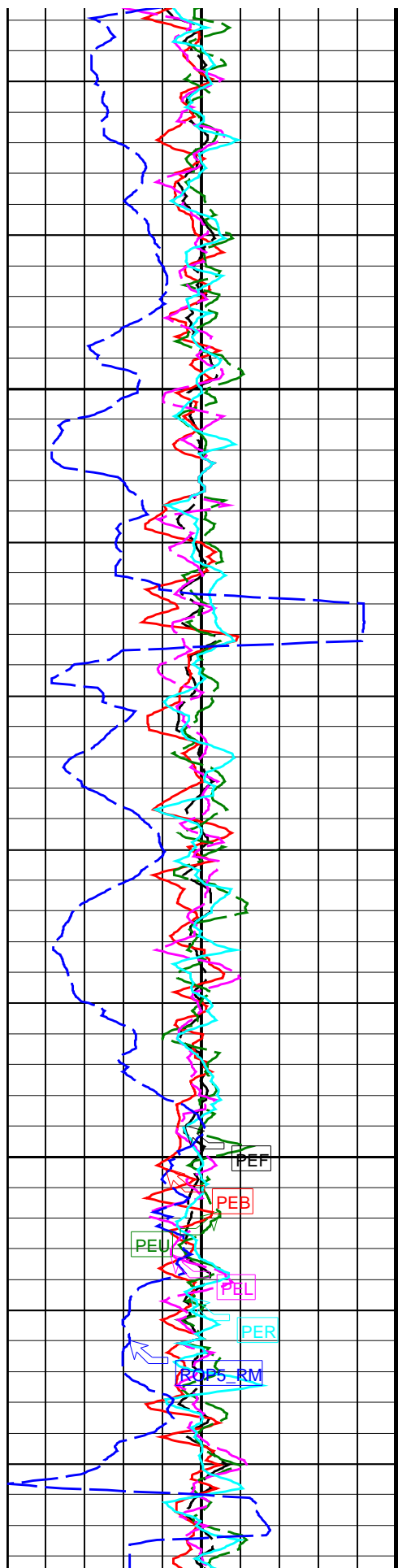






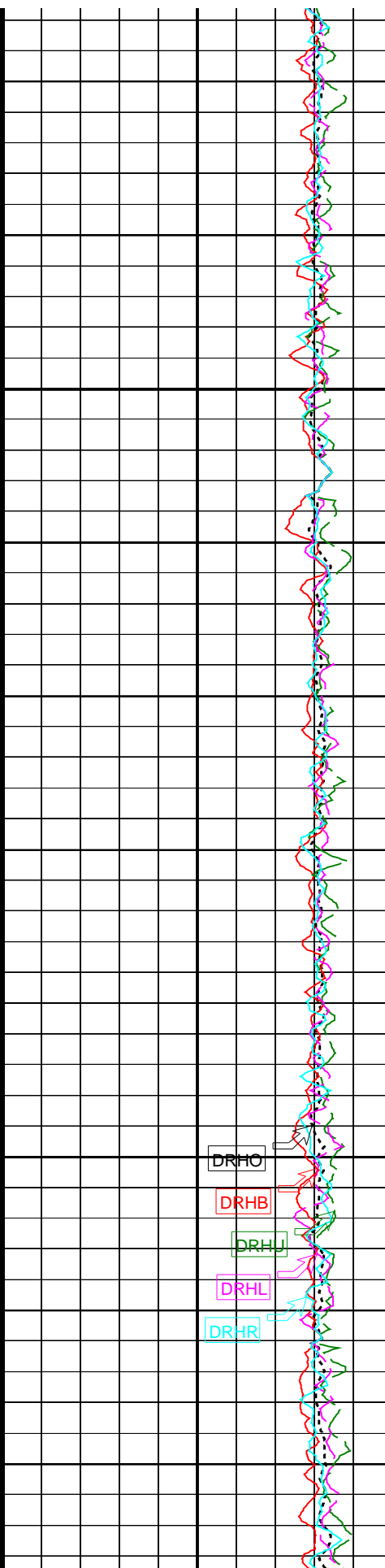
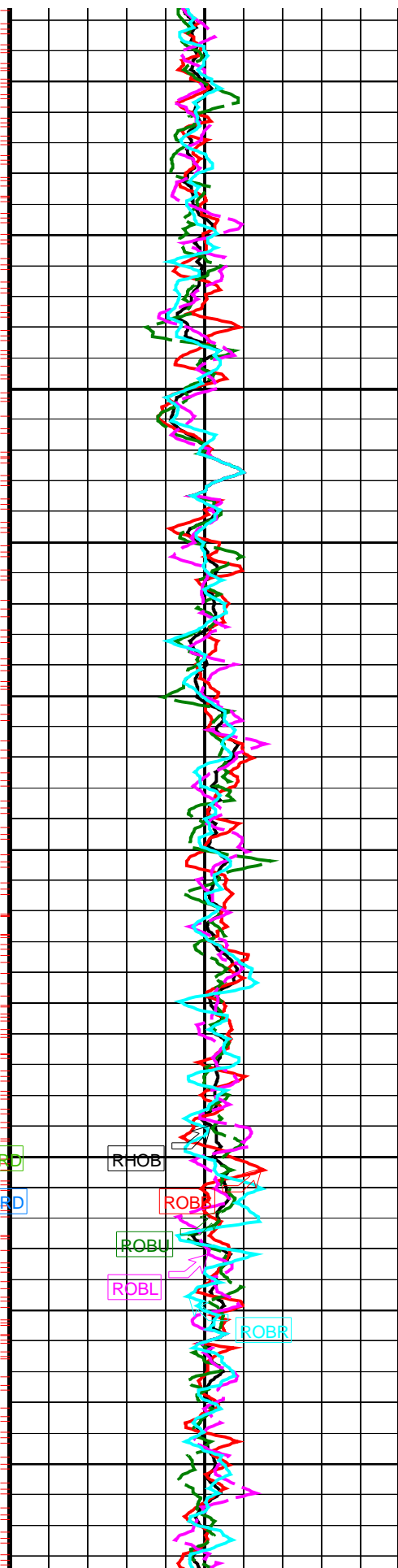
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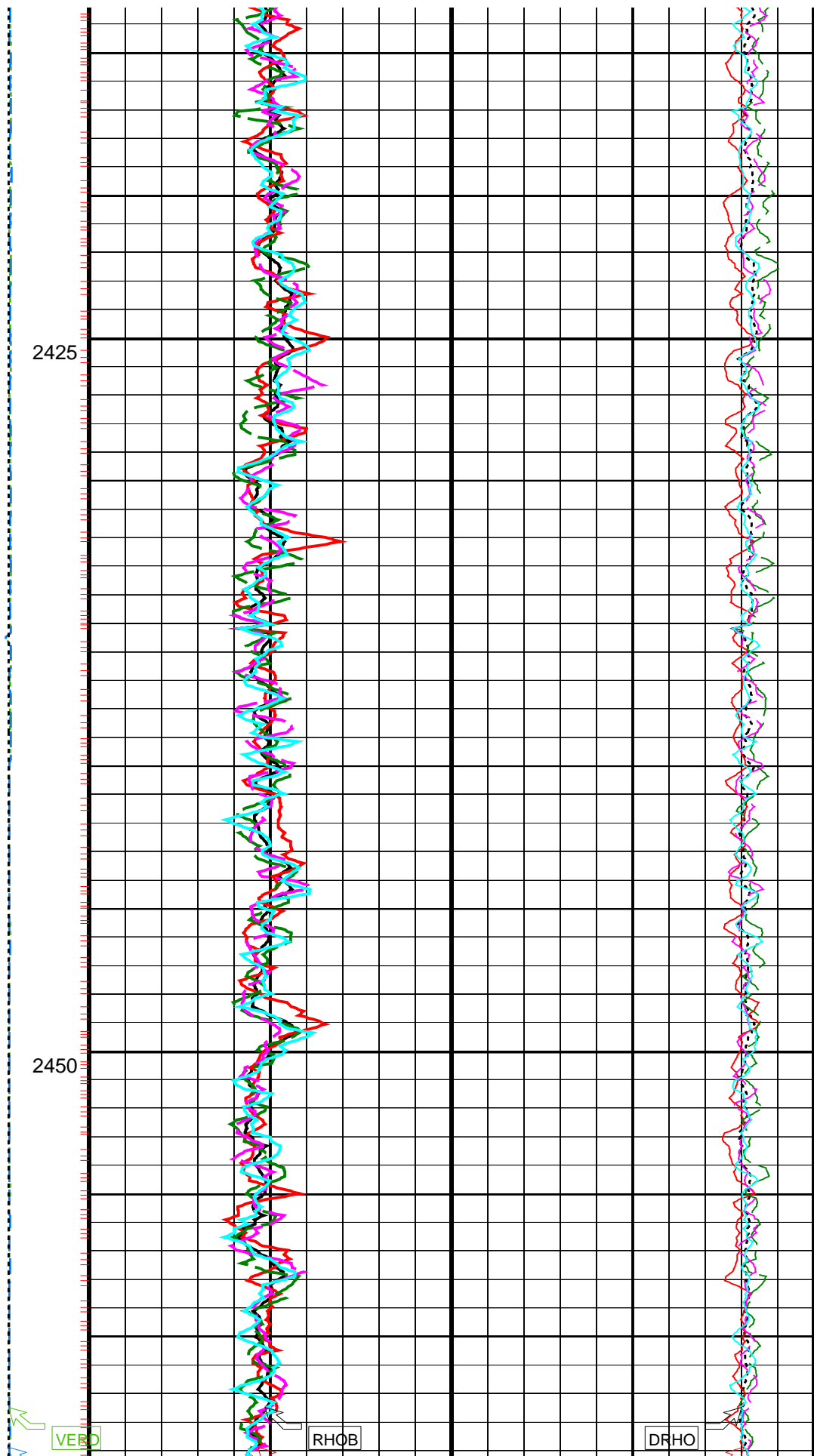
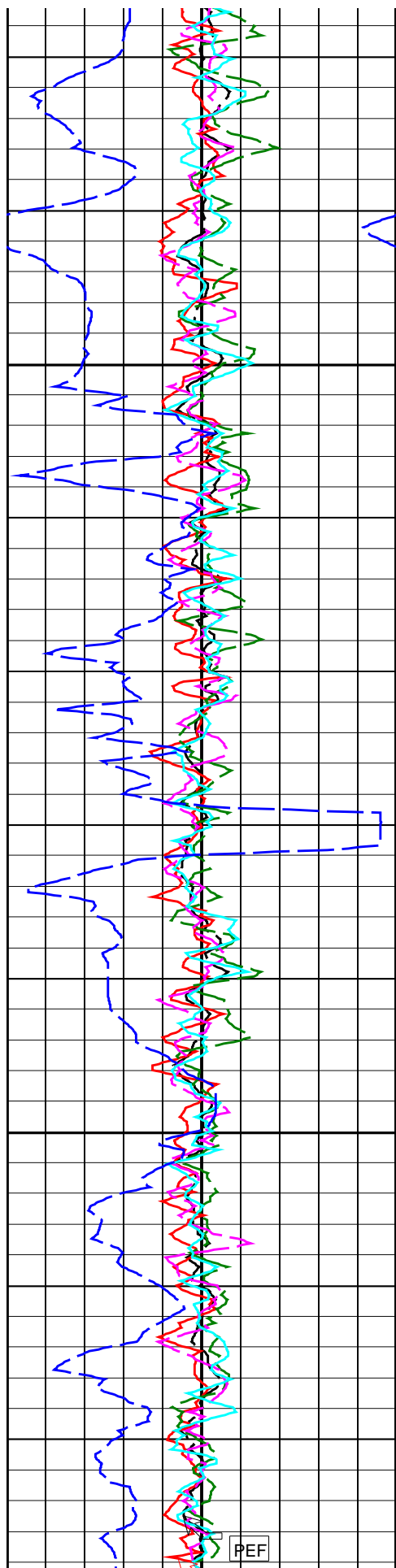
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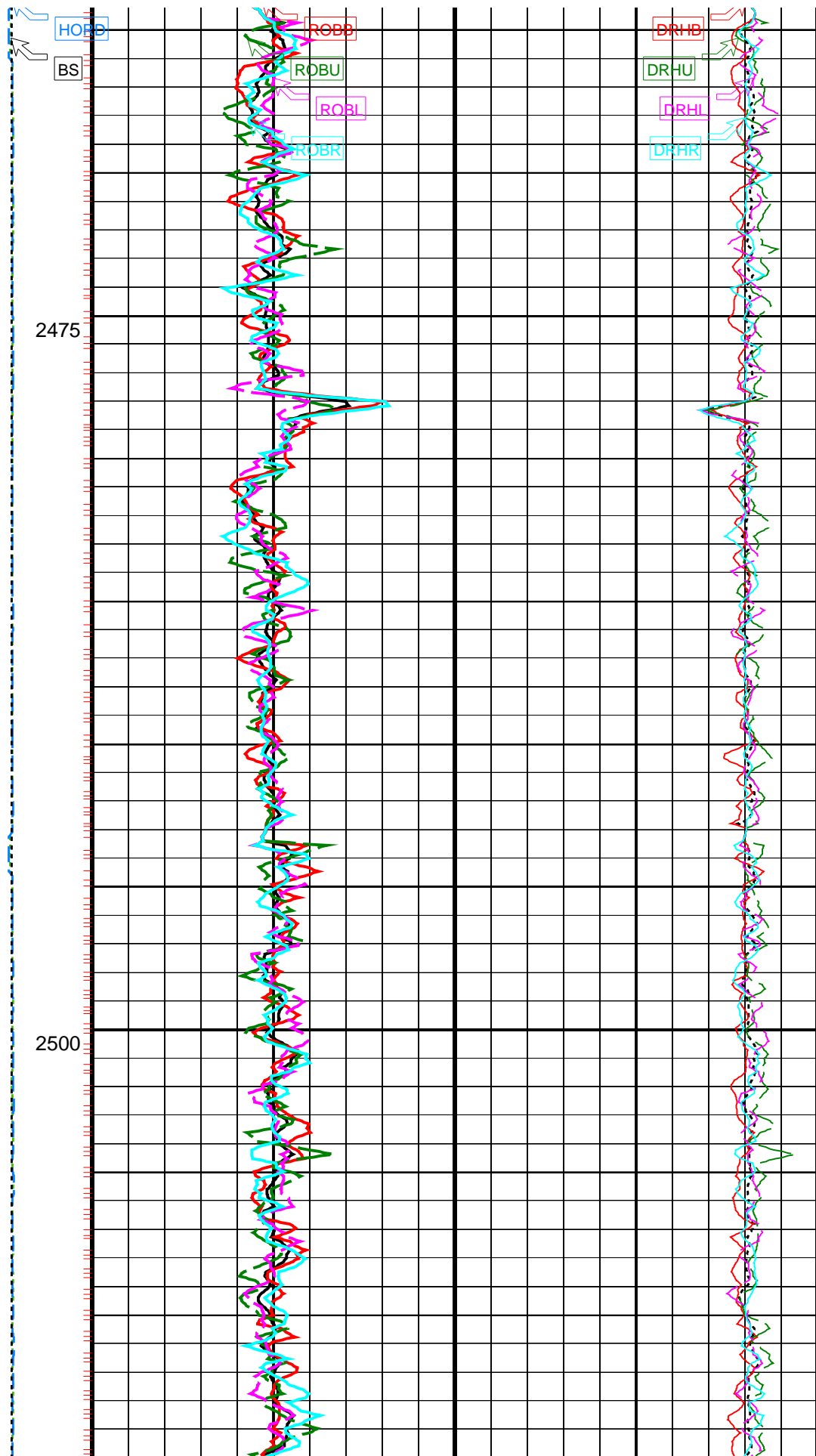
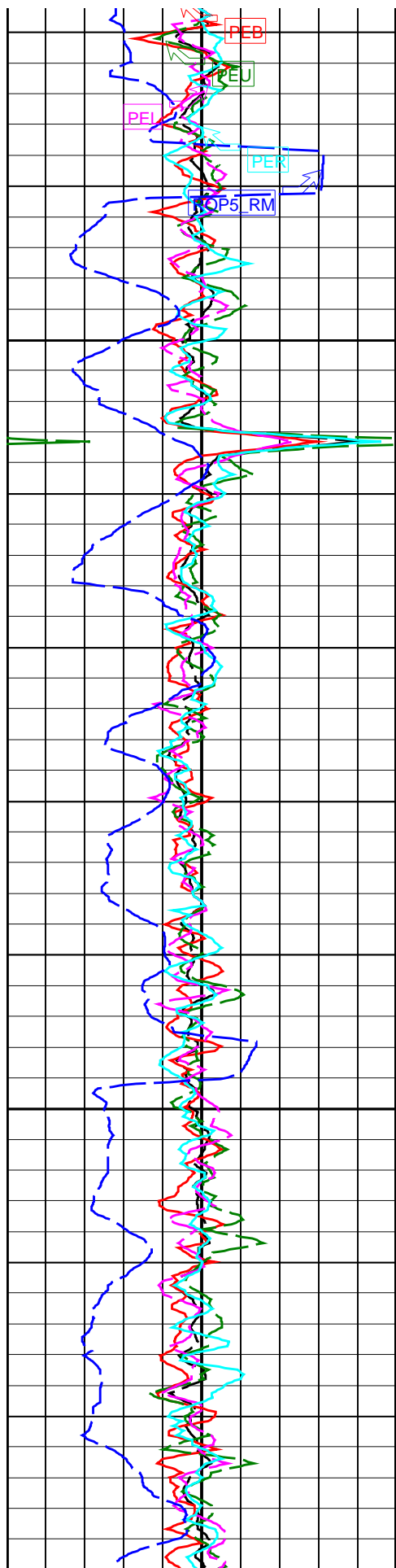


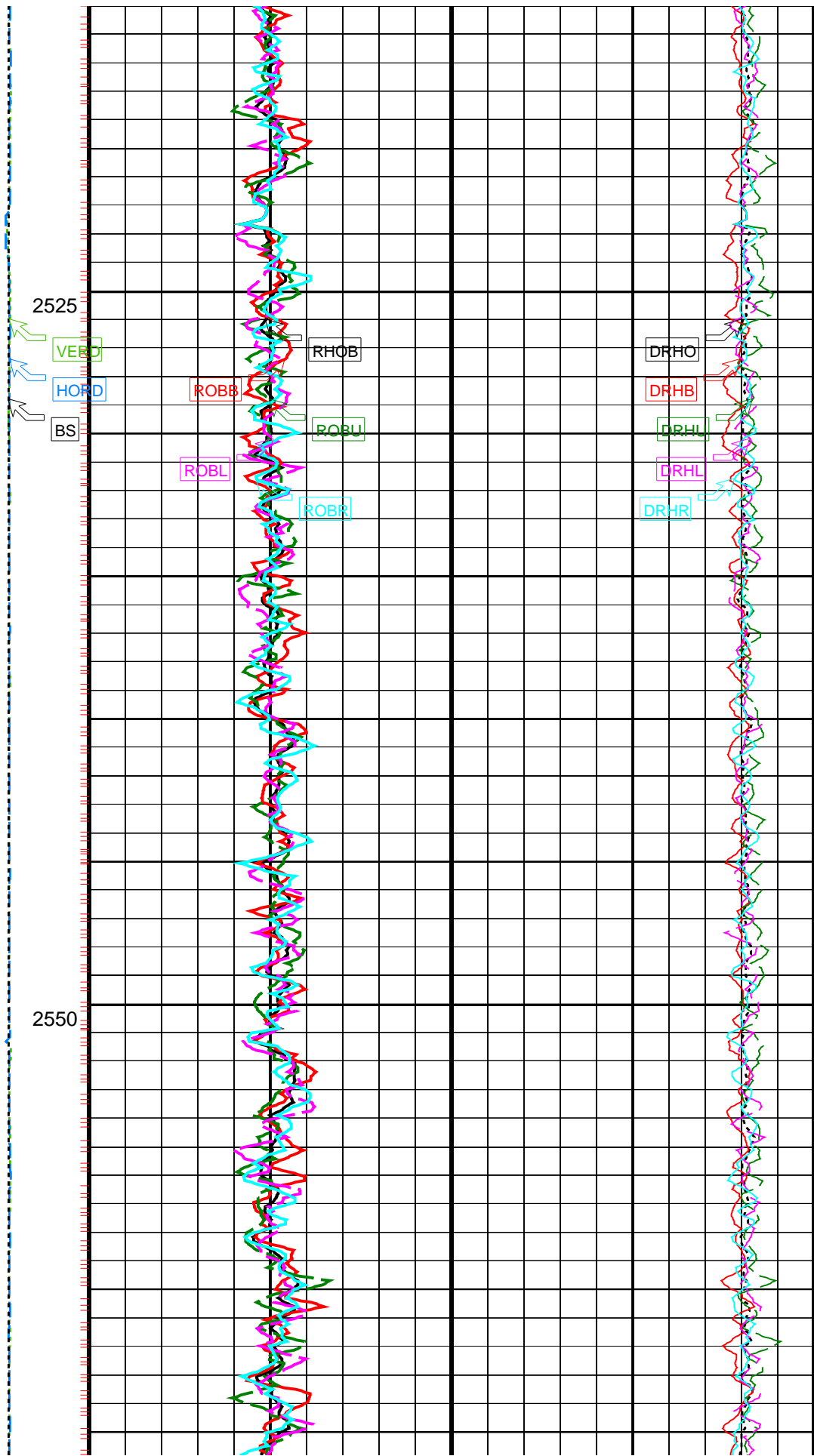
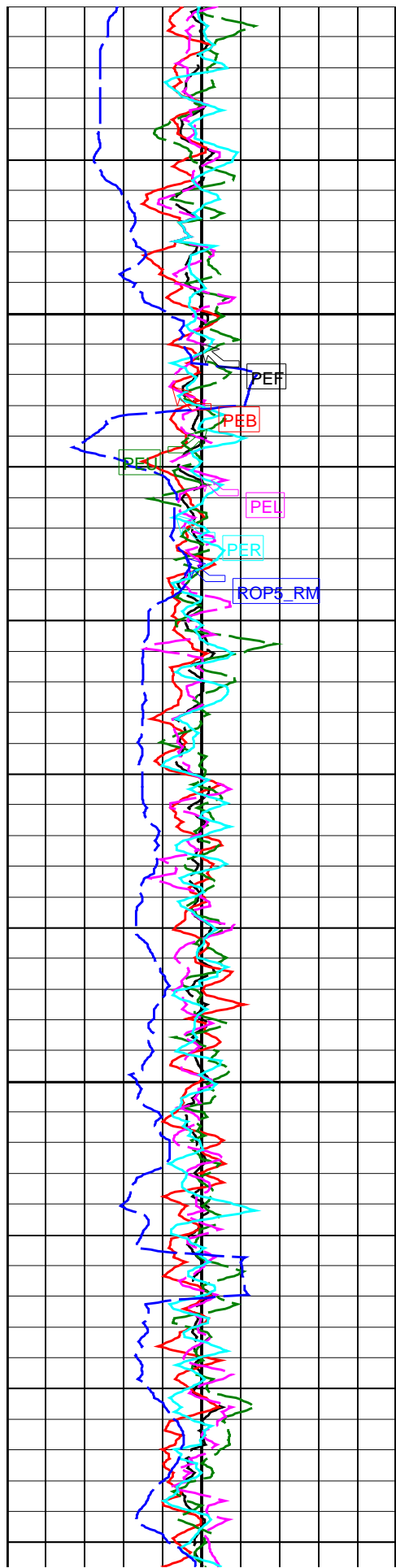
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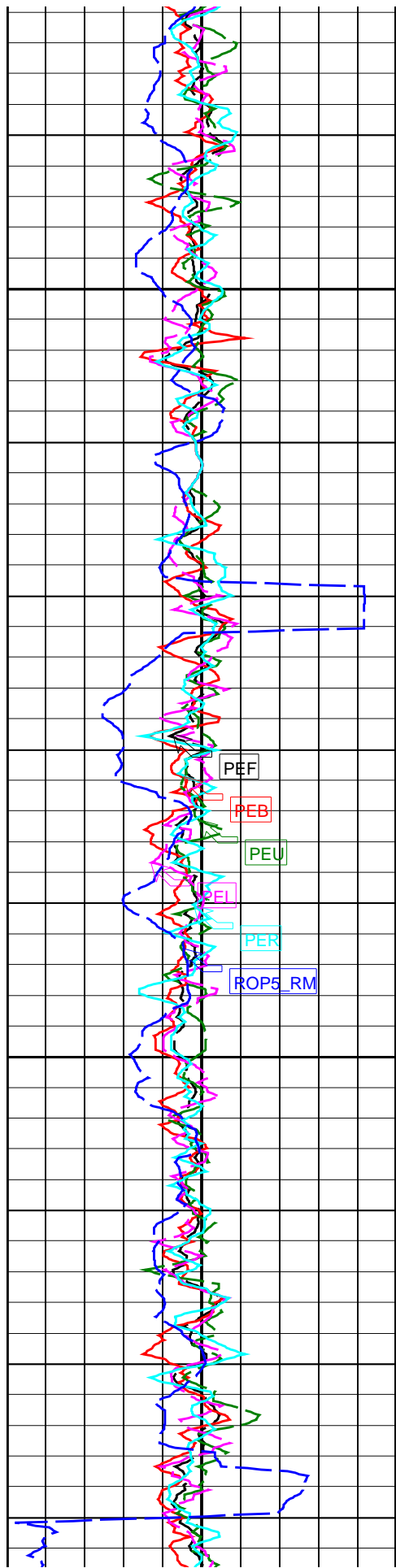
VERD
2400
HORD
BS











2575

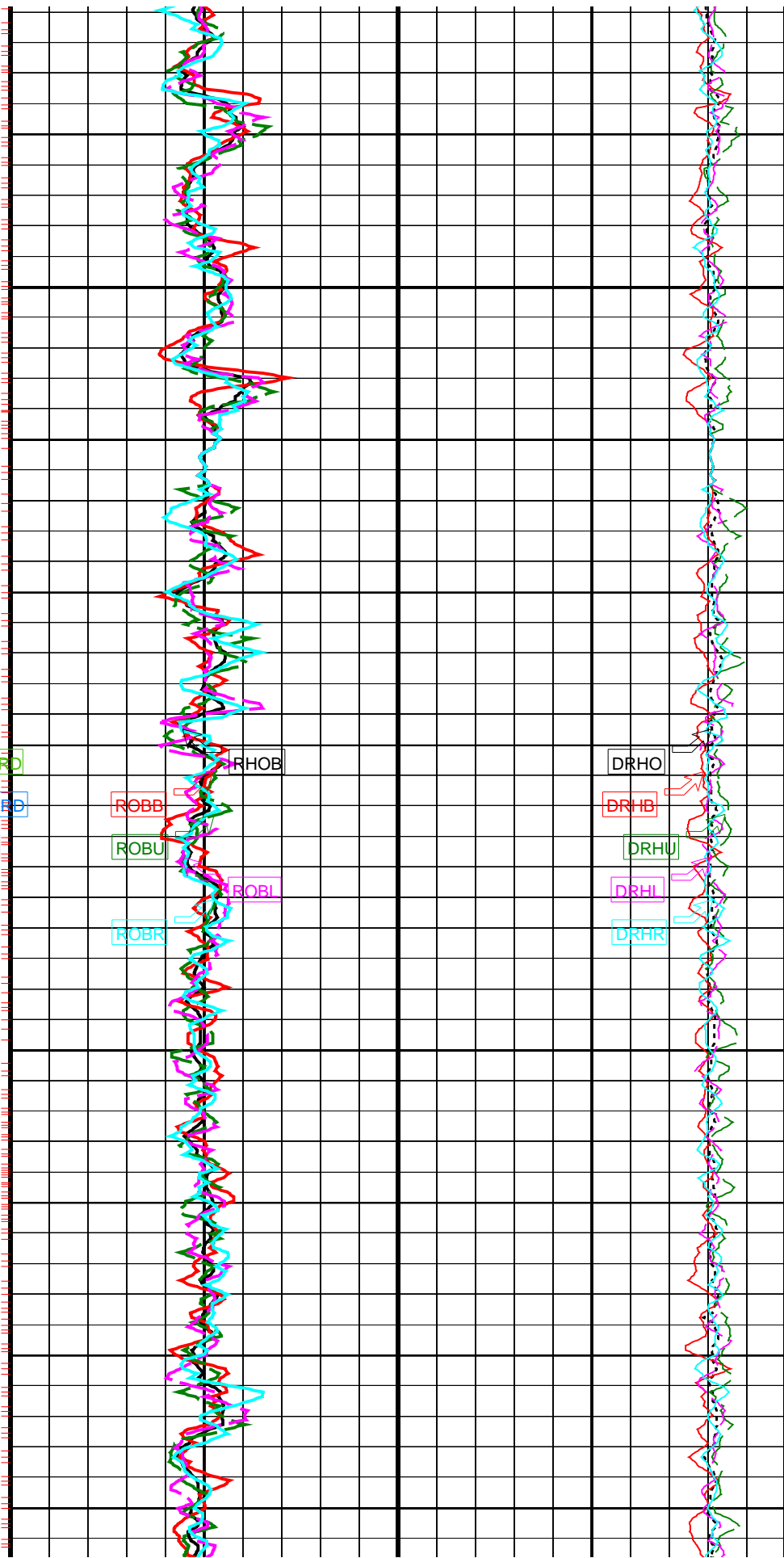
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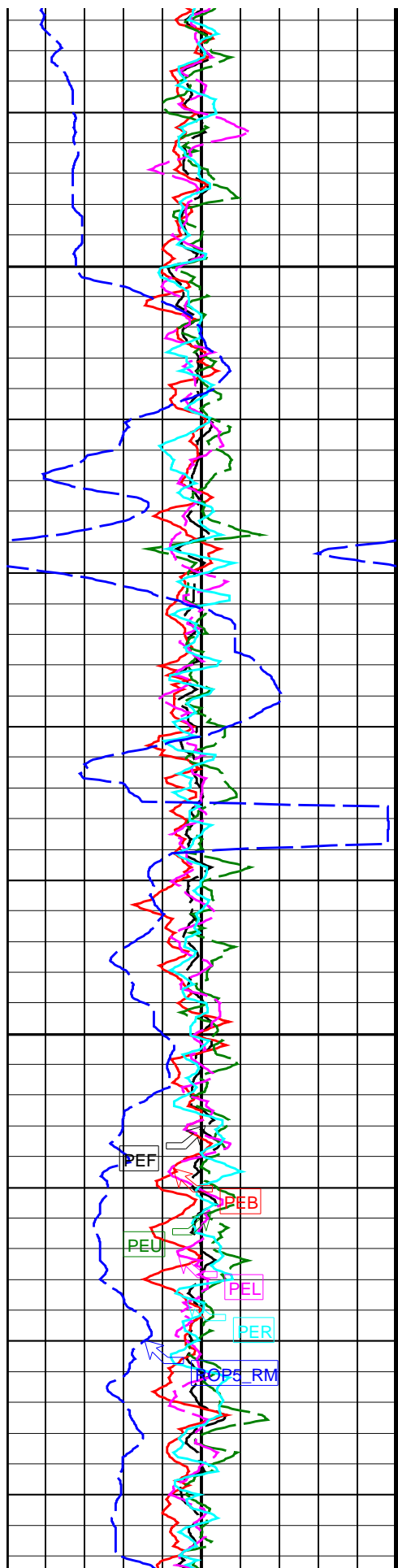
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BS

ROBB
ROBU
ROBR

RHOB
ROBL

DRHO
DRHB
DRHU
DRHL
DRHR





2625

2650

VERO
HORD
BS

RHOE

ROBB

ROBU

ROBU

ROBE

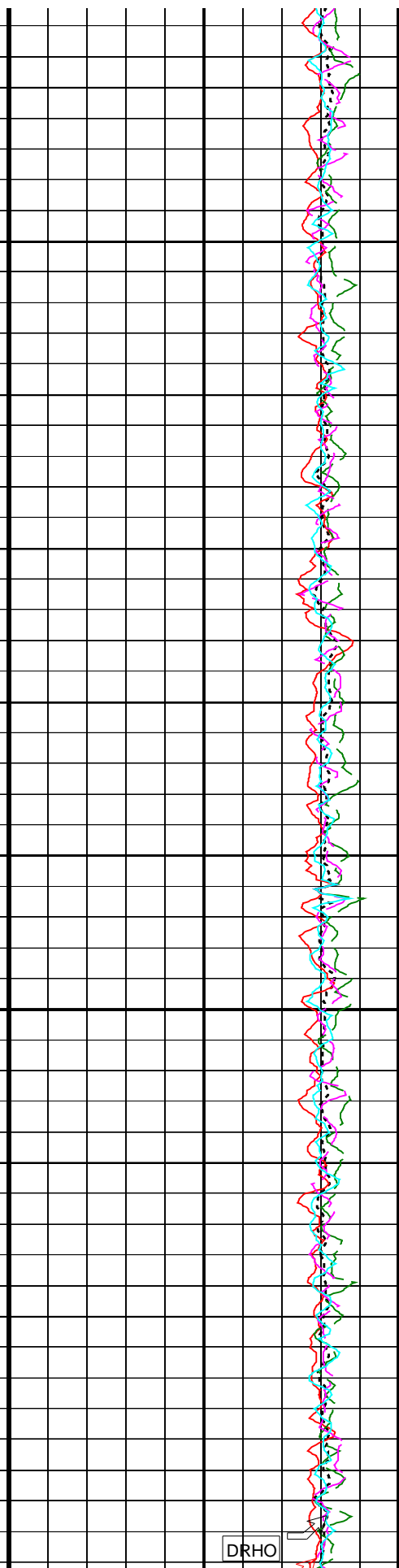
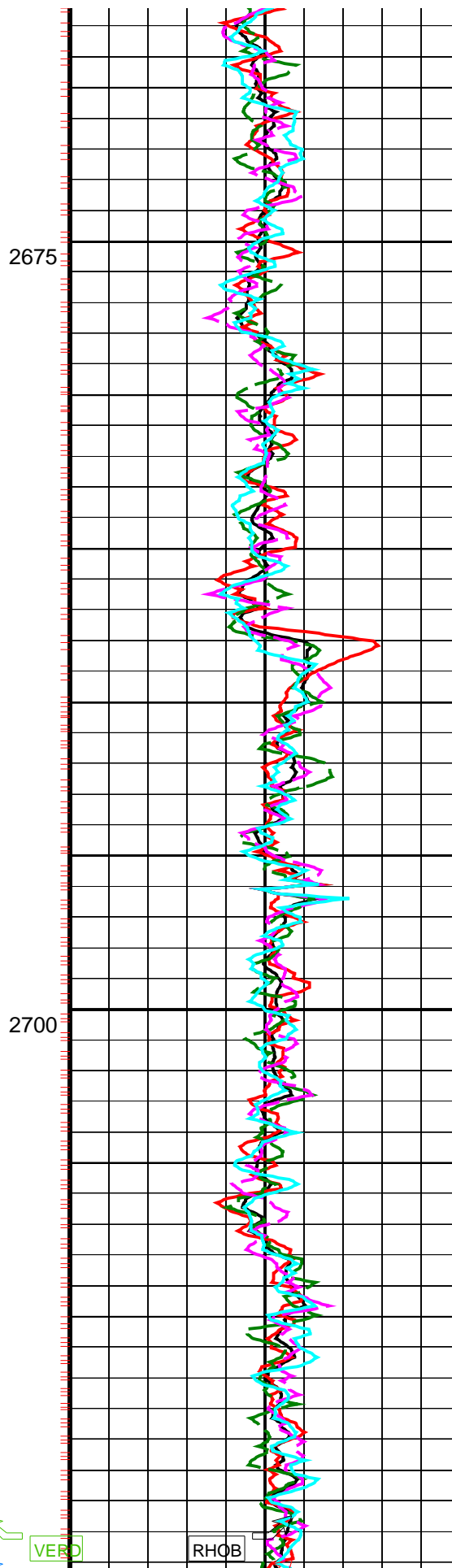
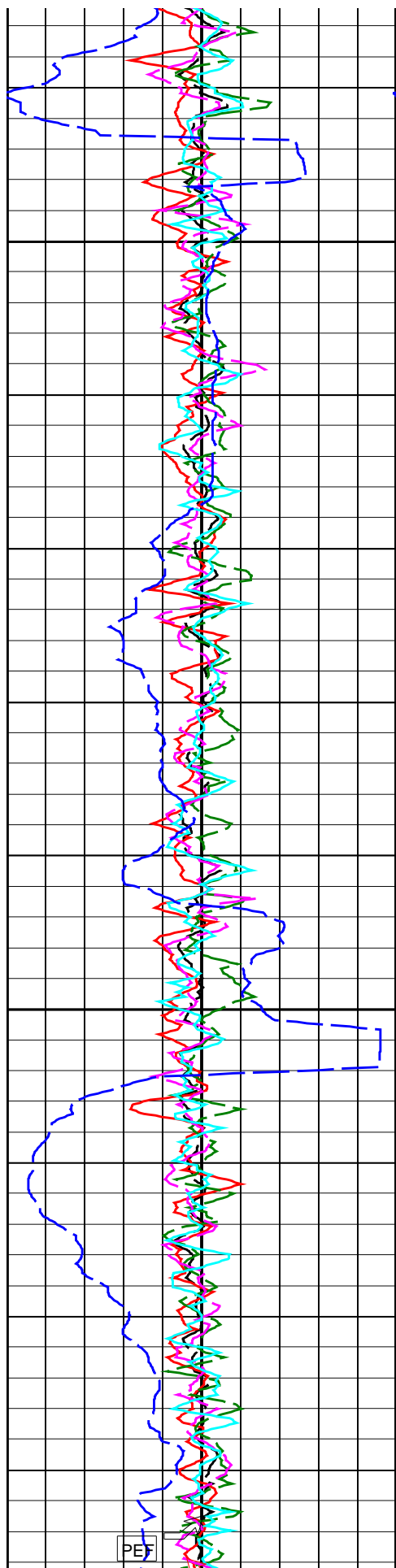
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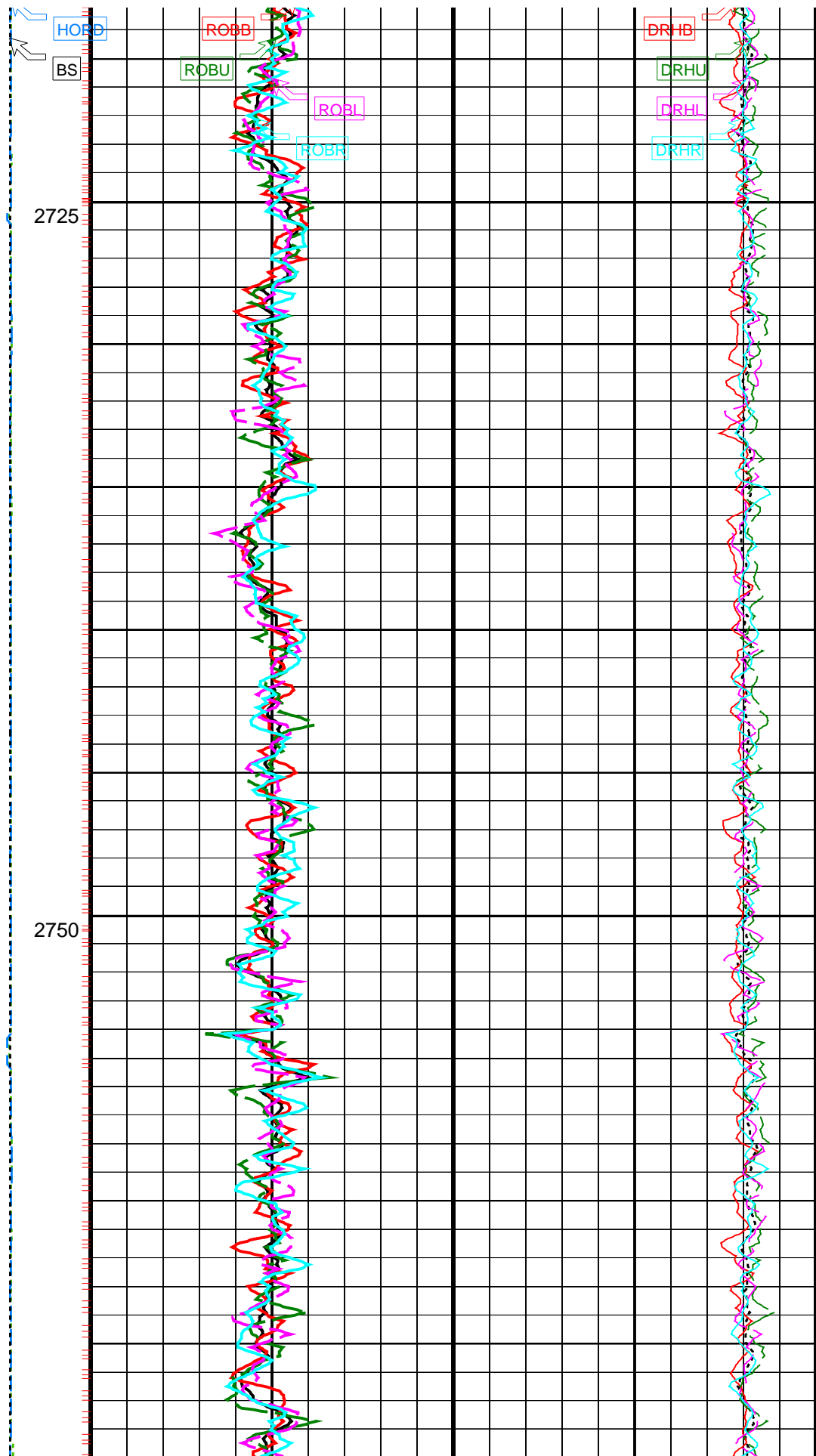
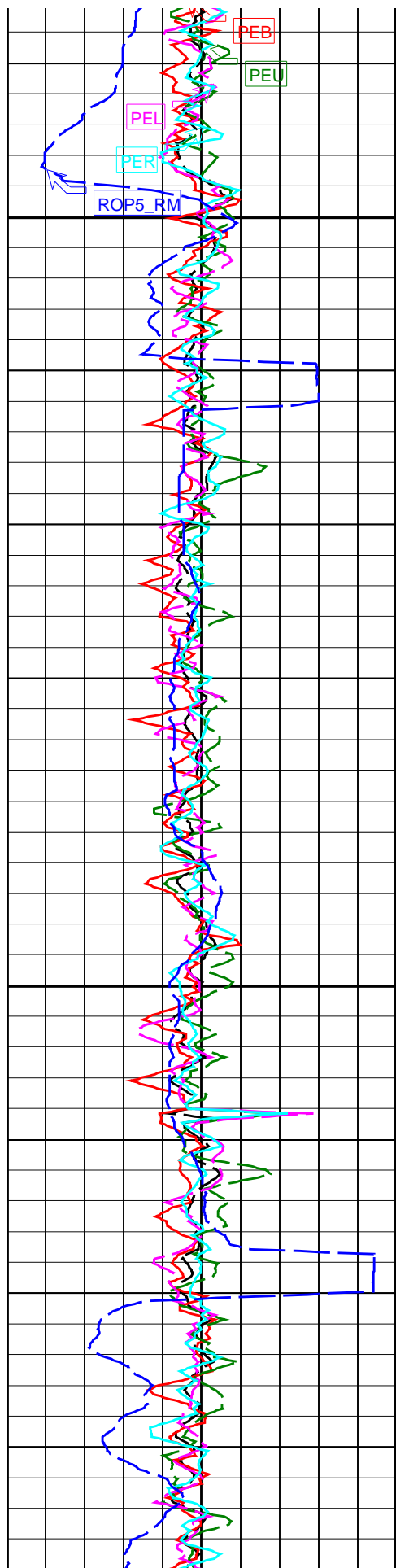
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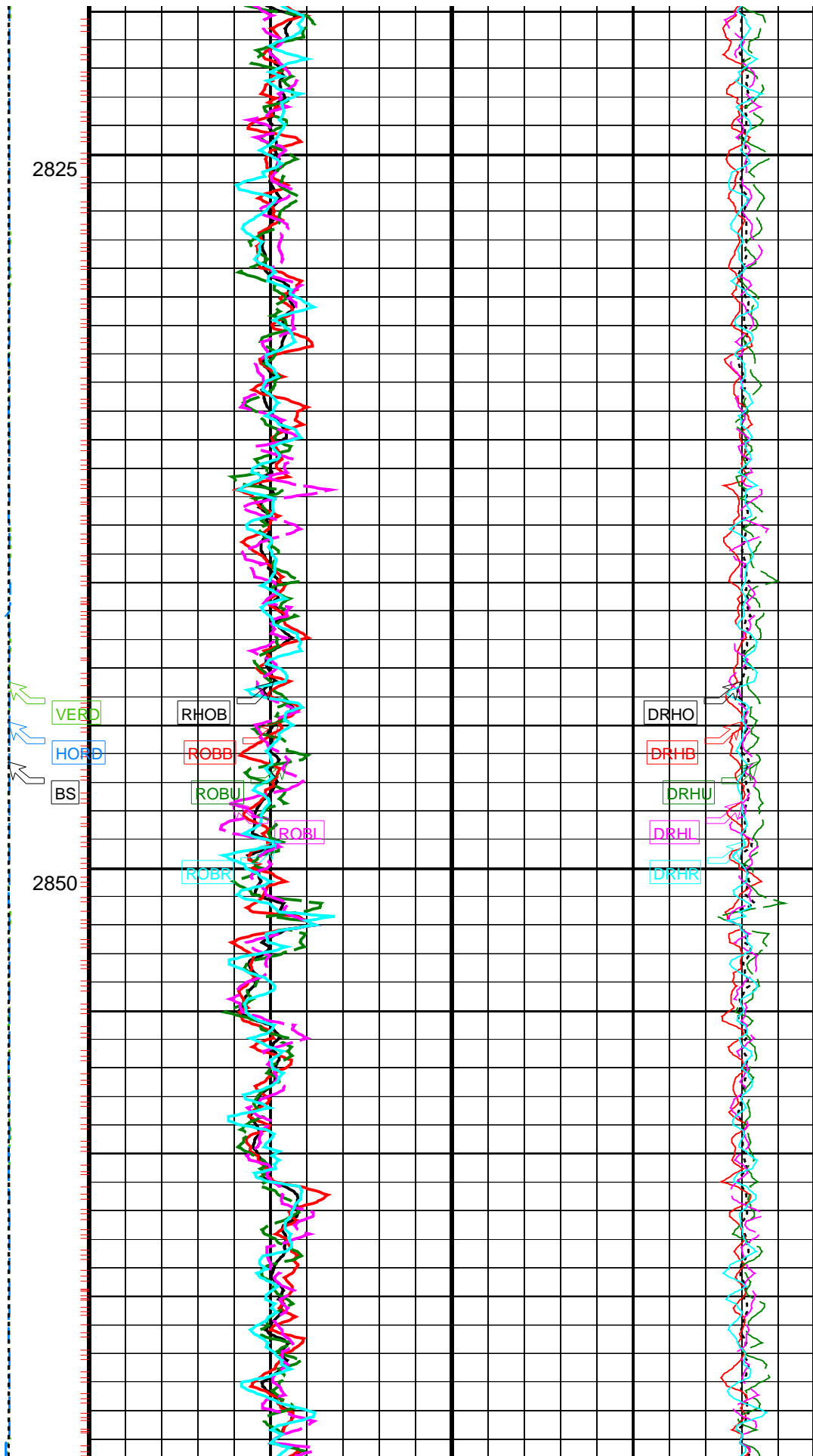
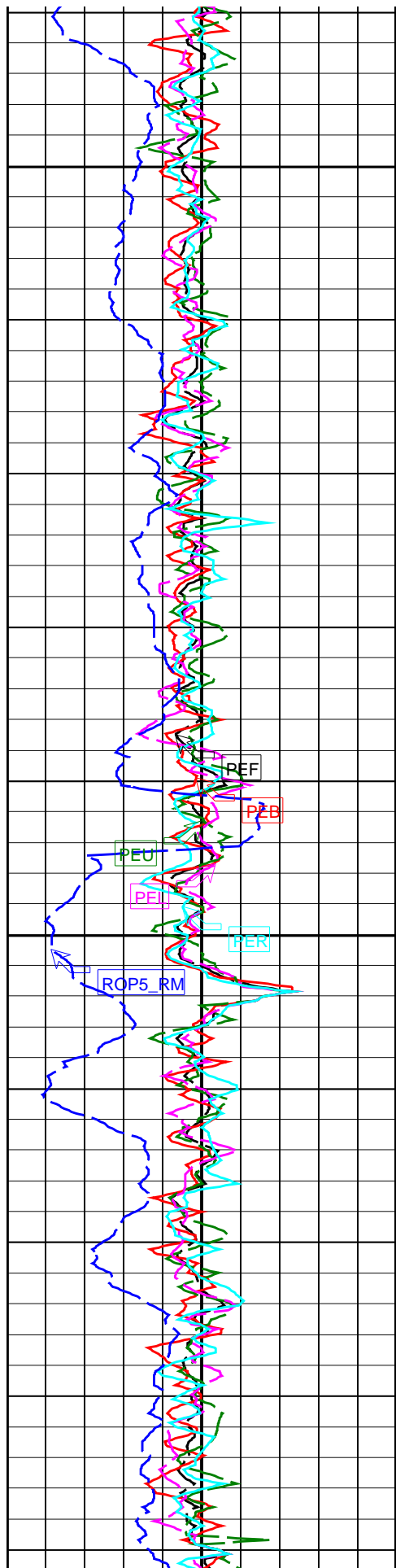
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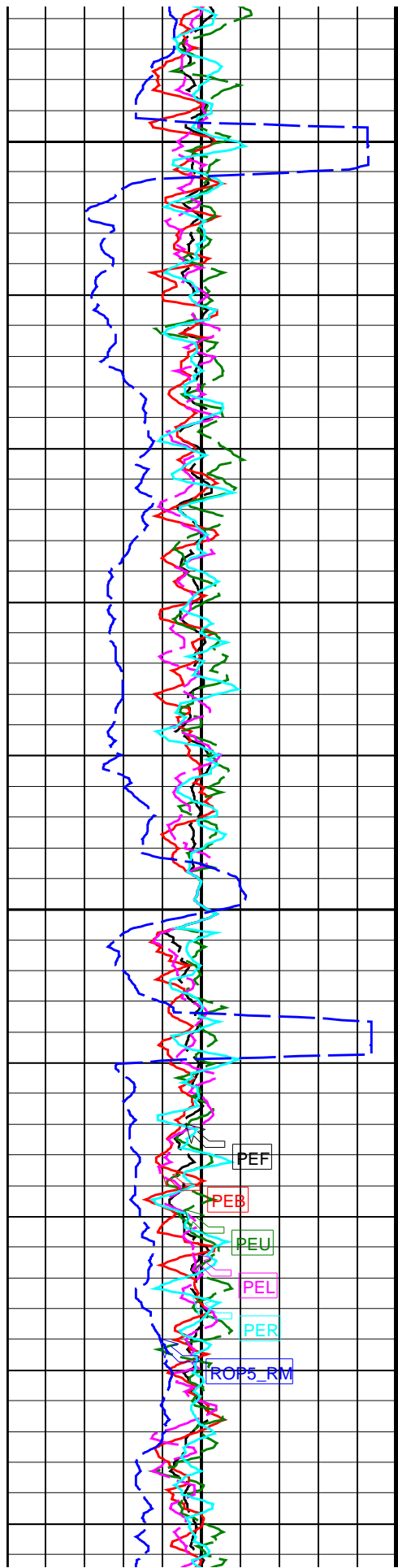
DRHL

DRHR



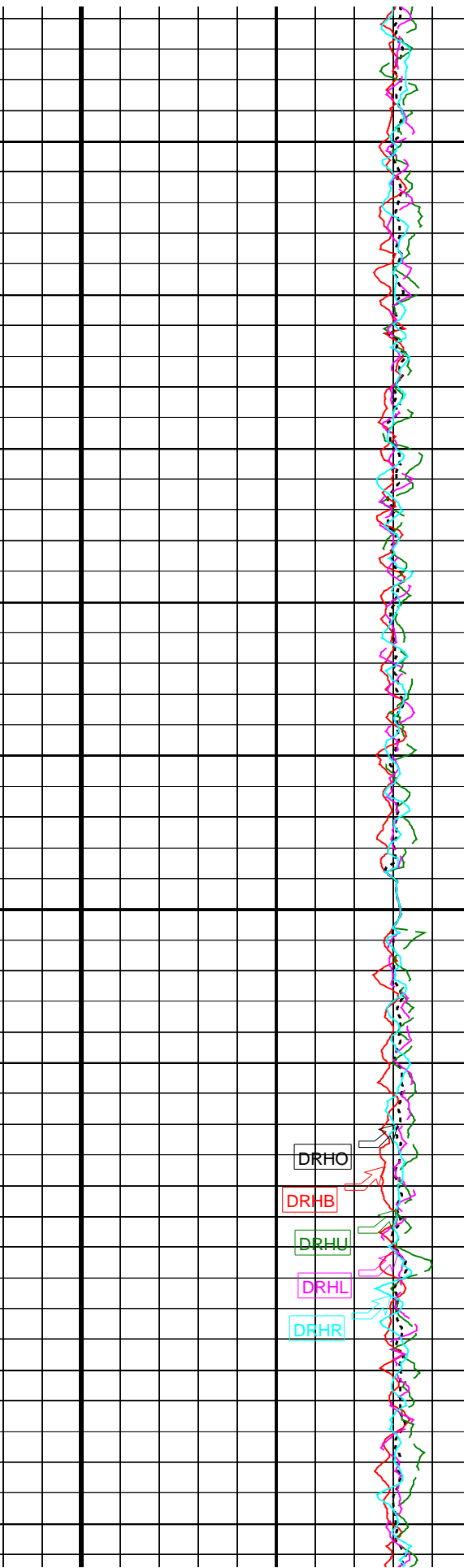
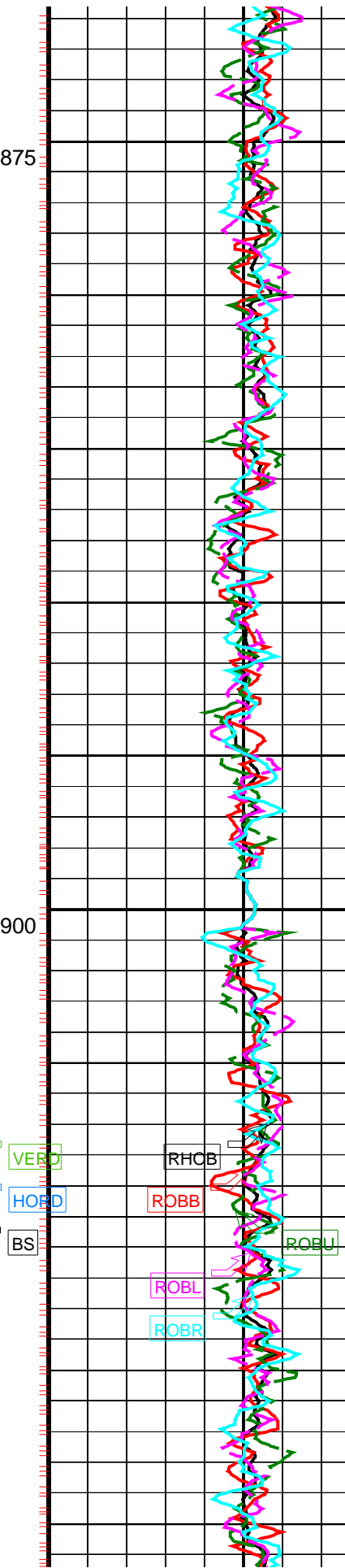


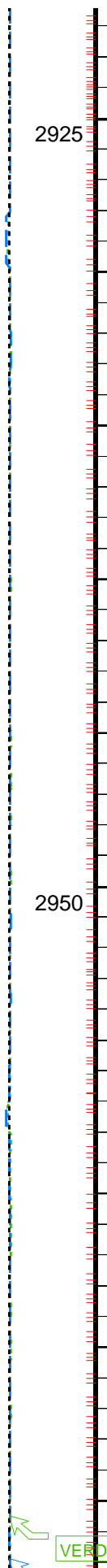
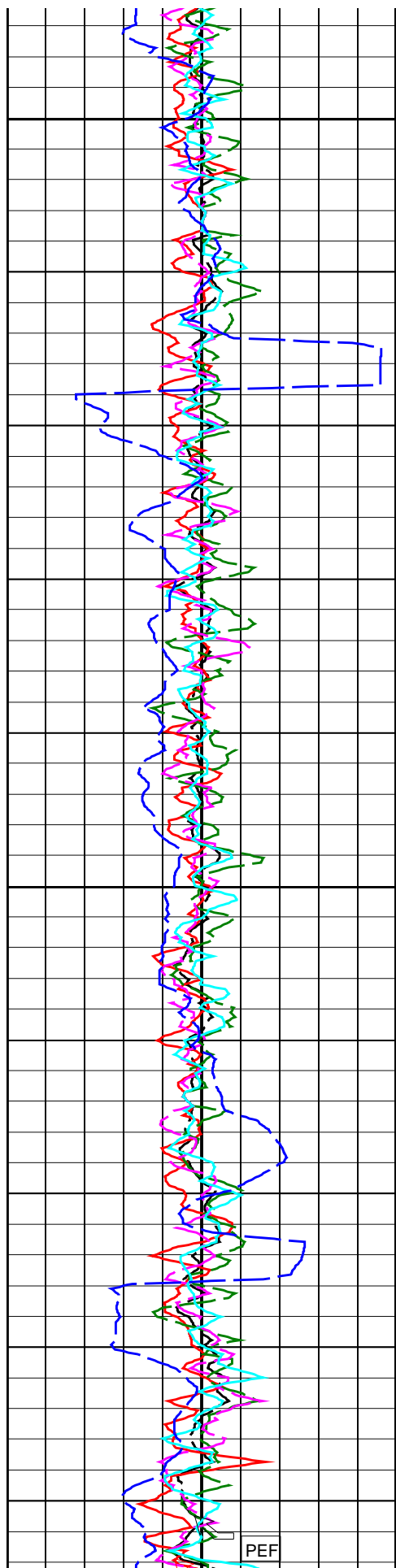




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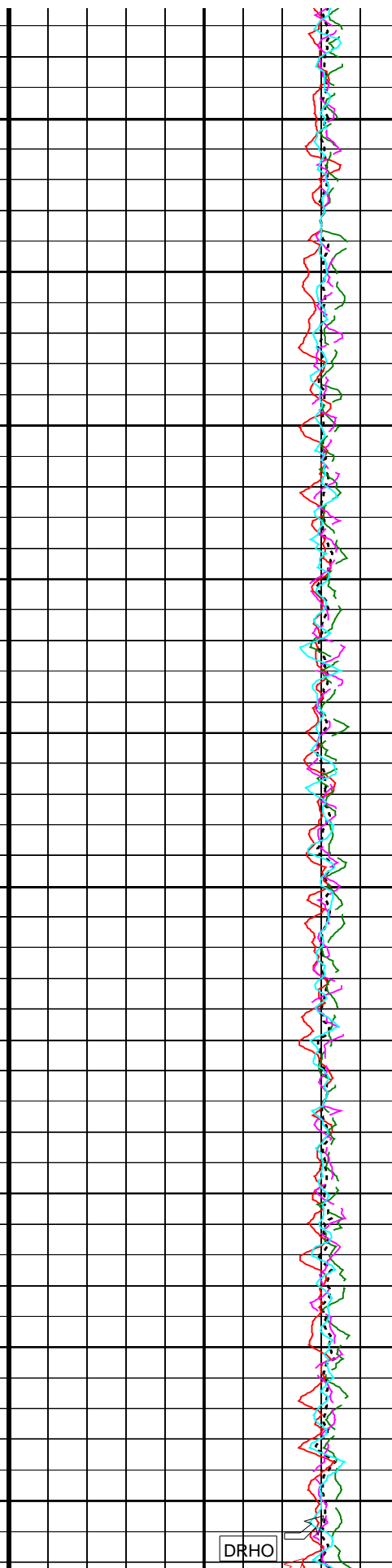
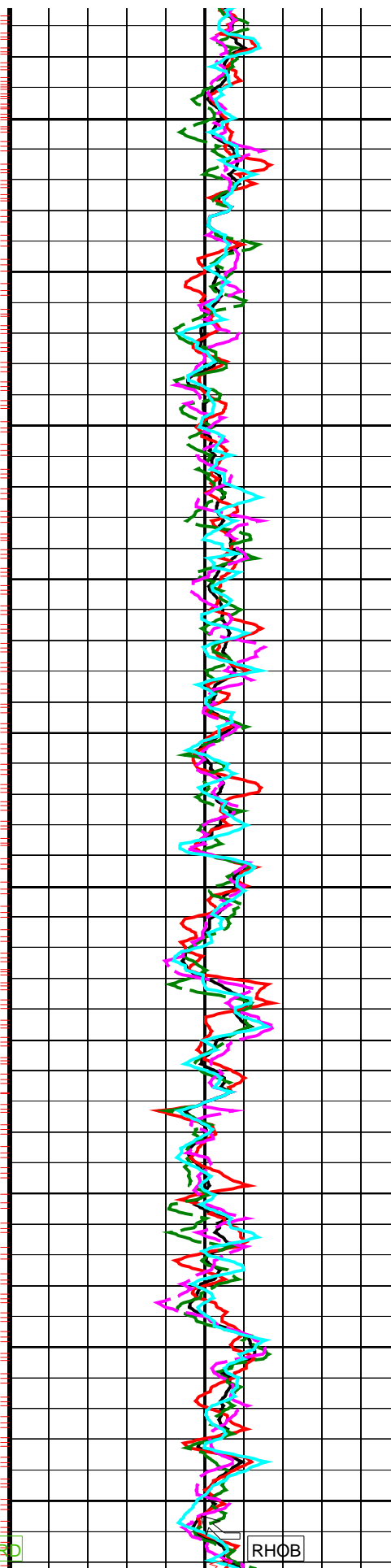
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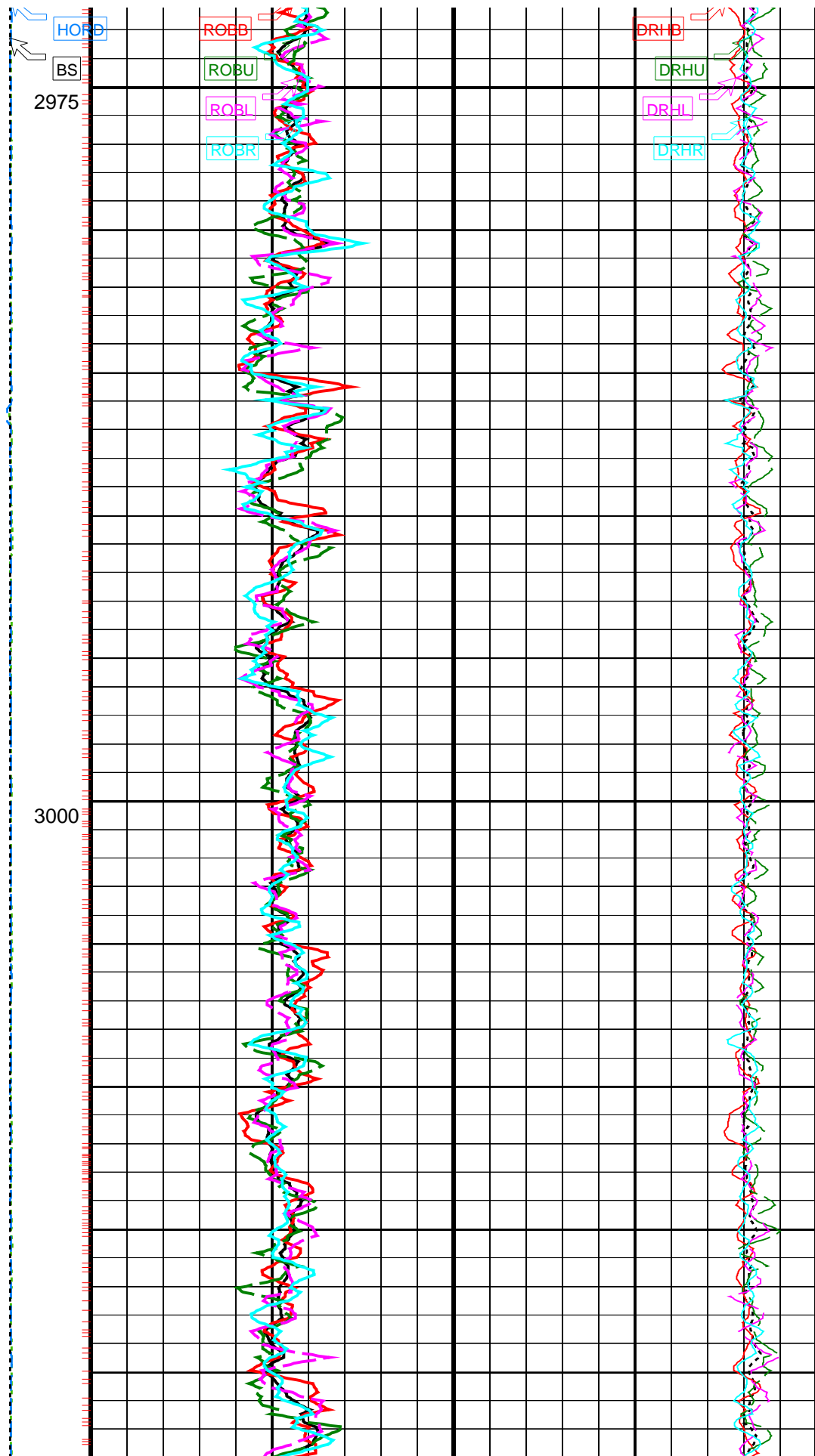
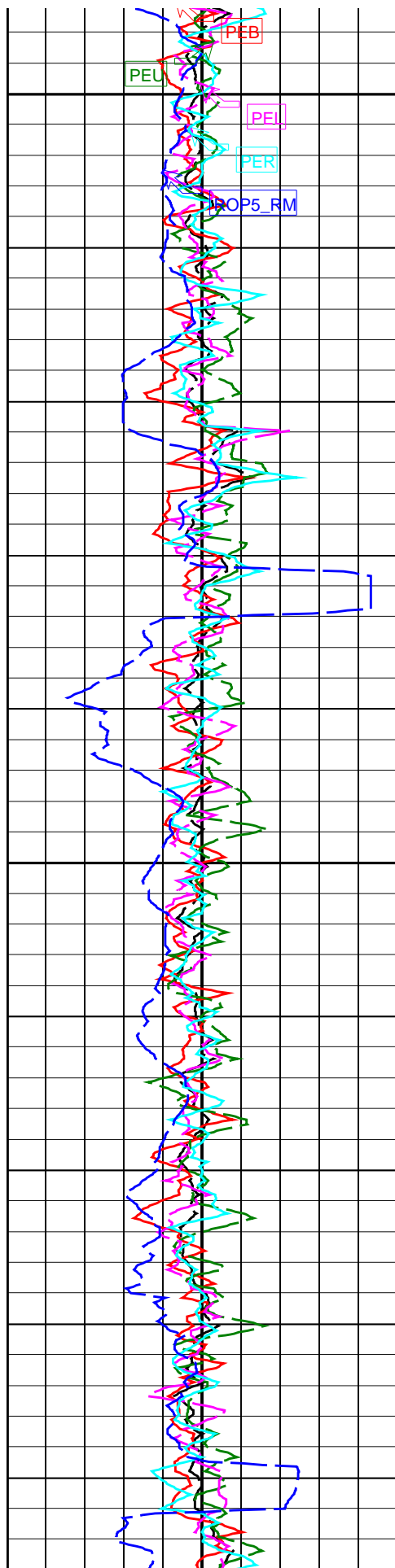


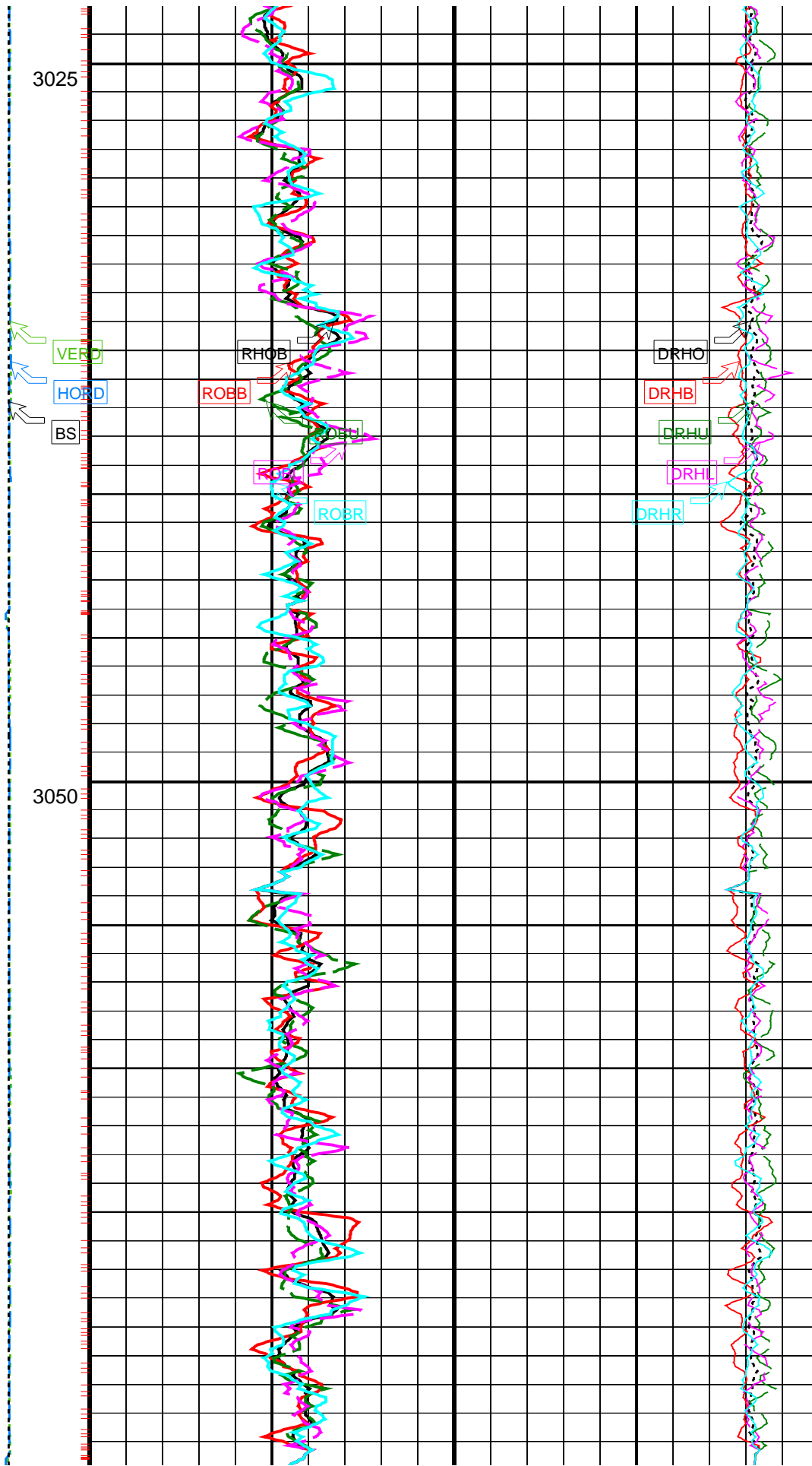
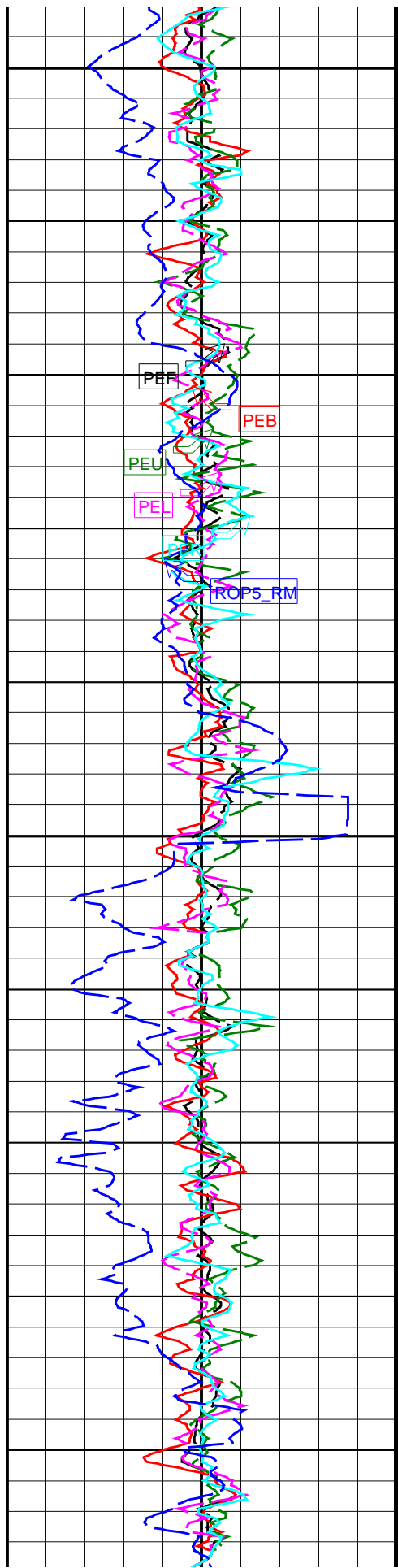
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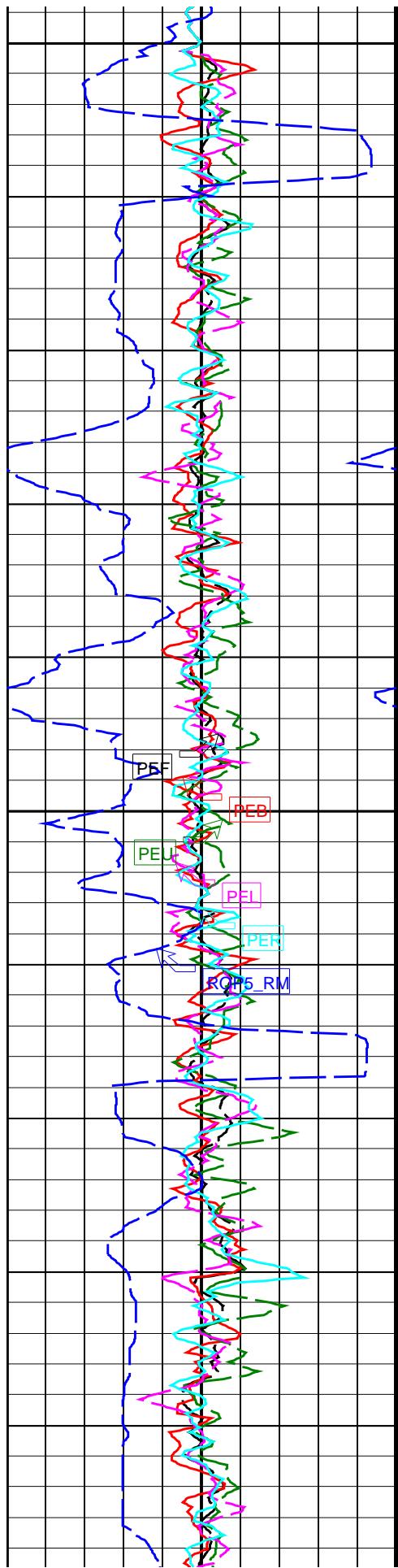
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DRHO

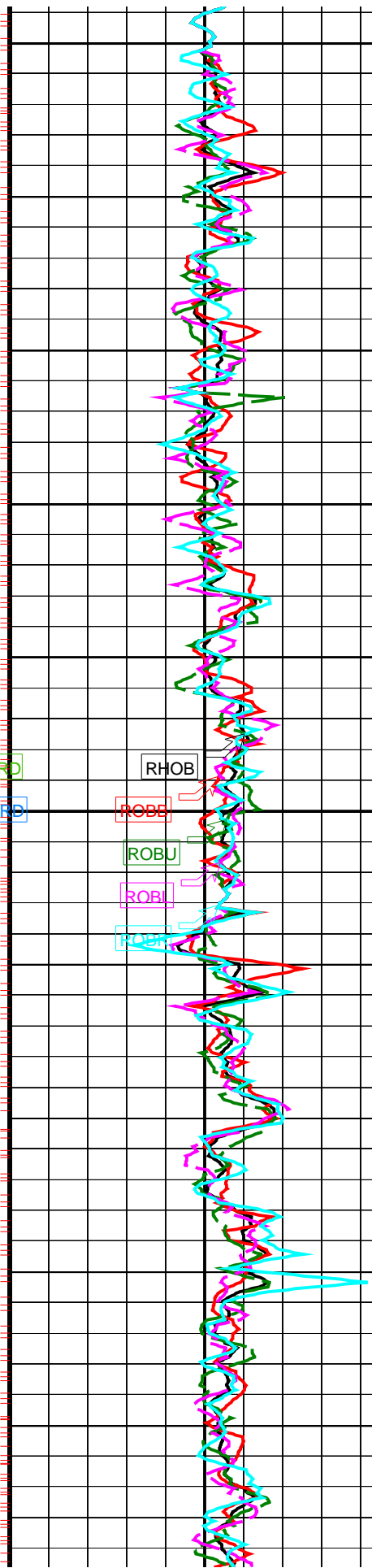






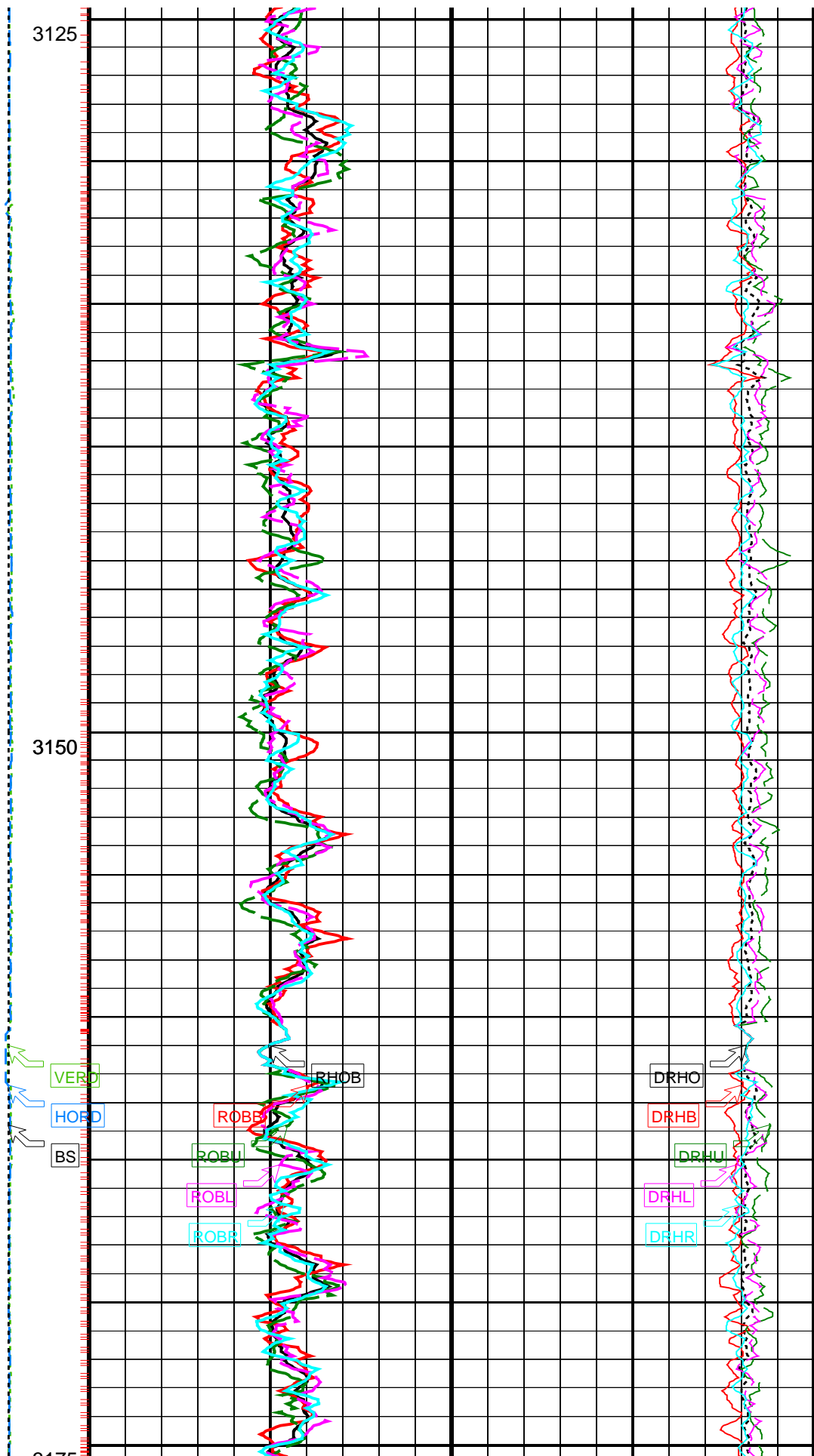
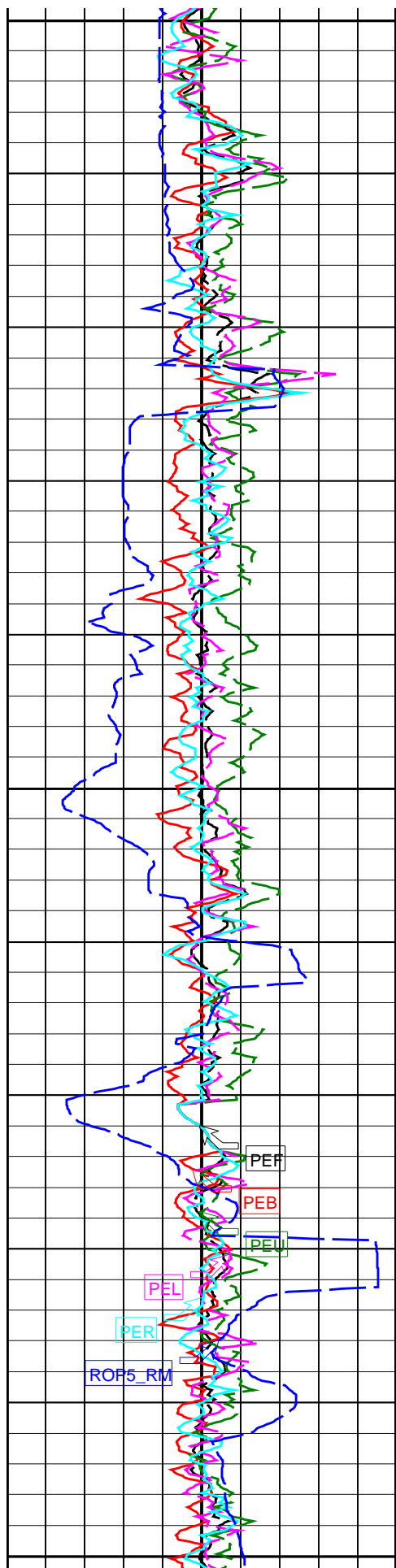
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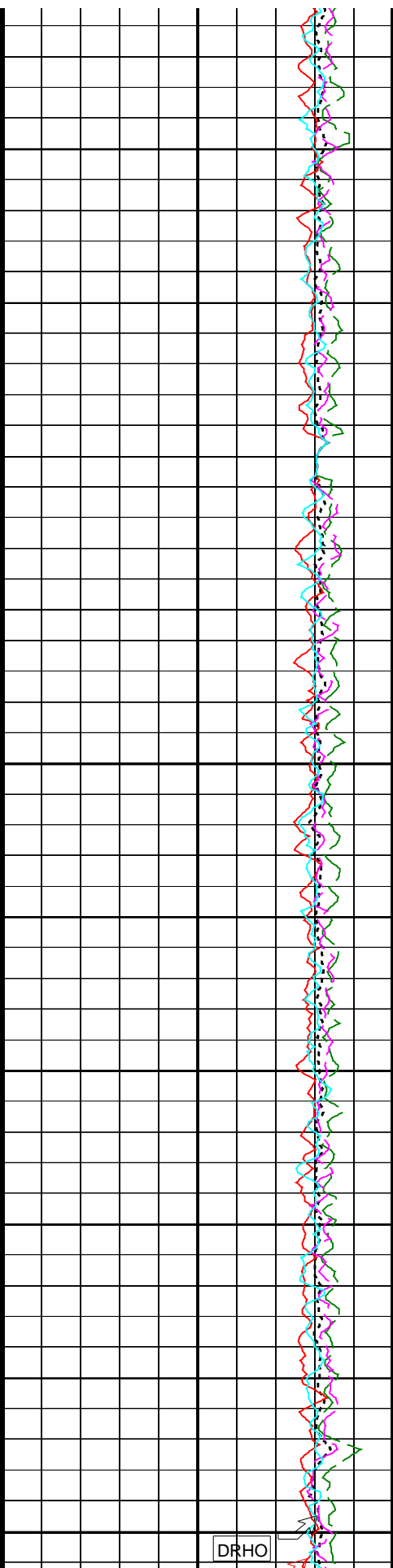
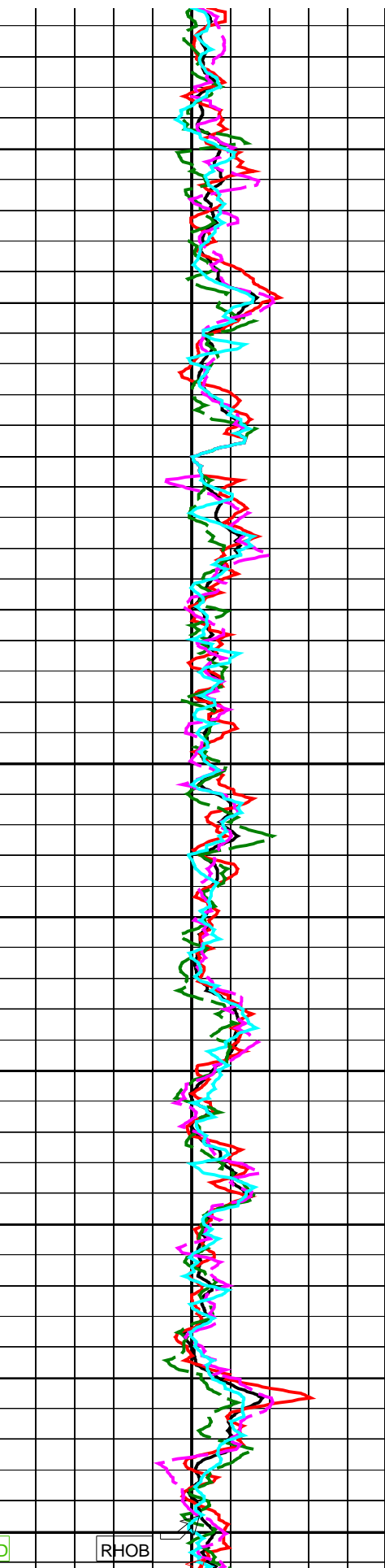
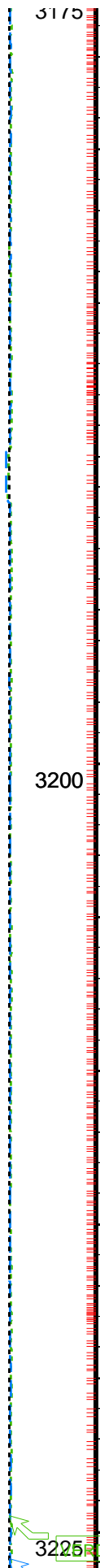
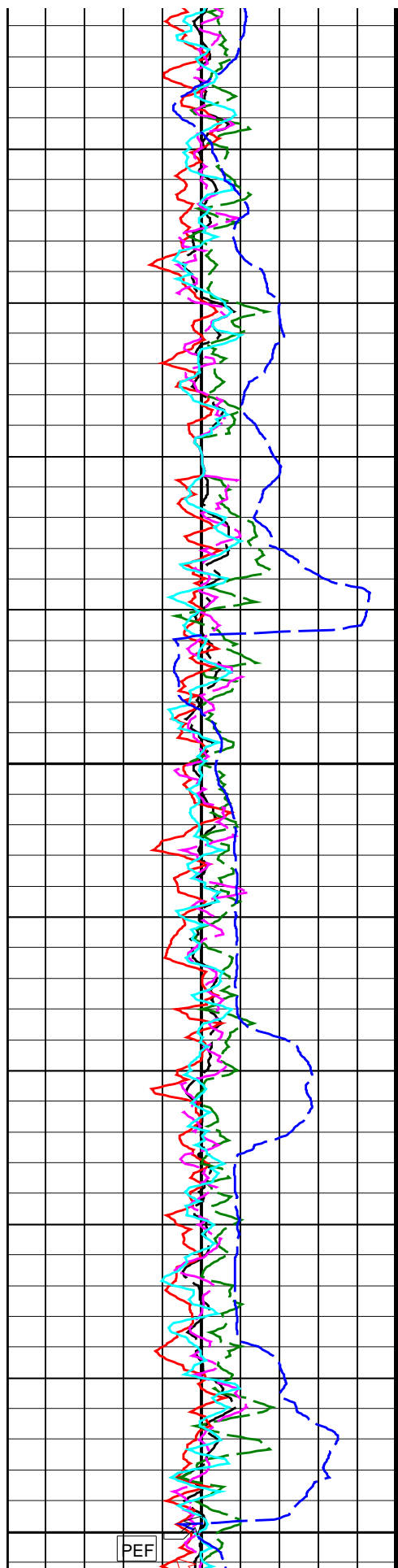
VERD
HOB
BS

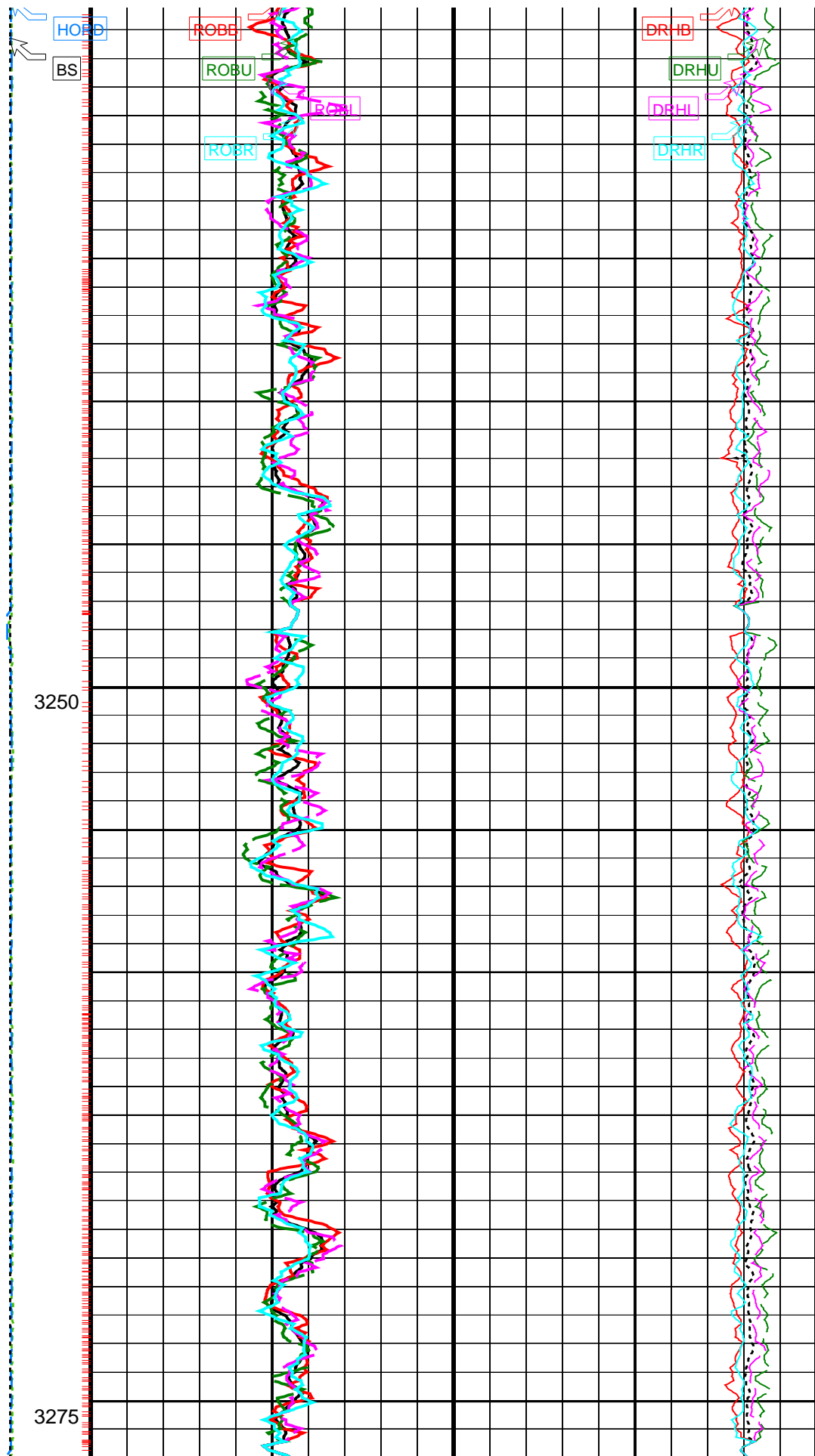
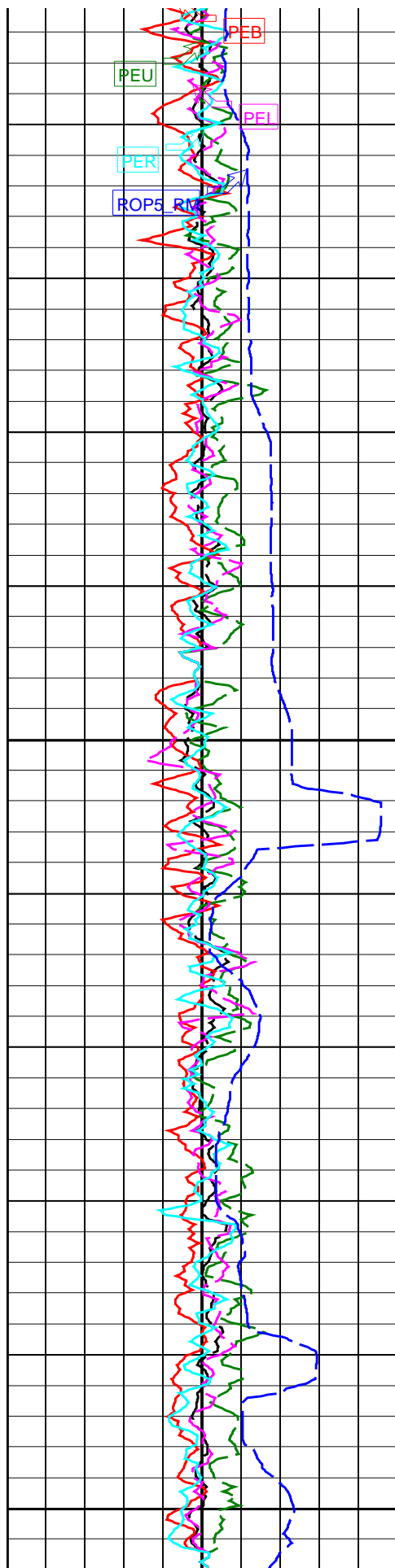


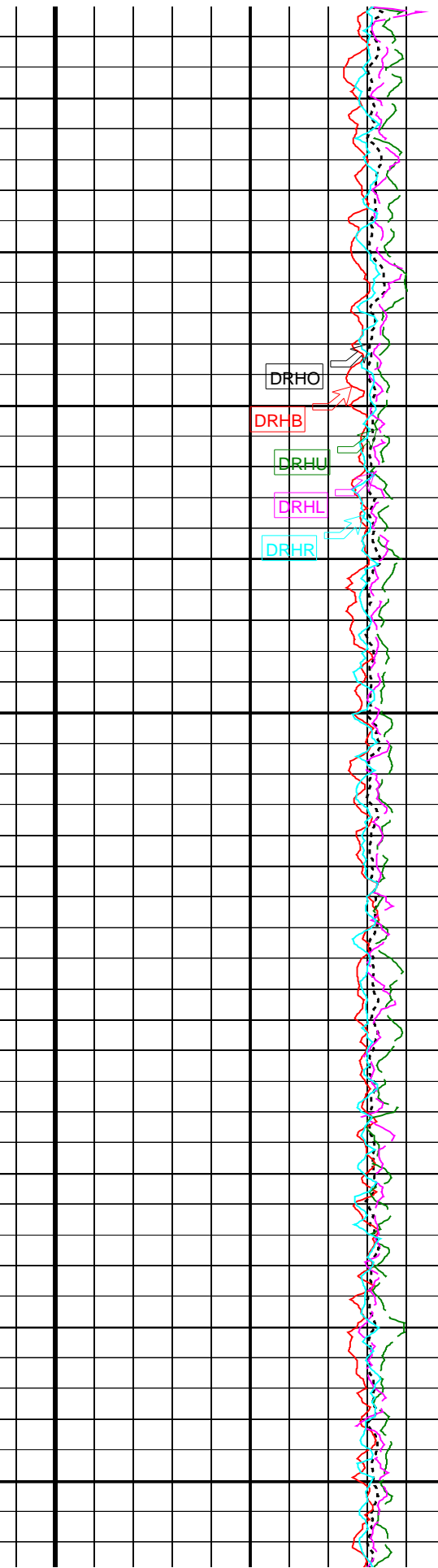
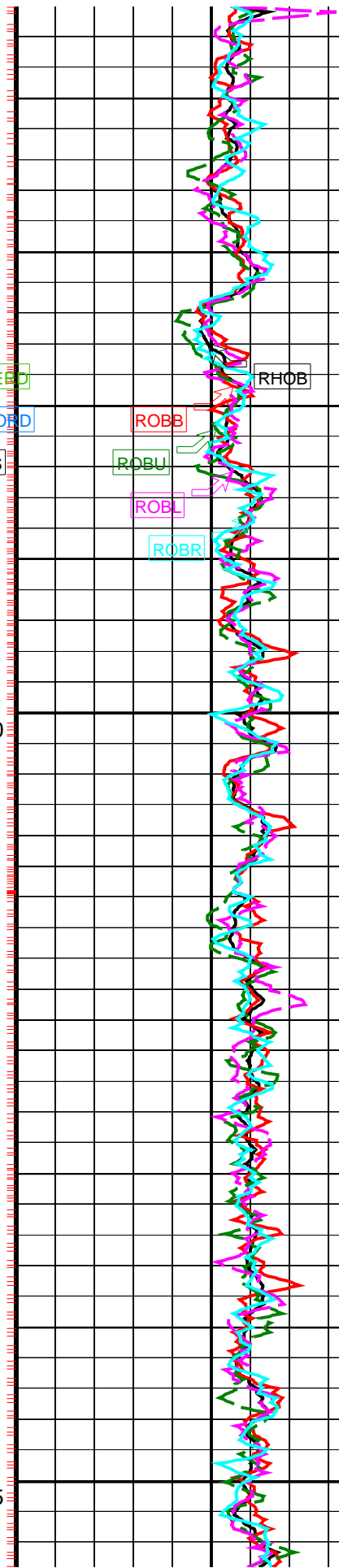
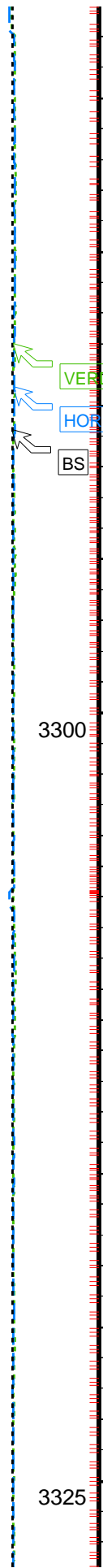
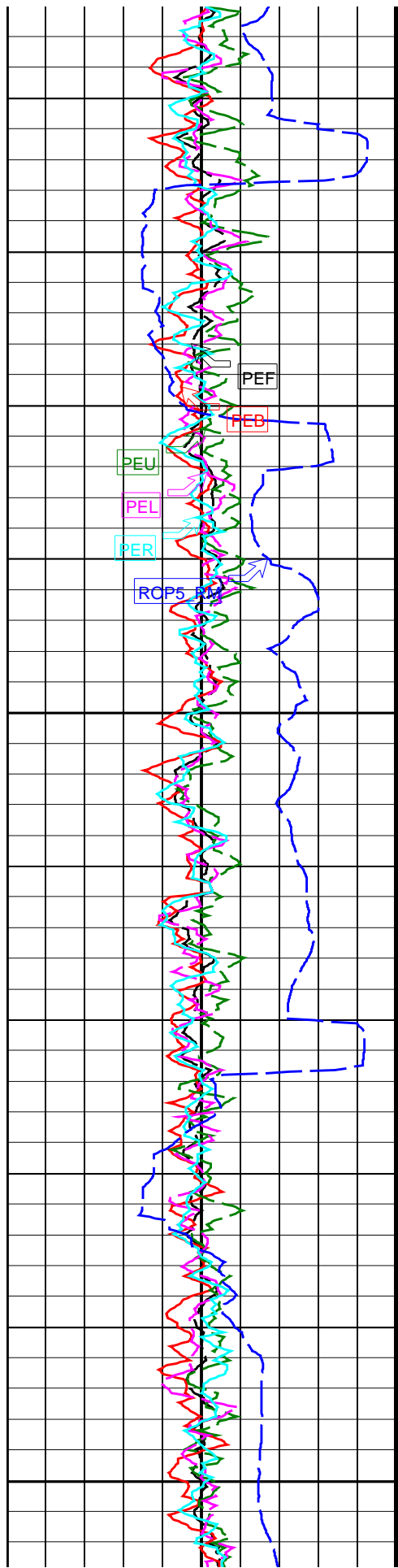
DRHO
DRHB
DRHU
DRHI
DRHR





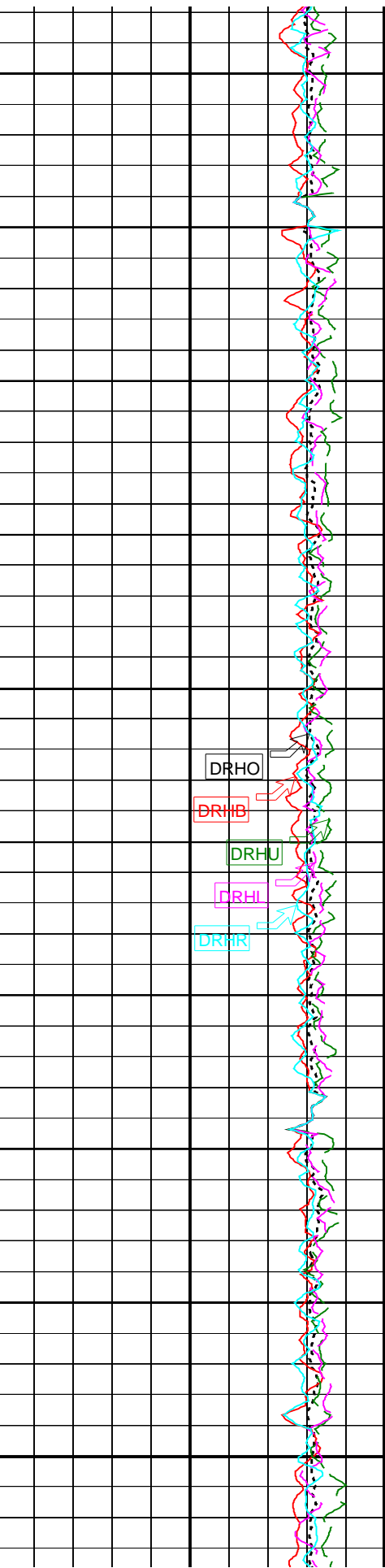
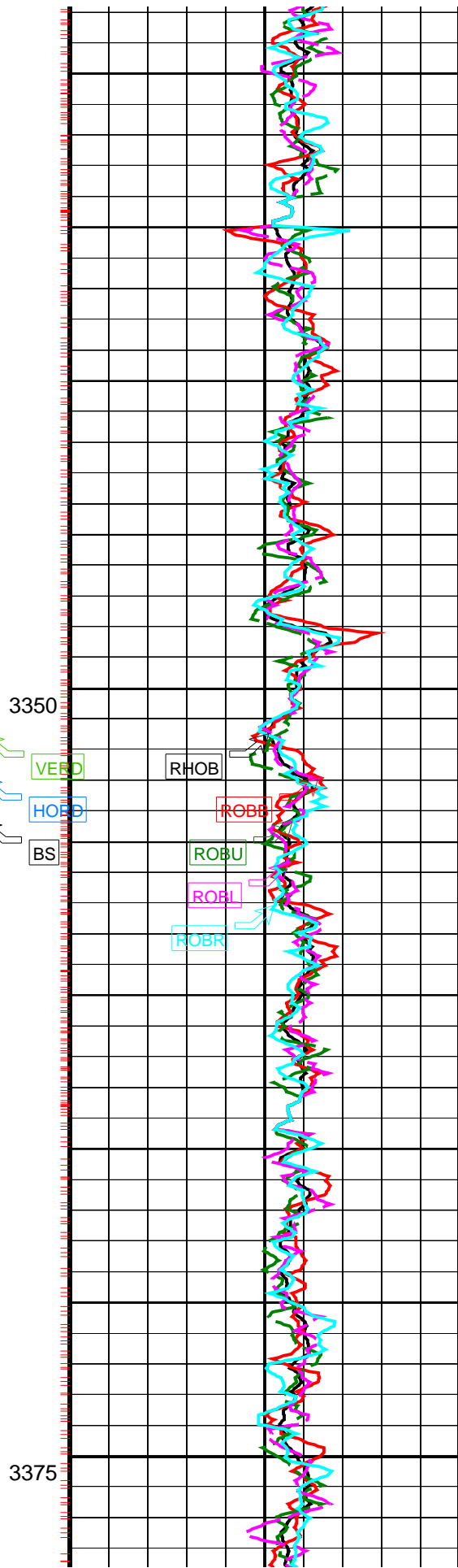
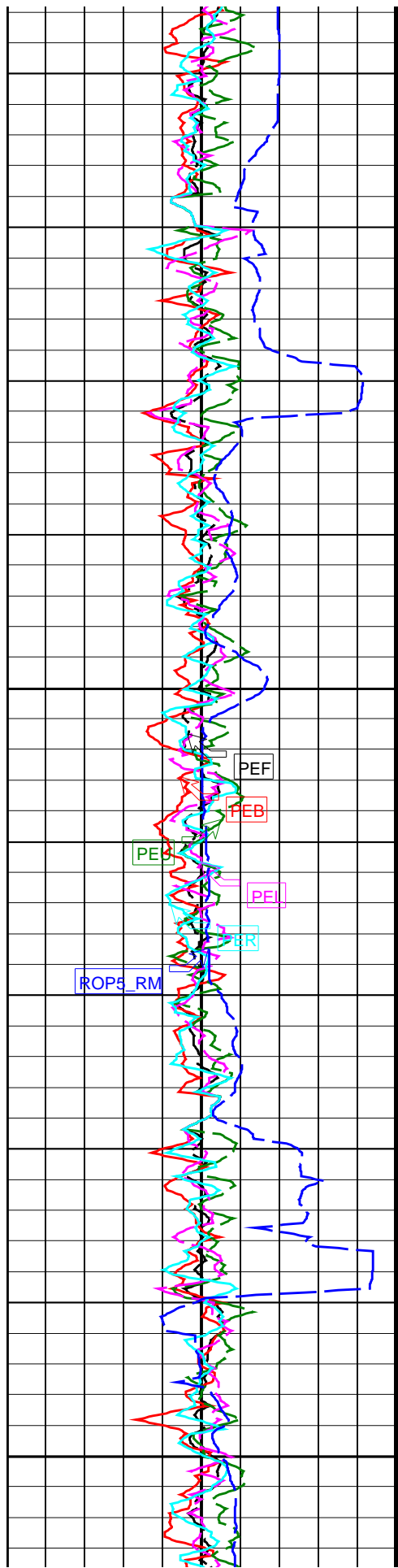


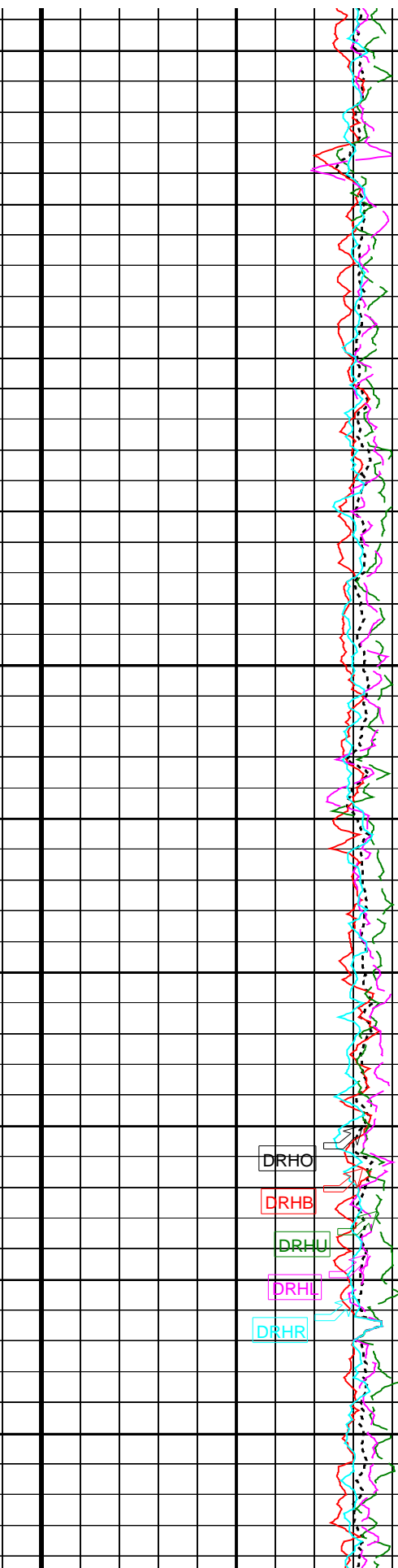
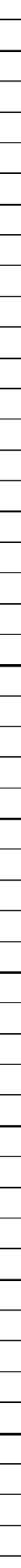
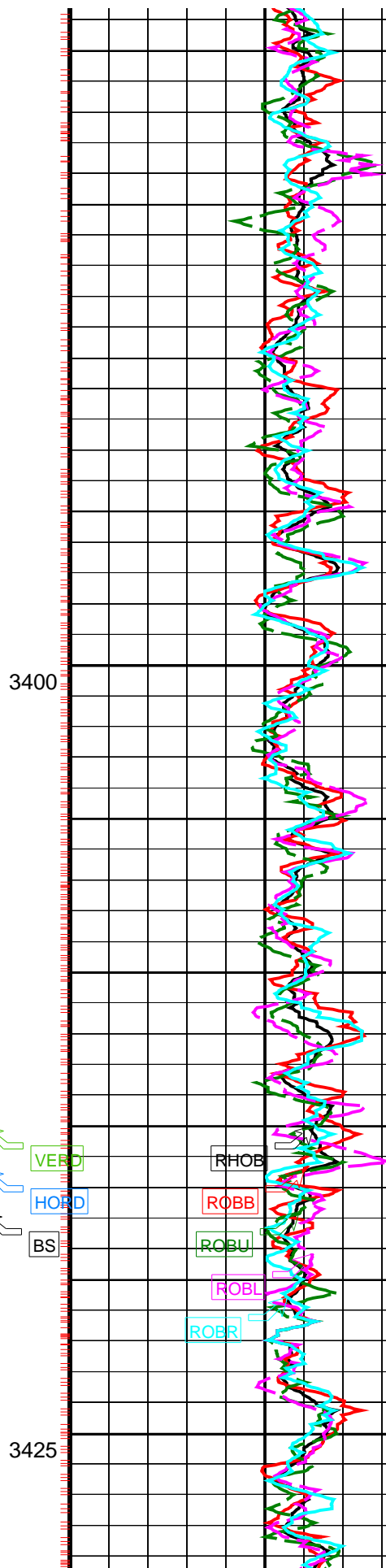
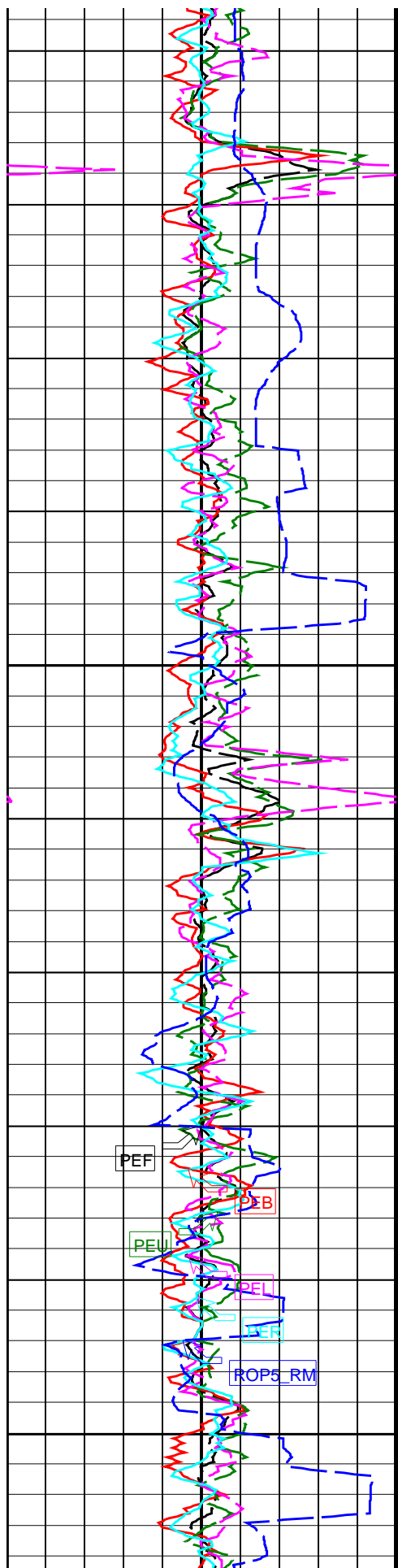


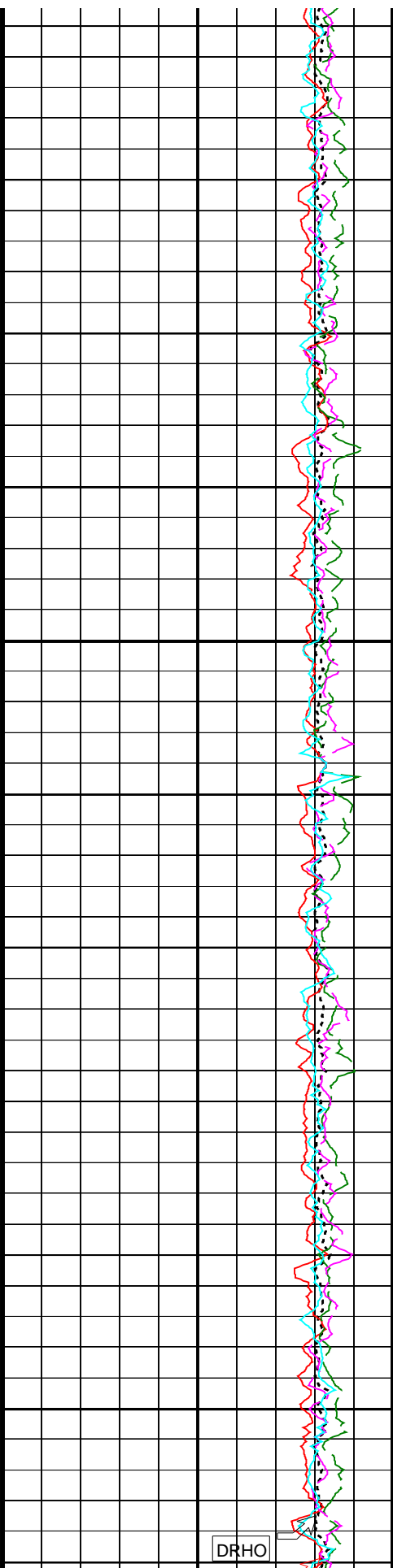
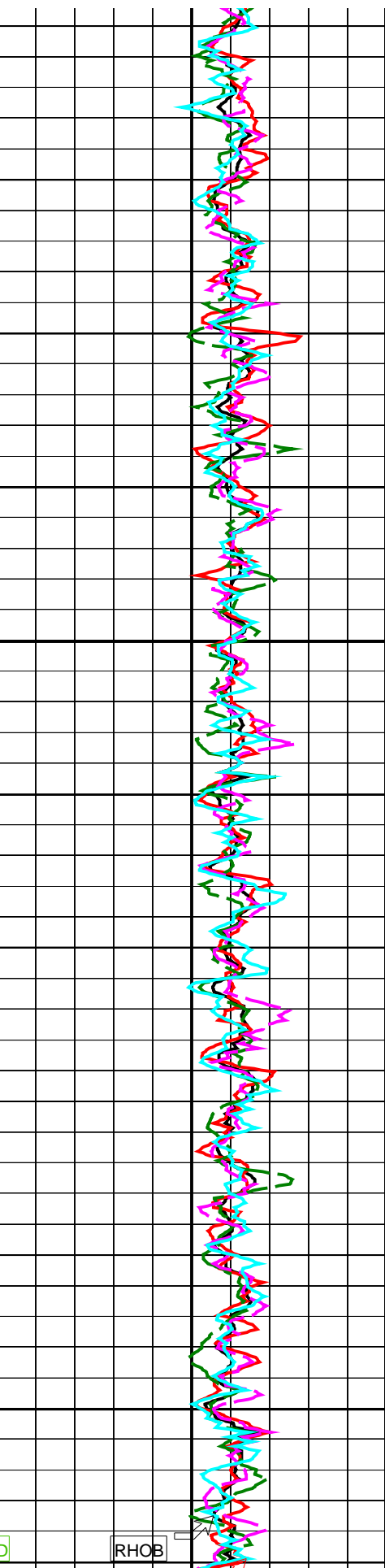
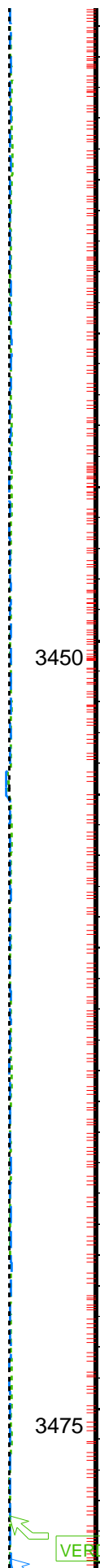
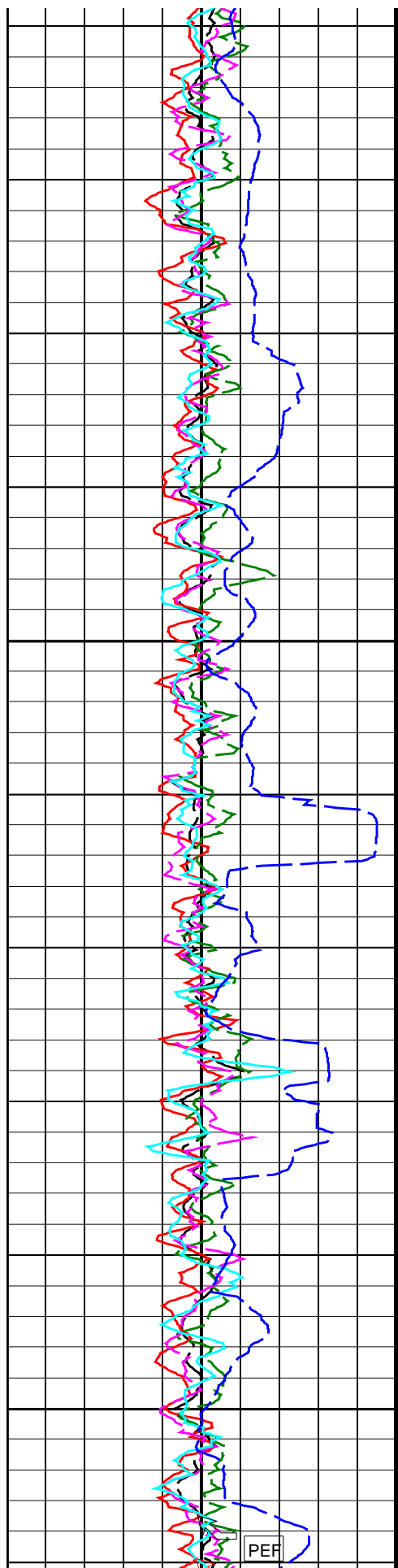


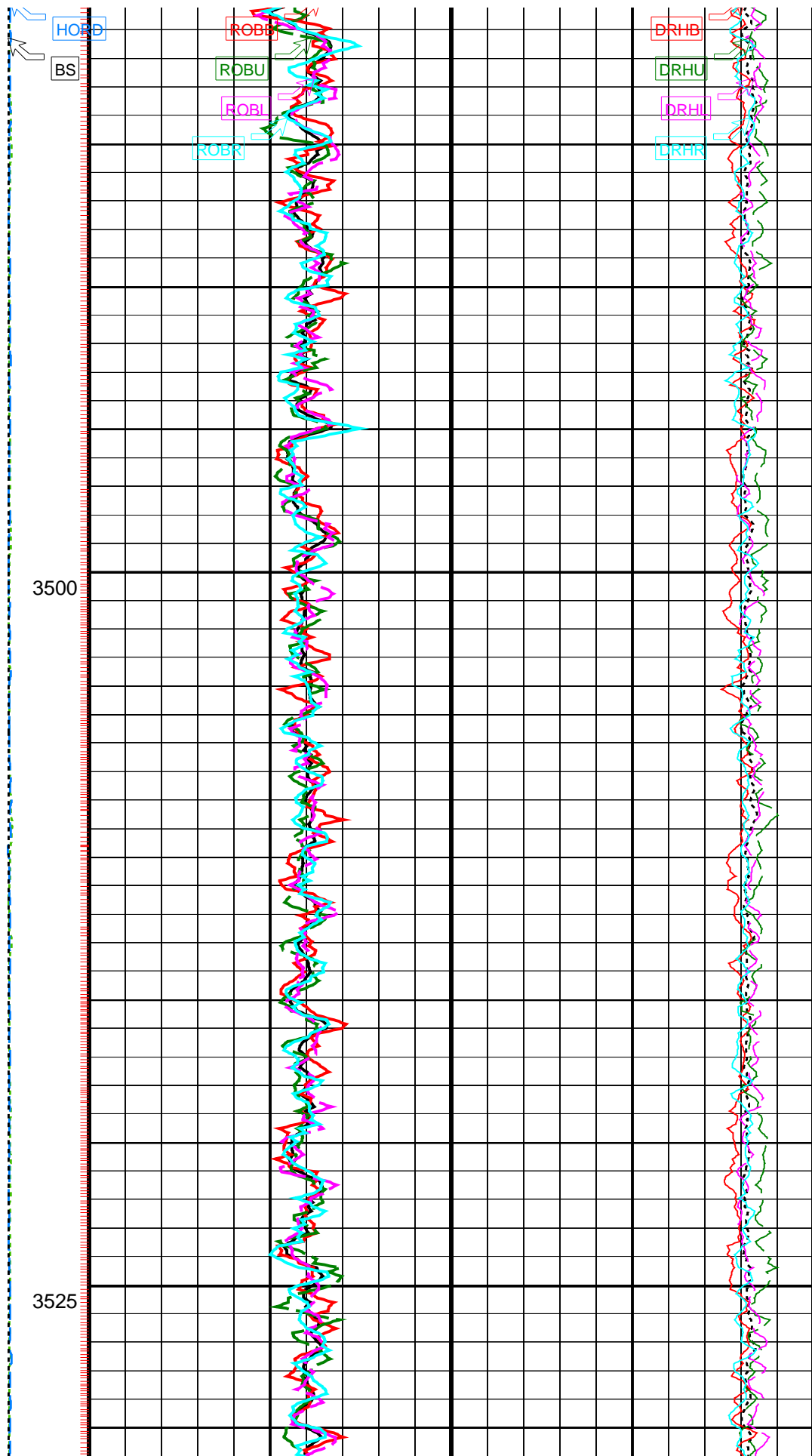
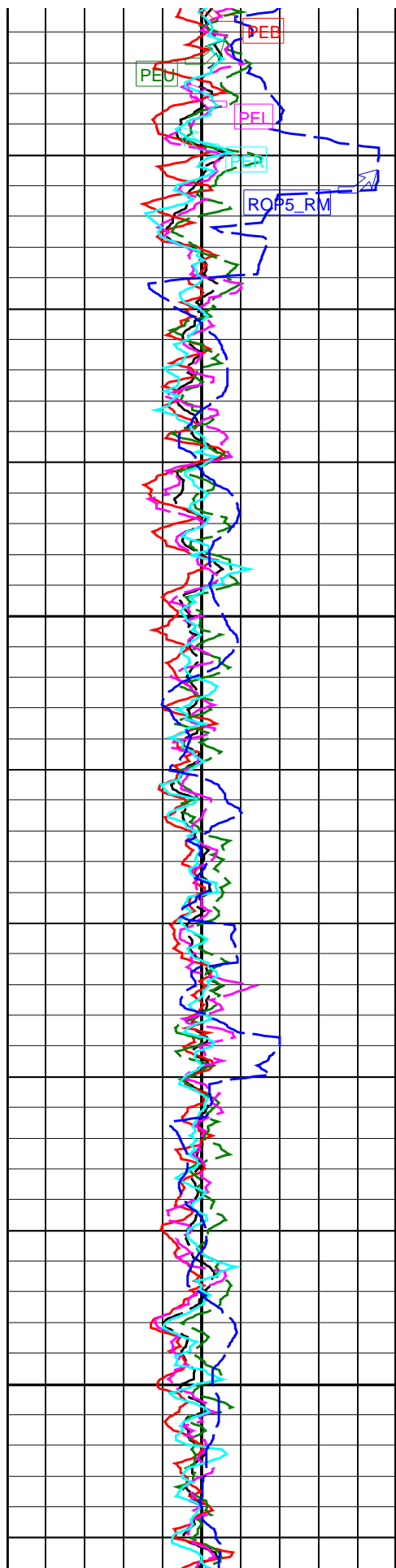
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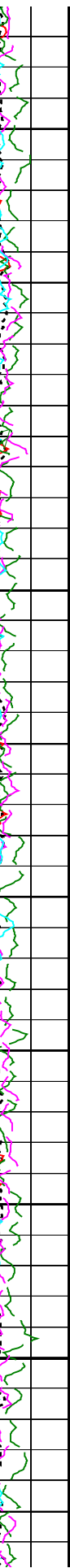
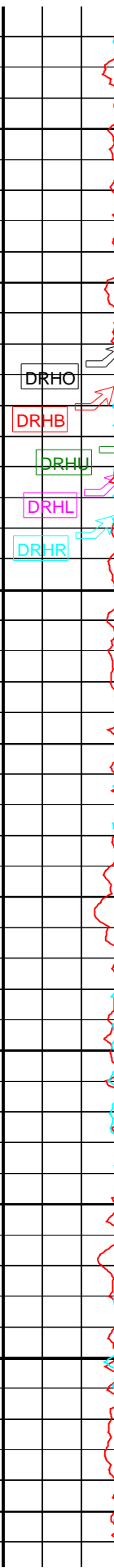
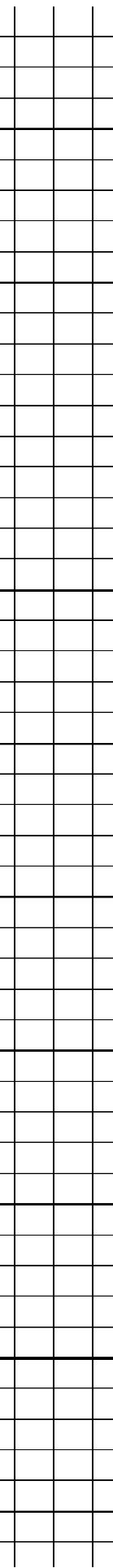
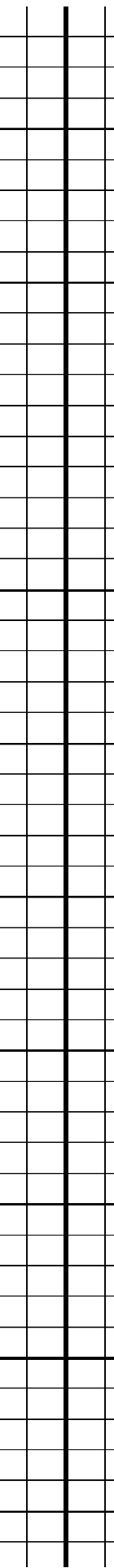
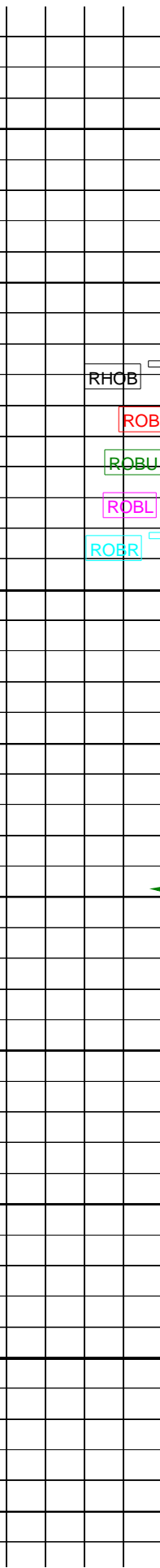
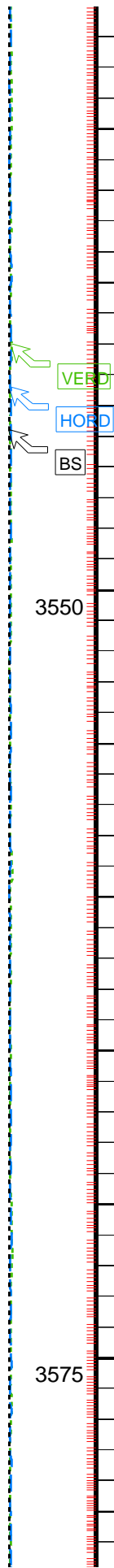
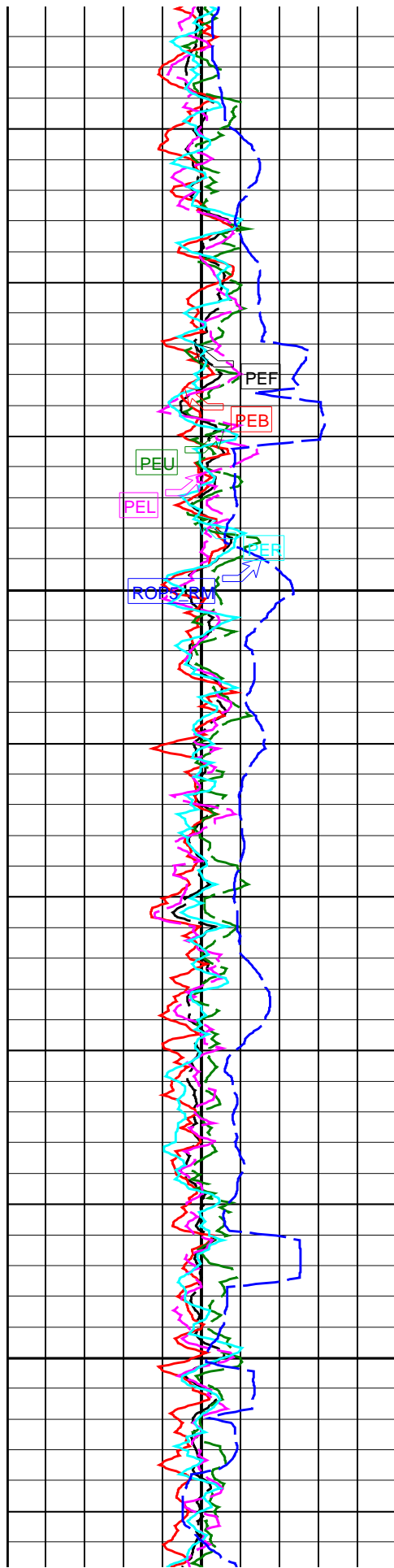
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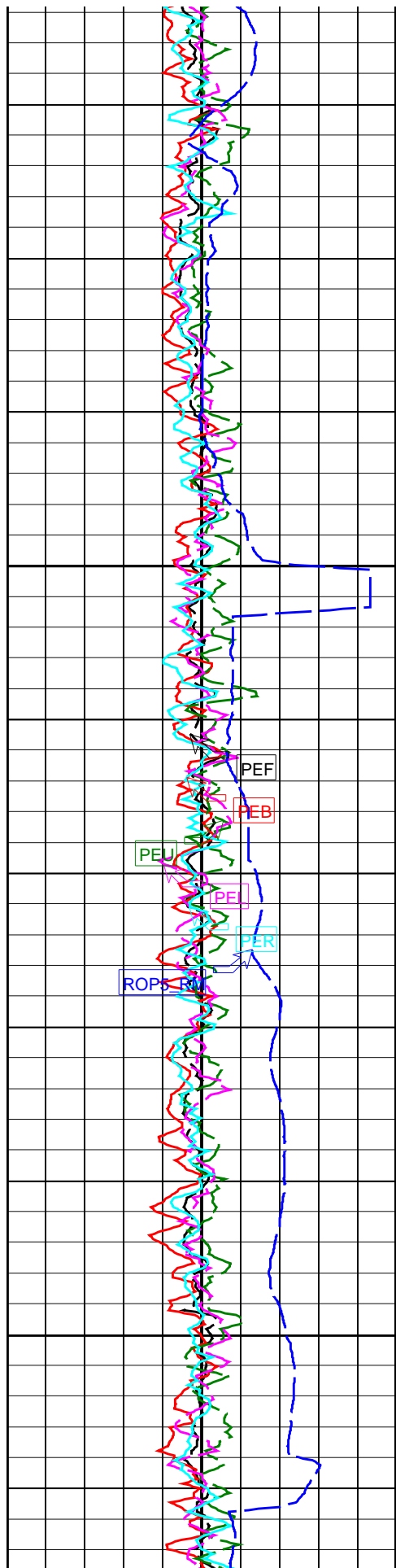












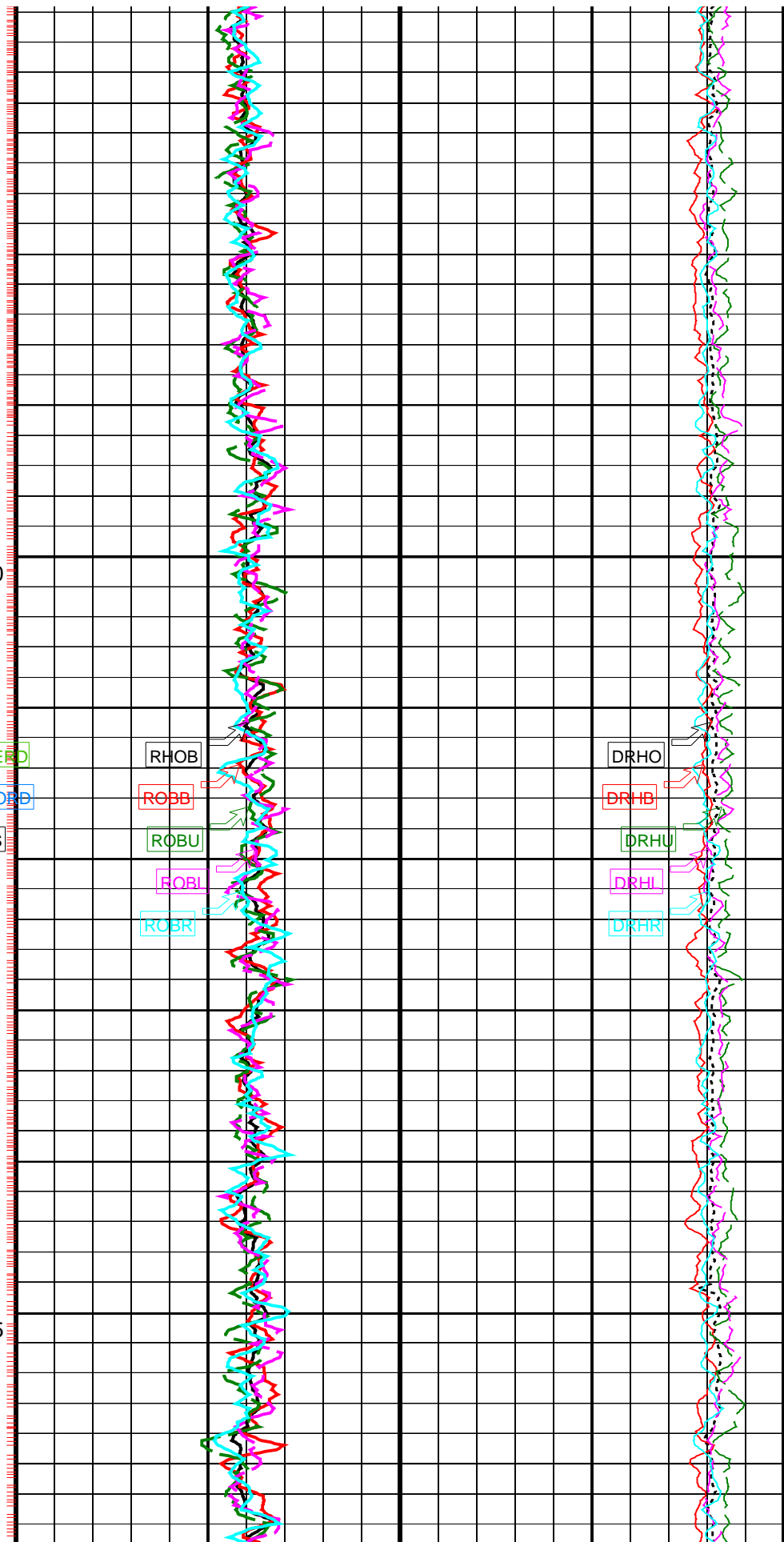
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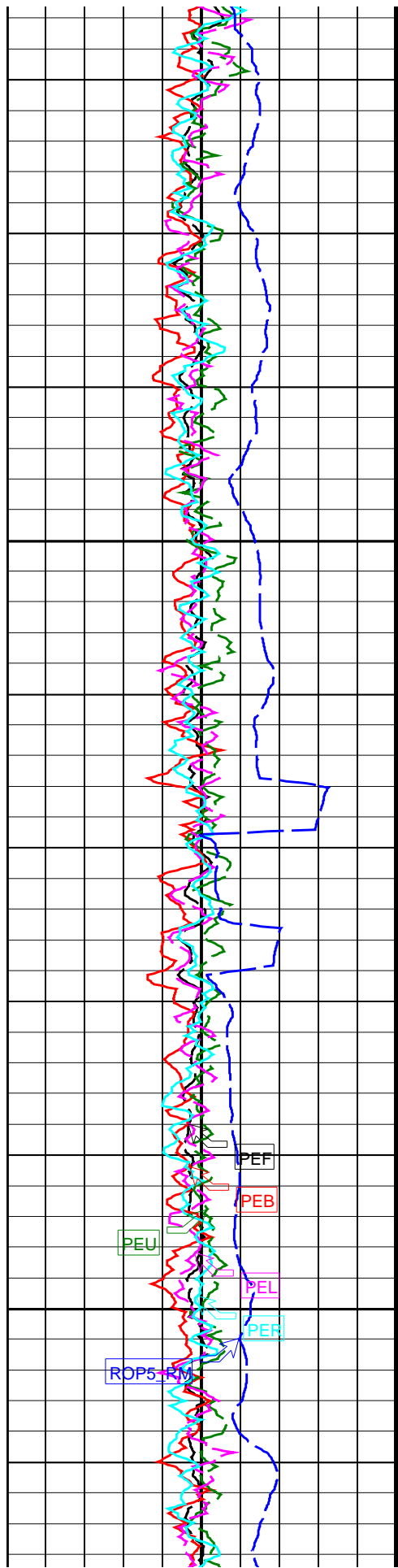
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VERD
HOBB
BS

RHOB
ROBB
ROBU
ROBL
ROBR

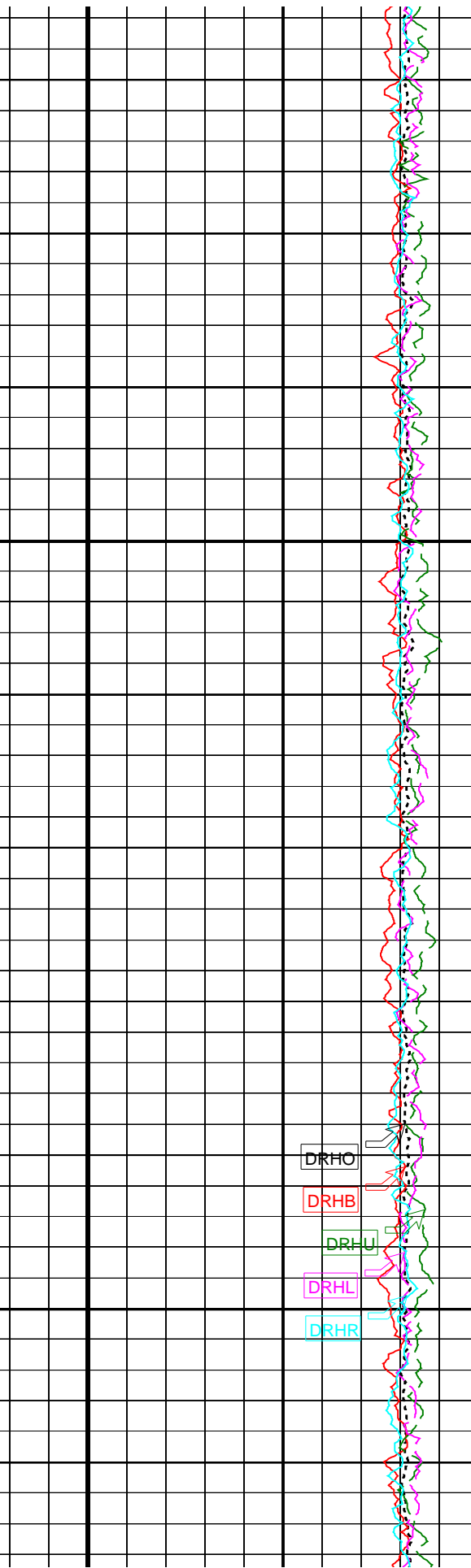
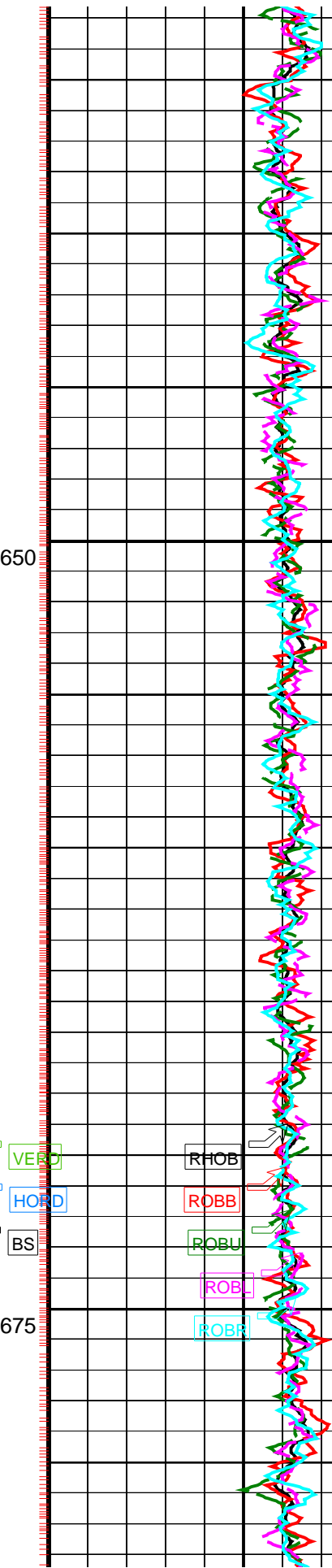
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DRHR

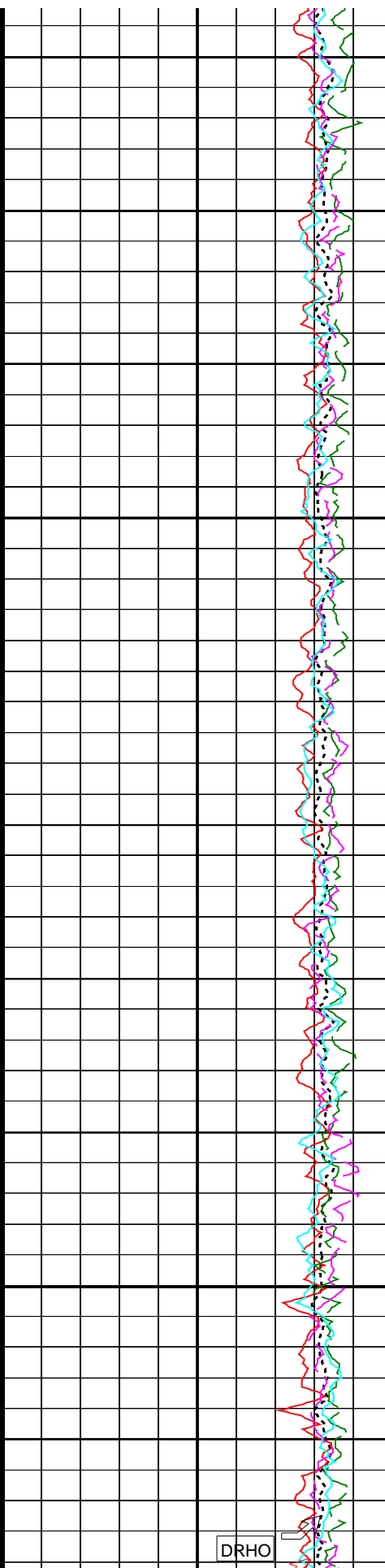
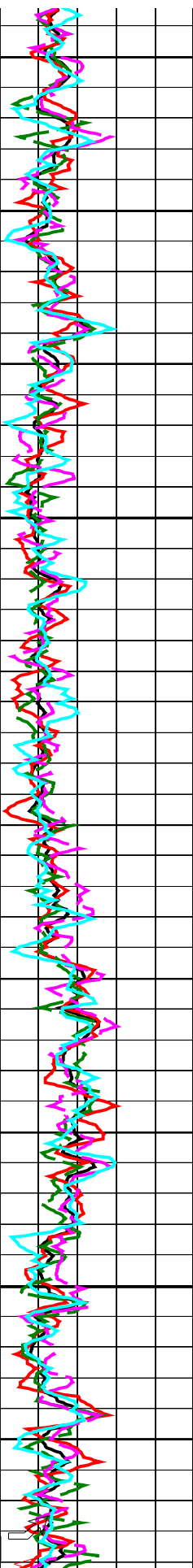
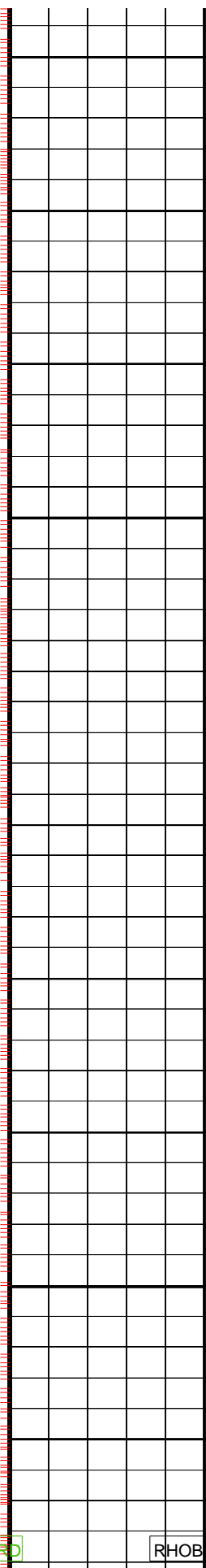
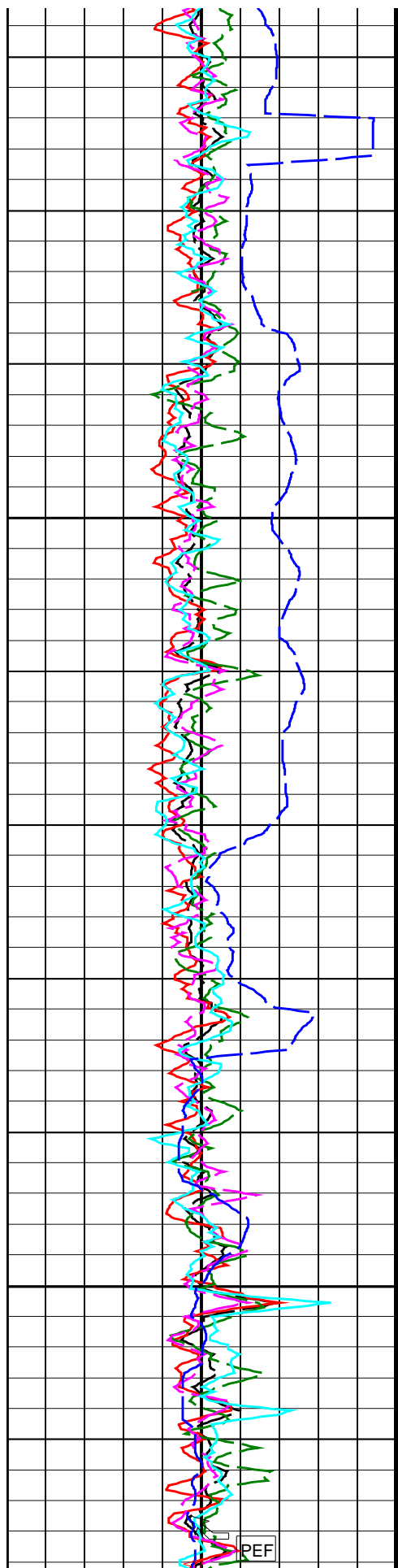


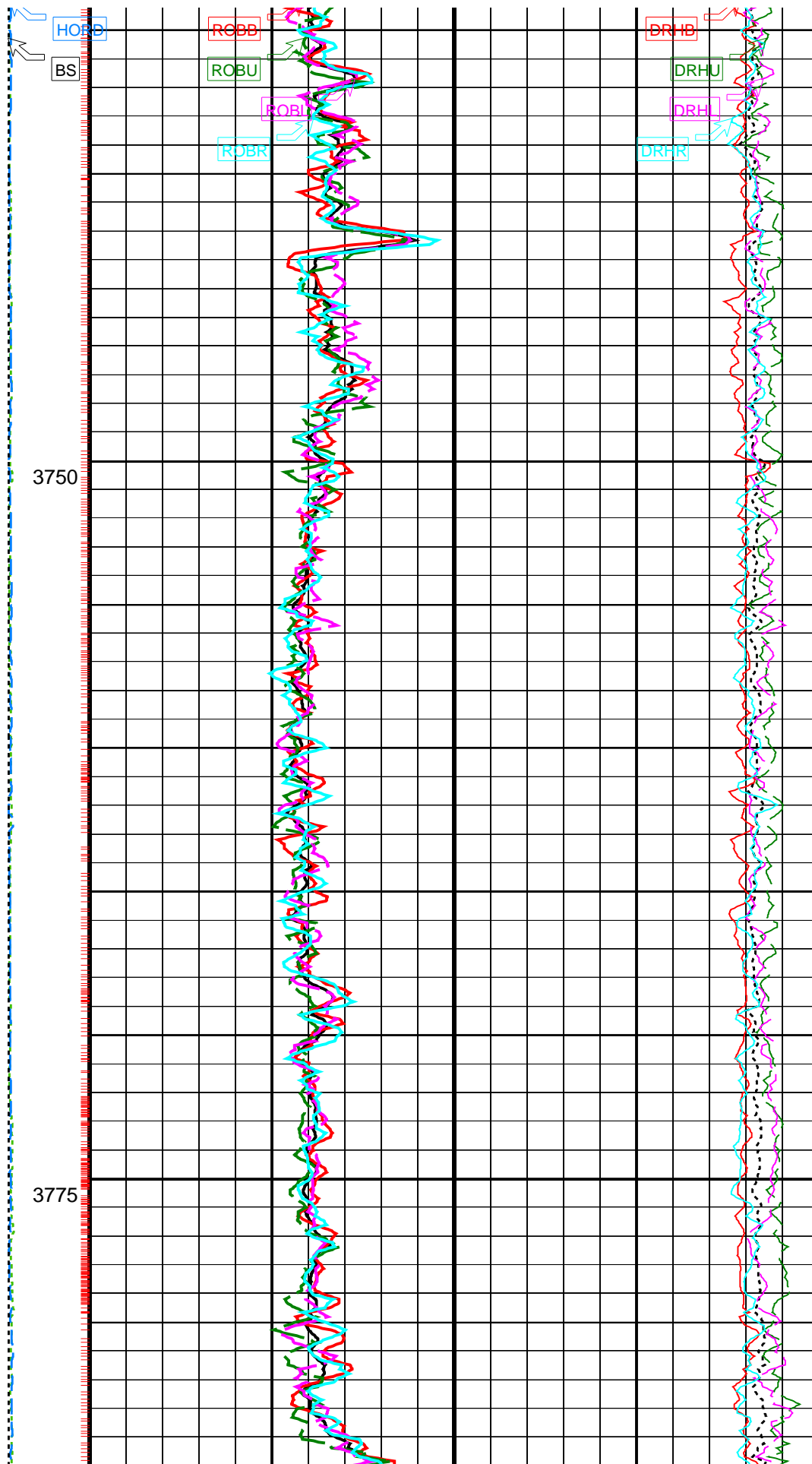
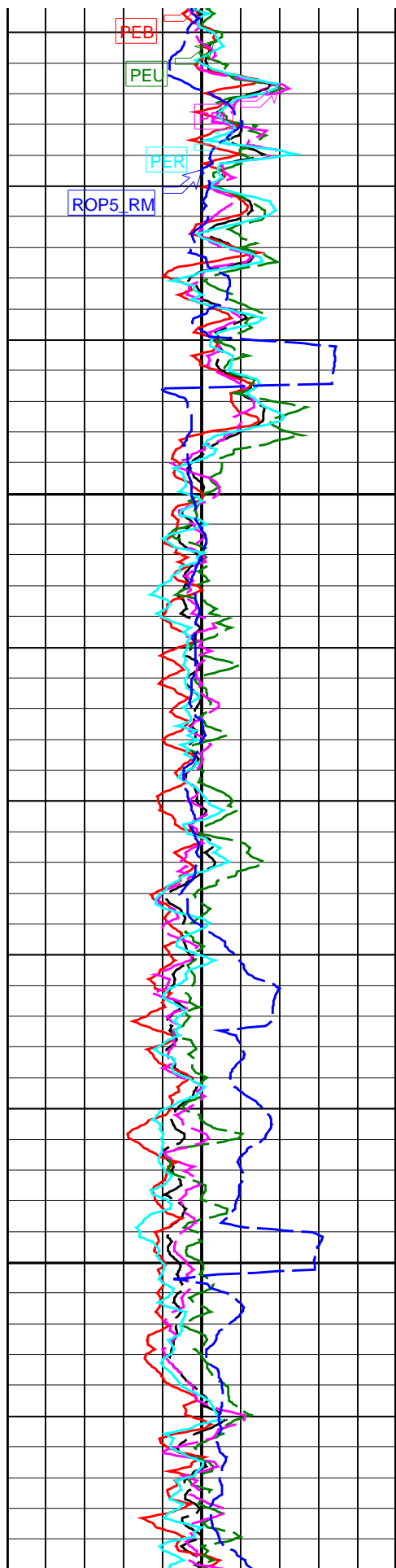


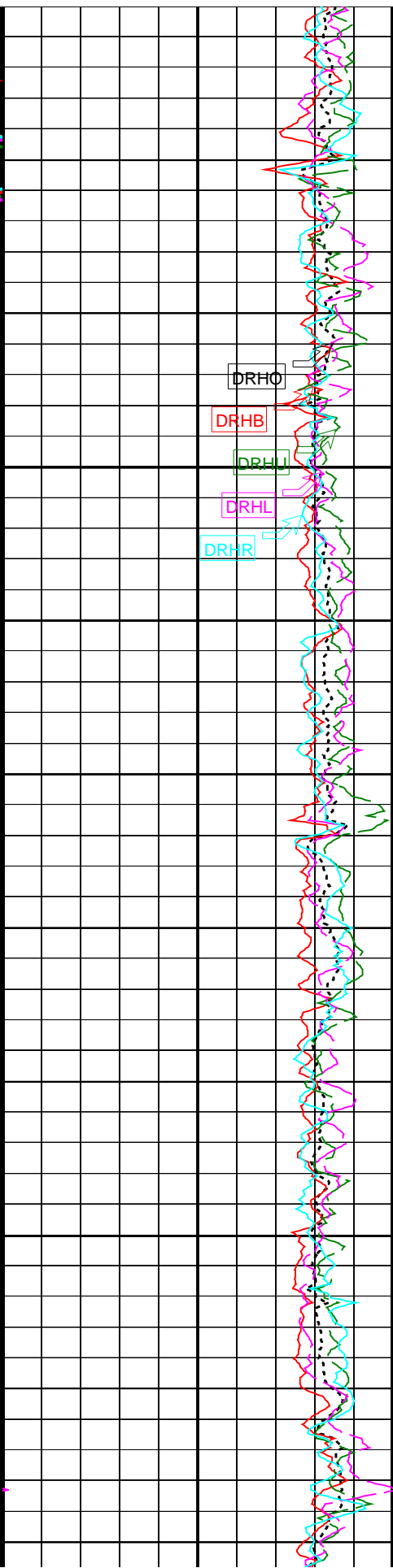
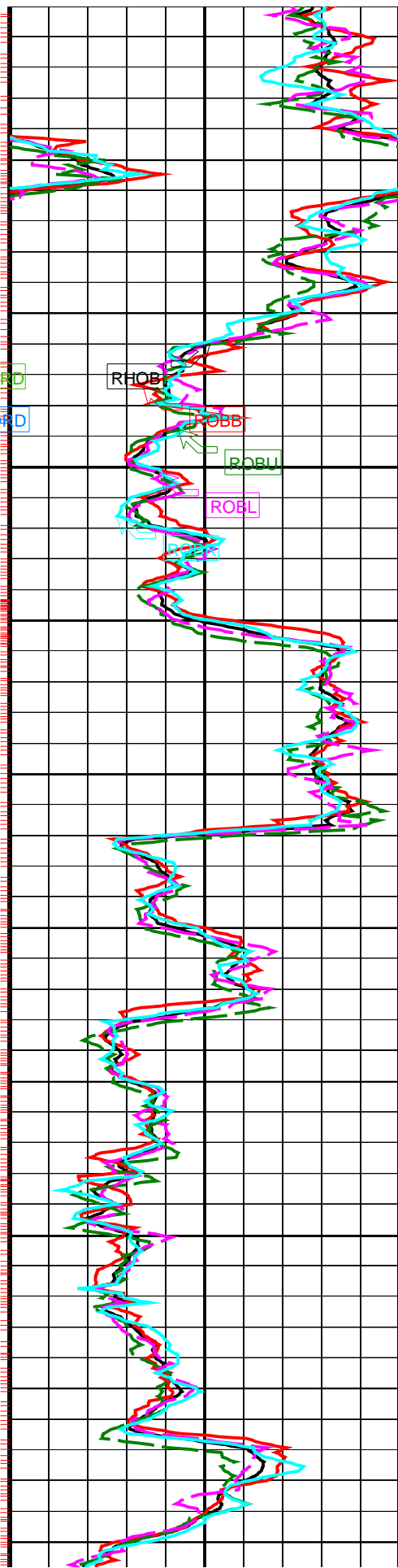
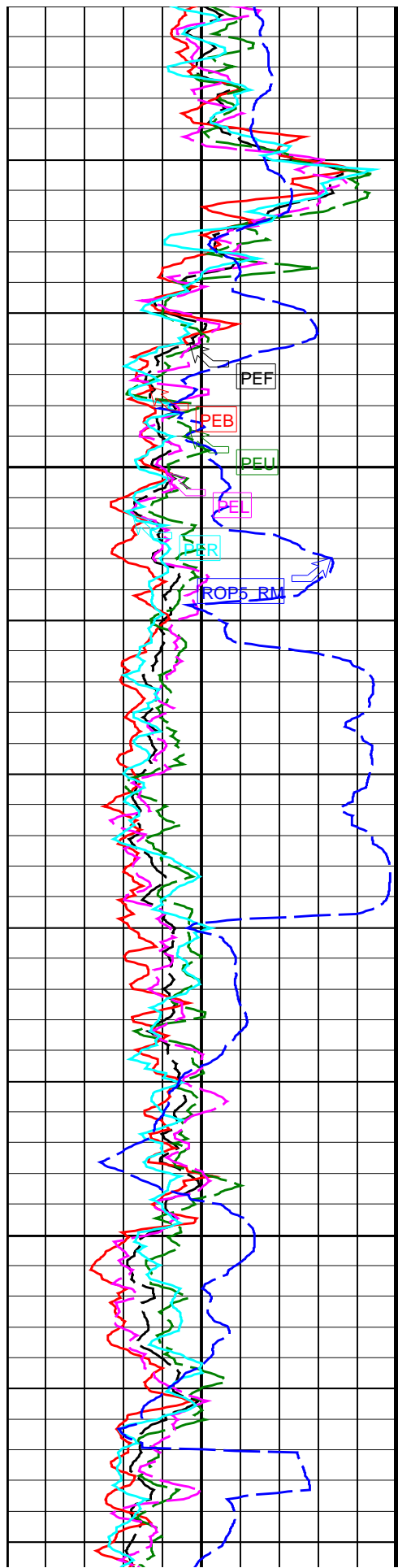
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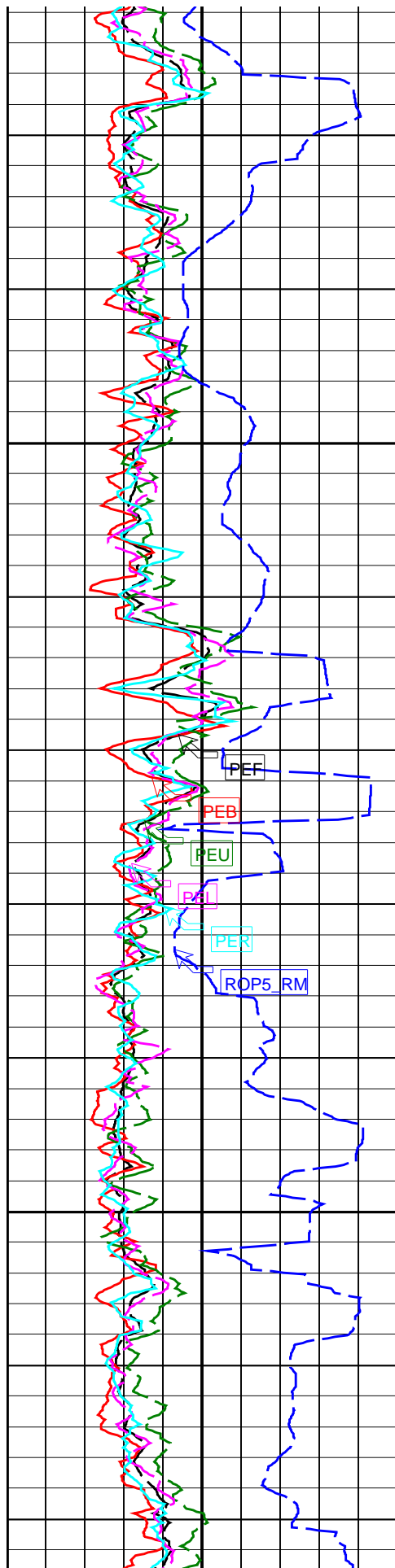
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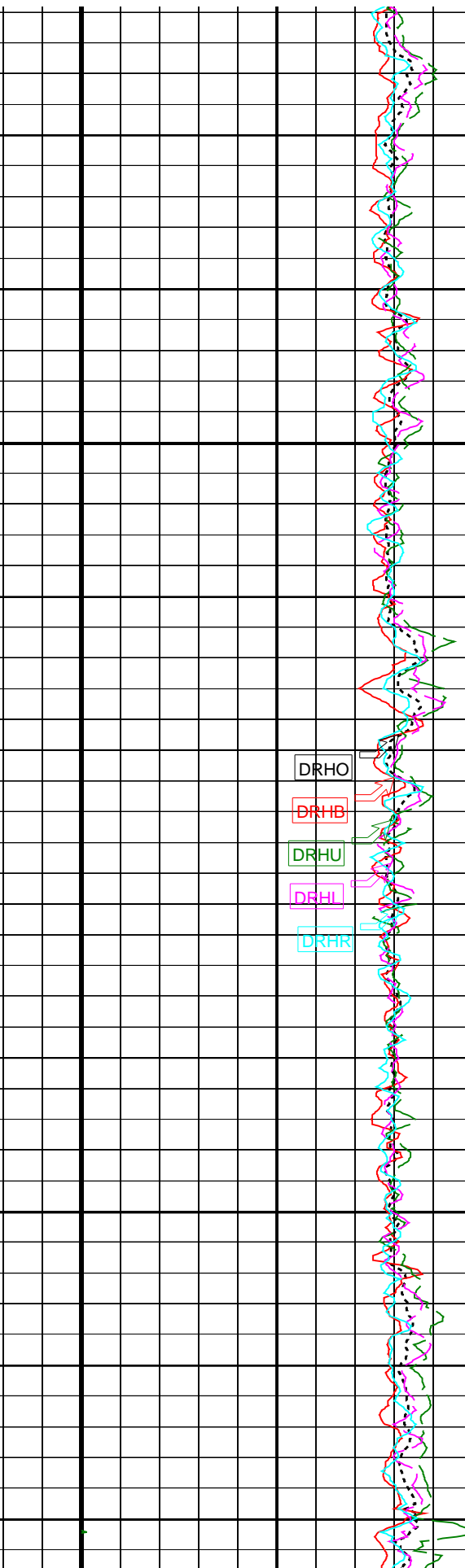
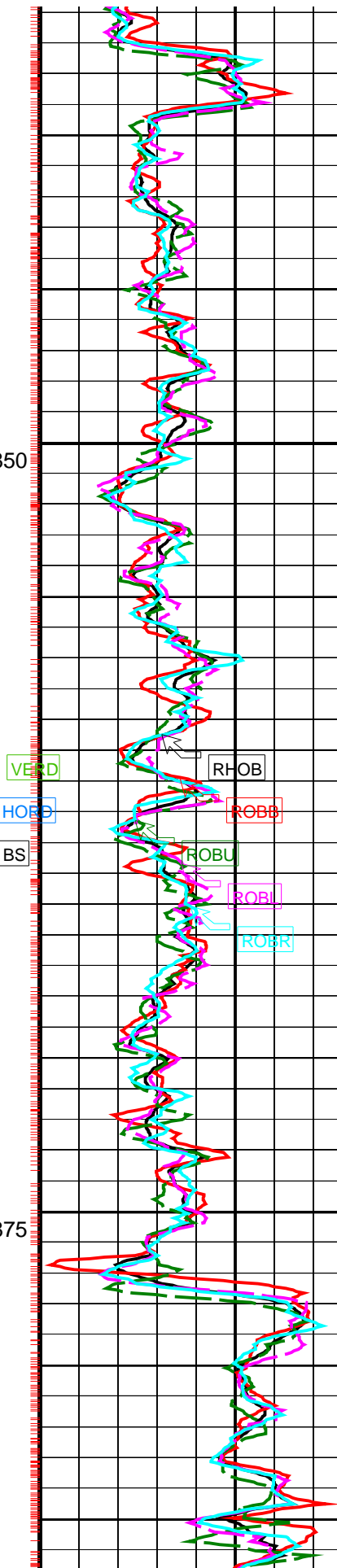


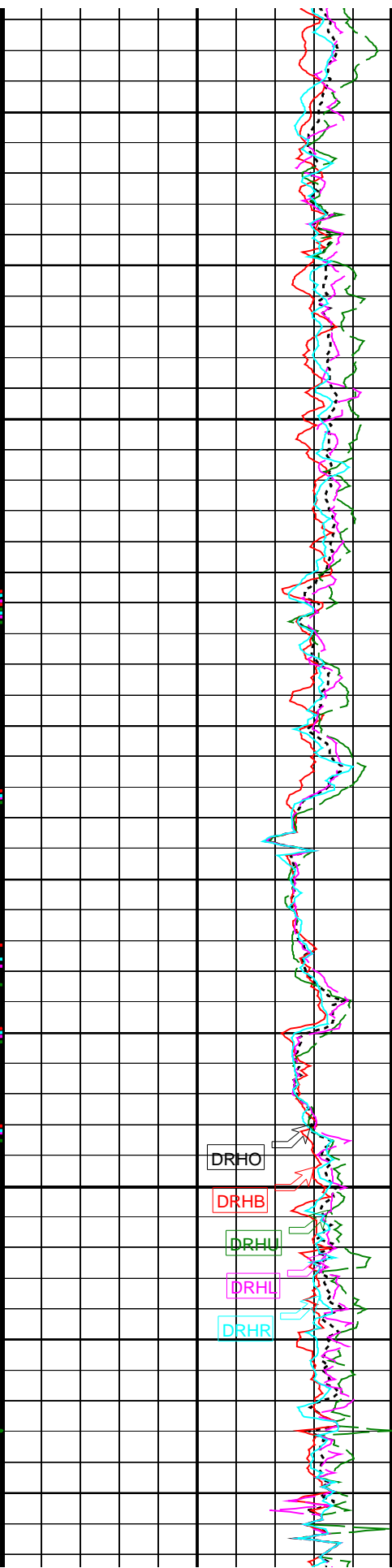
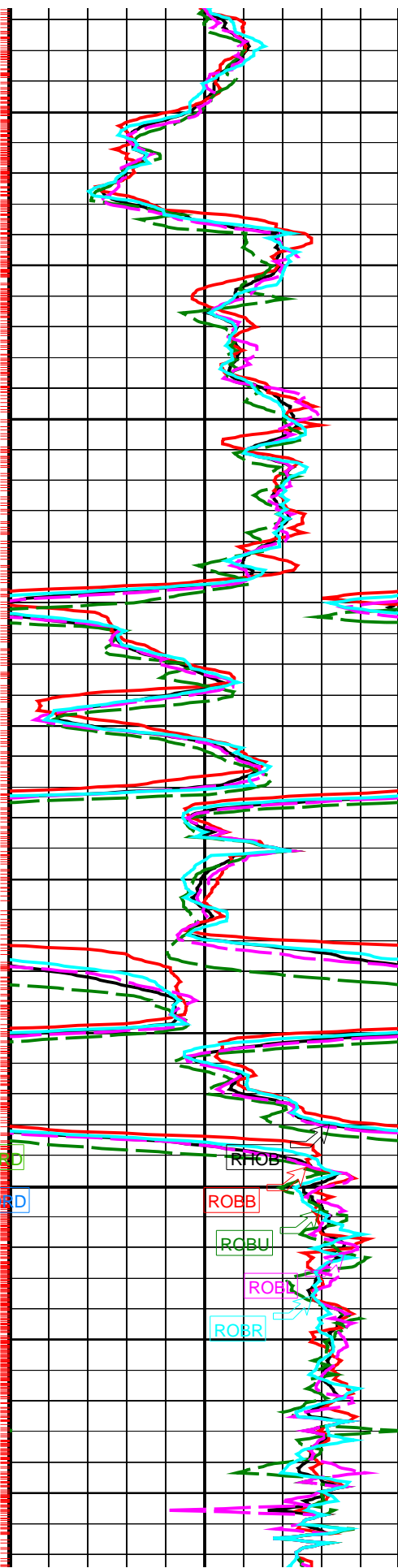
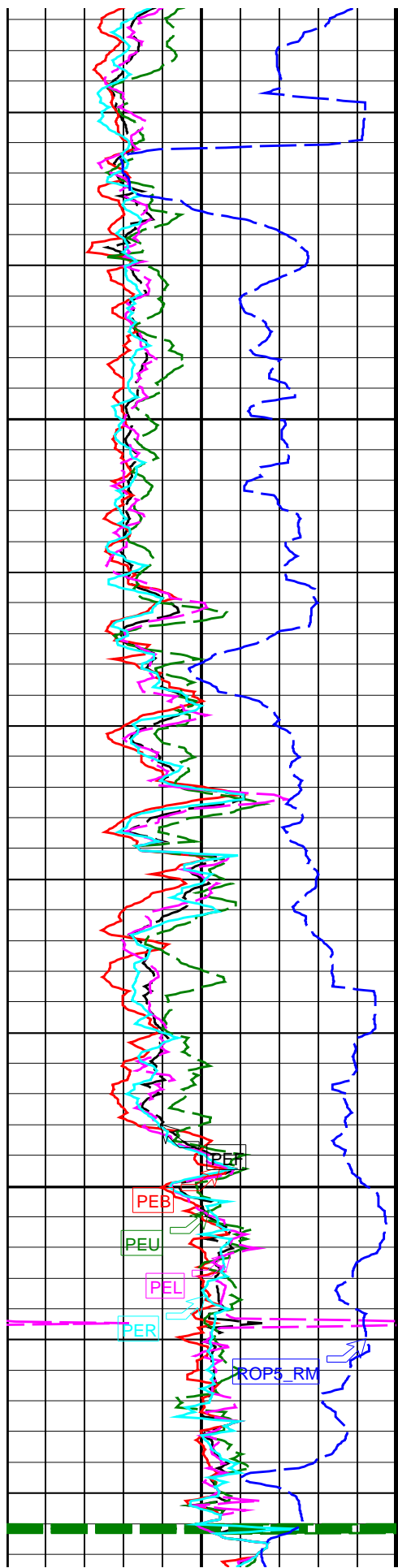


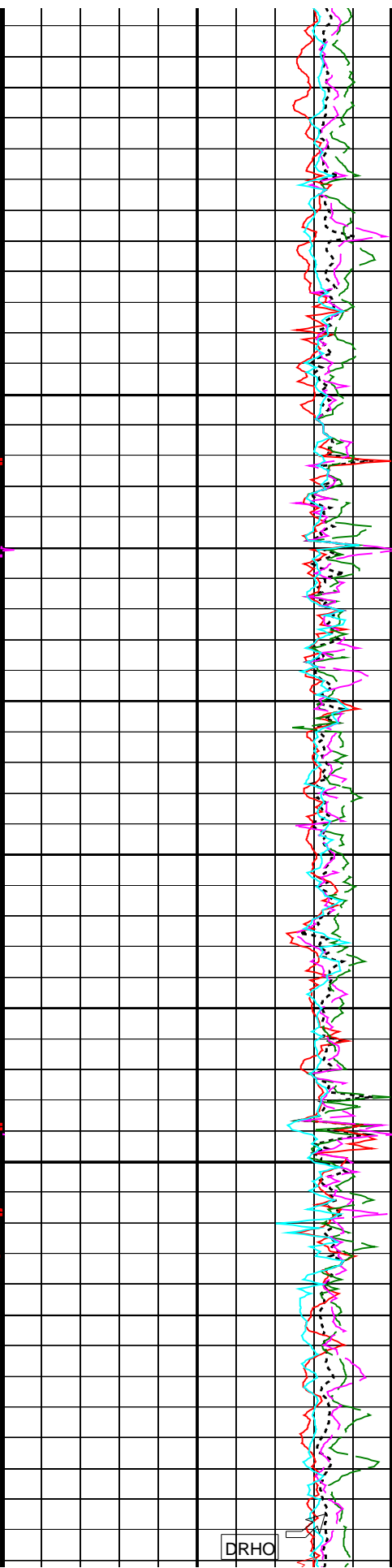
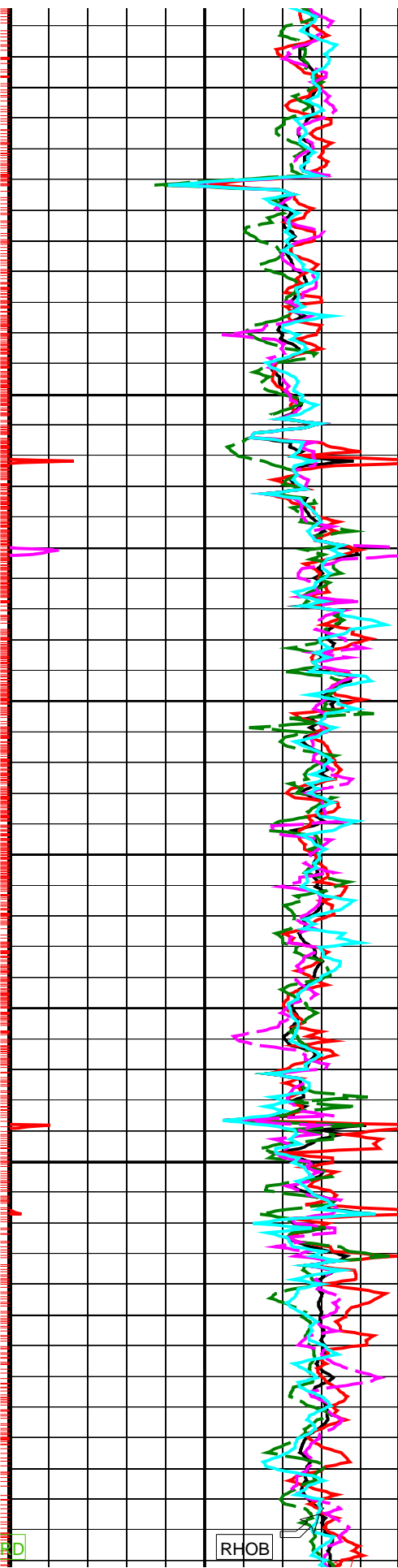
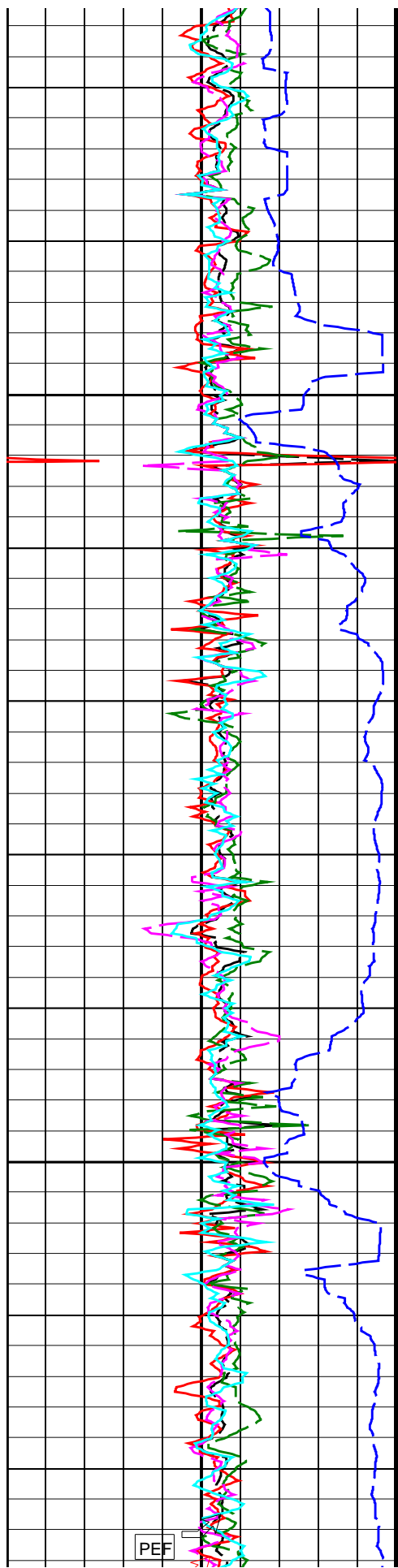


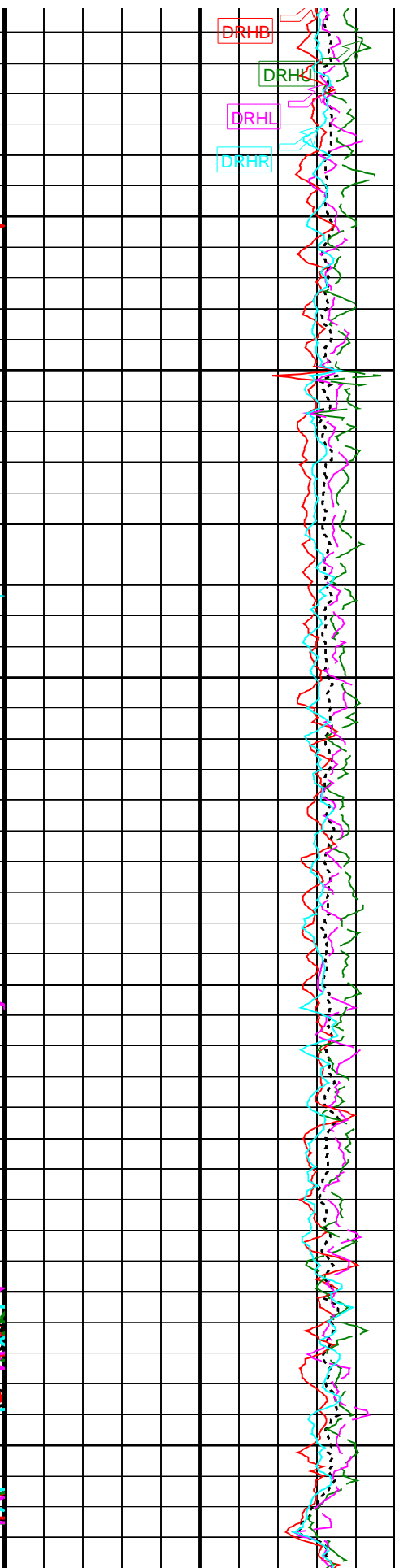
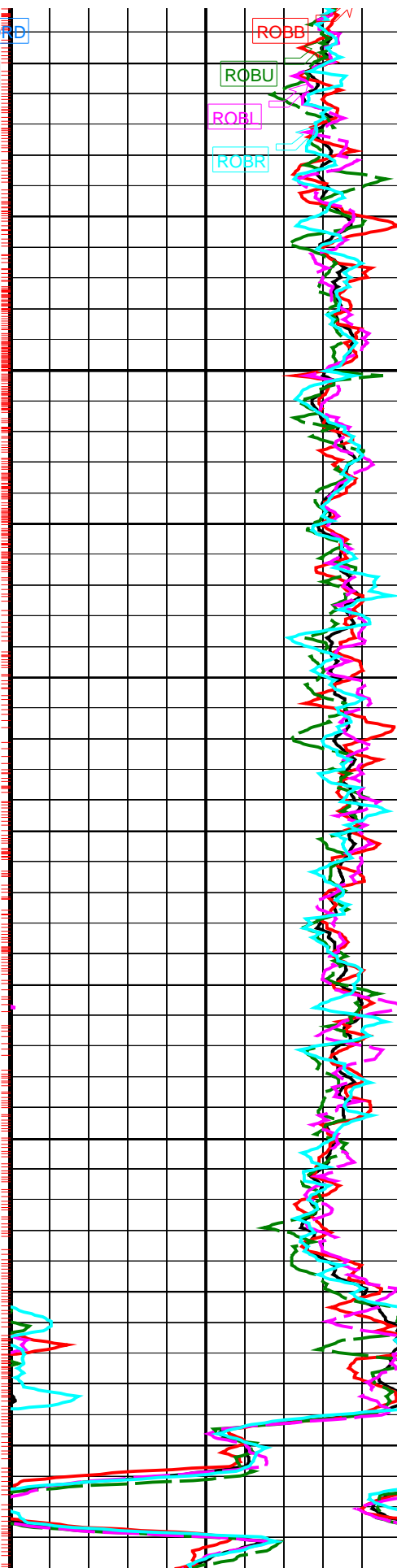
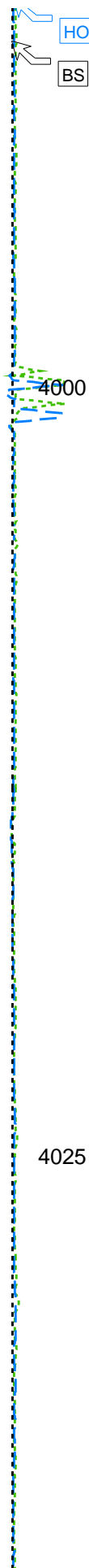
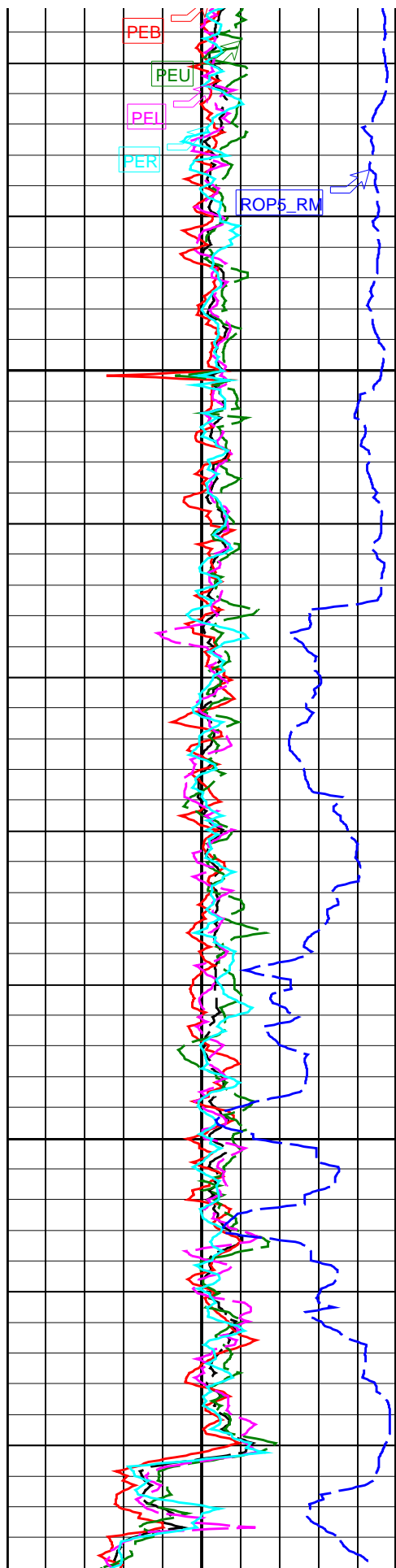
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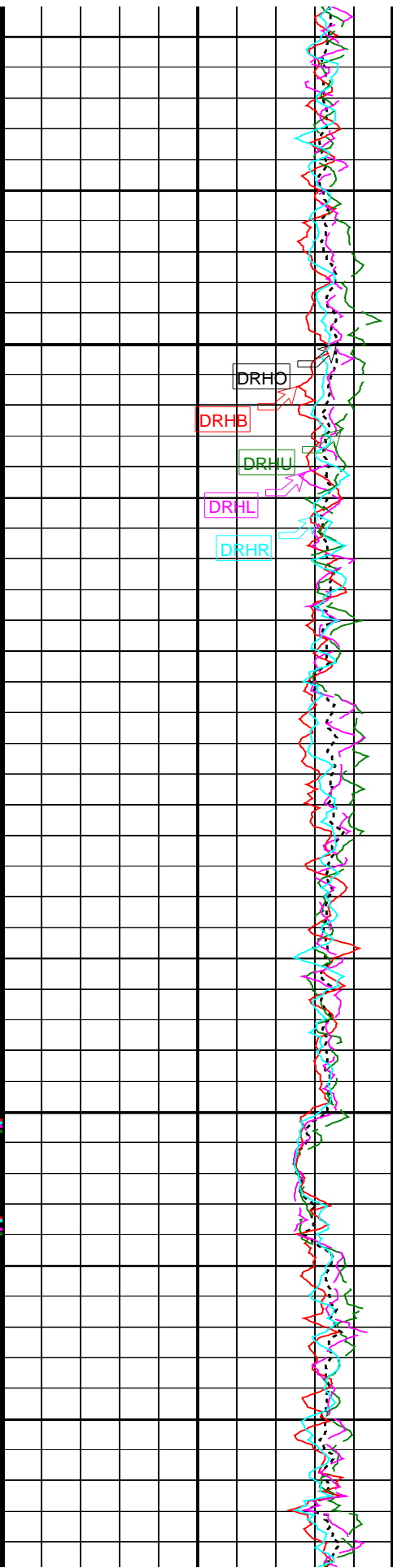
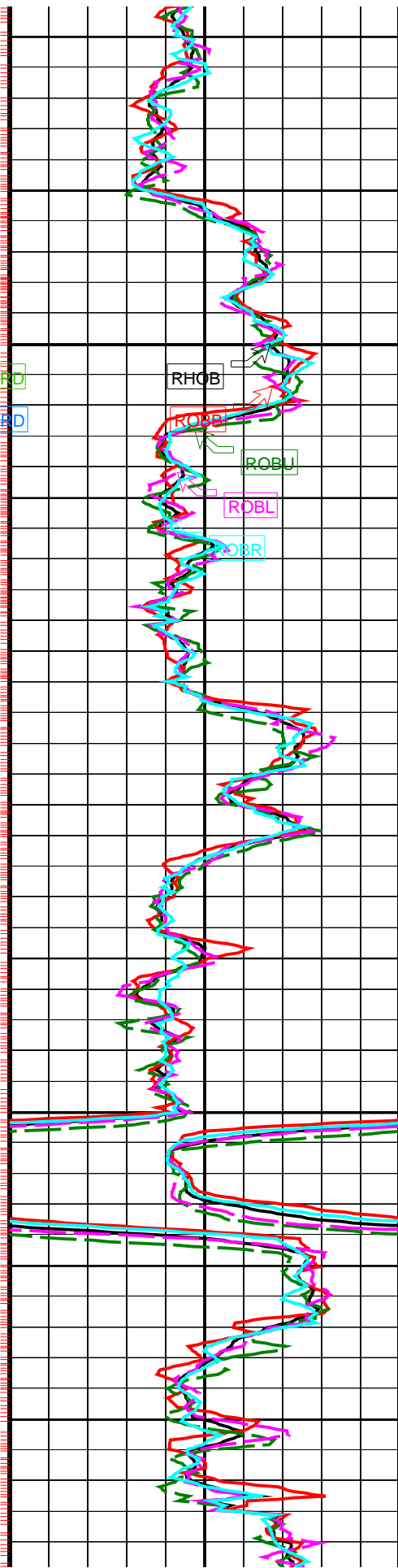
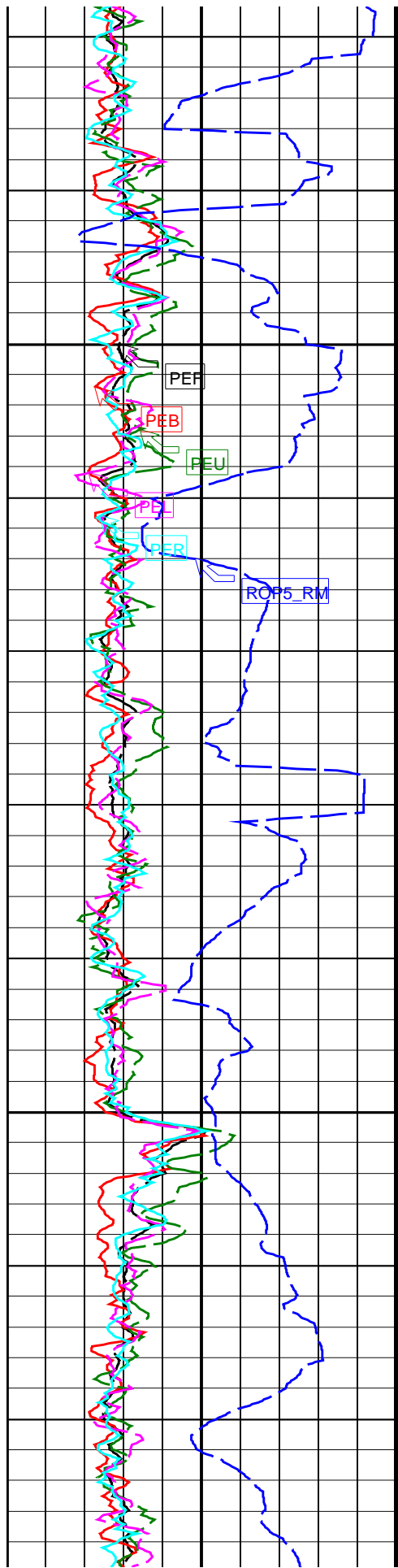
3875

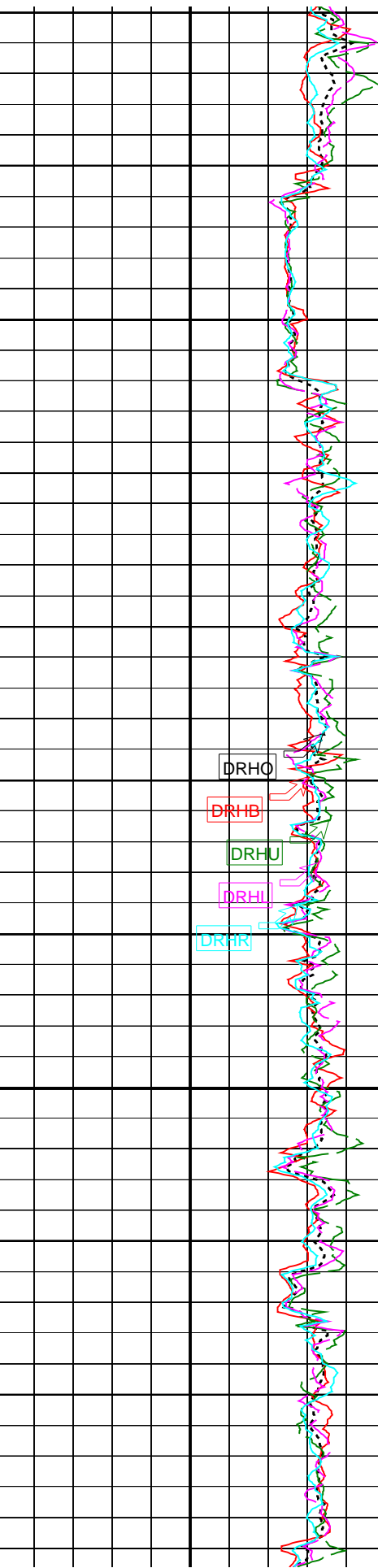
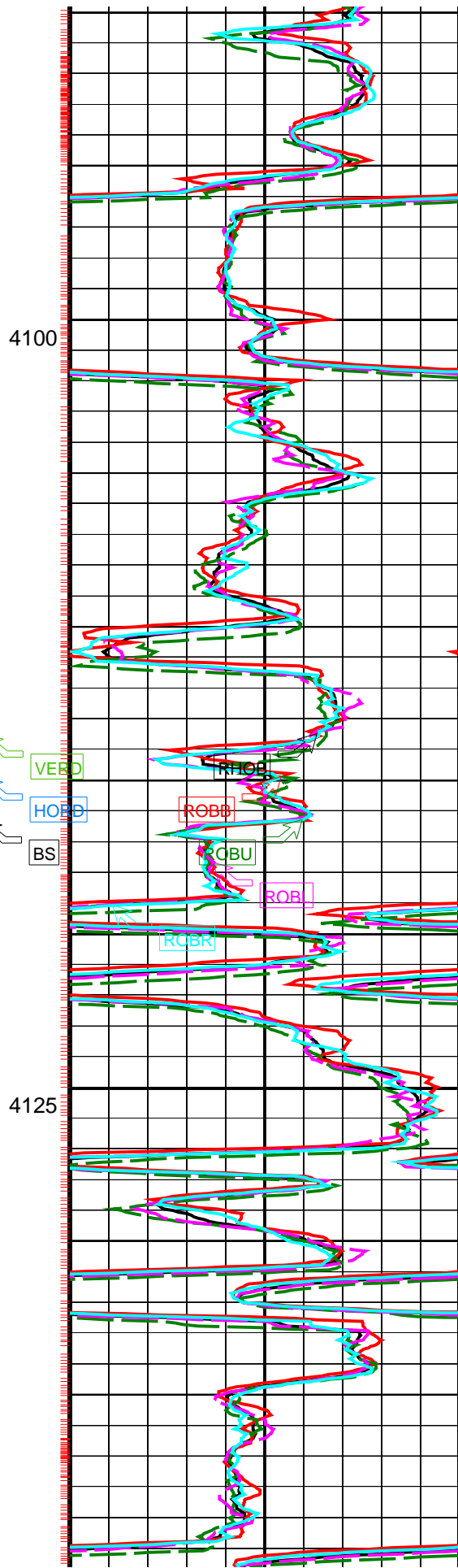
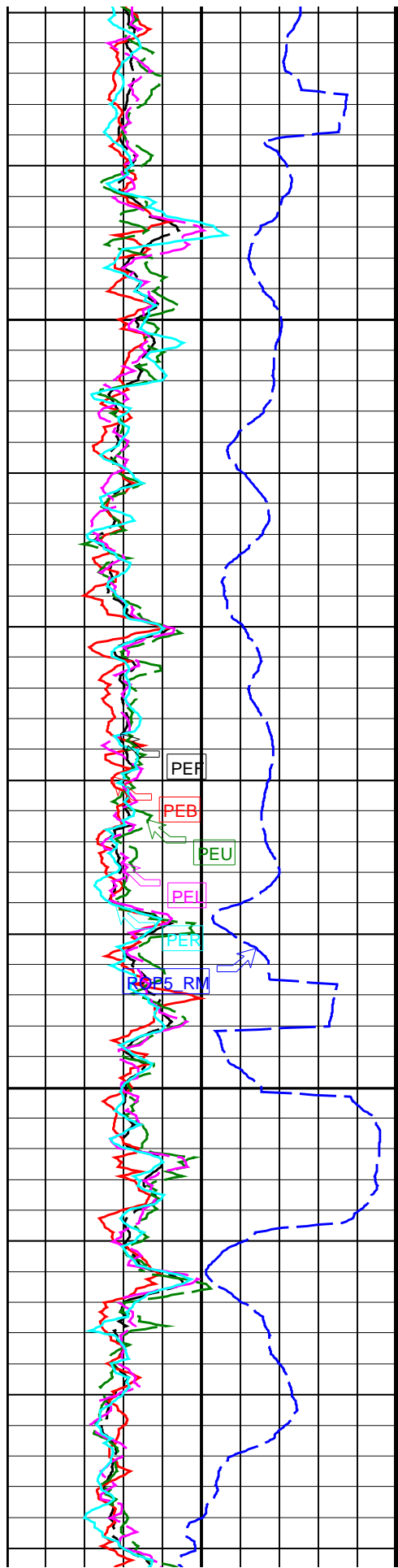


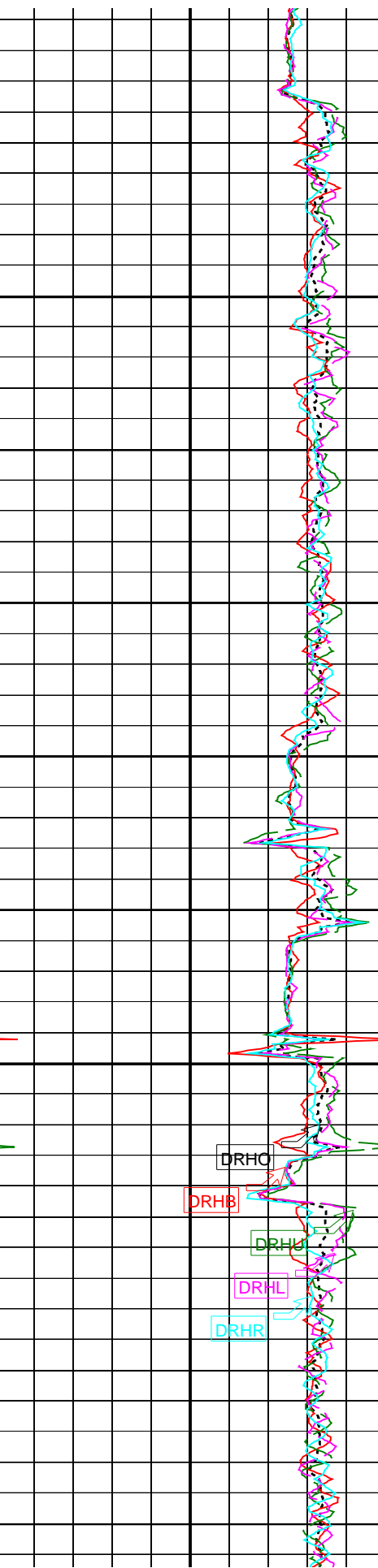
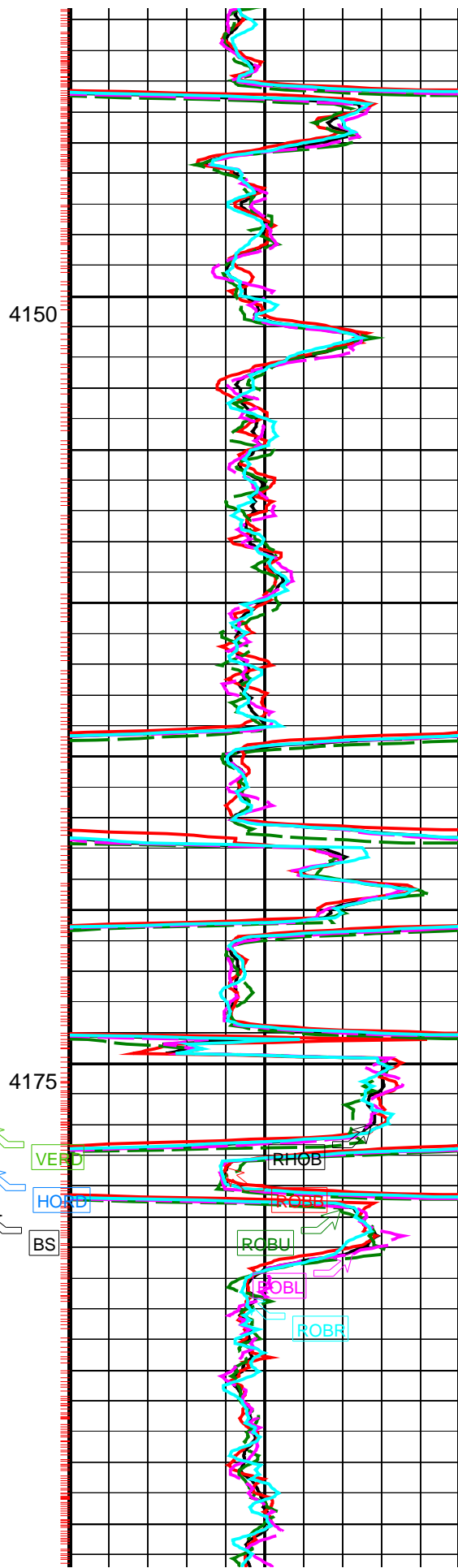
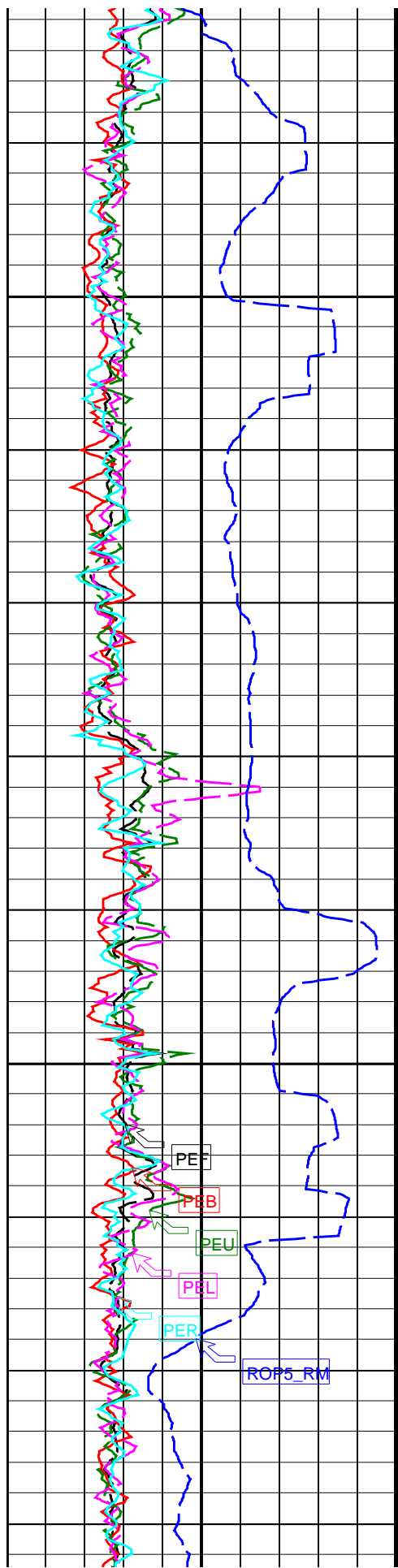


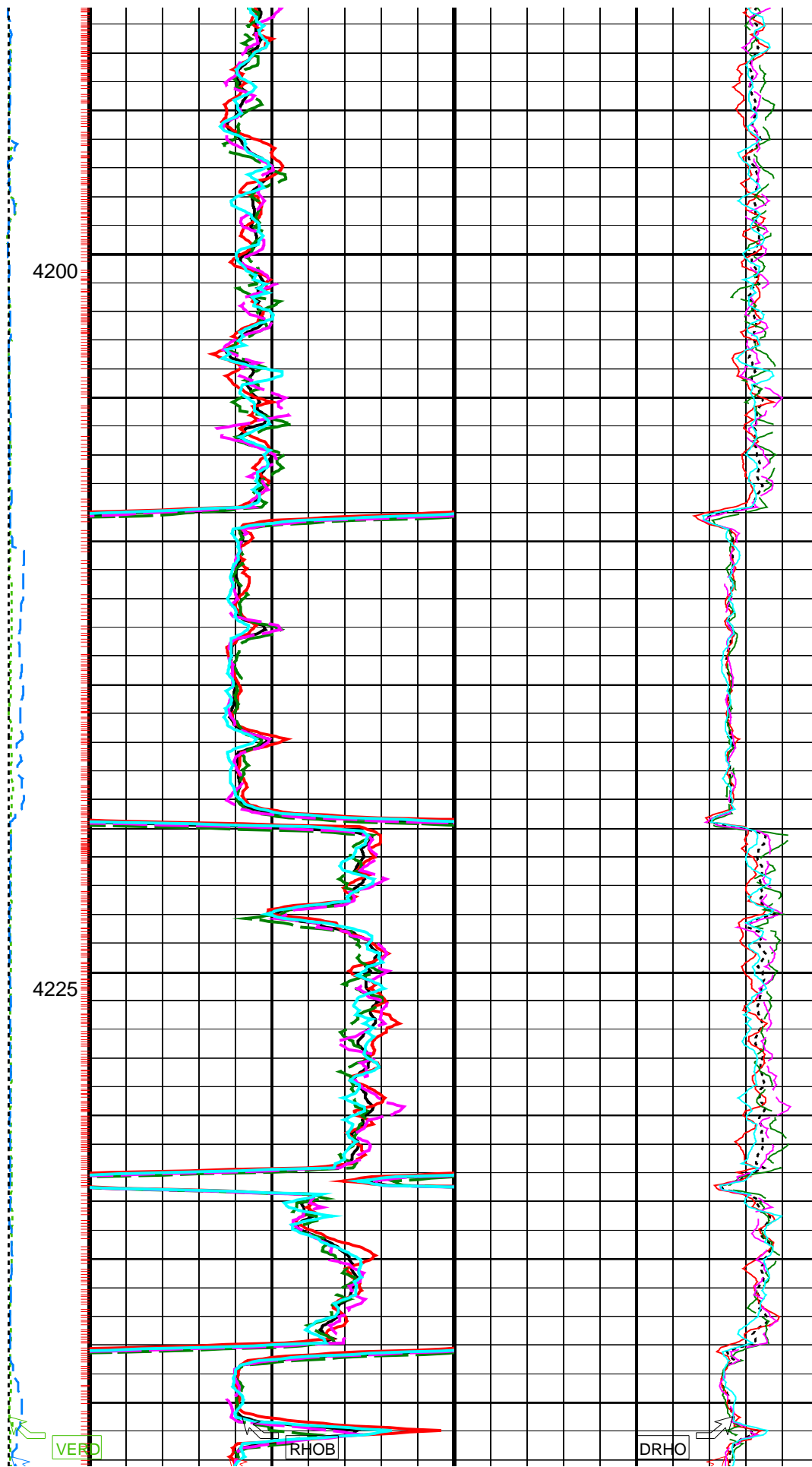
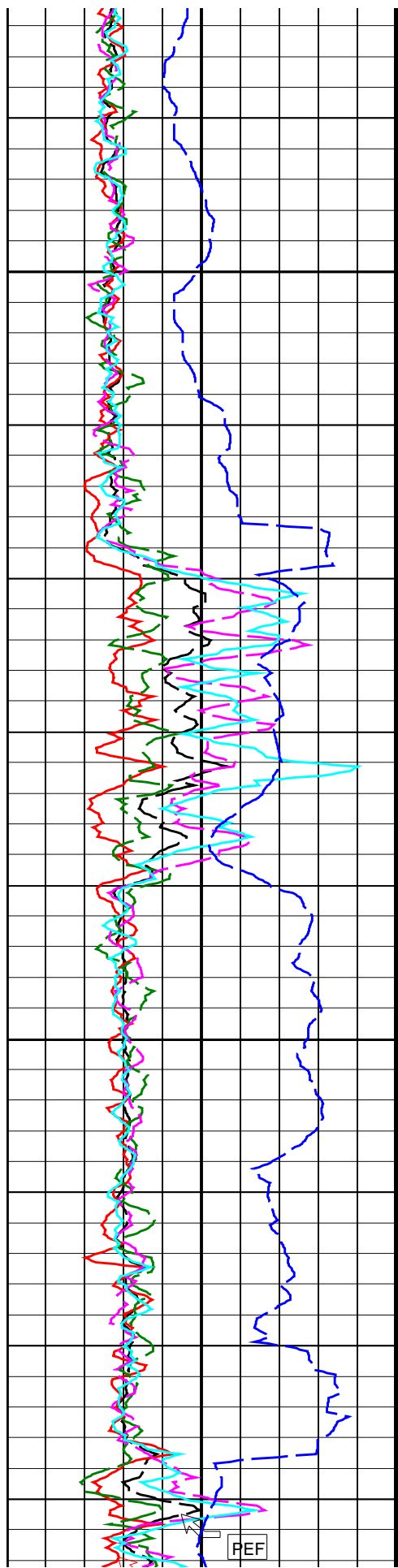


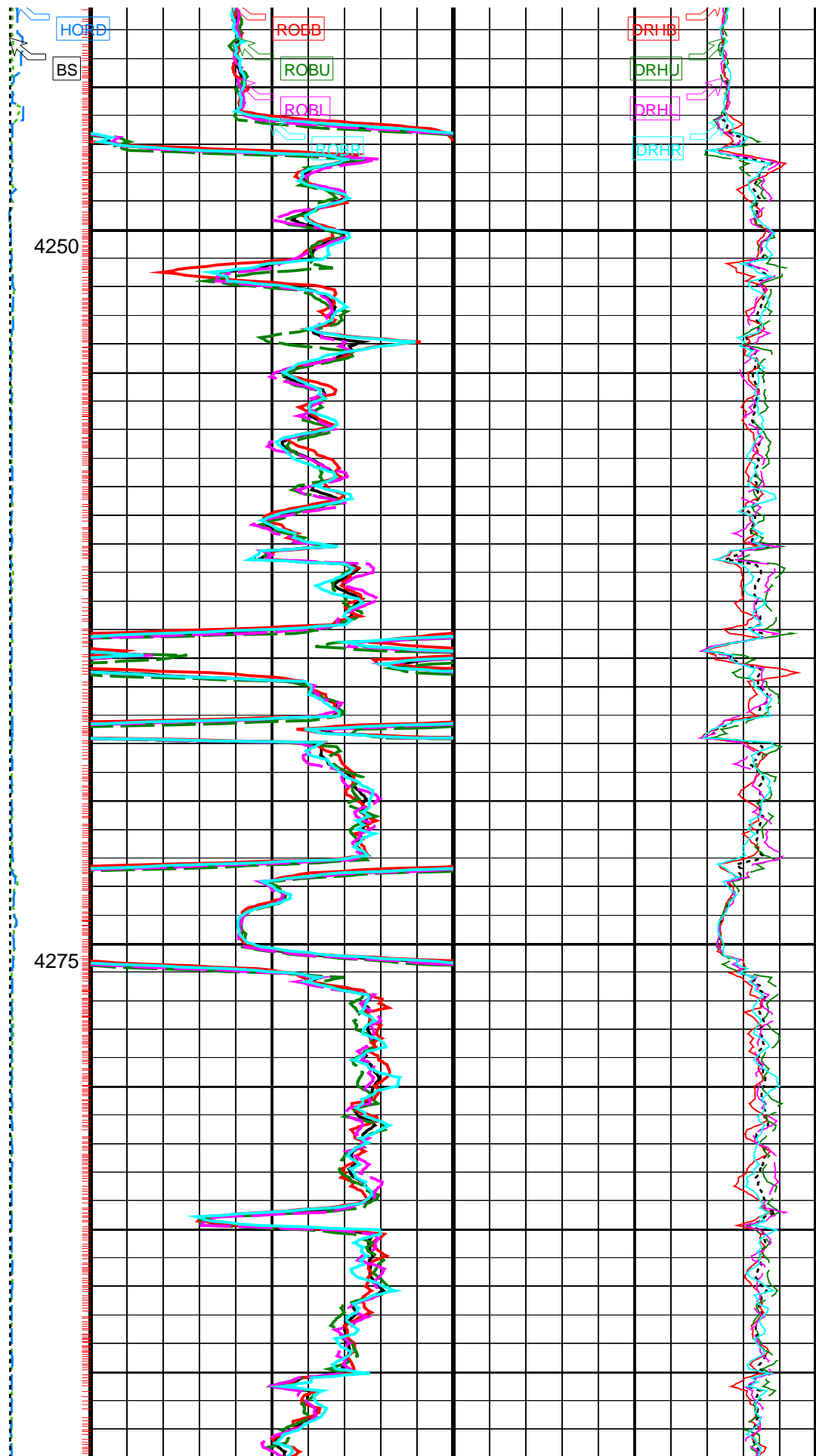
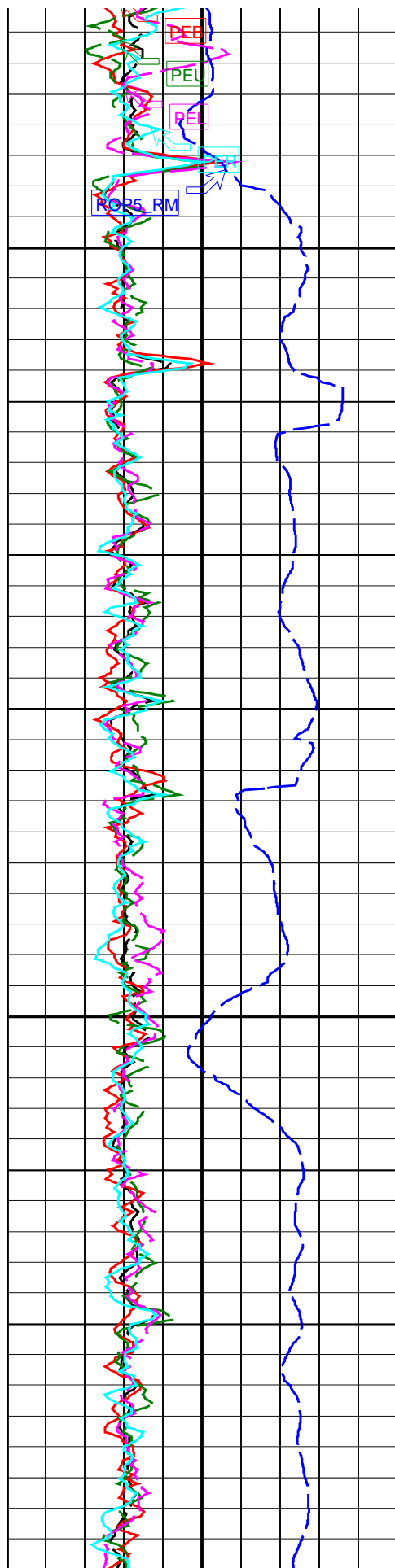


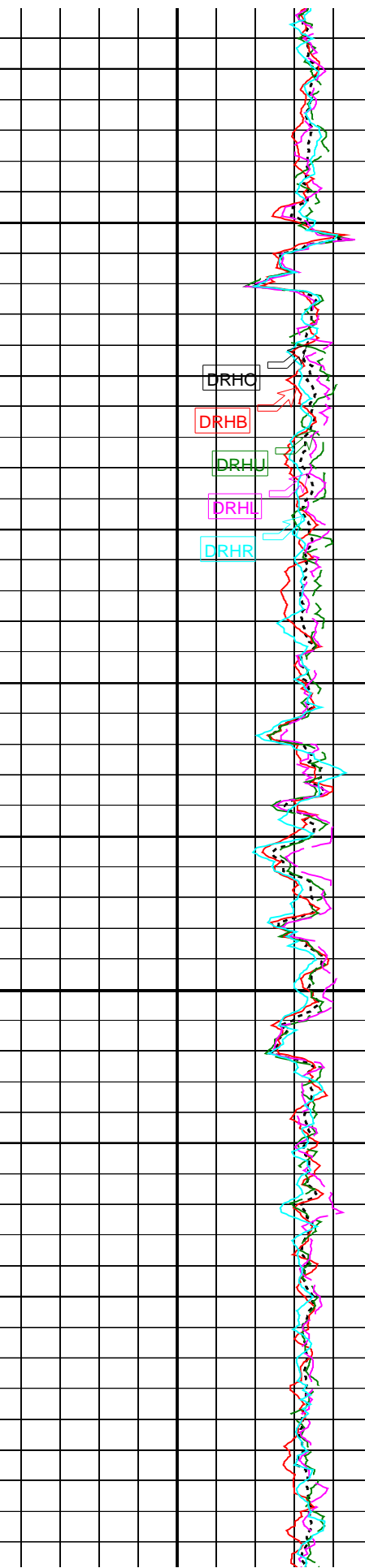
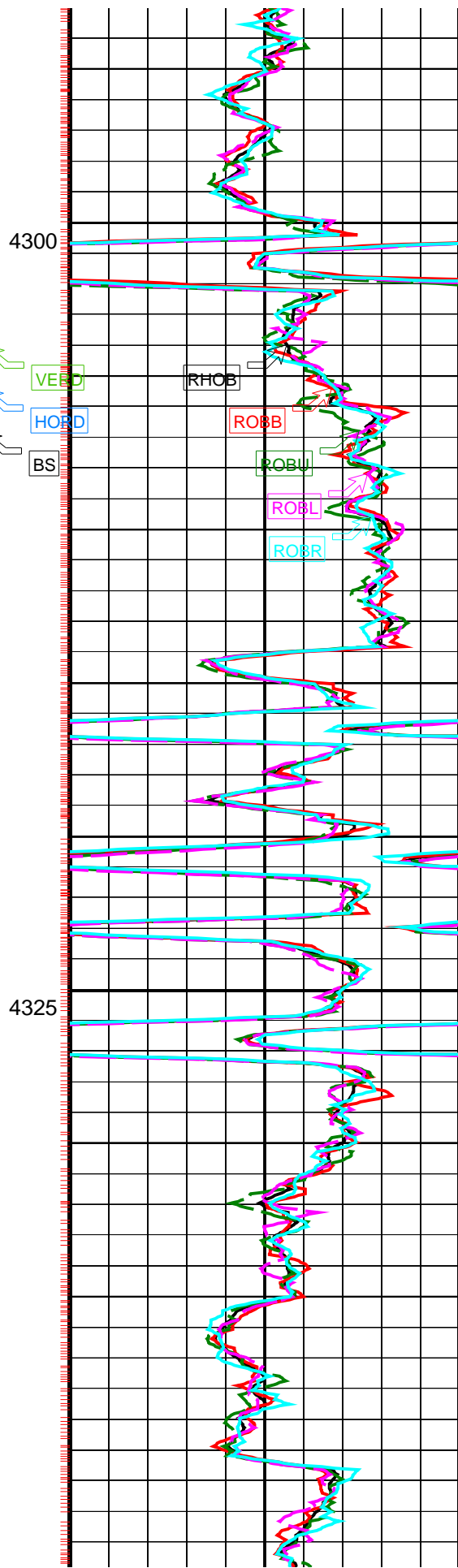
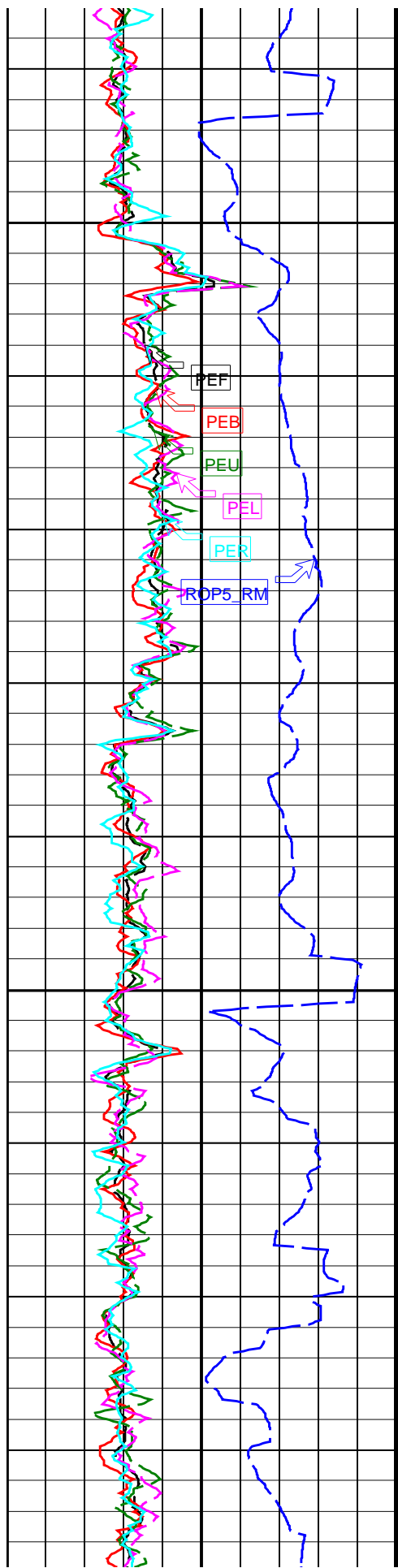


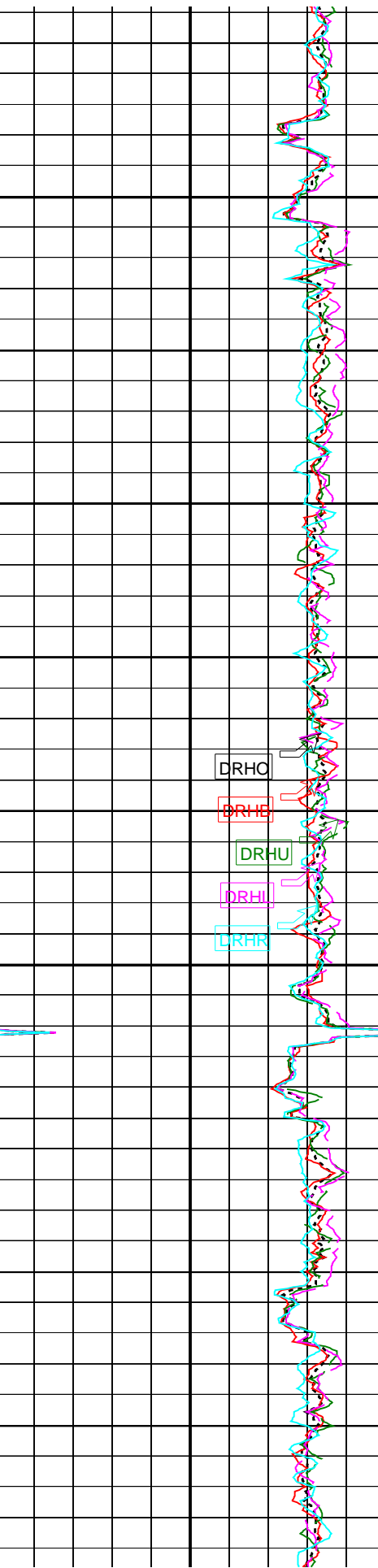
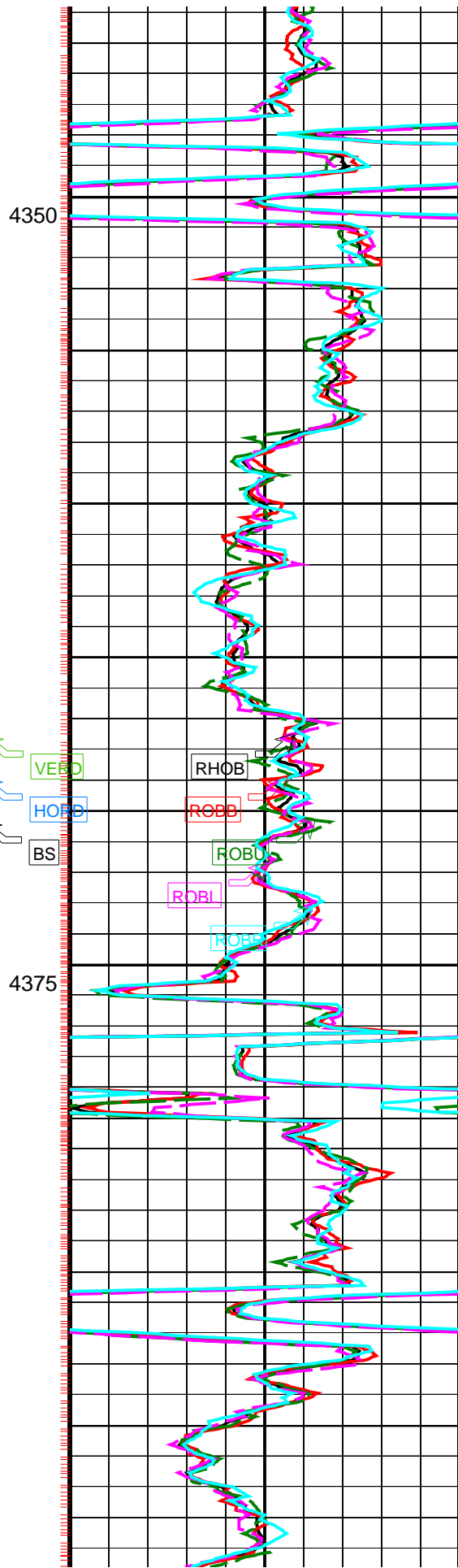
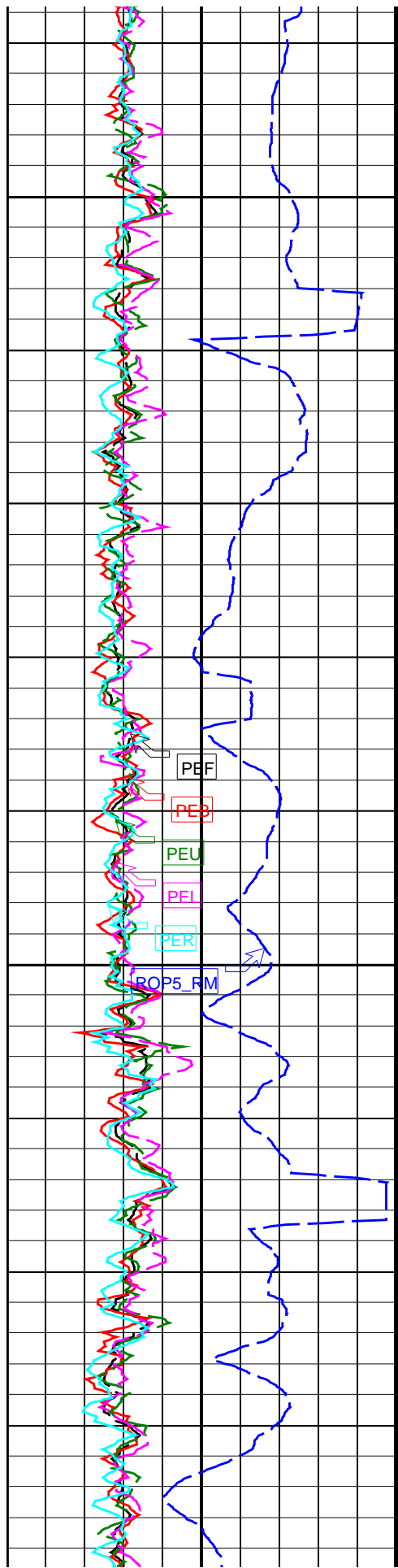


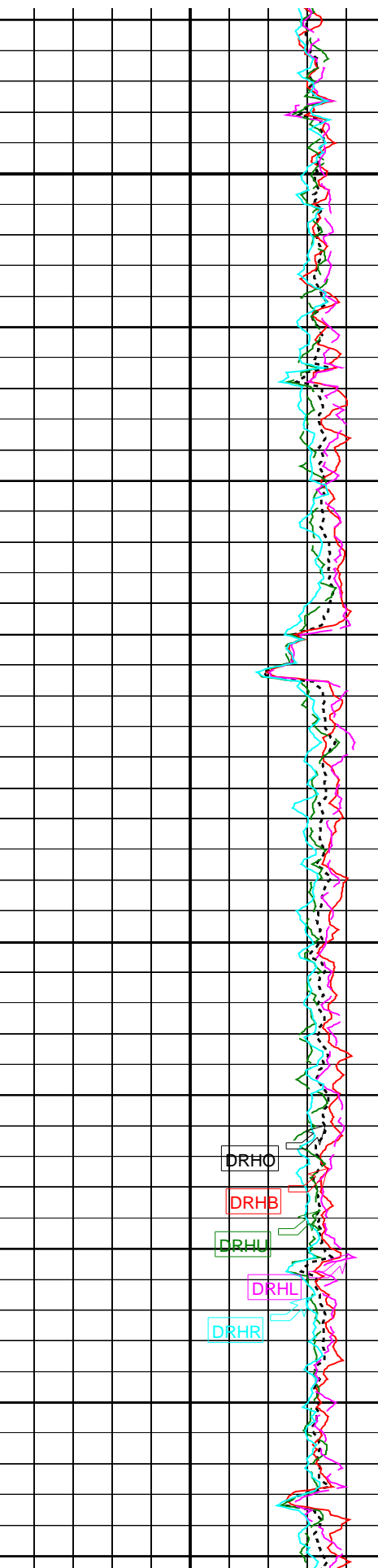
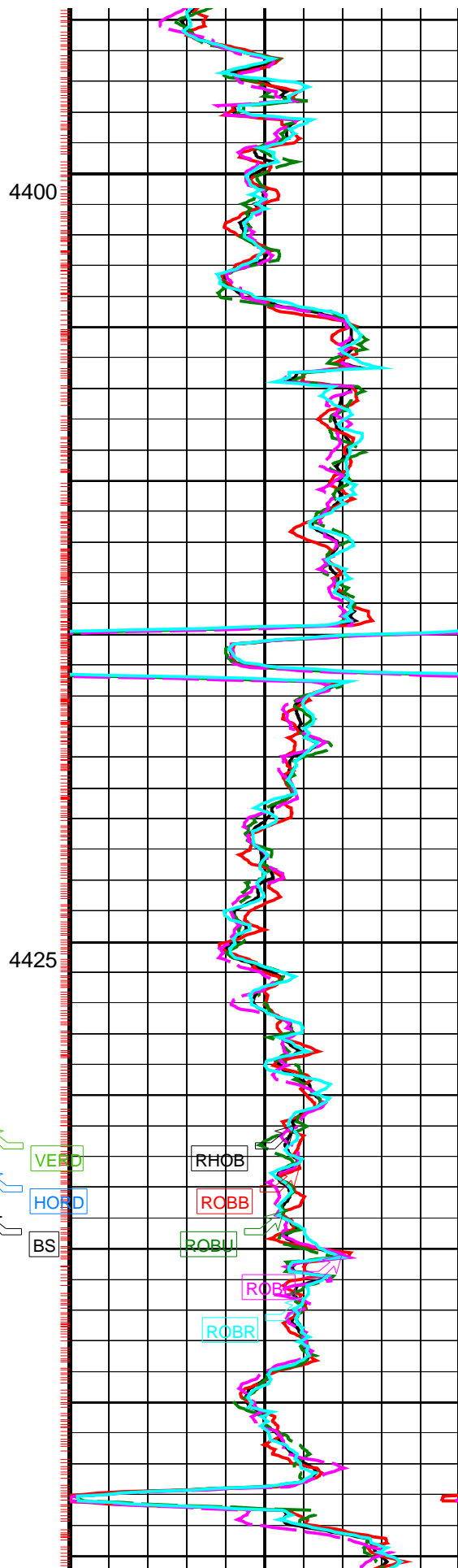
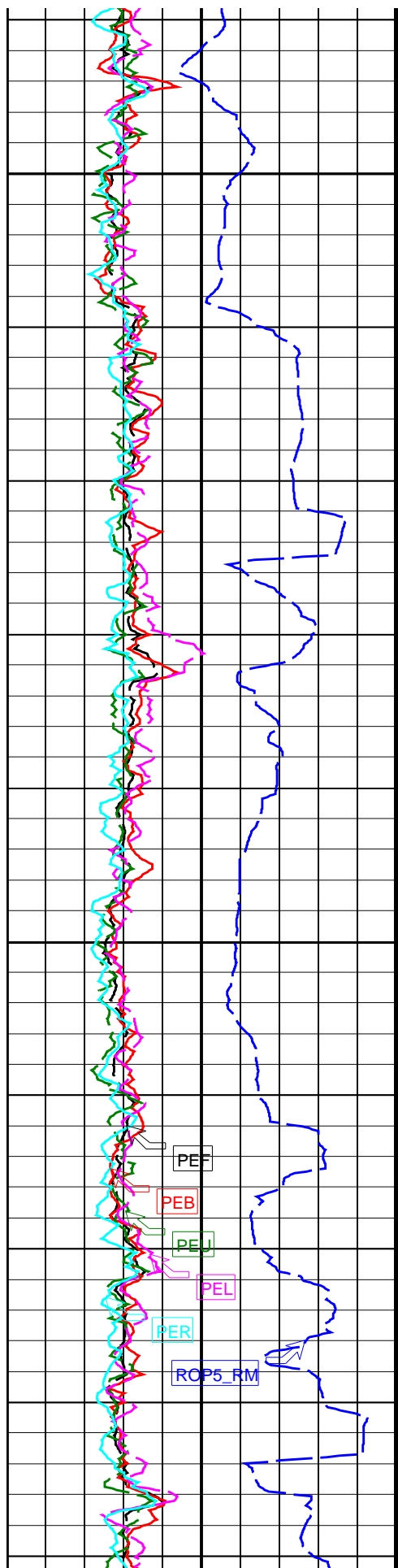


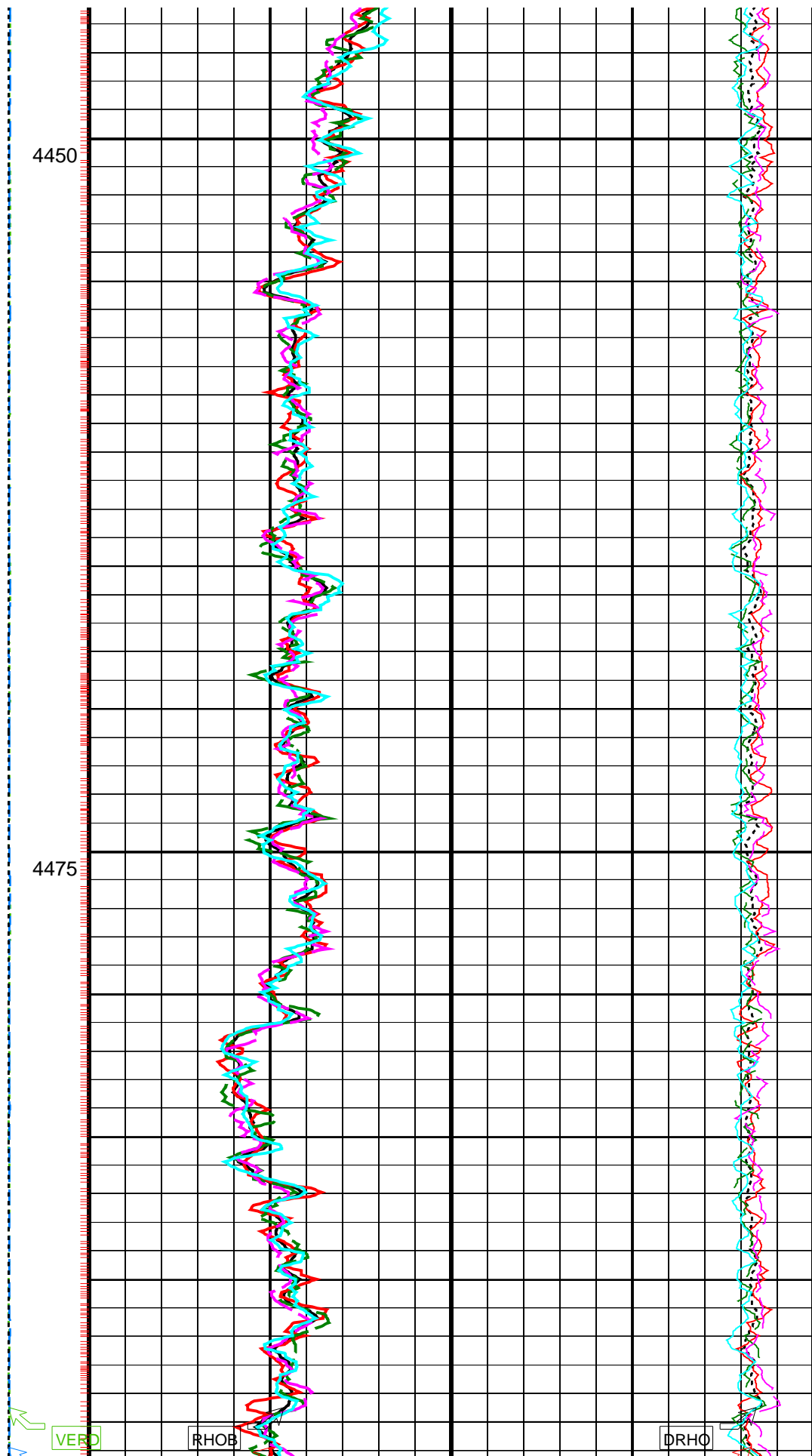
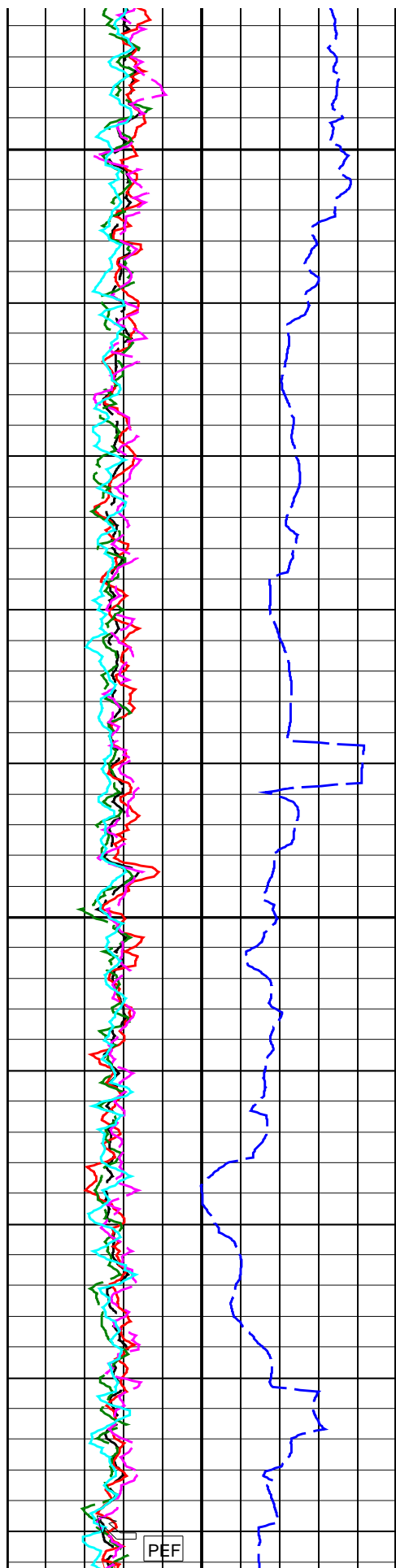


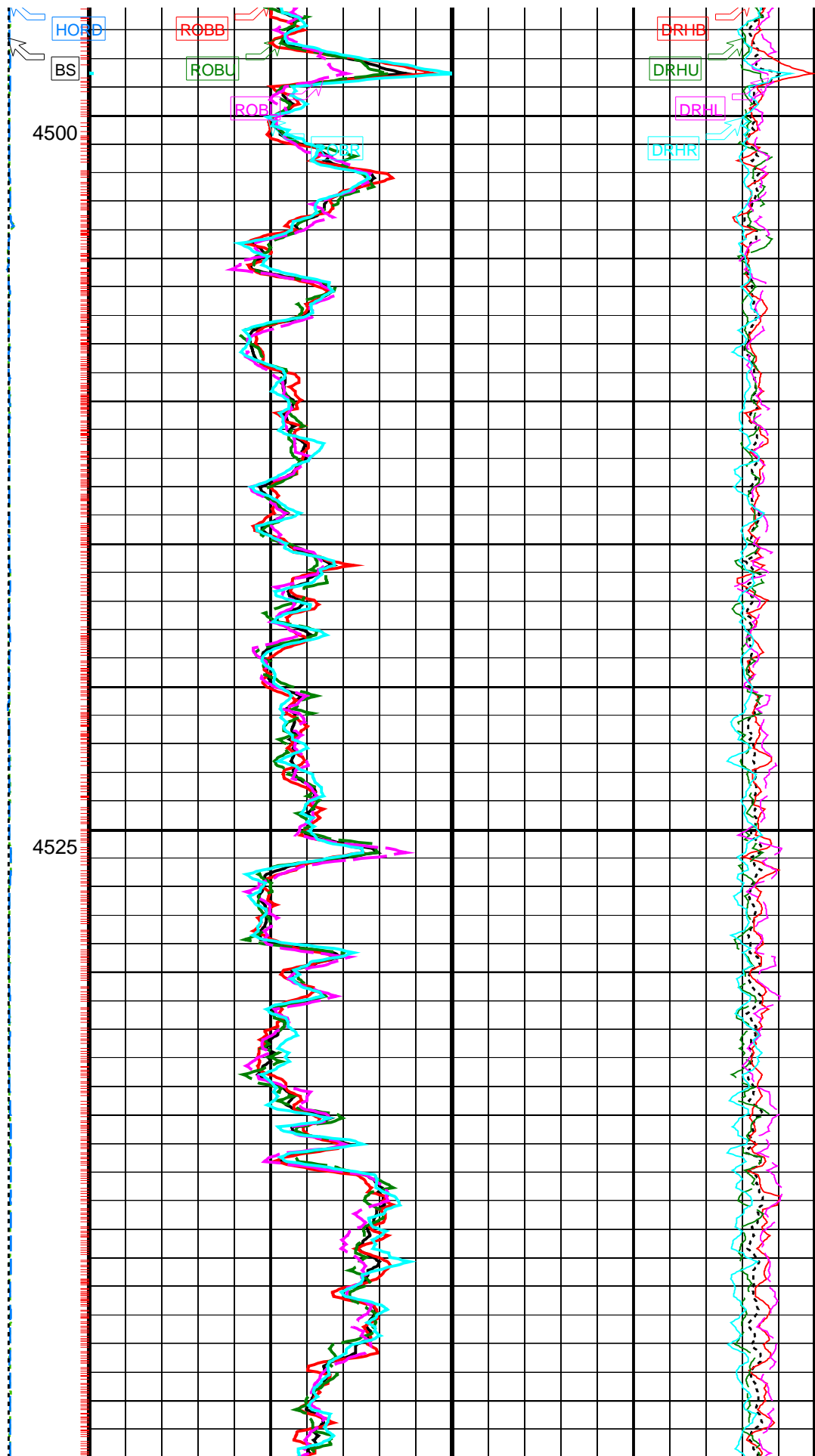
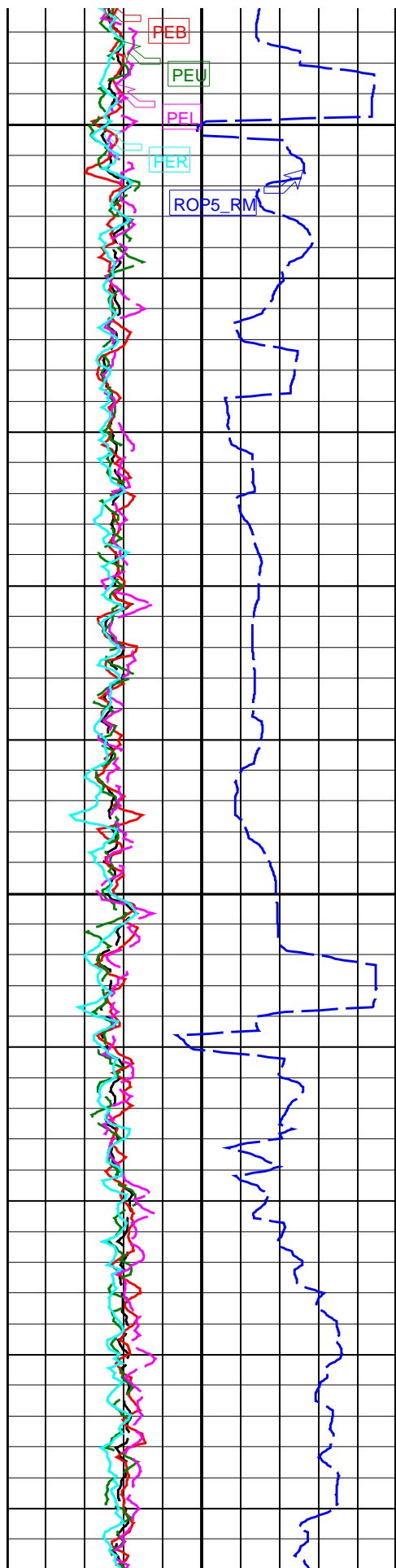


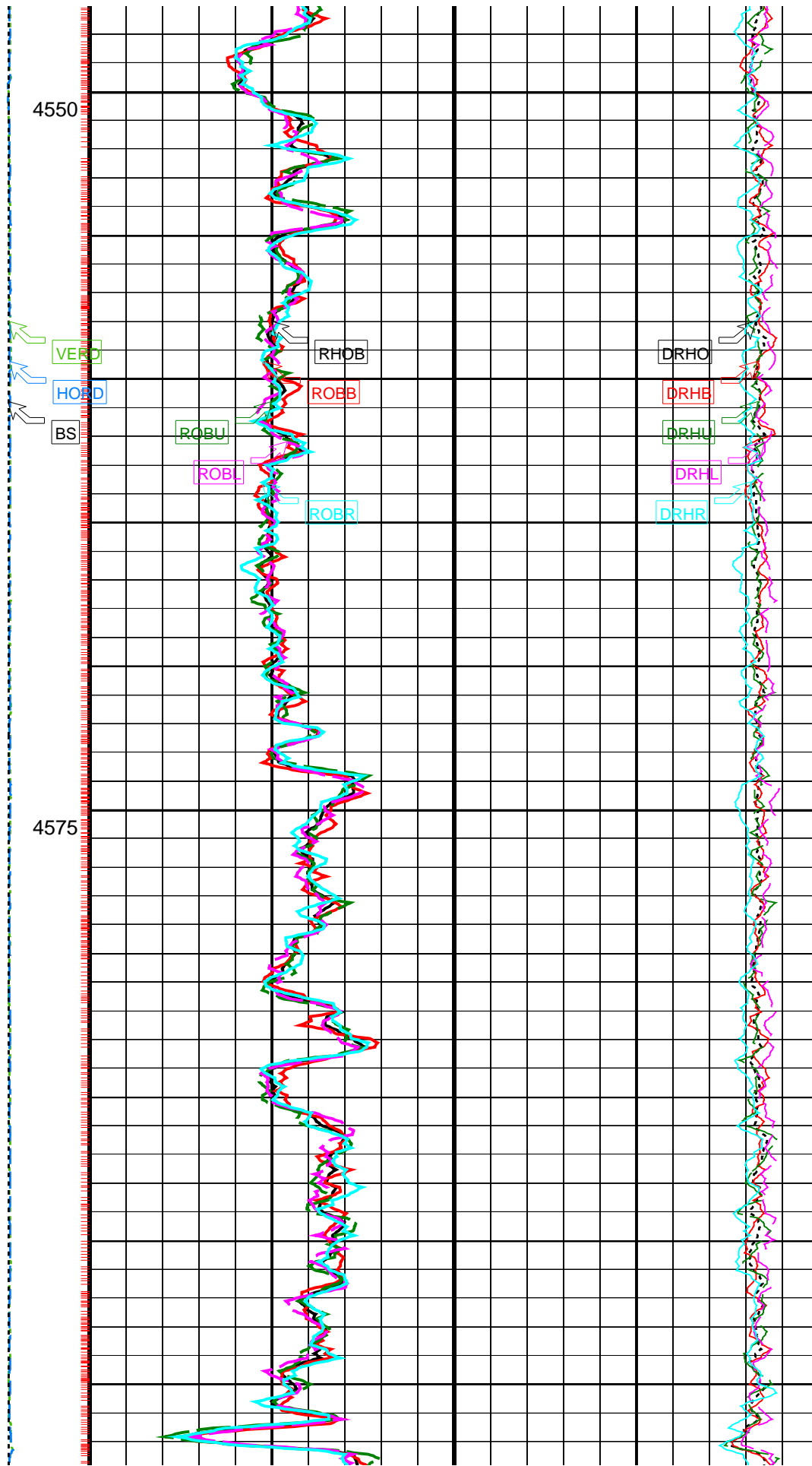
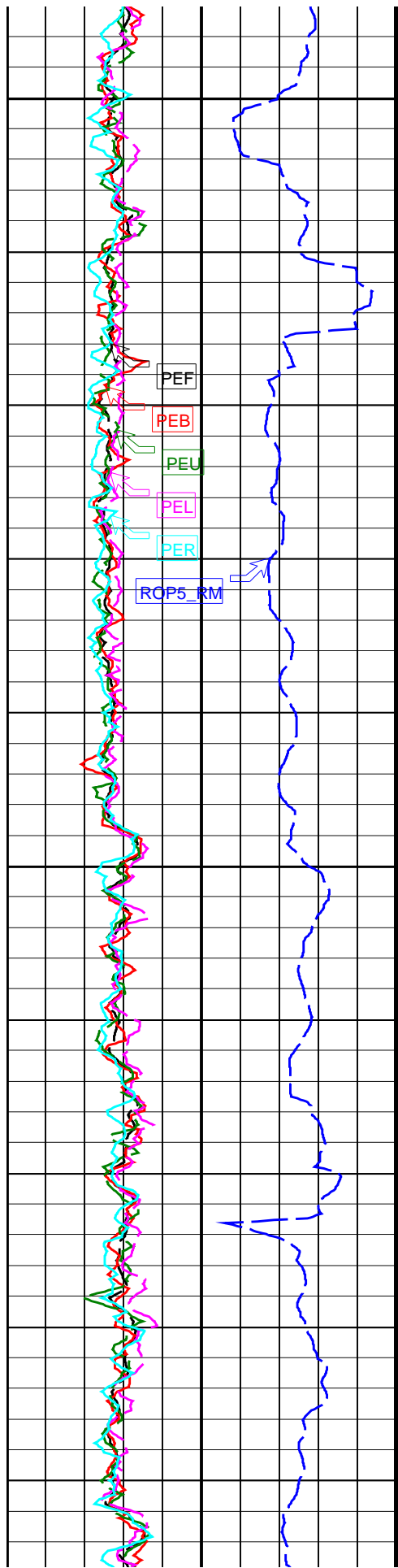


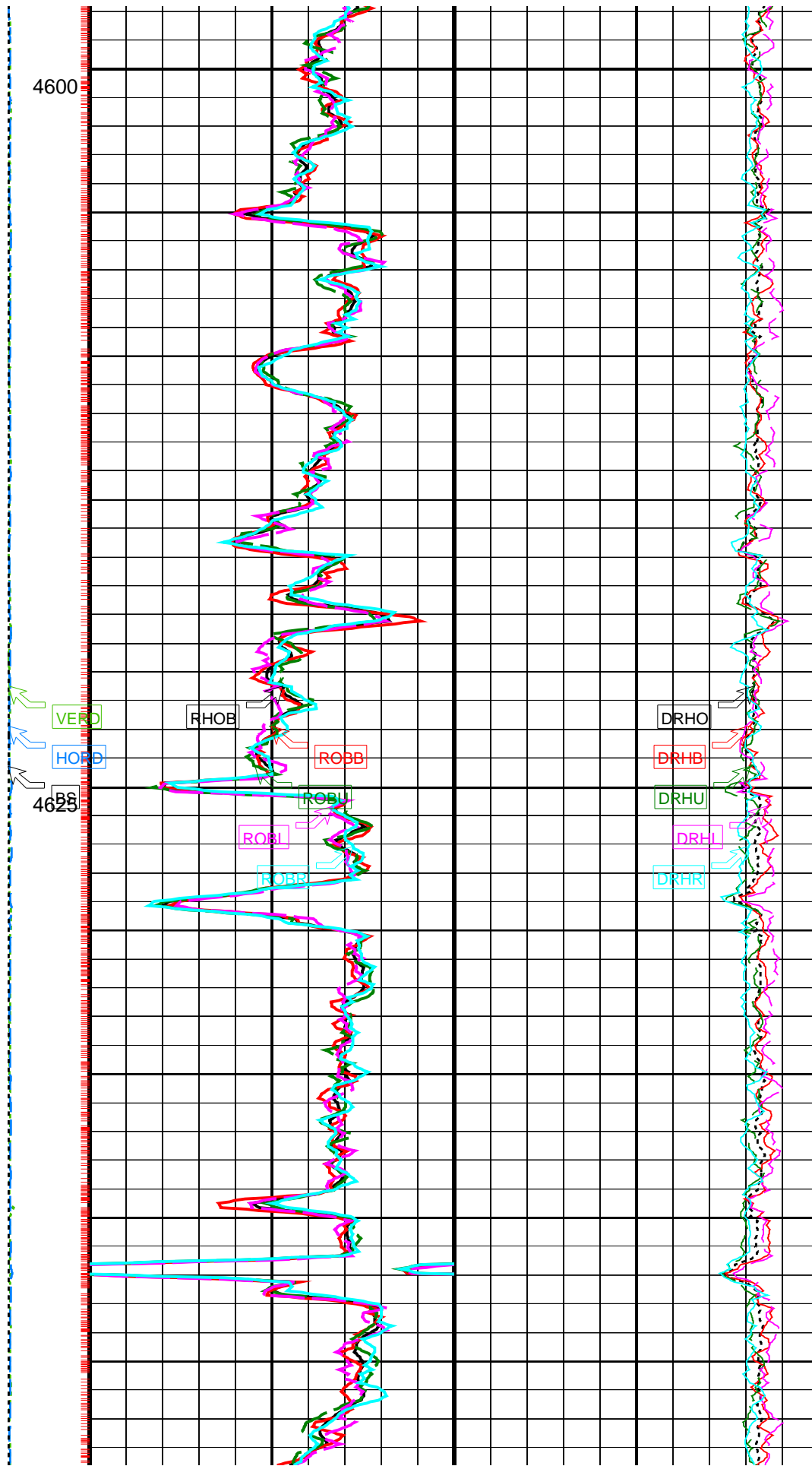
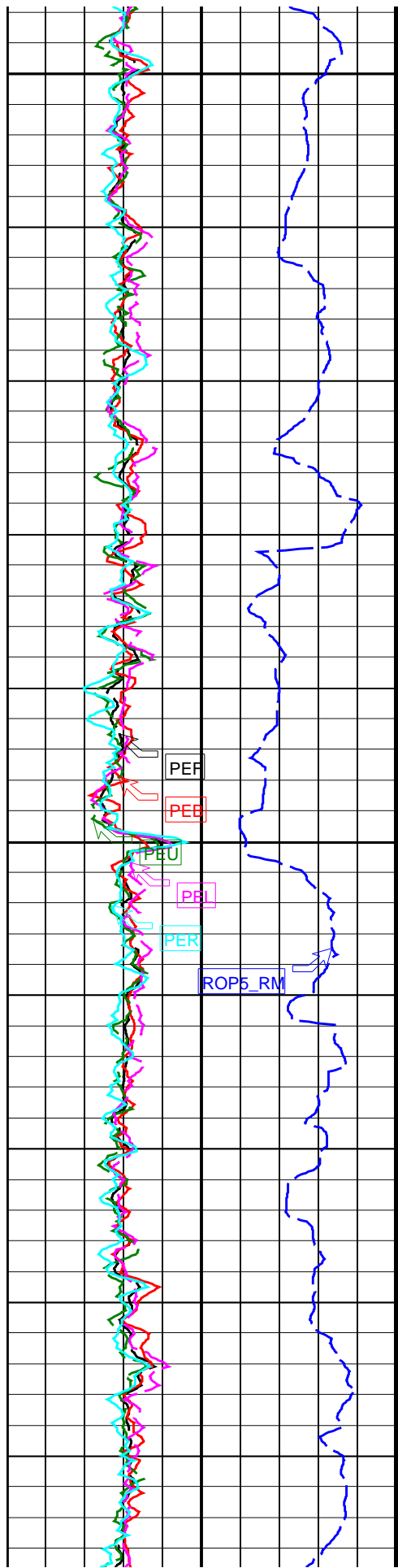


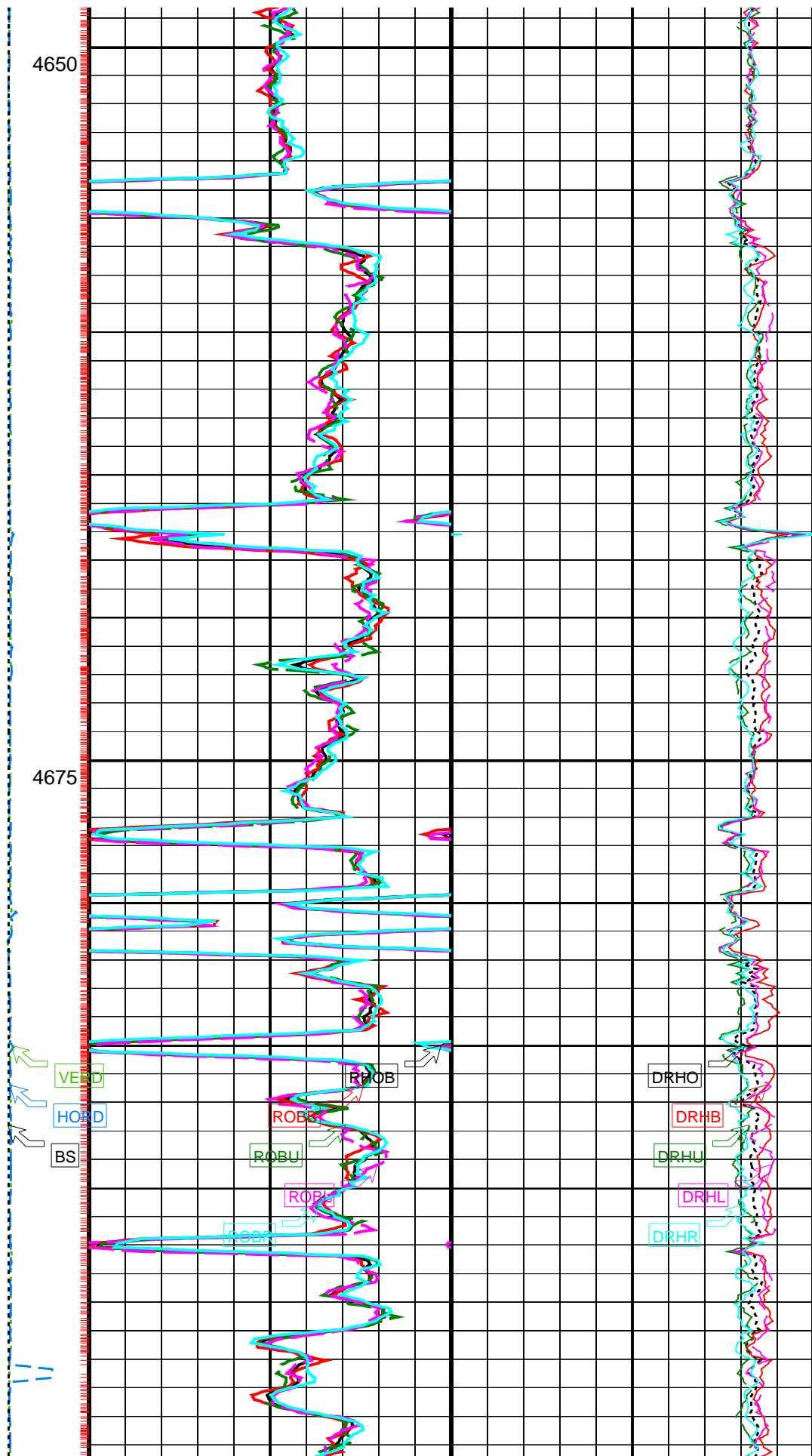
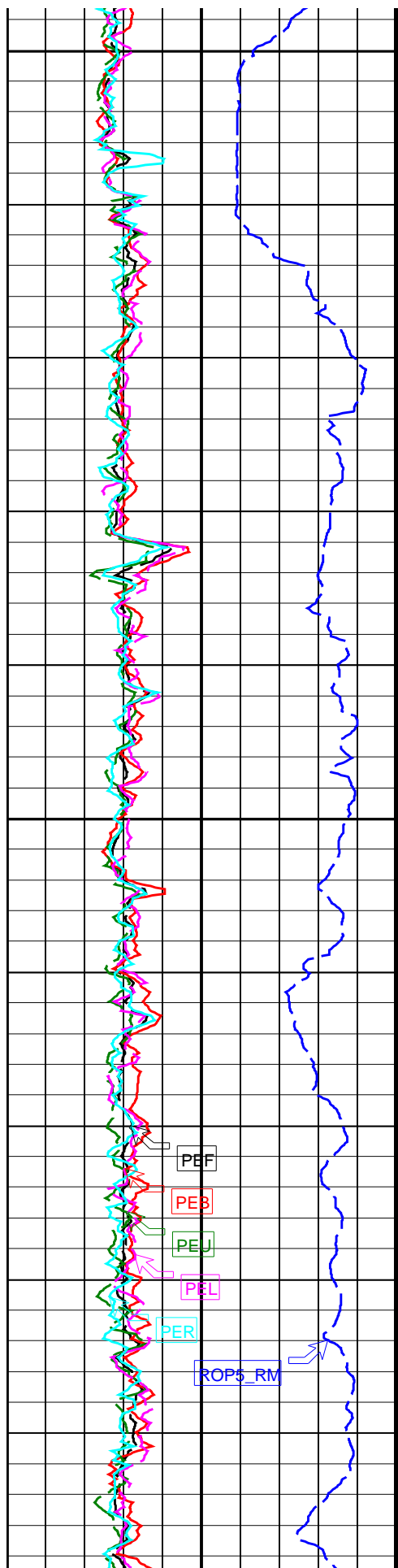


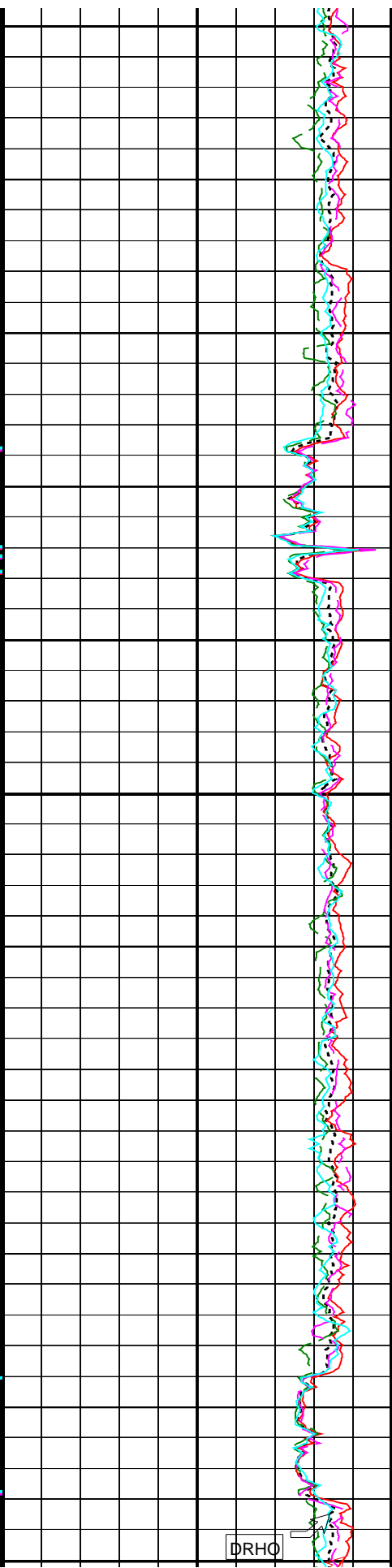
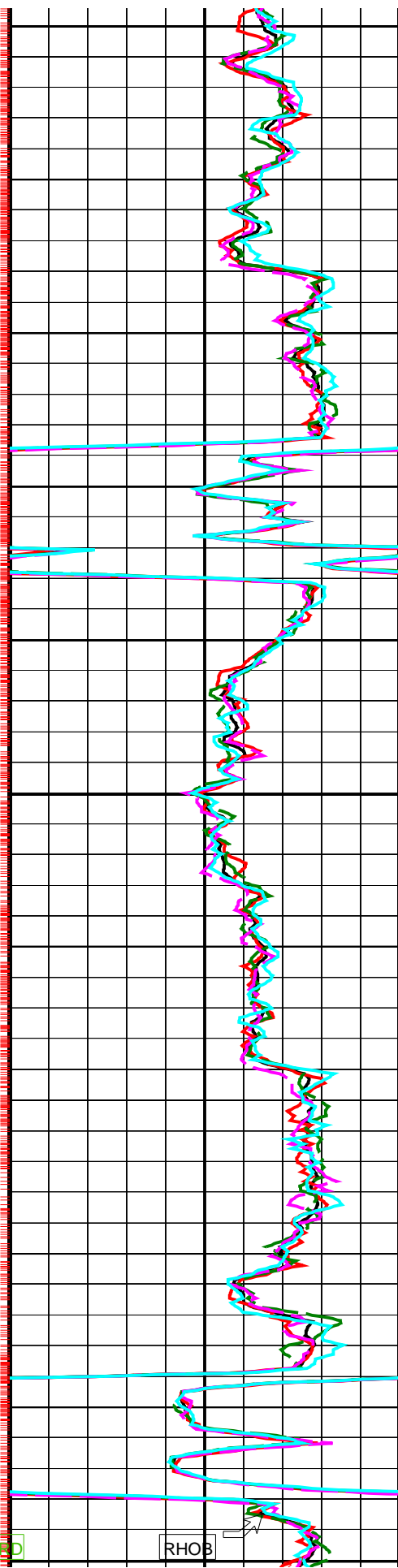
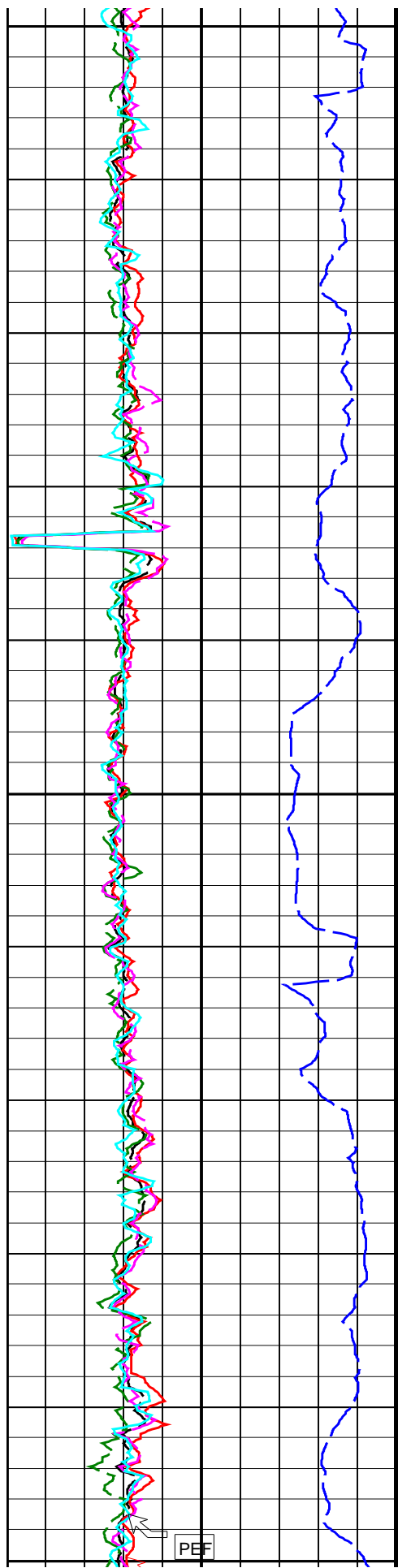


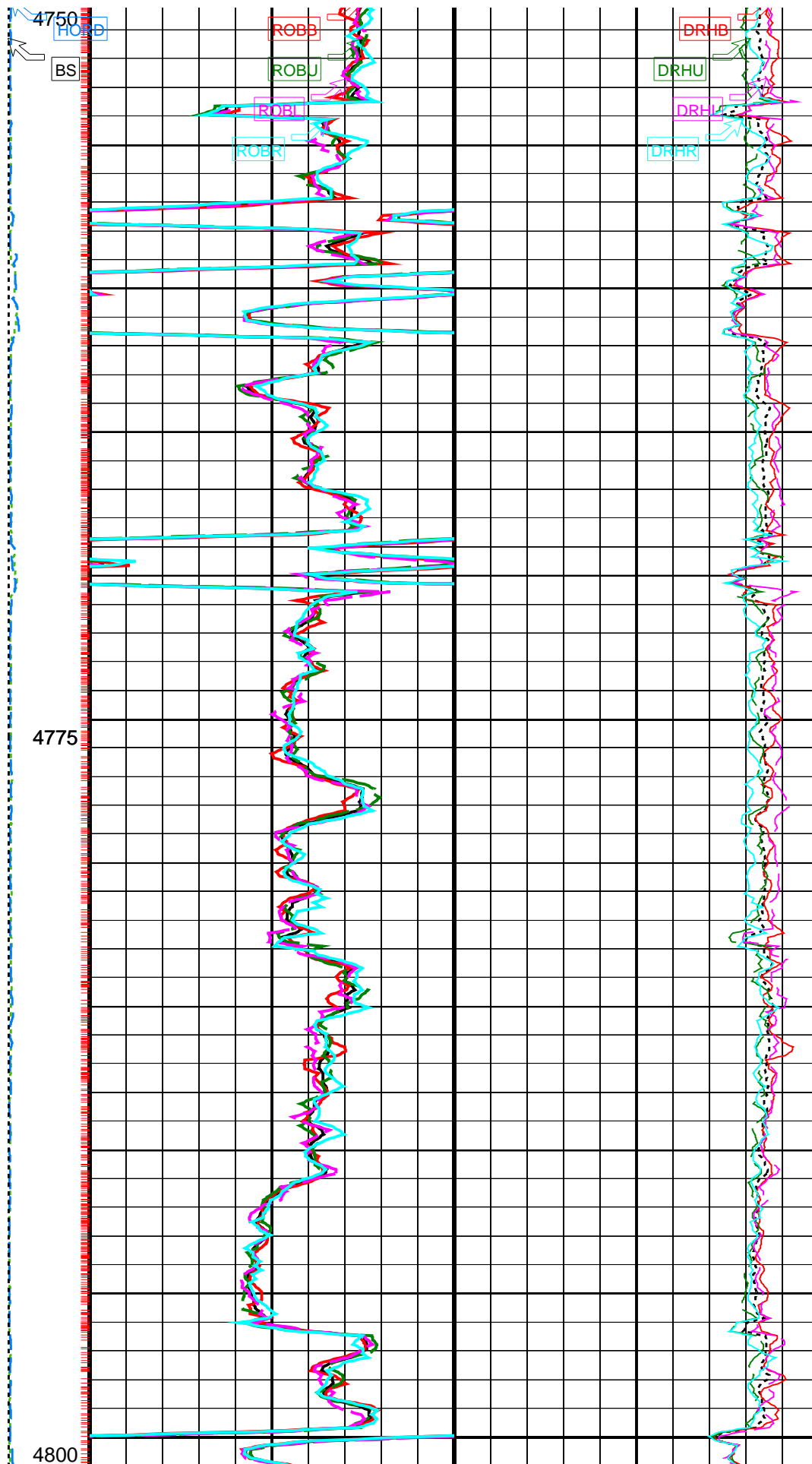
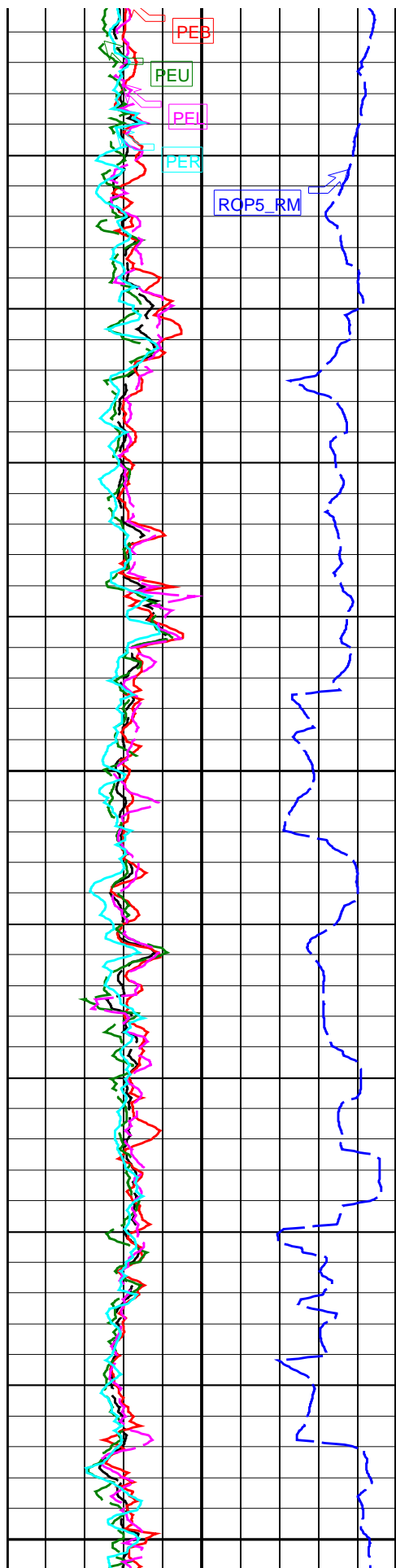


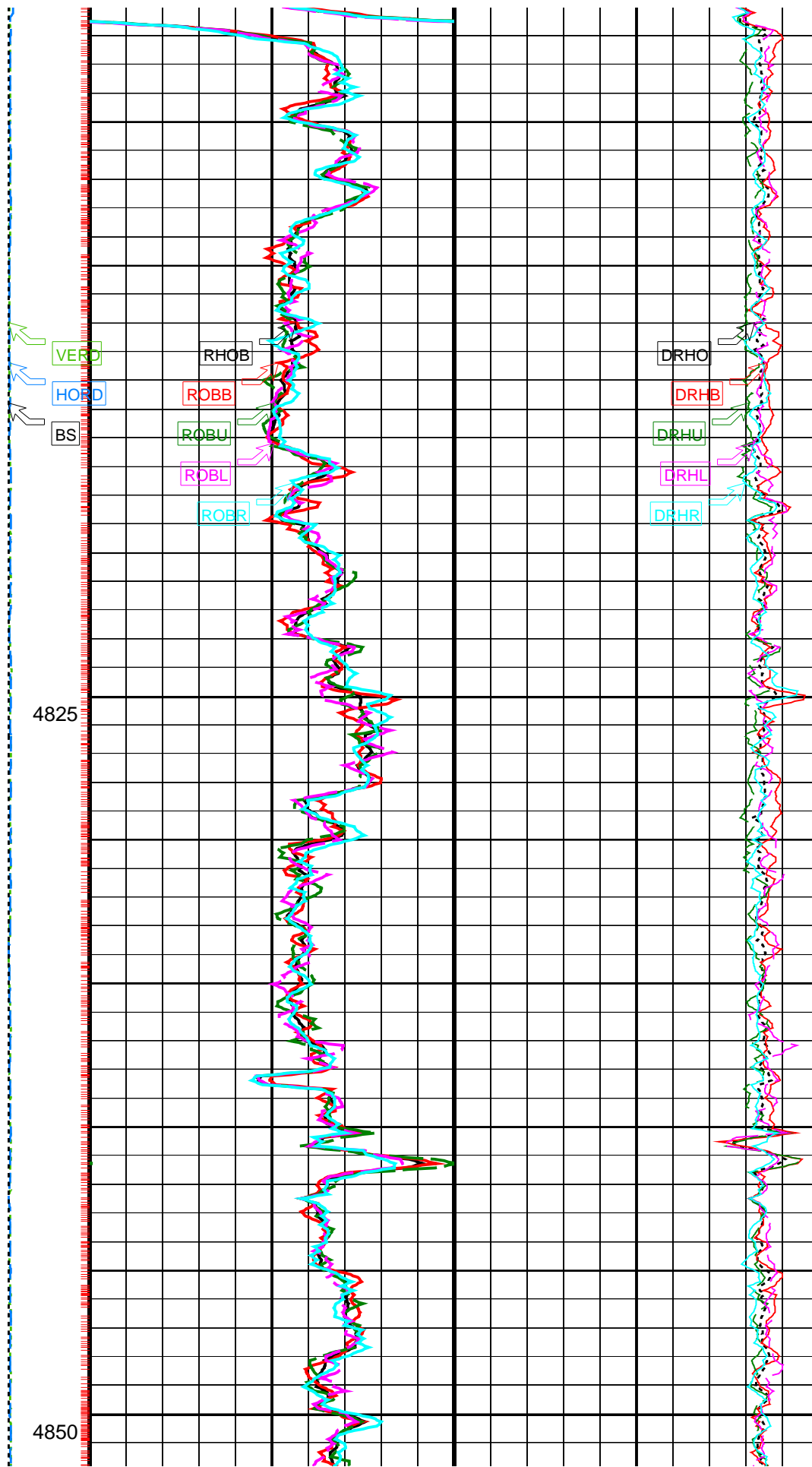
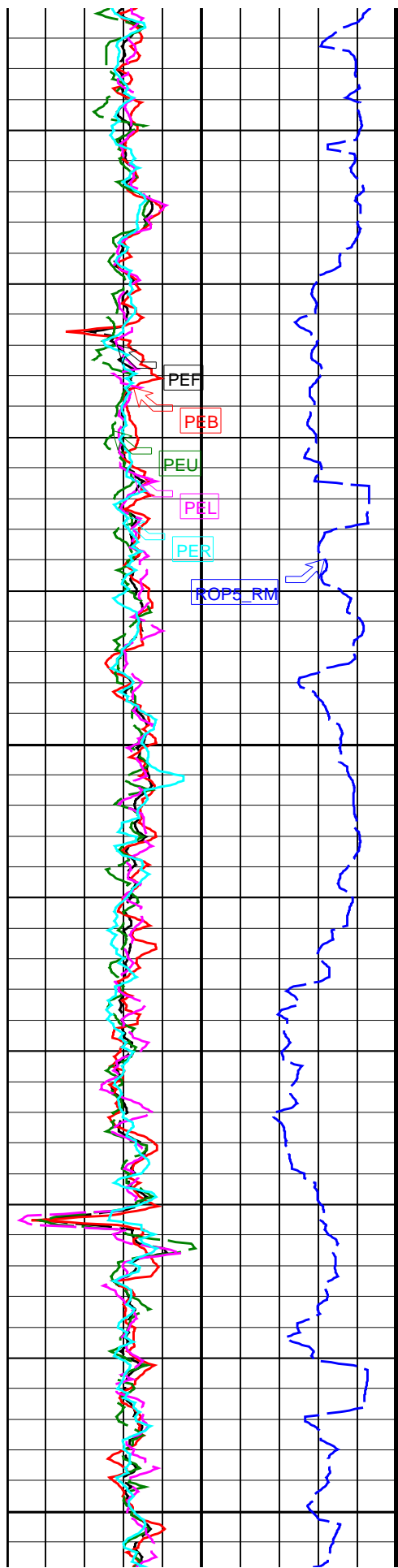


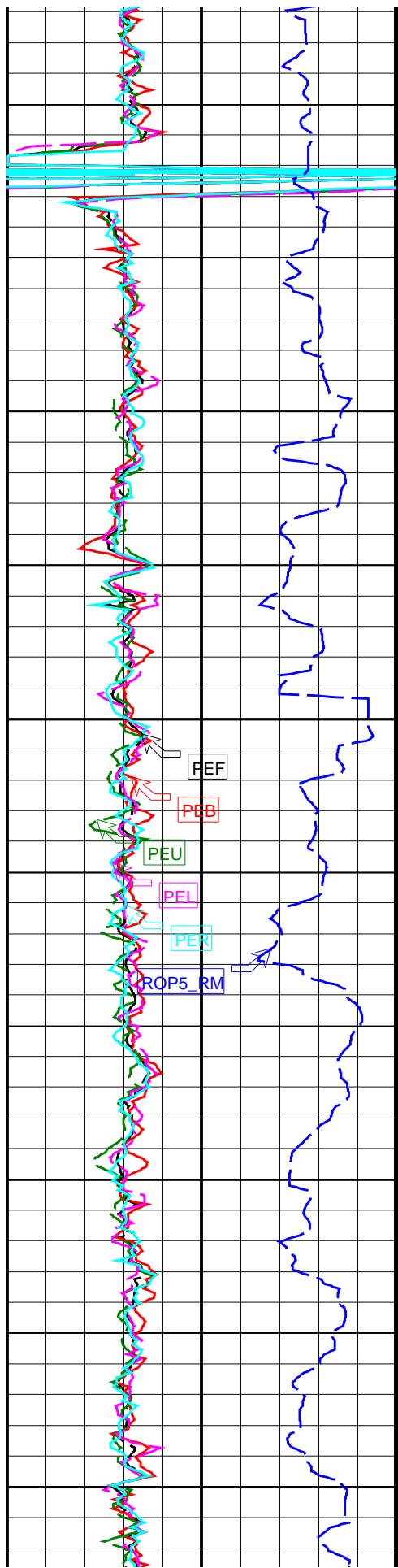






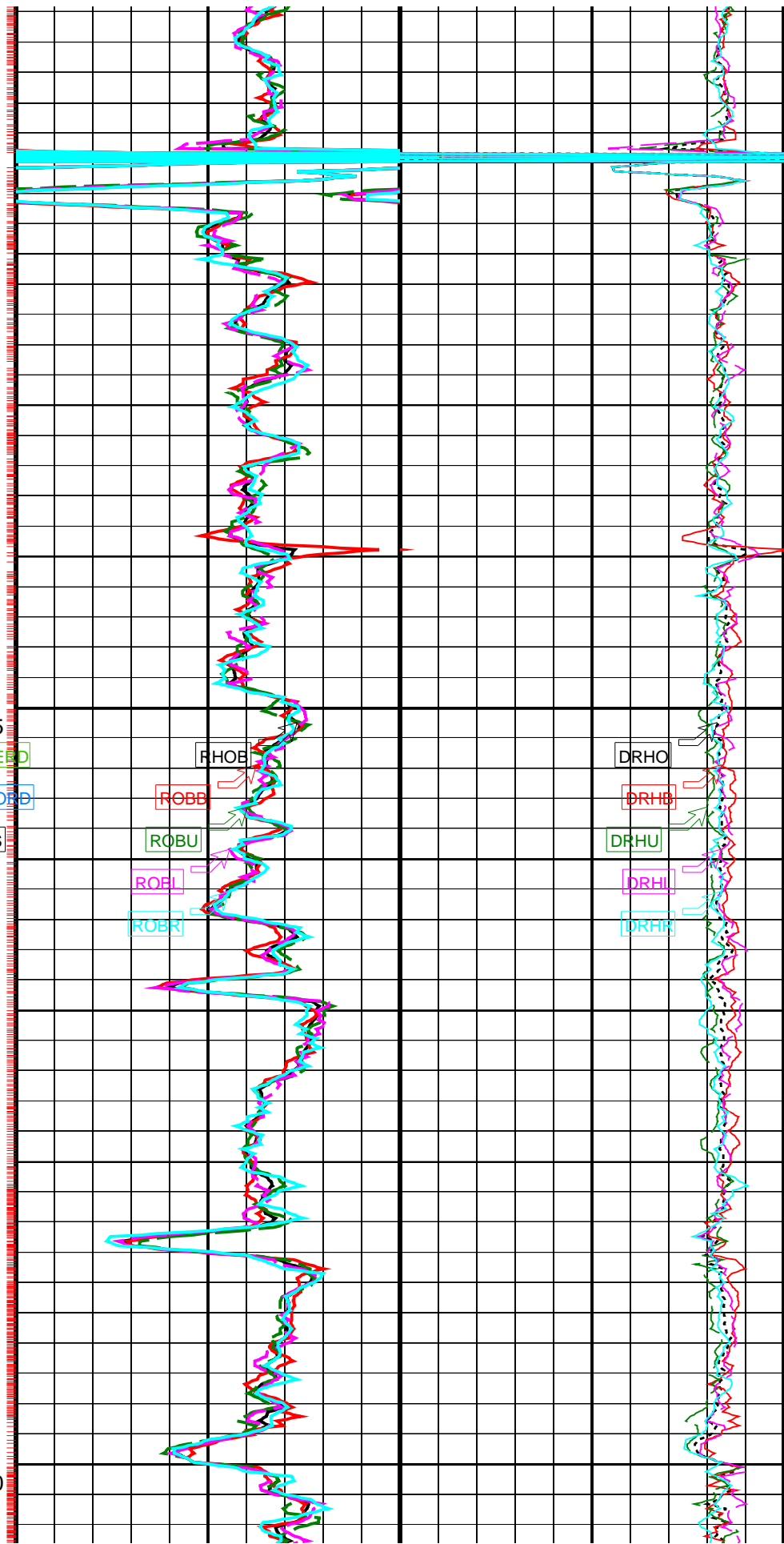


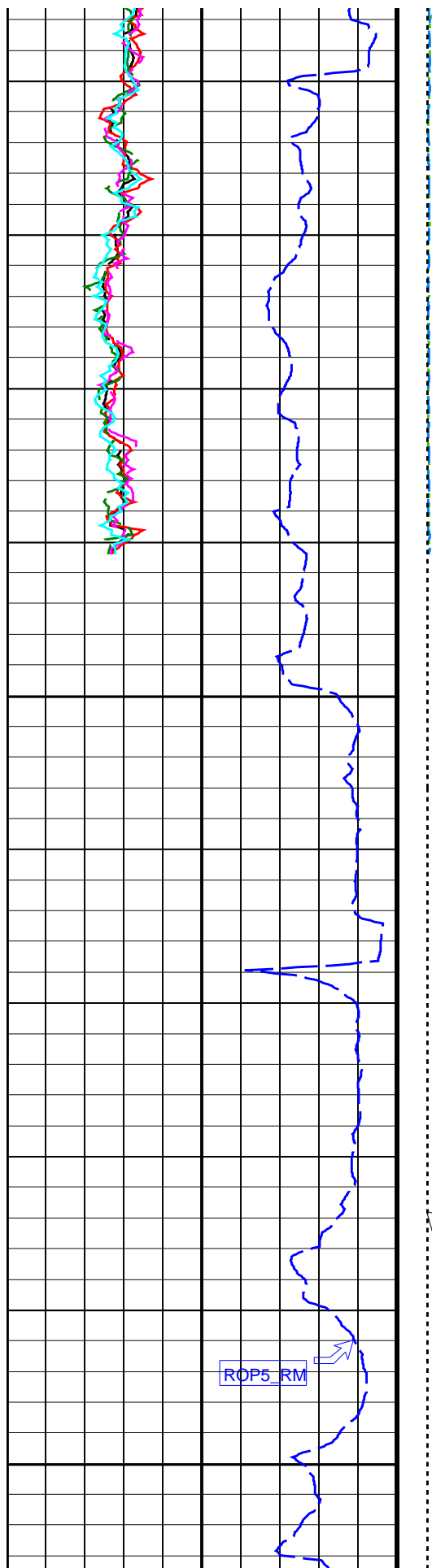




4875
VERD
HORB
BS

4900

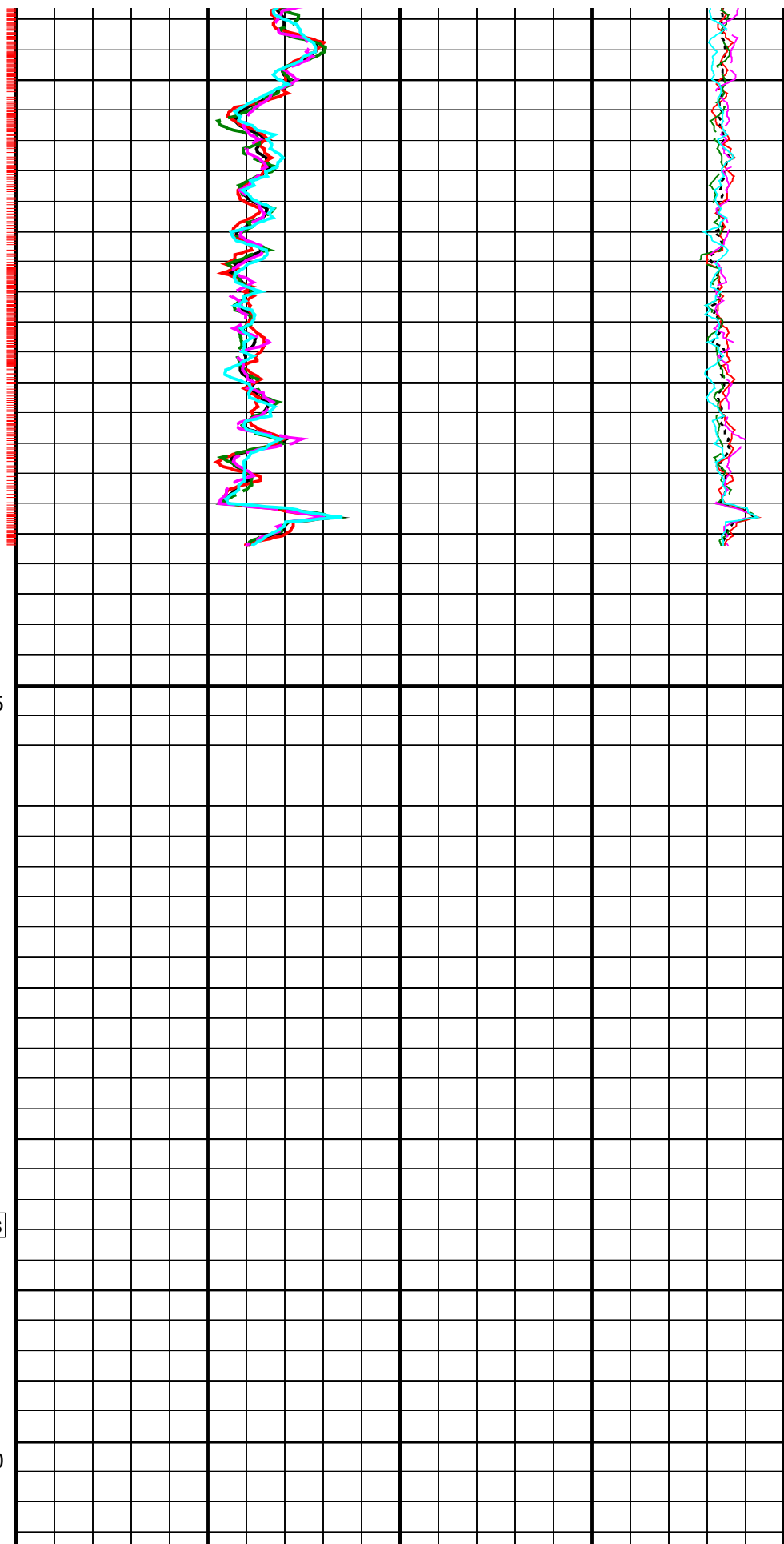




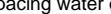

4925

BS


4950



| Phase | LS window 3 – Background | CPS | Value | Phase | SS window 1 – Background | CPS | Value | Phase | SS window 3 – Background | CPS | Value |
|--------|--------------------------|--------------------|--------------------|--------|--------------------------|--------------------|--------------------|--------|--------------------------|--------------------|-------------------|
| Master | | | 33.84 | Master | | | 106.5 | Master | | | 474.2 |
| | 15.00 (Minimum) | 82.50 (Nominal) | 150.0 (Maximum) | | 40.00 (Minimum) | 220.0 (Nominal) | 400.0 (Maximum) | | 150.0 (Minimum) | 825.0 (Nominal) | 1500 (Maximum) |

| | | | | | | | | | | | |
|--|---|--------------------|--------------------|------|-------|--------|---|--------------------|--------------------|------|-------|
| Master: 21–Jun–2005 11:22 | | | | | | | | | | | |
| 6.75–in. Azimuthal Density Neutron Calibration | | | | | | | | | | | |
| Density: Water Block Check | | | | | | | | | | | |
| Phase | Long spacing water density | | | G/C3 | Value | Phase | Short spacing water density | | | G/C3 | Value |
| Master |  | | | | 1.030 | Master |  | | | | 1.120 |
| | 1.024 (Minimum) | 1.039 (Nominal) | 1.054 (Maximum) | | | | 1.096 (Minimum) | 1.126 (Nominal) | 1.156 (Maximum) | | |

| | | | | | | | | | | | | | | |
|--|---------------------------------|-----|--------------------|--------------------|---------------------------------|-----|-------|--------------------|---------------------------------|--------------------|-------|--|--------------------|--------------------|
| Master: 21–Jun–2005 11:22 | | | | | | | | | | | | | | |
| 6.75–in. Azimuthal Density Neutron Calibration | | | | | | | | | | | | | | |
| Neutron: 3–Point Calibration | | | | | | | | | | | | | | |
| Phase | Far 1 tube 1 Air Point Measure | CPS | Value | Phase | Far 1 tube 1 Rod Point Measure | CPS | Value | Phase | Far 1 tube 1 H2O Point Measure | CPS | Value | | | |
| Master | | | 17.01 | Master | | | 4.142 | Master | | | 2.060 | | | |
| 15.00 (Minimum) | | | 19.05 (Nominal) | 21.00 (Maximum) | 4.000 (Minimum) | | | 4.857 (Nominal) | 5.500 (Maximum) | 1.900 (Minimum) | | | 2.363 (Nominal) | 2.700 (Maximum) |
| Phase | Far 1 tube 2 Air Point Measure | CPS | Value | Phase | Far 1 tube 2 Rod Point Measure | CPS | Value | Phase | Far 1 tube 2 H2O Point Measure | CPS | Value | | | |
| Master | | | 18.12 | Master | | | 4.335 | Master | | | 2.137 | | | |
| 16.00 (Minimum) | | | 19.05 (Nominal) | 22.00 (Maximum) | 4.000 (Minimum) | | | 4.857 (Nominal) | 5.500 (Maximum) | 1.900 (Minimum) | | | 2.363 (Nominal) | 2.800 (Maximum) |
| Phase | Far 1 tube 3 Air Point Measure | CPS | Value | Phase | Far 1 tube 3 Rod Point Measure | CPS | Value | Phase | Far 1 tube 3 H2O Point Measure | CPS | Value | | | |
| Master | | | 17.15 | Master | | | 4.188 | Master | | | 2.066 | | | |
| 15.00 (Minimum) | | | 19.05 (Nominal) | 21.00 (Maximum) | 4.000 (Minimum) | | | 4.857 (Nominal) | 5.500 (Maximum) | 1.900 (Minimum) | | | 2.363 (Nominal) | 2.700 (Maximum) |
| Phase | Far 2 tube 1 Air Point Measure | CPS | Value | Phase | Far 2 tube 1 Rod Point Measure | CPS | Value | Phase | Far 2 tube 1 H2O Point Measure | CPS | Value | | | |
| Master | | | 17.52 | Master | | | 4.365 | Master | | | 2.173 | | | |
| 15.00 (Minimum) | | | 19.05 (Nominal) | 21.00 (Maximum) | 4.000 (Minimum) | | | 4.857 (Nominal) | 5.500 (Maximum) | 1.900 (Minimum) | | | 2.363 (Nominal) | 2.700 (Maximum) |
| Phase | Far 2 tube 2 Air Point Measure | CPS | Value | Phase | Far 2 tube 2 Rod Point Measure | CPS | Value | Phase | Far 2 tube 2 H2O Point Measure | CPS | Value | | | |
| Master | | | 18.07 | Master | | | 4.211 | Master | | | 1.982 | | | |
| 16.00 (Minimum) | | | 19.05 (Nominal) | 22.00 (Maximum) | 4.000 (Minimum) | | | 4.857 (Nominal) | 5.500 (Maximum) | 1.900 (Minimum) | | | 2.363 (Nominal) | 2.800 (Maximum) |
| Phase | Far 2 tube 3 Air Point Measure | CPS | Value | Phase | Far 2 tube 3 Rod Point Measure | CPS | Value | Phase | Far 2 tube 3 H2O Point Measure | CPS | Value | | | |
| Master | | | 17.03 | Master | | | 4.348 | Master | | | 2.060 | | | |
| 15.00 (Minimum) | | | 19.05 (Nominal) | 21.00 (Maximum) | 4.000 (Minimum) | | | 4.857 (Nominal) | 5.500 (Maximum) | 1.900 (Minimum) | | | 2.363 (Nominal) | 2.700 (Maximum) |
| Phase | Near 1 tube 1 Air Point Measure | CPS | Value | Phase | Near 1 tube 1 Rod Point Measure | CPS | Value | Phase | Near 1 tube 1 H2O Point Measure | CPS | Value | | | |
| Master | | | 458.8 | Master | | | 722.7 | Master | | | 319.9 | | | |
| 400.0 (Minimum) | | | 487.5 (Nominal) | 540.0 (Maximum) | 610.0 (Minimum) | | | 768.8 (Nominal) | 850.0 (Maximum) | 270.0 (Minimum) | | | 343.7 (Nominal) | 390.0 (Maximum) |
| Phase | Near 2 tube 1 Air Point Measure | CPS | Value | Phase | Near 2 tube 1 Rod Point Measure | CPS | Value | Phase | Near 2 tube 1 H2O Point Measure | CPS | Value | | | |
| Master | | | 454.0 | Master | | | 727.3 | Master | | | 320.0 | | | |
| 400.0 (Minimum) | | | 487.5 (Nominal) | 540.0 (Maximum) | 610.0 (Minimum) | | | 768.8 (Nominal) | 850.0 (Maximum) | 270.0 (Minimum) | | | 343.7 (Nominal) | 390.0 (Maximum) |

| | | | | | | | | | |
|--|---|--------------------|--|--|--|--|--|--------------------|-------|
| Master: 21-Jun-2005 11:22 | | | | | | | | | |
| 6.75-in. Azimuthal Density Neutron Calibration | | | | | | | | | |
| Neutron: Water Block Check | | | | | | | | | |
| Phase | Far Neutron water porosity PU | | | | | | | | Value |
| Master |  | | | | | | | | 92.83 |
| | 90.00 (Minimum) | 100.0 (Nominal) | | | | | | 125.0 (Maximum) | |

6.75-in. Array Resistivity Compensated / Equipment Identification

Primary Equipment:

Tool Name and Serial Number

ARC6 – BA

669











ARC675 Calibration Status

Valid

Master: 21-Jun-2005 17:38

6.75-in. Array Resistivity Compensated Calibration











Resistivity: Air

| Phase | Phase-Shift T1 | | Value | Phase | Phase-Shift T2 | | Value | Phase | Phase-Shift T3 | | Value | |
|---------------------|--|--|---------------------|---------------------|---|--|---------------------|---------------------|---|--|---------------------|--------------------|
| Master |  | | 1.268 | Master |  | | -1.170 | Master |  | | 1.197 | |
| -3.900 (Minimum) | | | 0.1000 (Nominal) | -3.900 (Minimum) | | | 0.1000 (Nominal) | -3.900 (Minimum) | | | 0.1000 (Nominal) | 4.100 (Maximum) |
| Phase | Phase-Shift T4 | | Value | Phase | Phase-Shift T5 | | Value | Phase | Phase-Shift T1 at 400KHz | | Value | |
| Master |  | | -1.217 | Master |  | | 1.178 | Master |  | | -0.01753 | |
| -3.900 (Minimum) | | | 0.1000 (Nominal) | -3.900 (Minimum) | | | 0.1000 (Nominal) | -3.900 (Minimum) | | | 0.1000 (Nominal) | 4.100 (Maximum) |
| Phase | Phase-Shift T2 at 400KHz | | Value | Phase | Phase-Shift T3 at 400KHz | | Value | Phase | Phase-Shift T4 at 400KHz | | Value | |
| Master |  | | -0.06656 | Master |  | | 0.006531 | Master |  | | -0.06732 | |
| -3.900 (Minimum) | | | 0.1000 (Nominal) | -3.900 (Minimum) | | | 0.1000 (Nominal) | -3.900 (Minimum) | | | 0.1000 (Nominal) | 4.100 (Maximum) |
| Phase | Phase-Shift T5 at 400KHz | | Value | | | | | | | | | |
| Master |  | | -0.002529 | | | | | | | | | |
| -3.900 (Minimum) | | | 0.1000 (Nominal) | | | | | | | | | |

Master: 21-Jun-2005 17:38

6.75-in. Array Resistivity Compensated Calibration

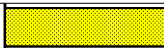
Resistivity: Air

| Phase | Attenuation T1 | | Value | Phase | Attenuation T2 | | Value | Phase | Attenuation T3 | | Value |
|---|---|--|-------|---|---|--|-------|---|---|--|-------|
| Master |  | | 8.679 | Master |  | | 6.273 | Master |  | | 5.309 |
| 6.500 (Minimum) 8.500 (Nominal) 10.50 (Maximum) | | | | 4.500 (Minimum) 6.500 (Nominal) 8.500 (Maximum) | | | | 2.500 (Minimum) 4.500 (Nominal) 6.500 (Maximum) | | | |
| Phase | Attenuation T4 | | Value | Phase | Attenuation T5 | | Value | Phase | Attenuation T1 at 400KHz | | Value |
| Master |  | | 4.192 | Master |  | | 3.867 | Master |  | | 8.755 |
| 2.600 (Minimum) 4.600 (Nominal) 6.600 (Maximum) | | | | 1.600 (Minimum) 3.600 (Nominal) 5.600 (Maximum) | | | | 6.500 (Minimum) 8.500 (Nominal) 10.50 (Maximum) | | | |
| Phase | Attenuation T2 at 400KHz | | Value | Phase | Attenuation T3 at 400KHz | | Value | Phase | Attenuation T4 at 400KHz | | Value |
| Master |  | | 6.204 | Master |  | | 5.371 | Master |  | | 4.116 |
| 4.500 (Minimum) 6.500 (Nominal) 8.500 (Maximum) | | | | 2.500 (Minimum) 4.500 (Nominal) 6.500 (Maximum) | | | | 2.600 (Minimum) 4.600 (Nominal) 6.600 (Maximum) | | | |
| Phase | Attenuation T5 at 400KHz | | Value | | | | | | | | |
| Master |  | | 3.943 | | | | | | | | |
| 1.600 (Minimum) 3.600 (Nominal) 5.600 (Maximum) | | | | | | | | | | | |

Master: 21-Jun-2005 14:57

6.75-in. Array Resistivity Compensated Calibration

Gamma Ray: Blanket

| Phase | Gamma ray factor (equals Calibration Gain multiplied by API Gain Factor) | CPS | Value |
|--------|---|--------------------|--------------------|
| Master |  | | 5.205 |
| | 2.780 (Minimum) | 4.800 (Nominal) | 6.000 (Maximum) |

SCHLUMBERGER

Survey report

21-Jul-2005 00:25:19

Page 1 of 7

Client..... ESSO Australia Pty. Ltd.
 Field..... Bream B

Well..... BMB-B17
 API number.....
 Engineer..... J.Dolan, M.Y.Tan, D.Hastie
 RIG..... ENSCO 102
 STATE..... Victoria

Spud date..... 03-Jul-05
 Last survey date..... 20-Jul-05
 Total accepted surveys.... 166
 MD of first survey..... 176.60 m
 MD of last survey..... 4955.00 m

----- Survey calculation methods-----
 Method for positions..... Minimum curvature
 Method for DLS..... Mason & Taylor

----- Geomagnetic data -----
 Magnetic model..... BGM version 2004
 Magnetic date..... 07-Jul-2005
 Magnetic field strength... 1202.98 HCNT
 Magnetic dec (+E/W-)..... 13.13 degrees
 Magnetic dip..... -69.03 degrees

----- Depth reference -----
 Permanent datum..... Mean Sea Level
 Depth reference..... Driller's Depth
 GL above permanent..... -61.00 m
 KB above permanent..... Top Drive
 DF above permanent..... 47.17 m

----- MWD survey Reference Criteria -----
 Reference G..... 1000.05 mGal
 Reference H..... 1202.98 HCNT
 Reference Dip..... -69.03 degrees
 Tolerance of G..... (+/-) 2.50 mGal
 Tolerance of H..... (+/-) 6.00 HCNT
 Tolerance of Dip..... (+/-) 0.45 degrees

----- Vertical section origin-----
 Latitude (+N/S-)..... -8.30 m
 Departure (+E/W-)..... 1.90 m

----- Corrections -----
 Magnetic dec (+E/W-)..... 13.13 degrees
 Grid convergence (+E/W-).. -0.52 degrees
 Total az corr (+E/W-)..... 13.65 degrees
 (Total az corr = magnetic dec - grid conv)

----- Platform reference point-----
 Latitude (+N/S-).....
 Departure (+E/W-).....

Survey Correction Type ...:
 I=Sag Corrected Inclination
 M=Schlumberger Magnetic Correction
 S=Shell Magnetic Correction
 F=Failed Axis Correction
 R=Magnetic Resonance Tool Correction
 D=Dmag Magnetic Correction

Azimuth from Vsect Origin to target: 262.95 degrees

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| Seq # | Measured depth (m) | Incl angle (deg) | Azimuth angle (deg) | Course length (m) | TVD depth (m) | Vertical section (m) | Displ +N/S- (m) | Displ +E/W- (m) | Total displ (m) | Atm Azim (deg) | DLS (deg/100f) | Srvy tool type | Tool Corr (deg) |
|-------|--------------------|------------------|---------------------|-------------------|---------------|----------------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-----------------|
| 1 | 176.60 | 0.04 | 183.64 | 0.00 | 176.60 | -0.02 | -8.30 | 1.92 | 8.52 | 166.98 | 0.00 | TIP | None |
| 2 | 184.83 | 1.13 | 182.03 | 8.23 | 184.83 | -0.01 | -8.38 | 1.92 | 8.60 | 167.12 | 4.04 | GYR | None |
| 3 | 213.43 | 3.56 | 179.37 | 28.60 | 213.40 | 0.14 | -9.55 | 1.92 | 9.74 | 168.66 | 2.59 | GYR | None |
| 4 | 223.59 | 3.72 | 184.92 | 10.16 | 223.54 | 0.24 | -10.20 | 1.89 | 10.37 | 169.47 | 1.04 | GYR | None |
| 5 | 242.62 | 4.46 | 196.22 | 19.03 | 242.52 | 0.65 | -11.52 | 1.64 | 11.64 | 171.88 | 1.80 | GYR | None |
| 6 | 271.64 | 8.75 | 218.77 | 29.02 | 271.35 | 2.68 | -14.32 | -0.05 | 14.32 | 180.21 | 5.18 | GYR | None |
| 7 | 300.55 | 10.26 | 241.47 | 28.91 | 299.87 | 6.65 | -17.27 | -3.69 | 17.66 | 192.07 | 4.23 | GYR | None |
| 8 | 329.43 | 14.91 | 265.50 | 28.88 | 328.07 | 12.76 | -18.79 | -9.66 | 21.12 | 207.21 | 7.28 | GYR | None |
| 9 | 358.38 | 18.09 | 268.20 | 28.95 | 355.83 | 20.96 | -19.22 | -17.87 | 26.24 | 222.91 | 3.45 | GYR | None |
| 10 | 376.71 | 19.26 | 267.42 | 18.33 | 373.19 | 26.80 | -19.45 | -23.73 | 30.68 | 230.67 | 1.99 | MWD | None |
| 11 | 405.38 | 22.00 | 267.42 | 28.67 | 400.02 | 36.87 | -19.90 | -33.82 | 39.24 | 239.53 | 2.91 | MWD | None |
| 12 | 434.55 | 26.55 | 267.16 | 29.17 | 426.60 | 48.83 | -20.47 | -45.80 | 50.16 | 245.92 | 4.76 | MWD | None |
| 13 | 463.47 | 30.39 | 267.57 | 28.92 | 452.02 | 62.57 | -21.10 | -59.57 | 63.19 | 250.49 | 4.05 | MWD | None |
| 14 | 492.68 | 34.12 | 269.90 | 29.21 | 476.72 | 78.07 | -21.43 | -75.15 | 78.14 | 254.08 | 4.10 | MWD | None |
| 15 | 521.56 | 37.60 | 271.58 | 28.88 | 500.12 | 94.83 | -21.20 | -92.06 | 94.47 | 257.03 | 3.82 | MWD | None |
| 16 | 550.51 | 41.70 | 271.67 | 28.95 | 522.41 | 113.09 | -20.68 | -110.52 | 112.44 | 259.40 | 4.32 | MWD | None |
| 17 | 579.54 | 44.80 | 271.95 | 29.03 | 543.55 | 132.74 | -20.05 | -130.40 | 131.93 | 261.26 | 3.26 | MWD | None |
| 18 | 608.87 | 48.46 | 271.91 | 29.33 | 563.69 | 153.80 | -19.33 | -151.70 | 152.93 | 262.74 | 3.80 | MWD | None |
| 19 | 638.03 | 52.67 | 271.80 | 29.16 | 582.21 | 176.04 | -18.60 | -174.21 | 175.20 | 263.90 | 4.40 | MWD | None |
| 20 | 667.20 | 55.95 | 271.13 | 29.17 | 599.22 | 199.47 | -18.00 | -197.89 | 198.71 | 264.80 | 3.47 | MWD | None |
| 21 | 695.98 | 60.12 | 271.59 | 28.78 | 614.46 | 223.62 | -17.42 | -222.29 | 222.97 | 265.52 | 4.44 | MWD | None |
| 22 | 725.38 | 64.35 | 273.81 | 29.40 | 628.15 | 249.25 | -16.18 | -248.27 | 248.80 | 266.27 | 4.83 | MWD | None |
| 23 | 754.29 | 64.78 | 274.68 | 28.91 | 640.57 | 274.85 | -14.25 | -274.31 | 274.68 | 267.03 | 0.94 | MWD | None |
| 24 | 783.25 | 65.32 | 275.18 | 28.96 | 652.78 | 300.53 | -11.99 | -300.47 | 300.70 | 267.71 | 0.74 | MWD | None |
| 25 | 818.77 | 67.01 | 273.50 | 35.52 | 667.14 | 332.38 | -9.54 | -332.86 | 333.00 | 268.36 | 1.96 | MWD | None |
| 26 | 854.11 | 67.18 | 274.13 | 35.34 | 680.89 | 364.35 | -7.37 | -365.34 | 365.42 | 268.84 | 0.52 | MWD | None |
| 27 | 883.53 | 67.37 | 274.24 | 29.42 | 692.26 | 390.97 | -5.39 | -392.41 | 392.44 | 269.21 | 0.22 | MWD | None |
| 28 | 912.19 | 67.47 | 274.39 | 28.66 | 703.26 | 416.91 | -3.40 | -418.79 | 418.81 | 269.53 | 0.18 | MWD | None |
| 29 | 941.56 | 67.64 | 274.39 | 29.37 | 714.47 | 443.52 | -1.32 | -445.86 | 445.86 | 269.83 | 0.18 | MWD | None |
| 30 | 970.95 | 67.57 | 274.58 | 29.39 | 725.67 | 470.14 | 0.80 | -472.95 | 472.95 | 270.10 | 0.20 | MWD | None |

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| Seq # | Measured depth (m) | Incl angle (deg) | Azimuth angle (deg) | Course length (m) | TVD depth (m) | Vertical section (m) | Displ +N/S- (m) | Displ +E/W- (m) | Total displ (m) | At Azim (deg) | DLS (deg/ 100f) | Srvy tool type | Tool Corr (deg) |
|----------|--------------------------|------------------------|---------------------------|-------------------------|---------------------|----------------------------|-----------------------|-----------------------|-----------------------|---------------------|-----------------------|----------------------|-----------------------|
| 31 | 1000.05 | 67.26 | 274.68 | 29.10 | 736.85 | 496.45 | 2.97 | -499.73 | 499.74 | 270.34 | 0.34 | MWD | None |
| 32 | 1029.41 | 66.85 | 275.24 | 29.36 | 748.29 | 522.90 | 5.31 | -526.66 | 526.69 | 270.58 | 0.68 | MWD | None |
| 33 | 1057.37 | 66.83 | 275.77 | 27.96 | 759.29 | 547.99 | 7.77 | -552.25 | 552.31 | 270.81 | 0.53 | MWD | None |
| 34 | 1087.17 | 65.53 | 276.46 | 29.80 | 771.33 | 574.53 | 10.68 | -579.36 | 579.46 | 271.06 | 1.48 | MWD | None |
| 35 | 1115.97 | 65.95 | 276.52 | 28.80 | 783.16 | 600.06 | 13.65 | -605.45 | 605.60 | 271.29 | 0.45 | MWD | None |
| 36 | 1144.88 | 66.14 | 276.01 | 28.91 | 794.90 | 625.77 | 16.53 | -631.71 | 631.93 | 271.50 | 0.53 | MWD | None |
| 37 | 1173.62 | 66.62 | 273.57 | 28.74 | 806.41 | 651.54 | 18.73 | -657.95 | 658.21 | 271.63 | 2.42 | MWD | None |
| 38 | 1202.81 | 66.84 | 271.28 | 29.19 | 817.95 | 677.99 | 19.86 | -684.74 | 685.02 | 271.66 | 2.21 | MWD | None |
| 39 | 1231.62 | 66.76 | 271.15 | 28.81 | 829.30 | 704.19 | 20.42 | -711.21 | 711.50 | 271.64 | 0.15 | MWD | None |
| 40 | 1260.58 | 66.85 | 271.17 | 28.96 | 840.70 | 730.54 | 20.96 | -737.82 | 738.12 | 271.63 | 0.10 | MWD | None |
| 41 | 1289.26 | 66.39 | 271.05 | 28.68 | 852.08 | 756.60 | 21.47 | -764.14 | 764.45 | 271.61 | 0.50 | MWD | None |
| 42 | 1318.24 | 66.25 | 271.26 | 28.98 | 863.72 | 782.87 | 22.01 | -790.68 | 790.98 | 271.59 | 0.25 | MWD | None |
| 43 | 1347.08 | 66.51 | 270.71 | 28.84 | 875.28 | 809.03 | 22.46 | -817.10 | 817.41 | 271.57 | 0.60 | MWD | None |
| 44 | 1376.15 | 67.18 | 270.40 | 29.07 | 886.71 | 835.52 | 22.72 | -843.82 | 844.13 | 271.54 | 0.76 | MWD | None |
| 45 | 1405.05 | 67.15 | 270.07 | 28.90 | 897.92 | 861.94 | 22.83 | -870.46 | 870.76 | 271.50 | 0.32 | MWD | None |
| 46 | 1434.14 | 67.43 | 269.66 | 29.09 | 909.15 | 888.58 | 22.76 | -897.29 | 897.58 | 271.45 | 0.49 | MWD | None |
| 47 | 1462.93 | 67.01 | 268.80 | 28.79 | 920.30 | 914.97 | 22.41 | -923.84 | 924.11 | 271.39 | 0.95 | MWD | None |
| 48 | 1492.22 | 67.44 | 268.83 | 29.29 | 931.64 | 941.83 | 21.85 | -950.84 | 951.09 | 271.32 | 0.45 | MWD | None |
| 49 | 1521.04 | 67.82 | 268.79 | 28.82 | 942.61 | 968.34 | 21.30 | -977.48 | 977.71 | 271.25 | 0.40 | MWD | None |
| 50 | 1549.99 | 67.58 | 268.90 | 28.95 | 953.59 | 994.99 | 20.76 | -1004.26 | 1004.48 | 271.18 | 0.27 | MWD | None |
| 51 | 1579.01 | 68.11 | 269.05 | 29.02 | 964.54 | 1021.72 | 20.28 | -1031.13 | 1031.33 | 271.13 | 0.58 | MWD | None |
| 52 | 1608.07 | 68.31 | 269.31 | 29.06 | 975.33 | 1048.54 | 19.89 | -1058.11 | 1058.30 | 271.08 | 0.33 | MWD | None |
| 53 | 1636.95 | 68.63 | 269.58 | 28.88 | 985.92 | 1075.23 | 19.63 | -1084.98 | 1085.16 | 271.04 | 0.43 | MWD | None |
| 54 | 1666.13 | 68.90 | 270.38 | 29.18 | 996.49 | 1102.23 | 19.62 | -1112.18 | 1112.35 | 271.01 | 0.83 | MWD | None |
| 55 | 1695.25 | 68.90 | 271.14 | 29.12 | 1006.98 | 1129.14 | 19.98 | -1139.34 | 1139.52 | 271.00 | 0.74 | MWD | None |
| 56 | 1724.30 | 69.09 | 271.81 | 29.05 | 1017.39 | 1155.96 | 20.68 | -1166.45 | 1166.64 | 271.02 | 0.69 | MWD | None |
| 57 | 1753.32 | 69.21 | 272.75 | 29.02 | 1027.72 | 1182.72 | 21.76 | -1193.55 | 1193.75 | 271.04 | 0.93 | MWD | None |
| 58 | 1782.48 | 69.09 | 272.97 | 29.15 | 1038.09 | 1209.56 | 23.12 | -1220.76 | 1220.98 | 271.08 | 0.25 | MWD | None |
| 59 | 1811.46 | 69.33 | 273.59 | 28.99 | 1048.38 | 1236.22 | 24.67 | -1247.81 | 1248.06 | 271.13 | 0.66 | MWD | None |
| 60 | 1840.15 | 69.21 | 274.40 | 28.69 | 1058.54 | 1262.56 | 26.54 | -1274.58 | 1274.86 | 271.19 | 0.81 | MWD | None |

| Seq # | Measured depth (m) | Incl angle (deg) | Azimuth angle (deg) | Course length (m) | TVD depth (m) | Vertical section (m) | Displ +N/S- (m) | Displ +E/W- (m) | Total displ (m) | At Azim (deg) | DLS (deg/ 100f) | Srvy tool type | Tool Corr (deg) |
|----------|--------------------------|------------------------|---------------------------|-------------------------|---------------------|----------------------------|-----------------------|-----------------------|-----------------------|---------------------|-----------------------|----------------------|-----------------------|
| 61 | 1869.23 | 69.00 | 274.33 | 29.08 | 1068.91 | 1289.19 | 28.60 | -1301.67 | 1301.98 | 271.26 | 0.23 | MWD | None |
| 62 | 1897.95 | 68.96 | 274.92 | 28.72 | 1079.21 | 1315.44 | 30.77 | -1328.39 | 1328.75 | 271.33 | 0.59 | MWD | None |
| 63 | 1926.96 | 68.73 | 275.07 | 29.01 | 1089.68 | 1341.90 | 33.12 | -1355.34 | 1355.75 | 271.40 | 0.28 | MWD | None |
| 64 | 1956.12 | 68.62 | 275.18 | 29.16 | 1100.29 | 1368.45 | 35.55 | -1382.40 | 1382.86 | 271.47 | 0.16 | MWD | None |
| 65 | 1985.11 | 68.49 | 275.64 | 28.99 | 1110.89 | 1394.80 | 38.09 | -1409.26 | 1409.78 | 271.55 | 0.47 | MWD | None |
| 66 | 2013.72 | 68.42 | 275.77 | 28.61 | 1121.39 | 1420.75 | 40.74 | -1435.74 | 1436.32 | 271.63 | 0.15 | MWD | None |
| 67 | 2043.27 | 68.42 | 276.11 | 29.55 | 1132.26 | 1447.53 | 43.58 | -1463.07 | 1463.72 | 271.71 | 0.33 | MWD | None |
| 68 | 2072.90 | 68.54 | 276.03 | 29.63 | 1143.13 | 1474.37 | 46.50 | -1490.48 | 1491.21 | 271.79 | 0.15 | MWD | None |
| 69 | 2101.21 | 68.59 | 276.22 | 28.31 | 1153.47 | 1500.03 | 49.31 | -1516.68 | 1517.48 | 271.86 | 0.20 | MWD | None |
| 70 | 2130.32 | 68.73 | 276.28 | 29.11 | 1164.07 | 1526.42 | 52.26 | -1543.64 | 1544.52 | 271.94 | 0.16 | MWD | None |
| 71 | 2159.55 | 68.71 | 275.76 | 29.23 | 1174.68 | 1552.95 | 55.12 | -1570.72 | 1571.69 | 272.01 | 0.51 | MWD | None |
| 72 | 2187.89 | 68.23 | 275.09 | 28.34 | 1185.08 | 1578.69 | 57.61 | -1596.97 | 1598.01 | 272.07 | 0.85 | MWD | None |
| 73 | 2217.05 | 67.62 | 273.94 | 29.16 | 1196.04 | 1605.16 | 59.74 | -1623.91 | 1625.00 | 272.11 | 1.28 | MWD | None |
| 74 | 2246.05 | 67.18 | 272.93 | 29.00 | 1207.18 | 1631.49 | 61.34 | -1650.63 | 1651.77 | 272.13 | 1.08 | MWD | None |
| 75 | 2275.35 | 67.02 | 272.33 | 29.30 | 1218.58 | 1658.09 | 62.58 | -1677.59 | 1678.76 | 272.14 | 0.60 | MWD | None |
| 76 | 2303.96 | 66.99 | 272.08 | 28.61 | 1229.76 | 1684.09 | 63.59 | -1703.91 | 1705.09 | 272.14 | 0.25 | MWD | None |
| 77 | 2333.53 | 66.77 | 271.98 | 29.57 | 1241.37 | 1710.94 | 64.56 | -1731.09 | 1732.29 | 272.14 | 0.25 | MWD | None |
| 78 | 2362.66 | 66.57 | 271.60 | 29.13 | 1252.91 | 1737.37 | 65.39 | -1757.82 | 1759.04 | 272.13 | 0.42 | MWD | None |
| 79 | 2391.16 | 66.42 | 271.10 | 28.50 | 1264.27 | 1763.23 | 66.01 | -1783.95 | 1785.17 | 272.12 | 0.52 | MWD | None |
| 80 | 2420.52 | 66.29 | 270.97 | 29.36 | 1276.05 | 1789.86 | 66.49 | -1810.84 | 1812.06 | 272.10 | 0.18 | MWD | None |
| 81 | 2449.48 | 66.28 | 270.92 | 28.96 | 1287.70 | 1816.11 | 66.93 | -1837.35 | 1838.57 | 272.09 | 0.05 | MWD | None |
| 82 | 2478.43 | 65.90 | 271.06 | 28.95 | 1299.43 | 1842.32 | 67.39 | -1863.81 | 1865.03 | 272.07 | 0.42 | MWD | None |
| 83 | 2507.38 | 65.86 | 271.31 | 28.95 | 1311.26 | 1868.47 | 67.93 | -1890.23 | 1891.45 | 272.06 | 0.24 | MWD | None |
| 84 | 2536.36 | 65.70 | 271.62 | 28.98 | 1323.15 | 1894.60 | 68.61 | -1916.65 | 1917.88 | 272.05 | 0.34 | MWD | None |
| 85 | 2565.38 | 65.56 | 271.63 | 29.02 | 1335.12 | 1920.74 | 69.36 | -1943.07 | 1944.31 | 272.04 | 0.15 | MWD | None |
| 86 | 2594.40 | 65.45 | 271.70 | 29.02 | 1347.15 | 1946.84 | 70.13 | -1969.47 | 1970.72 | 272.04 | 0.13 | MWD | None |
| 87 | 2623.43 | 65.17 | 271.70 | 29.03 | 1359.28 | 1972.91 | 70.91 | -1995.83 | 1997.09 | 272.03 | 0.29 | MWD | None |
| 88 | 2652.00 | 64.93 | 271.51 | 28.57 | 1371.33 | 1998.52 | 71.63 | -2021.73 | 2023.00 | 272.03 | 0.32 | MWD | None |
| 89 | 2681.57 | 64.64 | 272.01 | 29.57 | 1383.93 | 2024.95 | 72.46 | -2048.47 | 2049.75 | 272.03 | 0.55 | MWD | None |
| 90 | 2710.44 | 64.64 | 271.97 | 28.87 | 1396.29 | 2050.72 | 73.36 | -2074.54 | 2075.84 | 272.03 | 0.04 | MWD | None |

| Seq # | Measured depth (m) | Incl angle (deg) | Azimuth angle (deg) | Course length (m) | TVD depth (m) | Vertical section (m) | Displ +N/S- (m) | Displ +E/W- (m) | Total displ (m) | At Azim (deg) | DLS (deg/ 100f) | Srvy tool type | Tool Corr (deg) |
|----------|--------------------------|------------------------|---------------------------|-------------------------|---------------------|----------------------------|-----------------------|-----------------------|-----------------------|---------------------|-----------------------|----------------------|-----------------------|
|----------|--------------------------|------------------------|---------------------------|-------------------------|---------------------|----------------------------|-----------------------|-----------------------|-----------------------|---------------------|-----------------------|----------------------|-----------------------|

| | | | | | | | | | | | | | |
|-----|---------|-------|--------|-------|---------|---------|--------|----------|---------|--------|------|-----|------|
| 91 | 2739.43 | 65.30 | 272.01 | 28.99 | 1408.56 | 2076.66 | 74.27 | -2100.79 | 2102.10 | 272.02 | 0.69 | MWD | None |
| 92 | 2768.43 | 65.78 | 271.99 | 29.00 | 1420.57 | 2102.73 | 75.20 | -2127.17 | 2128.50 | 272.02 | 0.50 | MWD | None |
| 93 | 2797.42 | 66.38 | 272.44 | 28.99 | 1432.32 | 2128.88 | 76.22 | -2153.65 | 2155.00 | 272.03 | 0.76 | MWD | None |
| 94 | 2826.48 | 66.53 | 272.48 | 29.06 | 1443.93 | 2155.16 | 77.36 | -2180.27 | 2181.64 | 272.03 | 0.16 | MWD | None |
| 95 | 2855.34 | 66.71 | 272.69 | 28.86 | 1455.38 | 2181.27 | 78.56 | -2206.73 | 2208.13 | 272.04 | 0.28 | MWD | None |
| 96 | 2884.25 | 67.03 | 272.95 | 28.91 | 1466.74 | 2207.47 | 79.87 | -2233.29 | 2234.71 | 272.05 | 0.42 | MWD | None |
| 97 | 2913.38 | 67.05 | 273.01 | 29.13 | 1478.10 | 2233.88 | 81.26 | -2260.07 | 2261.53 | 272.06 | 0.06 | MWD | None |
| 98 | 2942.34 | 67.73 | 273.21 | 28.96 | 1489.24 | 2260.19 | 82.71 | -2286.77 | 2288.26 | 272.07 | 0.74 | MWD | None |
| 99 | 2971.33 | 68.13 | 273.23 | 28.99 | 1500.13 | 2286.63 | 84.22 | -2313.59 | 2315.12 | 272.08 | 0.42 | MWD | None |
| 100 | 3000.41 | 68.89 | 273.44 | 29.08 | 1510.78 | 2313.24 | 85.79 | -2340.60 | 2342.17 | 272.10 | 0.82 | MWD | None |
| 101 | 3029.44 | 69.28 | 273.36 | 29.03 | 1521.15 | 2339.91 | 87.40 | -2367.67 | 2369.28 | 272.11 | 0.42 | MWD | None |
| 102 | 3058.81 | 69.90 | 273.38 | 29.37 | 1531.39 | 2366.98 | 89.02 | -2395.15 | 2396.80 | 272.13 | 0.64 | MWD | None |
| 103 | 3088.07 | 69.80 | 273.29 | 29.26 | 1541.47 | 2394.00 | 90.62 | -2422.57 | 2424.27 | 272.14 | 0.14 | MWD | None |
| 104 | 3116.50 | 69.65 | 273.74 | 28.43 | 1551.32 | 2420.22 | 92.25 | -2449.19 | 2450.93 | 272.16 | 0.48 | MWD | None |
| 105 | 3145.03 | 69.35 | 274.06 | 28.53 | 1561.31 | 2446.45 | 94.07 | -2475.85 | 2477.64 | 272.18 | 0.45 | MWD | None |
| 106 | 3174.90 | 69.05 | 274.28 | 29.87 | 1571.92 | 2473.84 | 96.10 | -2503.70 | 2505.55 | 272.20 | 0.37 | MWD | None |
| 107 | 3203.62 | 69.10 | 274.16 | 28.72 | 1582.17 | 2500.15 | 98.08 | -2530.45 | 2532.35 | 272.22 | 0.13 | MWD | None |
| 108 | 3231.95 | 69.12 | 273.82 | 28.33 | 1592.28 | 2526.13 | 99.92 | -2556.86 | 2558.81 | 272.24 | 0.34 | MWD | None |
| 109 | 3261.85 | 69.20 | 274.34 | 29.90 | 1602.91 | 2553.55 | 101.91 | -2584.73 | 2586.74 | 272.26 | 0.50 | MWD | None |
| 110 | 3290.76 | 69.38 | 274.16 | 28.91 | 1613.14 | 2580.07 | 103.91 | -2611.70 | 2613.77 | 272.28 | 0.26 | MWD | None |
| 111 | 3320.19 | 68.08 | 272.09 | 29.43 | 1623.81 | 2607.06 | 105.41 | -2639.08 | 2641.18 | 272.29 | 2.41 | MWD | None |
| 112 | 3348.99 | 66.80 | 269.60 | 28.80 | 1634.86 | 2633.40 | 105.80 | -2665.67 | 2667.77 | 272.27 | 2.79 | MWD | None |
| 113 | 3378.00 | 65.47 | 267.82 | 29.01 | 1646.60 | 2659.79 | 105.21 | -2692.19 | 2694.25 | 272.24 | 2.21 | MWD | None |
| 114 | 3406.72 | 64.01 | 265.64 | 28.72 | 1658.86 | 2685.71 | 103.73 | -2718.12 | 2720.10 | 272.19 | 2.60 | MWD | None |
| 115 | 3436.65 | 62.50 | 263.31 | 29.93 | 1672.33 | 2712.42 | 101.16 | -2744.72 | 2746.58 | 272.11 | 2.62 | MWD | None |
| 116 | 3465.56 | 61.00 | 260.46 | 28.91 | 1686.01 | 2737.88 | 97.57 | -2769.93 | 2771.65 | 272.02 | 3.08 | MWD | None |
| 117 | 3493.87 | 59.97 | 257.54 | 28.31 | 1699.96 | 2762.45 | 92.87 | -2794.11 | 2795.65 | 271.90 | 2.95 | MWD | None |
| 118 | 3522.76 | 58.80 | 254.12 | 28.89 | 1714.68 | 2787.12 | 86.79 | -2818.21 | 2819.55 | 271.76 | 3.34 | MWD | None |
| 119 | 3551.72 | 57.78 | 250.60 | 28.96 | 1729.90 | 2811.33 | 79.33 | -2841.68 | 2842.79 | 271.60 | 3.33 | MWD | None |
| 120 | 3580.80 | 56.75 | 246.98 | 29.08 | 1745.63 | 2835.04 | 70.49 | -2864.48 | 2865.35 | 271.41 | 3.37 | MWD | None |

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| Seq # | Measured depth (m) | Incl angle (deg) | Azimuth angle (deg) | Course length (m) | TVD depth (m) | Vertical section (m) | Displ +N/S- (m) | Displ +E/W- (m) | Total displ (m) | At Azim (deg) | DLS (deg/ 100f) | Srvy tool type | Tool Corr (deg) |
|----------|--------------------------|------------------------|---------------------------|-------------------------|---------------------|----------------------------|-----------------------|-----------------------|-----------------------|---------------------|-----------------------|----------------------|-----------------------|
| 121 | 3609.60 | 55.55 | 243.69 | 28.80 | 1761.68 | 2857.84 | 60.51 | -2886.22 | 2886.85 | 271.20 | 3.16 | MWD | None |
| 122 | 3638.76 | 54.93 | 240.03 | 29.16 | 1778.31 | 2880.18 | 49.22 | -2907.34 | 2907.75 | 270.97 | 3.21 | MWD | None |
| 123 | 3667.68 | 54.16 | 235.71 | 28.92 | 1795.09 | 2901.51 | 36.70 | -2927.28 | 2927.51 | 270.72 | 3.80 | MWD | None |
| 124 | 3696.68 | 53.30 | 231.28 | 29.00 | 1812.25 | 2921.86 | 22.80 | -2946.07 | 2946.16 | 270.44 | 3.86 | MWD | None |
| 125 | 3725.76 | 53.25 | 227.13 | 29.08 | 1829.64 | 2941.24 | 7.58 | -2963.71 | 2963.72 | 270.15 | 3.49 | MWD | None |
| 126 | 3754.65 | 53.96 | 223.06 | 28.89 | 1846.79 | 2959.59 | -8.83 | -2980.17 | 2980.18 | 269.83 | 3.54 | MWD | None |
| 127 | 3783.54 | 54.77 | 220.16 | 28.89 | 1863.62 | 2977.21 | -26.39 | -2995.76 | 2995.87 | 269.50 | 2.63 | MWD | None |
| 128 | 3812.61 | 56.01 | 216.05 | 29.07 | 1880.14 | 2994.17 | -45.21 | -3010.51 | 3010.85 | 269.14 | 3.78 | MWD | None |
| 129 | 3841.38 | 57.08 | 212.30 | 28.77 | 1896.00 | 3009.98 | -65.07 | -3023.99 | 3024.69 | 268.77 | 3.50 | MWD | None |
| 130 | 3870.13 | 58.41 | 211.89 | 28.75 | 1911.35 | 3025.32 | -85.67 | -3036.90 | 3038.11 | 268.38 | 1.46 | MWD | None |
| 131 | 3899.29 | 57.91 | 210.71 | 29.16 | 1926.73 | 3040.69 | -106.83 | -3049.77 | 3051.64 | 267.99 | 1.17 | MWD | None |
| 132 | 3928.90 | 57.02 | 210.67 | 29.61 | 1942.65 | 3055.97 | -128.30 | -3062.51 | 3065.20 | 267.60 | 0.92 | MWD | None |
| 133 | 4015.78 | 53.81 | 210.04 | 86.88 | 1991.96 | 3099.42 | -190.01 | -3098.66 | 3104.48 | 266.49 | 1.14 | MWD | None |
| 134 | 4044.33 | 51.58 | 209.51 | 28.55 | 2009.27 | 3113.03 | -209.72 | -3109.94 | 3117.00 | 266.14 | 2.42 | MWD | None |
| 135 | 4073.26 | 50.24 | 207.64 | 28.93 | 2027.51 | 3126.11 | -229.43 | -3120.68 | 3129.11 | 265.80 | 2.08 | MWD | None |
| 136 | 4102.29 | 46.16 | 206.56 | 29.03 | 2046.85 | 3138.27 | -248.69 | -3130.54 | 3140.41 | 265.46 | 4.37 | MWD | None |
| 137 | 4131.17 | 40.46 | 206.33 | 28.88 | 2067.86 | 3149.20 | -266.42 | -3139.37 | 3150.65 | 265.15 | 6.02 | MWD | None |
| 138 | 4159.95 | 38.23 | 206.44 | 28.78 | 2090.12 | 3159.25 | -282.76 | -3147.47 | 3160.15 | 264.87 | 2.36 | MWD | None |
| 139 | 4188.95 | 34.73 | 205.10 | 29.00 | 2113.43 | 3168.60 | -298.28 | -3154.98 | 3169.04 | 264.60 | 3.77 | MWD | None |
| 140 | 4217.63 | 33.53 | 204.72 | 28.68 | 2137.17 | 3177.12 | -312.88 | -3161.75 | 3177.20 | 264.35 | 1.30 | MWD | None |
| 141 | 4246.94 | 29.53 | 204.89 | 29.31 | 2162.15 | 3185.20 | -326.79 | -3168.18 | 3184.99 | 264.11 | 4.16 | MWD | None |
| 142 | 4275.84 | 25.05 | 205.43 | 28.90 | 2187.82 | 3192.26 | -338.78 | -3173.81 | 3191.84 | 263.91 | 4.73 | MWD | None |
| 143 | 4304.81 | 21.47 | 206.80 | 28.97 | 2214.44 | 3198.51 | -349.05 | -3178.83 | 3197.94 | 263.73 | 3.81 | MWD | None |
| 144 | 4333.81 | 16.56 | 208.03 | 29.00 | 2241.85 | 3203.84 | -357.44 | -3183.17 | 3203.18 | 263.59 | 5.18 | MWD | None |
| 145 | 4362.92 | 15.37 | 209.00 | 29.11 | 2269.83 | 3208.50 | -364.48 | -3186.99 | 3207.77 | 263.48 | 1.28 | MWD | None |
| 146 | 4391.85 | 14.29 | 210.79 | 28.93 | 2297.80 | 3212.94 | -370.90 | -3190.68 | 3212.16 | 263.37 | 1.24 | MWD | None |
| 147 | 4420.81 | 13.66 | 214.12 | 28.96 | 2325.90 | 3217.39 | -376.80 | -3194.43 | 3216.57 | 263.27 | 1.07 | MWD | None |
| 148 | 4450.08 | 13.49 | 215.04 | 29.27 | 2354.35 | 3221.95 | -382.46 | -3198.32 | 3221.11 | 263.18 | 0.29 | MWD | None |
| 149 | 4478.92 | 13.79 | 215.54 | 28.84 | 2382.38 | 3226.53 | -388.01 | -3202.25 | 3225.68 | 263.09 | 0.34 | MWD | None |
| 150 | 4507.60 | 13.77 | 217.99 | 28.68 | 2410.23 | 3231.26 | -393.48 | -3206.34 | 3230.40 | 263.00 | 0.62 | MWD | None |

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| Seq # | Measured depth (m) | Incl angle (deg) | Azimuth angle (deg) | Course length (m) | TVD depth (m) | Vertical section (m) | Displ +N/S- (m) | Displ +E/W- (m) | Total displ (m) | At Azim (deg) | DLS (deg/ 100f) | Srvy tool type | Tool Corr (deg) |
|----------|--------------------------|------------------------|---------------------------|-------------------------|---------------------|----------------------------|-----------------------|-----------------------|-----------------------|---------------------|-----------------------|----------------------|-----------------------|
| 151 | 4536.72 | 13.73 | 218.40 | 29.12 | 2438.52 | 3236.18 | -398.92 | -3210.62 | 3235.31 | 262.92 | 0.11 | MWD | None |
| 152 | 4565.55 | 13.24 | 221.77 | 28.82 | 2466.55 | 3241.10 | -404.06 | -3214.94 | 3240.24 | 262.84 | 0.98 | MWD | None |
| 153 | 4594.41 | 12.52 | 224.81 | 28.87 | 2494.69 | 3246.05 | -408.75 | -3219.35 | 3245.20 | 262.76 | 1.04 | MWD | None |
| 154 | 4623.34 | 11.59 | 227.49 | 28.93 | 2522.98 | 3250.88 | -412.94 | -3223.70 | 3250.04 | 262.70 | 1.14 | MWD | None |
| 155 | 4652.25 | 10.43 | 224.62 | 28.91 | 2551.36 | 3255.30 | -416.76 | -3227.68 | 3254.48 | 262.64 | 1.35 | MWD | None |

| | | | | | | | | | | | | | |
|-----|---------|------|--------|-------|---------|---------|---------|----------|---------|--------|------|------------------|------|
| 156 | 4681.21 | 9.15 | 221.43 | 28.96 | 2579.90 | 3259.08 | -420.36 | -3231.05 | 3258.28 | 262.59 | 1.46 | MWD | None |
| 157 | 4710.37 | 8.01 | 218.08 | 29.16 | 2608.73 | 3262.26 | -423.69 | -3233.84 | 3261.47 | 262.54 | 1.30 | MWD | None |
| 158 | 4739.18 | 7.04 | 216.13 | 28.81 | 2637.29 | 3264.89 | -426.70 | -3236.12 | 3264.13 | 262.49 | 1.06 | MWD | None |
| 159 | 4768.38 | 6.52 | 215.64 | 29.20 | 2666.29 | 3267.23 | -429.49 | -3238.14 | 3266.49 | 262.44 | 0.55 | MWD | None |
| 160 | 4797.13 | 5.98 | 217.69 | 28.75 | 2694.87 | 3269.40 | -432.00 | -3240.00 | 3268.68 | 262.41 | 0.62 | MWD | None |
| 161 | 4826.21 | 5.62 | 212.03 | 29.08 | 2723.80 | 3271.36 | -434.41 | -3241.68 | 3270.66 | 262.37 | 0.71 | MWD | None |
| 162 | 4855.07 | 5.36 | 211.06 | 28.86 | 2752.53 | 3273.08 | -436.76 | -3243.13 | 3272.41 | 262.33 | 0.29 | MWD | None |
| 163 | 4883.83 | 5.16 | 209.56 | 28.76 | 2781.16 | 3274.68 | -439.04 | -3244.46 | 3274.03 | 262.29 | 0.26 | MWD | None |
| 164 | 4913.00 | 5.07 | 210.11 | 29.17 | 2810.22 | 3276.24 | -441.29 | -3245.75 | 3275.62 | 262.26 | 0.11 | MWD | None |
| 165 | 4934.41 | 4.85 | 211.39 | 21.41 | 2831.55 | 3277.38 | -442.88 | -3246.70 | 3276.77 | 262.23 | 0.35 | MWD | None |
| 166 | 4955.00 | 4.80 | 211.50 | 20.59 | 2852.07 | 3278.46 | -444.36 | -3247.60 | 3277.86 | 262.21 | 0.08 | Projection to TD | |

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Company: **ESSO Australia Pty. Ltd.**

Schlumberger

Well: **BMB-B17**

Field: **Bream B**

Rig: **ENSCO 102**

8.5 in. Section

State: **Victoria**

**VISION Quadrant Density
1:200 Measured Depth
Recorded Mode Log**