Schlumberger

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

8.5 in. Section

Well: **BTA−A4A−ST**

Field: **Barracouta**

Rig: **ENSCO 102** State: **Victoria**

Rig: ENSCO 102
Field: Barracouta
Location: Bass Strait
Well: BTA−A4A−ST
Company: ESSO Australia Pty. Ltd.

GeoVISION Quadrant Density
1:200 Measured Depth
Recorded Mode Log

Location

Total depth:	2165.0 m
Spud date:	24−Feb−05
Runs:	2 To 4

Elevation

K.B.	Top Drive
G.L.	−45.7 m
D.F.	56.0 m

Permanent datum:	Mean Sea Level	Elev.:	0.0 m
Log measured from:	Drill Floor	56.0 m	above Perm. datum
Depth reference:	Driller's Depth		

Service Order no.	x = 559117.64 m (East)	Longitude	Latitude
ASQ−05−02	y = 5761070.28 m (North)	E 147º 40' 33.85"	S 38º 17' 47.41"

Depth logged:	848.0 m	To 2132.9 m	Mag decl:	12.974 deg.	Other services:
Date logged:	01−Mar−05	To 07−Mar−05	Mag dip:	−68.872 deg.	Directional Drilling, D&I Survey

Bore hole record

Hole size	from	to
12.25 in.	342.0 m	851.0 m
8.5 in.	851.0 m	2165.0 m

Casing record

Size	Density	from	to
13.375 in.	54.5 lb/ft	Surface	337.0 m
9.625 in.	47.0 lb/ft	Surface	848.0 m

Mud record

Type	from	to
S−W/Bentonite	342.0 m	851.0 m
KCL/PHPA/Glycol	851.0 m	2165.0 m

Borehole deviation record

Min	Max	from	to
0.25 deg.	60.05 deg.	342.0 m	851.0 m
57.71 deg.	63.32 deg.	851.0 m	2165.0 m

Surface equipment

Unit	OLU−JA−9602
Depth system	PDA − DES−DA

Software record

IDEAL Wis	ID9_1C_02	
SPM	hspm9_2c_08	
LWD	V8.3A02	V6.2B01
MWD	V7.0C00	

Bit Run Summary

Run number		2	3	4
Bit size	in.	8.5	8.5	8.5
Bit start depth	m	851.0	1570.0	1930.0
Bit end depth	m	2108.0	1625.0	2165.0
Top interval logged	m	848.0	1562.3	1912.6
Bottom interval logged	m	2090.7	1602.6	2132.9
Begin log: time		11:40	20:15	21:47
Begin log: date		01−Mar−05	04−Mar−05	05−Mar−05
End log: time		02:30	22:30	07:54
End log: date		04−Mar−05	04−Mar−05	07−Mar−05
Mud data				
Depth	m	2084	2084	2165

Type		KCL/PHPA/Glycol	KCL/PHPA/Glycol	KCL/PHPA/Glycol							
Mud weight	ppg	10.0	10.0	10.0							
Solids	%	7.1	7.1	8.1							
Chlorides	mg/L	31000	31000	31000							
Rm	ohm.m@ºC	0.14@24.1	0.14@24.1	0.12@24.0							
Rmf	ohm.m@ºC	0.12@23.5	0.12@23.5	0.13@24.9							
Rmc	ohm.m@ºC	0.23@24.5	0.23@24.5	0.14@24.6							
Potassium	%	6.0	6.0	6.0							
Environmental data											
GR											
Mud weight	ppg	10.0	10.0	10.0							
Bit size	in.	8.5	8.5	8.5							
Resistivity											
Neutron porosity											
Hole Size	in.	8.5	8.5	8.5							
Mud weight	ppg	10.0	10.0	10.0							
Temperature	ºC	70.6	70.6	69.0							
Mud salinity	ppm	45746	45746	47390							
Formation salinity											
Recording rate 1	SEC	10 sec.	10 sec.	10 sec.							
Recording rate 2	SEC	10 sec.	10 sec.	10 sec.							
Filtering GR		3 pt.	3 pt.	3 pt.							
Filtering density		3 pt.	3 pt.	3 pt.							
Filtering Neutron		3 pt.	3 pt.	3 pt.							
Company representative		B. Steel	M. Jackson	A. Bassett							
Anadrill personnel		K. Handley	M. Y. Tan	R. Burns	K. Wilson	D. Hay					

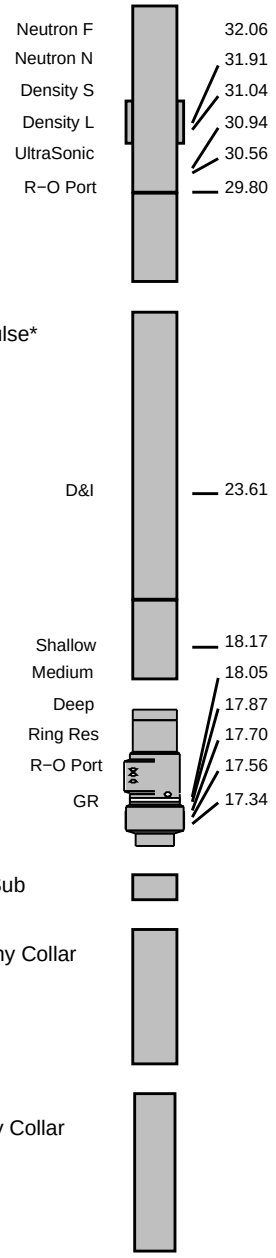
OTHER SERVICES FOR RUN2	OTHER SERVICES FOR RUN3	OTHER SERVICES FOR RUN4
Directional Drilling D&I Survey	Directional Drilling D&I Survey	Directional Drilling D&I Survey
REMARKS: RUN NUMBER 2	**REMARKS: RUN NUMBER 3**	**REMARKS: RUN NUMBER 4**
8−1/2 in. hole section was drilled from 851.0 m to 2108.0 m.	8−1/2 in. hole section was reamed from 1570.0 m to 1625.0 m.	8−1/2 in. hole section was drilled from 1930.0 m to 2165.0 m.
Depth is referenced to Driller's Depth.	Depth is referenced to Driller's Depth.	Depth is referenced to Driller's Depth.
All data presented is from tool memory.	All data presented is from tool memory.	All data presented is from tool memory.
GR corrected for mud weight, tool and bit size.	GR corrected for mud weight, tool and bit size.	GR corrected for mud weight, tool and bit size.
GVR*6 resistivity is corrected for bit size, mud resistivity and borehole temperature.	GVR*6 resistivity is corrected for bit size, mud resistivity and borehole temperature.	GVR*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.	Neutron porosity is calculated with a limestone matrix and is corrected for bit size, borehole salinity, temperature and mud hydrogen index.	Neutron porosity is calculated with a limestone matrix and is corrected for bit size, borehole salinity, temperature and mud hydrogen index.
Ultrasonic Caliper not available during sliding intervals.	PEF readings were affected by the presence of Barite in the mud system.	Ultrasonic Caliper not available during sliding intervals.

sliding intervals. PEF readings were affected by the presence of Barite in the mud system. Data density compromised at high ROP. POOH due to drill plug.	Barite in the mud system. POOH to change BHA.	sliding intervals. PEF readings were affected by the presence of Barite in the mud system. Data density compromised at high ROP. POOH due to penetration rate.

EQUIPMENT DESCRIPTION

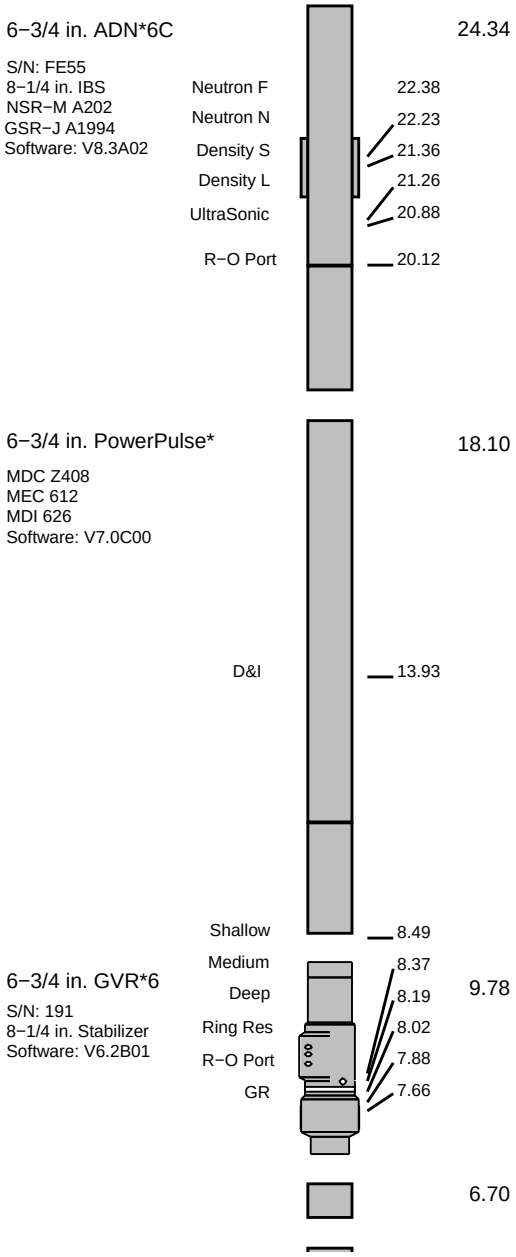
RUN2

DOWNHOLE EQUIPMENT



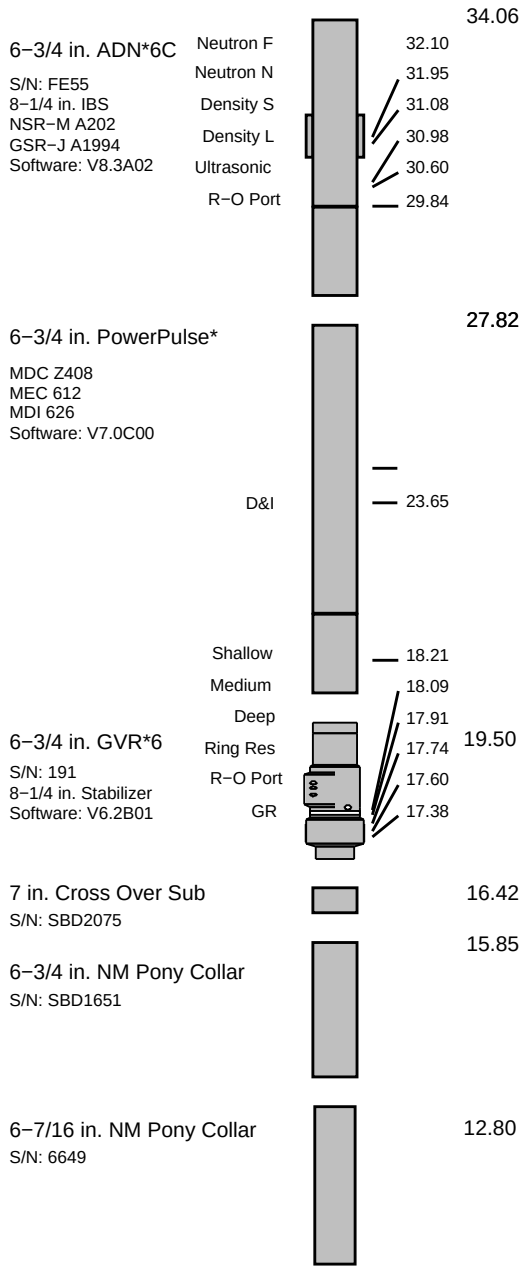
RUN3

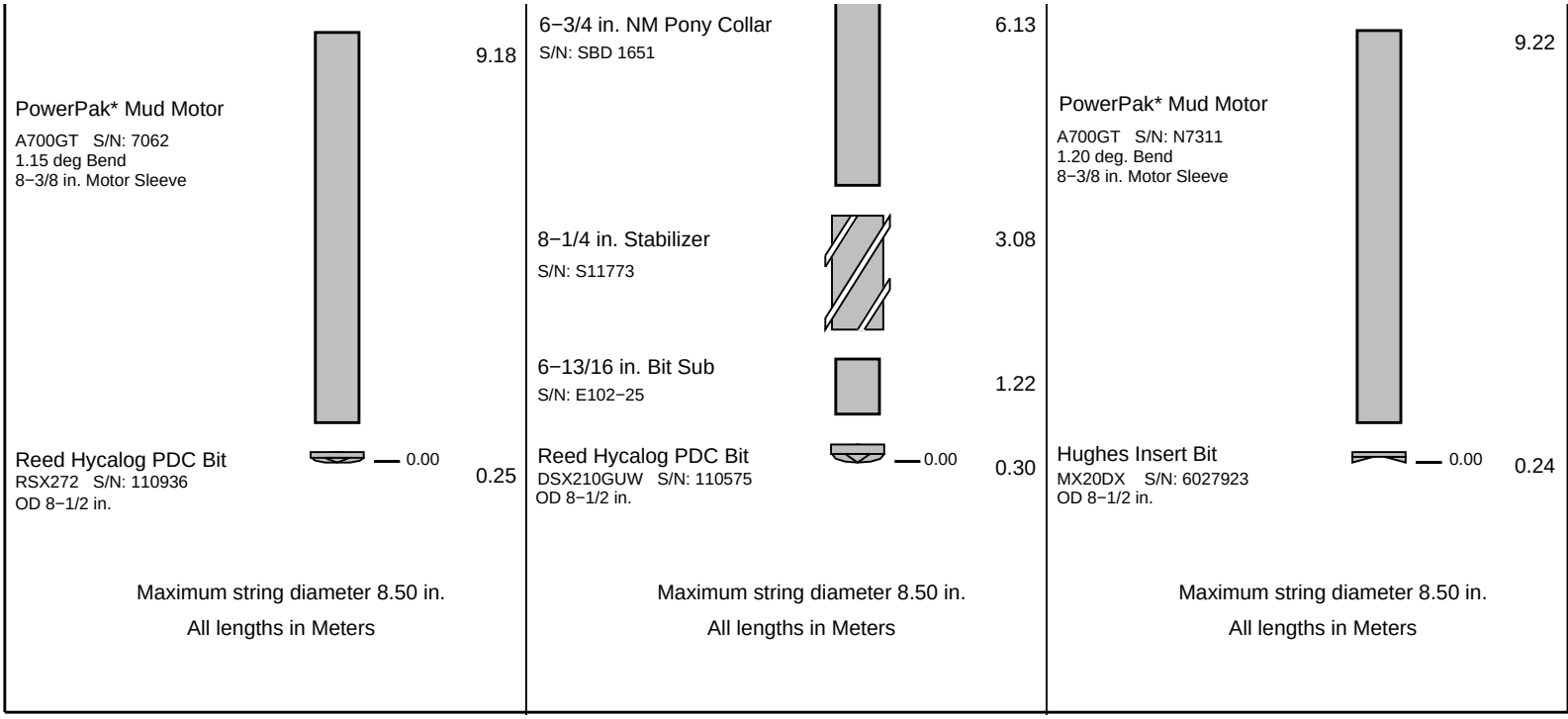
DOWNHOLE EQUIPMENT



RUN4

DOWNHOLE EQUIPMENT





IDEAL Version: ID9_1C_02

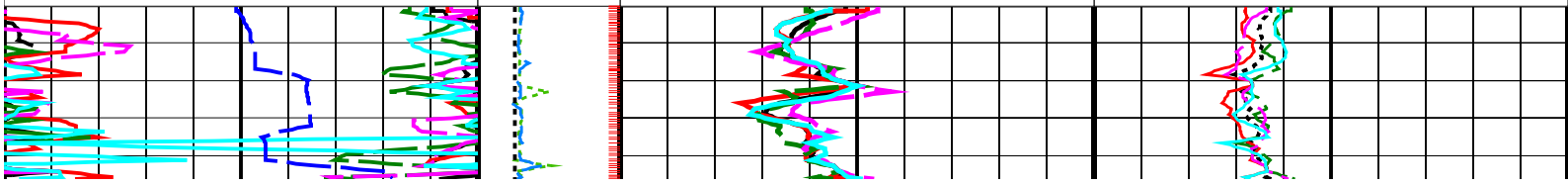
IDF

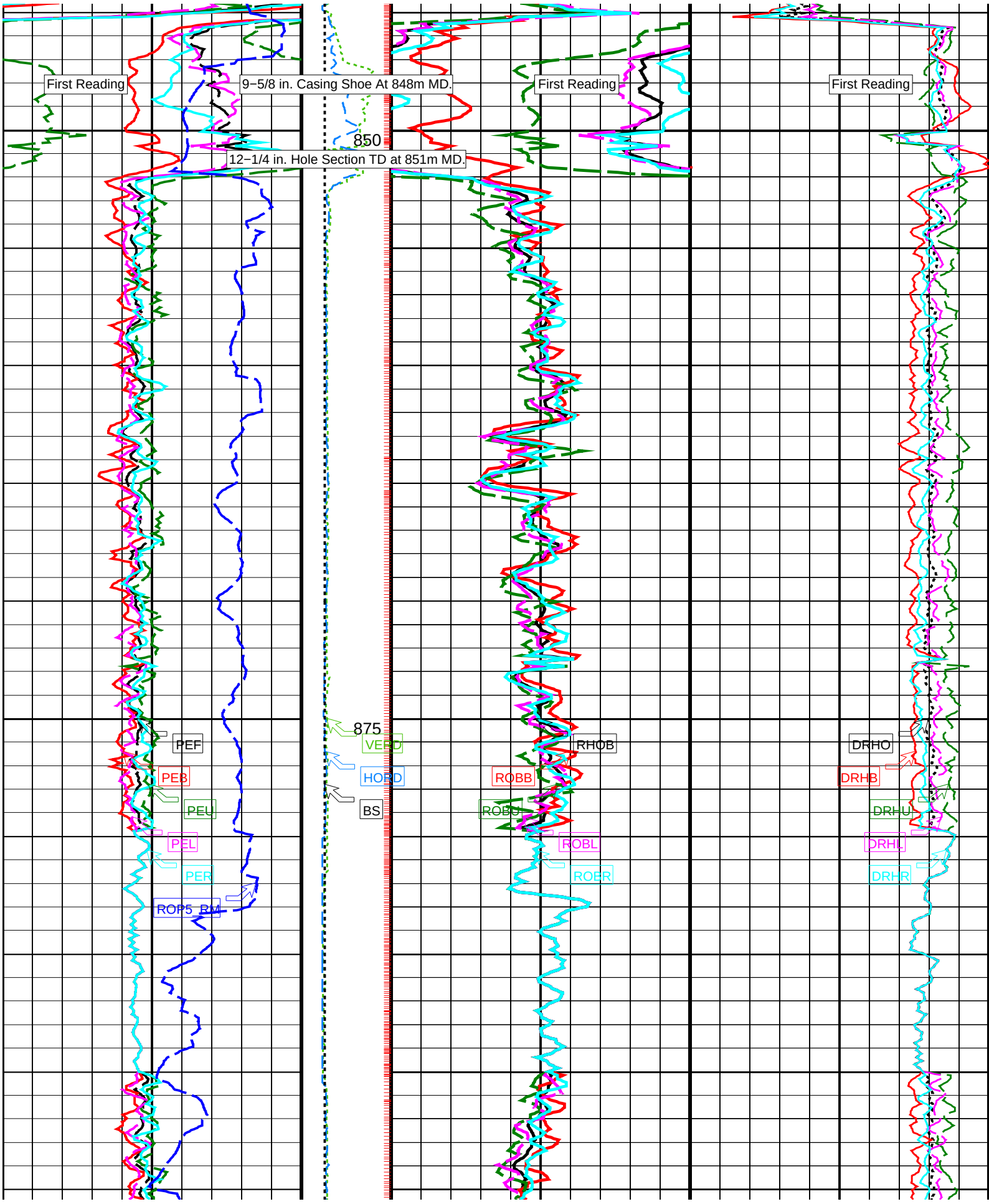
Format: GeoVISION Quad Density Log **Vertical Scale: 1:200** **Graphics File Created: 09−Mar−2005 22:12**

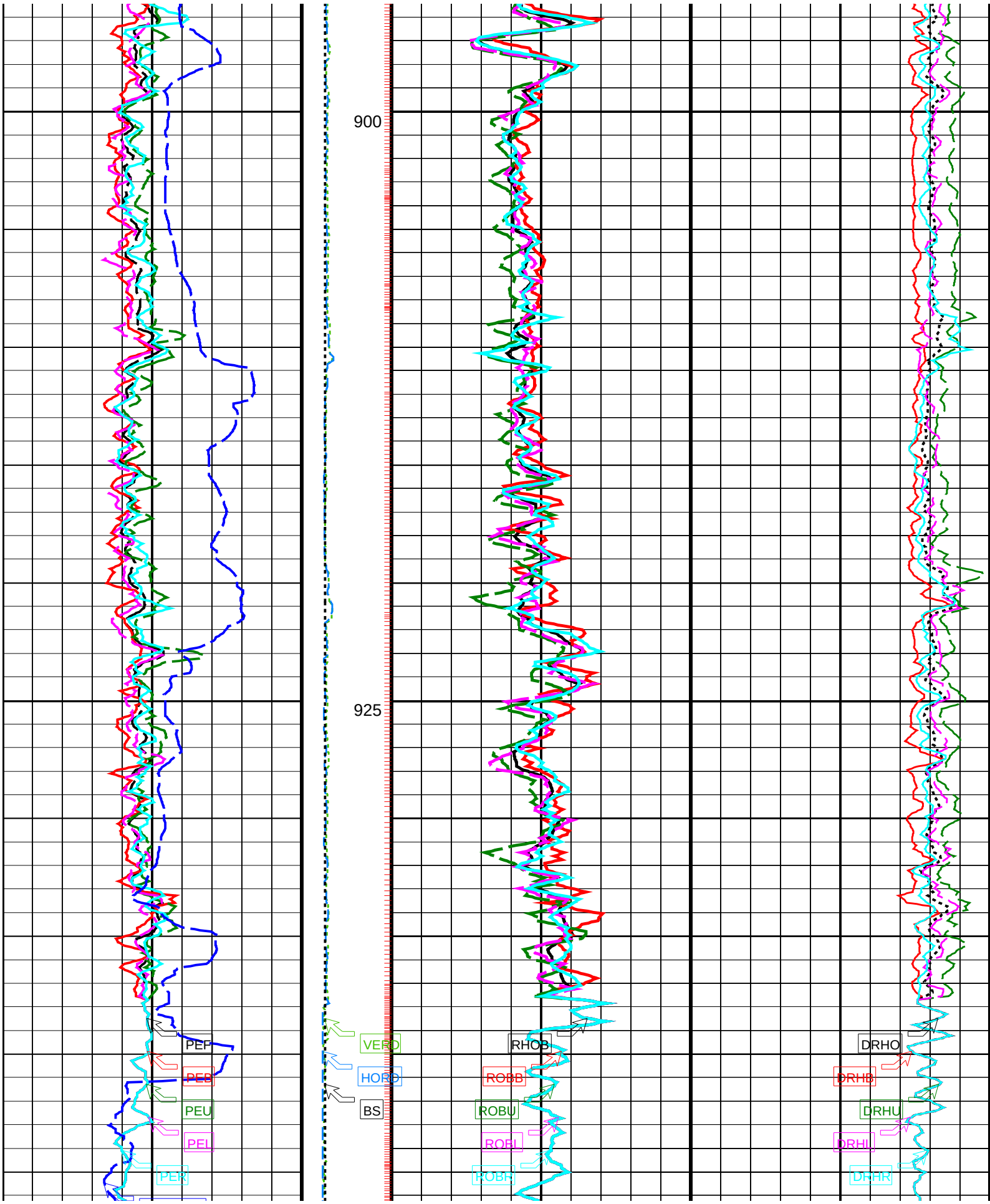
PIP SUMMARY

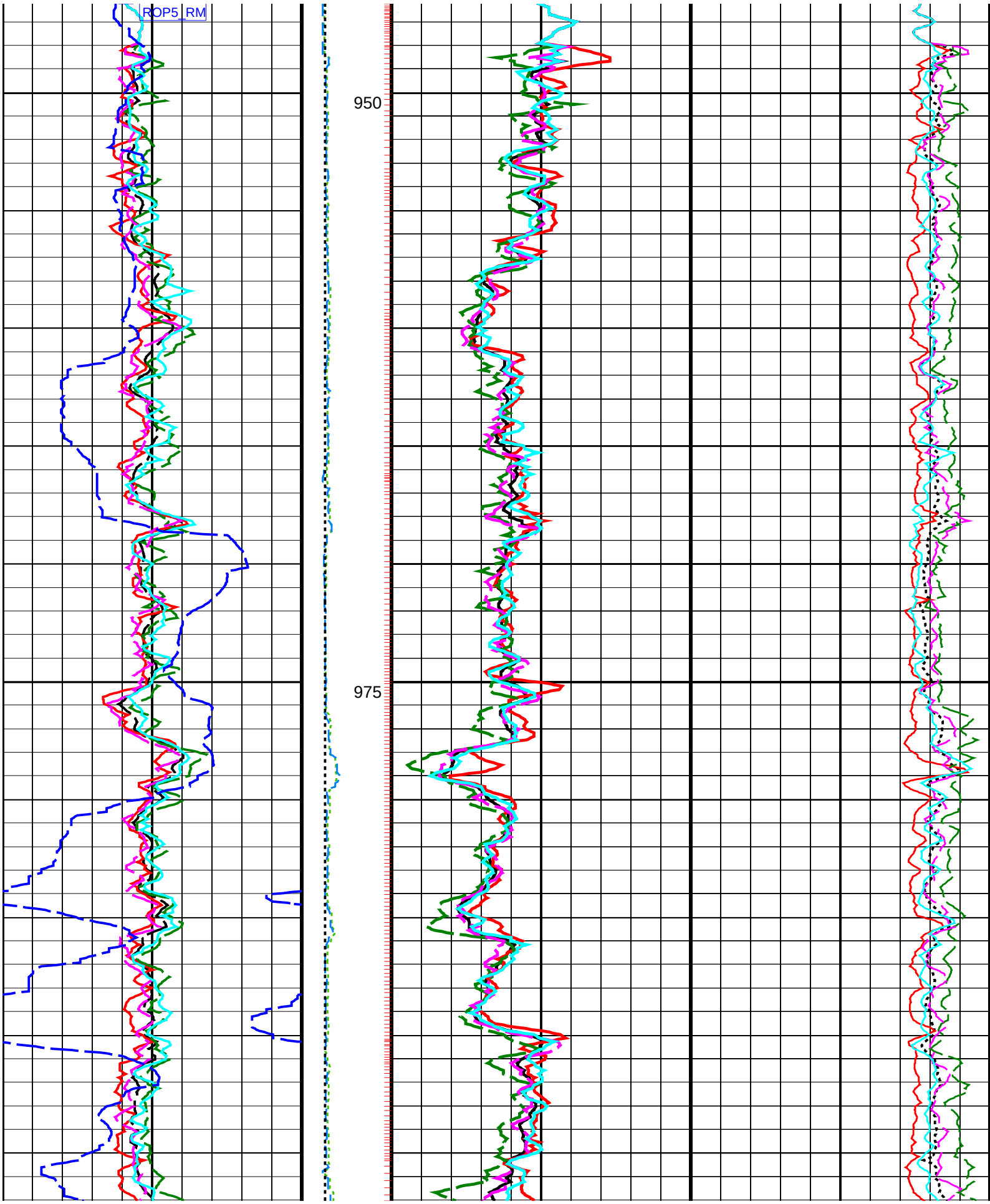
Density Samples

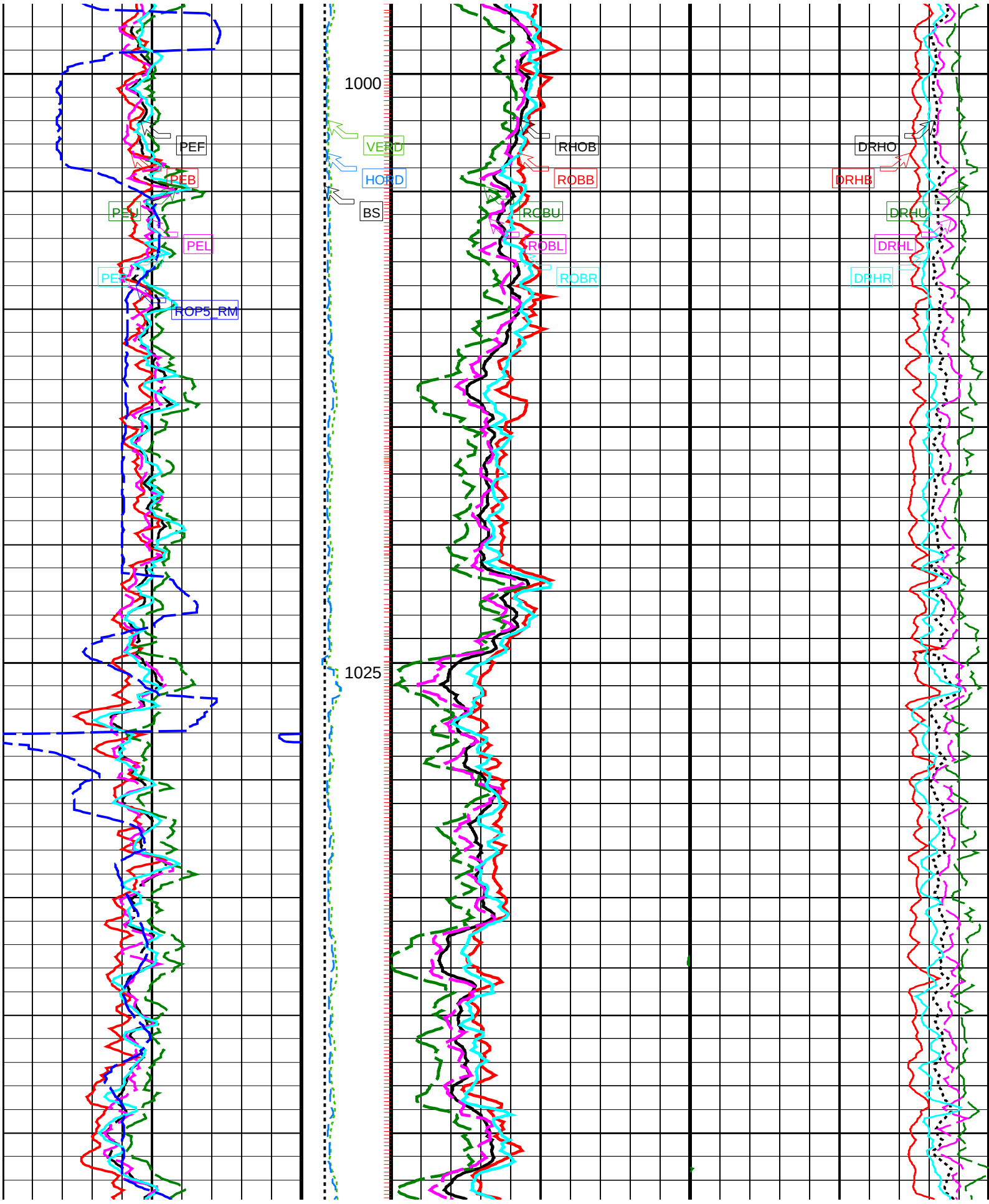
Rate of Penetration, Averaged over Last 5ft (ROP5_RM) 100 (M/HR) 0		
Photoelectric Factor, Right (PER) 0 (−−−− 10		**Bulk Density, Right (ROBR)** 1.85 (G/C3) 2.85
Bulk Density Correction, Right (DRHR) −0.75 (G/C3) 0.25		
Photoelectric Factor, Left (PEL) 0 (−−−− 10		**Bulk Density, Left (ROBL)** 1.85 (G/C3) 2.85
Bulk Density Correction, Left (DRHL) −0.75 (G/C3) 0.25		
Photoelectric Factor, Up (PEU) 0 (−−−− 10	**Horizontal Hole Diameter (HORD)** 6 (IN) 16	**Bulk Density, Up (ROBU)** 1.85 (G/C3) 2.85
Bulk Density Correction, Up (DRHU) −0.75 (G/C3) 0.25		
Photoelectric Factor, Bottom (PEB) 0 (−−−− 10	**Vertical Hole Diameter (VERD)** 6 (IN) 16	**Bulk Density, Bottom (ROBB)** 1.85 (G/C3) 2.85
Bulk Density Correction, Bottom (DRHB) −0.75 (G/C3) 0.25		
Photoelectric Factor (PEF) 0 (−−−− 10	**Bit Size (BS)** 6 (IN) 16	**Bulk Density (RHOB)** 1.85 (G/C3) 2.85
Bulk Density Correction (DRHO) −0.75 (G/C3) 0.25		

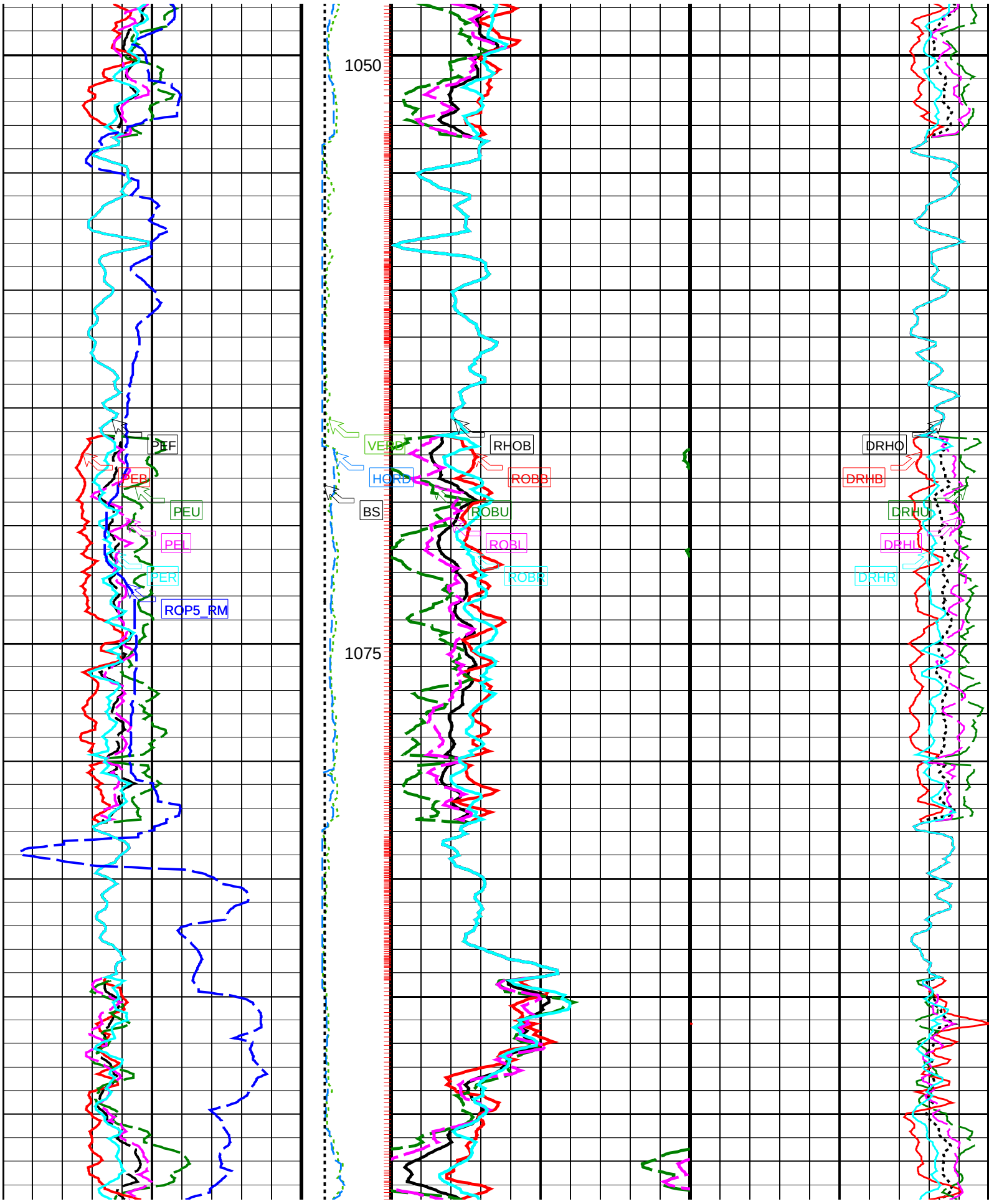


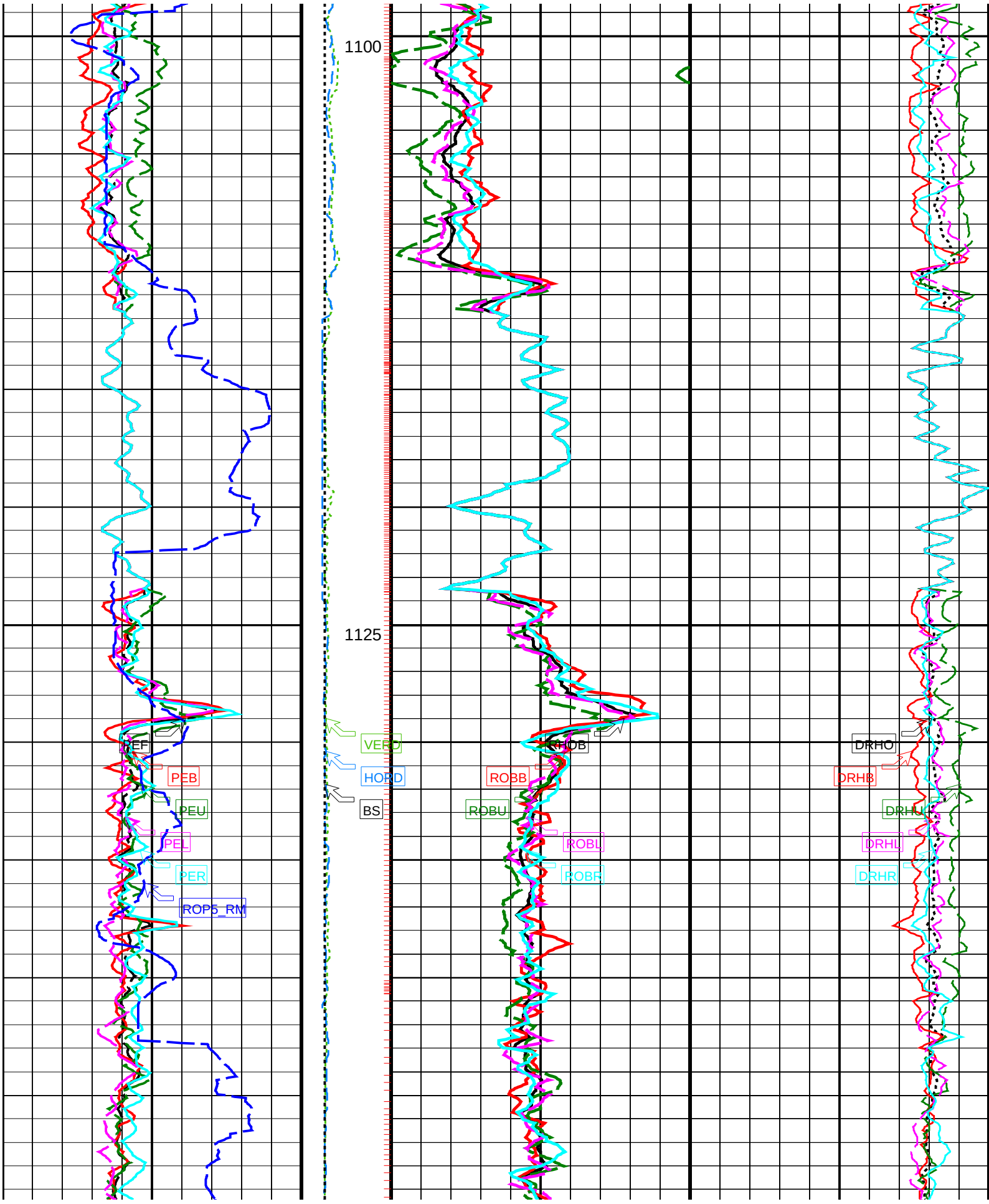

First Reading
9−5/8 in. Casing Shoe At 848m MD.
First Reading
First Reading
850
12−1/4 in. Hole Section TD at 851m MD.
875
PEF
PEB
PEU
PEL
PER
ROP5_RM
VERD
HORD
BS
RHOB
ROBB
ROBU
ROBL
ROBR
DRHO
DRHB
DRHU
DRHL
DRHR

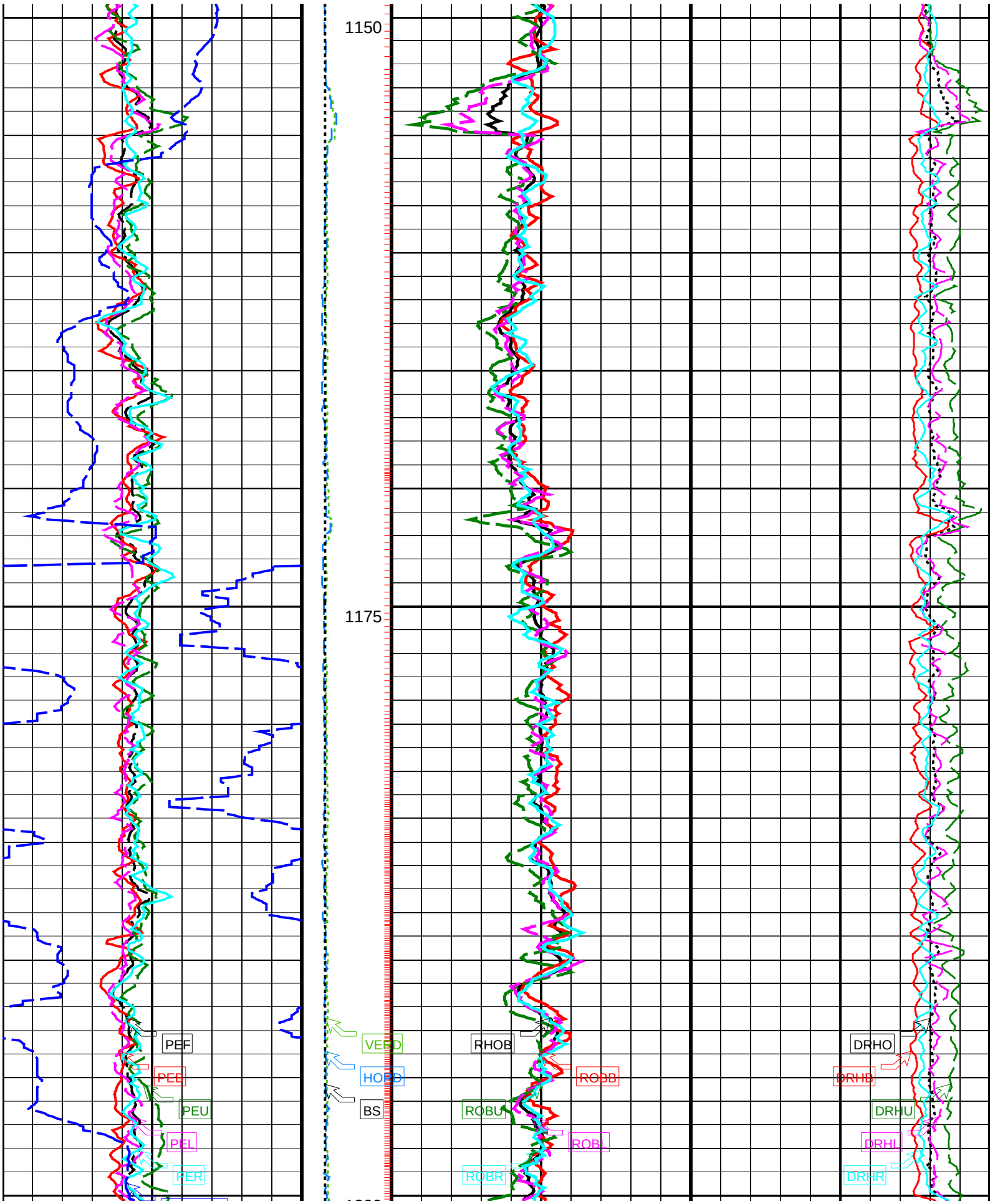

900
925
PEF
PEB
PEU
PEL
PER
VERO
HORO
BS
RHOB
ROBB
ROBU
ROBL
ROBR
DRHO
DRHB
DRHU
DRHL
DRHR

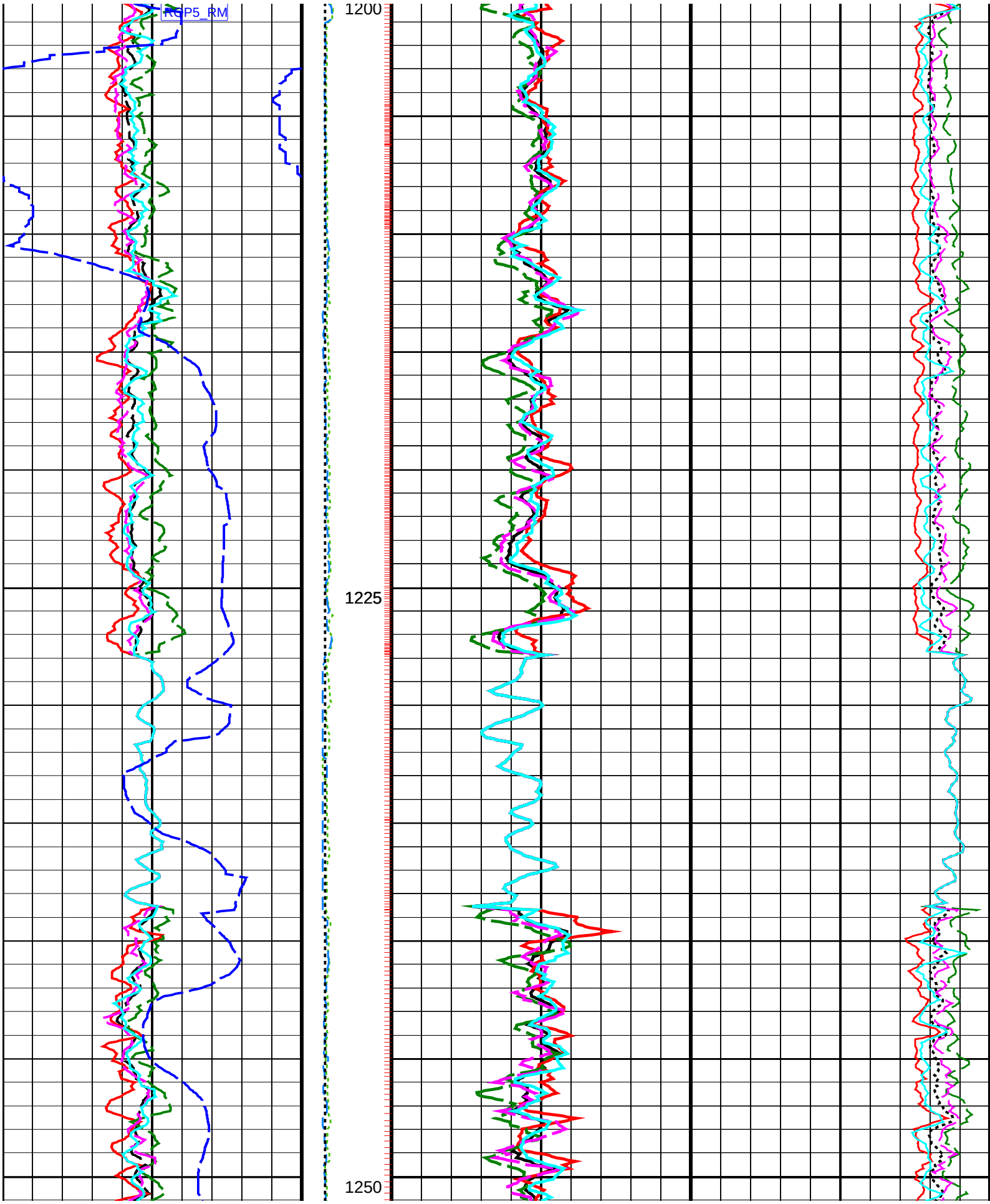

ROP5_RM
950
975

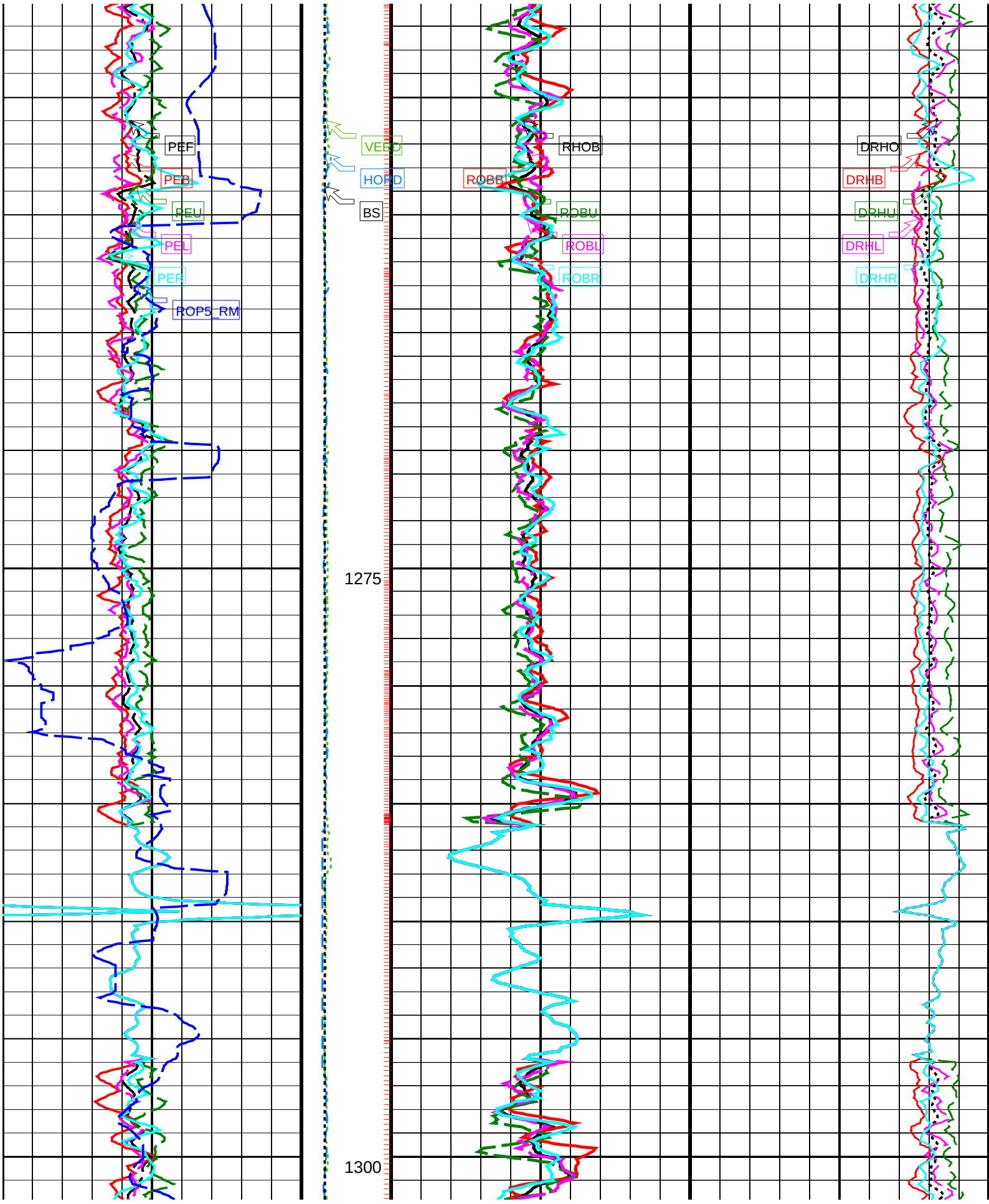

1000
1025
PEF
PEB
PEU
PEL
PER
ROP5_RM
VERD
HORD
BS
RHOB
ROBB
ROBU
ROBL
ROBR
DRHO
DRHB
DRHU
DRHL
DRHR

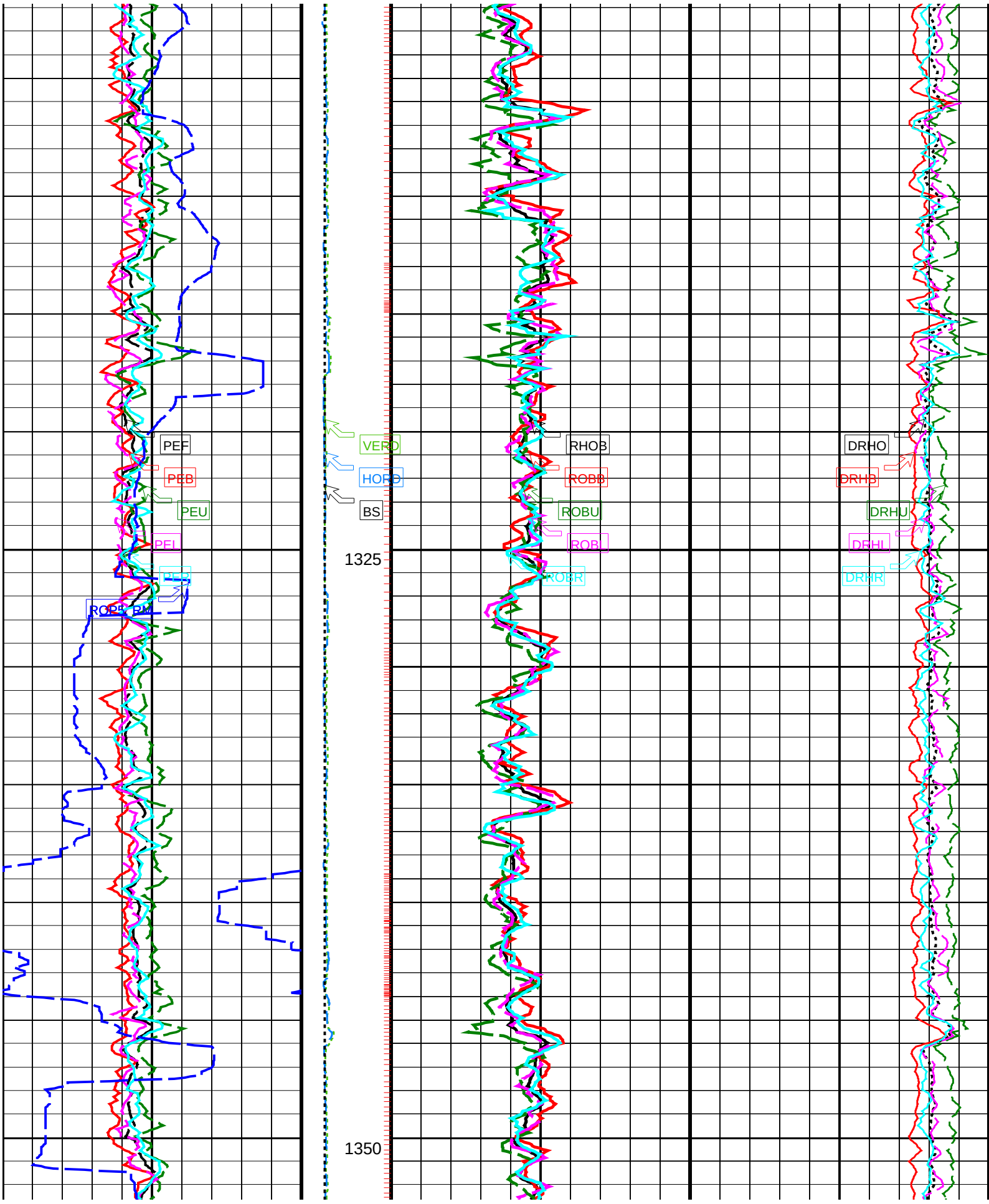

1050
1075
PEF
PER
PEU
PEL
PER
ROP5_RM
VERD
HORD
BS
RHOB
ROBB
ROBU
ROBL
ROBR
DRHO
DRHB
DRHU
DRHL
DRHR

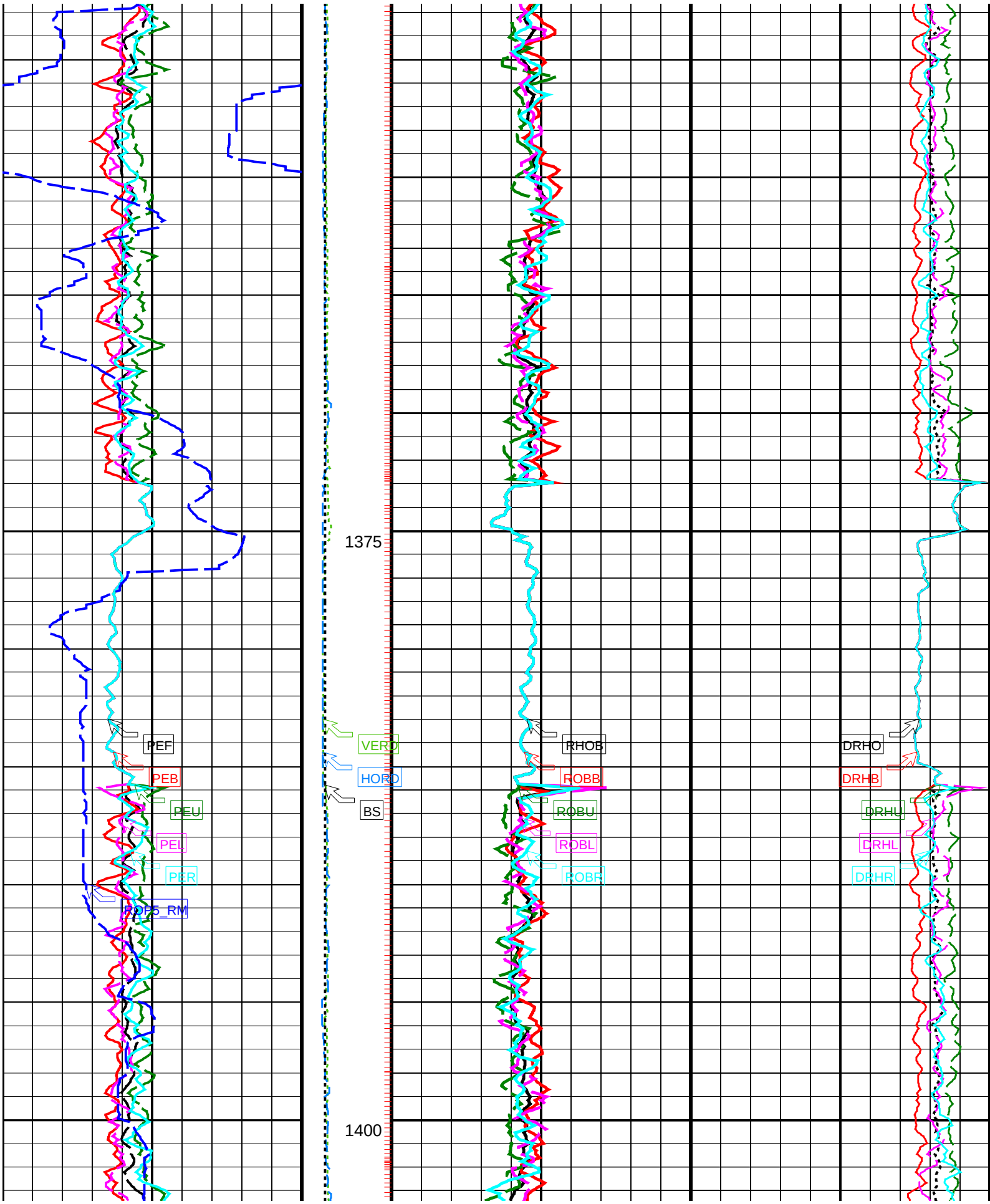

1100
1125
PEF
PEB
PEU
PEL
PER
ROP5_RM
VERD
HORD
BS
ROBB
ROBU
ROBL
ROBR
DRHO
DRHB
DRHU
DRHL
DRHR

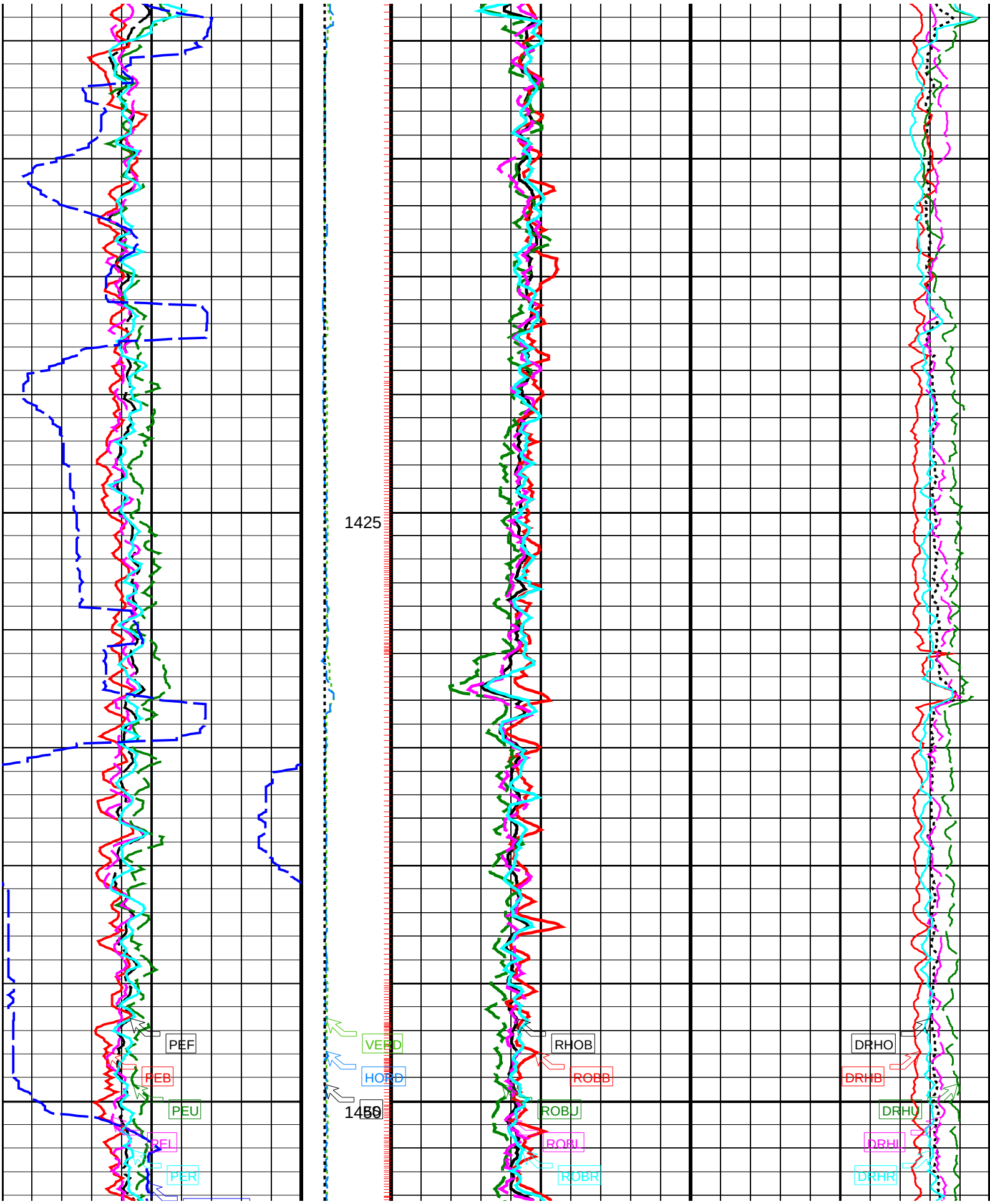

1150
1175
PEF
PEB
PEU
PEL
PER
VERO
HORO
BS
RHOB
ROBB
ROBU
ROBL
ROBR
DRHO
DRHB
DRHU
DRHL
DRHR

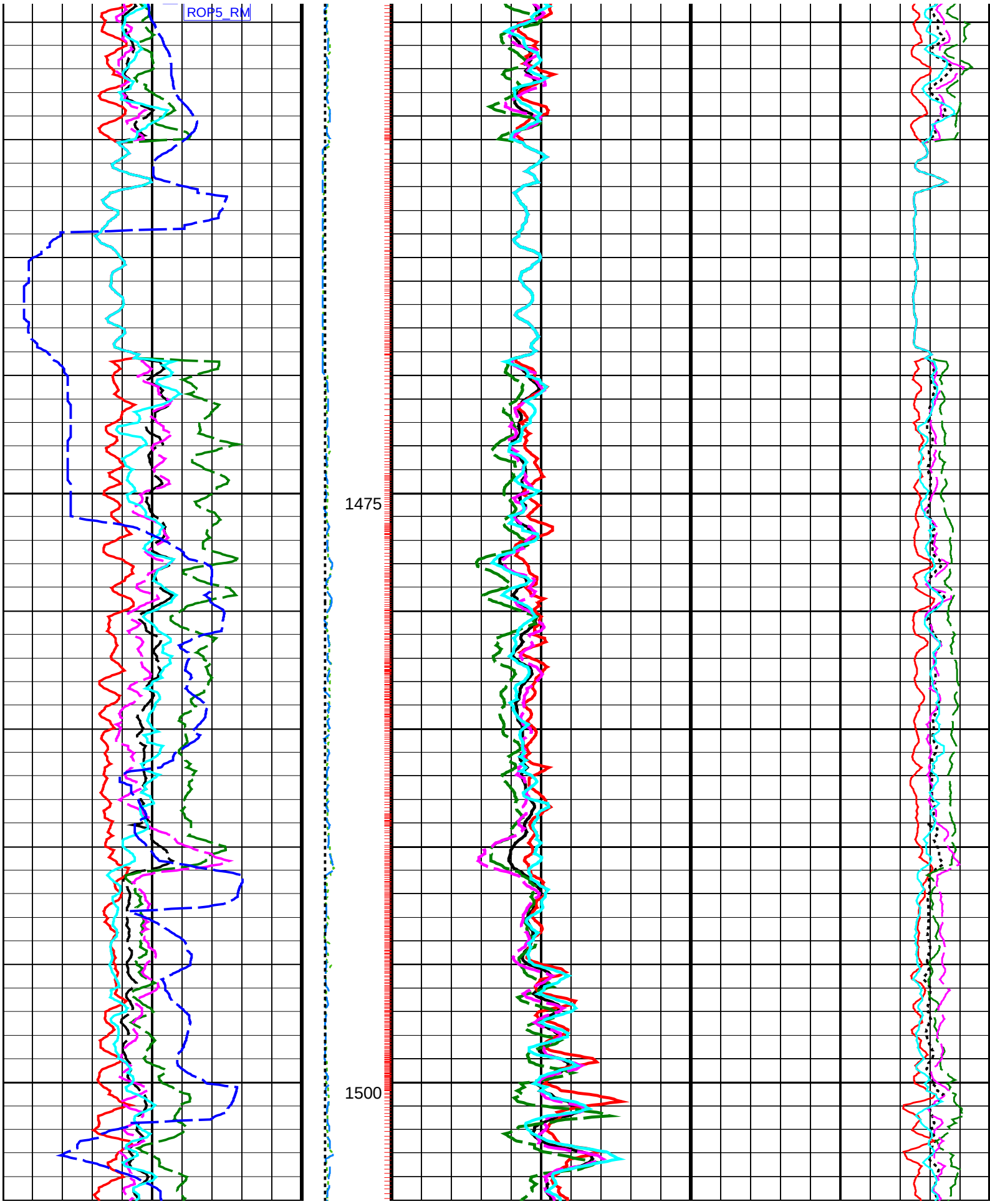

RGP5_RM
1200
1225
1250

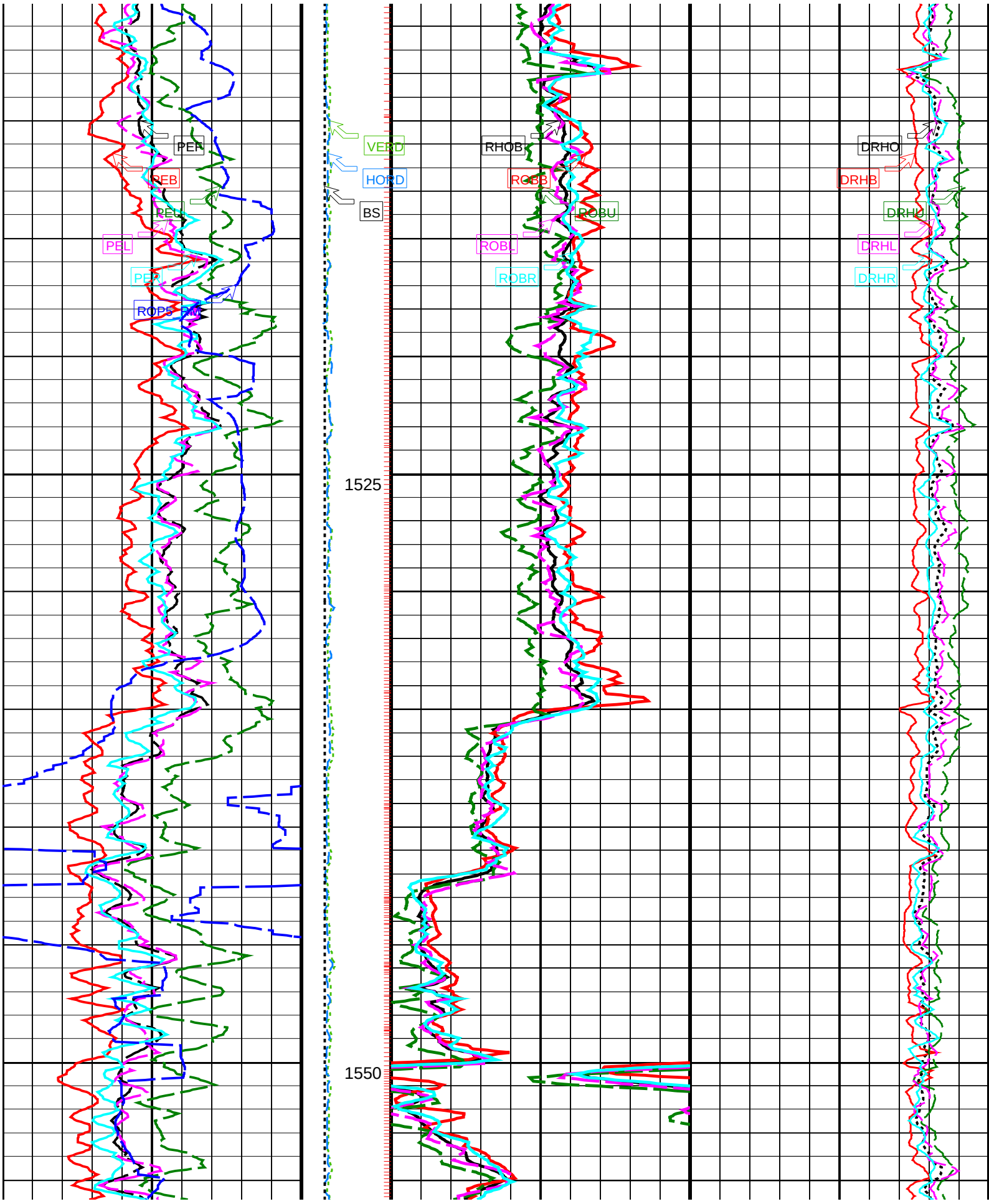

PEF
PEB
PEU
PEL
PER
ROP5_RM
VERD
HORD
BS
RHOB
ROBB
ROBU
ROBL
ROBR
DRHO
DRHB
DRHU
DRHL
DRHR
1275
1300

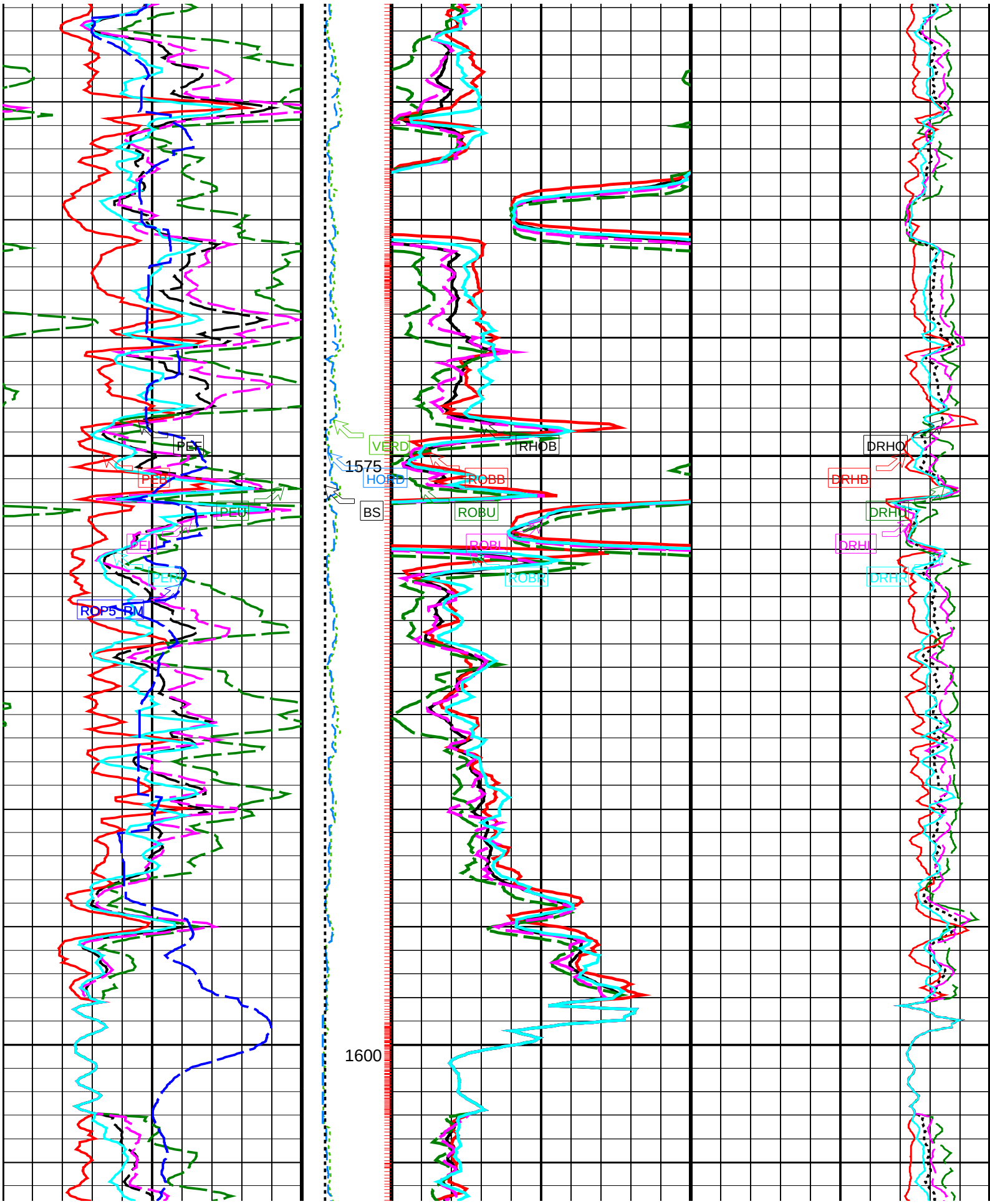

PEF
PEB
PEU
PEL
ROPE_RM
VERD
HORD
BS
1325
1350
RHOB
ROBB
ROBU
ROBL
ROBR
DRHO
DRHB
DRHU
DRHL
DRHR


1375
1400
PEF
PEB
PEU
PEL
PER
ROP5_RM
VERO
HORO
BS
RHOB
ROBB
ROBU
ROBL
ROBR
DRHO
DRHB
DRHU
DRHL
DRHR


1425
PEF
PEB
PEU
PEL
PER
VERD
HORD
1450
RHOB
ROBB
ROBU
ROBU
ROBR
DRHO
DRHB
DRHU
DRHU
DRHR


ROP5_RM
1475
1500


PER
PEB
PEU
PEL
PEM
ROP5_RM
VERD
HORD
BS
RHOB
ROBB
ROBU
ROBL
ROBR
DRHO
DRHB
DRHU
DRHL
DRHR
1525
1550


PEF
PEFL
PEFU
PEFR
PEFH
ROP5_RM
VERD
HORD
BS
1575
1600
RHOB
ROBB
ROBU
ROBL
ROBR
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DRHB
DRHU
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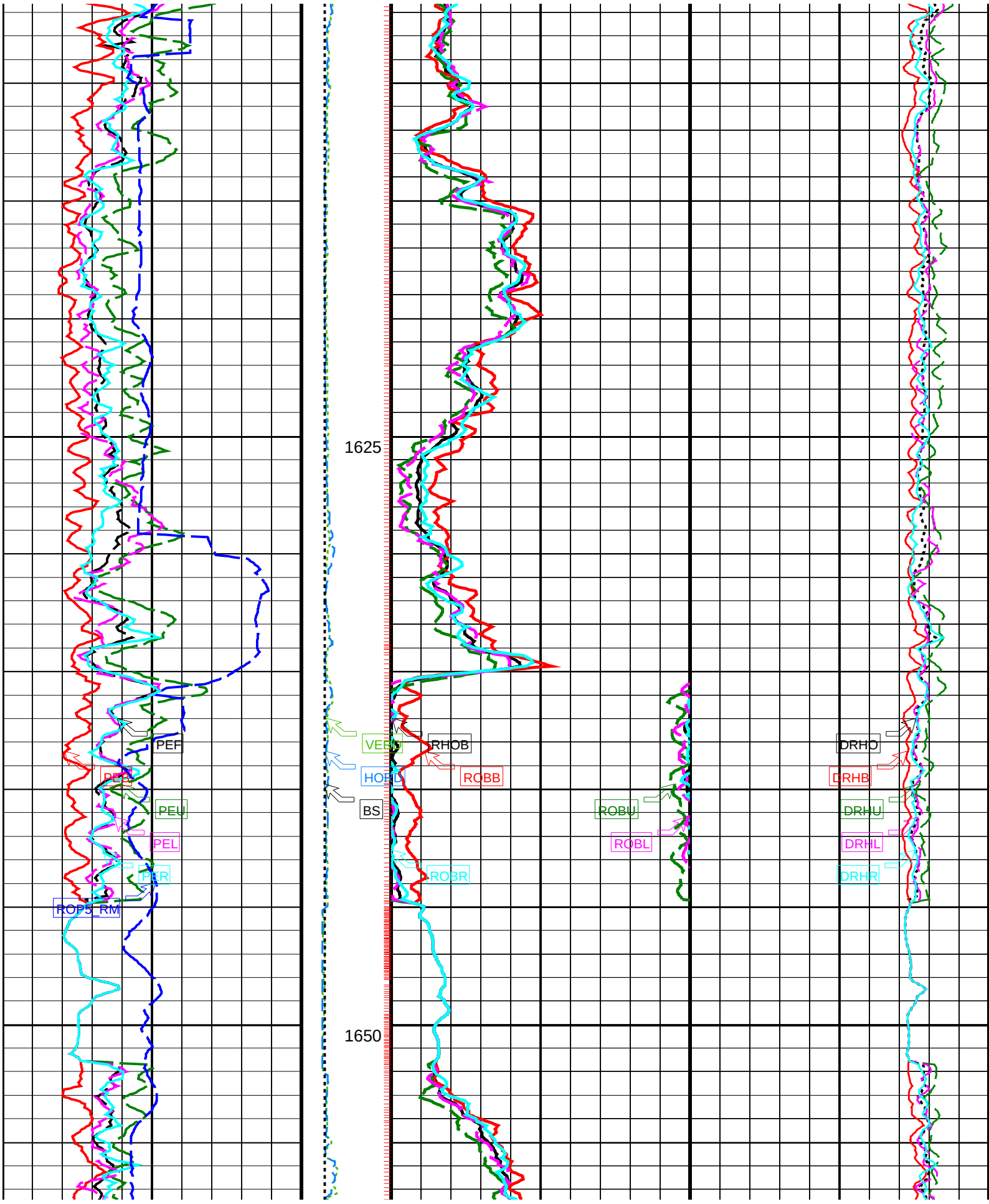
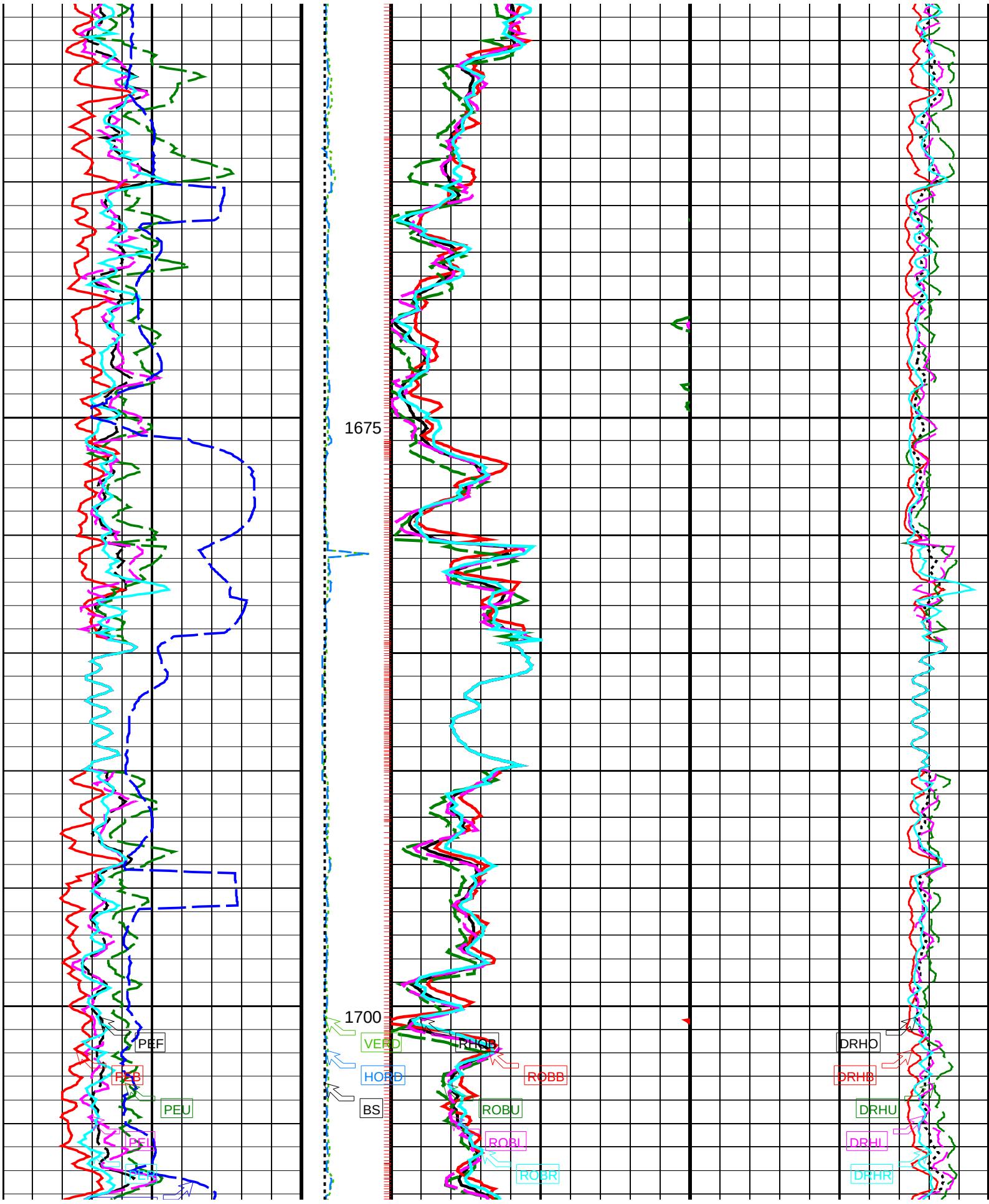
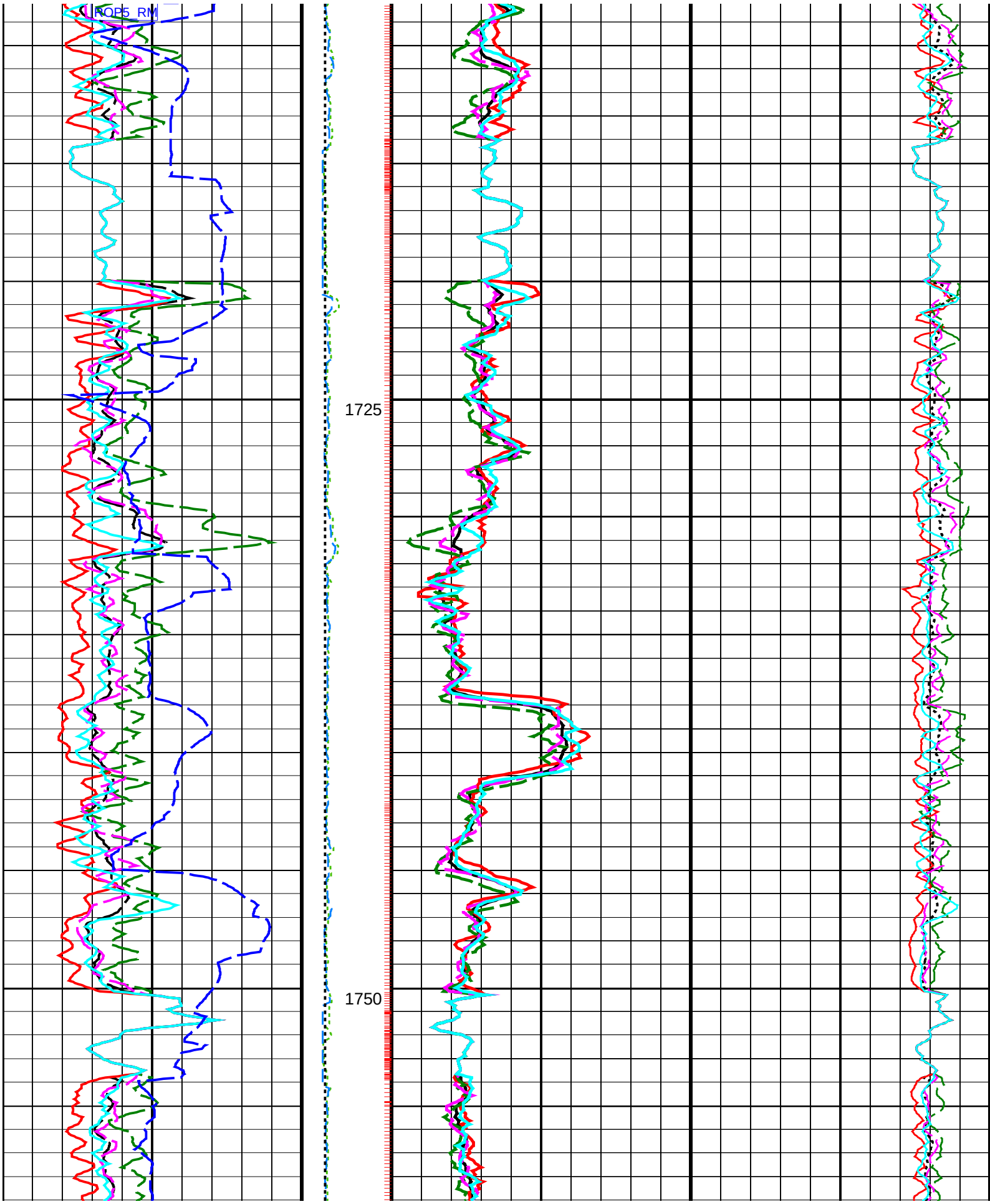
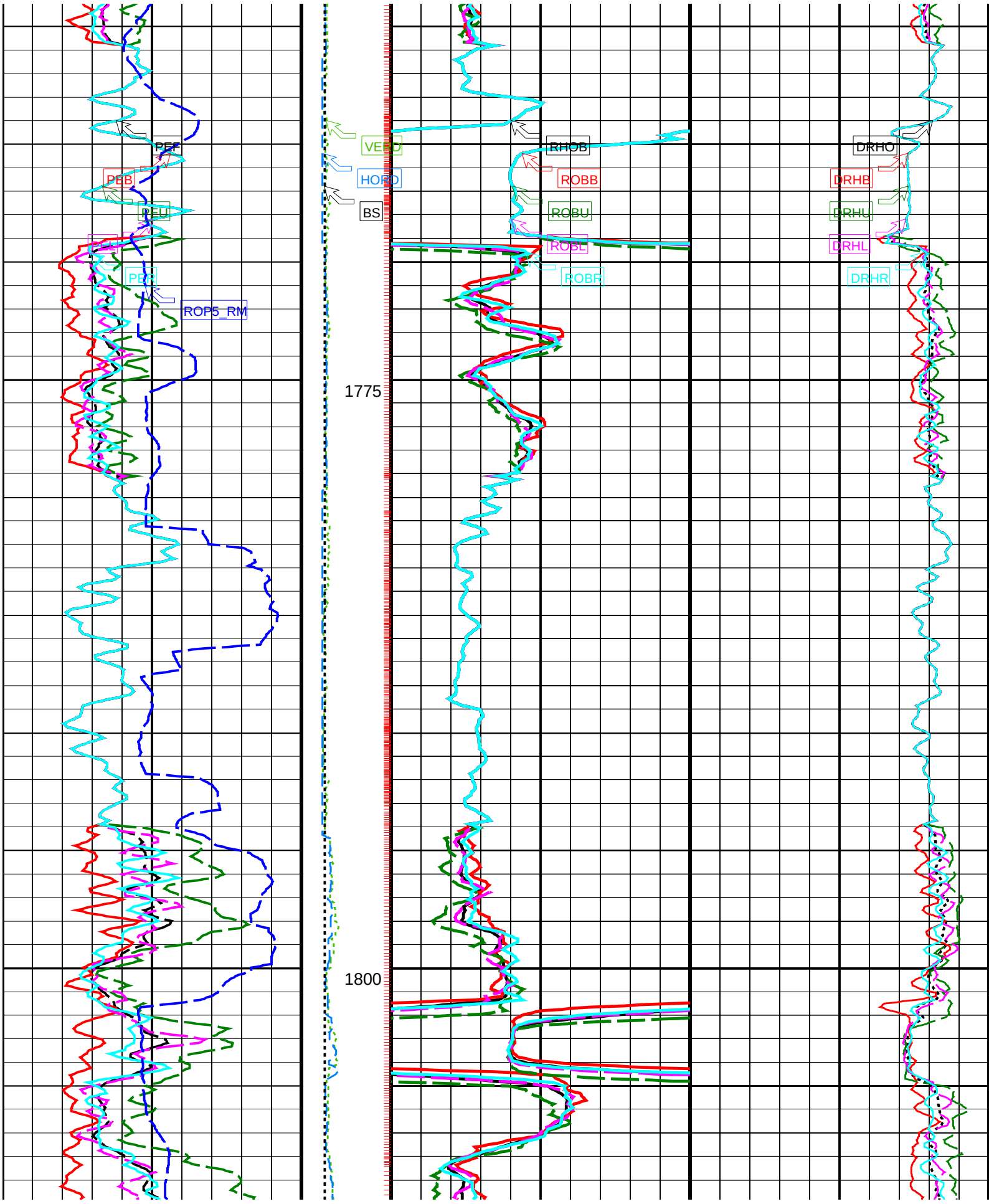
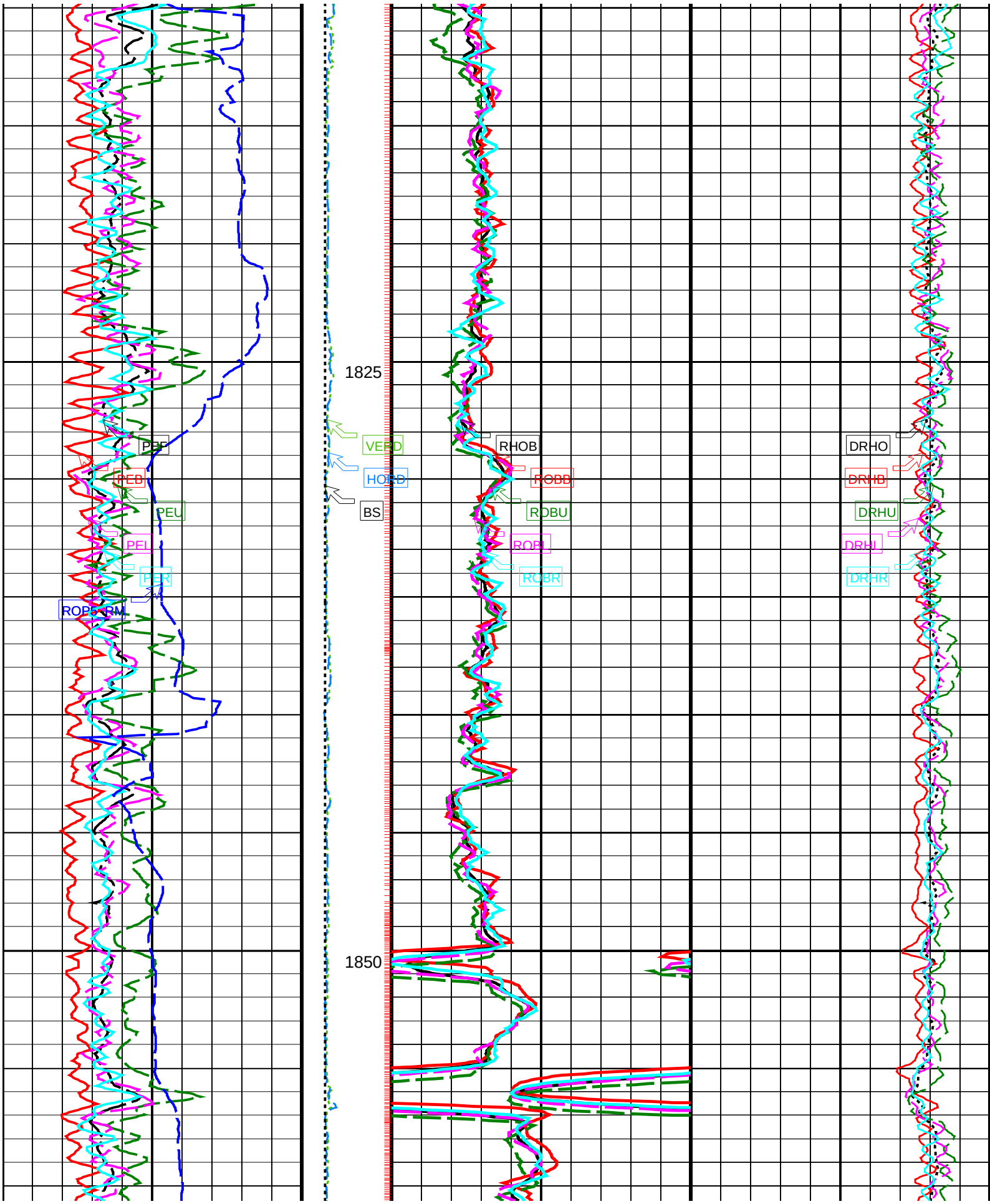

1625
1650
PEF
PEU
PEL
ROP5_RM
VERT
HORIZ
BS
RHOB
ROBB
ROBR
ROBU
ROBL
DRHO
DRHB
DRHU
DRHL
DRHR


1675
1700
PEF
PEB
PEU
PEL
VERD
HORD
BS
RHOB
ROBB
ROBU
ROBL
ROBR
DRHO
DRHB
DRHU
DRHL
DRHR


ROP5_RM
1725
1750


PEF
PEB
PEU
PEL
PER
ROP5_RM
VERD
HORD
BS
RHOB
ROBB
ROBU
ROBL
ROBR
DRHO
DRHB
DRHU
DRHL
DRHR
1775
1800


1825
1850
PEF
PEB
PEU
PEL
PER
ROPS_RM
VERD
HORD
BS
RHOB
ROBB
ROBU
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ROBR
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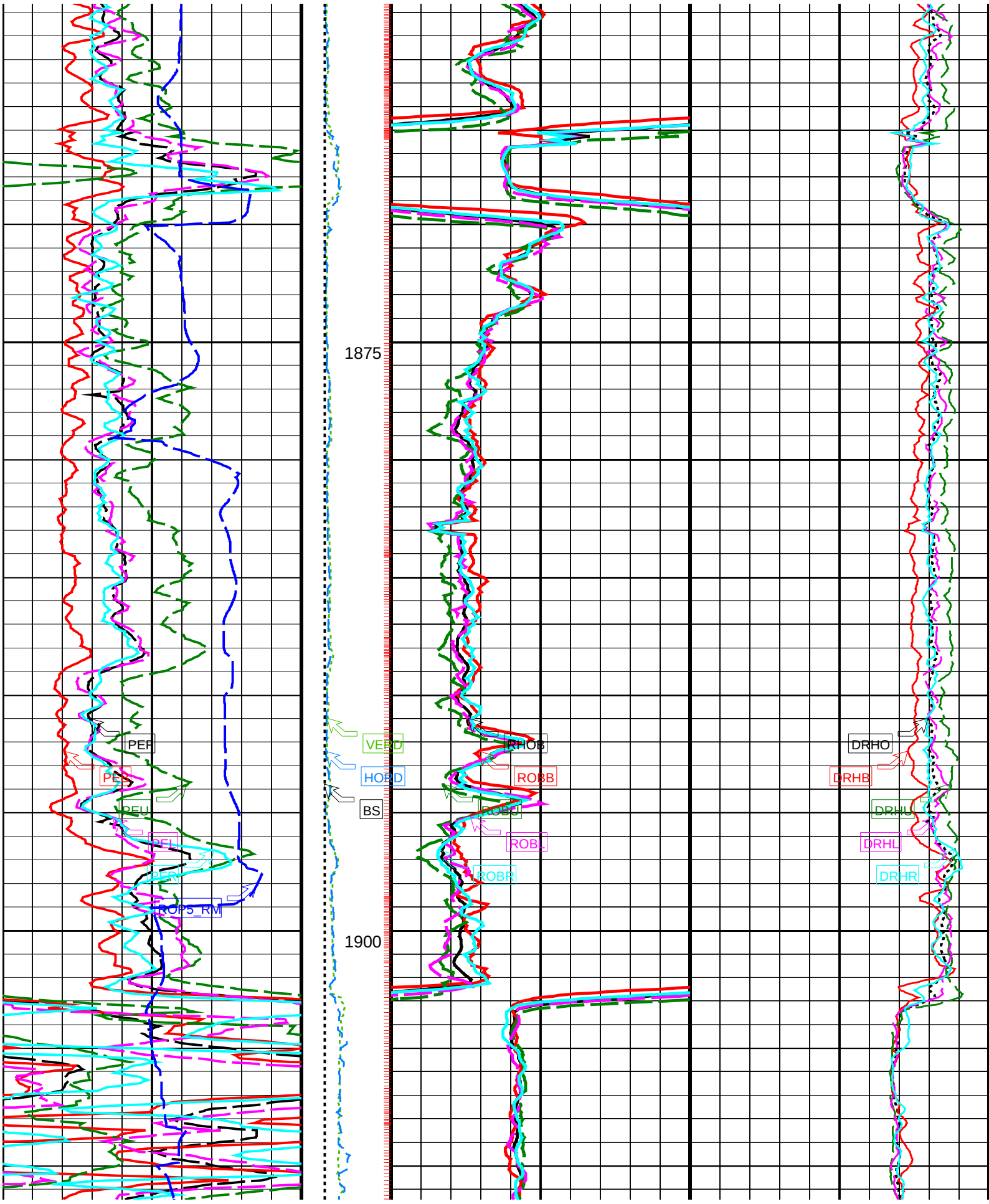
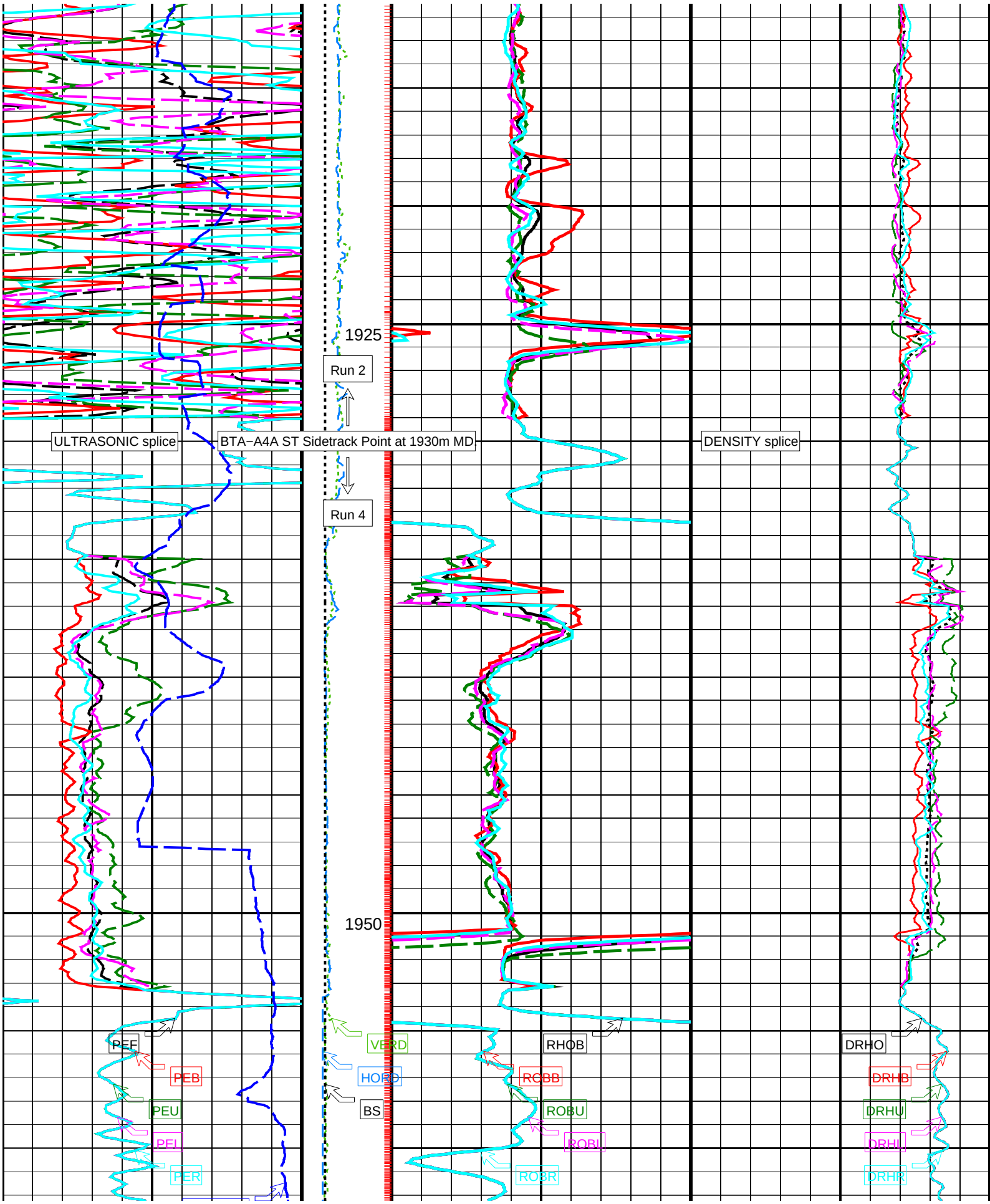
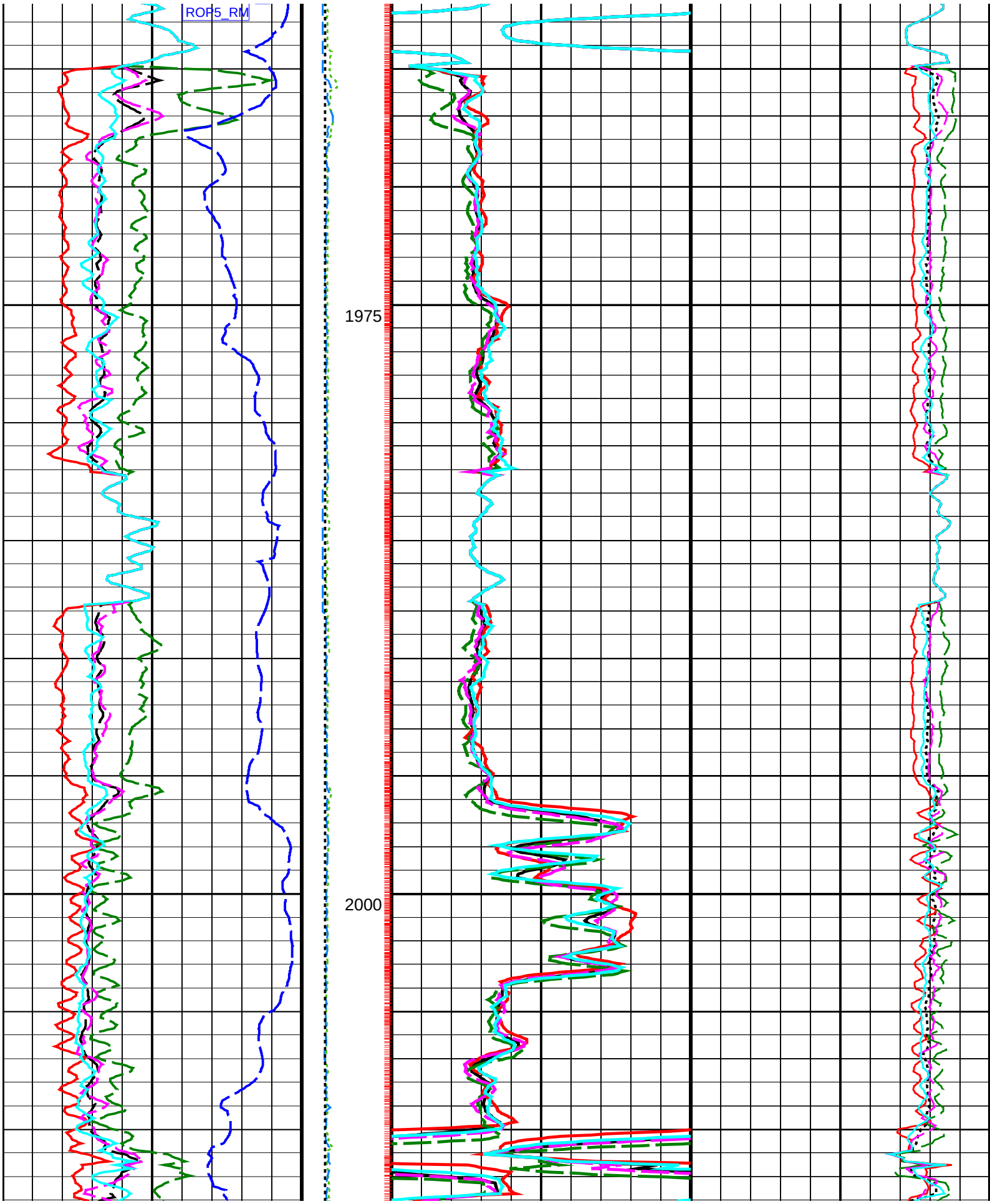
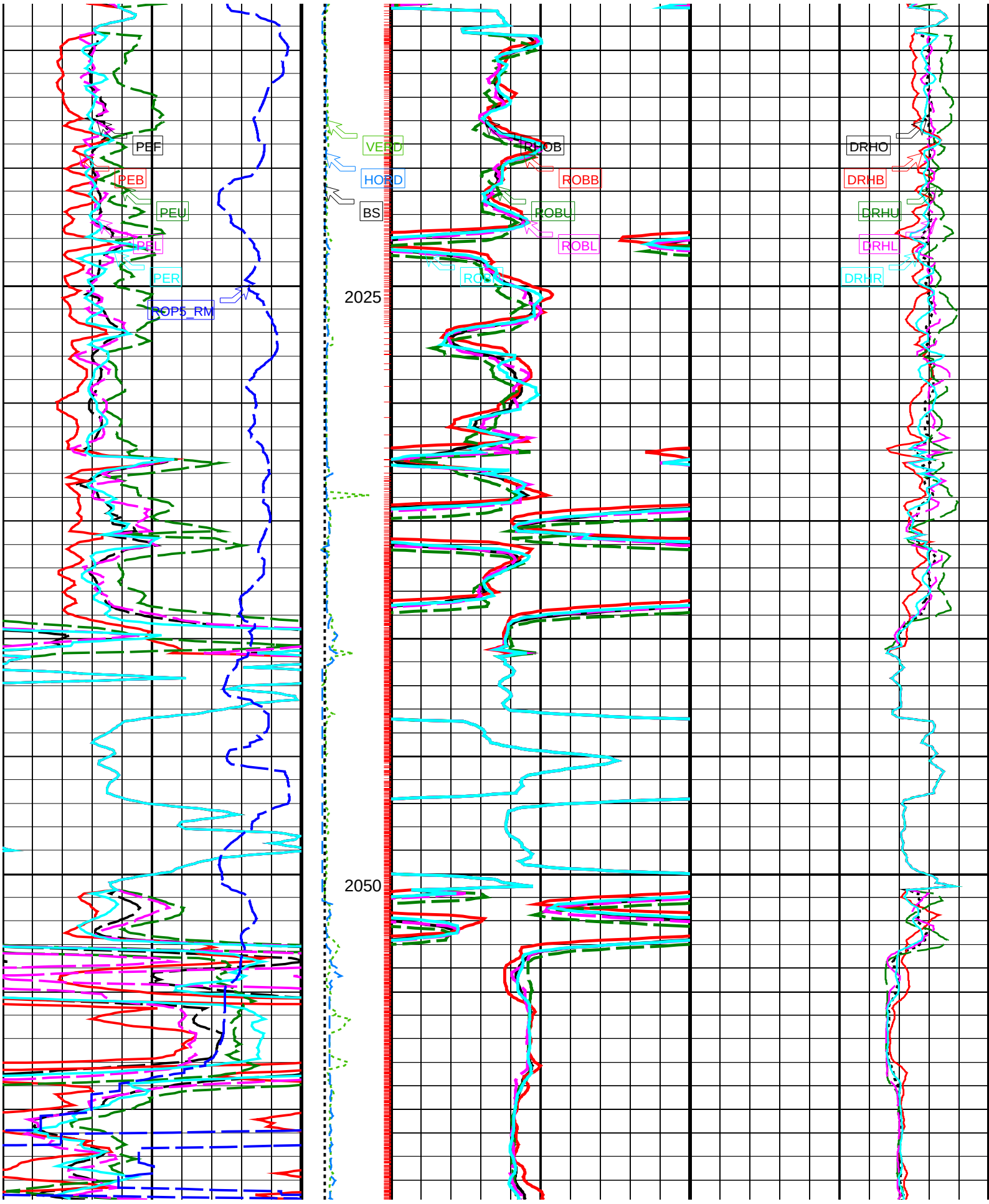
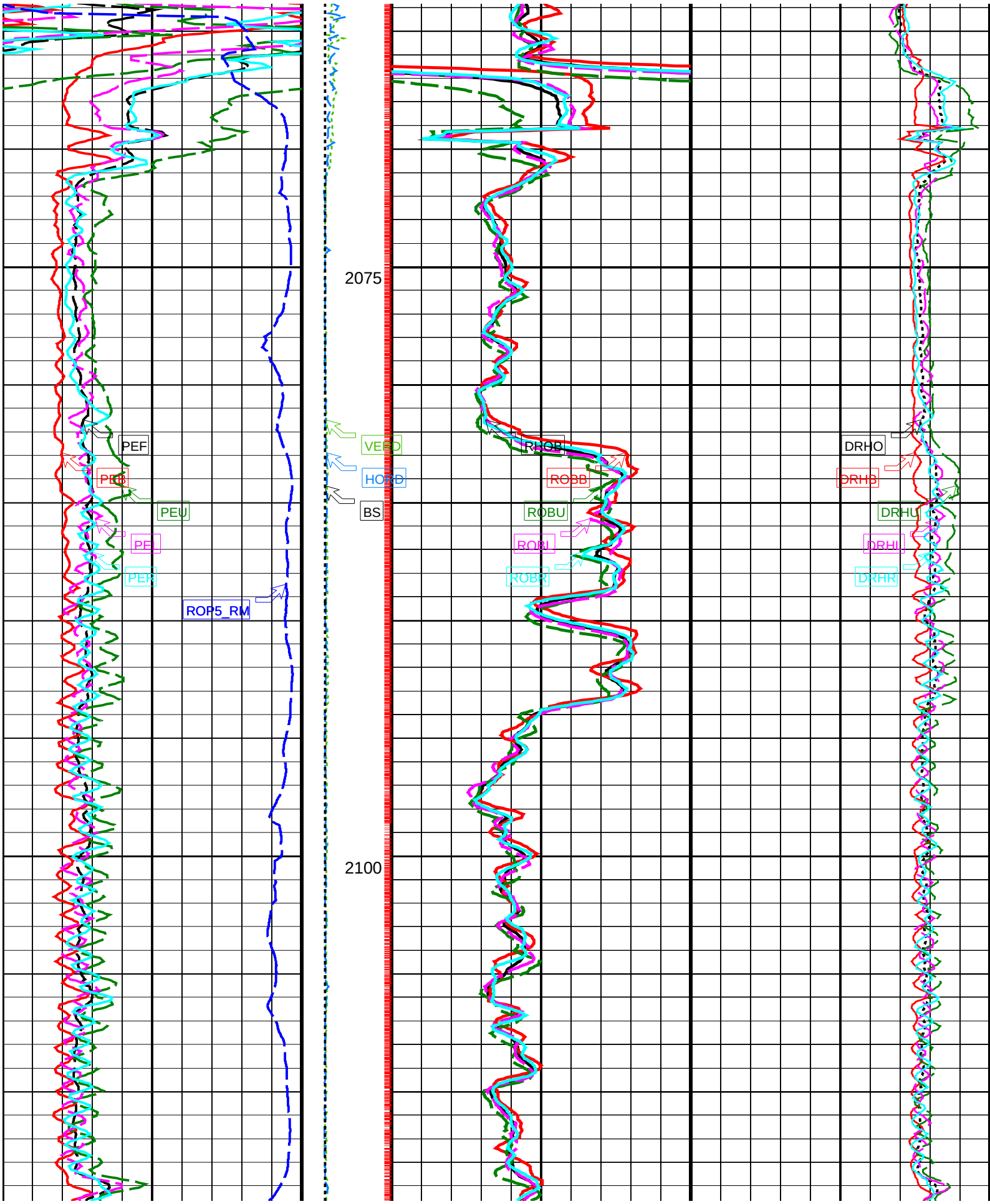
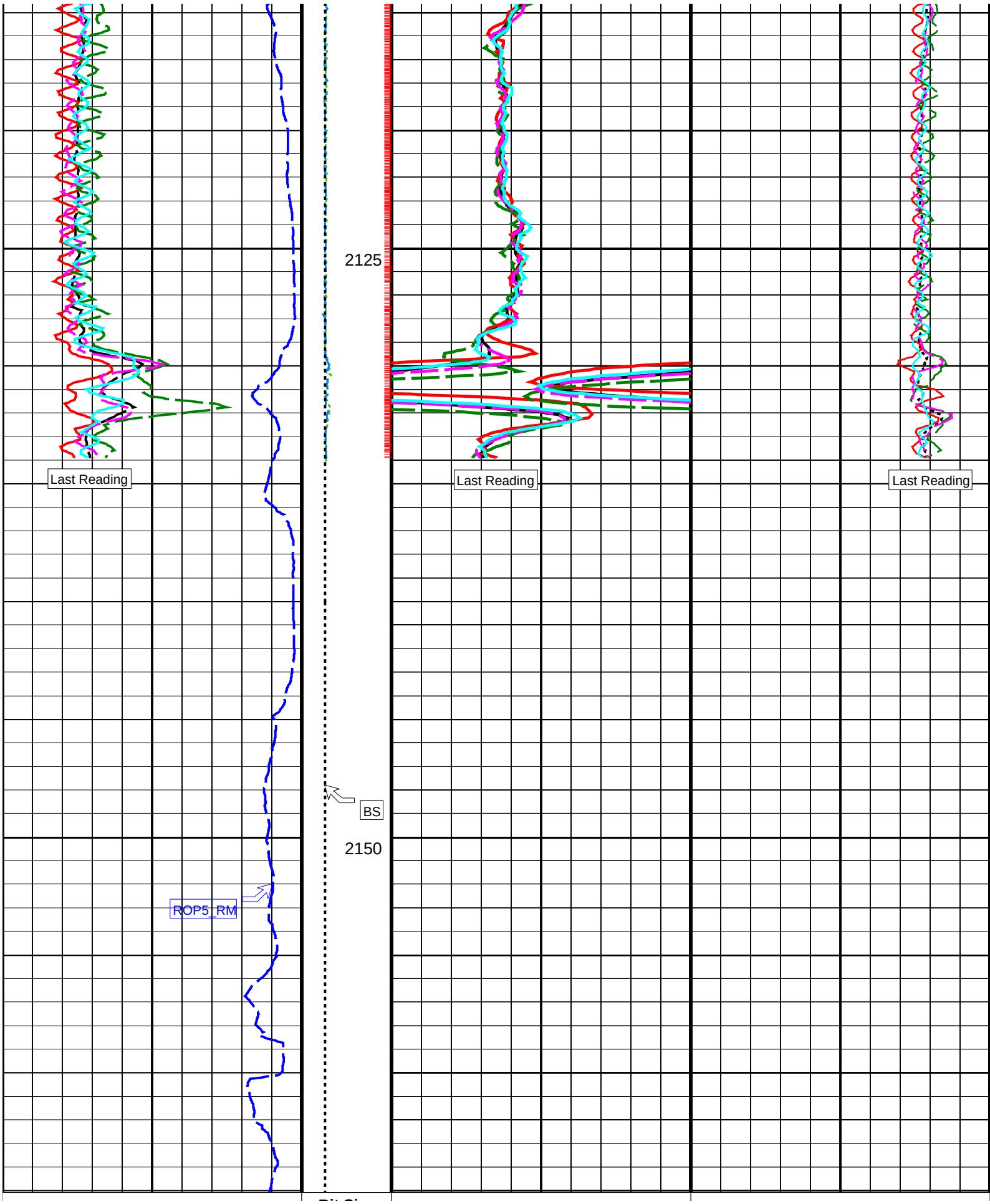

1875
1900
PER
PES
PEU
PEL
PER
ROP5_RM
VERD
HORD
BS
RHOB
ROBB
ROBU
ROBL
ROBR
DRHO
DRHB
DRHU
DRHL
DRHR


1925
Run 2
ULTRASONIC splice
BTA−A4A ST Sidetrack Point at 1930m MD
DENSITY splice
Run 4
1950
PEF
PEB
PEU
PEL
PER
VERD
HORD
BS
RHOB
ROBB
ROBU
ROBL
ROBR
DRHO
DRHB
DRHU
DRHL
DRHR


ROP5_RM
1975
2000


PEF
PEB
PEU
PBL
PER
ROP5_RM
VERD
HORD
BS
RHOB
ROBB
ROBU
ROBL
ROBR
DRHO
DRHB
DRHU
DRHL
DRHR
2025
2050


2075
2100
PEF
PEB
PEU
PEL
PER
ROP5_RM
VERD
HORD
BS
RHOB
ROBB
ROBU
ROBL
ROBR
DRHO
DRHB
DRHU
DRHL
DRHR


2125
Last Reading
Last Reading
Last Reading
BS
2150
ROP5_RM

Photoelectric Factor (PEF)	Bit Size (BS)	Bulk Density (RHOB)	Bulk Density Correction (DRHO)
0 (----- 10	6 (IN) 16	1.85 (G/C3) 2.85	−0.75 (G/C3) 0.25
Photoelectric Factor, Bottom (PEB)	**Vertical Hole Diameter (VERD)**	**Bulk Density, Bottom (ROBB)**	**Bulk Density Correction, Bottom (DRHB)**
0 (----- 10	6 (IN) 16	1.85 (G/C3) 2.85	−0.75 (G/C3) 0.25
Photoelectric Factor, Up (PEU)	**Horizontal Hole Diameter (HORD)**	**Bulk Density, Up (ROBU)**	**Bulk Density Correction, Up (DRHU)**
0 (----- 10	6 (IN) 16	1.85 (G/C3) 2.85	−0.75 (G/C3) 0.25
Photoelectric Factor, Left (PEL)		**Bulk Density, Left (ROBL)**	**Bulk Density Correction, Left (DRHL)**
0 (----- 10		1.85 (G/C3) 2.85	−0.75 (G/C3) 0.25
Photoelectric Factor, Right (PER)		**Bulk Density, Right (ROBR)**	**Bulk Density Correction, Right (DRHR)**
0 (----- 10		1.85 (G/C3) 2.85	−0.75 (G/C3) 0.25
Rate of Penetration, Averaged over Last 5ft (ROP5_RM)			
100 (M/HR) 0			

PIP SUMMARY

Density Samples

IDEAL Version: ID9_1C_02

IDF

6.75−in. Azimuthal Density Neutron / Equipment Identification

Primary Equipment:		
Tool Name and Serial Number	ADN6 − CA	FE55
Collar Type and Serial Number	ADDC − AA	FE55
Chassis Type and Serial Number	ADSE − EA	380
Neutron Logging Source	NSR − M	202
Density Logging Source	GSR − J/Z	1994
Stabilizer Size	8.25 − in.	
Calibration Status	Valid	

Master: 4−Jan−2005 21:40

6.75−in. Azimuthal Density Neutron Calibration

Density: Magnesium Block

Phase	LS window 3 − Mg CPS	Value	Phase	SS window 1 − Mg CPS	Value	Phase	SS window 3 − Mg CPS	Value
Master		1041	Master		2505	Master		6228
	250.0 (Minimum) 4125 (Nominal) 8000 (Maximum)			700.0 (Minimum) 9350 (Nominal) 18000 (Maximum)			2500 (Minimum) 23750 (Nominal) 45000 (Maximum)	

Master: 4−Jan−2005 21:40

6.75−in. Azimuthal Density Neutron Calibration

Density: Aluminum Block

Phase	LS window 3 − Al CPS	Value	Phase	SS window 1 − Al CPS	Value	Phase	SS window 3 − Al CPS	Value
Master		156.5	Master		1275	Master		3922
	50.00 (Minimum) 725.0 (Nominal) 1400 (Maximum)			500.0 (Minimum) 4250 (Nominal) 8000 (Maximum)			1500 (Minimum) 15750 (Nominal) 30000 (Maximum)	

Master: 4−Jan−2005 21:40

6.75−in. Azimuthal Density Neutron Calibration

Density: Background

Phase	LS window 3 − Background CPS	Value	Phase	SS window 1 − Background CPS	Value	Phase	SS window 3 − Background CPS	Value

Master			51.03
15.00 (Minimum)	82.50 (Nominal)	150.0 (Maximum)	

Master			129.8
40.00 (Minimum)	220.0 (Nominal)	400.0 (Maximum)	

Master			563.0
150.0 (Minimum)	825.0 (Nominal)	1500 (Maximum)	

Master: 4−Jan−2005 21:40

6.75−in. Azimuthal Density Neutron Calibration

Density: Water Block Check

Phase	Long spacing water density G/C3		Value
Master			1.029
1.024 (Minimum)	1.039 (Nominal)	1.054 (Maximum)	

Phase	Short spacing water density G/C3		Value
Master			1.116
1.096 (Minimum)	1.126 (Nominal)	1.156 (Maximum)	

Master: 4−Jan−2005 21:40

6.75−in. Azimuthal Density Neutron Calibration

Neutron: Water Tank

Phase	Far 1 tube 1 gain		Value
Master			1.068
0.8000 (Minimum)	1.050 (Nominal)	1.300 (Maximum)	

Phase	Far 1 tube 1 offset CPS		Value
Master			0.06511
−1.000 (Minimum)	0 (Nominal)	1.000 (Maximum)	

Phase	Far 1 tube 2 gain		Value
Master			1.013
0.8000 (Minimum)	1.050 (Nominal)	1.300 (Maximum)	

Phase	Far 1 tube 2 offset CPS		Value
Master			−0.03114
−1.000 (Minimum)	0 (Nominal)	1.000 (Maximum)	

Phase	Far 1 tube 3 gain		Value
Master			1.039
0.8000 (Minimum)	1.050 (Nominal)	1.300 (Maximum)	

Phase	Far 1 tube 3 offset CPS		Value
Master			0.01313
−1.000 (Minimum)	0 (Nominal)	1.000 (Maximum)	

Phase	Far 2 tube 1 gain		Value
Master			1.096
0.8000 (Minimum)	1.050 (Nominal)	1.300 (Maximum)	

Phase	Far 2 tube 1 offset CPS		Value
Master			0.07837
−1.000 (Minimum)	0 (Nominal)	1.000 (Maximum)	

Phase	Far 2 tube 2 gain		Value
Master			0.9974
0.8000 (Minimum)	1.050 (Nominal)	1.300 (Maximum)	

Phase	Far 2 tube 2 offset CPS		Value
Master			−0.1285
−1.000 (Minimum)	0 (Nominal)	1.000 (Maximum)	

Phase	Far 2 tube 3 gain		Value
Master			1.042
0.8000 (Minimum)	1.050 (Nominal)	1.300 (Maximum)	

Phase	Far 2 tube 3 offset CPS		Value
Master			0.1064
−1.000 (Minimum)	0 (Nominal)	1.000 (Maximum)	

Phase	Near 1 tube 1 gain		Value
Master			0.9812
0.8000 (Minimum)	1.050 (Nominal)	1.300 (Maximum)	

Phase	Near 1 tube 1 offset CPS		Value
Master			−40.77
−100.0 (Minimum)	0 (Nominal)	100.0 (Maximum)	

Phase	Near 2 tube 1 gain		Value
Master			0.9674
0.8000 (Minimum)	1.050 (Nominal)	1.300 (Maximum)	

Phase	Near 2 tube 1 offset CPS		Value
Master			−32.21
−100.0 (Minimum)	0 (Nominal)	100.0 (Maximum)	

Master: 4−Jan−2005 21:40

6.75−in. Azimuthal Density Neutron Calibration

Neutron: Water Block Check

Phase	Far Neutron water porosity PU		Value
Master			103.2
90.00 (Minimum)	100.0 (Nominal)	125.0 (Maximum)	

6.75−in. Resistivity At−the−Bit / Equipment Identification

Primary Equipment:

Tool Name and Serial Number	RAB6 − CA	191
Calibration Status	Valid	

Master: 28−Jan−2005 18:29

6.75−in. Resistivity At−the−Bit Calibration

Resistivity: Fixture

Phase	Ring/T1 factor	Value	Phase	Ring/T2 factor	Value	Phase	M0/T1 factor	Value
Master		0.9967	Master		0.9942	Master		1.007
0.9750 (Minimum) 1.000 (Nominal) 1.025 (Maximum)			0.9750 (Minimum) 1.000 (Nominal) 1.025 (Maximum)			0.9750 (Minimum) 1.000 (Nominal) 1.025 (Maximum)		
Phase	M0/T2 factor	Value	Phase	M2/T1 factor	Value	Phase	M2/T2 factor	Value
Master		1.004	Master		1.007	Master		1.004
0.9750 (Minimum) 1.000 (Nominal) 1.025 (Maximum)			0.9750 (Minimum) 1.000 (Nominal) 1.025 (Maximum)			0.9750 (Minimum) 1.000 (Nominal) 1.025 (Maximum)		
Phase	BTN shallow/T1 factor	Value	Phase	BTN shallow/T2 factor	Value	Phase	BTN medium/T1 factor	Value
Master		1.003	Master		0.9999	Master		0.9950
0.9750 (Minimum) 1.000 (Nominal) 1.025 (Maximum)			0.9750 (Minimum) 1.000 (Nominal) 1.025 (Maximum)			0.9750 (Minimum) 1.000 (Nominal) 1.025 (Maximum)		
Phase	BTN medium/T2 factor	Value	Phase	BTN deep/T1 factor	Value	Phase	BTN deep/T2 factor	Value
Master		0.9919	Master		1.012	Master		1.009
0.9750 (Minimum) 1.000 (Nominal) 1.025 (Maximum)			0.9750 (Minimum) 1.000 (Nominal) 1.025 (Maximum)			0.9750 (Minimum) 1.000 (Nominal) 1.025 (Maximum)		

Master: 28−Jan−2005 18:29

6.75−in. Resistivity At−the−Bit Calibration

Gamma Ray: Blanket

Phase	Gamma ray factor	Value
Master		0.9256
0.7500 (Minimum)	1.000 (Nominal)	1.250 (Maximum)

SCHLUMBERGER

Survey report 8-Mar-2005 04:40:23 Page 1 of 4

```
Client.....: ESSO
Field......: Barracouta

Well.......: BTA-A4A-ST                      Spud date.....: 24-Feb-05
API number.:                                 Last survey date.....: 08-Mar-05
Engineer...: K.Handley, M.Y.Tan, R.Burns     Total accepted surveys...: 65
                                             MD of first survey.....:   344.00 m
Rig:.......: ENSCO 102                       MD of last survey......:  2165.00 m
STATE:.....: Victoria

----- Survey calculation methods----------   ----- Geomagnetic data ----------------------
Method for positions.....: Minimum curvature Magnetic model.....: BGGM version 2004
Method for DLS...........: Mason & Taylor     Magnetic date.....: 22-Feb-2005
                                             Magnetic field strength..:    1201.43 HCNT
----- Depth reference ----------------------  Magnetic dec (+E/W-).....:      12.97 degrees
Permanent datum.....: Mean Sea Level         Magnetic dip.....:     -68.87 degrees
Depth reference.....: Driller's Depth
GL above permanent.....:    -45.70 m         ----- MWD survey Reference Criteria ---------
KB above permanent.....:    Top Drive        Reference G.....:    1000.03 mGal
DF above permanent.....:     56.00 m         Reference H.....:    1201.43 HCNT
                                             Reference Dip.....:     -68.87 degrees
----- Vertical section origin----------------Tolerance of G.....: (+/-) 2.50 mGal
Latitude (+N/S-).....:      0.85 m           Tolerance of H.....: (+/-) 6.00 HCNT
Departure (+E/W-).....:      8.53 m          Tolerance of Dip.....: (+/-) 0.45 degrees
```

----- Platform reference point----------
Latitude (+N/S-).....: -304.57 m
Departure (+E/W-).....: -304.57 m

Azimuth from Vsect Origin to target: 76.22 degrees

----- Corrections ----------
Magnetic dec (+E/W-).....: 12.97 degrees
Grid convergence (+E/W-).: -0.42 degrees
Total az corr (+E/W-)....: 13.39 degrees
(Total az corr = magnetic dec - grid conv)
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

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/ D/M	Srvy tool type	Tool Corr (deg)
1	344.00	0.25	235.37	0.00	343.99	0.73	0.55	9.36	9.38	86.64	0.00	TIP	None
2	351.60	3.14	130.65	7.60	351.59	0.84	0.40	9.50	9.51	87.56	0.42	GYR	None
3	371.56	6.26	115.73	19.96	371.48	2.00	-0.42	10.90	10.91	92.23	0.17	MWD	None
4	400.60	10.44	98.23	29.04	400.21	5.66	-1.49	14.93	15.01	95.69	0.17	GYR	None
5	430.00	13.39	92.42	29.40	428.97	11.40	-2.01	20.97	21.07	95.48	0.11	MWD	None
6	458.41	16.35	82.38	28.41	456.43	18.54	-1.62	28.22	28.27	93.29	0.14	MWD	None
7	487.44	19.21	75.25	29.03	484.08	27.38	0.14	36.90	36.90	89.79	0.12	MWD	None
8	516.58	22.78	75.14	29.14	511.28	37.82	2.80	46.99	47.07	86.58	0.12	MWD	None
9	545.52	27.31	73.86	28.94	537.49	50.06	6.09	58.79	59.10	84.09	0.16	MWD	None
10	574.63	31.33	72.34	29.11	562.87	64.29	10.24	72.42	73.14	81.95	0.14	MWD	None
11	603.86	34.81	75.42	29.23	587.36	80.22	14.65	87.74	88.95	80.52	0.13	MWD	None
12	632.38	38.27	75.46	28.52	610.27	97.19	18.92	104.17	105.88	79.71	0.12	MWD	None
13	661.80	41.30	75.07	29.42	632.87	116.01	23.71	122.38	124.65	79.04	0.10	MWD	None
14	691.10	45.16	74.90	29.30	654.22	136.07	28.91	141.76	144.67	78.47	0.13	MWD	None
15	719.99	48.91	74.32	28.89	673.90	157.20	34.52	162.13	165.77	77.98	0.13	MWD	None
16	749.12	52.83	74.48	29.13	692.28	179.78	40.59	183.89	188.32	77.55	0.13	MWD	None
17	778.33	56.53	75.07	29.21	709.17	203.61	46.85	206.89	212.13	77.24	0.13	MWD	None
18	806.73	58.42	75.06	28.40	724.44	227.54	53.02	230.02	236.05	77.02	0.07	MWD	None
19	826.51	60.05	75.43	19.78	734.56	244.54	57.35	246.46	253.04	76.90	0.08	MWD	None
20	857.08	60.11	75.02	30.57	749.80	271.03	64.11	272.08	279.53	76.74	0.01	MWD	None
21	885.76	61.34	74.96	28.68	763.83	296.04	70.58	296.24	304.53	76.60	0.04	MWD	None
22	914.88	60.95	74.82	29.12	777.88	321.54	77.23	320.86	330.03	76.47	0.01	MWD	None
23	**943.53**	**60.68**	**75.21**	**28.65**	**791.85**	**346.55**	**83.70**	**345.03**	**355.03**	**76.36**	**0.02**	**MWD**	**None**
24	**972.56**	**59.77**	**76.43**	**29.03**	**806.27**	**371.74**	**89.87**	**369.45**	**380.23**	**76.33**	**0.05**	**MWD**	**None**
25	1001.50	59.54	77.10	28.94	820.89	396.72	95.59	393.77	405.20	76.35	0.02	MWD	None
26	1030.64	59.11	76.93	29.14	835.76	421.78	101.22	418.19	430.26	76.39	0.02	MWD	None
27	1059.78	57.85	76.77	29.14	850.99	446.61	106.87	442.38	455.10	76.42	0.04	MWD	None
28	1089.10	58.34	76.70	29.32	866.49	471.50	112.59	466.60	479.99	76.43	0.02	MWD	None
29	1118.03	59.62	78.08	28.93	881.39	496.29	118.00	490.80	504.78	76.48	0.06	MWD	None
30	1147.18	61.65	77.56	29.15	895.69	521.68	123.36	515.63	530.18	76.55	0.07	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/ D/M	Srvy tool type	Tool Corr (deg)
31	1176.44	62.74	77.42	29.26	909.34	547.56	128.96	540.89	556.06	76.59	0.04	MWD	None
32	1205.78	63.29	77.18	29.34	922.65	573.70	134.71	566.40	582.20	76.62	0.02	MWD	None
33	1234.53	63.22	77.02	28.75	935.59	599.37	140.44	591.43	607.87	76.64	0.01	MWD	None
34	1263.41	63.32	74.80	28.88	948.58	625.16	146.72	616.44	633.66	76.61	0.07	MWD	None
35	1292.28	62.74	73.74	28.87	961.67	650.88	153.70	641.21	659.37	76.52	0.04	MWD	None
36	1321.68	61.29	72.83	29.40	975.47	676.80	161.16	666.07	685.29	76.40	0.06	MWD	None
37	1350.51	60.59	72.52	28.83	989.47	701.95	168.67	690.13	710.44	76.27	0.03	MWD	None
38	1379.66	60.36	72.02	29.15	1003.84	727.26	176.39	714.29	735.75	76.13	0.02	MWD	None
39	1408.57	60.11	72.24	28.91	1018.19	752.29	184.09	738.18	760.78	76.00	0.01	MWD	None
40	1437.70	60.53	73.72	29.13	1032.61	777.56	191.50	762.37	786.06	75.90	0.05	MWD	None
41	1466.67	60.32	73.21	28.97	1046.91	802.72	198.67	786.53	811.23	75.82	0.02	MWD	None
42	1494.99	59.98	74.68	28.32	1061.01	827.27	205.46	810.13	835.78	75.77	0.05	MWD	None
43	1524.16	60.08	76.01	29.17	1075.58	852.53	211.85	834.58	861.05	75.76	0.04	MWD	None
44	1553.56	60.34	75.95	29.40	1090.19	878.05	218.04	859.33	886.56	75.76	0.01	MWD	None
45	1582.31	59.93	76.35	28.75	1104.50	902.98	224.00	883.54	911.49	75.77	0.02	MWD	None
46	1611.11	60.27	75.83	28.80	1118.86	927.95	230.01	907.77	936.46	75.78	0.02	MWD	None
47	1640.37	60.83	76.43	29.26	1133.25	953.42	236.11	932.51	961.94	75.79	0.03	MWD	None
48	1669.37	61.92	76.44	29.00	1147.14	978.88	242.08	957.25	987.39	75.81	0.04	MWD	None
49	1697.95	61.74	77.55	28.58	1160.63	1004.07	247.75	981.80	1012.58	75.84	0.03	MWD	None
50	1727.34	61.10	76.95	29.39	1174.69	1029.88	253.45	1006.98	1038.38	75.87	0.03	MWD	None
51	1756.52	60.74	76.03	29.18	1188.87	1055.38	259.41	1031.77	1063.88	75.89	0.03	MWD	None
52	1785.84	61.68	75.81	29.32	1202.99	1081.07	265.66	1056.69	1089.58	75.89	0.03	MWD	None
53	1814.73	60.60	74.63	28.89	1216.94	1106.37	272.11	1081.16	1114.88	75.87	0.05	MWD	None
54	1843.93	59.17	75.44	29.20	1231.59	1131.62	278.63	1105.56	1140.13	75.85	0.05	MWD	None
55	1873.01	60.22	75.24	29.08	1246.26	1156.72	284.99	1129.85	1165.24	75.84	0.04	MWD	None

56	1901.51	60.30	75.12	28.50	1260.40	1181.47	291.32	1153.77	1189.98	75.83	0.00	MWD	None
57	1930.45	57.71	75.01	28.94	1275.30	1206.27	297.71	1177.74	1214.78	75.81	0.09	MWD	None
58	1959.57	61.45	74.05	29.12	1290.04	1231.36	304.41	1201.93	1239.88	75.79	0.13	MWD	None
59	1988.76	61.26	74.58	29.19	1304.04	1256.96	311.34	1226.60	1265.49	75.76	0.02	MWD	None
60	2016.21	59.94	74.18	27.45	1317.51	1280.87	317.78	1249.63	1289.40	75.73	0.05	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/ D/M	Srvy tool type	Tool Corr (deg)
61	2047.03	60.93	73.76	30.82	1332.72	1307.65	325.18	1275.39	1316.19	75.70	0.03	MWD	None
62	2075.72	59.49	73.40	28.69	1346.97	1332.52	332.22	1299.28	1341.08	75.66	0.05	MWD	None
63	2104.69	60.28	74.27	28.97	1361.51	1357.56	339.19	1323.34	1366.12	75.62	0.04	MWD	None
64	2133.61	61.55	74.59	28.92	1375.57	1382.82	345.98	1347.69	1391.39	75.60	0.04	MWD	None
65	2165.00	62.93	74.93	31.39	1390.19	1410.59	353.28	1374.49	1419.16	75.59	0.04	Projection to TD	

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

Schlumberger

Well: **BTA−A4A−ST**

Field: **Barracouta**

Rig: **ENSCO 102** **8.5 in. Section**

State: **Victoria**

GeoVISION Quadrant Density
1:200 Measured Depth
Recorded Mode Log