Schlumberger

Company: **ESSO Australia Pty Ltd**

9.875 in. Section

Well: **CBA A33**

Field: **Halibut**

Rig: **ISDL 175** State: **Victoria**

Rig: ISDL 175
Field: Halibut
Location: Bass Strait
Well: CBA A33
Company: ESSO Australia Pty Ltd

VISION Service (Trip Out)
1:200 Measured Depth
Recorded Mode Log

Location

Total depth:	2579.0 m
Spud date:	15−June−2009
Runs:	2 To 2

Elevation

K.B.	Top Drive
G.L.	−79.00 m
D.F.	41.00 m

Permanent datum: Mean Sea level Elev.: 0.00 m
Log measured from: Drill Floor 41.00 m above Perm. datum
Depth reference: Driller's Depth

Service Order no.	X = E 614234.558 m	Longitude	Latitude
09ASQ0016	Y = N 5743518.761 m	E148° 18' 32.826"	S38° 26' 57.543"

Depth logged:	587.6 m To 2570.4 m	Mag decl:	13.218 deg.	Other services:	
Date logged:	22−Jun−09 To 24−Jun−09	Mag dip:	−68.859 deg.	See Remarks	

Bore hole record

Hole size	from	to
9.875 in.	589.6 m	2579.0 m

Casing record

Size	Density	from	to
10.75 in.	40.50 lbm/ft	20.68 m	587.62 m

Mud record

Type	from	to
Accolade SBM	589.6 m	2579.0 m

Borehole deviation record

Min	Max	from	to
13.73 deg.	16.22 deg.	625.93 m	2558.69 m

Surface equipment

Unit	OLU−KC−0801
Depth system	PDA/CLT

Software record

IDEAL Wis	ID14_0C_14		
SPM	14_1C_03		
LWD	v8.4 (adnVISION*)	v6.7 (sonicVISION*)	v9.3b13 (arcVISION*)
MWD	9.2c02		

Bit Run Summary

Run number		2
Bit size	in	9.875
Bit start depth	m	589.6
Bit end depth	m	2579.0
Top interval logged	m	587.6
Bottom interval logged	m	2570.4
Begin log: time		11:48:55
Begin log: date		22−Jun−09
End log: time		07:37:52
End log: date		24−Jun−09
Mud data		
Depth	m	2327.0
Type		Accolade SBM
Mud weight	ppg	11.65
Solids	%	19.9
Chlorides	mg/L	44,244
Rm	ohm.m@°C	n.a
Rmf	ohm.m@°C	n.a
Rmc	ohm.m@°C	n.a

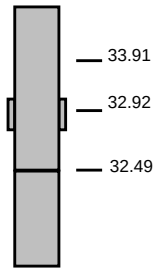
Potassium	%	n.a									
Environmental data											
GR											
Mud weight	ppg	11.65									
Bit size	in	9.875									
Resistivity											
Neutron porosity											
Hole Size	in	9.875									
Mud weight	ppg	11.65									
Temperature	°C	91.0									
Mud salinity	ppk	58.628									
Formation salinity		n.a									
Recording rate 1	SEC	6 (arc)									
Recording rate 2	SEC	5 (adn) 10 (sonic)									
Filtering GR		3 pts.									
Filtering density		3 pts.									
Filtering Neutron		3 pts.									
Company representative		R. C. Moore	G. Doty	D. Daniels							
D&M personnel		M. Amarasena	B. Low	W. Chehabi	C. Soper	S. Ahmad					

OTHER SERVICES FOR RUN2	OTHER SERVICES FOR RUN	OTHER SERVICES FOR RUN
Directional Drilling Directional Surveys Annular Pressure & Temperature Shock & Vibrations		
REMARKS: RUN NUMBER 2	**REMARKS: RUN NUMBER**	**REMARKS: RUN NUMBER**
Depth is referenced to Driller's depth Gamma ray is corrected for mud weight, tool size and bit size Resistivity is borehole compensated and environmentally corrected Neutron porosity is corrected for the effects of borehole size (bit size), temperature, mud salinity and mud hydrogen index (a factor of mud weight, mud temperature and pressure) Neutron porosity is calculated using a limestone matrix density of 2.71 g/cm3 ADN was run with a 9−3/8" clamp on stabilizer Delta−T is borehole compensated POOH upon reaching TD of CBA A33		

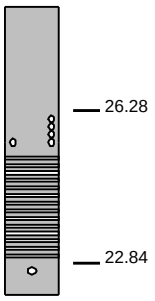
EQUIPMENT DESCRIPTION

RUN2	RUN	RUN
DOWNHOLE EQUIPMENT		

DOWNHOLE EQUIPMENT

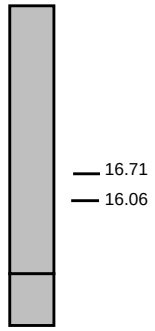


6−3/4" adnVISION* 35.91
9−3/8" Stabilizer
Neutron 33.91
DHS: V8.4
Density 32.92
S/N: 2400
UltraSonic 32.49



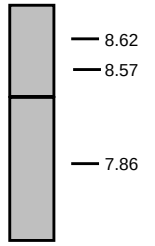
6−3/4" sonicVISION* 29.33
DHS: V6.7
S/N: 46324
Receivers 26.28
Transmitter 22.84

9−5/8" NM−ILS 22.04
S/N: OSSO0812160

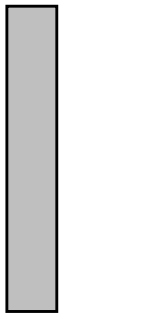


6−3/4" TeleScope* 21.07
DHS: 9.2C02
S/N: FU22
D&I 16.71
MVC 16.06

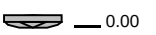
9−5/8" NM−ILS 13.05
S/N: OSS051299F



6−3/4" arcVISION* 11.98
Gamma Ray 8.62
DHS: V9.3
Resistivity 8.57
S/N: VX02
ARC APWD 7.86



6−3/4" PowerDrive X5 6.12
S/N: 1290



0.00
9−7/8" Reed Hycalog PDC Bit CBA A33
S/N: 220949

Maximum string diameter 9.88 in.

E148° 18' 32.826"

Variable Name	Variable Description	Run Name & Value
	Run Number	2
	General Information	
BHT_RM	Bottom Hole Temperature (RM)	DEGC 91.000
BSAL_RM	Mud Salinity (RM)	PPK 58.628
BS_RM	Bit Size (RM)	IN 9.875
COEF_M	User Defined FEXP in Clean Sand	---- 1.650
C_WS	Overpressure correction to Sw and M	---- 1.000
FEXP	Formation Factor Exponent(RM)	---- 2.000
FNUM	Formation Factor Enumerator(RM)	---- 1.000
FPHI_RM	Formation Factor Porosity Source (RM)	---- XPLOT
MST_RM	Mud Sample temperature (RM)	DEGC 23.889
MW_RM	Mud Weight (RM)	LB/G 11.650
OBMF_RM	Oil Based Mud (RM)	---- YES
RHOF_RM	Mud Filtrate Density (RM)	G/C3 1.000
RHOM_RM	Matrix density (RM)	G/C3 2.710
RMS_RM	Resistivity of Mud Sample (RM)	OHMM 1000.000
RWA_COMP_M	Rwa computation model	
RWA_DEN_AD	Rwa Density Input ADN	
RWA_DEN_CD	Rwa Density Input CDN	
RWA_DEN_IN	Rwa Density Input	
RWA_FORM_M	Rwa computation formation model	
RWA_RES_IN	Rwa computation resistivity input	
RWS_RM	Resistivity of Connate Water (RM)	OHMM 1.000
SHT_RM	Ground Level Temperature (Mud-Line When Offshore) (RM)	DEGC 10.000
TD_RM	Total Measured Depth (RM)	M 2579.000
TWS_RM	Temperature of Connate Water (RM)	DEGC 23.889
VF_ILLI	Fraction of illite in shales	---- 0.500
VF_KAOL	Fraction of kaolinite in shales	---- 0.500
VF_MONT	Fraction of montmorillonite in shales	---- 0.000
XPDM_RM	Cross plot density porosity multiplier	---- 0.675
XPNM_RM	Cross plot neutron porosity multiplier	---- 0.325
	ADN	
ADN_CHASSIS_STR	Type String	Chassis ADN
ADN_COLLAR_STR	Type String	Collar ADN
ADN_DATA_FIX	ADN: Create A Corrected ADN Time Data File	---- NO
ADN_DATA_LTB	ADN: Create An ADN LTB Data File	---- NO
ADN_ORIENTATION	ADN Image Orientation	---- TOH
ADN_STAB_STR	ADN Stabilizer Type String	---- TOH
ALPHA_COMPUTE_D	Perform Density Enhanced Vertical Resolution process ?	---- YES
ALPHA_COMPUTE_N	Perform Neutron Enhanced Vertical Resolution process ?	---- YES
AVE_ADN	ADN/Array Channels: perform averaging(RM) :	---- YES
A_DHS	ADN Down Hole Software Version String	---- YES
CHI_RM	Caliper High limit from BS (RM)	IN 3.000
CLO_RM	Caliper Low limit from BS (RM)	IN 0.000
DEVI	Well Section Deviation	DEG 14.540
DTIK_SEL	ADN: Density Tick Channel Name	---- LSAZ
DTMUD	Delta-T for Mud	US/F 237.589
DYN_IMG_COMPUTE	Generate Dynamic Normalized Image?	---- YES
ECC_CORR_ADN	Perform Eccentering Correction for TNPH?	---- YES
ENVCOR	Neutron Processing: Environmental Correction?	---- YES
EVRL	EVR Process averaging number of samples (RM)	---- 49
FCD	Future Casing (Outer) Diameter	IN TBA
GCSE	Generalized Caliper Selection	---- BS
HPS	ADSE-EB (High Pressure Inconel Chassis)?	---- NO
IBS	Intergal Blade Stabilizer Collar?	---- NO
IDQT	Image Derived Quality Threshold	---- 2.000
IHVS	Integrated Hole Volume Start Value(RM)	F3 0.000
IMAGE_MAX_SOA	Image SOA (Quadrant) Right Scale	IN 2.500
IMAGE_MAX_SPEF	Image PEF(Segment) Right Scale	---- 6.000
IMAGE_MAX_SRHOB	Image RHOB(Segment) Right Scale	G/C3 2.650
IMAGE_MIN_SOA	Image SOA (Quadrant) Left Scale	IN 0.000
IMAGE_MIN_SPEF	Image PEF(Segment) Left Scale	---- 2.000
IMAGE_MIN_SRHOB	Image RHOB(Segment) Left Scale	G/C3 2.050
JSD_ADN	ADN Acquisition start date	G/C3 2.050
LITHO_TYPE_ADN	Lithology (RM)	---- LIME
N1FTU_6_RM	ADN: Neutron Bank 1 Far Tubes used :	---- 1-2-3
N2FTU_6_RM	ADN: Neutron Bank 2 Far Tubes used :	---- 1-2-3
NNTU_RM	ADN Neutron Near Banks Used	---- 1-2
NTIK_SEL	ADN: Neutron Tick Channel Name	---- FR11
RSD	LWD run start date dd-mmm-yy	---- 22-Jun-09
RWA_COMP_MOD	Rwa computation model	---- BASIC
RWA_DEN_ADN	Rwa Density Input	---- RHOB
RWA_DEN_CDN	Rwa Density Input	---- RHOB
RWA_DEN_INPUT	Rwa Density Input	---- RHOB
RWA_FORM_MOD	Rwa computation formation model	---- CLASTIC
RWA_RES_INPUT	Rwa computation resistivity input	---- RT
SOCNL	Standoff Distance of the CNL Tool	---- 1.000
SSIZ_ADN	ADN Stabilizer Size	IN 9.331
STOH	ADN Density Top of Hole Sector (Left Boundary):	---- SECTOR_0
TRPM_RM	Average Tool Rotational Speed	RPM 20.000
USMIN_RM	ADN:Minimum Ultrasonic standoff (RM)	IN 0.180
USWF_RM	ADN:Process Ultrasonic Waveform?	---- YES
VERS_ADN	ADN Downhole Software Version	---- 8.400
WSDI	Window Size of Dynamic Normalization Image	M 15.240
	ARC	
A12A	ARC Air Cal Attenuation From T1 at 2 MHz	DB 8.950
A14A	ARC Air Cal Attenuation From T1 at 400 KHz	DB 8.936

A22A	ARC Air Cal Attenuation From T2 at 2 MHz	DB	6.014
A24A	ARC Air Cal Attenuation From T2 at 400 KHz	DB	6.040
A32A	ARC Air Cal Attenuation From T3 at 2 MHz	DB	5.566
A34A	ARC Air Cal Attenuation From T3 at 400 KHz	DB	5.543
A42A	ARC Air Cal Attenuation From T4 at 2 MHz	DB	3.912
A44A	ARC Air Cal Attenuation From T4 at 400 KHz	DB	3.936
A52A	ARC Air Cal Attenuation From T5 at 2 MHz	DB	4.116
A54A	ARC Air Cal Attenuation From T5 at 400 KHz	DB	4.099
ABNT	Abnormal Transmitter Indicator	----	No_Tx_Failed
ADHS	ARC Down Hole Software Version	----	v9.3b13
AM2A	ARC Air Cal Amplitude Offset at 2 MHz	----	-50000.000
ANISO_COMPUTE	Anisotropy Computation Option	----	YES
APICG	ARC5 Gamma Ray Gain Factor	----	1.046
APIG	ARC Gamma Ray API Gain Factor	----	-1.000
ARC_DATA_FIX	ARC: Create A Corrected ARC Time Data File	----	NO
ARC_DATA_LTB	ARC: Create An ARC LTB Data File	----	NO
ATMP_ARC	ARC Select Temperature Channel	----	Annulus_Temp
ATRN	ARC Tool Run Number	--	SLB #2, RIG #4
ATSN	ARC Tool Serial Number	----	VX02
AZMF	Formation DIP Azimuth	DEG	0.000
BH_COMPUTE	Borehole Inversion Computation Option	----	YES
CALG	ARC Gamma Ray Cal Gain Factor	----	1.046
CALI_SLCT_ARC	ARC Caliper Selection	----	BITSIZE
CDPTH_ARC	Process Start Depth	M	30.480
DIELEC_COMPUTE	Dielectric Computation Option	----	YES
DIPF	Formation DIP Angle	DEG	0.000
ERRCT	Percentage Error Cutoff	----	4.500
GRSH	GR Shale (Invasion Computation Cutoff)	GAPI	1000.000
HIGH_BLEND	High Resistivity Threshold for Blending	OHMM	2.000
INCLIN_B0	ARC Bias Constant (mg)	----	0.000
INCLIN_B1	ARC Bias First-order Coefficient (mg/degC)	----	0.000
INCLIN_B2	ARC Bias Secod-order Coeeficient (mg/degC)	----	0.000
INCLIN_B3	ARC Bias Third-order Coeeficient (mg/degC)	----	0.000
INCLIN_C0	ARC Current Scale Factor Constant (mA/g)	----	1.000
INCLIN_C1	ARC Scale First-order Coeeficient (mA/g/degC)	----	0.000
INCLIN_C2	ARC Scale Second-order Coeeficient (mA/g/degC)	----	0.000
INCLIN_C3	ARC Scale Third-order Coeeficient (mA/g/degC)	----	0.000
INVAS_COMPUTE	Invasion Computation Option	----	YES
JSD_ARC	ARC Acquisition start date	----	YES
KPER	Potassium Concentration (RM)	----	0.000
LOW_BLEND	Low Resistivity Threshold for Blending	OHMM	1.000
MSWS	ARC Wizard Model Switch Window	M	1.524
MULTIEFFECT_COM	Multi Effect Option	----	YES
P11AC_RM	ARC: Air Calibration For Phase T1 to R1	DEG	-999.250
P12A	ARC Air Cal Phase-Shift From T1 at 2 MHz	DEG	0.090
P14A	ARC Air Cal Phase-Shift From T1 at 400 KHz	DEG	1.267
P22A	ARC Air Cal Phase-Shift From T2 at 2 MHz	DEG	-0.053
P24A	**ARC Air Cal Phase-Shift From T2 at 400 KHz**	**DEG**	**-1.300**
P32A	**ARC Air Cal Phase-Shift From T3 at 2 MHz**	**DEG**	**-0.001**
P34A	ARC Air Cal Phase-Shift From T3 at 400 KHz	DEG	1.279
P42A	ARC Air Cal Phase-Shift From T4 at 2 MHz	DEG	-0.105
P44A	ARC Air Cal Phase-Shift From T4 at 400 KHz	DEG	-1.349
P52A	ARC Air Cal Phase-Shift From T5 at 2 MHz	DEG	0.002
P54A	ARC Air Cal Phase-Shift From T5 at 400 KHz	DEG	1.278
POFFSET_ARC	ARC: Pressure Offset	PSI	0.000
PRTD	Preferred Resistivity Log for Rt Display while Multi-Effects	----	P34B
PSOF_ADJ_T1	ARC: User Input Phase offset	DEG	0.000
RESTIK	ARC resistivity tick source	----	Phase
SHIG	ARC High Shock Risk Level	CPS	0.500
SMED	ARC Medium Shock Risk Level	CPS	0.330
SMIN	ARC Minimum Shock Risk Level	CPS	0.160
SUPD	ARC Real Time Shock Update Rate	S	30.000
TCODE_ARC	ARC Tool File Code	S	30.000
TSIZ_ARC	ARC Tool Size	IN	6.750
UNIFORM_COMPUTE	Uniform Rock Option	----	YES
VERS_ARC	ARC Down hole software version Number	----	9.300
WRK	to Report Potassium Concentration (RM)	----	K_by_Wgt_%

Schlumberger Drilling & Measurements ID13 Parameter Insert Header Software version 3.0c

IDEAL Version: ID14_0C_14

IDF

Format: VISION Service RM Log **Vertical Scale: 1:200** **Graphics File Created: 27-Jun-2009 20:26**

PIP SUMMARY

Density Samples

Neutron Samples

ARC Gamma Ray Samples

ARC Resistivity Samples

ARC Phase-Shift Resistivity 40-in. at 2 MHz (P40H)

0.2 **(OHMM)** **2000**

ARC Gamma Ray (GR_ARC)

ARC Phase-Shift Resistivity 34-in. at 2

Thermal Neutron Porosity (TNPH)

ARC Gamma Ray (GR_ARC)
0 (GAPI) 200

Vertical Hole Diameter (VERD)
6 (IN) 16

Horizontal Hole Diameter (HORD)
6 (IN) 16

Density Time After Bit (TAB_DEN)
0 (HR) 10

MHz (P34H)
0.2 (OHMM) 2000

ARC Phase−Shift Resistivity 28−in. at 2 MHz (P28H)
0.2 (OHMM) 2000

ARC Phase−Shift Resistivity 22−in. at 2 MHz (P22H)
0.2 (OHMM) 2000

ADN Rotational Speed (RPM_ADN) (RPM)
0 250

ARC Phase−Shift Resistivity 16−in. at 2 MHz (P16H)
0.2 (OHMM) 2000

Thermal Neutron Porosity (TNPH)
0.45 (V/V) −0.15

Bulk Density, Bottom (ROBB)
1.85 (G/C3) 2.85

Photoelectric Factor, Bottom (PEB)
0 (−−−− 10

Bulk Density Correction, Bottom (DRHB)
−0.75 (G/C3) 0.25

CSG Shoe @ 587.6m

CALIPER First reading

GAMMA First reading

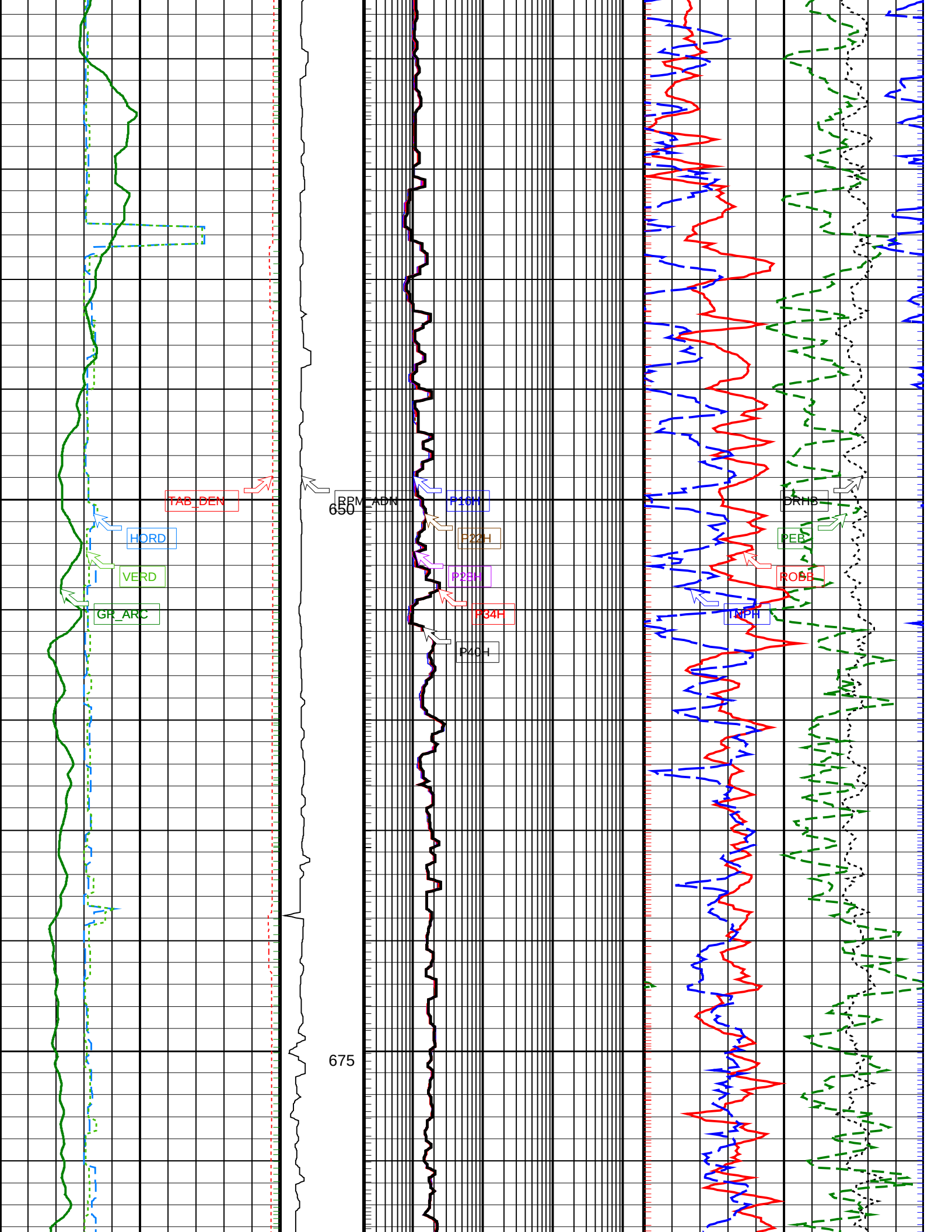
RES First reading

NEUTRON First reading

DENSITY First reading

600

625


TAB_DEN
HORD
VERD
GR_ARC
RPM_ADN
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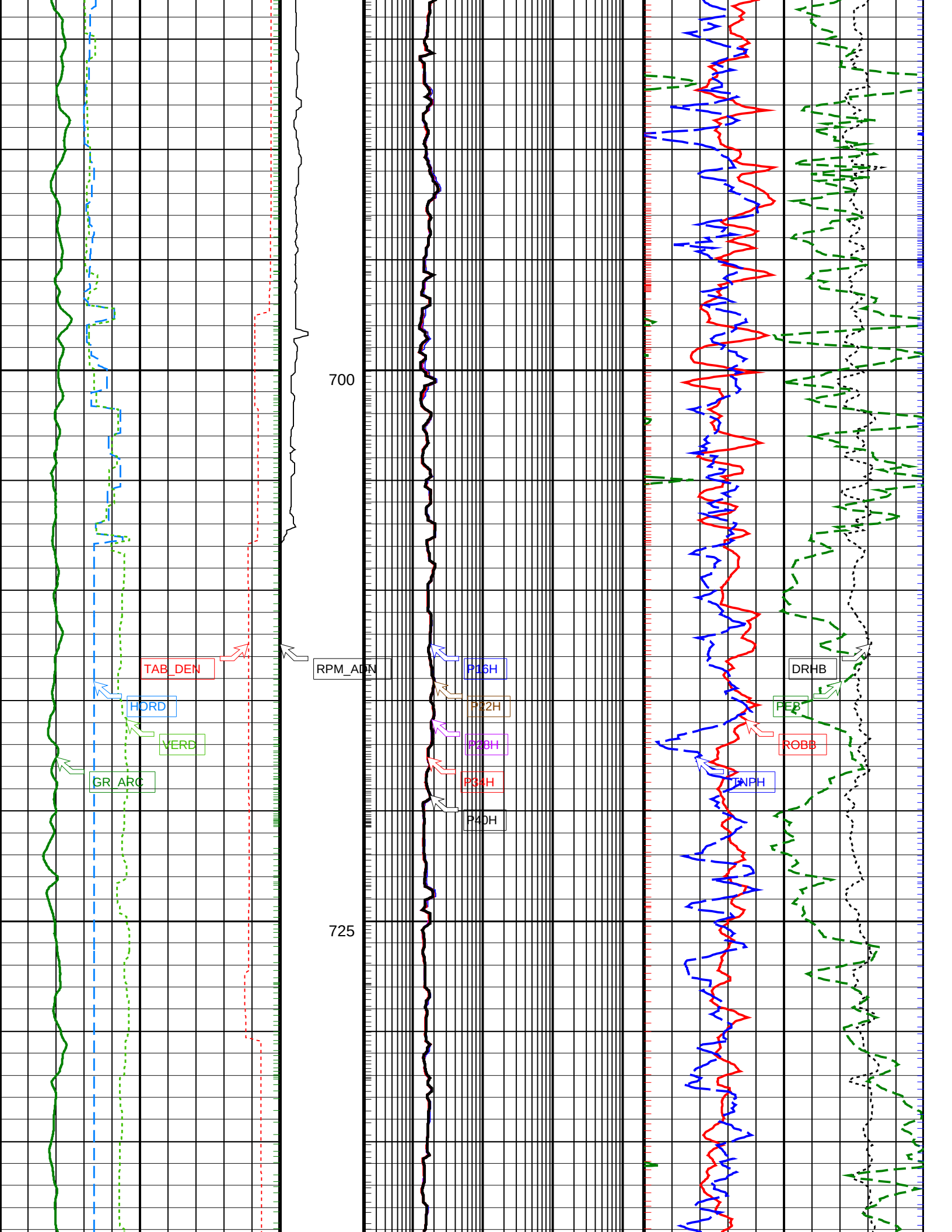
P16H
P22H
P28H
P34H
P40H
DRHB
PEB
ROBB
TMPH
675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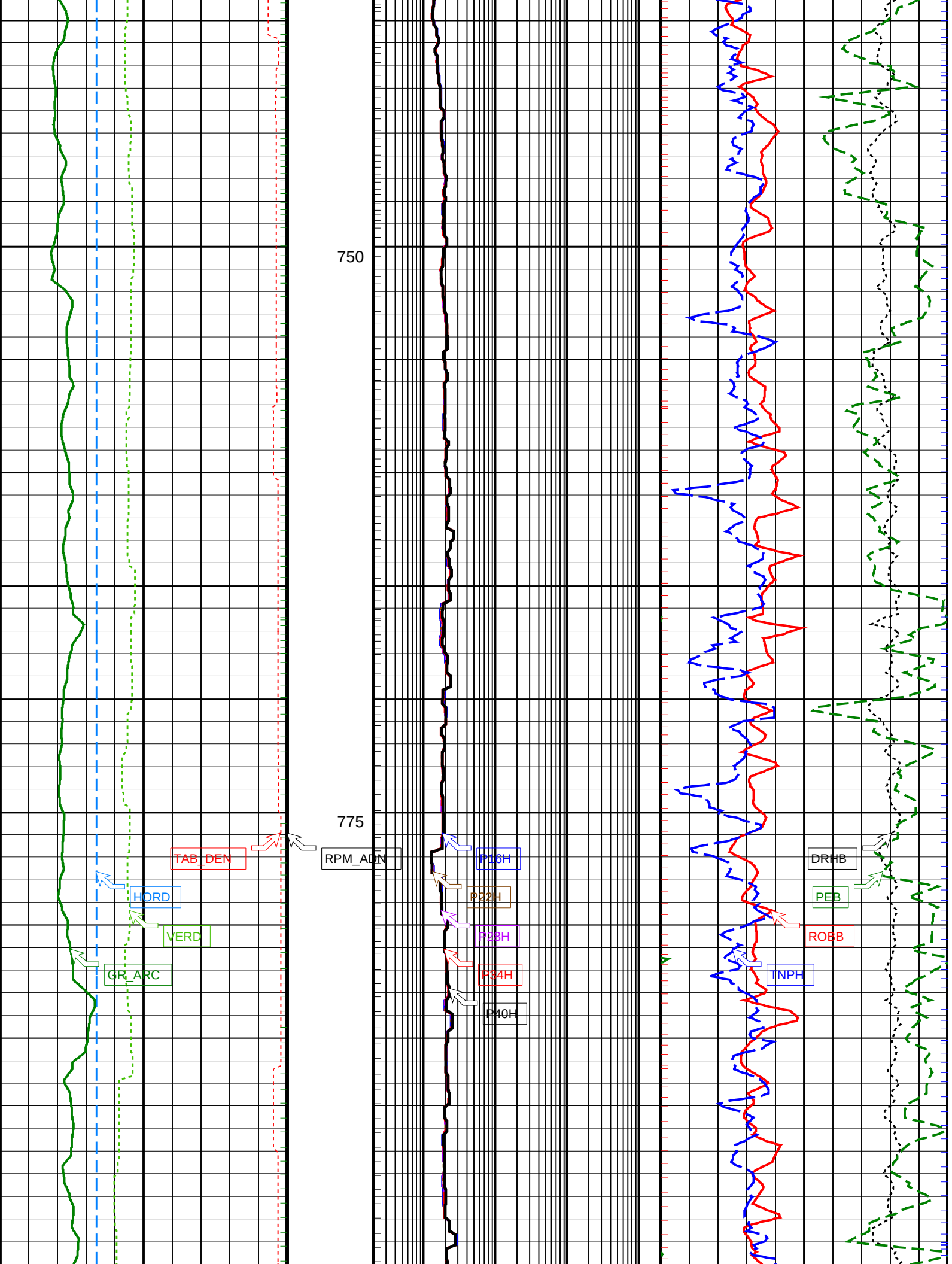
PEB
ROBB
TNPH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TAB_DEN
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HORD
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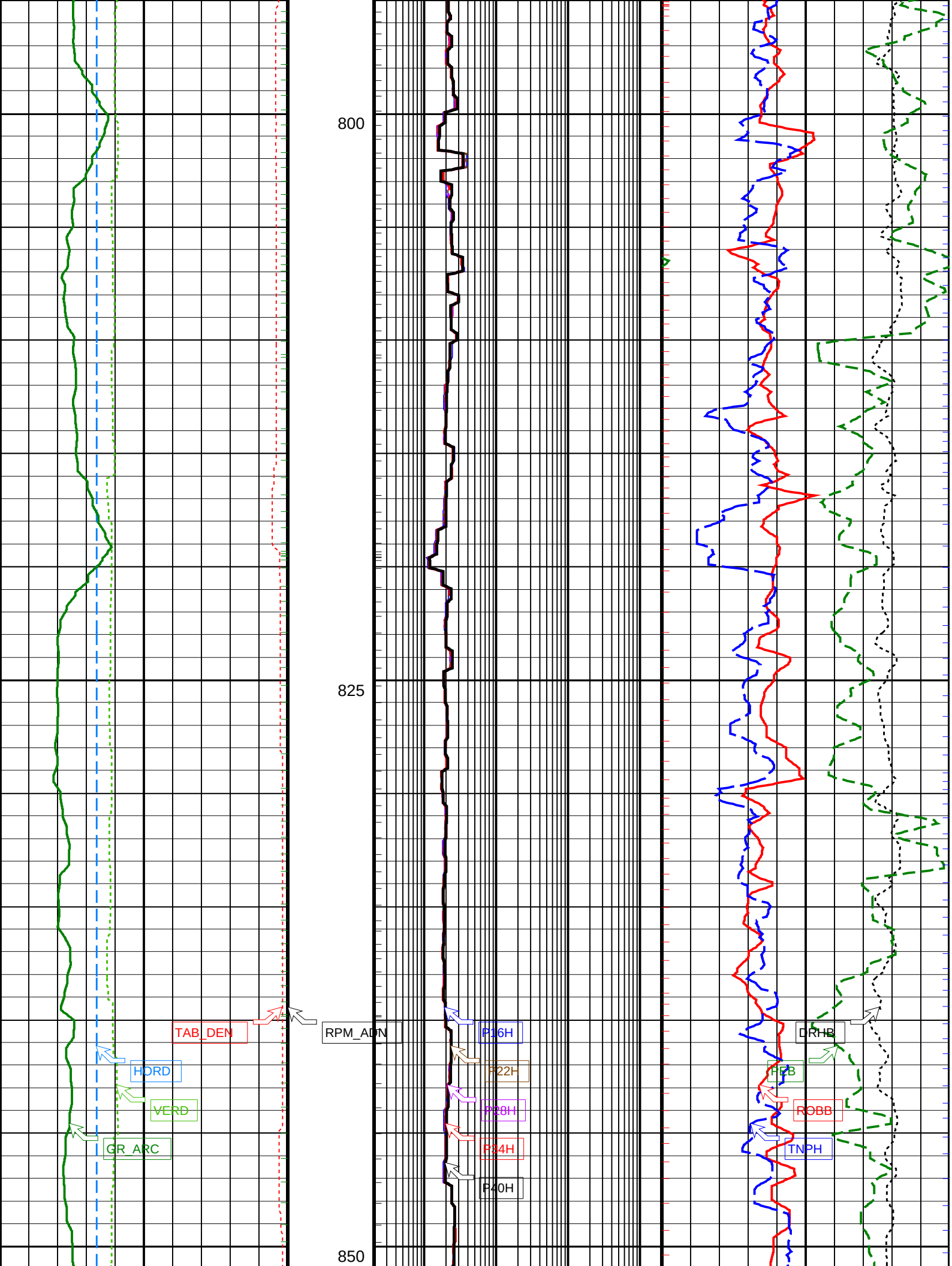
PEB
VERD
P28H
ROBB
GR_ARC
P34H
TNPH
P40H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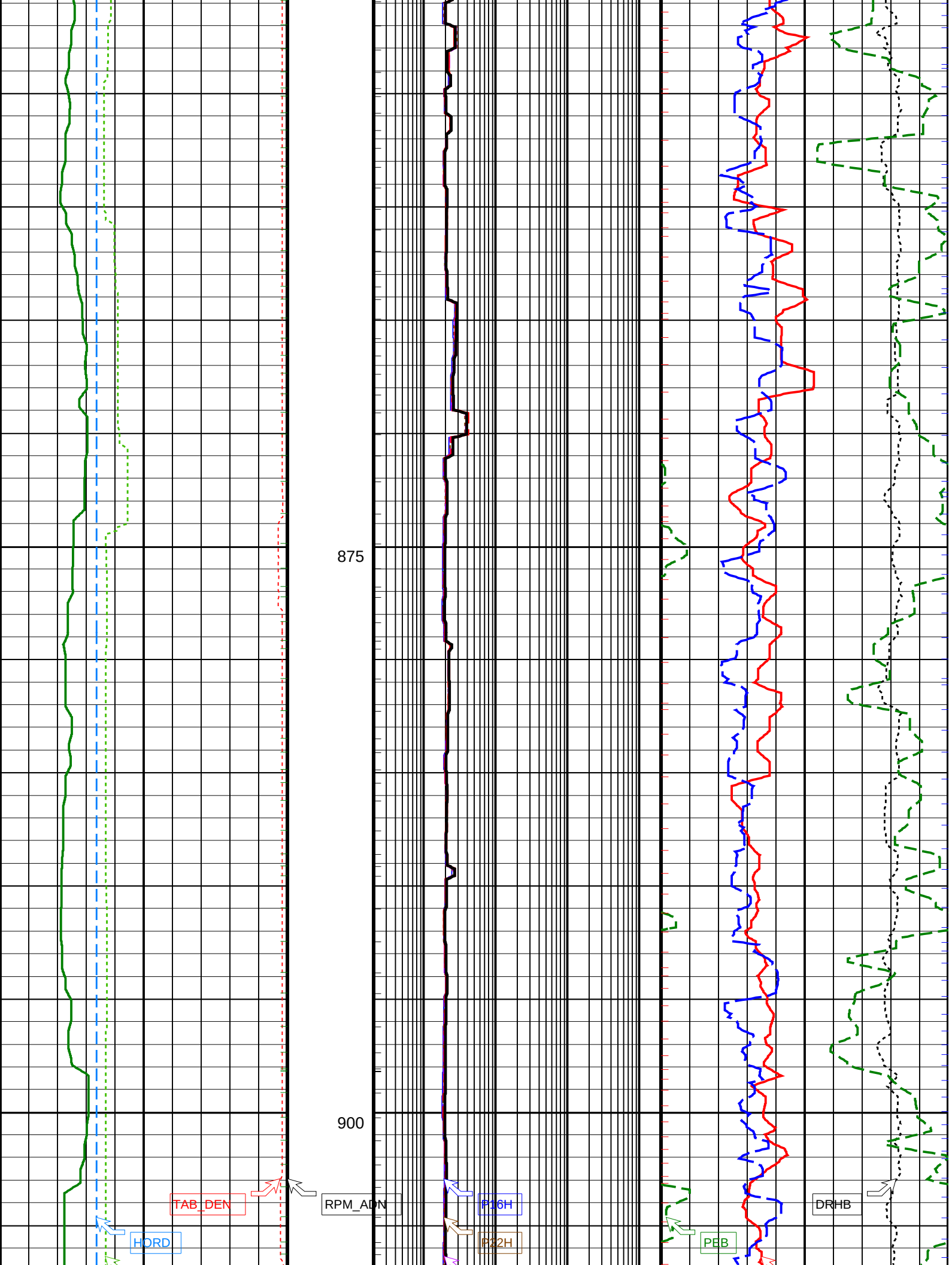
825
850
TAB_DEN
HORD
VERD
GR_ARC
RPM_ADN
P16H
P22H
P28H
P34H
P40H
DRHB
PEB
ROBB
TNPH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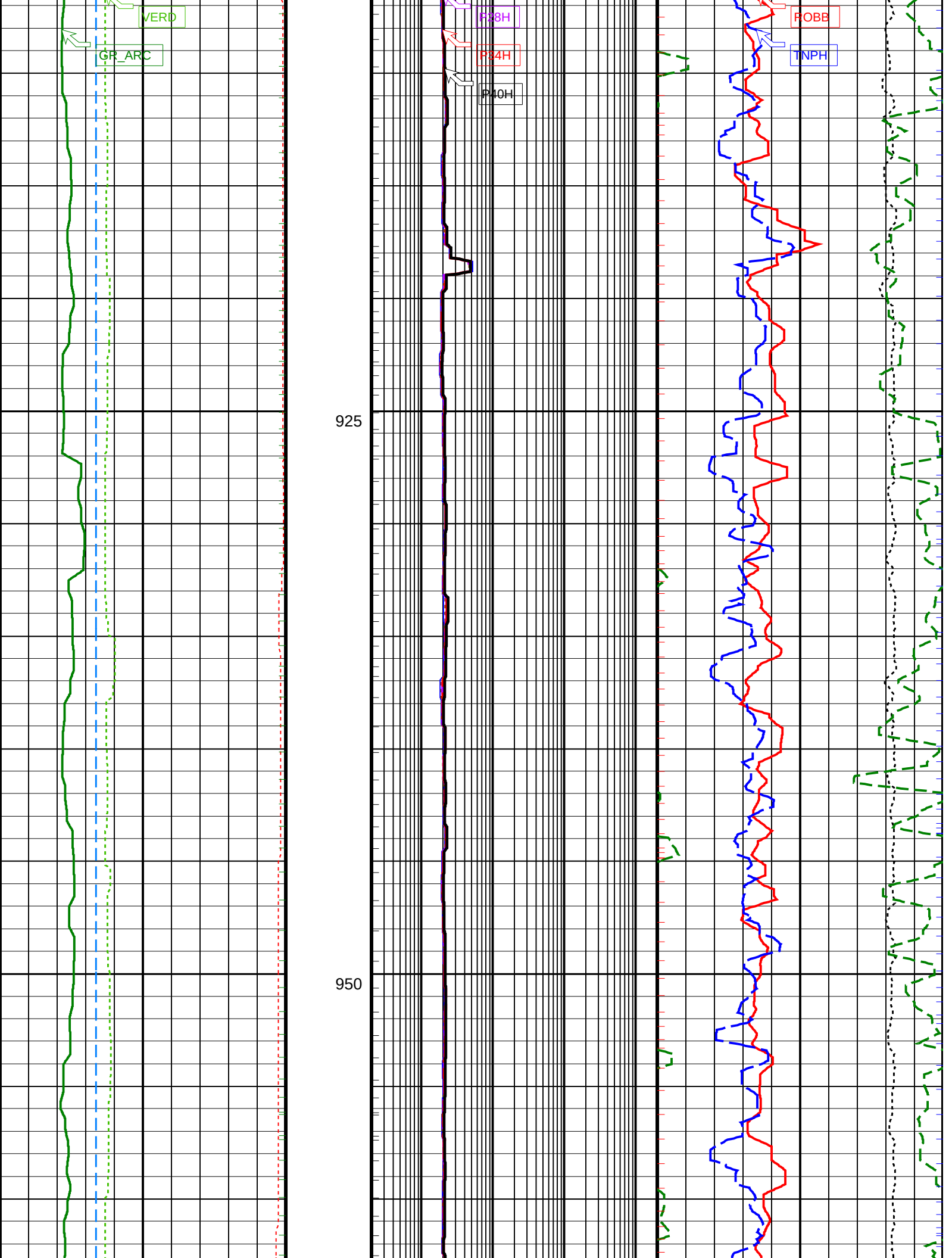
900
TAB_DEN
RPM_ADN
P16H
DRHB
HORD
P22H
PEB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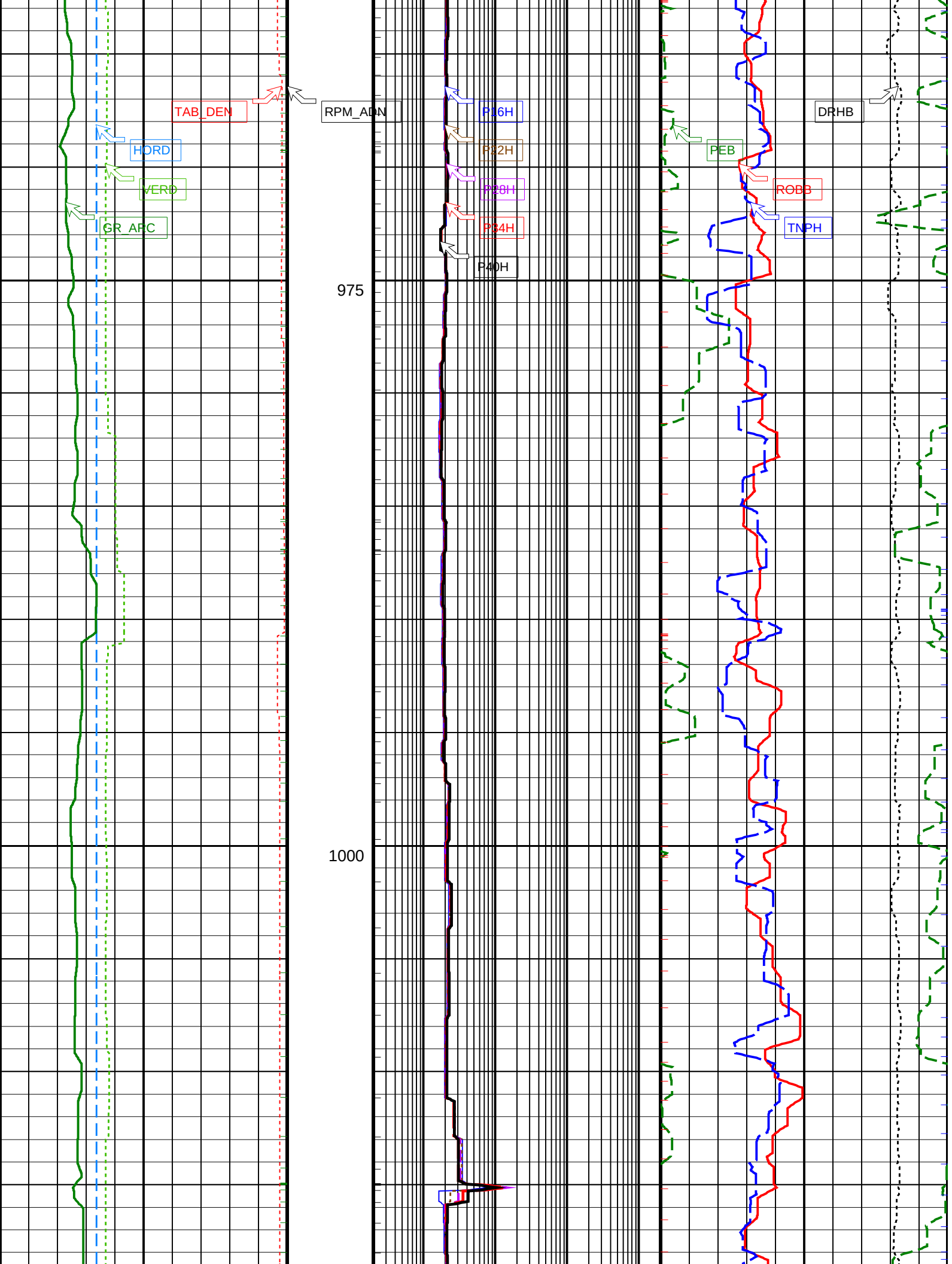
GR_ARC
P38H
P34H
P40H
ROBB
TNPH
925
950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RPM_ADN
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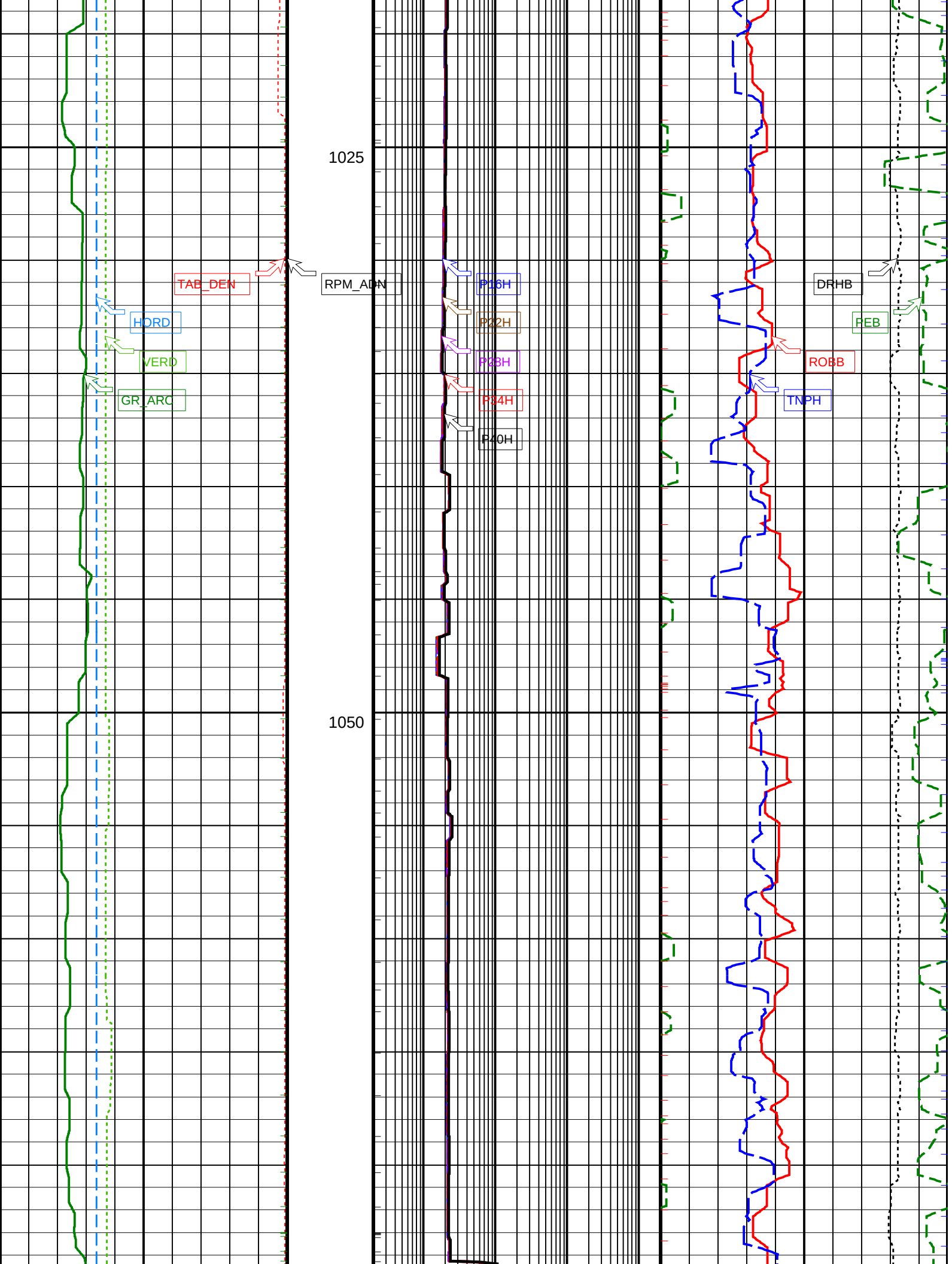
P22H
PEB
VERD
P28H
ROBB
GR_ARC
P34H
TNPH
P40H
975
1000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RPM_ADN
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DRHB
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PEB
VERD
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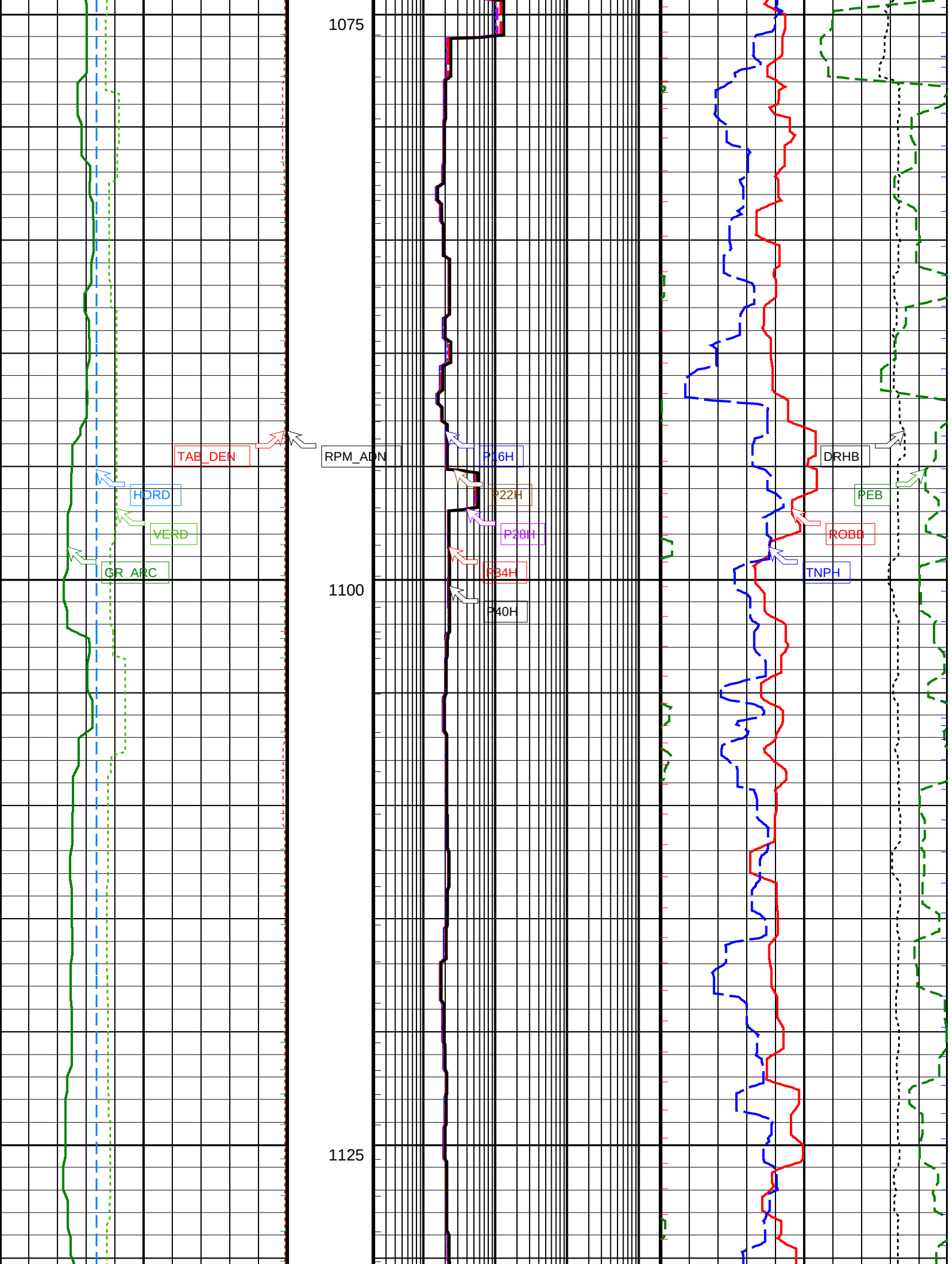
ROBB
GR_ARC
P34H
TNPH
P40H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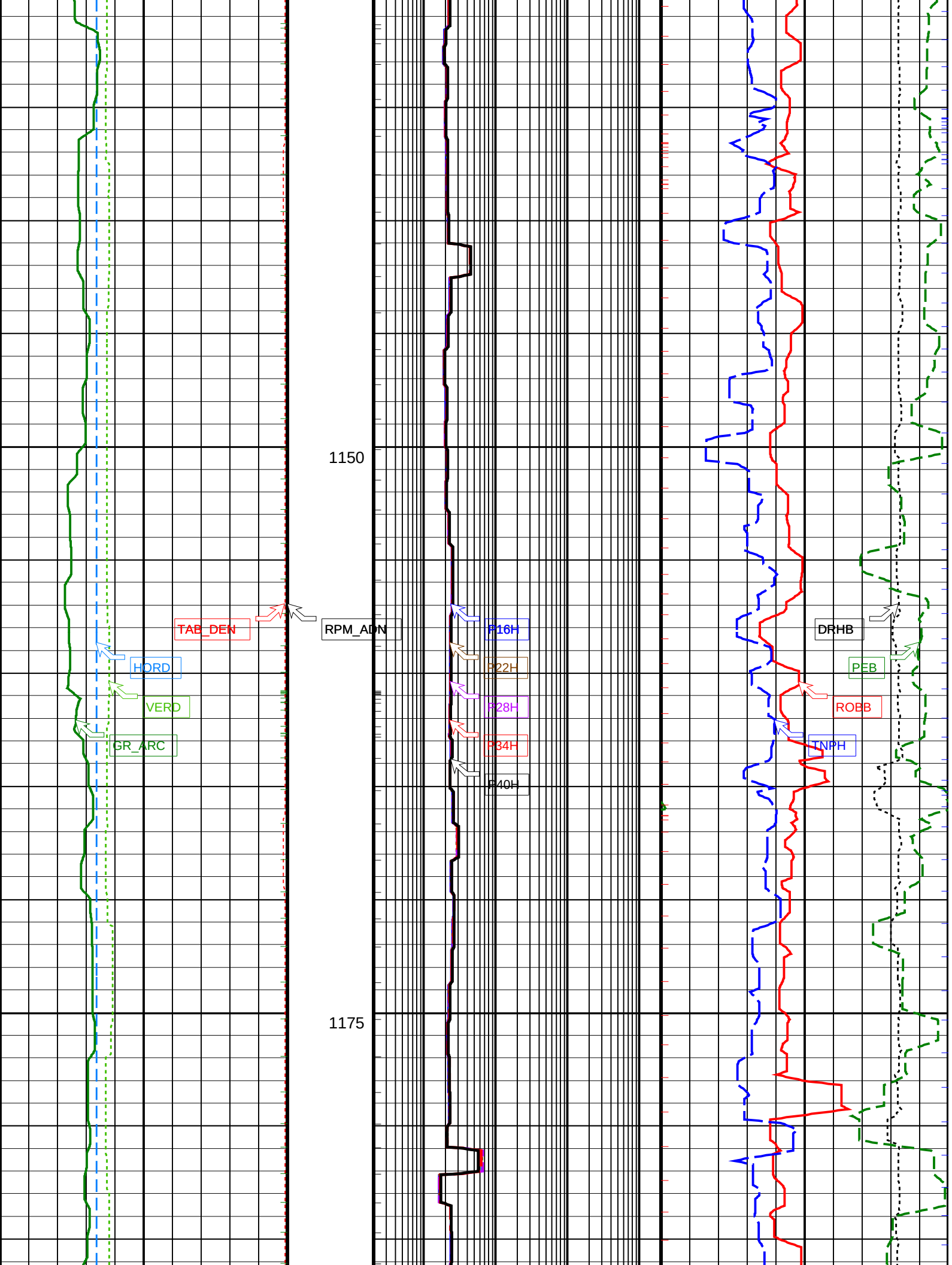
1100
1125
TAB_DEN
RPM_ADN
P16H
DRHB
HORD
P22H
PEB
VERD
P28H
ROBB
GR_ARC
P34H
TNPH
P40H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1175
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P16H
DRHB
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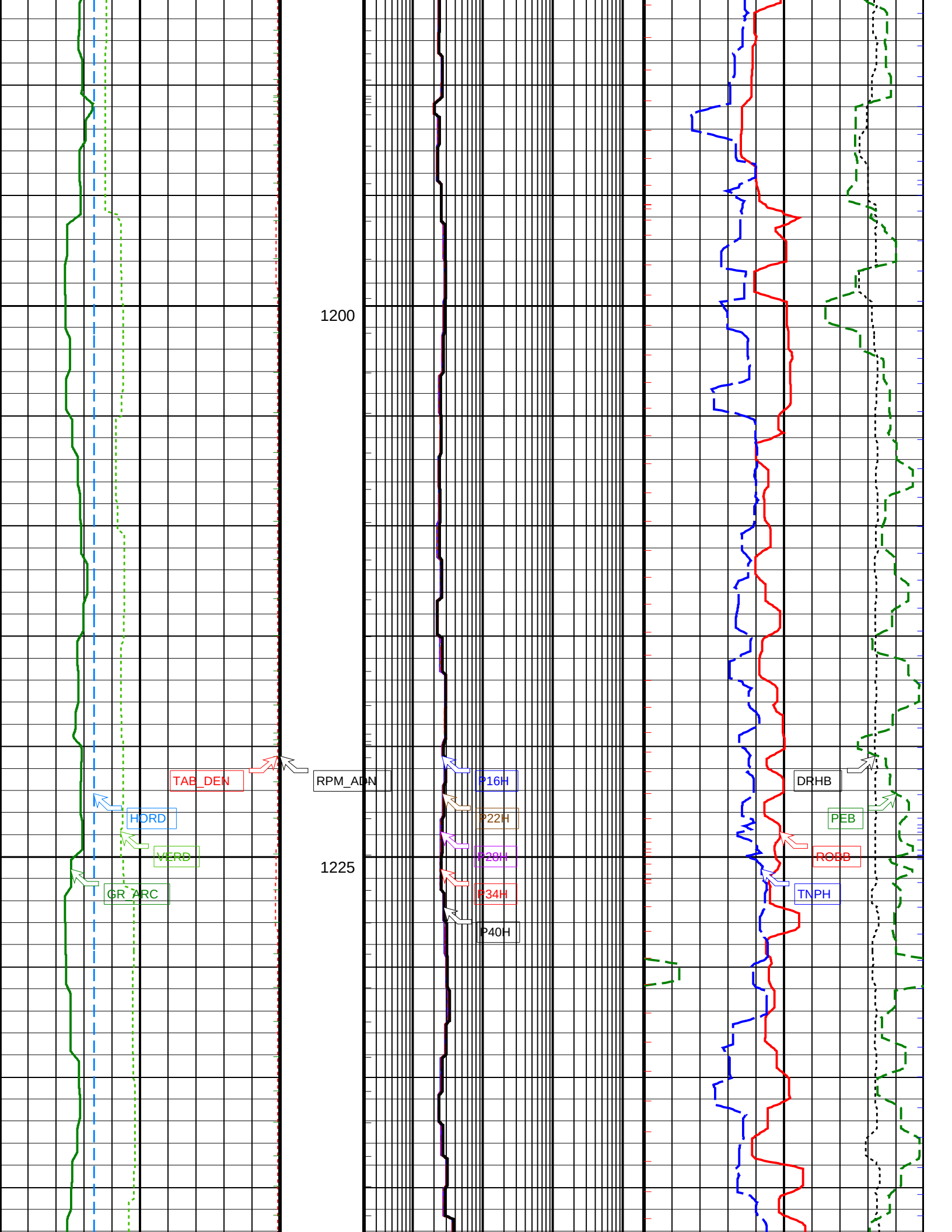
PEB
VERD
P28H
ROBB
GR_ARC
P34H
TNPH
P40H


1200
1225
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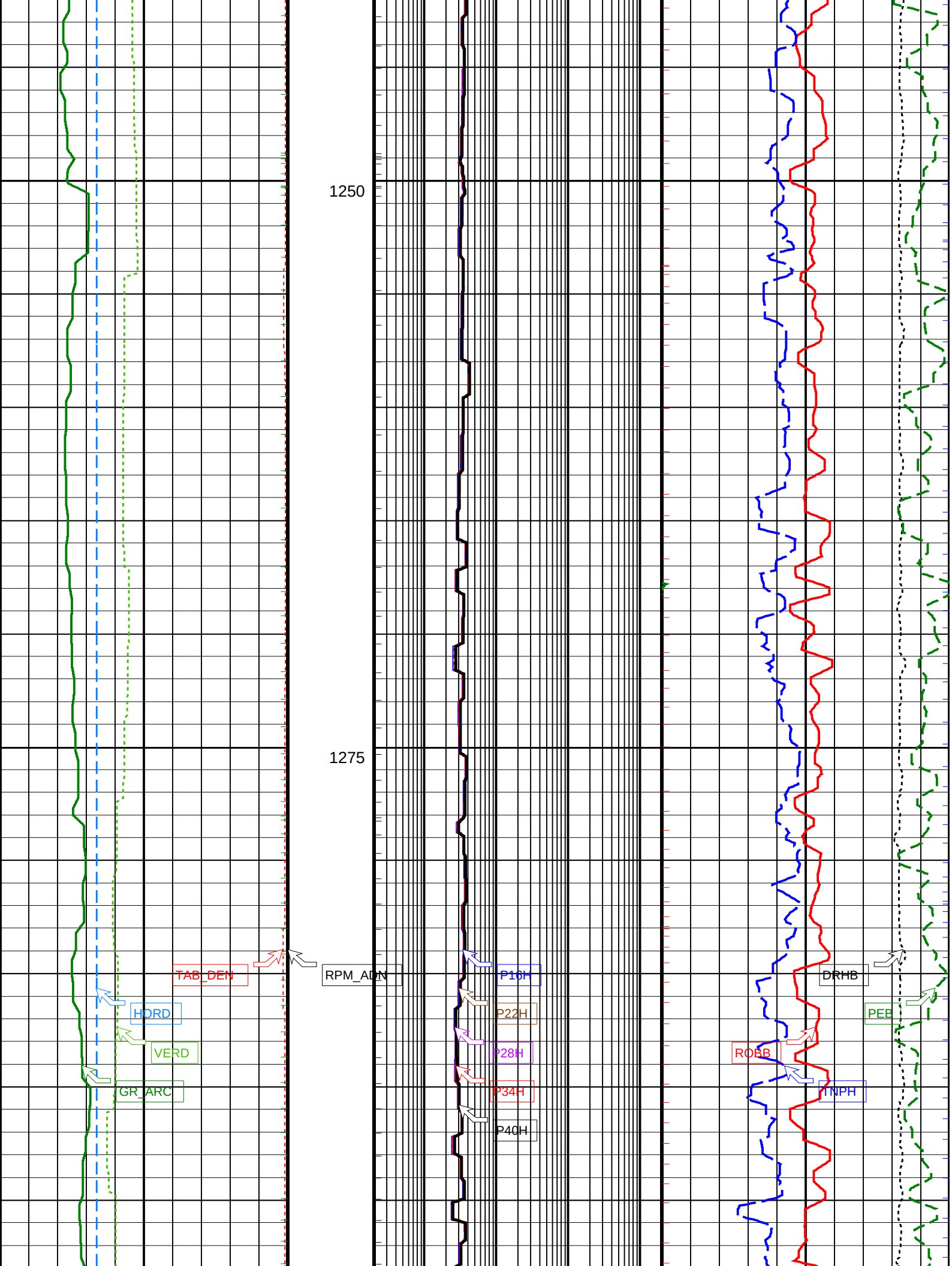
RPM_ADN
P16H
DRHB
HORD
P22H
PEB
VERD
P28H
ROBB
GR_ARC
P34H
TNPH
P40H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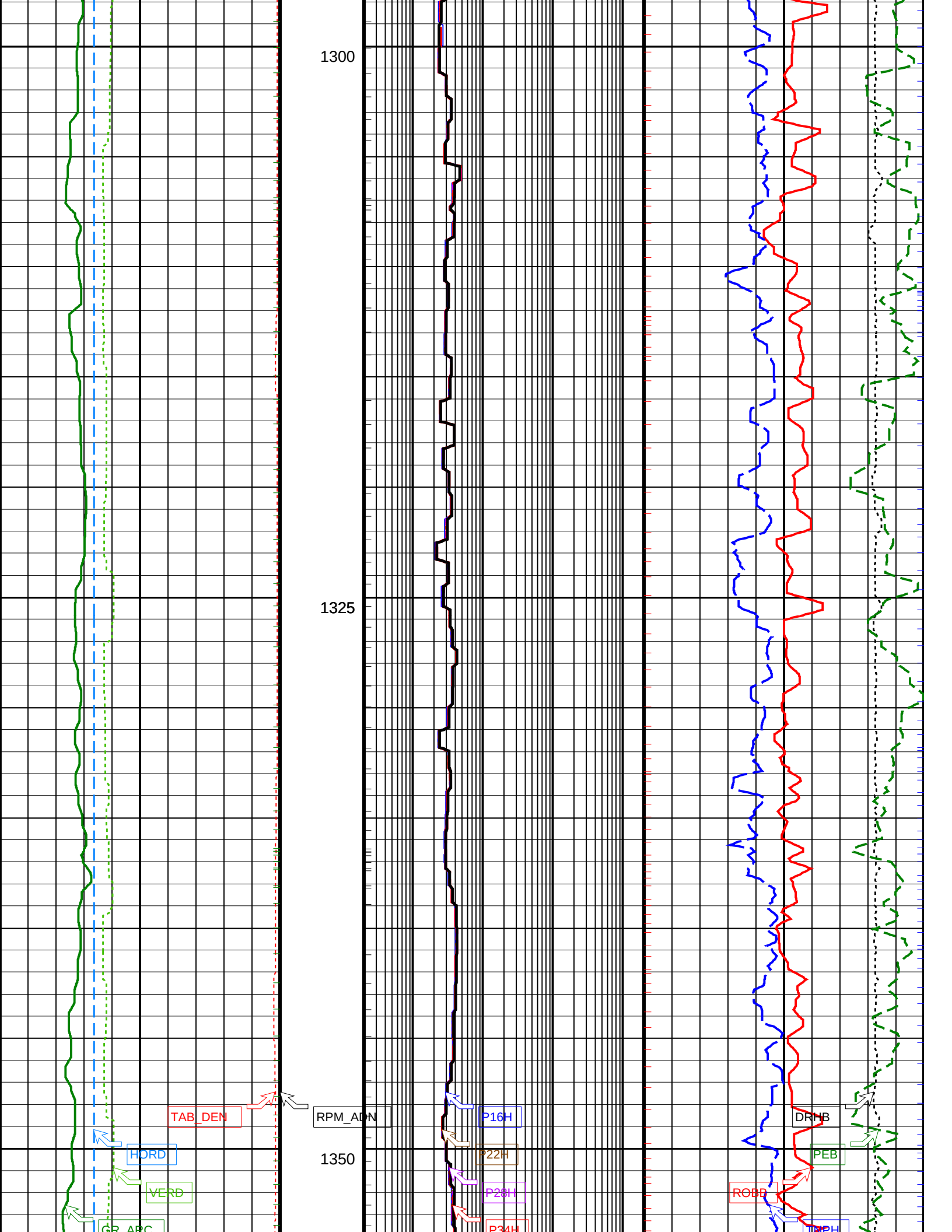
P40H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P28H
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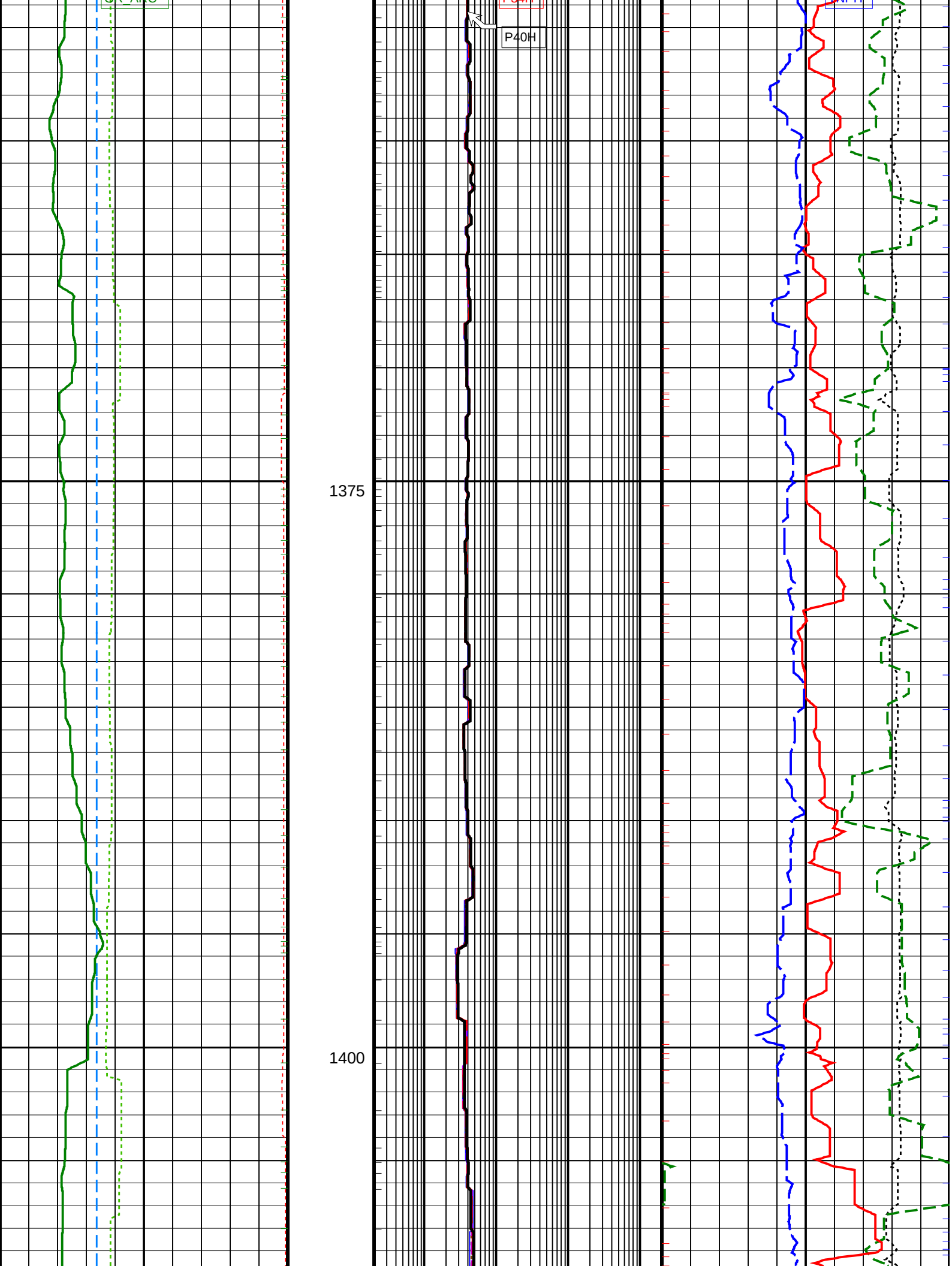
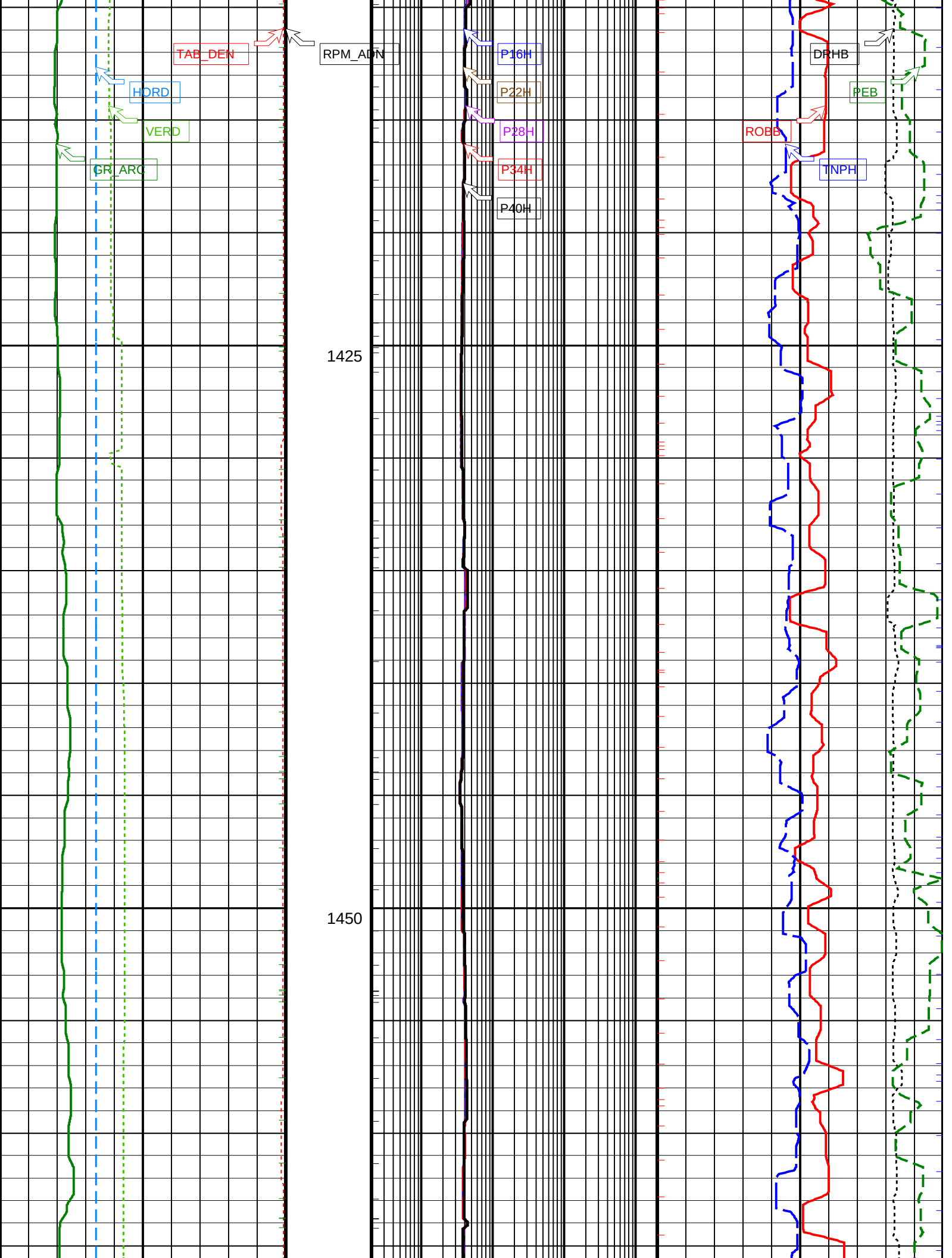
GR_ARC
P34H
IMPH


P40H
1375
1400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RPM_ADN
P16H
DRHB
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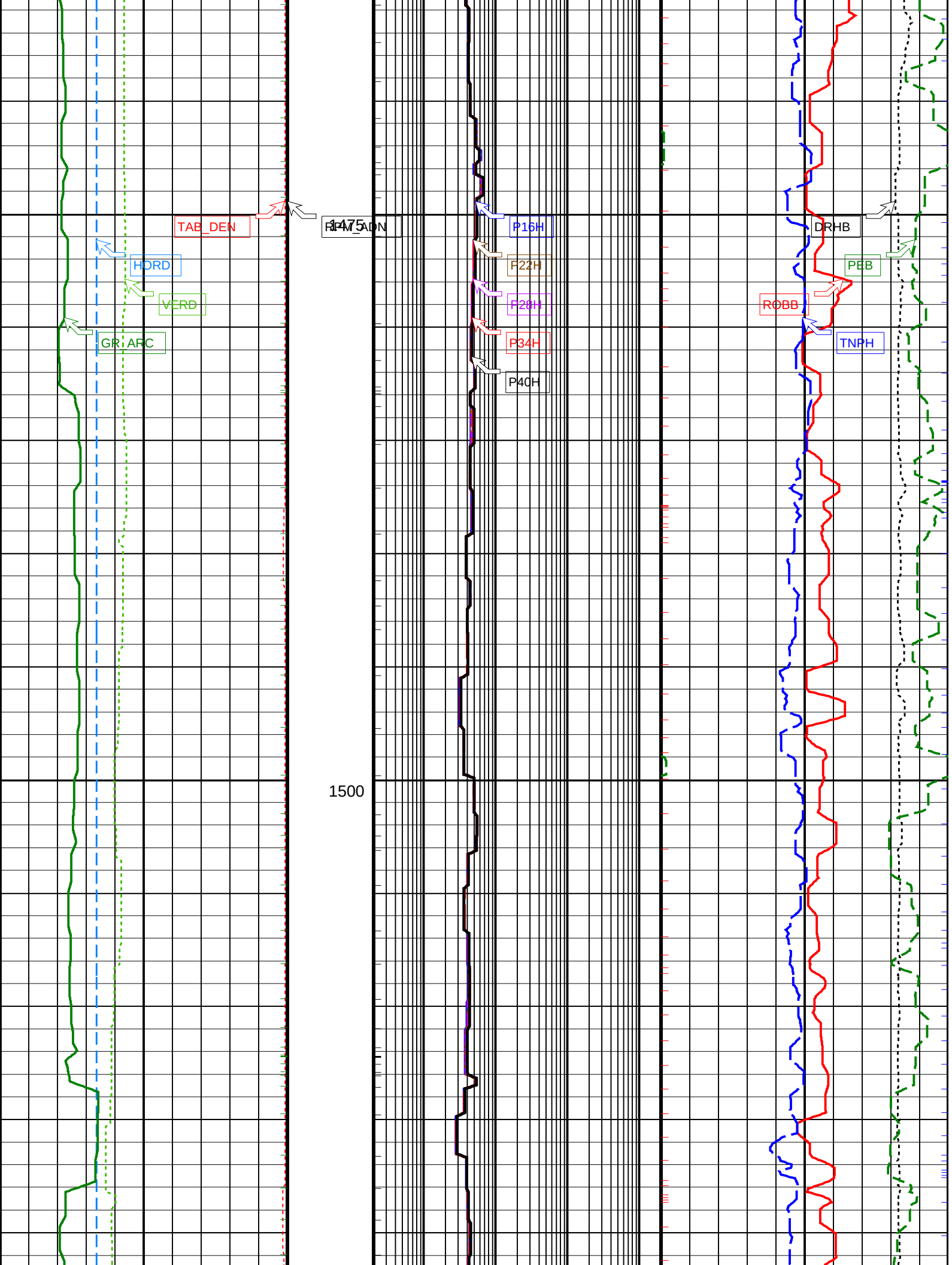
P22H
PEB
VERD
P28H
ROBB
GR_ARC
P34H
TNPH
P40H
1425
1450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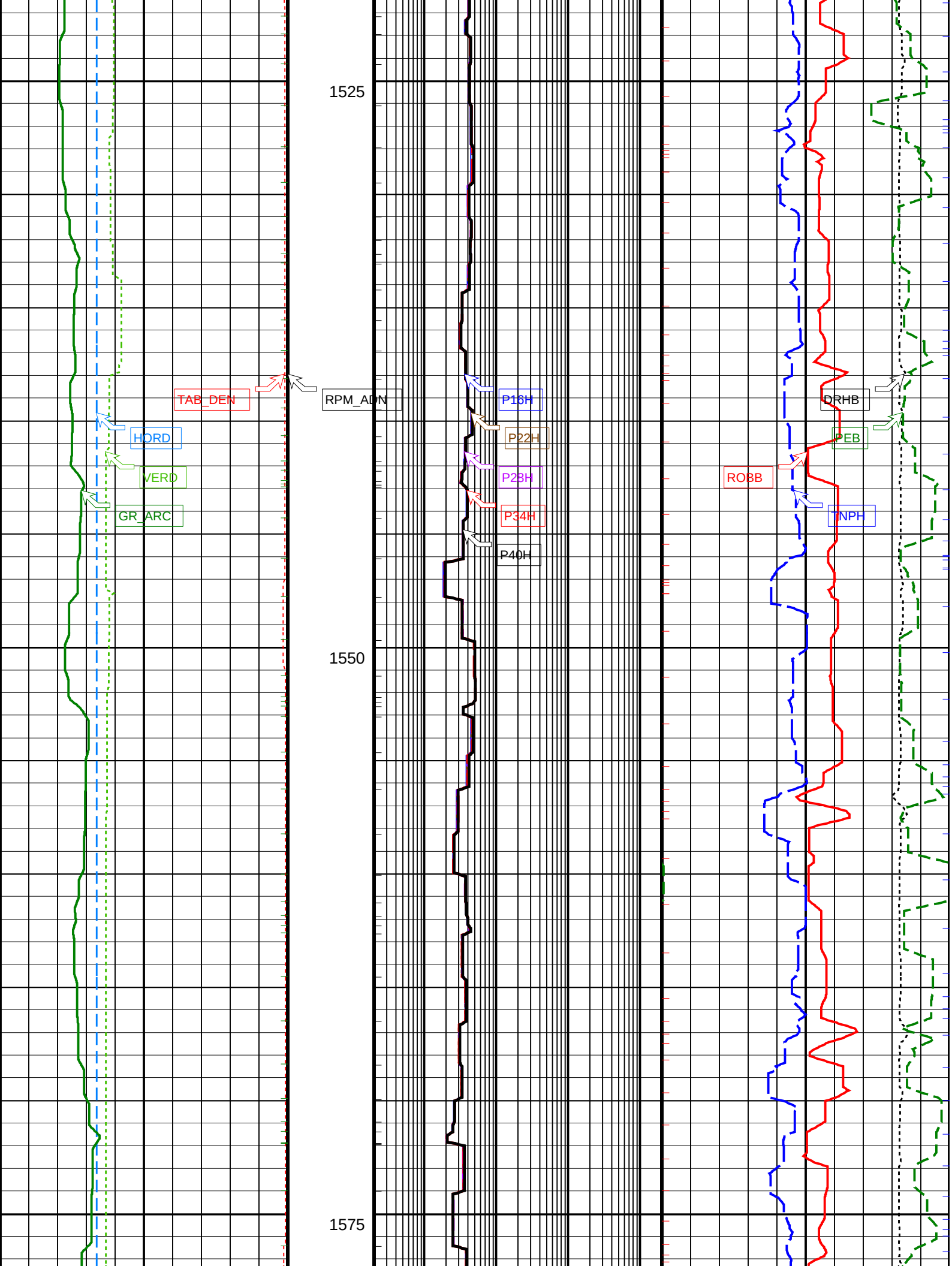
HORD
VERD
GR_ARC
1475
P16H
P22H
P28H
P34H
P40H
DRHB
PEB
ROBB
TNPH
1500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VERD
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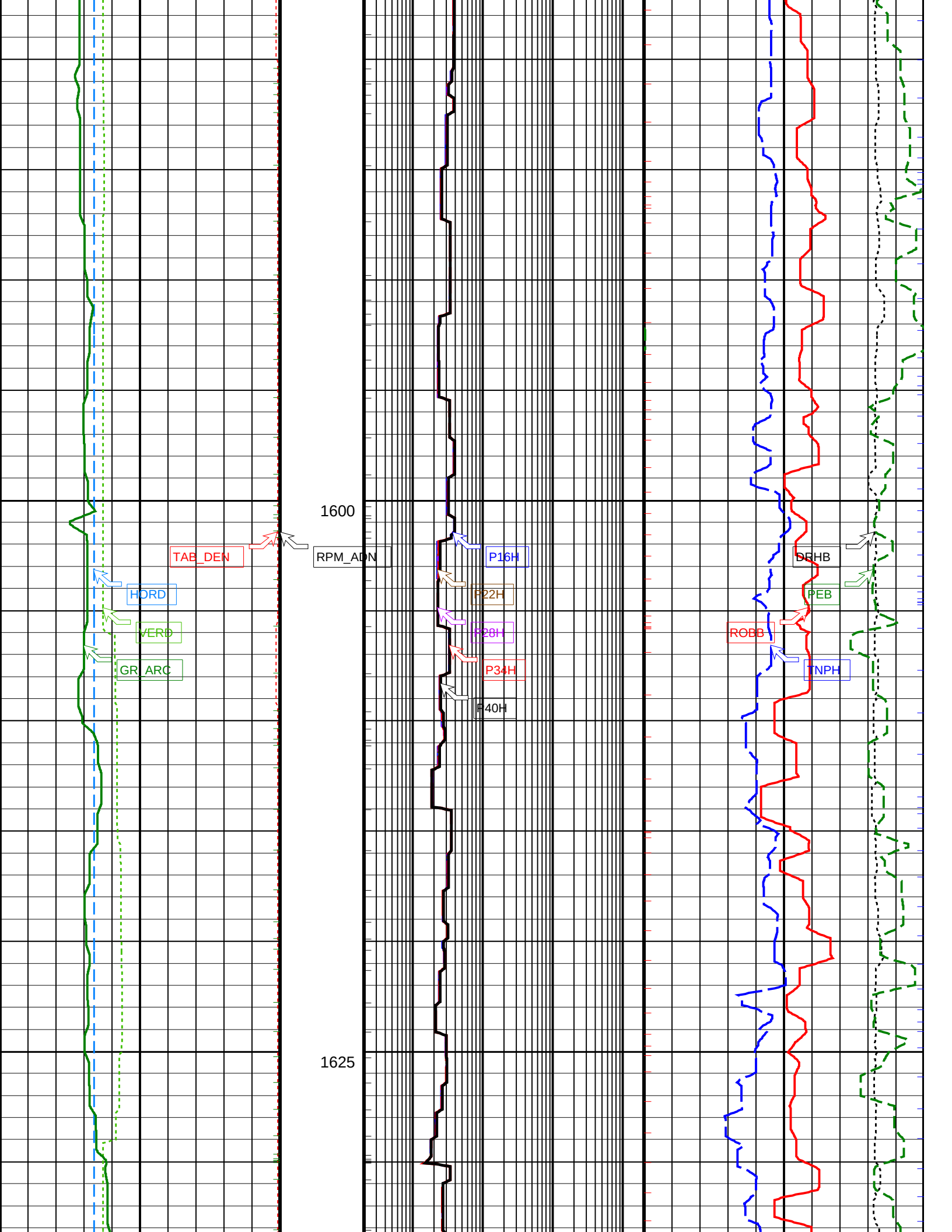
ROBB
GR_ARC
P34H
TNPH
P40H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VERD
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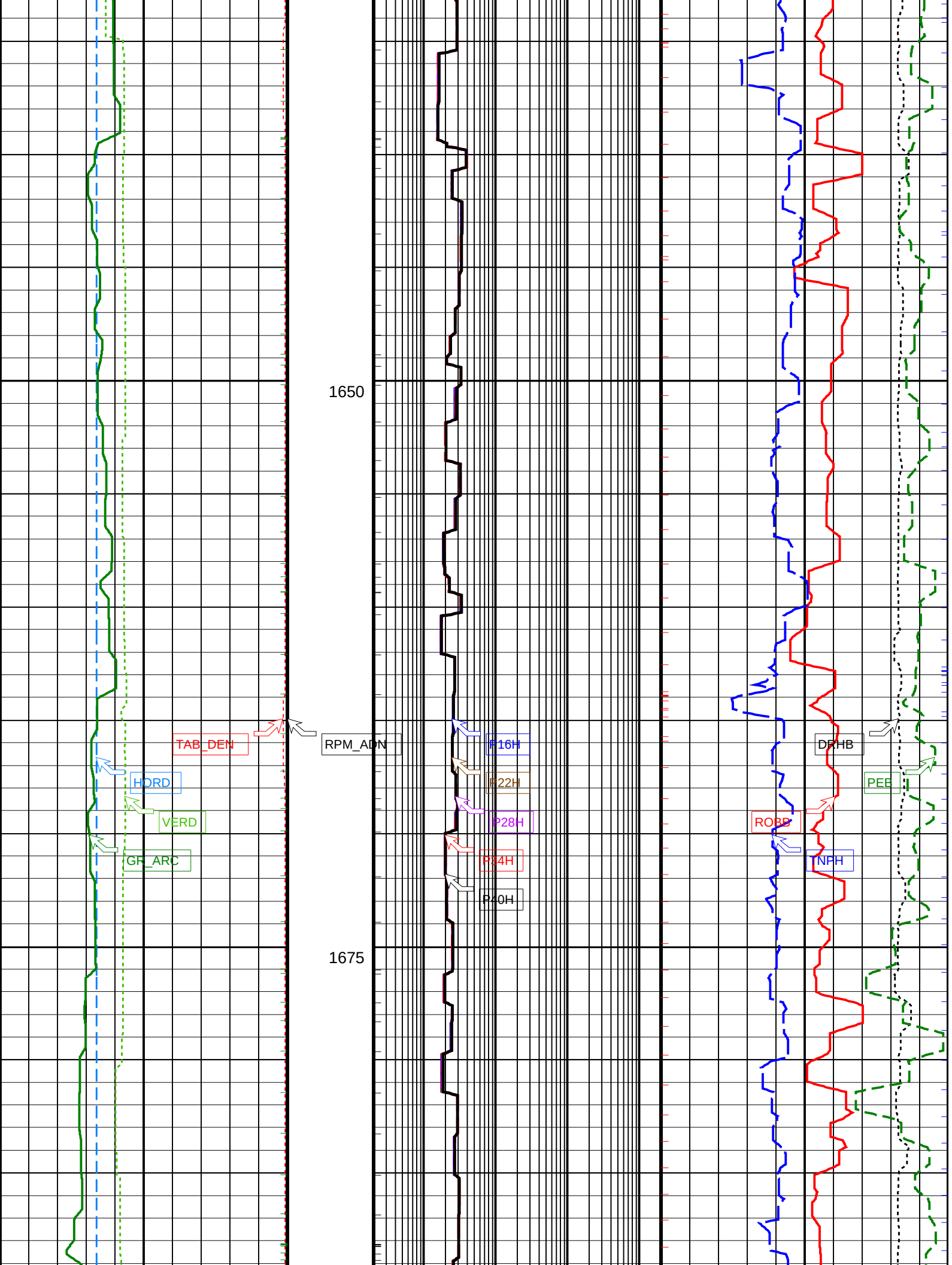
GR_ARC
P34H
TNPH
P40H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P34H
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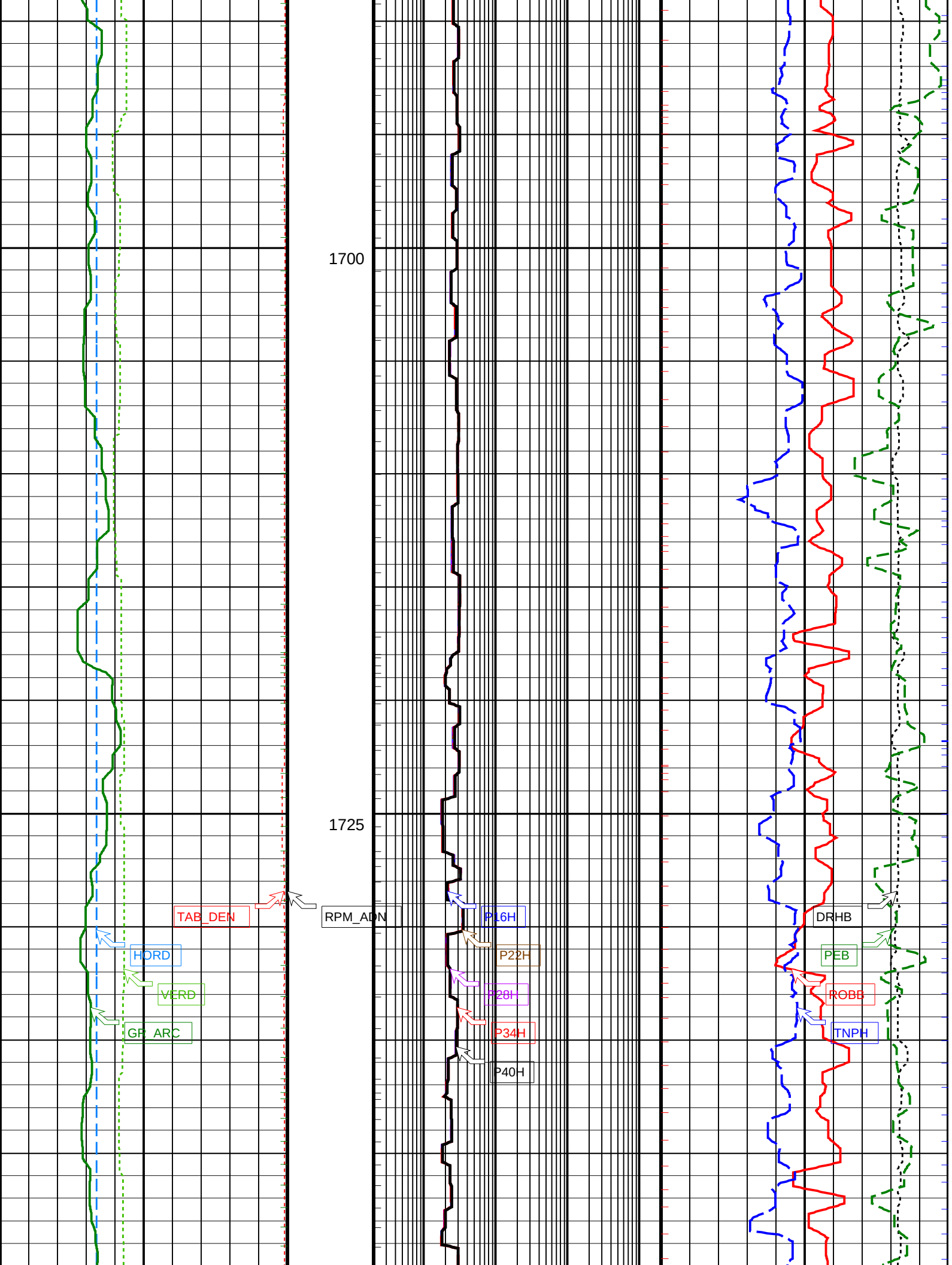
P40H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P28H
ROBB
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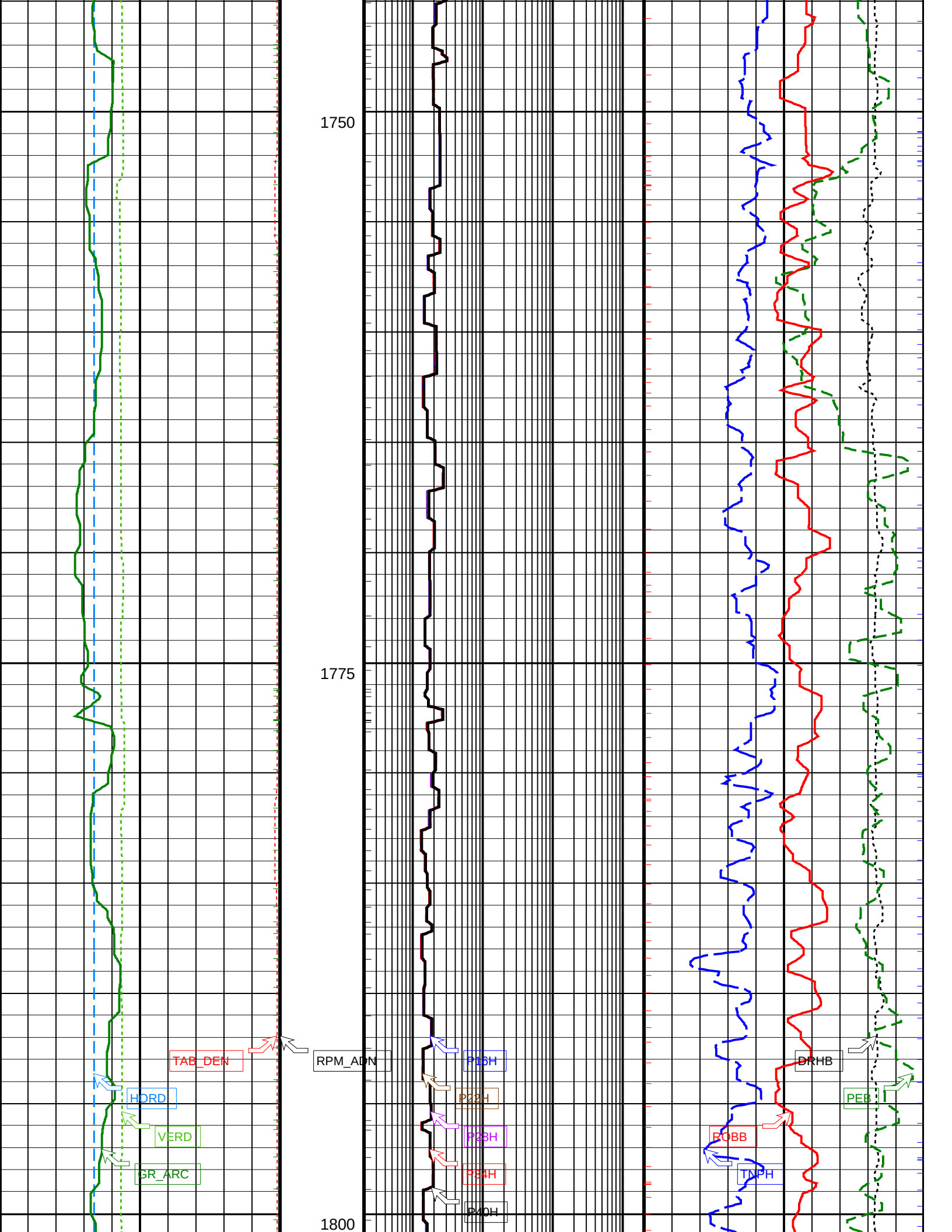
P34H
TNPH
P40H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1775
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RPM_ADN
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VERD
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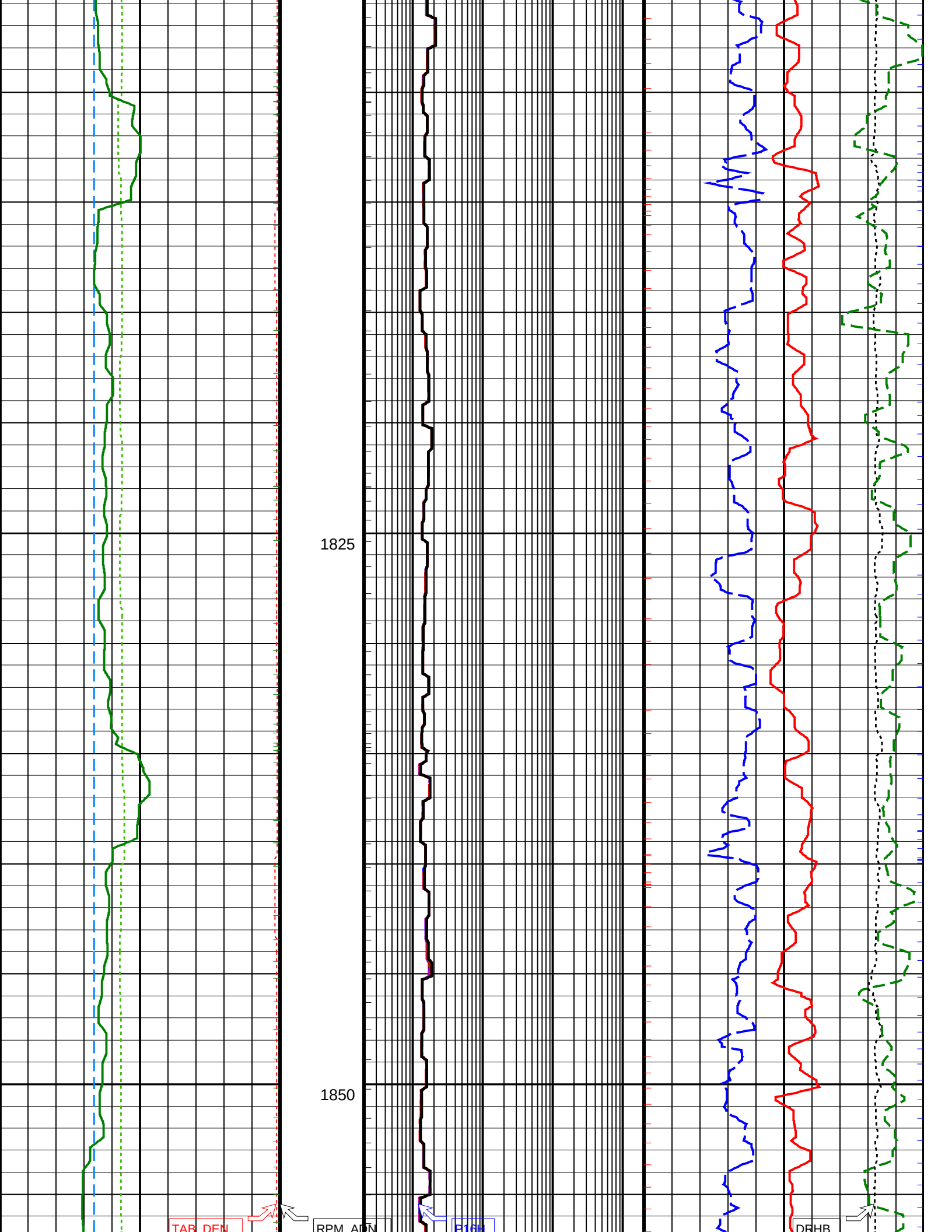
PEB
ROBB
TNPH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1850
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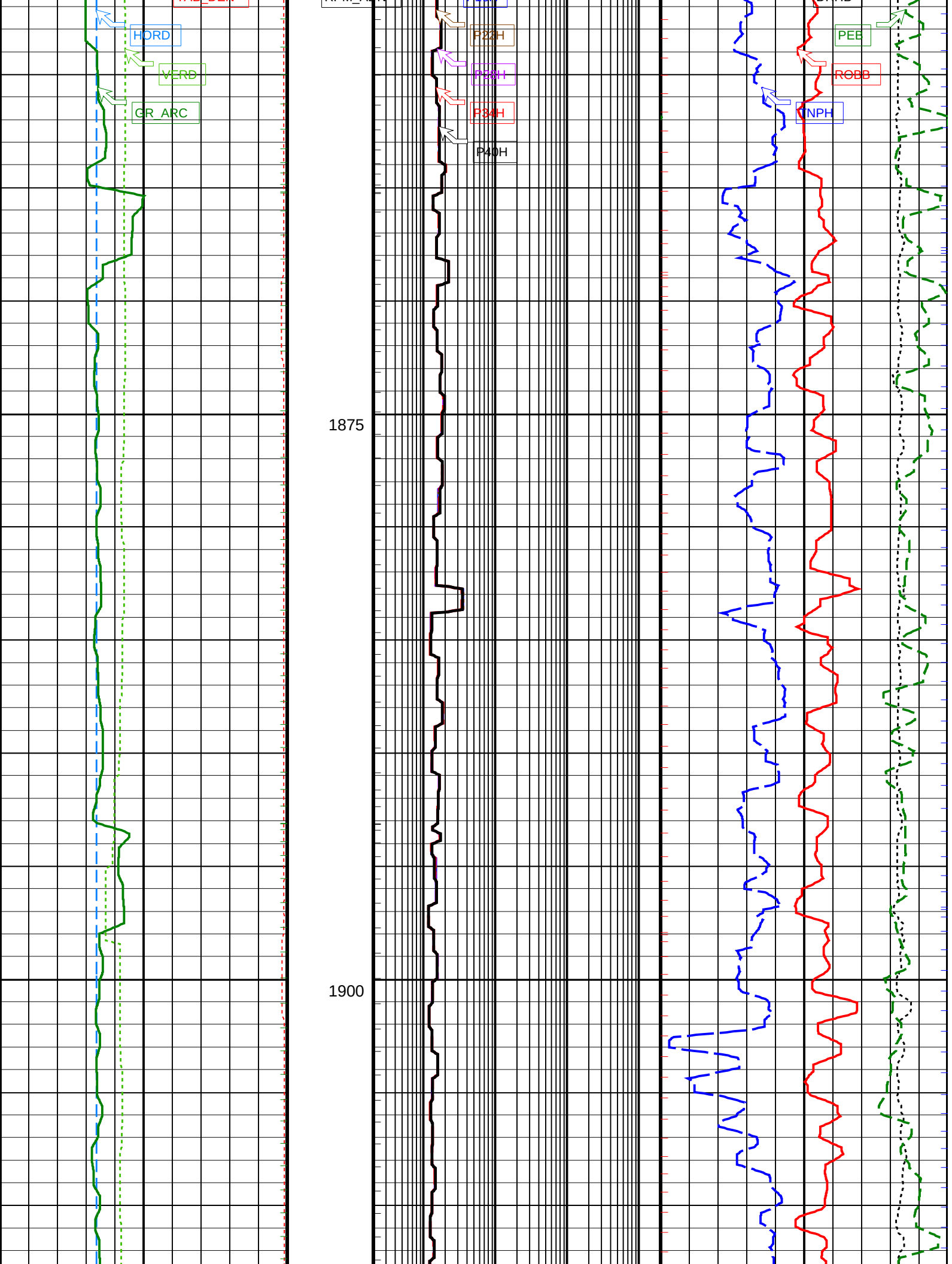
RPM_ADN
DRHB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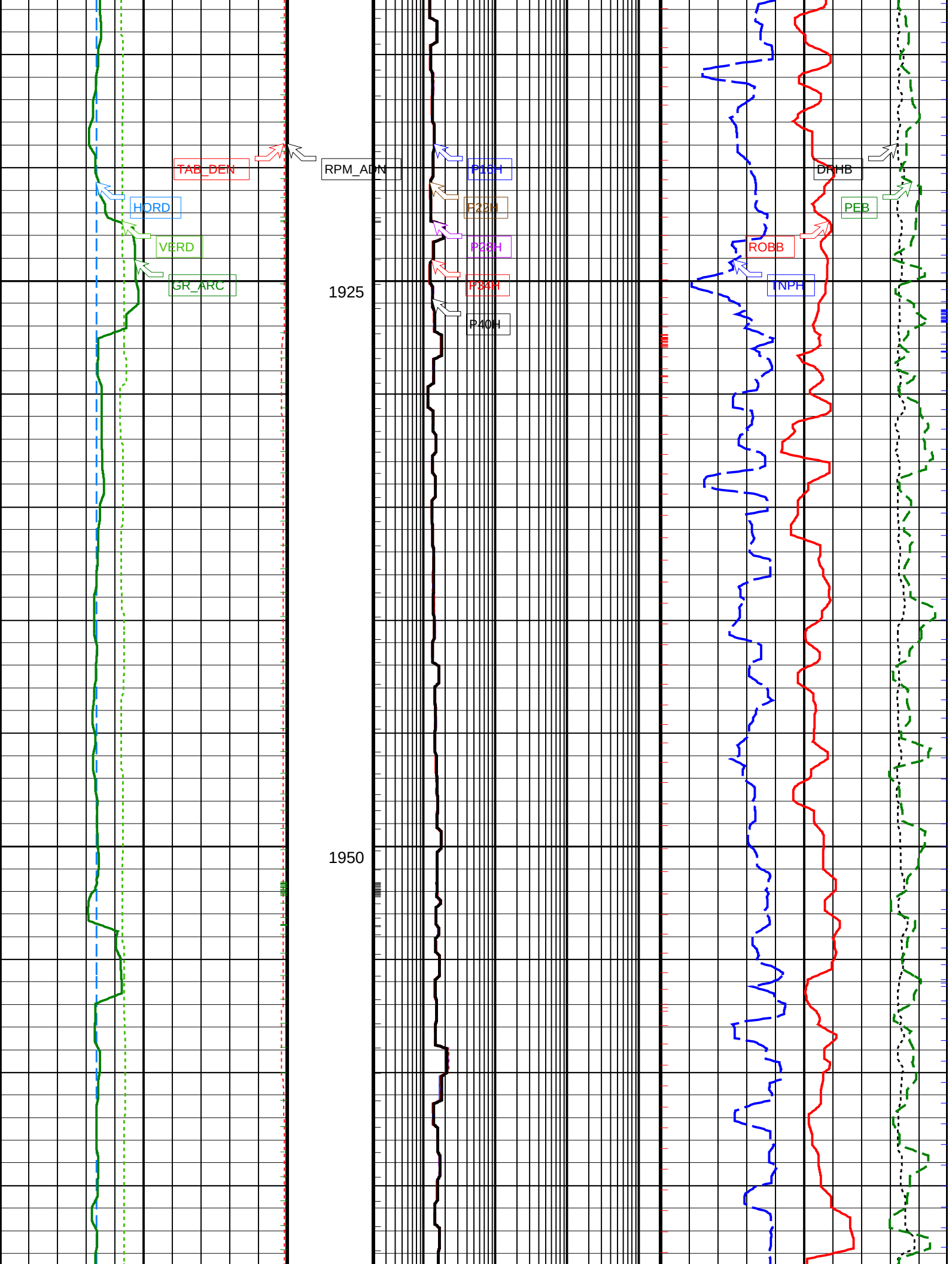
VERD
GR_ARC
P22H
P28H
P34H
P40H
PEB
ROBB
TNPH
1875
1900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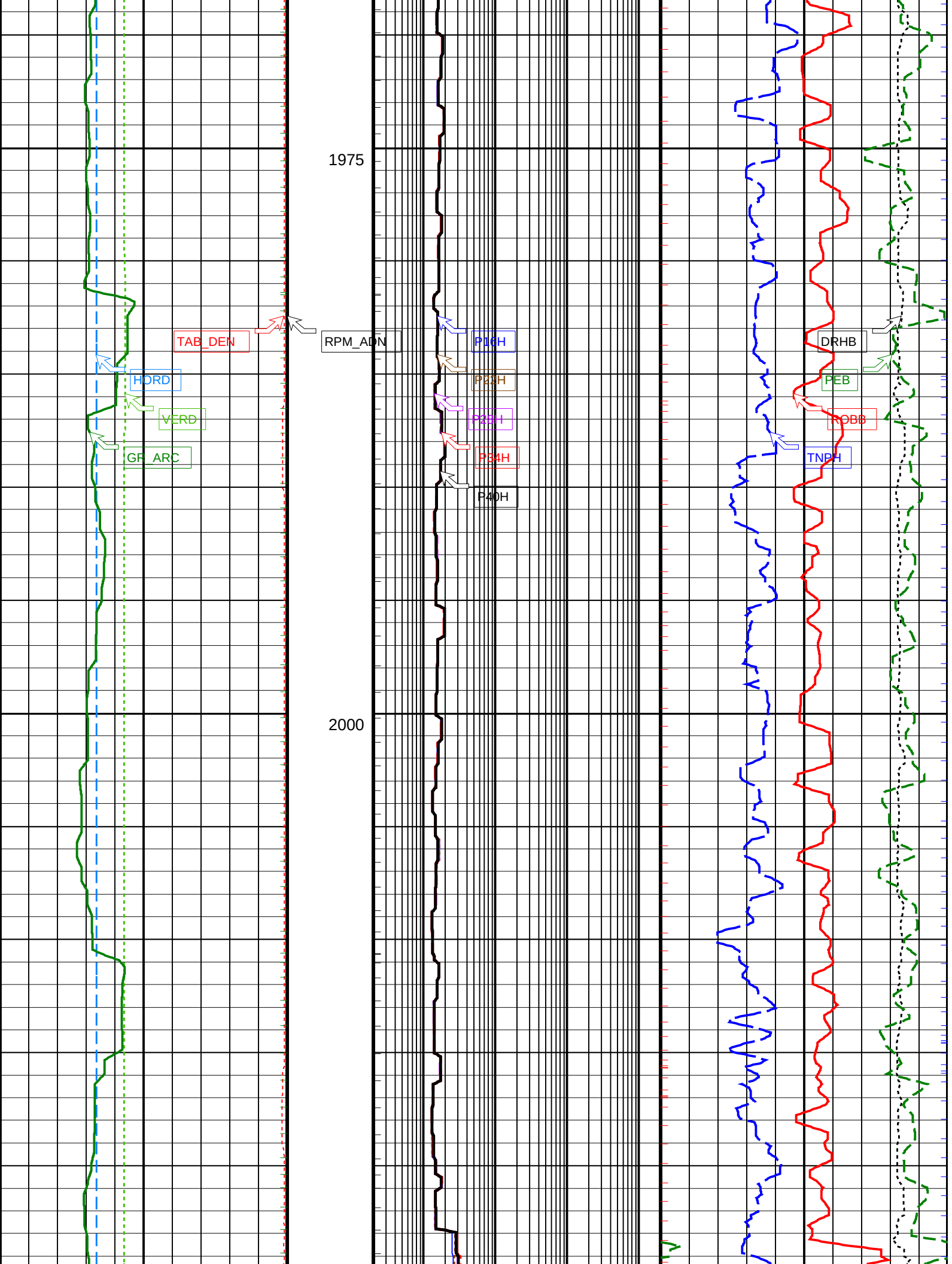
RPM_ADN
P16H
DRHB
HORD
P22H
PEB
VERD
P28H
ROBB
GR_ARC
P34H
TNPH
1925
P40H
1950


1975
2000
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P22H
P28H
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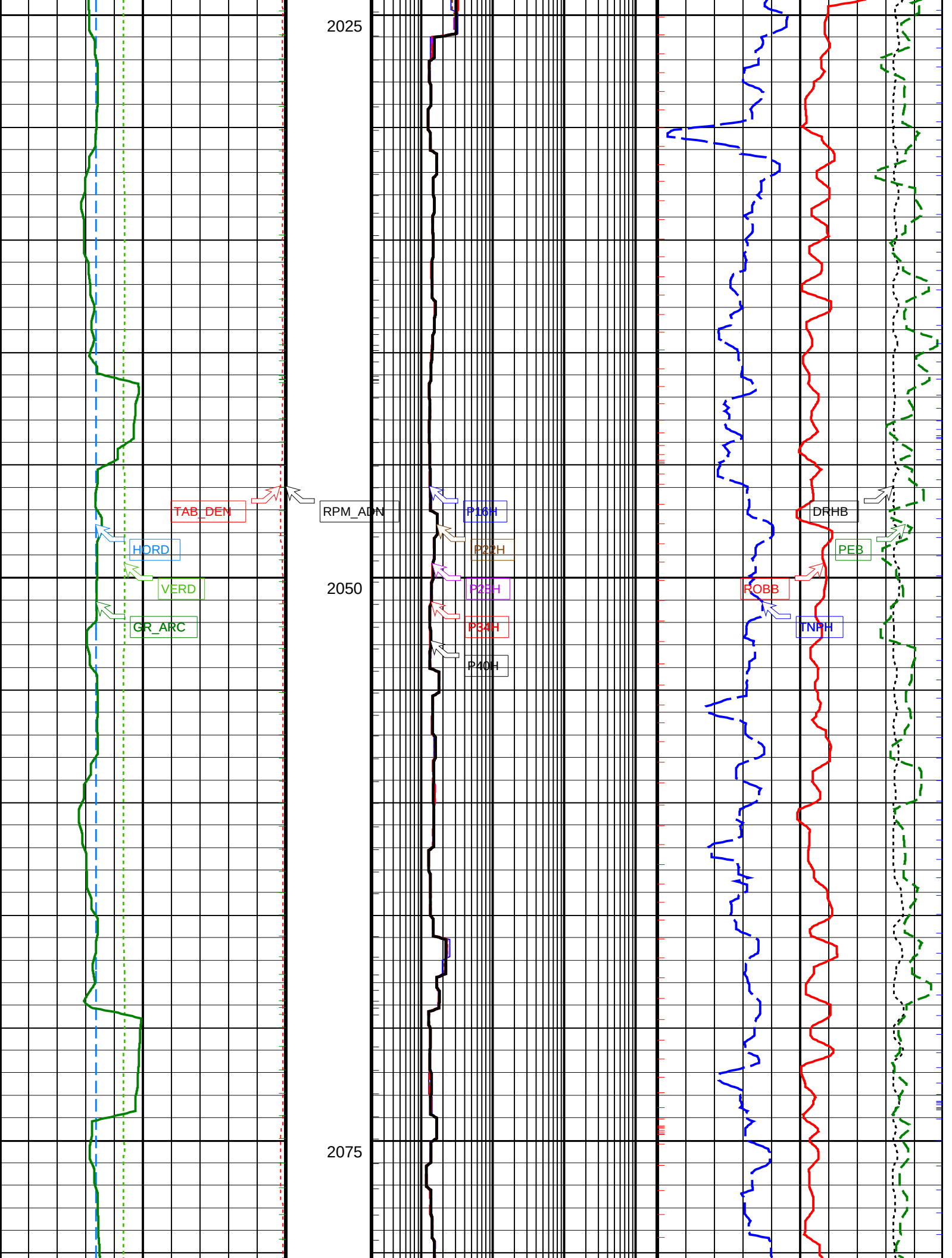
P40H
DRHB
PEB
ROBB
TNPH
HORD
VERD
GR_ARC


2025
2050
2075
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VERD
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P16H
P22H
P28H
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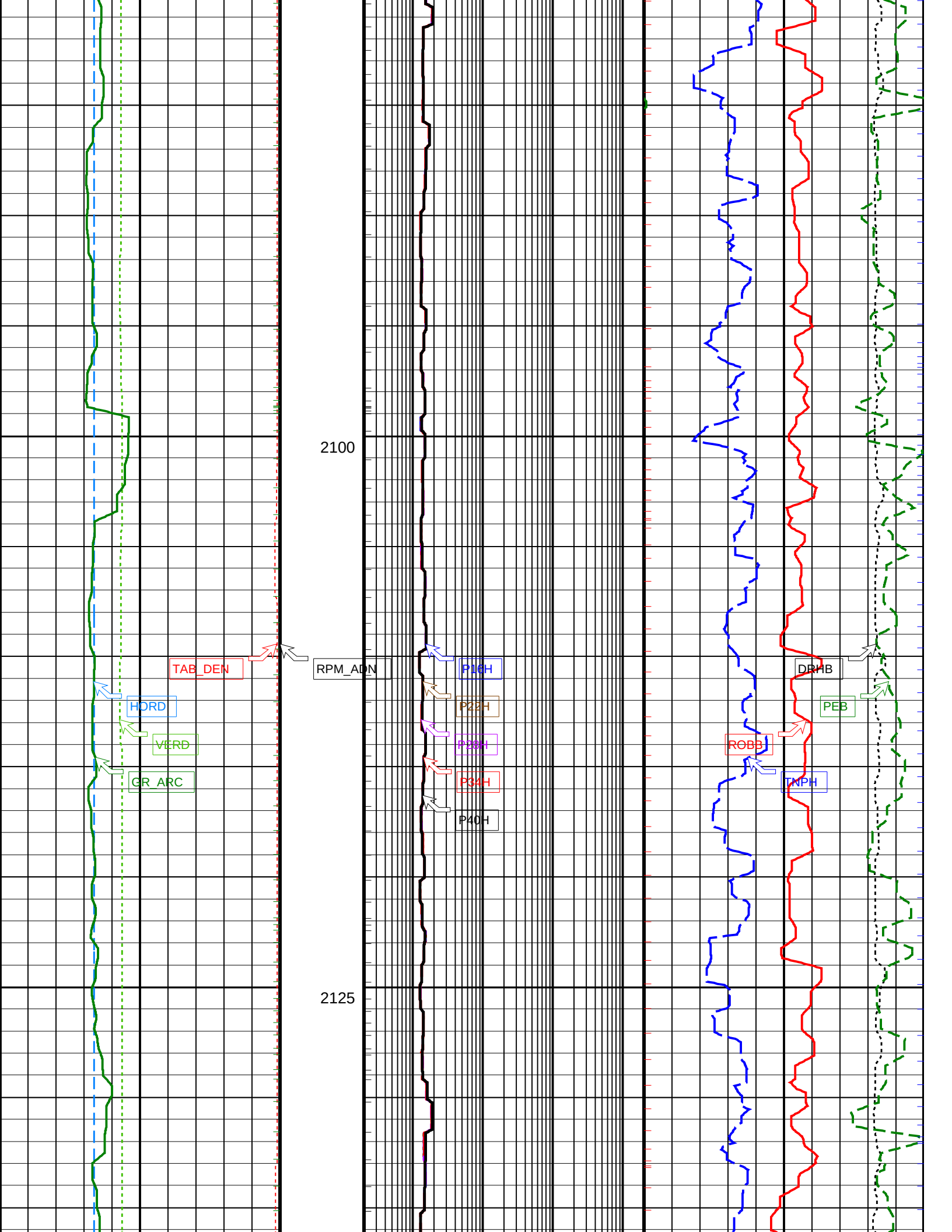
P40H
DRHB
PEB
ROBB
TNPH


2100
2125
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DRHB
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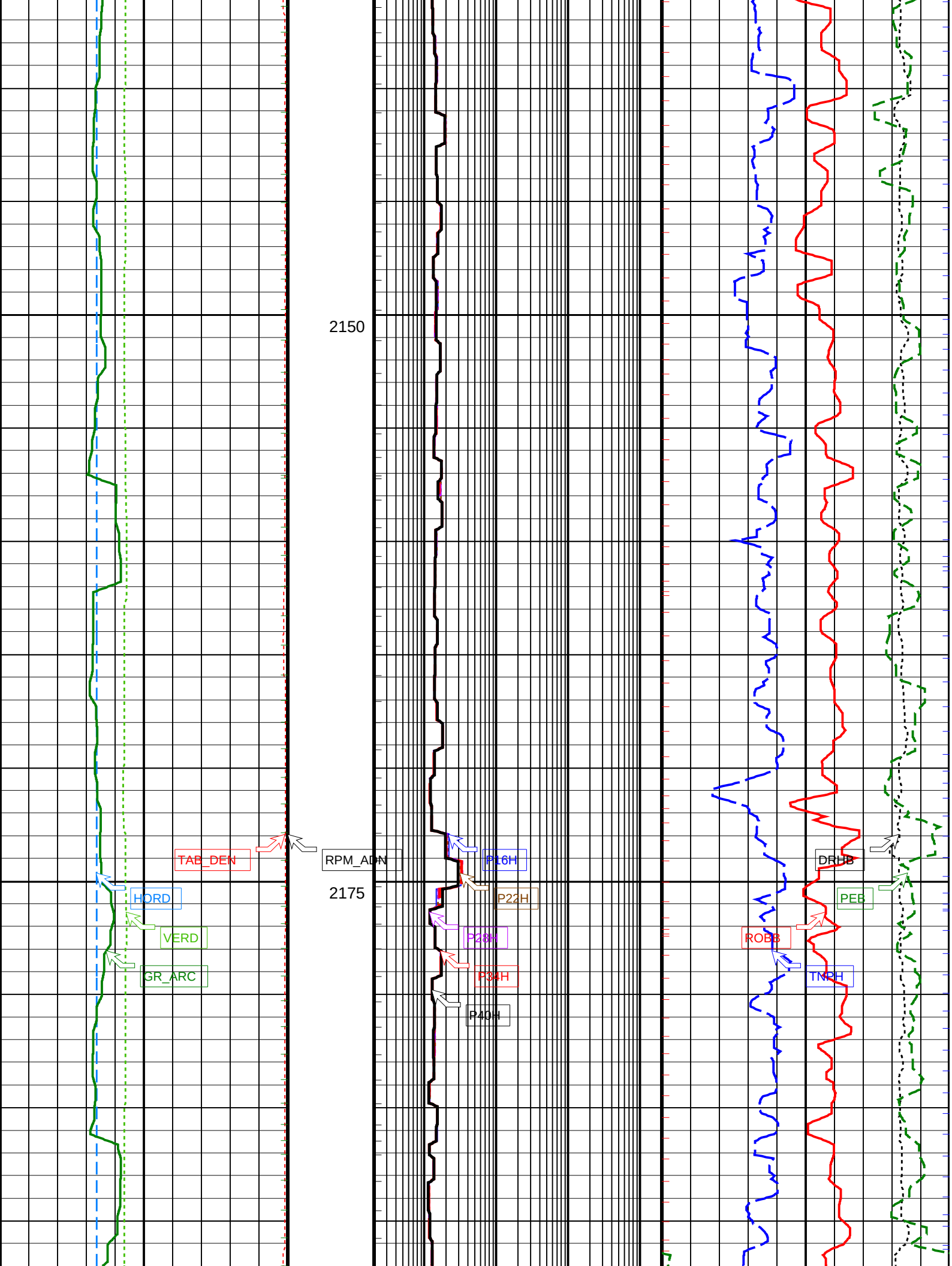
PEB
VERD
P28H
ROBB
GR_ARC
P34H
TNPH
P40H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2175
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PEB
VERD
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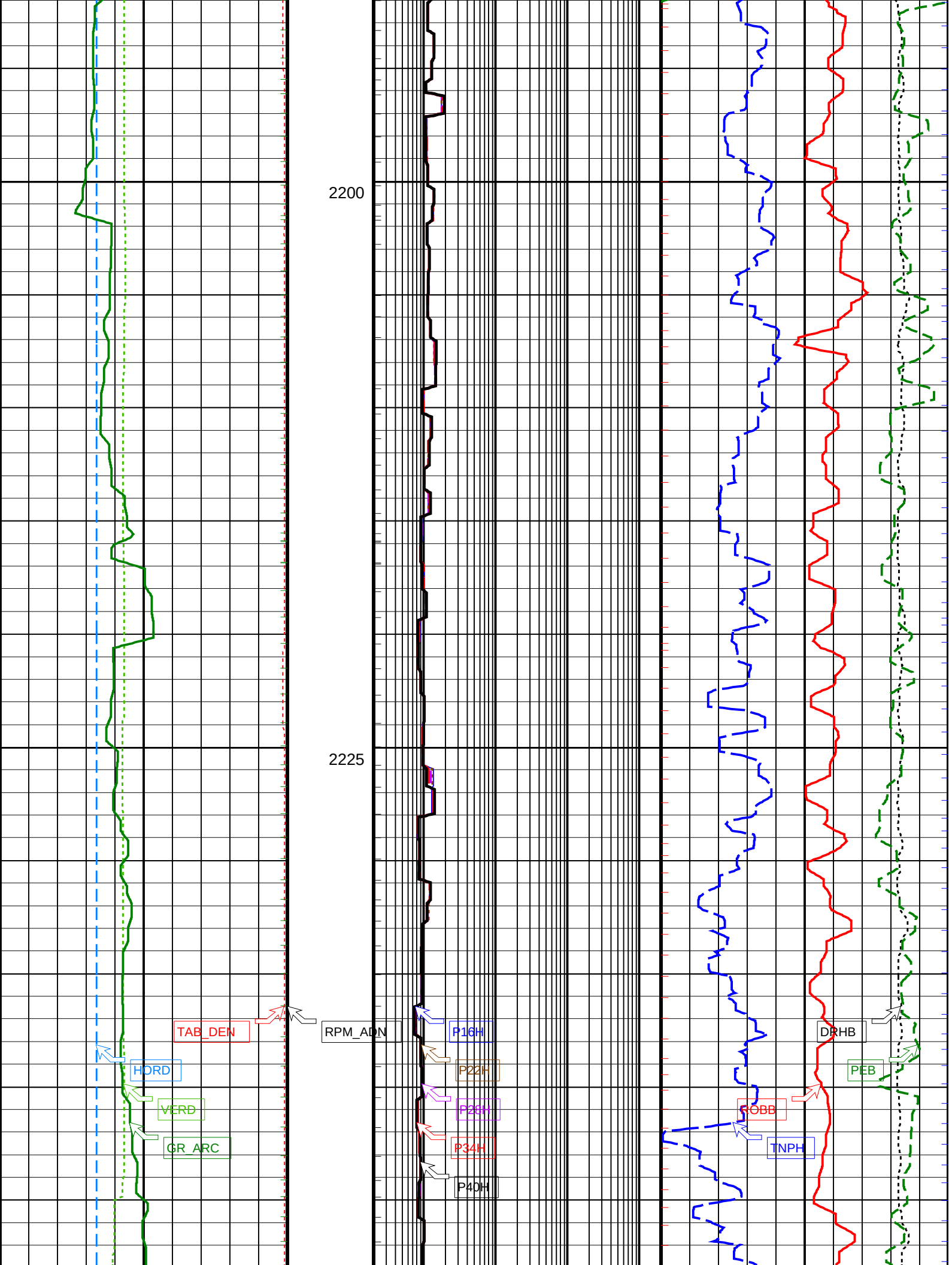
ROBB
GR_ARC
P34H
TNPH
P40H


2200
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P16H
P22H
P28H
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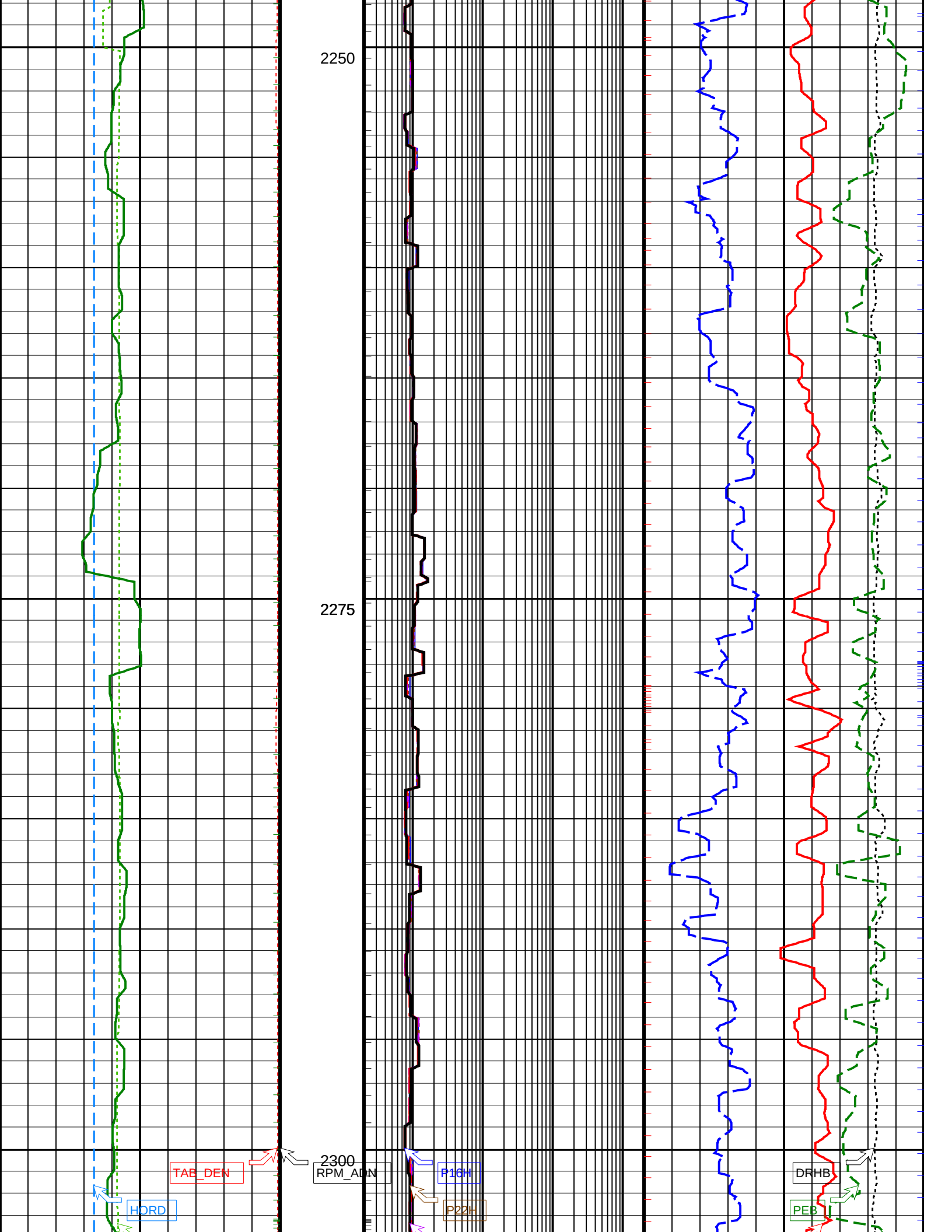
PEB
ROBB
TNPH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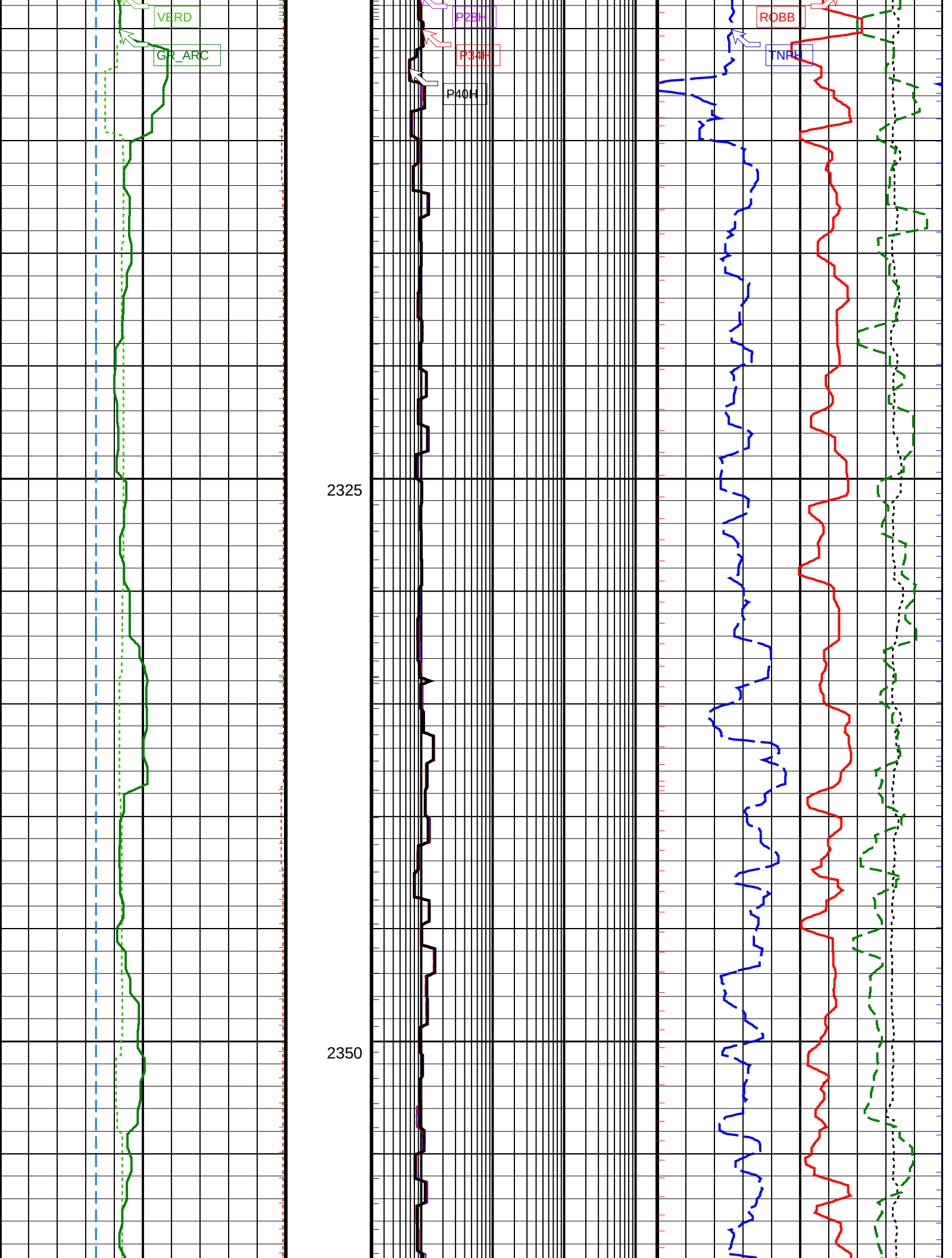
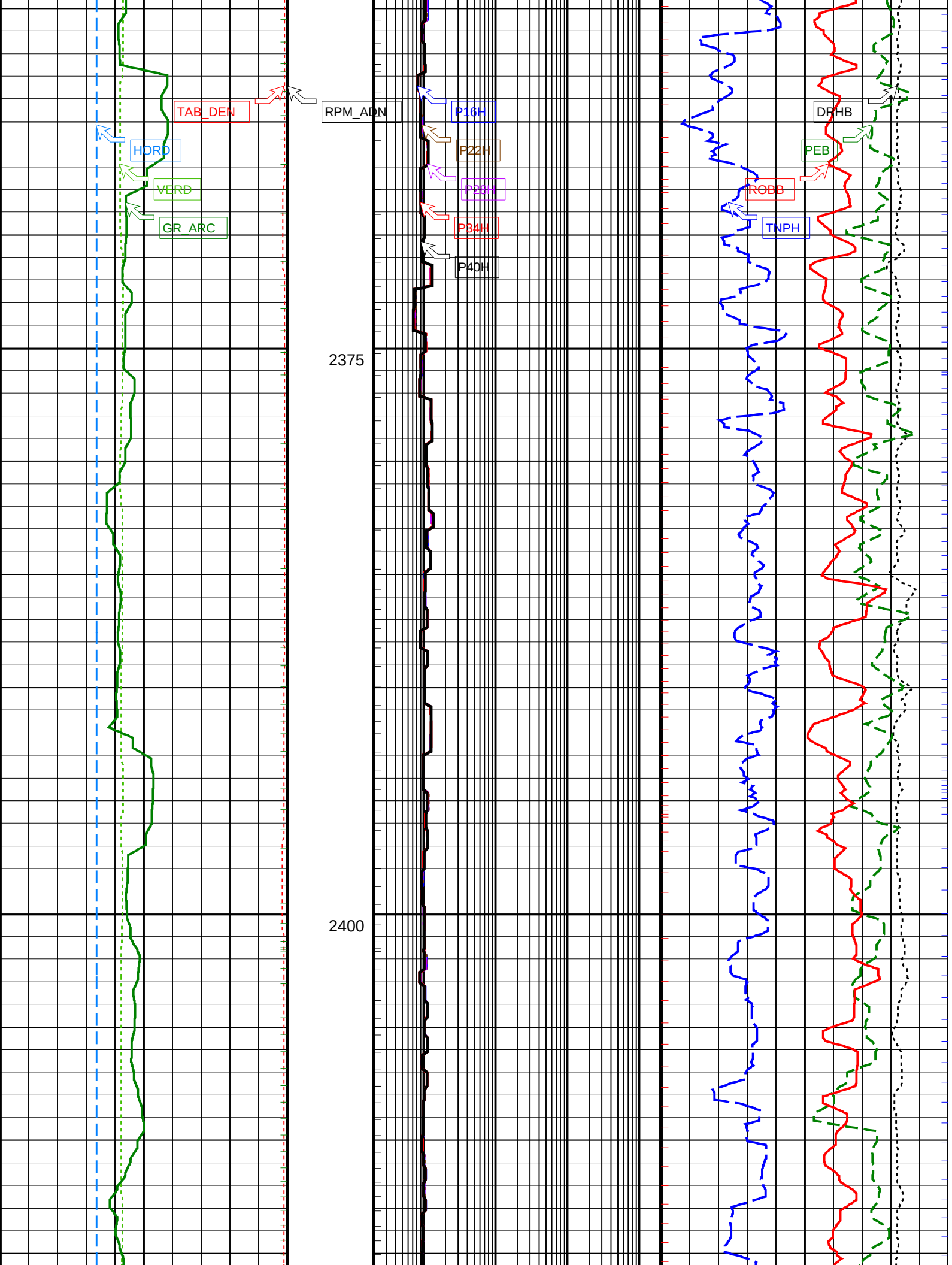
P22H
DRHB
PEB


VERD
GR_ARC
P28H
P34H
P40H
ROBB
TNPH
2325
2350


TAB_DEN
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P16H
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PEB
VERD
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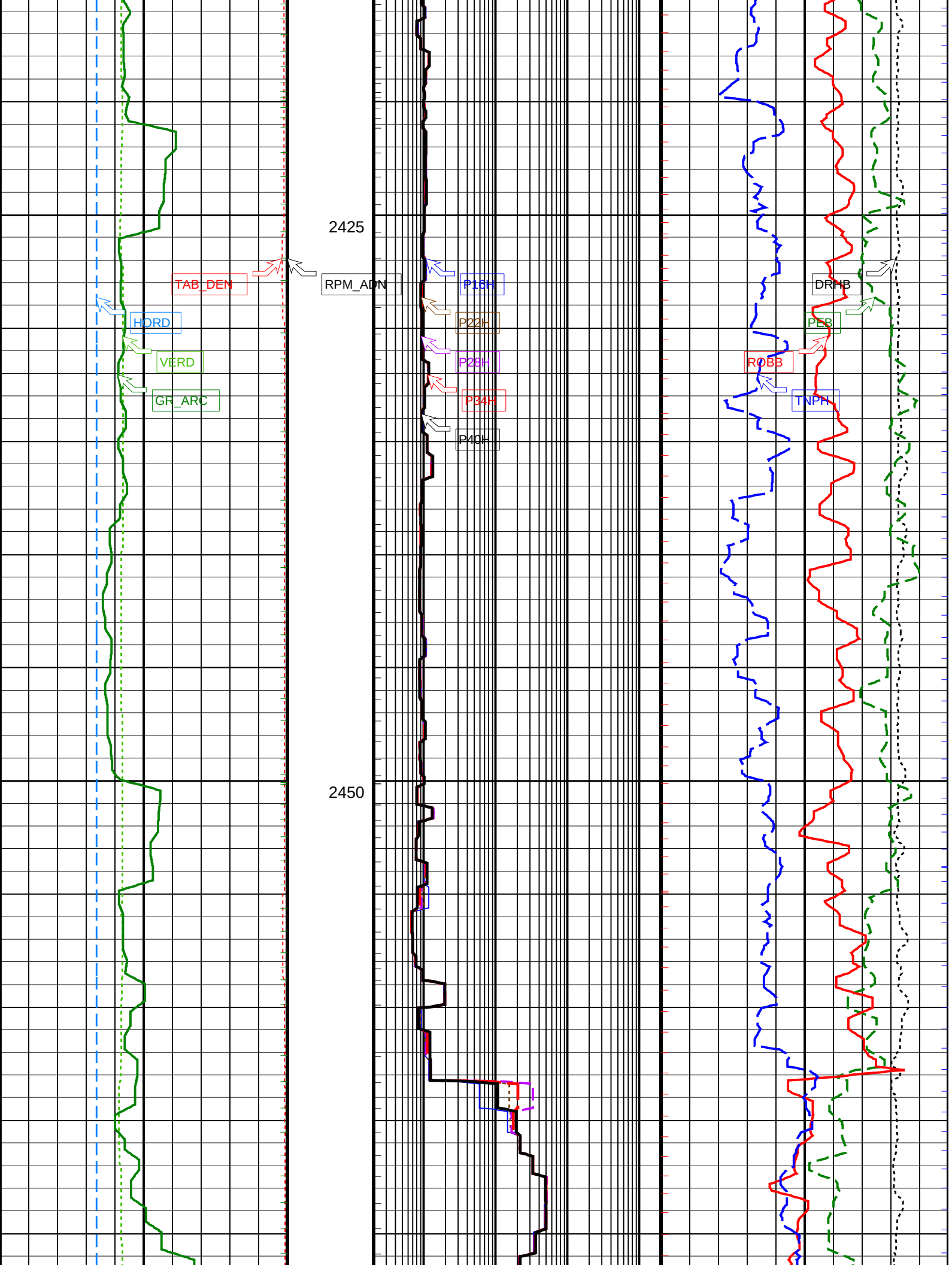
P34H
TNPH
P40H
2375
2400


2425
2450
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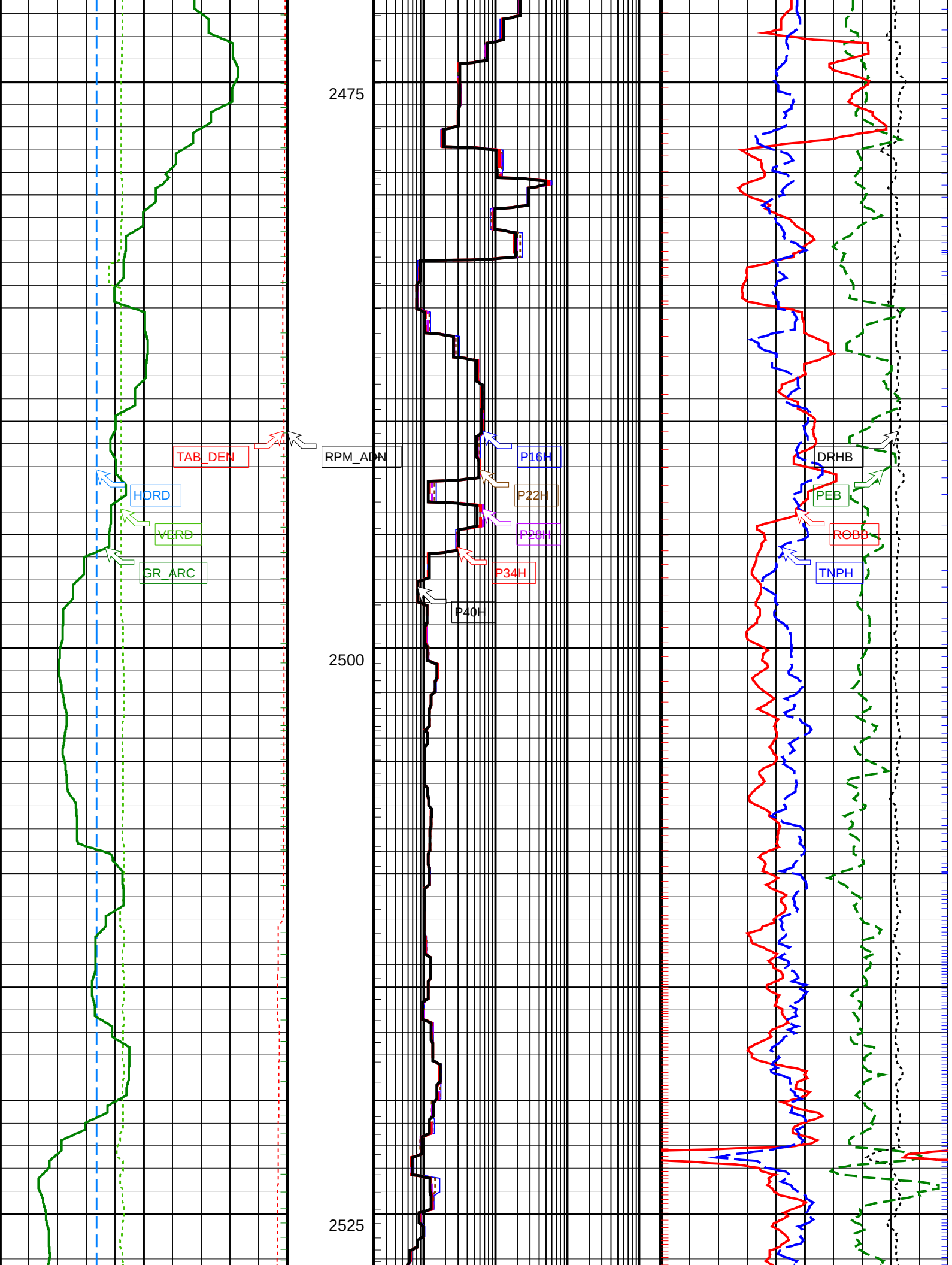
PEB
VERD
P28H
ROBB
GR_ARC
P34H
TNPH
P40H


2475
2500
2525
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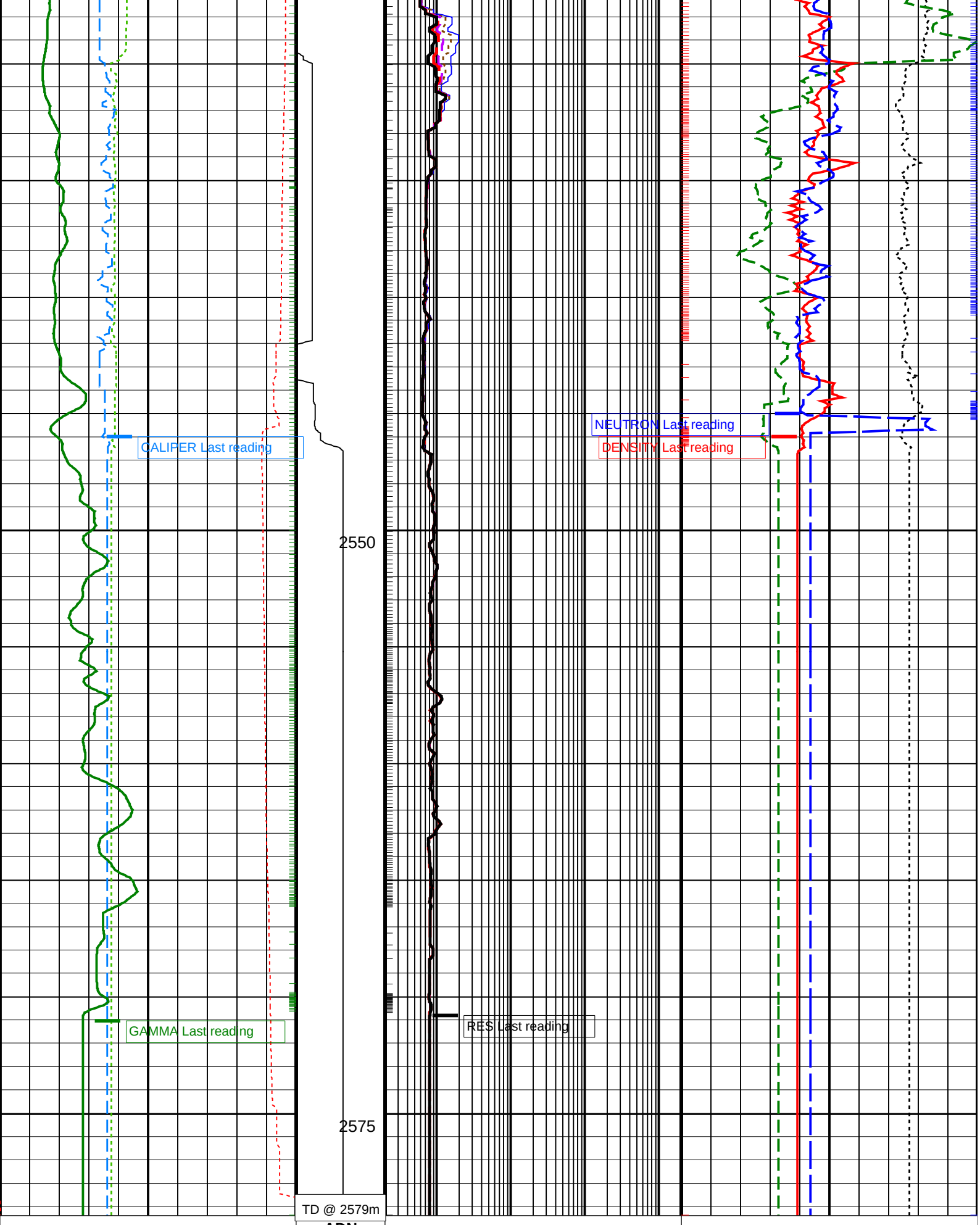
P16H
DRHB
HORD
P22H
PEB
VERD
P28H
ROBB
GR_ARC
P34H
TNPH
P40H



Density Time After Bit (TAB_DEN)
0 (HR) 10

ADN Rotational Speed (RPM_ADN) (RPM)

ARC Phase−Shift Resistivity 16−in. at 2 MHz (P16H)
0.2 (OHMM) 2000

Bulk Density Correction, Bottom (DRHB)
−0.75 (G/C3) 0.25

	0 250	
Horizontal Hole Diameter (HORD) 6 (IN) 16	ARC Phase−Shift Resistivity 22−in. at 2 MHz (P22H) 0.2 (OHMM) 2000	Photoelectric Factor, Bottom (PEB) 0 (−−−− 10
Vertical Hole Diameter (VERD) 6 (IN) 16	ARC Phase−Shift Resistivity 28−in. at 2 MHz (P28H) 0.2 (OHMM) 2000	Bulk Density, Bottom (ROBB) 1.85 (G/C3) 2.85
ARC Gamma Ray (GR_ARC) 0 (GAPI) 200	ARC Phase−Shift Resistivity 34−in. at 2 MHz (P34H) 0.2 (OHMM) 2000	Thermal Neutron Porosity (TNPH) 0.45 (V/V) −0.15
	ARC Phase−Shift Resistivity 40−in. at 2 MHz (P40H) 0.2 (OHMM) 2000	

PIP SUMMARY

Density Samples

Neutron Samples

ARC Gamma Ray Samples

ARC Resistivity Samples

IDEAL Version: ID14_0C_14

IDF

6.75−in. Azimuthal Density Neutron / Equipment Identification

Primary Equipment:

Tool Name and Serial Number	ADN6 − CA	2400
Collar Type and Serial Number	E148° 18' 32.826"	
Chassis Type and Serial Number	ADSE − EA	373
Stabilizer Type and Serial Number	−	1
Neutron Logging Source	NSR − M	202
Density Logging Source	GSR − J/Z	1994
Stabilizer Size	9.33 − in.	
Calibration Status	AUTO −	

Master: 13−Jun−2009 20:01

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		656.9	Master		1779	Master		4655
250.0 (Minimum)	4125 (Nominal)	8000 (Maximum)	700.0 (Minimum)	9350 (Nominal)	18000 (Maximum)	2500 (Minimum)	23750 (Nominal)	45000 (Maximum)

Master: 13−Jun−2009 20:01

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		109.5	Master		1032	Master		3281
50.00 (Minimum)	725.0 (Nominal)	1400 (Maximum)	500.0 (Minimum)	4250 (Nominal)	8000 (Maximum)	1500 (Minimum)	15750 (Nominal)	30000 (Maximum)

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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		48.40	Master		112.5	Master		497.2
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: 13−Jun−2009 20:01

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		1.016	Master		1.115
1.005	1.020	1.035	1.081	1.111	1.141

(Minimum)	(Nominal)	(Maximum)				(Minimum)	(Nominal)	(Maximum)

Master: 13−Jun−2009 20:01

6.75−in. Azimuthal Density Neutron Calibration

Neutron: 3−Point Calibration

Phase	Far 1 tube 1 Air Point Measure CPS	Value
Master		17.93
13.30 (Minimum)	19.05 (Nominal)	24.70 (Maximum)

Phase	Far 1 tube 1 Rod Point Measure CPS	Value
Master		4.529
3.400 (Minimum)	4.857 (Nominal)	6.200 (Maximum)

Phase	Far 1 tube 1 H2O Point Measure CPS	Value
Master		2.114
1.600 (Minimum)	2.363 (Nominal)	3.100 (Maximum)

Phase	Far 1 tube 2 Air Point Measure CPS	Value
Master		18.62
13.30 (Minimum)	19.05 (Nominal)	24.70 (Maximum)

Phase	Far 1 tube 2 Rod Point Measure CPS	Value
Master		4.667
3.400 (Minimum)	4.857 (Nominal)	6.200 (Maximum)

Phase	Far 1 tube 2 H2O Point Measure CPS	Value
Master		2.235
1.600 (Minimum)	2.363 (Nominal)	3.100 (Maximum)

Phase	Far 1 tube 3 Air Point Measure CPS	Value
Master		16.87
13.30 (Minimum)	19.05 (Nominal)	24.70 (Maximum)

Phase	Far 1 tube 3 Rod Point Measure CPS	Value
Master		4.339
3.400 (Minimum)	4.857 (Nominal)	6.200 (Maximum)

Phase	Far 1 tube 3 H2O Point Measure CPS	Value
Master		2.013
1.600 (Minimum)	2.363 (Nominal)	3.100 (Maximum)

Phase	Far 2 tube 1 Air Point Measure CPS	Value
Master		16.92
13.30 (Minimum)	19.05 (Nominal)	24.70 (Maximum)

Phase	Far 2 tube 1 Rod Point Measure CPS	Value
Master		4.699
3.400 (Minimum)	4.857 (Nominal)	6.200 (Maximum)

Phase	Far 2 tube 1 H2O Point Measure CPS	Value
Master		2.168
1.600 (Minimum)	2.363 (Nominal)	3.100 (Maximum)

Phase	Far 2 tube 2 Air Point Measure CPS	Value
Master		18.66
13.30 (Minimum)	19.05 (Nominal)	24.70 (Maximum)

Phase	Far 2 tube 2 Rod Point Measure CPS	Value
Master		4.713
3.400 (Minimum)	4.857 (Nominal)	6.200 (Maximum)

Phase	Far 2 tube 2 H2O Point Measure CPS	Value
Master		2.280
1.600 (Minimum)	2.363 (Nominal)	3.100 (Maximum)

Phase	Far 2 tube 3 Air Point Measure CPS	Value
Master		17.89
13.30 (Minimum)	19.05 (Nominal)	24.70 (Maximum)

Phase	Far 2 tube 3 Rod Point Measure CPS	Value
Master		4.538
3.400 (Minimum)	4.857 (Nominal)	6.200 (Maximum)

Phase	Far 2 tube 3 H2O Point Measure CPS	Value
Master		2.162
1.600 (Minimum)	2.363 (Nominal)	3.100 (Maximum)

Phase	Near 1 tube 1 Air Point Measure CPS	Value
Master		470.7
345.0 (Minimum)	487.5 (Nominal)	595.0 (Maximum)

Phase	Near 1 tube 1 Rod Point Measure CPS	Value
Master		721.6
535.0 (Minimum)	768.8 (Nominal)	925.0 (Maximum)

Phase	Near 1 tube 1 H2O Point Measure CPS	Value
Master		339.2
230.0 (Minimum)	343.7 (Nominal)	430.0 (Maximum)

Phase	Near 2 tube 1 Air Point Measure CPS	Value
Master		476.5
345.0 (Minimum)	487.5 (Nominal)	595.0 (Maximum)

Phase	Near 2 tube 1 Rod Point Measure CPS	Value
Master		716.6
535.0 (Minimum)	768.8 (Nominal)	925.0 (Maximum)

Phase	Near 2 tube 1 H2O Point Measure CPS	Value
Master		337.4
230.0 (Minimum)	343.7 (Nominal)	430.0 (Maximum)

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6.75−in. Azimuthal Density Neutron Calibration

Neutron: Water Block Check

Phase	Far Neutron water porosity PU	Value
Master		106.2
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	437
ARC675 Calibration Status	AUTO −	

Master: 17−Apr−2009 14:12

6.75−in. Array Resistivity Compensated Calibration

Resistivity: Air

Phase	Phase−Shift T1	Value
Master		0.09000
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Phase	Phase−Shift T2	Value
Master		−0.05300
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Phase	Phase−Shift T3	Value
Master		−0.001000
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Phase	Phase−Shift T4	Value
Master		−0.1050

Phase	Phase−Shift T5	Value
Master		0.002000

Phase	Phase−Shift T1 at 400KHz	Value
Master		1.267

Phase	Phase−Shift T2 at 400KHz	Value
Master		−1.300
	−3.900 (Minimum) 0.1000 (Nominal) 4.100 (Maximum)	

Phase	Phase−Shift T3 at 400KHz	Value
Master		1.279
	−3.900 (Minimum) 0.1000 (Nominal) 4.100 (Maximum)	

Phase	Phase−Shift T4 at 400KHz	Value
Master		−1.349
	−3.900 (Minimum) 0.1000 (Nominal) 4.100 (Maximum)	

Phase	Phase−Shift T5 at 400KHz	Value
Master		1.278
	−3.900 (Minimum) 0.1000 (Nominal) 4.100 (Maximum)	

Master: 17−Apr−2009 14:12

6.75−in. Array Resistivity Compensated Calibration

Resistivity: Air

Phase	Attenuation T1	Value
Master		8.950
	6.500 (Minimum) 8.500 (Nominal) 10.50 (Maximum)	

Phase	Attenuation T2	Value
Master		6.014
	4.500 (Minimum) 6.500 (Nominal) 8.500 (Maximum)	

Phase	Attenuation T3	Value
Master		5.566
	2.500 (Minimum) 4.500 (Nominal) 6.500 (Maximum)	

Phase	Attenuation T4	Value
Master		3.912
	2.600 (Minimum) 4.600 (Nominal) 6.600 (Maximum)	

Phase	Attenuation T5	Value
Master		4.116
	1.600 (Minimum) 3.600 (Nominal) 5.600 (Maximum)	

Phase	Attenuation T1 at 400KHz	Value
Master		8.936
	6.500 (Minimum) 8.500 (Nominal) 10.50 (Maximum)	

Phase	Attenuation T2 at 400KHz	Value
Master		6.040
	4.500 (Minimum) 6.500 (Nominal) 8.500 (Maximum)	

Phase	Attenuation T3 at 400KHz	Value
Master		5.543
	2.500 (Minimum) 4.500 (Nominal) 6.500 (Maximum)	

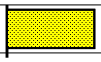
Phase	Attenuation T4 at 400KHz	Value
Master		3.936
	2.600 (Minimum) 4.600 (Nominal) 6.600 (Maximum)	

Phase	Attenuation T5 at 400KHz	Value
Master		4.099
	1.600 (Minimum) 3.600 (Nominal) 5.600 (Maximum)	

Master: 17−Apr−2009 13:43

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		5.022
	2.780 (Minimum) 4.800 (Nominal) 6.000 (Maximum)	

SCHLUMBERGER

Survey report 28−Jun−2009 10:51:46

Client.....: Esso Australia Pty. Ltd.
Field.....: Halibut

Well.....: CBA A−33 Spud date.....: 15−Jun−09
API number.....: n/a Last survey date.....: 24−Jun−09
Engineer.....: M. Amarasena, B. Low Total accepted surveys...: 164
MD of first survey.....: 0.00 m
Rig Label:.....: ISDL 175 MD of last survey.....: 2579.00 m
STATE:.....: Victoria

−−−−− Survey calculation methods−−−−−−−−−−−−−− −−−−− Geomagnetic data −−−−−−−−−−−−−−−−−−−−−−
Method for positions.....: Minimum curvature Magnetic model.....: BGGM version 2008
Method for DLS.....: Mason & Taylor Magnetic date.....: 22−Jun−2009
Magnetic field strength..: 1199.42 HCNT
−−−−− Depth reference −−−−−−−−−−−−−−−−−−−−−−−− Magnetic dec (+E/W−).....: 13.22 degrees
Permanent datum.....: Mean Sea Level Magnetic dip.....: −68.86 degrees
Depth reference.....: Driller's Depth
GL above permanent.....: −79.00 m −−−−− MWD survey Reference Criteria −−−−−−−−−
KB above permanent.....: Top Drive Reference G.....: 1000.05 mGal
DF above permanent.....: 41.00 m Reference H.....: 1199.43 HCNT
Reference Dip.....: −68.86 degrees
−−−−− Vertical section origin−−−−−−−−−−−−−−−−− Tolerance of G.....: (+/−) 2.50 mGal
Latitude (+N/S−).....: −2.70 m Tolerance of H.....: (+/−) 6.00 HCNT
Departure (+E/W−).....: 8.71 m Tolerance of Dip.....: (+/−) 0.45 degrees

−−−−− Platform reference point−−−−−−−−−−−−−−−− −−−−− Corrections −−−−−−−−−−−−−−−−−−−−−−−−−−
Latitude (+N/S−).....: −304.57 m Magnetic dec (+E/W−).....: 13.22 degrees
Departure (+E/W−).....: −304.57 m Grid convergence (+E/W−).: −0.81 degrees
Total az corr (+E/W−)....: 14.03 degrees
Azimuth from Vsect Origin to target: 207.22 degrees (Total az corr = magnetic dec − grid conv)
Survey Correction Type ...: G
I=Sag Corrected Inclination
M=Schlumberger Magnetic Correction
S=Shell Magnetic Correction
F=Failed Axis Correction
R=Magnetic Resonance Tool Correction
G=Gmag Magnetic Correction

[(c)2009 IDEAL ID14_0C_14]
SCHLUMBERGER Survey Report 28−Jun−2009 10:51:46

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	Corr (deg)
1	0.00	0.00	0.00	0.00	0.00	0.00	−2.70	8.71	9.12	107.22	0.00	TIP	None
2	16.66	0.00	0.00	16.66	16.66	0.00	−2.70	8.71	9.12	107.22	0.00	MWD_M	None
3	36.66	0.24	294.89	20.00	36.66	0.00	−2.68	8.67	9.08	107.19	0.37	MWD_M	None
4	38.66	0.25	303.61	2.00	38.66	0.00	−2.68	8.66	9.07	107.18	0.59	MWD_M	None
5	40.66	0.23	259.46	2.00	40.66	0.00	−2.68	8.66	9.06	107.18	2.76	MWD_M	None
6	42.66	0.18	292.07	2.00	42.66	0.01	−2.68	8.65	9.05	107.19	1.90	MWD_M	None
7	44.66	0.25	248.27	2.00	44.66	0.01	−2.68	8.64	9.05	107.21	2.64	MWD_M	None
8	46.66	0.17	292.97	2.00	46.66	0.01	−2.68	8.64	9.04	107.22	2.68	MWD_M	None
9	48.66	0.19	310.99	2.00	48.66	0.01	−2.67	8.63	9.04	107.21	0.91	MWD_M	None
10	50.66	0.17	259.27	2.00	50.66	0.01	−2.67	8.63	9.03	107.21	2.41	MWD_M	None
11	52.66	0.15	297.42	2.00	52.66	0.02	−2.67	8.62	9.02	107.22	1.62	MWD_M	None
12	54.66	0.26	223.06	2.00	54.66	0.02	−2.67	8.62	9.02	107.24	4.01	MWD_M	None
13	56.66	0.19	237.40	2.00	56.66	0.03	−2.68	8.61	9.02	107.28	1.36	MWD_M	None
14	58.66	0.18	256.40	2.00	58.66	0.03	−2.68	8.60	9.01	107.31	0.94	MWD_M	None
15	60.66	0.20	297.74	2.00	60.66	0.03	−2.68	8.60	9.01	107.32	2.06	MWD_M	None
16	62.66	0.24	276.40	2.00	62.66	0.04	−2.68	8.59	9.00	107.32	1.38	MWD_M	None
17	64.66	0.22	273.19	2.00	64.66	0.04	−2.68	8.58	8.99	107.33	0.36	MWD_M	None
18	66.66	0.29	249.88	2.00	66.66	0.04	−2.68	8.57	8.98	107.35	1.89	MWD_M	None
19	68.66	0.29	256.71	2.00	68.66	0.05	−2.68	8.56	8.97	107.39	0.53	MWD_M	None
20	70.66	0.27	270.40	2.00	70.66	0.06	−2.68	8.55	8.96	107.41	1.06	MWD_M	None
21	72.66	0.32	265.13	2.00	72.66	0.06	−2.68	8.54	8.96	107.44	0.87	MWD_M	None
22	74.66	0.30	298.10	2.00	74.66	0.06	−2.68	8.53	8.94	107.44	2.70	MWD_M	None
23	76.66	0.33	257.14	2.00	76.66	0.07	−2.68	8.52	8.93	107.46	3.39	MWD_M	None
24	78.66	0.29	290.54	2.00	78.66	0.07	−2.68	8.51	8.92	107.47	2.78	MWD_M	None
25	80.66	0.29	286.15	2.00	80.66	0.07	−2.68	8.50	8.91	107.47	0.34	MWD_M	None
26	82.66	0.33	279.92	2.00	82.66	0.08	−2.67	8.49	8.90	107.48	0.80	MWD_M	None
27	84.66	0.34	290.80	2.00	84.66	0.08	−2.67	8.48	8.89	107.48	0.98	MWD_M	None
28	86.66	0.34	294.63	2.00	86.66	0.08	−2.67	8.47	8.88	107.47	0.35	MWD_M	None
29	88.66	0.29	307.58	2.00	88.66	0.08	−2.66	8.46	8.87	107.46	1.32	MWD_M	None
30	90.66	0.26	281.54	2.00	90.66	0.08	−2.66	8.45	8.86	107.45	1.94	MWD_M	None

31	92.66	0.25	293.72	2.00	92.66	0.08	−2.65	8.44	8.85	107.45	0.84	MWD_M	None
32	94.66	0.25	302.92	2.00	94.66	0.08	−2.65	8.44	8.84	107.44	0.61	MWD_M	None
33	96.66	0.26	285.89	2.00	96.66	0.08	−2.65	8.43	8.83	107.43	1.16	MWD_M	None
34	98.66	0.25	302.46	2.00	98.66	0.08	−2.64	8.42	8.83	107.43	1.13	MWD_M	None
35	100.66	0.22	293.72	2.00	100.66	0.08	−2.64	8.41	8.82	107.42	0.71	MWD_M	None
36	102.66	0.23	282.98	2.00	102.66	0.08	−2.64	8.41	8.81	107.41	0.66	MWD_M	None
37	104.66	0.19	278.57	2.00	104.66	0.08	−2.64	8.40	8.80	107.42	0.66	MWD_M	None
38	106.66	0.21	273.94	2.00	106.66	0.09	−2.63	8.39	8.80	107.43	0.39	MWD_M	None
39	108.66	0.21	270.34	2.00	108.66	0.09	−2.63	8.38	8.79	107.44	0.20	MWD_M	None
40	110.66	0.24	288.48	2.00	110.66	0.09	−2.63	8.38	8.78	107.45	1.17	MWD_M	None
41	112.66	0.25	293.12	2.00	112.66	0.09	−2.63	8.37	8.77	107.44	0.34	MWD_M	None
42	114.66	0.21	265.48	2.00	114.66	0.10	−2.63	8.36	8.76	107.45	1.78	MWD_M	None
43	116.66	0.19	242.45	2.00	116.66	0.10	−2.63	8.35	8.76	107.48	1.25	MWD_M	None
44	118.66	0.25	225.46	2.00	118.66	0.11	−2.63	8.35	8.75	107.52	1.34	MWD_M	None
45	120.76	0.29	213.32	2.10	120.76	0.12	−2.64	8.34	8.75	107.58	1.01	MWD_M	None
46	122.66	0.39	203.57	1.90	122.66	0.13	−2.65	8.34	8.75	107.65	1.85	MWD_M	None
47	124.66	0.51	197.13	2.00	124.66	0.14	−2.67	8.33	8.75	107.75	1.98	MWD_M	None
48	126.66	0.68	191.96	2.00	126.66	0.16	−2.69	8.33	8.75	107.89	2.71	MWD_M	None
49	128.66	0.87	189.82	2.00	128.66	0.19	−2.71	8.32	8.75	108.06	2.93	MWD_M	None
50	130.66	0.97	187.72	2.00	130.66	0.22	−2.75	8.32	8.76	108.27	1.61	MWD_M	None
51	132.66	1.25	187.37	2.00	132.66	0.26	−2.78	8.31	8.77	108.52	4.27	MWD_M	None
52	134.66	1.40	186.55	2.00	134.66	0.30	−2.83	8.31	8.78	108.81	2.30	MWD_M	None
53	136.66	1.66	186.65	2.00	136.66	0.35	−2.88	8.30	8.79	109.15	3.96	MWD_M	None
54	138.76	1.90	186.78	2.10	138.76	0.41	−2.95	8.29	8.80	109.57	3.48	MWD_M	None
55	140.66	2.12	187.54	1.90	140.65	0.47	−3.01	8.28	8.82	109.99	3.55	MWD_M	None
56	142.66	2.37	188.74	2.00	142.65	0.55	−3.09	8.27	8.83	110.49	3.88	MWD_M	None
57	144.66	2.64	189.86	2.00	144.65	0.63	−3.18	8.26	8.85	111.04	4.18	MWD_M	None
58	146.66	2.85	190.62	2.00	146.65	0.72	−3.27	8.24	8.87	111.65	3.25	MWD_M	None
59	148.66	3.07	191.59	2.00	148.65	0.82	−3.37	8.22	8.89	112.31	3.44	MWD_M	None
60	150.66	3.34	192.90	2.00	150.64	0.93	−3.48	8.20	8.91	113.02	4.26	MWD_M	None
61	152.66	3.59	194.13	2.00	152.64	1.05	−3.60	8.17	8.93	113.78	3.97	MWD_M	None
62	154.66	3.82	195.57	2.00	154.64	1.17	−3.72	8.14	8.95	114.60	3.78	MWD_M	None
63	156.66	3.94	196.59	2.00	156.63	1.31	−3.85	8.10	8.97	115.45	2.11	MWD_M	None
64	158.66	4.15	198.51	2.00	158.63	1.45	−3.99	8.06	8.99	116.34	3.81	MWD_M	None
65	160.66	4.32	200.37	2.00	160.62	1.59	−4.13	8.01	9.01	117.28	3.33	MWD_M	None
66	162.66	4.46	202.53	2.00	162.61	1.74	−4.27	7.95	9.03	118.24	3.30	MWD_M	None
67	164.66	4.70	204.24	2.00	164.61	1.90	−4.42	7.89	9.04	119.25	4.21	MWD_M	None
68	166.66	4.88	205.96	2.00	166.60	2.07	−4.57	7.82	9.05	120.31	3.51	MWD_M	None
69	168.66	4.99	208.02	2.00	168.59	2.24	−4.72	7.74	9.07	121.39	3.18	MWD_M	None
70	**170.66**	**5.05**	**210.33**	**2.00**	**170.59**	**2.42**	**−4.87**	**7.65**	**9.07**	**122.49**	**3.21**	**MWD_M**	**None**
71	172.66	5.21	212.62	2.00	172.58	2.60	−5.03	7.56	9.08	123.62	3.96	MWD_M	None
72	174.66	5.26	214.97	2.00	174.57	2.78	−5.18	7.46	9.08	124.77	3.36	MWD_M	None
73	176.66	5.38	216.71	2.00	176.56	2.96	−5.33	7.35	9.08	125.94	3.06	MWD_M	None
74	178.66	5.47	218.25	2.00	178.55	3.15	−5.48	7.24	9.08	127.14	2.61	MWD_M	None
75	180.66	5.46	220.58	2.00	180.54	3.33	−5.63	7.11	9.07	128.34	3.39	MWD_M	None
76	182.66	5.57	222.21	2.00	182.53	3.52	−5.77	6.99	9.06	129.55	2.92	MWD_M	None
77	184.66	5.51	224.72	2.00	184.52	3.70	−5.91	6.85	9.05	130.77	3.80	MWD_M	None
78	187.46	5.48	227.37	2.80	187.31	3.96	−6.10	6.66	9.03	132.47	2.78	MWD_M	None
79	196.67	5.54	228.80	9.21	196.48	4.78	−6.69	6.00	8.99	138.09	0.50	MWD_M	None
80	209.16	5.89	229.07	12.49	208.91	5.94	−7.50	5.07	9.05	145.98	0.86	MWD_M	None
81	217.66	6.33	225.20	8.50	217.36	6.79	−8.12	4.40	9.24	151.53	2.16	MWD_M	None
82	227.85	7.48	218.96	10.19	227.47	7.97	−9.03	3.59	9.72	158.34	4.10	MWD_M	None
83	251.74	8.80	209.91	23.89	251.12	11.32	−11.83	1.70	11.95	171.83	2.34	MWD_M	None
84	267.36	9.50	202.96	15.62	266.55	13.80	−14.05	0.60	14.06	177.55	2.55	MWD_M	None
85	281.30	9.77	197.69	13.94	280.29	16.11	−16.23	−0.21	16.24	180.73	2.02	MWD_M	None
86	310.66	9.68	198.83	29.36	309.23	21.01	−20.94	−1.76	21.02	184.81	0.22	MWD_M	None
87	339.16	9.77	199.97	28.50	337.32	25.78	−25.48	−3.36	25.70	187.51	0.23	MWD_M	None
88	369.16	10.73	198.83	30.00	366.84	31.07	−30.52	−5.13	30.95	189.54	1.00	MWD_M	None
89	397.59	12.23	198.57	28.43	394.70	36.67	−35.88	−6.95	36.55	190.96	1.61	MWD_M	None
90	428.70	13.90	198.57	31.11	425.00	43.62	−42.55	−9.18	43.53	192.18	1.64	MWD_M	None
91	456.74	14.08	198.48	28.04	452.21	50.32	−48.97	−11.34	50.27	193.04	0.20	MWD_M	None
92	486.51	13.55	199.01	29.77	481.12	57.35	−55.71	−13.62	57.35	193.74	0.56	MWD_M	None
93	511.01	14.08	199.10	24.50	504.91	63.14	−61.23	−15.53	63.17	194.23	0.66	MWD_M	None
94	544.75	14.60	200.15	33.74	537.60	71.42	−69.11	−18.34	71.50	194.86	0.53	MWD_M	None
95	573.45	14.78	200.06	28.70	565.36	78.65	−75.94	−20.84	78.75	195.35	0.19	MWD_M	None
96	584.77	14.87	200.33	11.32	576.30	81.52	−78.66	−21.84	81.63	195.52	0.31	MWD_M	None
97	625.93	15.90	204.02	41.16	615.99	92.39	−88.76	−25.97	92.48	196.31	1.05	MWD_M	None
98	655.19	16.22	209.88	29.26	644.11	100.48	−95.97	−29.64	100.44	197.16	1.72	MWD_M	None
99	684.66	15.92	210.09	29.47	672.43	108.63	−103.03	−33.72	108.41	198.12	0.32	MWD_M	None
100	713.95	16.16	209.41	29.29	700.58	116.71	−110.06	−37.73	116.35	198.92	0.32	MWD_M	None
101	743.19	15.68	208.22	29.24	728.70	124.73	−117.08	−41.60	124.25	199.56	0.61	MWD_M	None
102	772.40	14.98	208.55	29.21	756.87	132.45	−123.88	−45.27	131.89	200.07	0.74	MWD_M	None
103	801.40	14.91	209.56	29.00	784.89	139.92	−130.42	−48.90	139.28	200.55	0.28	MWD_M	None
104	830.63	14.94	208.77	29.23	813.13	147.45	−136.99	−52.57	146.73	200.99	0.21	MWD_M	None
105	859.76	15.02	208.82	29.13	841.27	154.97	−143.59	−56.20	154.19	201.37	0.08	MWD_M	None
106	889.23	14.88	208.70	29.47	869.74	162.57	−150.25	−59.85	161.74	201.72	0.15	MWD_M	None
107	918.51	14.66	208.30	29.28	898.06	170.04	−156.81	−63.42	169.15	202.02	0.25	MWD_M	None
108	947.98	14.89	209.02	29.47	926.55	177.55	−163.41	−67.02	176.62	202.30	0.30	MWD_M	None
109	977.14	14.96	209.35	29.16	954.73	185.06	−169.96	−70.68	184.08	202.58	0.12	MWD_M	None
110	1006.32	14.71	208.53	29.18	982.93	192.52	−176.50	−74.30	191.50	202.83	0.34	MWD_M	None

111	1035.66	14.82	209.66	29.34	1011.31	200.00	−183.04	−77.93	198.94	203.06	0.32	MWD_M	None
112	1064.89	14.66	209.55	29.23	1039.57	207.43	−189.50	−81.61	206.33	203.30	0.17	MWD_M	None
113	1094.20	14.74	211.09	29.31	1067.92	214.85	−195.92	−85.36	213.71	203.54	0.41	MWD_M	None
114	1123.53	14.71	211.77	29.33	1096.29	222.29	−202.28	−89.25	221.10	203.81	0.18	MWD_M	None
115	1152.85	15.04	212.46	29.32	1124.63	229.79	−208.66	−93.25	228.55	204.08	0.39	MWD_M	None
116	1182.12	14.69	209.57	29.27	1152.92	237.28	−215.09	−97.12	236.00	204.30	0.85	MWD_M	None
117	1211.30	14.68	206.12	29.18	1181.15	244.67	−221.63	−100.58	243.38	204.41	0.91	MWD_M	None
118	1240.74	14.15	206.77	29.44	1209.66	252.00	−228.19	−103.84	250.70	204.47	0.57	MWD_M	None
119	1269.92	13.90	210.27	29.18	1237.97	259.07	−234.40	−107.21	257.76	204.58	0.92	MWD_M	None
120	1299.50	13.73	213.99	29.58	1266.70	266.10	−240.38	−110.97	264.76	204.78	0.93	MWD_M	None
121	1328.69	13.96	212.17	29.19	1295.04	273.05	−246.23	−114.78	271.67	204.99	0.51	MWD_M	None
122	1357.81	14.35	210.06	29.12	1323.27	280.15	−252.33	−118.46	278.75	205.15	0.68	MWD_M	None
123	1387.06	14.47	208.60	29.25	1351.60	287.42	−258.68	−122.02	286.01	205.25	0.40	MWD_M	None
124	1416.40	14.49	205.63	29.34	1380.01	294.76	−265.20	−125.36	293.34	205.30	0.77	MWD_M	None
125	1445.66	14.27	203.93	29.26	1408.36	302.02	−271.80	−128.41	300.61	205.29	0.50	MWD_M	None
126	1474.99	14.64	207.57	29.33	1436.76	309.33	−278.39	−131.59	307.92	205.30	1.02	MWD_M	None
127	1504.27	14.41	209.48	29.28	1465.10	316.67	−284.84	−135.10	315.25	205.37	0.55	MWD_M	None
128	1533.67	14.42	207.32	29.40	1493.58	323.99	−291.28	−138.58	322.56	205.44	0.56	MWD_M	None
129	1562.71	14.32	206.77	29.04	1521.71	331.20	−297.70	−141.85	329.77	205.48	0.18	MWD_M	None
130	1592.18	14.27	205.46	29.47	1550.27	338.47	−304.23	−145.06	337.04	205.49	0.34	MWD_M	None
131	1621.56	15.02	205.25	29.38	1578.69	345.90	−310.94	−148.24	344.47	205.49	0.78	MWD_M	None
132	1650.85	14.85	205.80	29.29	1606.99	353.44	−317.76	−151.49	352.02	205.49	0.23	MWD_M	None
133	1680.39	14.93	206.81	29.54	1635.54	361.03	−324.56	−154.85	359.61	205.51	0.28	MWD_M	None
134	1709.10	15.86	206.11	28.71	1663.22	368.65	−331.38	−158.25	367.23	205.53	1.01	MWD_M	None
135	1738.52	15.34	203.39	29.42	1691.55	376.55	−338.56	−161.56	375.14	205.51	0.93	MWD_M	None
136	1767.97	15.56	201.42	29.45	1719.94	384.37	−345.82	−164.55	382.97	205.45	0.59	MWD_M	None
137	1797.30	15.79	203.69	29.33	1748.18	392.27	−353.13	−167.59	390.88	205.39	0.68	MWD_M	None
138	1826.72	15.68	205.51	29.42	1776.50	400.24	−360.39	−170.91	398.86	205.37	0.52	MWD_M	None
139	1856.15	15.77	207.85	29.43	1804.83	408.21	−367.51	−174.49	406.83	205.40	0.66	MWD_M	None
140	1885.47	15.47	210.31	29.32	1833.06	416.10	−374.41	−178.33	414.71	205.47	0.76	MWD_M	None
141	1914.60	15.71	208.22	29.13	1861.12	423.92	−381.24	−182.15	422.52	205.54	0.64	MWD_M	None
142	1943.73	15.58	205.83	29.13	1889.17	431.78	−388.24	−185.72	430.37	205.57	0.69	MWD_M	None
143	1973.09	15.56	203.40	29.36	1917.46	439.65	−395.40	−189.00	438.25	205.55	0.68	MWD_M	None
144	2002.63	15.54	205.83	29.54	1945.92	447.56	−402.60	−192.30	446.17	205.53	0.67	MWD_M	None
145	2031.86	15.58	209.23	29.23	1974.07	455.39	−409.55	−195.92	454.00	205.57	0.95	MWD_M	None
146	2061.17	15.43	212.43	29.31	2002.32	463.21	−416.27	−199.94	461.80	205.66	0.90	MWD_M	None
147	2090.40	15.47	215.54	29.23	2030.49	470.94	−422.73	−204.29	469.50	205.79	0.86	MWD_M	None
148	2119.77	15.10	213.93	29.37	2058.82	478.62	−429.09	−208.70	477.15	205.94	0.58	MWD_M	None
149	2148.86	15.06	211.56	29.09	2086.91	486.15	−435.45	−212.79	484.67	206.04	0.65	MWD_M	None
150	**2178.21**	**15.05**	**209.16**	**29.35**	**2115.26**	**493.76**	**−442.03**	**−216.65**	**492.27**	**206.11**	**0.65**	**MWD_M**	**None**
151	2207.53	15.15	206.46	29.32	2143.56	501.39	−448.78	−220.21	499.90	206.14	0.74	MWD_M	None
152	2236.73	15.13	203.55	29.20	2171.75	509.01	−455.69	−223.43	507.52	206.12	0.79	MWD_M	None
153	2265.88	15.16	202.00	29.15	2199.89	516.60	−462.71	−226.38	515.12	206.07	0.42	MWD_M	None
154	2295.20	15.30	205.05	29.32	2228.18	524.29	−469.77	−229.45	522.82	206.03	0.85	MWD_M	None
155	2324.26	15.12	207.01	29.06	2256.22	531.91	−476.62	−232.80	530.44	206.03	0.57	MWD_M	None
156	2353.69	14.98	208.10	29.43	2284.64	539.55	−483.40	−236.33	538.08	206.05	0.33	MWD_M	None
157	2382.99	14.97	208.38	29.30	2312.95	547.12	−490.07	−239.92	545.64	206.08	0.08	MWD_M	None
158	2412.25	14.90	210.09	29.26	2341.22	554.66	−496.65	−243.60	553.17	206.13	0.46	MWD_M	None
159	2441.61	14.90	210.72	29.36	2369.59	562.19	−503.16	−247.42	560.70	206.18	0.17	MWD_M	None
160	2470.87	15.14	212.27	29.26	2397.85	569.75	−509.62	−251.38	568.25	206.26	0.49	MWD_M	None
161	2499.77	15.34	211.52	28.90	2425.74	577.33	−516.07	−255.39	575.81	206.33	0.30	MWD_M	None
162	2529.30	15.41	207.80	29.53	2454.21	585.14	−522.88	−259.27	583.62	206.37	1.02	MWD_M	None
163	2558.69	15.28	203.33	29.39	2482.55	592.91	−529.89	−262.62	591.40	206.36	1.23	MWD_M	None
164	2579.00	15.20	202.50	20.31	2502.15	598.24	−534.80	−264.70	596.72	206.33	0.35	Proj. TD	

Company: **ESSO Australia Pty Ltd**

Schlumberger

Well: **CBA A33**

Field: **Halibut**

Rig: **ISDL 175**

9.875 in. Section

State: **Victoria**

VISION Service (Trip Out)

1:200 Measured Depth

Recorded Mode Log