Schlumberger

Company:	**ESSO Australia Pty Ltd**
Well:	**FTA A12A**
Field:	**Fortescue**
Rig:	**ISDL 175**
State:	**Victoria**

8.5 in. Section

Rig: ISDL 175
Field: Fortescue
Location: Bass Strait
Well: FTA A12A
Company: ESSO Australia Pty Ltd

VISION Service
1:200 Measured Depth
Recorded Mode Log

Location			Elevation	
Total depth:	4040.0 m		K.B.	Top Drive
Spud date:	11−Mar−07		G.L.	−69.0 m
Runs:	4 To 5		D.F.	42.5 m
Permanent datum:	Mean Sea Level		Elev.:	0.0 m
Log measured from:	Drill Floor		42.5 m	above Perm. datum
Depth reference:	Driller's Depth			

Service Order No.		Longitude	Latitude
07ASQ0013	X = E 611596.75 m Y = N 5748242.67 m	E 148º 16' 41.325''	S 38º 24' 25.521''

Depth logged: 947.5 m To 4029.6 m
Date logged: 20−Mar−07 To 30−Mar−07
Mag decl: 13.211 deg.
Mag dip: −68.869 deg.
Other services: See Remarks

Bore hole record			Casing record			
Hole size	from	to	Size	Density	from	to
8.5 in.	909.0 m	4040.0 m	10.75 in.	40.5 lbm/m	21.0 m	909.0 m

Mud record			Borehole deviation record			
Type	from	to	Min	Max	from	to
Accolade SBM	909.0 m	4040.0 m	48.66 deg.	64.12 deg.	910.00 m	1735.78 m
			56.15 deg.	63.57 deg.	1764.33 m	2588.71 m
			57.61 deg.	64.39 deg.	2617.47 m	3440.85 m
			39.50 deg.	58.26 deg.	3468.88 m	4040.00 m

Surface equipment		Software record	
Unit	Esso Office Cabin	IDEAL Wis	ID12_0c_06
Depth system	PDA	SPM	hspm12_0c_04
		LWD	See Remarks
		MWD	See Remarks

Bit Run Summary

Run number		4	5
Bit size	in	8.5	8.5
Bit start depth	m	983.0	1409.0
Bit end depth	m	1409.0	4040.0
Top interval logged	m	947.5	1373.5
Bottom interval logged	m	1373.5	4029.6
Begin log: time		14:35	14:27
Begin log: date		20−Mar−07	30−Mar−07
End log: time		20:12	13:37
End log: date		21−Mar−07	30−Mar−07
Mud data			
Depth	m	1408.0	4040
Type		Accolade SBM	Accolade SBM
Mud weight	ppg	8.9	10.5
Solids	%	4.7	13.4
Chlorides	mg/L	41250	57500
Rm	ohm.m@ºC	n/a	n/a
Rmf	ohm.m@ºC	n/a	n/a
Rmc	ohm.m@ºC	n/a	n/a

Potassium	%	n/a	n/a								
Environmental data											
GR											
Mud weight	ppg	8.9	10.5								
Bit size	in	8.5	8.5								
Resistivity											
Neutron porosity											
Hole Size	in	8.5	8.5								
Mud weight	ppg	8.9	10.5								
Temperature	°C	65.0	101.0								
Mud salinity	ppk	54.2	66.0								
Formation salinity		n/a	n/a								
Recording rate 1	SEC	5 (ADN, SON)	5 (ADN, SON)								
Recording rate 2	SEC	6 (ARC)	6 (ARC)								
Filtering GR		3 pts	3 pts								
Filtering density		3 pts	3 pts								
Filtering Neutron		3 pts	3 pts								
Company representative		B. Davis	B. Steel	R. Spence	G. Doty	T. Bassett					
Schlumberger D&M Personnel		M. Y. Tan	M. Amarasena	C. Hibberson	C. Soper	L. Muskett					

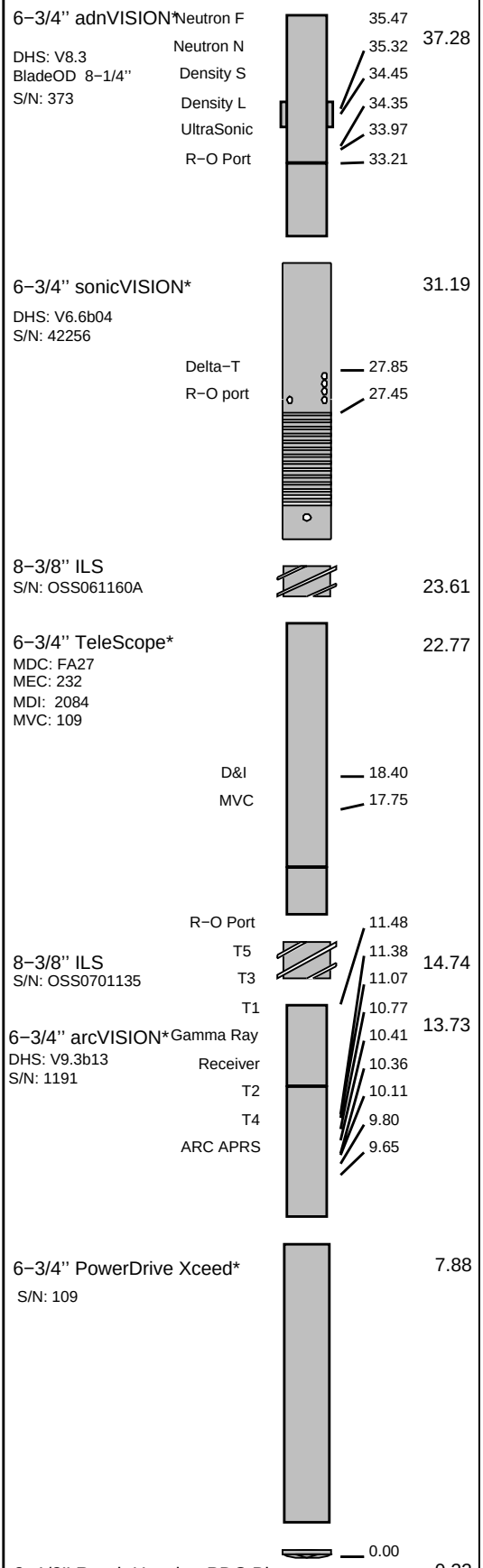
OTHER SERVICES FOR RUN 4	OTHER SERVICES FOR RUN 5	OTHER SERVICES FOR RUN
Directional Drilling Directional Surveys Annular Pressure & Temperature Shock & Vibrations	Directional Drilling Directional Surveys Annular Pressure & Temperature Shock & Vibrations	

REMARKS: RUN NUMBER 4	REMARKS: RUN NUMBER 5	REMARKS: RUN NUMBER
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. Delta−T is borehole compensated. POOH due to bell nipple seal leakage.	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. Delta−T is borehole compensated. sonicVISION* recorded mode data was acquired at 1s record rate while tripping out. POOH due to reaching TD of FTA A12A.	

EQUIPMENT DESCRIPTION

RUN4	RUN5	RUN
DOWNHOLE EQUIPMENT	DOWNHOLE EQUIPMENT	

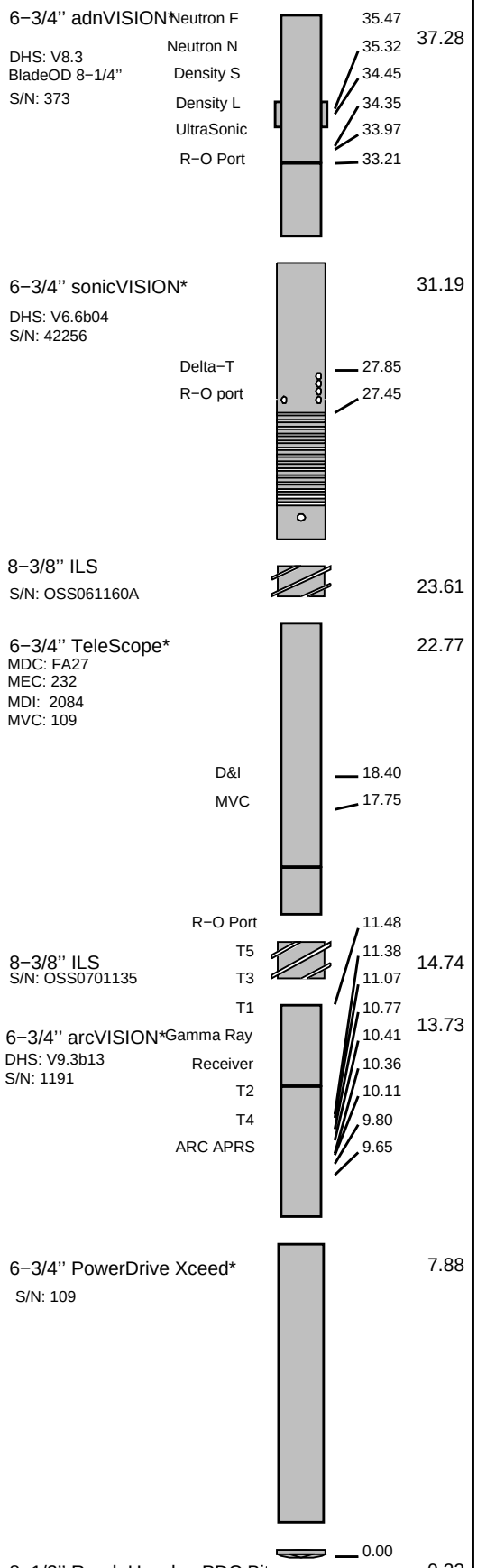
DOWNHOLE EQUIPMENT



Maximum string diameter 8−1/2 in.

All lengths in Meters

DOWNHOLE EQUIPMENT



Maximum string diameter 8−1/2 in.

All lengths in Meters

Variable Name	Variable Description	Run Name & Value	
Run Number		4	5
General Information			
BHT_RM	Bottom Hole Temperature (RM)	64.999960	100.999900
BSAL_RM	Mud Salinity (RM)	54.224964	65.967598
BS_RM	Bit Size (RM)	8.500000	8.500000
COEF_M	User Defined FEXP in Clean Sand	1.650000	1.650000
C_WS	Overpressure correction to Sw and M	1.000000	1.000000
FEXP	Formation Factor Exponent(RM)	2.000000	2.000000
FNUM	Formation Factor Enumerator(RM)	1.000000	1.000000
FPHI_RM	Formation Factor Porosity Source (RM)	XPLOT	XPLOT
MST_RM	Mud Sample temperature (RM)	75.000000	75.000000
MW_RM	Mud Weight (RM)	9.850000	10.500000
OBMF_RM	Oil Based Mud (RM)	YES	YES
RHOF_RM	Mud Filtrate Density (RM)	1.000000	1.000000
RHOM_RM	Matrix density (RM)	2.710000	2.710000
RMS_RM	Resistivity of Mud Sample (RM)	1000.000000	1.000000
RWA_COMP_M	Rwa computation model	BASIC	BASIC
RWA_DEN_AD	Rwa Density Input ADN	ROBB	ROBB
RWA_DEN_CD	Rwa Density Input CDN	RHOB	RHOB
RWA_DEN_IN	Rwa Density Input	ROBB	ROBB
RWA_FORM_M	Rwa computation formation model	CLASTIC	CLASTIC
RWA_RES_IN	Rwa computation resistivity input	P34H	P34H
RWS_RM	Resistivity of Connate Water (RM)	1.000000	1.000000
SHT_RM	Surface Hole Temperature (RM)	10.000000	10.000000
TD_RM	Total Measured Depth (RM)	1409.000000	4040.000000
TWS_RM	Temperature of Connate Water (RM)	75.000000	75.000000
VF_ILLI	Fraction of illite in shales	0.500000	0.500000
VF_KAOL	Fraction of kaolinite in shales	0.500000	0.500000
VF_MONT	Fraction of montmorillonite in shales	0.000000	0.000000
XPDM_RM	Cross plot density porosity multiplier	0.675000	0.675000
XPNM_RM	Cross plot neutron porosity multiplier	0.325000	0.325000
ADN			
LWD_RM/STATION_FILE/PARAMETERStation Time-frame file name		Station	Station
ADN_CHASSI	ADN Chassis Type String	ADN	ADN
ADN_COLLAR	ADN Collar Type String	ADN	ADN
ADN_STAB_S	ADN Stabilizer Type String	ADN	ADN
ALPHA_COMP	Perform Density Enhanced Vertical Resolution process ?	YES	YES
ALPHA_COMP	Perform Neutron Enhanced Vertical Resolution process ?	YES	YES
AVE_ADN	ADN/Array Channels: perform averaging(RM) :	YES	YES
A_DHS	ADN Down Hole Software Version String	YES	YES
CHI_RM	Caliper High limit from BS (RM)	3.000000	3.000000
CLO_RM	Caliper Low limit from BS (RM)	0.000000	0.000000
DEVI	Well Section Deviation	38.139999	51.840000
DTIK_SEL	ADN: Density Tick Channel Name	LSAZ	LSAZ
DTMUD	Delta-T for Mud	218.360001	222.029999
DYN_IMG_CO	Generate Dynamic Normalized Image?	YES	YES
ECC_CORR_A	Perform Eccentering Correction for TNPH?	YES	YES
ENVCOR	Neutron Quadrant Processing: Environmental Correction?	YES	YES
EVRL	EVR Process averaging number of samples (RM)	49	49
FCD	Future Casing (Outer) Diameter	0.000000	0.000000
GCSE	Generalized Caliper Selection	BS	BS
HPS	ADSE-EB (High Pressure Inconel Chassis)?	NO	NO
IBS	Intergal Blade Stabilizer Collar?	YES	YES
IDQT	Image Derived Quality Threshold	1.000000	1.000000
IHVS	Integrated Hole Volume Start Value(RM)	0.000000	0.000000
IMAGE_MAX_	Image SOA (Quadrant) Right Scale	2.500000	2.500000
IMAGE_MAX_	Image PEF(Segment) Right Scale	6.000000	6.000000
IMAGE_MAX_	Image RHOB(Segment) Right Scale	2.650000	2.650000
IMAGE_MIN_	Image SOA (Quadrant) Left Scale	0.000000	0.000000
IMAGE_MIN_	Image PEF(Segment) Left Scale	2.000000	2.000000
IMAGE_MIN_	Image RHOB(Segment) Left Scale	2.050000	2.050000
JSD_ADN	ADN Acquisition start date	2.050000	2.050000
LITHO_TYPE	Lithology (RM)	LIME	LIME
N1FTU_6_RM	ADN: Neutron Bank 1 Far Tubes used :	1-2-3	1-2-3
N2FTU_6_RM	ADN: Neutron Bank 2 Far Tubes used :	1-2-3	1-2-3
NNTU_RM	ADN Neutron Near Banks Used	1-2	1-2
NTIK_SEL	ADN: Neutron Tick Channel Name	FR11	FR11
SHT_RM	Ground Level Temperature (Mud-Line When Offshore) (RM)	50.000000	50.000000
SOCNL	Standoff Distance of the CNL Tool	1.000000	1.000000
SSIZ_ADN	ADN Stabilizer Size	8.250000	8.250000
STOH	ADN Density Top of Hole Sector (Left Boundary):	SECTOR_0	SECTOR_0
TRPM_RM	Average Tool Rotational Speed	20.000000	20.000000
USMIN_RM	ADN:Minimum Ultrasonic standoff (RM)	0.180000	0.180000
USWF_RM	ADN:Process Ultrasonic Waveform?	YES	YES
VERS_ADN	ADN Downhole Software Version	8.300000	8.300000
WSDI	Window Size of Dynamic Normalization Image	15.000000	15.000000
ARC			
A12A	ARC Air Cal Attenuation From T1 at 2 MHz	8.454500	8.454500
A14A	ARC Air Cal Attenuation From T1 at 400 KHz	8.429340	8.429340
A22A	ARC Air Cal Attenuation From T2 at 2 MHz	6.486760	6.486760
A24A	ARC Air Cal Attenuation From T2 at 400 KHz	6.520790	6.520790
A32A	ARC Air Cal Attenuation From T3 at 2 MHz	5.081880	5.081880
A34A	ARC Air Cal Attenuation From T3 at 400 KHz	5.049710	5.049710
A42A	ARC Air Cal Attenuation From T4 at 2 MHz	4.393790	4.393790
A44A	ARC Air Cal Attenuation From T4 at 400 KHz	4.422380	4.422380
A52A	ARC Air Cal Attenuation From T5 at 2 MHz	3.632990	3.632990
A54A	ARC Air Cal Attenuation From T5 at 400 KHz	3.610050	3.610050

ABNT	Abnormal Transmitter Indicator	No_Tx_Failed	No_Tx_Failed
ADHS	ARC Down Hole Software Version	No_Tx_Failed	No_Tx_Failed
ANISO_COMP	Anisotropy Computation Option	YES	YES
APICG	ARC5 Gamma Ray Gain Factor	1.063480	1.063480
APIG	ARC Gamma Ray API Gain Factor	-1.000000	-1.000000
ATMP_ARC	ARC Select Temperature Channel	Annulus_Temp	Annulus_Temp
ATRN	ARC Tool Run Number	4	5
ATSN	ARC Tool Serial Number	Annulus_Temp	Annulus_Temp
AZMF	Formation DIP Azimuth	0.000000	0.000000
BH_COMPUTE	Borehole Inversion Computation Option	YES	YES
CALG	ARC Gamma Ray Cal Gain Factor	1.063480	1.063480
CALI_SLCT_	ARC Caliper Selection	BITSIZE	BITSIZE
CDPTH_ARC	Process Start Depth	100.000000	100.000000
DIELEC_COM	Dielectric Computation Option	YES	YES
DIPF	Formation DIP Angle	0.000000	0.000000
ERRCT	Percentage Error Cutoff	4.500000	4.500000
GRSH	GR Shale (Invasion Computation Cutoff)	1000.000000	1000.000000
HIGH_BLEND	High Resistivity Threshold for Blending	2.000000	2.000000
INCLIN_B0	ARC Bias Constant (mg)	0.000000	0.000000
INCLIN_B1	ARC Bias First-order Coefficient (mg/degC)	0.000000	0.000000
INCLIN_B2	ARC Bias Secod-order Coeefficient (mg/degC)	0.000000	0.000000
INCLIN_B3	ARC Bias Third-order Coeefficient (mg/degC)	0.000000	0.000000
INCLIN_C0	ARC Current Scale Factor Constant (mA/g)	1.000000	1.000000
INCLIN_C1	ARC Scale First-order Coeefficient (mA/g/degC)	0.000000	0.000000
INCLIN_C2	ARC Scale Second-order Coeefficient (mA/g/degC)	0.000000	0.000000
INCLIN_C3	ARC Scale Third-order Coeefficient (mA/g/degC)	0.000000	0.000000
INVAS_COMP	Invasion Computation Option	YES	YES
JSD_ARC	ARC Acquisition start date	YES	YES
KPER	Potassium Concentration (RM)	0.000000	0.000000
LOW_BLEND	Low Resistivity Threshold for Blending	1.000000	1.000000
MSWS	ARC Wizard Model Switch Window	5.000000	5.000000
MULTIEFFEC	Multi Effect Option	YES	YES
P12A	ARC Air Cal Phase-Shift From T1 at 2 MHz	1.807390	1.807390
P14A	ARC Air Cal Phase-Shift From T1 at 400 KHz	-0.316562	-0.316562
P22A	ARC Air Cal Phase-Shift From T2 at 2 MHz	-1.724300	-1.724300
P24A	ARC Air Cal Phase-Shift From T2 at 400 KHz	0.225322	0.225322
P32A	ARC Air Cal Phase-Shift From T3 at 2 MHz	1.742660	1.742660
P34A	ARC Air Cal Phase-Shift From T3 at 400 KHz	-0.284950	-0.284950
P42A	ARC Air Cal Phase-Shift From T4 at 2 MHz	-1.764980	-1.764980
P44A	ARC Air Cal Phase-Shift From T4 at 400 KHz	0.212175	0.212175
P52A	ARC Air Cal Phase-Shift From T5 at 2 MHz	1.721960	1.721960
P54A	ARC Air Cal Phase-Shift From T5 at 400 KHz	-0.301446	-0.301446
POFFSET_AR	ARC: Pressure Offset	0.000000	0.000000
PRTD	Preferred Resistivity Log for Rt Display while Multi-Effects	P34B	P34B
PSOF_ADJ_T	ARC: User Input Phase offset	0.000000	0.000000
RESTIK	ARC resistivity tick source	Phase	Phase
SHIG	ARC High Shock Risk Level	0.500000	0.500000
SMED	**ARC Medium Shock Risk Level**	**0.330000**	**0.330000**
SMIN	**ARC Minimum Shock Risk Level**	**0.160000**	**0.160000**
SUPD	ARC Real Time Shock Update Rate	30.000000	30.000000
TCODE_ARC	ARC Tool File Code	30.000000	30.000000
TSIZ_ARC	ARC Tool Size	6.750000	6.750000
UNIFORM_CO	Uniform Rock Option	YES	YES
VERS_ARC	ARC Down hole software version Number	9.300000	9.300000
WRK	Way to Report Potassium Concentration (RM)	K_by_Wgt_%	K_by_Wgt_%

ISONIC

FP_SD	First Sample delay	400.00	400.00
STC_CF	Center frequency of Filter	13.00	13.00
STC_BW	Bandwidth (kHz)	6.25 kHz	6.25 kHz
STC_RWI	Receiver waveform ignored	None	None
PM_TOFF	Tool Time offset from surface system	0.00	0.00
DT_COH	Delta-T Coherence Cutoff Value	0.70	0.70
PPC_PF	Porosity Formula	Raymer-Hunt	Raymer-Hunt
PPC_PS	Sonic Porosity Source	DTRA	DTRA
PPC_MDT	Matrix Delta-T	47.60	47.60
PPC_FDT	Fluid Delta-T	189.00	189.00

IDEAL Version: ID12_0C_09

IDF

ARC6A−AA	**id12_0c_01**	**MWD_10**	**id12_0c_01**
SON675	**id12_0c_01**	**ADN**	**id12_0c_01**

Format: VISION Service RM Log **Vertical Scale: 1:200** **Graphics File Created: 30−Apr−2007 13:38**

PIP SUMMARY

Density Samples ⊢

Neutron Samples ⊣

⊣ **ARC Gamma Ray Samples**

⊢ **ARC Resistivity Samples**

Rate of Penetration, Averaged over Last 5ft (ROP5_RM)			ARC Phase−Shift Resistivity 40−in. at 2 MHz (P40H)		
300	(M/HR)	0	0.2	(OHMM)	2000

200 (M/HR) 0

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

0.2 (OHMM) 2000

ARC Phase−Shift Resistivity 34−in. at 2 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

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

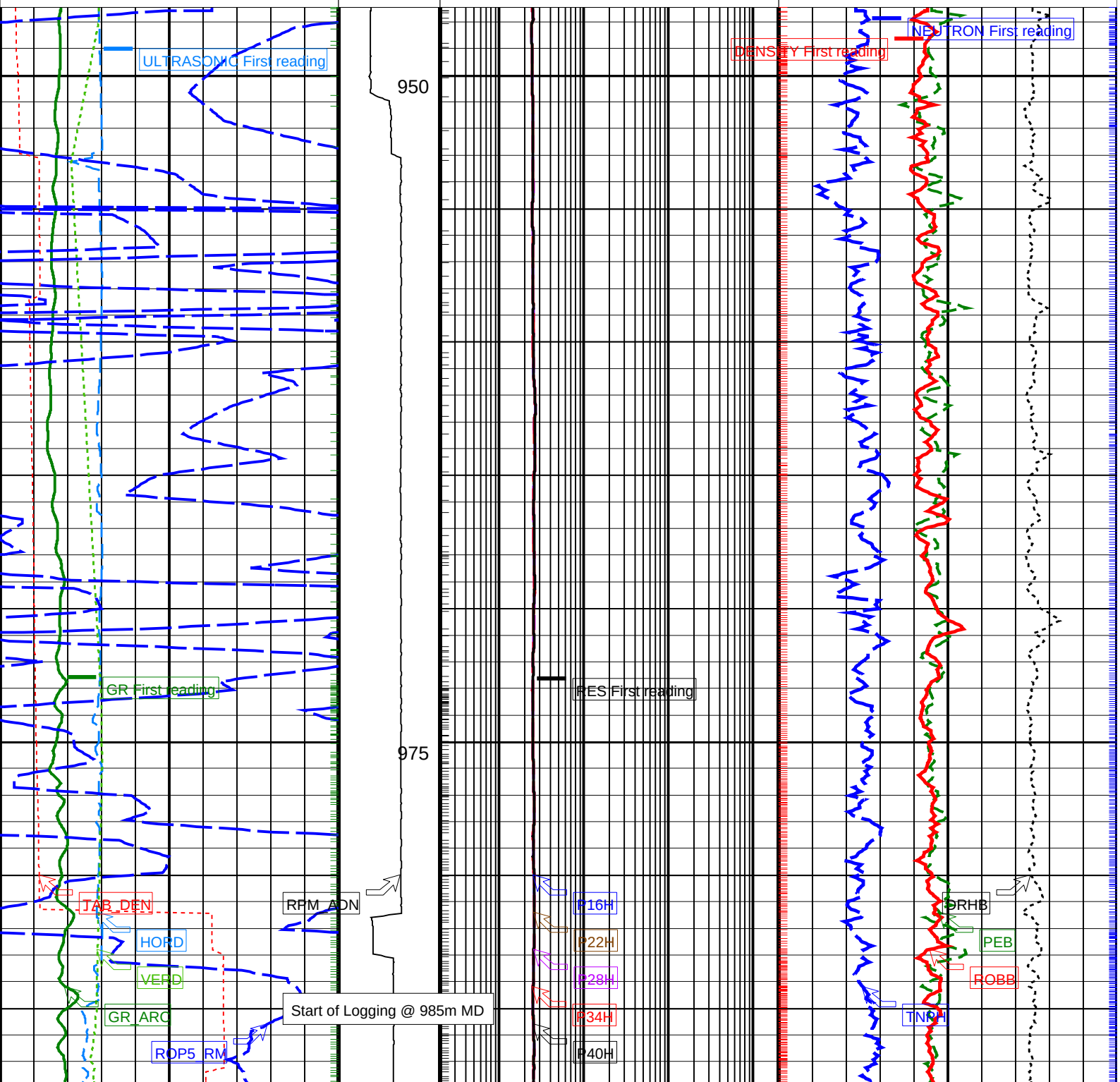
Thermal Neutron Porosity (TNPH)
45 (PU) −15

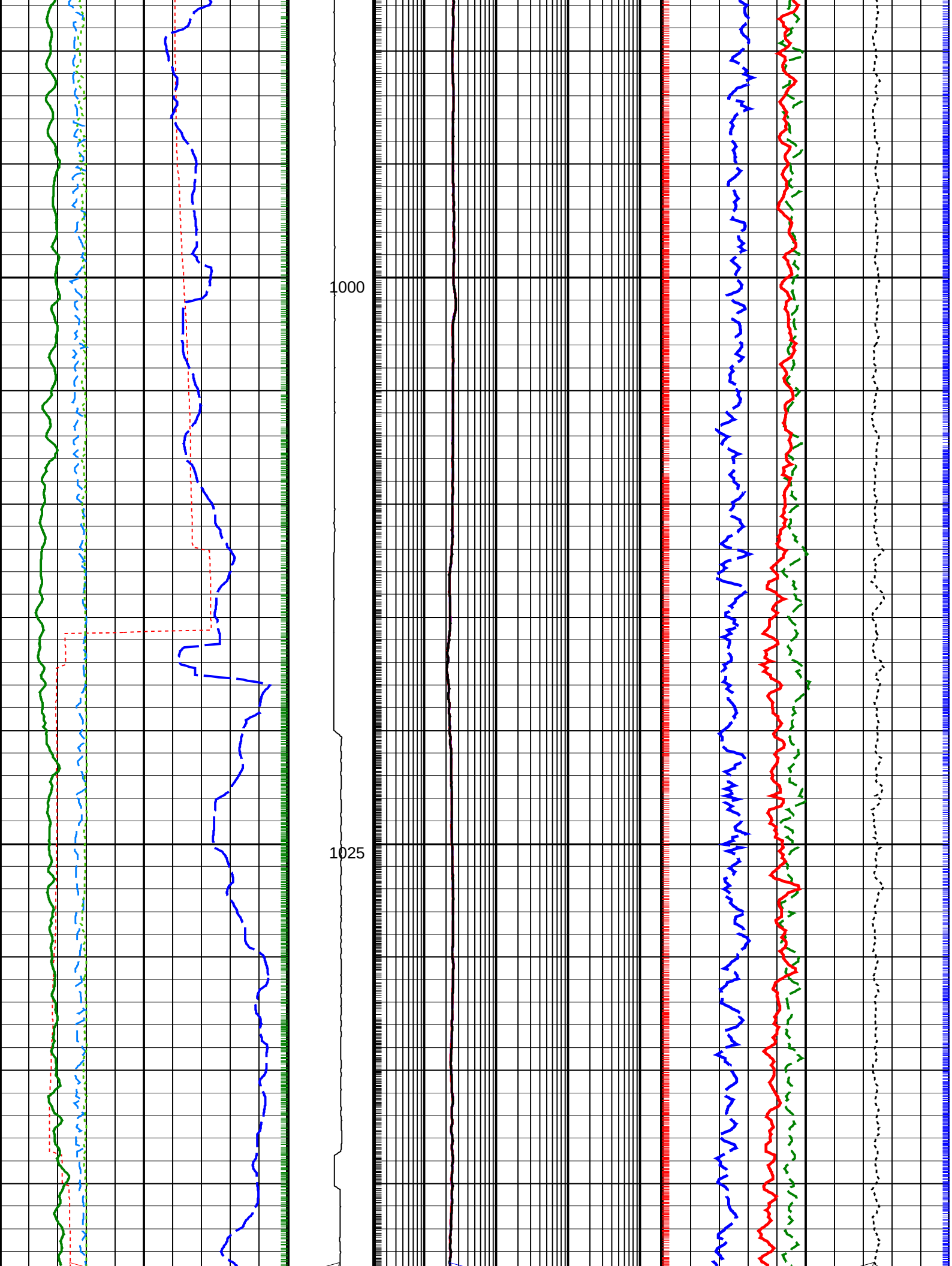
Bulk Density, Bottom (ROBB)
1.85 (G/C3) 2.85

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

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

ADN Rotational Speed (RPM_ADN) (RPM)
0 250

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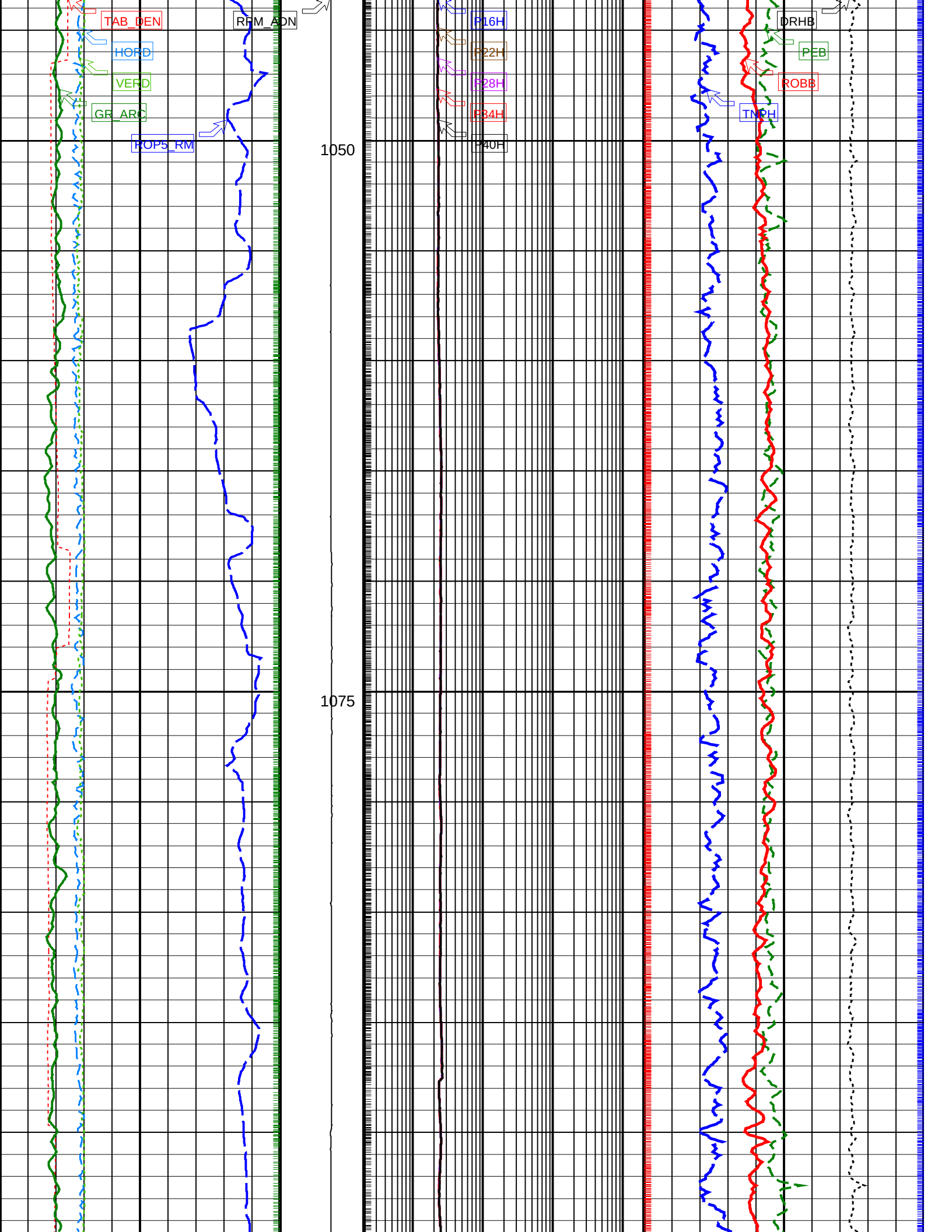
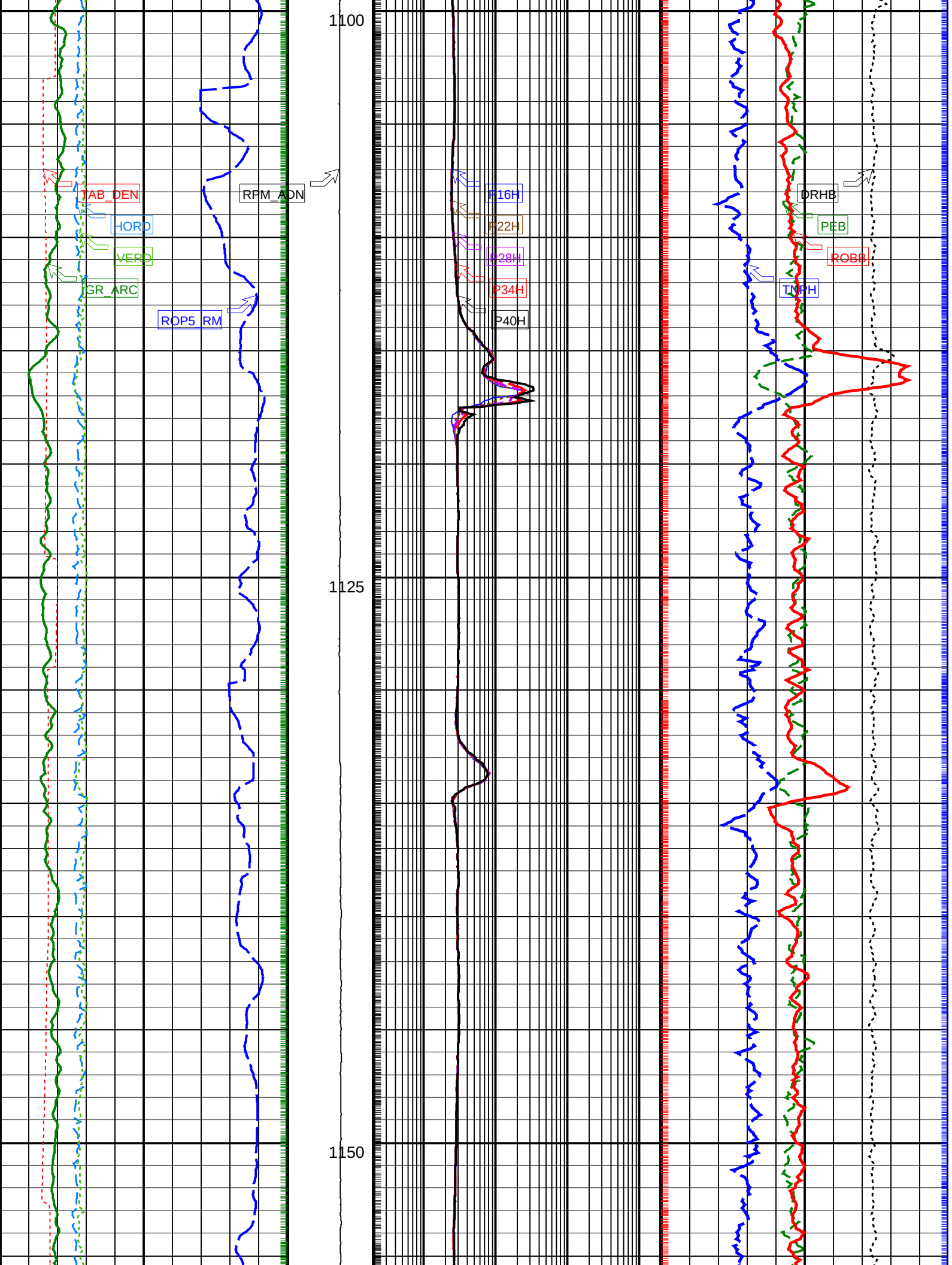

TAB_DEN
HORD
VERD
GR_ARC
ROP5_RM
RPM_ADN
P16H
P22H
P28H
P34H
P40H
DRHB
PEB
ROBB
TNPH
1050
1075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VERD
GR_ARC
RPM_AON
ROP5_RM
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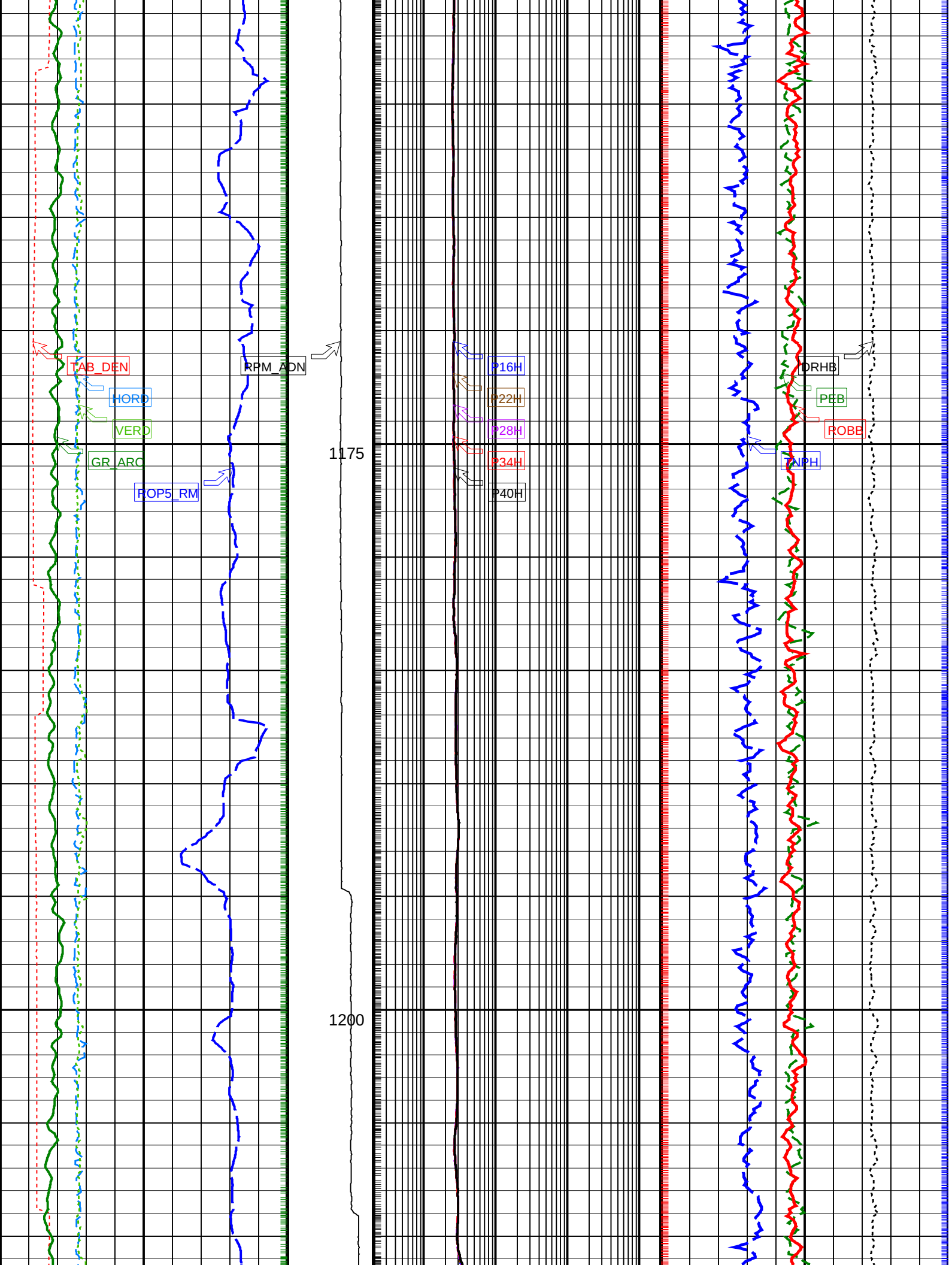
P28H
P34H
P40H
DRHB
PEB
ROBB
TNPH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VERD
GR_ARC
ROP5_RM
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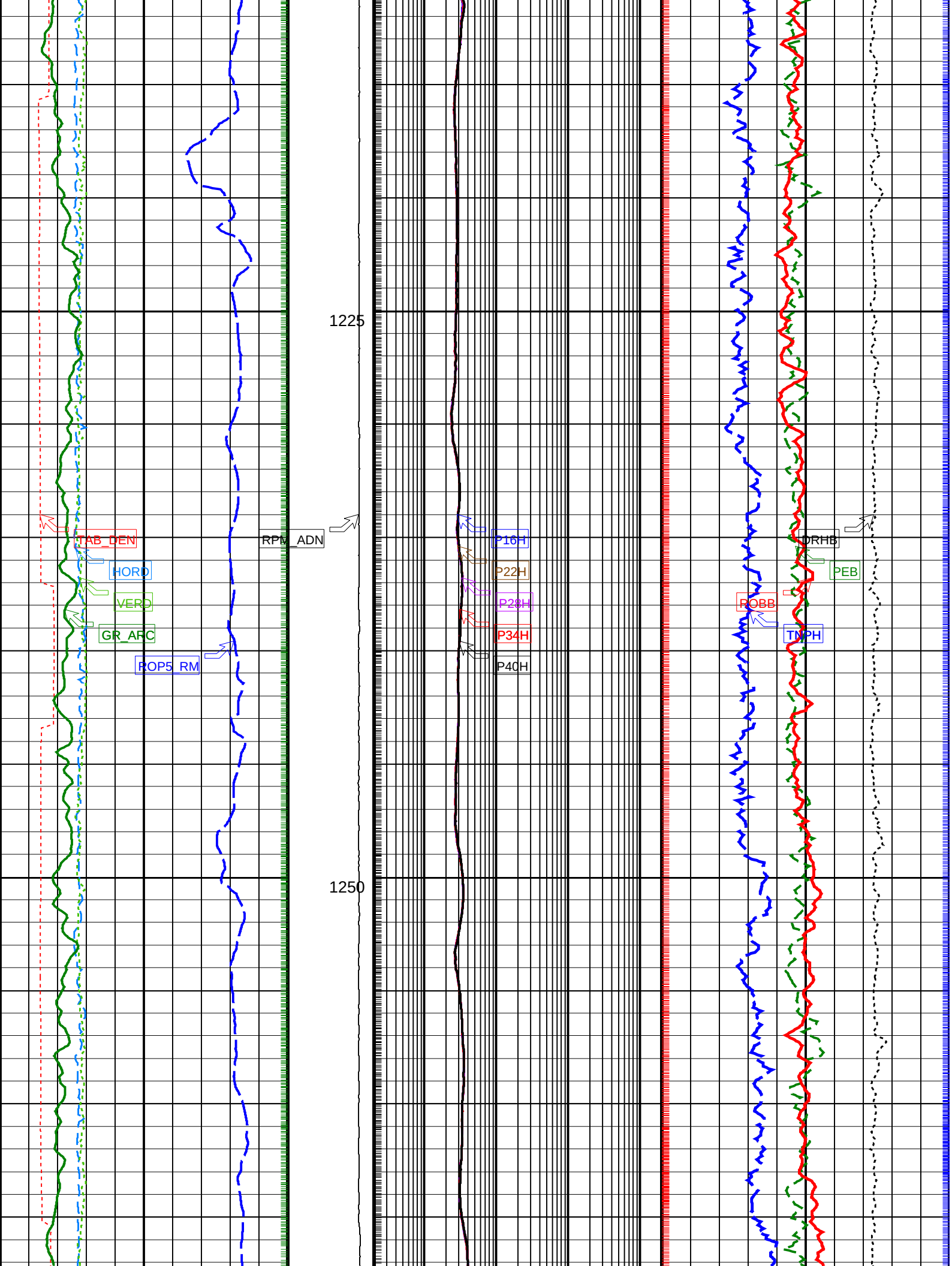
DRHB
PEB
ROBB
TNPH
1175
1200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HORD
VERD
GR_ARC
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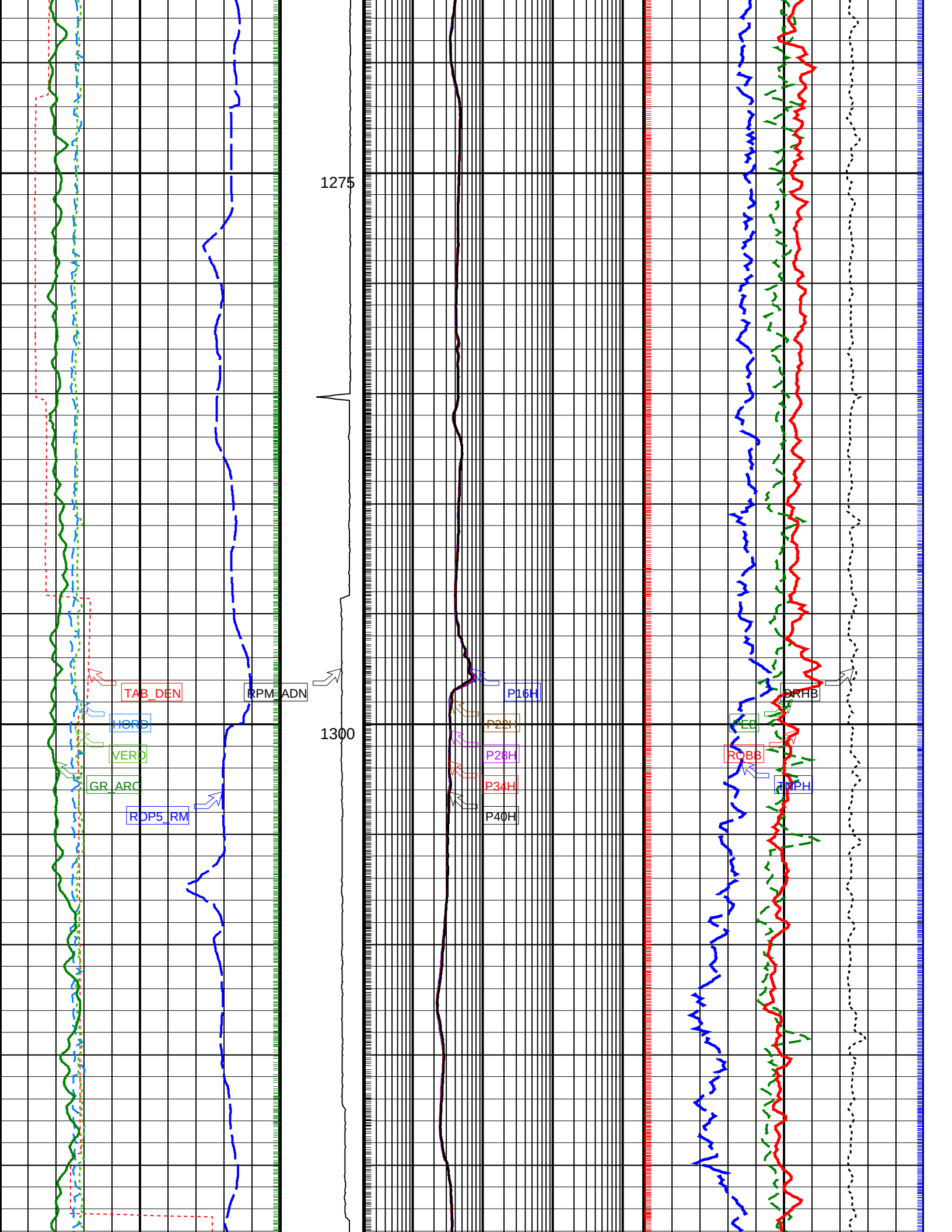
DRHB
PEB
ROBB
TNPH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HORO
VERD
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P22H
P28H
P34H
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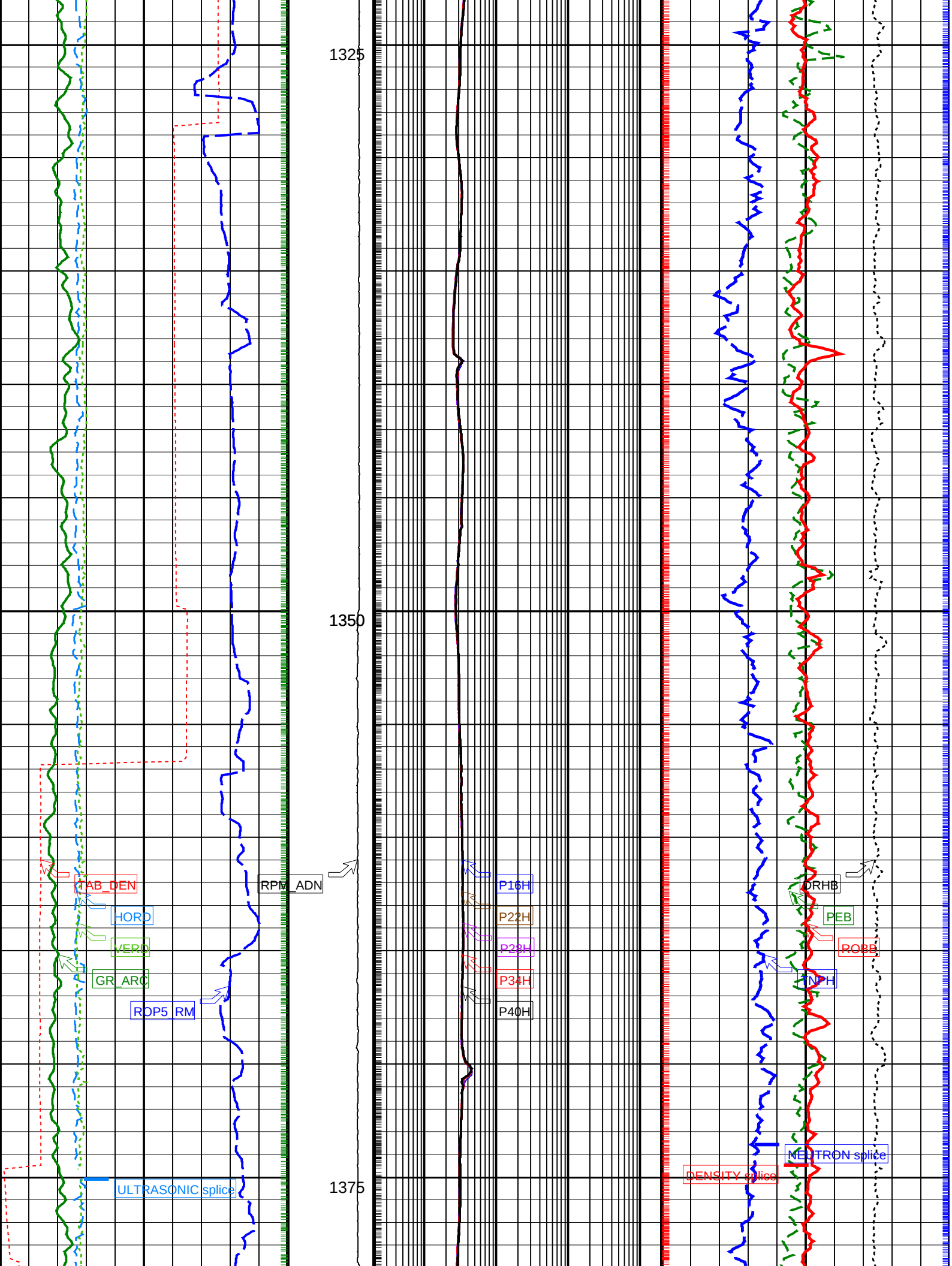
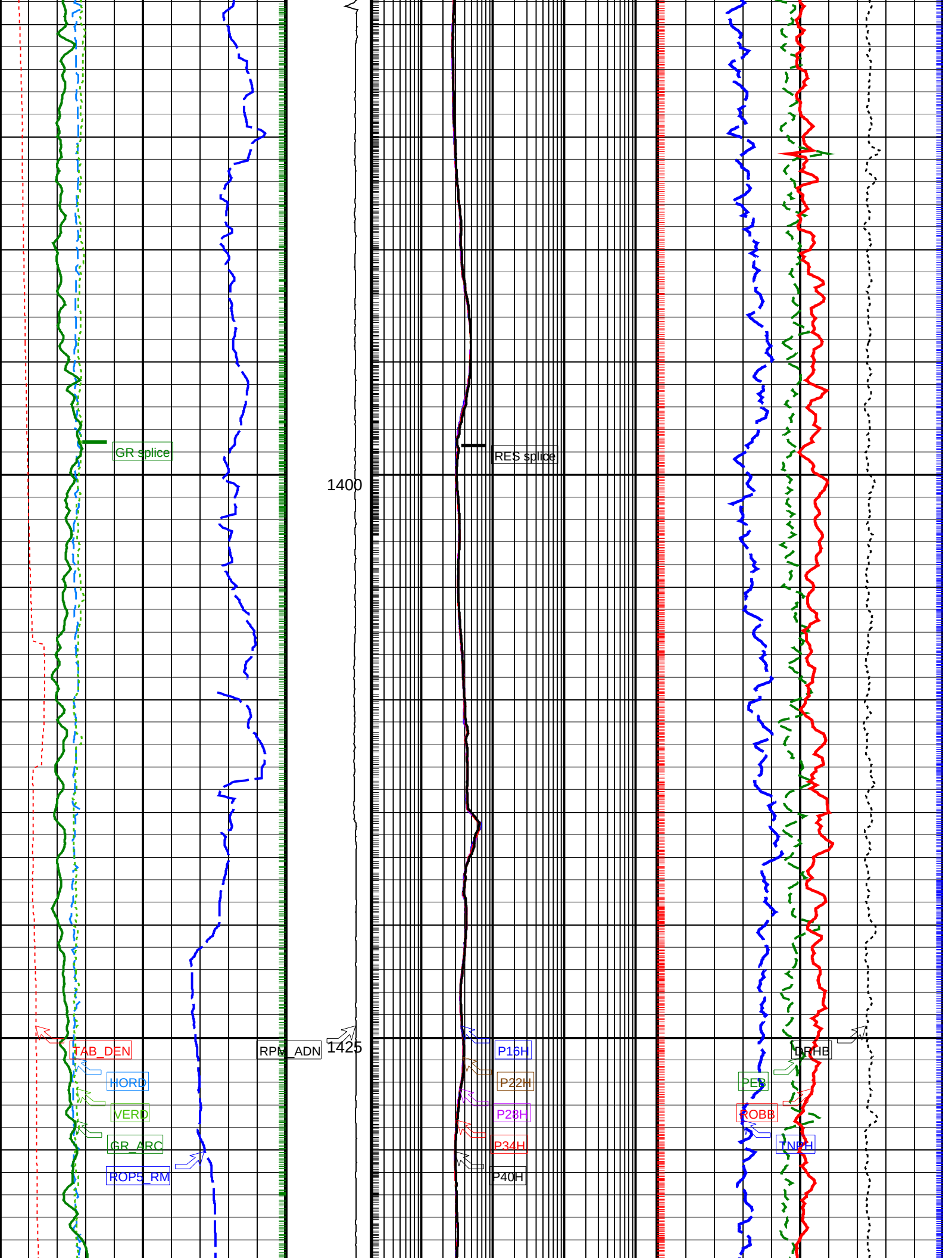
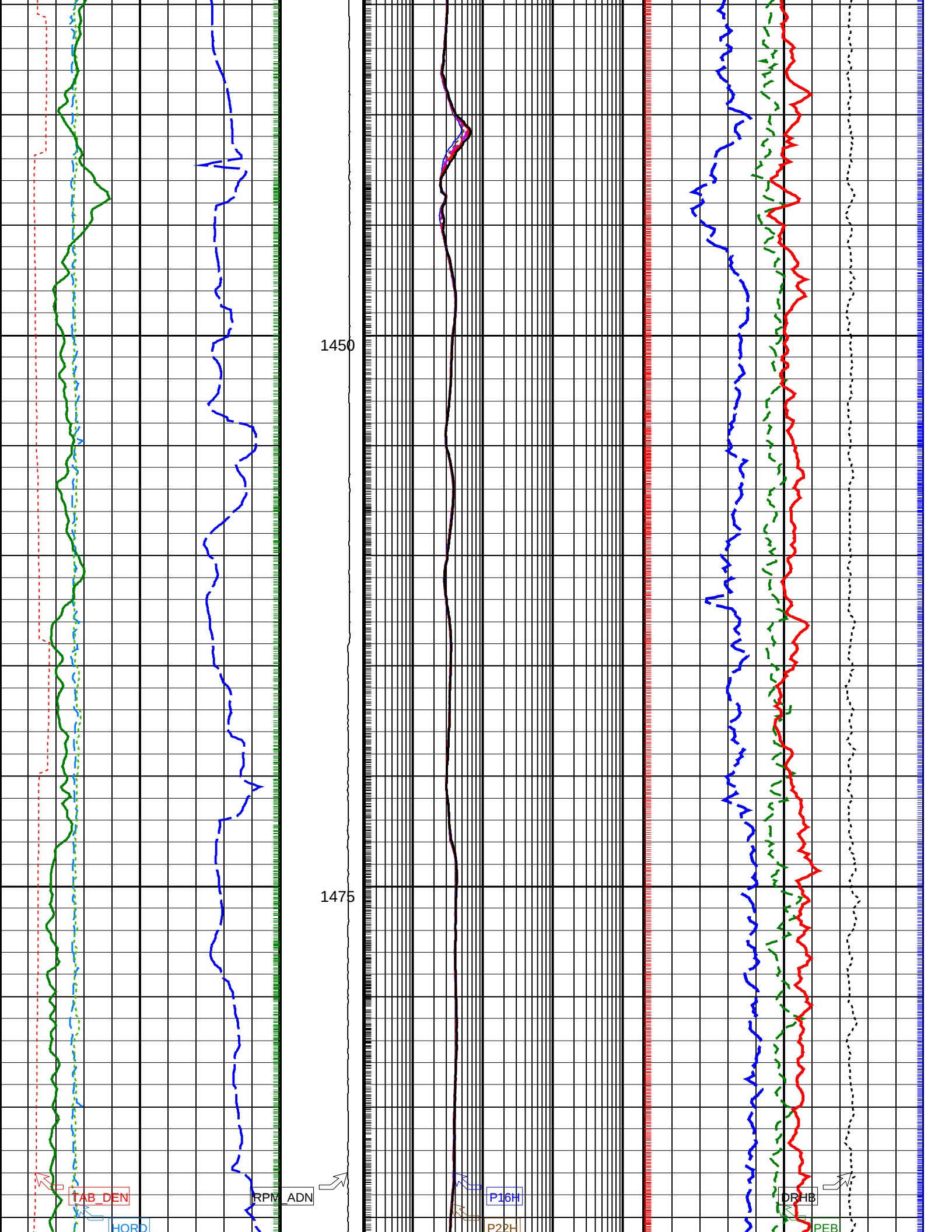
GRHB
PEB
ROBB
TNPH


1325
1350
1375
TAB_DEN
HORD
VERD
GR_ARC
ROP5_RM
RPM_ADN
ULTRASONIC splice
P16H
P22H
P28H
P34H
P40H
DRHB
PEB
ROBB
TNPH
NEUTRON splice
DENSITY splice


GR splice
RES splice
1400
1425
TAB_DEN
HORD
VERD
GR_ARC
ROP5_RM
RPM_ADN
P16H
P22H
P28H
P34H
P40H
DRHB
PEB
ROBB
TNPH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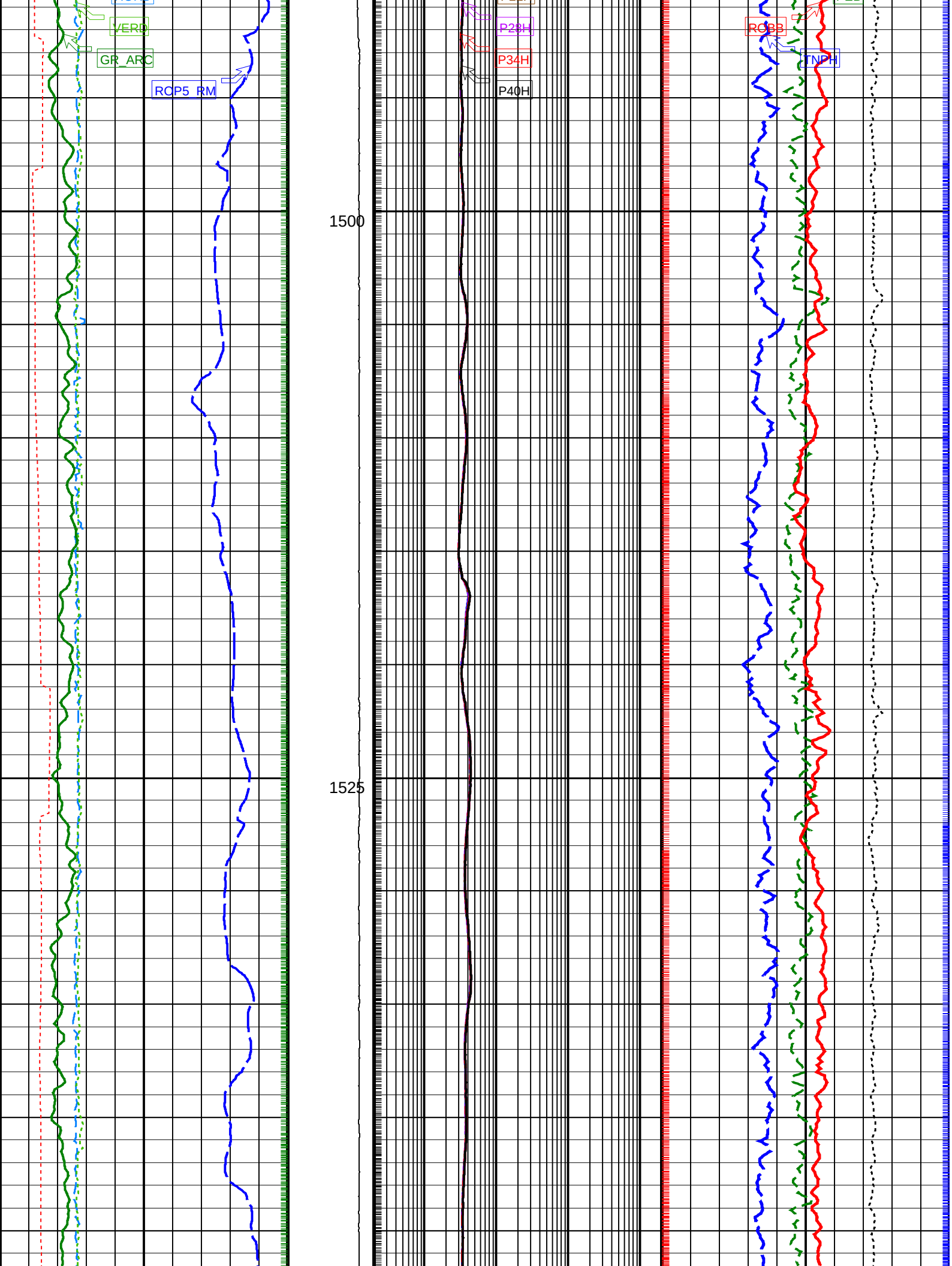
1475
TAB_DEN
HORD
RPM_ADN
P16H
P22H
DRHB
PEB


VERD
GR_ARC
ROP5_RM
P28H
P34H
P40H
ROBB
TNPH
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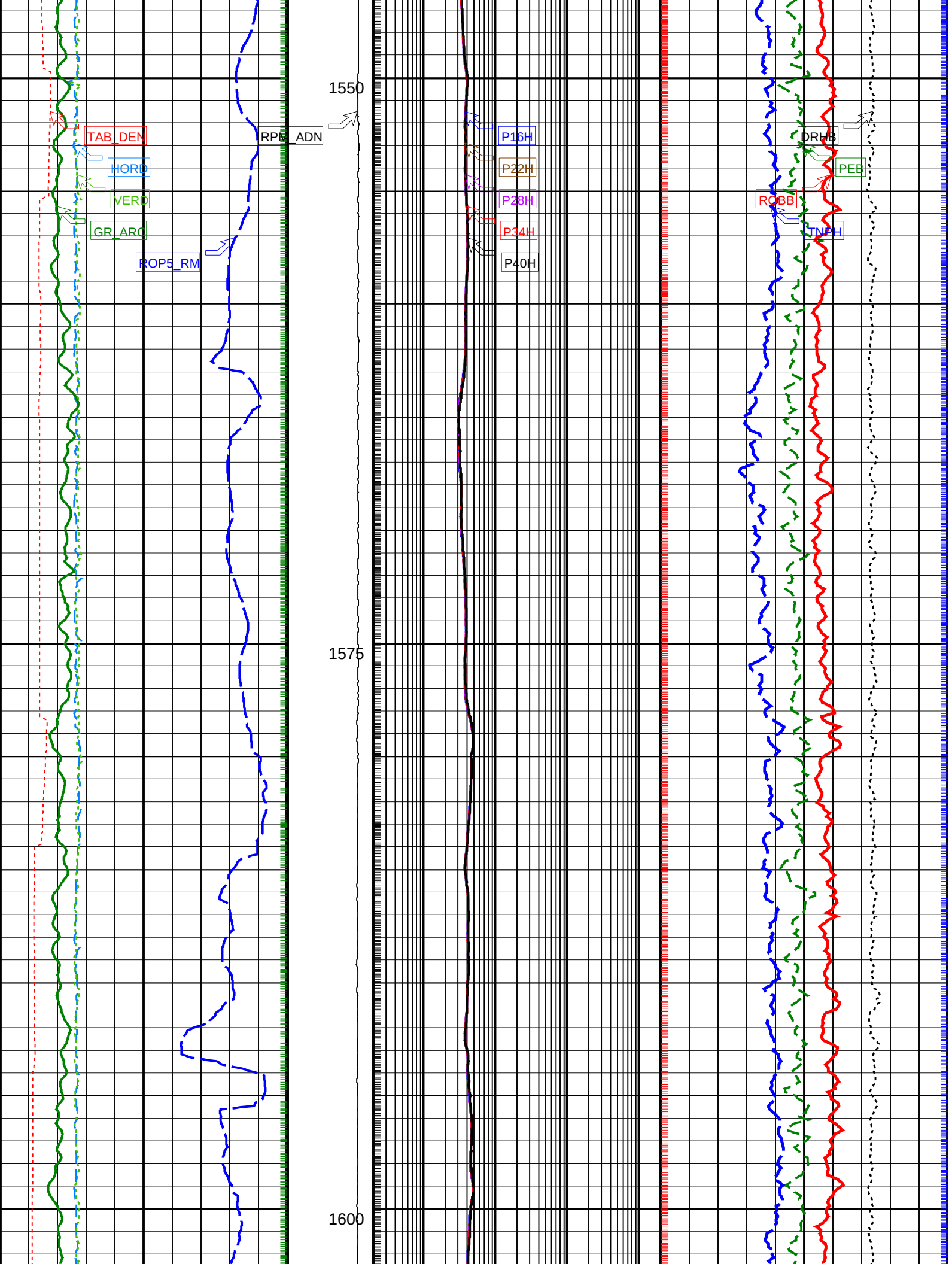
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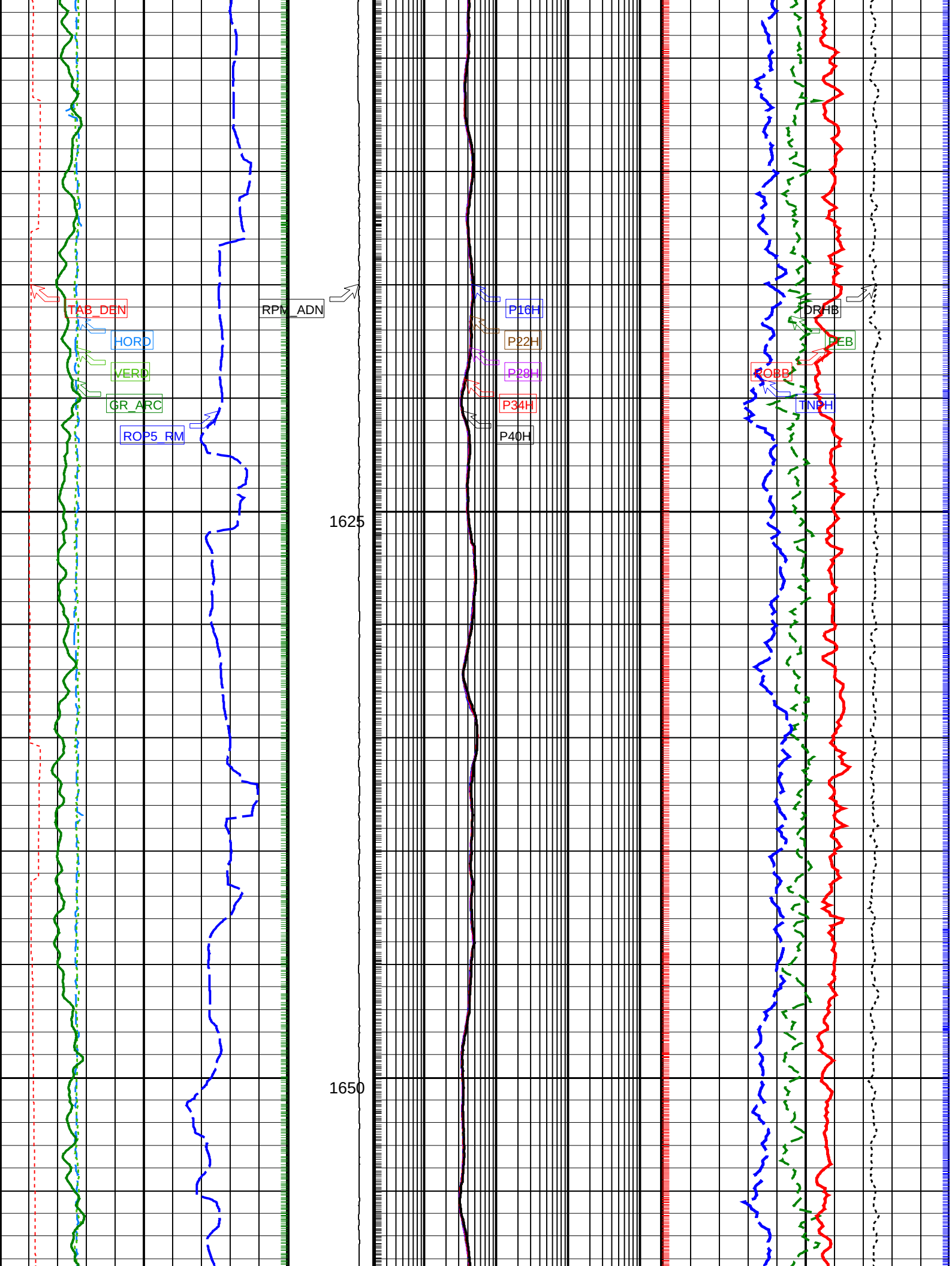
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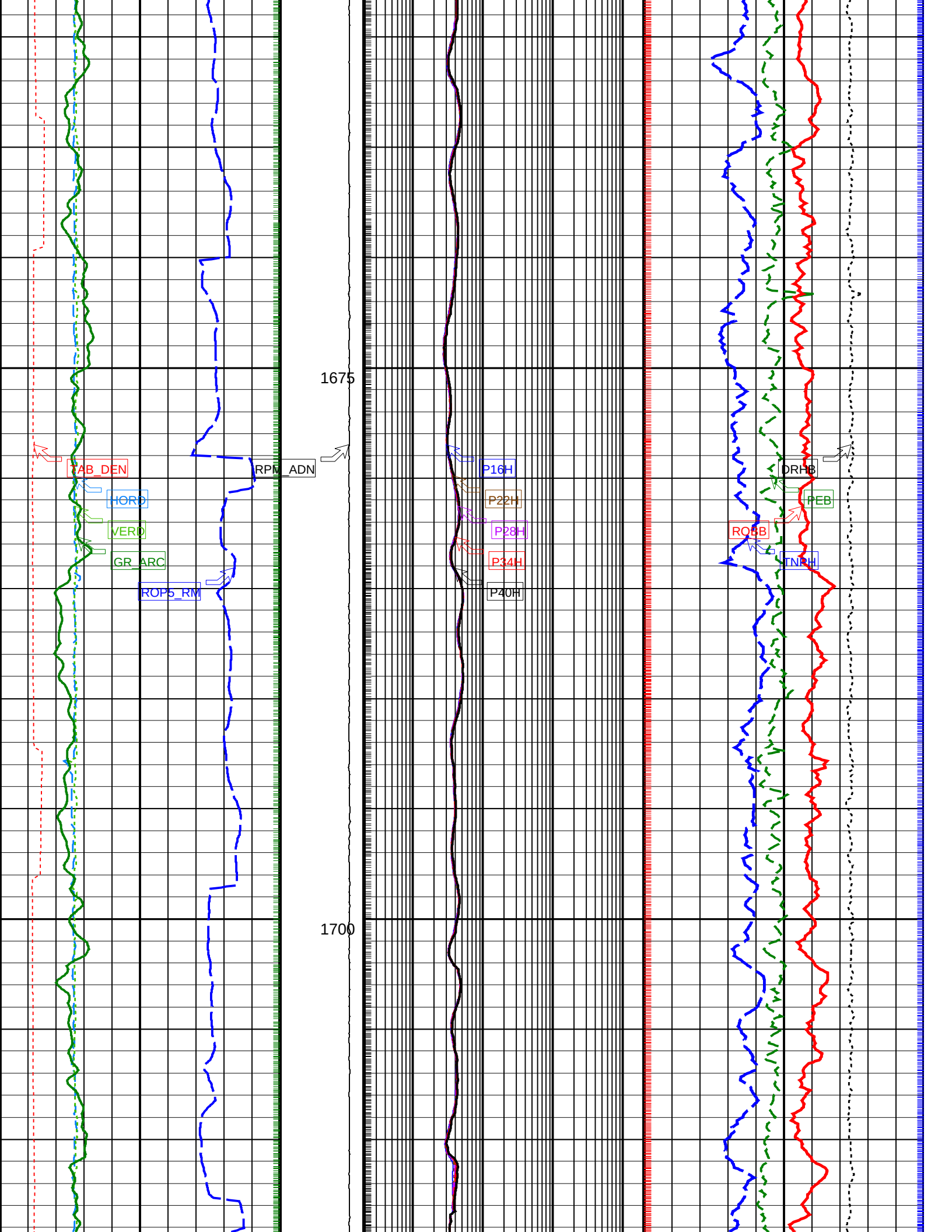
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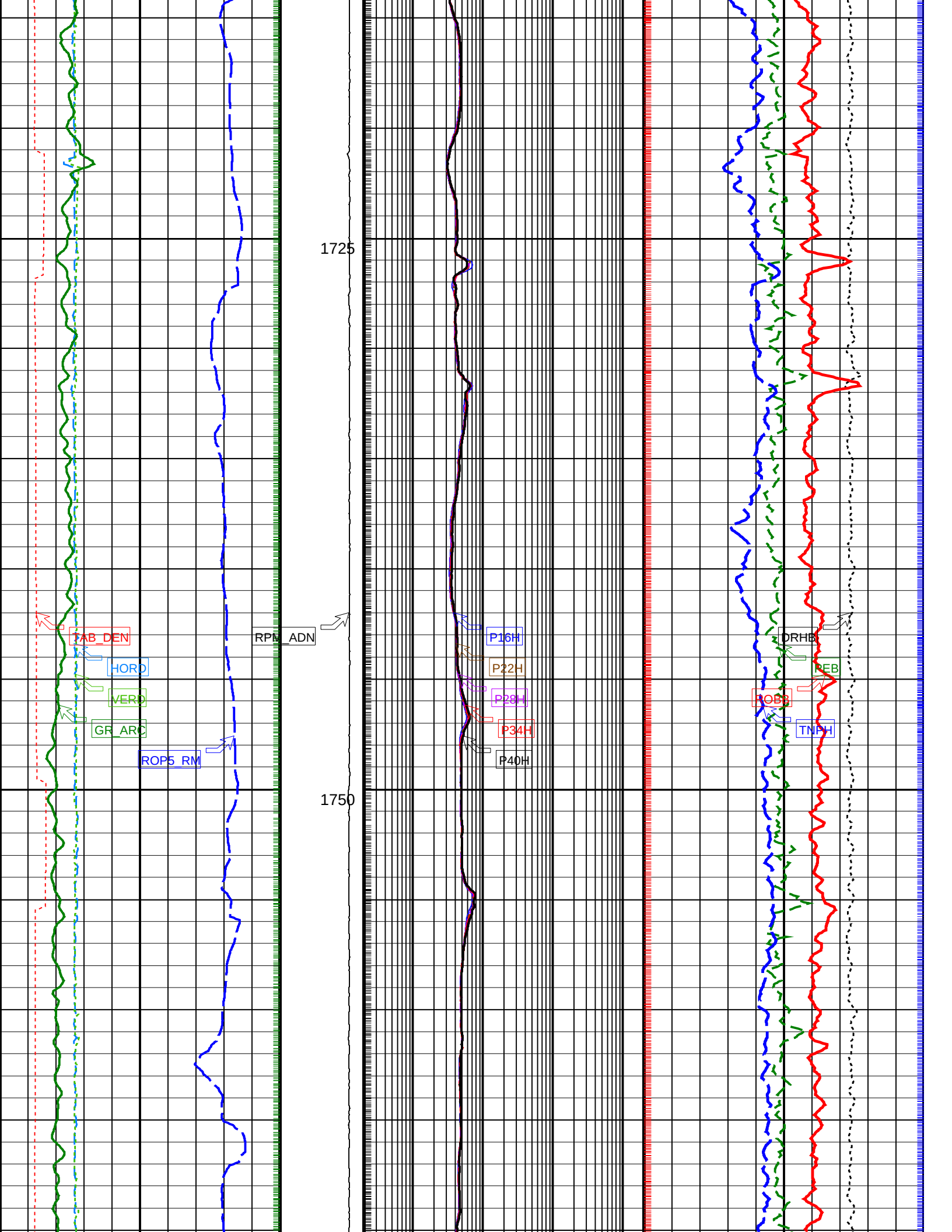
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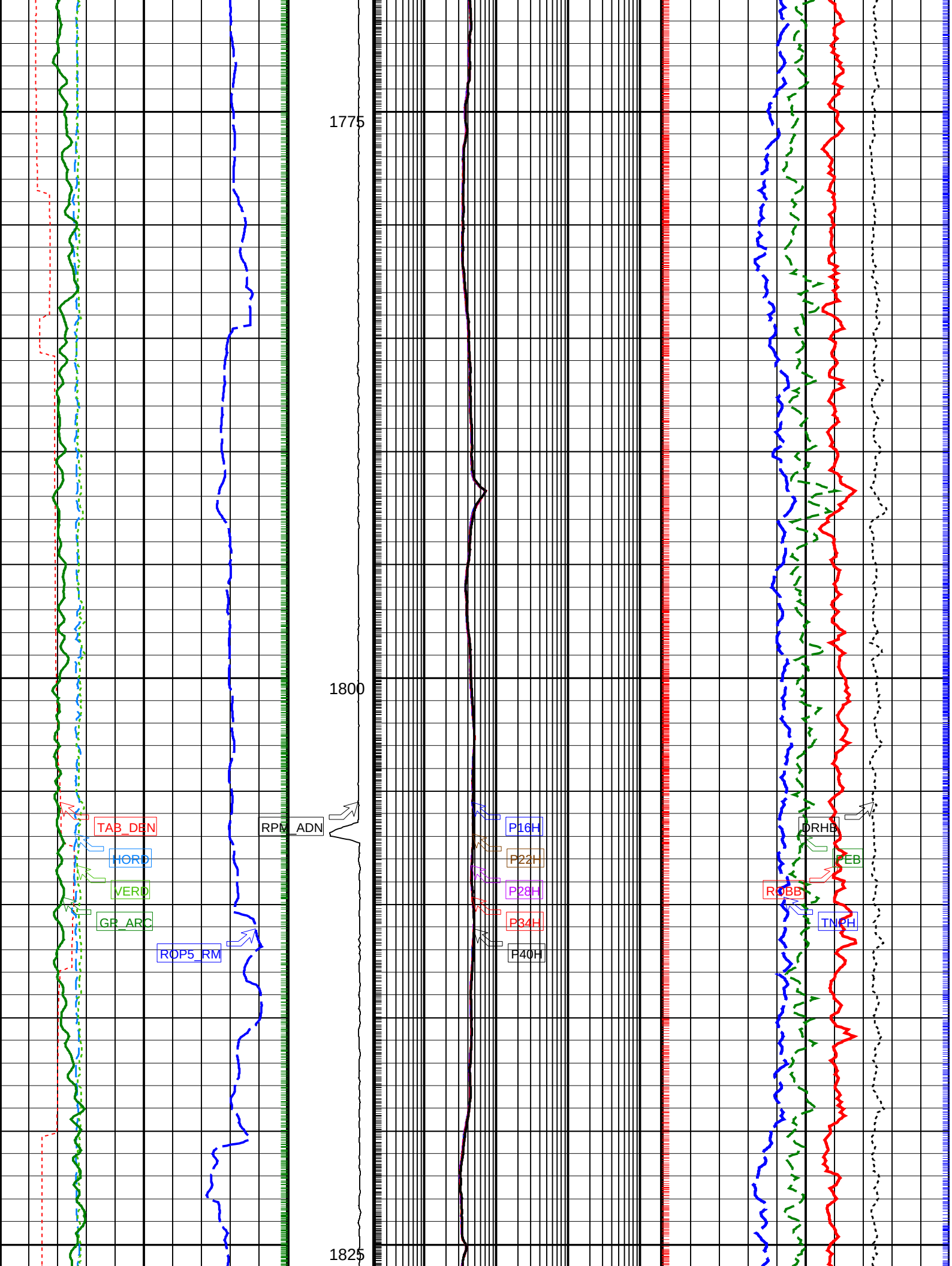
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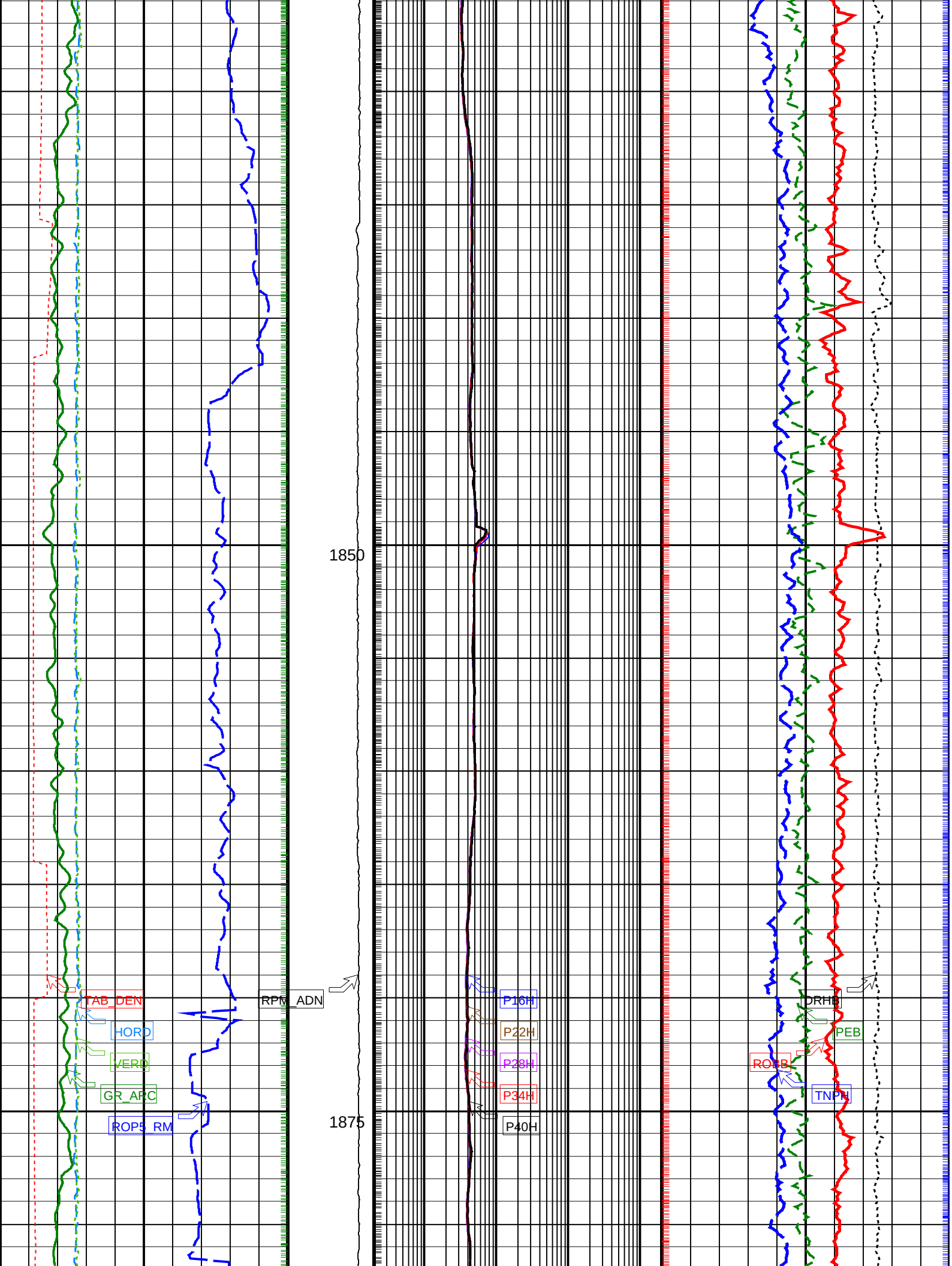
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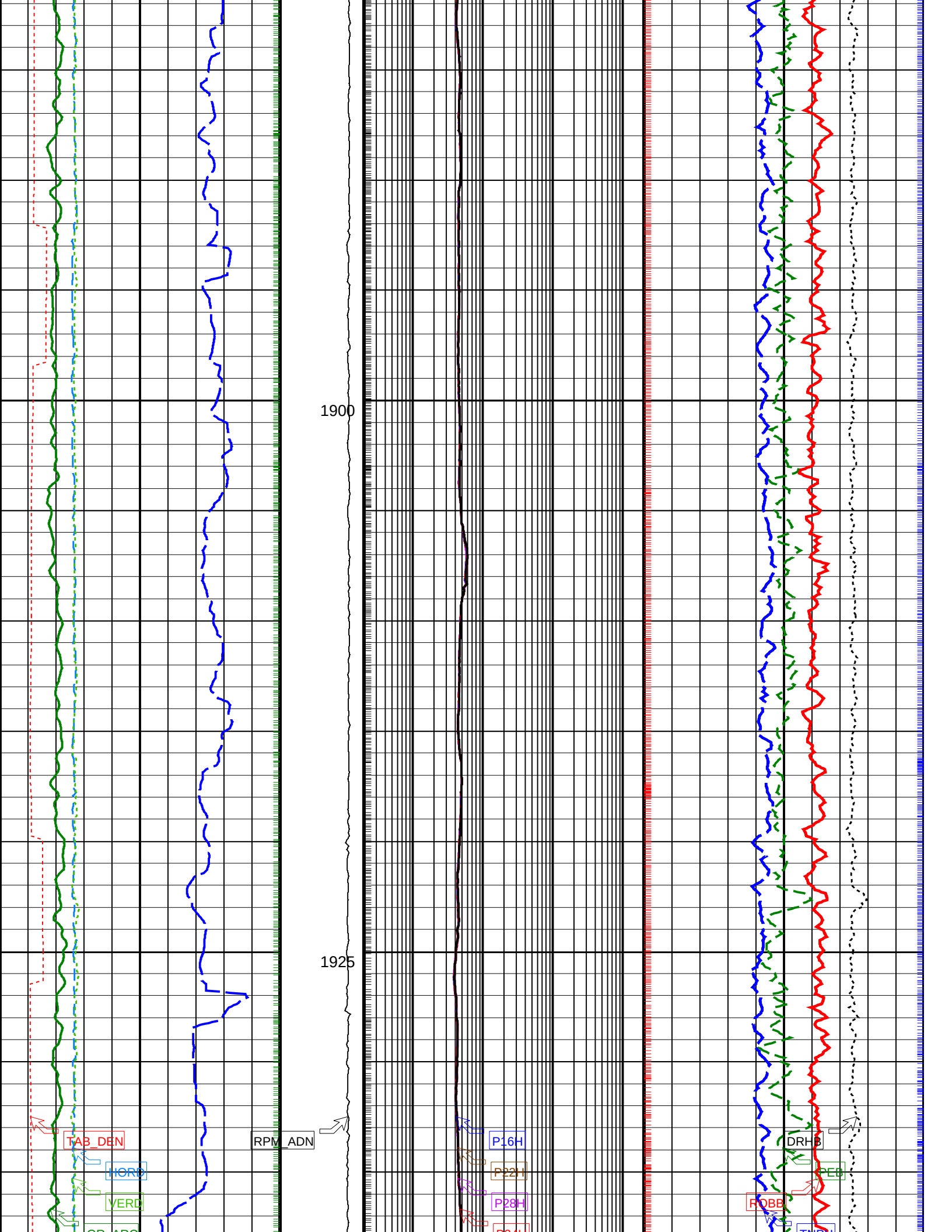
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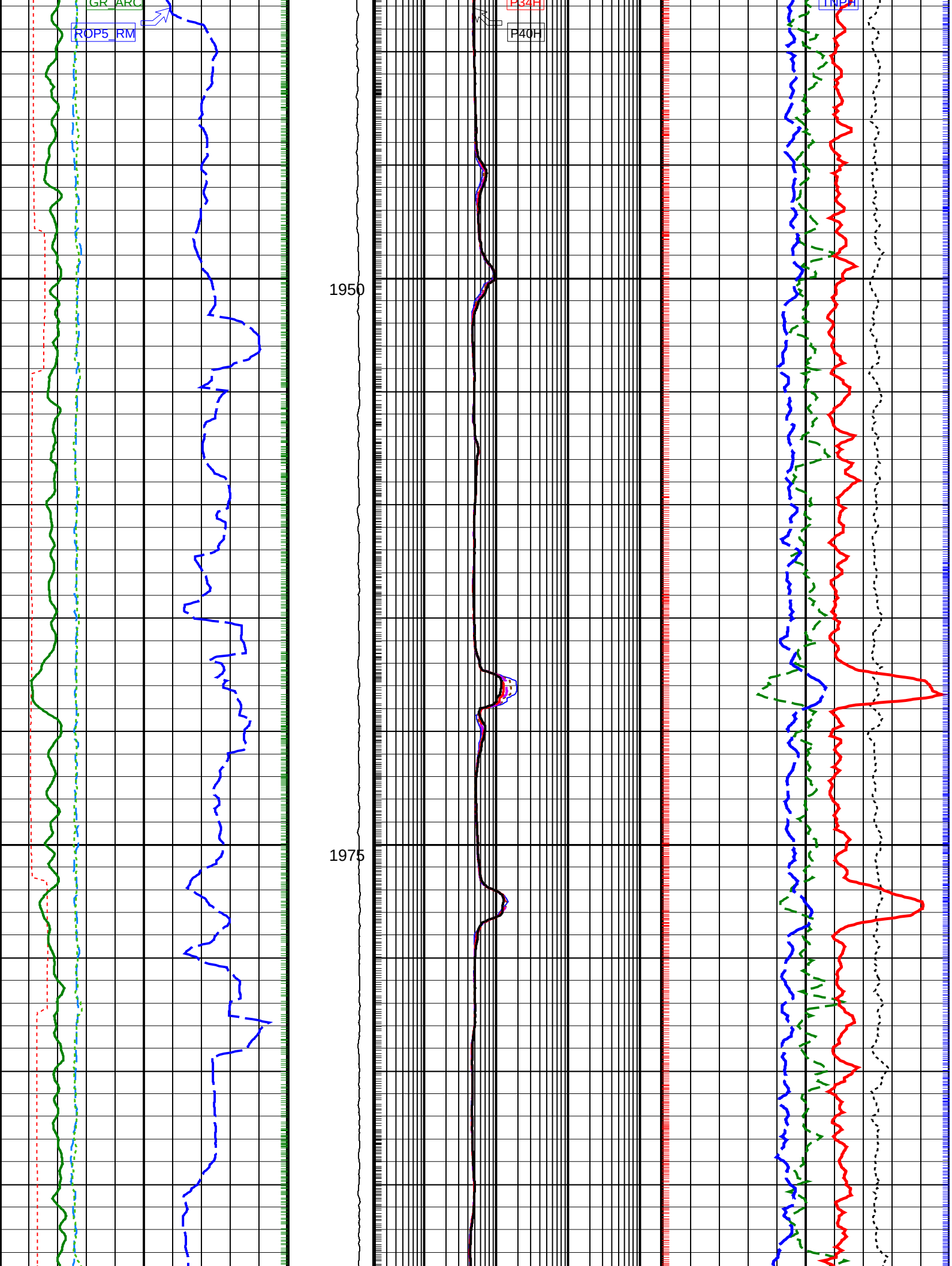
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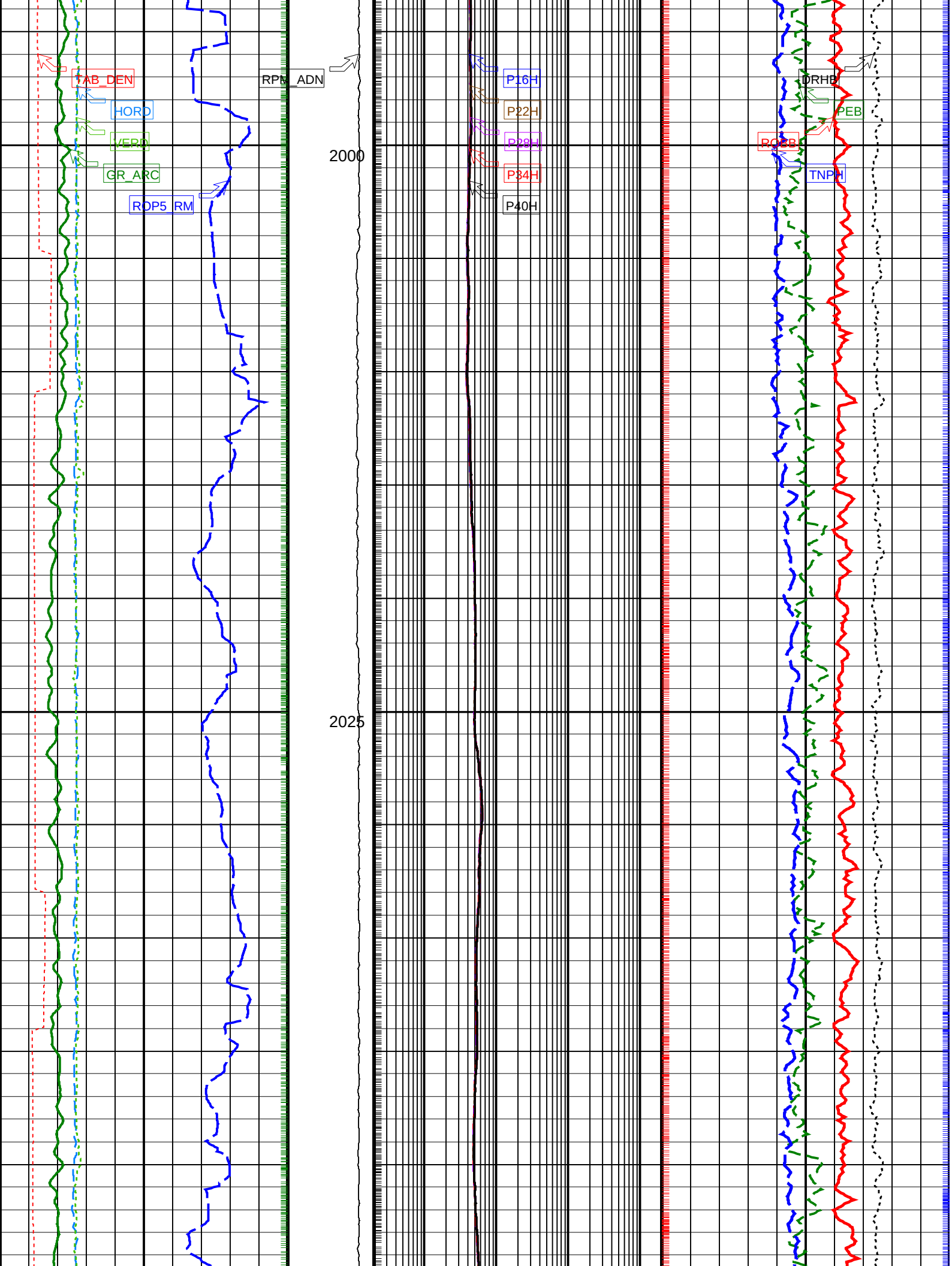
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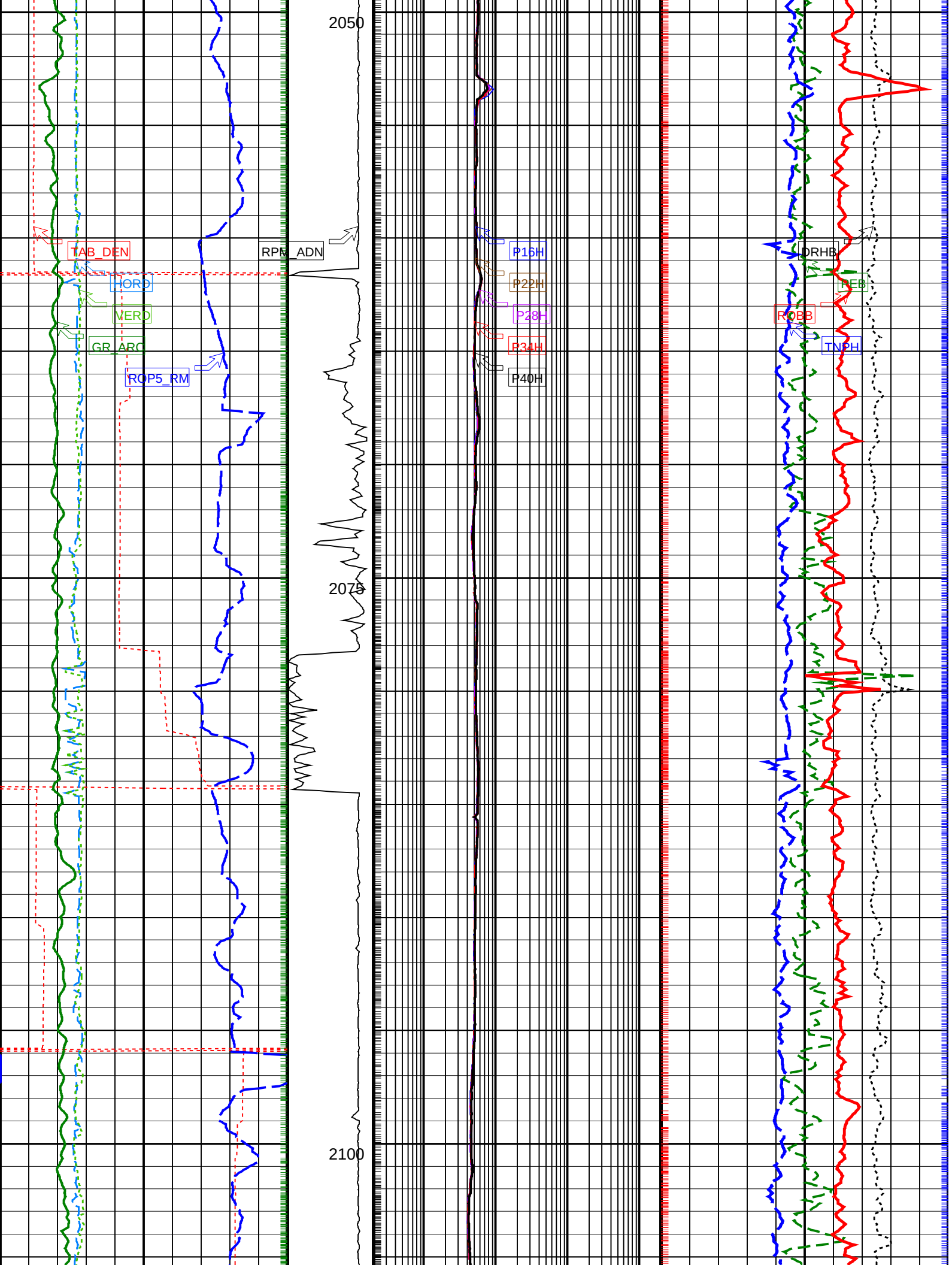
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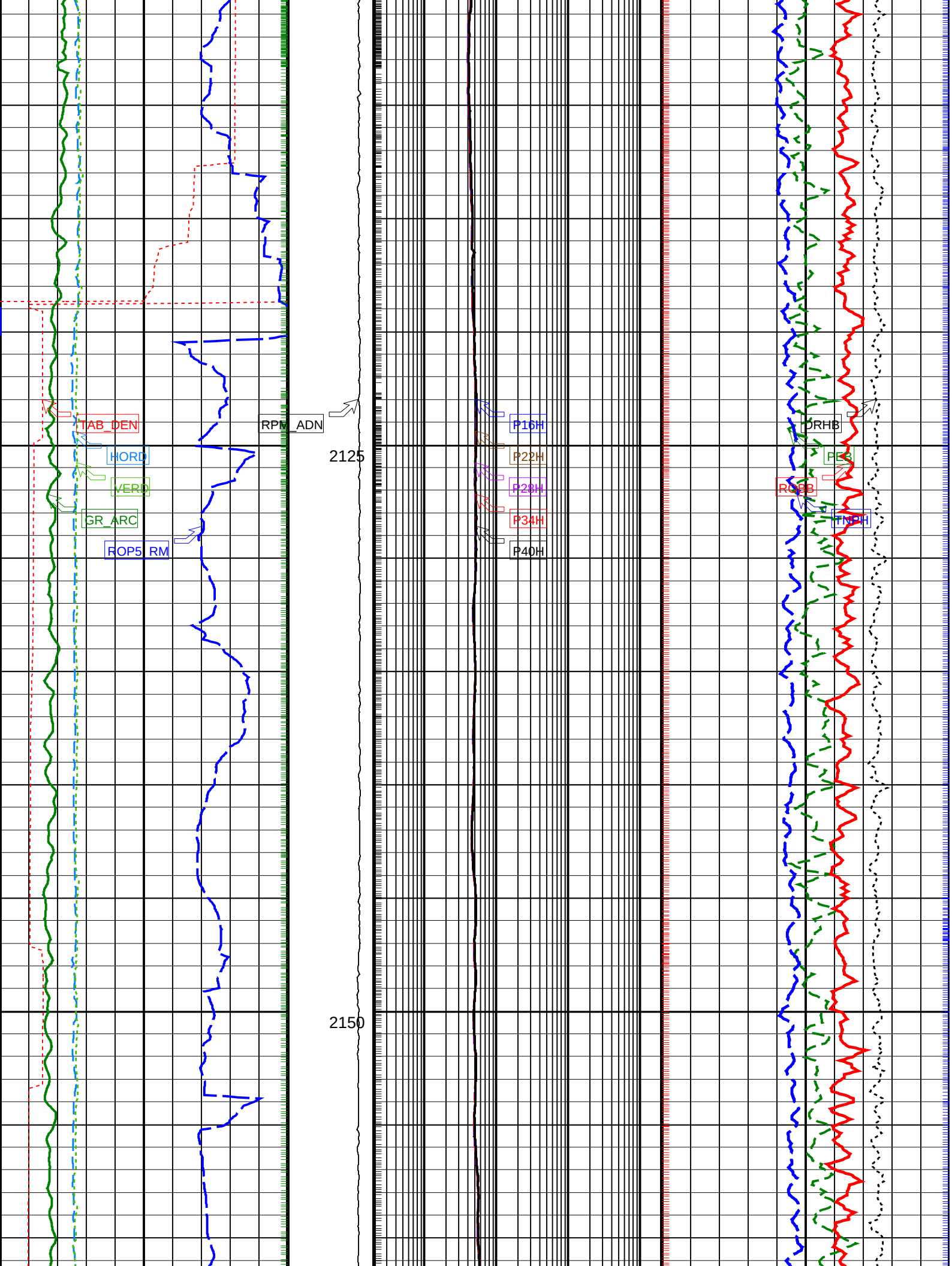
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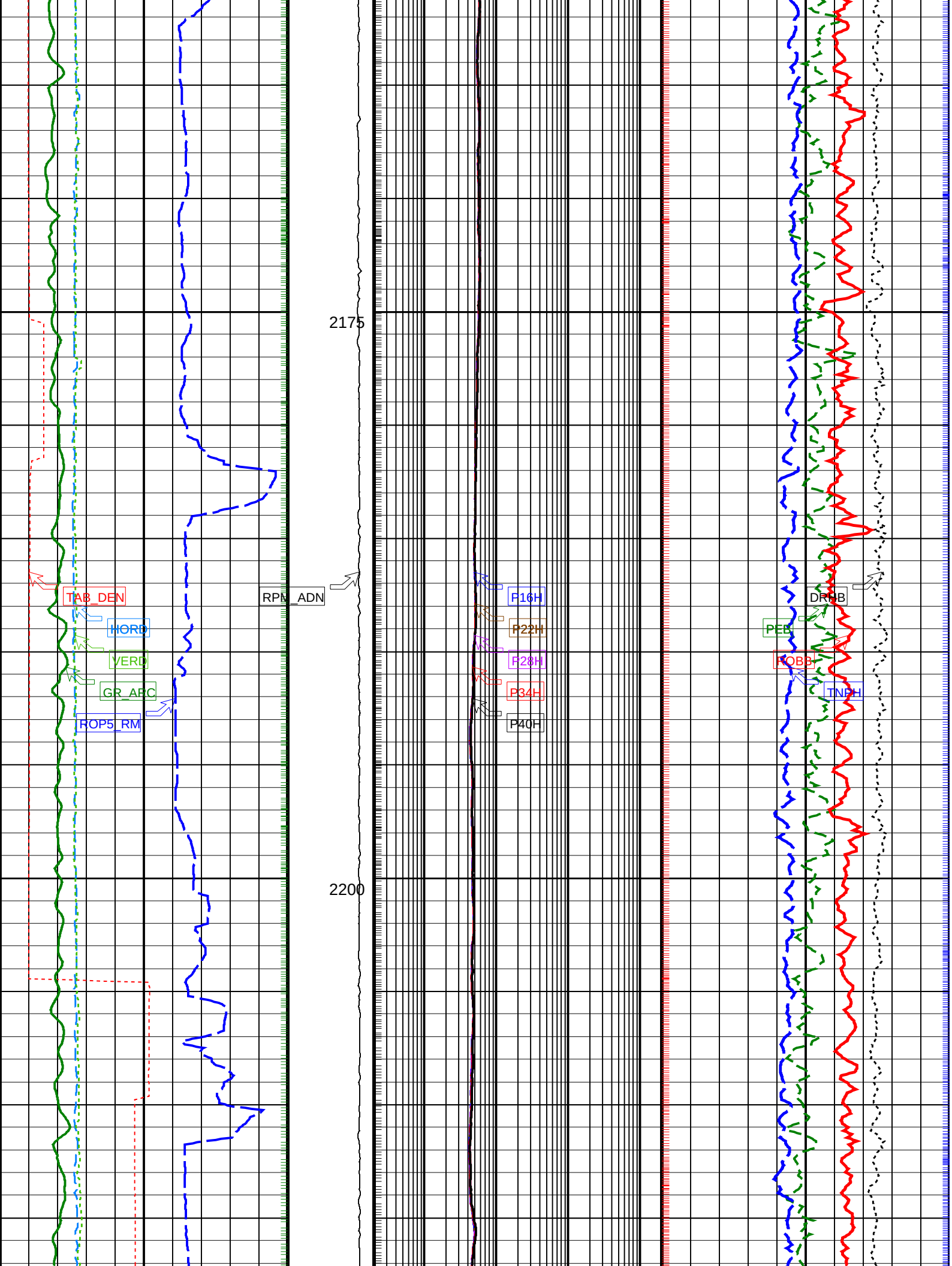
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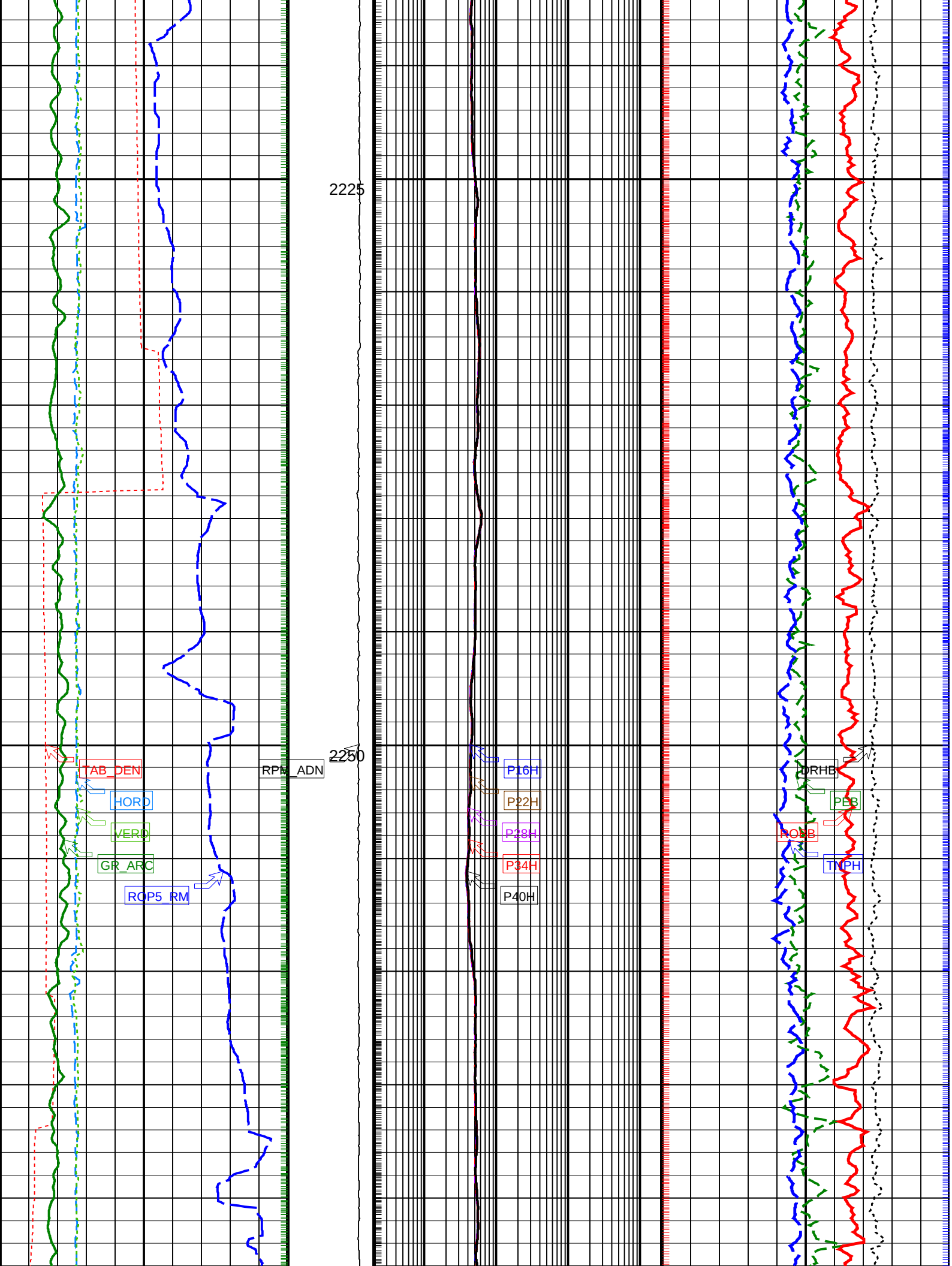
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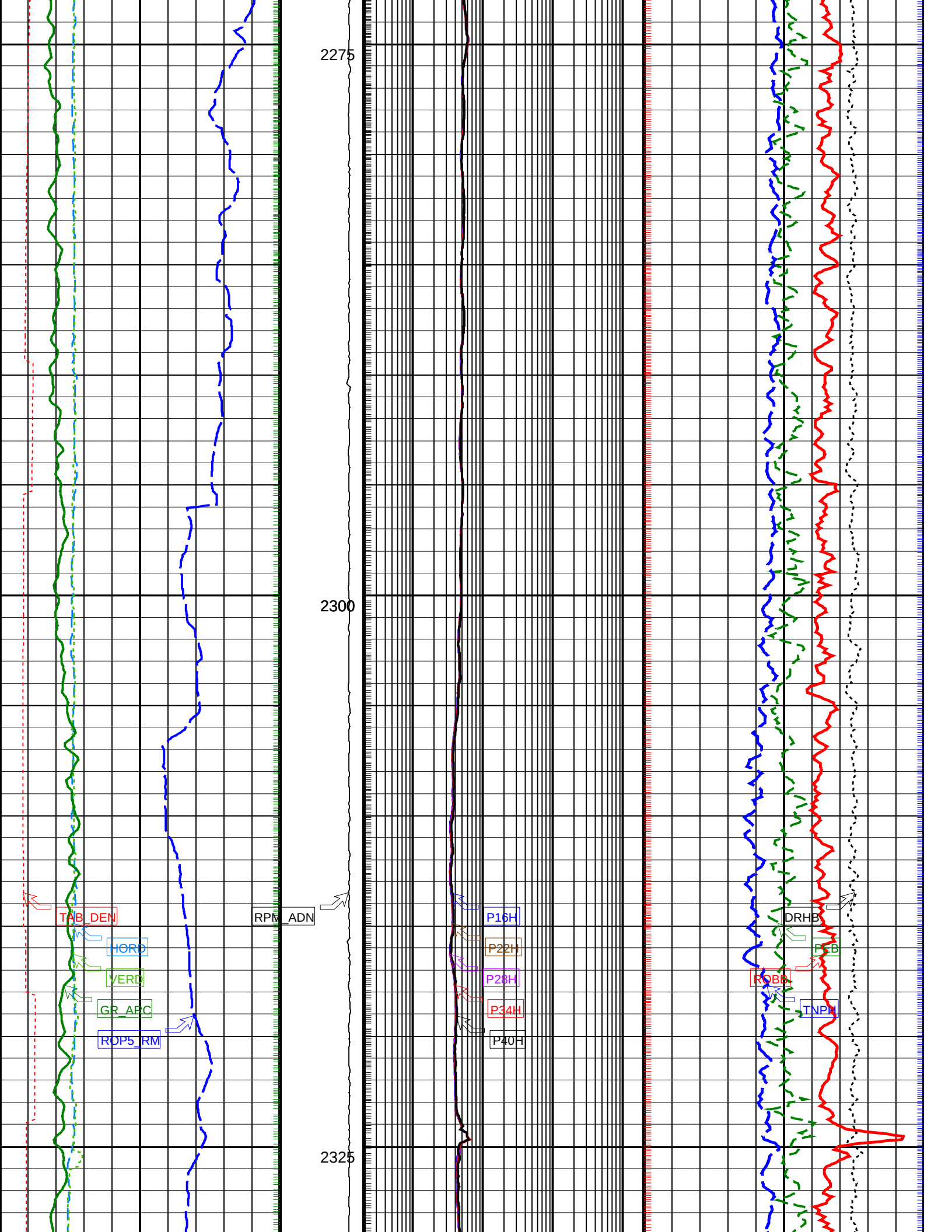
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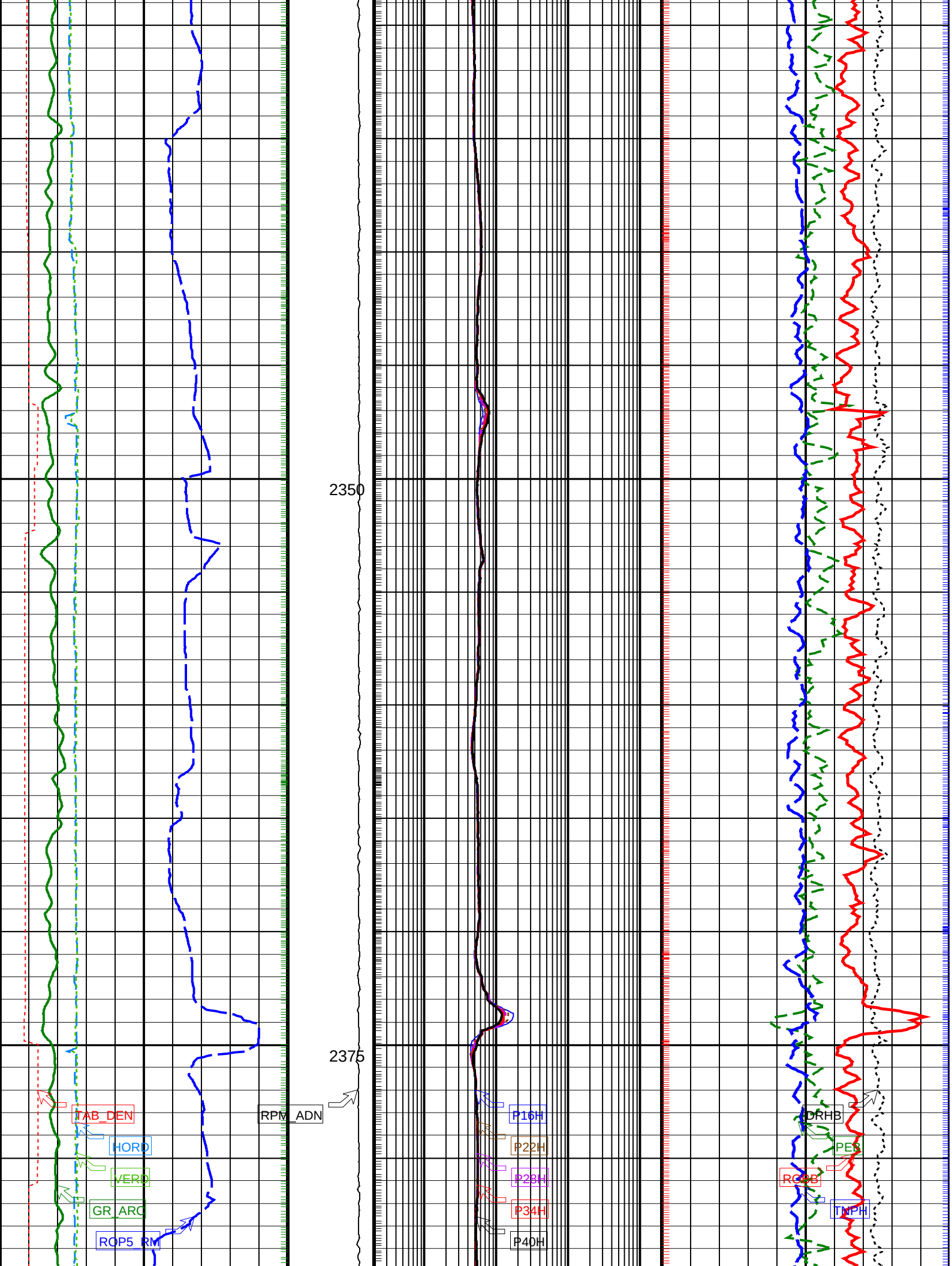
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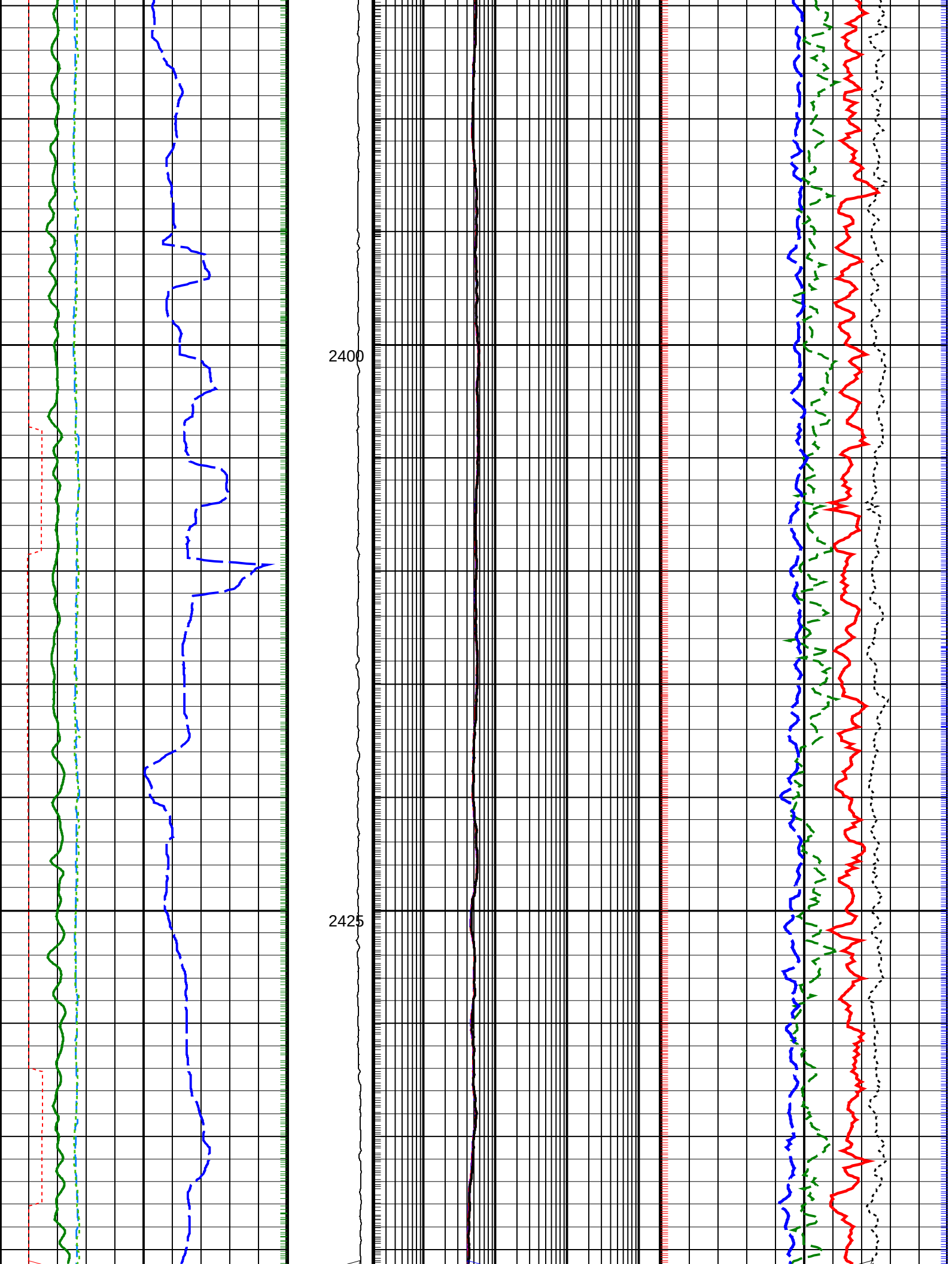
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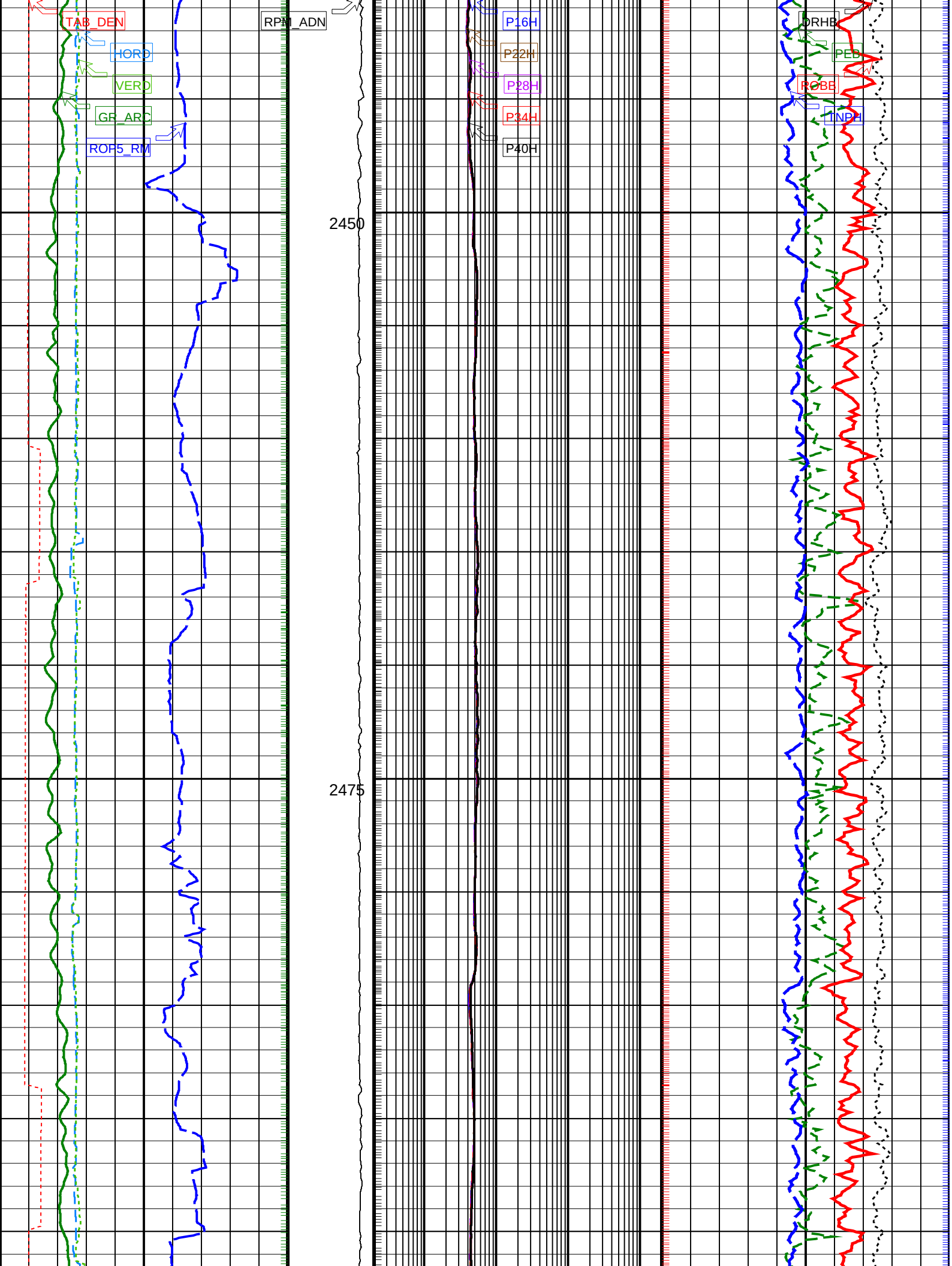
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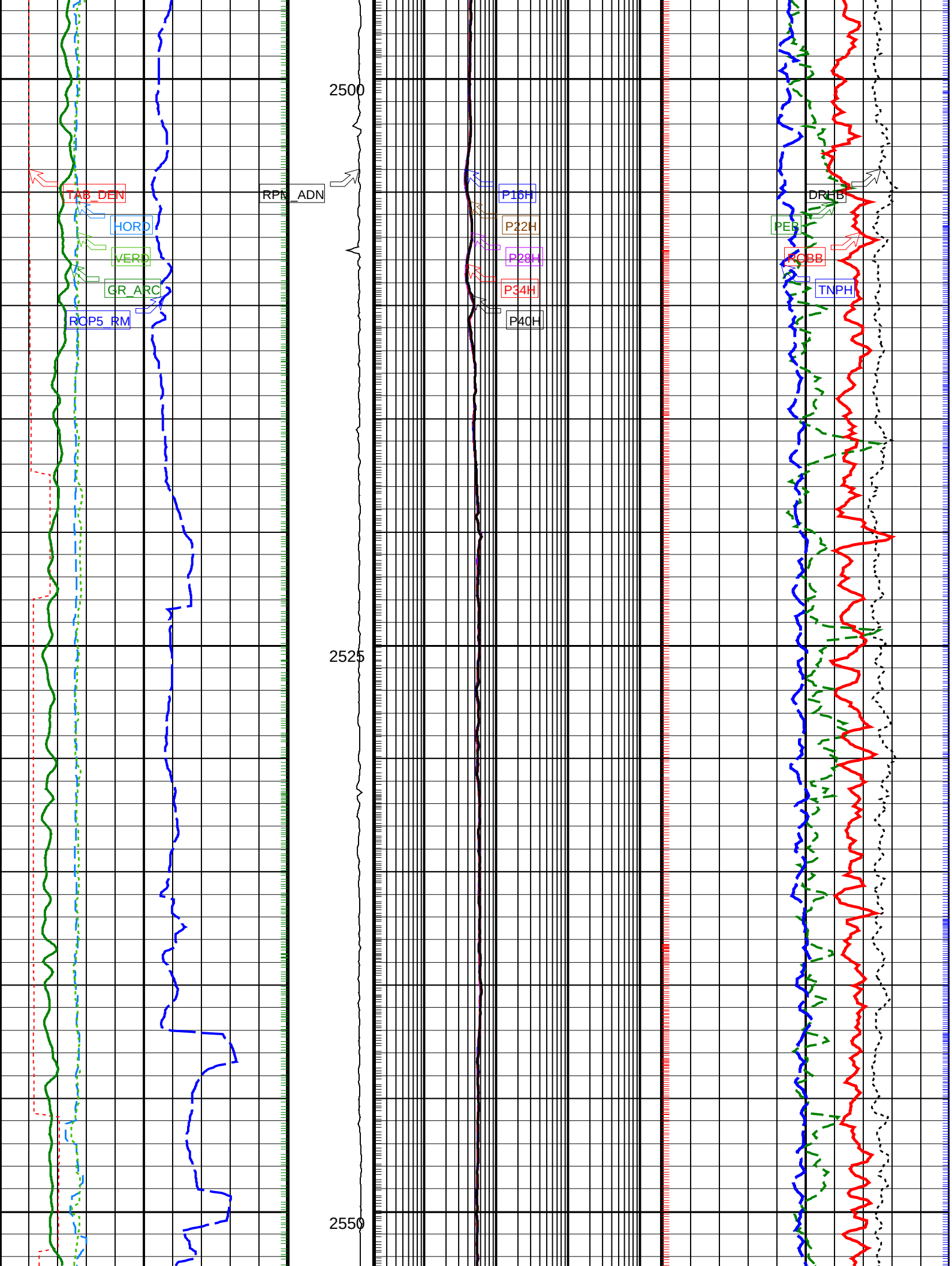
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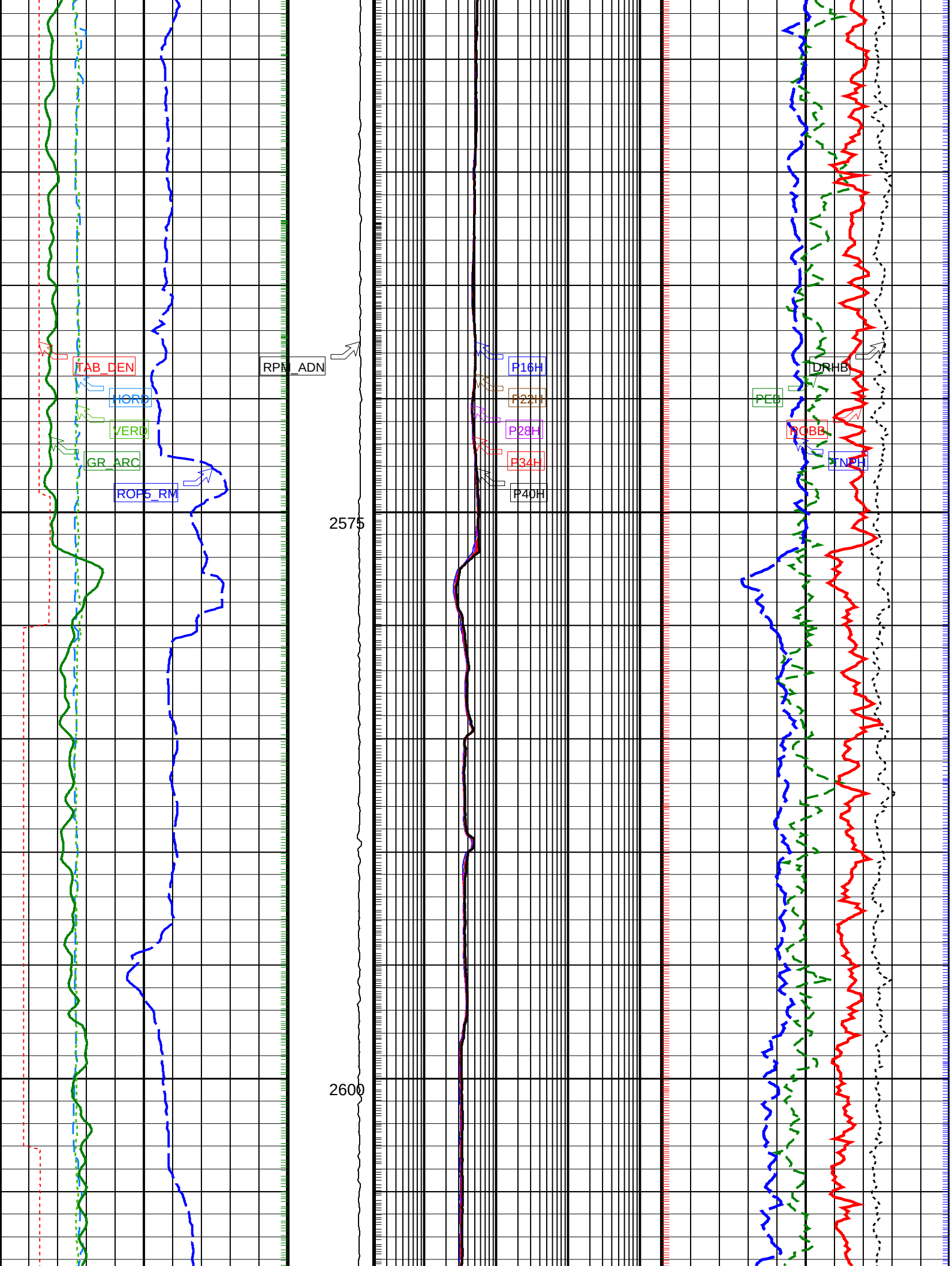
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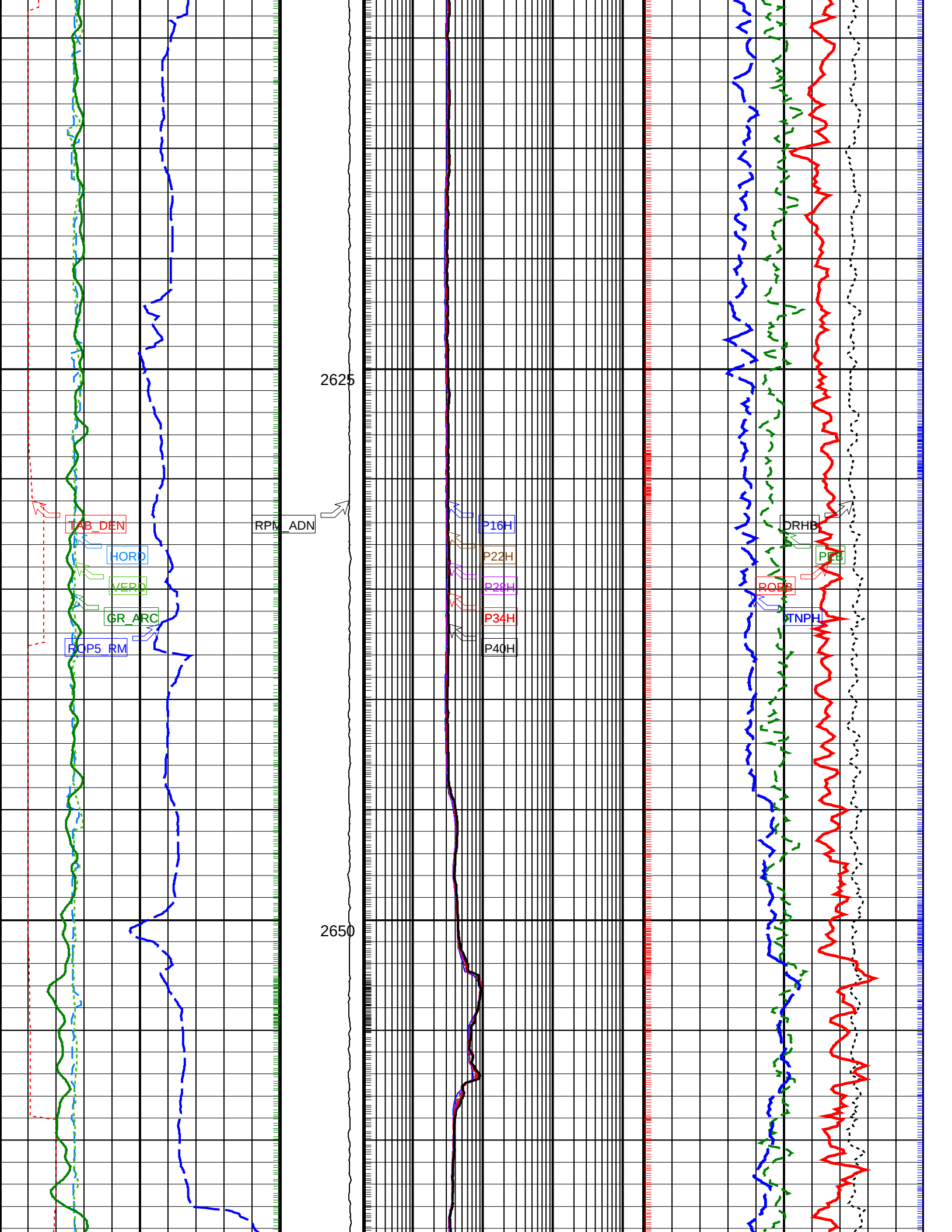
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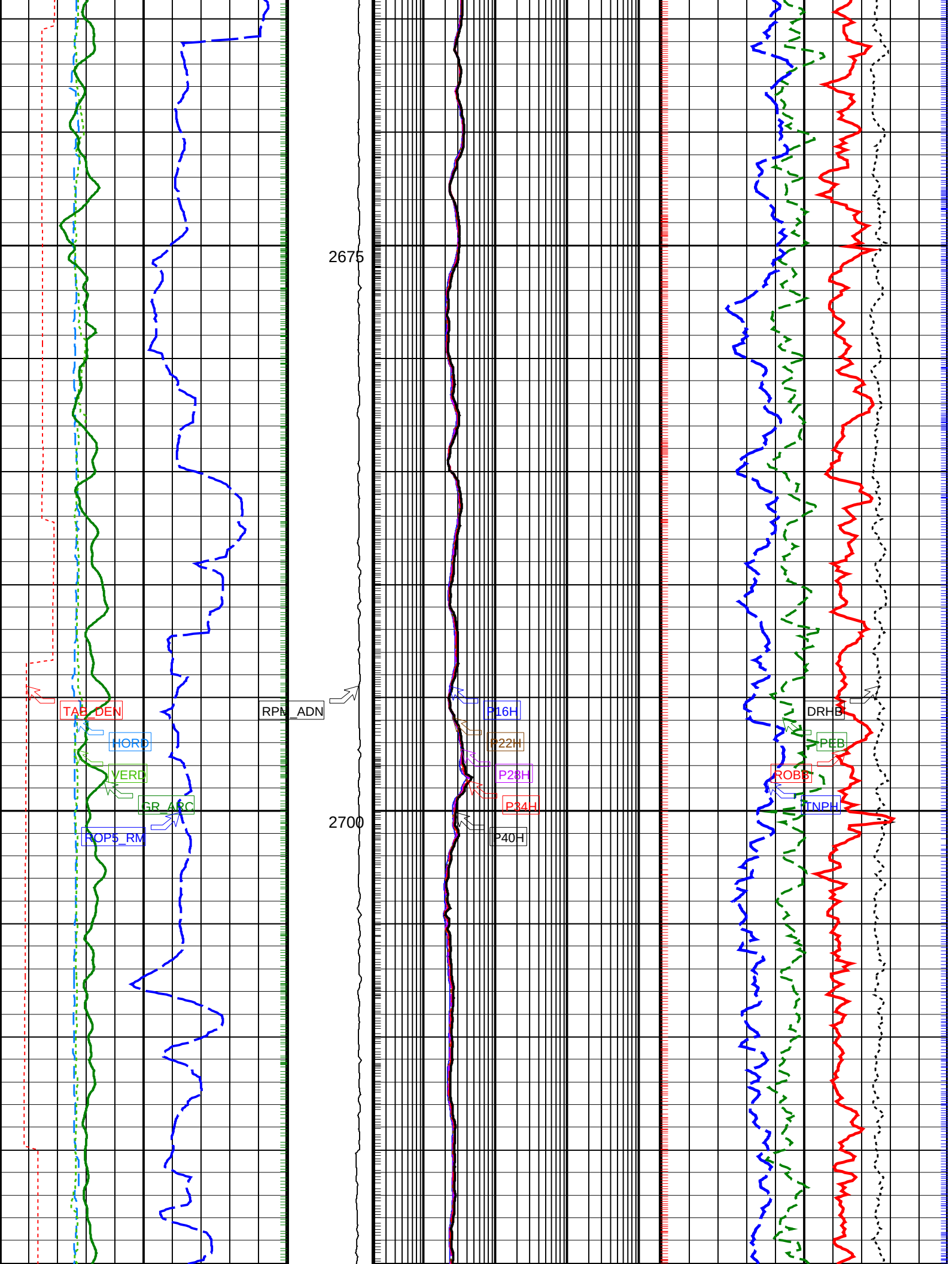
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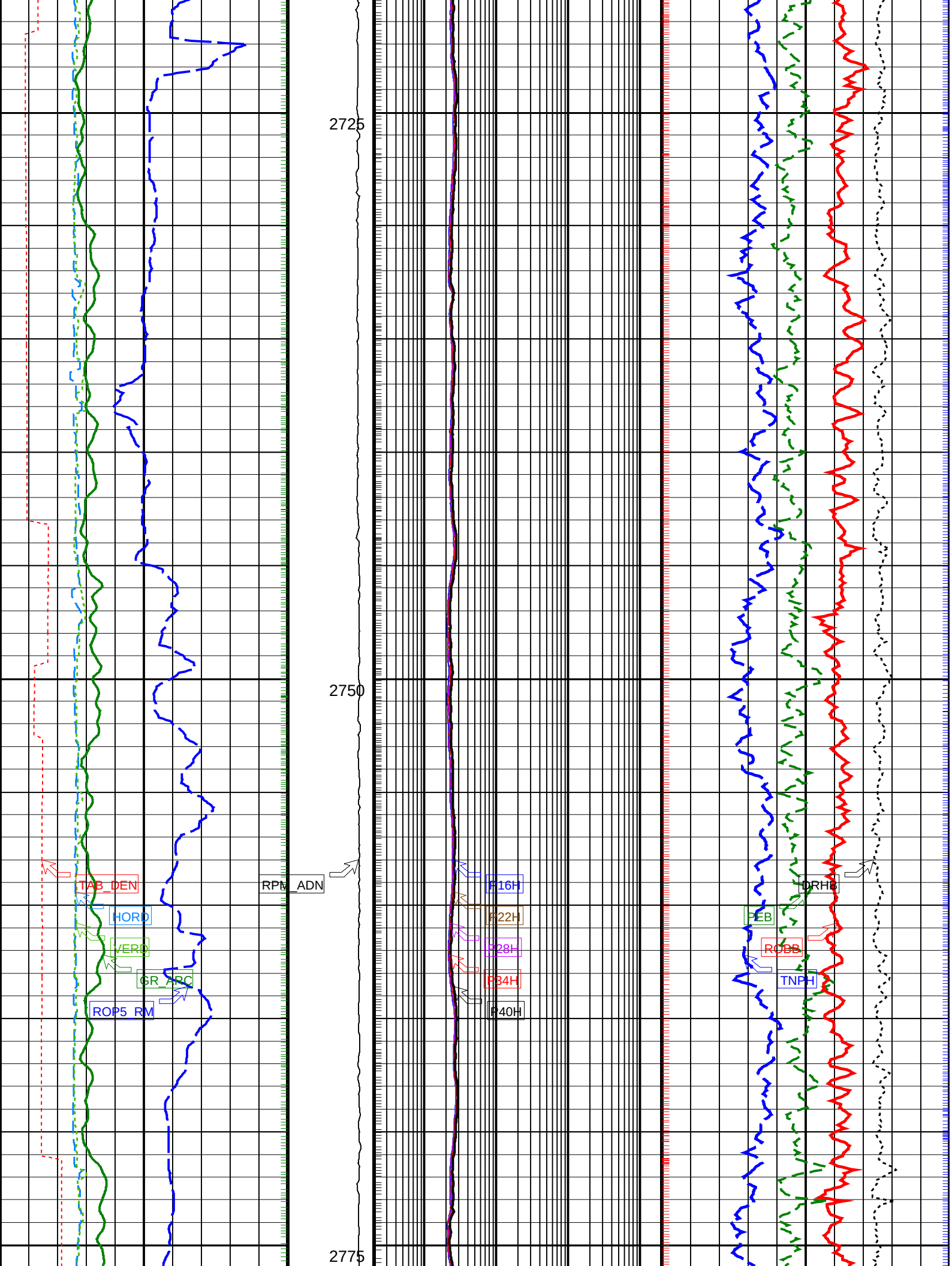
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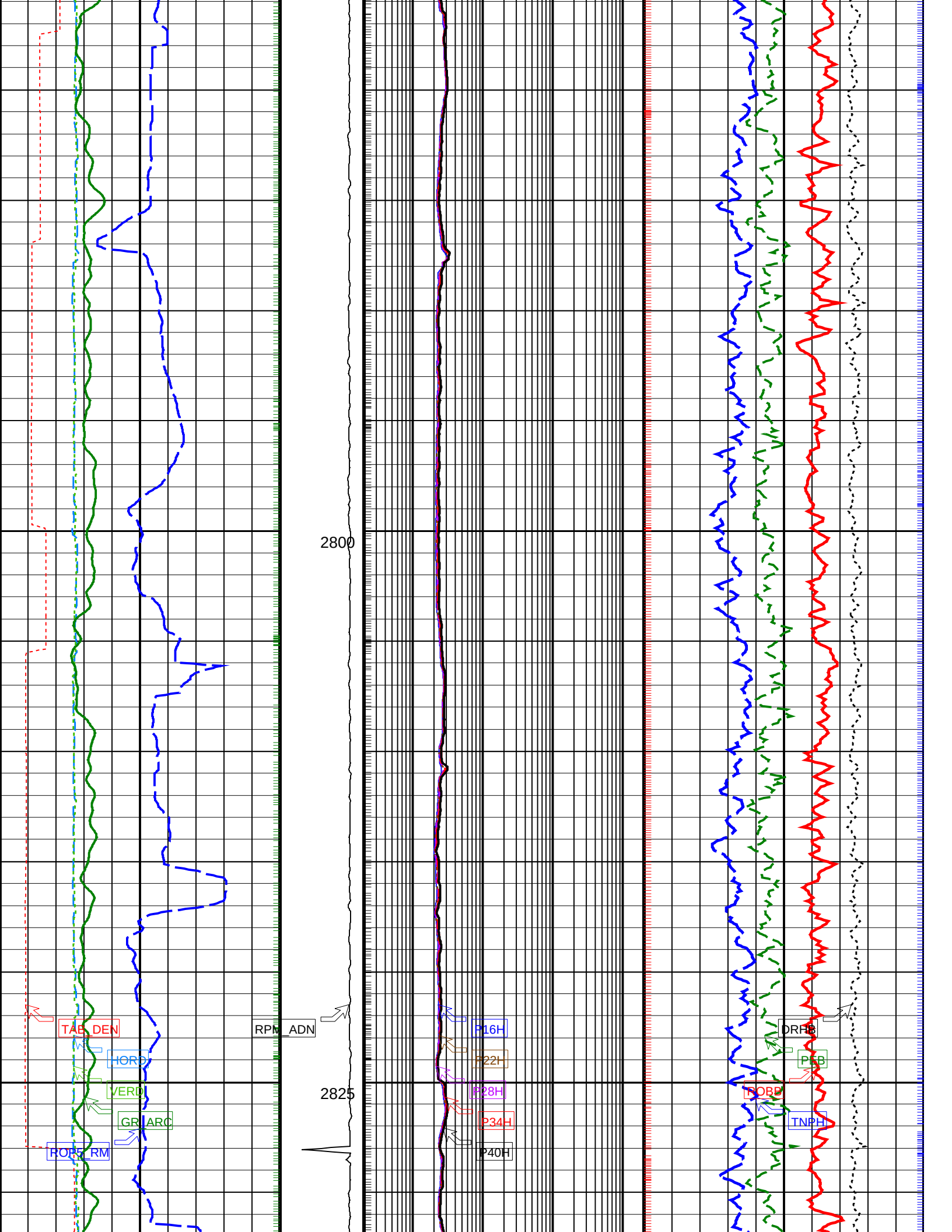
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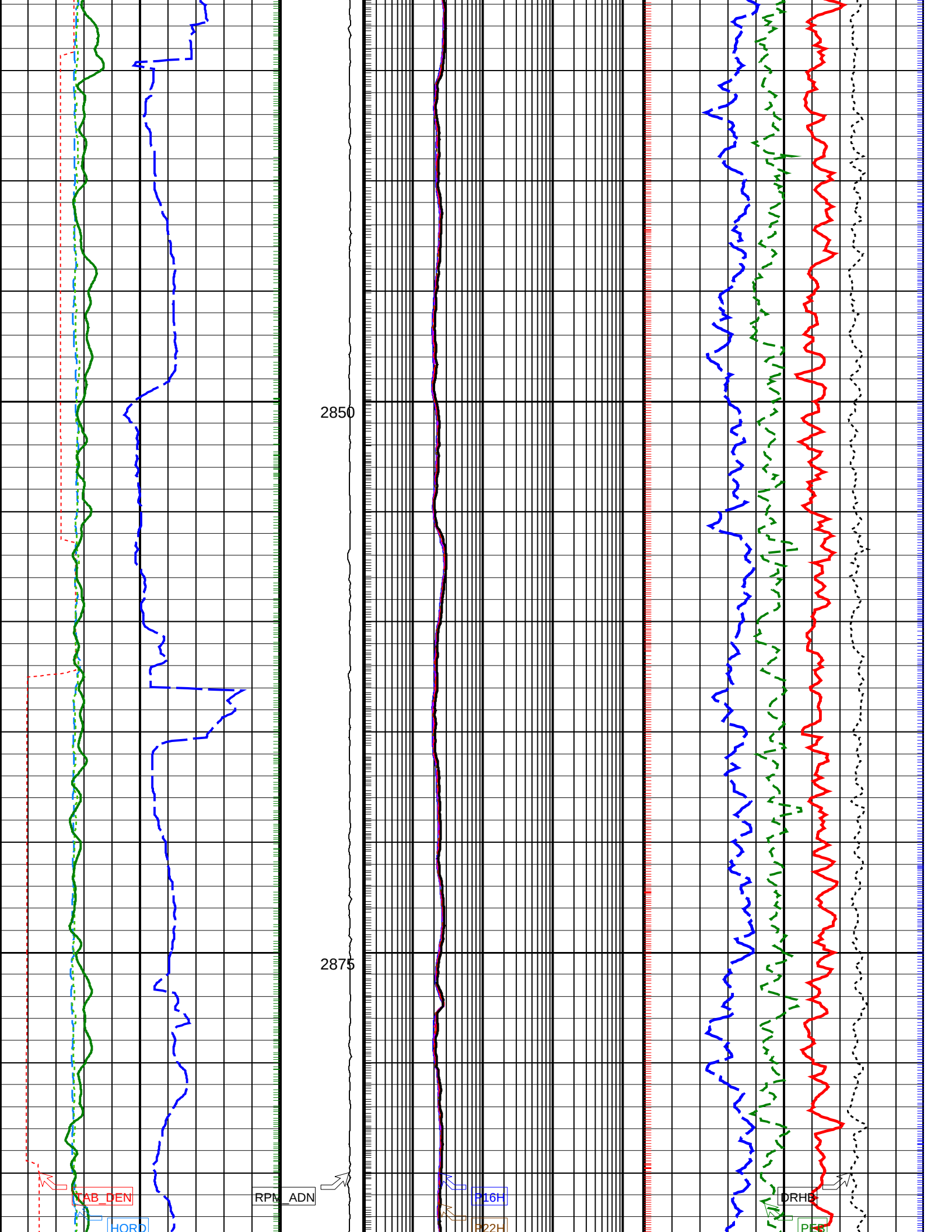
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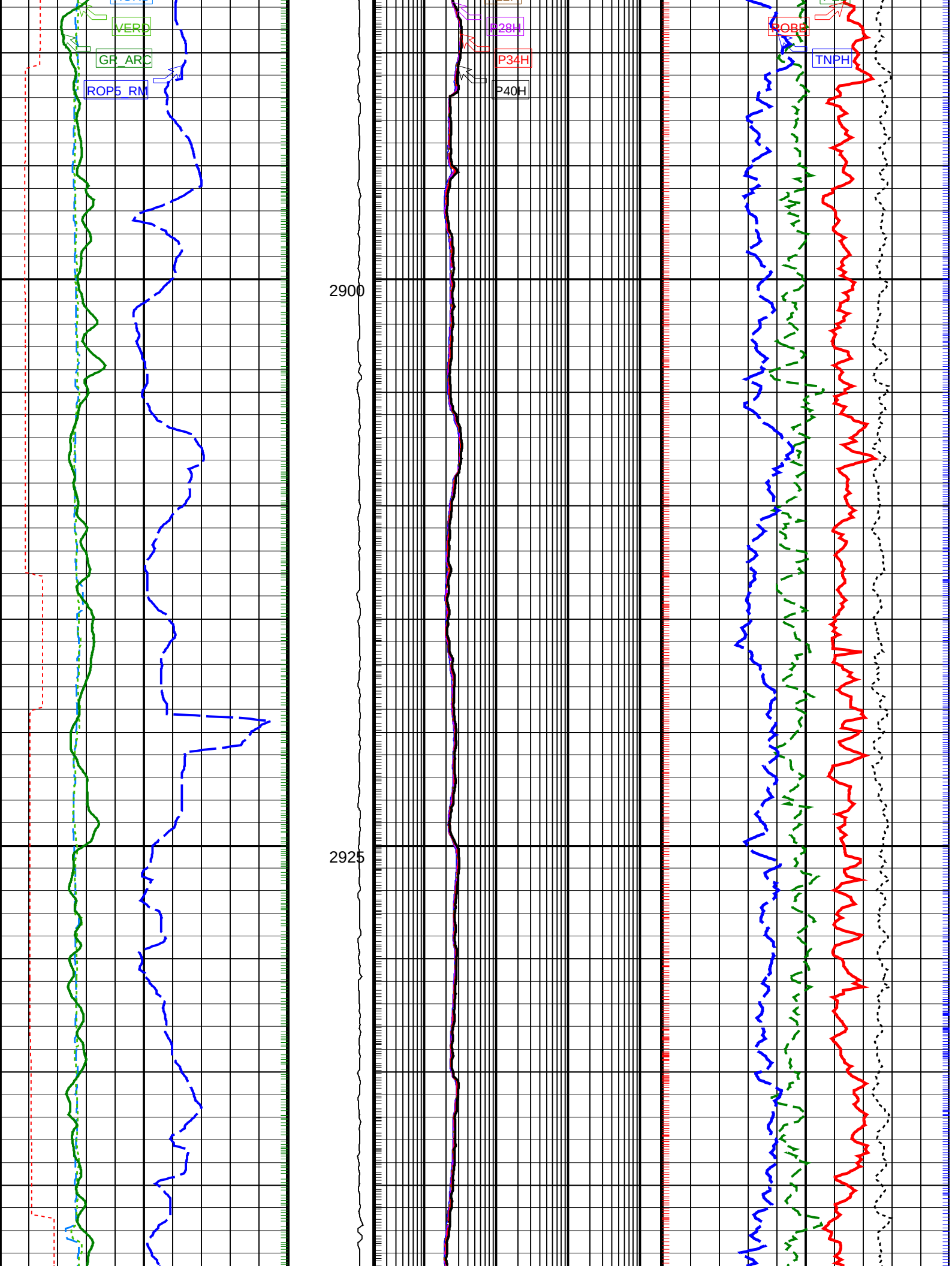
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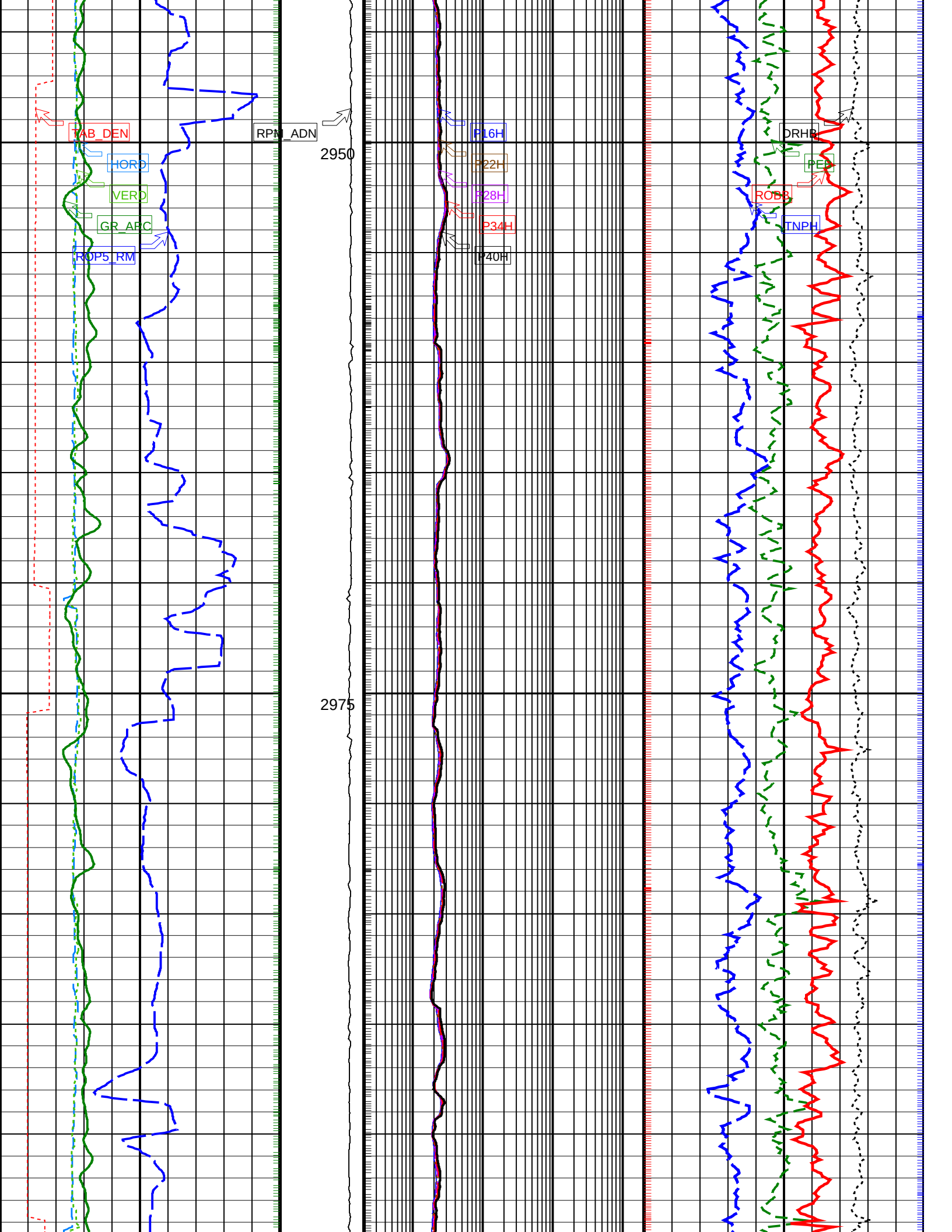
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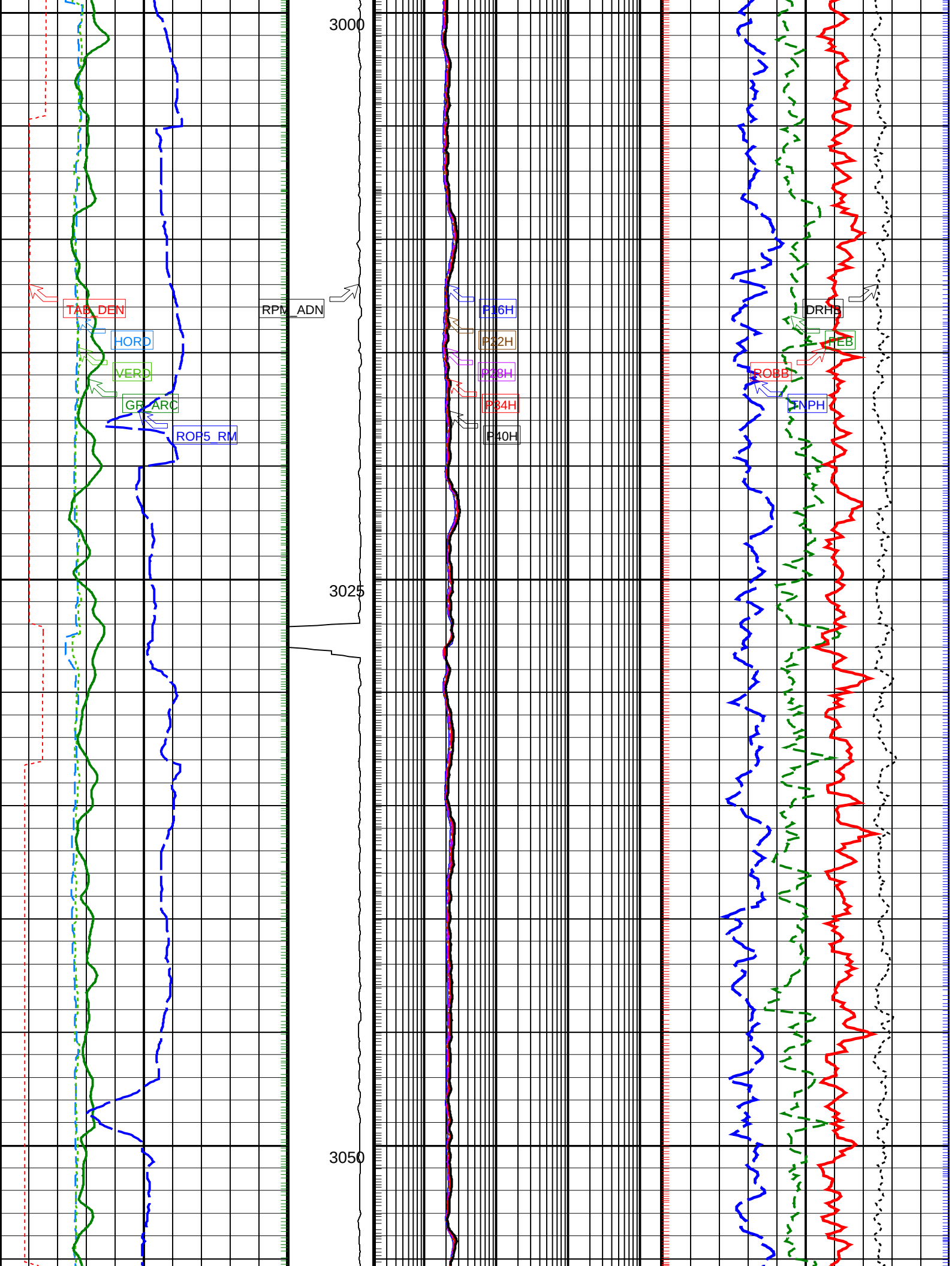
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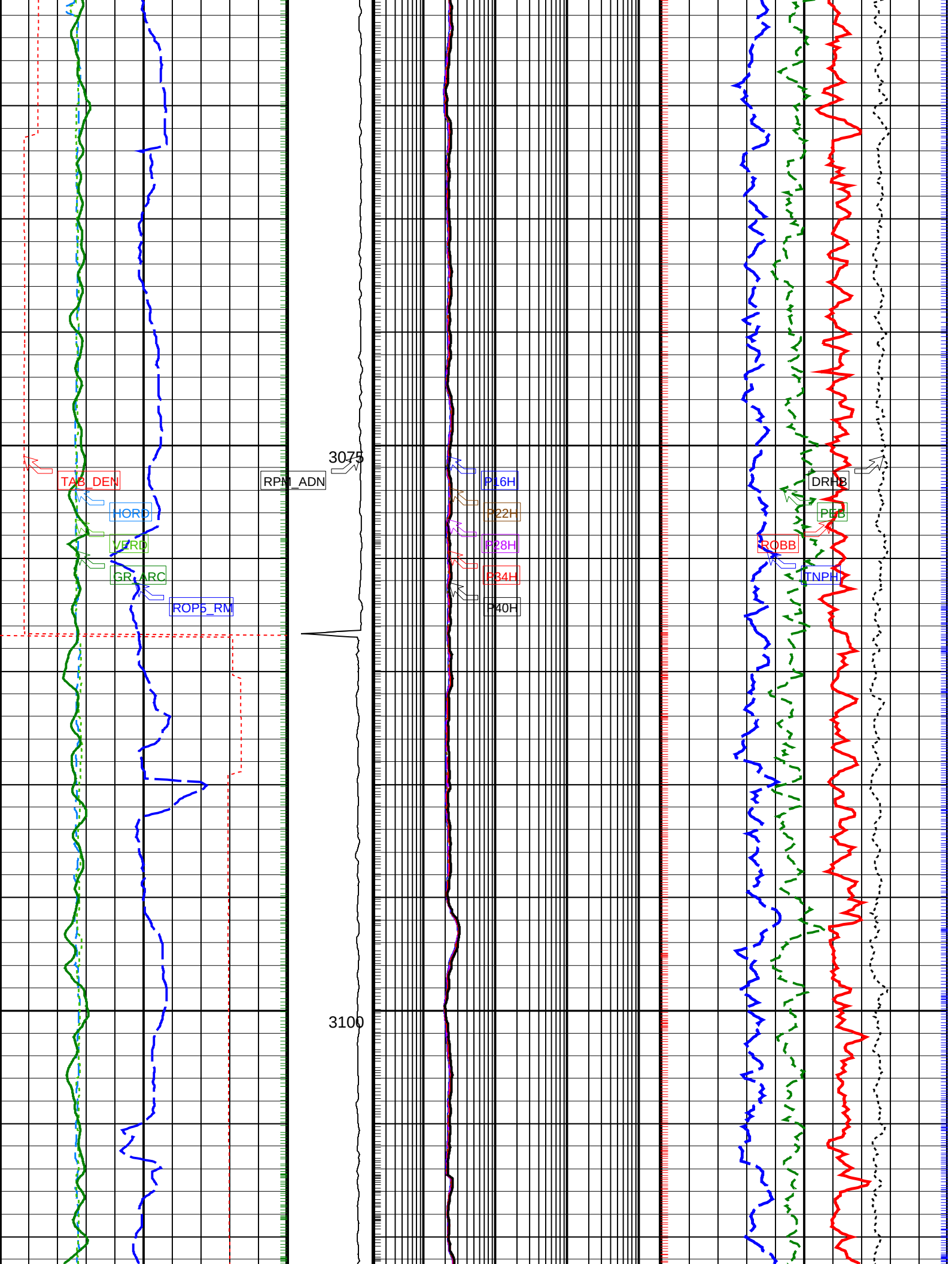
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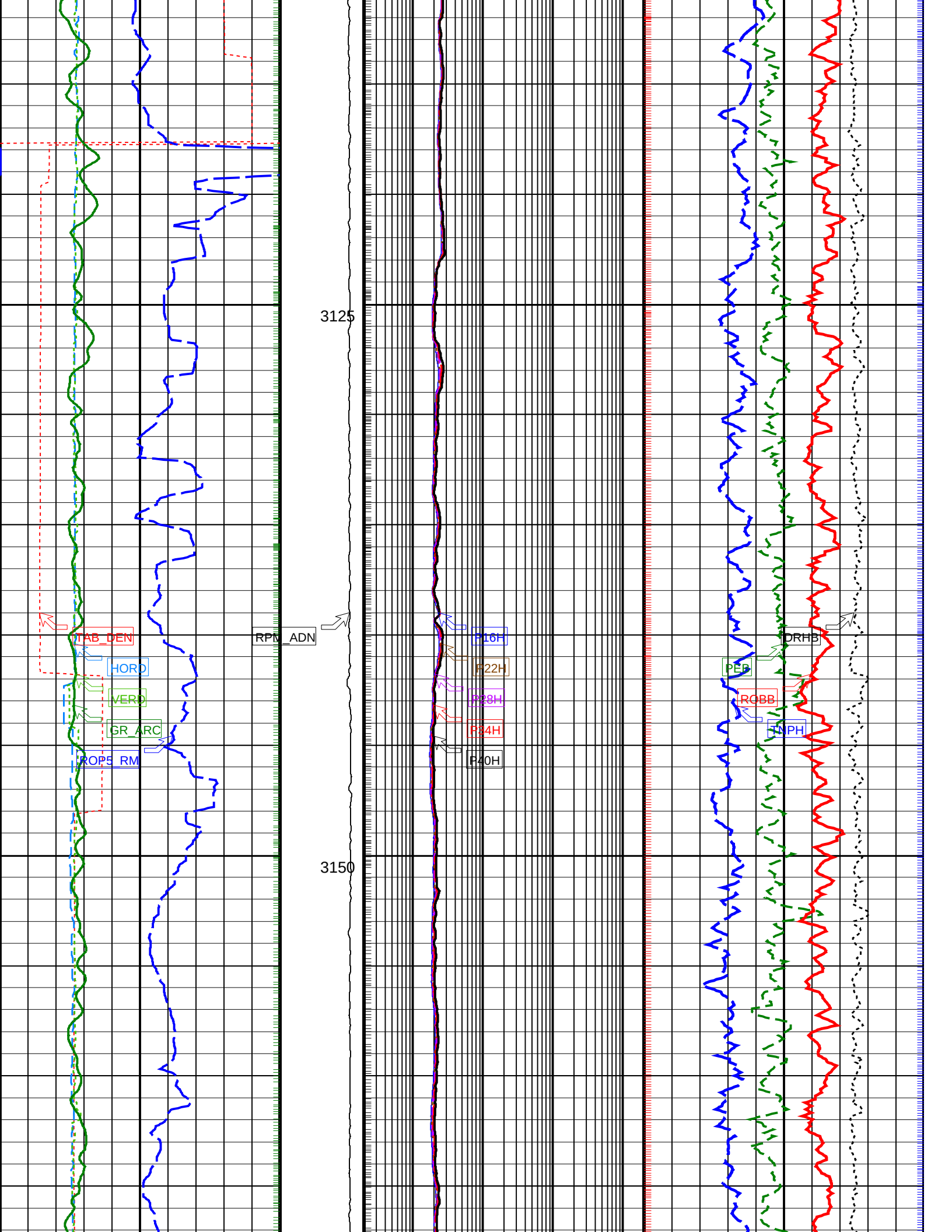
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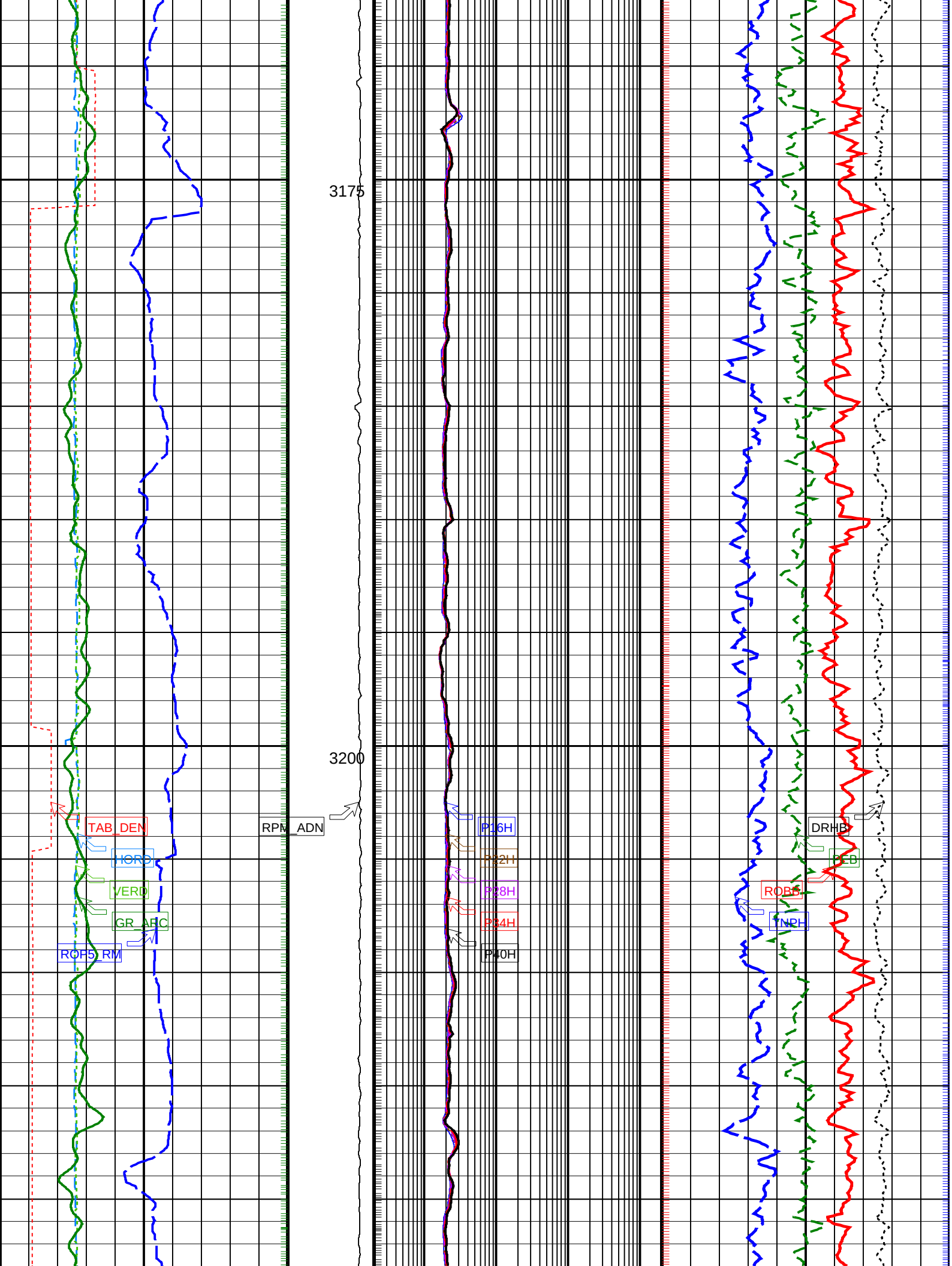
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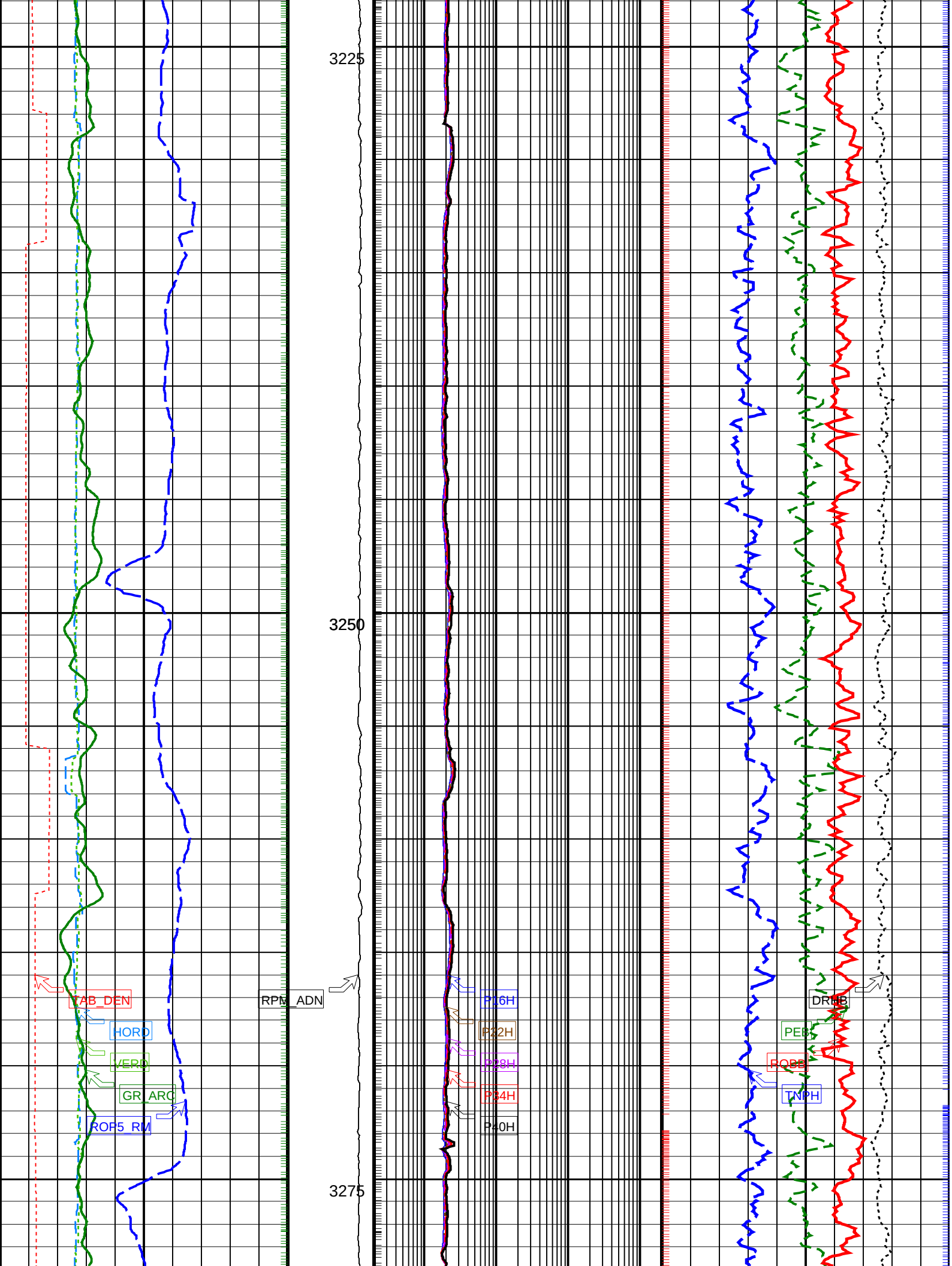
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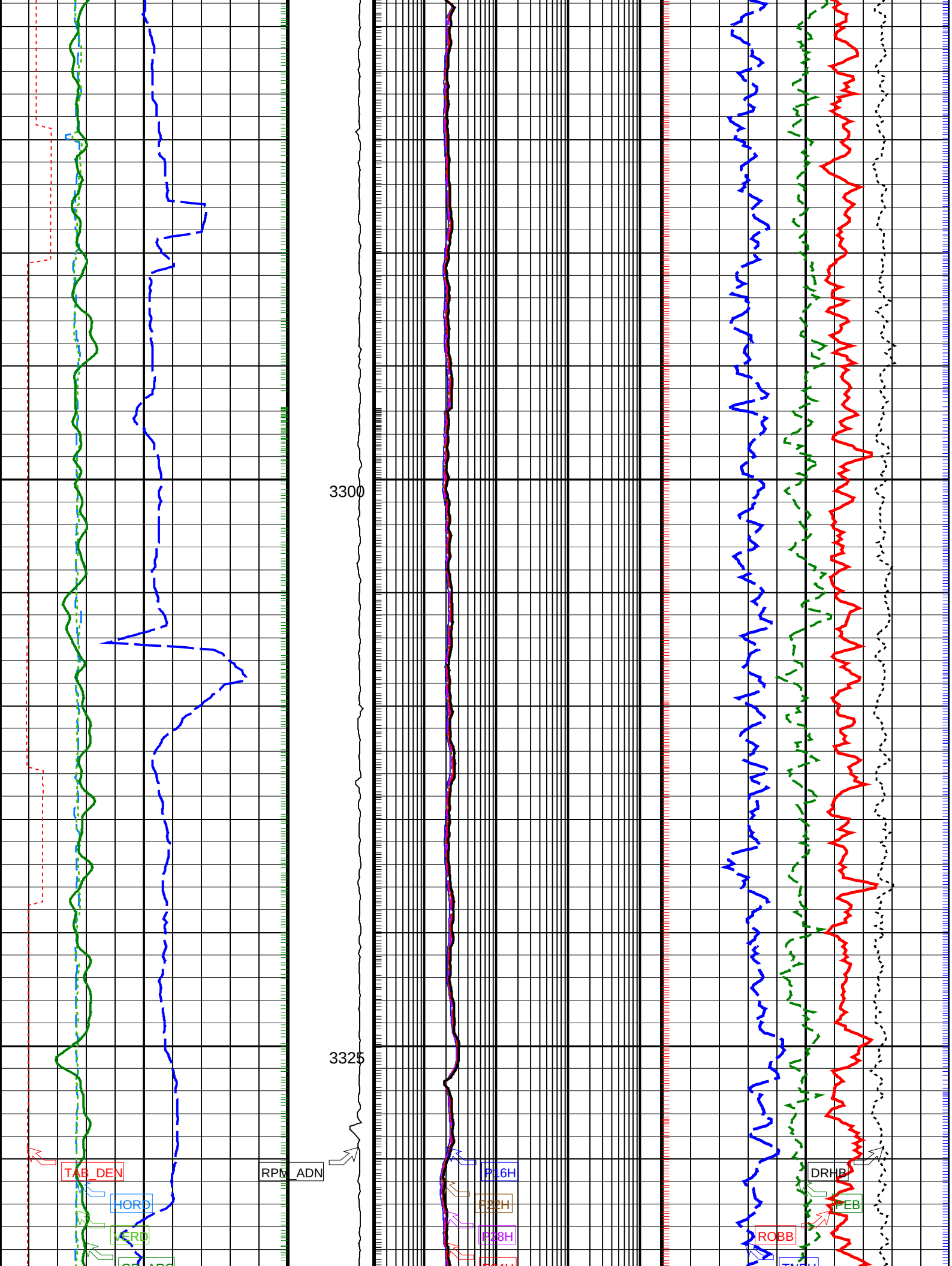
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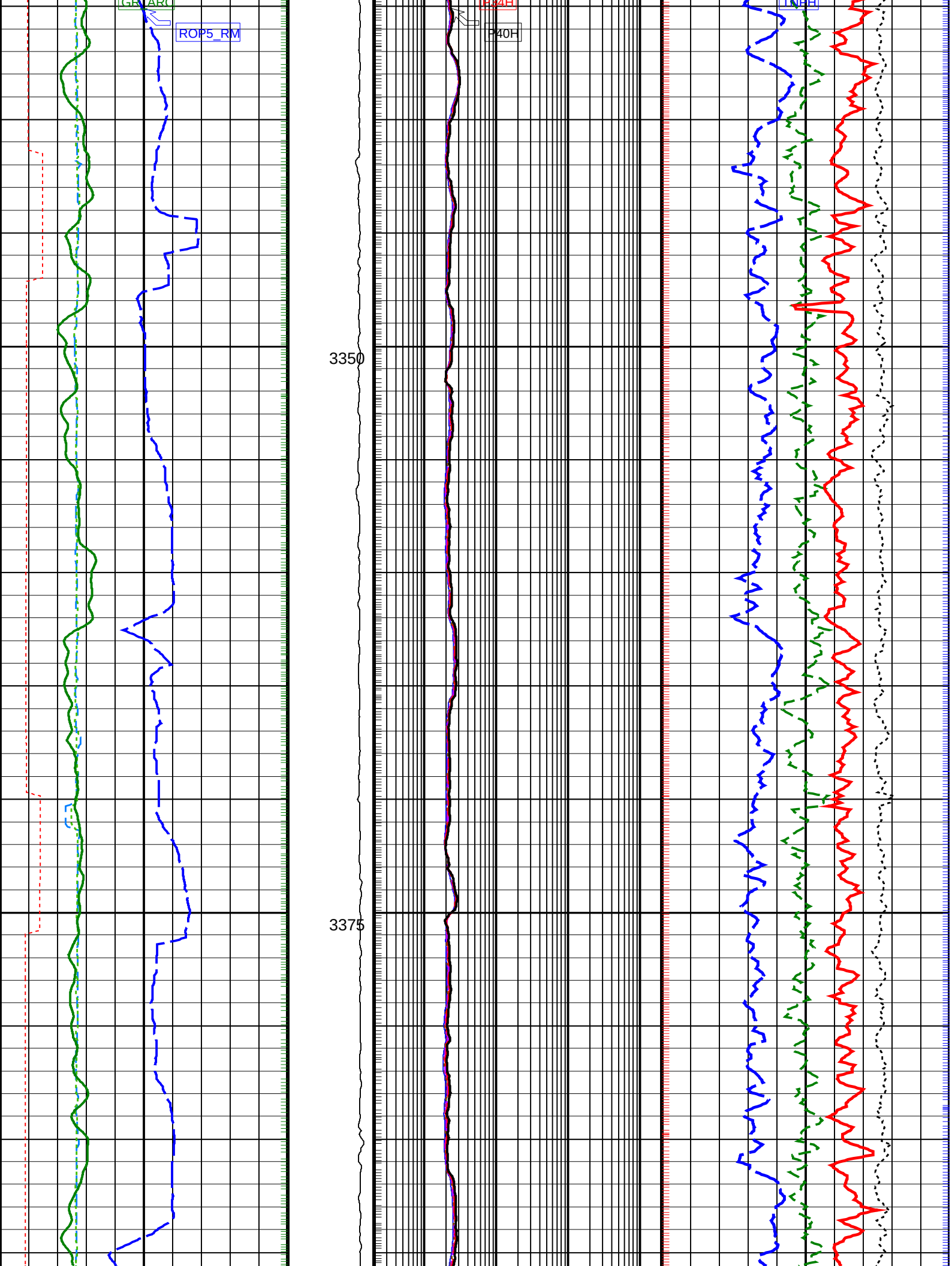
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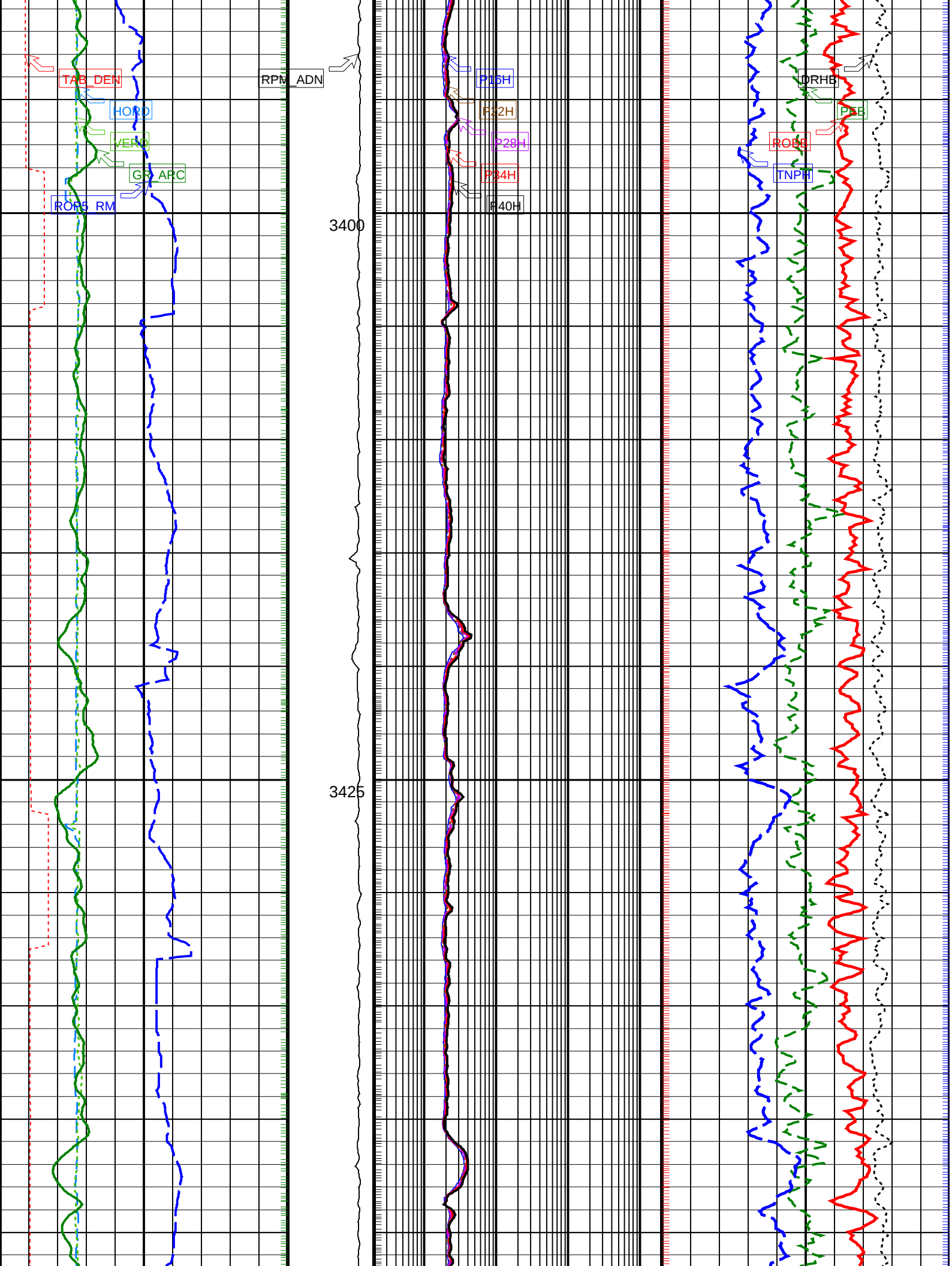
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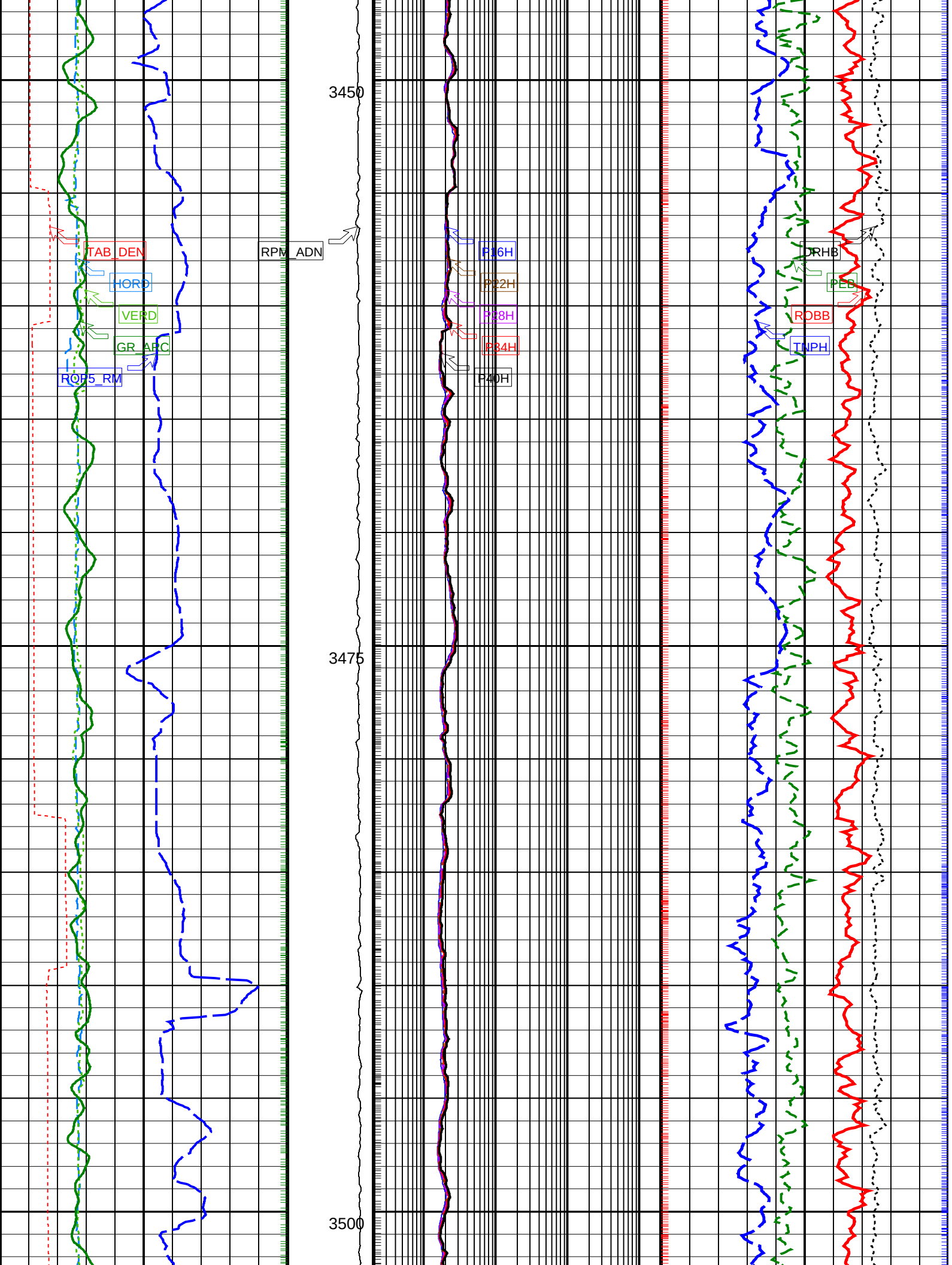
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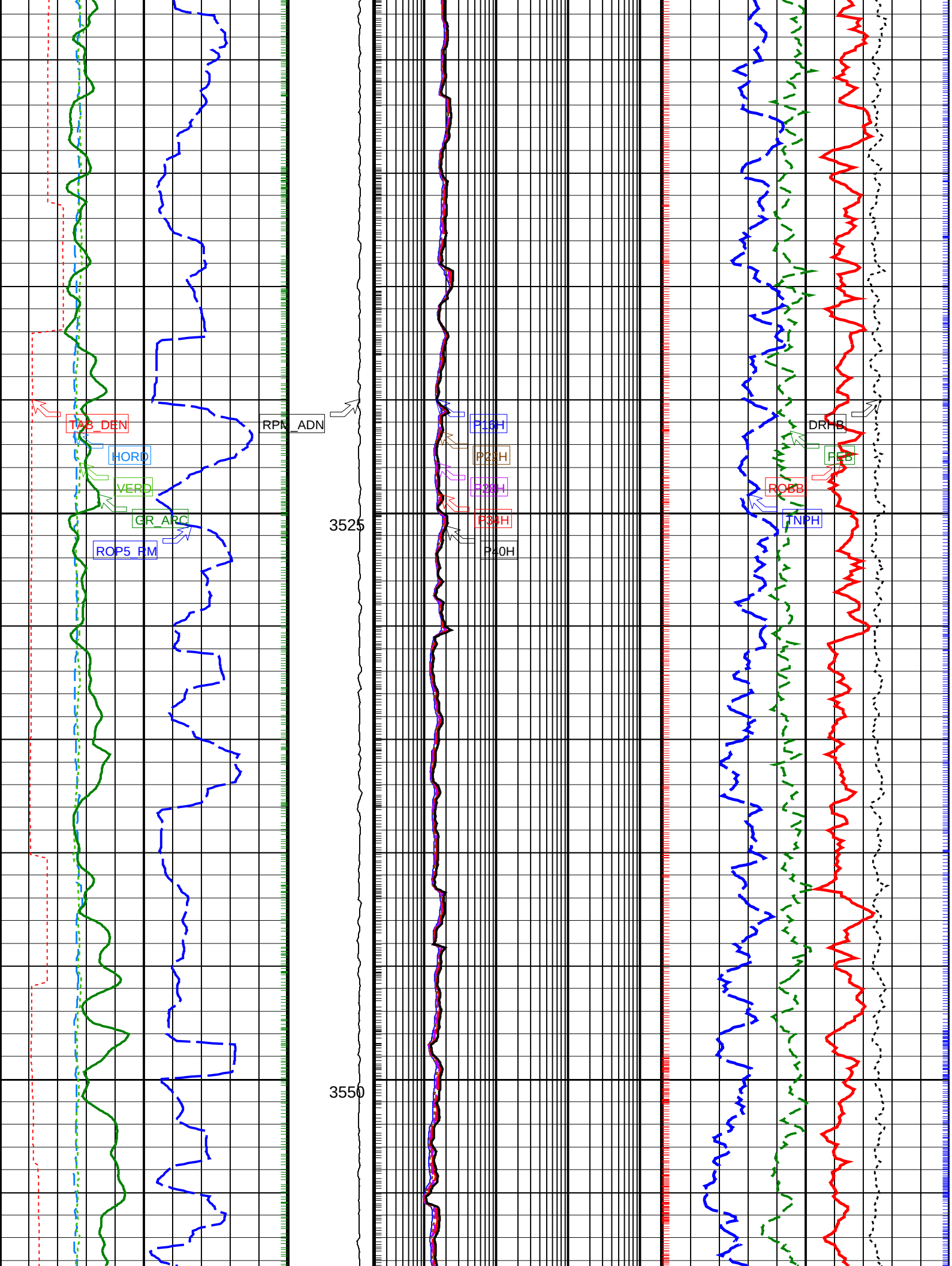
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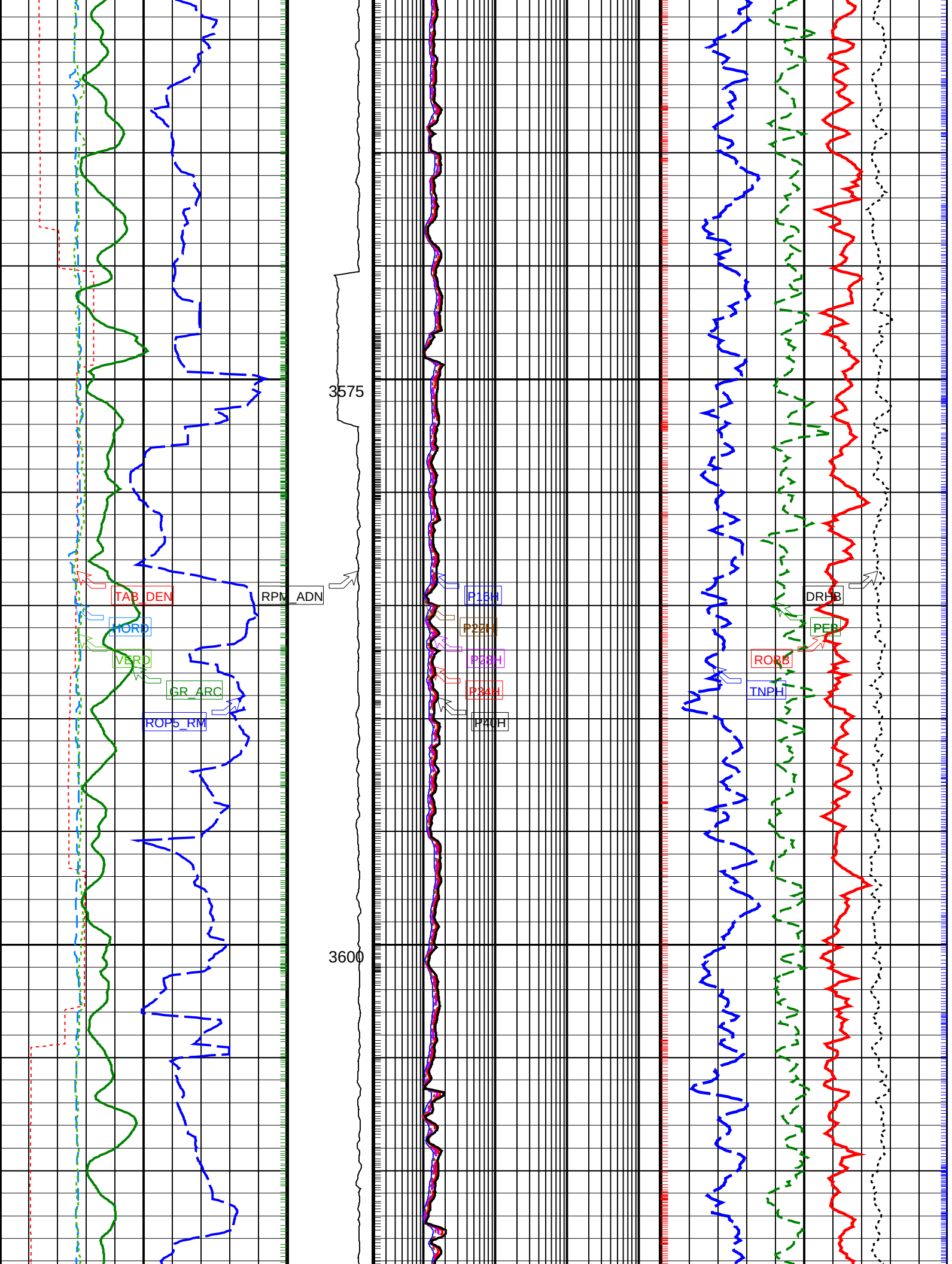
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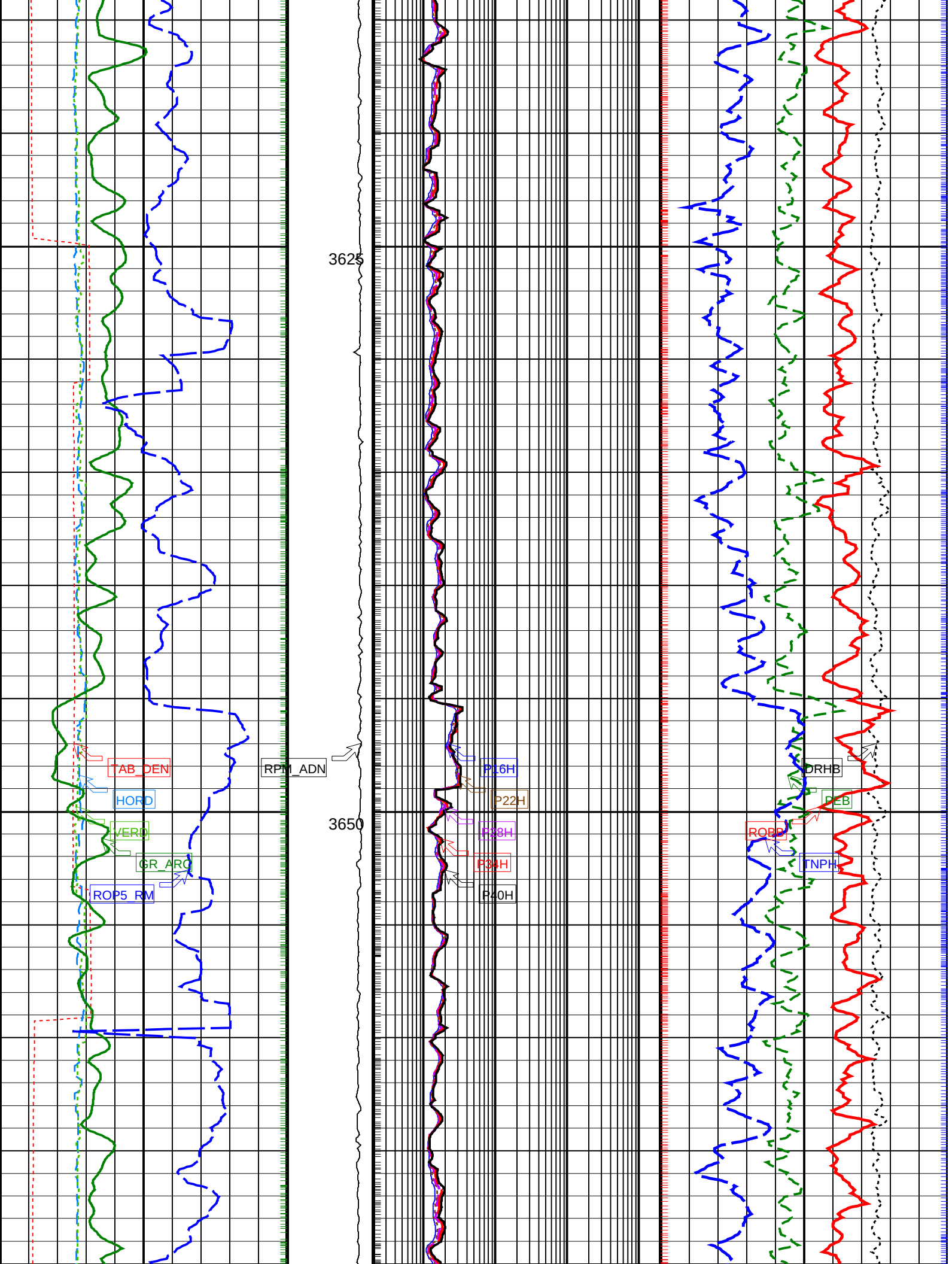
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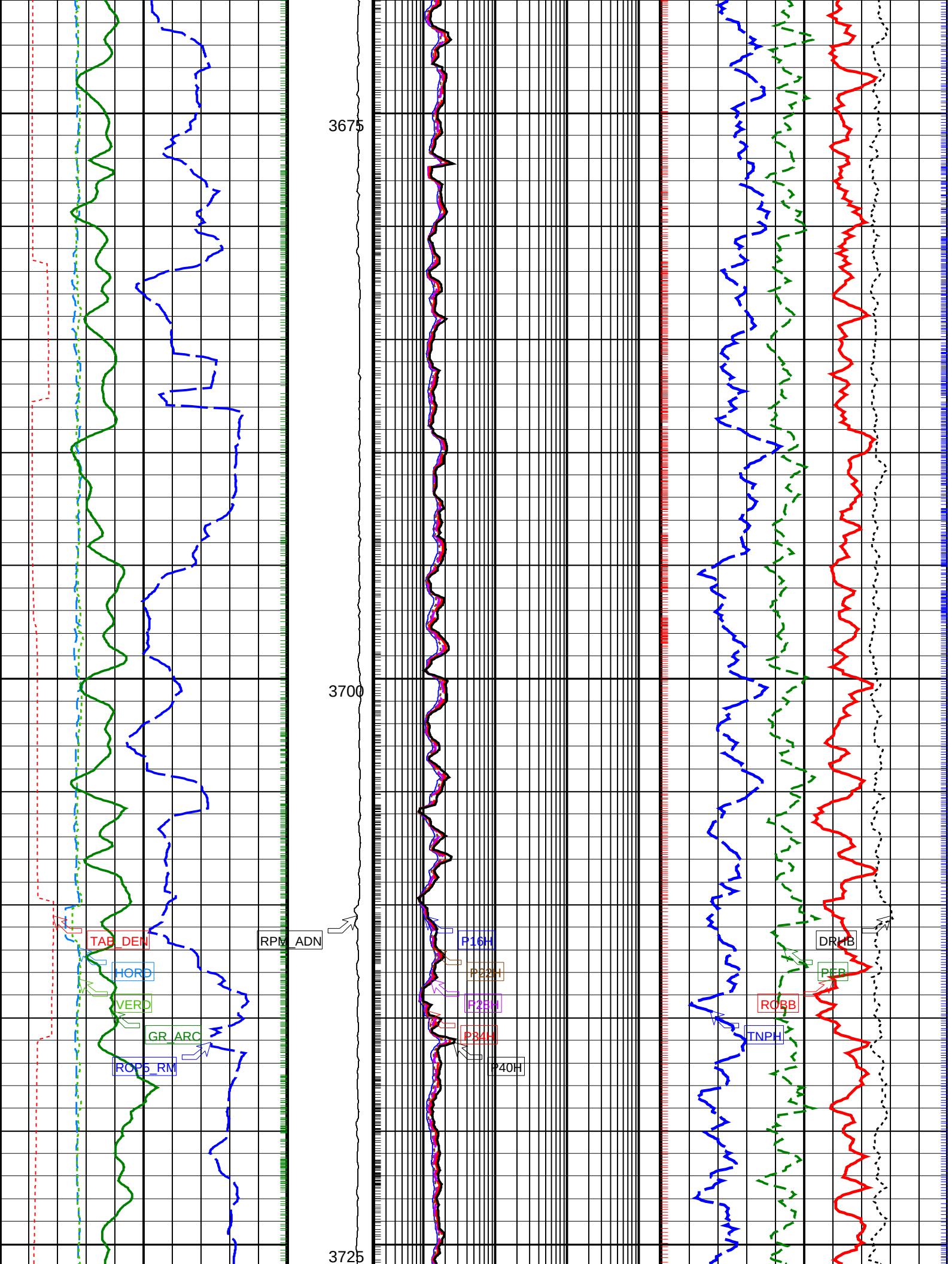
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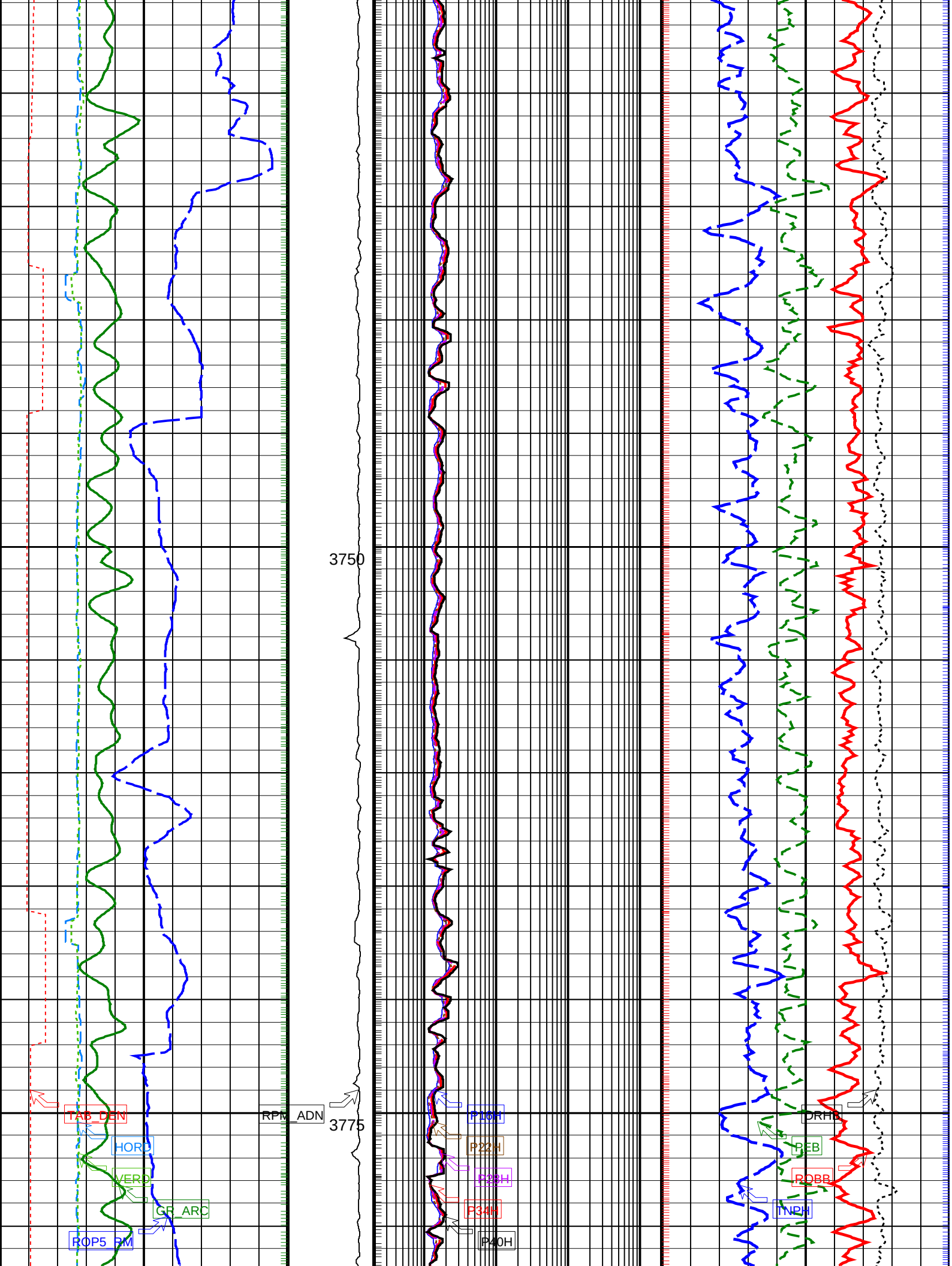
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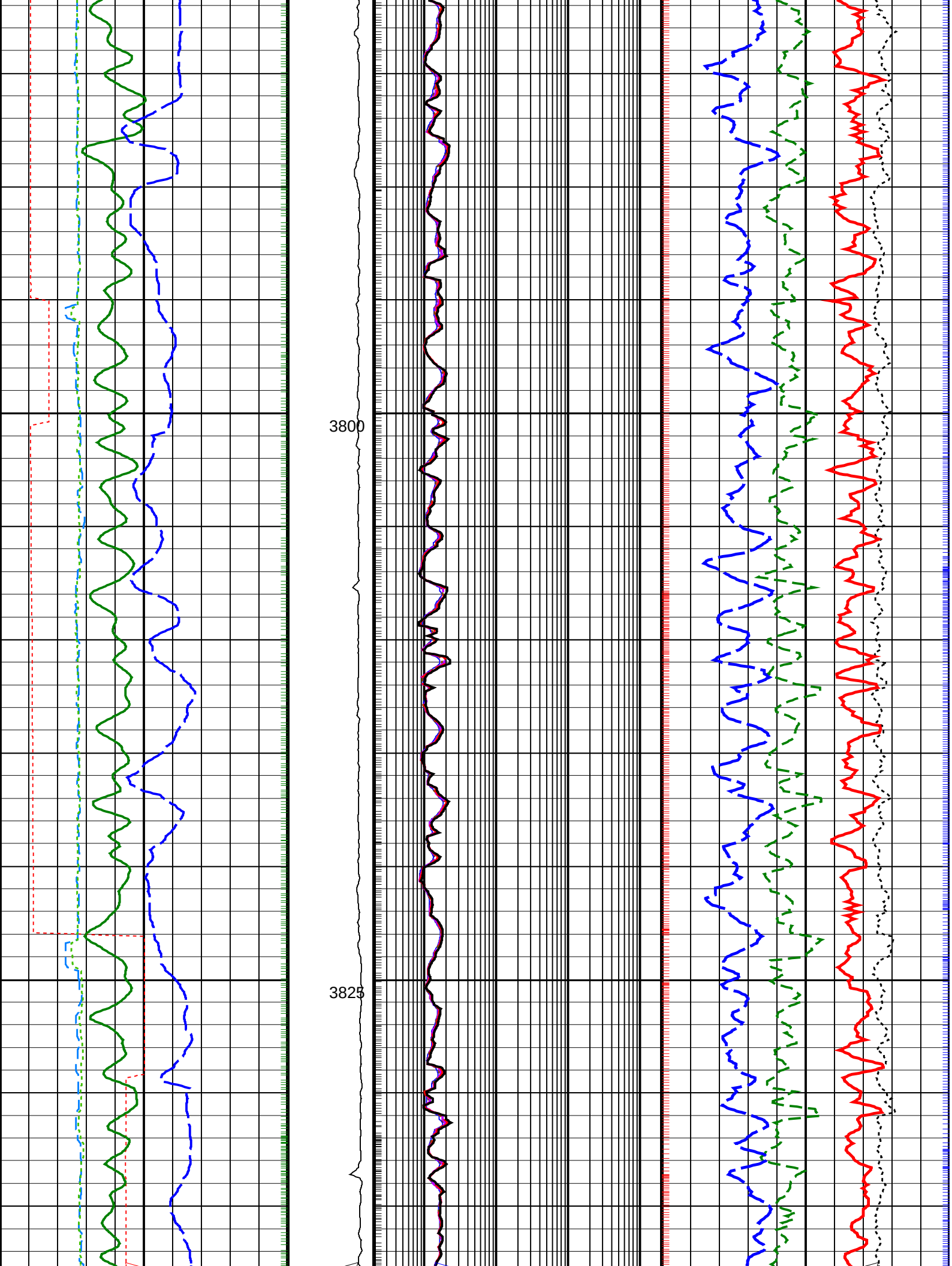
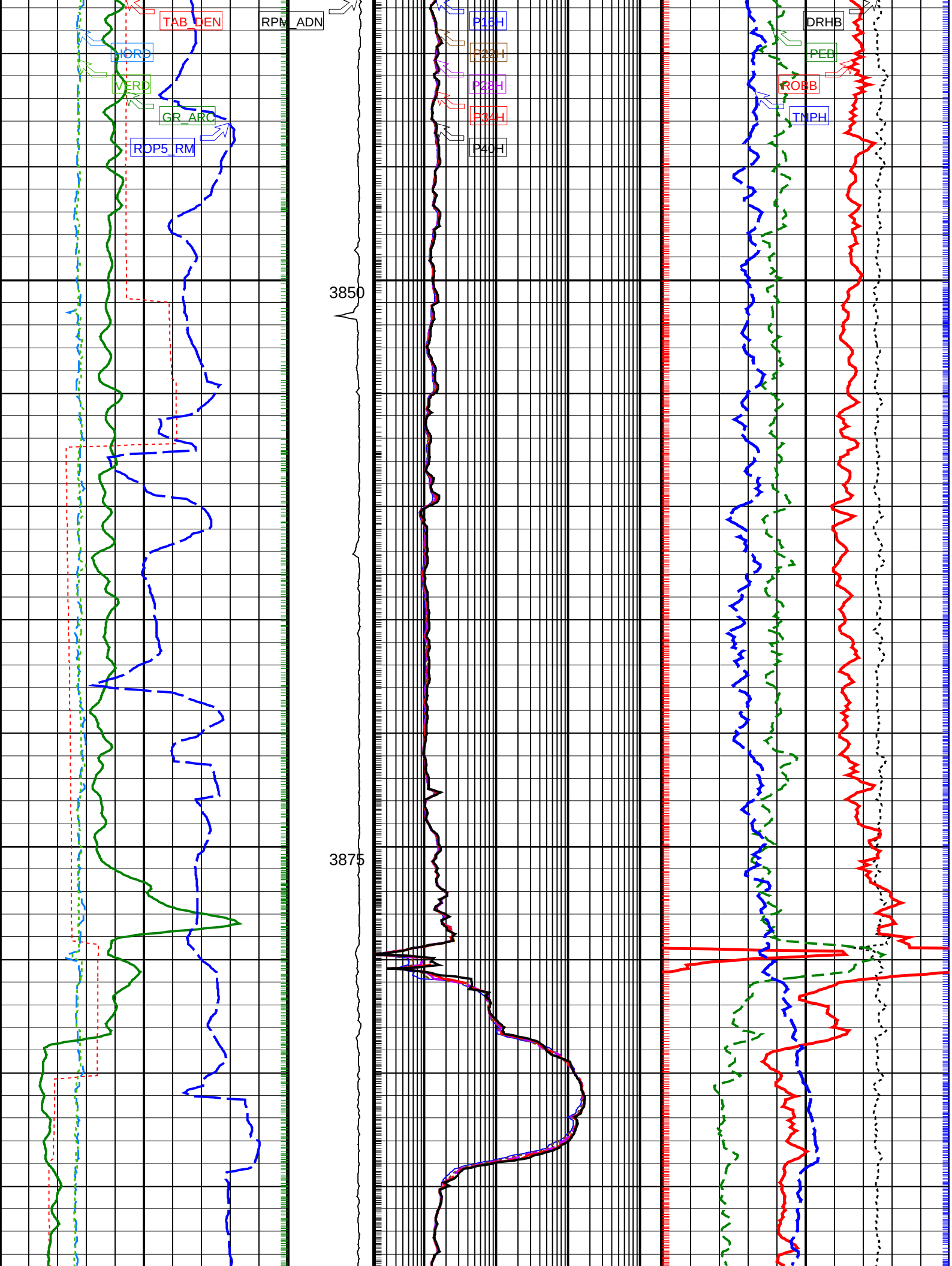
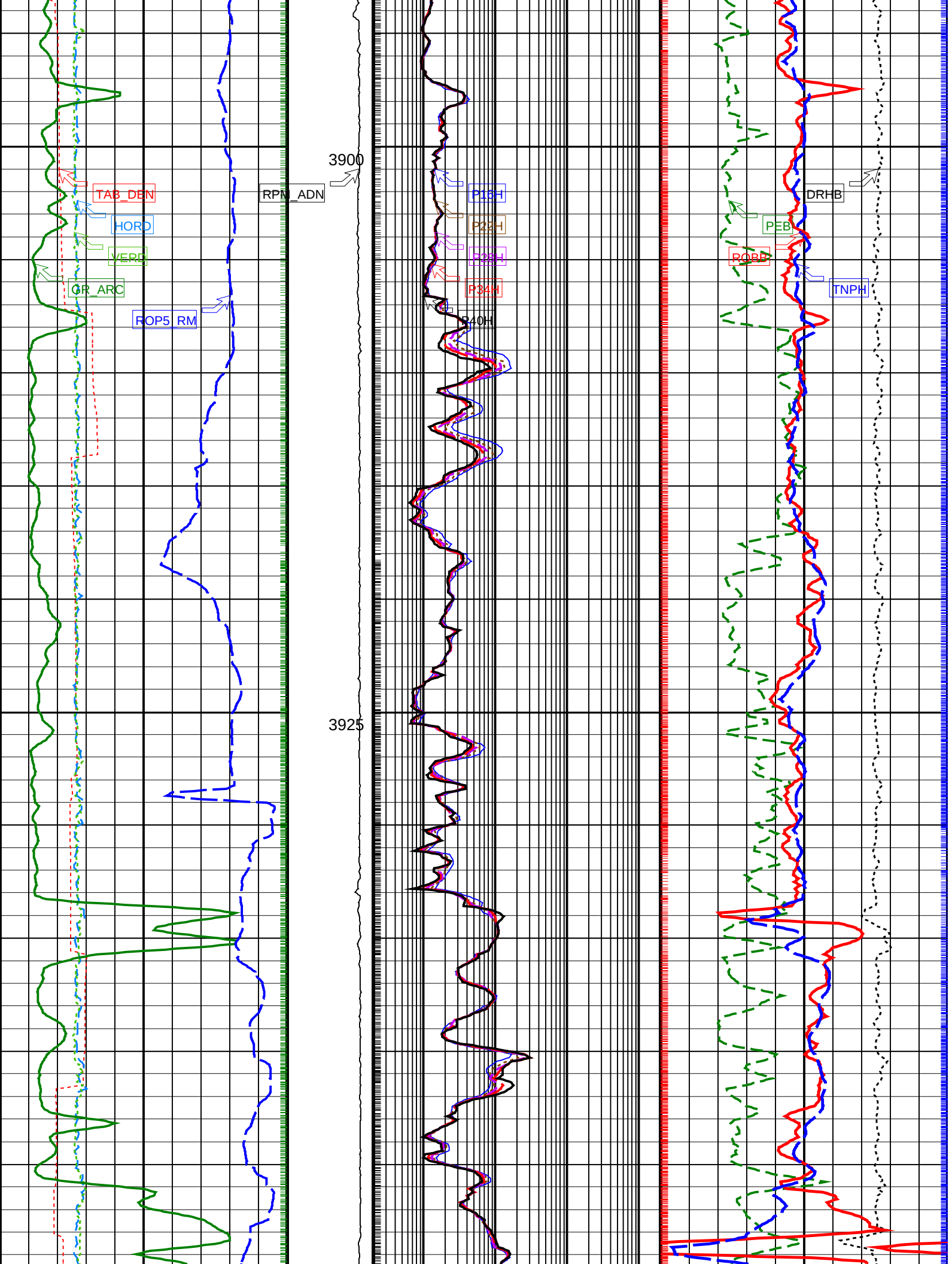
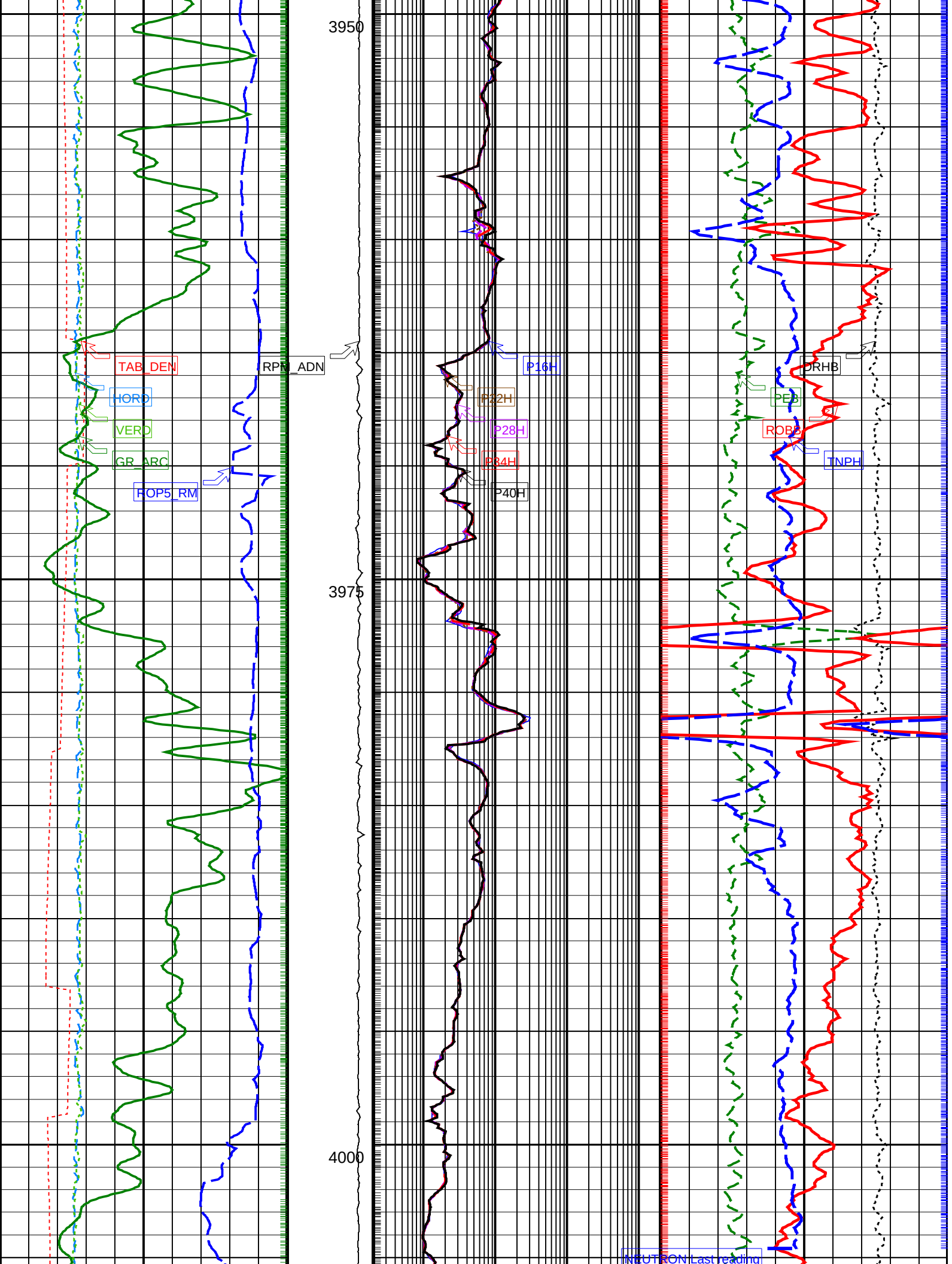
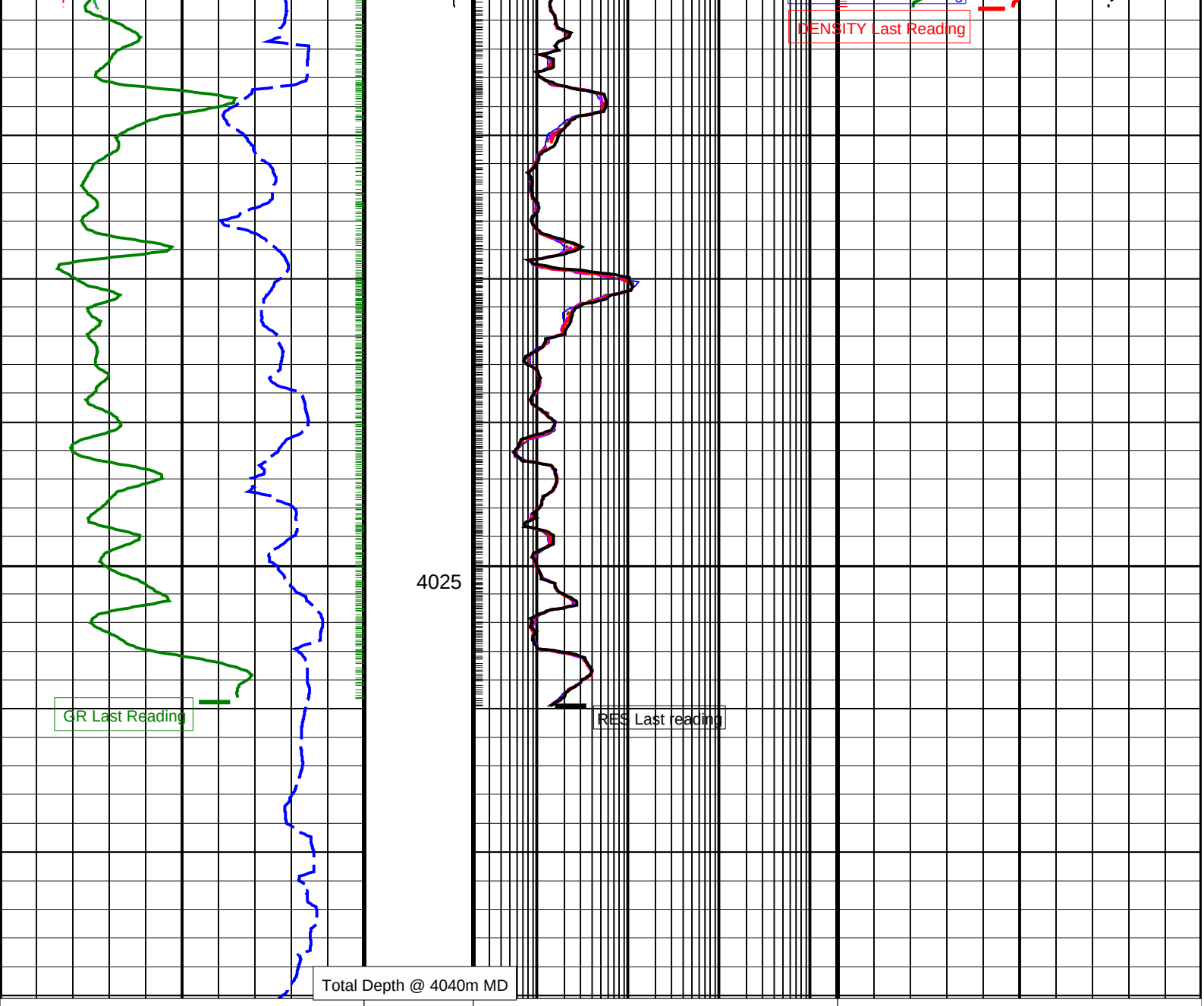
TNPH


3800
3825


TAB_DEN
RPM_ADN
DIORD
VERD
GR_ARC
ROP5_RM
P16H
P22H
P28H
P34H
P40H
DRHB
PEB
ROBB
TNPH
3850
3875


TAB_DEN
HORD
VERD
GR_ARC
ROP5_RM
RPM_ADN
3900
P16H
P22H
P28H
P34H
P40H
3925
DRHB
PEB
RORB
TNPH


3950
3975
4000
TAB_DEN
HORD
VERD
GR_ARC
ROP5_RM
RPM_ADN
P16H
P32H
P28H
P34H
P40H
DRHB
PEB
ROBB
TNPH
NEUTRON Last reading



Density Time After Bit (TAB_DEN) 0 (HR) 10	ADN Rotational Speed (RPM_ADN) (RPM) 0 250	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
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) 45 (PU) −15
Rate of Penetration, Averaged over Last 5ft (ROP5_RM) 200 (M/HR) 0		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: ID12_0C_09

IDF

ARC6A−AA	id12_0c_01	MWD_10	id12_0c_01
SON675	id12_0c_01	ADN	id12_0c_01

6.75−in. Azimuthal Density Neutron / Equipment Identification

Primary Equipment:

Tool Name and Serial Number	ADN6 − CA	373
Collar Type and Serial Number	ADDC − AA	
Chassis Type and Serial Number	ADSE − EA	
Stabilizer Type and Serial Number	IBS	
Neutron Logging Source	NSR − M	181
Density Logging Source	GSR − J/Z	2152
Stabilizer Size	8.25 − in.	
Calibration Status	Valid	

Master: 2−Jan−2007 10:39

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		1199	Master		3083	Master		7329
	250.0 (Minimum) 4125 (Nominal) 8000 (Maximum)			700.0 (Minimum) 9350 (Nominal) 18000 (Maximum)			2500 (Minimum) 23750 (Nominal) 45000 (Maximum)	

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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		179.6	Master		1555	Master		4550
	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		51.01	Master		121.0	Master		522.4
	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: 2−Jan−2007 10:39

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		1.033	Master		1.145
	1.024 (Minimum) 1.039 (Nominal) 1.054 (Maximum)			1.096 (Minimum) 1.126 (Nominal) 1.156 (Maximum)	

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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		17.97	Master		4.439	Master		2.178
	13.30 (Minimum) 19.05 (Nominal) 24.70 (Maximum)			3.400 (Minimum) 4.857 (Nominal) 6.200 (Maximum)			1.600 (Minimum) 2.363 (Nominal) 3.100 (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		19.00	Master		4.791	Master		2.320
	13.30 (Minimum) 19.05 (Nominal) 24.70 (Maximum)			3.400 (Minimum) 4.857 (Nominal) 6.200 (Maximum)			1.600 (Minimum) 2.363 (Nominal) 3.100 (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		17.92	Master		4.493	Master		2.245
	13.30 (Minimum) 19.05 (Nominal) 24.70 (Maximum)			3.400 (Minimum) 4.857 (Nominal) 6.200 (Maximum)			1.600 (Minimum) 2.363 (Nominal) 3.100 (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

Phase	Far 2 tube 2 Air Point Measure	CPS	Value
Master			17.60
	13.30 (Minimum)	19.05 (Nominal)	24.70 (Maximum)

Phase	Far 2 tube 2 Rod Point Measure	CPS	Value
Master			4.833
	3.400 (Minimum)	4.857 (Nominal)	6.200 (Maximum)

Phase	Far 2 tube 2 H2O Point Measure	CPS	Value
Master			2.283
	1.600 (Minimum)	2.363 (Nominal)	3.100 (Maximum)

Phase	Far 2 tube 2 Air Point Measure	CPS	Value
Master			19.02
	13.30 (Minimum)	19.05 (Nominal)	24.70 (Maximum)

Phase	Far 2 tube 2 Rod Point Measure	CPS	Value
Master			4.883
	3.400 (Minimum)	4.857 (Nominal)	6.200 (Maximum)

Phase	Far 2 tube 2 H2O Point Measure	CPS	Value
Master			2.407
	1.600 (Minimum)	2.363 (Nominal)	3.100 (Maximum)

Phase	Far 2 tube 3 Air Point Measure	CPS	Value
Master			18.28
	13.30 (Minimum)	19.05 (Nominal)	24.70 (Maximum)

Phase	Far 2 tube 3 Rod Point Measure	CPS	Value
Master			4.647
	3.400 (Minimum)	4.857 (Nominal)	6.200 (Maximum)

Phase	Far 2 tube 3 H2O Point Measure	CPS	Value
Master			2.280
	1.600 (Minimum)	2.363 (Nominal)	3.100 (Maximum)

Phase	Near 1 tube 1 Air Point Measure	CPS	Value
Master			488.6
	345.0 (Minimum)	487.5 (Nominal)	595.0 (Maximum)

Phase	Near 1 tube 1 Rod Point Measure	CPS	Value
Master			786.7
	535.0 (Minimum)	768.8 (Nominal)	925.0 (Maximum)

Phase	Near 1 tube 1 H2O Point Measure	CPS	Value
Master			352.0
	230.0 (Minimum)	343.7 (Nominal)	430.0 (Maximum)

Phase	Near 2 tube 1 Air Point Measure	CPS	Value
Master			497.1
	345.0 (Minimum)	487.5 (Nominal)	595.0 (Maximum)

Phase	Near 2 tube 1 Rod Point Measure	CPS	Value
Master			780.0
	535.0 (Minimum)	768.8 (Nominal)	925.0 (Maximum)

Phase	Near 2 tube 1 H2O Point Measure	CPS	Value
Master			353.1
	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		100.4
	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	1708
ARC675 Calibration Status	Valid	

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6.75−in. Array Resistivity Compensated Calibration

Resistivity: Air

Phase	Phase−Shift T1	Value
Master		1.807
	−3.900 (Minimum)	0.1000 (Nominal) 4.100 (Maximum)

Phase	Phase−Shift T2	Value
Master		−1.724
	−3.900 (Minimum)	0.1000 (Nominal) 4.100 (Maximum)

Phase	Phase−Shift T3	Value
Master		1.743
	−3.900 (Minimum)	0.1000 (Nominal) 4.100 (Maximum)

Phase	Phase−Shift T4	Value
Master		−1.765
	−3.900 (Minimum)	0.1000 (Nominal) 4.100 (Maximum)

Phase	Phase−Shift T5	Value
Master		1.722
	−3.900 (Minimum)	0.1000 (Nominal) 4.100 (Maximum)

Phase	Phase−Shift T1 at 400KHz	Value
Master		−0.3166
	−3.900 (Minimum)	0.1000 (Nominal) 4.100 (Maximum)

Phase	Phase−Shift T2 at 400KHz	Value
Master		0.2253
	−3.900 (Minimum)	0.1000 (Nominal) 4.100 (Maximum)

Phase	Phase−Shift T3 at 400KHz	Value
Master		−0.2849
	−3.900 (Minimum)	0.1000 (Nominal) 4.100 (Maximum)

Phase	Phase−Shift T4 at 400KHz	Value
Master		0.2122
	−3.900 (Minimum)	0.1000 (Nominal) 4.100 (Maximum)

Phase	Phase−Shift T5 at 400KHz	Value
Master		−0.3014
	−3.900 (Minimum)	0.1000 (Nominal) 4.100 (Maximum)

Master: 20−Feb−2007 12:55

6.75−in. Array Resistivity Compensated Calibration

Resistivity: Air

Phase	Attenuation T1	Value
Master		8.455
6.500 (Minimum)	8.500 (Nominal)	10.50 (Maximum)

Phase	Attenuation T2	Value
Master		6.487
4.500 (Minimum)	6.500 (Nominal)	8.500 (Maximum)

Phase	Attenuation T3	Value
Master		5.082
2.500 (Minimum)	4.500 (Nominal)	6.500 (Maximum)

Phase	Attenuation T4	Value
Master		4.394
2.600 (Minimum)	4.600 (Nominal)	6.600 (Maximum)

Phase	Attenuation T5	Value
Master		3.633
1.600 (Minimum)	3.600 (Nominal)	5.600 (Maximum)

Phase	Attenuation T1 at 400KHz	Value
Master		8.429
6.500 (Minimum)	8.500 (Nominal)	10.50 (Maximum)

Phase	Attenuation T2 at 400KHz	Value
Master		6.521
4.500 (Minimum)	6.500 (Nominal)	8.500 (Maximum)

Phase	Attenuation T3 at 400KHz	Value
Master		5.050
2.500 (Minimum)	4.500 (Nominal)	6.500 (Maximum)

Phase	Attenuation T4 at 400KHz	Value
Master		4.422
2.600 (Minimum)	4.600 (Nominal)	6.600 (Maximum)

Phase	Attenuation T5 at 400KHz	Value
Master		3.610
1.600 (Minimum)	3.600 (Nominal)	5.600 (Maximum)

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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		5.105
2.780 (Minimum)	4.800 (Nominal)	6.000 (Maximum)

SCHLUMBERGER

Survey report 30−Mar−2007 18:03:55 Page 1 of 5

Client.....: ESSO Australia
Field.....: Fortescue

Well.....: FTA−A12A
API number.....:
Engineer.....: MYT/MA/CH

Rig:.....: ISDL 175
STATE:.....: Victoria

Spud date.....: 11−Mar−07
Last survey date.....: 30−Mar−07
Total accepted surveys...: 112
MD of first survey.....: 910.00 m
MD of last survey.....: 4040.00 m

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

----- Depth reference -----------------------
Permanent datum.....: Mean Sea Level
Depth reference.....: Driller's Depth
GL above permanent.....: 69.00 m
KB above permanent.....: Top Drive
DF above permanent.....: 42.50 m

----- Vertical section origin----------------
Latitude (+N/S−).....: −1.69 m
Departure (+E/W−).....: 8.64 m

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

Azimuth from Vsect Origin to target: 32.14 degrees

----- Geomagnetic data ----------------------
Magnetic model.....: BGGM version 2006
Magnetic date.....: 03−Mar−2007
Magnetic field strength..: 1200.01 HCNT
Magnetic dec (+E/W−).....: 13.24 degrees
Magnetic dip.....: −68.92 degrees

----- MWD survey Reference Criteria ---------
Reference G.....: 1000.05 mGal
Reference H.....: 1200.01 HCNT
Reference Dip.....: −68.92 degrees
Tolerance of G.....: (+/−) 2.50 mGal
Tolerance of H.....: (+/−) 6.00 HCNT
Tolerance of Dip.....: (+/−) 0.45 degrees

----- Corrections ---------------------------
Magnetic dec (+E/W−).....: 13.24 degrees
Grid convergence (+E/W−).: −0.79 degrees
Total az corr (+E/W−).....: 14.03 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/ 100f)	Srvy tool type	Tool Corr (deg)
1	910.00	48.66	34.62	0.00	852.42	213.73	164.42	146.00	219.89	41.60	0.00	TIP	None
2	939.58	56.35	29.78	29.58	870.42	237.17	184.28	158.45	243.03	40.69	8.85	PUP	None
3	967.92	57.99	29.13	28.34	885.78	260.95	205.02	170.16	266.43	39.69	1.86	PUP	None
4	998.17	58.33	28.90	30.25	901.74	286.61	227.49	182.62	291.72	38.76	0.40	PUP	None
5	1027.14	58.95	28.24	28.97	916.82	311.30	249.21	194.45	316.10	37.96	0.88	PUP	None
6	1054.86	59.94	28.06	27.72	930.91	335.12	270.26	205.71	339.65	37.28	1.10	PUP	None
7	1081.21	59.75	27.38	26.35	944.15	357.83	290.43	216.31	362.13	36.68	0.71	PUP	None
8	1109.93	58.85	26.48	28.72	958.81	382.42	312.45	227.49	386.49	36.06	1.26	PUP	None
9	1139.43	57.61	26.85	29.50	974.34	407.39	334.86	238.75	411.26	35.49	1.32	PUP	None

10	1167.88	57.22	28.15	28.45	989.66	431.28	356.12	249.82	435.01	35.05	1.25	PUP None
11	1196.14	56.67	29.76	28.26	1005.08	454.93	376.85	261.28	458.57	34.74	1.57	PUP None
12	1224.27	58.09	30.36	28.13	1020.24	478.61	397.35	273.15	482.18	34.51	1.63	PUP None
13	1252.25	60.61	32.20	27.98	1034.50	502.67	417.92	285.65	506.21	34.35	3.24	PUP None
14	1280.12	62.54	33.07	27.87	1047.77	527.18	438.56	298.87	530.71	34.27	2.27	PUP None
15	1309.38	64.12	32.60	29.26	1060.90	553.32	460.53	313.05	556.85	34.21	1.70	PUP None
16	1336.81	63.88	31.30	27.43	1072.93	577.98	481.44	326.09	581.48	34.11	1.33	PUP None
17	1364.88	63.16	30.22	28.07	1085.44	603.09	503.03	338.94	606.57	33.97	1.31	PUP None
18	1393.82	61.89	29.64	28.94	1098.80	628.75	525.28	351.75	632.18	33.81	1.44	PUP None
19	1422.27	59.94	29.32	28.45	1112.63	653.58	546.93	363.99	656.98	33.64	2.11	PUP None
20	1450.54	58.77	30.00	28.27	1127.04	677.88	568.06	376.02	681.24	33.50	1.41	PUP None
21	1479.19	58.94	33.14	28.65	1141.86	702.40	588.95	388.86	705.74	33.44	2.86	PUP None
22	1507.06	60.51	34.94	27.87	1155.91	726.45	608.89	402.33	729.81	33.46	2.42	PUP None
23	1536.05	61.68	35.62	28.99	1169.92	751.79	629.61	416.99	755.17	33.52	1.38	PUP None
24	1564.67	61.97	33.93	28.62	1183.43	776.99	650.33	431.38	780.39	33.56	1.62	PUP None
25	1593.07	61.98	32.43	28.40	1196.78	802.05	671.31	445.10	805.46	33.55	1.42	PUP None
26	1622.00	61.50	30.07	28.93	1210.48	827.53	693.09	458.32	830.92	33.48	2.25	PUP None
27	1649.69	60.99	29.67	27.69	1223.80	851.79	714.14	470.41	855.15	33.37	0.68	PUP None
28	1678.34	60.72	29.92	28.65	1237.75	876.79	735.86	482.84	880.13	33.27	0.37	PUP None
29	1706.82	60.44	30.08	28.48	1251.74	901.58	757.34	495.25	904.89	33.18	0.33	PUP None
30	1735.78	60.16	30.15	28.96	1266.09	926.72	779.10	507.87	930.01	33.10	0.30	PUP 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)
31	1764.33	59.73	30.16	28.55	1280.39	951.41	800.47	520.28	954.69	33.02	0.46	PUP	None
32	1793.47	59.15	30.45	29.14	1295.20	976.49	822.13	532.94	979.76	32.95	0.66	PUP	None
33	1822.07	58.57	30.52	28.60	1309.99	1000.96	843.23	545.36	1004.21	32.89	0.62	PUP	None
34	1851.06	58.06	30.60	28.99	1325.22	1025.62	864.47	557.90	1028.86	32.84	0.54	PUP	None
35	1878.81	56.98	30.59	27.75	1340.12	1049.02	884.62	569.82	1052.26	32.79	1.19	PUP	None
36	1907.06	56.15	30.92	28.25	1355.69	1072.59	904.88	581.87	1075.82	32.74	0.94	PUP	None
37	1934.67	56.93	31.64	27.61	1370.91	1095.62	924.56	593.83	1098.84	32.71	1.09	PUP	None
38	1963.06	57.74	32.89	28.39	1386.23	1119.52	944.77	606.59	1122.74	32.70	1.43	PUP	None
39	1991.56	58.68	33.48	28.50	1401.25	1143.74	965.04	619.85	1146.96	32.71	1.14	PUP	None
40	2019.42	60.15	34.51	27.86	1415.42	1167.71	984.93	633.26	1170.94	32.74	1.88	PUP	None
41	2047.80	61.16	34.12	28.38	1429.33	1192.43	1005.36	647.21	1195.67	32.77	1.14	PUP	None
42	2076.31	62.12	33.28	28.51	1442.87	1217.51	1026.23	661.13	1220.75	32.79	1.30	PUP	None
43	2105.22	62.67	32.69	28.91	1456.27	1243.13	1047.72	675.07	1246.37	32.79	0.80	PUP	None
44	2134.03	62.26	32.67	28.81	1469.59	1268.67	1069.22	688.87	1271.92	32.79	0.43	PUP	None
45	2162.40	61.25	32.89	28.37	1483.01	1293.66	1090.24	702.40	1296.91	32.79	1.10	PUP	None
46	**2190.18**	**60.06**	**32.82**	**27.78**	**1496.63**	**1317.87**	**1110.58**	**715.53**	**1321.13**	**32.79**	**1.31**	**PUP**	**None**
47	2218.83	59.30	33.05	28.65	1511.09	1342.60	1131.33	728.98	1345.86	32.80	0.84	PUP	None
48	2248.01	58.10	33.10	29.18	1526.25	1367.53	1152.23	742.59	1370.79	32.80	1.25	PUP	None
49	2274.95	58.10	31.81	26.94	1540.49	1390.40	1171.52	754.86	1393.66	32.80	1.24	PUP	None
50	2303.36	57.91	29.81	28.41	1555.54	1414.49	1192.22	767.20	1417.74	32.76	1.83	PUP	None
51	2332.15	58.11	27.95	28.79	1570.79	1438.86	1213.60	778.99	1442.10	32.70	1.68	PUP	None
52	2361.11	57.32	27.68	28.96	1586.26	1463.28	1235.25	790.42	1466.49	32.61	0.87	PUP	None
53	2389.54	56.45	28.20	28.43	1601.79	1487.03	1256.29	801.57	1490.23	32.54	1.04	PUP	None
54	2417.92	56.65	28.84	28.38	1617.44	1510.66	1277.09	812.88	1513.85	32.48	0.61	PUP	None
55	2446.41	57.69	29.55	28.49	1632.88	1534.57	1297.99	824.56	1537.75	32.43	1.28	PUP	None
56	2474.84	58.92	30.20	28.43	1647.82	1558.74	1318.97	836.61	1561.92	32.39	1.45	PUP	None
57	2502.80	59.92	30.64	27.96	1662.04	1582.80	1339.72	848.80	1585.97	32.36	1.17	PUP	None
58	2531.73	61.02	31.76	28.93	1676.30	1607.96	1361.25	861.84	1611.14	32.34	1.55	PUP	None
59	2560.19	62.04	31.58	28.46	1689.87	1632.98	1382.54	874.97	1636.15	32.33	1.11	PUP	None
60	2588.71	63.57	30.43	28.52	1702.90	1658.34	1404.29	888.04	1661.51	32.31	1.97	PUP	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	2617.47	64.39	28.46	28.76	1715.52	1684.16	1426.79	900.74	1687.33	32.26	2.07	PUP	None
62	2645.77	64.27	26.73	28.30	1727.78	1709.58	1449.40	912.55	1712.75	32.19	1.68	PUP	None
63	2673.99	62.11	25.56	28.22	1740.51	1734.63	1472.00	923.65	1737.79	32.11	2.59	PUP	None
64	2702.18	61.26	25.34	28.19	1753.88	1759.28	1494.41	934.32	1762.45	32.01	0.94	PUP	None
65	2729.72	60.71	26.99	27.54	1767.24	1783.23	1516.03	944.94	1786.40	31.94	1.71	PUP	None
66	2757.98	59.79	29.25	28.26	1781.26	1807.70	1537.66	956.50	1810.88	31.88	2.34	PUP	None
67	2785.86	59.95	29.55	27.88	1795.26	1831.79	1558.67	968.33	1834.97	31.85	0.33	PUP	None
68	2814.79	59.62	29.52	28.93	1809.82	1856.76	1580.42	980.66	1859.95	31.82	0.35	PUP	None
69	2842.54	59.19	29.29	27.75	1823.94	1880.62	1601.23	992.39	1883.82	31.79	0.52	PUP	None
70	2871.26	58.45	29.42	28.72	1838.81	1905.16	1622.65	1004.43	1908.37	31.76	0.79	PUP	None
71	2899.68	58.31	29.57	28.42	1853.71	1929.34	1643.71	1016.35	1932.55	31.73	0.20	PUP	None
72	2928.04	58.05	30.04	28.36	1868.66	1953.41	1664.62	1028.32	1956.63	31.71	0.51	PUP	None
73	2956.20	57.61	29.95	28.16	1883.66	1977.23	1685.27	1040.24	1980.46	31.69	0.48	PUP	None
74	2984.50	58.49	30.50	28.30	1898.63	2001.23	1706.02	1052.33	2004.47	31.67	1.07	PUP	None
75	3013.11	60.08	31.18	28.61	1913.24	2025.82	1727.13	1064.94	2029.06	31.66	1.80	PUP	None
76	3041.64	61.35	31.73	28.53	1927.20	2050.70	1748.36	1077.92	2053.94	31.66	1.45	PUP	None
77	3069.56	60.41	31.97	27.92	1940.79	2075.09	1769.08	1090.79	2078.33	31.66	1.05	PUP	None
78	3098.04	59.96	32.25	28.48	1954.95	2099.80	1790.01	1103.93	2103.04	31.66	0.55	PUP	None
79	3128.87	59.73	32.38	30.83	1970.43	2126.46	1812.54	1118.18	2129.70	31.67	0.25	PUP	None
80	3156.53	59.50	32.54	27.66	1984.43	2150.32	1832.67	1130.99	2153.56	31.68	0.30	PUP	None
81	3184.41	59.38	32.63	27.88	1998.60	2174.33	1852.90	1143.91	2177.56	31.69	0.16	PUP	None
82	3213.54	58.79	32.83	29.13	2013.57	2199.32	1873.92	1157.43	2202.55	31.70	0.64	PUP	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)
83	3242.31	58.28	33.14	28.77	2028.58	2223.85	1894.51	1170.79	2227.08	31.72	0.61	PUP	None
84	3270.77	59.47	32.47	28.46	2043.29	2248.22	1914.98	1183.98	2251.44	31.73	1.41	PUP	None
85	3298.54	61.34	31.20	27.77	2057.01	2272.36	1935.50	1196.72	2275.58	31.73	2.38	PUP	None
86	3327.20	62.47	30.54	28.66	2070.51	2297.64	1957.20	1209.69	2300.86	31.72	1.35	PUP	None
87	3355.99	61.91	30.64	28.79	2083.94	2323.09	1979.12	1222.65	2326.32	31.71	0.60	PUP	None
88	3384.31	61.58	31.29	28.32	2097.34	2348.03	2000.51	1235.48	2351.27	31.70	0.71	PUP	None
89	3412.22	61.09	31.57	27.91	2110.73	2372.52	2021.41	1248.25	2375.76	31.70	0.60	PUP	None
90	3440.85	60.09	30.98	28.63	2124.79	2397.46	2042.72	1261.20	2400.70	31.69	1.20	PUP	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	3468.88	58.26	28.83	28.03	2139.15	2421.51	2063.58	1273.20	2424.75	31.67	2.83	PUP	None
92	3497.54	56.85	27.50	28.66	2154.53	2445.63	2084.90	1284.62	2448.89	31.64	1.92	PUP	None
93	3526.24	56.29	27.94	28.70	2170.34	2469.51	2106.10	1295.76	2472.79	31.60	0.71	PUP	None
94	3554.70	56.56	29.74	28.46	2186.08	2493.18	2126.87	1307.20	2496.47	31.58	1.63	PUP	None
95	3583.41	57.35	32.06	28.71	2201.74	2517.24	2147.52	1319.56	2520.53	31.57	2.23	PUP	None
96	3611.63	57.04	32.55	28.22	2217.03	2540.96	2167.57	1332.24	2544.25	31.58	0.56	PUP	None
97	3639.74	57.10	33.12	28.11	2232.31	2564.55	2187.39	1345.03	2567.84	31.59	0.52	PUP	None
98	3668.41	57.31	32.85	28.67	2247.84	2588.65	2207.61	1358.15	2591.93	31.60	0.33	PUP	None
99	3696.55	57.48	32.21	28.14	2263.00	2612.35	2227.59	1370.90	2615.63	31.61	0.61	PUP	None
100	3723.95	55.20	33.73	27.40	2278.19	2635.16	2246.73	1383.30	2638.43	31.62	2.90	PUP	None
101	3751.97	53.21	34.99	28.02	2294.58	2657.86	2265.49	1396.13	2661.13	31.64	2.43	PUP	None
102	3780.39	51.73	36.35	28.42	2311.89	2680.36	2283.80	1409.27	2683.61	31.68	1.96	PUP	None
103	3809.63	50.20	37.30	29.24	2330.30	2702.99	2301.98	1422.88	2706.23	31.72	1.77	PUP	None
104	3837.45	47.53	39.32	27.82	2348.60	2723.82	2318.42	1435.86	2727.04	31.77	3.37	PUP	None
105	3864.95	45.46	41.51	27.50	2367.54	2743.56	2333.61	1448.78	2746.76	31.83	2.89	PUP	None
106	3893.77	44.28	42.83	28.82	2387.96	2763.58	2348.68	1462.43	2766.77	31.91	1.59	PUP	None
107	3922.37	43.94	43.20	28.60	2408.50	2783.13	2363.24	1476.01	2786.30	31.99	0.45	PUP	None
108	3950.43	43.62	43.55	28.06	2428.75	2802.17	2377.35	1489.34	2805.34	32.07	0.44	PUP	None
109	3978.86	41.90	42.29	28.43	2449.63	2821.13	2391.48	1502.49	2824.30	32.14	2.06	PUP	None
110	4007.47	40.30	41.13	28.61	2471.19	2839.67	2405.52	1515.00	2842.84	32.20	1.89	PUP	None
111	4021.05	39.80	40.48	13.58	2481.58	2848.31	2412.13	1520.71	2851.48	32.23	1.46	PUP	None
112	4040.00	39.50	40.00	18.95	2496.17	2860.28	2421.36	1528.52	2863.46	32.26	0.69	Projection to TD	

Company: **ESSO Australia Pty Ltd**

Schlumberger

Well: **FTA A12A**

Field: **Fortescue**

Rig: **ISDL 175**

8.5 in. Section

State: **Victoria**

VISION Service
1:200 Measured Depth
Recorded Mode Log