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<p style="text-align: center;">DISCLAIMER</p> <p>THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE OF AND RELIANCE UPON THE RECORDED-DATA; AND (c) CUSTOMER'S FULL AND SOLE RESPONSIBILITY FOR ANY INFERENCE DRAWN OR DECISION MADE IN CONNECTION WITH THE USE OF THIS RECORDED-DATA.</p>		
<p>OTHER SERVICES FOR RUN4</p> <p>Directional Surveys</p> <p>Directional Drilling</p>	<p>OTHER SERVICES FOR RUN5</p> <p>Directional Surveys</p> <p>Directional Drilling</p>	<p>OTHER SERVICES FOR RUN</p>
<p>REMARKS: RUN NUMBER 4</p> <p>8-1/2 in. Hole section was drilled from 843.0 m to 2421.5 m.</p> <p>Depth is referenced to the Driller's Depth.</p> <p>All data presented is from tool memory.</p> <p>GR corrected for mud weight, tool and bit size.</p> <p>GVR6* resistivity is corrected for the bit size, mud resistivity and borehole temperature.</p> <p>Bottom quadrant density is presented.</p> <p>Neutron porosity is calculated with a limestone matrix and is corrected for the bit size, borehole salinity, temperature and mud hydrogen index.</p> <p>Mud type is water-based KCl/PHPA/Glycol.</p> <p>Barite was present in the mud system.</p> <p>GVR6* Shallow, Medium and Deep Button Resistivity curves not presented due to failure.</p>	<p>REMARKS: RUN NUMBER 5</p> <p>8-1/2 in. Hole section was drilled between 2421.5 m to 2862.0 m.</p> <p>Depth is referenced to the Driller's Depth.</p> <p>All data presented is from tool memory.</p> <p>GR corrected for mud weight, tool and bit size.</p> <p>GVR6* resistivity is corrected for the bit size, mud resistivity and borehole temperature.</p> <p>Bottom quadrant density is presented.</p> <p>Neutron porosity is calculated with a limestone matrix and is corrected for the bit size, borehole salinity, temperature and mud hydrogen index.</p> <p>Mud type is water-based KCl/PHPA/Glycol.</p> <p>Barite was present in the mud system.</p>	<p>REMARKS: RUN NUMBER</p>

Resistivity curves not presented due to failure.

GVR6\* downhole software: 6.1B14  
ADN6\* downhole software: 6.2B08

GVR6\* downhole software: 6.1B14  
ADN6\* downhole software: 6.2B08

EQUIPMENT DESCRIPTION

RUN4			RUN5			RUN		
DOWNHOLE EQ			DOWNHOLE EQ					
6 3/4 in. AD	Neutron	28.7	30.5	6 3/4 in. AD	Neutron	28.7	30.5	
ADSE	Neutron	28.6		ADSE	Neutron	28.6		
8 1/4 in. S	Density	27.7		8 1/4 in. S	Density	27.7		
NSR-M	Density	27.6		NSR-M	Density	27.6		
GSR-J A	UltraSo	27.2		GSR-J A	UltraSo	27.2		
Software: 6	R-O P	26.4		Software: 6	R-O P	26.5		
6 3/4 in. Pow		24.3		6 3/4 in. Pow		24.3		
MDC AC-				MDC AC-				
MDI 116				MDI 116				
MEC 115				MEC 115				
Software: 6	D&I	20.1		Software: 6	D&I	20.2		
6 3/4 in. G	Shallo	14.5		6 3/4 in. G	Shallo	14.5		
S/N: 1	Medium	14.4		S/N: 1	Medium	14.4		
Software: 6	Deep	14.2	16.0	Software: 6	Deep	14.2	16.0	
	Ring R	14.0			Ring R	14.0		
	R-O p	13.9			R-O p	13.9		
	GR	13.7			GR	13.7		
Cross Over Sub		12.9		Cross Over Sub		12.9		
NM Pony		12.3		NM Pony		12.3		
S/N: ASS1				S/N: ASS1				
NM Pony		9.59		NM Pony		9.59		
S/N: ANA9				S/N: ANA9				
PowerPak* Mu		7.89		PowerPak* Mu		7.89		
A675XP S/N: A				A675XP S/N: A				
0.78 deg				0.78 deg				

0.78 deg



0.78 deg

GeoDiamond  
S75HVPX S/N

MAXIMUM STRING DI

ALL LENGTHS I

— 0.00

0.20

GeoDiamond  
S75HVPX S/N

MAXIMUM STRING DI

ALL LENGTHS I

— 0.00

0.20

## IDEAL Version: ID7\_OC\_02

IDF

RAB  
ADNIDEAL Version: ID7\_OC\_02  
IDEAL Version: ID7\_OC\_02

MWD\_10

IDEAL Version: ID7\_OC\_02

Format: A-30 GeoVISION Density Neutron

Vertical Scale: 1:200

Graphics File Created: 09-Sep-2002 17:07

## Parameters

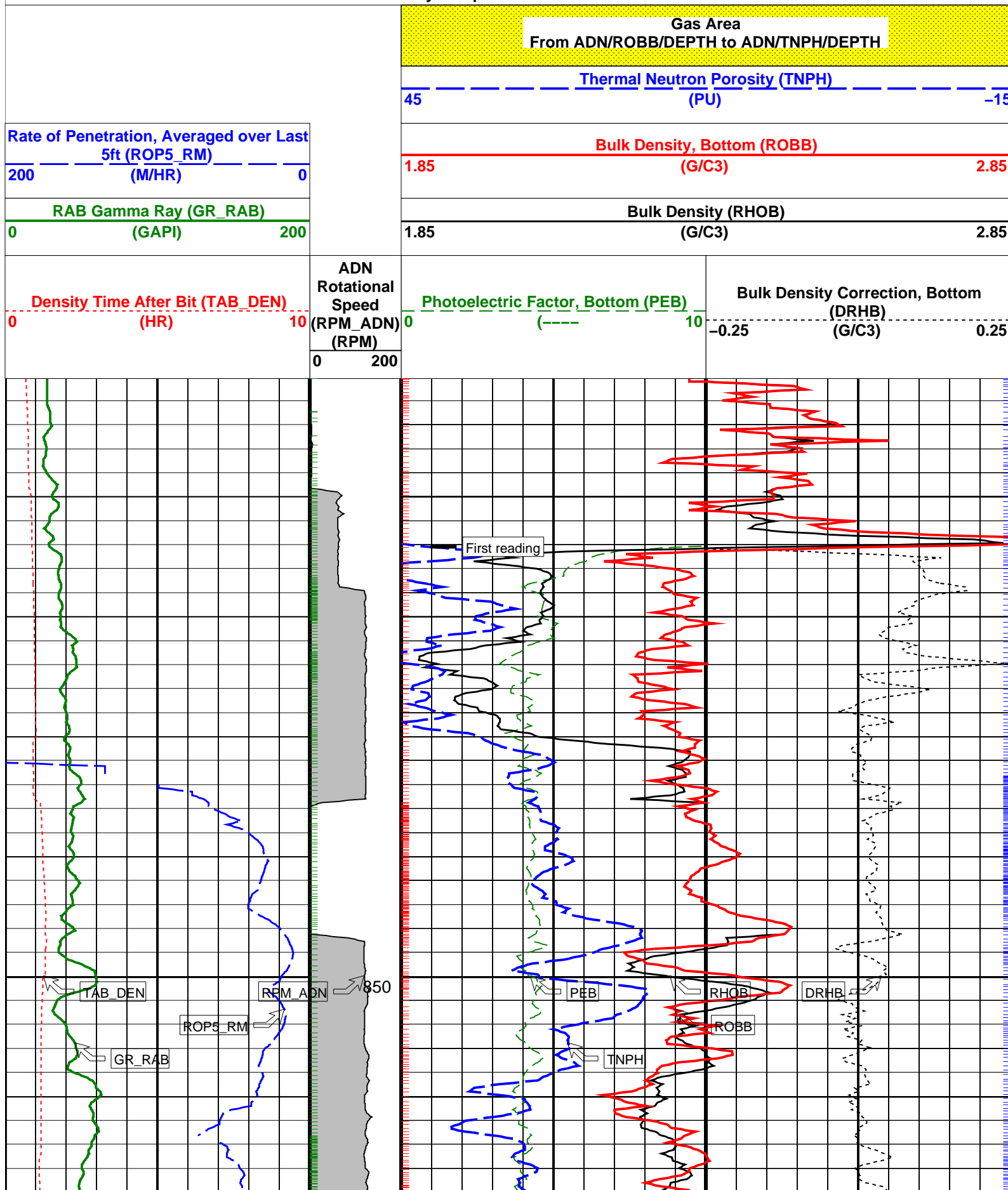
DLIS Name	Description	Value
ADN_COLLAR_STR	ADN Collar Type String	ADDC-AA: Slick
ADN_STAB_STR	ADN Stabilizer Type String	None
AVE_ADN	ADN/Array Channels: perform averaging(RM) :	YES
A_DHS	ADN Down Hole Software Version String	V6.2B
BHA_COEF_VER	RAB: BHA Coef Generator Version	62012.0
BHT_RM	Bottom Hole Temperature (RM)	70.000 degC
BSAL_RM	Mud Salinity (RM)	66.000 ppk
BS_RM	Bit Size (RM)	8.500 in
DEVI	Well Section Deviation	58.900 deg
DHS_VERSION	RAB: DownHole Software Version	6.101
DO	Depth Offset	0.0 m
ENVCOR	Neutron Quadrant Processing: Environmental Correction?	YES
GRDC	Grid corr angle	-0.880 deg
LITHO_TYPE_ADN	Lithology (RM)	LIME
MST_RM	Mud Sample temperature (RM)	20.500 degC
MW_RM	Mud Weight (RM)	10.100 lbm/gal
OBM	RAB: Oil base Mud	NO
OBMF_RM	Oil Based Mud	NO
RAB_TEMP_SELECT	RAB Temperature Selection	MEAS
READOUT_PORT_MP	RAB: ROP to Bit Face Distance	13.940 m
RHOF_RM	Mud Filtrate Density (RM)	1.000 g/cm3
RHOM_RM	Matrix density (RM)	2.710 g/cm3
RMS_RM	Resistivity of Mud Sample (RM)	0.148 ohm.m
RWS_RM	Resistivity of Connate Water (RM)	1.000 ohm.m
SHT_RM	Surface Hole Temperature (RM)	18.000 degC
SSIZ_ADN	ADN Stabilizer Size	8.250 in
STAB	RAB: Run with Stabilizer	YES
TD_RM	Total Measured Depth (RM)	2862.0 m
TOOLTYPE	RAB: Azimuthal Tool	YES
TRPM_RM	Average Tool Rotational Speed	20.000 c/min
TSIZ_ADN	ADN Tool Size	6.750 in
TS_VERSION	RAB: ToolScope Software Version	6.101
TWS_RM	Temperature of Connate Water (RM)	23.889 degC
VERS_ADN	ADN Downhole Software Version	6.200
VRAB6	Rab Tool type (ENP/PILOT)	RAB6_C_SERIES

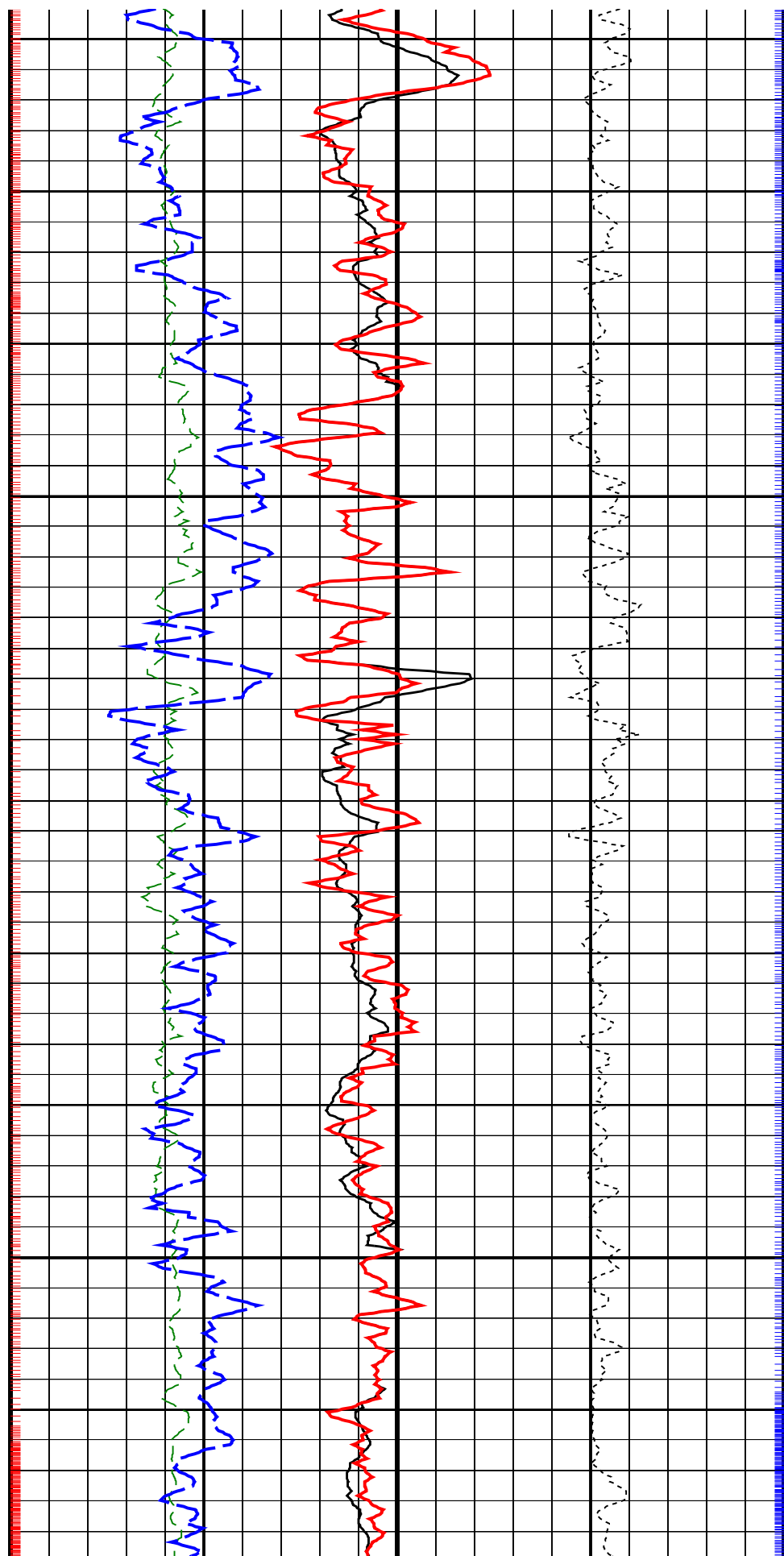
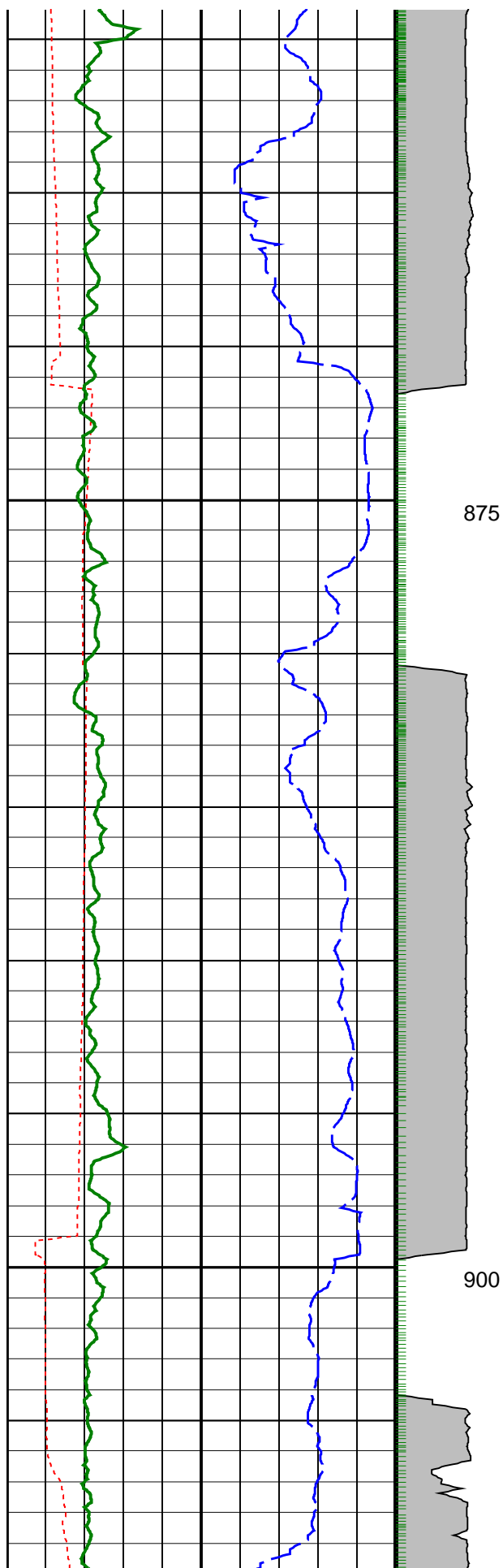
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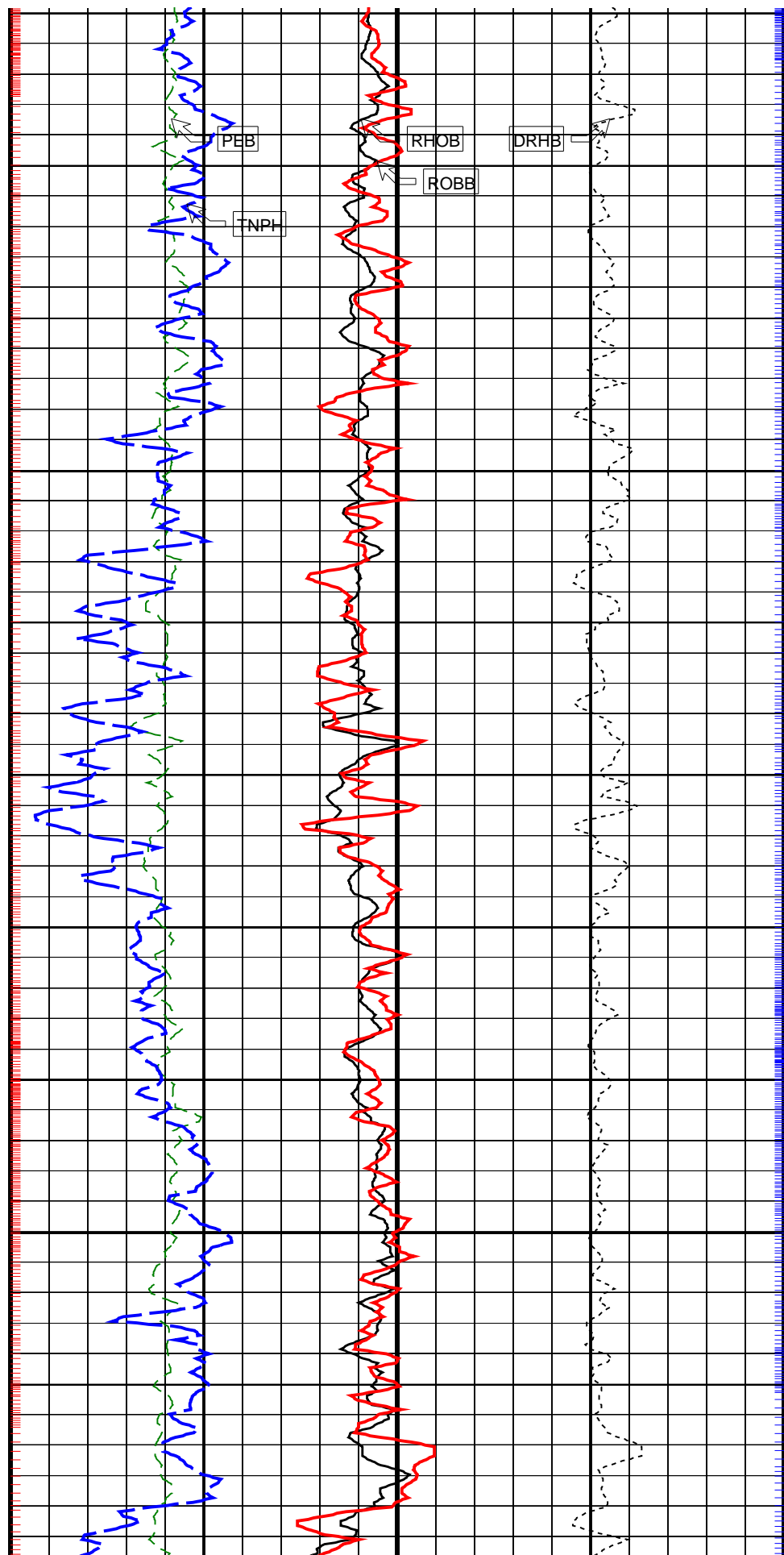
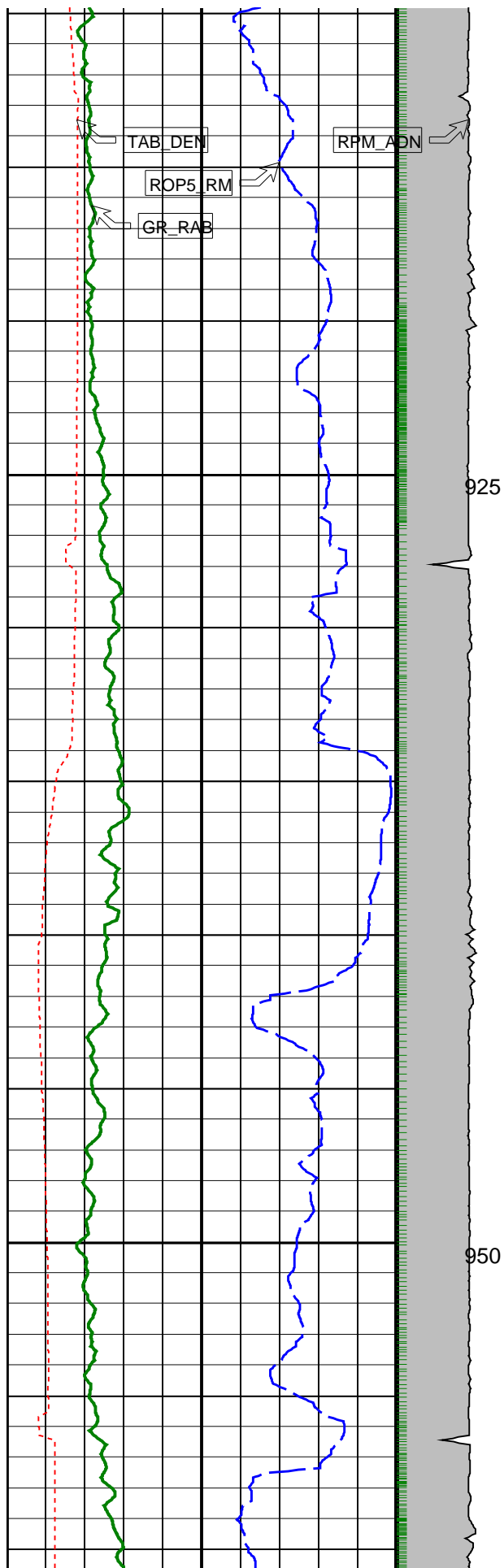
Density Ticks, 0.1 ft

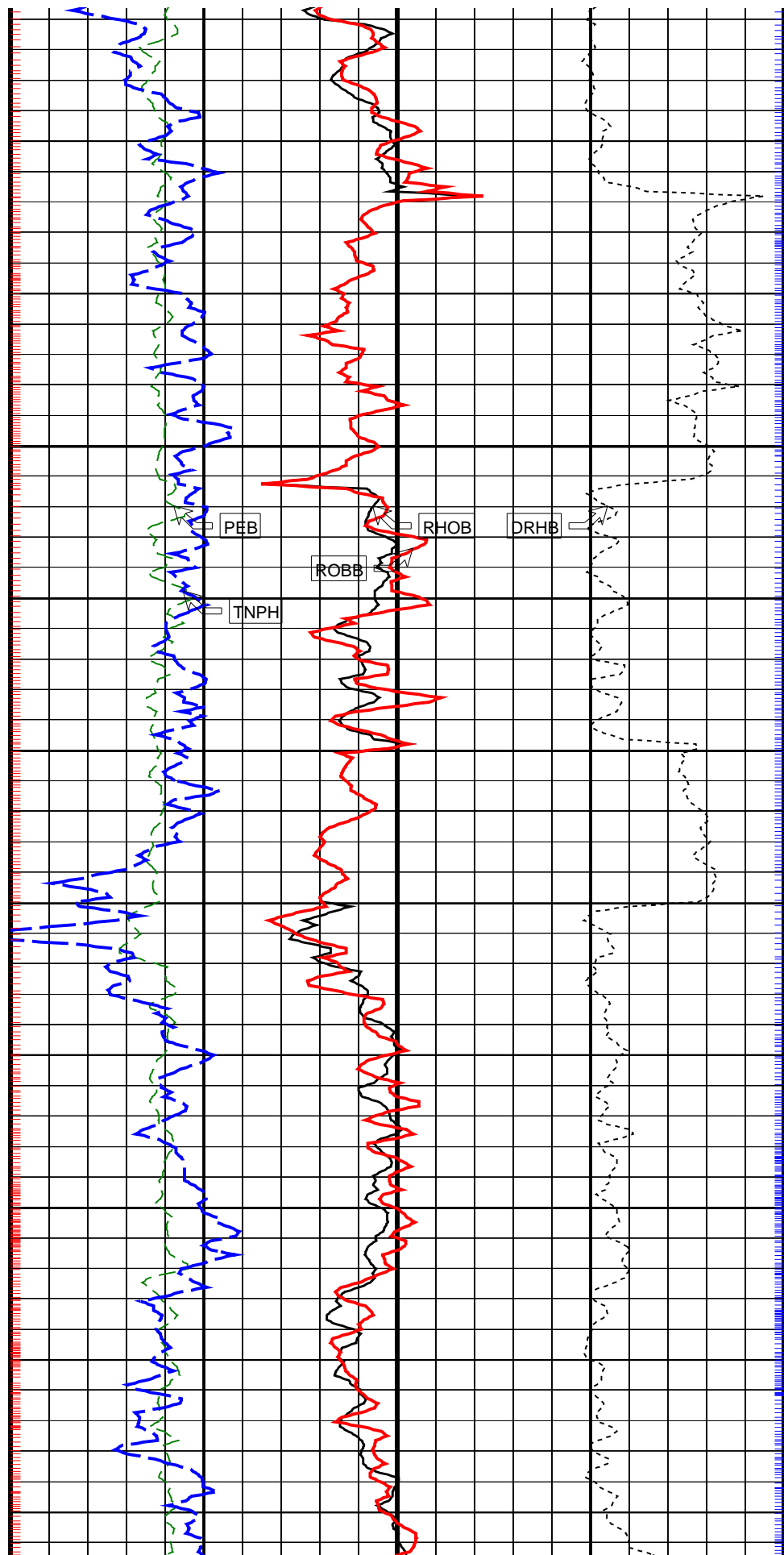
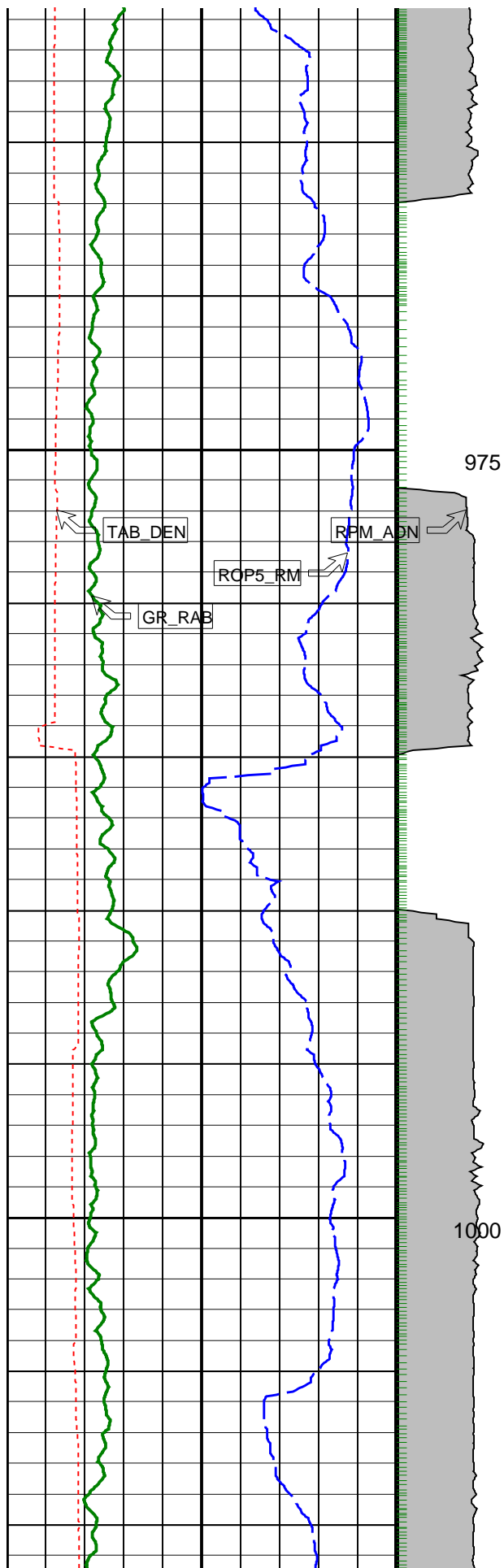
Neutron Ticks, 0.1 ft

## Gamma Ray Samples

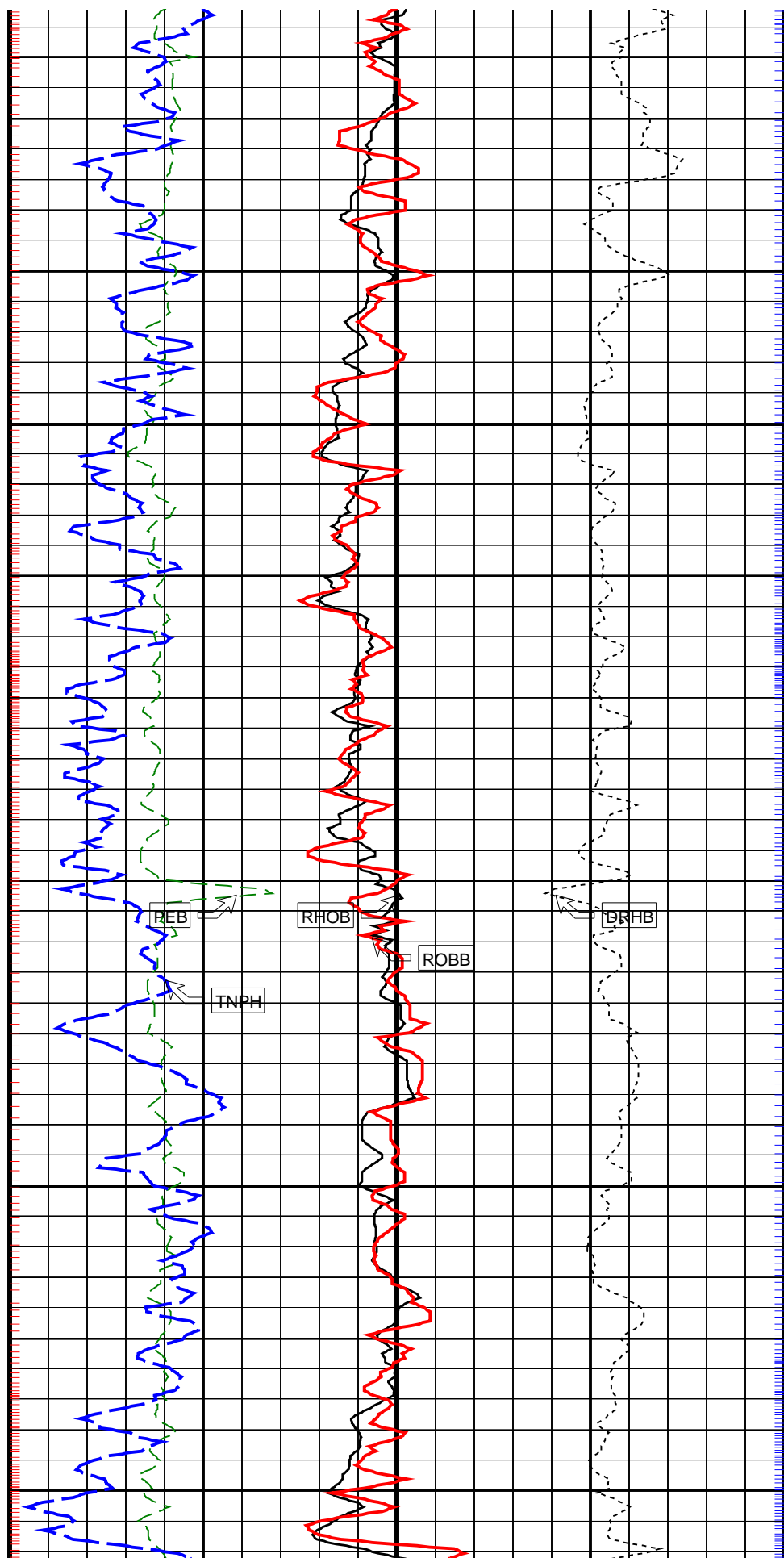
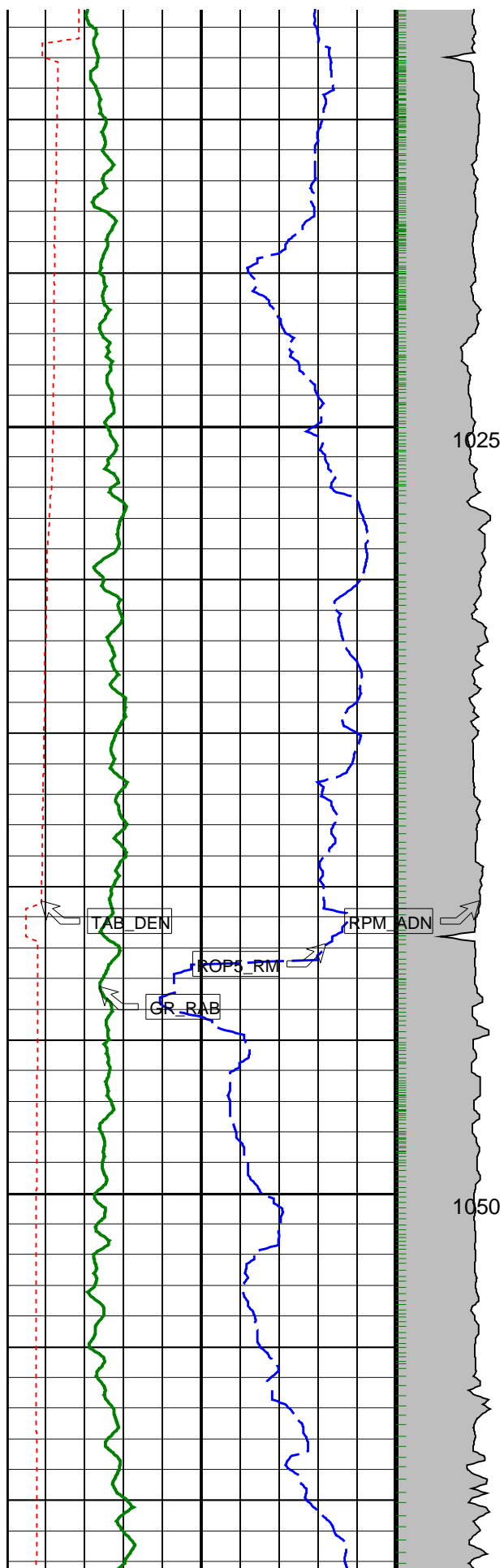


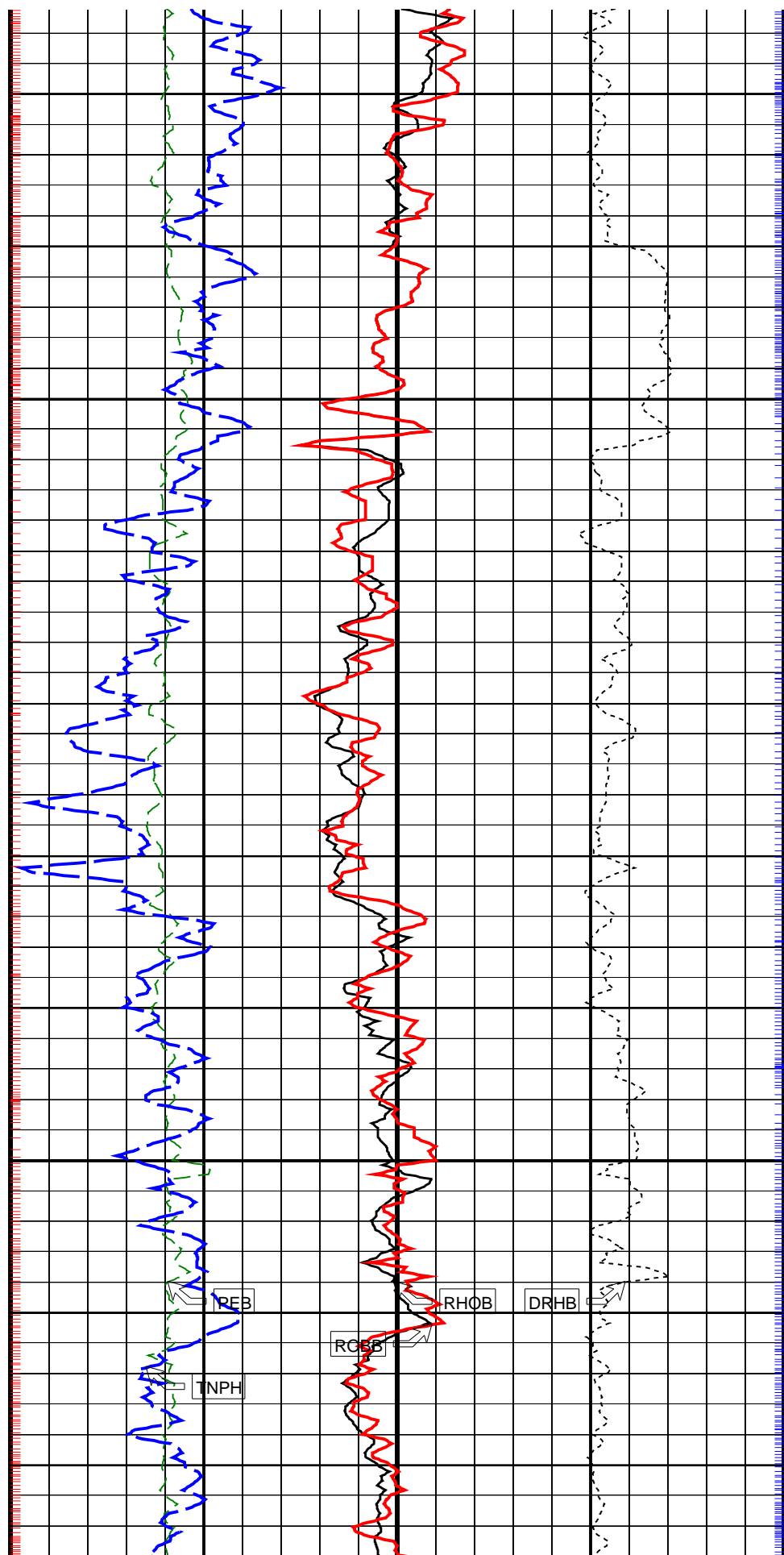
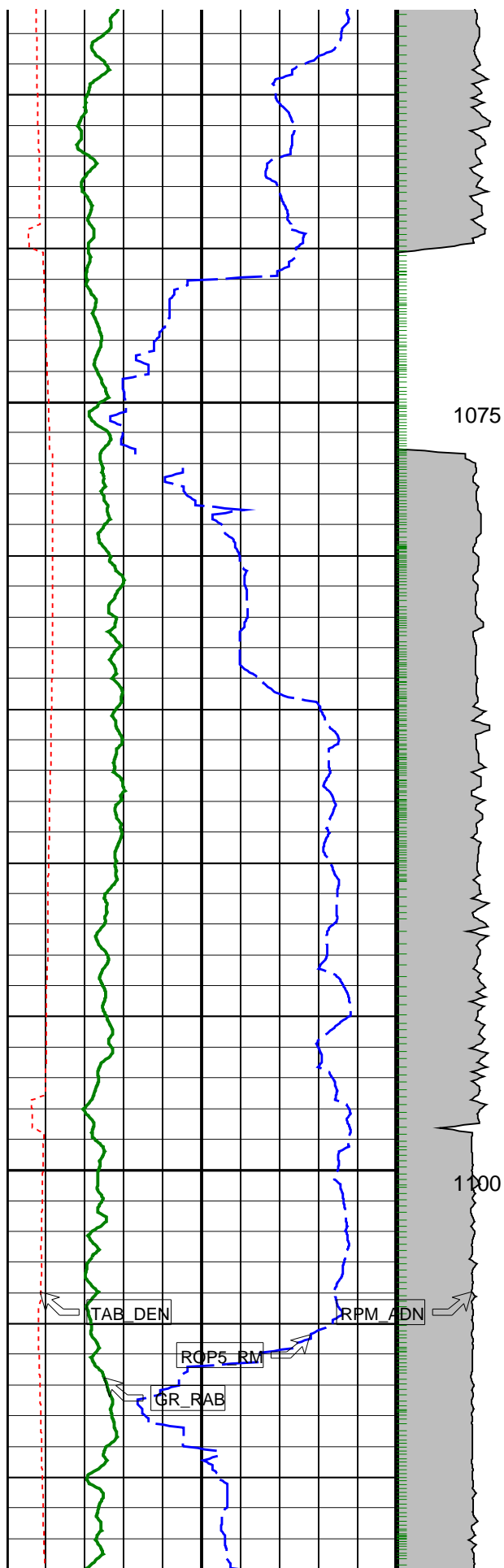


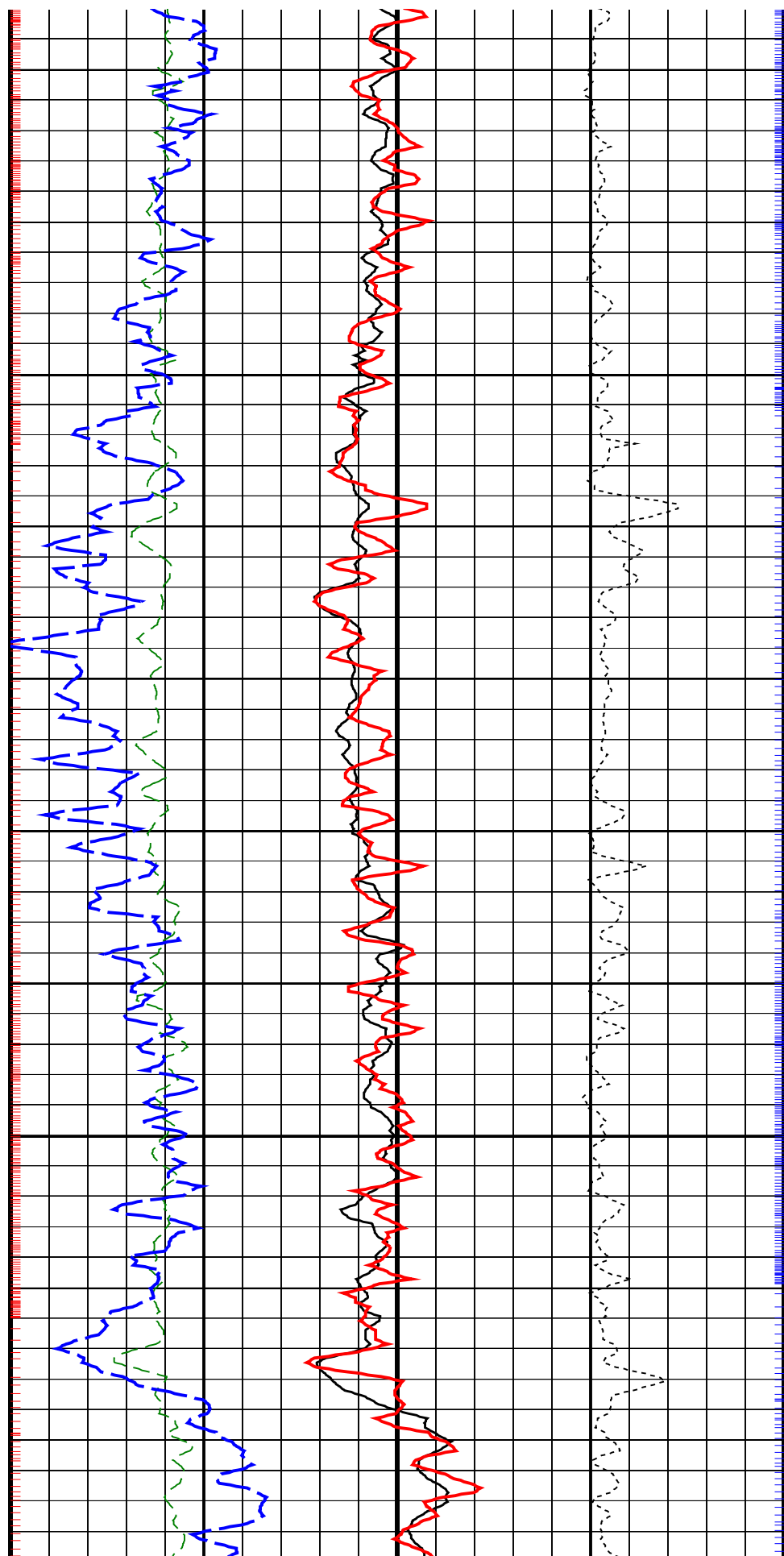
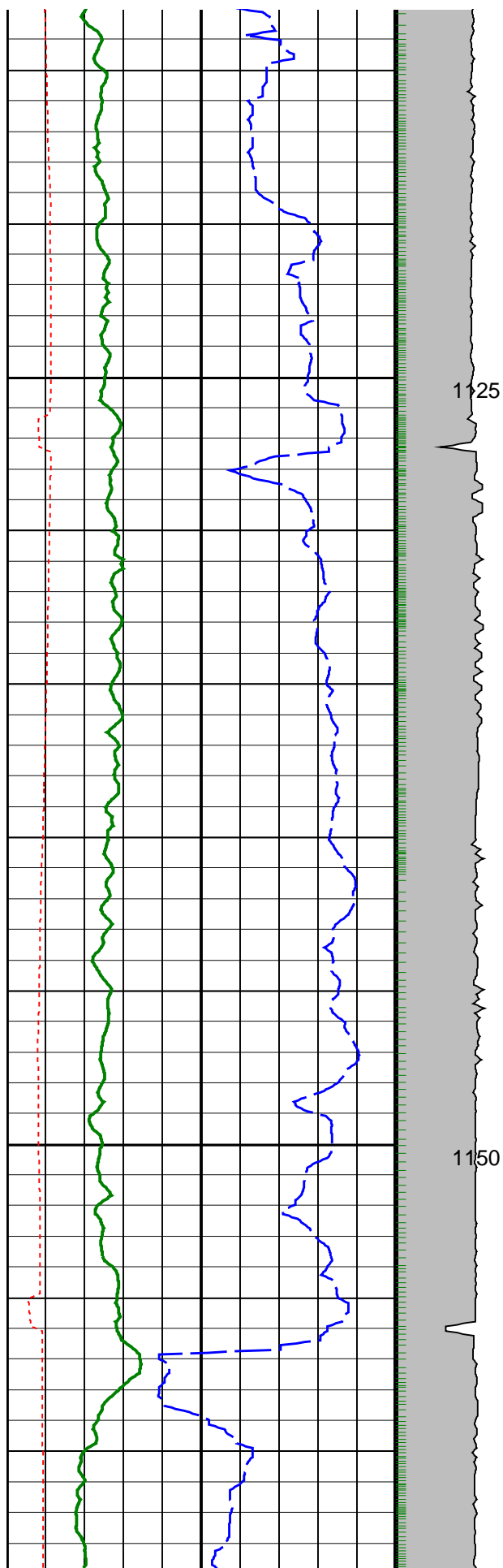


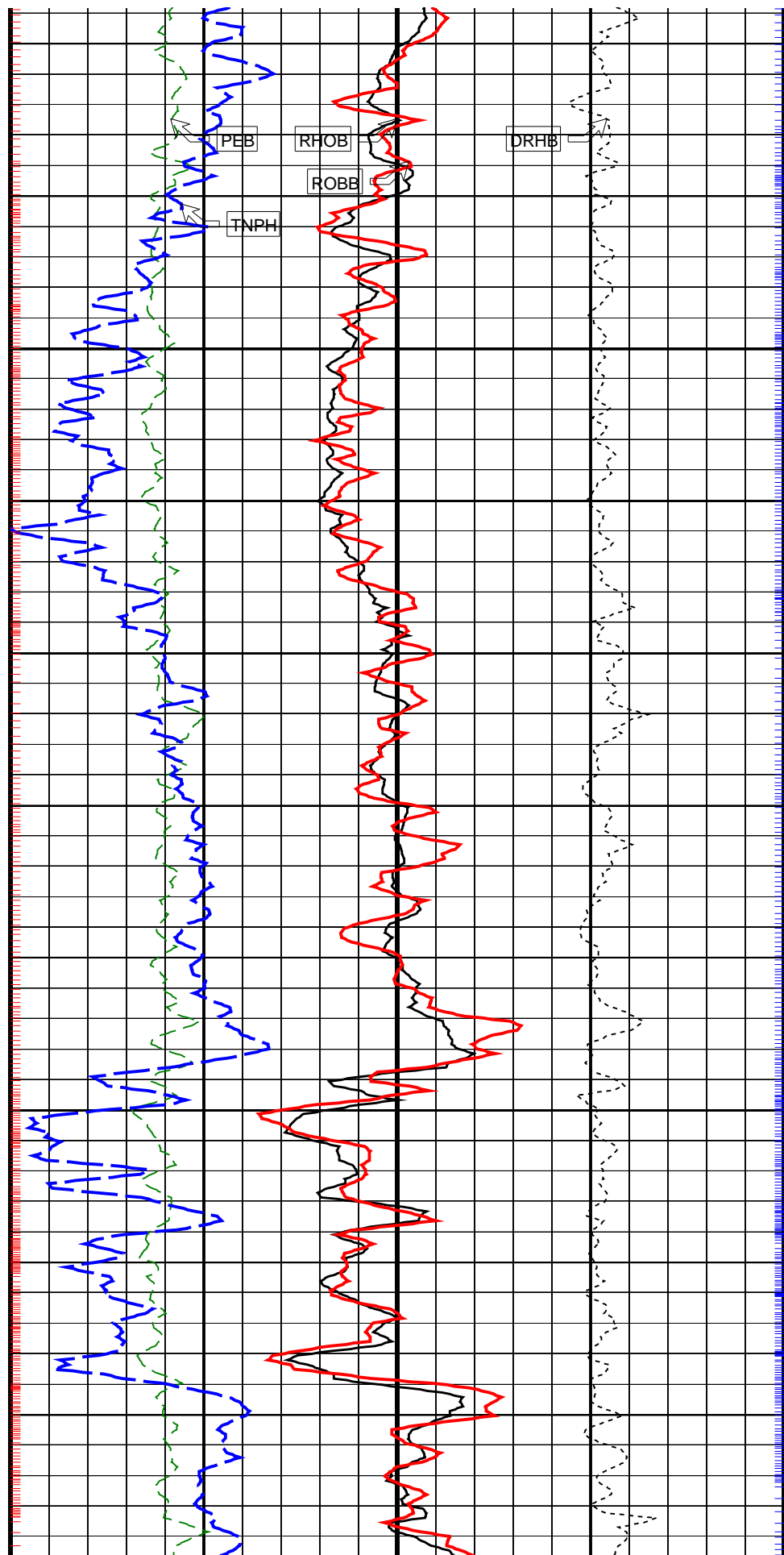
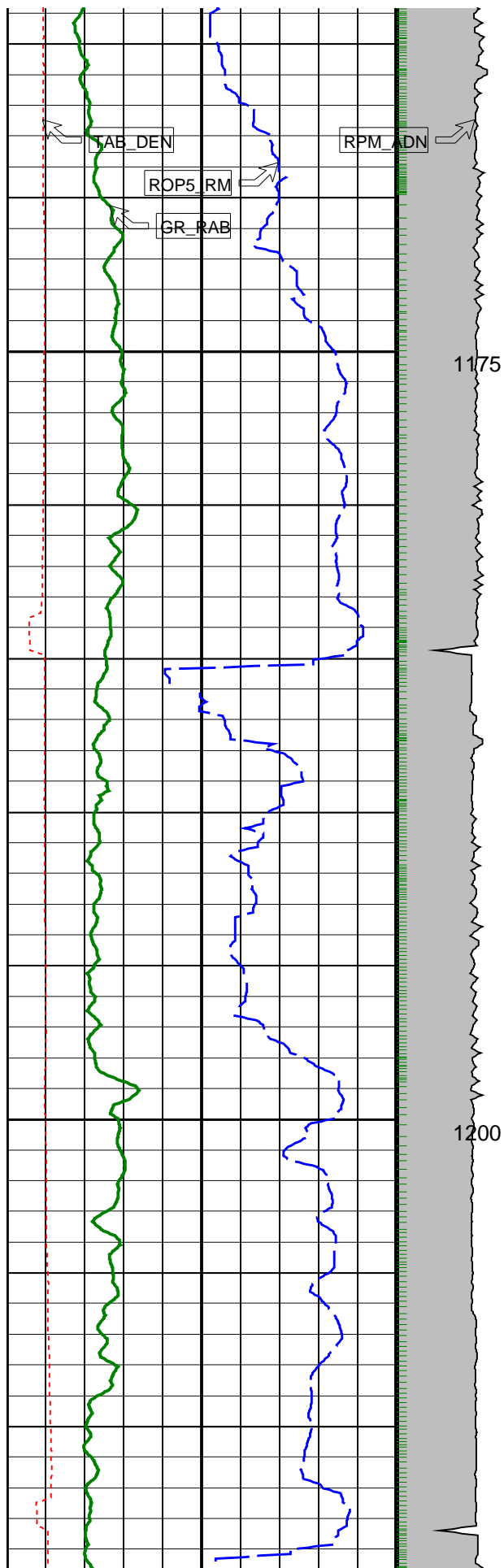


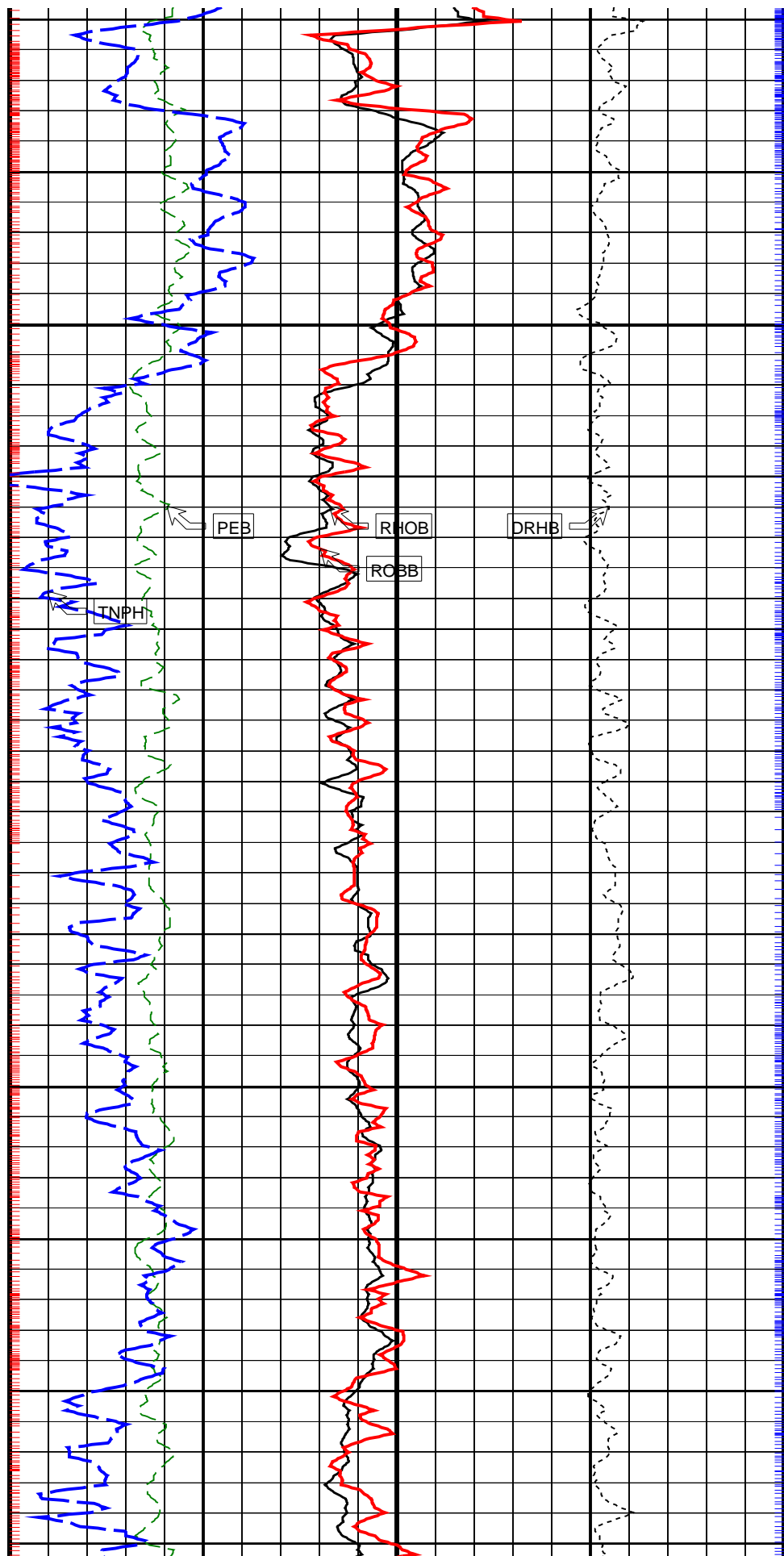
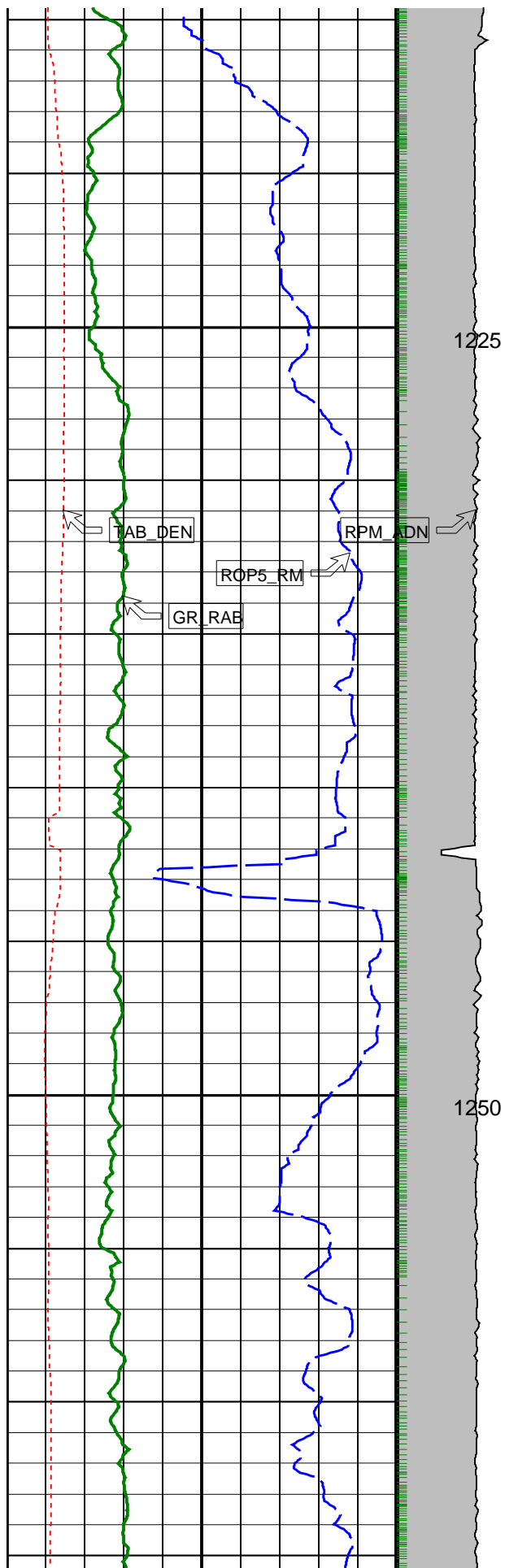


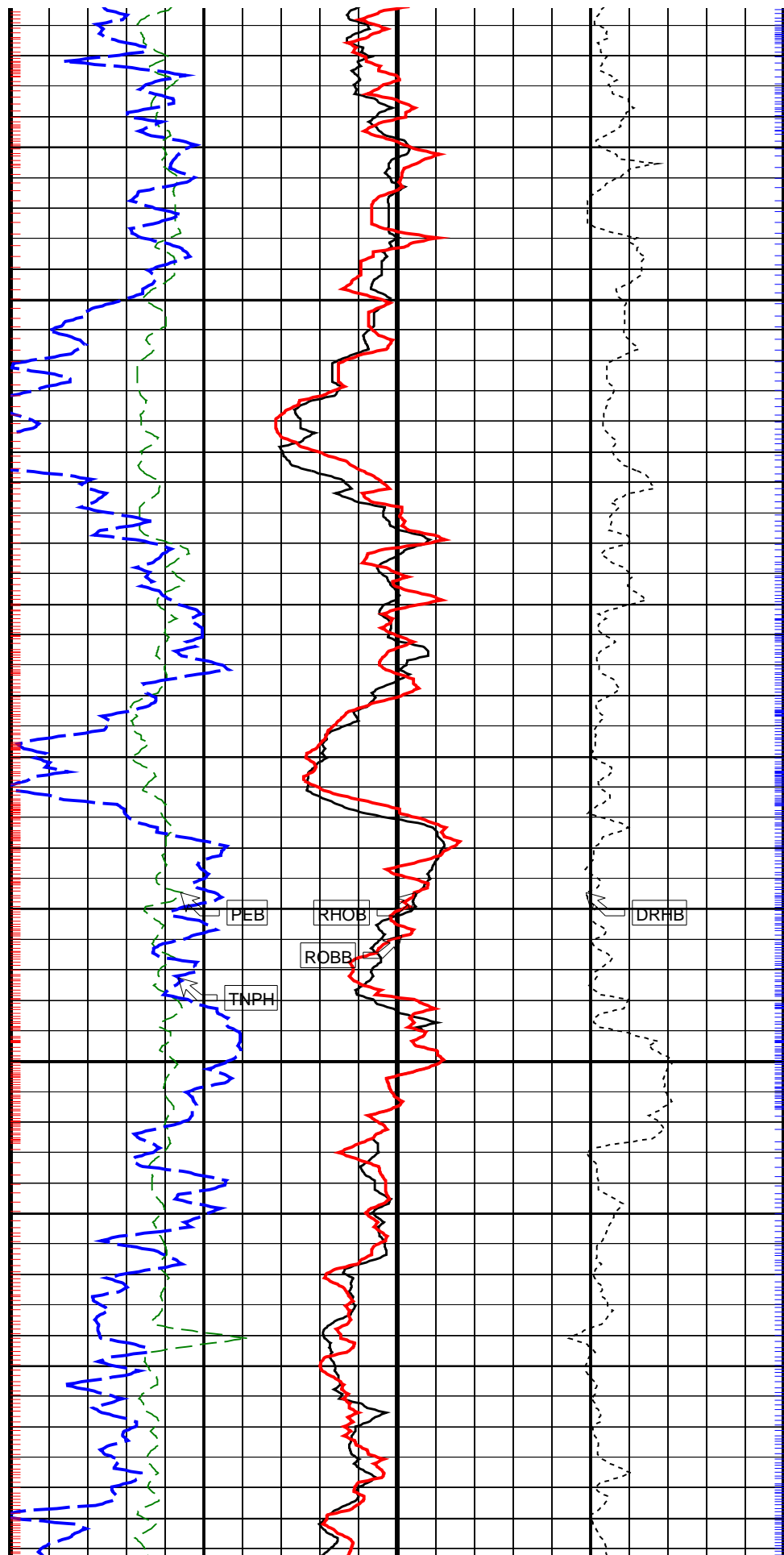
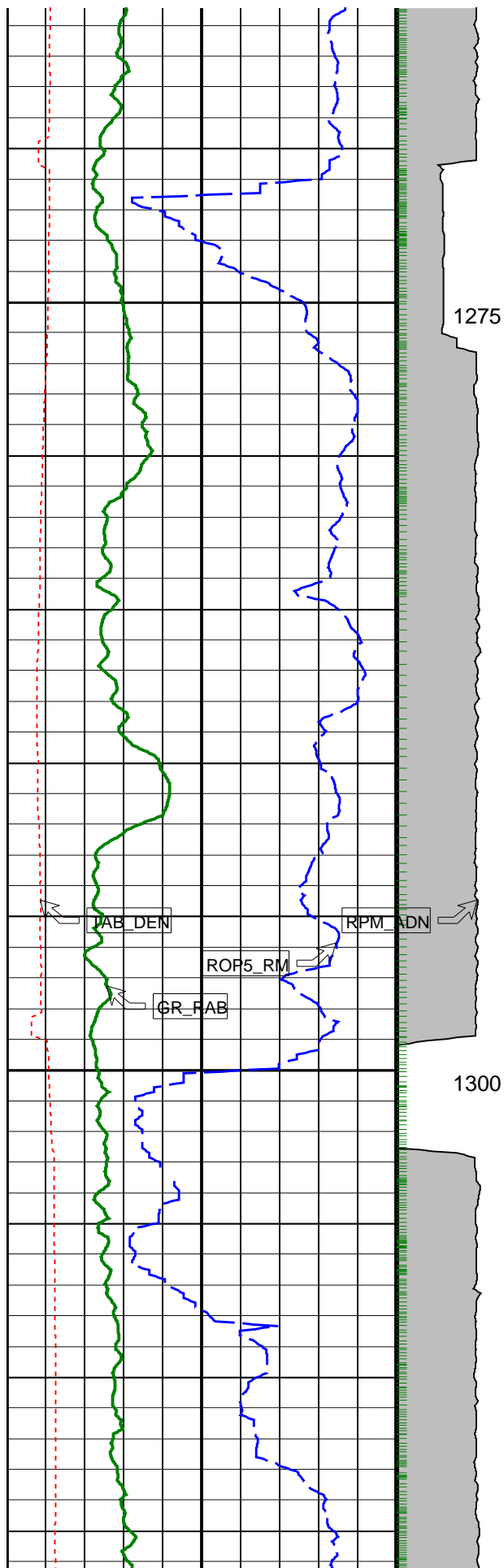


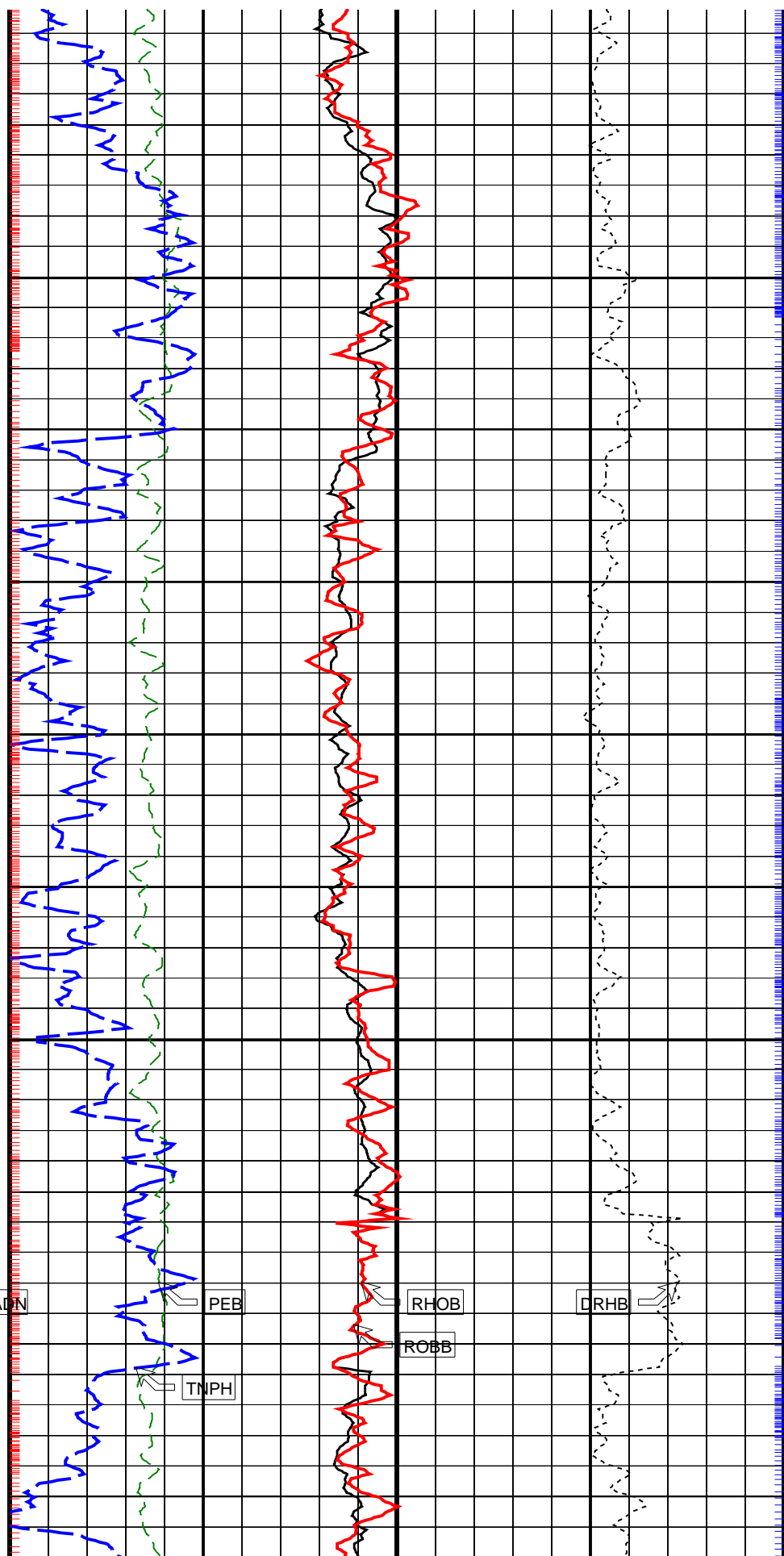
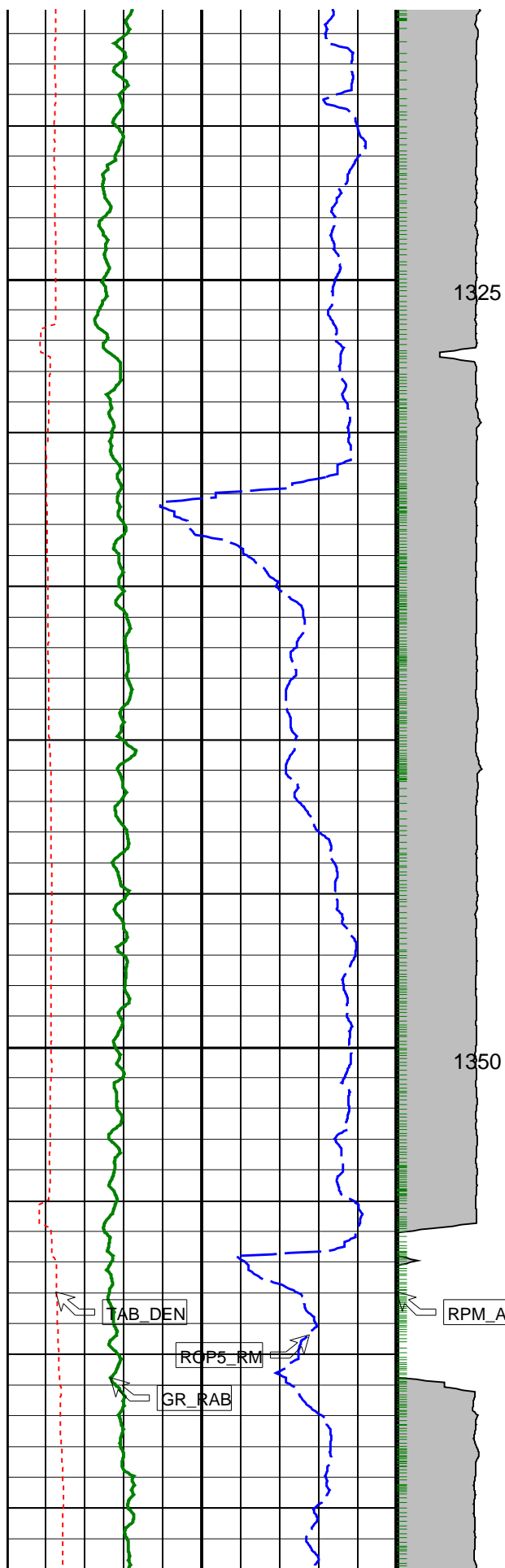


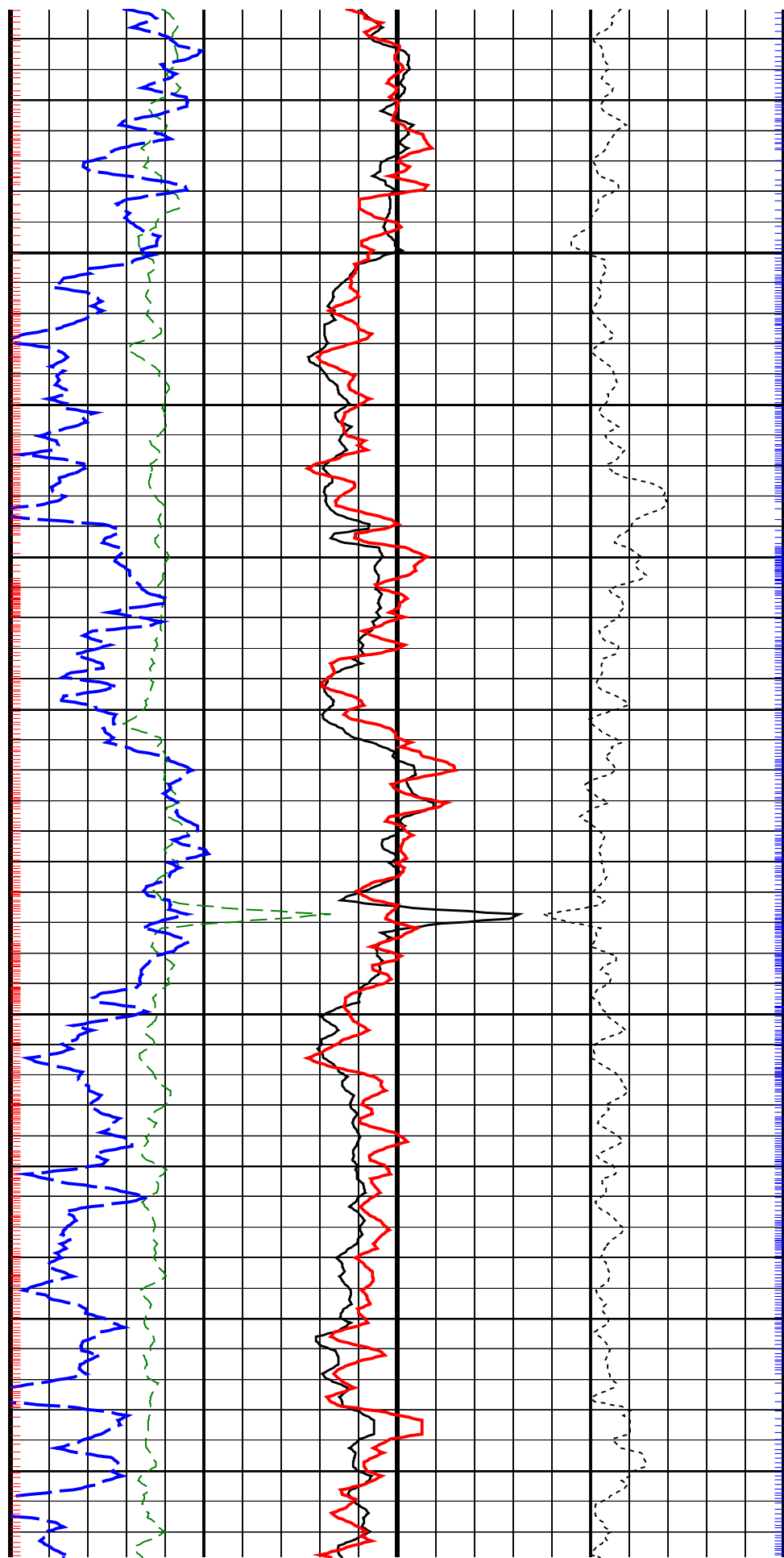
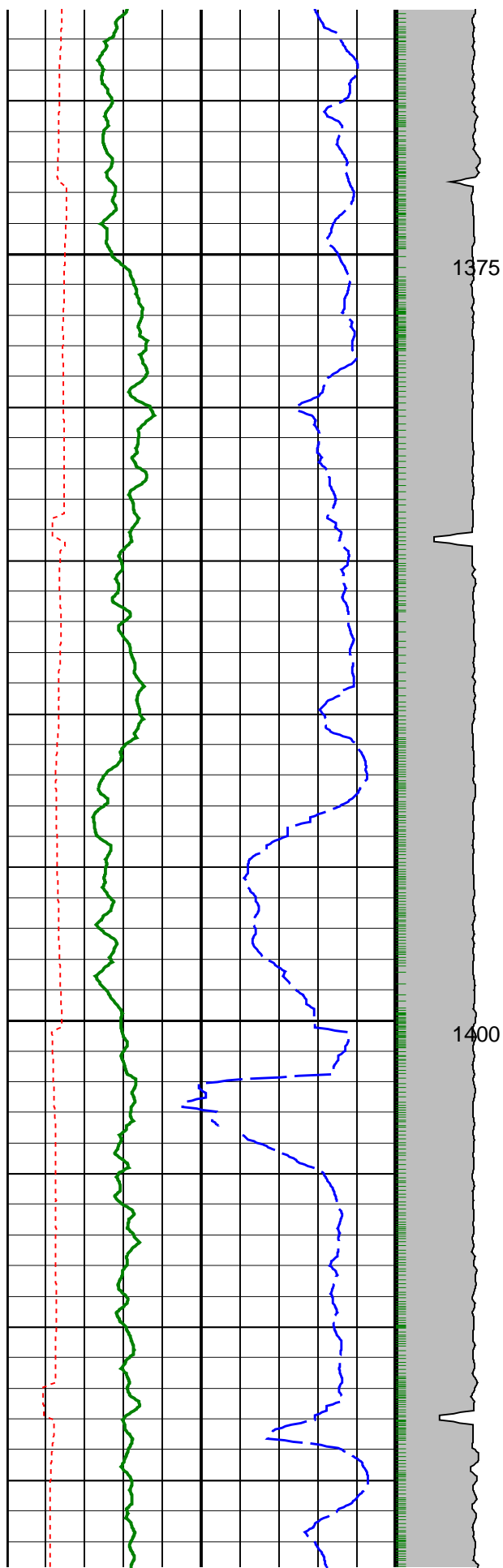




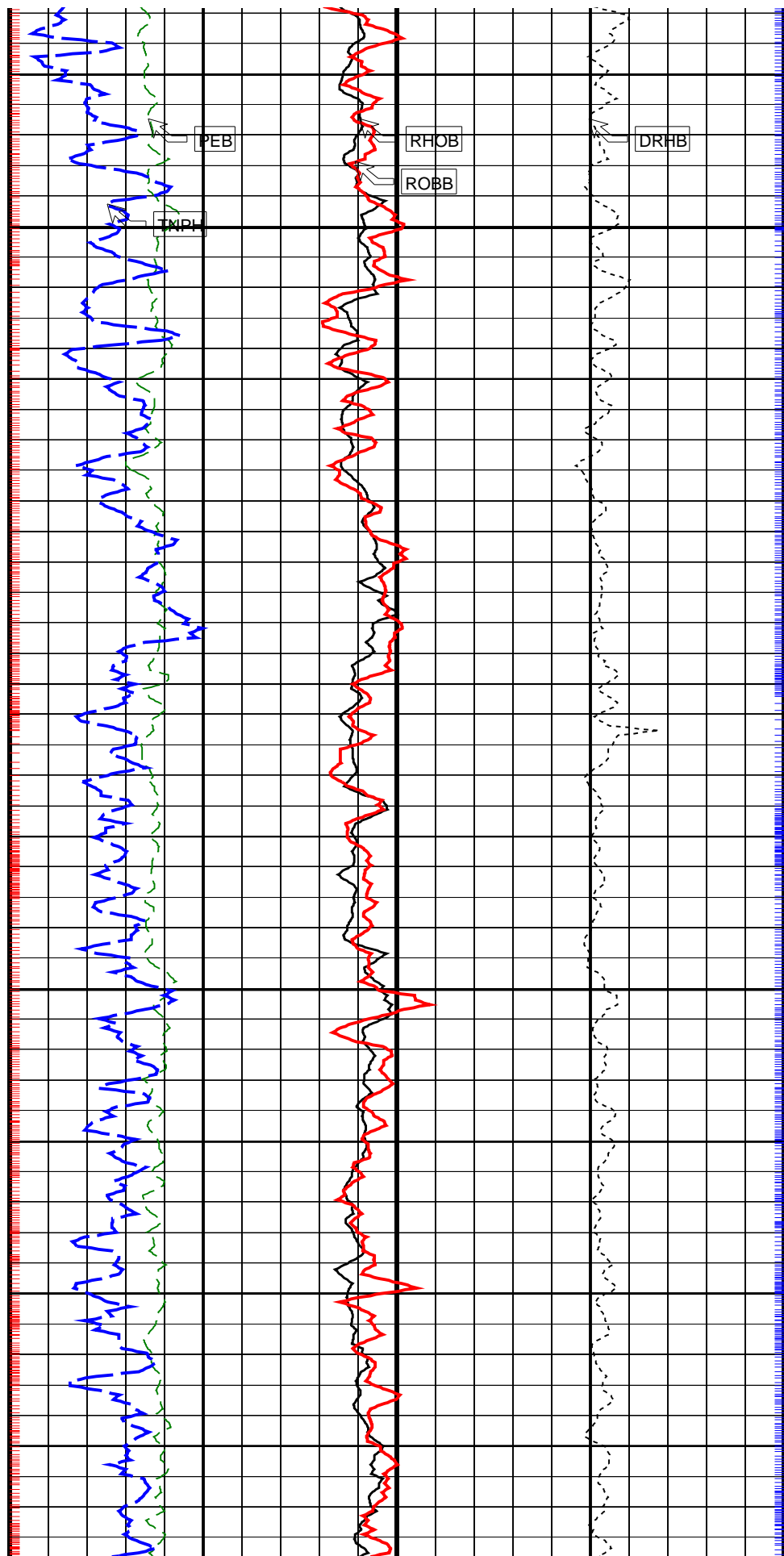
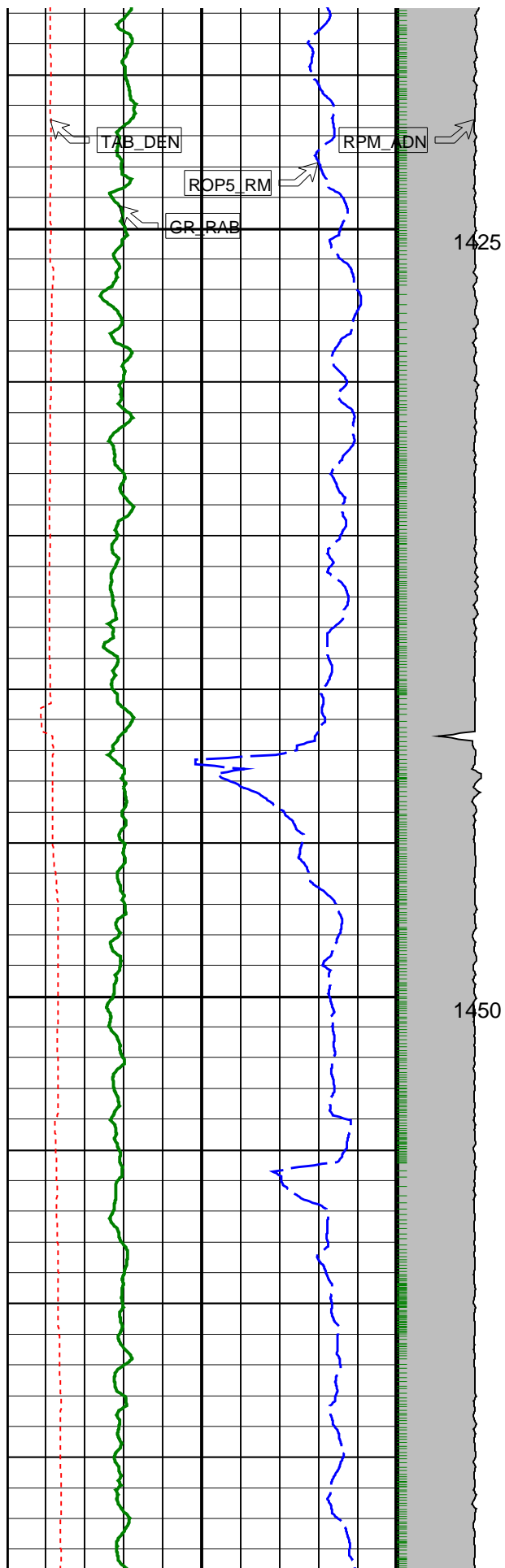


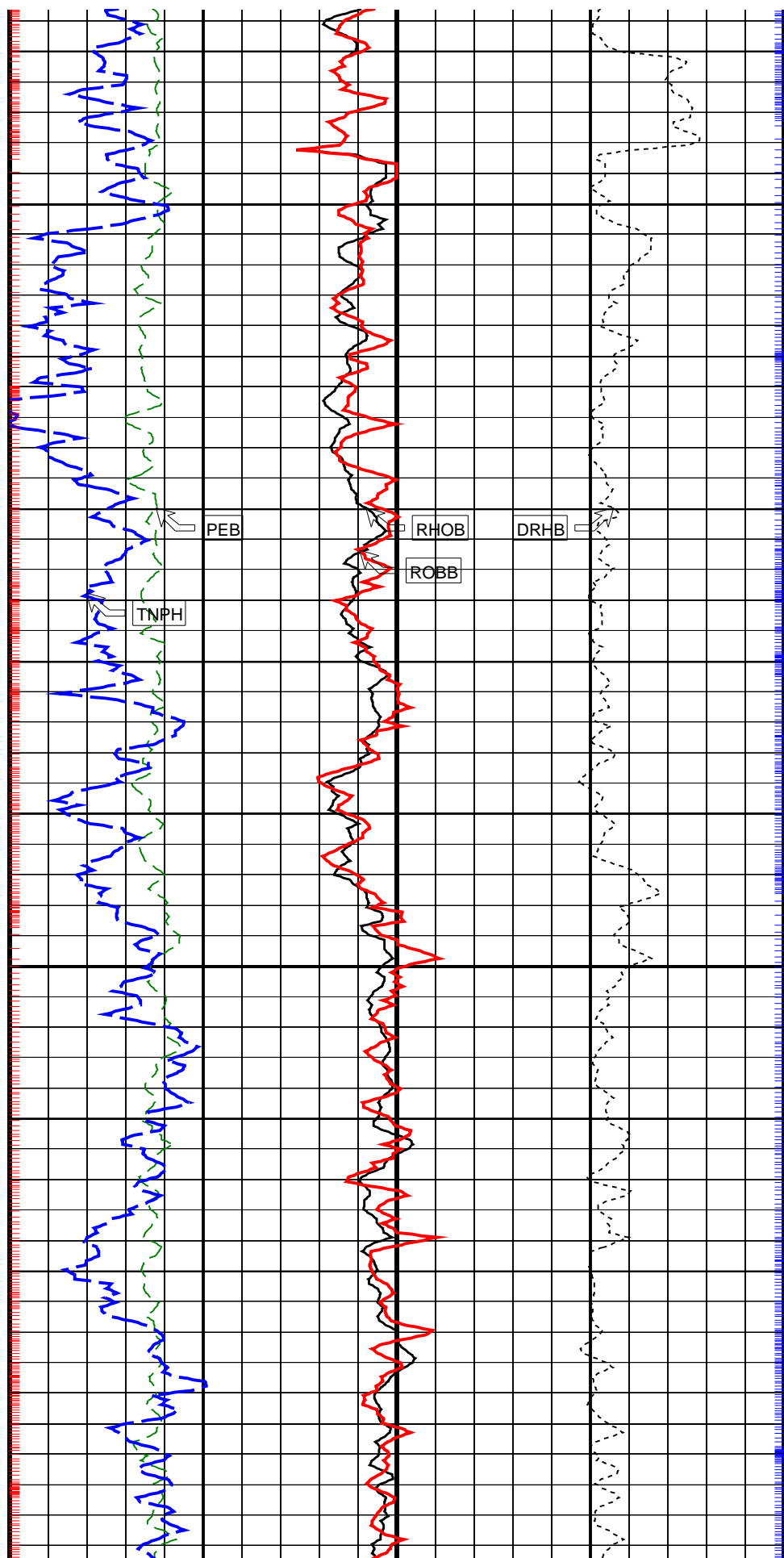
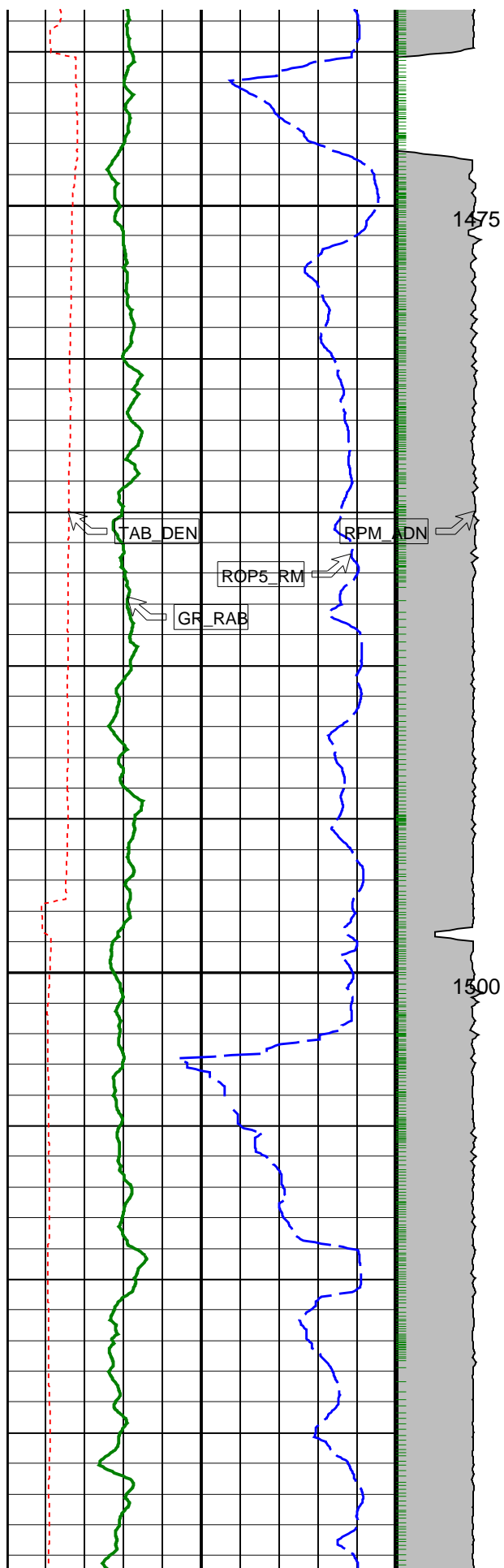


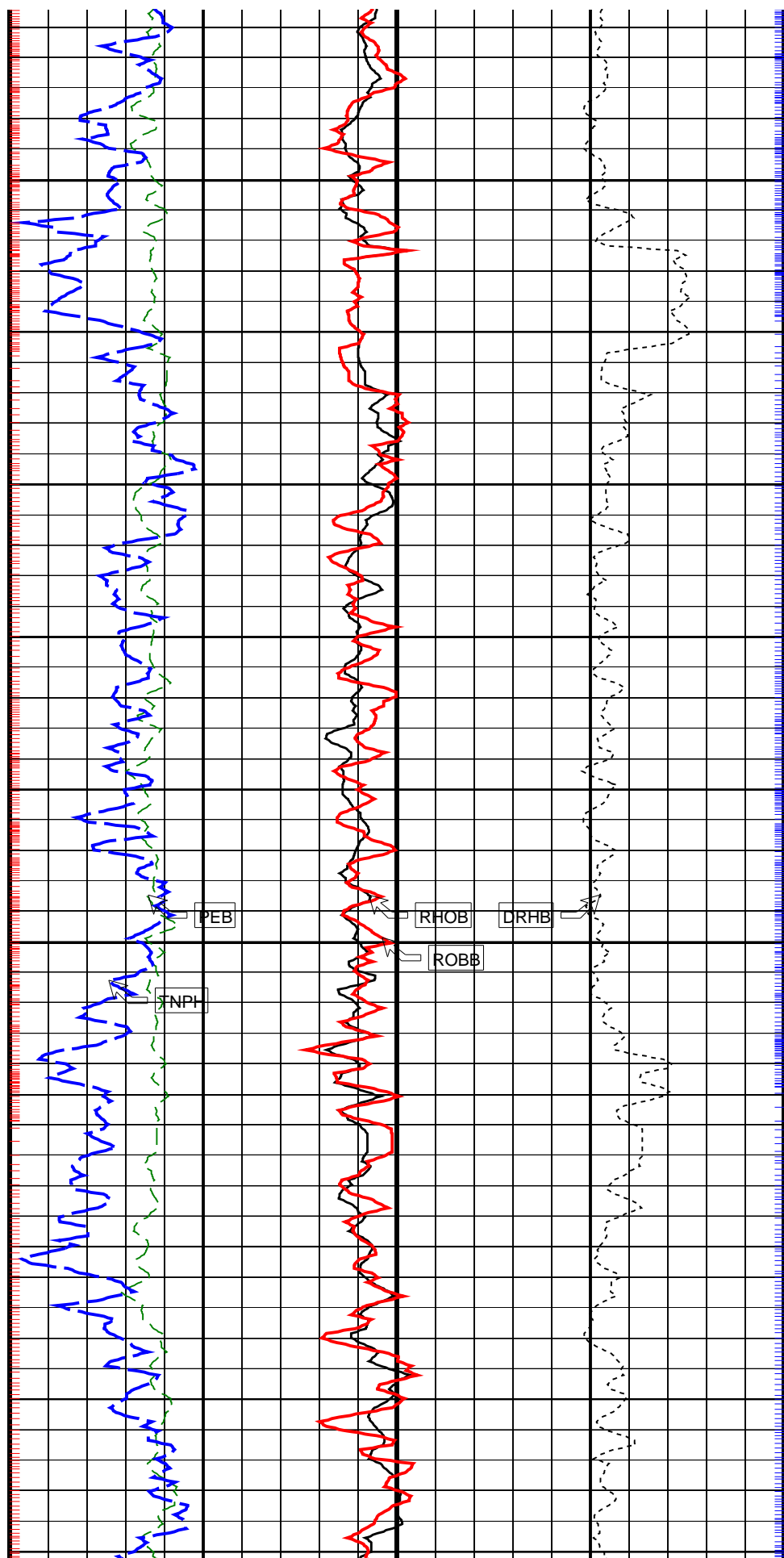
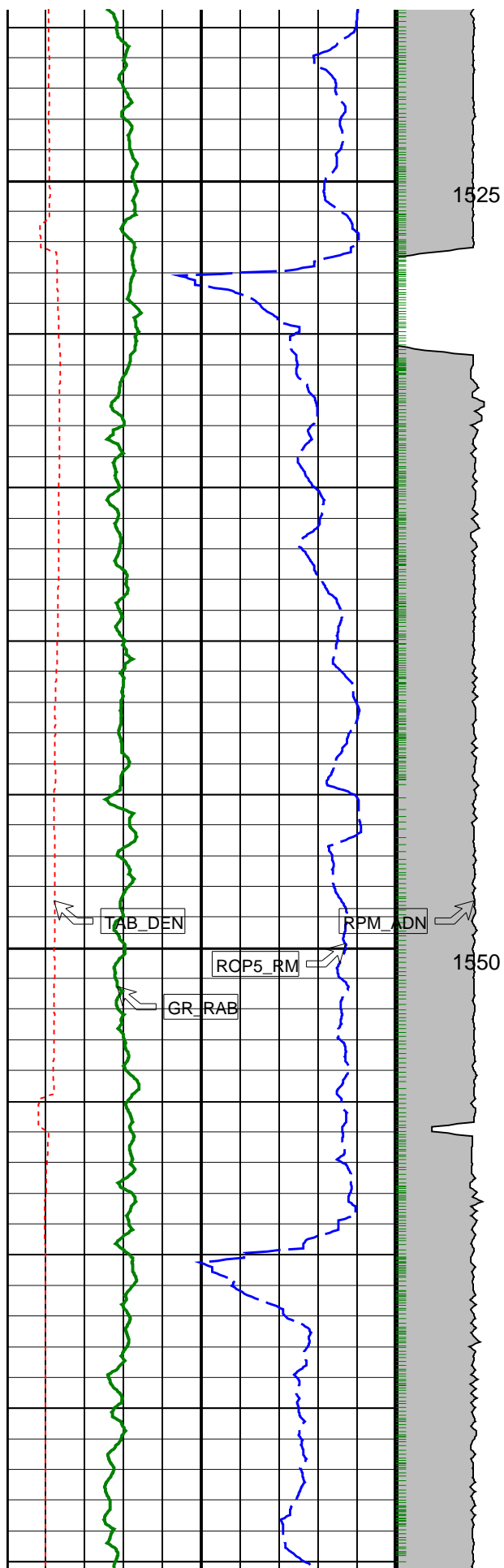


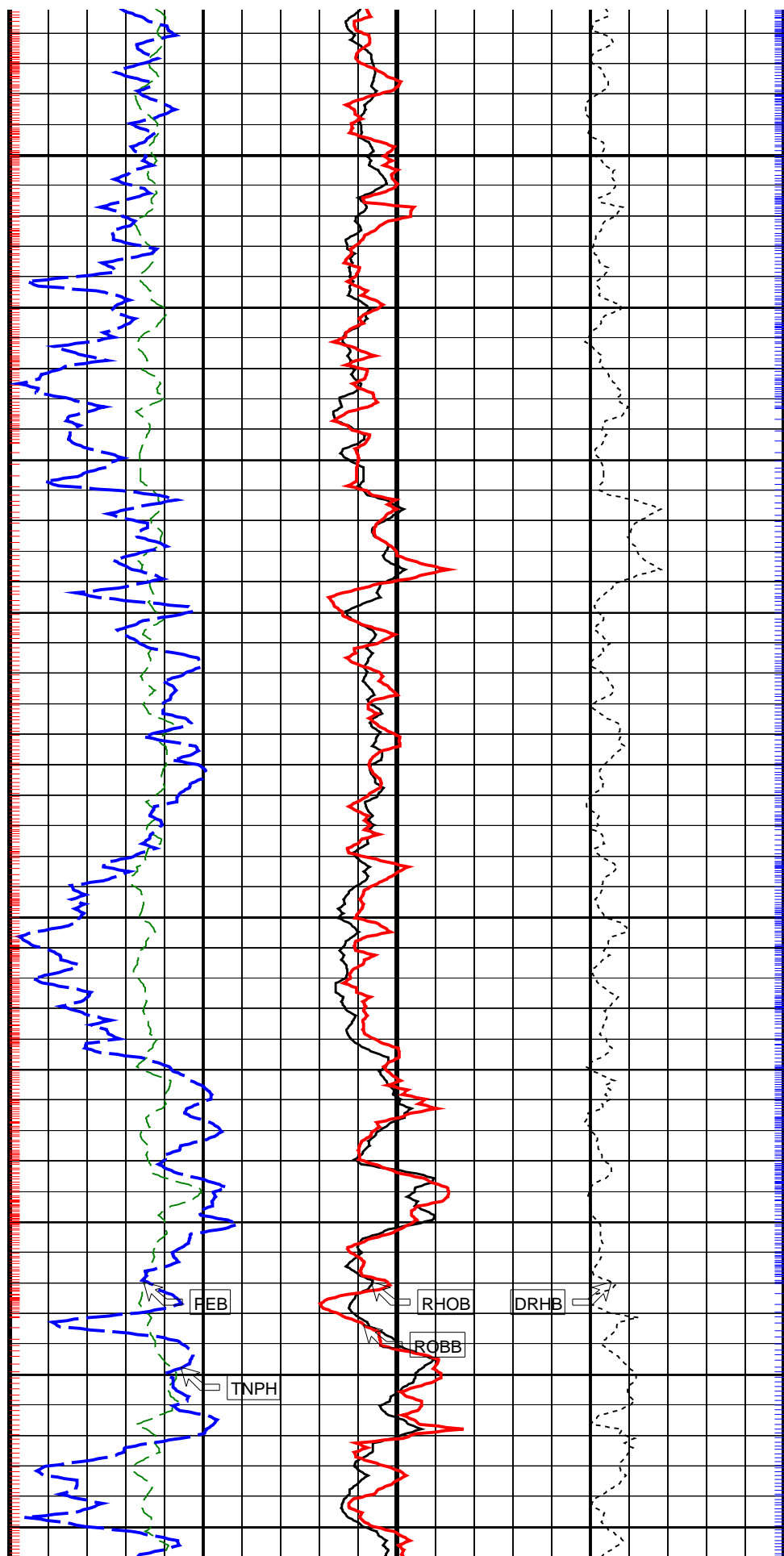
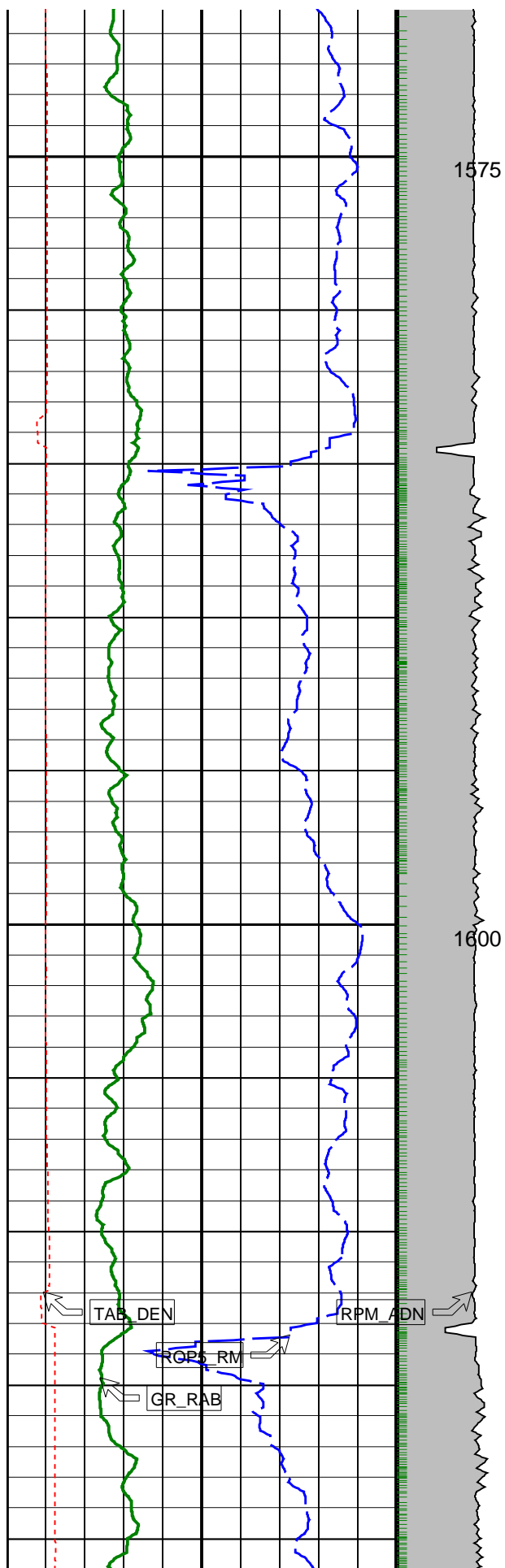


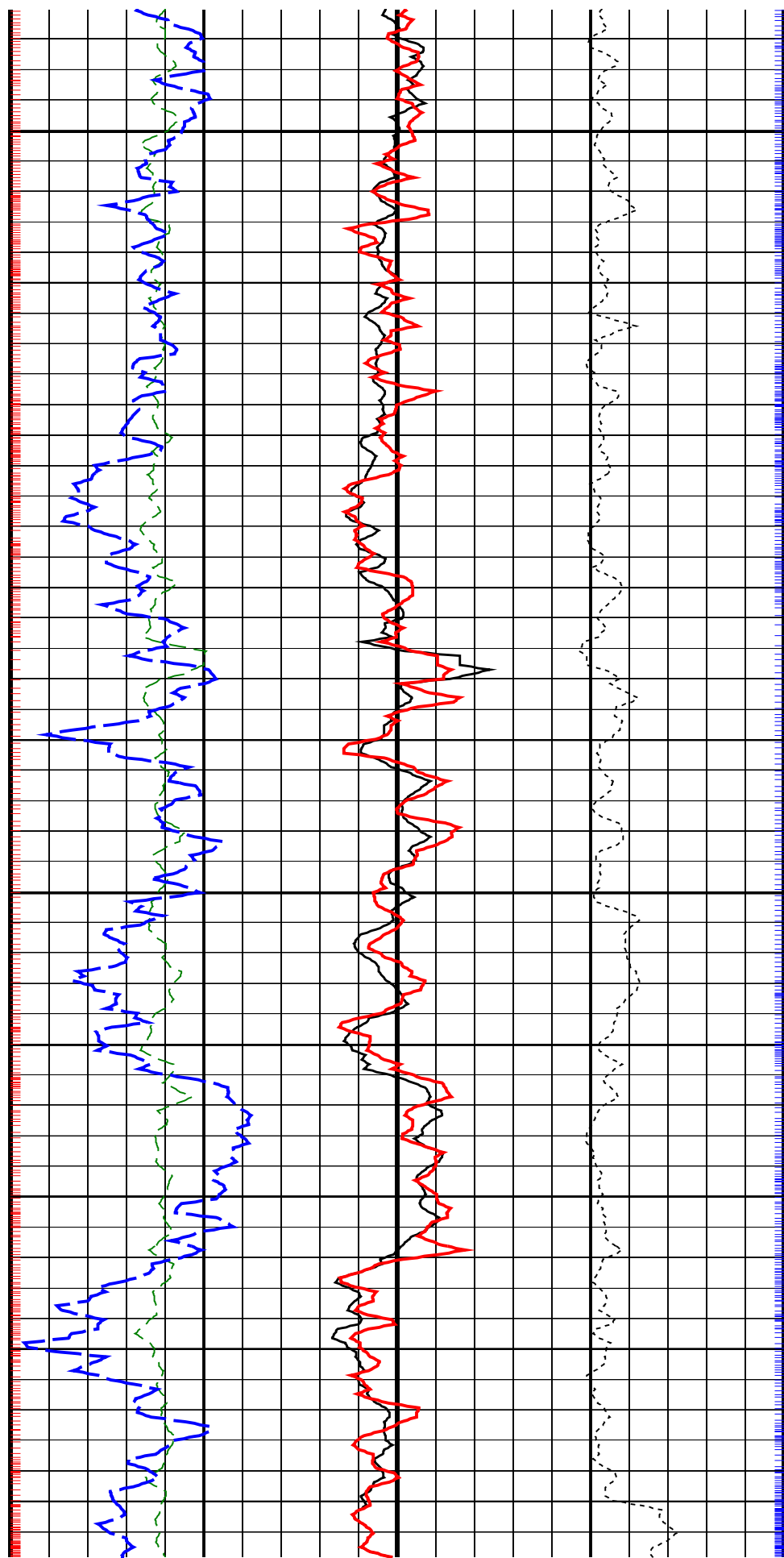
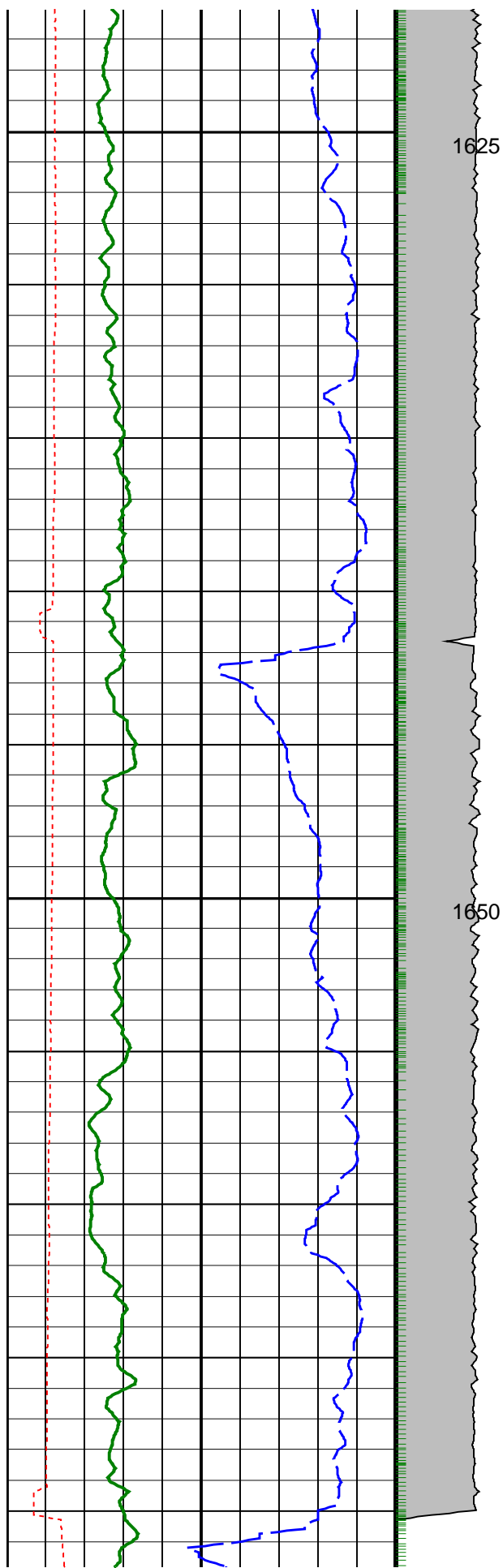


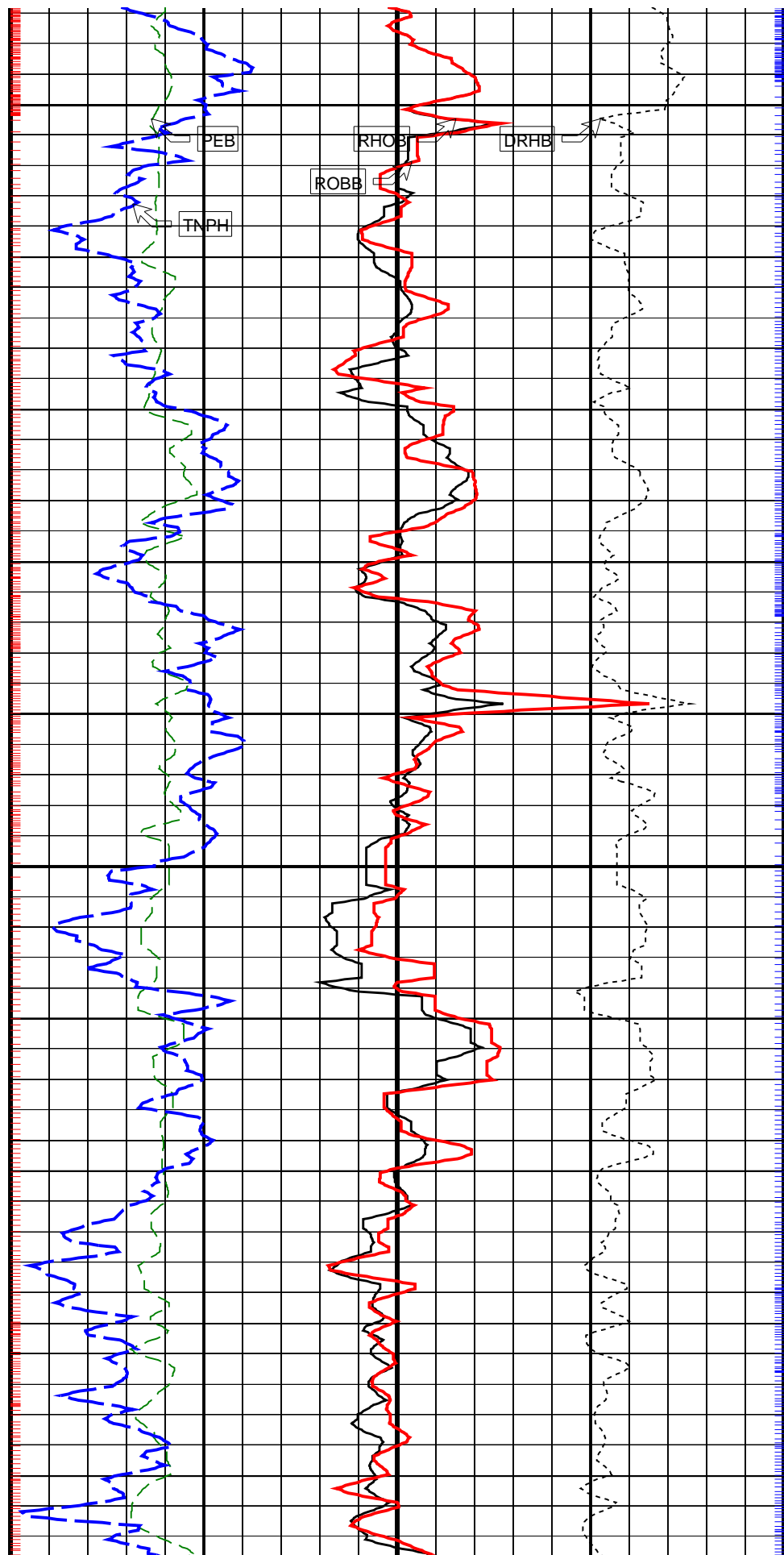
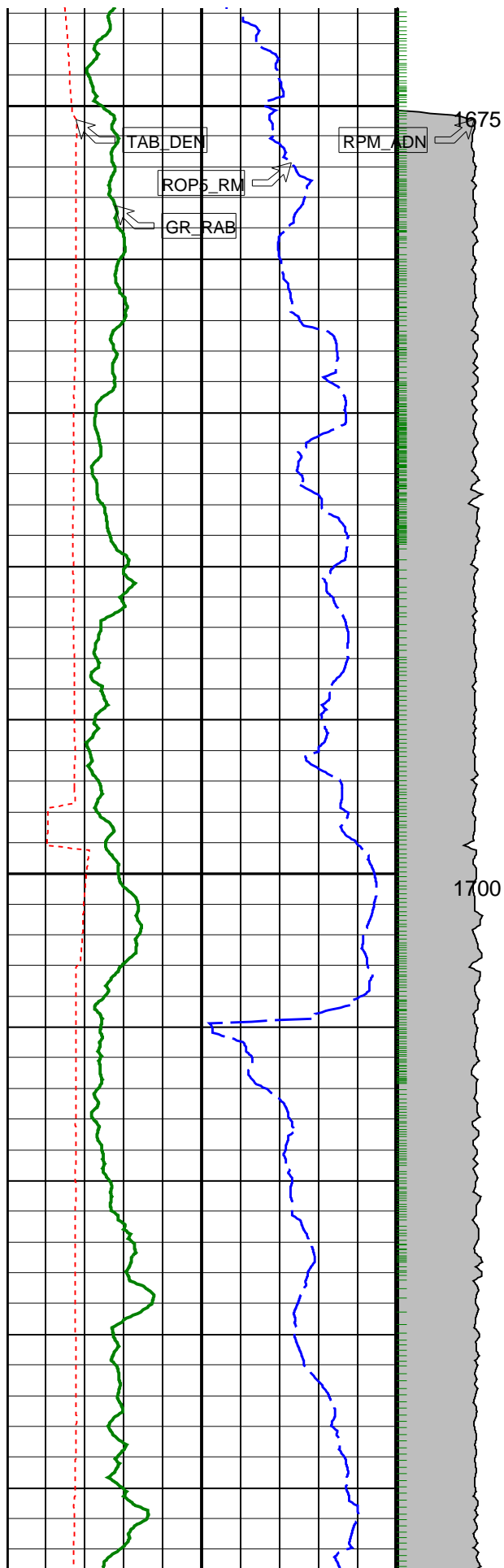


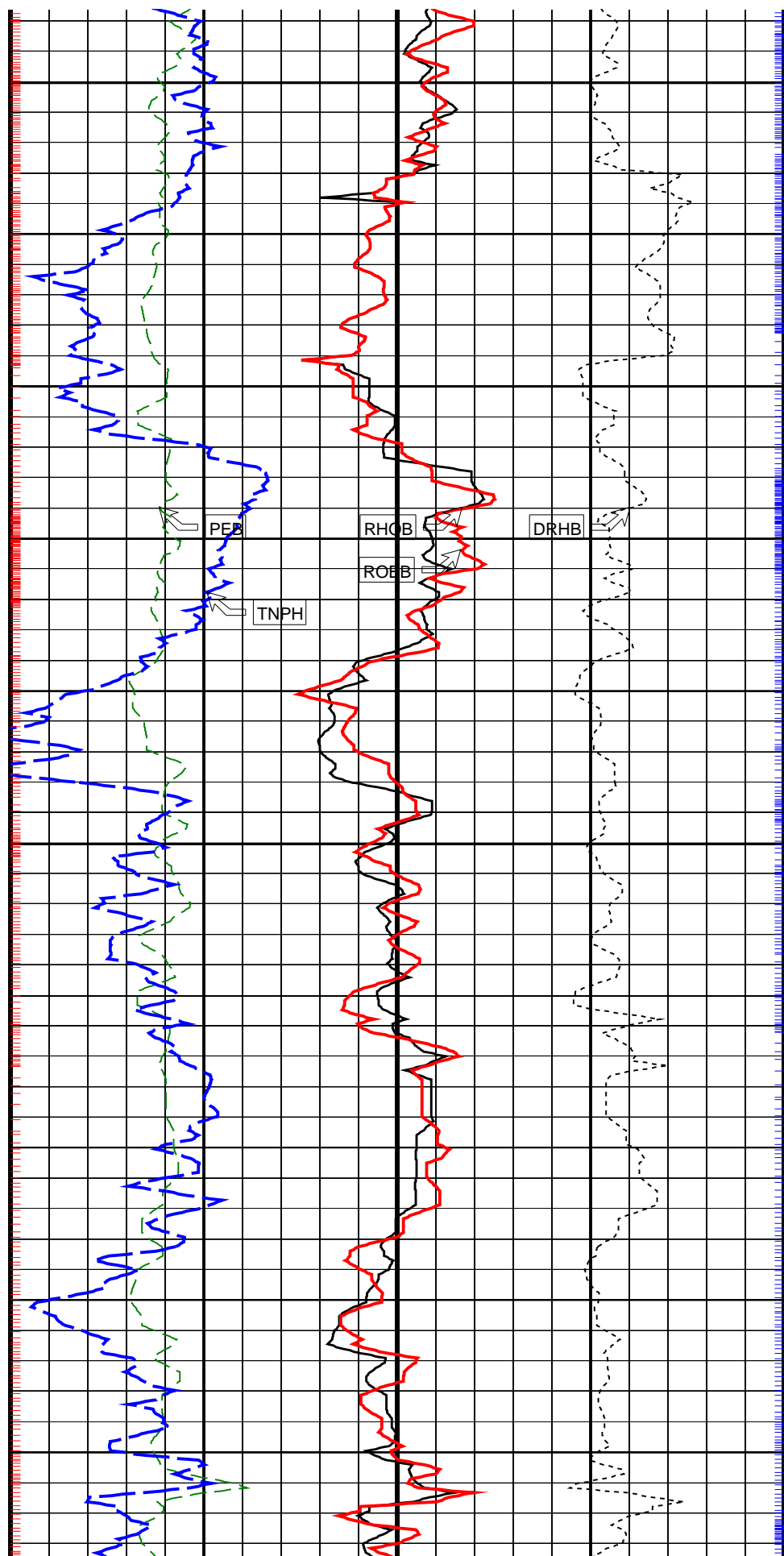
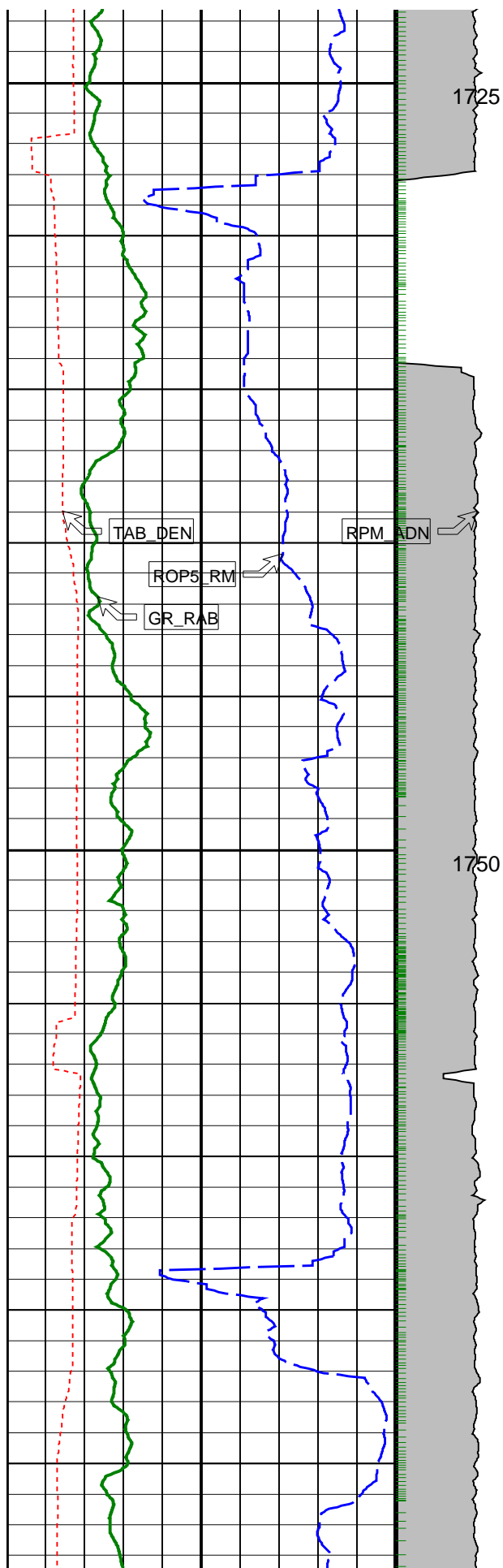


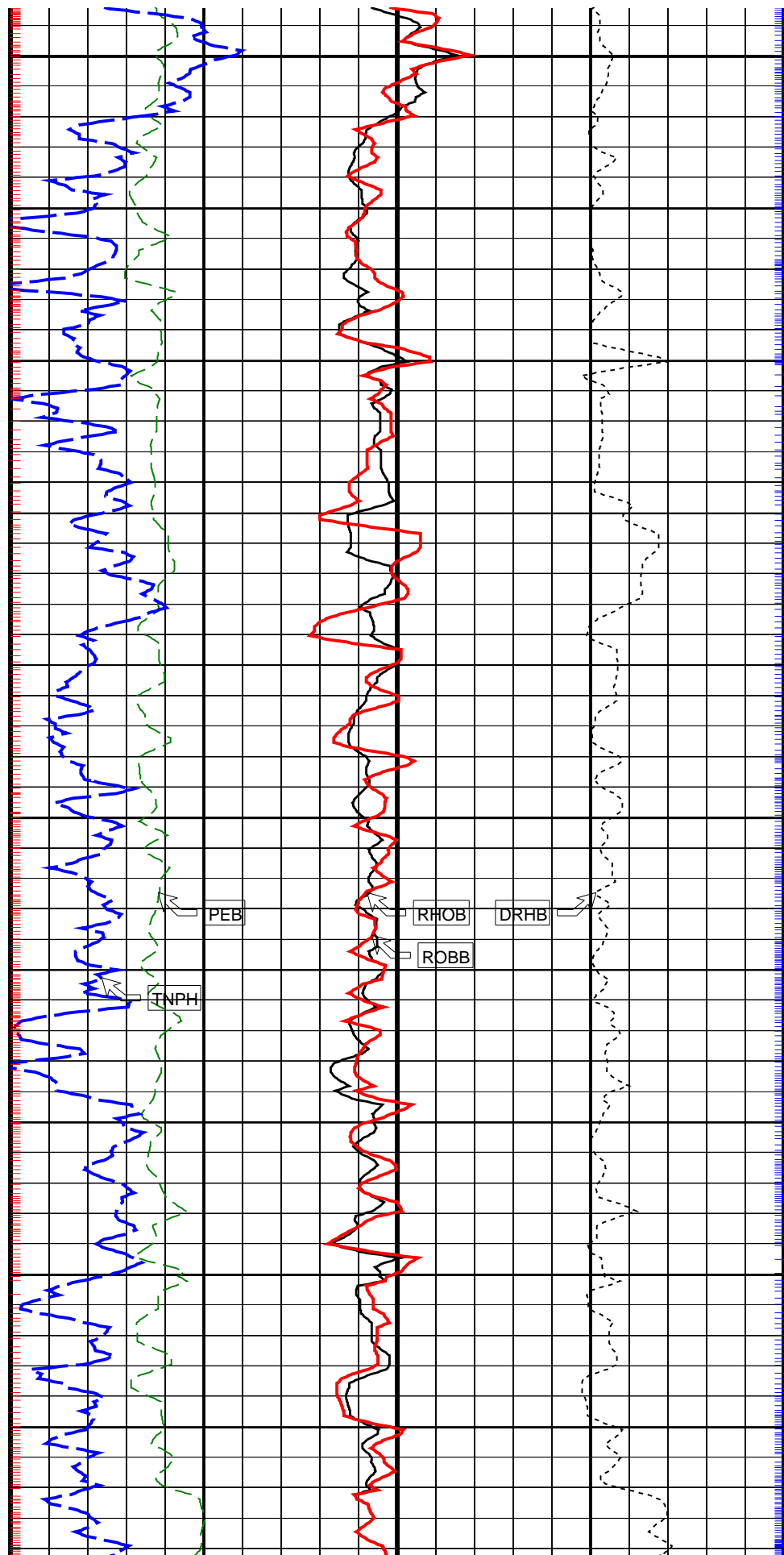
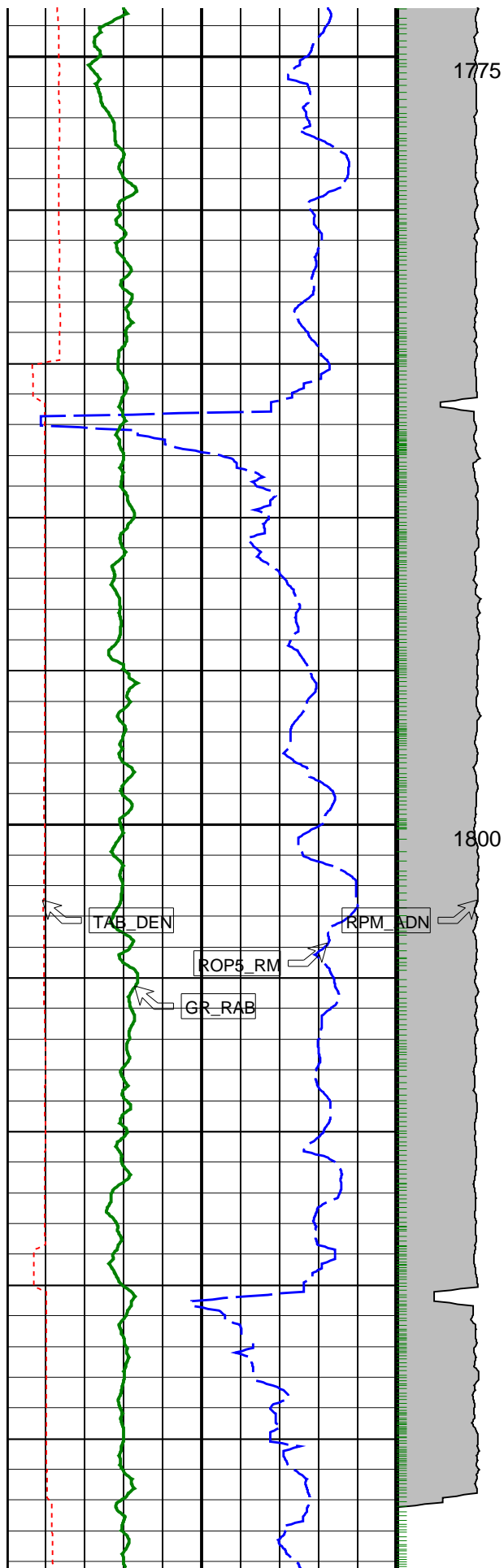




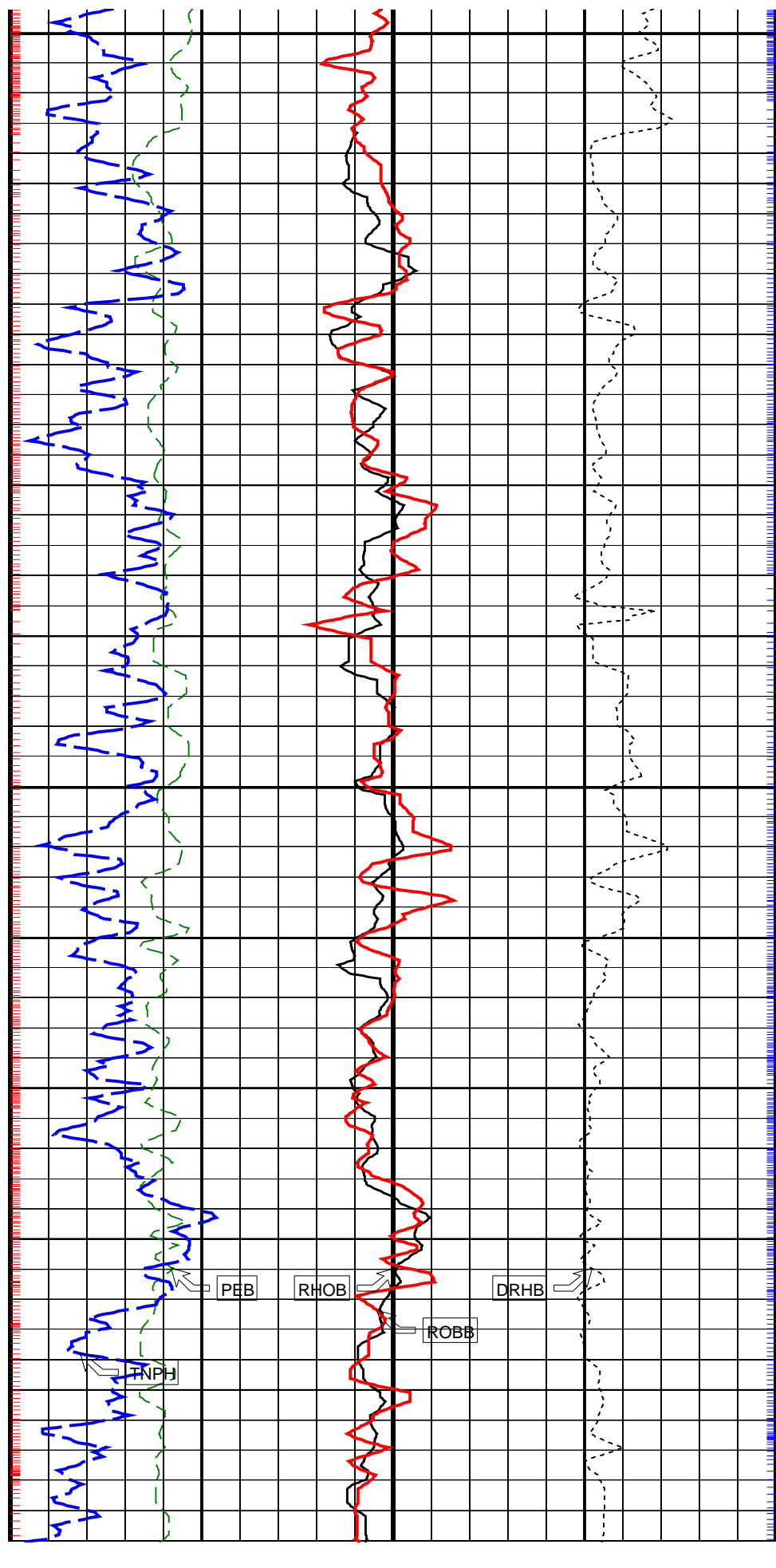
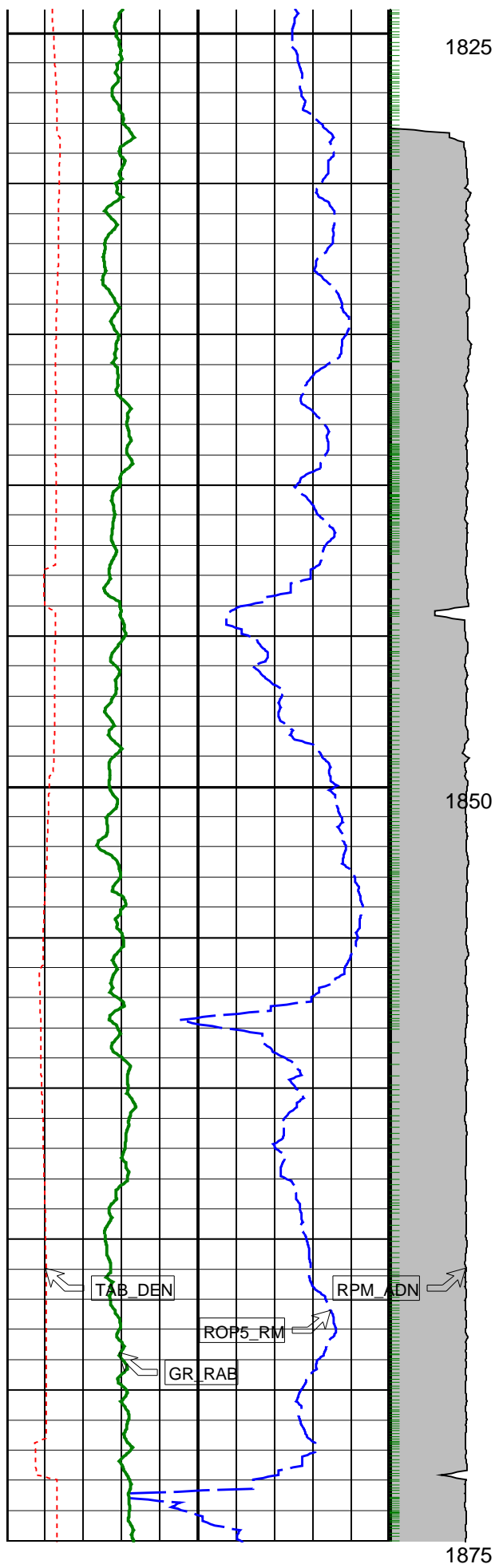


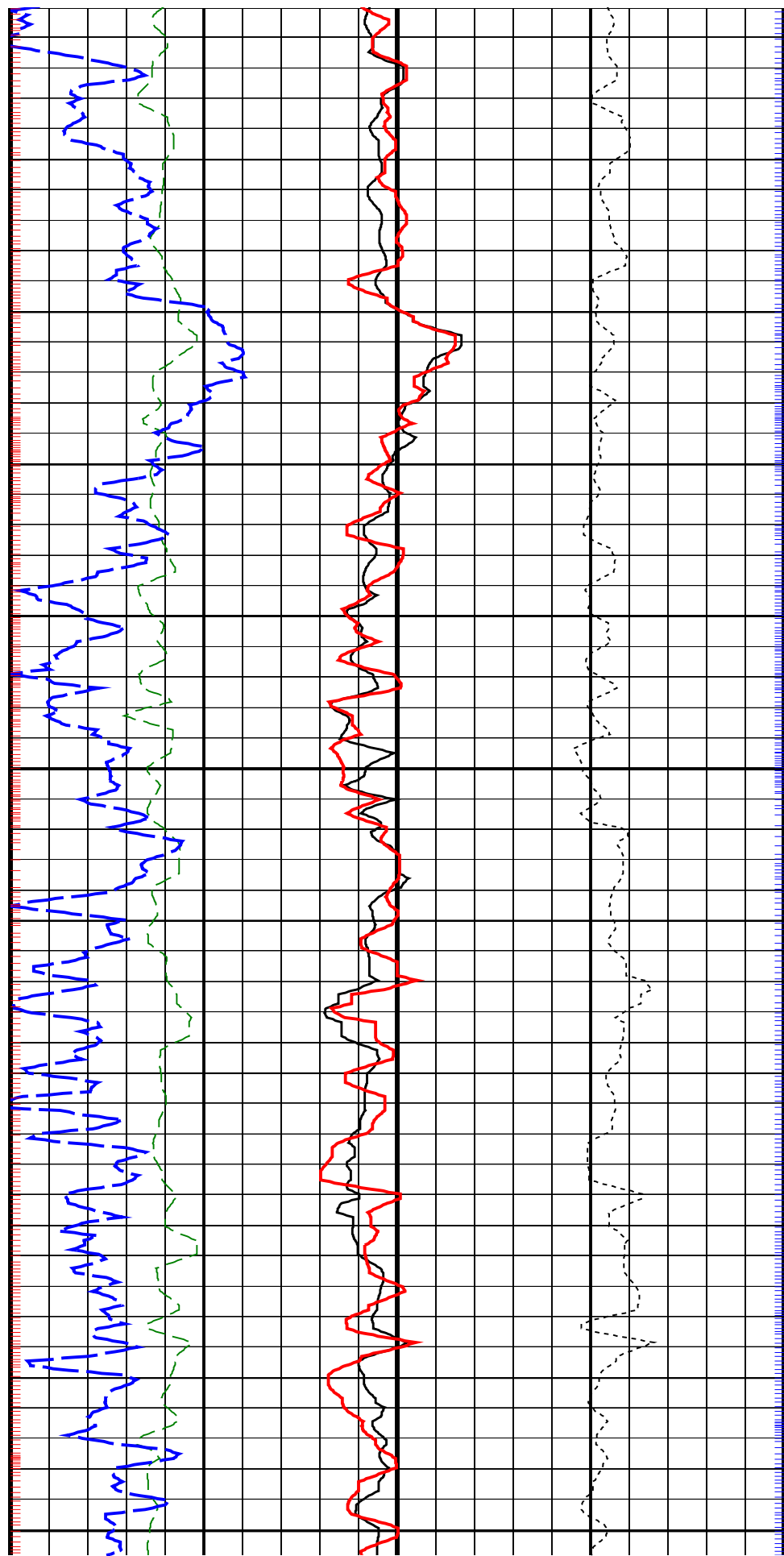
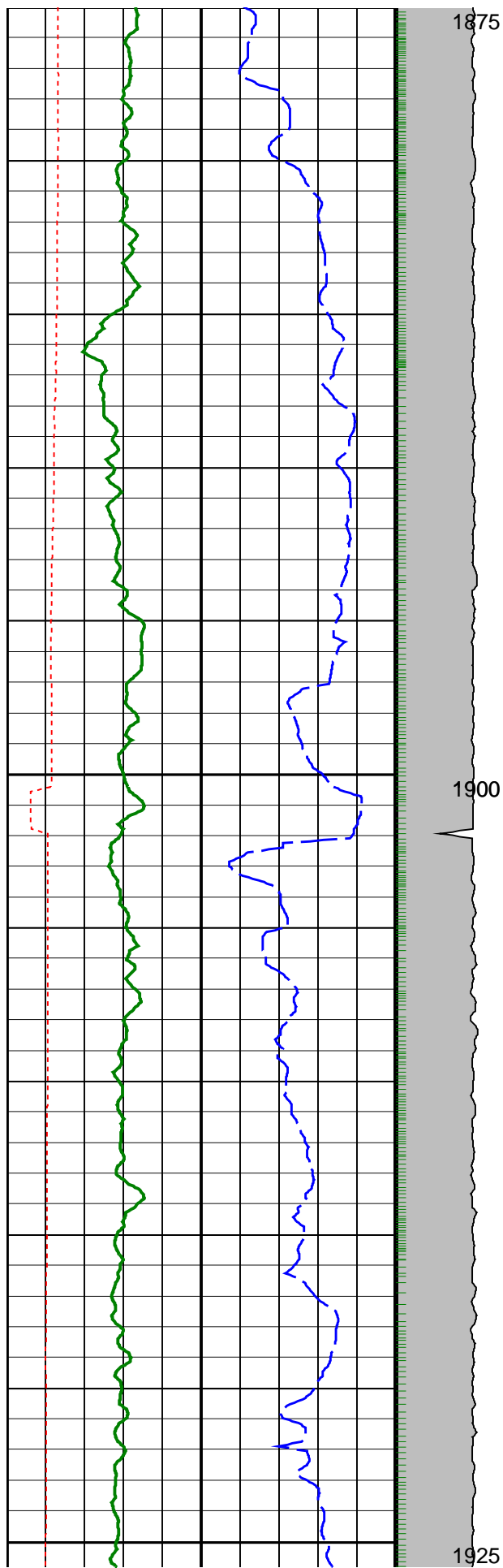


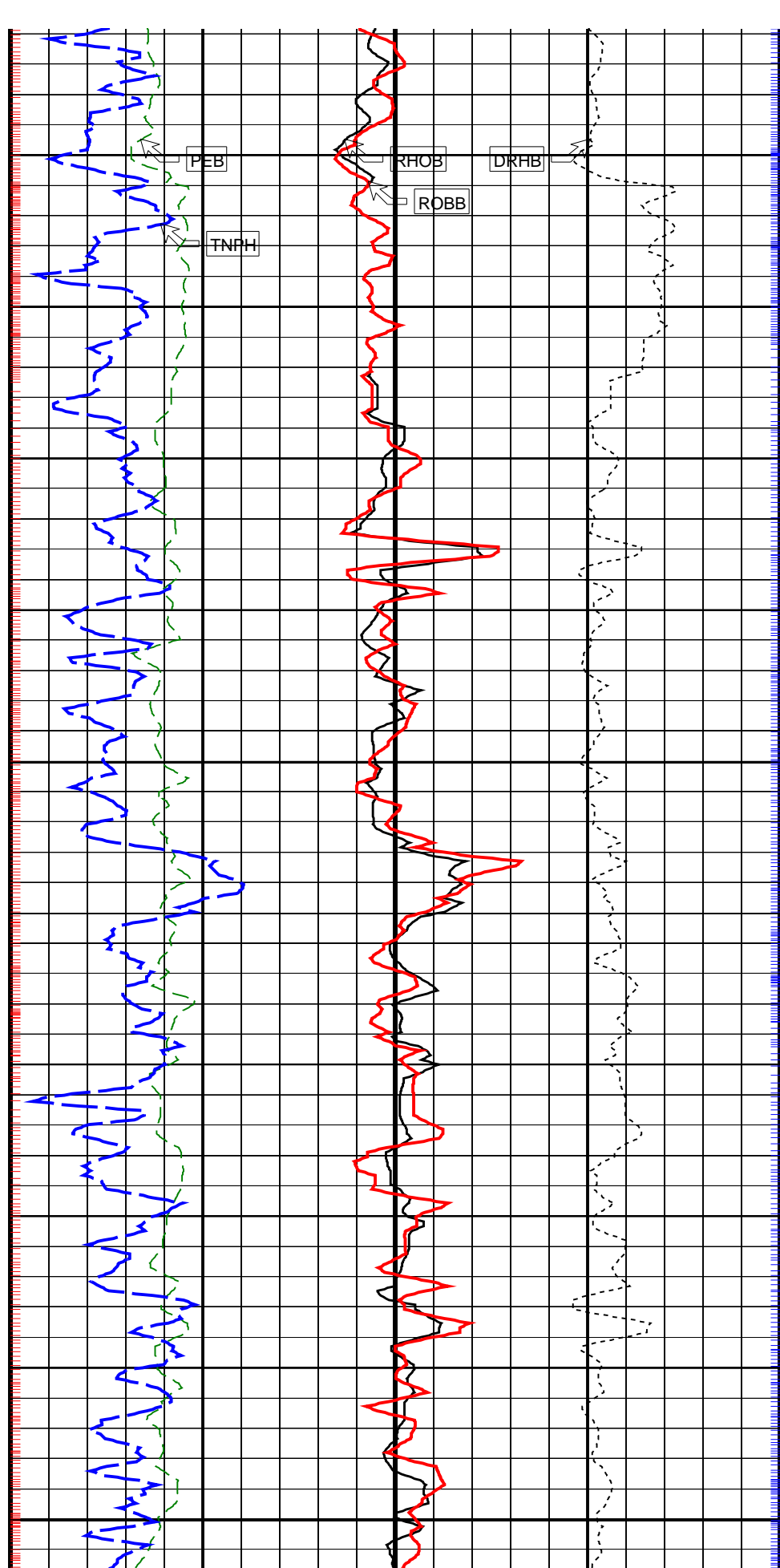
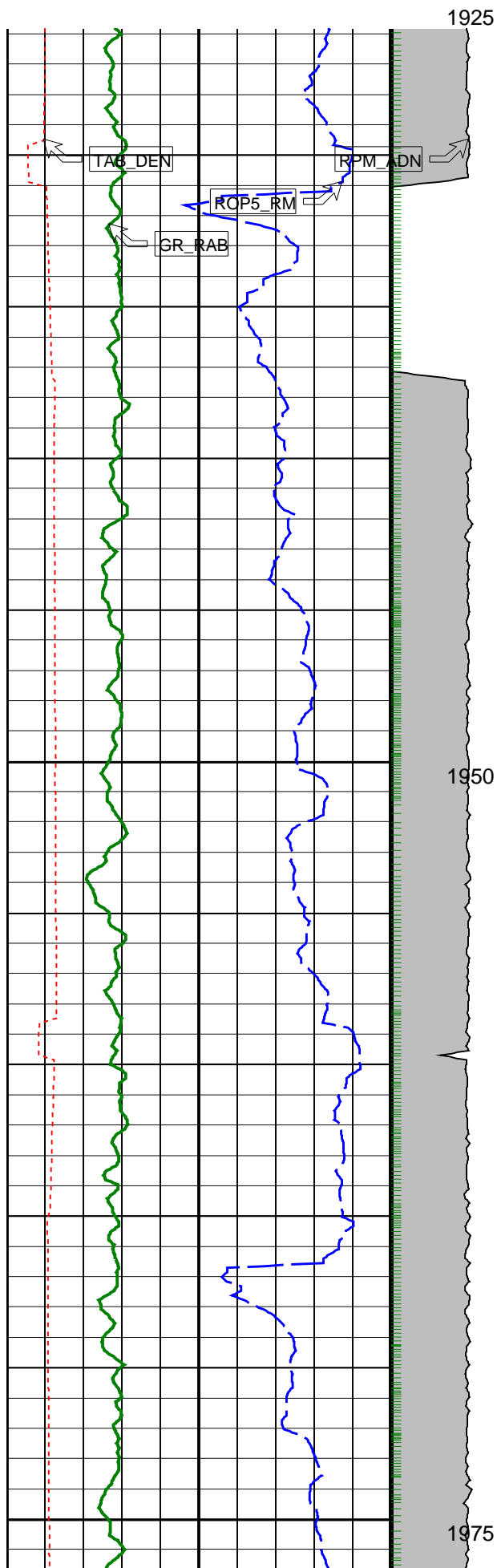


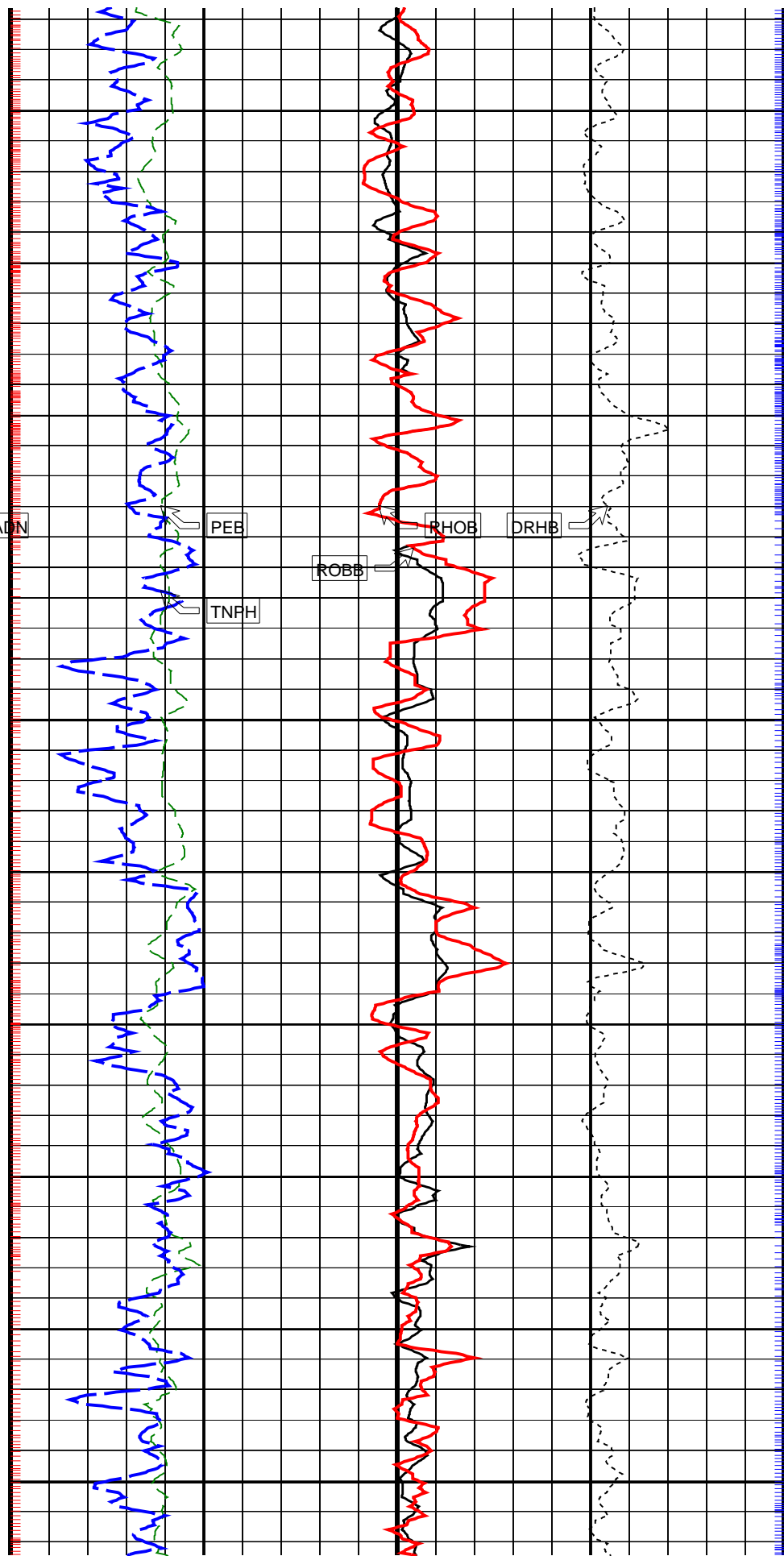
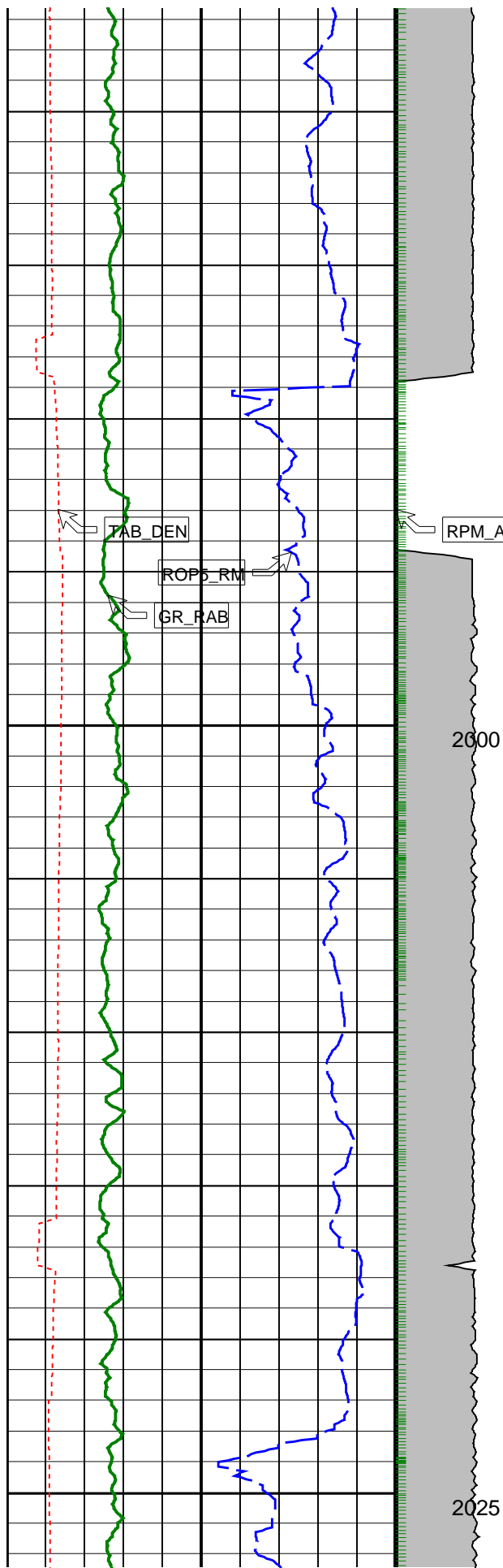


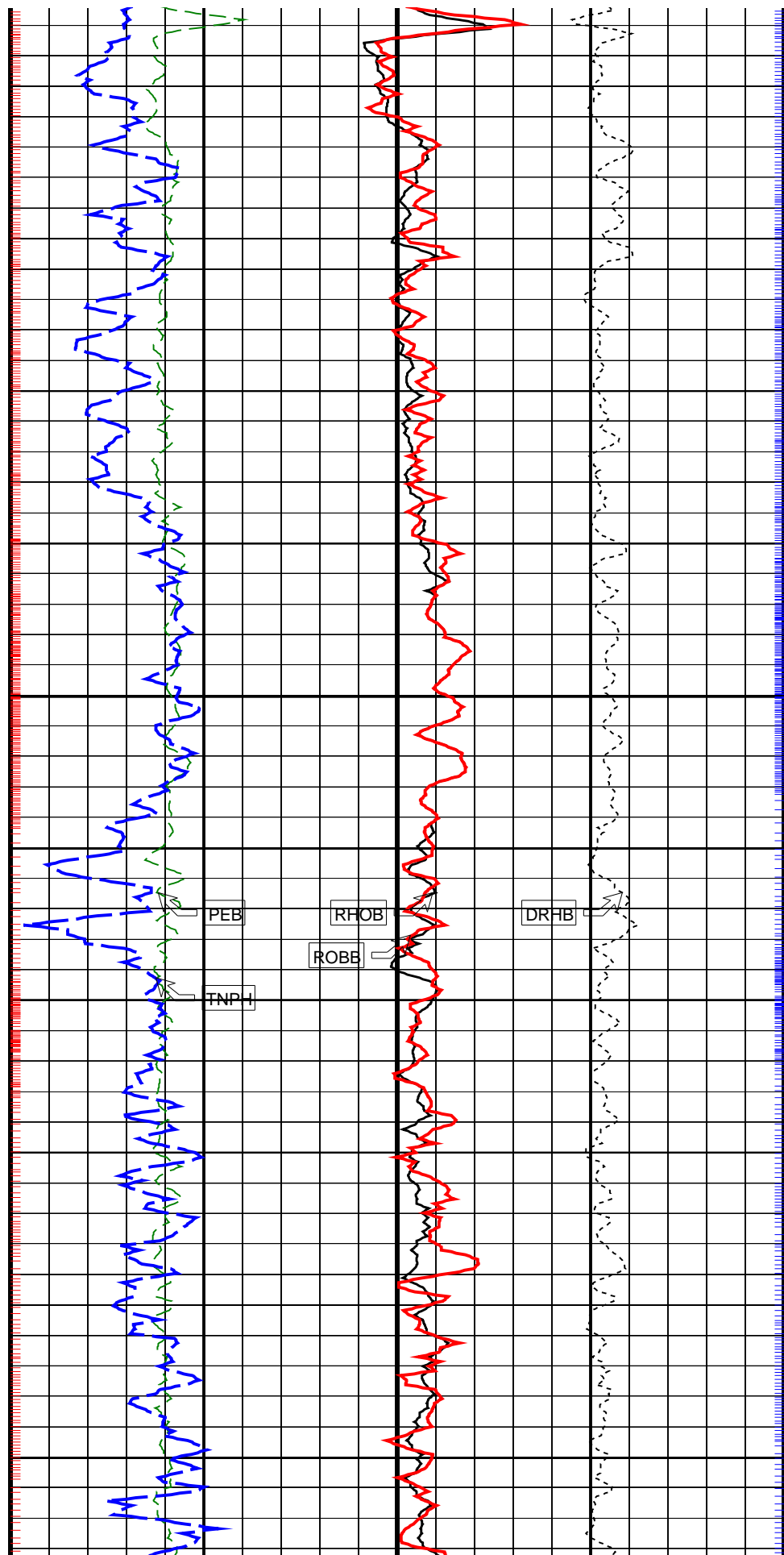
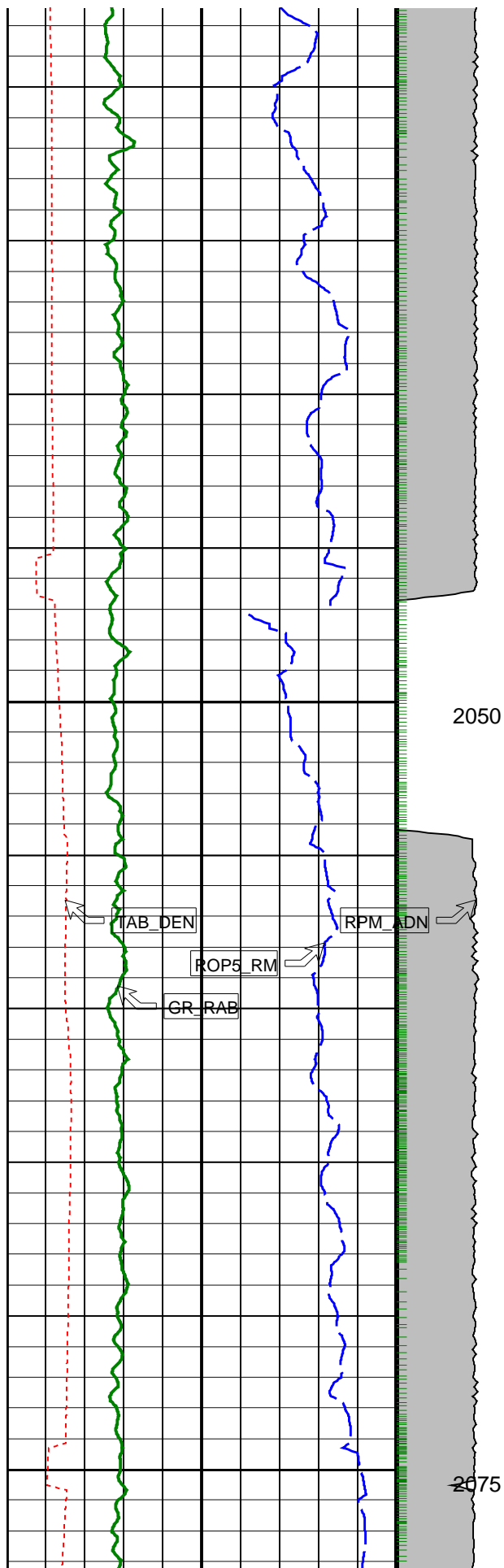


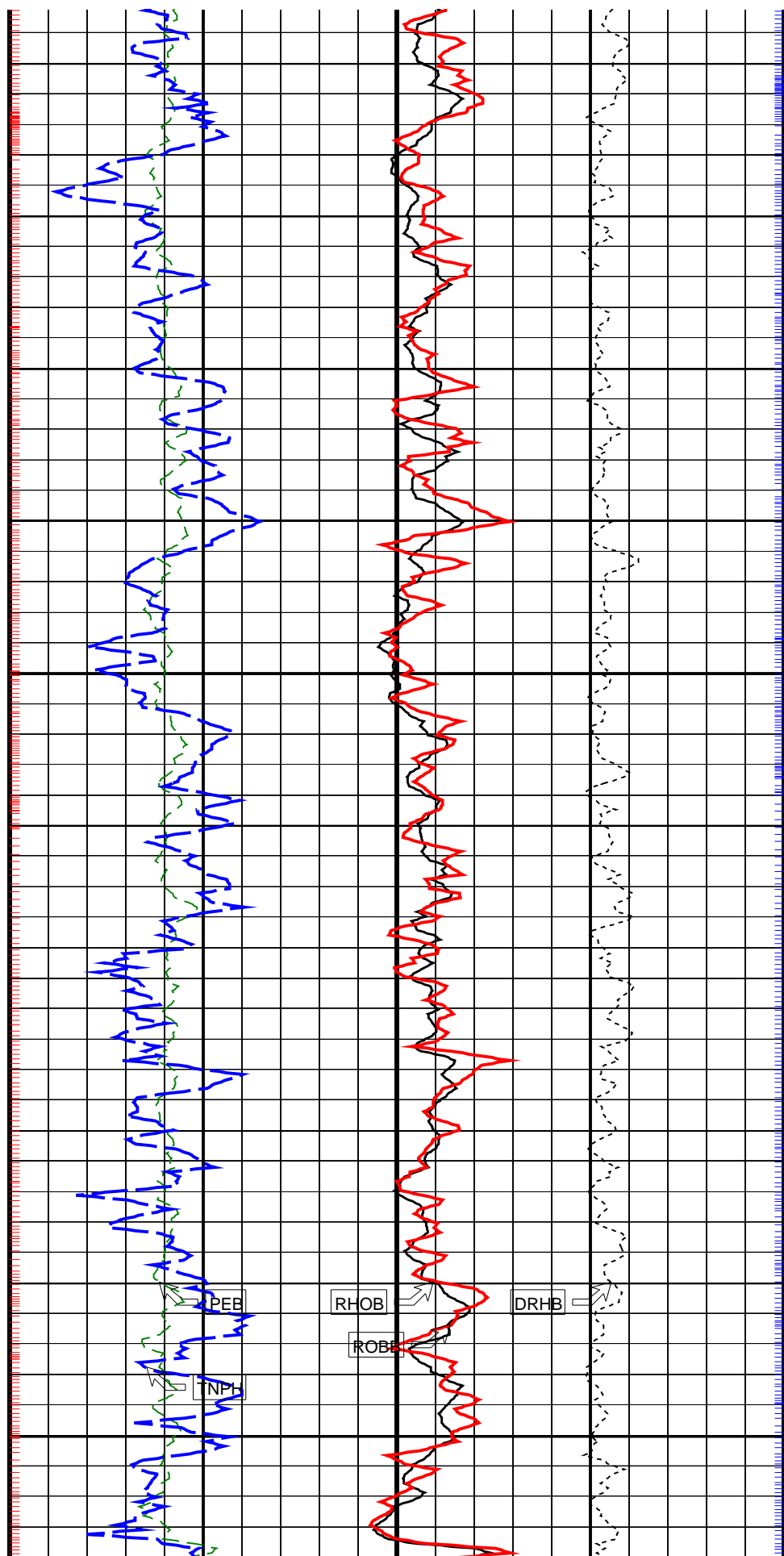
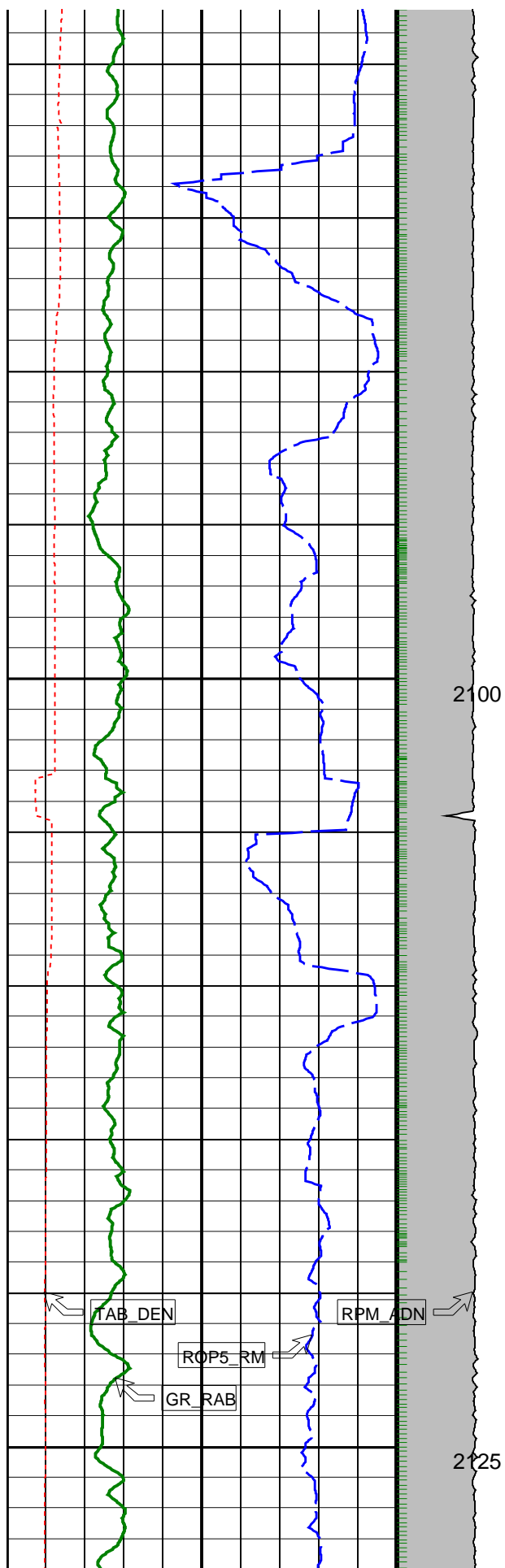


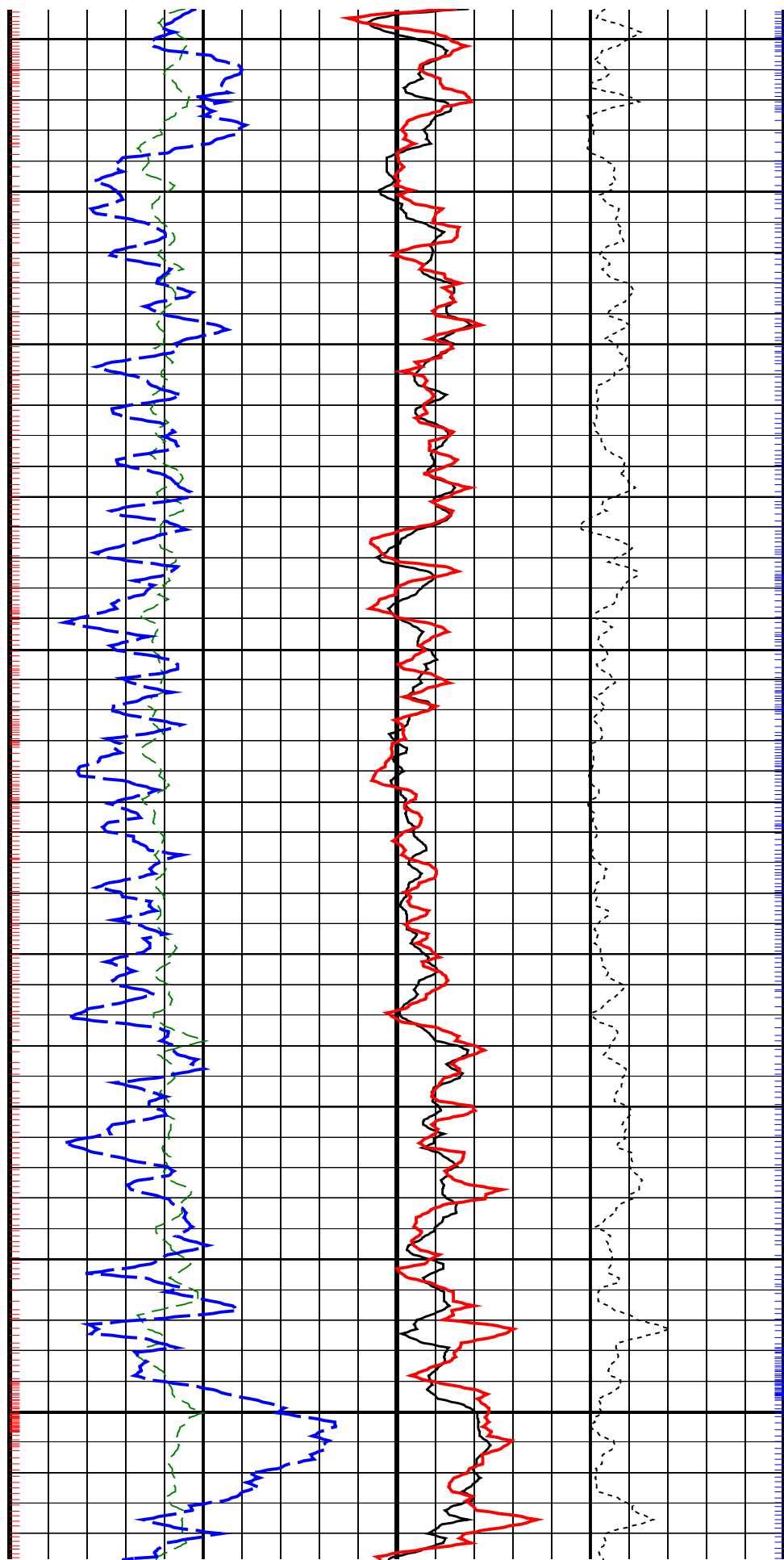
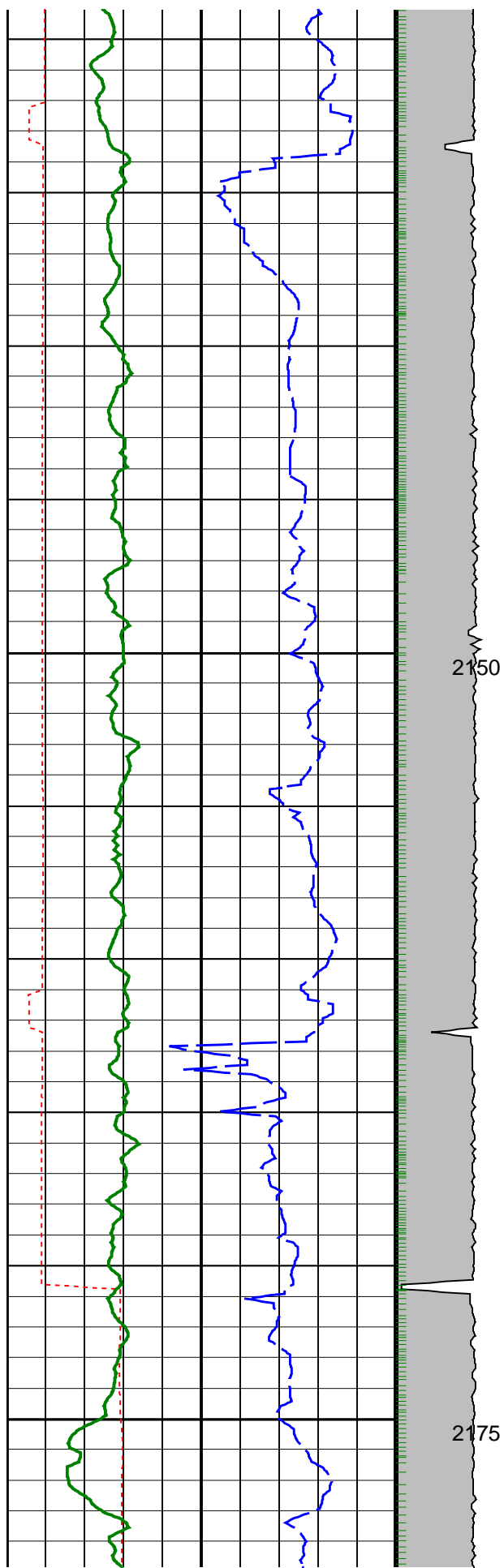


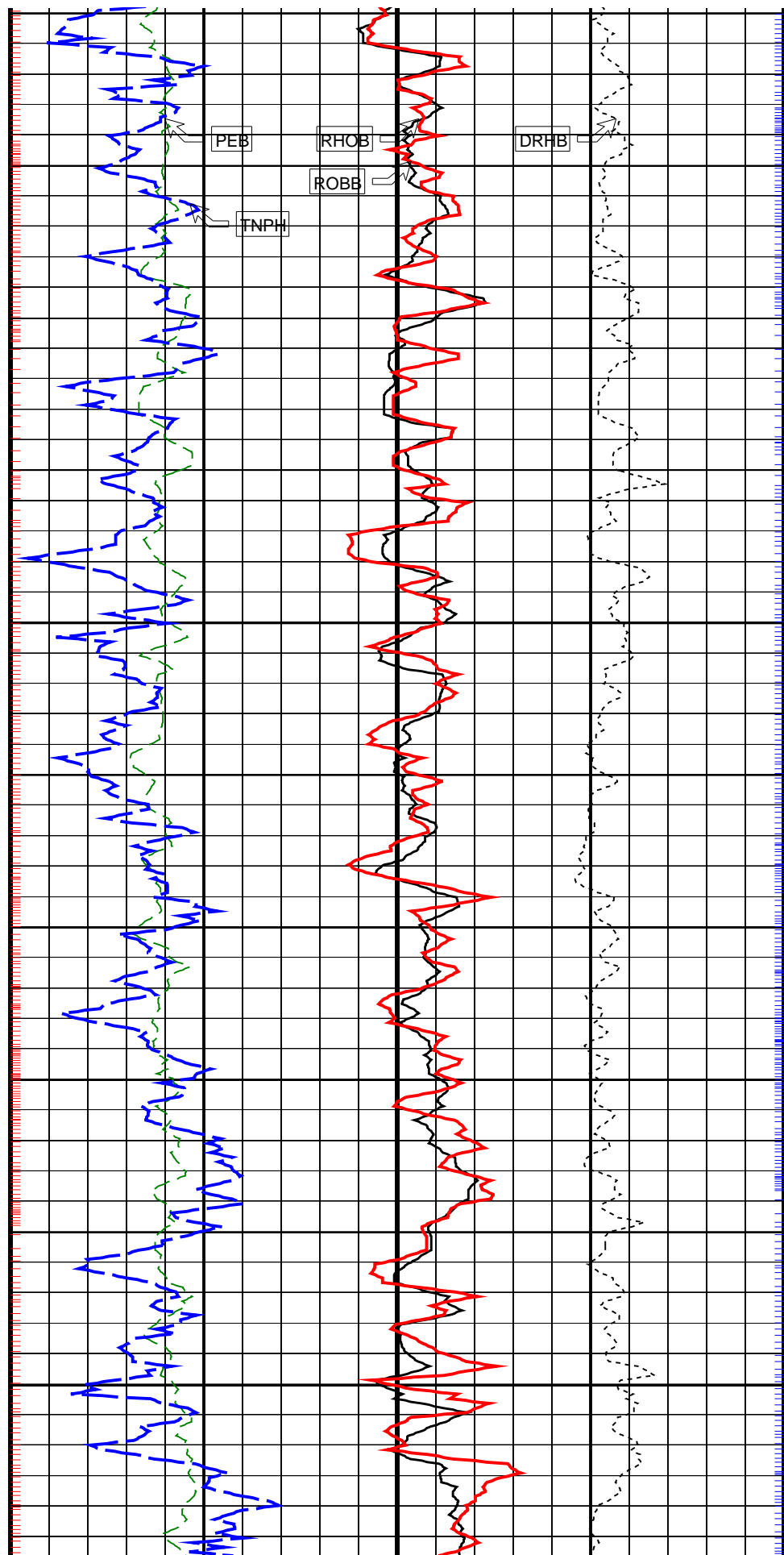
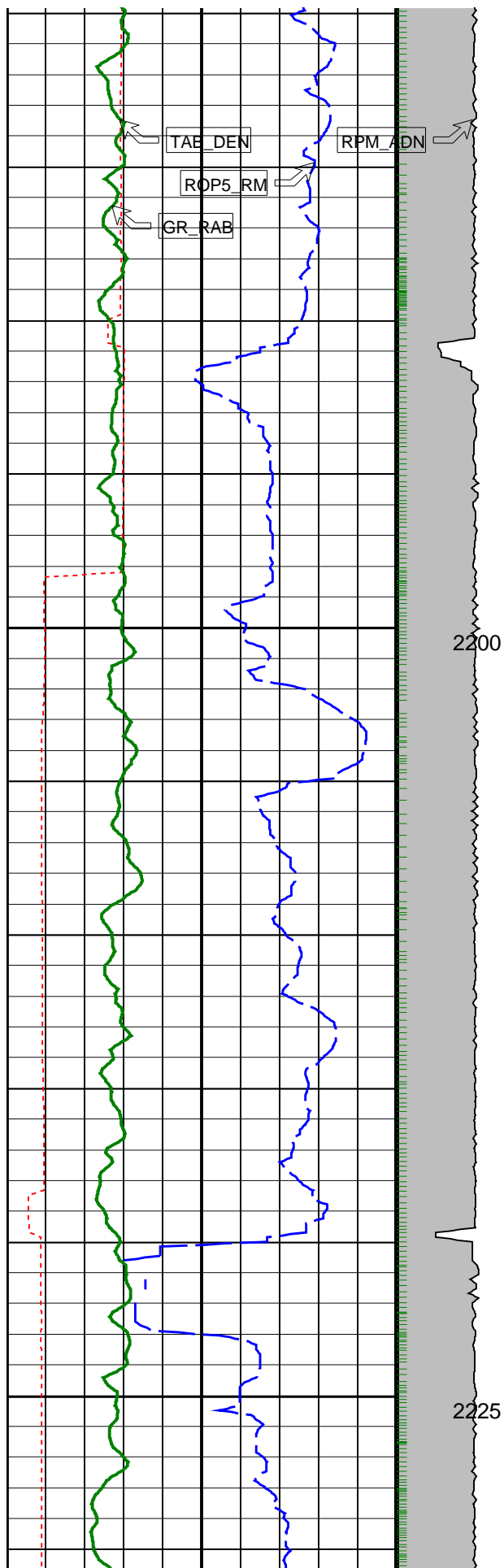




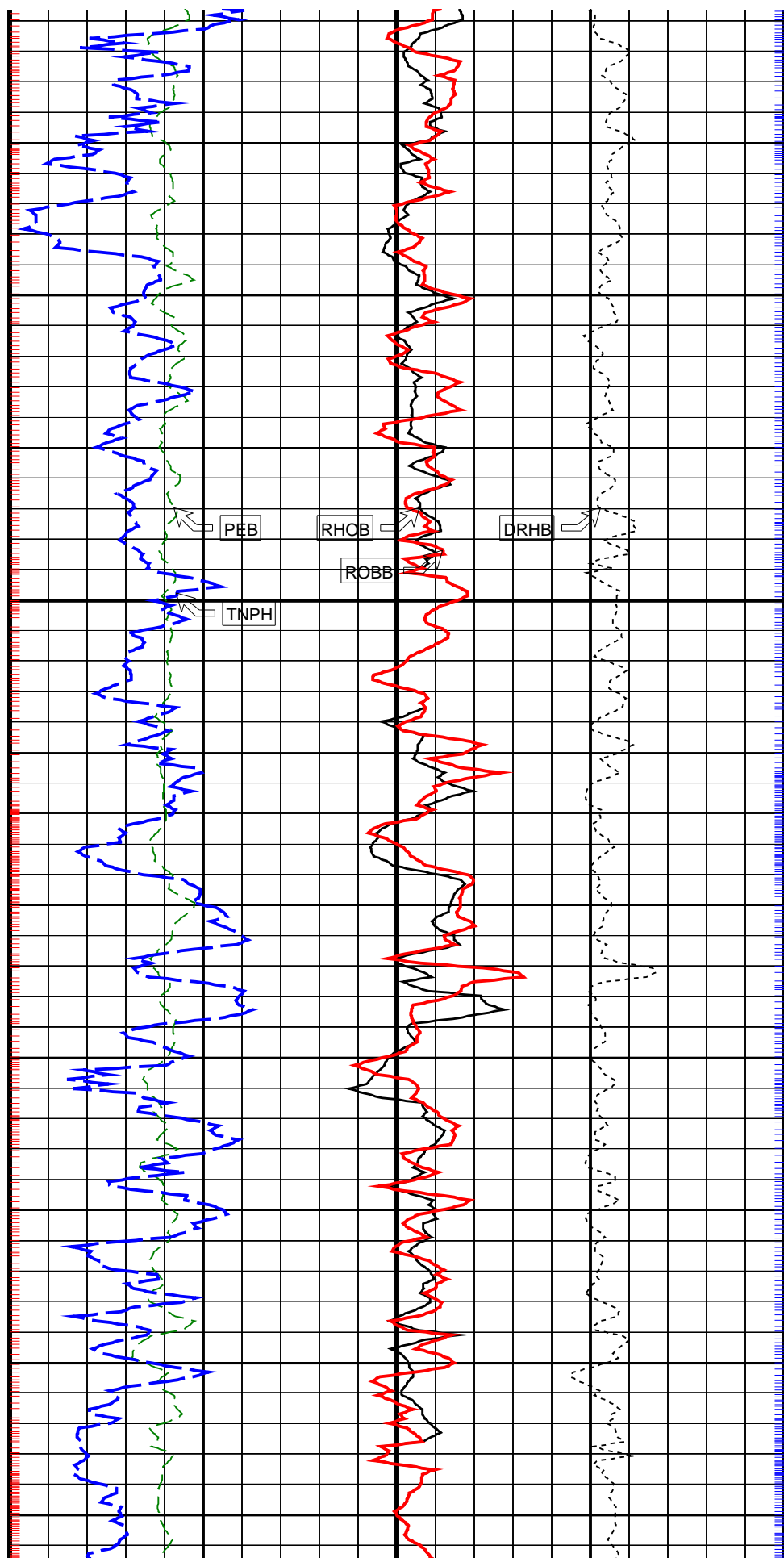
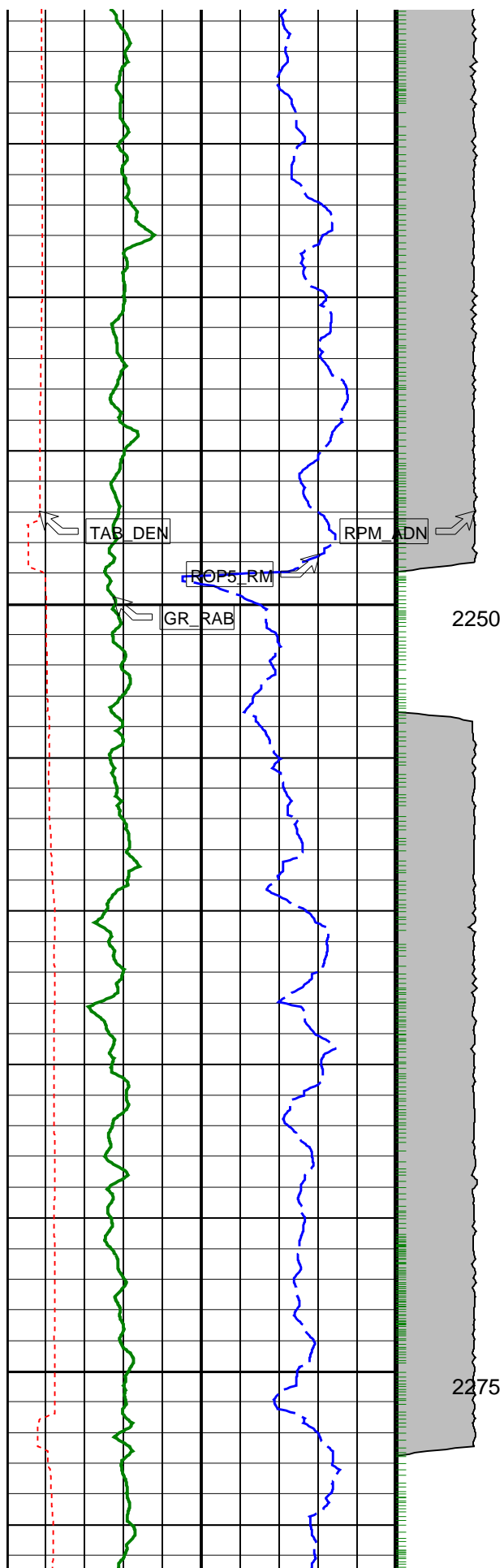


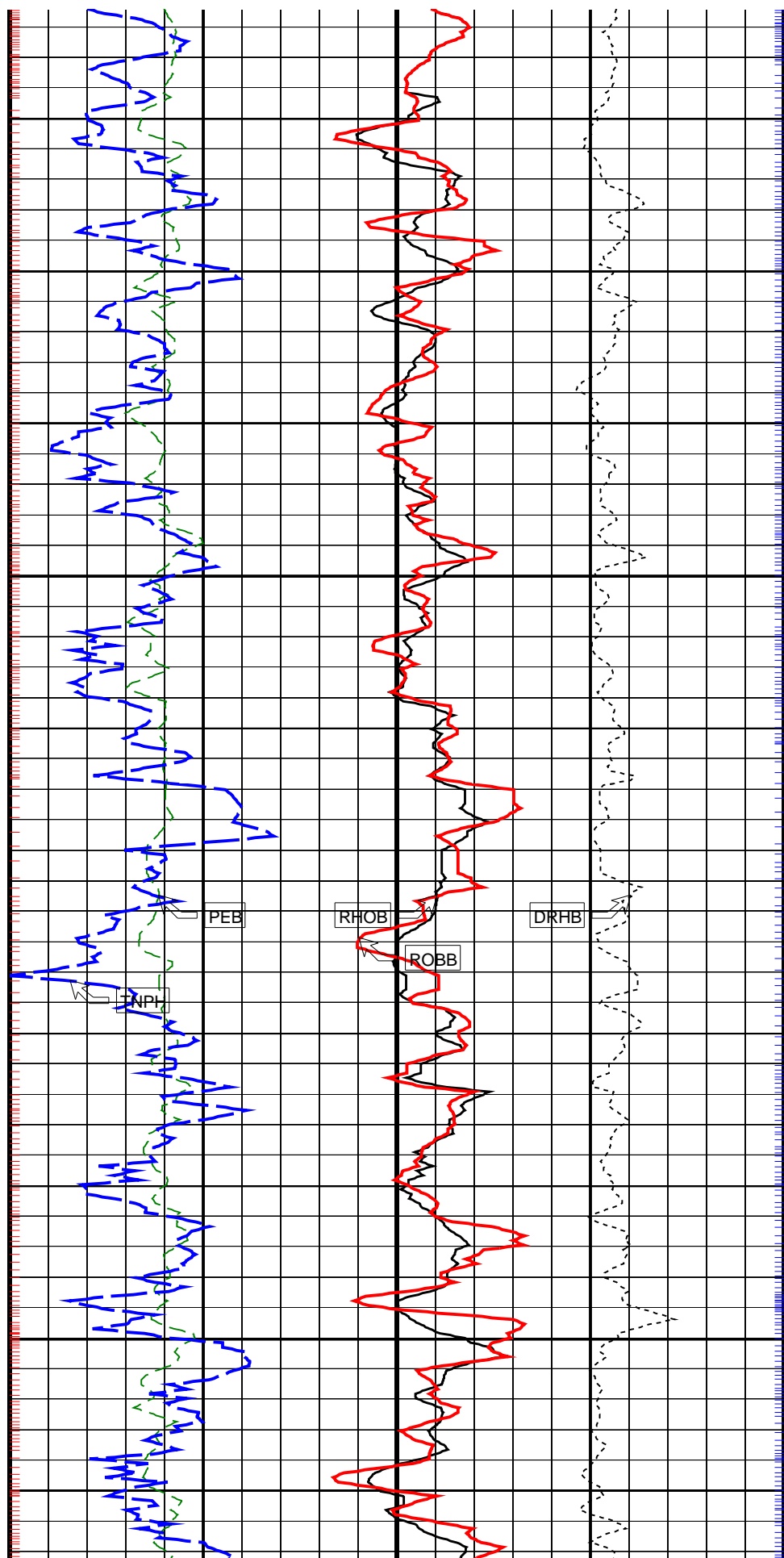
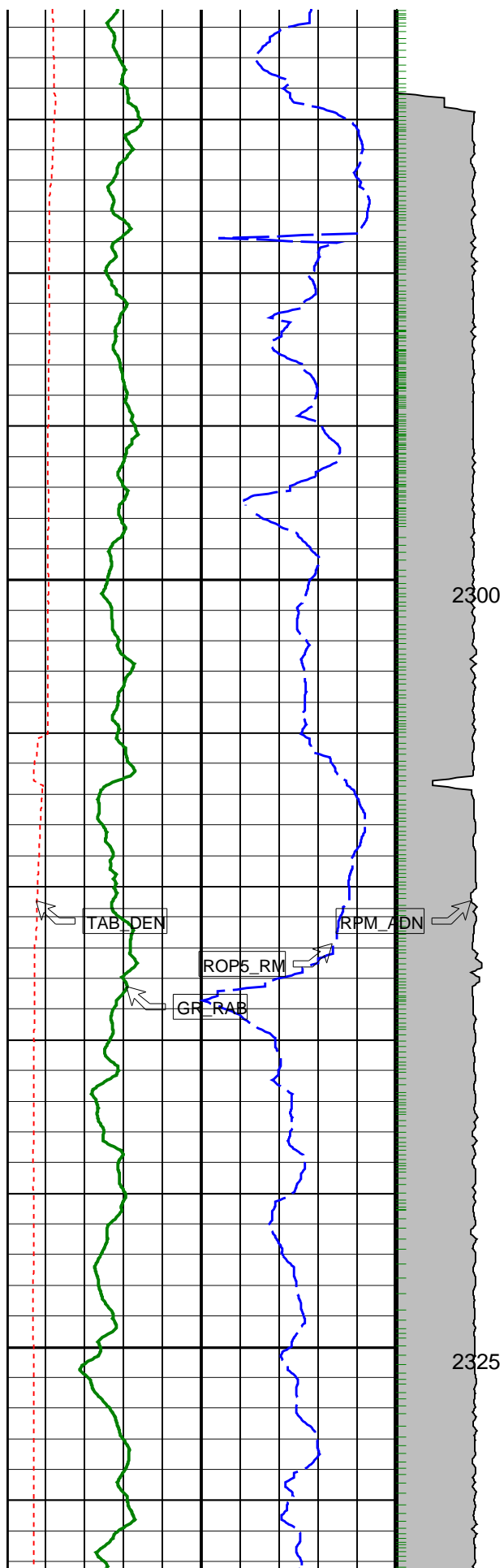


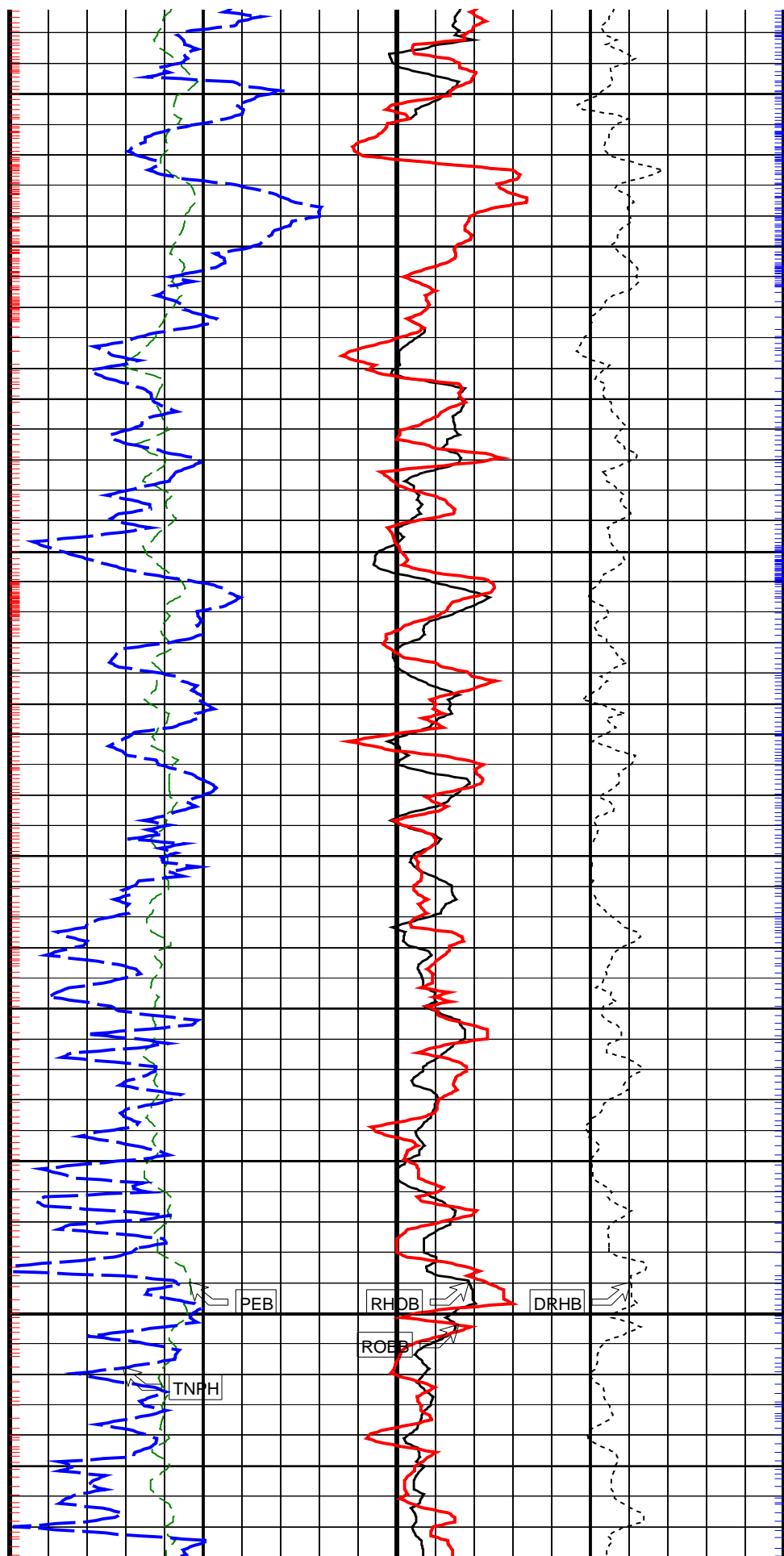
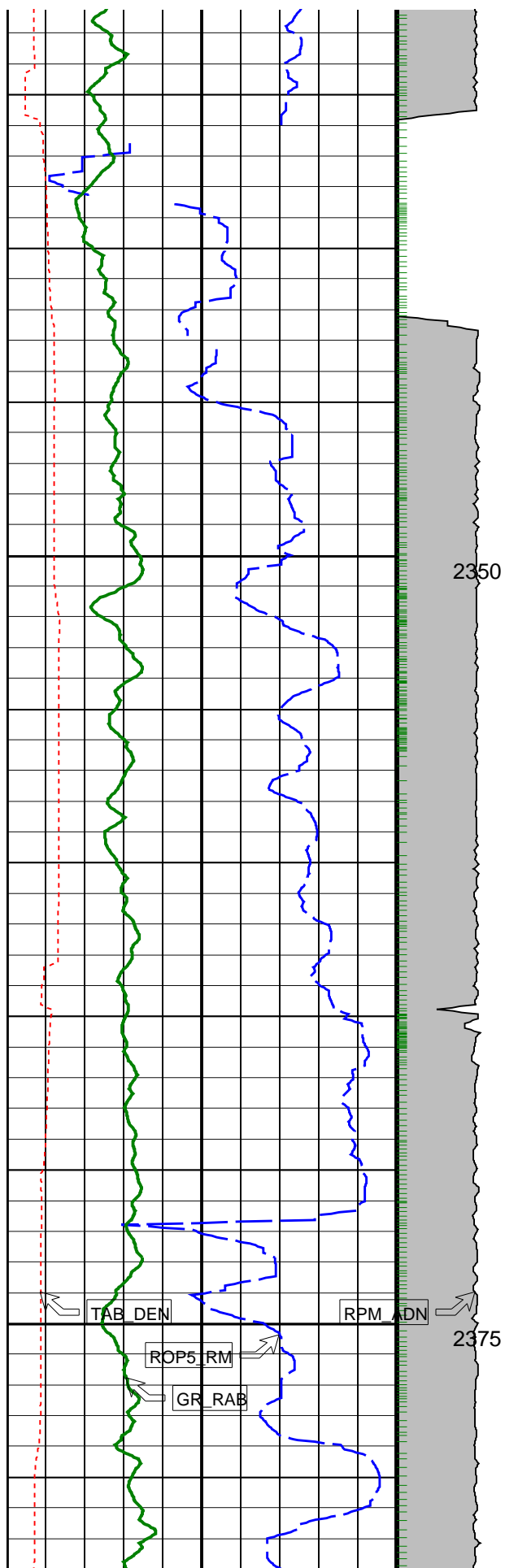


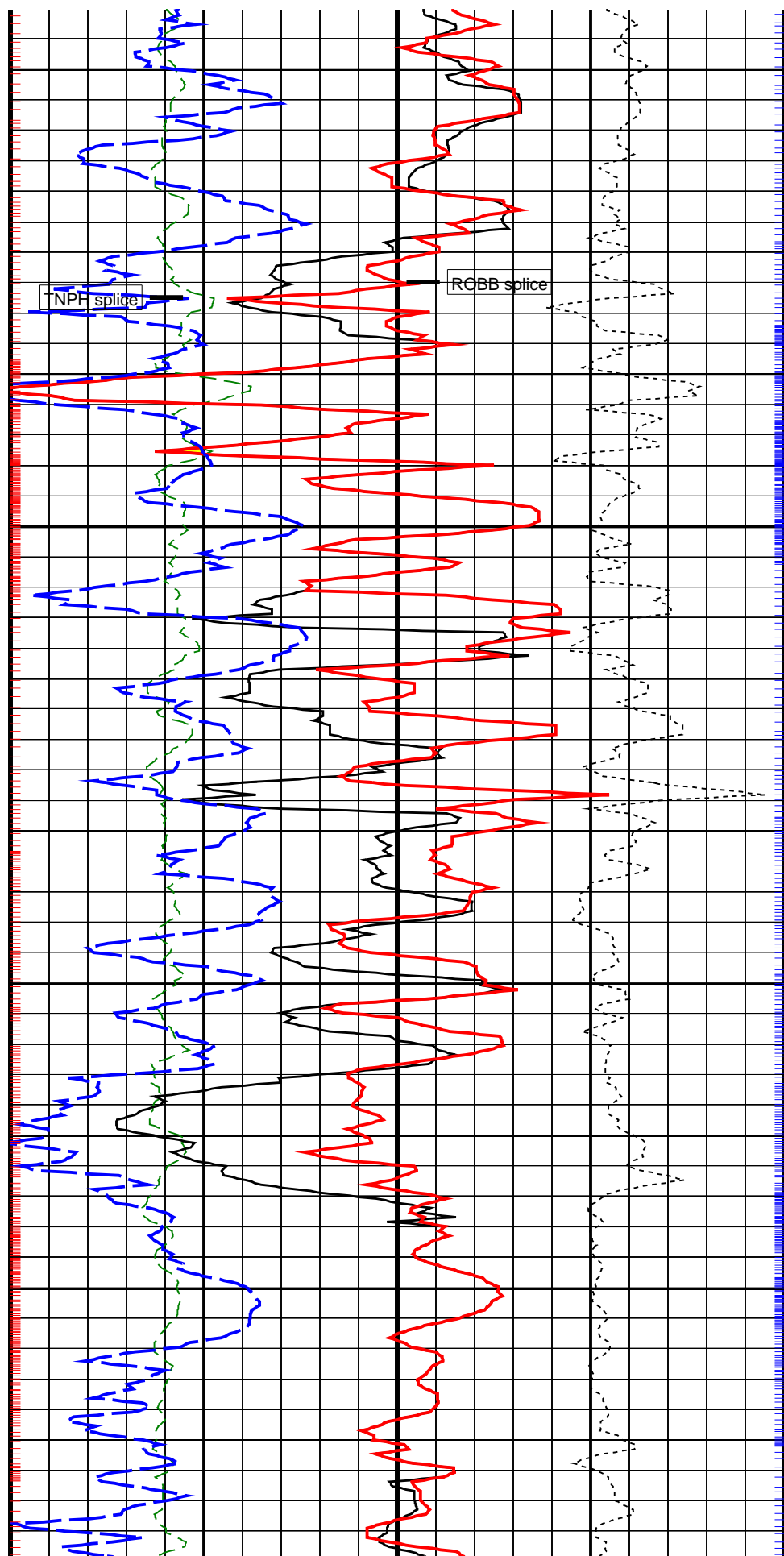
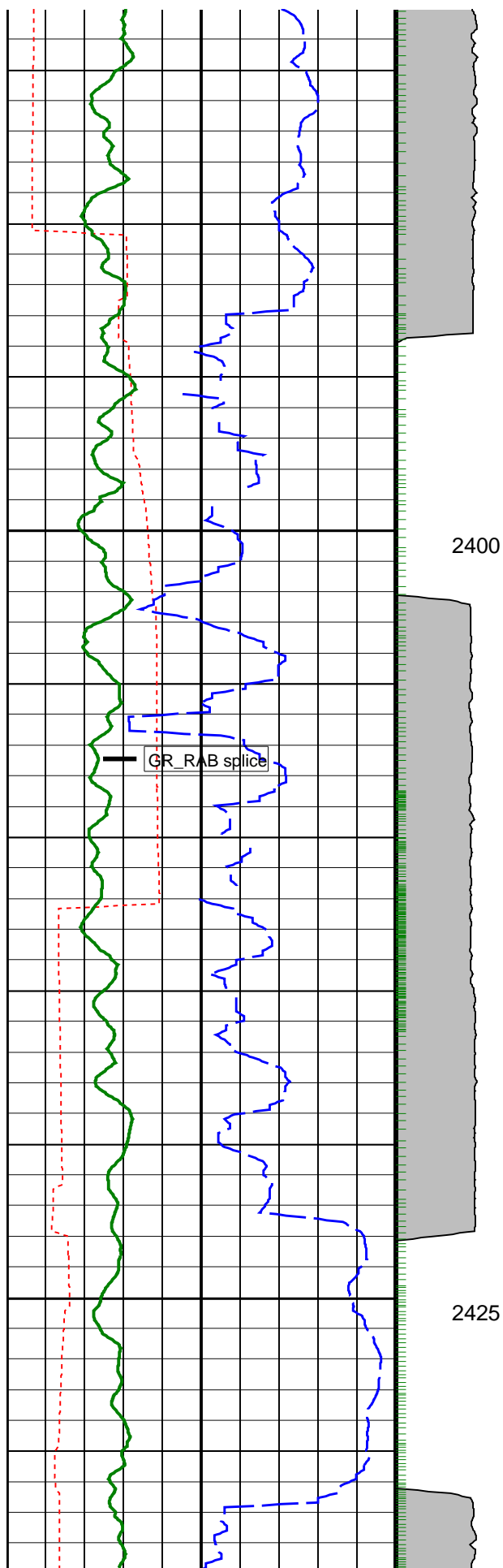


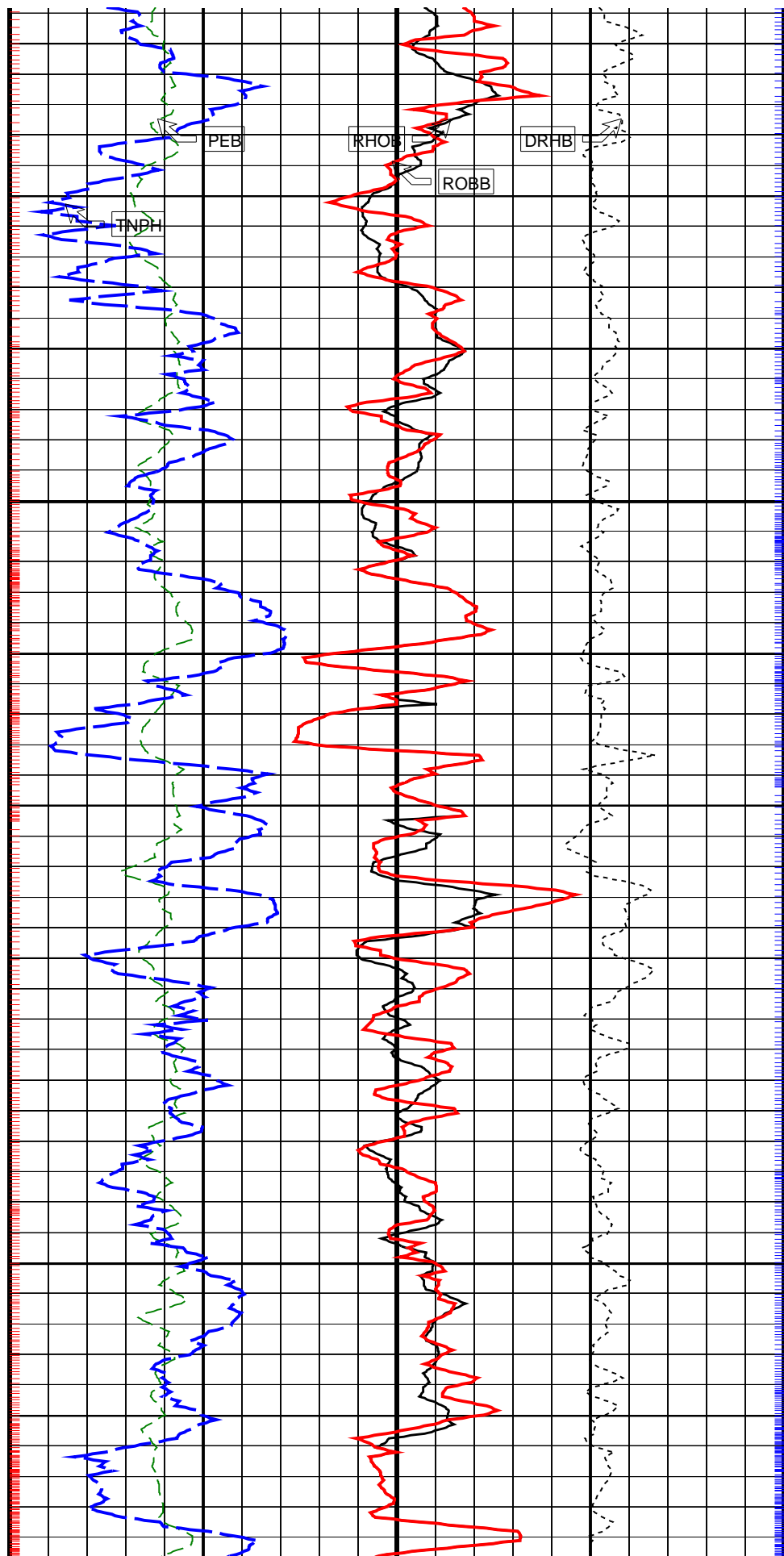
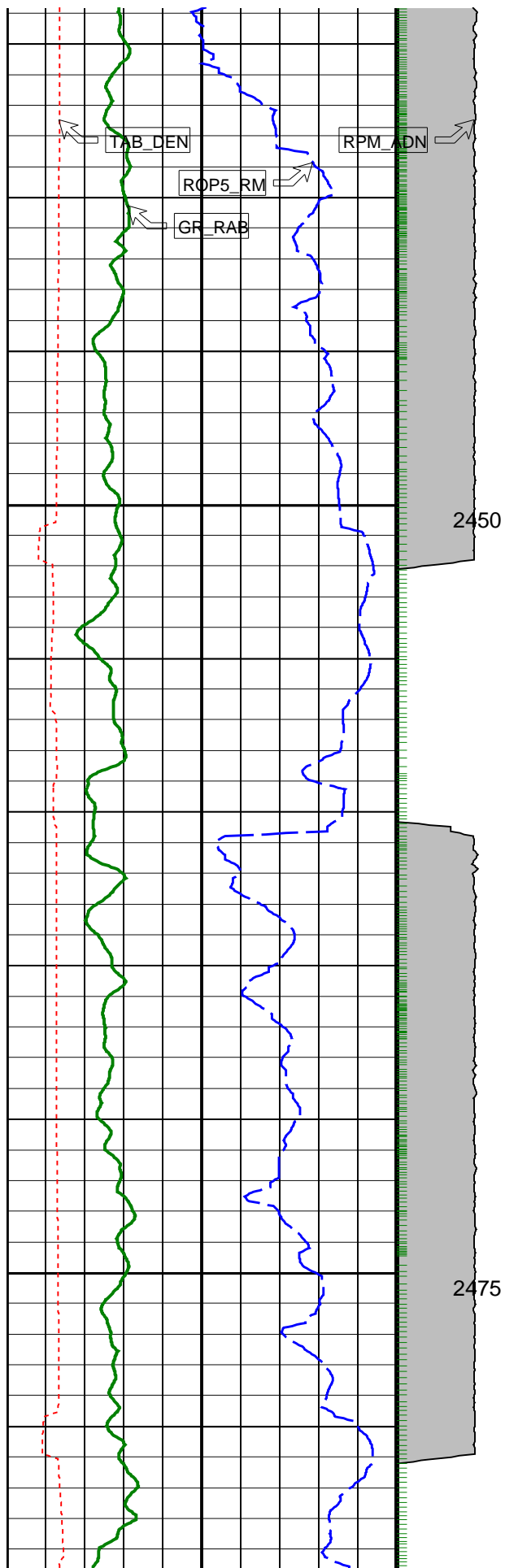


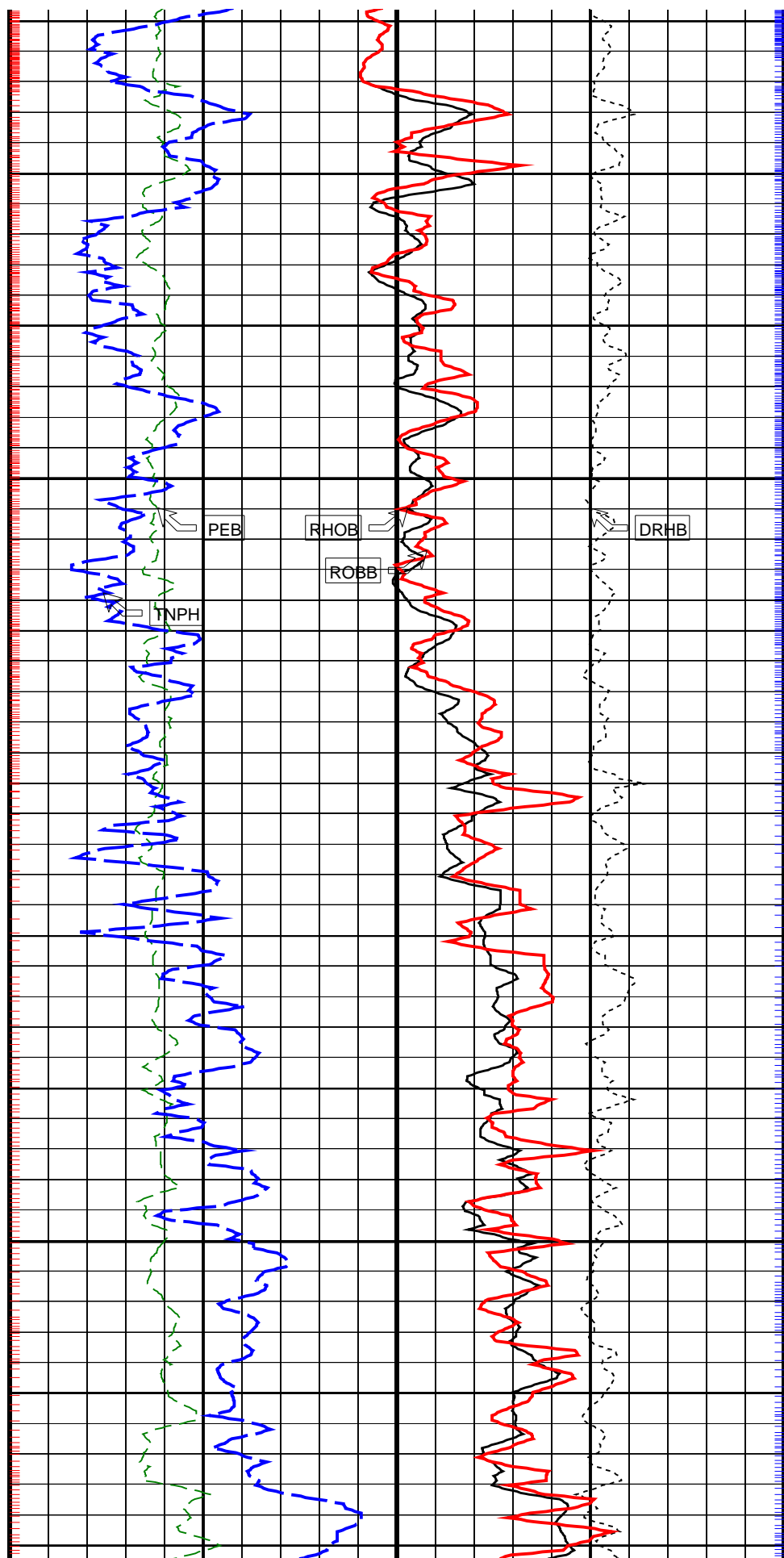
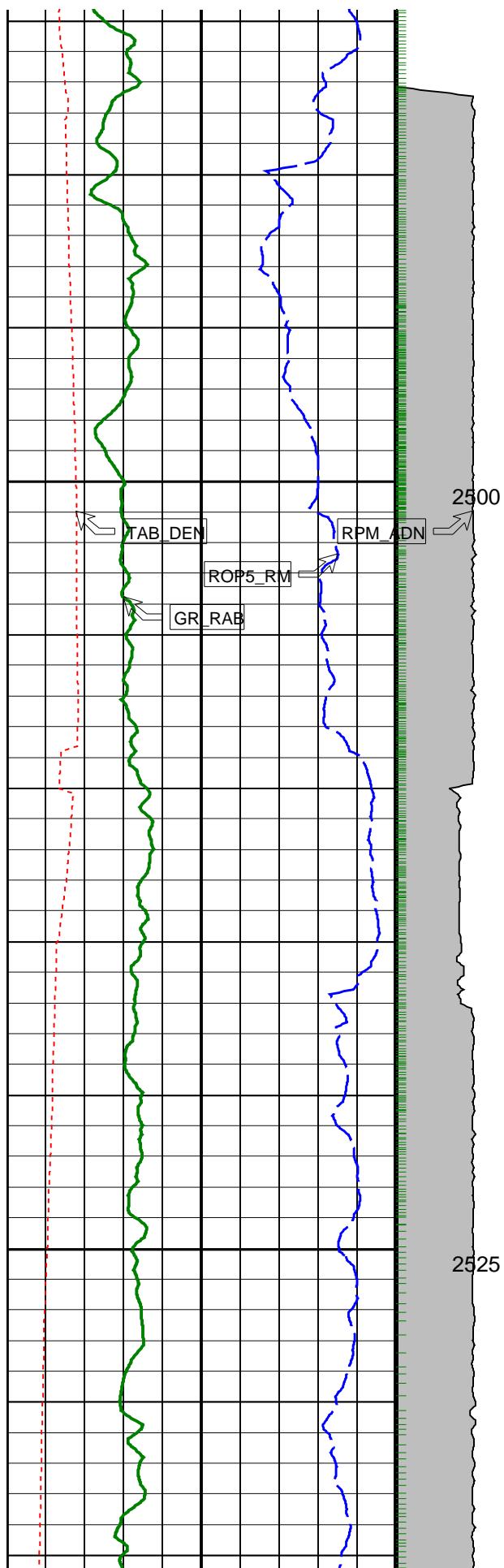


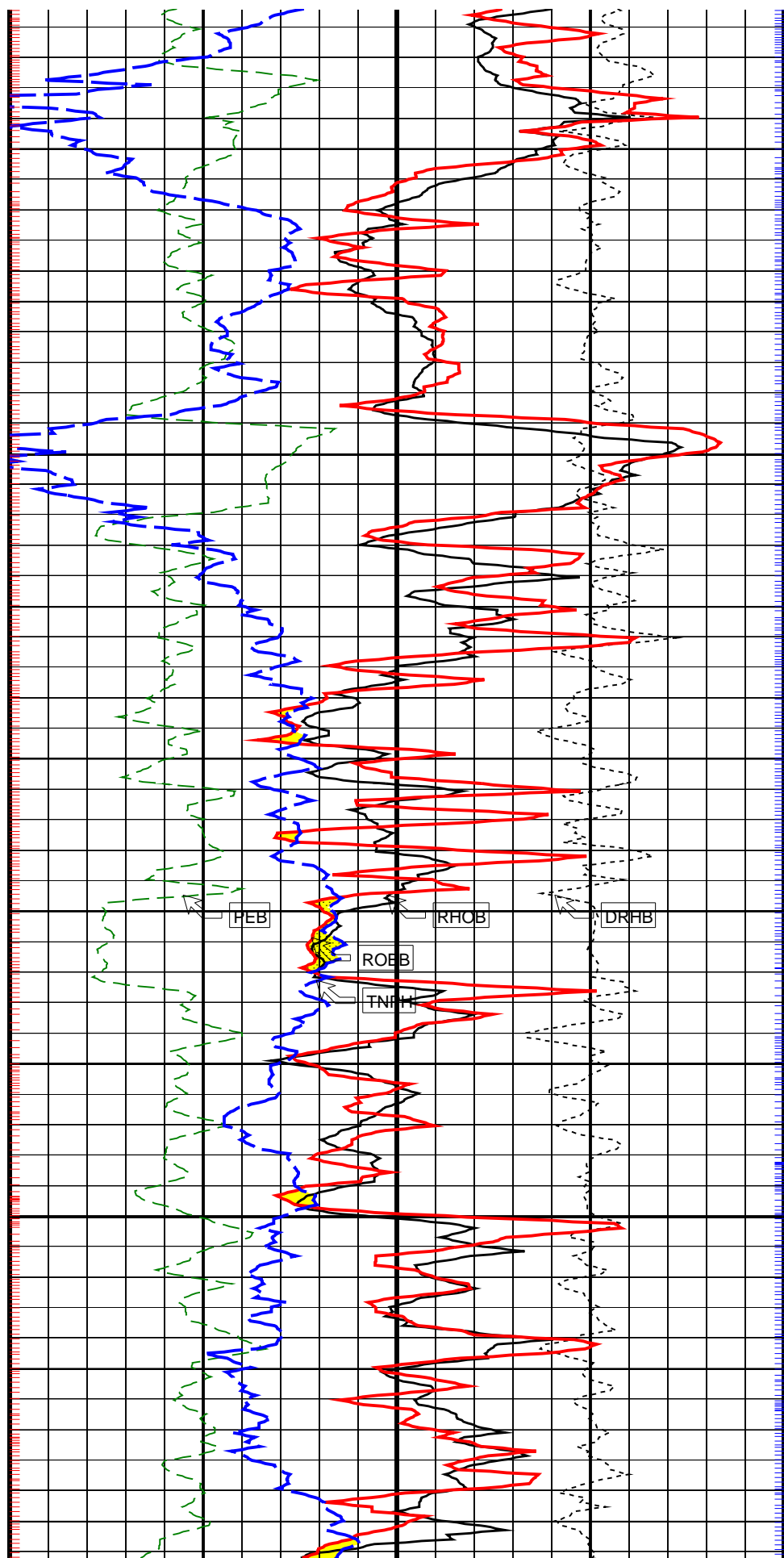
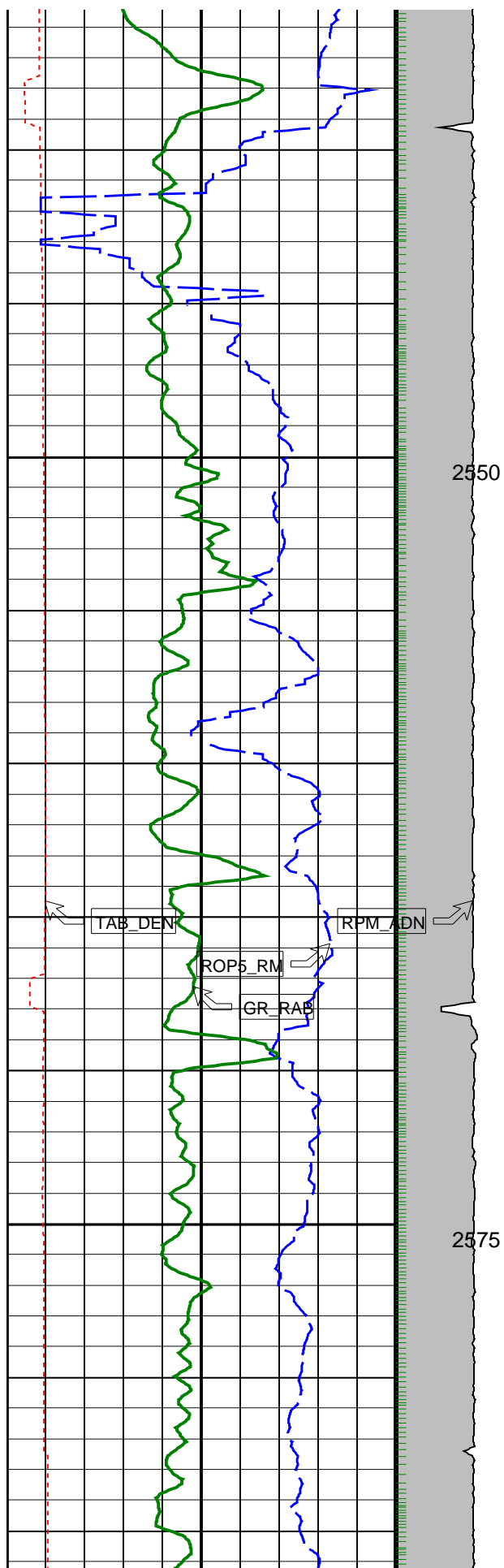


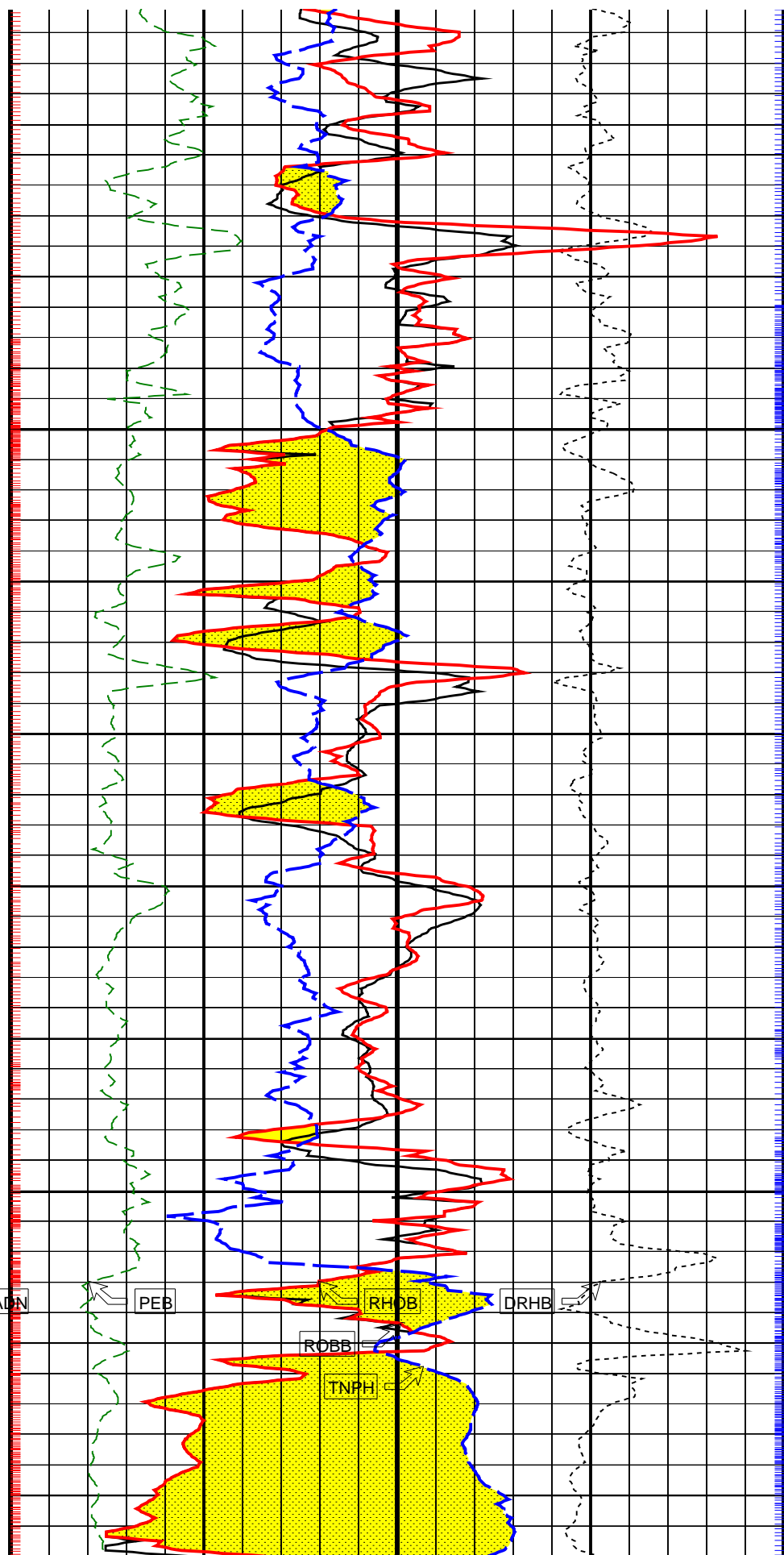
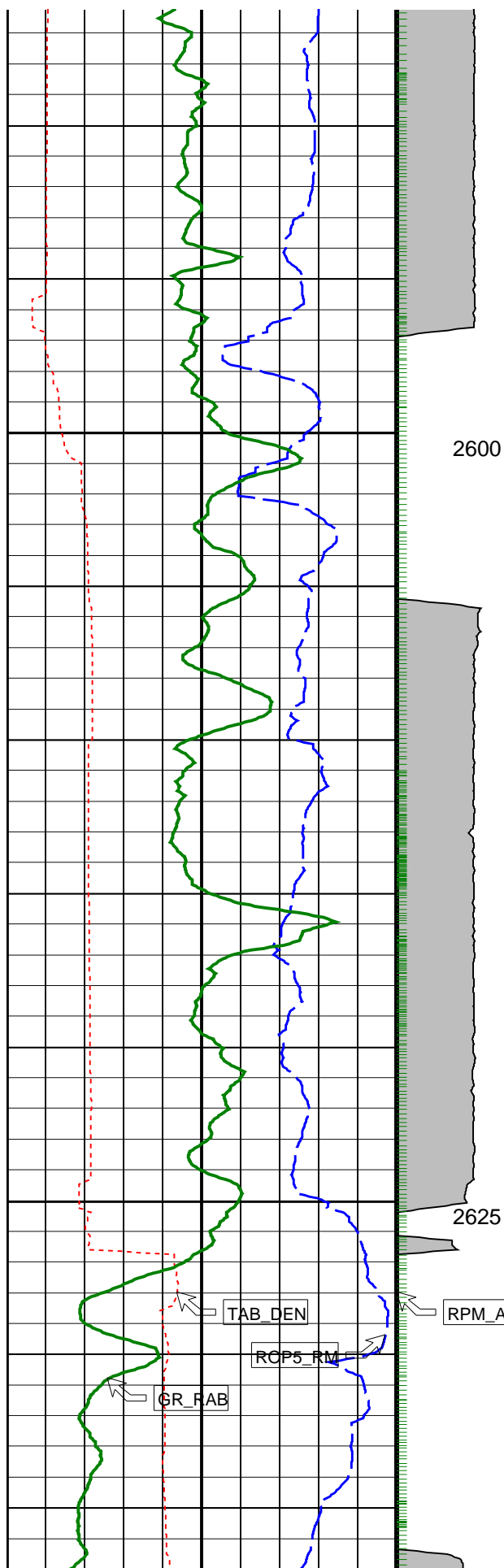




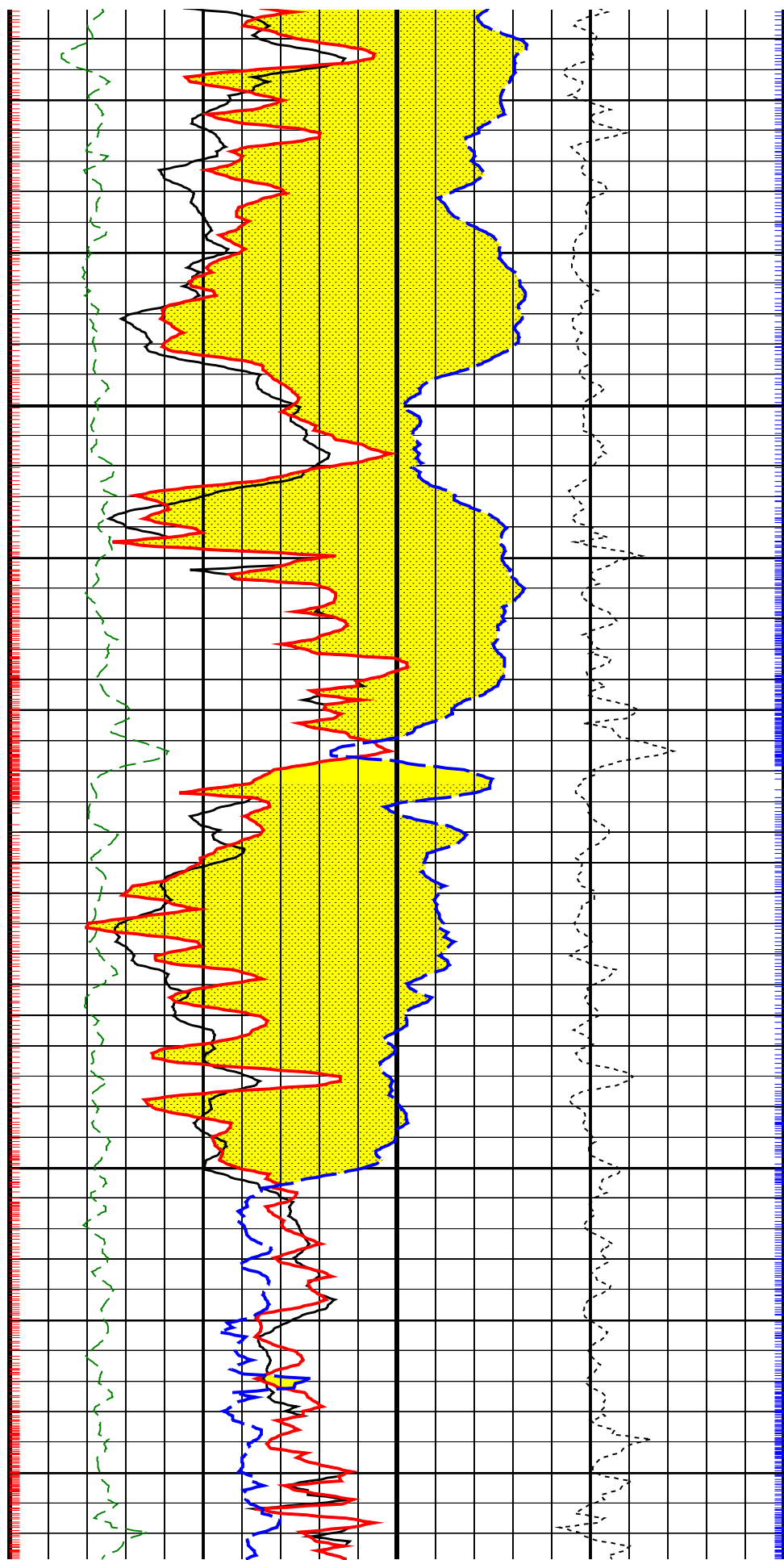
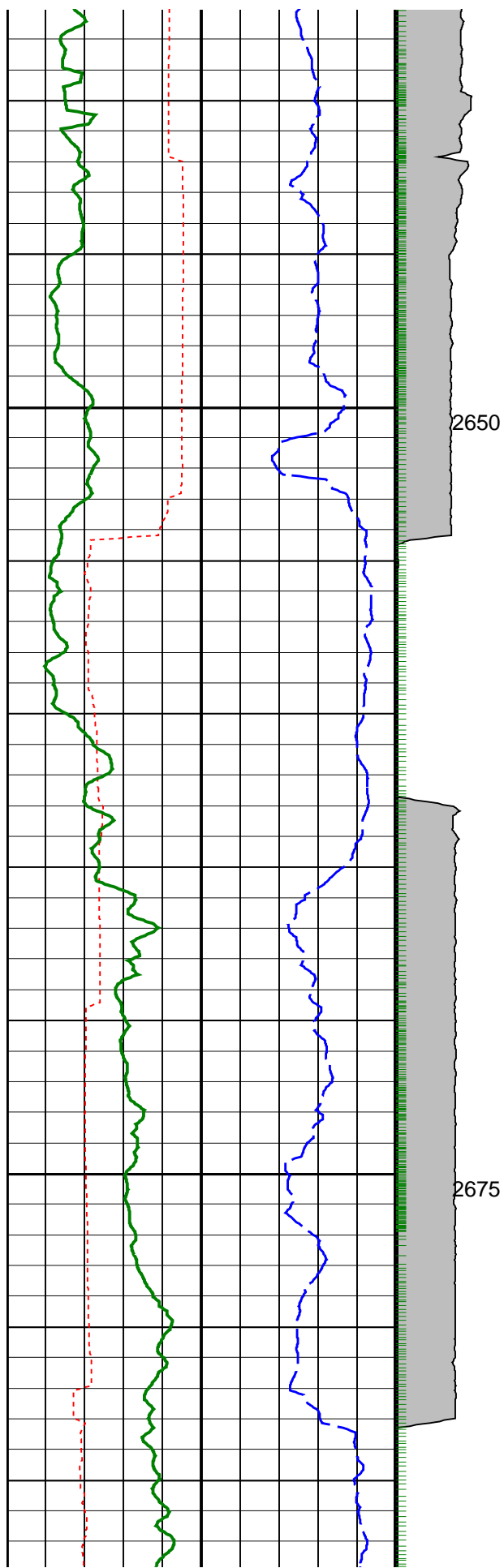


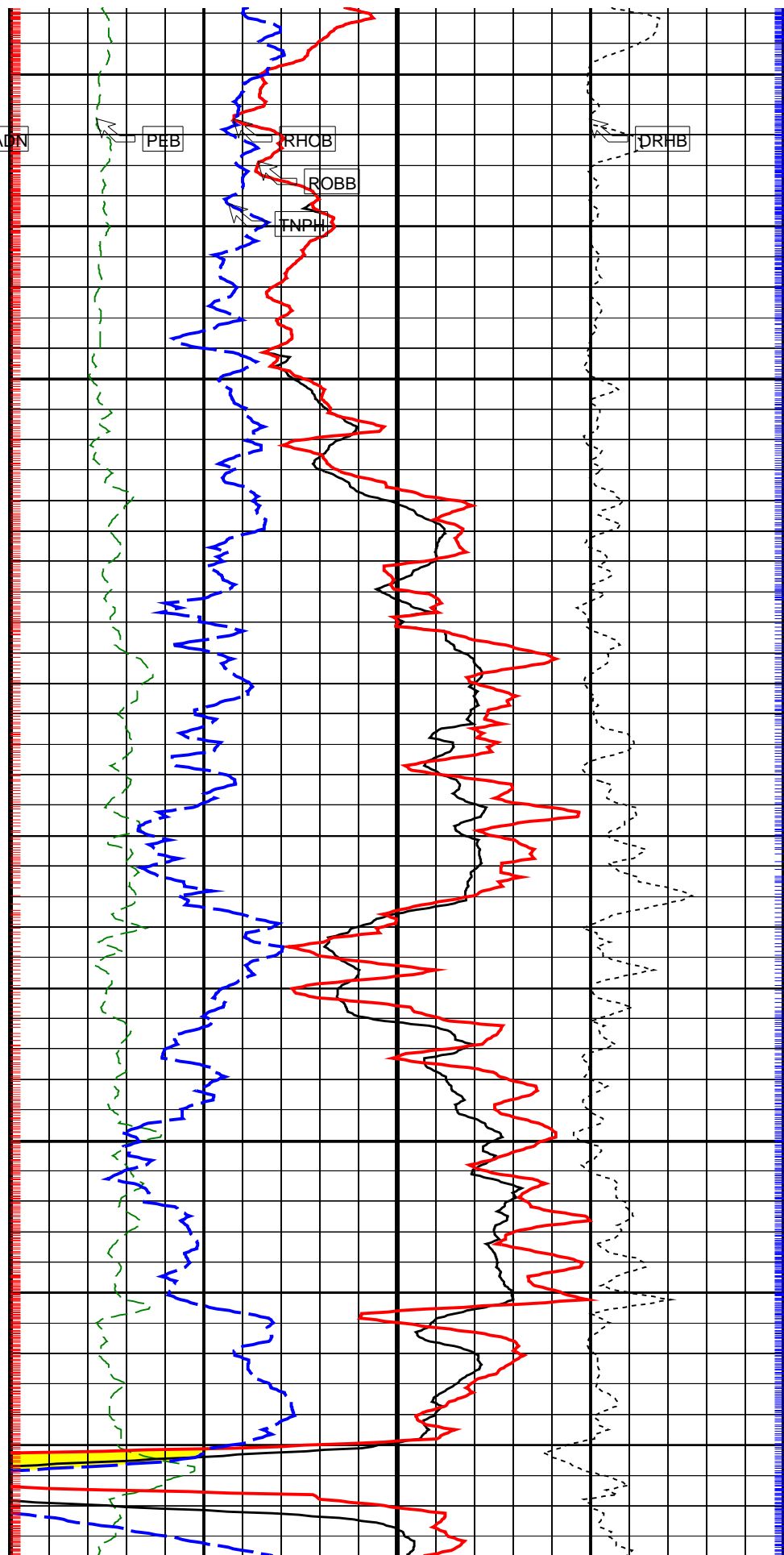
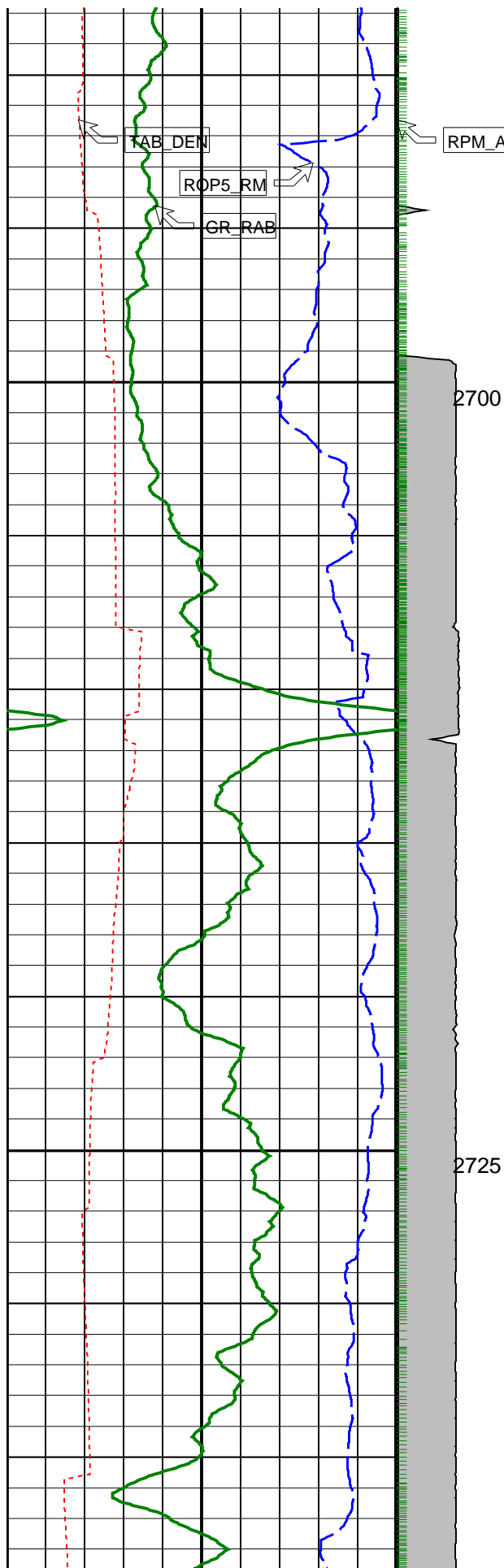


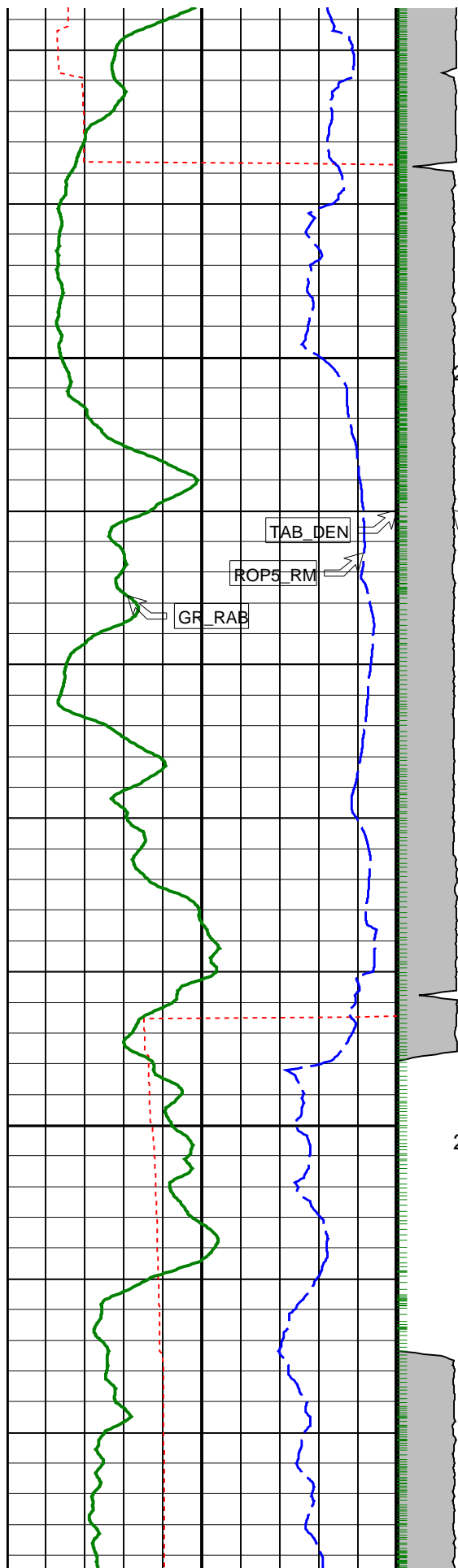






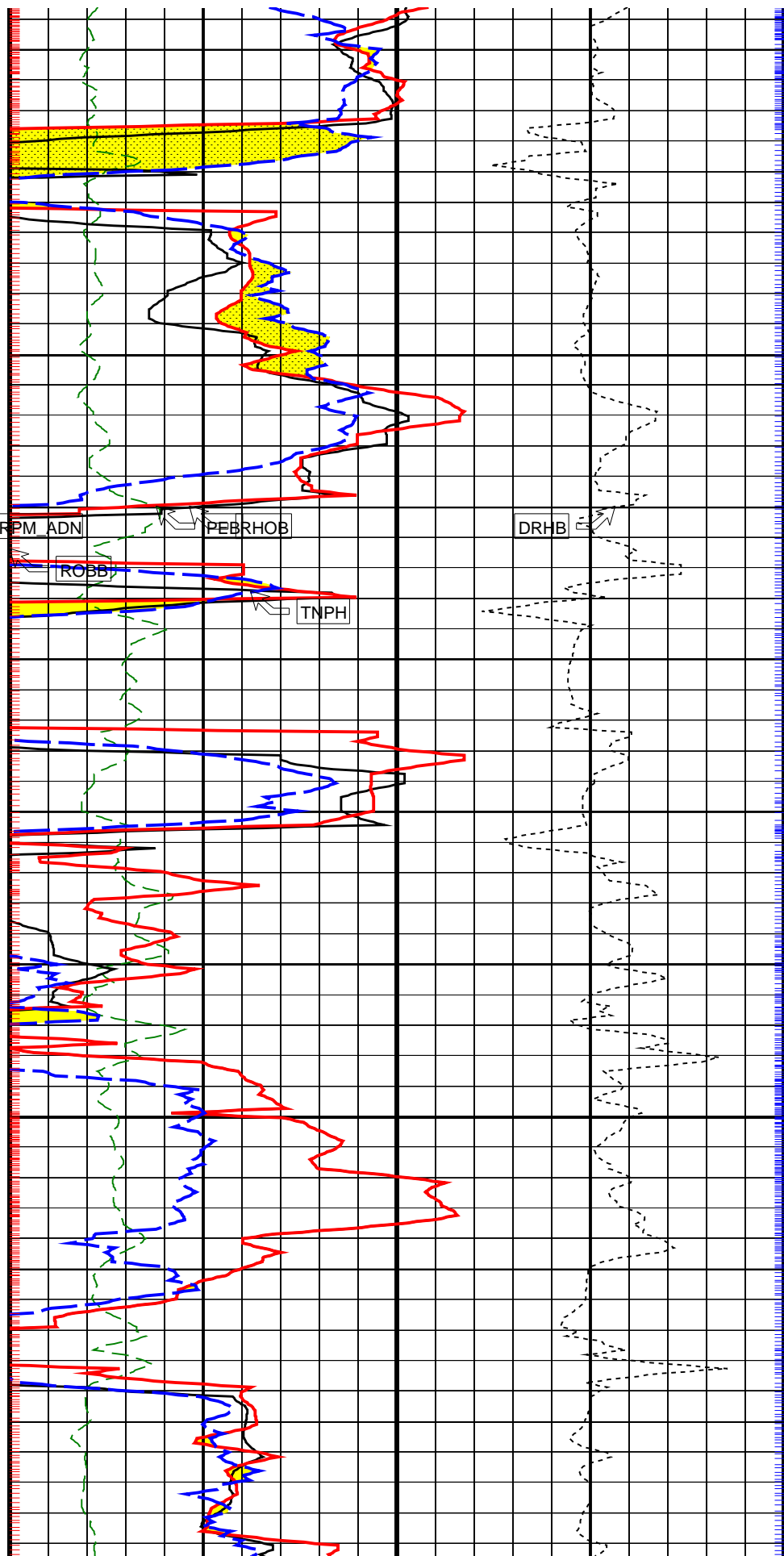


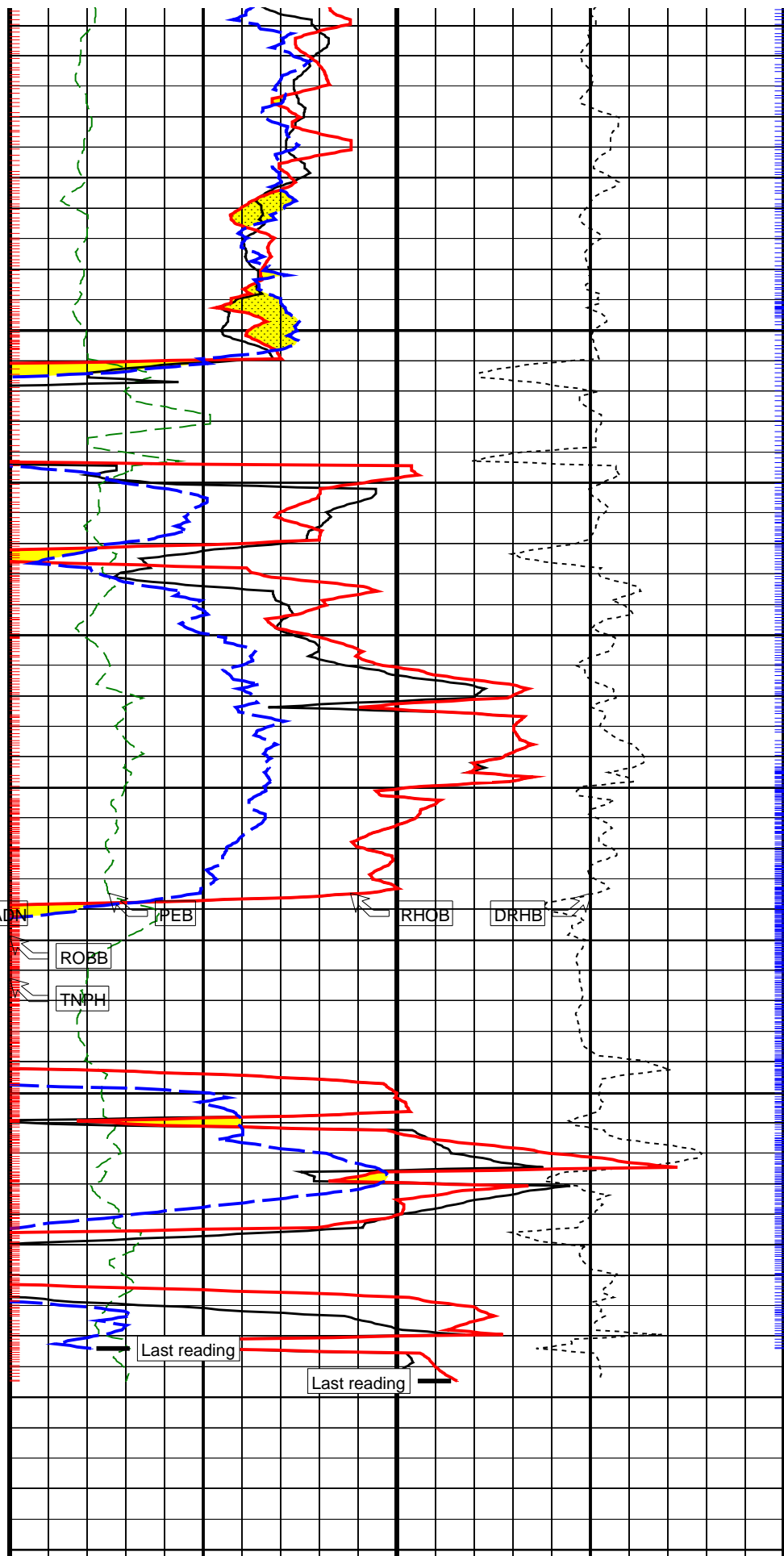
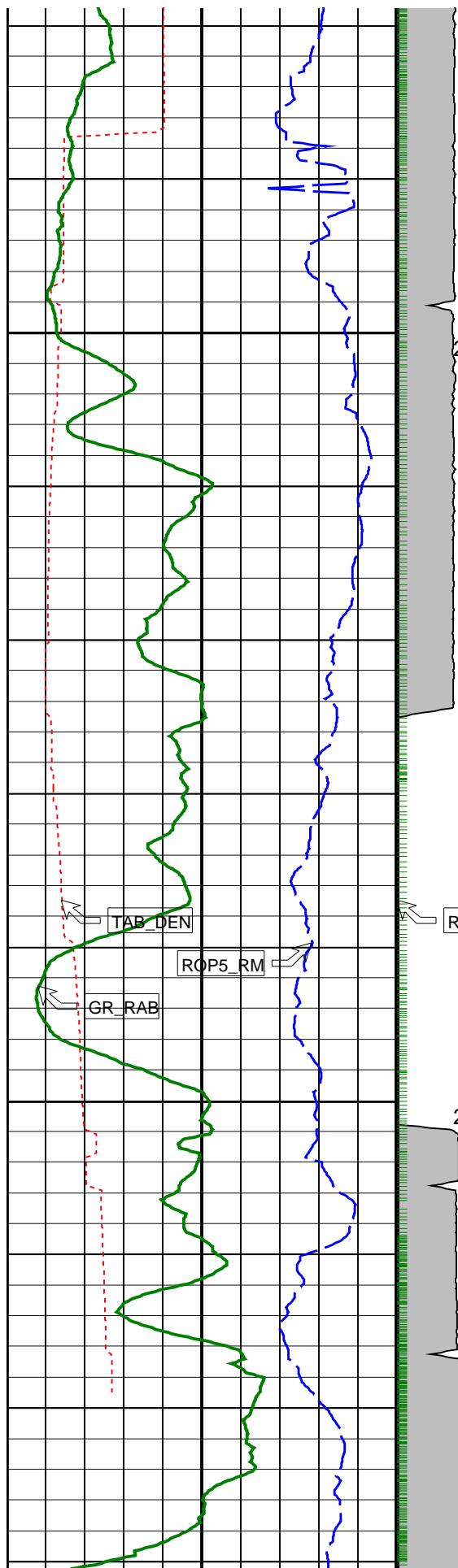


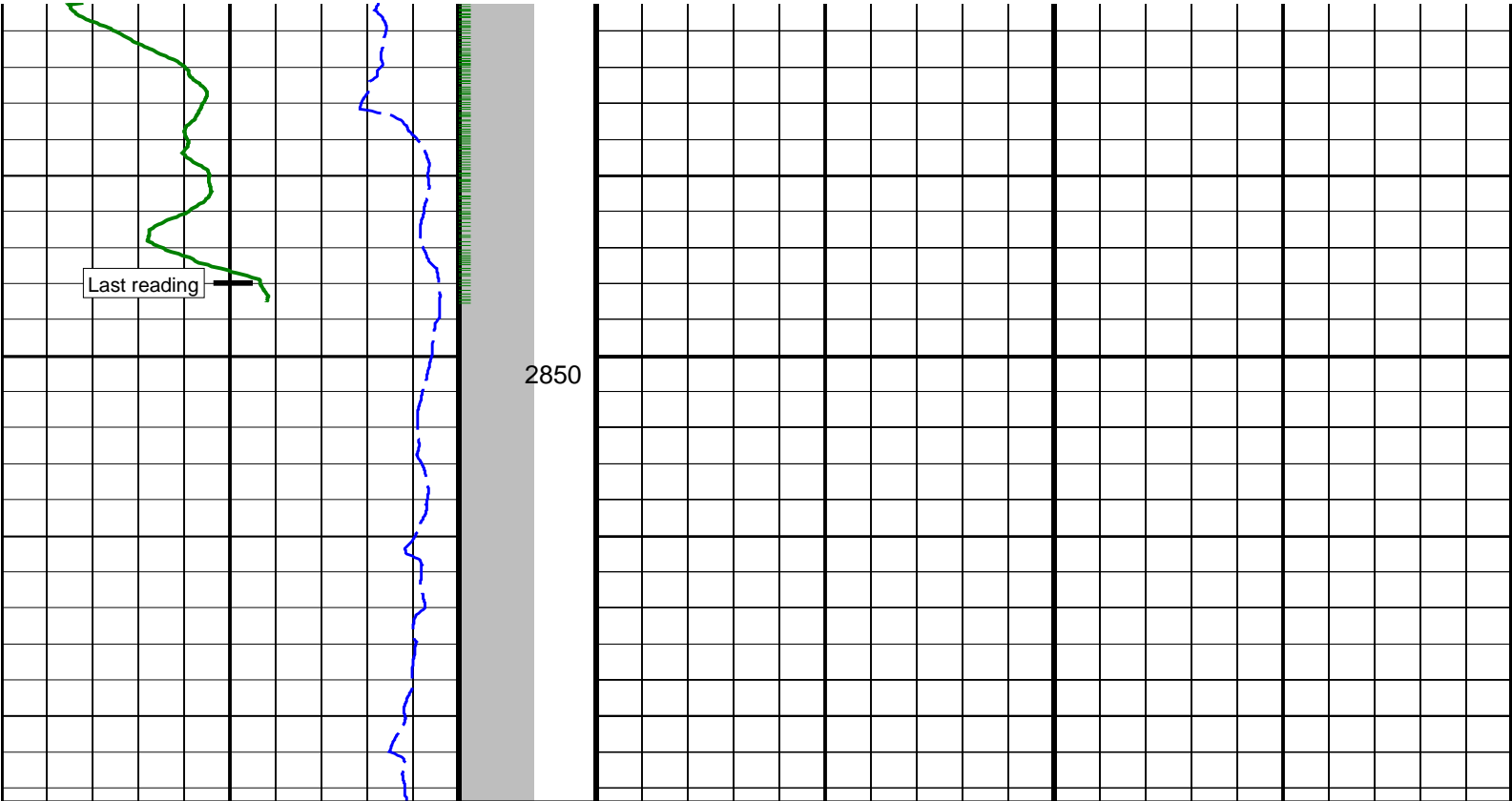


2750

2775







Density Time After Bit (TAB_DEN) (HR)	ADN Rotational Speed (RPM_ADN) (RPM)	Photoelectric Factor, Bottom (PEB) (-----)	Bulk Density Correction, Bottom (DRHB) (G/C3)
0	10	0	10
	0 200		-0.25 0.25

RAB Gamma Ray (GR_RAB) (GAPI)	Bulk Density (RHOB) (G/C3)
0 200	1.85 2.85
Rate of Penetration, Averaged over Last 5ft (ROP5_RM) (M/HR)	Bulk Density, Bottom (ROBB) (G/C3)
200 0	1.85 2.85

Thermal Neutron Porosity (TNPH) (PU)
45 -15
Gas Area From ADN/ROBB/DEPTH to ADN/TNPH/DEPTH

PIP SUMMARY
Density Ticks, 0.1 ft
Gamma Ray Samples
Neutron Ticks, 0.1 ft

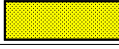
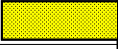
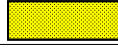
IDEAL Version: ID7_OC_02			
IDF			
RAB	IDEAL Version: ID7_OC_02	MWD_10	IDEAL Version: ID7_OC_02
ADN	IDEAL Version: ID7_OC_02		

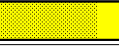
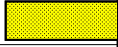
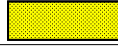
6.75-in. Azimuthal Density Neutron / Equipment Identification			
Primary Equipment:			
Tool Name and Serial Number	ADN6 - CA	289	
Collar Type and Serial Number	ADDC - AA		
Chassis Type and Serial Number	ADSE -		
Stabilizer Type and Serial Number	Clamp-On	699051	
Neutron Logging Source	NSR - M	A161	

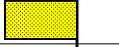
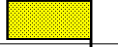
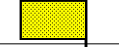
Stabilizer Type and Serial Number  
Neutron Logging Source  
Density Logging Source  
Stabilizer Size  
Calibration Status

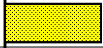
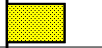
Clamp-On  
NSR - M  
GSR - J/Z  
8.25 - in.  
Valid








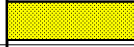
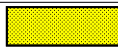

699051  
A161  
A2125


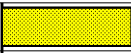




Master: 21-Aug-2002 2:00											
6.75-in. Azimuthal Density Neutron Calibration											
Density: Magnesium Block											
Phase	LS window 3 - Mg CPS		Value	Phase	SS window 1 - Mg CPS		Value	Phase	SS window 3 - Mg CPS		Value
Master			1286	Master			2974	Master			7375
	250.0 (Minimum)	4125 (Nominal)	8000 (Maximum)		700.0 (Minimum)	9350 (Nominal)	18000 (Maximum)		2500 (Minimum)	23750 (Nominal)	45000 (Maximum)



Master: 21-Aug-2002 2:00											
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			199.3	Master			1579	Master			4746
	50.00 (Minimum)	725.0 (Nominal)	1400 (Maximum)		500.0 (Minimum)	4250 (Nominal)	8000 (Maximum)		1500 (Minimum)	15750 (Nominal)	30000 (Maximum)

Master: 21-Aug-2002 2:00											
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			51.89	Master			125.3	Master			546.5
	15.00 (Minimum)	82.50 (Nominal)	150.0 (Maximum)		40.00 (Minimum)	220.0 (Nominal)	400.0 (Maximum)		150.0 (Minimum)	825.0 (Nominal)	1500 (Maximum)













Master: 21-Aug-2002 2:00											
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			1.034	Master			1.130				
	1.011 (Minimum)	1.026 (Nominal)	1.041 (Maximum)		1.093 (Minimum)	1.118 (Nominal)	1.143 (Maximum)				


Master: 21-Aug-2002 2:00											
6.75-in. Azimuthal Density Neutron Calibration											
Neutron: Water Tank											
Phase	Far 1 tube 1 gain		Value	Phase	Far 1 tube 1 offset CPS		Value				
Master			1.102	Master			-0.8340				
	0.9000 (Minimum)	1.100 (Nominal)	1.300 (Maximum)		-1.200 (Minimum)	-0.9000 (Nominal)	-0.6000 (Maximum)				
Phase	Far 1 tube 2 gain		Value	Phase	Far 1 tube 2 offset CPS		Value				
Master			1.048	Master			-0.9090				
	0.9000 (Minimum)	1.100 (Nominal)	1.300 (Maximum)		-1.200 (Minimum)	-0.9000 (Nominal)	-0.6000 (Maximum)				
Phase	Far 1 tube 3 gain		Value	Phase	Far 1 tube 3 offset CPS		Value				
Master			1.071	Master			-0.7690				
	0.9000 (Minimum)	1.100 (Nominal)	1.300 (Maximum)		-1.200 (Minimum)	-0.9000 (Nominal)	-0.6000 (Maximum)				
Phase	Far 2 tube 1 gain		Value	Phase	Far 2 tube 1 offset CPS		Value				
Master			1.107	Master			-0.7220				
	0.9000 (Minimum)	1.100 (Nominal)	1.300 (Maximum)		-1.200 (Minimum)	-0.9000 (Nominal)	-0.6000 (Maximum)				
Phase	Far 2 tube 2 gain		Value	Phase	Far 2 tube 2 offset CPS		Value				
Master			1.000	Master			-0.8370				
	0.9000 (Minimum)	1.100 (Nominal)	1.300 (Maximum)		-1.200 (Minimum)	-0.9000 (Nominal)	-0.6000 (Maximum)				
Phase	Far 2 tube 3 gain		Value	Phase	Far 2 tube 3 offset CPS		Value				

Phase	Far 2 tube 3 gain		Value	Phase	Far 2 tube 3 offset CPS		Value
Master			1.108	Master			-0.7300
	0.9000 (Minimum)	1.100 (Nominal)	1.300 (Maximum)		-1.200 (Minimum)	-0.9000 (Nominal)	-0.6000 (Maximum)
Phase	Near 1 tube 1 gain		Value	Phase	Near 1 tube 1 offset CPS		Value
Master			1.088	Master			0
	0.9000 (Minimum)	1.100 (Nominal)	1.300 (Maximum)		-50.00 (Minimum)	0 (Nominal)	50.00 (Maximum)
Phase	Near 2 tube 1 gain		Value	Phase	Near 2 tube 1 offset CPS		Value
Master			1.062	Master			0
	0.9000 (Minimum)	1.100 (Nominal)	1.300 (Maximum)		-50.00 (Minimum)	0 (Nominal)	50.00 (Maximum)

Master: 21-Aug-2002 2:00							
6.75-in. Azimuthal Density Neutron Calibration							
Neutron: Water Block Check							
Phase	Far Neutron water porosity V/V		Value	Phase	Near Neutron water porosity V/V		Value
Master			1.000	Master			1.000
	0.9000 (Minimum)	1.000 (Nominal)	1.150 (Maximum)		0.9000 (Minimum)	1.000 (Nominal)	1.150 (Maximum)

6.75-in. Resistivity At-the-Bit / Equipment Identification			
Primary Equipment:			
Tool Name and Serial Number		RAB6 – CA	136
Calibration Status		Valid	

Master: 22-Aug-2002 13:30											
6.75-in. Resistivity At-the-Bit Calibration											
Resistivity: Fixture											
Phase	Ring/T1 factor		Value	Phase	Ring/T2 factor		Value	Phase	M0/T1 factor		Value
Master			0.9969	Master			0.9980	Master			0.9945
	0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)		0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)		0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)
Phase	M0/T2 factor		Value	Phase	M2/T1 factor		Value	Phase	M2/T2 factor		Value
Master			0.9952	Master			0.9930	Master			0.9935
	0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)		0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)		0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)
Phase	BTN shallow/T1 factor		Value	Phase	BTN shallow/T2 factor		Value	Phase	BTN medium/T1 factor		Value
Master			0.9977	Master			0.9982	Master			0.9983
	0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)		0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)		0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)
Phase	BTN medium/T2 factor		Value	Phase	BTN deep/T1 factor		Value	Phase	BTN deep/T2 factor		Value
Master			0.9989	Master			0.9936	Master			0.9942
	0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)		0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)		0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)

Master: 22-Aug-2002 13:30		
6.75-in. Resistivity At-the-Bit Calibration		
Gamma Ray: Blanket		
Phase	Gamma ray factor	Value
Master		0.8809













Master				0.8809
	0.7500 (Minimum)		1.000 (Nominal)	1.250 (Maximum)


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

Primary Equipment:  
Tool Name and Serial Number  
Calibration Status

RAB6 – CA  
Valid

160

Master: 28-Aug-2002 6:45											
6.75-in. Resistivity At-the-Bit Calibration											
Resistivity: Fixture											
Phase	Ring/T1 factor		Value	Phase	Ring/T2 factor		Value	Phase	M0/T1 factor		Value
Master			0.9974	Master			0.9993	Master			1.002
	0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)		0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)		0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)
Phase	M0/T2 factor		Value	Phase	M2/T1 factor		Value	Phase	M2/T2 factor		Value
Master			1.003	Master			0.9986	Master			0.9997
	0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)		0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)		0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)
Phase	BTN shallow/T1 factor		Value	Phase	BTN shallow/T2 factor		Value	Phase	BTN medium/T1 factor		Value
Master			1.006	Master			1.007	Master			1.002
	0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)		0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)		0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)
Phase	BTN medium/T2 factor		Value	Phase	BTN deep/T1 factor		Value	Phase	BTN deep/T2 factor		Value
Master			1.004	Master			1.012	Master			1.013
	0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)		0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)		0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)

Master: 28-Aug-2002 6:45											
6.75-in. Resistivity At-the-Bit Calibration											
Gamma Ray: Blanket											
Phase	Gamma ray factor								Value		
Master									0.8590		
	0.7500 (Minimum)				1.000 (Nominal)				1.250 (Maximum)		



## SCHLUMBERGER

Survey report

2-Sep-2002 20:25:20

Page 1 of 5

Client.....: Esso Australia Ltd.  
 Field.....: Tuna

Well.....: TNA A-30  
 API number.....:  
 Engineers.....: L. Bon, J. Dolan, K. Handley

RIG.....: ISDL 453  
 STATE.....: Victoria

Spud date.....: 22-Aug-2002  
 Last survey date.....: 02-Sep-02  
 Total accepted surveys....: 103  
 MD of first survey.....: 141.57 m  
 MD of last survey.....: 2862.00 m

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

----- Geomagnetic data -----  
 Magnetic model.....: BGGM version 2001  
 Magnetic date.....: 20-Aug-2002  
 Magnetic field strength...: 1200.32 HCNT  
 Magnetic dec (+E/W).....: 13.16 degrees  
 Magnetic dip.....: -68.69 degrees

----- Depth reference -----  
 Permanent datum.....: MEAN SEA LEVEL

Depth reference.....: Driller's Pipe Tally  
 GL above permanent.....: -59.40 m  
 KB above permanent.....: 31.32 m  
 DF above permanent.....: 31.32 m

----- MWD survey Reference Criteria -----  
 Reference G.....: 1000.02 mGal  
 Reference H.....: 1200.32 HCNT  
 Reference Dip.....: -68.69 degrees  
 Tolerance of G.....: (+/-) 2.50 mGal  
 Tolerance of H.....: (+/-) 6.00 HCNT  
 Tolerance of Dip.....: (+/-) 0.45 degrees

Azimuth from rotary table to target: 64.25 degrees

----- Corrections -----  
 Magnetic dec (+E/W).....: 13.16 degrees  
 Grid convergence (+E/W).....: -0.88 degrees  
 Total az corr (+E/W).....: 14.04 degrees  
 (Total az corr = magnetic dec - grid conv)  
 Sag applied (Y/N).....: No degree: 0.00

[(c)2002 Anadrill IDEAL ID7\_OC\_02]  
 ANADRILL SCHLUMBERGER Survey Report

2-Sep-2002 20:25:20

Page 2 of 5

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/ 10m)	Srvy tool type	Tool qual type
1	141.57	5.19	335.25	0.00	141.51	0.77	3.67	4.40	1.87	50.17	5.40	TIP	-
2	161.00	3.86	321.90	19.43	160.88	0.65	4.99	3.63	3.29	36.06	0.87	GYR	-
3	170.00	2.48	290.70	9.00	169.87	0.45	5.29	3.26	3.69	31.64	2.40	GYR	-
4	180.30	2.44	282.10	10.30	180.16	0.12	5.42	2.83	3.96	27.65	0.36	GYR	-
5	190.00	1.95	232.10	9.70	189.85	-0.20	5.36	2.50	4.05	25.06	1.97	GYR	-
6	198.60	2.04	226.50	8.60	198.45	-0.49	5.16	2.28	4.00	23.81	0.25	GYR	-
7	202.00	1.95	196.30	3.40	201.85	-0.59	5.07	2.22	3.95	23.65	3.07	GYR	-
8	215.60	2.10	181.10	13.60	215.44	-0.85	4.60	2.15	3.62	25.06	0.41	GYR	-
9	230.00	0.95	286.20	14.40	229.83	-1.06	4.37	2.03	3.52	24.94	1.75	GYR	-
10	245.00	4.08	326.00	15.00	244.82	-1.23	4.84	1.61	4.16	18.40	2.27	GYR	-
11	262.60	6.81	328.10	17.60	262.34	-1.44	6.25	0.71	5.81	6.47	1.56	GYR	-
12	298.48	13.78	346.48	35.88	297.63	-0.76	12.22	-1.42	11.95	353.38	2.12	MWD	6-axis
13	329.37	14.54	3.03	30.89	327.59	1.88	19.67	-2.08	19.02	354.00	1.33	MWD	6-axis
14	364.34	16.63	21.01	34.97	361.29	7.64	28.73	-0.05	27.30	359.91	1.50	MWD	6-axis
15	384.29	17.03	34.38	19.95	380.39	12.25	33.81	2.63	32.06	4.45	1.95	MWD	6-axis
16	412.85	19.71	52.41	28.56	407.52	20.59	40.21	8.81	38.65	12.36	2.19	MWD	6-axis
17	441.27	24.95	63.98	28.42	433.81	31.29	45.76	18.01	46.01	21.48	2.40	MWD	6-axis
18	469.94	30.52	68.22	28.67	459.18	44.61	51.12	30.21	55.65	30.58	2.06	MWD	6-axis
19	498.49	35.29	68.48	28.55	483.14	60.08	56.84	44.62	68.15	38.14	1.67	MWD	6-axis
20	526.92	39.31	68.78	28.43	505.75	77.25	63.12	60.66	83.19	43.87	1.42	MWD	6-axis
21	555.02	40.81	69.02	28.10	527.26	95.28	69.63	77.54	99.72	48.08	0.54	MWD	6-axis
22	584.04	42.58	68.14	29.02	548.93	114.53	76.68	95.50	117.90	51.24	0.64	MWD	6-axis
23	612.19	46.18	63.18	28.15	569.05	134.19	84.81	113.42	136.99	53.21	1.78	MWD	6-axis
24	641.18	49.79	61.45	28.99	588.45	155.71	94.82	132.48	158.26	54.41	1.32	MWD	6-axis
25	669.84	55.31	61.95	28.66	605.87	178.44	105.60	152.51	180.83	55.30	1.93	MWD	6-axis
26	697.69	59.09	62.71	27.85	620.96	201.83	116.47	173.24	204.06	56.09	1.38	MWD	6-axis
27	725.97	62.88	63.64	28.28	634.67	226.55	127.62	195.30	228.61	56.84	1.37	MWD	6-axis
28	754.87	65.08	63.77	28.90	647.35	252.52	139.13	218.59	254.40	57.52	0.76	MWD	6-axis
29	783.26	67.76	63.40	28.39	658.70	278.53	150.70	241.89	280.27	58.08	0.95	MWD	6-axis
30	812.07	68.20	63.20	28.81	669.50	305.24	162.70	265.75	306.87	58.52	0.17	MWD	6-axis

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Seq #	Measured depth (m)	Incl angle (deg)	Azimuth angle (deg)	Course length (m)	TVD depth (m)	Vertical section (m)	Displ +N/S- (m)	Displ +E/W- (m)	Total displ (m)	At Azim (deg)	DLS (deg/ 10m)	Srvy tool type	Tool qual type
31	849.18	67.93	64.03	37.11	683.37	339.66	178.00	296.58	341.17	59.03	0.22	MWD	6-axis
32	877.21	66.92	63.52	28.03	694.13	365.54	189.44	319.80	366.96	59.36	0.40	MWD	6-axis
33	905.55	66.11	63.23	28.34	705.42	391.53	201.09	343.04	392.89	59.62	0.30	MWD	6-axis
34	934.29	65.40	62.76	28.74	717.22	417.72	212.98	366.39	419.05	59.83	0.29	MWD	6-axis
35	962.68	65.13	62.61	28.39	729.10	443.50	224.82	389.30	444.80	59.99	0.11	MWD	6-axis
36	991.59	64.40	62.43	28.91	741.43	469.64	236.88	412.50	470.93	60.13	0.26	MWD	6-axis
37	1019.43	67.41	63.46	27.84	752.79	495.04	248.44	435.13	496.31	60.28	1.13	MWD	6-axis
38	1047.66	66.80	63.49	28.23	763.78	521.04	260.05	458.40	522.28	60.43	0.22	MWD	6-axis
39	1076.02	66.44	63.42	28.36	775.03	547.07	271.69	481.68	548.27	60.58	0.13	MWD	6-axis

38	1047.66	66.80	63.49	28.23	763.78	521.04	260.05	458.40	522.28	60.43	0.22	MWD	6-axis
39	1076.02	66.44	63.42	28.36	775.03	547.07	271.69	481.68	548.27	60.58	0.13	MWD	6-axis
40	1105.19	67.44	64.15	29.17	786.45	573.91	283.54	505.76	575.07	60.72	0.41	MWD	6-axis
41	1133.55	67.19	64.42	28.36	797.39	600.08	294.90	529.34	601.18	60.88	0.12	MWD	6-axis
42	1161.95	67.09	64.68	28.40	808.43	626.24	306.14	552.97	627.30	61.03	0.09	MWD	6-axis
43	1191.26	67.10	64.60	29.31	819.83	653.24	317.70	577.36	654.25	61.18	0.03	MWD	6-axis
44	1219.45	66.89	65.03	28.19	830.85	679.19	328.75	600.85	680.14	61.32	0.16	MWD	6-axis
45	1248.06	66.61	65.07	28.61	842.14	705.47	339.83	624.68	706.37	61.45	0.10	MWD	6-axis
46	1276.46	66.23	65.05	28.40	853.50	731.50	350.81	648.28	732.35	61.58	0.13	MWD	6-axis
47	1304.92	66.25	64.81	28.46	864.97	757.55	361.85	671.87	758.35	61.69	0.08	MWD	6-axis
48	1333.37	66.16	65.44	28.45	876.45	783.58	372.80	695.49	784.34	61.81	0.21	MWD	6-axis
49	1361.83	65.70	65.35	28.46	888.06	809.56	383.62	719.12	810.28	61.92	0.16	MWD	6-axis
50	1390.44	66.21	65.57	28.61	899.71	835.68	394.47	742.88	836.35	62.03	0.19	MWD	6-axis
51	1419.15	66.41	65.75	28.71	911.39	862.29	405.44	767.14	862.92	62.14	0.09	MWD	6-axis
52	1447.72	65.92	65.66	28.57	922.79	888.09	416.06	790.66	888.68	62.25	0.17	MWD	6-axis
53	1476.39	65.69	65.98	28.67	934.54	914.23	426.77	814.51	914.78	62.35	0.13	MWD	6-axis
54	1505.10	65.99	65.73	28.71	946.29	940.41	437.48	838.42	940.92	62.44	0.13	MWD	6-axis
55	1533.68	65.71	65.54	28.58	957.99	966.49	448.24	862.17	966.96	62.53	0.12	MWD	6-axis
56	1562.36	66.13	65.45	28.68	969.69	992.66	459.10	886.00	993.11	62.61	0.15	MWD	6-axis
57	1590.84	65.99	65.21	28.48	981.25	1018.69	469.97	909.65	1019.11	62.68	0.09	MWD	6-axis
58	1618.84	65.74	65.32	28.00	992.69	1044.24	480.66	932.86	1044.64	62.74	0.10	MWD	6-axis
59	1647.57	65.52	65.65	28.73	1004.55	1070.40	491.52	956.67	1070.78	62.81	0.13	MWD	6-axis
60	1676.76	64.94	65.63	29.19	1016.78	1096.90	502.45	980.82	1097.25	62.88	0.20	MWD	6-axis

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Seq #	Measured depth (m)	Incl angle (deg)	Azimuth angle (deg)	Course length (m)	TVD depth (m)	Vertical section (m)	Displ +N/S- (m)	Displ +E/W- (m)	Total displ (m)	At Azim (deg)	DLS (deg/10m)	Srvy tool type	Tool qual type
61	1705.38	65.72	65.83	28.62	1028.73	1122.90	513.14	1004.52	1123.23	62.94	0.28	MWD	6-axis
62	1734.91	65.29	65.75	29.53	1040.97	1149.76	524.16	1029.03	1150.07	63.01	0.15	MWD	6-axis
63	1763.45	66.14	65.53	28.54	1052.71	1175.77	534.89	1052.73	1176.05	63.07	0.31	MWD	6-axis
64	1792.45	66.19	65.58	29.00	1064.43	1202.29	545.87	1076.88	1202.55	63.12	0.02	MWD	6-axis
65	1821.50	66.09	65.72	29.05	1076.18	1228.85	556.82	1101.08	1229.10	63.17	0.06	MWD	6-axis
66	1850.59	66.42	65.81	29.09	1087.89	1255.47	567.75	1125.37	1255.70	63.23	0.12	MWD	6-axis
67	1879.80	67.05	65.93	29.21	1099.43	1282.29	578.72	1149.86	1282.50	63.28	0.22	MWD	6-axis
68	1908.64	66.75	65.97	28.84	1110.74	1308.81	589.53	1174.08	1309.00	63.34	0.10	MWD	6-axis
69	1937.75	65.98	66.36	29.11	1122.41	1335.46	600.31	1198.47	1335.64	63.39	0.29	MWD	6-axis
70	1966.62	67.05	66.51	28.87	1133.92	1361.92	610.89	1222.74	1362.08	63.45	0.37	MWD	6-axis
71	1995.42	66.59	66.77	28.80	1145.25	1388.38	621.39	1247.05	1388.51	63.51	0.18	MWD	6-axis
72	2024.42	66.81	66.27	29.00	1156.72	1414.99	632.00	1271.48	1415.11	63.57	0.18	MWD	6-axis
73	2053.46	66.76	66.60	29.04	1168.17	1441.66	642.67	1295.94	1441.77	63.62	0.11	MWD	6-axis
74	2082.33	67.22	65.10	28.87	1179.46	1468.22	653.55	1320.19	1468.32	63.66	0.50	MWD	6-axis
75	2111.48	67.19	65.27	29.15	1190.75	1495.09	664.82	1344.58	1495.18	63.69	0.05	MWD	6-axis
76	2140.12	66.80	65.51	28.64	1201.94	1521.45	675.80	1368.55	1521.53	63.72	0.16	MWD	6-axis
77	2168.53	66.62	65.72	28.41	1213.18	1547.54	686.58	1392.31	1547.61	63.75	0.09	MWD	6-axis
78	2197.38	66.66	66.19	28.85	1224.62	1574.01	697.37	1416.50	1574.08	63.79	0.15	MWD	6-axis
79	2226.14	66.83	66.87	28.76	1235.97	1600.42	707.89	1440.74	1600.47	63.83	0.23	MWD	6-axis
80	2255.30	66.78	67.69	29.16	1247.46	1627.18	718.24	1465.46	1627.23	63.89	0.26	MWD	6-axis
81	2283.87	67.01	66.98	28.57	1258.67	1653.43	728.37	1489.71	1653.46	63.94	0.24	MWD	6-axis
82	2313.12	67.24	65.84	29.25	1270.04	1680.36	739.15	1514.41	1680.38	63.98	0.37	MWD	6-axis
83	2341.98	67.19	66.22	28.86	1281.22	1706.95	749.96	1538.72	1706.97	64.02	0.12	MWD	6-axis
84	2370.96	67.60	65.23	28.98	1292.35	1733.70	760.96	1563.11	1733.72	64.04	0.35	MWD	6-axis
85	2399.92	67.81	65.95	28.96	1303.34	1760.48	772.04	1587.51	1760.50	64.07	0.24	MWD	6-axis
86	2429.90	68.23	65.11	29.98	1314.56	1788.28	783.55	1612.81	1788.29	64.09	0.30	MWD	6-axis
87	2458.75	67.43	64.73	28.85	1325.45	1815.00	794.88	1637.02	1815.02	64.10	0.30	MWD	6-axis
88	2487.78	66.52	64.83	29.03	1336.80	1841.71	806.26	1661.18	1841.72	64.11	0.32	MWD	6-axis
89	2516.91	65.73	64.81	29.13	1348.59	1868.35	817.59	1685.28	1868.36	64.12	0.27	MWD	6-axis
90	2545.34	65.89	65.33	28.43	1360.24	1894.28	828.52	1708.80	1894.29	64.13	0.18	MWD	6-axis

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Seq #	Measured depth (m)	Incl angle (deg)	Azimuth angle (deg)	Course length (m)	TVD depth (m)	Vertical section (m)	Displ +N/S- (m)	Displ +E/W- (m)	Total displ (m)	At Azim (deg)	DLS (deg/10m)	Srvy tool type	Tool qual type
91	2574.33	66.74	65.56	28.98	1371.88	1920.81	839.55	1732.94	1920.82	64.15	0.30	MWD	6-axis
92	2603.16	67.82	65.51	28.84	1383.02	1947.41	850.57	1757.15	1947.41	64.17	0.37	MWD	6-axis
93	2631.64	68.29	65.15	28.48	1393.67	1973.82	861.60	1781.16	1973.82	64.19	0.20	MWD	6-axis
94	2660.62	68.44	65.11	28.98	1404.35	2000.75	872.93	1805.60	2000.76	64.20	0.05	MWD	6-axis
95	2689.47	69.00	65.79	28.85	1414.82	2027.63	884.09	1830.05	2027.63	64.22	0.29	MWD	6-axis
96	2718.62	69.14	65.98	29.15	1425.24	2054.85	895.22	1854.90	2054.85	64.24	0.08	MWD	6-axis
97	2747.58	68.33	66.24	28.96	1435.74	2081.82	906.15	1879.58	2081.82	64.26	0.29	MWD	6-axis
98	2771.75	68.29	66.10	23.42	1444.67	2104.27	915.21	1900.12	2104.27	64.28	0.02	MWD	6-axis
99	2776.06	68.54	66.10	4.31	1446.26	2108.27	916.84	1903.79	2108.27	64.28	0.06	MWD	6-axis
100	2805.45	68.37	65.90	29.39	1457.05	2135.60	927.97	1928.76	2135.60	64.28	0.09	MWD	6-axis
101	2834.52	68.94	65.80	29.07	1467.63	2162.66	939.04	1953.46	2162.66	64.28	0.02	MWD	6-axis
102	2841.21	68.73	65.90	6.69	1470.05	2168.90	941.59	1959.16	2168.90	64.28	0.32	MWD	6-axis
103	2862.00	68.20	65.90	20.79	1477.68	2188.23	949.49	1976.81	2188.23	64.28	0.26	MWD	Projection to TD

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Company: **Esso Australia Ltd.**

**Schlumberger**

Well: **TNA A-30**

Field: **Tuna**

Rig: **ISDL 453**

State: **Victoria**

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