



hydrogen index (from mud weight, temperature and pressure).  
Pulled out of the hole at 637 m to change the bit and motor bend after kicking off.

Neutron porosity is calculated with a limestone matrix, and is corrected for bit size, borehole salinity (from Rm), temperature, and mud hydrogen index (from mud weight, temperature and pressure).  
Mud weight was increased from 9 to 10 lbm/gal at 1600 m before drilling into the Lakes Entrance formation.  
Mud weight was increased from 10 to 10.5 lbm/gal at 2125 m to improve well stability.  
Zoned processing used for mud weight and mud salinity.  
Pulled out of the hole at 2268 m to run casing after reaching TD.

EQUIPMENT DESCRIPTION

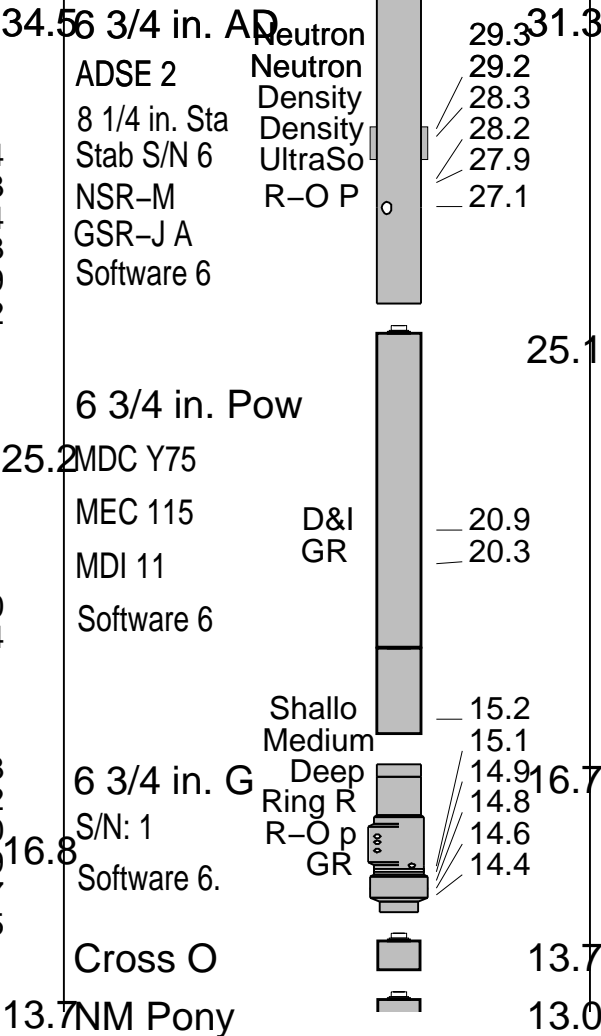
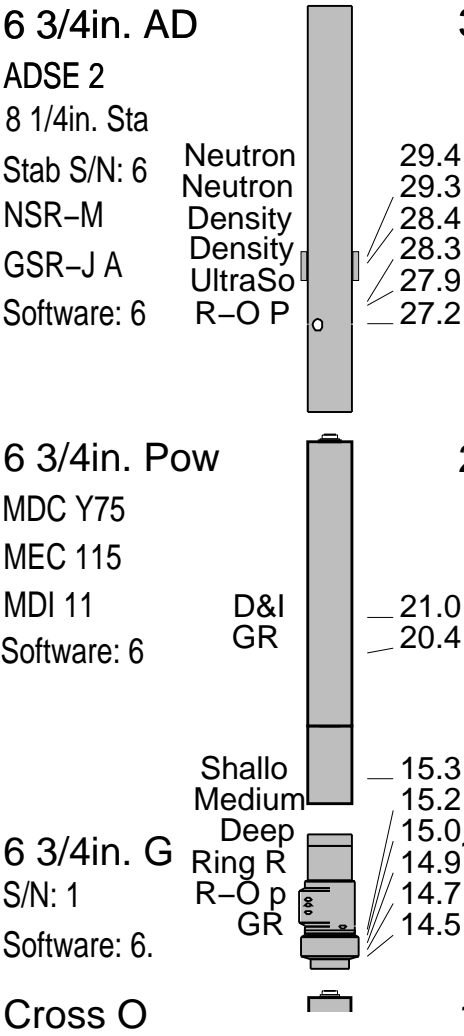
RUN1

RUN2

RUN

DOWNHOLE EQ

DOWNHOLE E





**Environmental data**

<b>GR</b>											
Mud weight	lbm/gal	8.5	10.5								
Bit size	in.	8.5	8.5								
<b>Resistivity</b>											
<b>Neutron porosity</b>											
Hole Size	in.	8.5	8.5								
Mud weight	lbm/gal	8.5	10.5								
Temperature	deg C	30	74.5								
Mud salinity	mg/l	0.0	72,600								
Formation salinity	mg/l	n/a	n/a								
Recording rate 1	SEC	10	10	GR/Res							
Recording rate 2	SEC	10	10	Den/Neut							
Filtering GR		3 pt.	3 pt.								
Filtering density		3 pt.	3 pt.								
Filtering Neutron		3 pt.	3 pt.								
Company representative	B.Woodward	J.Booker	B.Davis								
Anadrill personnel	T.Sims	T.Ford	L.Bon	C.Soper	T.Harvey	C.Cocks					

## IDEAL Version: ID6\_1C\_10

IDF

RAB	id6_1c_10	MWD_10	id6_1c_10
ADN	id6_1c_10		

Format: RABDepthLogAvgBtns

Vertical Scale: 1:200

Graphics File Created: 28-Jan-2002 19:31

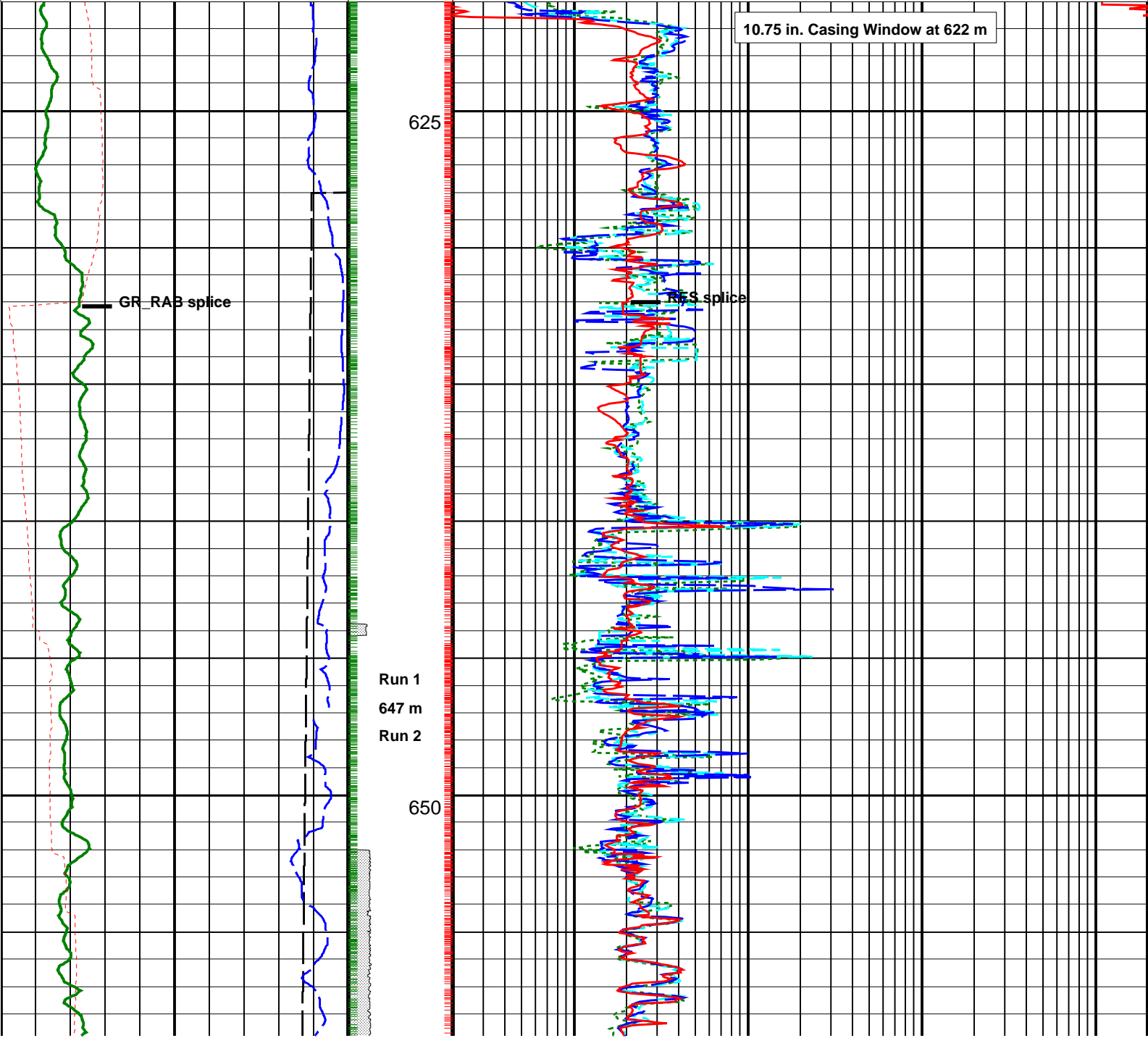
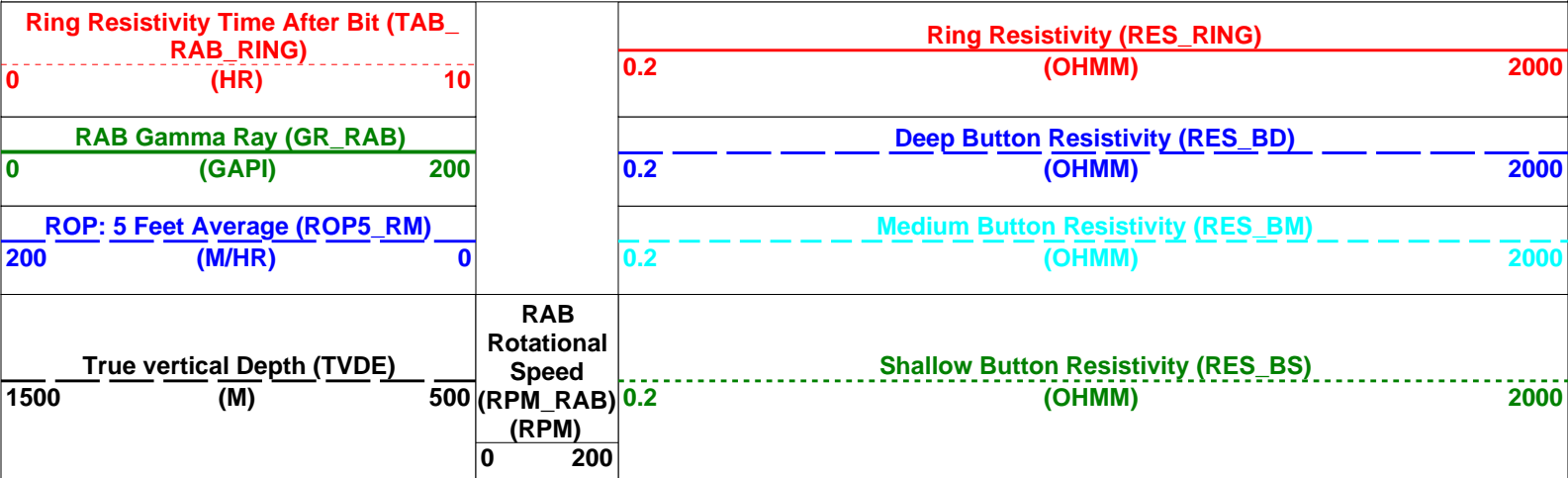
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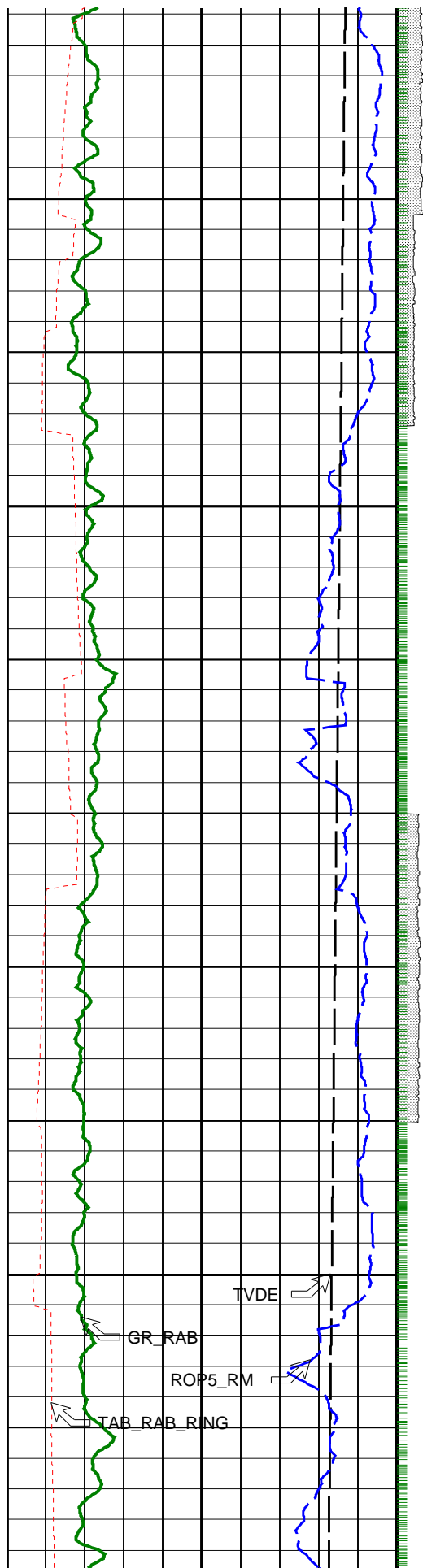
DLIS Name	Description	Value
BDBHCA	RAB: Button Deep Borehole A Factor	0.005
BDBHCB	RAB: Button Deep Borehole B Factor	0.000
BHA_COEF_VER	RAB: BHA Coef Generator Version	62012.0
BITBHCA	RAB: Bit A Borehole Factor	0.058
BITBHCB	RAB: Bit B Borehole Factor	0.000
BIT_K_FACTOR	RAB: Bit K Factor	17.240
BMBHCA	RAB: Button Medium Borehole A Factor	0.024
BMBHCB	RAB: Button Medium Borehole B Factor	0.000
BSBHCA	RAB: Button Shallow Borehole A Factor	0.024
BSBHCB	RAB: Button Shallow Borehole B Factor	0.000
BS_RM	Bit Size (RM)	8.500 in
BUT_KIMP_A	RAB: Button Impedance Coeff A	0.000
BUT_KIMP_B	RAB: Button Impedance Coeff B	0.000
DBUTTON_K_FACTOR	RAB: Button Deep K factor	0.005
DHS_VERSION	RAB: DownHole Software Version	6.101
DO	Depth Offset	0.0 m
MBUTTON_K_FACTOR	RAB: Button Medium K Factor	0.005
MST_RM	Mud Sample temperature (RM)	21.000 degC
MW_RM	Mud Weight (RM)	10.500 lbm/gal
OBM	RAB: Oil base Mud	NO
RABEC	RAB: Resistivity Env-Cor	YES
RAB_TEMP_SELECT	RAB Temperature Selection	MEAS
READOUT_PORT_MP	RAB: ROP to Bit Face Distance	14.718 m
RINGBHCA	RAB: Ring Borehole A Factor	0.161
RINGBHCB	RAB: Ring Borehole B Factor	0.000
RING_KIMP_A	RAB: Ring Impedance Coeff A	0.000
RING_KIMP_B	RAB: Ring Impedance Coeff B	0.000
RING_K_FACTOR	RAB: Ring K Factor	0.153
RMS_RM	Resistivity of Mud Sample (RM)	0.130 ohm.m
SBUTTON_K_FACTOR	RAB: Button Shallow K Factor	0.007
STAB	RAB: Run with Stabilizer	YES
TOOLTYPE	RAB: Azimuthal Tool	YES
TS_VERSION	RAB: ToolScope Software Version	6.101
VRAB6	Rab Tool type (ENP/PILOT)	RAB6_C_SERIES

### PIP SUMMARY

- └ Gamma Ray Samples
- └ Ring Samples

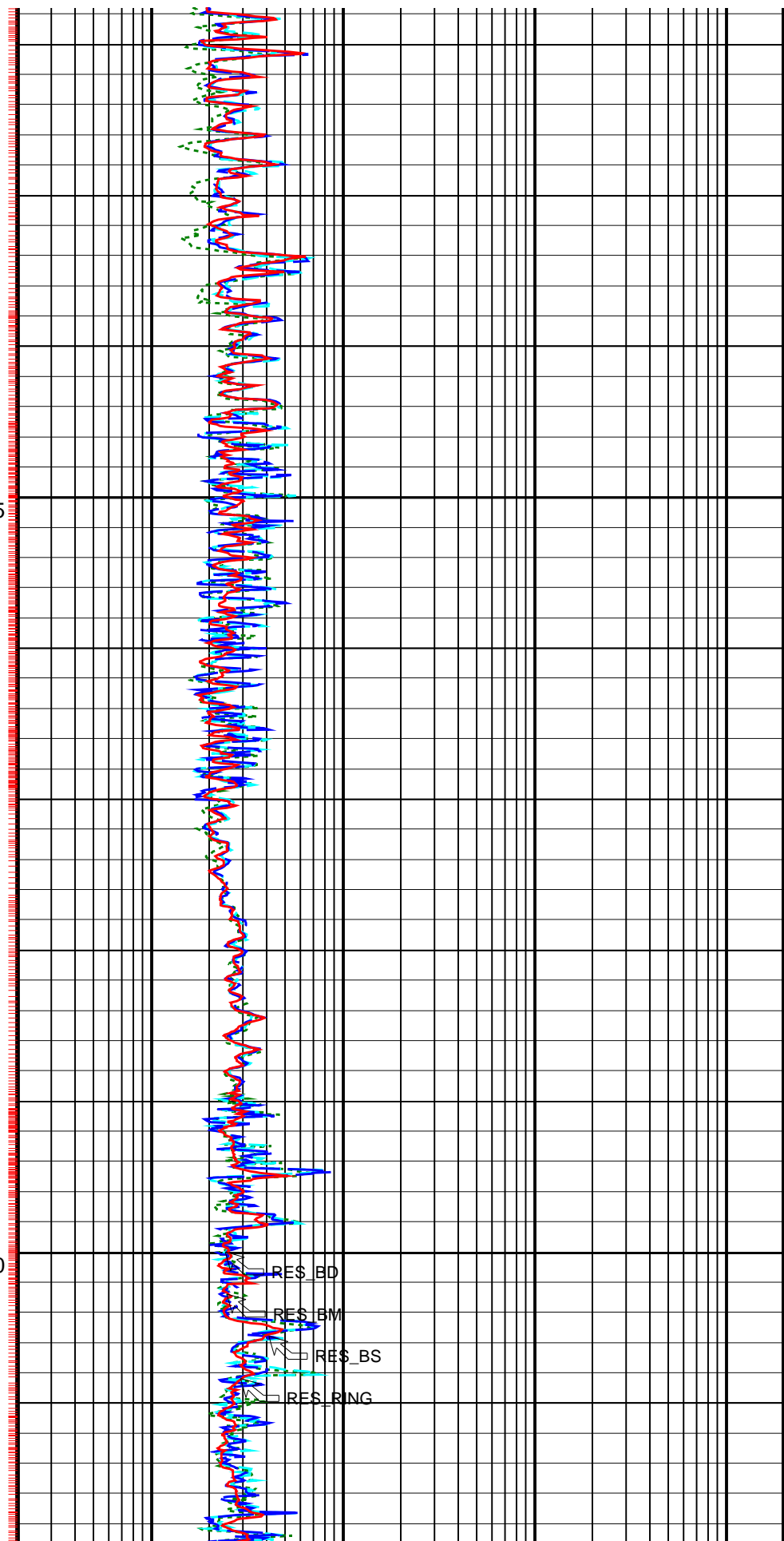
Ring Resistivity Time After Bit (TAB\_

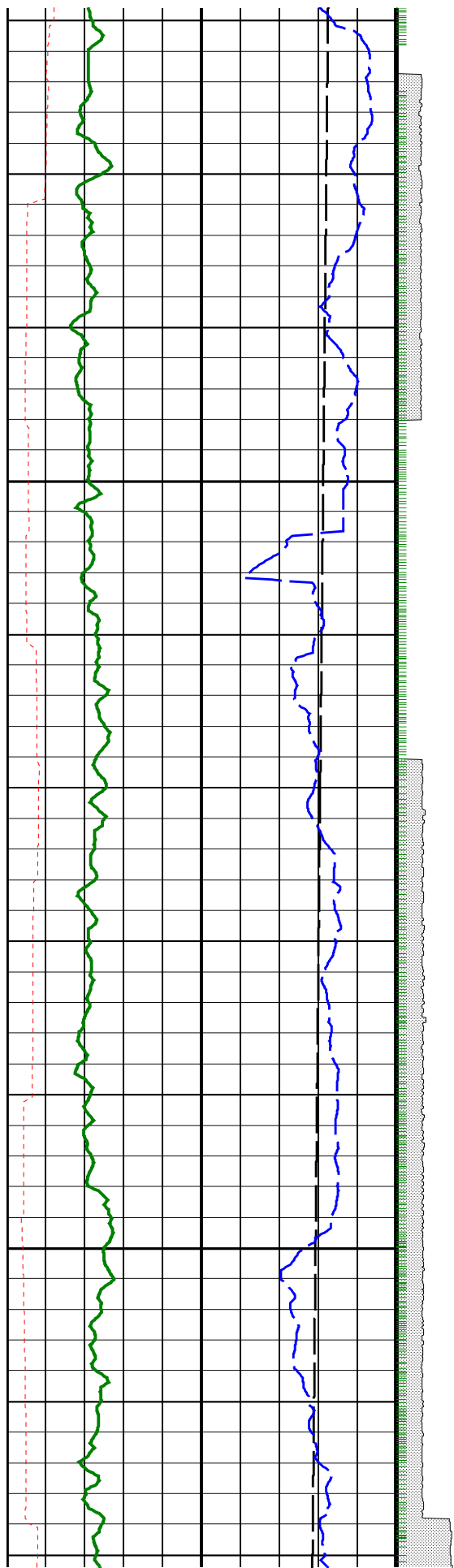




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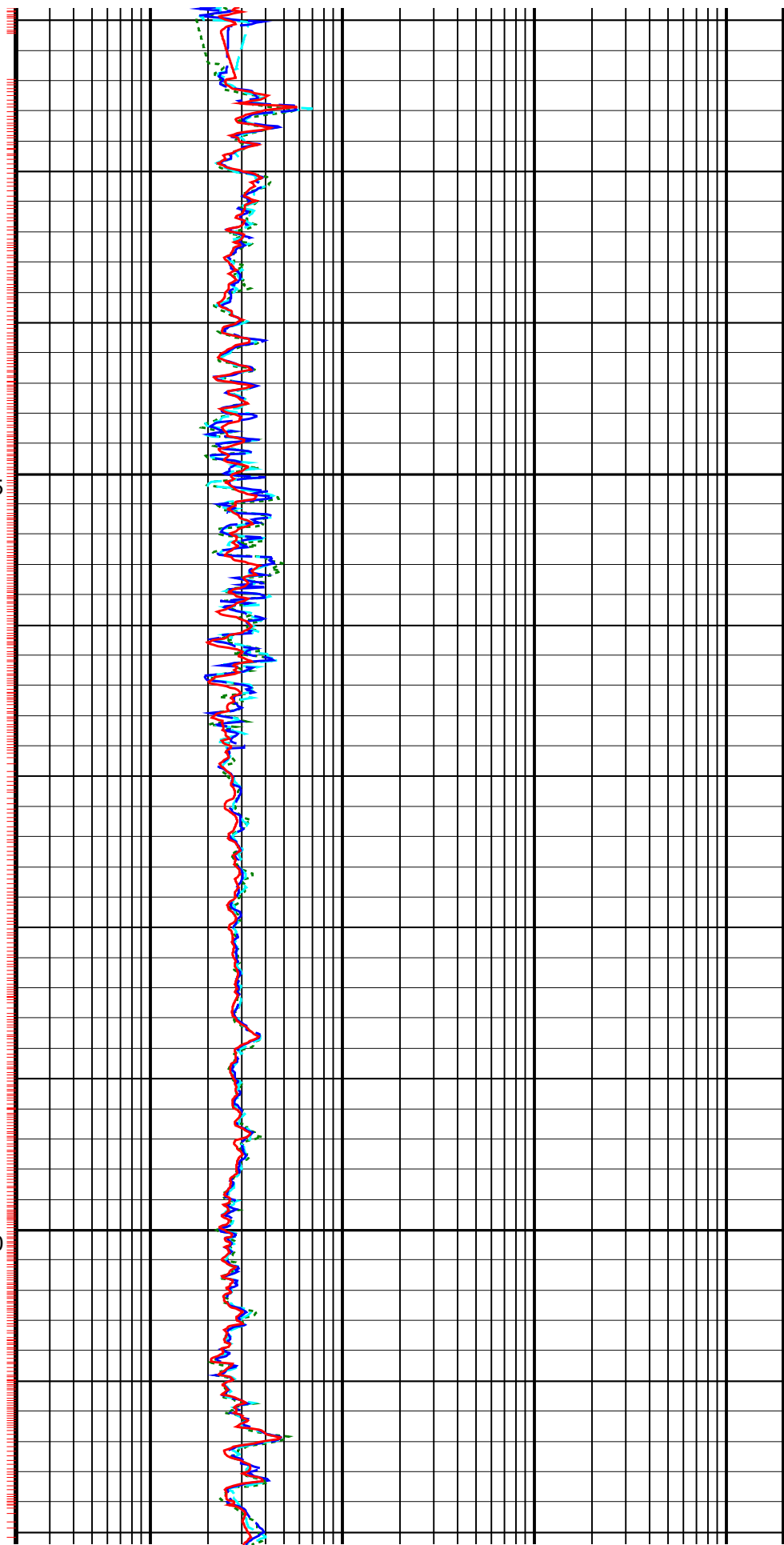
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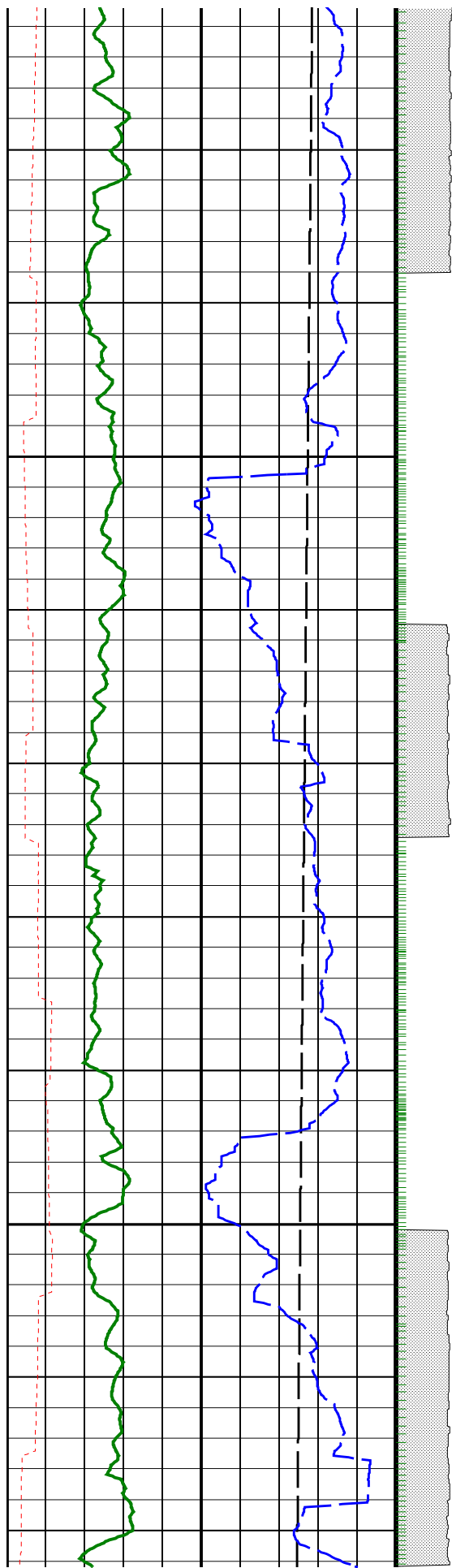




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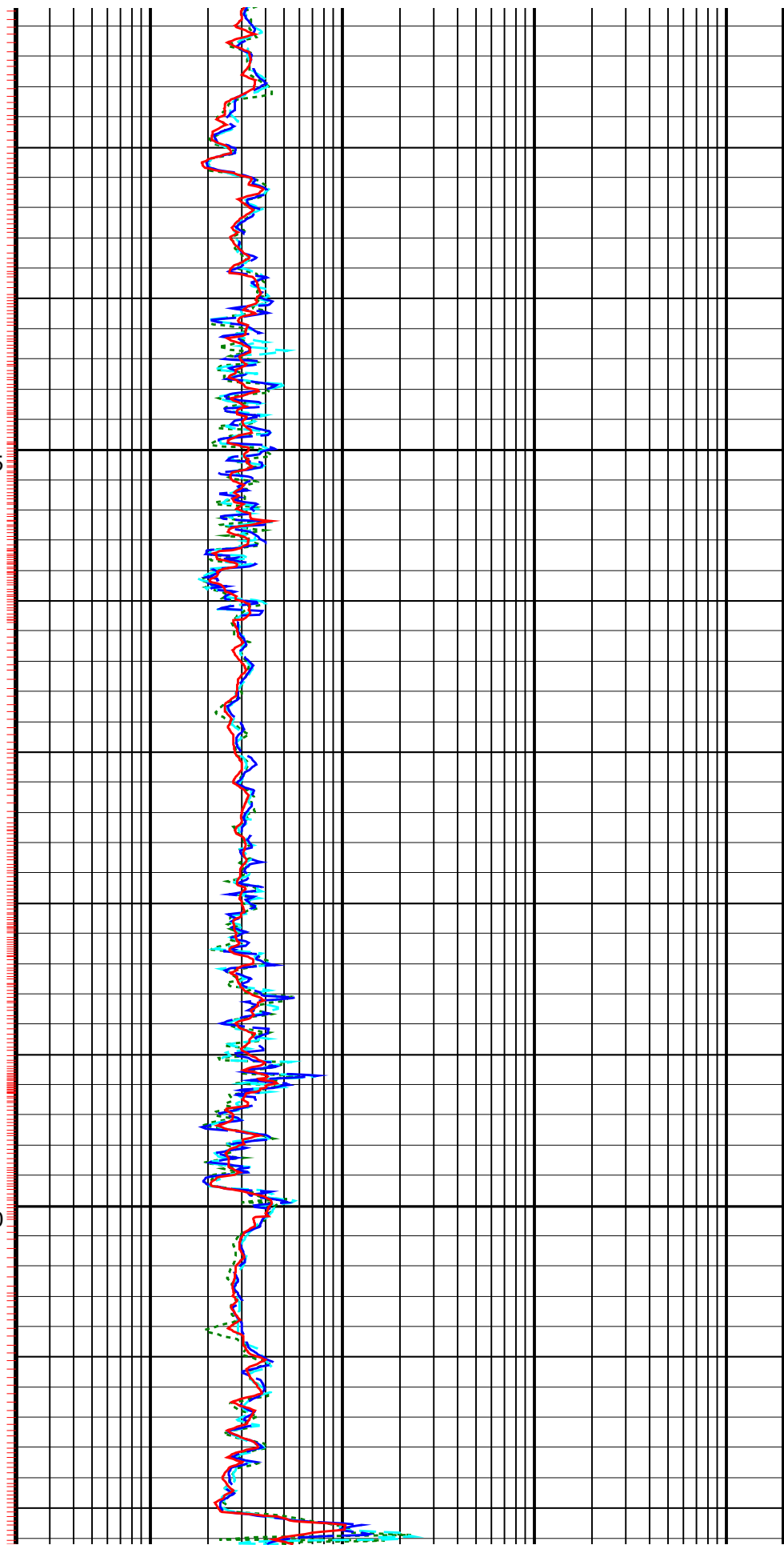
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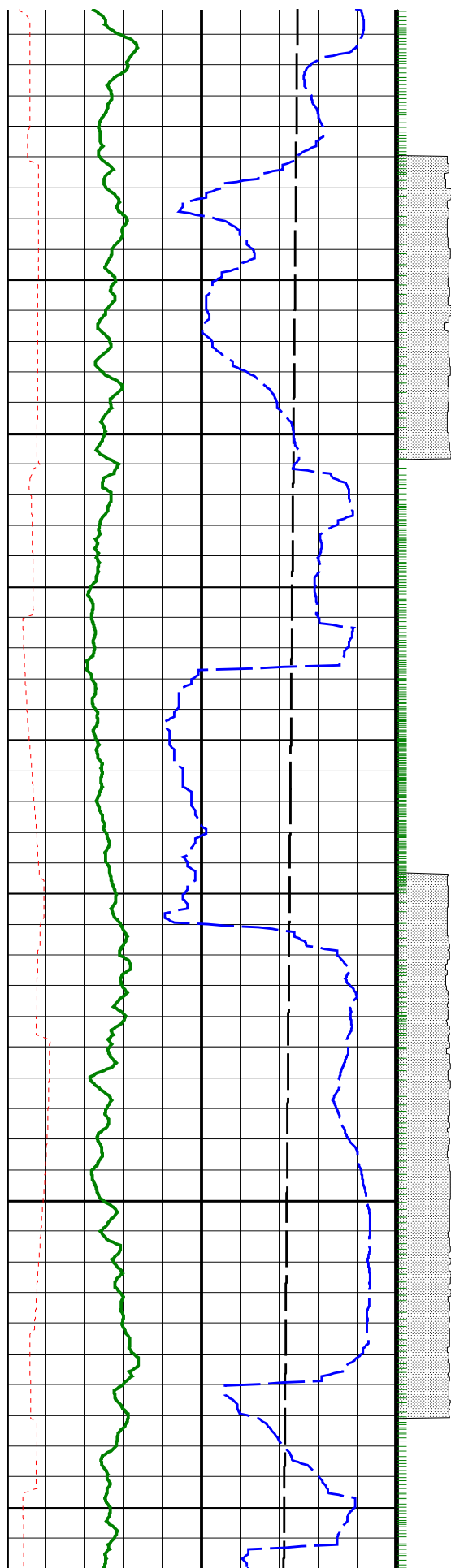




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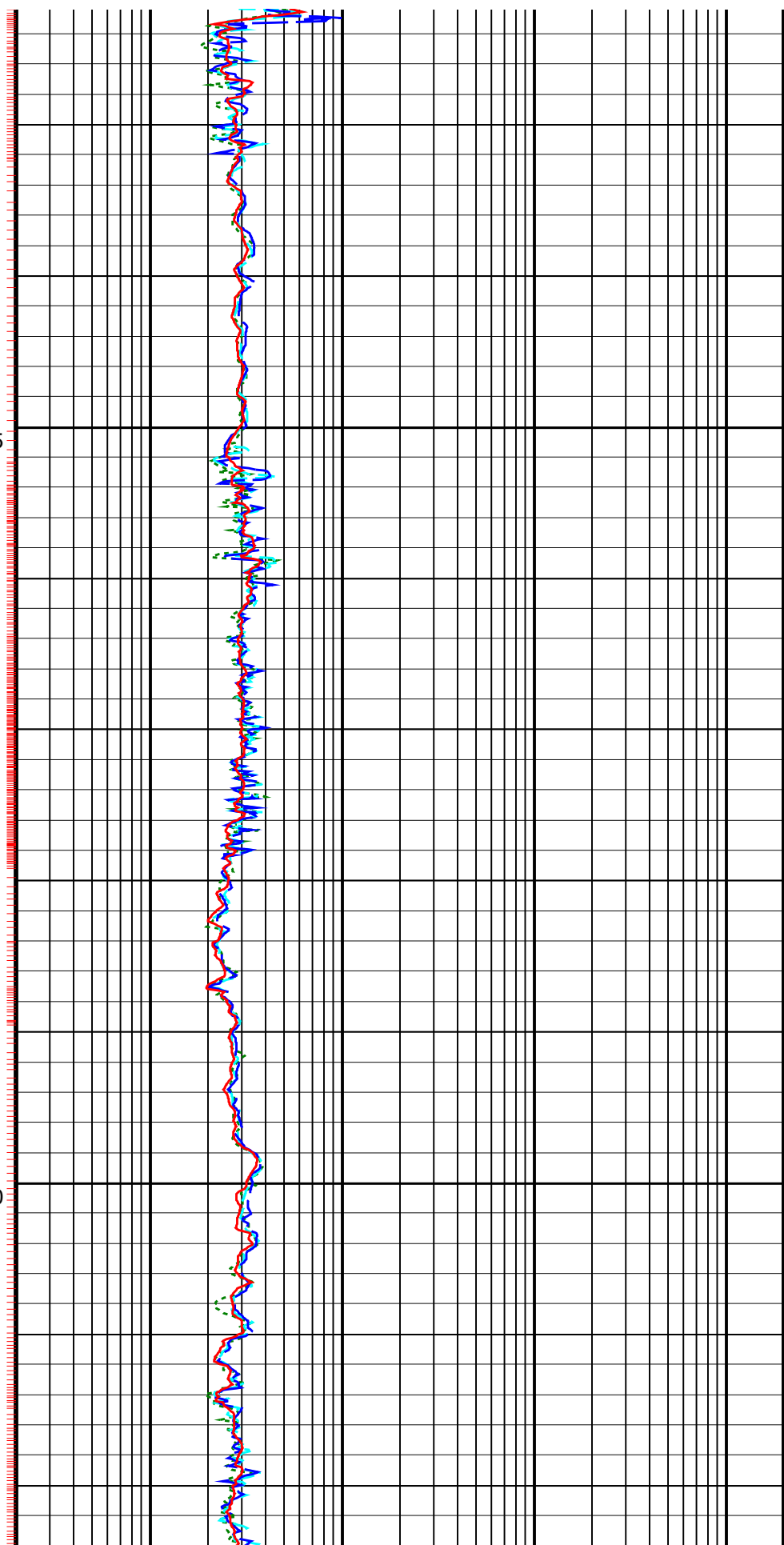
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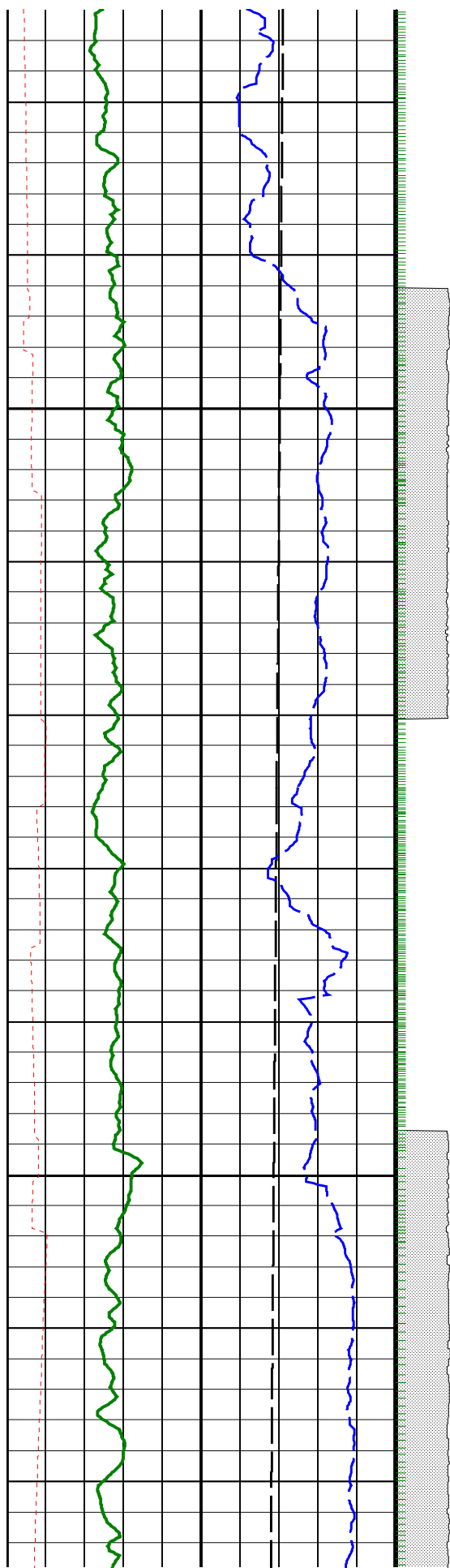




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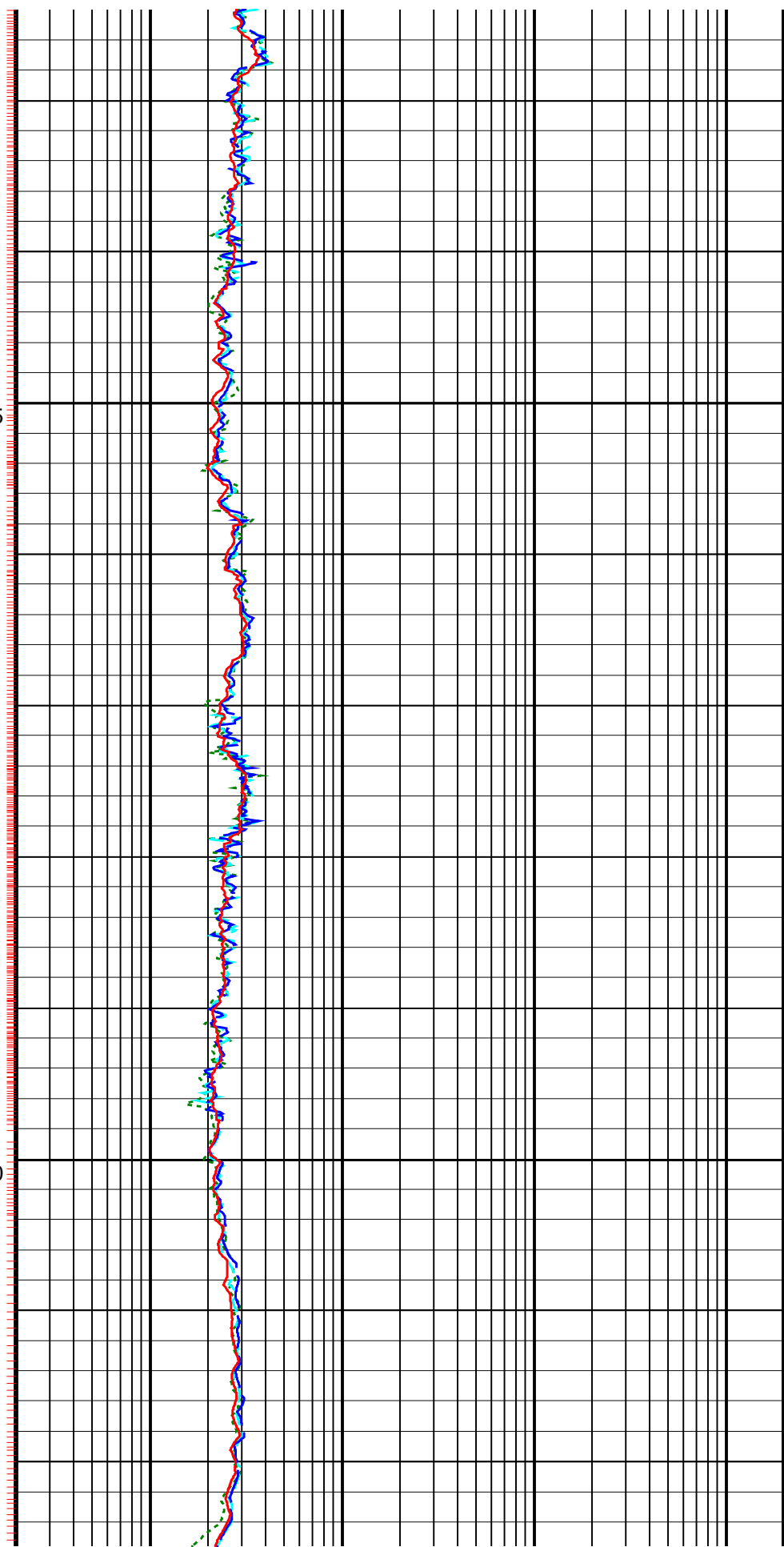
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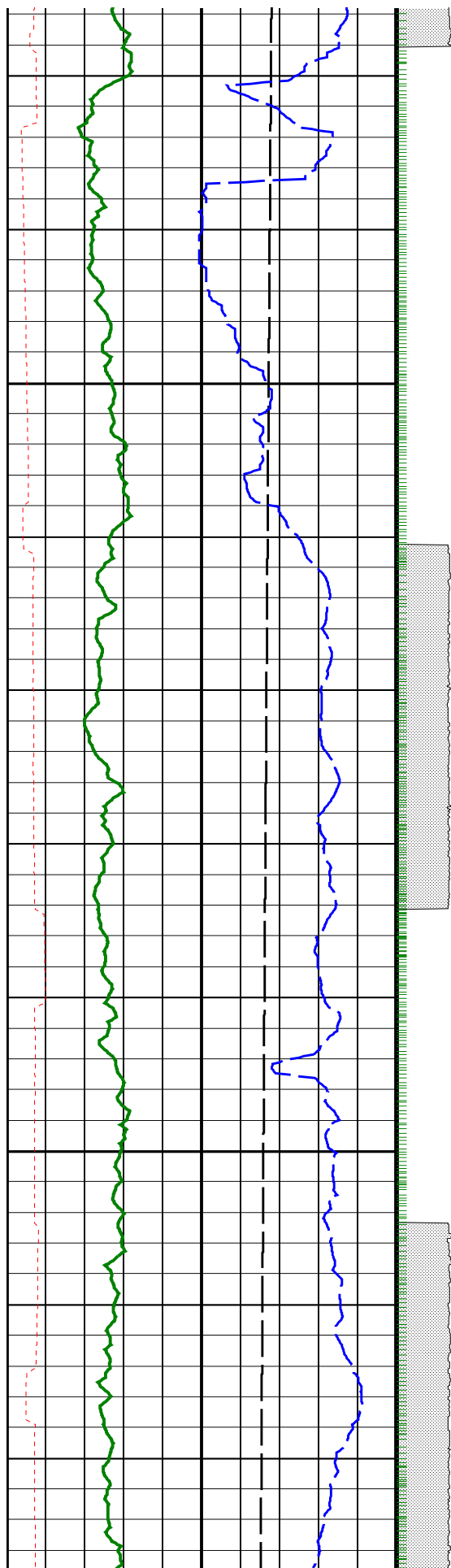




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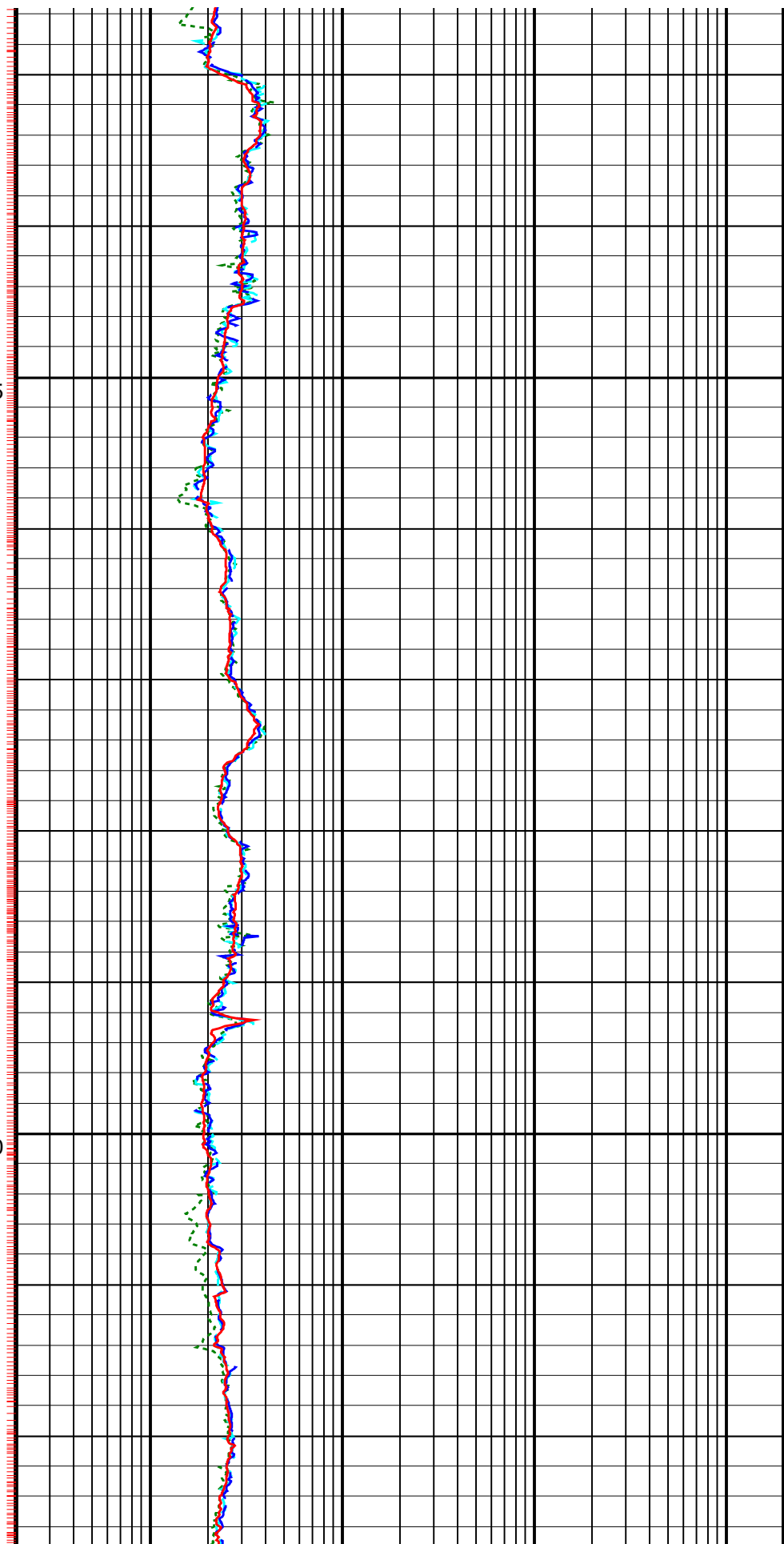
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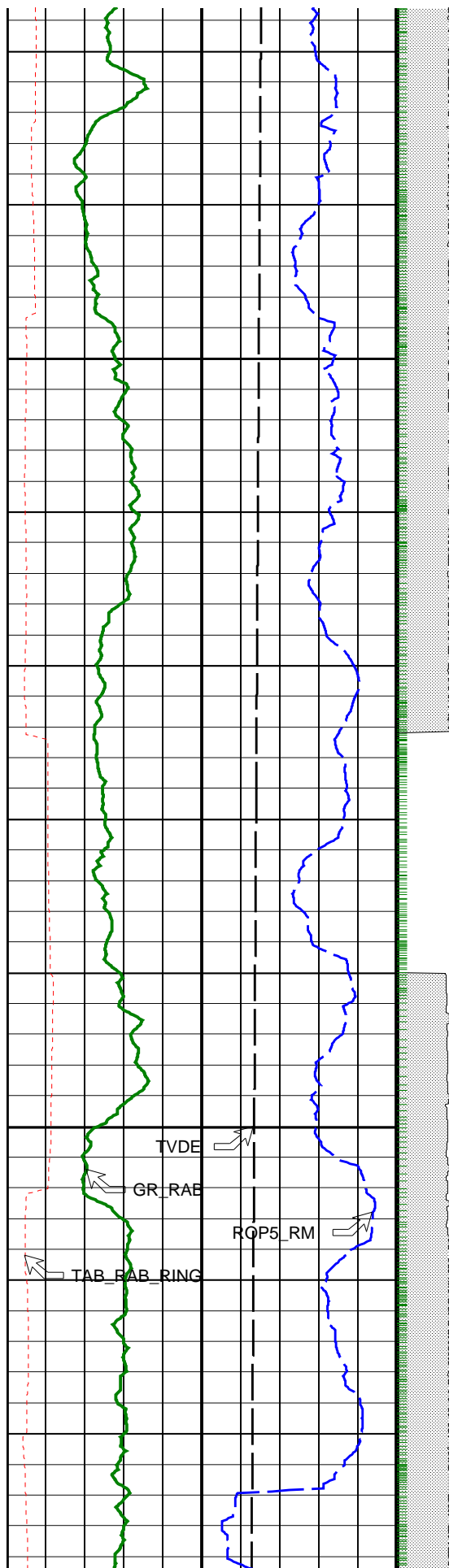




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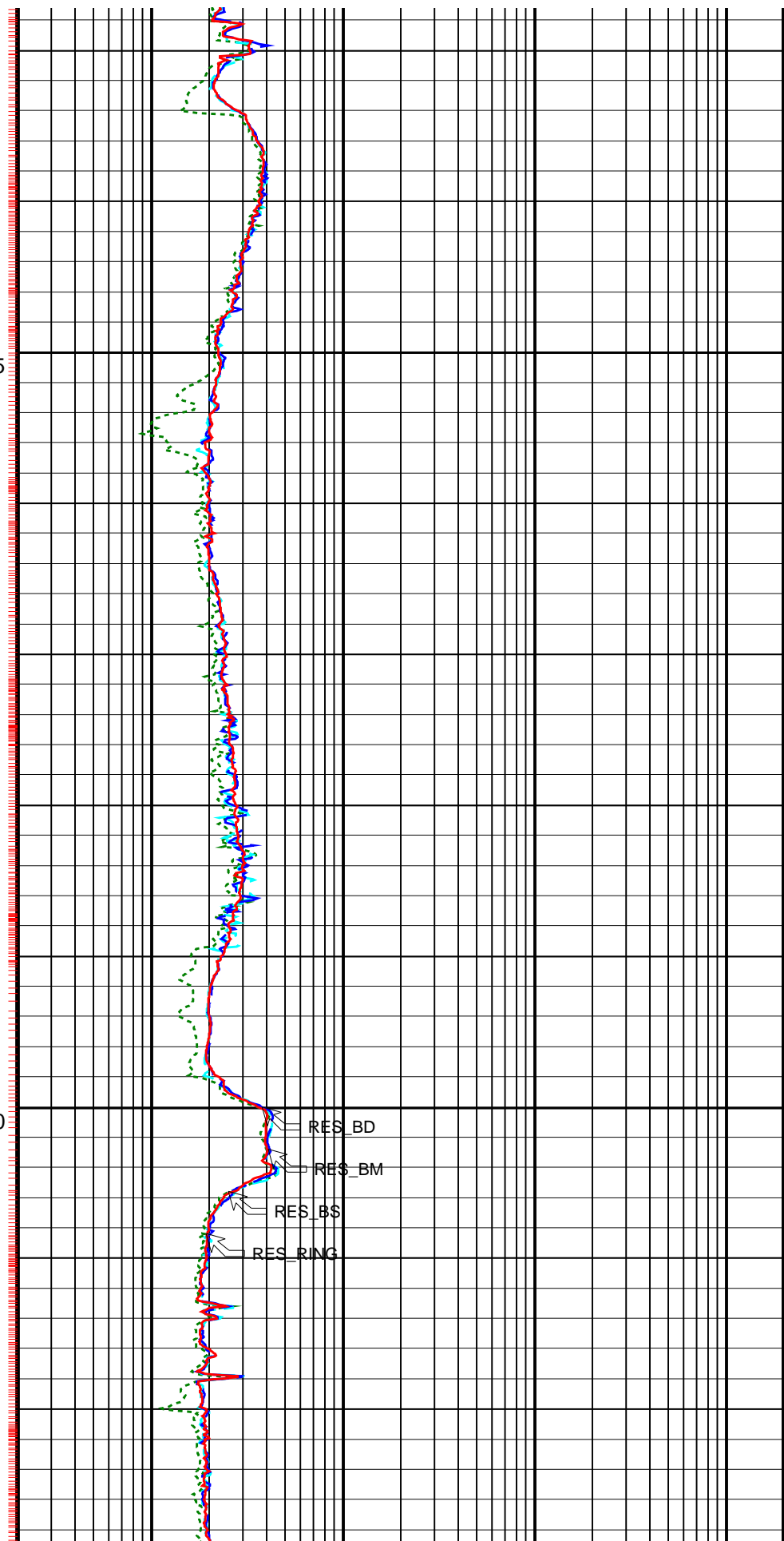
950





975

1000

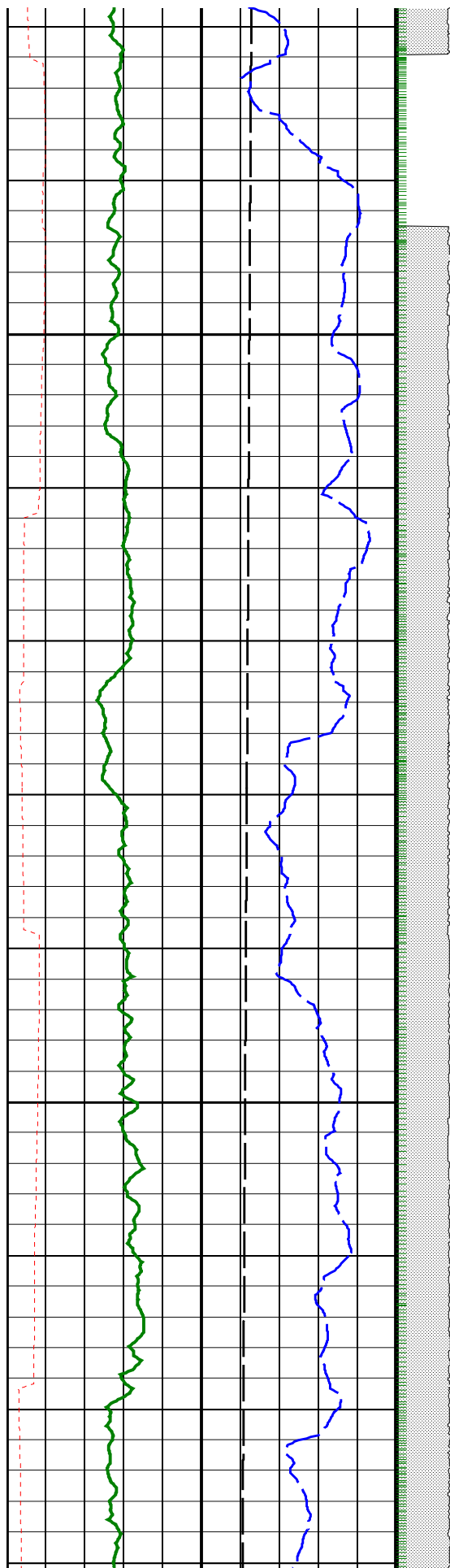


RES\_BD

RES\_BM

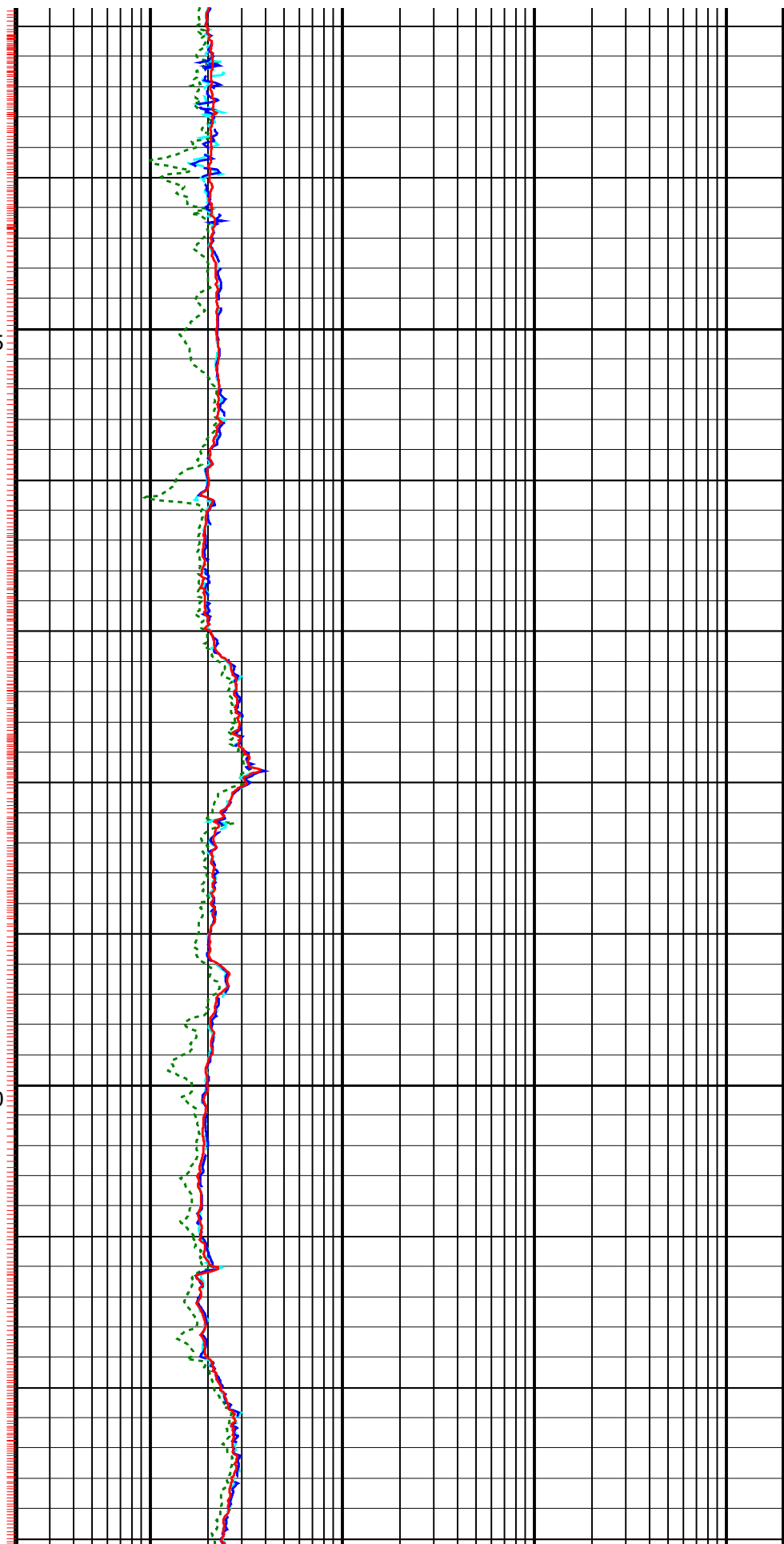
RES\_BS

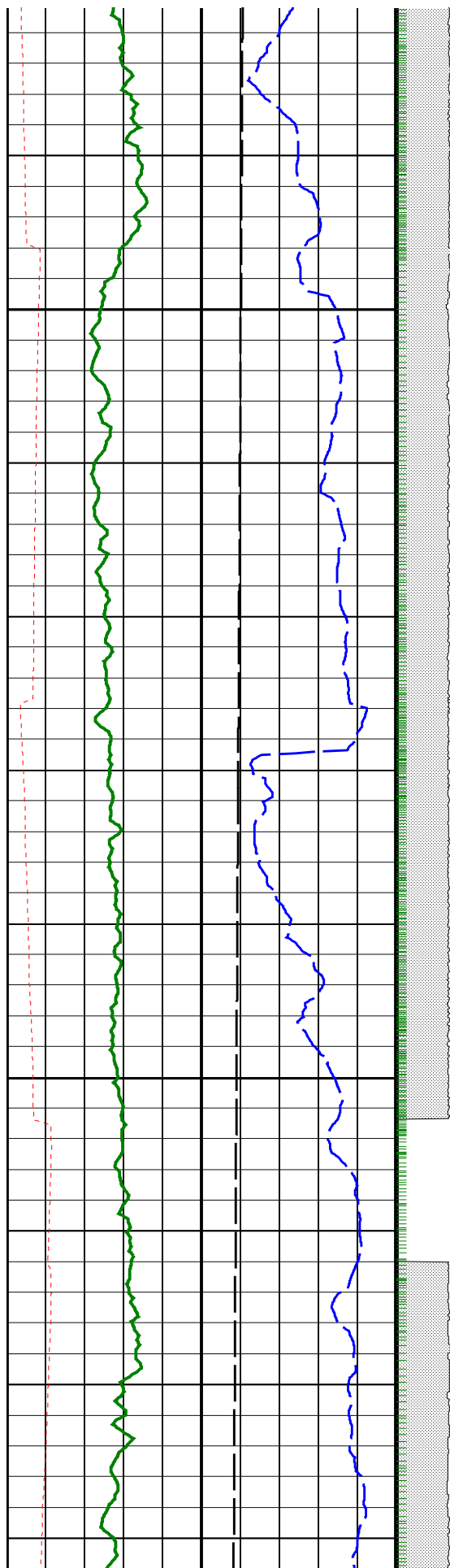
RES\_RING



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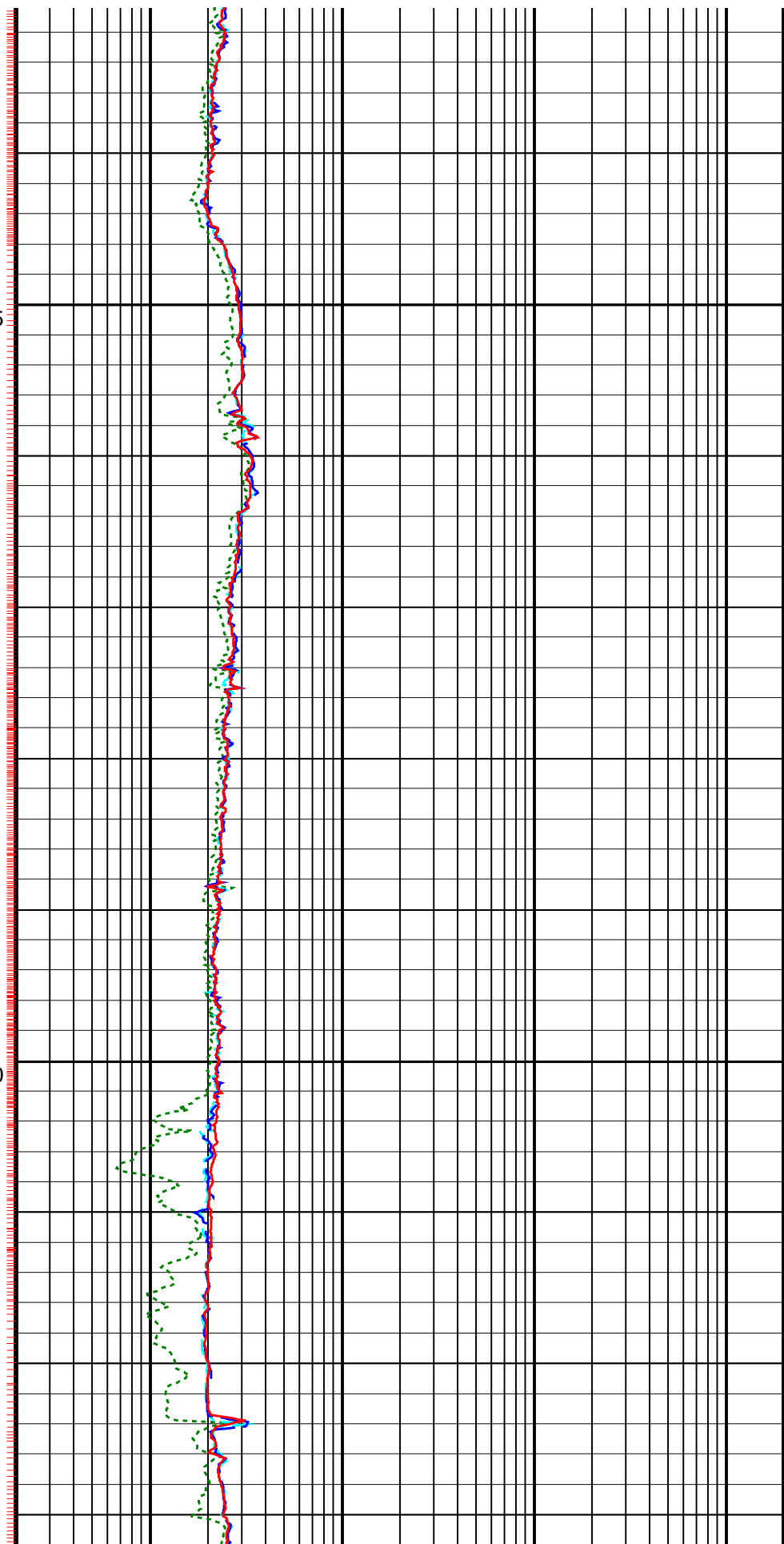
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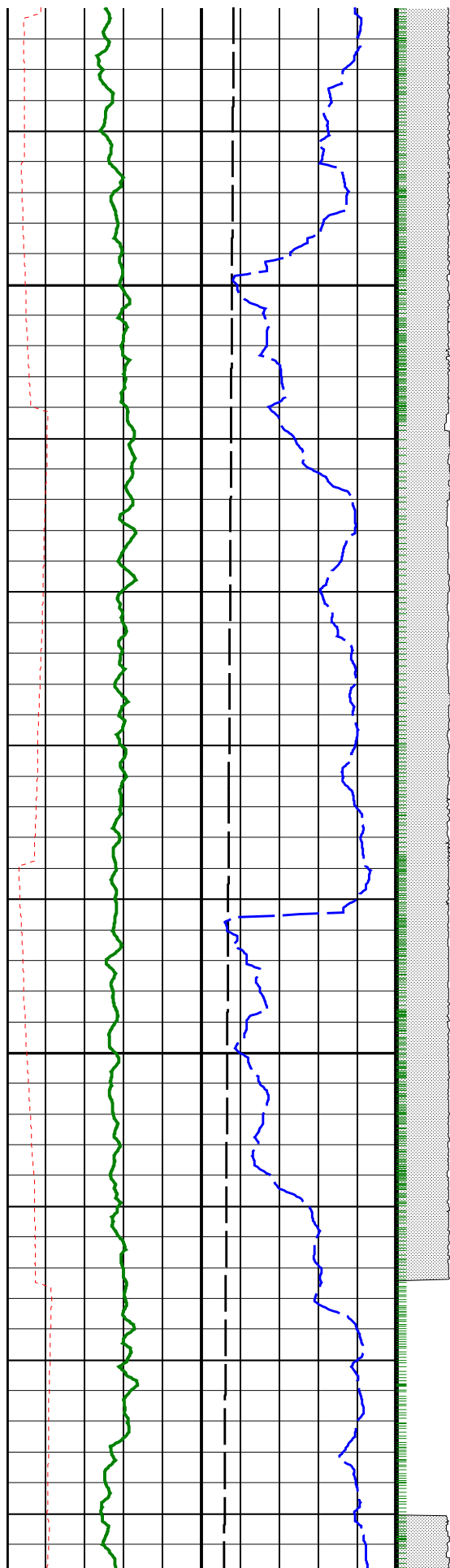




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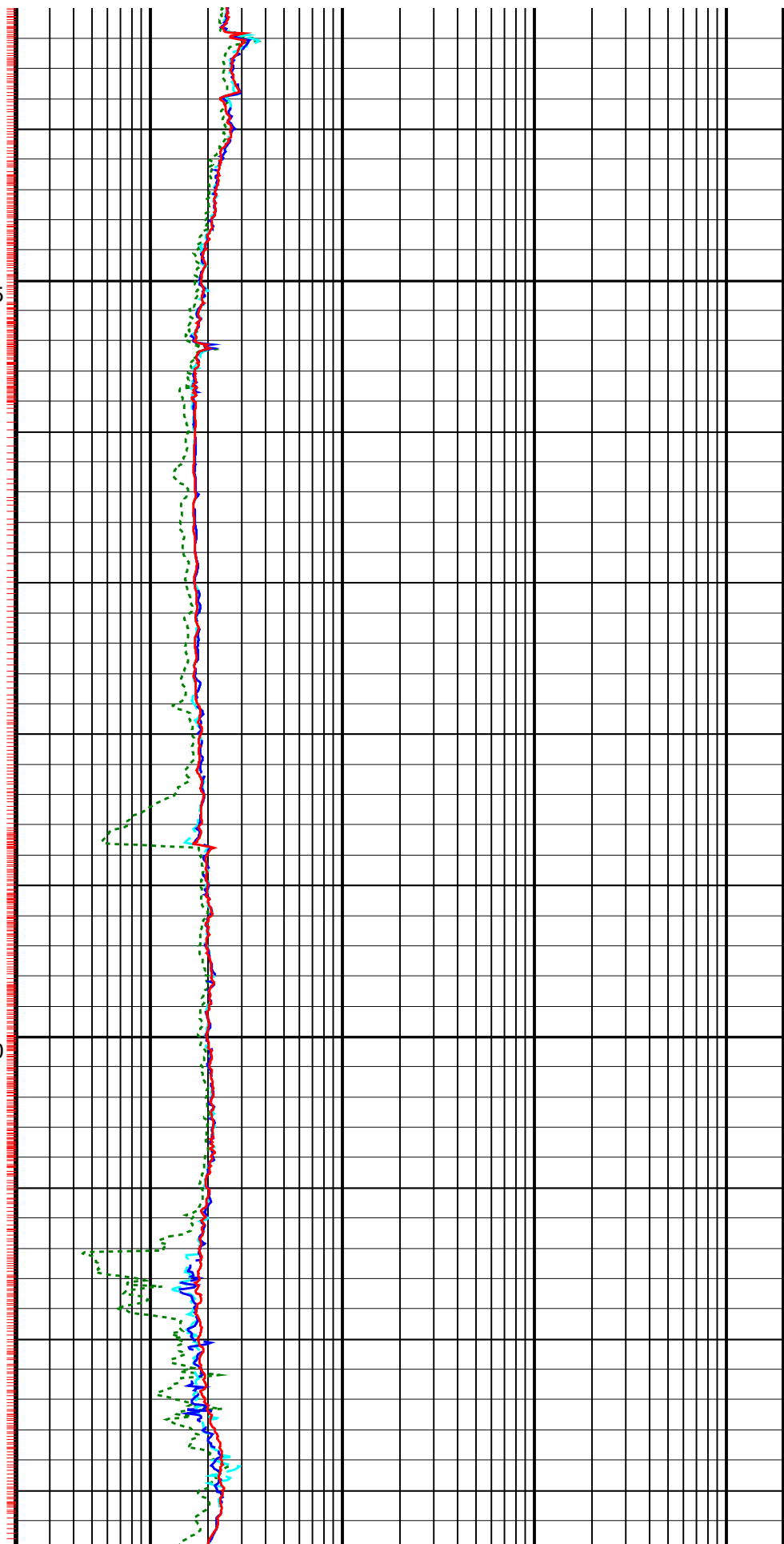
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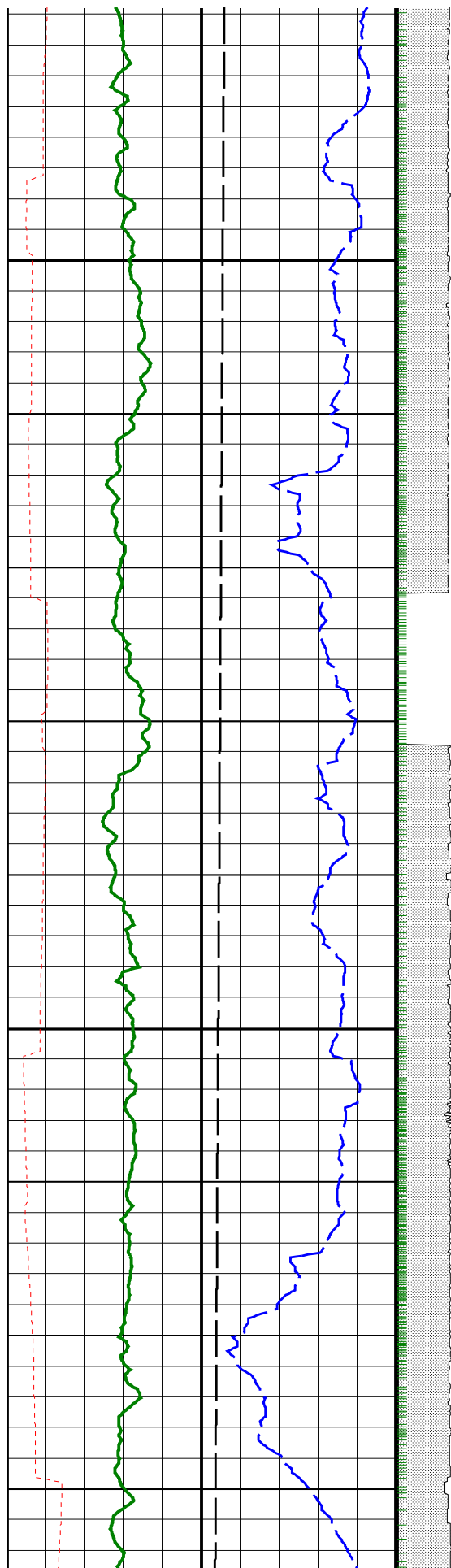




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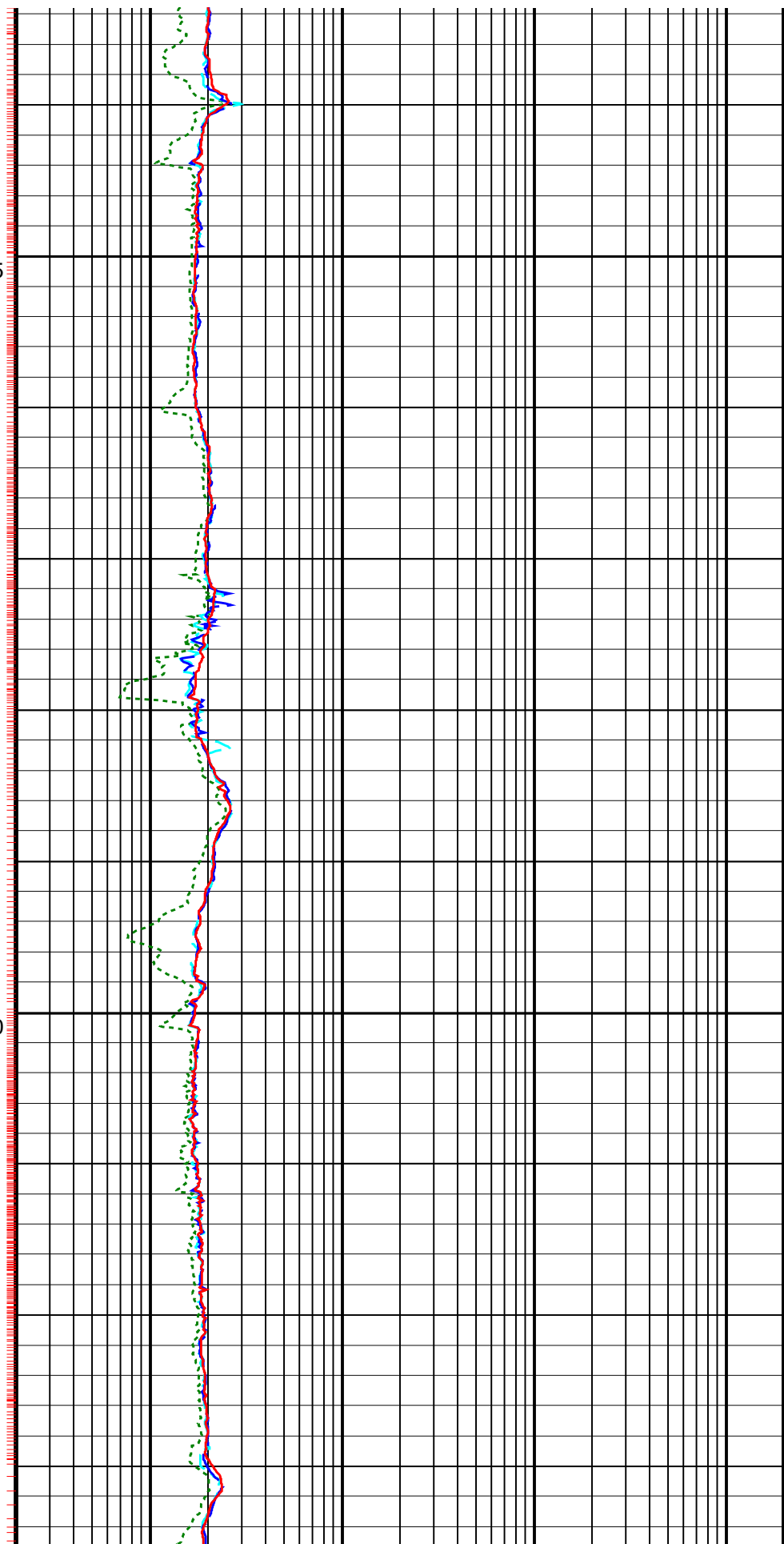
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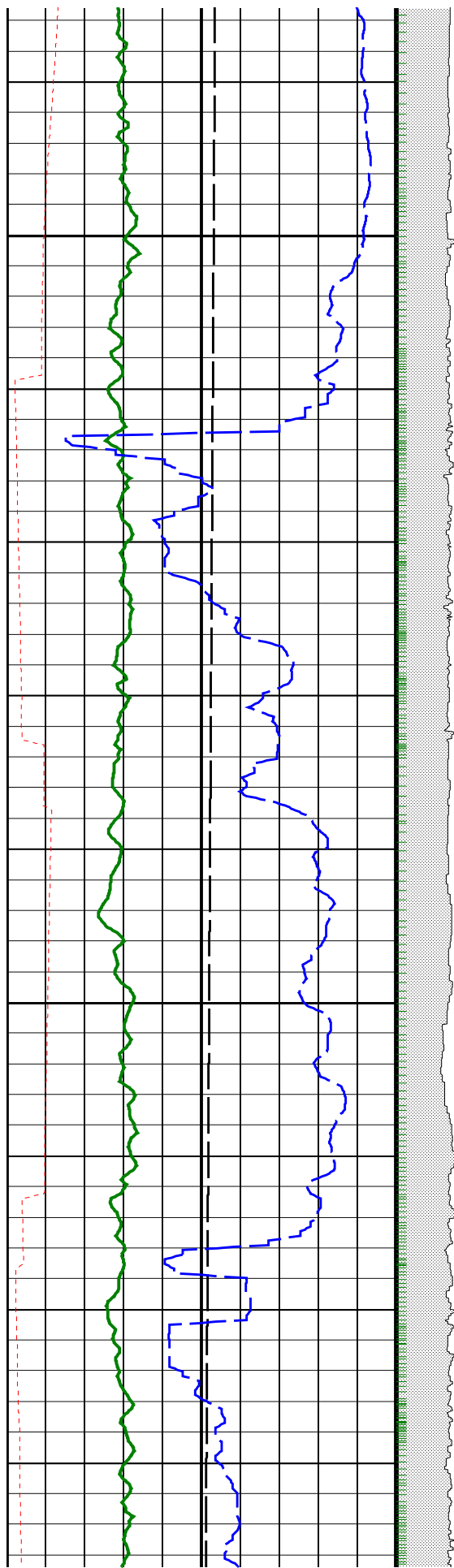




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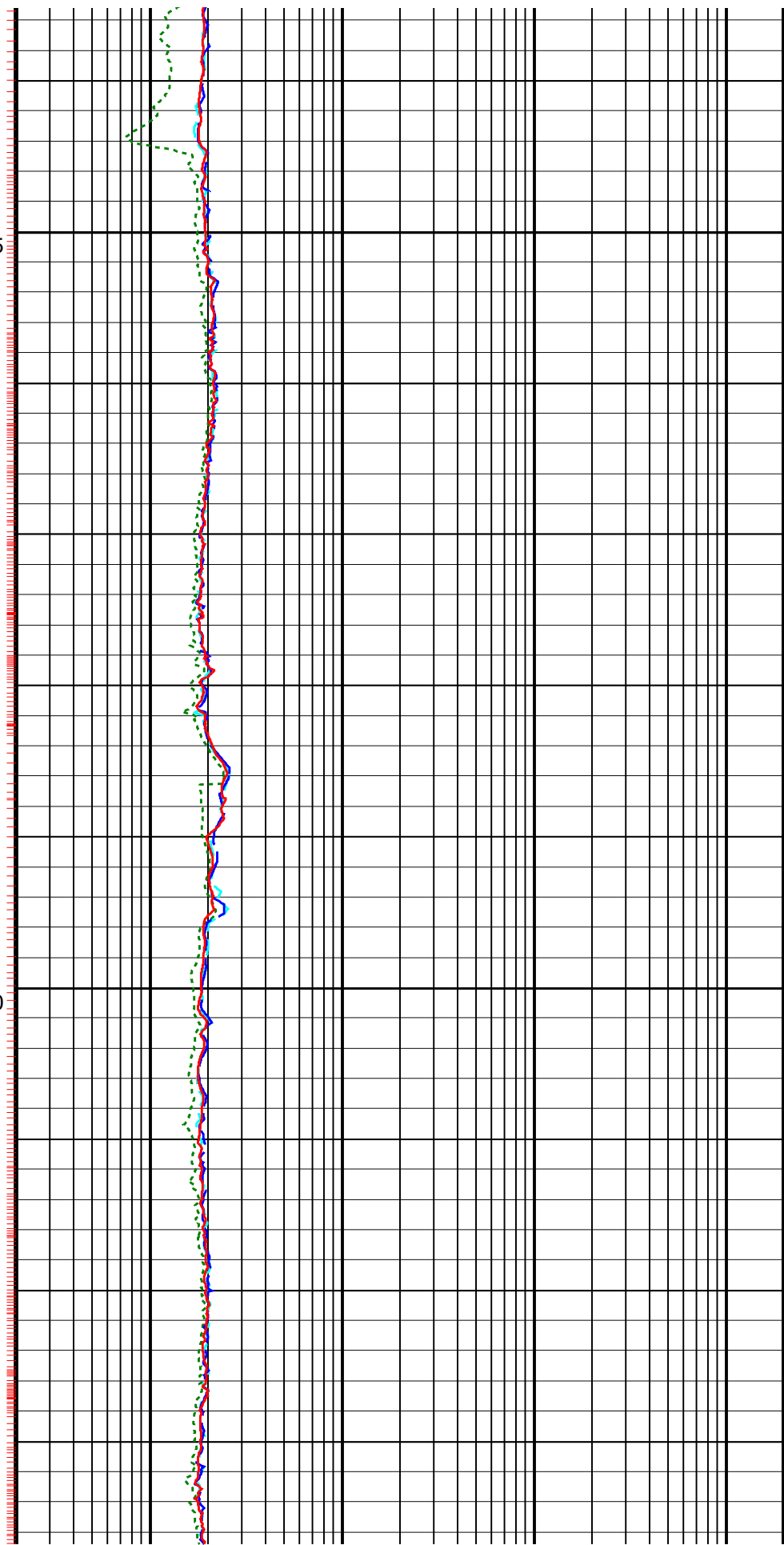
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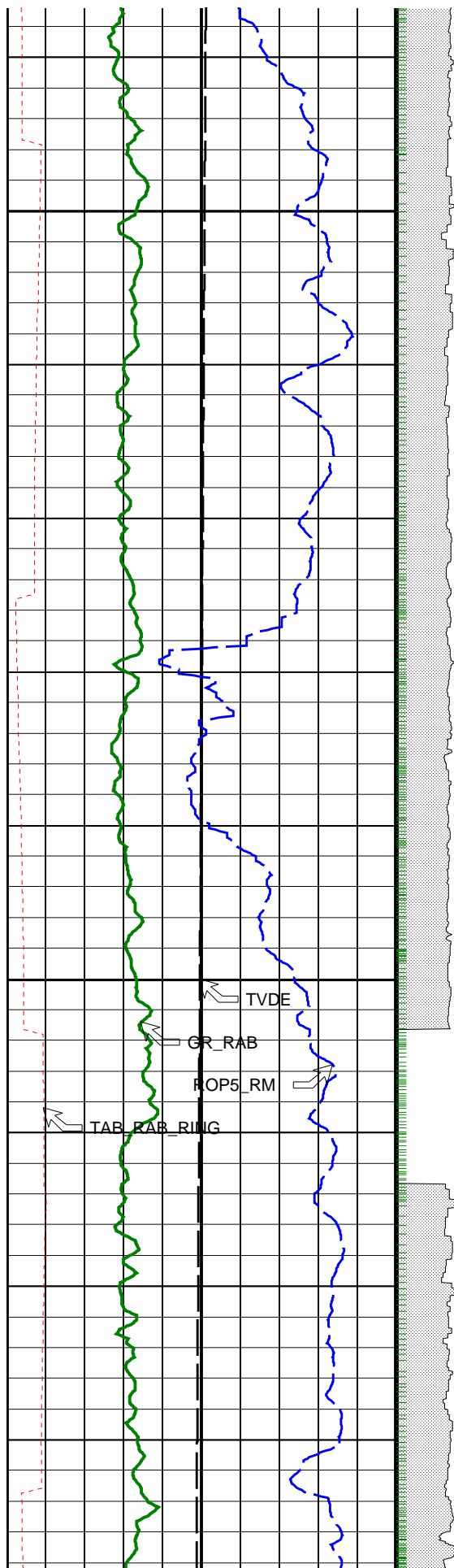




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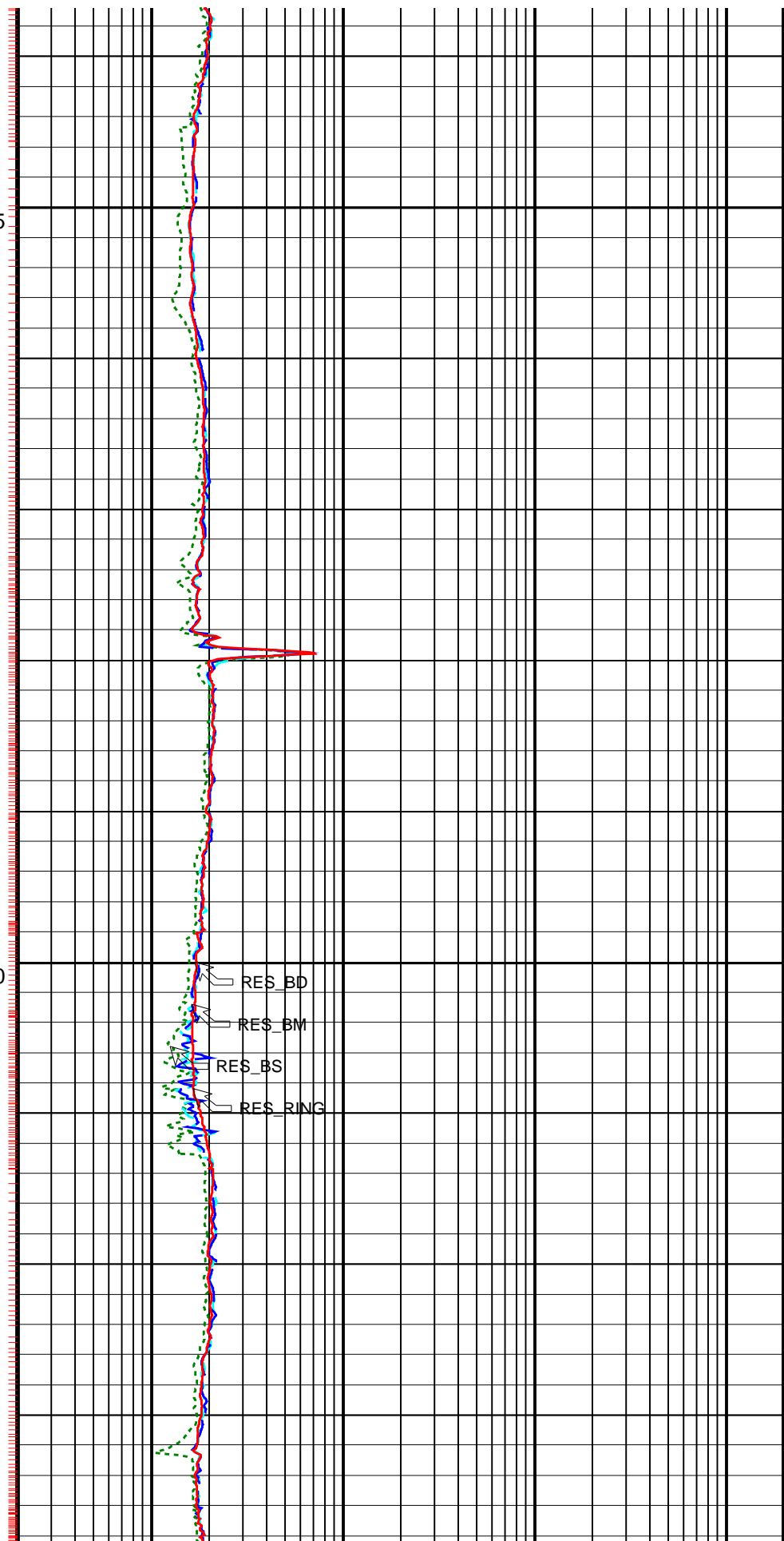
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1275

1300

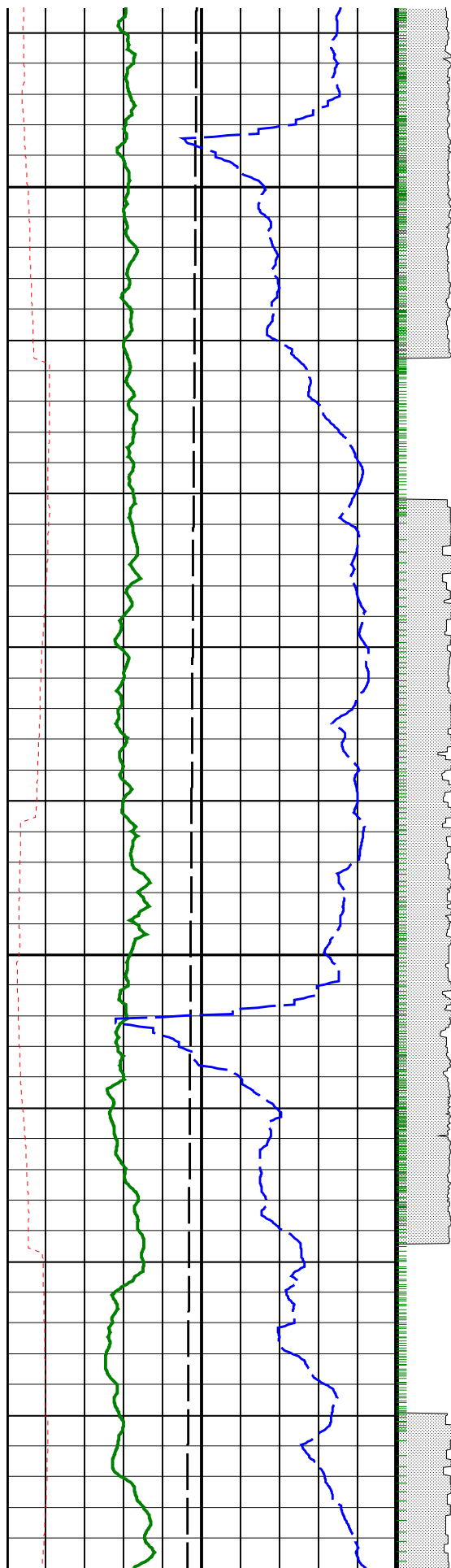


RES\_BD

RES\_BM

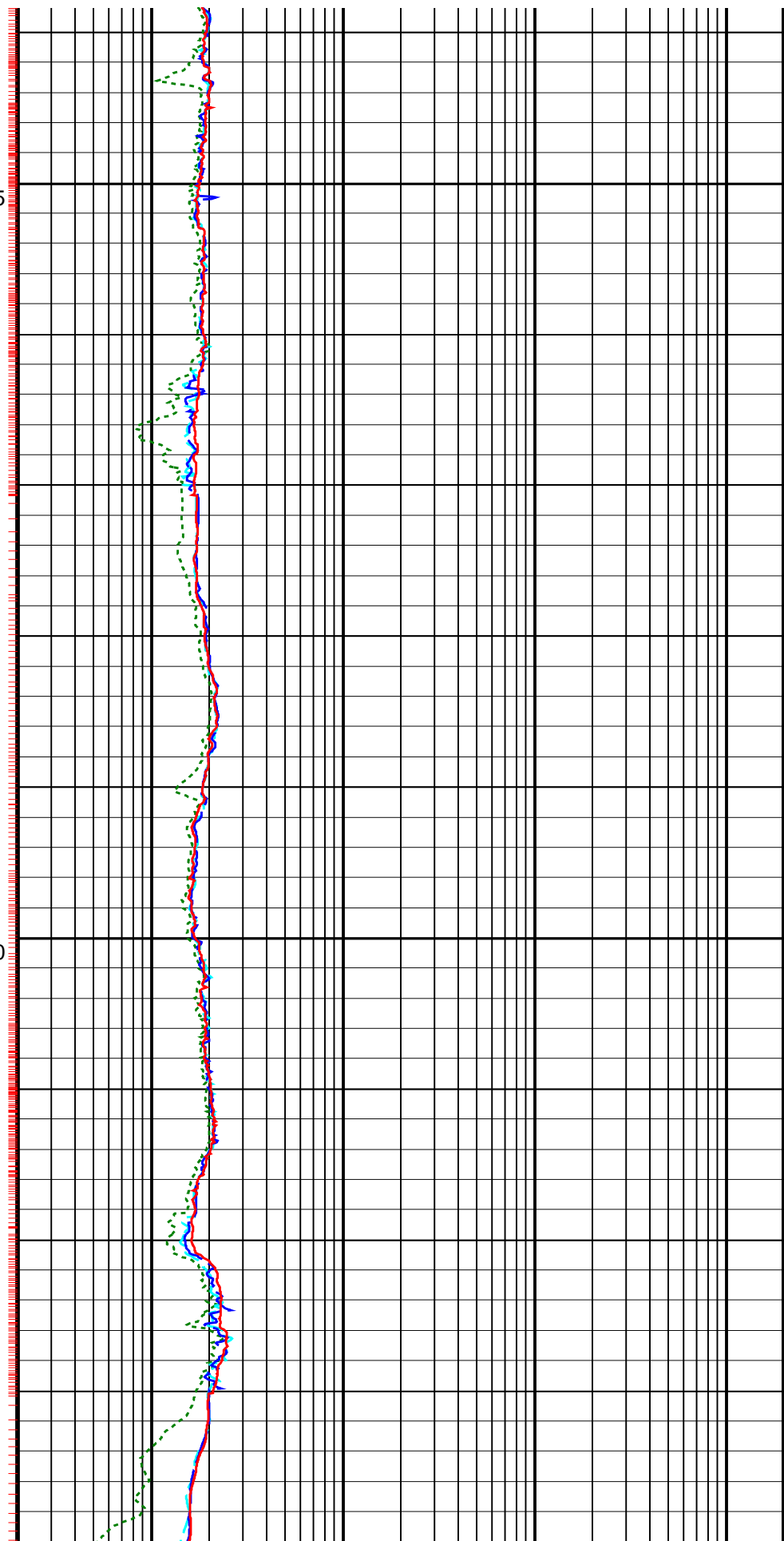
RES\_BS

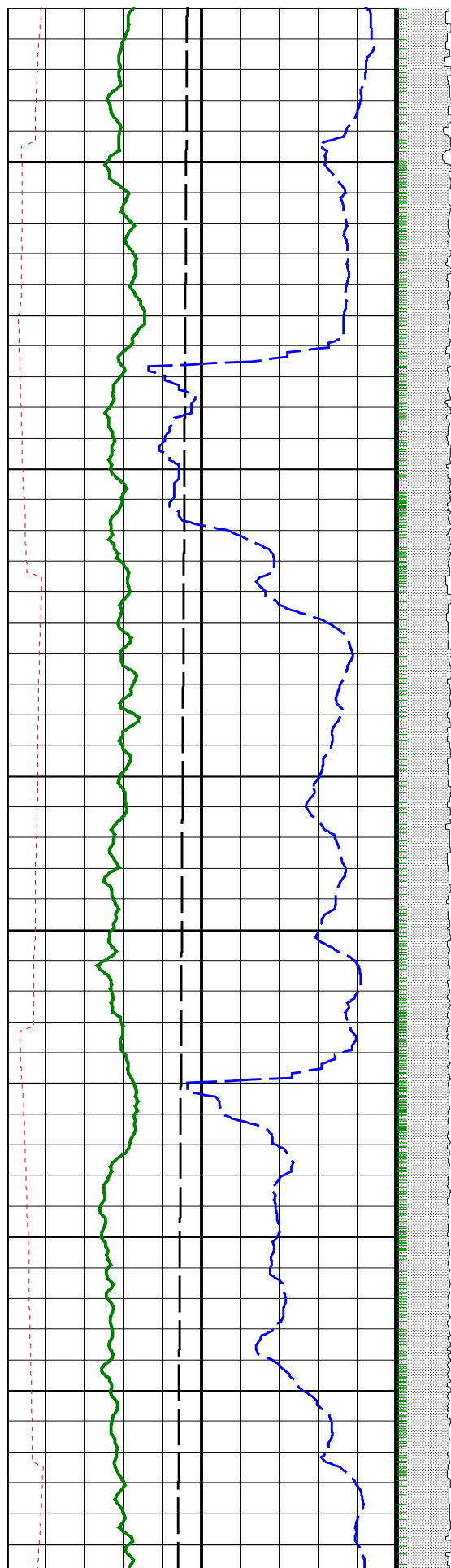
RES\_RING



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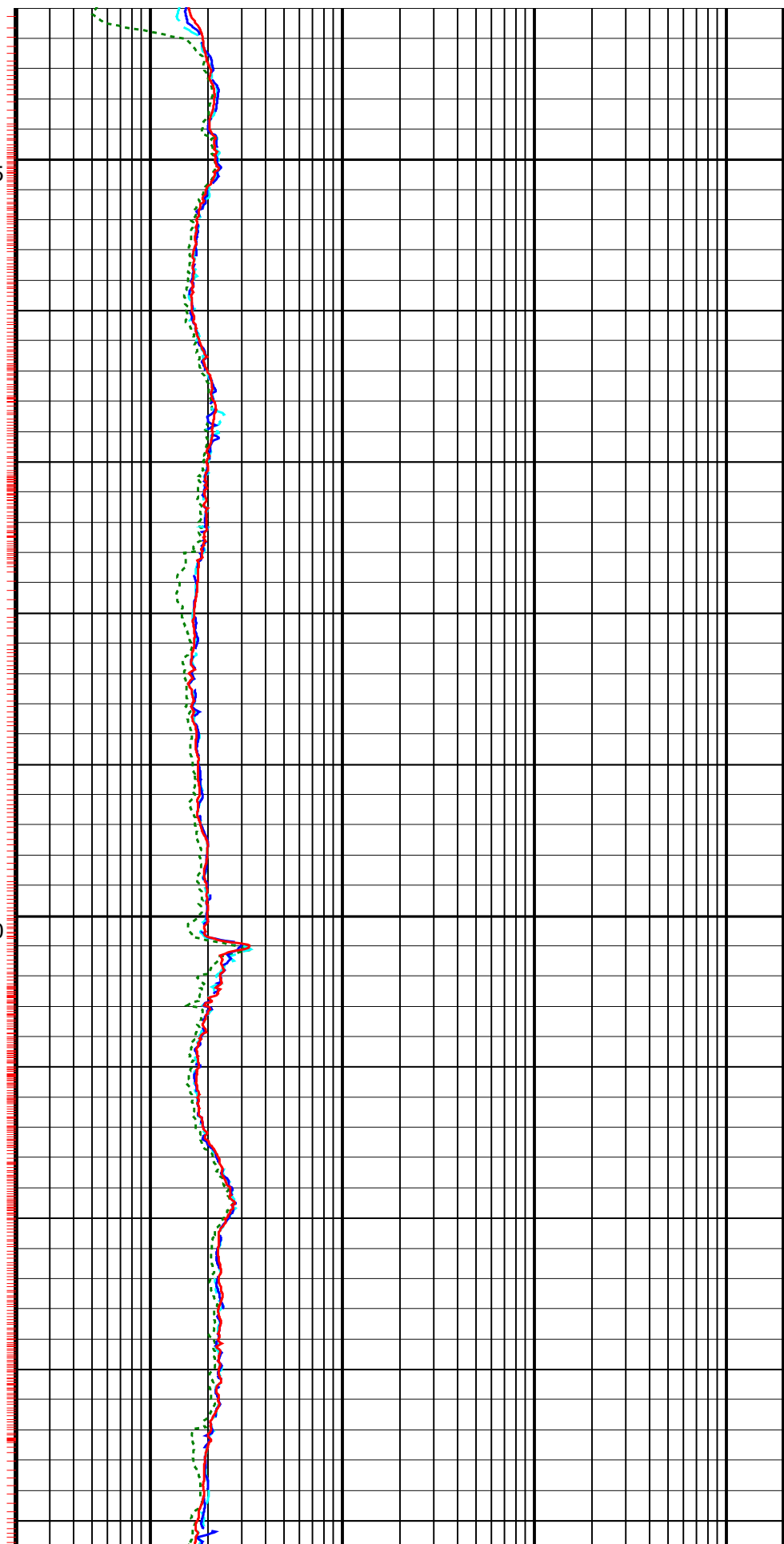
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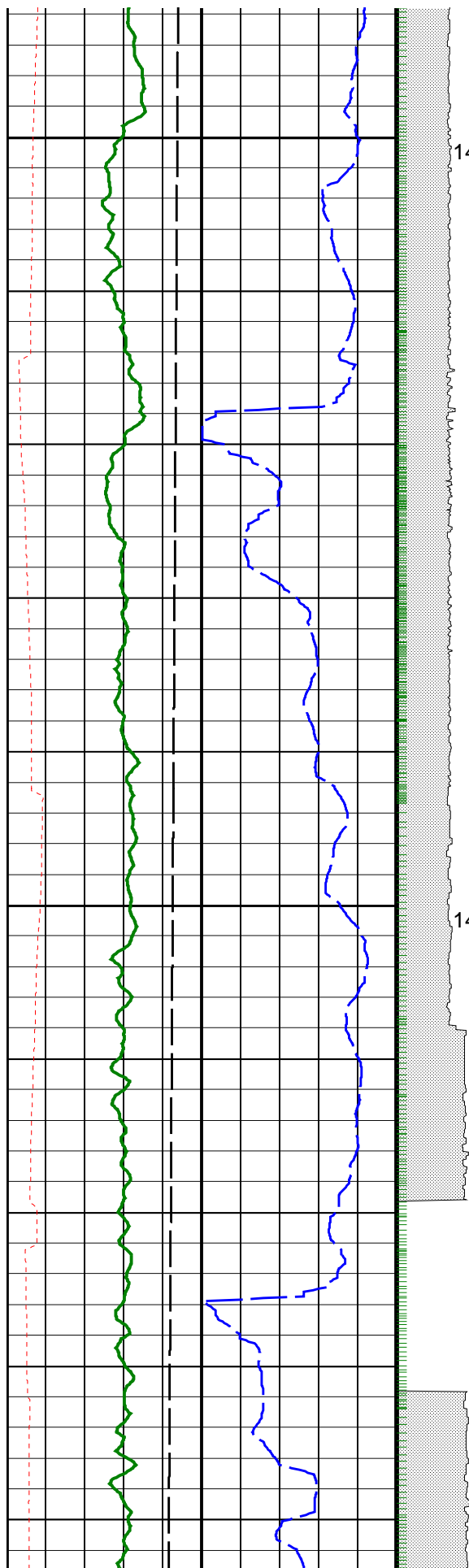




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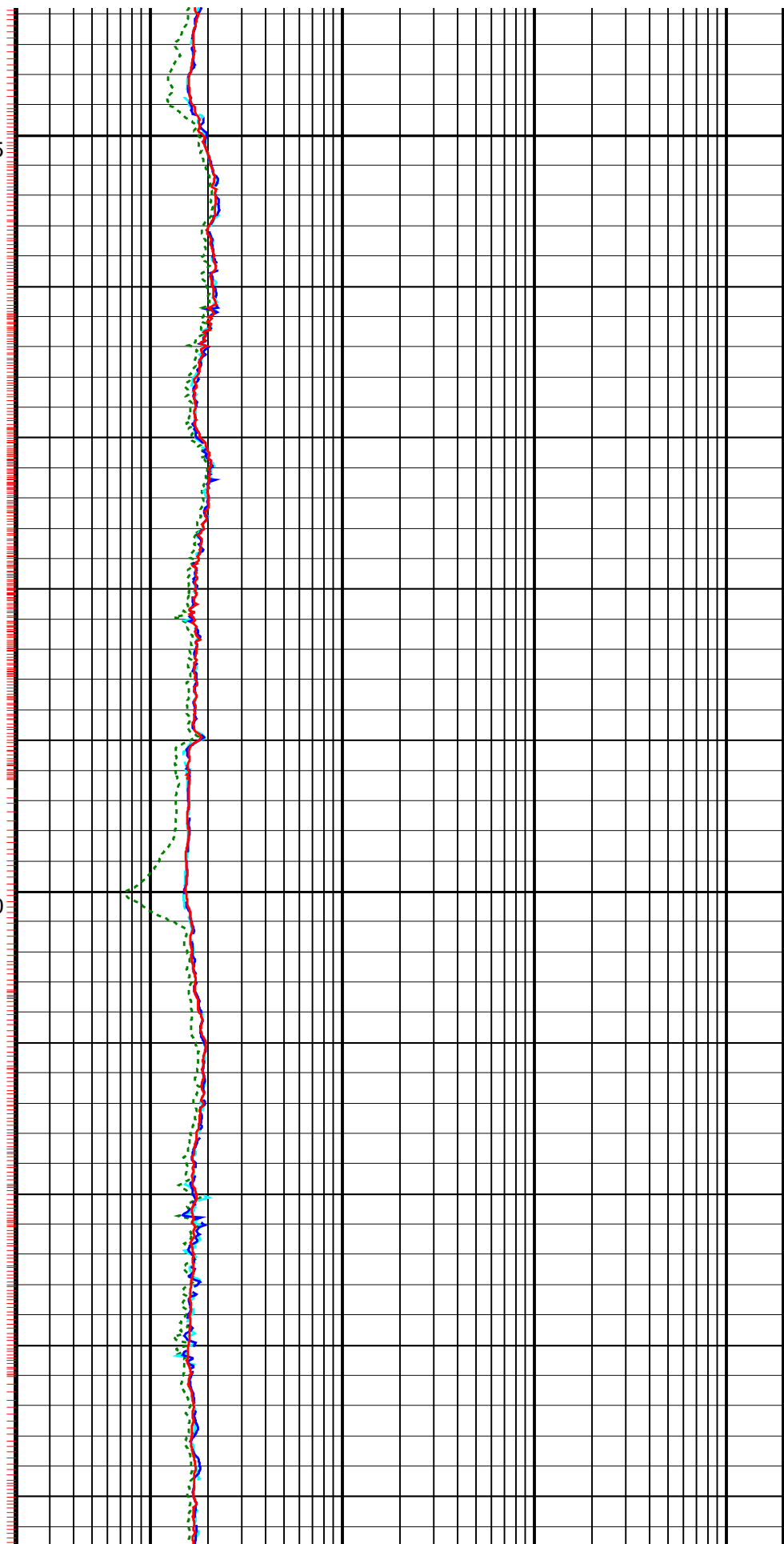
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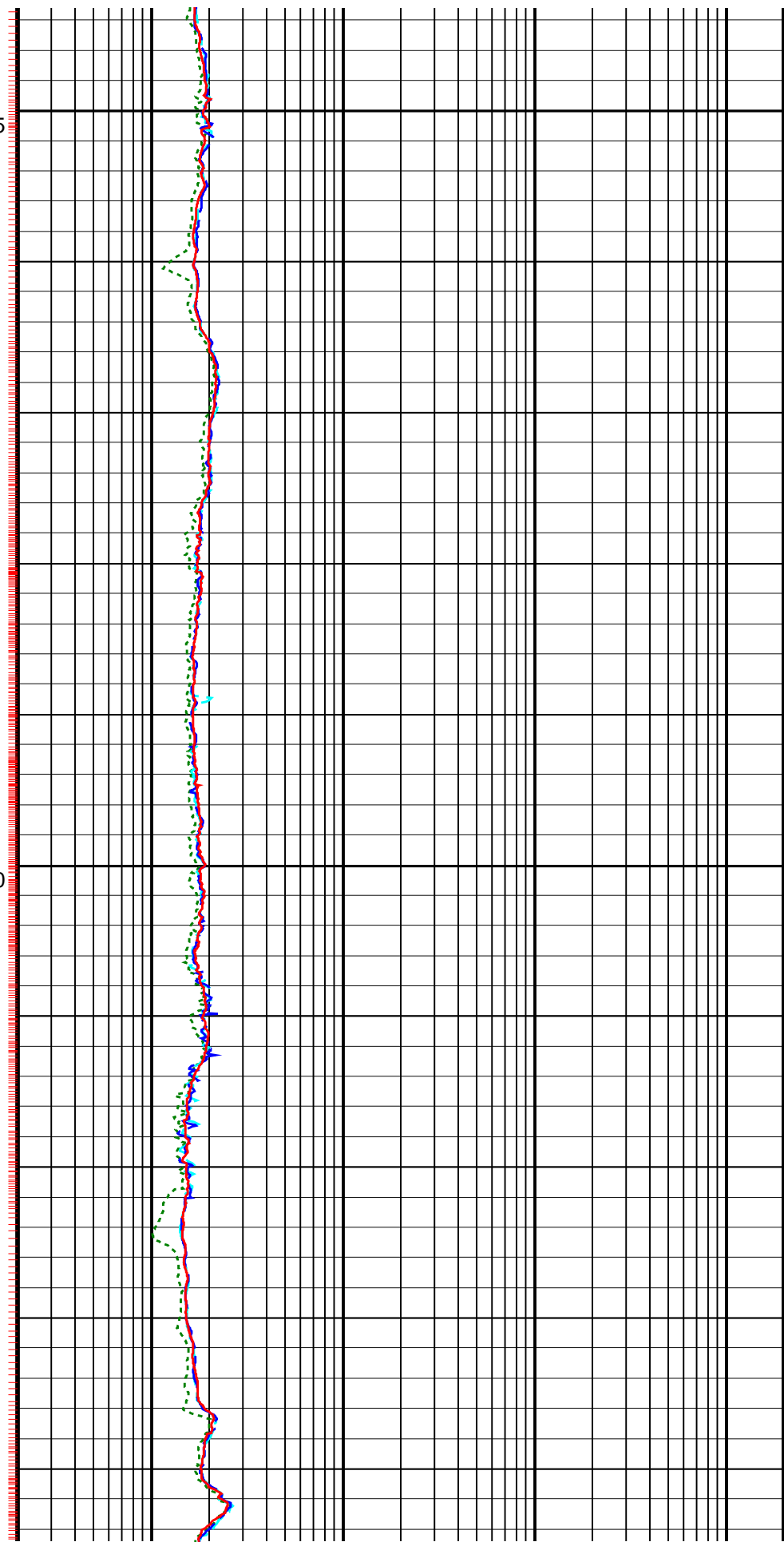
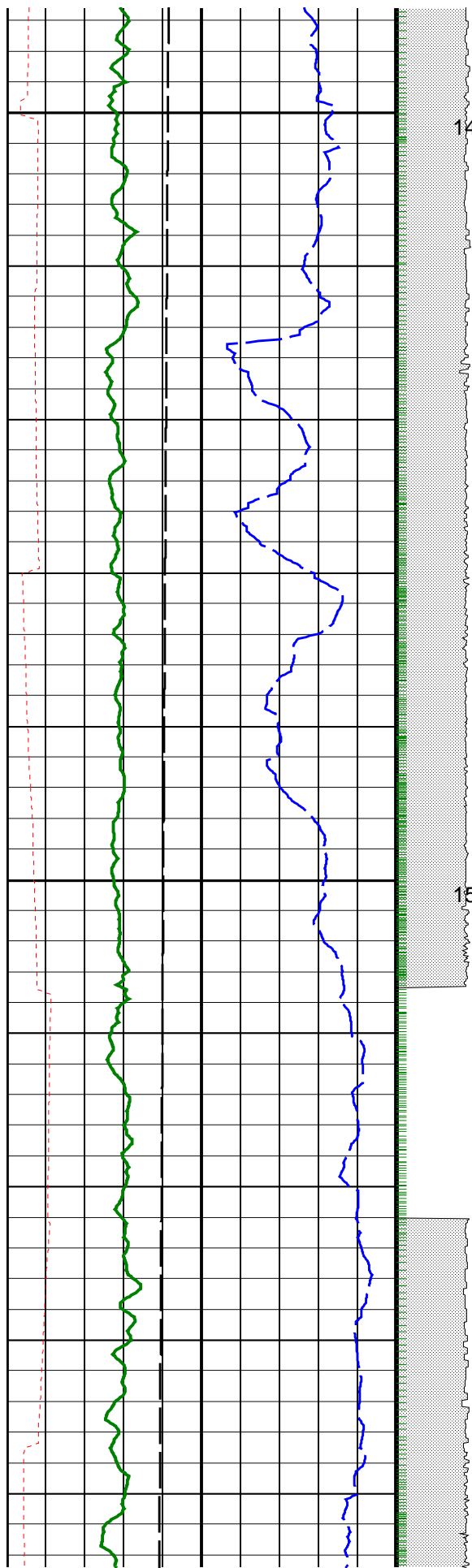


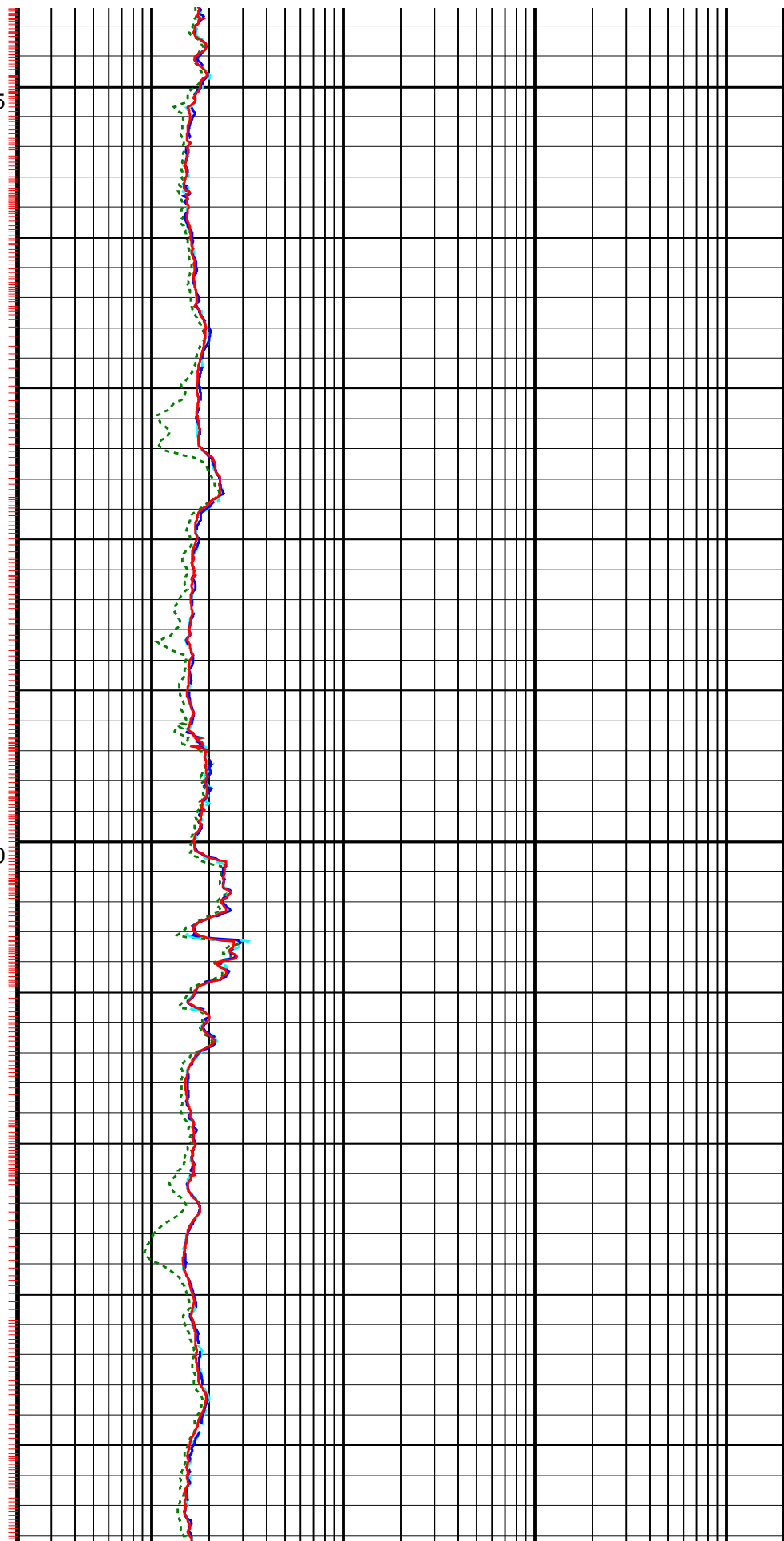
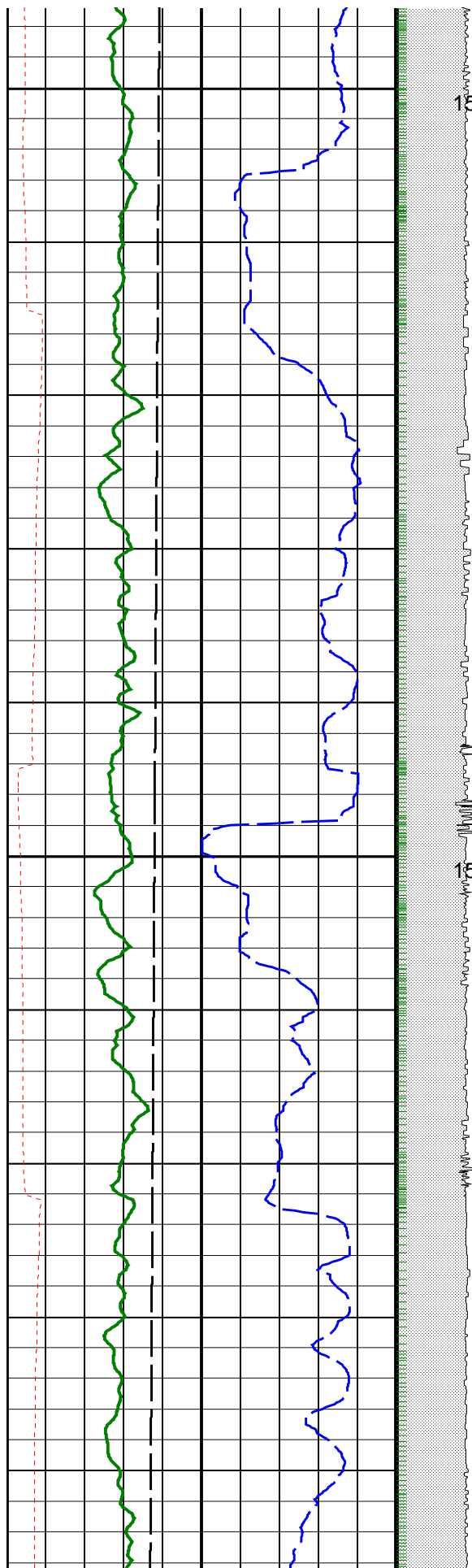


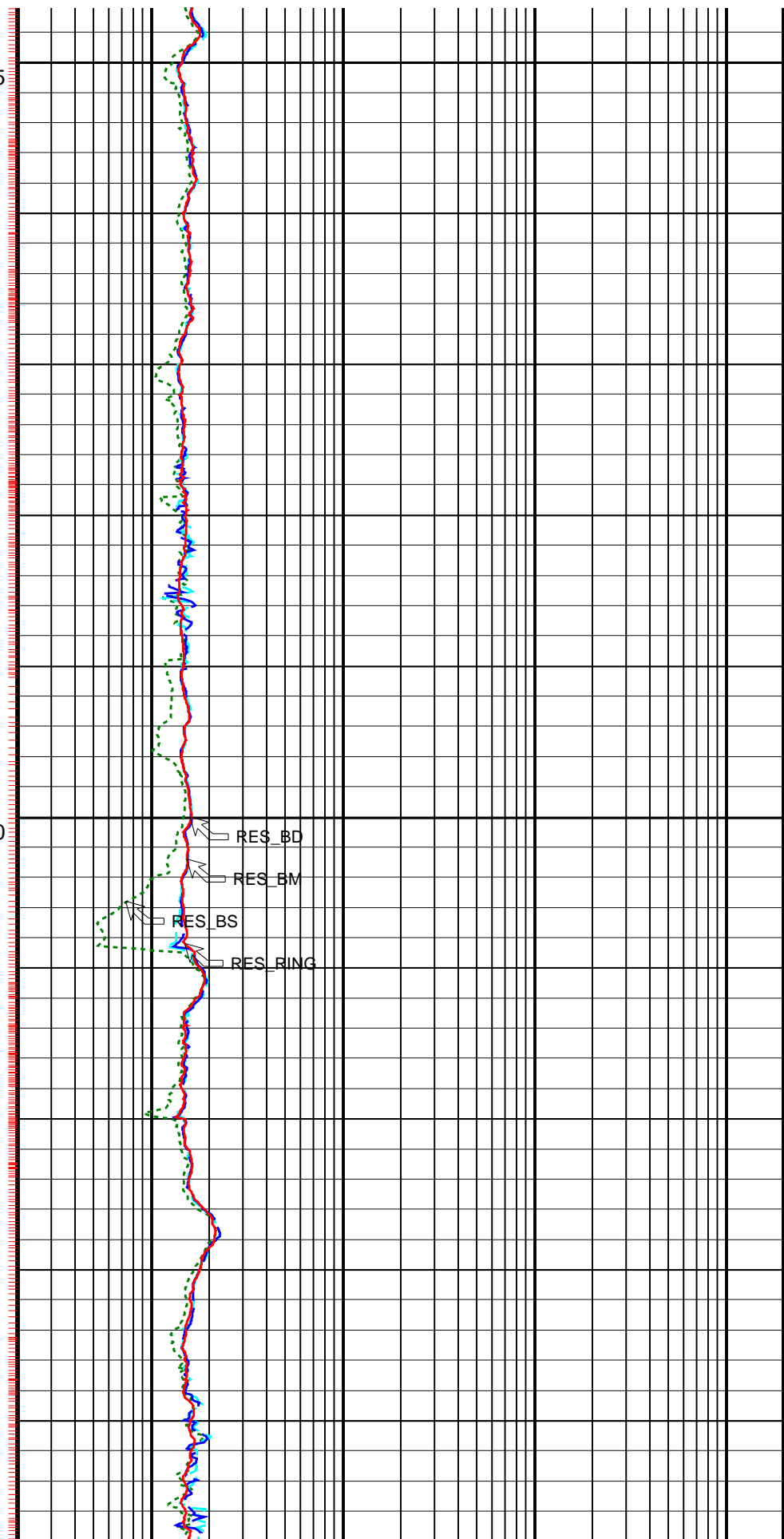
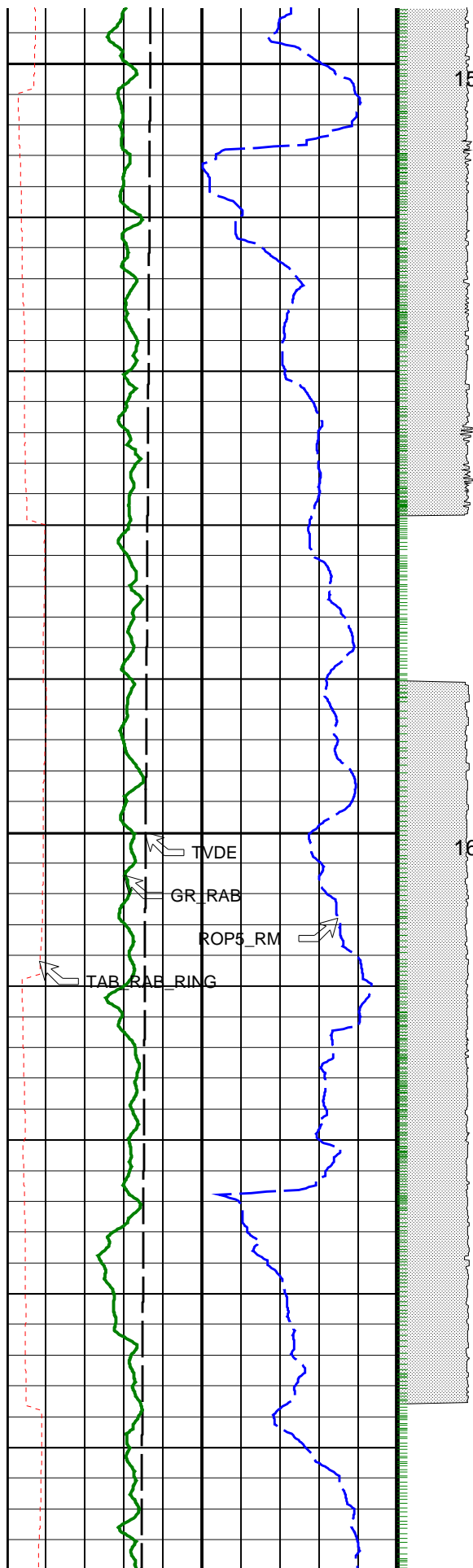
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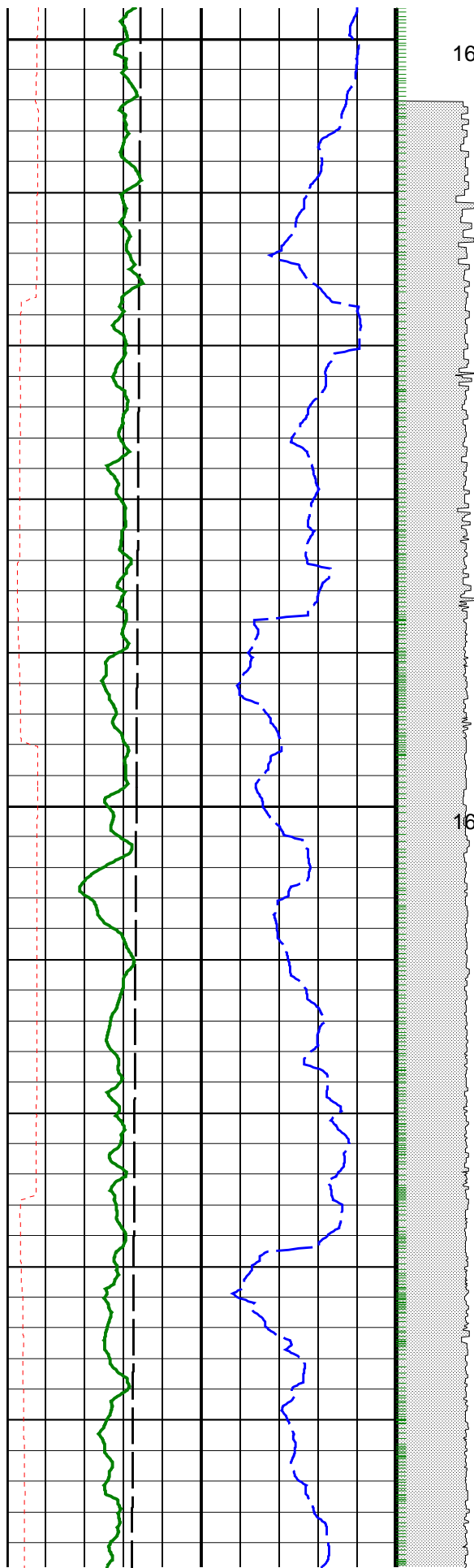
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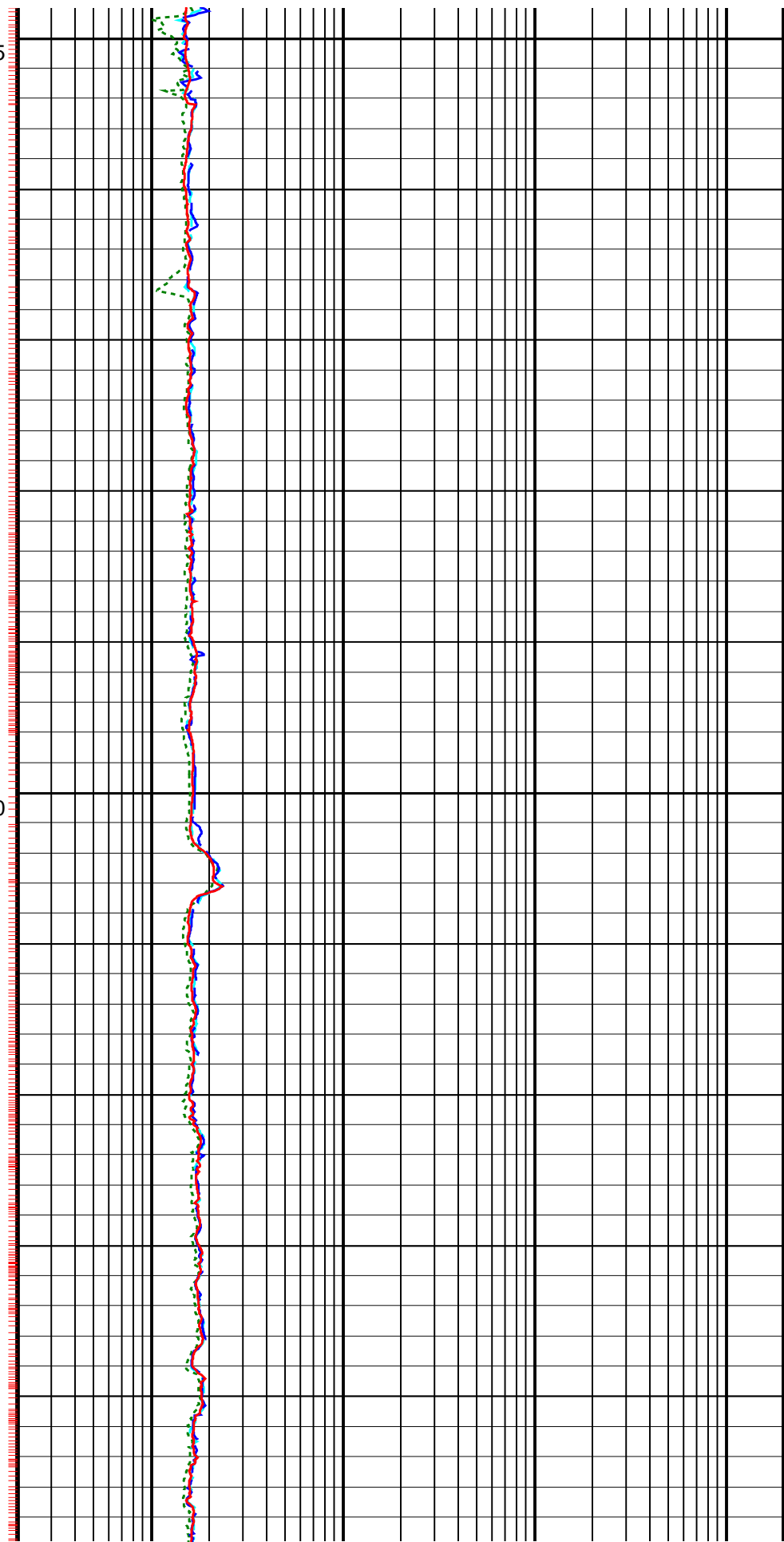


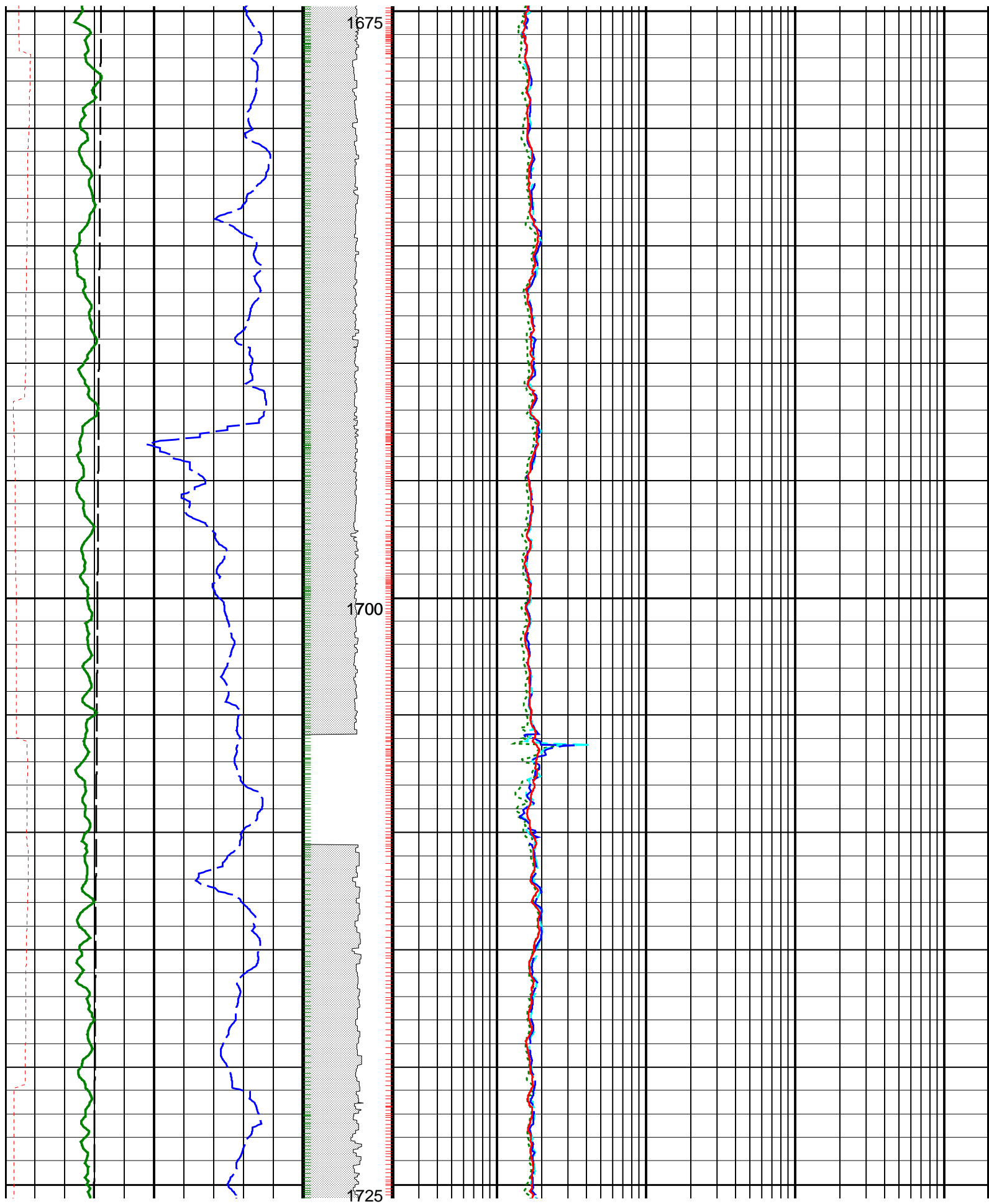


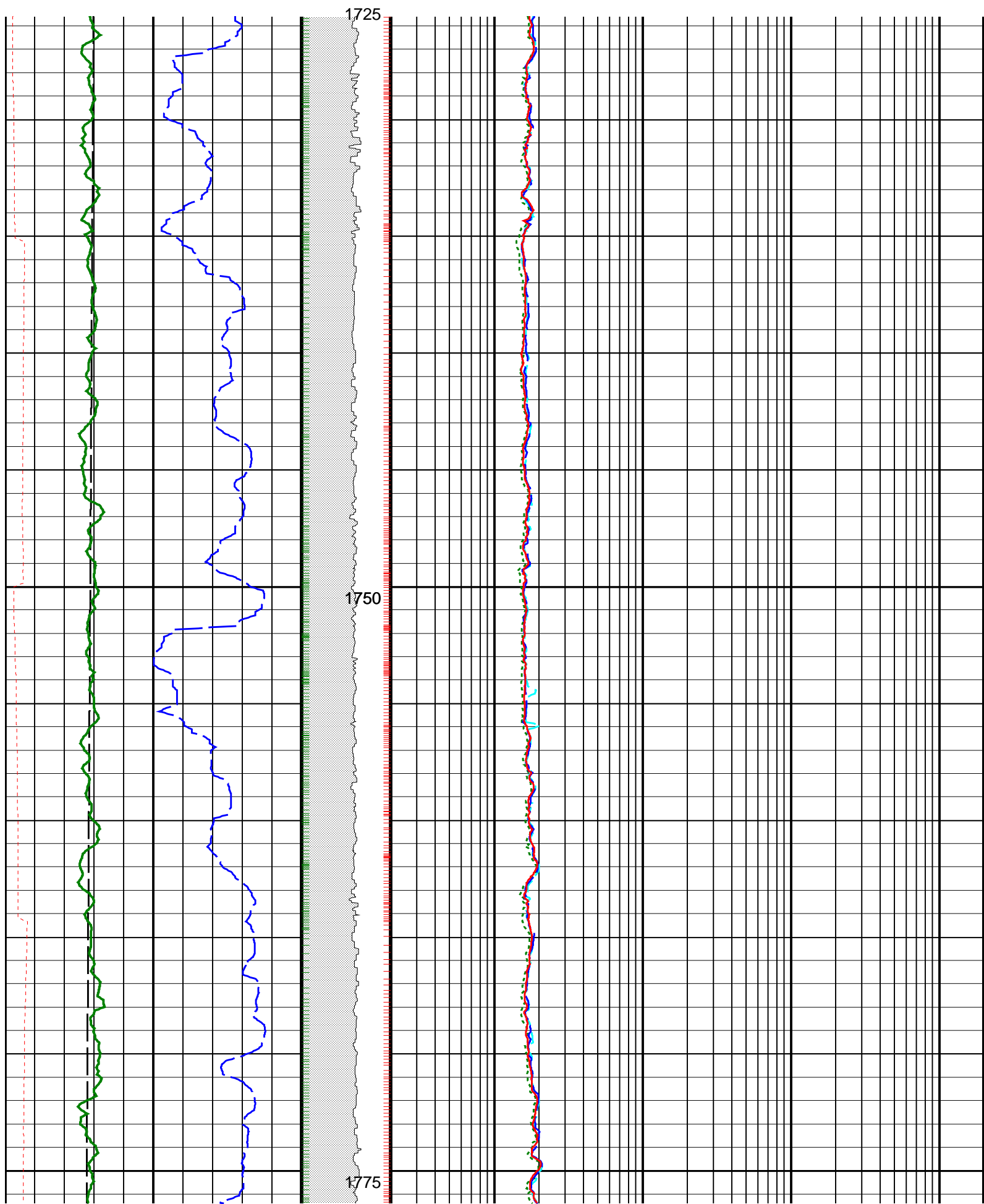


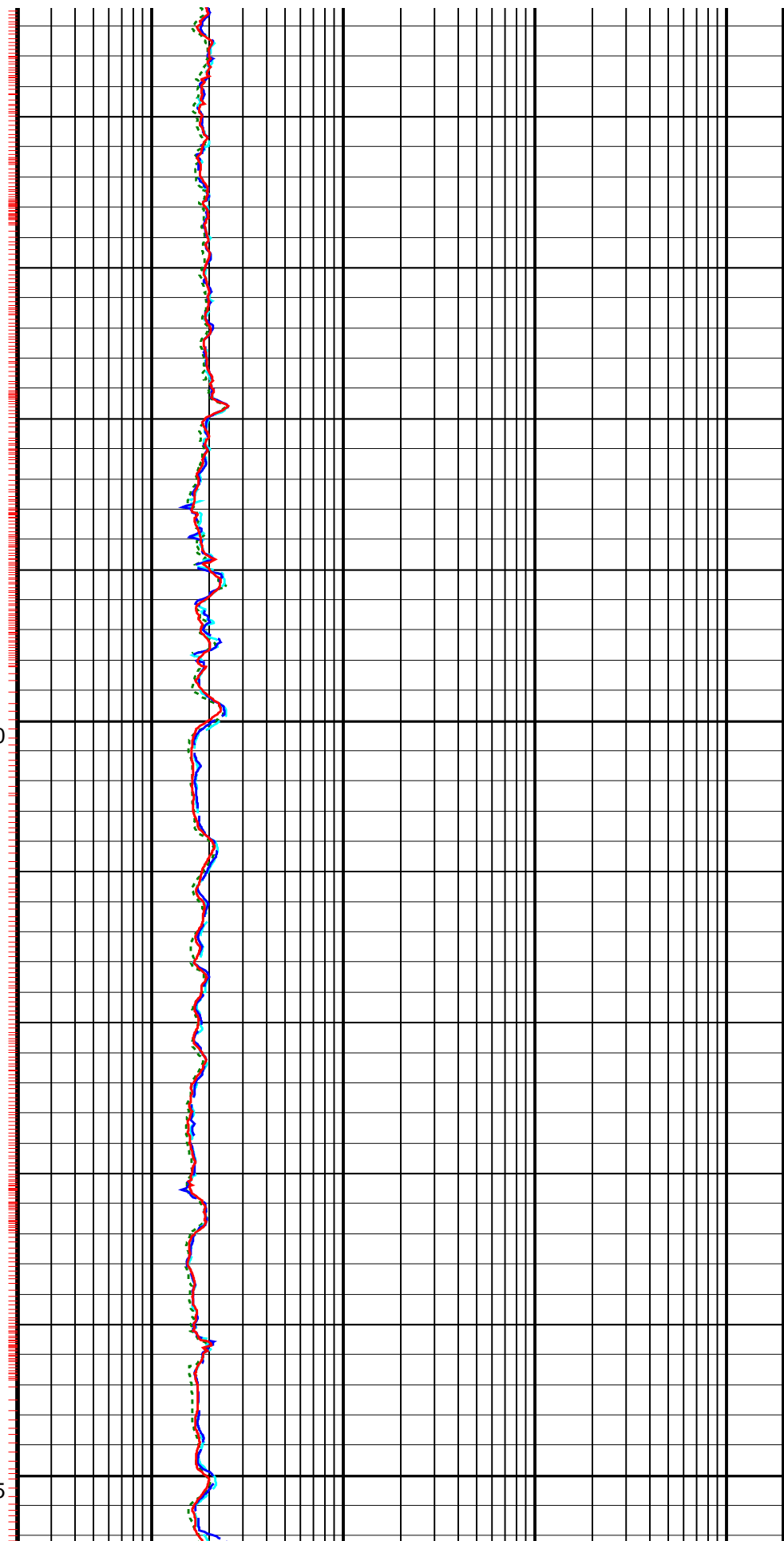
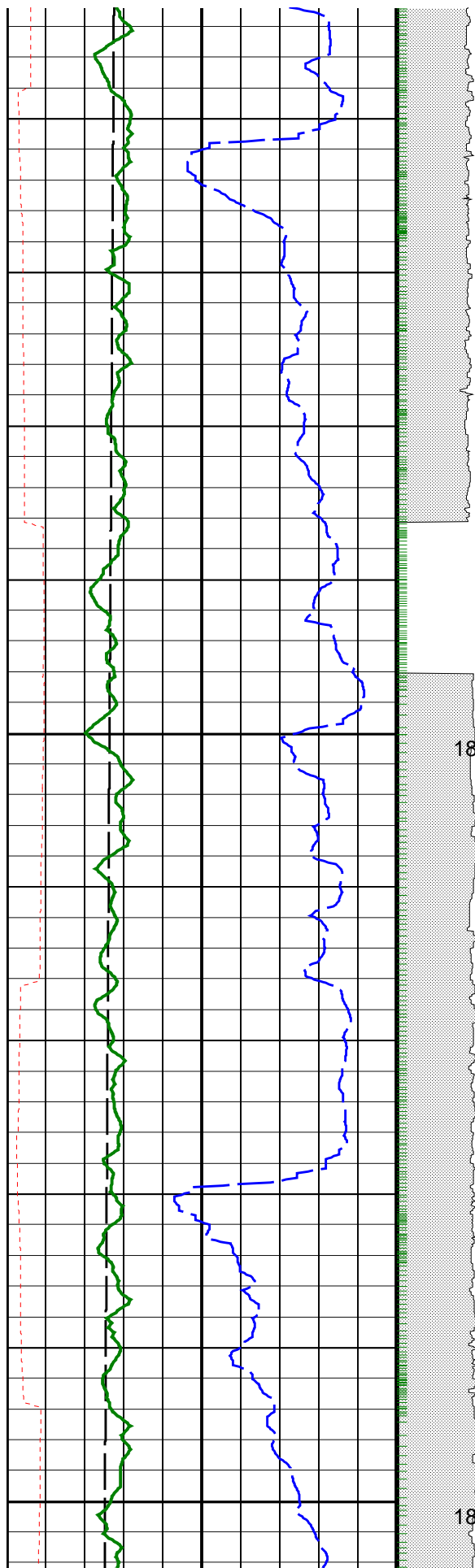
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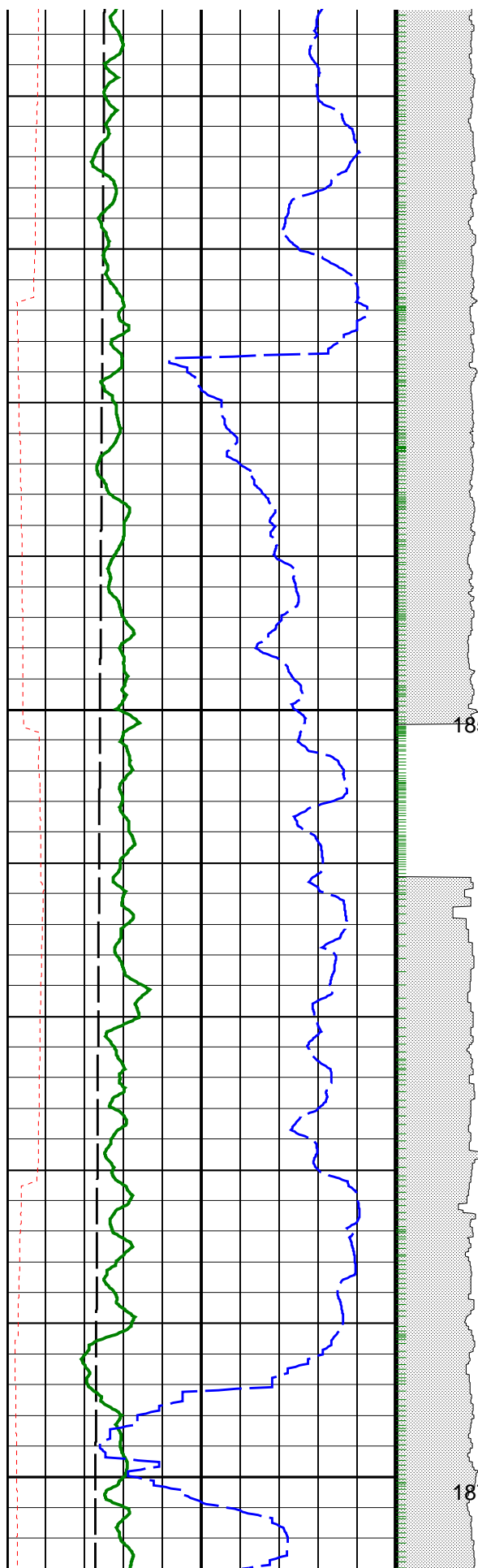
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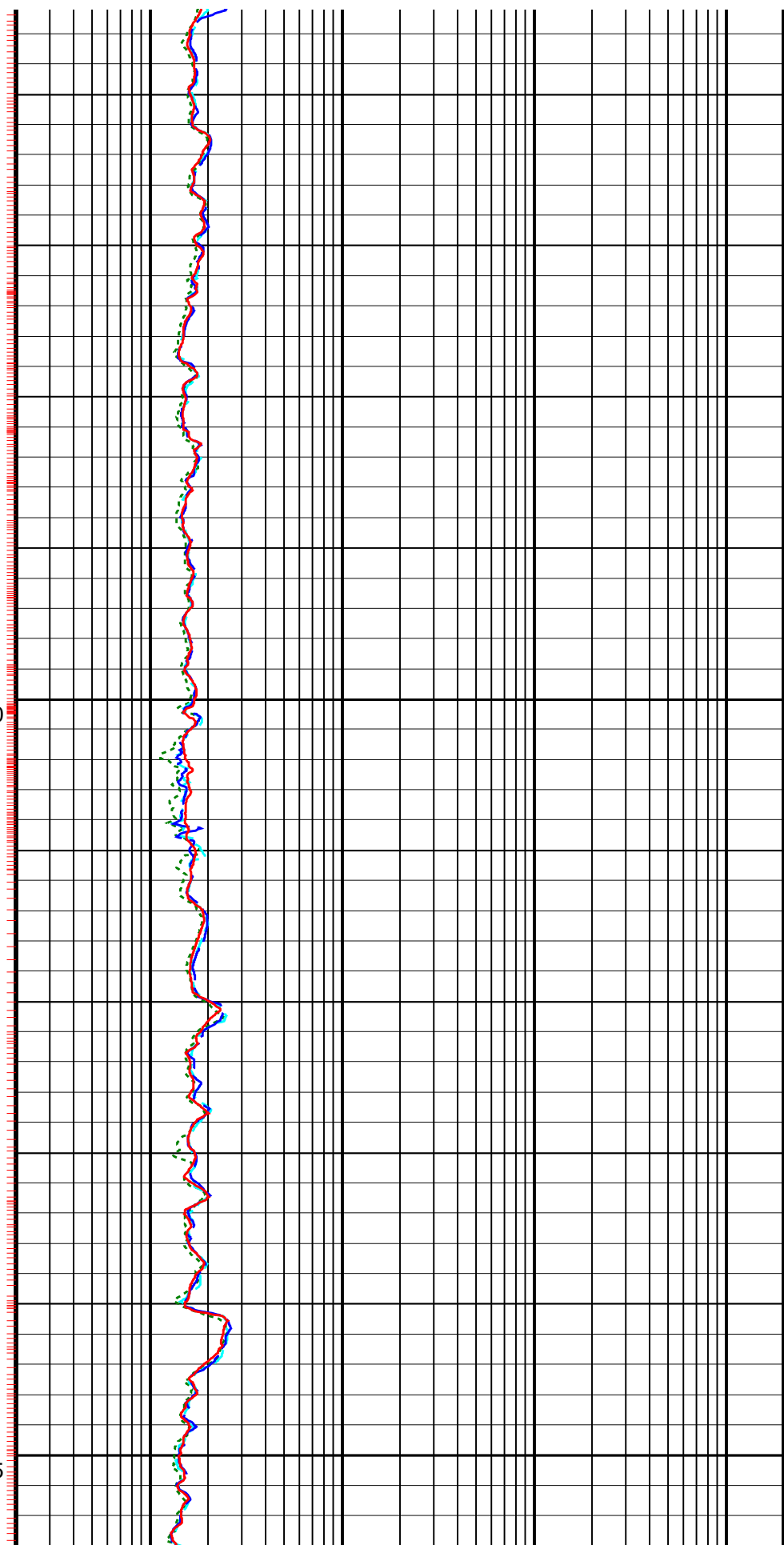


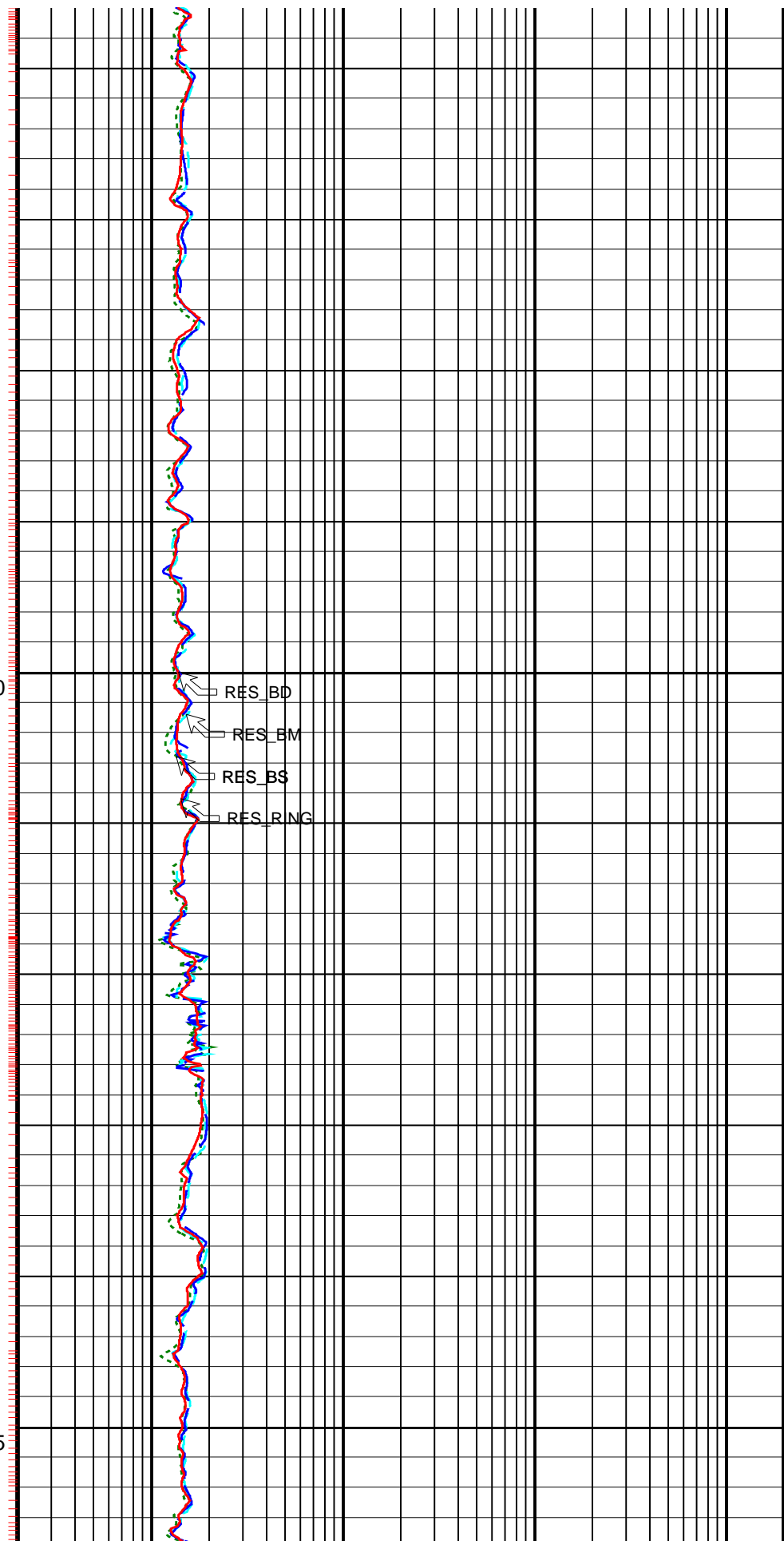
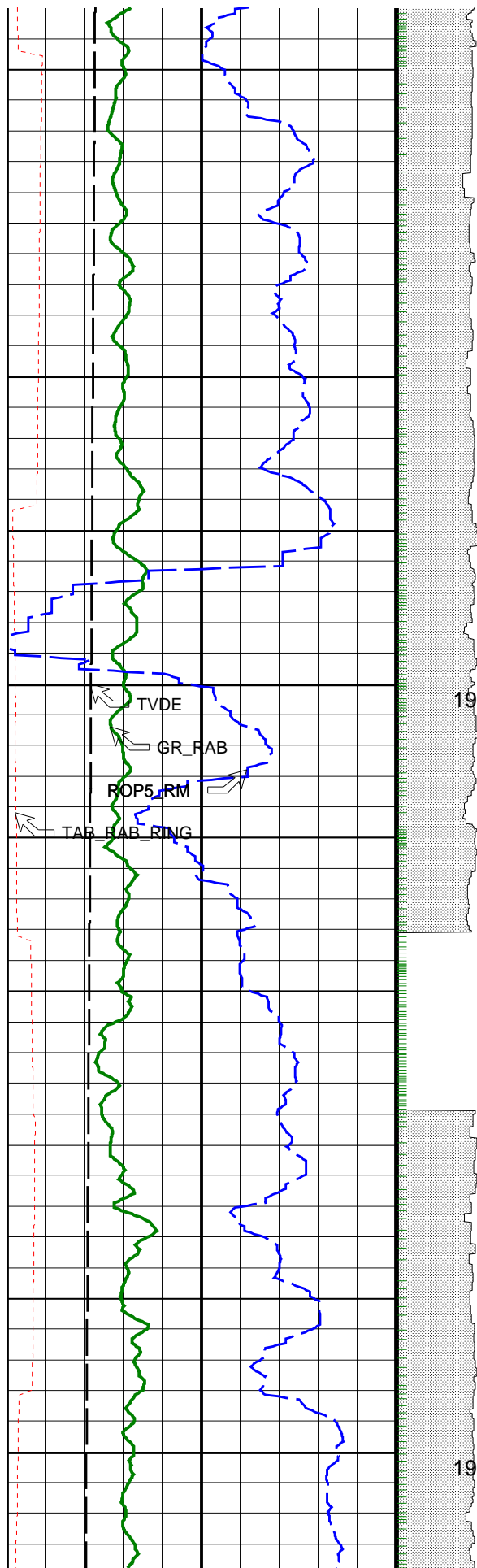


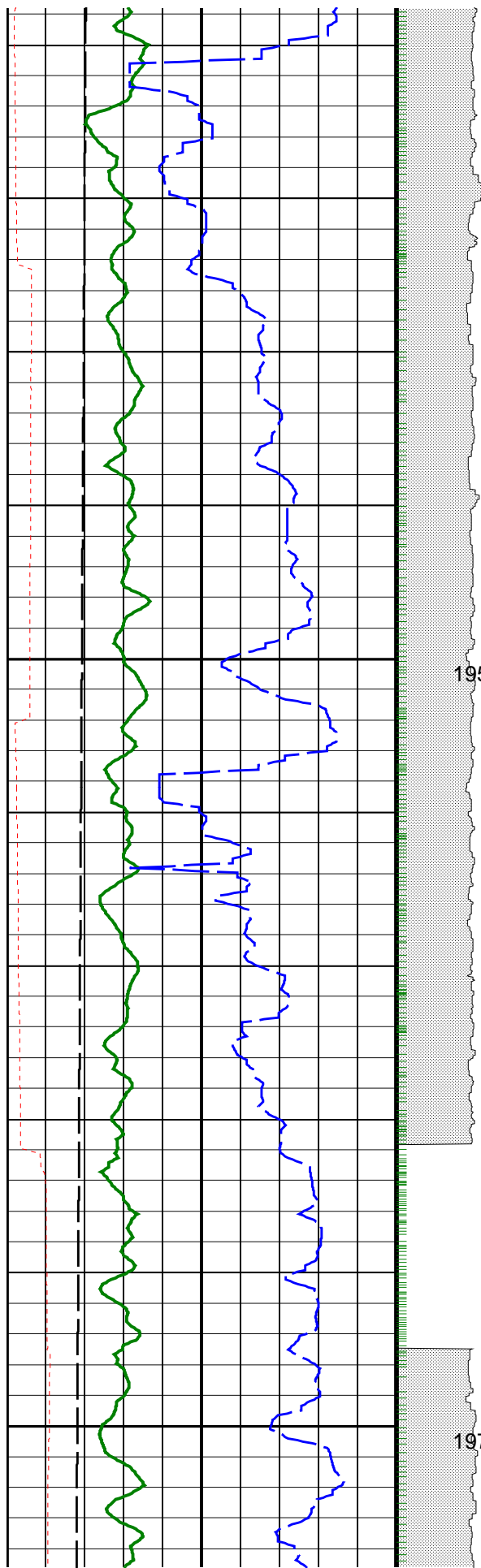


1850

1875

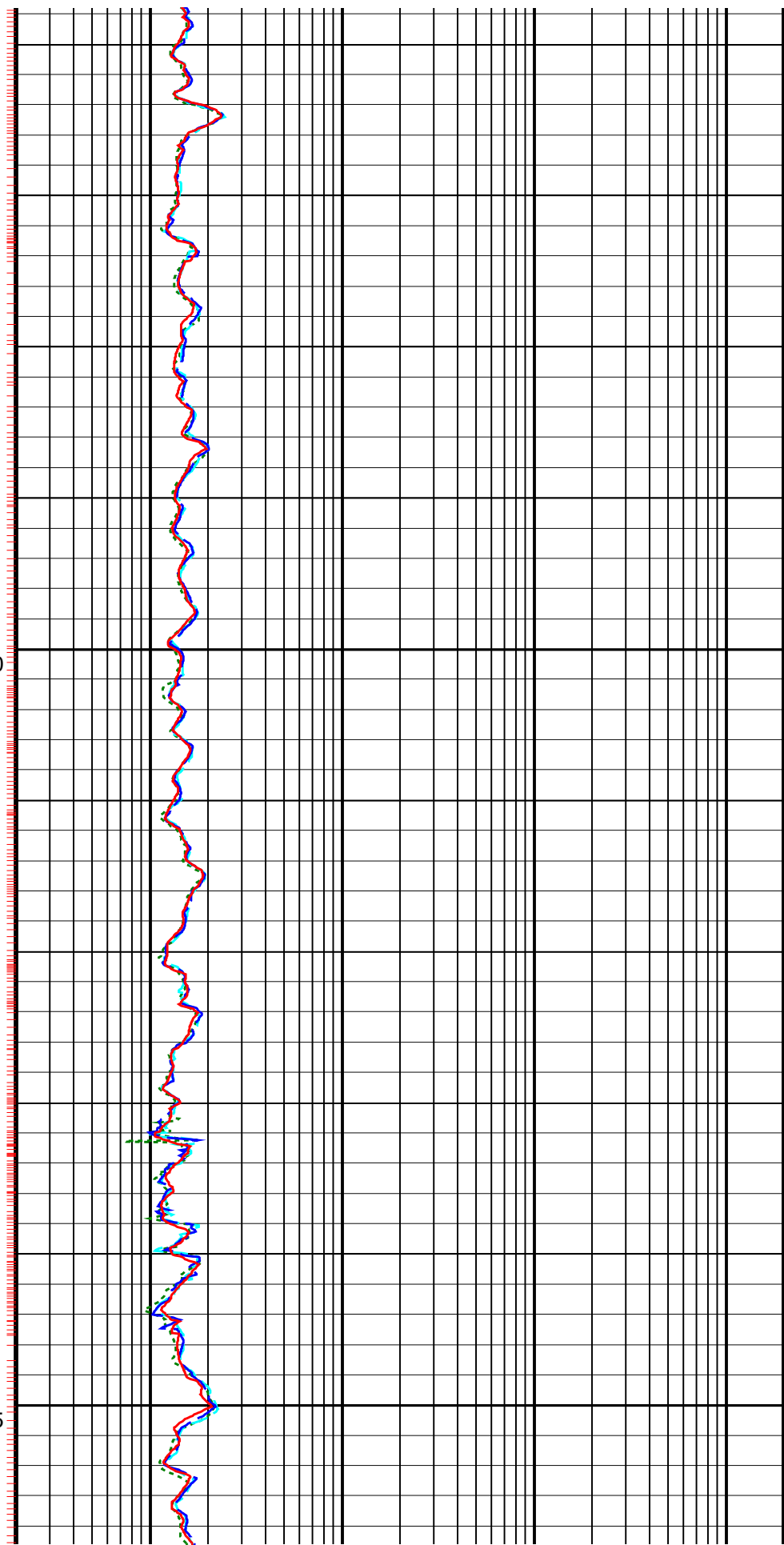


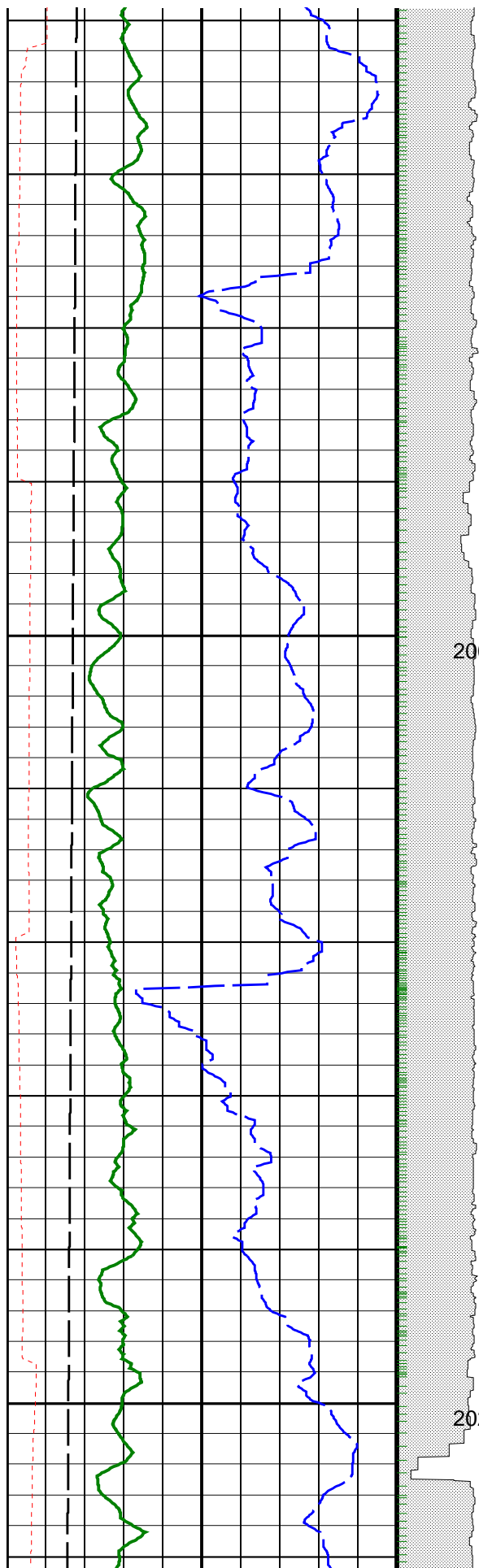




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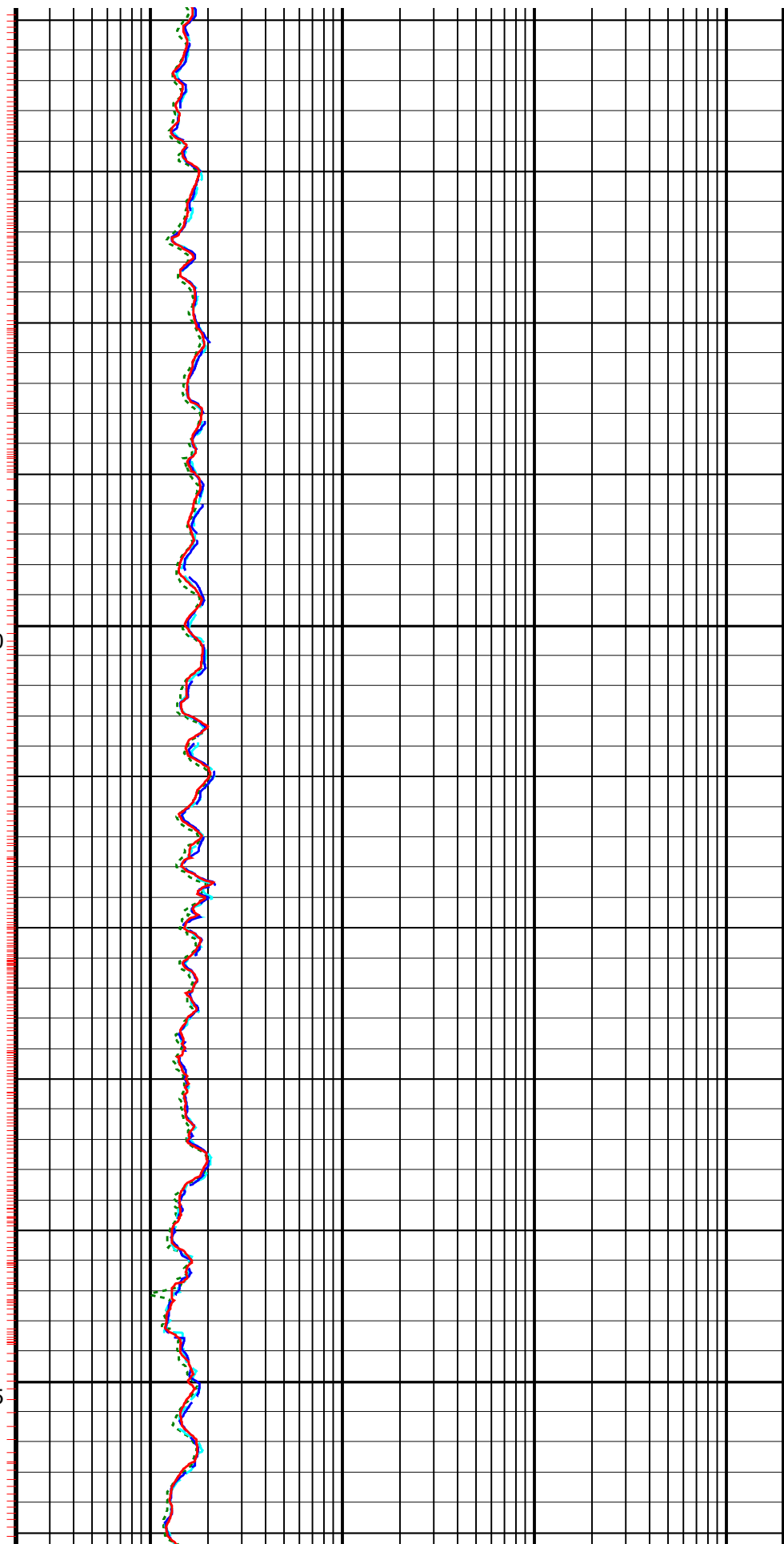
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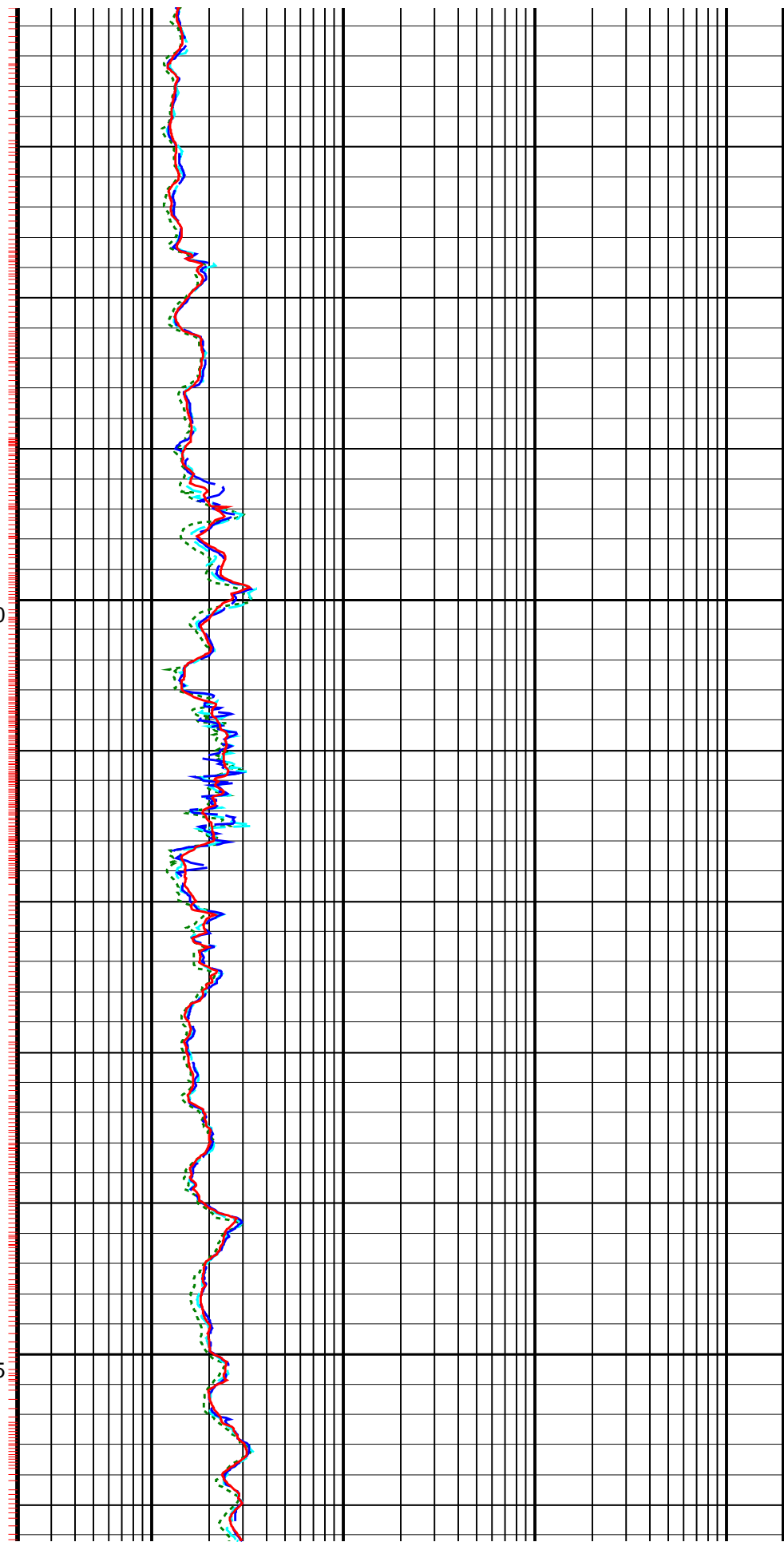
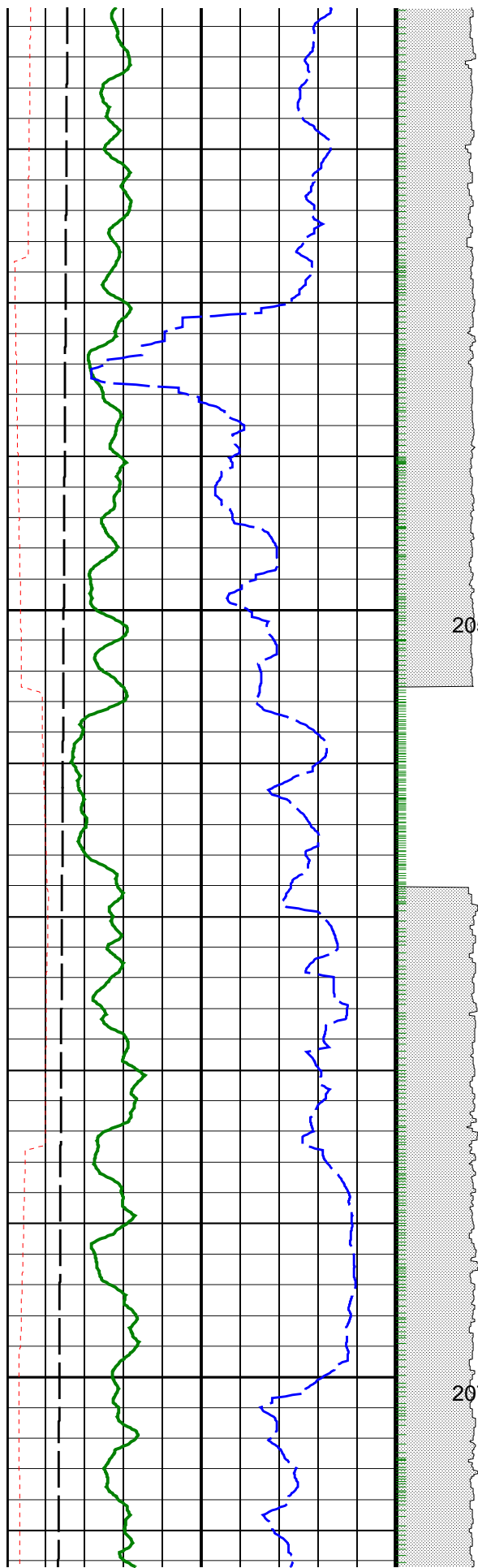


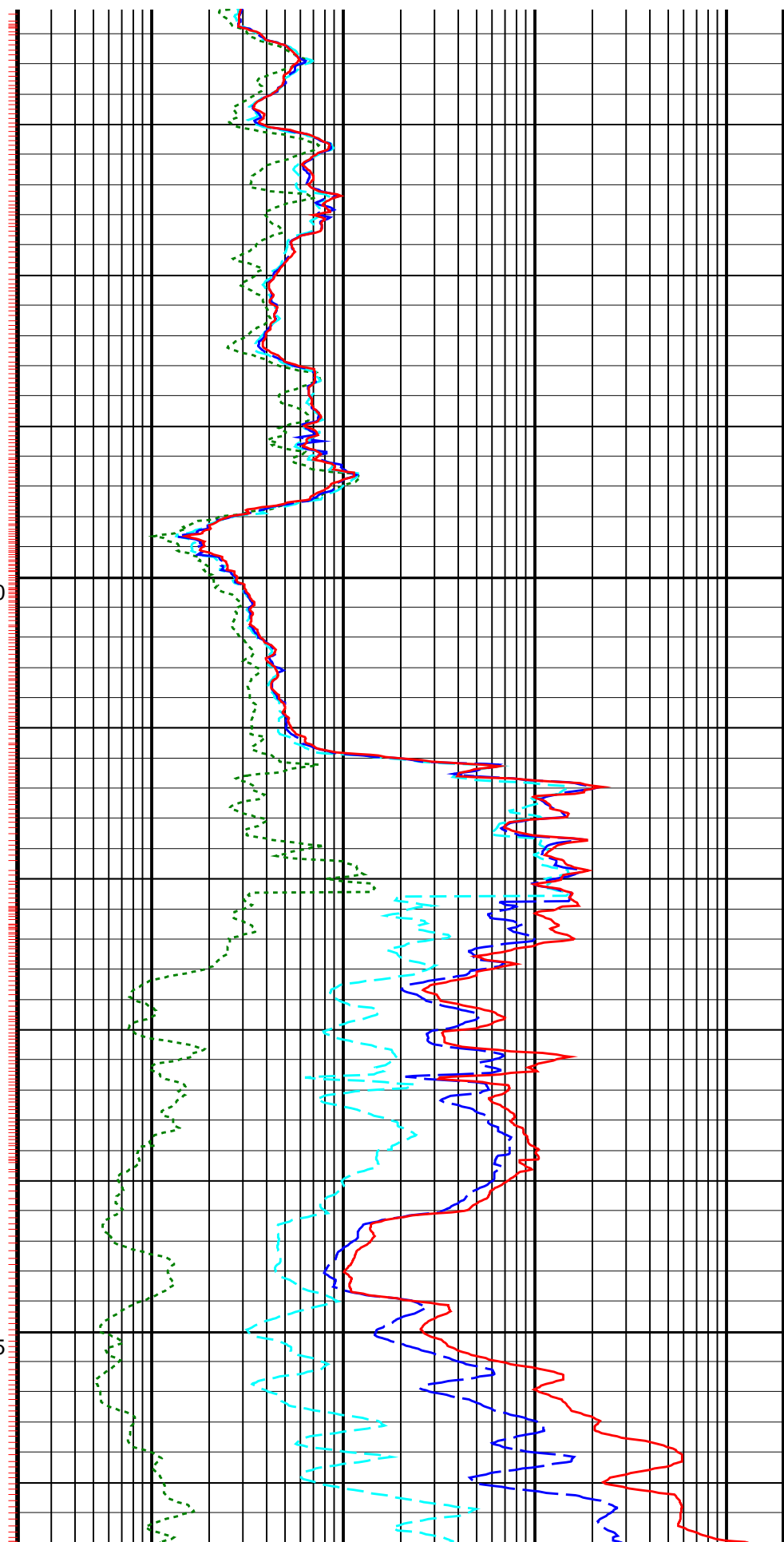
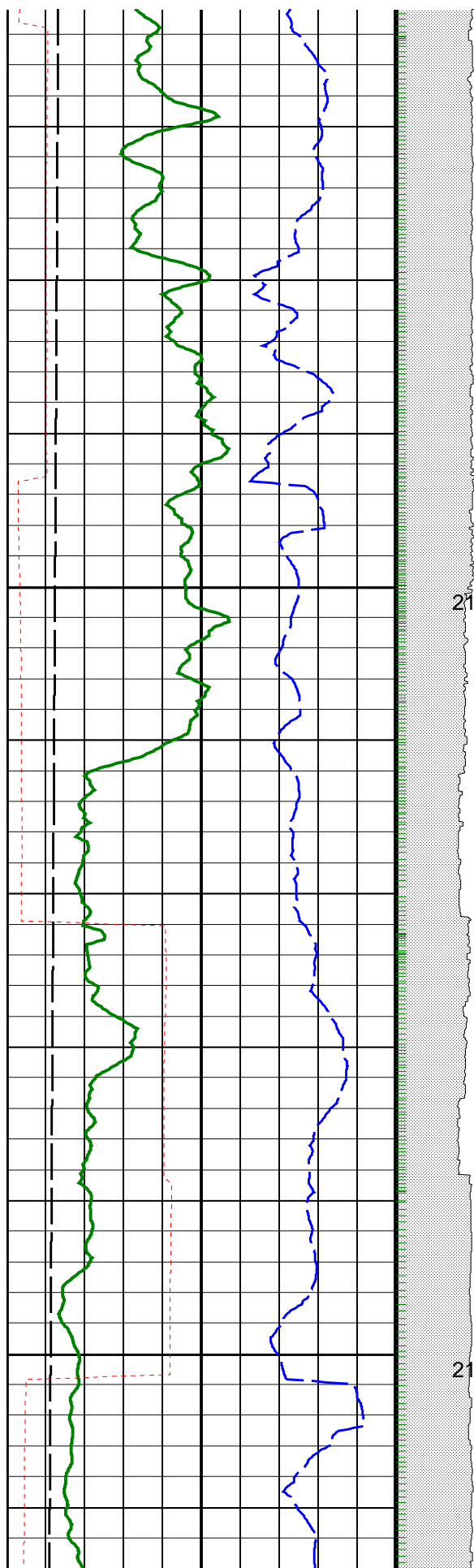


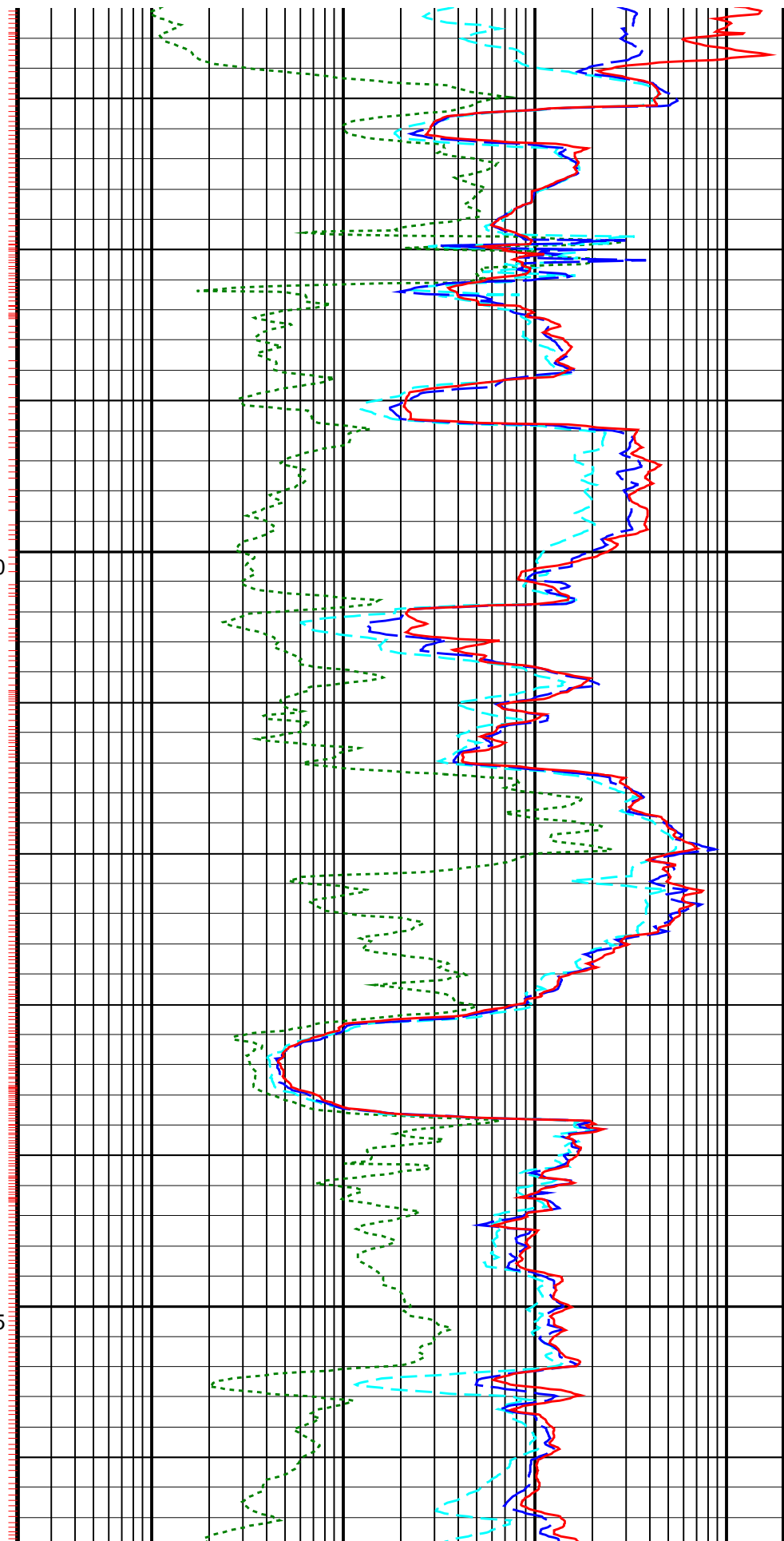
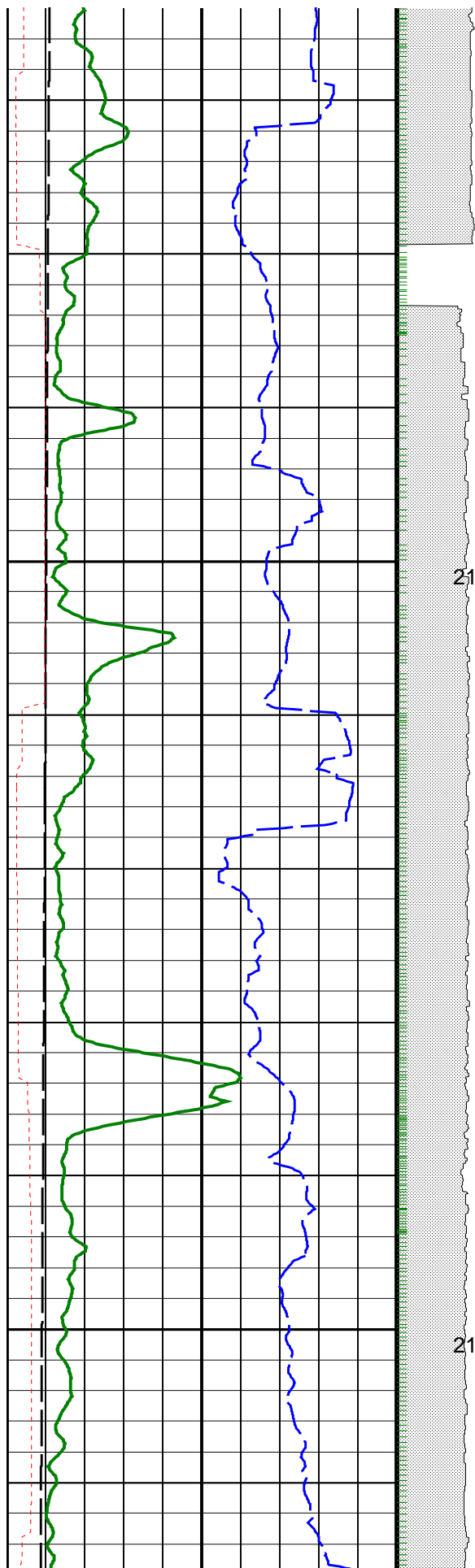
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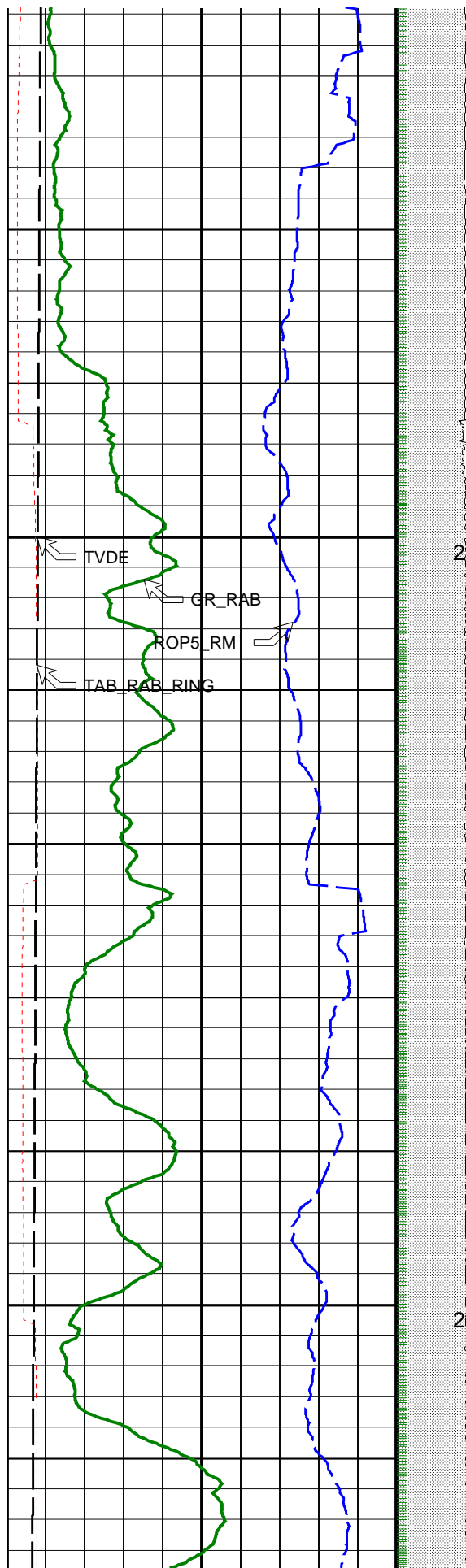
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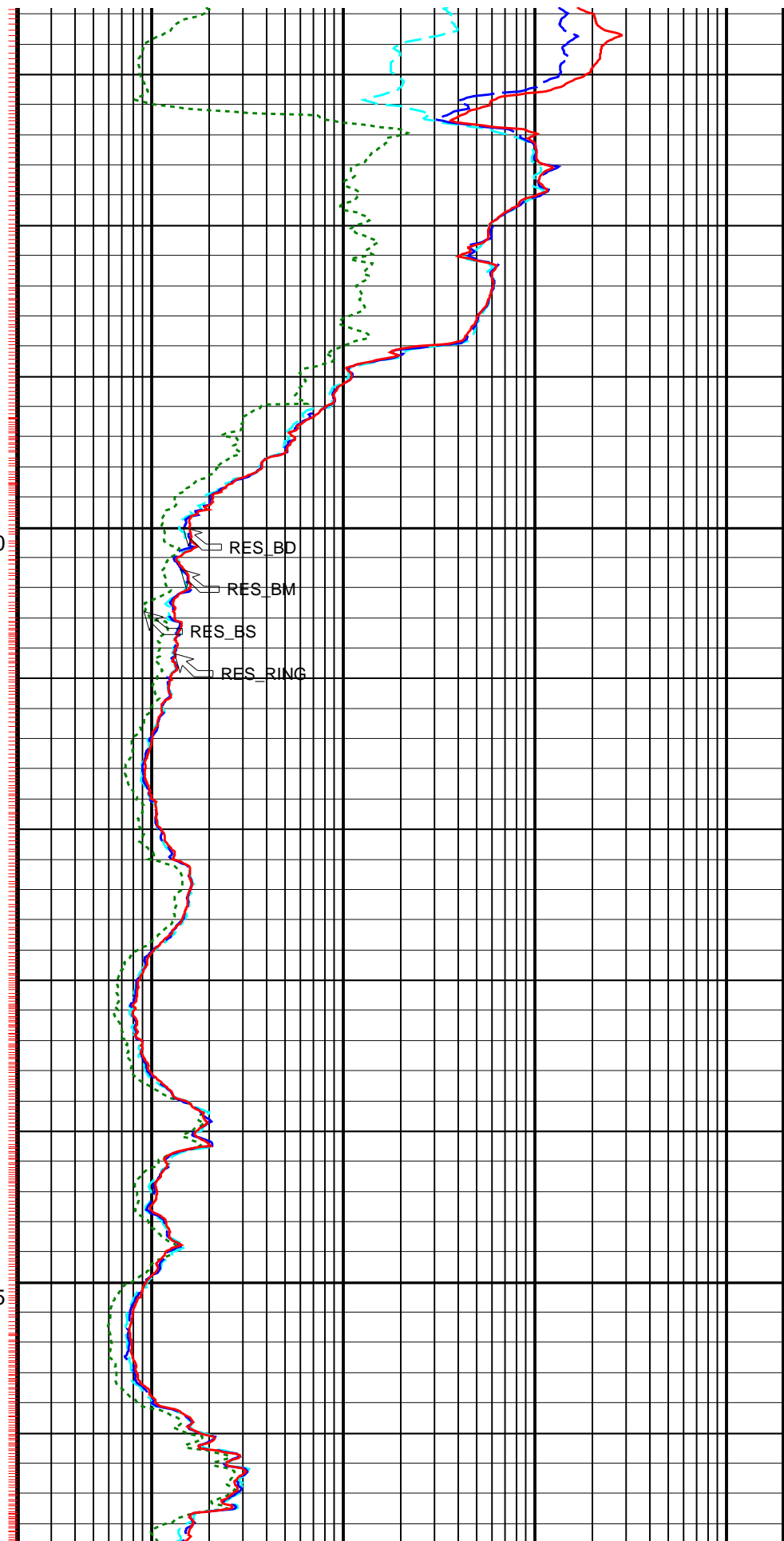


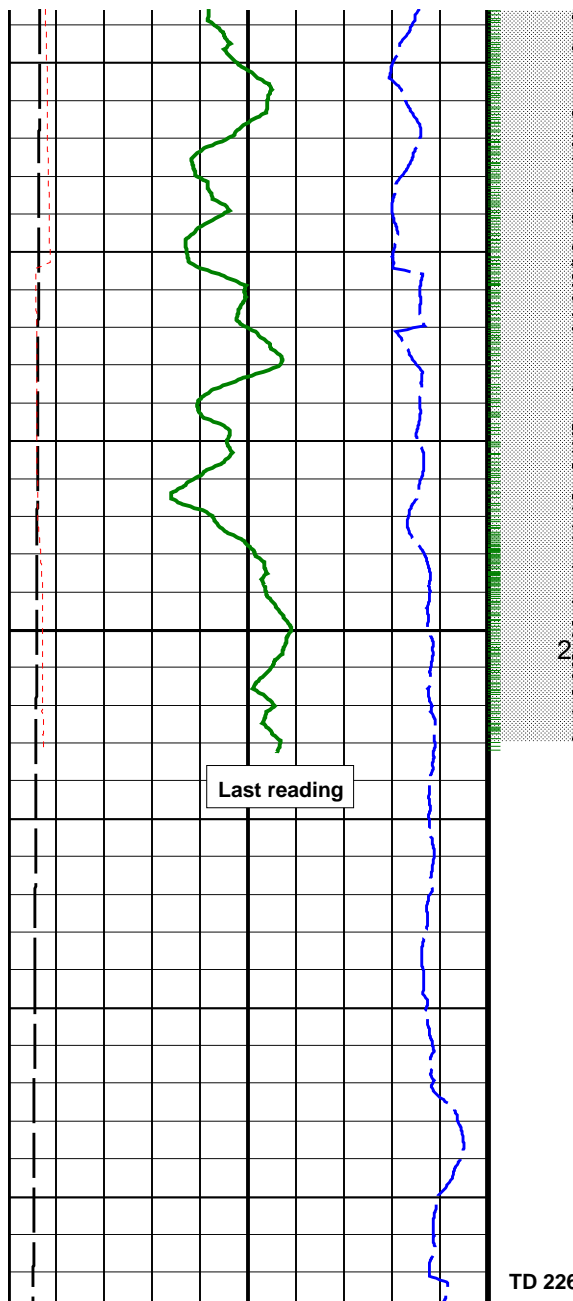




2200

2225





2250

Last reading

TD 2268 m

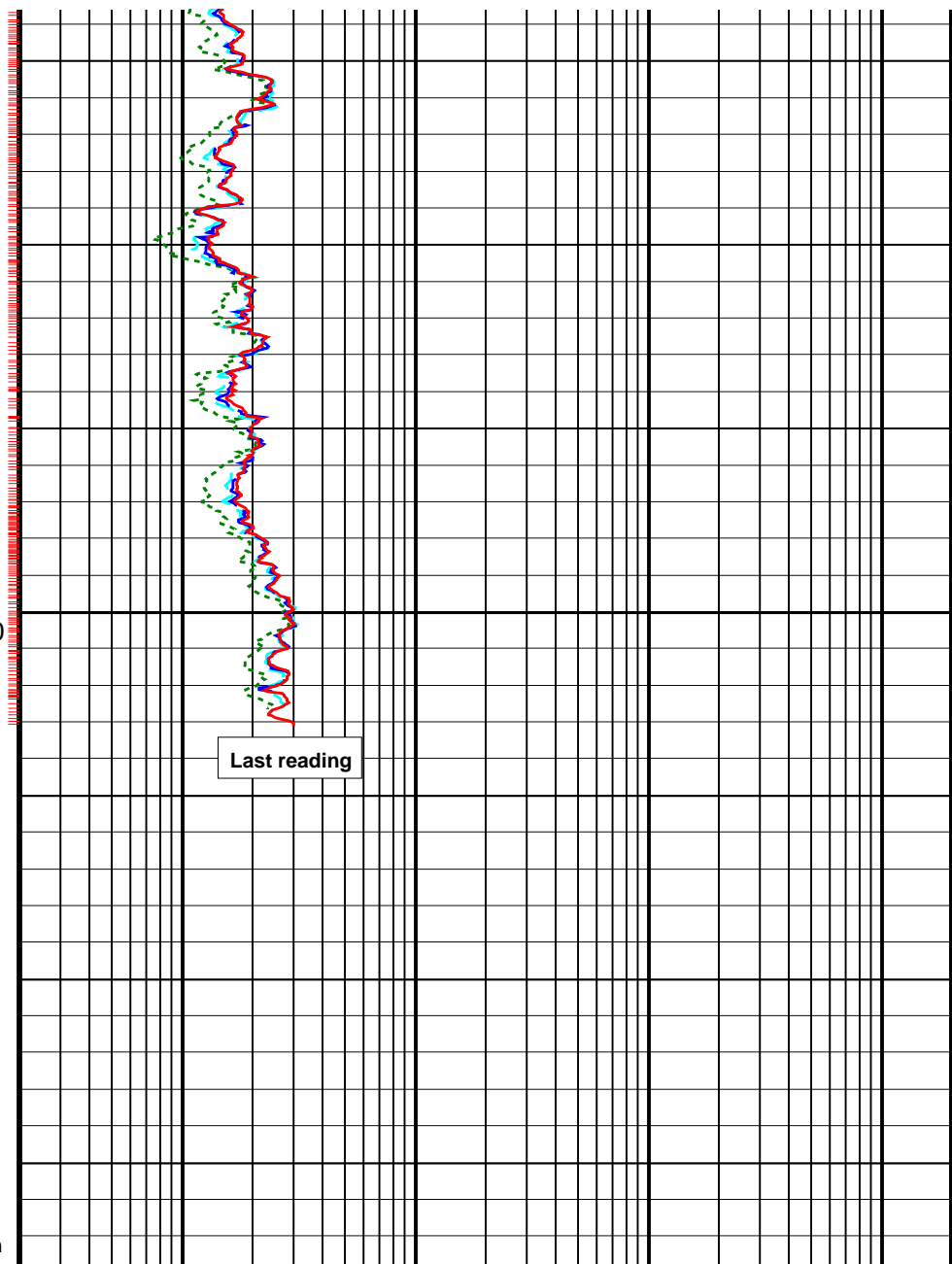
RAB  
Rotational  
Speed  
(RPM\_RAB)  
(RPM)  
0 200

True vertical Depth (TVDE)  
(M)  
1500 500

ROP: 5 Feet Average (ROP5\_RM)  
(M/HR)  
200 0

RAB Gamma Ray (GR\_RAB)  
(GAPI)  
0 200

Ring Resistivity Time After Bit (TAB\_RAB\_RING)  
(HR)  
0 10



Last reading

Shallow Button Resistivity (RES\_BS)  
(OHMM)  
0.2 2000

Medium Button Resistivity (RES\_BM)  
(OHMM)  
0.2 2000

Deep Button Resistivity (RES\_BD)  
(OHMM)  
0.2 2000

Ring Resistivity (RES\_RING)  
(OHMM)  
0.2 2000

#### PIP SUMMARY

- Gamma Ray Samples
- Ring Samples

# IDEAL Version: ID6\_1C\_10

IDF

RAB id6\_1c\_10 MWD\_10 id6\_1c\_10  
ADN id6\_1c\_10

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













Primary Equipment:  
Tool Name and Serial Number  
Calibration Status

RAB6 – CA 125  
Valid

Master: Calibration out of date 20-MAY-2001 9:46

### 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				1.001	Master				0.9962	Master				1.004
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				0.9992	Master				0.9975	Master				0.9926
0.9750 (Minimum)				1.000 (Nominal)	1.025 (Maximum)				0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)			
Phase	BTN shallow/T1 factor			Value	Phase	BTN shallow/T2 factor			Value	Phase	BTN medium/T1 factor			Value
Master				1.003	Master				0.9987	Master				1.006
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				1.001	Master				1.005	Master				1.000
0.9750 (Minimum)				1.000 (Nominal)	1.025 (Maximum)				0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)			

Master: Calibration out of date 20-MAY-2001 9:46

### 6.75-in. Resistivity At-the-Bit Calibration

#### Gamma Ray: Blanket

Phase	Gamma ray factor			Value
Master				0.8812
	0.7500 (Minimum)	1.000 (Nominal)	1.250 (Maximum)	



## ANADRILL

## SCHLUMBERGER

Survey report

24-Jan-2002 04:41:48

Page 1 of 3

Client.....: ESSO Australia Ltd.  
Field.....: Tuna

Well.....: WTN-W48 A  
API number.....:  
Engineer.....: T.Sims

Rig.....: NABORS 453  
STATE.....: Victoria

Spud date.....: 19-Jan-02  
Last survey date.....: 24-Jan-02  
Total accepted surveys...: 59  
MD of first survey.....: 628.00 m  
MD of last survey.....: 2268.00 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.....: -61.00 m  
KB above permanent.....: 34.70 m  
DF above permanent.....: 34.70 m

----- Vertical section origin-----  
Latitude (+N/S-).....: 0.00 m  
Departure (+E/W-).....: 0.00 m

----- Platform reference point-----  
Latitude (+N/S-).....: -5.06 m  
Departure (+E/W-).....: 55.86 m

Azimuth from rotary table to target: 64.64 degrees

----- Geomagnetic data -----  
Magnetic model.....: BGGM version 2000  
Magnetic date.....: 31-Dec-2001  
Magnetic field strength...: 1200.65 HCNT  
Magnetic dec (+E/W-).....: 13.18 degrees  
Magnetic dip.....: -68.71 degrees

----- MWD survey Reference Criteria -----  
Reference G.....: 1000.02 mGal  
Reference H.....: 1200.65 HCNT  
Reference Dip.....: -68.71 degrees  
Tolerance of G.....: (+/-) 2.50 mGal  
Tolerance of H.....: (+/-) 6.00 HCNT  
Tolerance of Dip.....: (+/-) 0.45 degrees

----- Corrections -----  
Magnetic dec (+E/W-).....: 13.18 degrees  
Grid convergence (+E/W-)..: -0.86 degrees  
Total az corr (+E/W-).....: 14.04 degrees  
(Total az corr = magnetic dec - grid conv)  
Sag applied (Y/N).....: No degree: 0.00

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ANADRILL SCHLUMBERGER Survey Report

24-Jan-2002 04:41:48

Page 2 of 3

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	628.00	25.50	95.71	0.00	607.03	144.98	-32.99	176.08	179.14	100.61	0.00	TIP	-
2	637.42	25.67	90.66	9.42	615.53	148.55	-33.22	180.14	183.17	100.45	2.32	MWD	6-axis
3	665.50	32.04	84.68	28.08	640.11	161.03	-32.59	193.65	196.38	99.55	2.49	MWD	6-axis
4	695.37	33.51	81.07	29.87	665.23	176.39	-30.58	209.69	211.91	98.30	0.82	MWD	6-axis
5	723.88	36.79	76.42	28.51	688.54	192.30	-27.35	225.77	227.42	96.91	1.48	MWD	6-axis
6	751.52	38.73	72.29	27.64	710.40	208.97	-22.78	242.06	243.13	95.38	1.15	MWD	6-axis
7	780.30	38.69	71.34	28.78	732.85	226.83	-17.16	259.16	259.72	93.79	0.21	MWD	6-axis
8	808.87	43.85	69.48	28.57	754.32	245.57	-10.83	276.90	277.11	92.24	1.86	MWD	6-axis
9	837.41	45.97	69.57	28.54	774.53	265.65	-3.78	295.77	295.80	90.73	0.74	MWD	6-axis
10	865.79	48.92	67.80	28.38	793.72	286.50	3.82	315.24	315.26	89.31	1.14	MWD	6-axis
11	893.98	52.42	65.60	28.19	811.59	308.29	12.46	335.26	335.49	87.87	1.38	MWD	6-axis
12	923.17	55.44	63.56	29.19	828.78	331.87	22.59	356.56	357.28	86.38	1.18	MWD	6-axis
13	952.07	59.26	60.72	28.90	844.37	356.18	33.97	378.06	379.58	84.87	1.56	MWD	6-axis
14	980.67	61.56	59.44	28.60	858.49	380.96	46.37	399.61	402.29	83.38	0.89	MWD	6-axis
15	1009.06	62.87	59.54	28.39	871.72	405.98	59.12	421.25	425.38	82.01	0.46	MWD	6-axis
16	1037.57	64.15	59.67	28.51	884.44	431.40	72.03	443.26	449.07	80.77	0.45	MWD	6-axis
17	1066.26	63.79	59.11	28.69	897.03	457.07	85.16	465.45	473.17	79.63	0.22	MWD	6-axis
18	1094.51	63.16	58.43	28.25	909.64	482.21	98.27	487.06	496.87	78.59	0.31	MWD	6-axis
19	1122.19	61.98	59.38	27.68	922.40	506.66	110.95	508.10	520.07	77.68	0.52	MWD	6-axis
20	1150.39	61.14	59.16	28.20	935.83	531.34	123.63	529.41	543.65	76.86	0.31	MWD	6-axis
21	1178.94	62.03	60.19	28.55	949.41	556.36	136.30	551.09	567.69	76.11	0.44	MWD	6-axis
22	1207.15	63.15	60.28	28.21	962.40	581.33	148.73	572.83	591.82	75.44	0.40	MWD	6-axis
23	1236.27	62.43	59.97	29.12	975.71	607.15	161.63	595.28	616.83	74.81	0.26	MWD	6-axis
24	1265.12	62.15	59.81	28.85	989.13	632.60	174.45	617.38	641.55	74.22	0.11	MWD	6-axis
25	1293.99	61.08	59.79	28.87	1002.85	657.91	187.22	639.33	666.18	73.68	0.37	MWD	6-axis
26	1323.58	61.56	59.93	29.59	1017.05	683.78	200.26	661.78	691.41	73.16	0.17	MWD	6-axis
27	1351.66	61.96	60.22	28.08	1030.34	708.44	212.60	683.22	715.53	72.72	0.17	MWD	6-axis
28	1380.99	62.87	60.44	29.33	1043.92	734.36	225.47	705.80	740.94	72.28	0.32	MWD	6-axis
29	1410.08	62.26	60.33	29.09	1057.32	760.10	238.22	728.25	766.22	71.89	0.21	MWD	6-axis
30	1439.00	62.01	60.44	28.92	1070.84	785.60	250.86	750.48	791.29	71.52	0.09	MWD	6-axis

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ANADRILL SCHLUMBERGER Survey Report

24-Jan-2002 04:41:48

Page 3 of 3

Seq	Measured	Incl	Azimuth	Course	TVD	Vertical	Displ	Displ	Total	At	DLS	Srvy	Tool
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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	1468.28	60.88	60.22	29.28	1084.84	811.25	263.59	772.82	816.54	71.17	0.39	MWD	6-axis
32	1496.90	62.33	59.64	28.62	1098.45	836.34	276.20	794.61	841.25	70.83	0.54	MWD	6-axis
33	1525.62	63.33	59.19	28.72	1111.56	861.78	289.21	816.61	866.31	70.50	0.38	MWD	6-axis
34	1554.18	62.76	59.51	28.56	1124.51	887.13	302.18	838.51	891.30	70.18	0.22	MWD	6-axis
35	1583.01	62.03	59.58	28.83	1137.87	912.58	315.13	860.53	916.42	69.89	0.25	MWD	6-axis
36	1612.06	62.03	59.85	29.05	1151.49	938.14	328.07	882.68	941.68	69.61	0.08	MWD	6-axis
37	1641.08	63.64	58.36	29.02	1164.74	963.84	341.33	904.84	967.08	69.33	0.72	MWD	6-axis
38	1670.28	63.05	58.63	29.20	1177.84	989.78	354.97	927.09	992.72	69.05	0.22	MWD	6-axis
39	1699.28	62.23	58.75	29.00	1191.17	1015.40	368.35	949.09	1018.07	68.79	0.29	MWD	6-axis
40	1728.42	62.83	59.01	29.14	1204.61	1041.12	381.71	971.23	1043.54	68.54	0.22	MWD	6-axis
41	1757.48	62.30	59.03	29.06	1218.00	1066.79	394.99	993.34	1068.99	68.32	0.18	MWD	6-axis
42	1785.41	61.38	59.30	27.93	1231.18	1091.30	407.61	1014.48	1093.31	68.11	0.34	MWD	6-axis
43	1814.52	61.98	59.01	29.11	1244.99	1116.81	420.75	1036.48	1118.63	67.91	0.22	MWD	6-axis
44	1843.43	61.56	59.12	28.91	1258.66	1142.16	433.84	1058.33	1143.80	67.71	0.15	MWD	6-axis
45	1871.96	62.19	59.37	28.53	1272.11	1167.21	446.71	1079.95	1168.69	67.53	0.23	MWD	6-axis
46	1900.95	61.63	59.56	28.99	1285.76	1192.68	459.70	1101.98	1194.02	67.36	0.20	MWD	6-axis
47	1929.89	62.51	59.14	28.94	1299.32	1218.14	472.74	1123.98	1219.35	67.19	0.33	MWD	6-axis
48	1958.60	61.74	59.42	28.71	1312.74	1243.41	485.70	1145.79	1244.49	67.03	0.28	MWD	6-axis
49	1987.71	62.93	59.29	29.11	1326.26	1269.08	498.85	1167.98	1270.04	66.87	0.41	MWD	6-axis
50	2016.29	62.64	59.41	28.58	1339.33	1294.39	511.80	1189.84	1295.25	66.73	0.11	MWD	6-axis
51	2045.59	61.94	59.77	29.30	1352.95	1320.23	524.93	1212.21	1320.99	66.59	0.26	MWD	6-axis
52	2074.80	63.76	59.47	29.21	1366.28	1346.12	538.08	1234.63	1346.79	66.45	0.63	MWD	6-axis
53	2103.81	63.69	60.18	29.01	1379.12	1372.04	551.15	1257.12	1372.63	66.33	0.22	MWD	6-axis
54	2130.96	62.44	60.29	27.15	1391.42	1396.17	563.17	1278.13	1396.70	66.22	0.46	MWD	6-axis
55	2160.05	63.95	59.90	29.09	1404.54	1422.05	576.11	1300.64	1422.52	66.11	0.53	MWD	6-axis
56	2189.53	64.50	59.77	29.48	1417.36	1448.51	589.45	1323.59	1448.91	65.99	0.19	MWD	6-axis
57	2218.85	65.72	59.79	29.32	1429.70	1475.01	602.84	1346.57	1475.35	65.88	0.42	MWD	6-axis
58	2243.88	66.47	59.87	25.03	1439.84	1497.81	614.34	1366.35	1498.11	65.79	0.30	MWD	6-axis
59	2268.00	66.50	59.90	24.12	1449.46	1519.85	625.44	1385.49	1520.11	65.70	0.02	MWD	Projection

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Company: **ESSO Australia Ltd.**

Well: **WTN-W48 A**

Field: **Tuna**

Rig: **NABORS 453**

State: **Victoria**

**IDEAL** services from **Anadrill**

**GeoVISION Resistivity  
1 : 200 Measured Depth  
Recorded Mode**

**Schlumberger**