

MWD - Gamma Ray

Schlumberger

Recorded Mode, Composite

Company: Trias Westland B.V.

Well: NLW-GT-02-S1

Field: Naaldwijk

Rig Name: KCA Deutag T-207

Country: The Netherlands

Latitude: 51° 59' 26.962" N

Longitude: 4° 14' 22.357" E

UWID: 17HOL0035

Rig Name: KCA Deutag T-207

Rig Type: Land Rig

FL: NLW-GT-02-S1

FL1: Section: 17 1/2 in.

FL2: Job no.: 17HOL0035

Log Measured From: - Drill Floor: 8.42 m

Reference Datum - Mean Sea Level/Permanent Datum: - NAP
Ground Level: 0.90 m

Acquisition Dates: 06-Apr-2018 -- 17-Apr-2018

Log Interval: 1081.00(m) -- 2386.00(m)

Index Types: Measured Depth

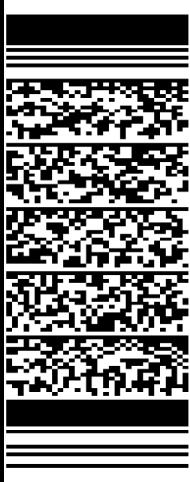
Index Scales: 1:200, 1:1000

Depth Source: Driller's Depth

Depth Sensor: 3rd Party Depth

Print Type: Final

Spud Date: 08-Mar-2018



Disclaimer

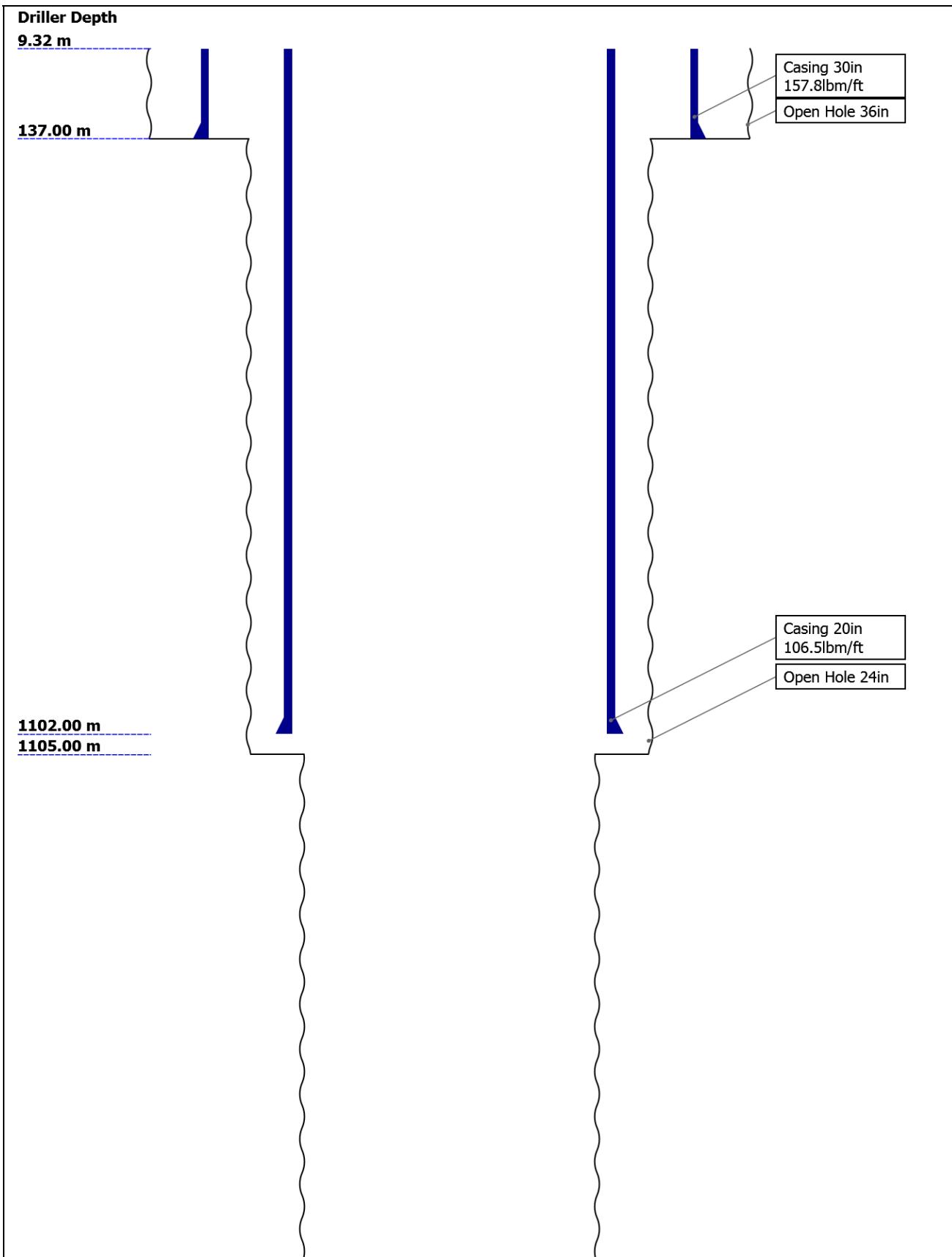
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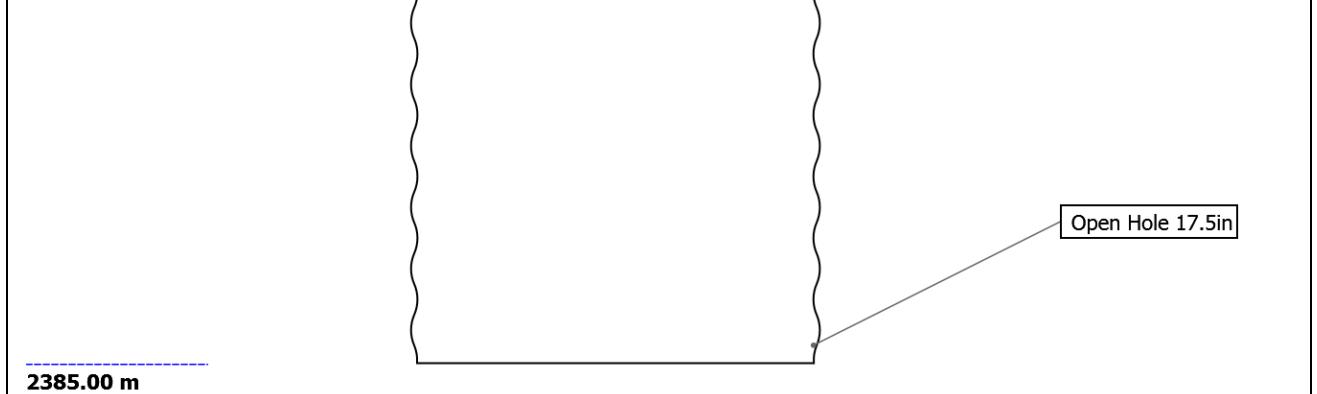
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Well Sketch





Borehole Size/Casing Record

Bit						
Bit Size (in)	36	24	17.5			
Top Driller (m)	9.32	137	1105			
Bottom Driller (m)	137	1105	2385			
Casing						
Size (in)	30	20				
Weight (lbm/ft)	157.8	106.5				
Inner Diameter (in)	29.021	19				
Grade	X52	K55				
Top Driller (m)	9.32	9.32				
Bottom Driller (m)	137	1102				

Operational Run Summary

Parameter (unit)	Run 4	Run 5				
Date Log Started	06-Apr-2018	13-Apr-2018				
Time Log Started	15:01:35	10:30:25				
Date Log Finished	13-Apr-2018	17-Apr-2018				
Time Log Finished	09:39:39	09:51:19				
Bit Size (in)	17.500	17.500				
Bit Start Depth (m)	1264.00	2186.00				
Bit Stop Depth (m)	2186.00	2385.00				
Top Log Interval (m)	1081.89	2175.05				
Bottom Log Interval (m)	2175.05	2374.85				
Max Hole Deviation (deg)	28.89	33.86				
Azimuth of Max Deviation (deg)	99.89	108.96				
Logging Unit Number	N/A	N/A				
Logging Unit Location						
Recorded By	M. Ushakov	M. Ushakov				
Witnessed By	P. Gwalter	P. Gwalter				
Service Order Number	17HOL0035	17HOL0035				

Parameter(unit)	Run 4	Run 5			
Fluid Type	Water	Water			
Fluid Name	KCl Polymer	KCl Polymer			
Max Recorded Temperatures (degC)	74.5	82.4			
Source of Sample	Active Tank	Active Tank			
Salinity (ppm)	73311.97	115375			
Density (g/cm3)	1.2	1.27			
Funnel Viscosity (s)	55	50			
Fluid Loss (cm3)	4	4.5			
PH	9.5	9.5			
Source RMF	Calculated	Calculated			
RMC	Calculated	Calculated			
RM @ Meas Temp (ohm.m@degC)	0.1 @ 20	0.1 @ 20			
RMF @ Meas Temp (ohm.m@degC)	0.08 @ 20	0.07 @ 20			
RMC @ Meas Temp (ohm.m@degC)	0.16 @ 20	0.14 @ 20			
RM @ BHT (ohm.m@degC)	0.04 @ 74.5	0.04 @ 82.4			
RMF @ BHT (ohm.m@degC)	0.03 @ 74.5	0.03 @ 82.4			
RMC @ BHT (ohm.m@degC)	0.07 @ 74.5	0.06 @ 82.4			
Total Solid (%)					
High Gravity Solids (%)					

Remarks and Equipment Summary

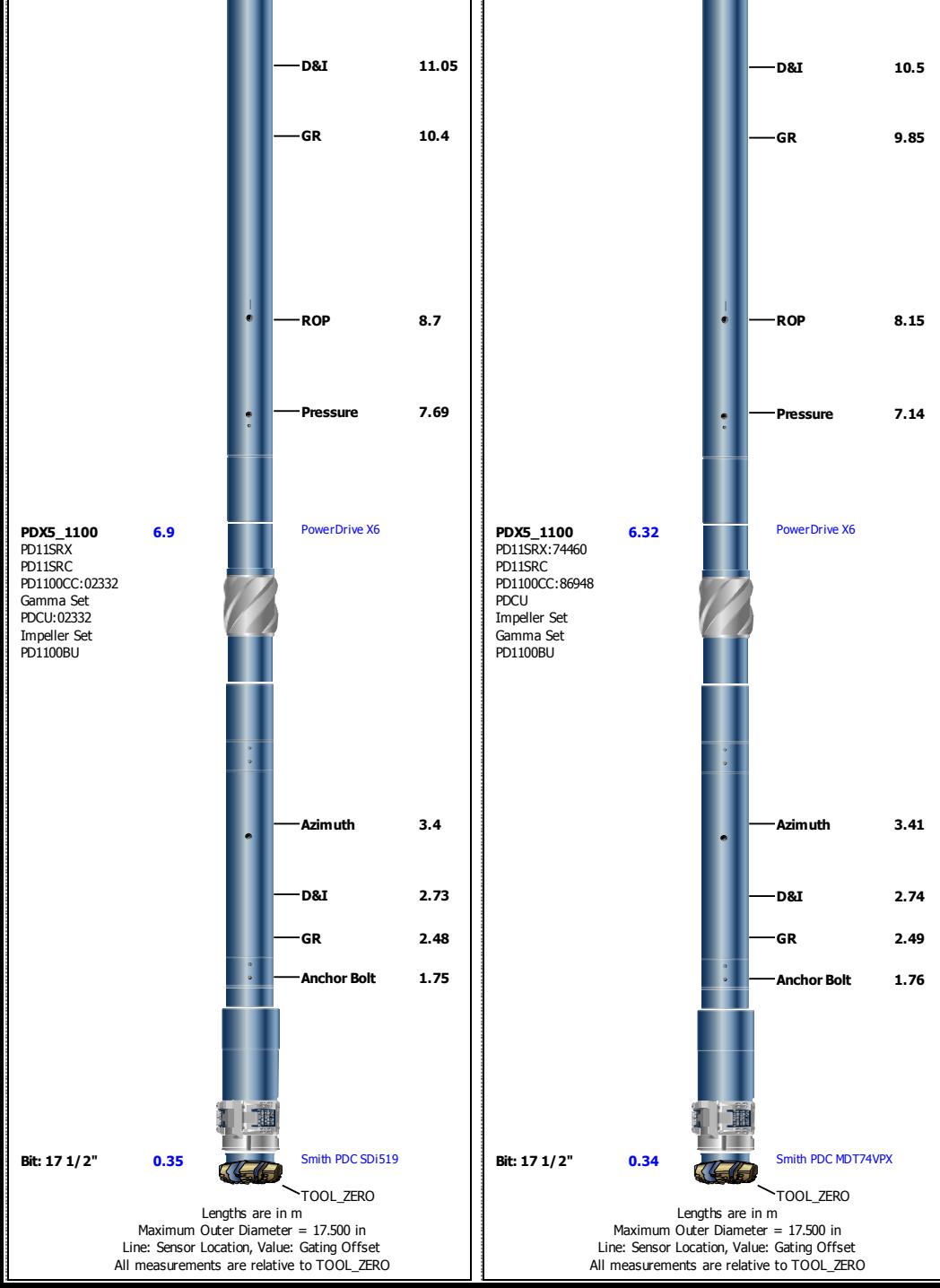
All depths referenced to driller's depth. See EOWR for depth tracking details.

All data from tool memory. All data acquired while drilling except where noted.

Gamma Ray measurement is environmentally corrected for mud weight, bit size, collar thickness and Potassium content.

Run 4: Remarks	Run 5: Remarks
Run 4 POOH at 2186 m to change BHA.	Run 5 and 17 1/2 in. section TD at 2385 m.
Data acquired while reaming down from 2108 to 2110.9 m bit depth due to unit power shut do	

Run 4: Toolstring		Run 5: Toolstring	
Equip name TELE900:E6072	Length 15.37	Equip name Stab: 9 1/2":OWS -STAB-9282	Length 17.21
MSSU900:68362 Upper Extender MDC900:E6072 MMA:4042 MDI:2141 PMGR:223 PMEA:3830 MTA:2309 MTK900:2311 APWD:0124 MSSD900:68888A Lower Extender:BA2 3-11-12	MP name TeleScope	Offset	MP name 17 7/32 in. Non-Mag Stab



17.5 in. Section Composite

MWD - Gamma Ray 1:200 MD

Software Version			
Acquisition System	Version		
Maxwell 2018 SP1	8.1.99839.3100		
Tool Interface	System Version		
HSPM	20.3c.062		
Tool Elements	Description	Software Version	Firmware Version
PMGR	TeleScope - M10 Gamma Ray Assembly	8.1.99839.3100	V14.0
DRILLING_SURFACE	DRILLING_SURFACE	8.1.99839.3100	

Composite Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	Include Parallel Data
Run 4	Drilling	Down	1263.70 m	2185.64 m	06-Apr-2018 15:01:35	13-Apr-2018 09:39:39	Yes
R_4	R_4	R_4	1263.70	2185.64	06-Apr-2018 15:01:35	13-Apr-2018 09:39:39	Y

Run 4	Ream Down 1	Down	1092.33 m	1264.01 m	07-Apr-2018 08:59:11	07-Apr-2018 16:00:37	Yes
Run 5	Ream Down 1	Down	2174.34 m	2185.64 m	14-Apr-2018 02:05:50	14-Apr-2018 02:39:27	Yes
Run 5	Drilling	Down	2185.37 m	2384.81 m	13-Apr-2018 10:30:25	17-Apr-2018 09:51:19	Yes

All depths are referenced to toolstring zero

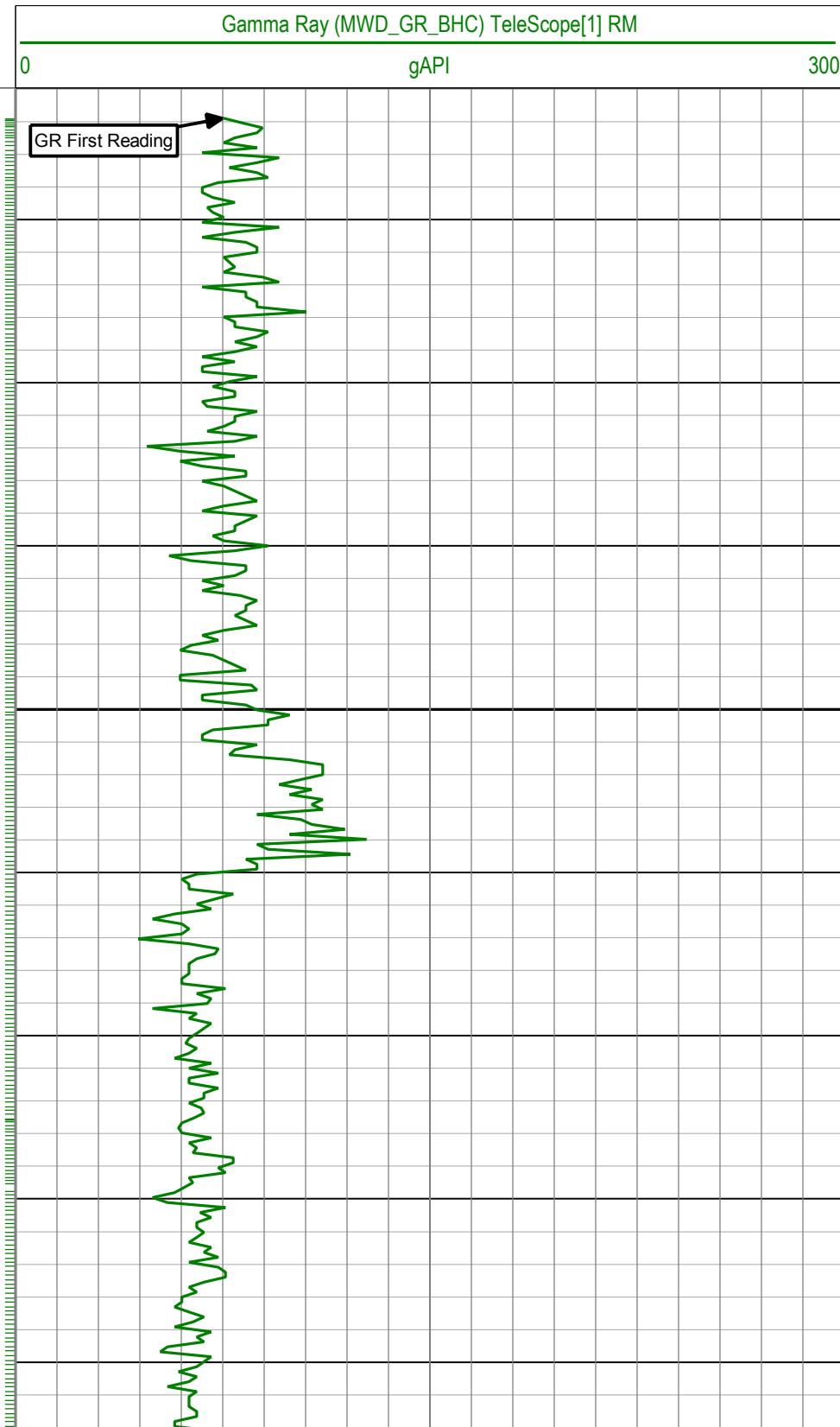
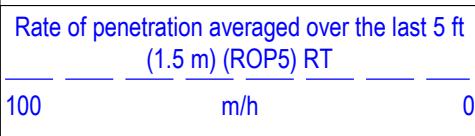
Log

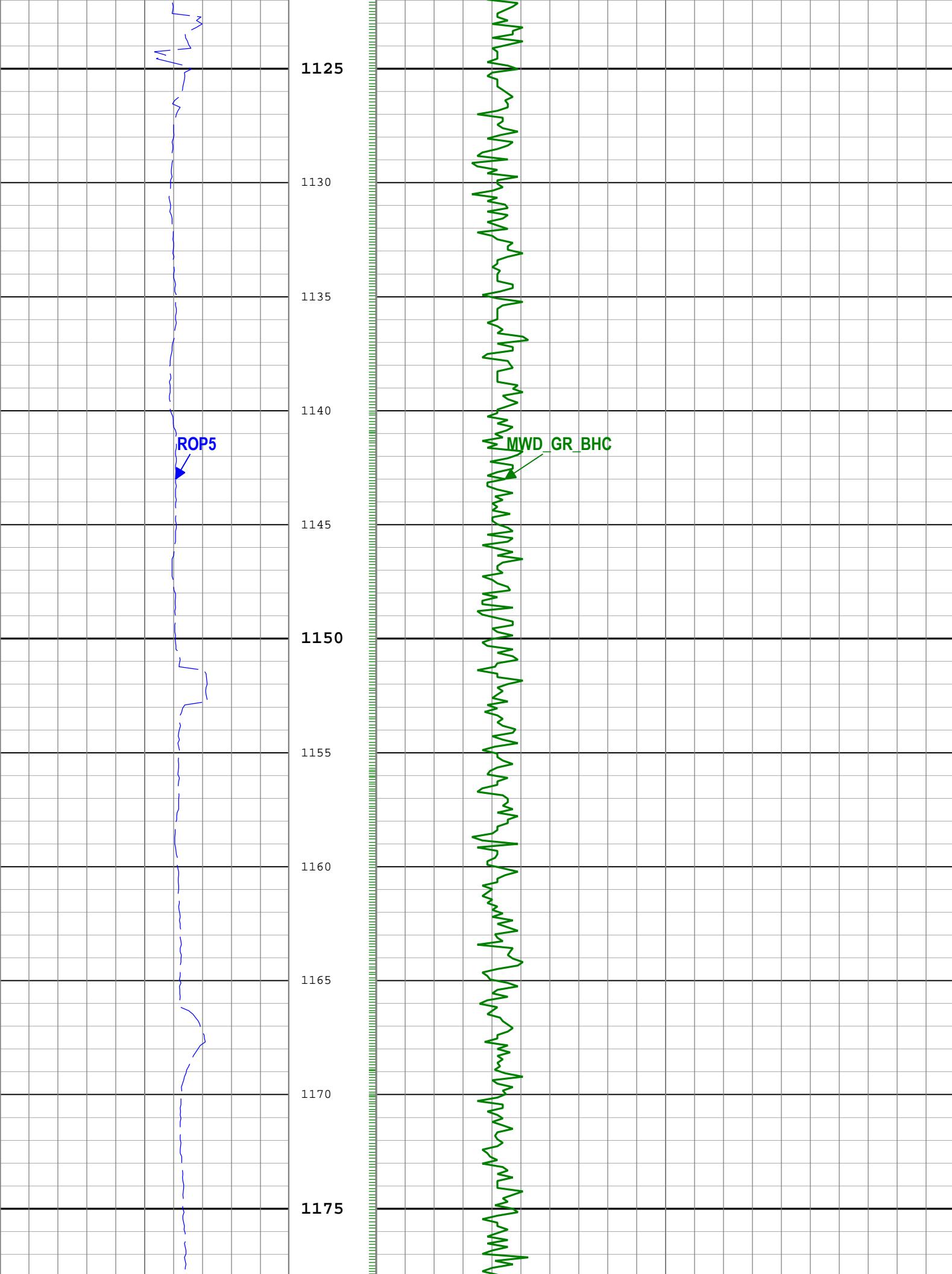
Company:Trias Westland B.V. Well:NLW-GT-02-S1

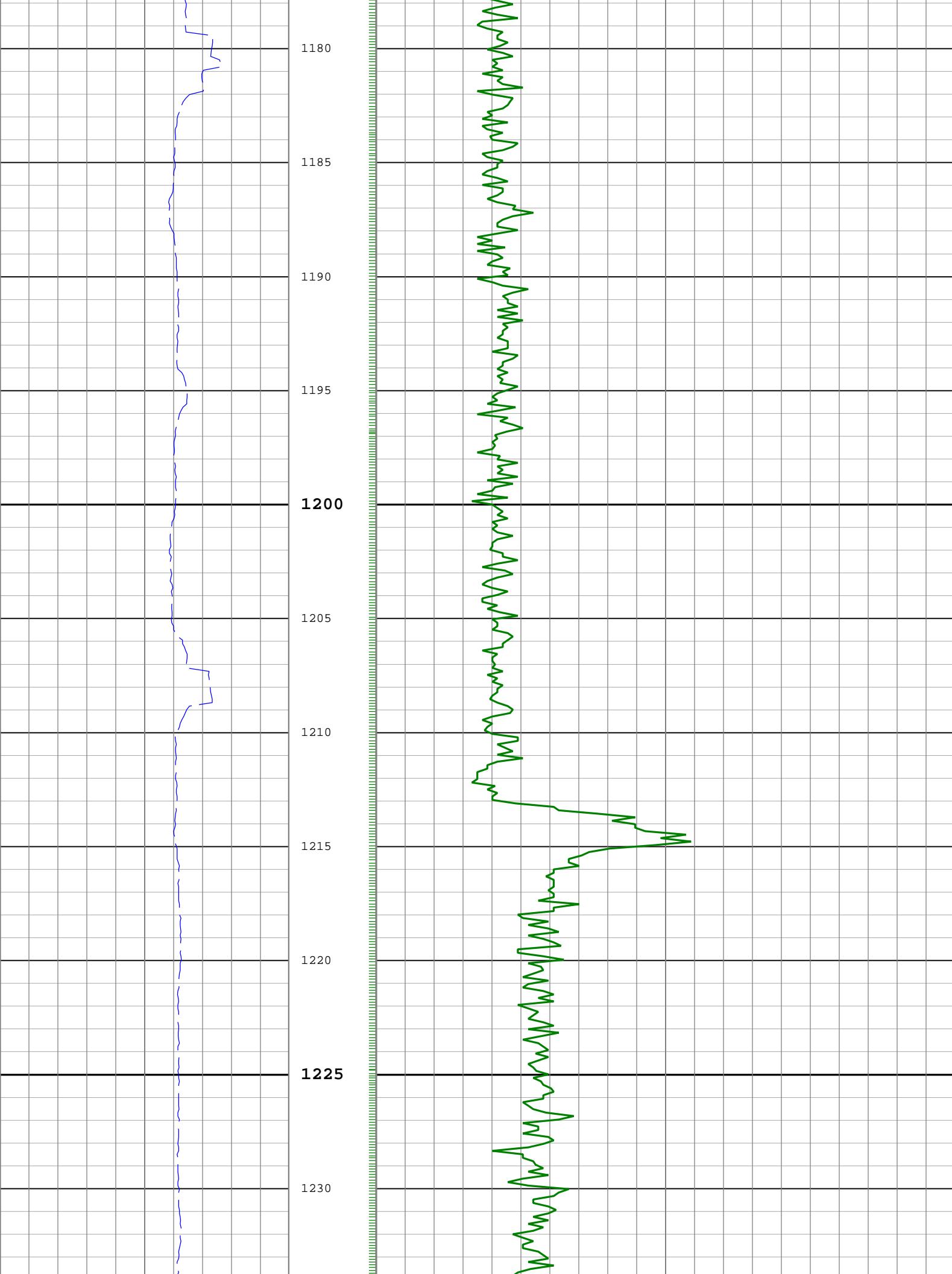
17.5 in. Section Composite:S108

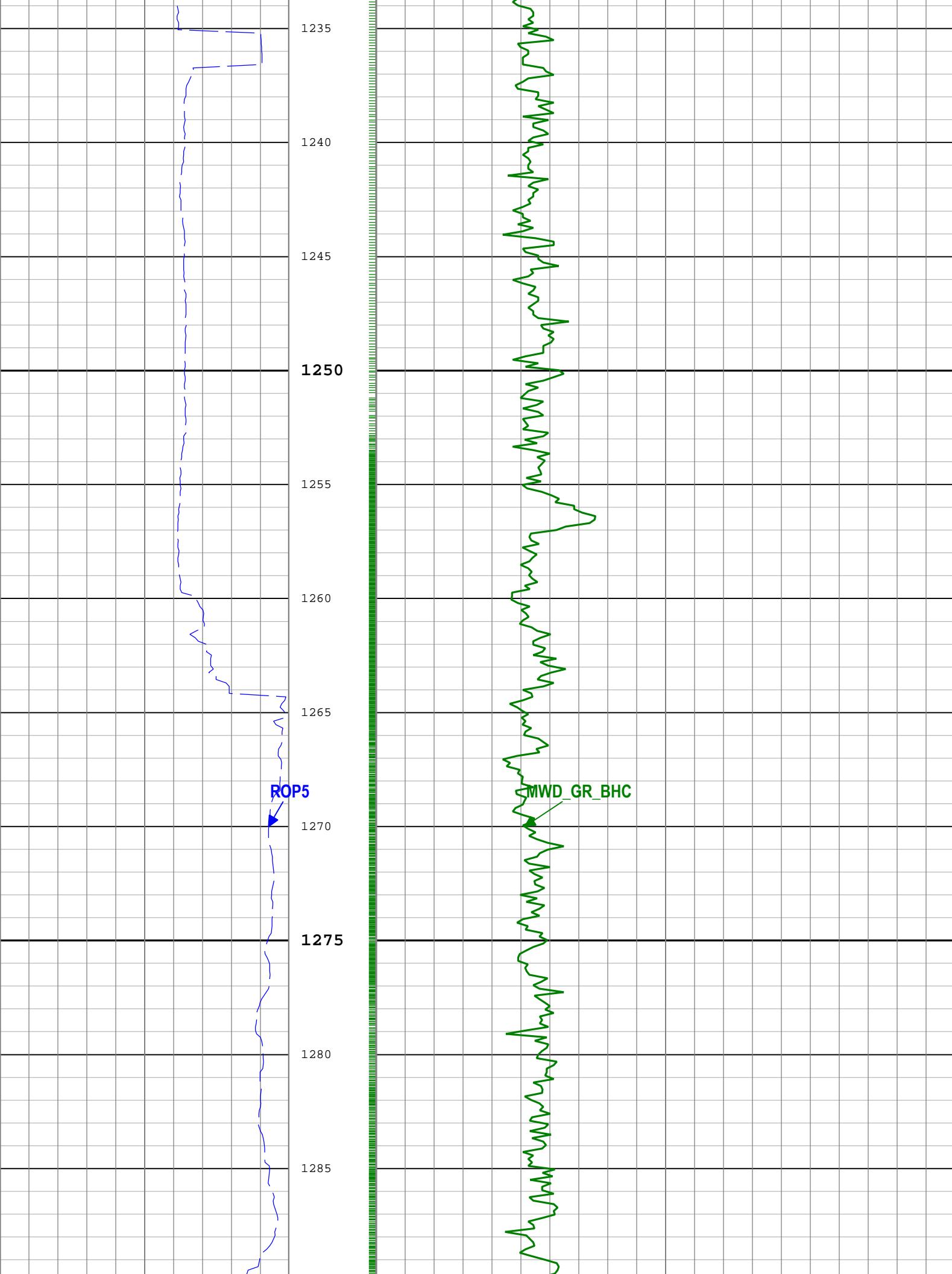
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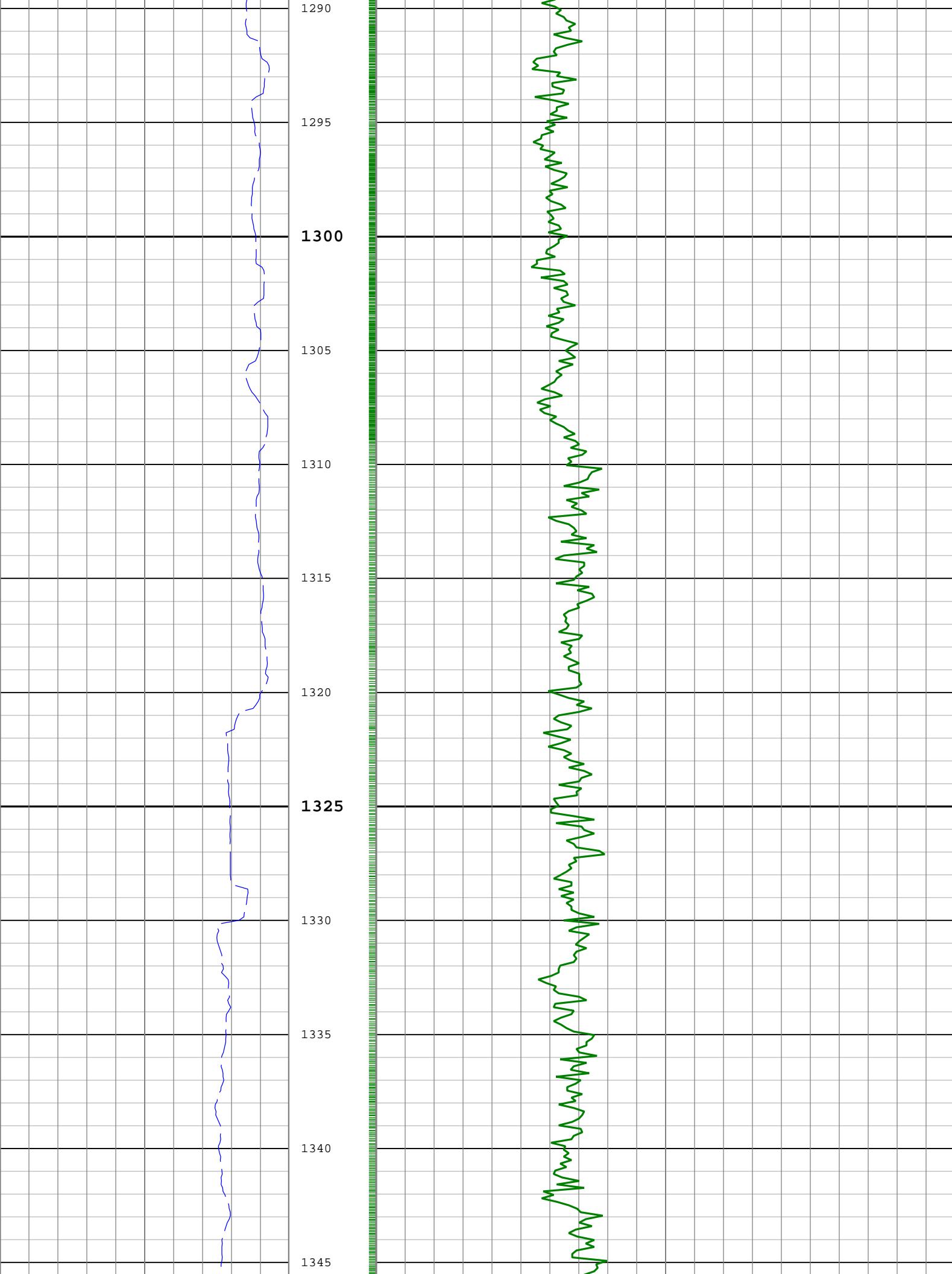
TICKS_GR - Gamma Ray Tick Marks TeleScope[1] RM

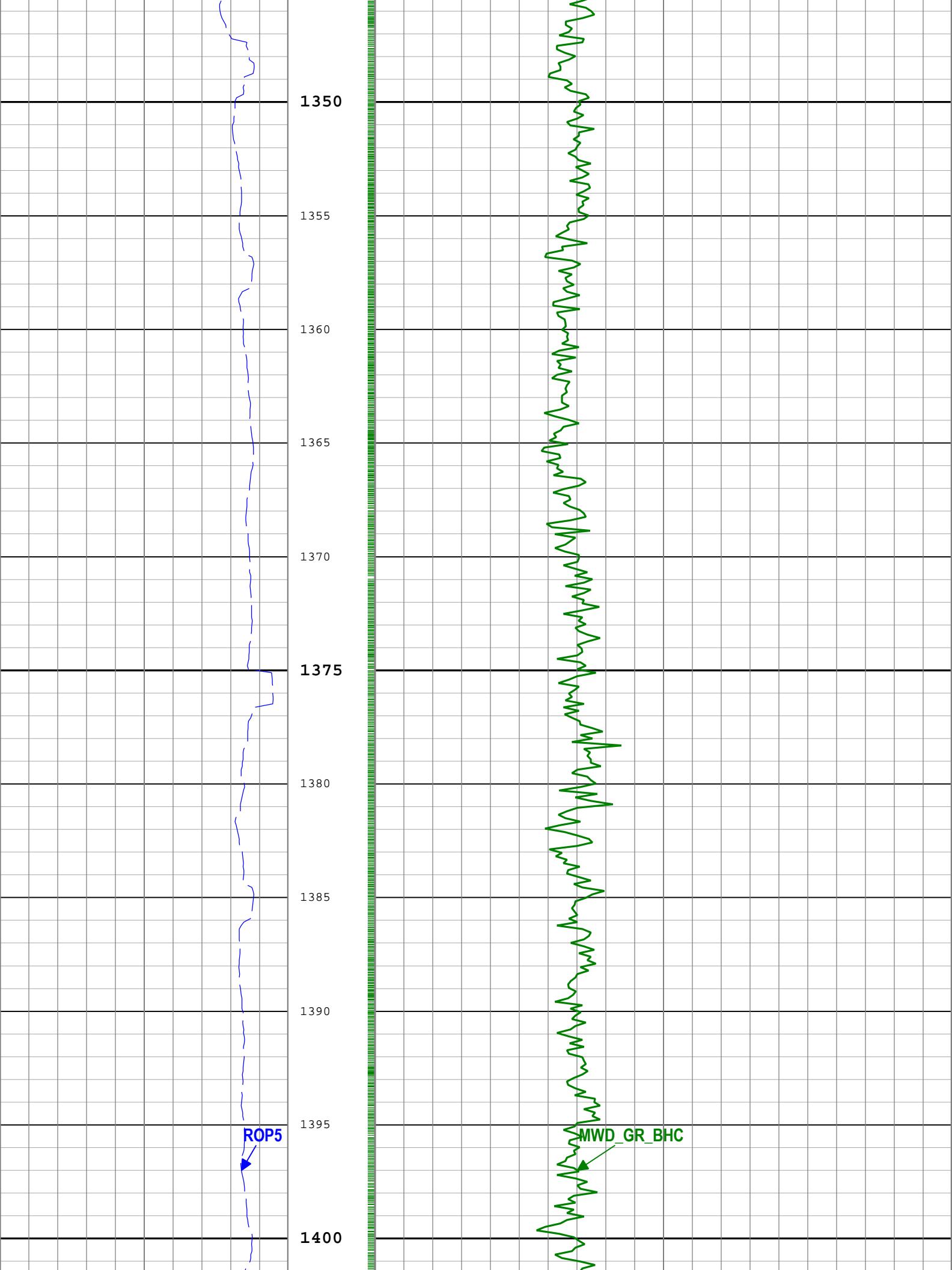


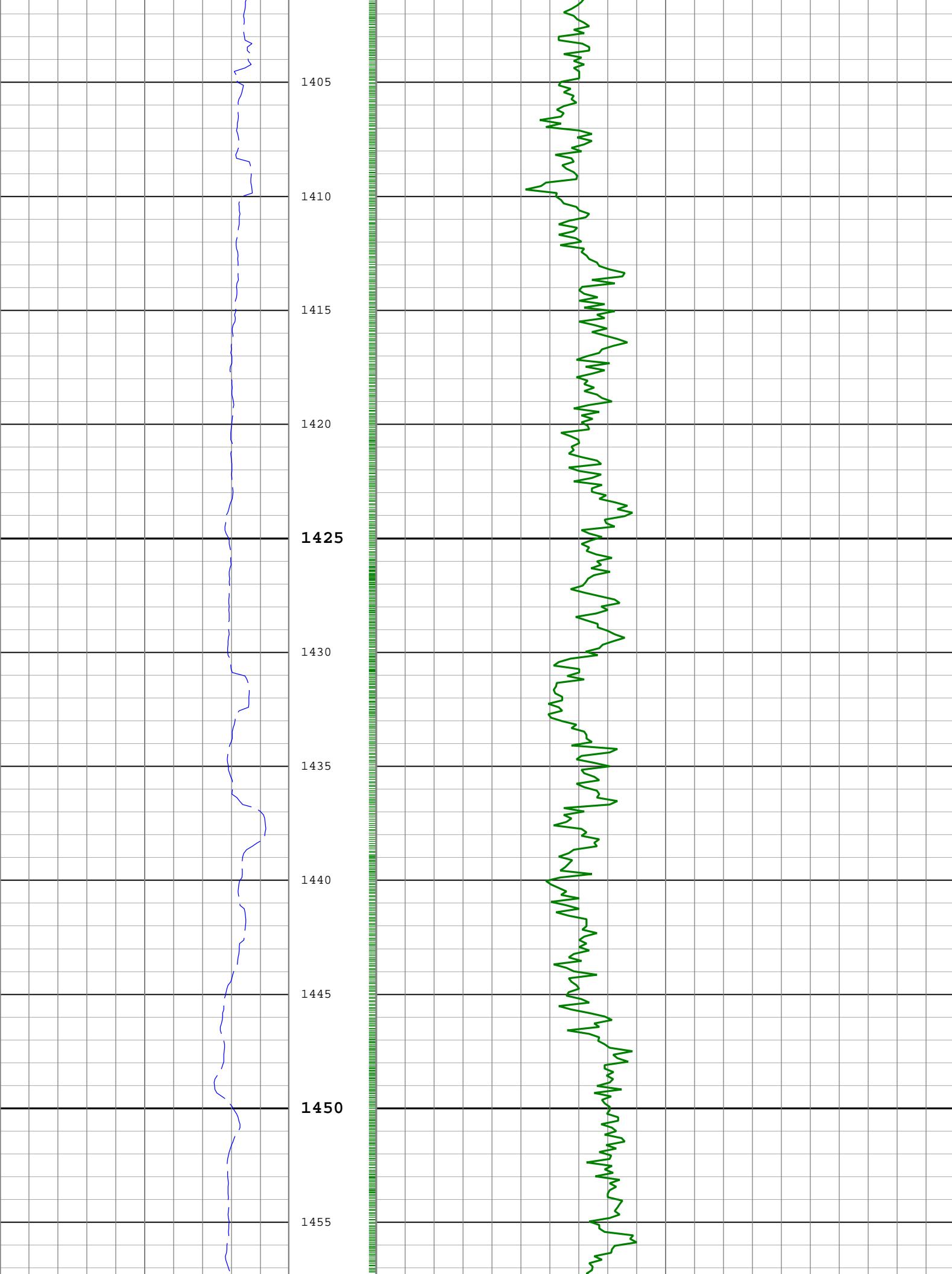


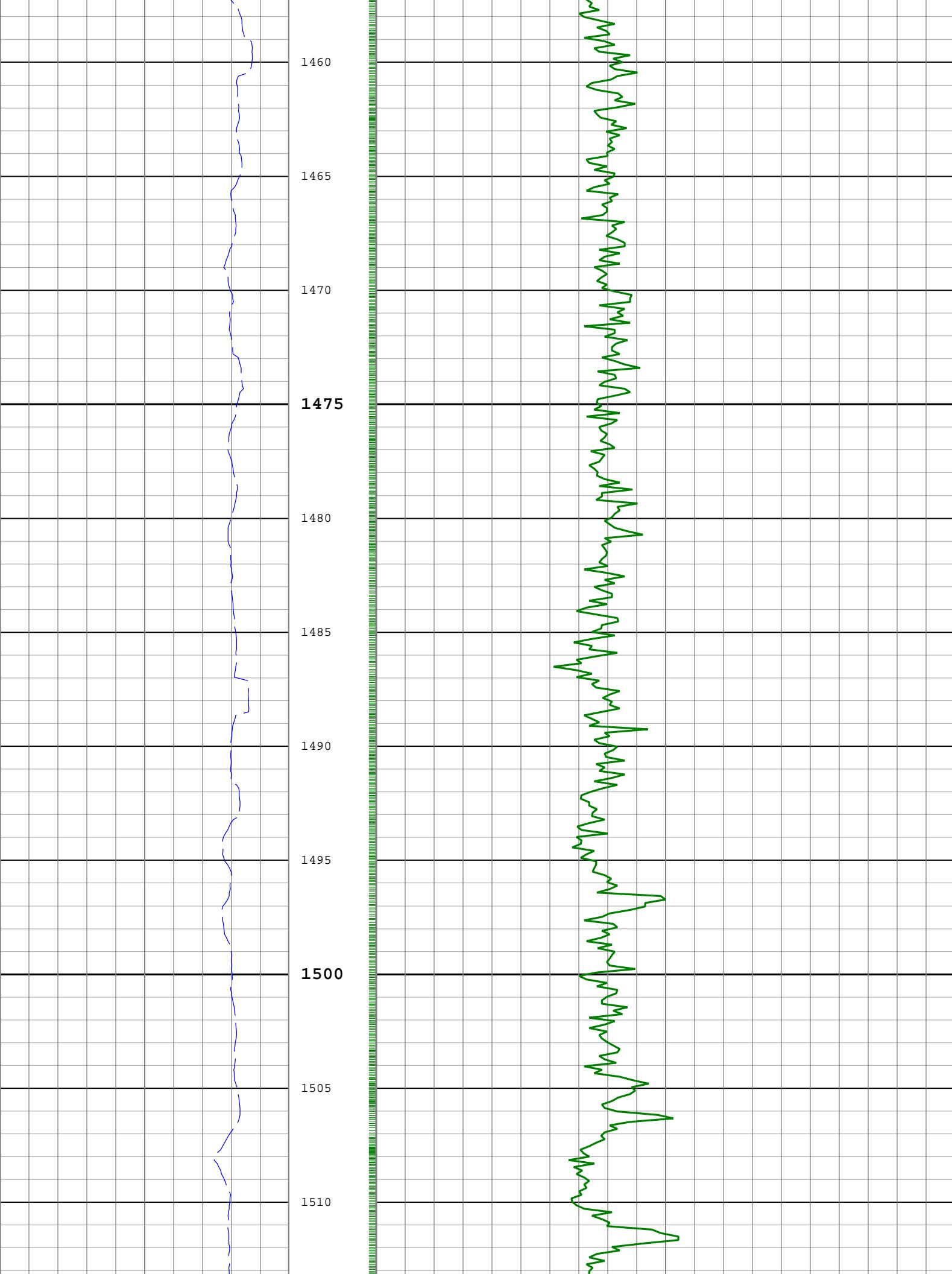


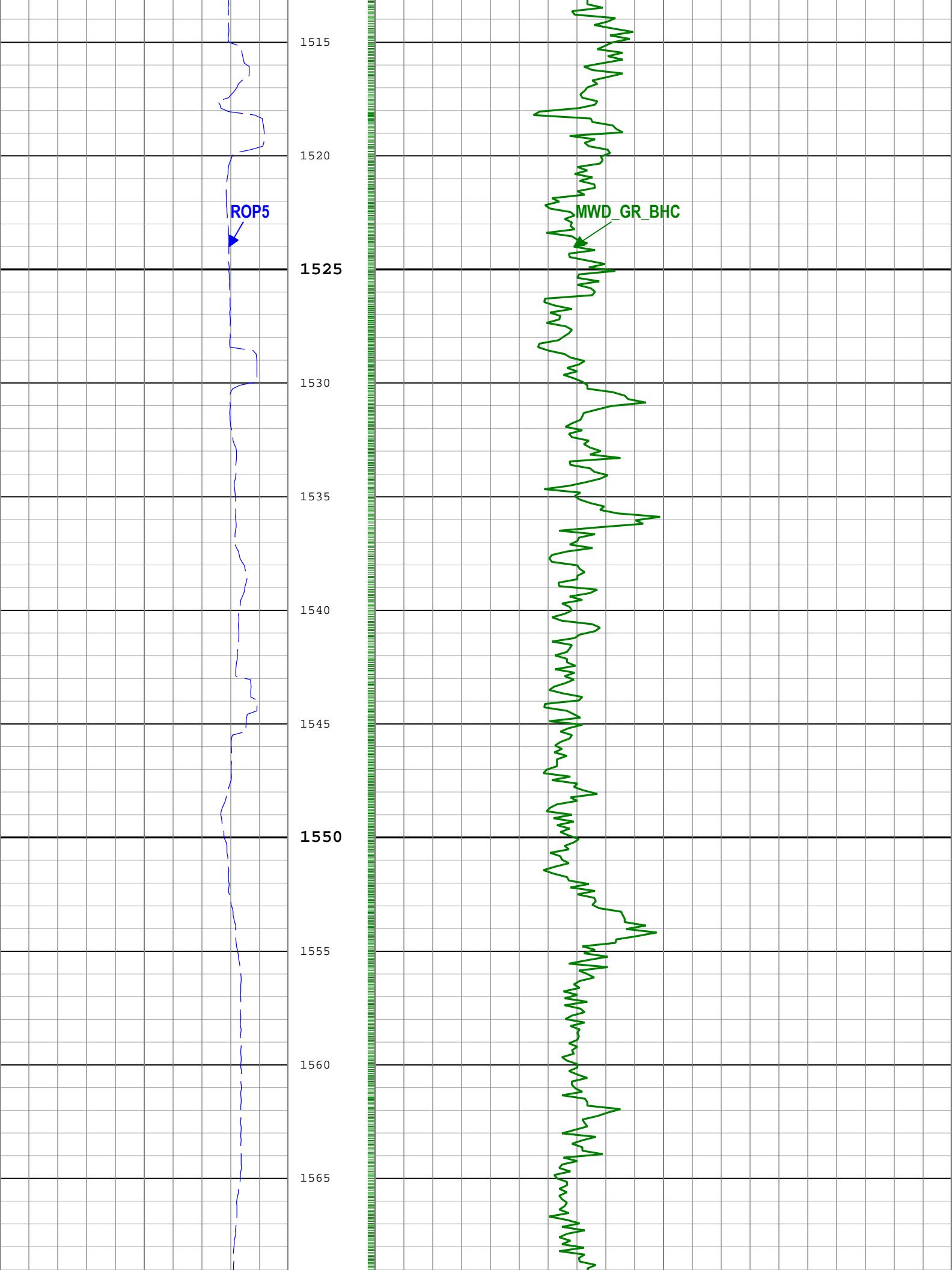


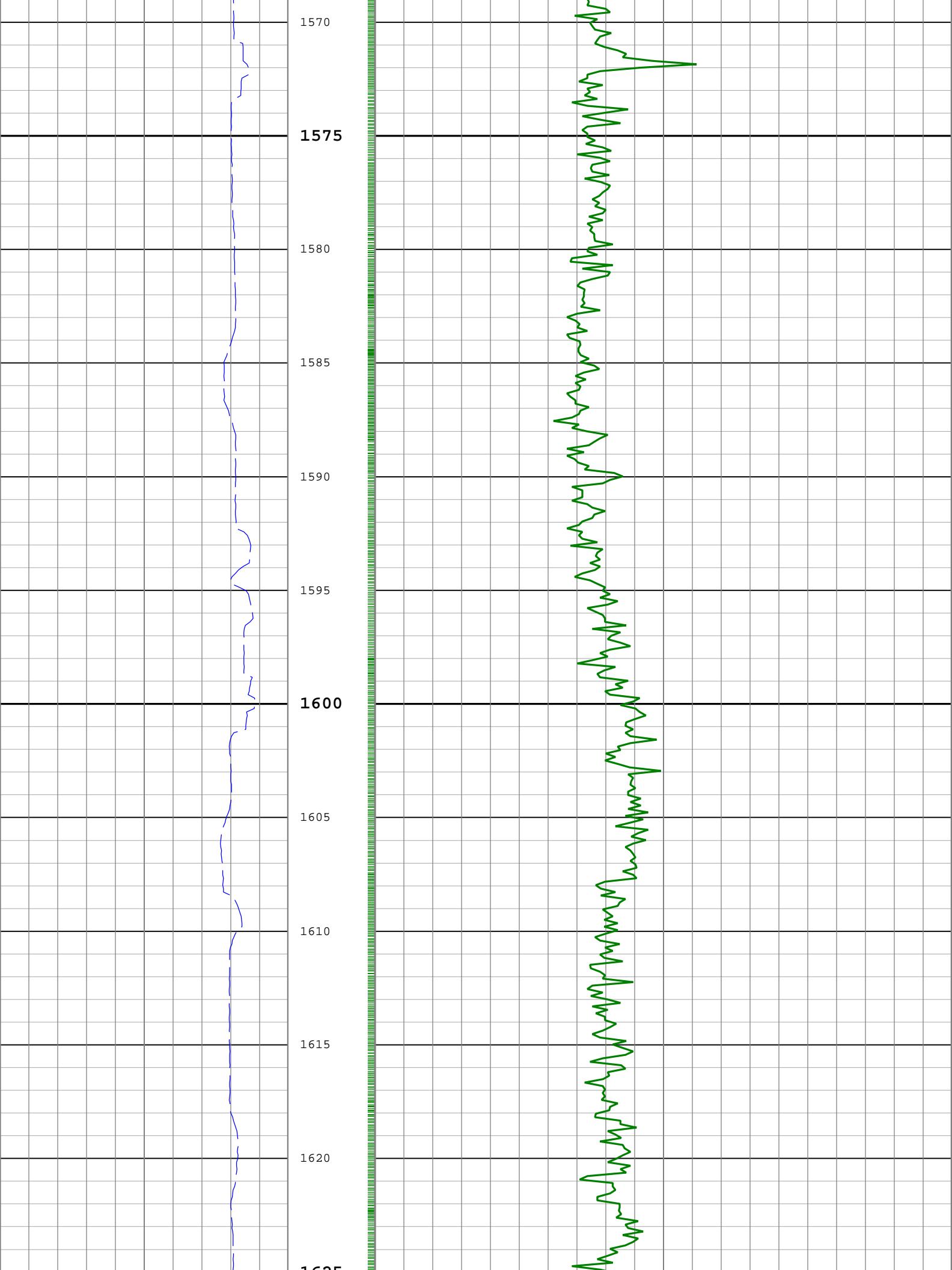


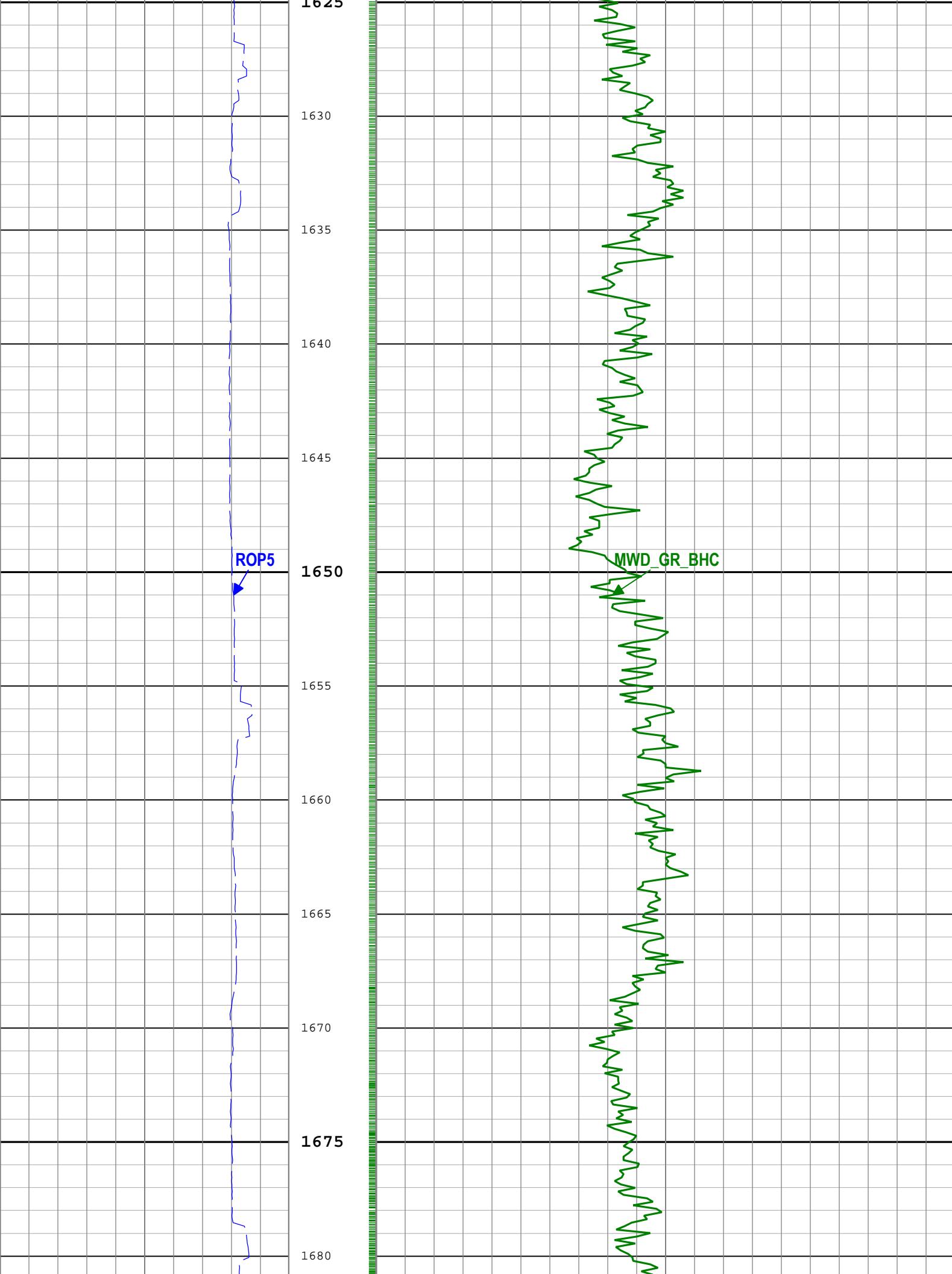


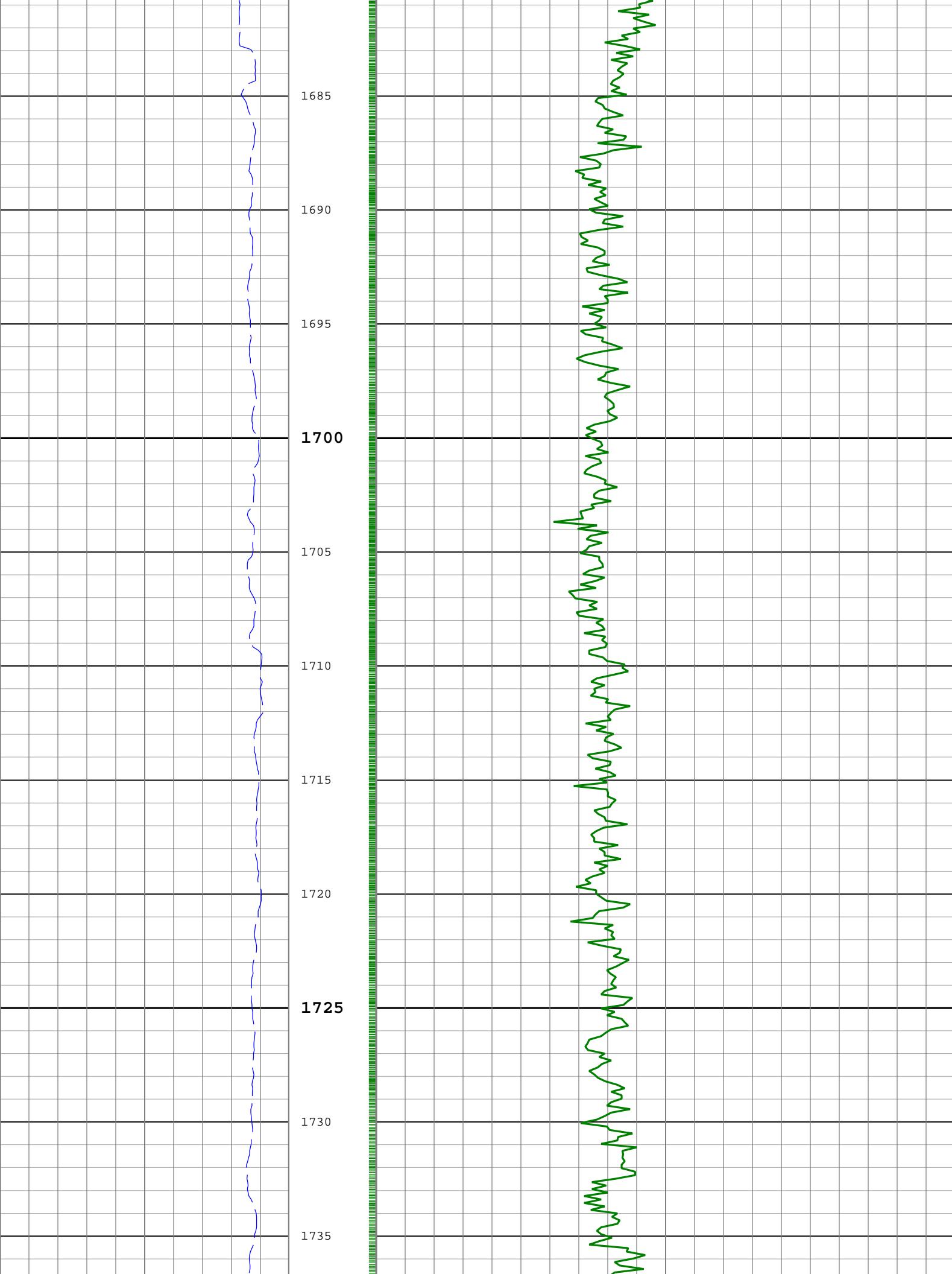


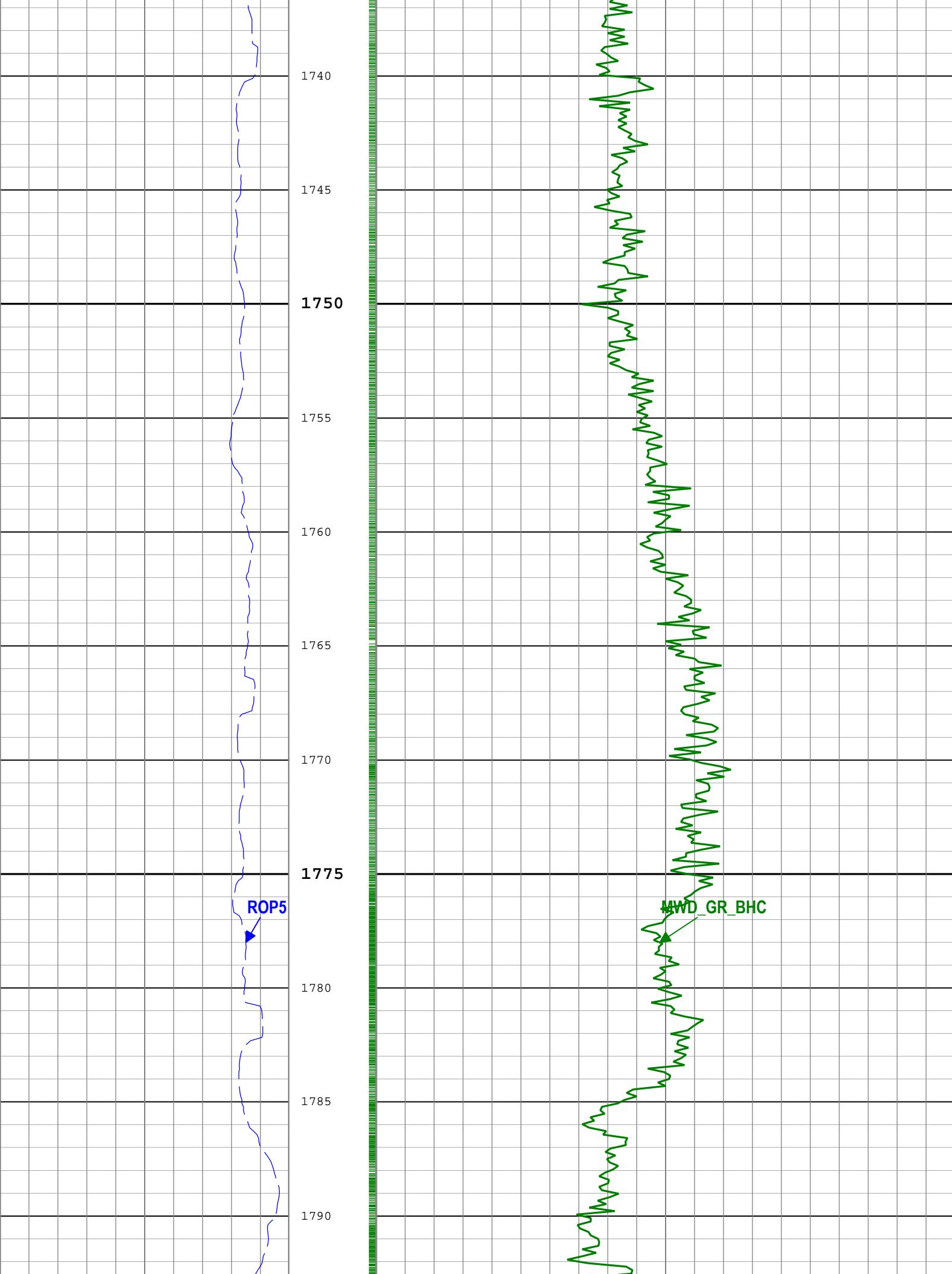


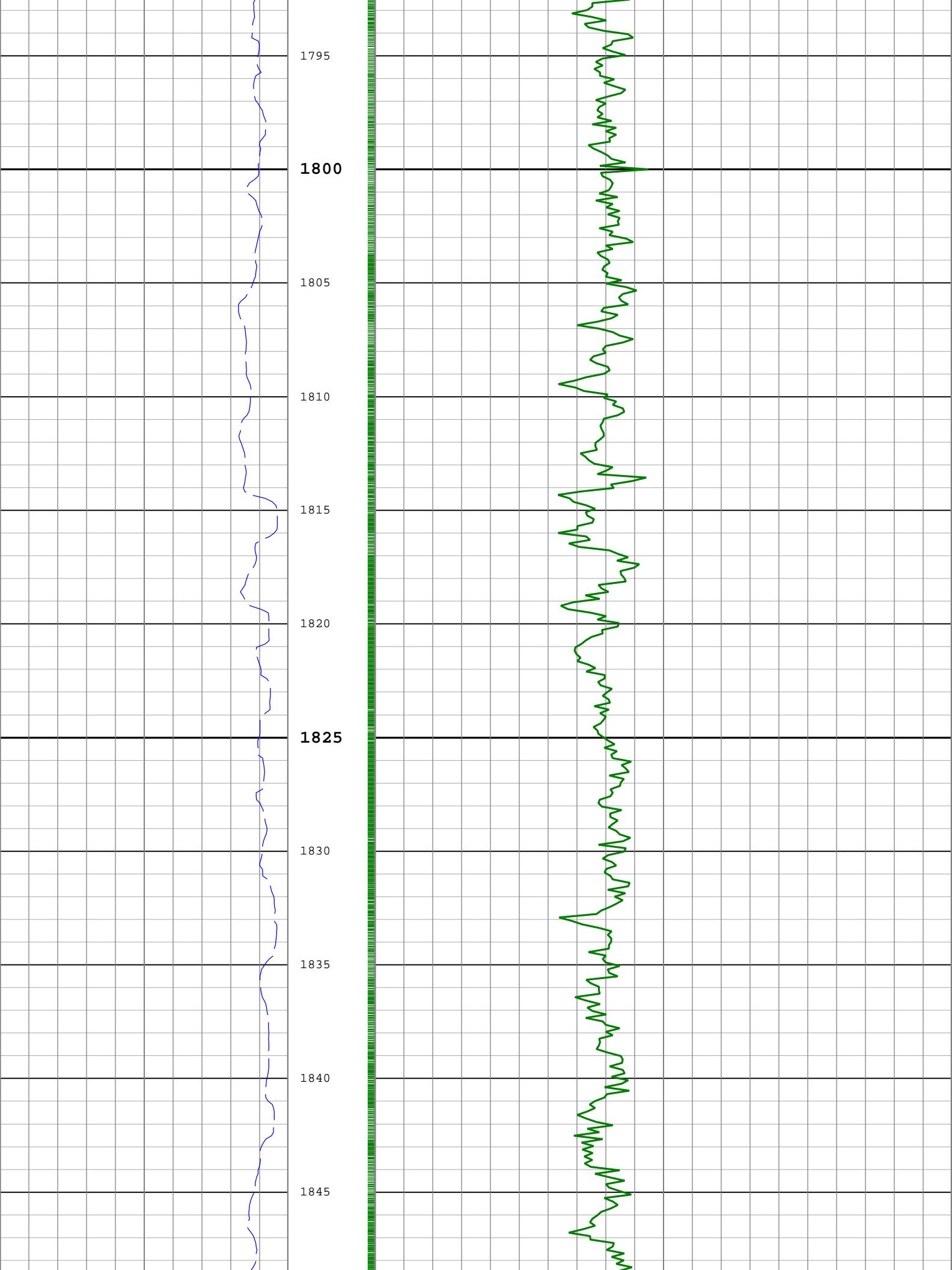


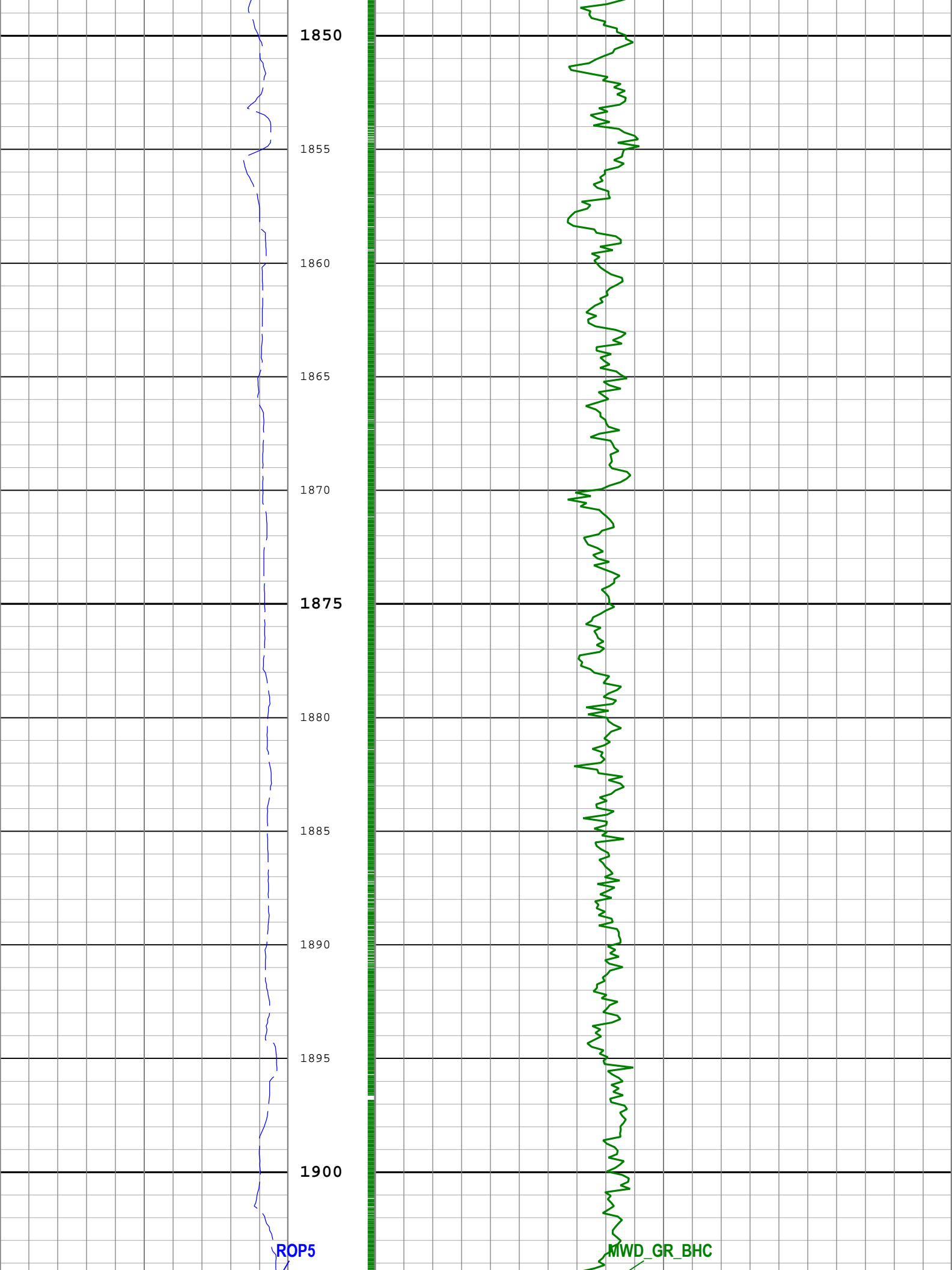


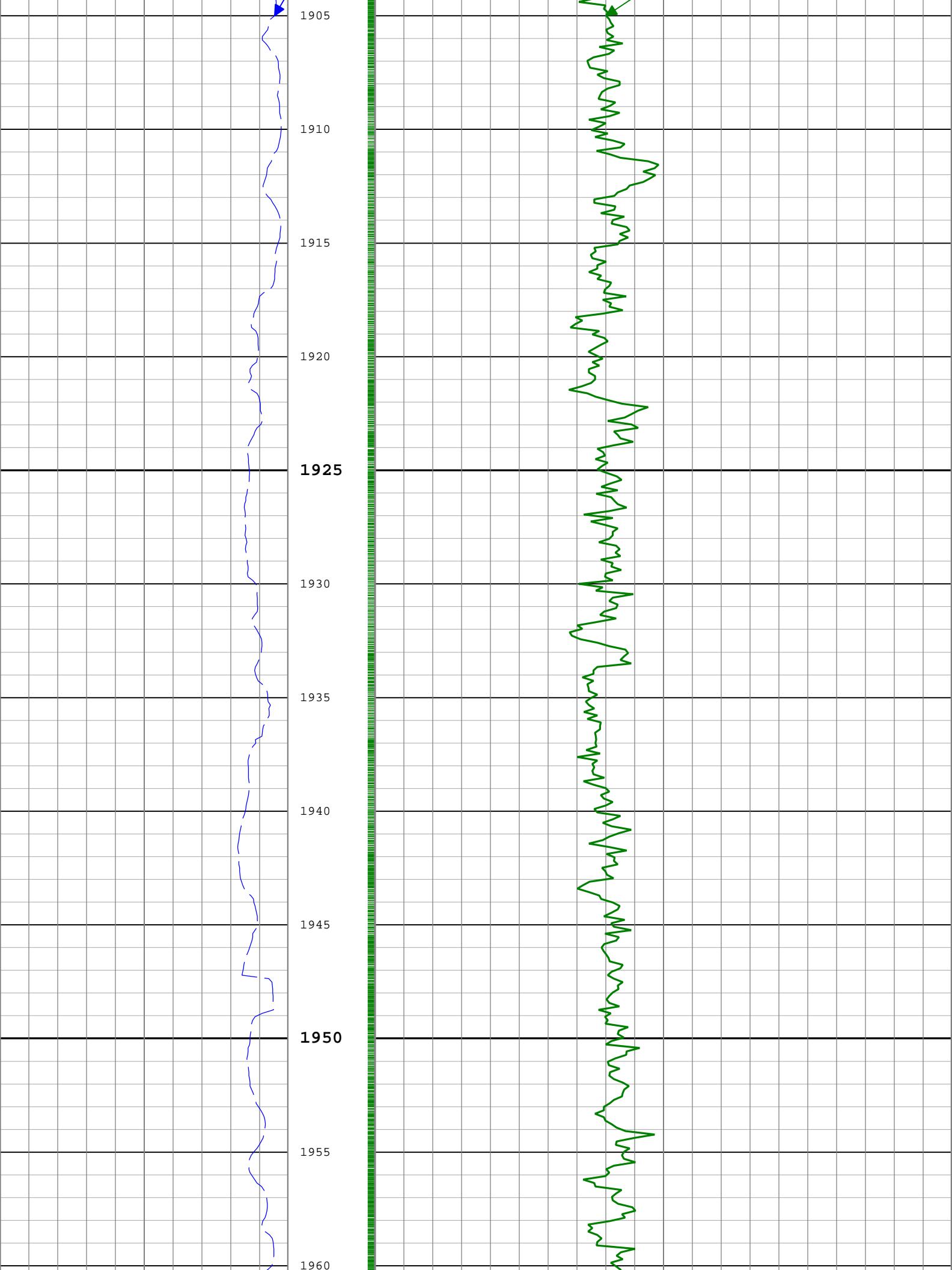


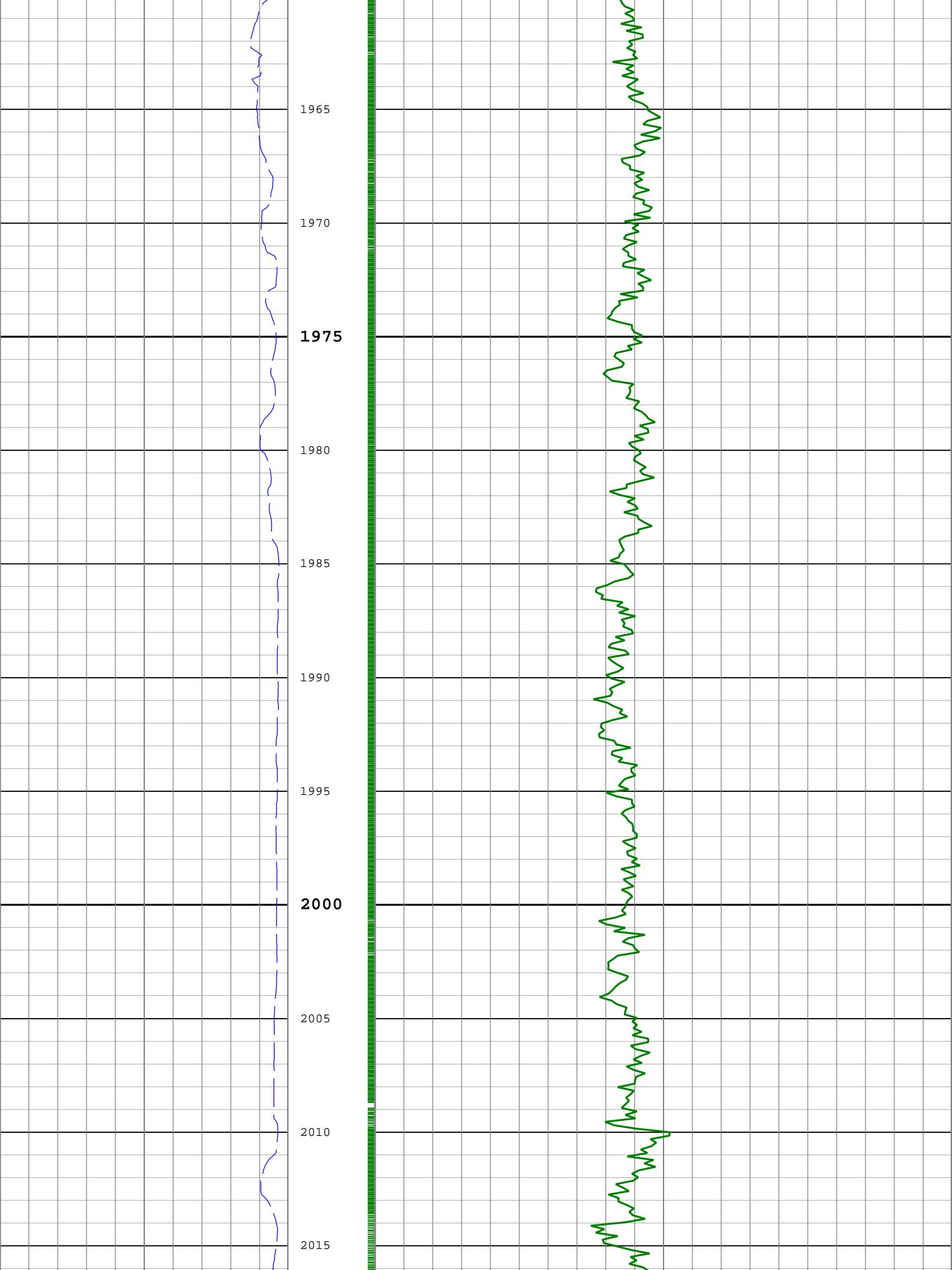


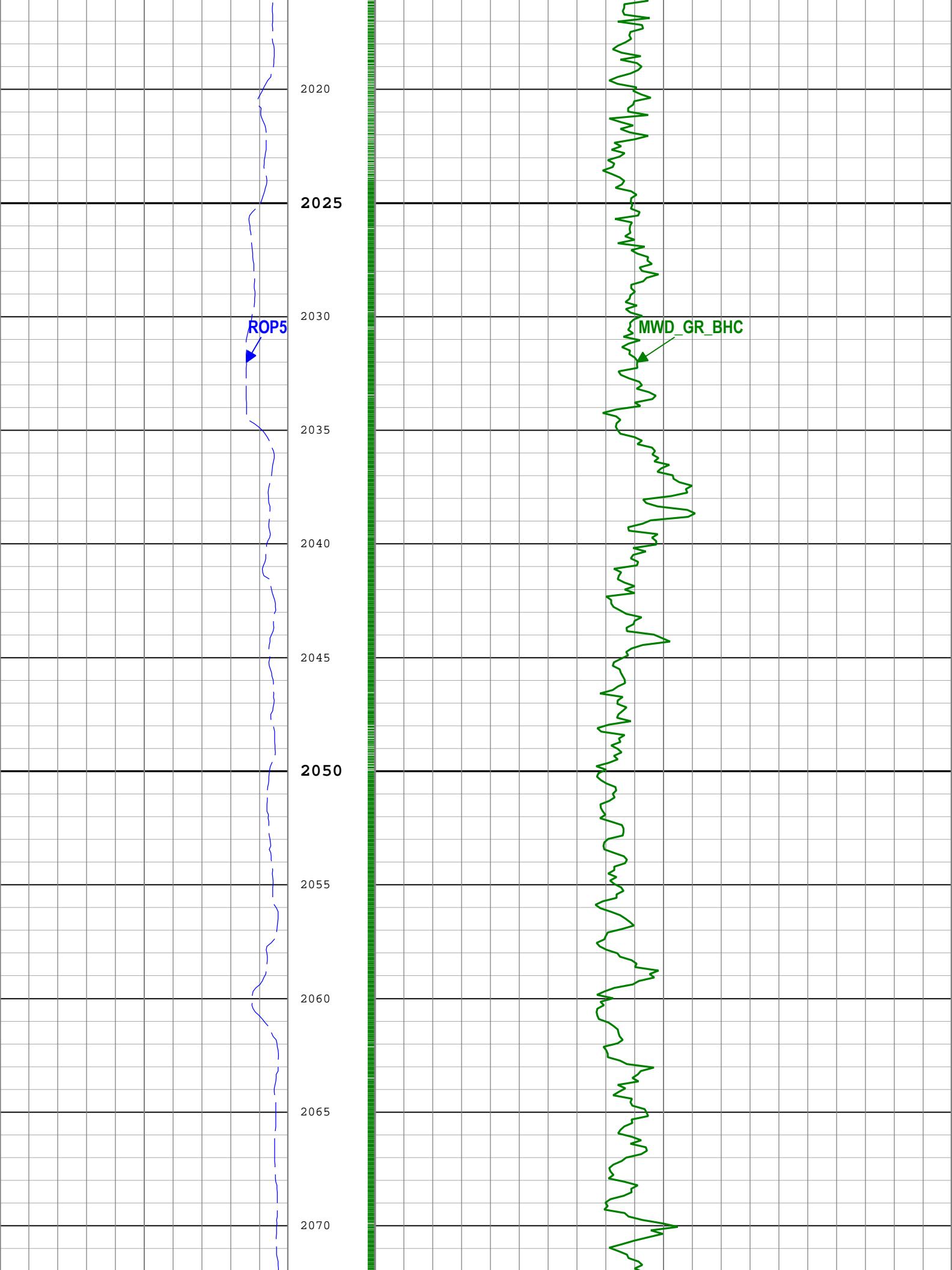


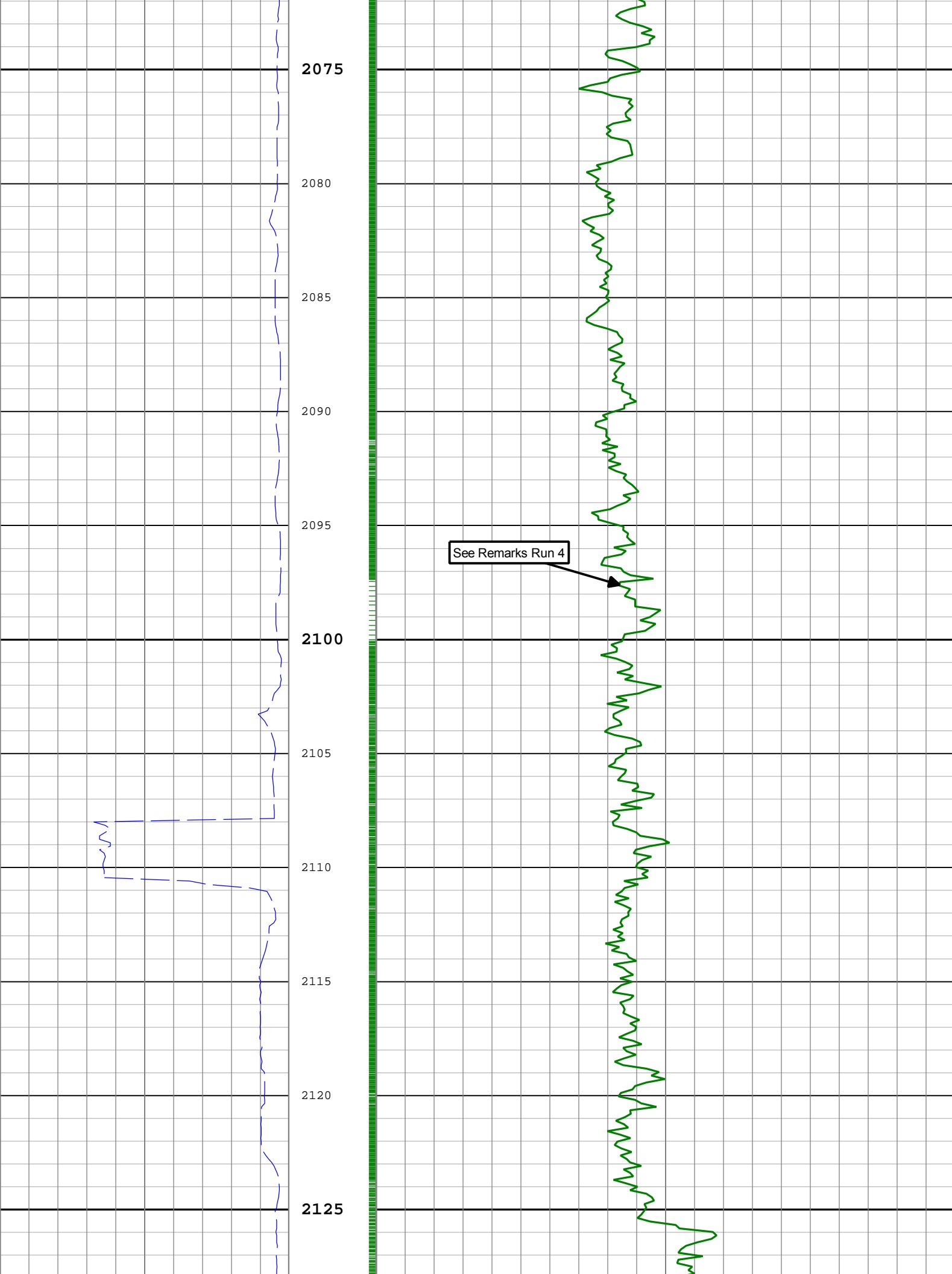


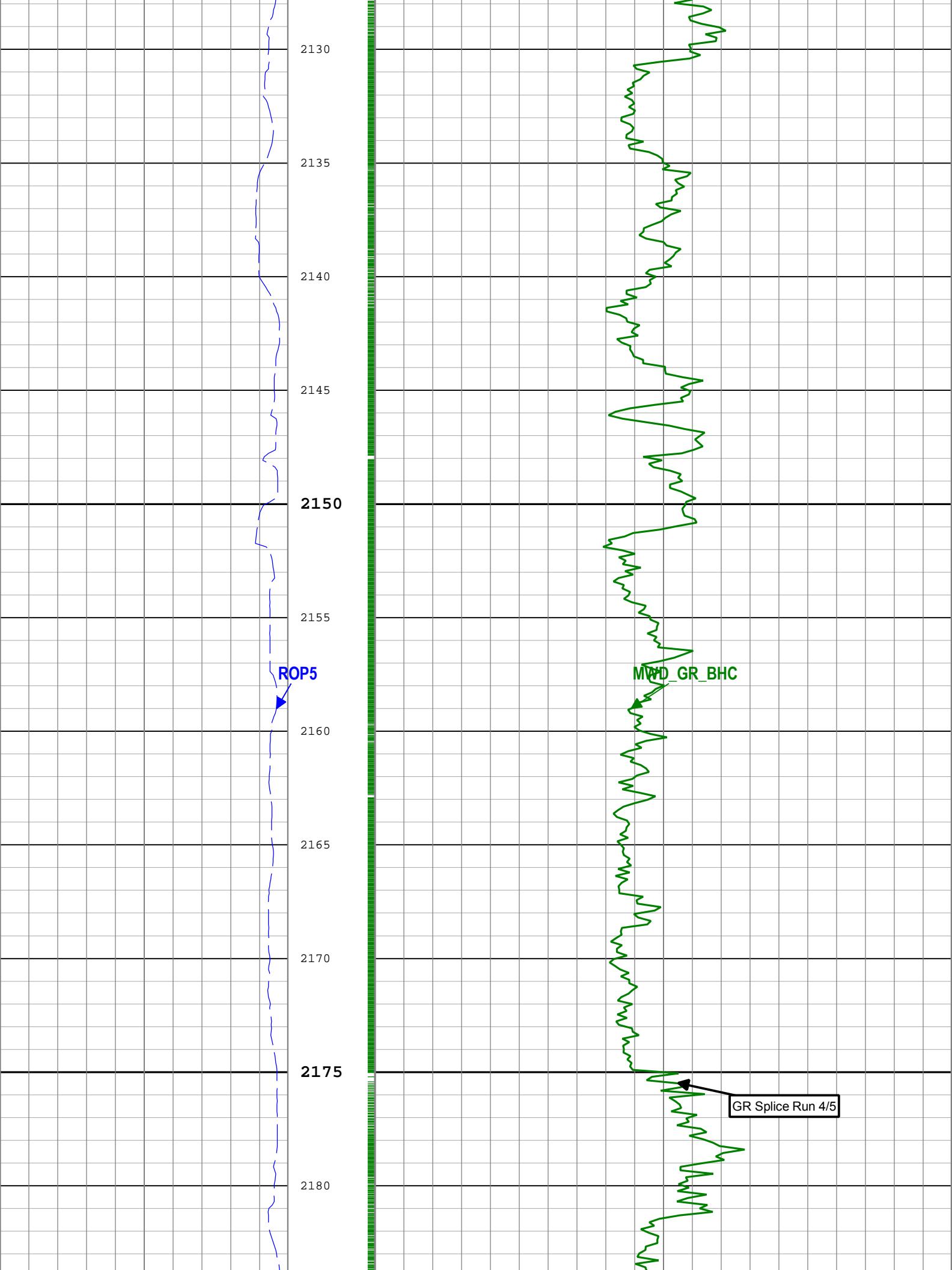


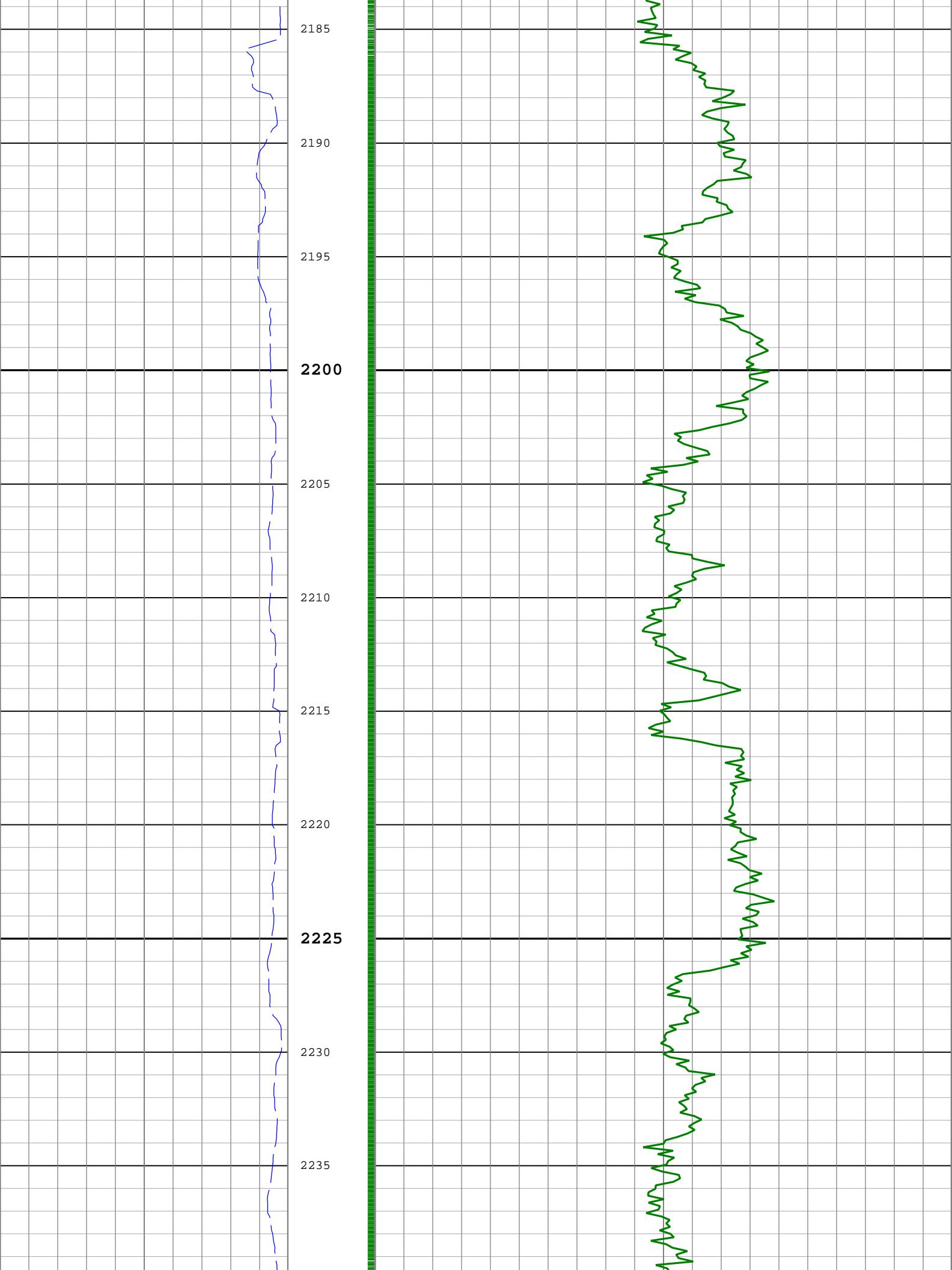


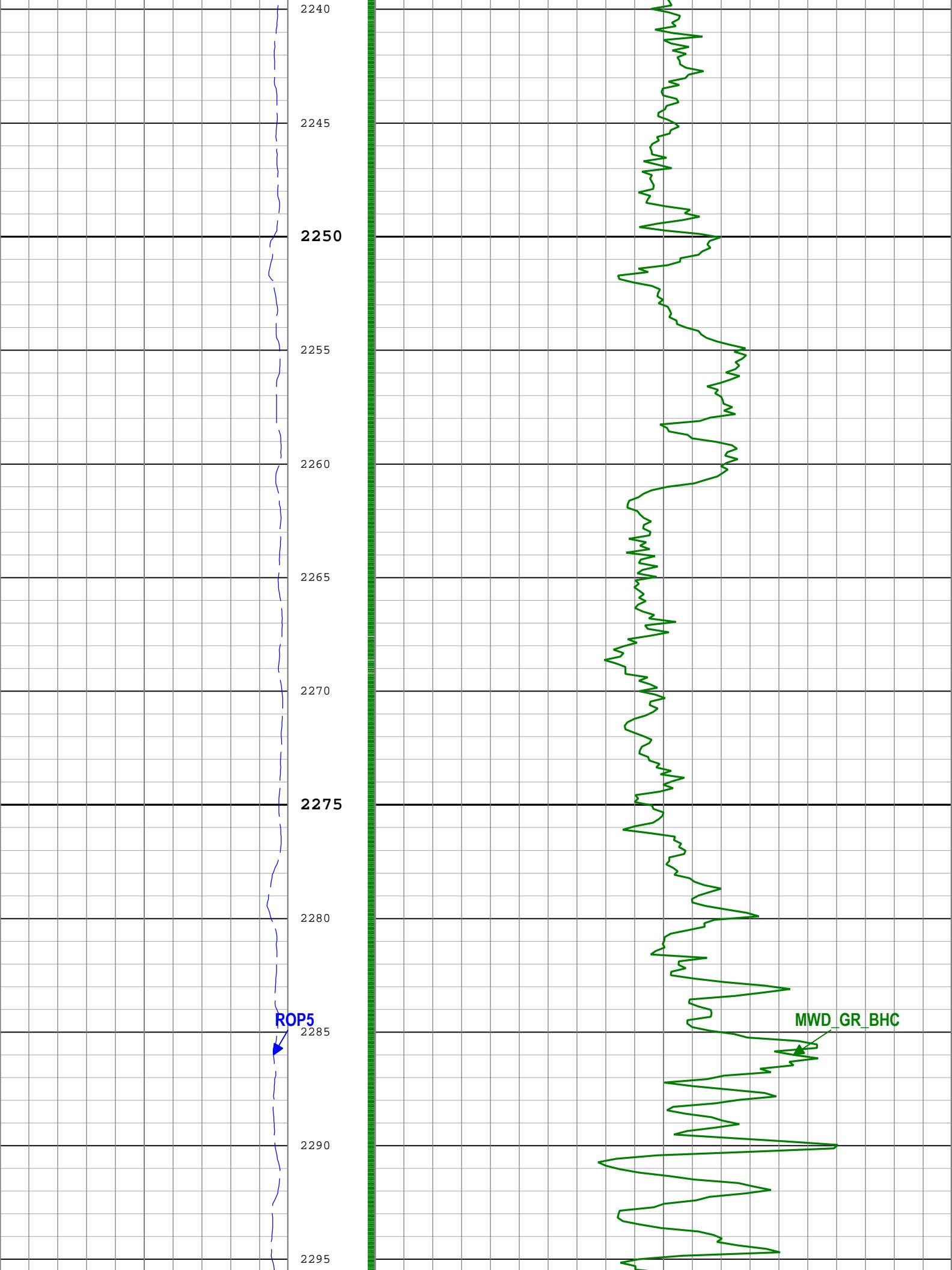


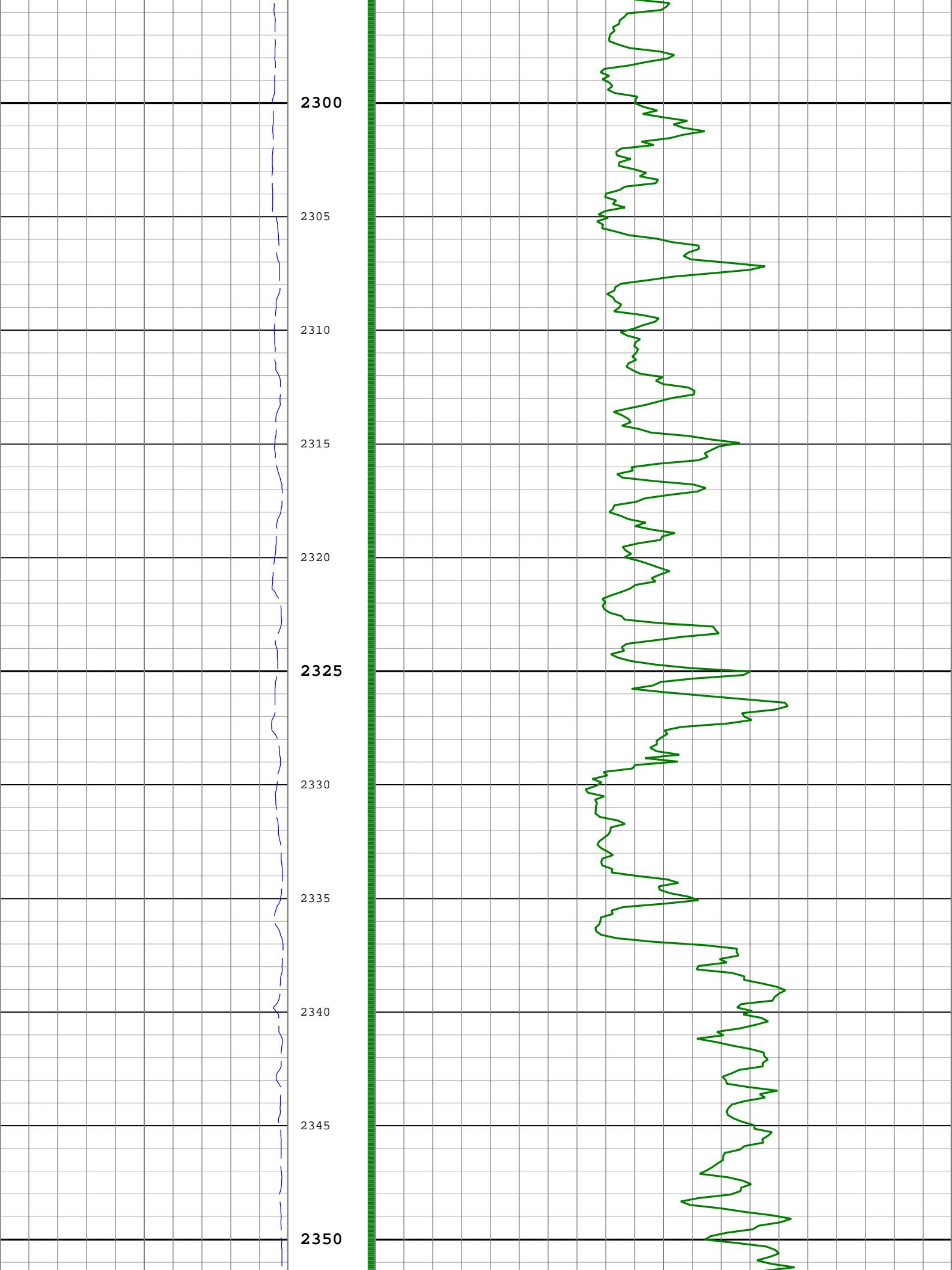


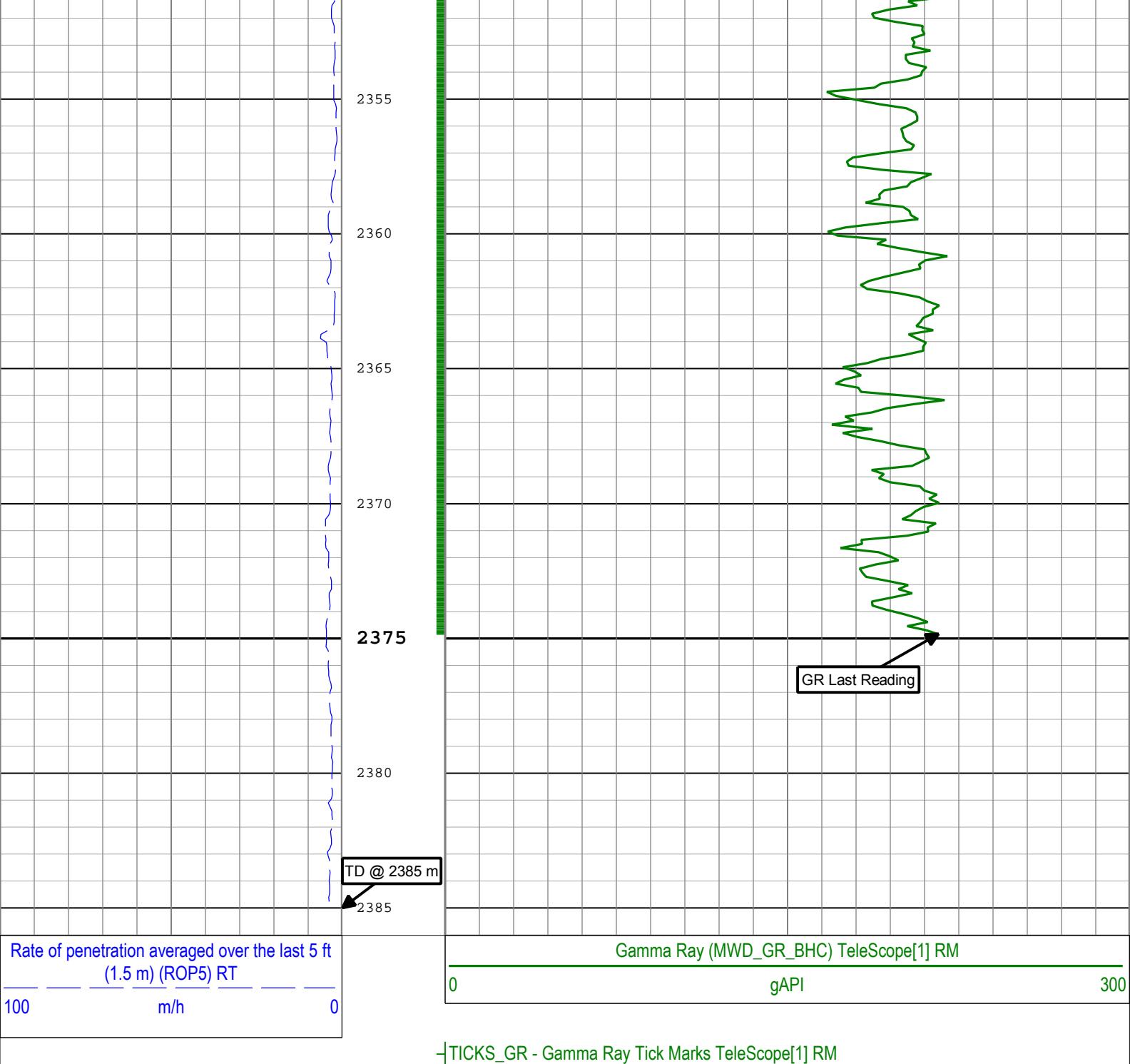












Description: TeleScope Gamma Ray Depth RT Format: Log (GR MWD and PD with ticks) Index Scale: 1:200 Index Unit: m Index Type: Measured Depth Creation Date: 19-Apr-2018 18:52:26

17.5 in. Section Composite

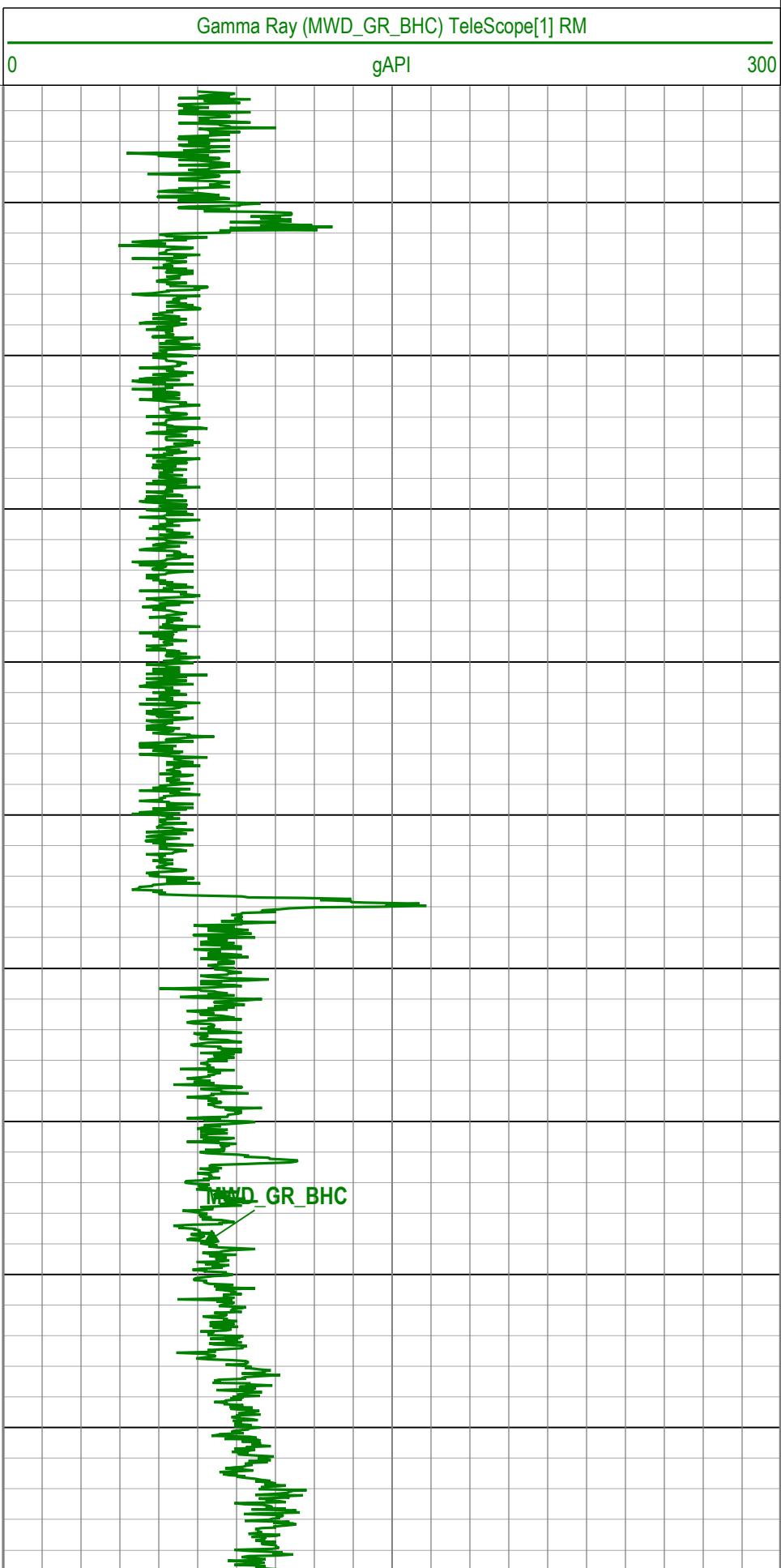
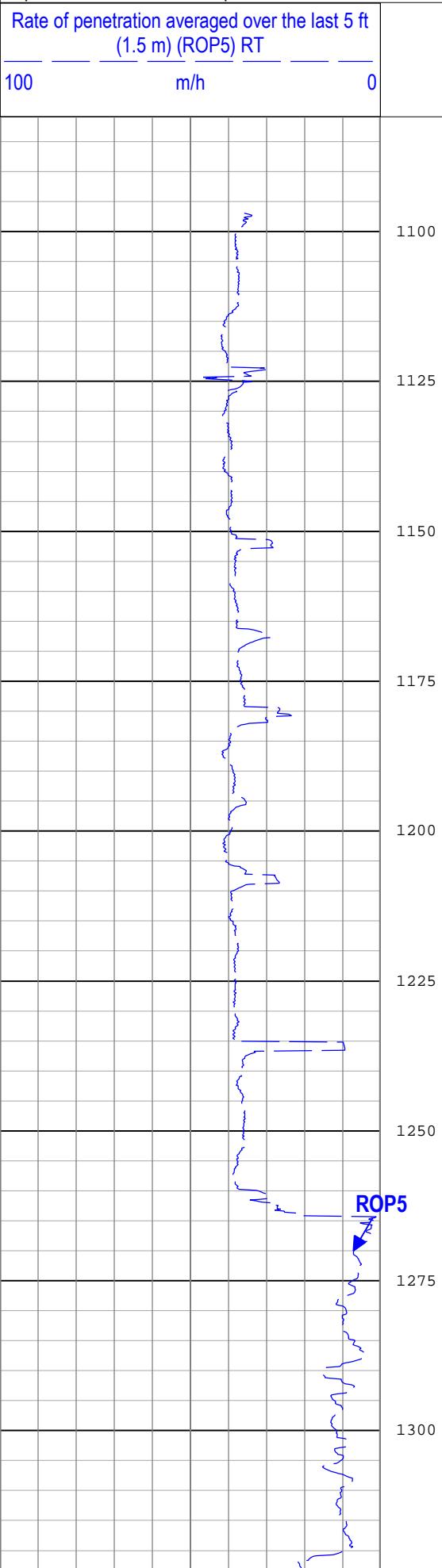
MWD - Gamma Ray 1:1000 MD

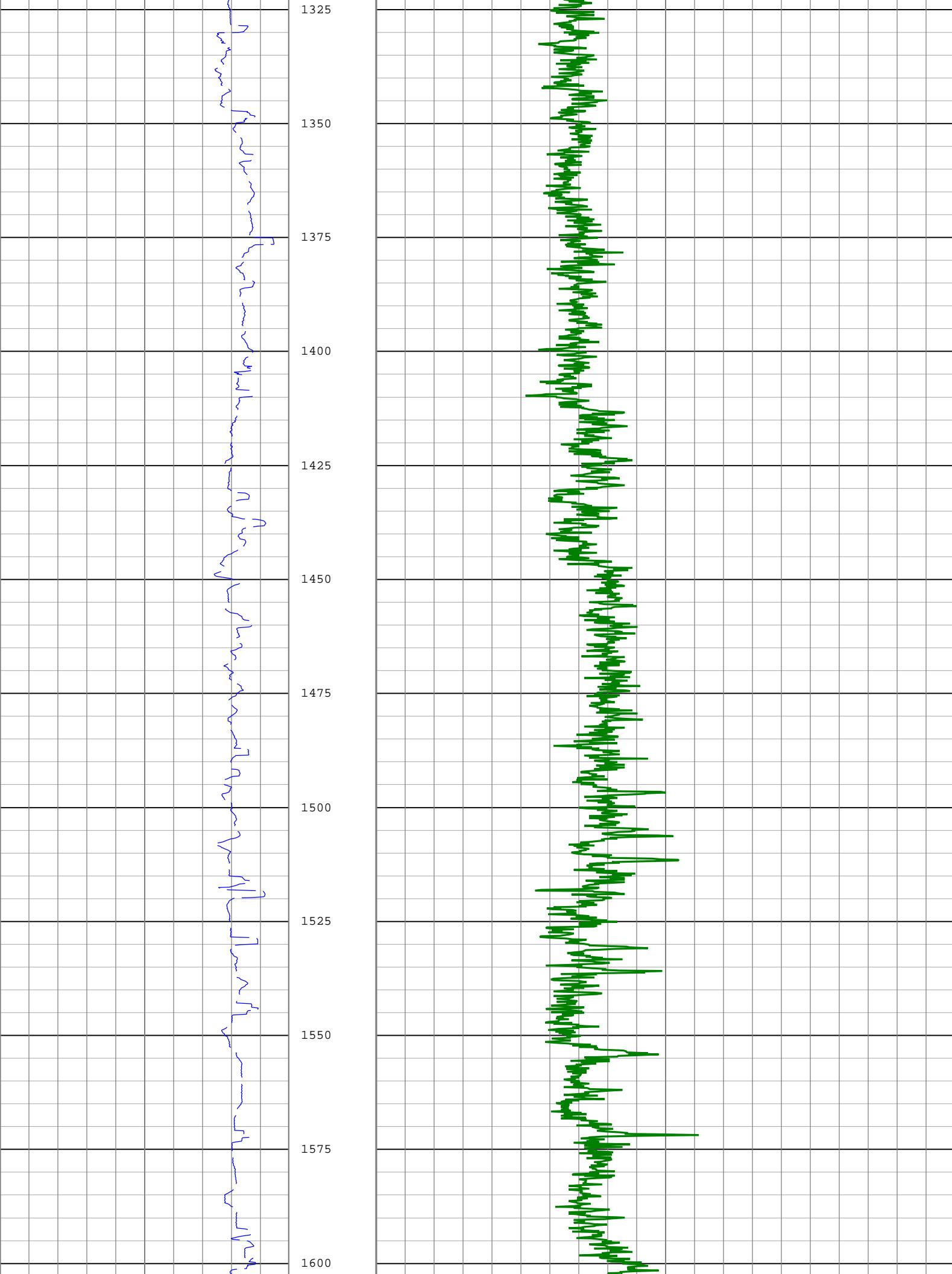
Composite Summary

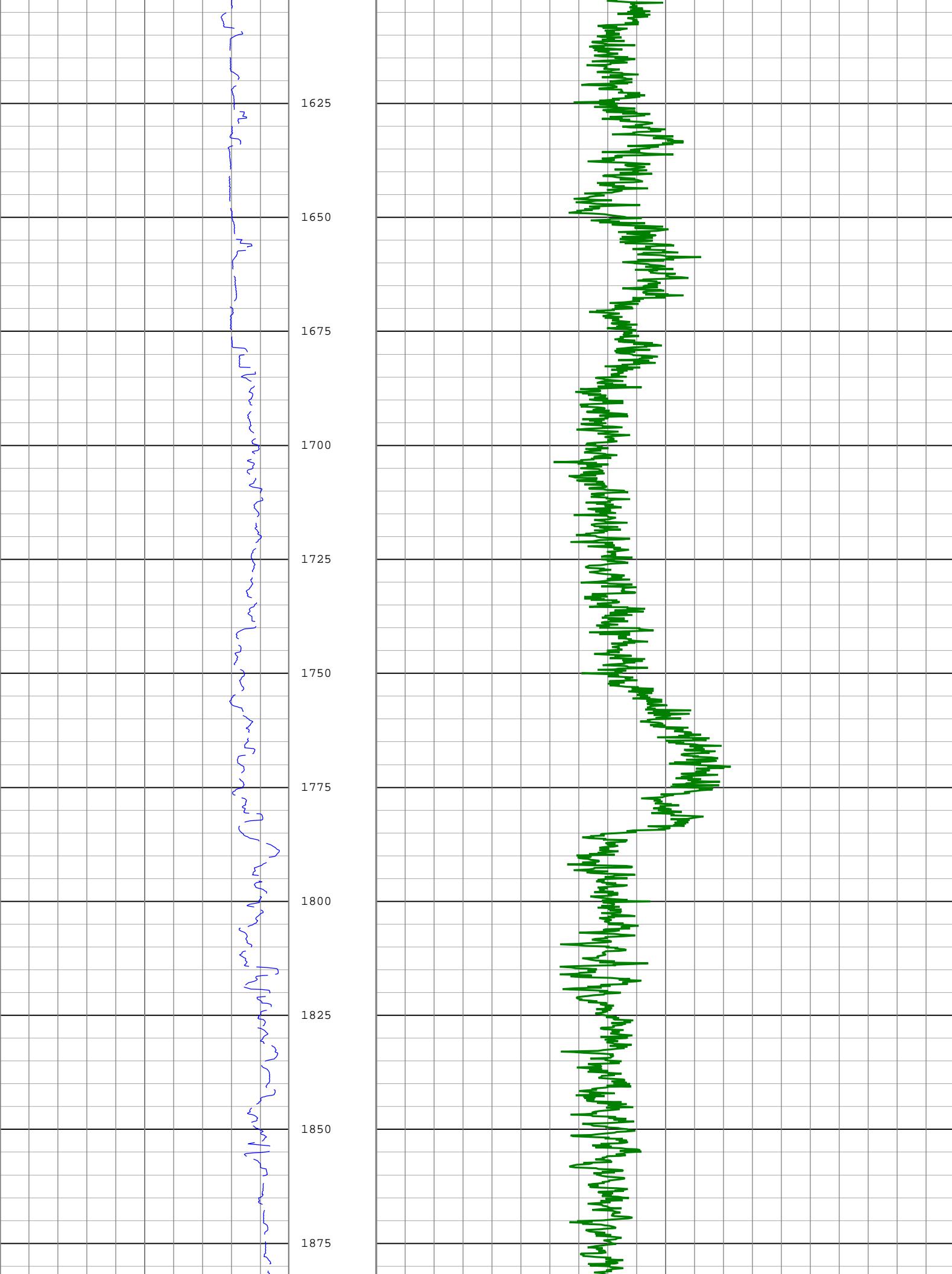
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	Include Parallel Data
Run 4	Drilling	Down	1263.70 m	2185.64 m	06-Apr-2018 15:01:35	13-Apr-2018 09:39:39	Yes
Run 4	Ream Down 1	Down	1092.33 m	1264.01 m	07-Apr-2018 08:59:11	07-Apr-2018 16:00:37	Yes
Run 5	Ream Down 1	Down	2174.34 m	2185.64 m	14-Apr-2018 02:05:50	14-Apr-2018 02:39:27	Yes
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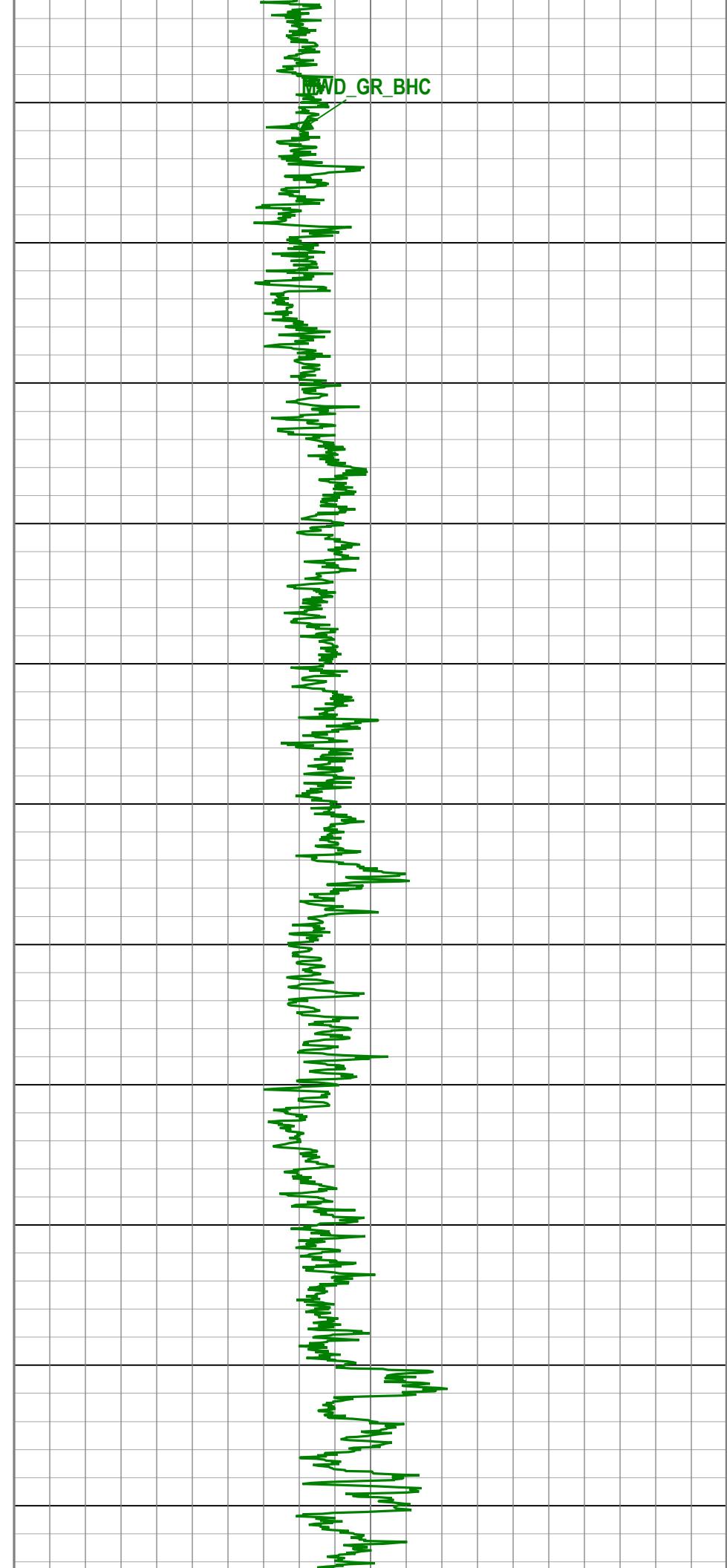
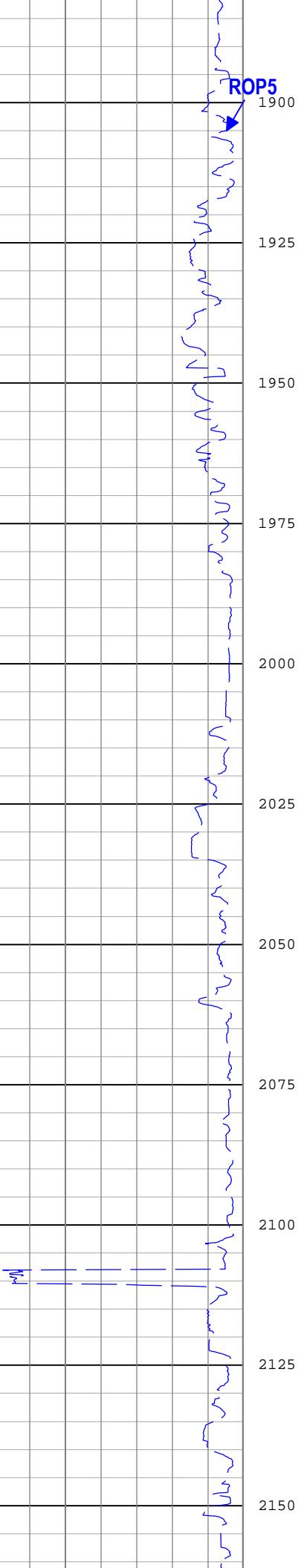
All depths are referenced to toolstring zero

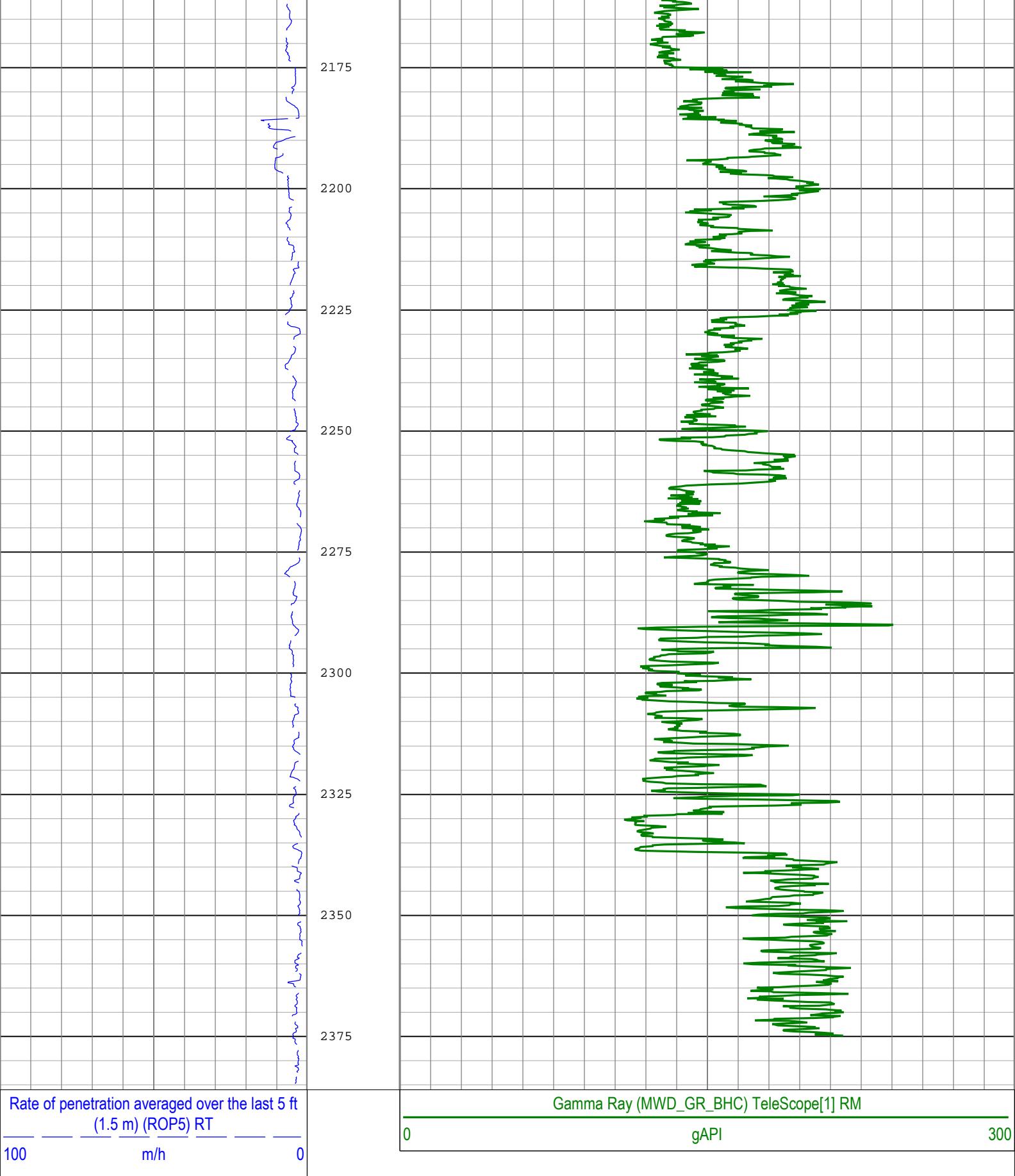
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Depth Creation Date: 19-Apr-2018 18:52:34











Channel Processing Parameters

Run 4: Parameters

Parameter	Description	Tool	Value	Unit
BHK	Drilling Fluid Potassium Concentration	Borehole	3.42	%

BS	Bit Size	DNMSESSION	Depth Zoned	in
DFD	Drilling Fluid Density	Borehole	1.2	g/cm3
GR_SRC	GR Input Channel Name	TELE900	GAMMA_CPS	

Run 4Depth Zoned Parameters

Parameter	Value	Start (m)	Stop (m)
BS	24	1081	1105
BS	17.5	1105	2185.64

All depth are actual.

Run 5: Parameters

Parameter	Description	Tool	Value	Unit
BHK	Drilling Fluid Potassium Concentration	Borehole	5	%
BS	Bit Size	DNMSESSION	17.5	in
DFD	Drilling Fluid Density	Borehole	1.27	g/cm3
GR_SRC	GR Input Channel Name	TELE900	GAMMA_CPS	

Tool Control Parameters

Calibration Report

TELE900 (TeleScope 900) Calibration - Run 4

Primary Equipment :	Gamma Ray Cartridge	PMGR	223
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GAMMA_SF - Gamma Ray: Blanket

Master (Time Frame File):	17:50:15 02-Mar-2018						
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Gamma Ray Calibration Gain		Master	1.0000	0.7500	0.8431	1.2500	<div style="width: 60%;"><div style="width: 100%;">█</div></div>

TELE900 (TeleScope 900) Calibration - Run 5

Primary Equipment :	Gamma Ray Cartridge	PMGR	712
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GAMMA_SF - Gamma Ray: Blanket

Master (Time Frame File):	13:45:44 19-Mar-2018						
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Gamma Ray Calibration Gain		Master	1.0000	0.7500	0.9608	1.2500	<div style="width: 75%;"><div style="width: 100%;">█</div></div>

Company: Trias Westland B.V.

Well: NLW-GT-02-S1

Field:

Naaldwijk

Rig Name:

KCA Deutag T-207



Country:

The Netherlands

MWD - Gamma Ray

Schlumberger

Recorded Mode, Composite