

# MWD - Gamma Ray

**Schlumberger**

## Recorded Mode

Company: Trias Westland B.V.

Well: NLW-GT-02-S1

Field: Naaldwijk

Rig Name: KCA Deutag T-207

Country: Netherlands

Latitude: 51° 59' 26.962" N

Longitude: 4° 14' 22.357" E

UWID:  
Rig Name:  
Rig Type:

17HOL0035  
KCA Deutag T-207  
Land Rig

FL: NLW-GT-02-S1

FL1: Section: 24 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: 22-Mar-2018 -- 27-Mar-2018

Log Interval: 123.00(m) -- 1106.00(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

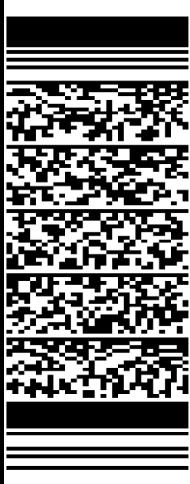
Company: Trias Westland B.V.

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Country: Netherlands



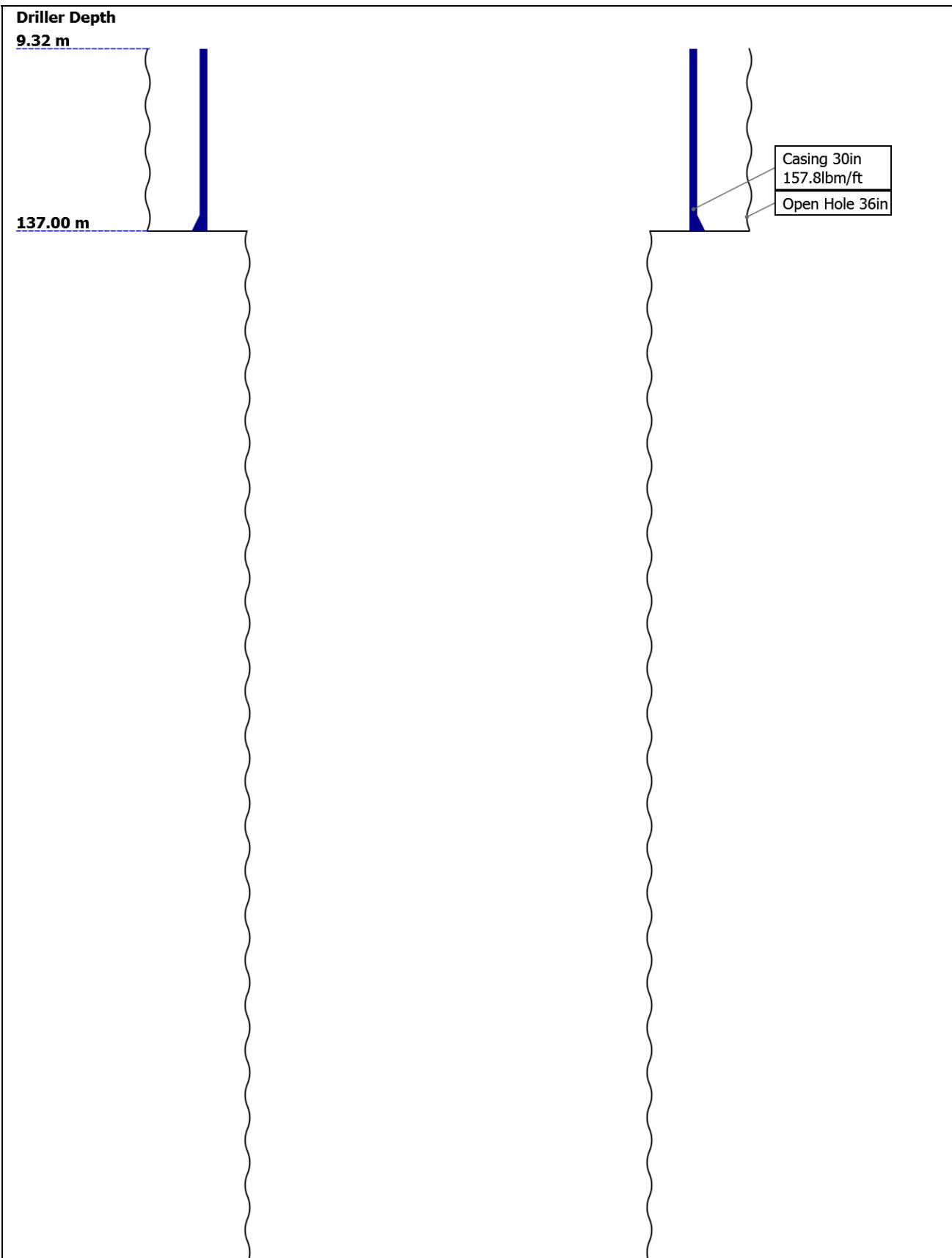
## Disclaimer

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## Contents

1. Header
2. Disclaimer
3. Contents
4. Well Sketch
5. Borehole Size/Casing/Tubing Record
6. Operational Run Summary
7. Borehole Fluids
8. Remarks and Equipment Summary
9. Run 1 MWD - Gamma Ray 1:200 MD
  - 9.1 Integration Summary
  - 9.2 Software Version
  - 9.3 Composite Summary
  - 9.4 Log ( GR MWD and PD with ticks )
10. Run 1 MWD - Gamma Ray 1:1000 MD
  - 10.1 Integration Summary
  - 10.2 Composite Summary
  - 10.3 Log ( GR MWD and PD no ticks )

## Well Sketch





## Borehole Size/Casing Record

Bit						
Bit Size ( in )	36	24				
Top Driller ( m )	9.32	137				
Bottom Driller ( m )	137	1105				
Casing						
Size ( in )	30					
Weight ( lbm/ft )	157.8					
Inner Diameter ( in )	29.021					
Grade	X52					
Top Driller ( m )	9.32					
Bottom Driller ( m )	137					

## Operational Run Summary

Parameter ( unit )	Run 1					
Date Log Started	21-Mar-2018					
Time Log Started	11:10:57					
Date Log Finished	27-Mar-2018					
Time Log Finished	19:08:27					
Bit Size ( in )	24.000					
Bit Start Depth ( m )	141.00					
Bit Stop Depth ( m )	1105.00					
Top Log Interval ( m )	124.66					
Bottom Log Interval ( m )	1089.05					
Max Hole Deviation ( deg )	14.17					
Azimuth of Max Deviation ( deg )	112.21					
Logging Unit Number	N/A					
Logging Unit Location						
Recorded By	N.Nsanov					
Witnessed By	P. Gwalter					
Service Order Number	17HOL0035					

## Borehole Fluids

Parameter( unit )	Run 1				
Fluid Type	Water				
Fluid Name	KCl/Polymer				
Max Recorded Temperatures ( degC )	54.1				
Source of Sample	Active Tank				
Salinity ( ppm )	34972.18				
Density ( g/cm3 )	Zoned				
Funnel Viscosity ( s )	49				
Fluid Loss ( cm3 )	5.5				
PH	9.5				
Source RMF	Calculated				
RMC	Calculated				
RM @ Meas Temp ( ohm.m@degC )	0.2 @ 20				
RMF @ Meas Temp ( ohm.m@degC )	0.15 @ 20				
RMC @ Meas Temp ( ohm.m@degC )					
RM @ BHT ( ohm.m@degC )	0.11 @ 54.1				
RMF @ BHT ( ohm.m@degC )	0.08 @ 54.1				
RMC @ BHT ( ohm.m@degC )	NaN @ 54.1				
Total Solid ( % )	14				
High Gravity Solids ( % )					

## Zoned Borehole Fluids

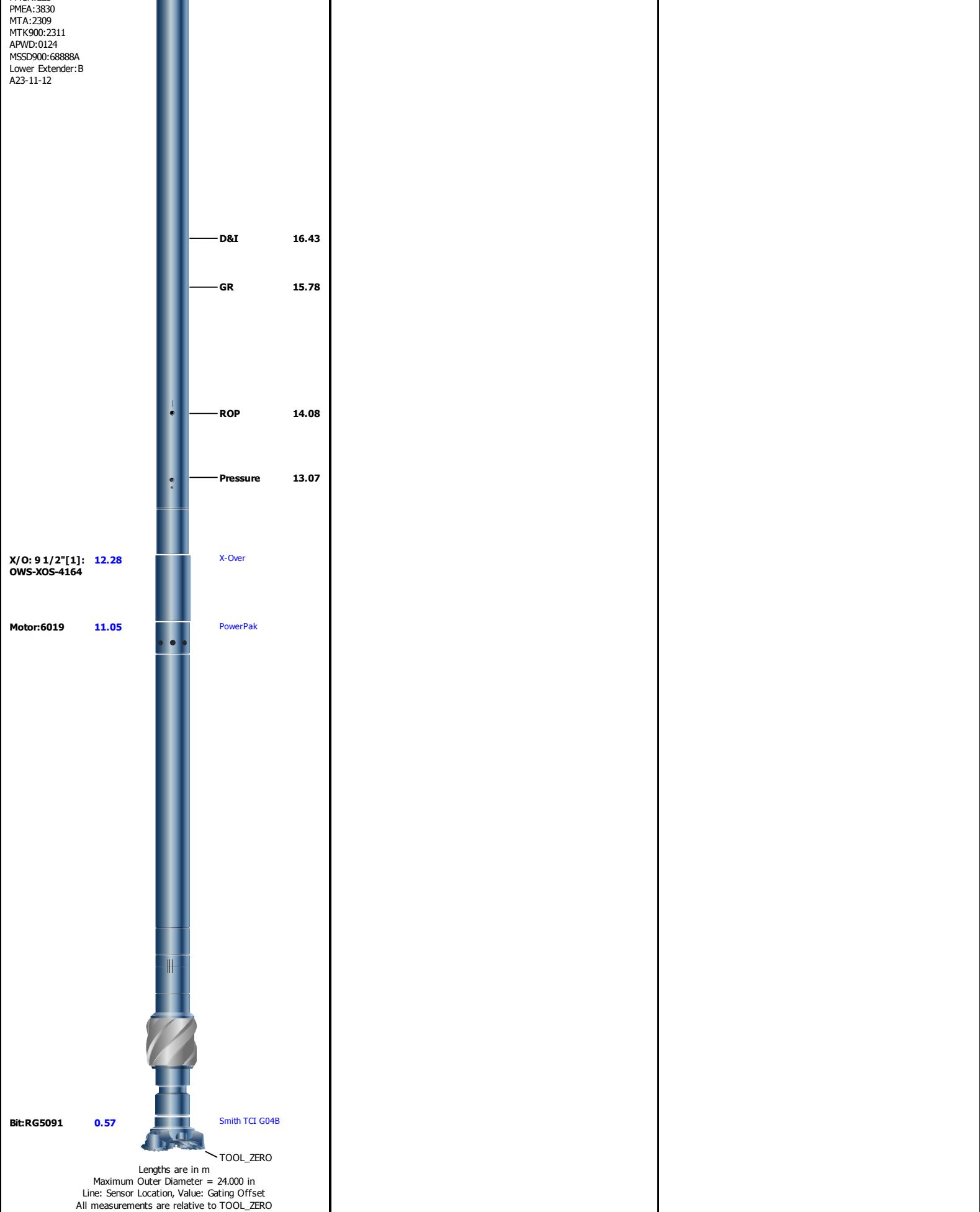
### Run 1

Parameter	Value	Start
Density	1.05	3/21/2018 11:10:57
Density	1.07	3/23/2018 03:30:36
Density	1.12	3/23/2018 21:00:41
Density	1.16	3/24/2018 04:00:00
Density	1.19	3/24/2018 16:00:08
Density	1.2	3/25/2018 04:00:14
Density	1.23	3/25/2018 11:00:00
Density	1.26	3/25/2018 11:00:21
Density	1.24	3/25/2018 21:00:00
Density	1.22	3/26/2018 11:00:00
Density	1.24	3/26/2018 15:50:00

## Remarks and Equipment Summary

Run 1: Toolstring	Run 1: Remarks
Equip name Length Stab: 9 1/2":OW <b>23.65</b> S-Stab-9641	All depths referenced to driller's depth. See EOWR for depth tracking details.
X/O: 9 1/2"[2]: <b>21.34</b> OWS-XOS-4159	All data from tool memory. All data acquired while drilling.
TELE900:E6072 <b>20.75</b> MSSU900:68362 Upper Extender MDC900:E6072 MMA:4042 MDI:2141 PMGR:223	Gamma Ray measurement is environmentally corrected for mud weight, bit size, collar thickness and Potassium content.
	This well is a sidetrack of NLW-GT-02 kicked off from cement plug at 141 m.
	Run 1 and 24 in. section TD at 1105 m.

PMEA:3830  
MTA:2309  
MTK900:2311  
APWD:0124  
MSSD900:68888A  
Lower Extender:B  
A23-11-12



Run 1

MWD - Gamma Ray 1:200 MD

# Software Version

Acquisition System				Version			
Maxwell 2018 SP1				8.1.99839.3100			
Tool Interface		System Version				Loaded Version	
HSPM		20.3c.062				8.1.99839.3100	
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	

## Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	Include Parallel Data
Run 1	Drilling	Down	140.21 m	1104.98 m	22-Mar-2018 08:11:51	27-Mar-2018 19:08:27	Yes

All depths are referenced to toolstring zero

## Log

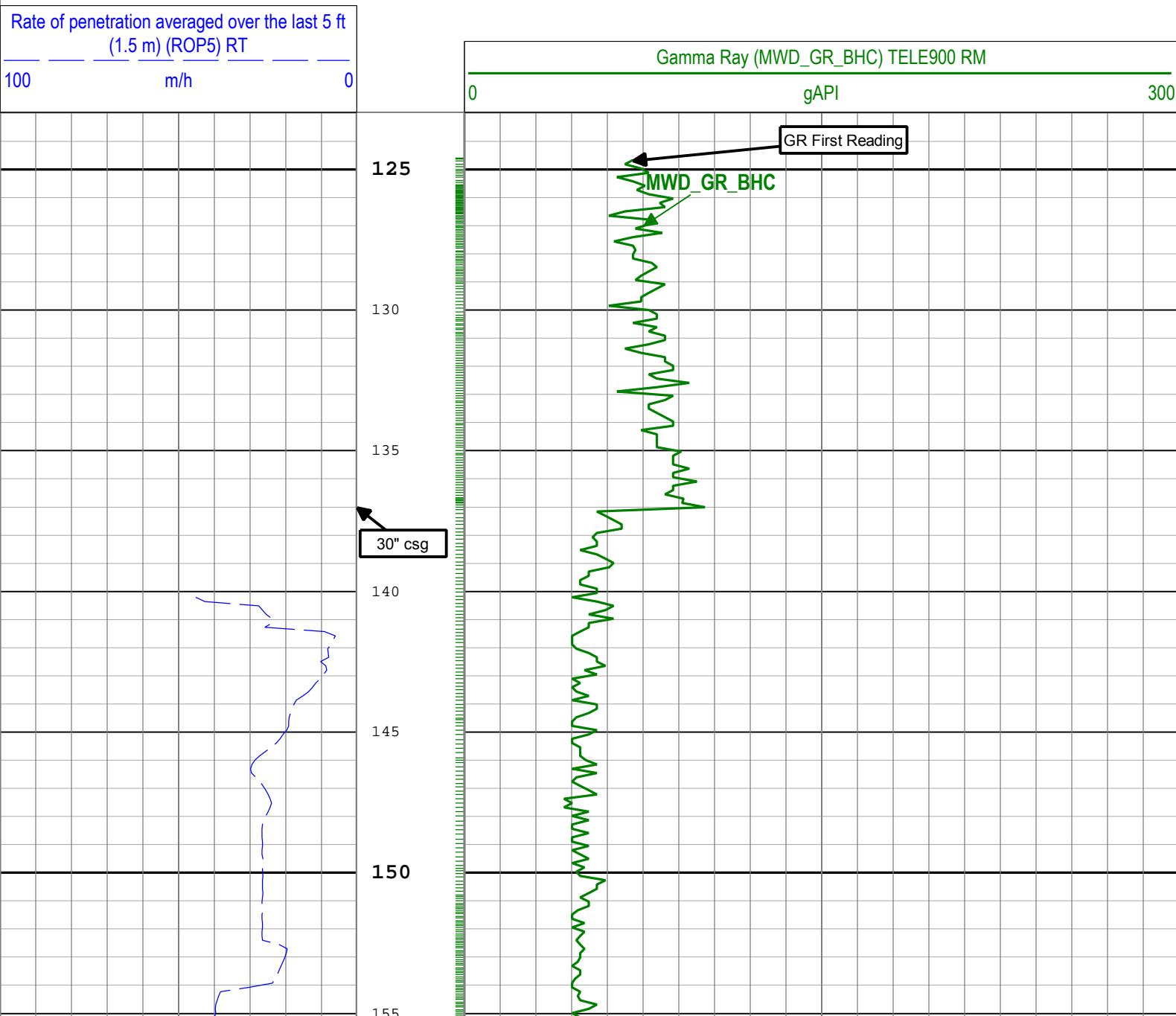
Company:Trias Westland B.V.

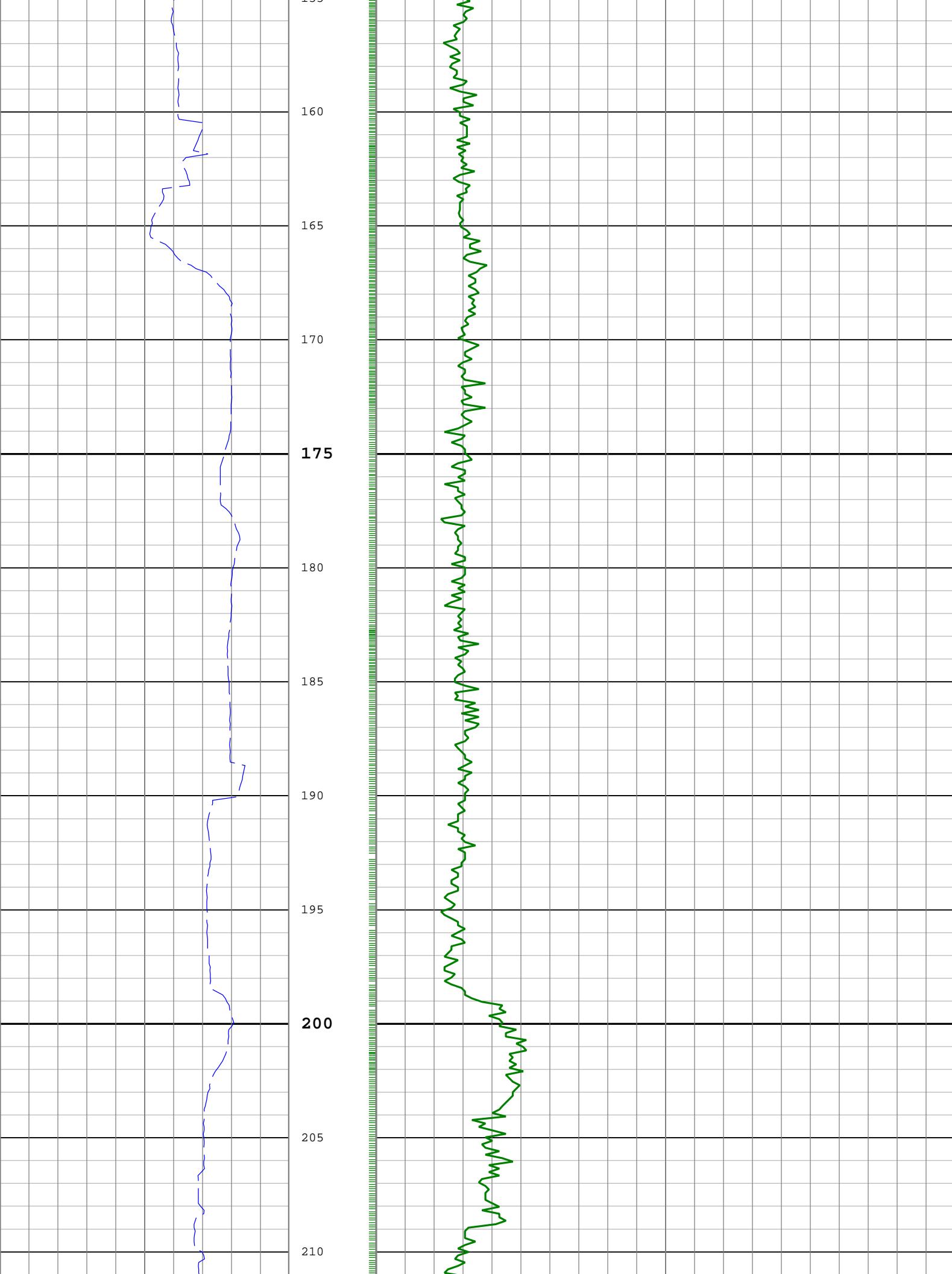
Well:NLW-GT-02-S1

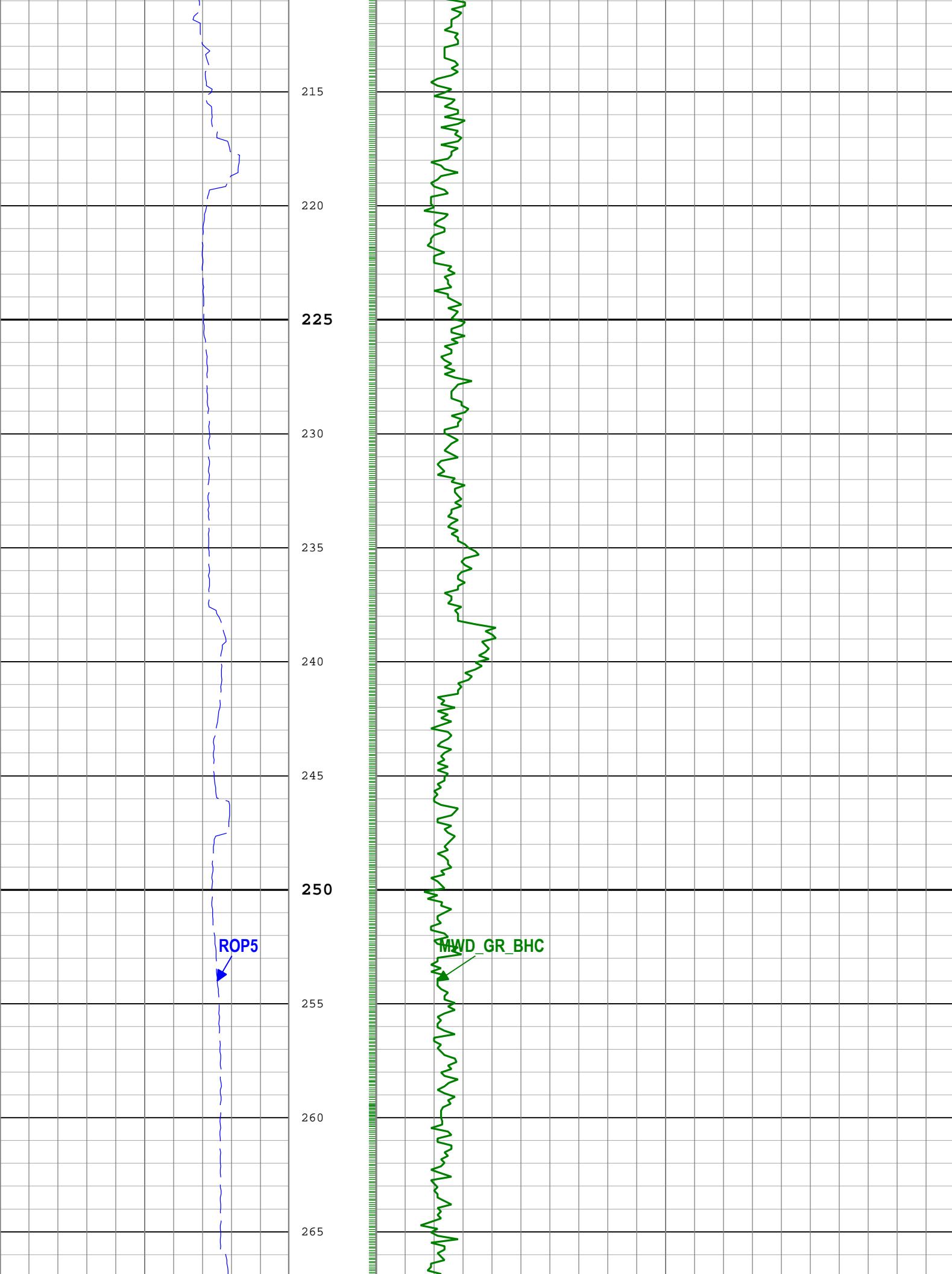
Run 1: Drilling:S097

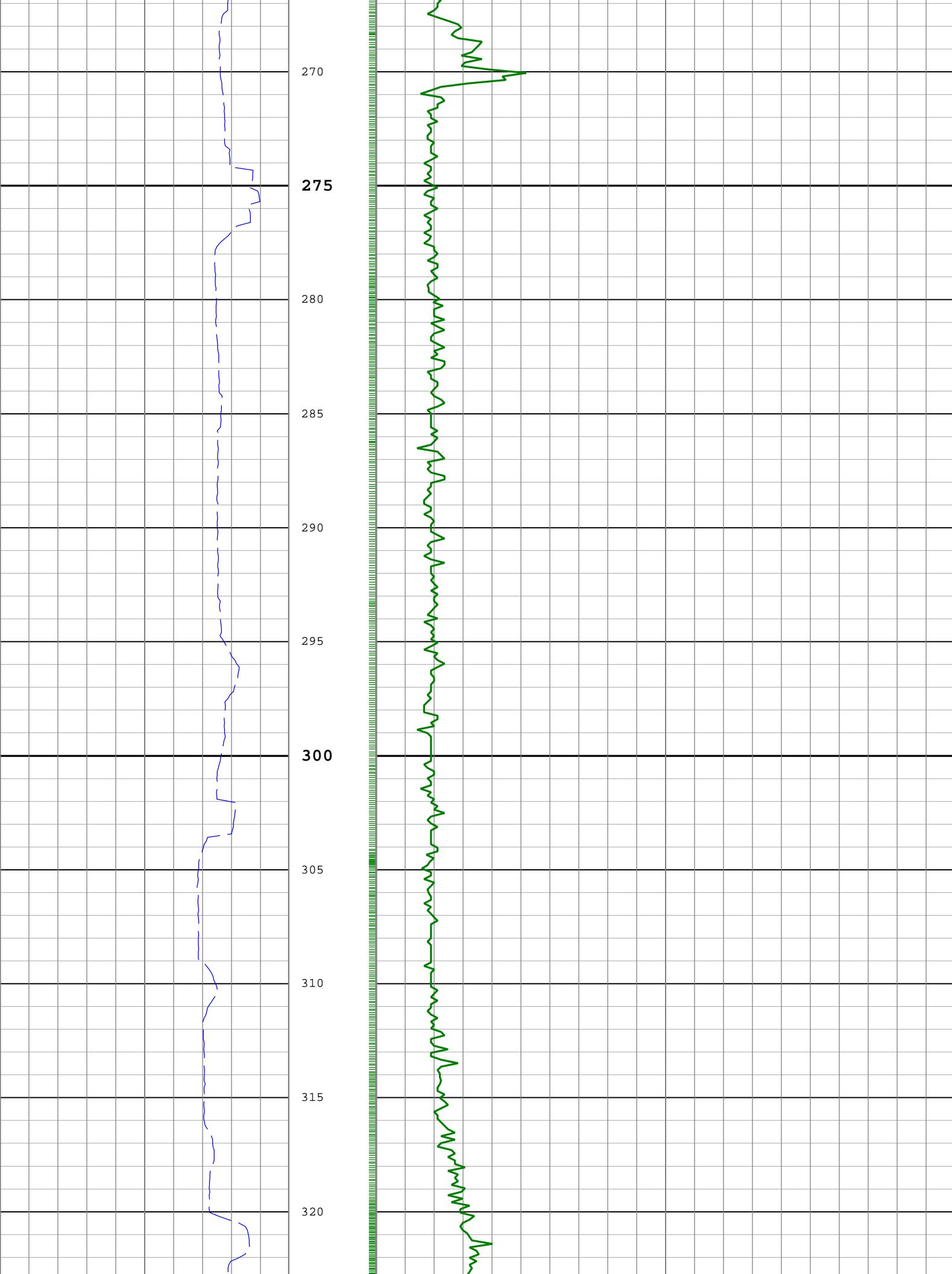
Description: TeleScope Gamma Ray Depth RT Format: Log ( GR MWD and PD with ticks ) Index Scale: 1:200 Index Unit: m Index Type: Measured Depth Creation Date: 05-Apr-2018 09:09:51

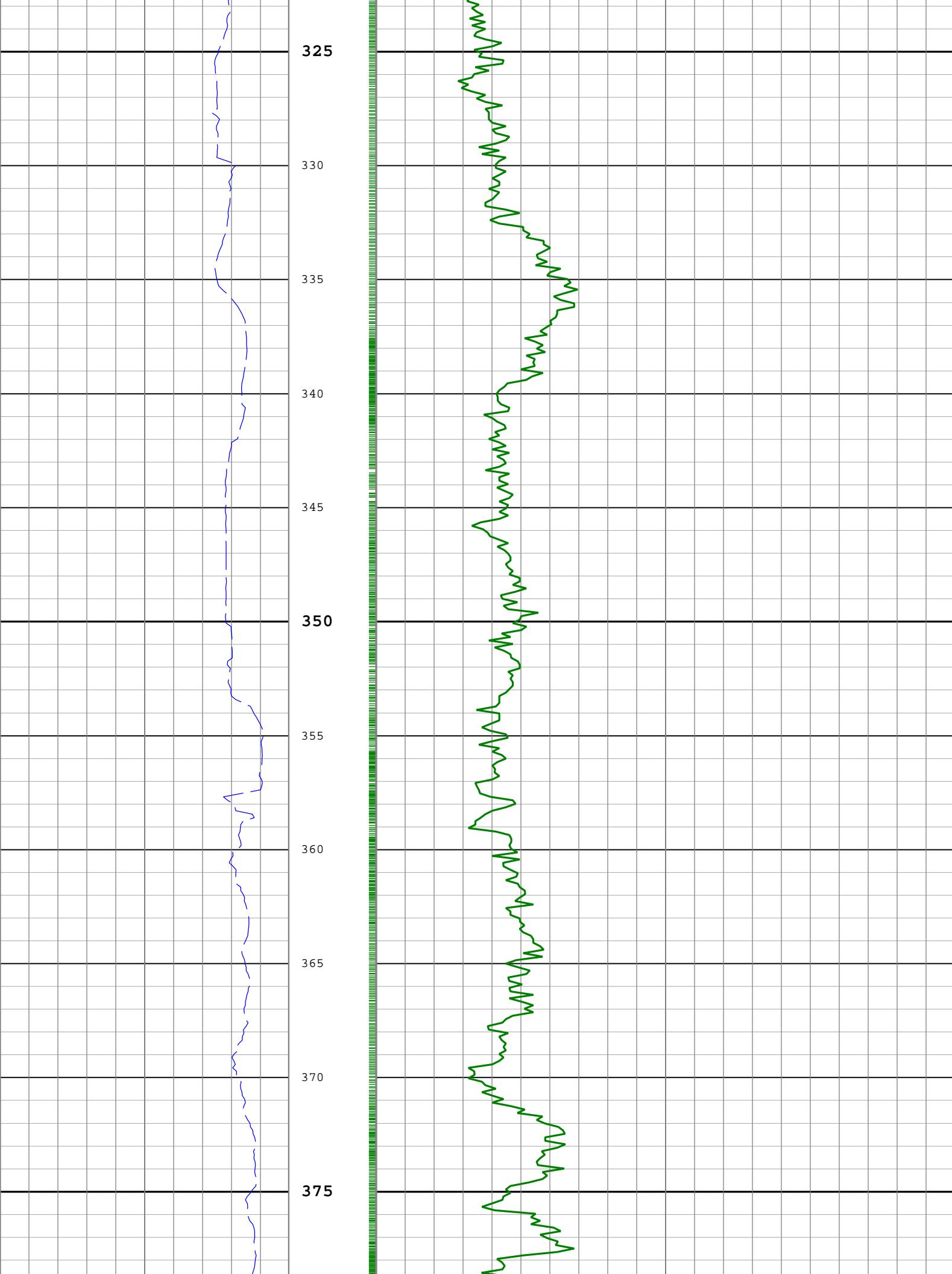
TICKS\_GR - Gamma Ray Tick Marks TELE900 RM

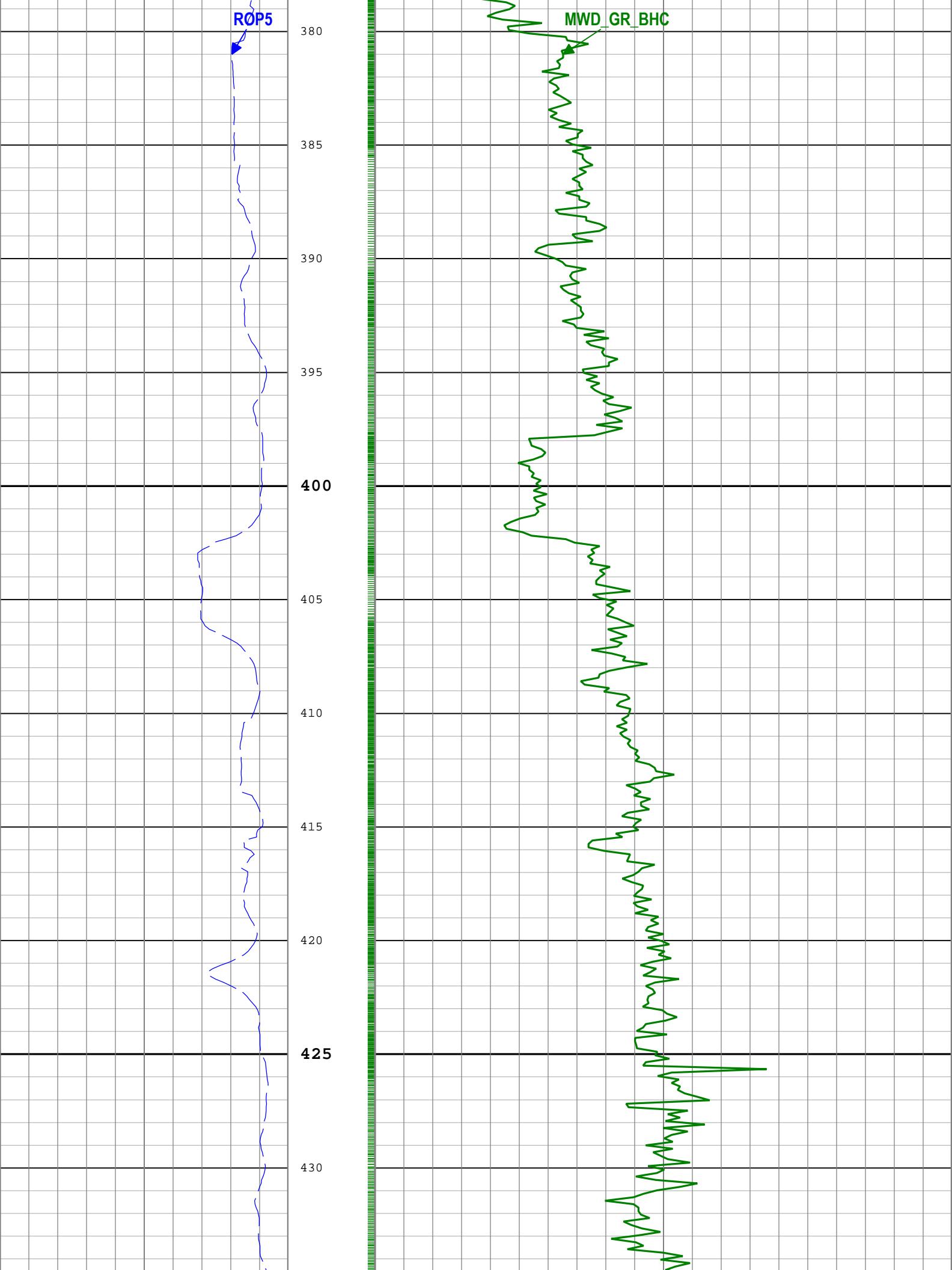


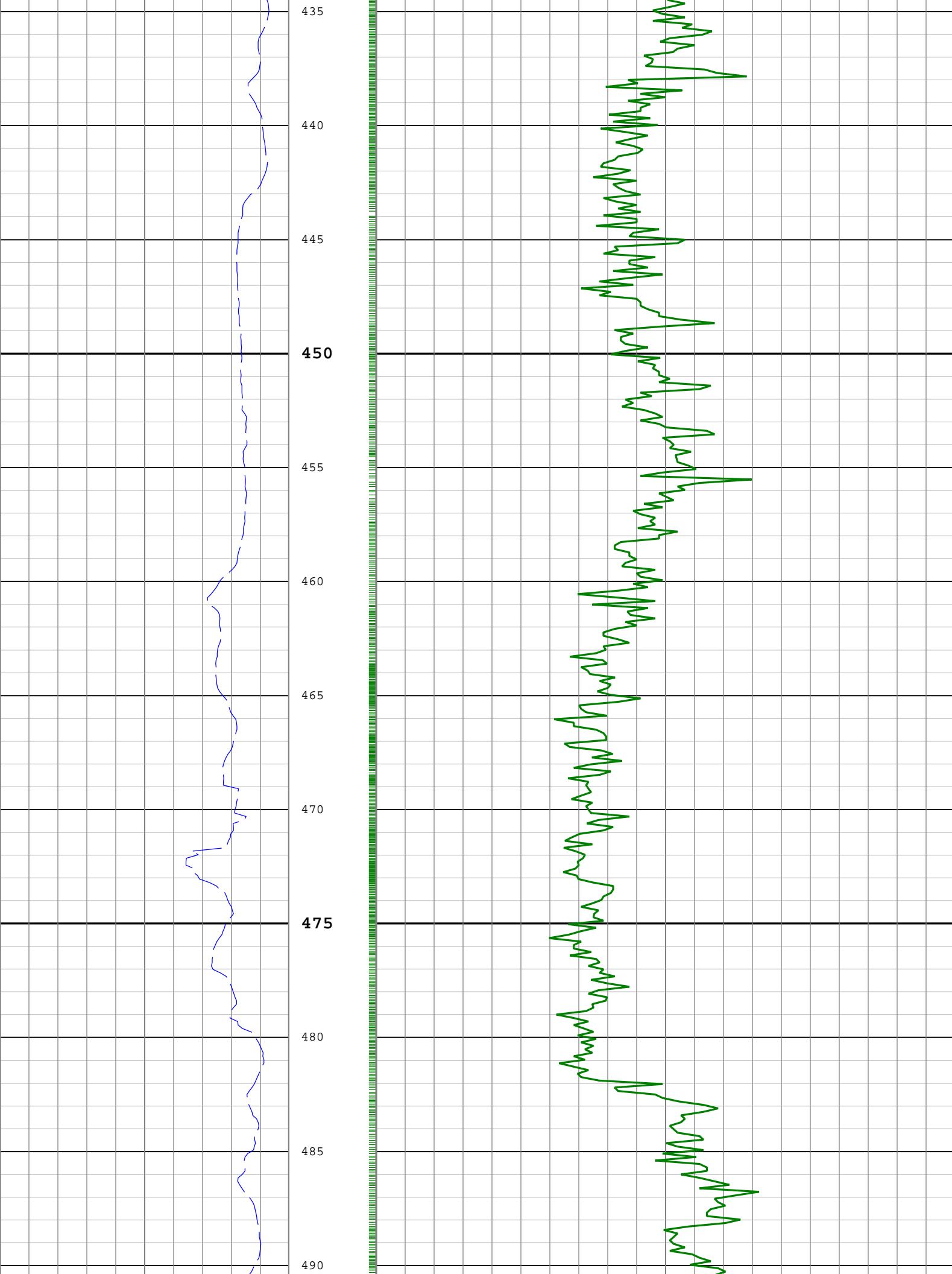


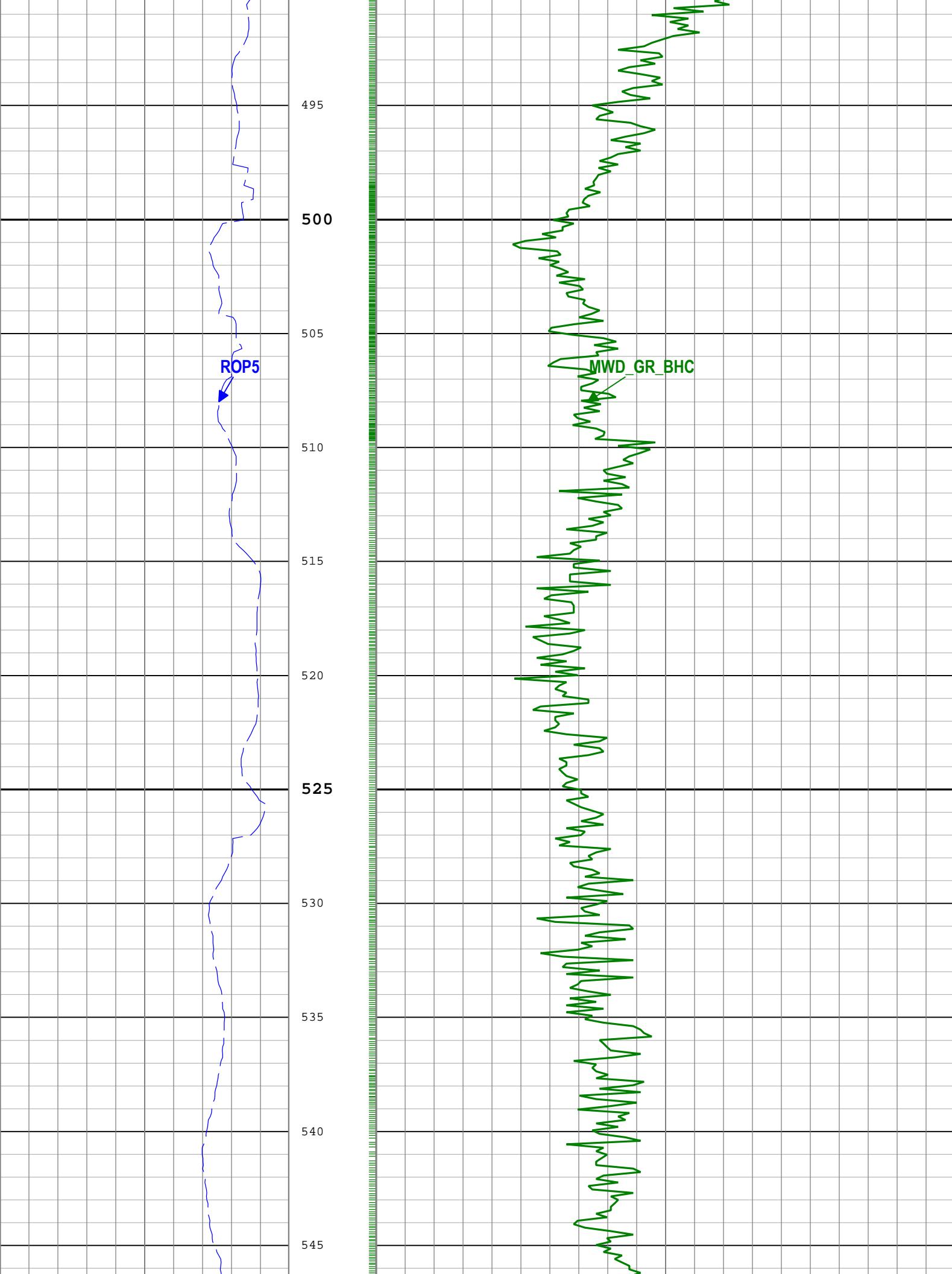


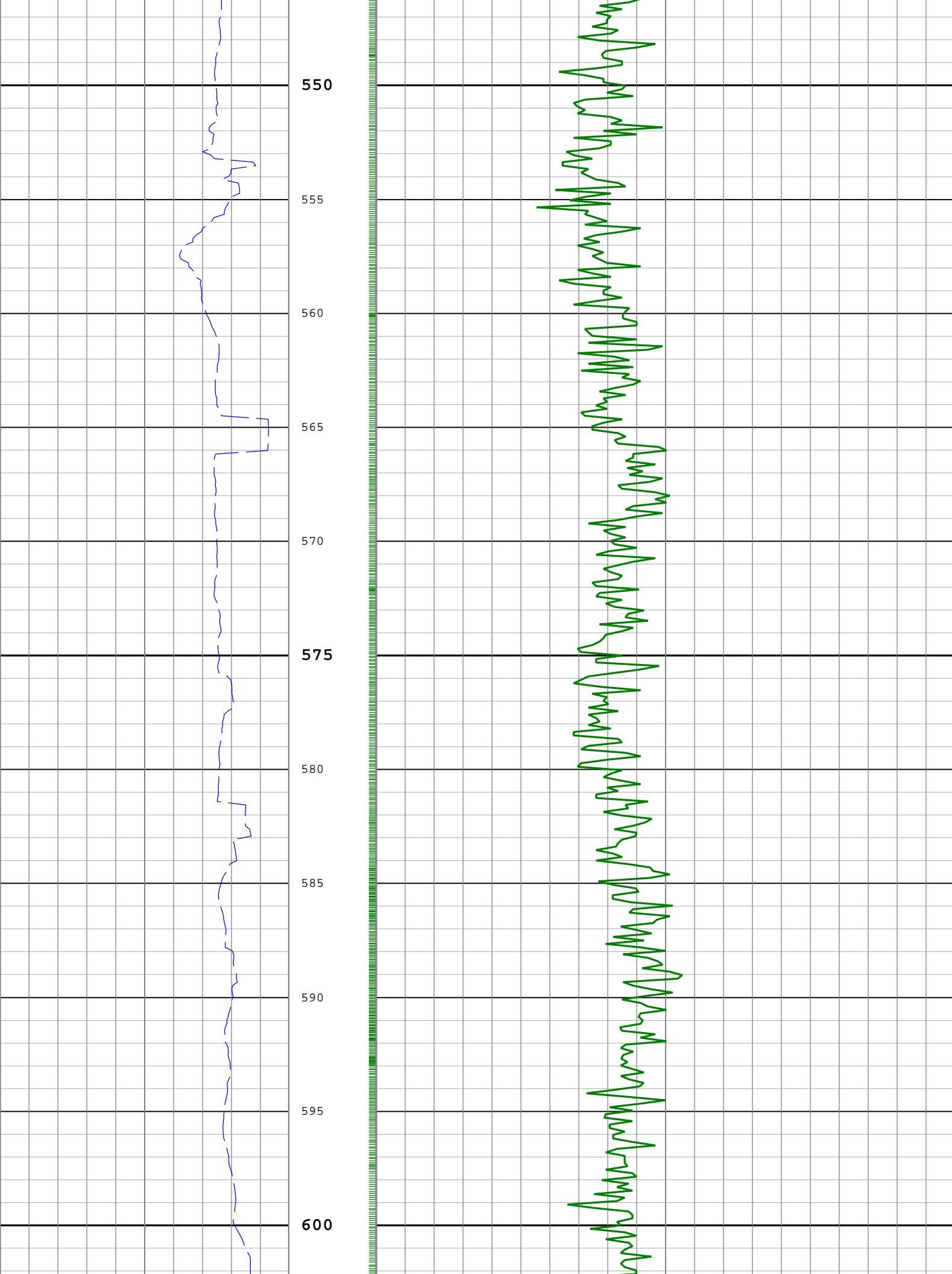


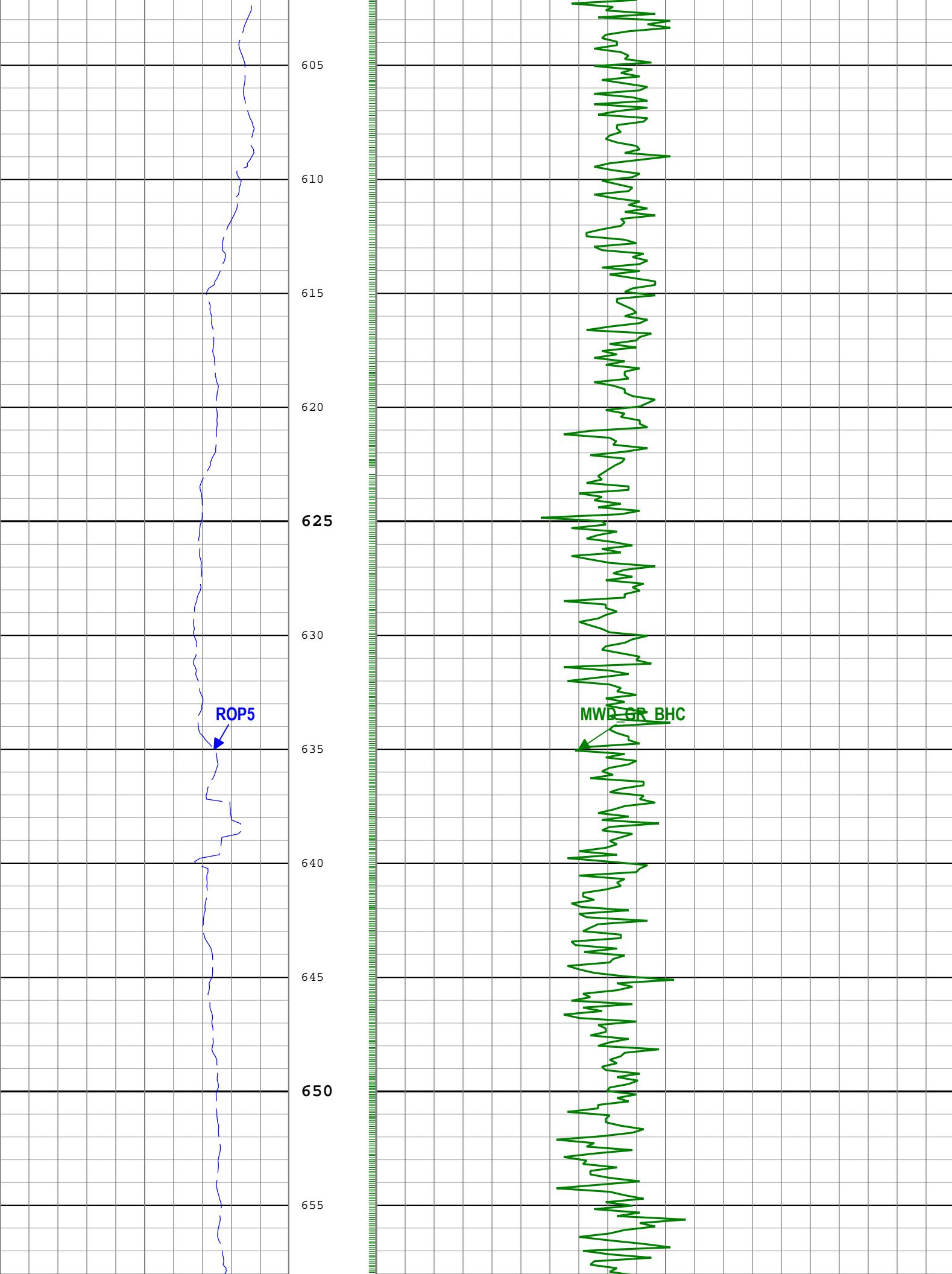


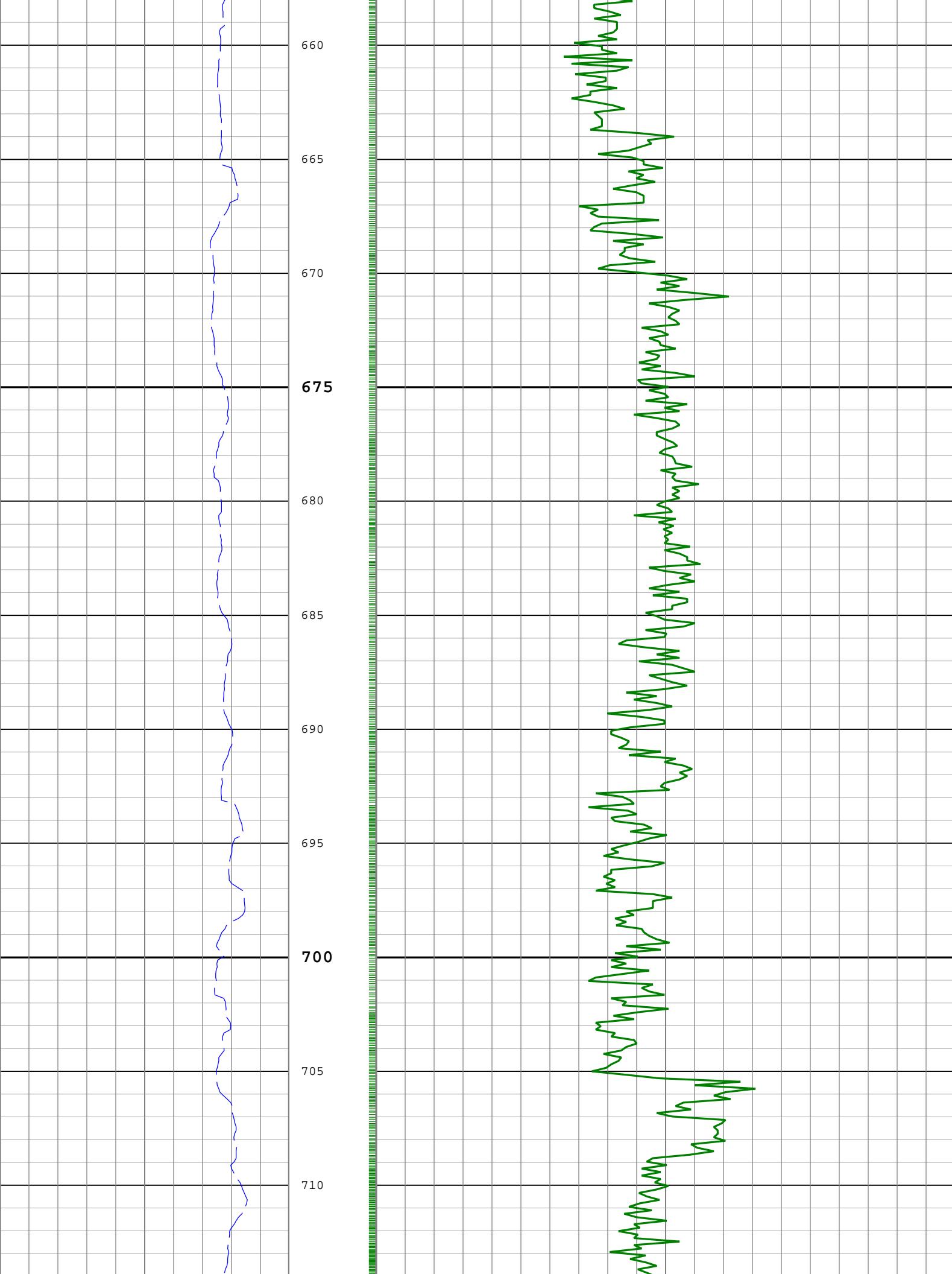


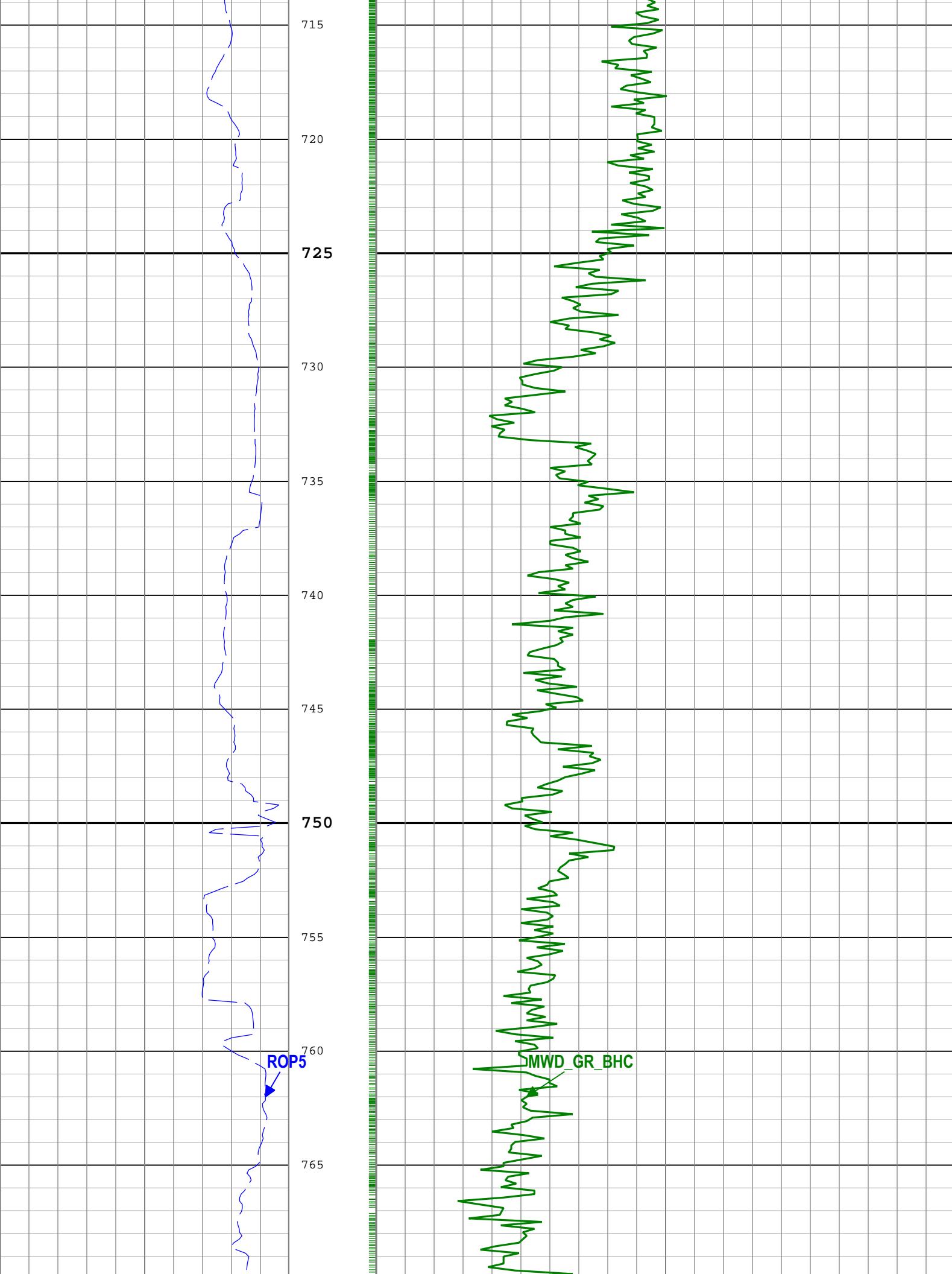


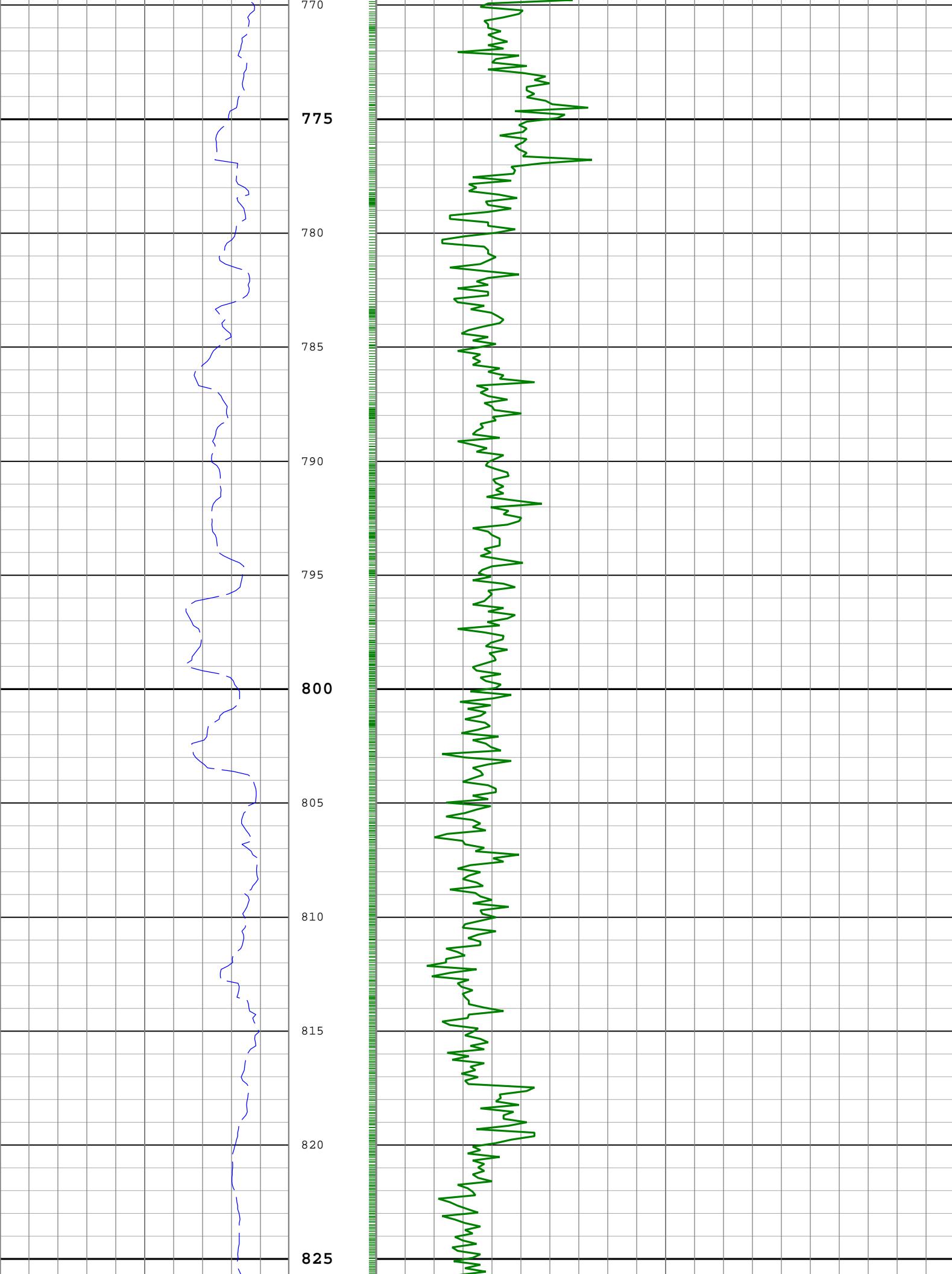


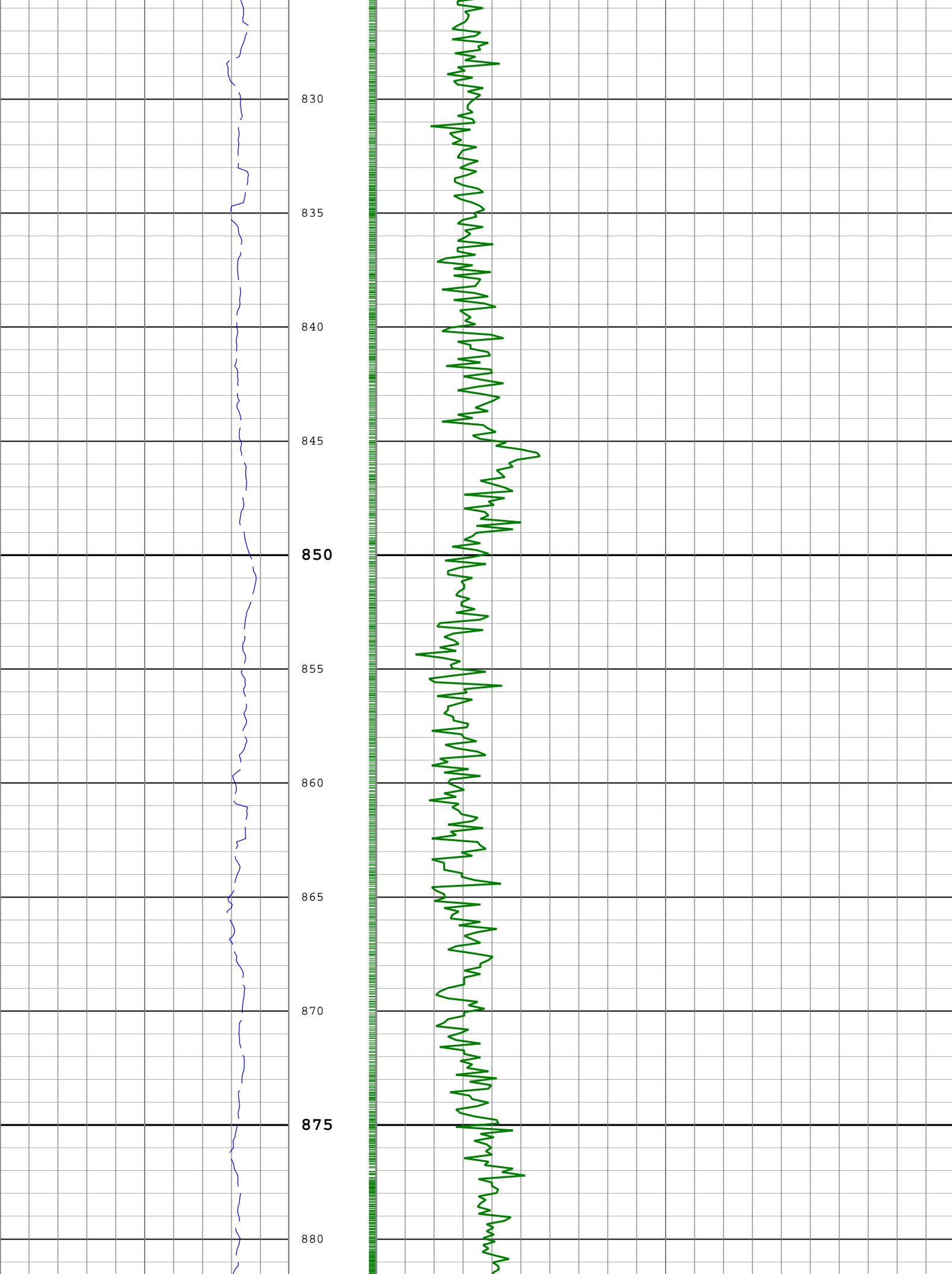


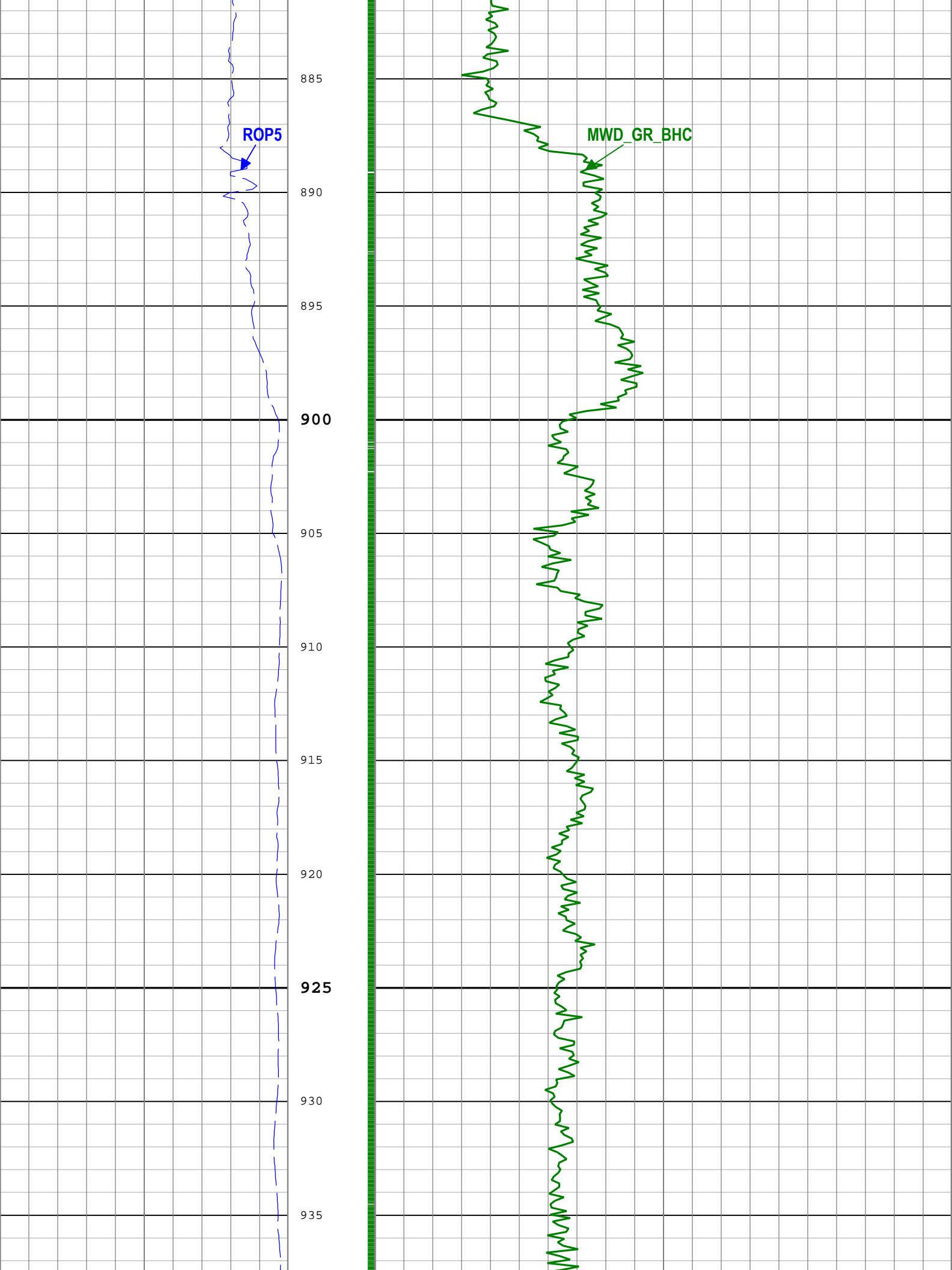


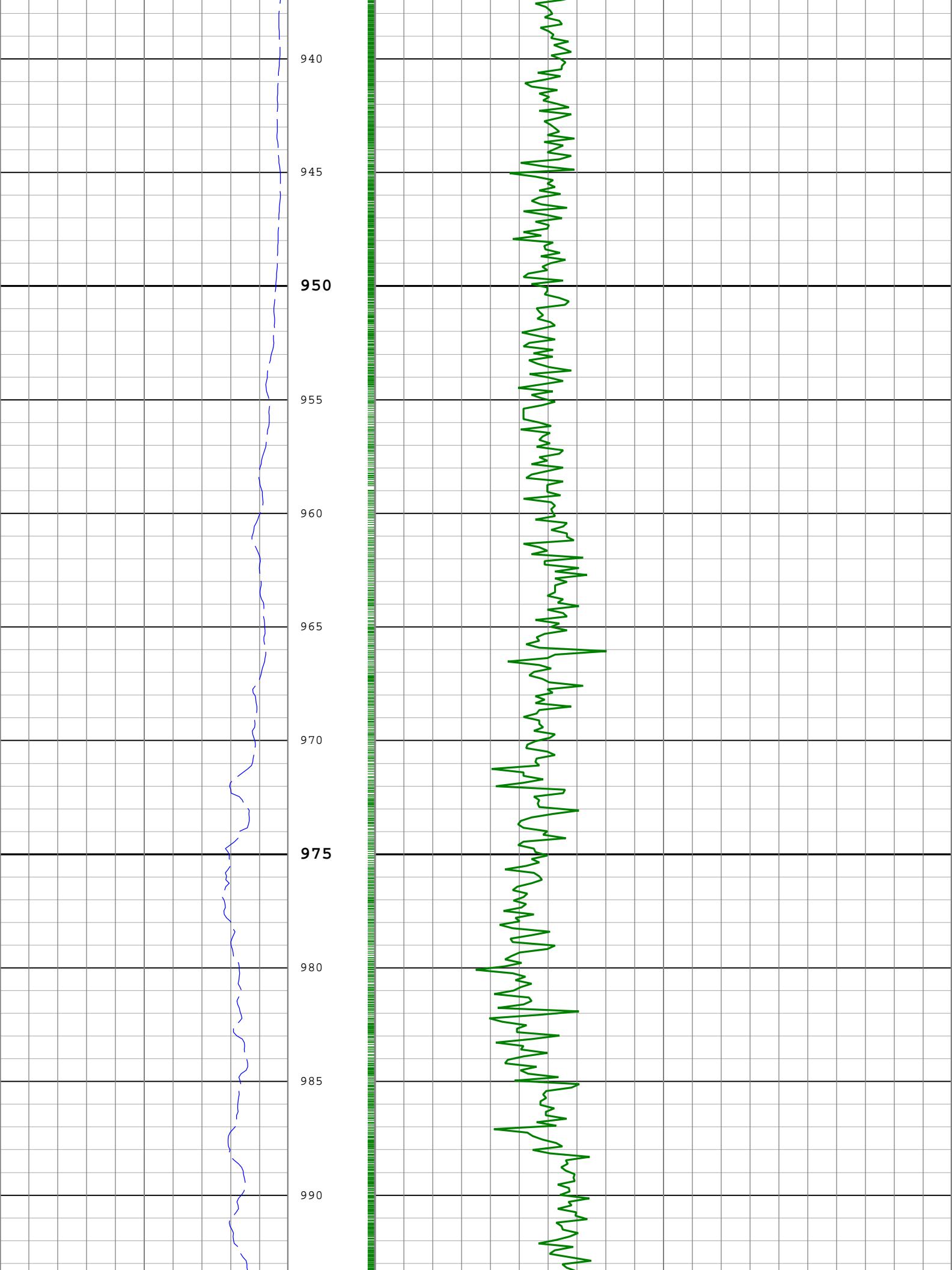


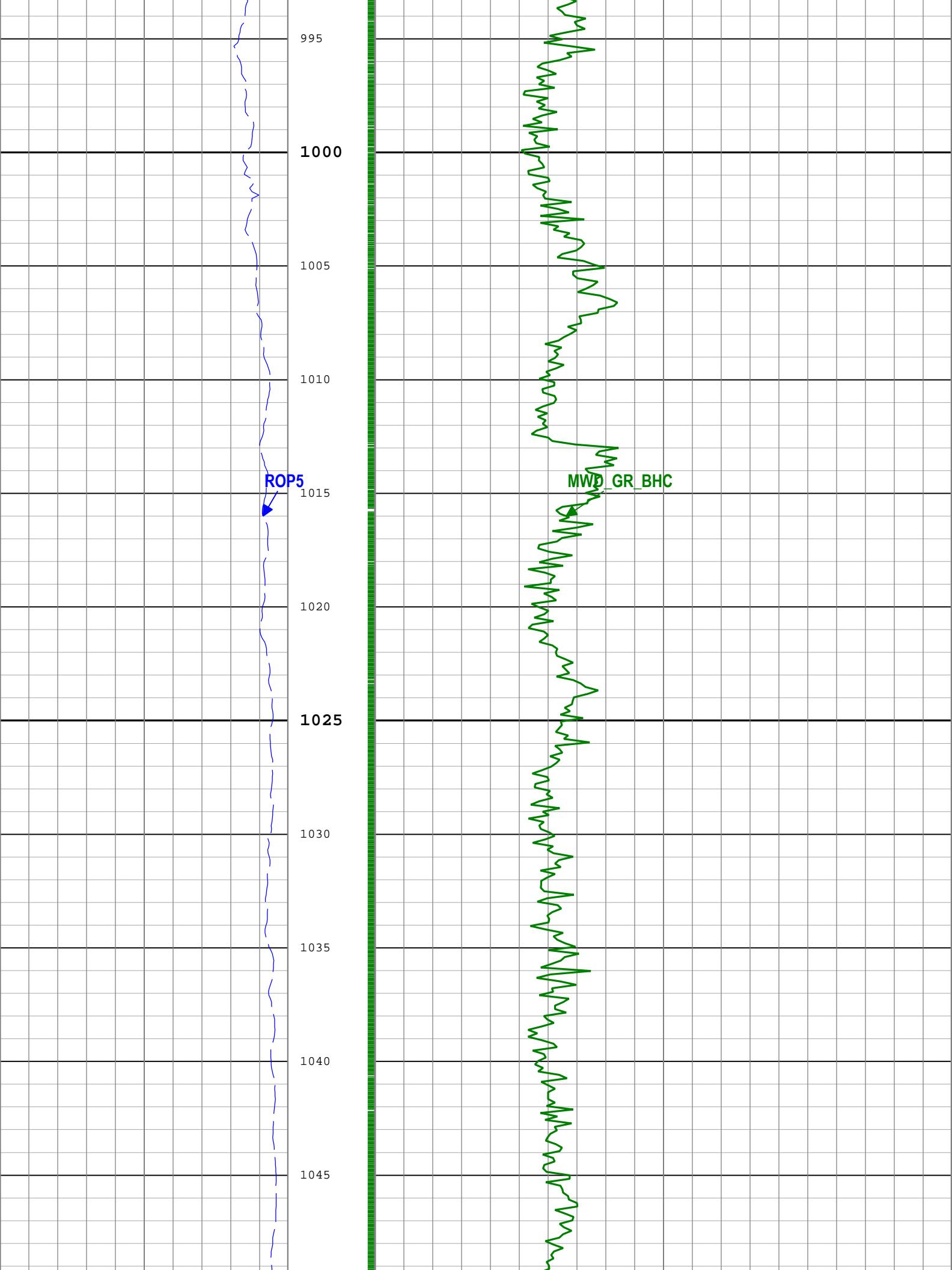


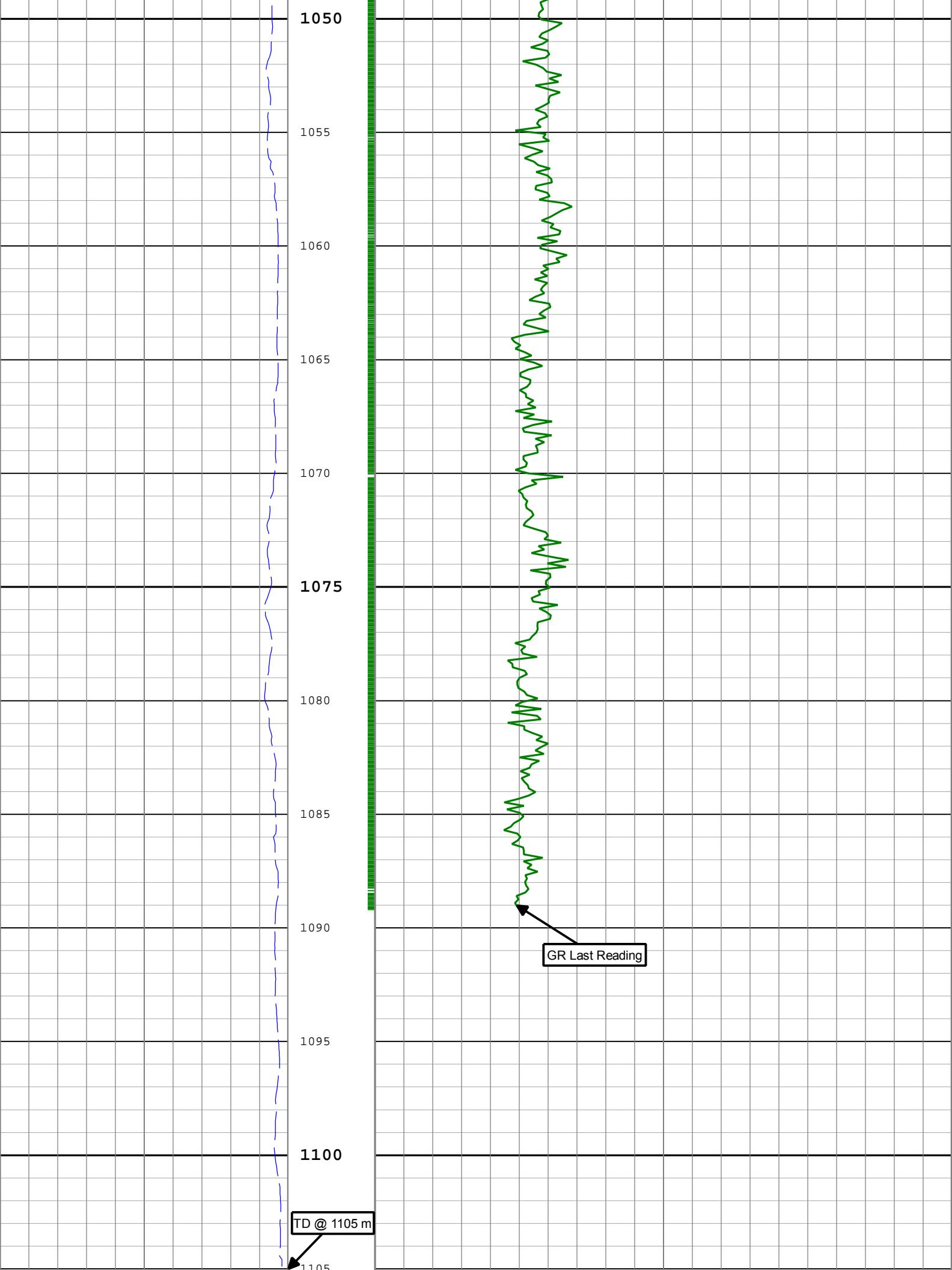












Rate of penetration averaged over the last 5 ft  
 (1.5 m) (ROP5) RT  
 100 m/h 0



TICKS\_GR - Gamma Ray Tick Marks TELE900 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: 05-Apr-2018 09:09:51

## Run 1

### MWD - Gamma Ray 1:1000 MD

#### Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	Include Parallel Data
Run 1	Drilling	Down	140.21 m	1104.98 m	22-Mar-2018 08:11:51	27-Mar-2018 19:08:27	Yes

All depths are referenced to toolstring zero

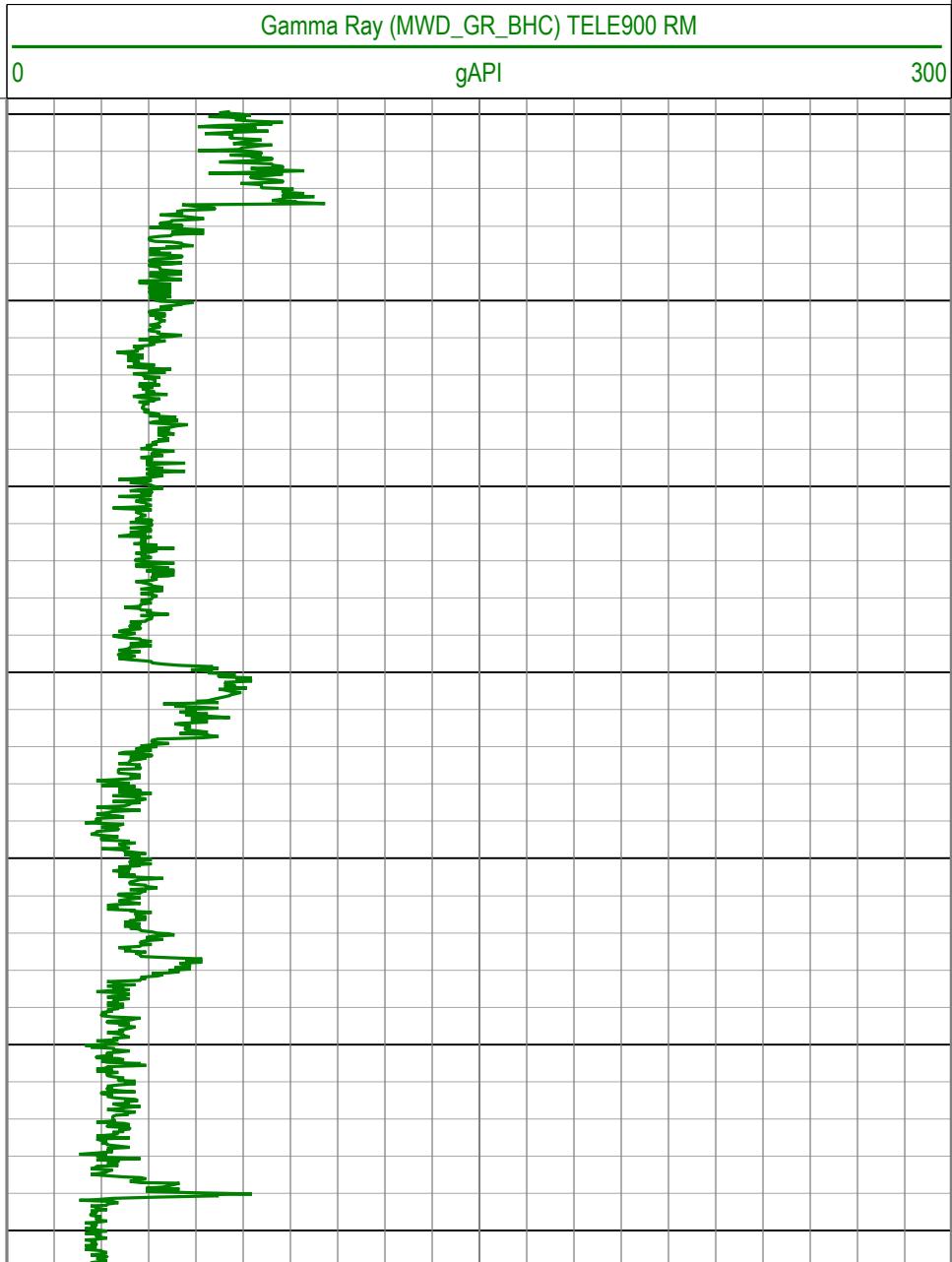
#### Log

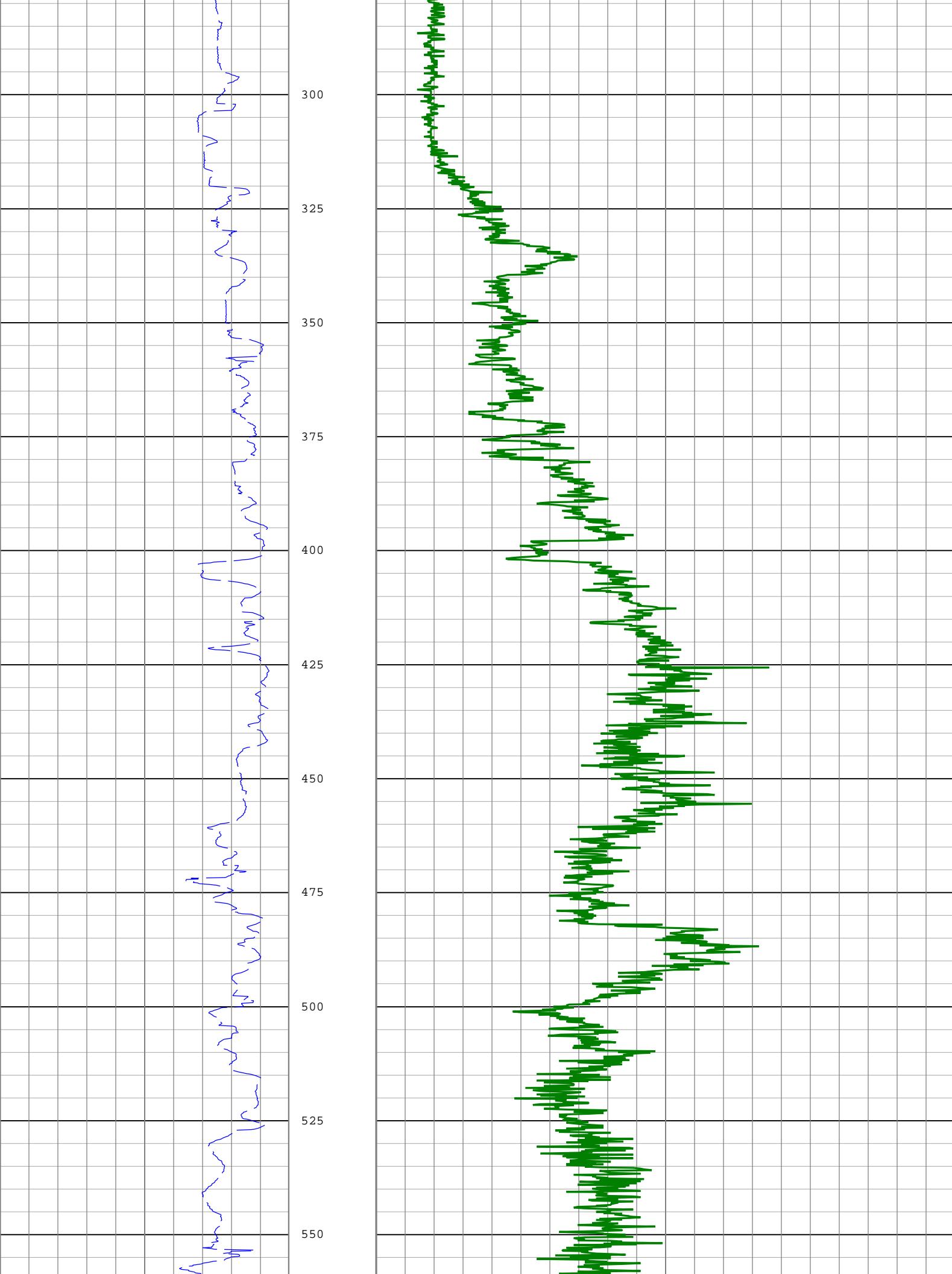
Company:Trias Westland B.V. Well:NLW-GT-02-S1  
 Run 1: Drilling:S097

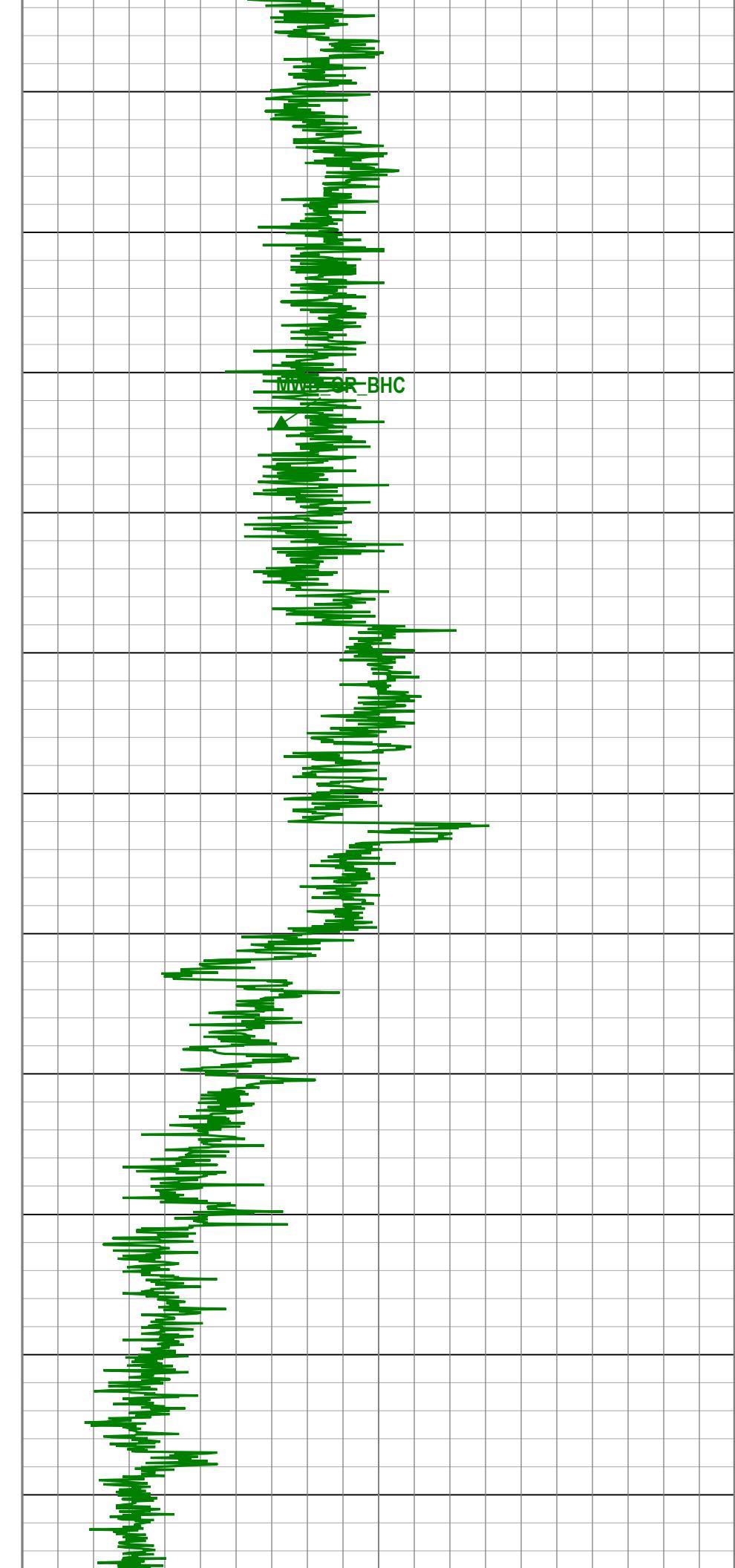
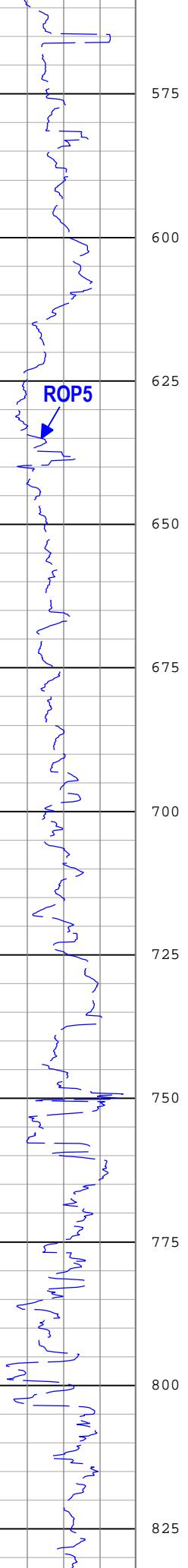
Description: TeleScope Gamma Ray Depth RT Format: Log ( GR MWD and PD no ticks ) Index Scale: 1:1000 Index Unit: m Index Type: Measured Depth Creation Date: 05-Apr-2018 09:09:57

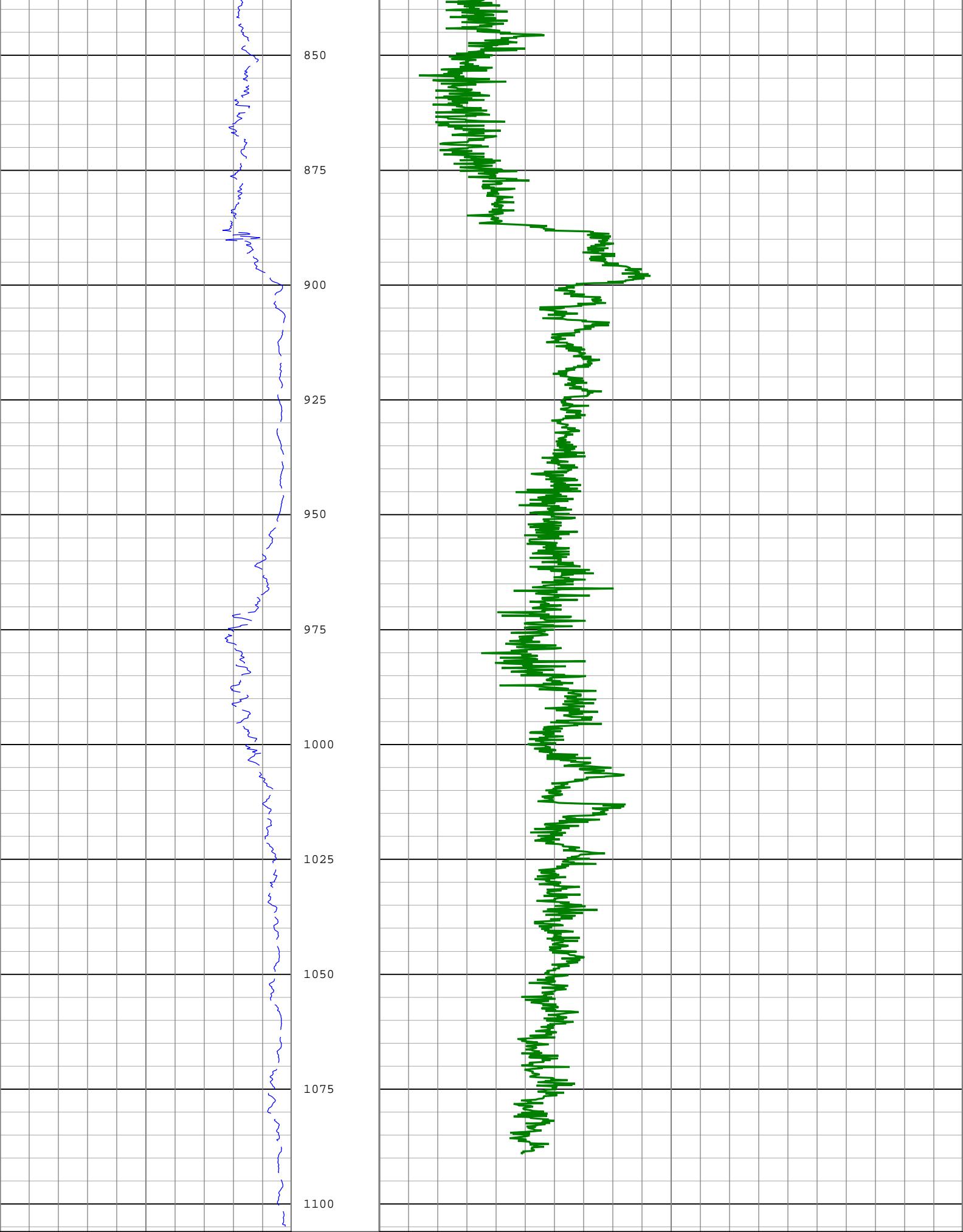
Rate of penetration averaged over the last 5 ft  
 (1.5 m) (ROP5) RT  
 100 m/h 0

125  
 150  
 175  
 200  
 225  
 250  
 275









Rate of penetration averaged over the last 5 ft  
(1.5 m) (ROP5) RT

0 gAPI 300

## Channel Processing Parameters

### Run 1: Parameters

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

### Depth Zone Parameters

Parameter	Value	Start ( m )	Stop ( m )
BS	36	123	137
BS	24	137	1105

All depth are actual.

### Time Zone Parameters

Parameter	Value	Start Time	Stop Time	Start Depth ( m )	Stop Depth ( m )
BHK	0	22-Mar-2018 08:11:51	24-Mar-2018 04:20:10	140.21	441.4
BHK	5.5	24-Mar-2018 04:20:10	24-Mar-2018 21:00:00	441.4	685.83
BHK	4.77	24-Mar-2018 21:00:00	25-Mar-2018 15:00:00	685.83	902.59
BHK	4.17	25-Mar-2018 15:00:00	25-Mar-2018 21:00:00	902.59	920.39
BHK	4.35	25-Mar-2018 21:00:00	27-Mar-2018 19:08:27	920.39	1104.98
DFD	1.05	22-Mar-2018 08:11:51	23-Mar-2018 03:30:36	140.21	182.7
DFD	1.07	23-Mar-2018 03:30:36	23-Mar-2018 21:00:41	182.7	427.94
DFD	1.12	23-Mar-2018 21:00:41	24-Mar-2018 04:00:00	427.94	441.38
DFD	1.16	24-Mar-2018 04:00:00	24-Mar-2018 16:00:08	441.38	608.56
DFD	1.19	24-Mar-2018 16:00:08	25-Mar-2018 04:00:14	608.56	768.12
DFD	1.2	25-Mar-2018 04:00:14	25-Mar-2018 11:00:00	768.12	861.03
DFD	1.23	25-Mar-2018 11:00:00	25-Mar-2018 11:00:21	861.03	861.03
DFD	1.26	25-Mar-2018 11:00:21	25-Mar-2018 21:00:00	861.03	920.39
DFD	1.24	25-Mar-2018 21:00:00	26-Mar-2018 11:00:00	920.39	1000.46
DFD	1.22	26-Mar-2018 11:00:00	26-Mar-2018 15:50:00	1000.46	1032.26
DFD	1.24	26-Mar-2018 15:50:00	27-Mar-2018 19:08:27	1032.26	1104.98

All depth are at tool zero.

## Tool Control Parameters

### Calibration Report

#### TELE900 (TeleScope 900) Calibration - Run 1

Primary Equipment :

Gamma Ray Cartridge

PMGR

223

#### GAMMA\_SF - Gamma Ray: Blanket

Master (Time Frame File): 22:50:15 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	

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