

geoVISION - APWD

Gamma Ray - Resistivity - Image - APWD

12.25in Recorded Mode Log. Measured Depth 1:200



Company: JAMSTEC

Well: C0022A

Field: Nankai Trough - Kumano Basin

Rig Name: Chiky

Prefecture: Wakayama

Country: Japan

Latitude: 33° 13' 4.08" N

Custom:

12JAP0022

Longitude: 136° 43' 27.24" E

Rig Name:

Chiky

Block:

Rig Type:

Drill Vessel

FL: Philippine Sea

FL1: X = 660 683.559m

FL2: Y = 3 676 757.447m

Log Measured From: - Drill Floor: 28.50 m
Permanent Datum: - Mean Sea Level



Ground Level: 2675.50 m

Acquisition Dates: 28-Dec-2012 -- 29-Dec-2012

Other Services:

Log Interval: 2700.00(m) -- 3124.48(m)

DWOB, DTOR

Index Types: Measured Depth

Direction and Inclination

Index Scales: 1:200

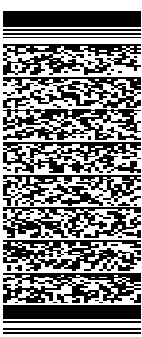
Drilling Mechanics

Depth Source: Driller's Depth

Depth Sensor: DES

Print Type: Final

Spud Date: 26-Dec-2012



Disclaimer

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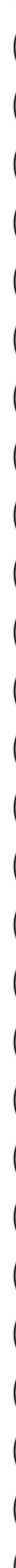
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Well Sketch

Driller Depth

2704.00 m



3124.48 m

Open Hole 12.25in

Borehole Size/Casing Record

Bit					
Bit Size (in)	12.25				
Top Driller (m)	2704				
Bottom Driller (m)	3124.48				

Operational Run Summary

Parameter (unit)	Run 1				
Date Log Started	28-Dec-2012				
Time Log Started	05:23:14				
Date Log Finished	29-Dec-2012				
Time Log Finished	23:42:40				
Bit Size (in)	12.250				
Bit Start Depth (m)	2704.00				
Bit Stop Depth (m)	3124.48				
Top Log Interval (m)	2704.00				
Bottom Log Interval (m)	3124.22				
Max Hole Deviation (deg)	0.67				
Azimuth of Max Deviation (deg)	350.64				
Logging Unit Number	OLU-KC-504				
Logging Unit Location	Comp Deck				
Recorded By	Wang Feng TomasCosendey				
Witnessed By	Moe Kyaw Thu Yoshi Sanada				
Service Order Number	12JAP0022				

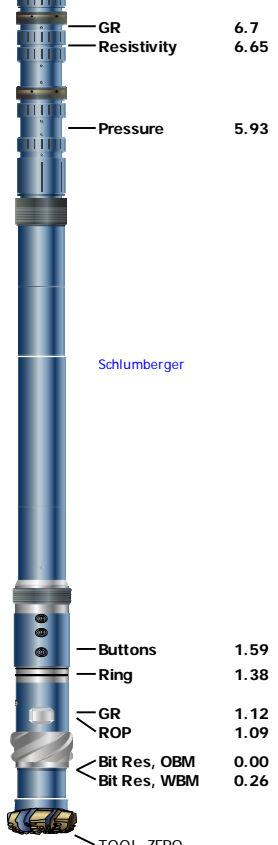
Borehole Fluids

Parameter(unit)	Run 1				
Fluid Type	Water				
Fluid Name	Sea Water				
Max Recorded Temperatures (degC)	7				
Source of Sample	Active Tank				
Salinity (ppm)	29741.6				
Density (g/cm3)	1.038				

Funnel Viscosity (s)						
Fluid Loss (cm3)						
PH	10.5					
Source RMF						
RMC	Pressed					
RM @ Meas Temp (ohm.m@degC)	0.23 @ 20.3					
RMF @ Meas Temp (ohm.m@degC)	0.15 @ 20					
RMC @ Meas Temp (ohm.m@degC)						
RM @ BHT (ohm.m@degC)	0.35 @ 6					
RMF @ BHT (ohm.m@degC)						
RMC @ BHT (ohm.m@degC)	NaN @ 6					
Total Solid (%)						
High Gravity Solids (%)						

Remarks and Equipment Summary

Run1: Toolstring				Run1: Remarks	
Equip name TELE825-IWOB:G 0159	Length 18.99	MP name Schlumberger	Offset	<p>Data presented is Recorded Mode data which was acquired while drilling.</p> <p>Depth reference is driller's depth measured from Rotary Table.</p> <p>geoVISION record rate is 5s, APWD record rate is 5s.</p> <p>geoVISION GR is corrected for bit size, tool size and mud weight. No potassium concentration in mud.</p> <p>geoVISION resistivity is environmentally corrected for bit size and mud resistivity.</p> <p>Reason for POOH: Well TD.</p> <p>Drilling Time: 13.74 hrs</p> <p>Pumping Time: 19.06 hrs</p> <p>Warning in calibration list is due to MaxWell bug.</p>	
D&I 14.21					
GR 13.56					
ROP 11.85					
IWOB 10.84					
Schlumberger 10.08					
ROP 7.76					
ARC8:2791-SRPC 10.08					



RAB8:42825/413 47
4.17

Schlumberger

Bit: 12 1/4":A162 762
0.3

TOOL_ZERO

Lengths are in m
Maximum Outer Diameter = 12.250 in
Line: Sensor Location, Value: Gating Offset
All measurements are relative to TOOL_ZERO

Survey Record

Survey Calculation

Method :	Minimum Radius of Curvature	DLS Method :	Lubinski
North Reference :	Grid North	Total Correction Formula :	Magnetic Dec - Grid Convergence
Grid Convergence :	0.94 deg		

Rig Location

Latitude :	33° 13' 4.08" N	Longitude :	136° 43' 27.24" E
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Tie In Point

Measured Depth:	0.00 m	Inclination:	0.00 deg	Azimuth:	0.00 deg
True Vertical Depth:	0.00 m	North Displacement:	0.00 m	East Displacement:	0.00 m
N/S VSec Origin:	0.00 m	E/W VSec Origin:	0.00 m	Vertical Section Azimuth:	0.00 deg

D&I Inits Computed and Values Used - Run1

Geomagnetic Model :	BGGM 2011	Geomagnetic Date :	27-Dec-2012
Computed Location B :	45896.59 nT +/- 300.00nT	Used Location B :	45896.59 nT +/- 300.00nT
Computed Location G :	9.80 m/s2 +/- 0.02m/s2	Used Location G :	9.80 m/s2 +/- 0.02m/s2
Computed Magnetic Dip :	46.71 deg +/- 0.45deg	Used Magnetic Dip :	46.71 deg +/- 0.45deg
Computed Magnetic Dec :	-6.71 deg	Used Magnetic Dec :	-6.71 deg
Computed Total Correction :	-7.65 deg	Used Total Correction :	-7.65 deg

Survey Quality Index

0 : Long Survey passed all criteria 3 : Long Survey failed G criteria 9 : Manual
28 : Tie-In Point

Survey Correction Index

0 : No correction

Survey Description Index

0 : Not Flagged Survey

Seq	MD (m)	Incl (deg)	Azim (deg)	Course (m)	TVD (m)	V Sec (m)	N/ -S (m)	E/ -W (m)	Closure (m)	at Azim (deg)	DLS deg/30m	Tool Type	QI	CI	DI
1	0.00	0.00	0.00	----	0.00	0.00	0.00	0.00	0.00	90.00	0.00	TIP	28	0	0
2	2704.00	0.00	0.00	2704.00	2704.00	0.00	0.00	0.00	0.00	90.00	0.00	Other	9	0	0
3	2708.80	0.33	60.18	4.80	2708.80	0.01	0.01	0.01	0.01	60.18	2.04	TeleScope	0	0	0
4	2747.11	0.49	219.94	38.31	2747.11	-0.07	-0.07	0.00	0.07	179.41	0.63	TeleScope	0	0	0
5	2785.26	0.37	219.37	38.15	2785.26	-0.29	-0.29	-0.18	0.34	212.52	0.10	TeleScope	3	0	0

6	2862.46	0.29	291.96	77.21	2862.46	-0.40	-0.40	-0.52	0.66	231.99	0.15	TeleScope	3	0	0
7	2900.39	0.32	318.11	37.92	2900.38	-0.29	-0.29	-0.67	0.73	246.78	0.11	TeleScope	0	0	0
8	2939.10	0.43	340.66	38.71	2939.10	-0.07	-0.07	-0.79	0.80	264.83	0.14	TeleScope	0	0	0
9	2977.01	0.49	347.72	37.91	2977.00	0.22	0.22	-0.88	0.90	284.09	0.06	TeleScope	0	0	0
10	3014.74	0.58	350.18	37.73	3014.74	0.56	0.56	-0.94	1.10	300.90	0.07	TeleScope	0	0	0
11	3052.63	0.64	351.55	37.88	3052.62	0.96	0.96	-1.01	1.39	313.67	0.05	TeleScope	0	0	0
12	3091.39	0.67	350.64	38.76	3091.38	1.40	1.40	-1.07	1.76	322.42	0.03	TeleScope	0	0	0

Run1

Integration Summary

Output Channel(s)	Output Description	Input Parameter	Output Value	Unit
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Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	Include Parallel Data
Run1	Drilling	Down	2684.50 m	3124.48 m	28-Dec-2012 5:23:14 AM	29-Dec-2012 11:42:40 PM	

All depths are referenced to toolstring zero

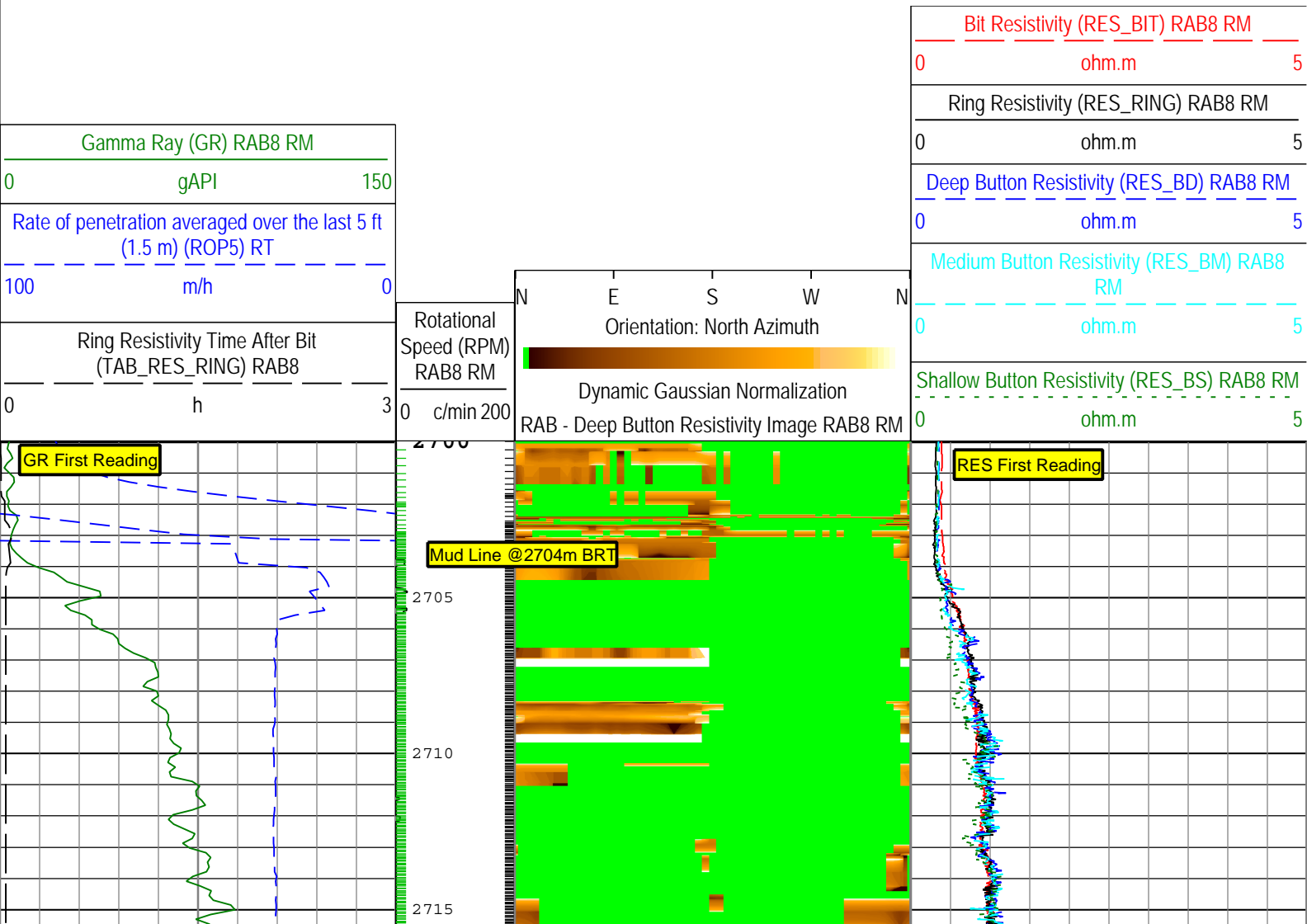
Log

Run1: Drilling

Description: GVR Resistivity, Deep Button Image Format: Log (GVR Image-APWD Depth RM) Index Scale: 1:200 Index Unit: m Index Type: Measured
 Depth Creation Date: 10-Jan-2013 17:32:14

┆ TICKS_GR - Gamma Ray Tick Marks RAB8 RM

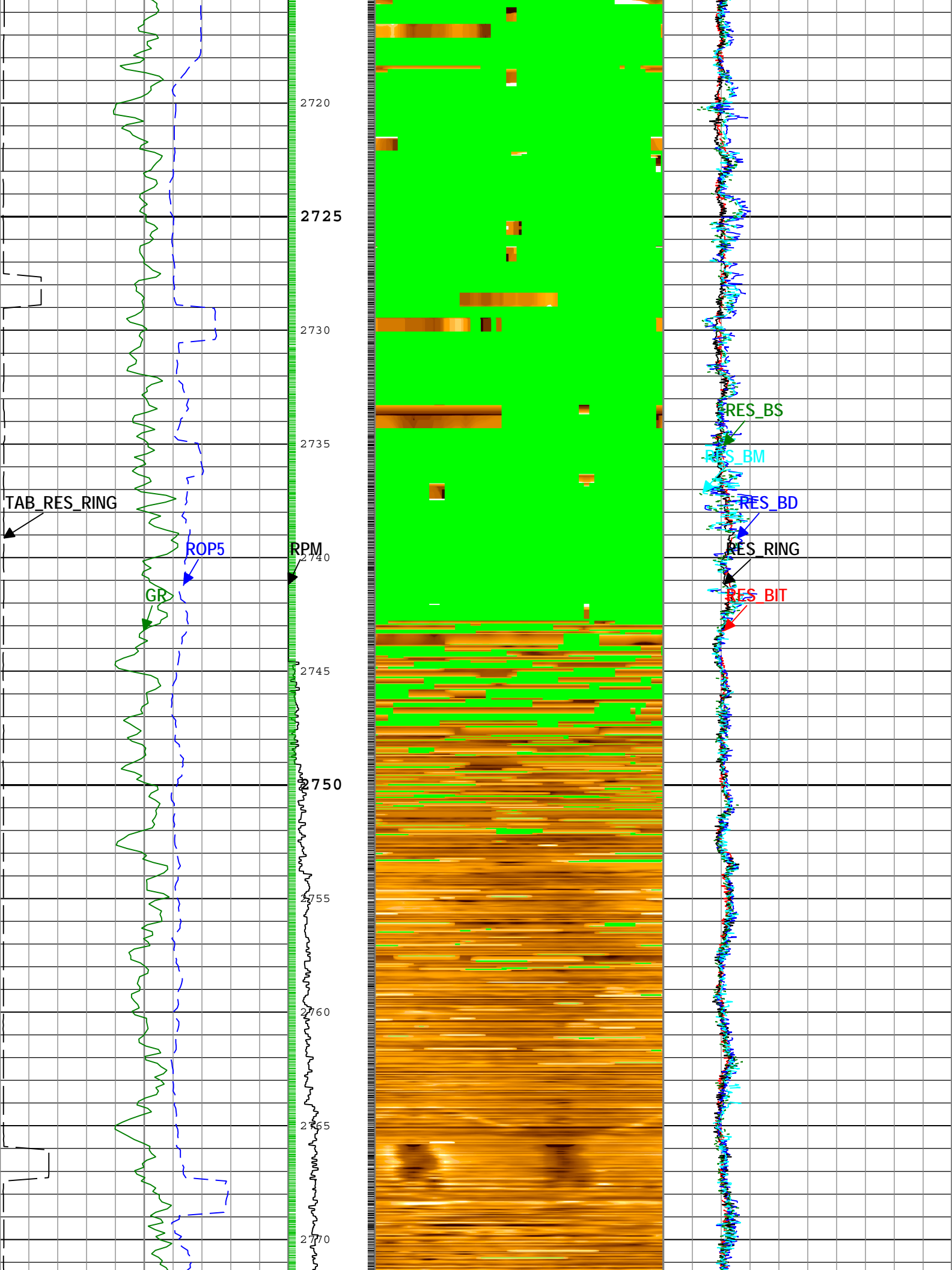
┆ TICKS_RING - Ring Sample Tick Marks RAB8 RM

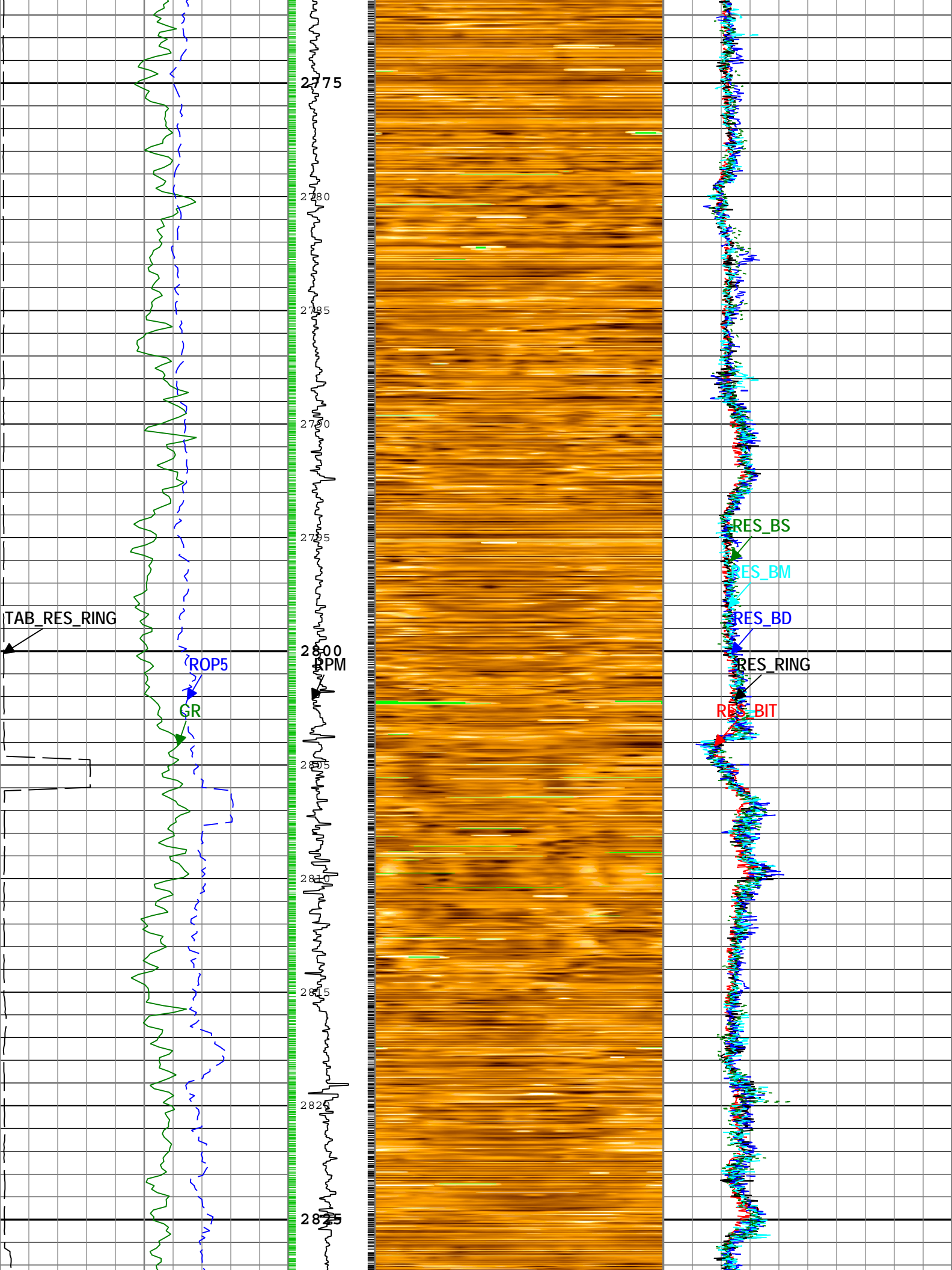


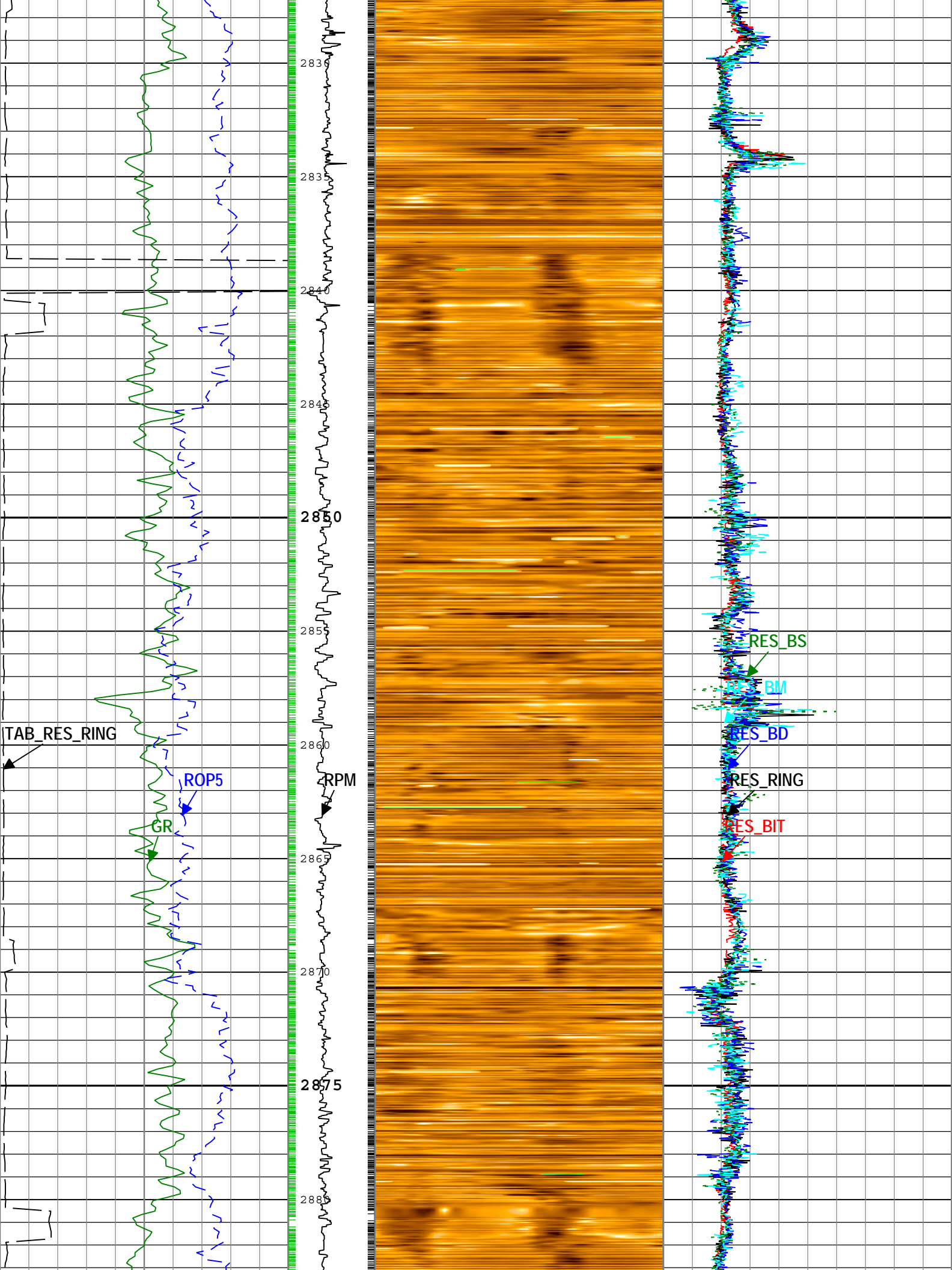
GR First Reading

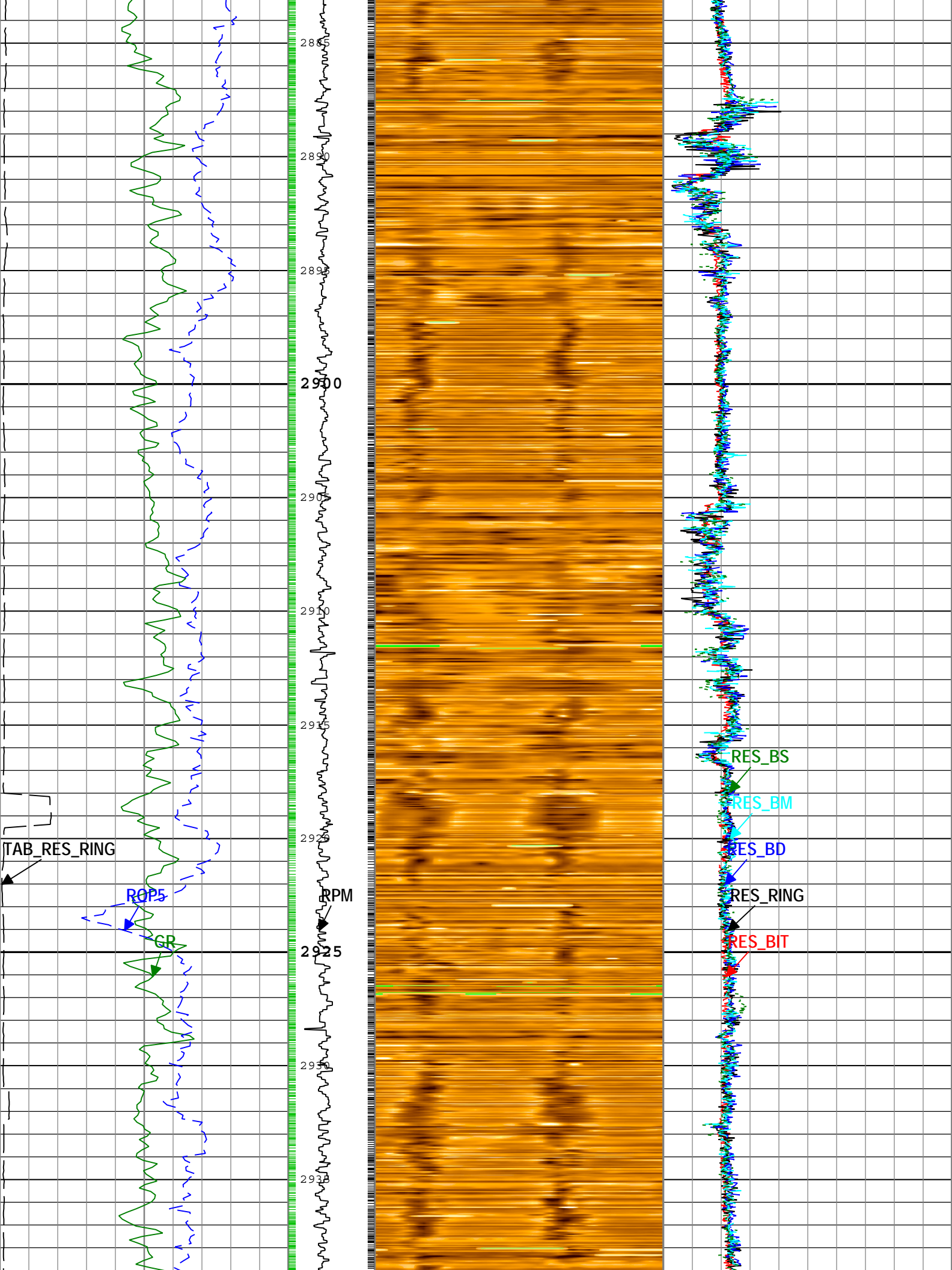
RES First Reading

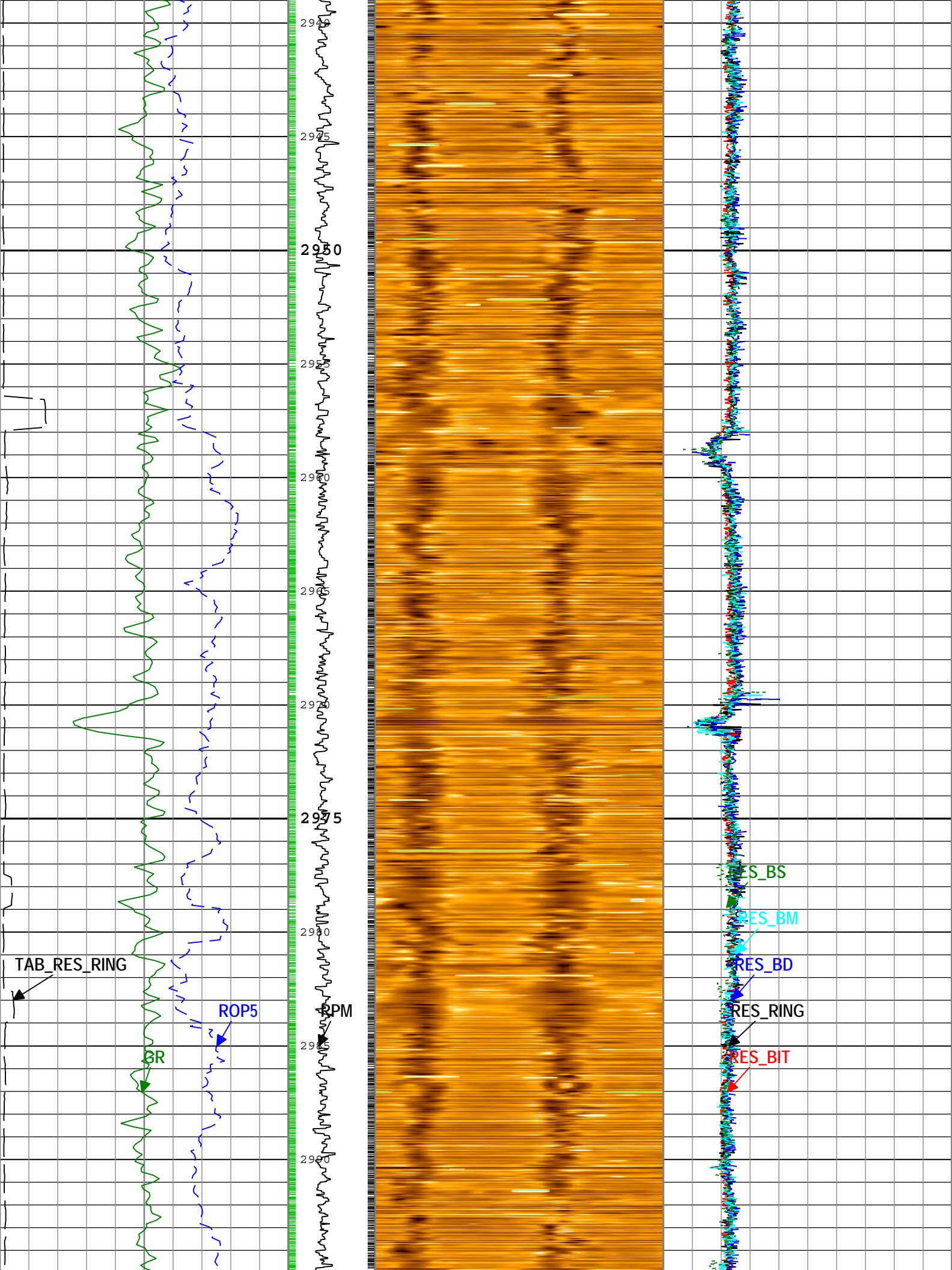
Mud Line @2704m BRT

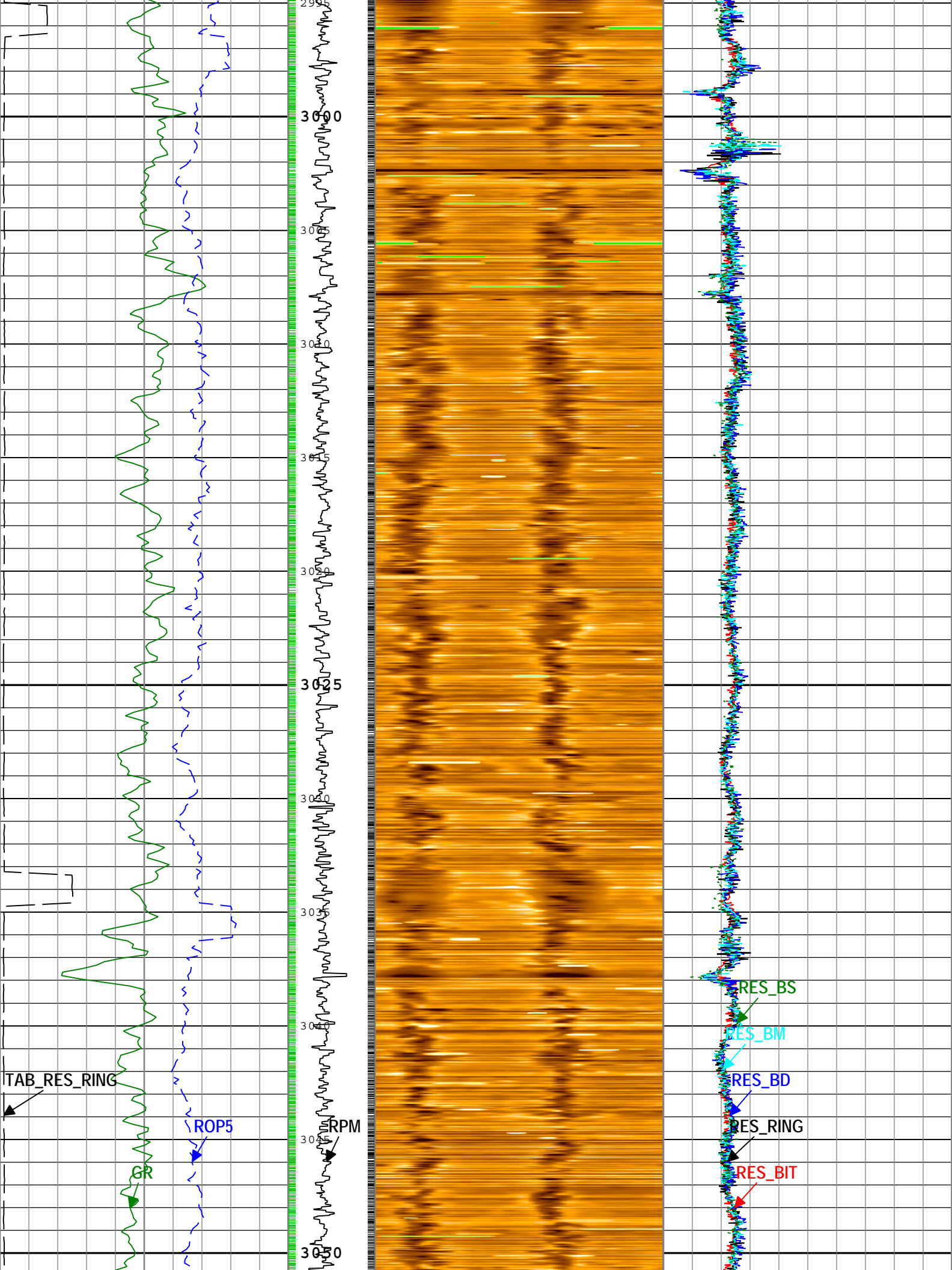


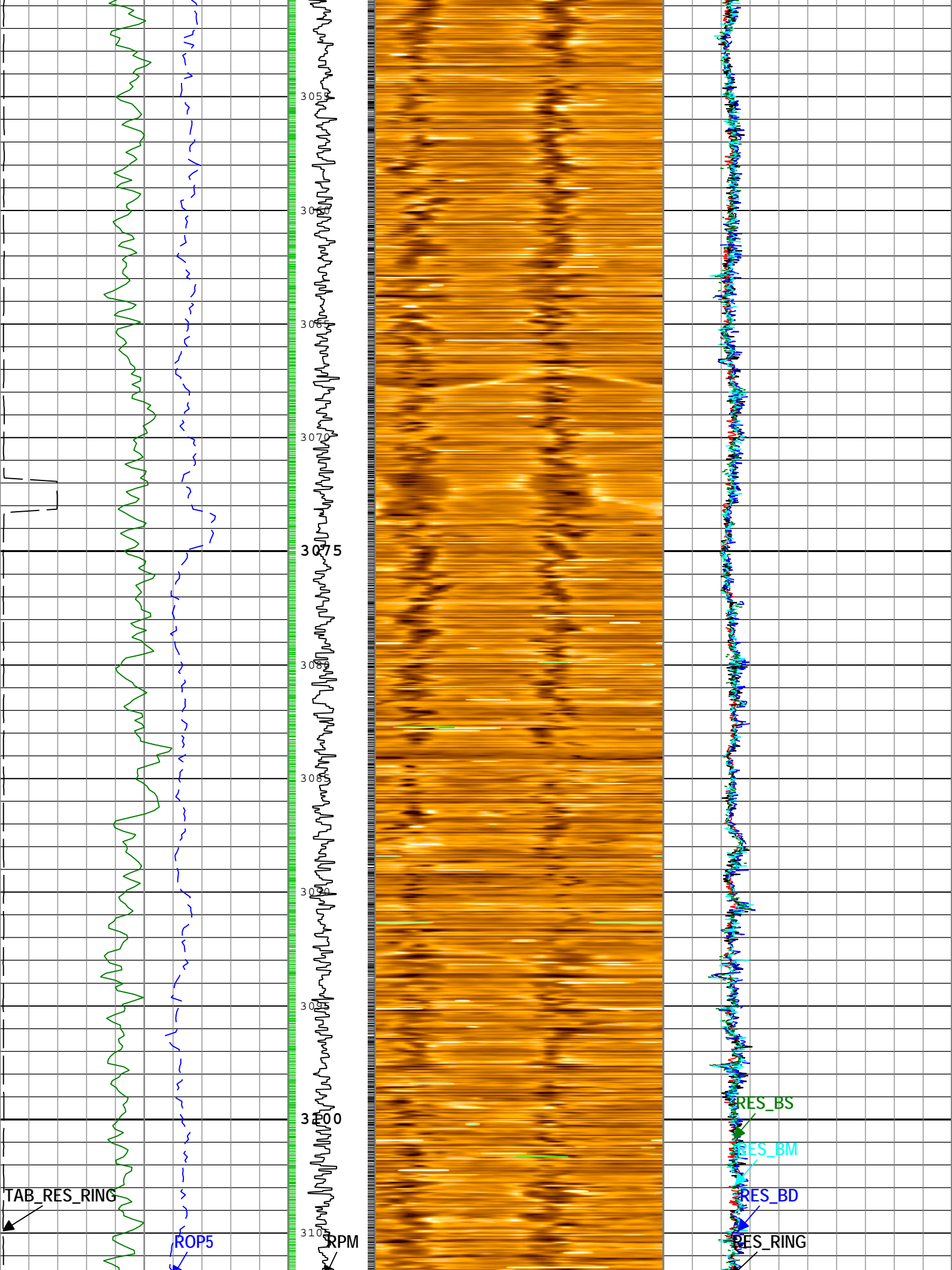


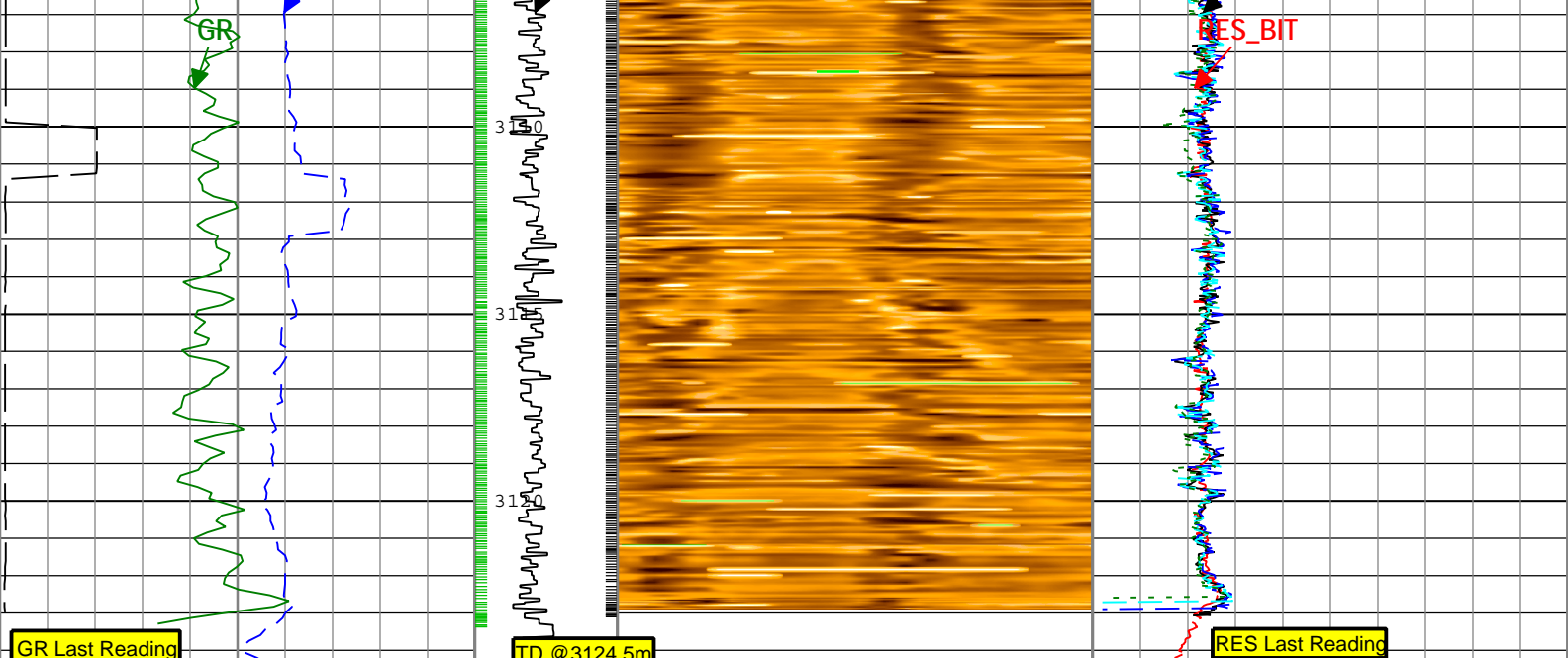












Gamma Ray (GR) RAB8 RM		
0	gAPI	150
Rate of penetration averaged over the last 5 ft (1.5 m) (ROP5) RT		
100	m/h	0
Ring Resistivity Time After Bit (TAB_RES_RING) RAB8		
0	h	3

Rotational Speed (RPM) RAB8 RM	
0	c/min 200
Dynamic Gaussian Normalization	
RAB - Deep Button Resistivity Image RAB8 RM	
Orientation: North Azimuth	
N	E S W N

Bit Resistivity (RES_BIT) RAB8 RM		
0	ohm.m	5
Ring Resistivity (RES_RING) RAB8 RM		
0	ohm.m	5
Deep Button Resistivity (RES_BD) RAB8 RM		
0	ohm.m	5
Medium Button Resistivity (RES_BM) RAB8 RM		
0	ohm.m	5
Shallow Button Resistivity (RES_BS) RAB8 RM		
0	ohm.m	5

┆ TICKS_RING - Ring Sample Tick Marks RAB8 RM
┆ TICKS_GR - Gamma Ray Tick Marks RAB8 RM

Description: GVR Resistivity, Deep Button Image Format: Log (GVR Image-APWD Depth RM) Index Scale: 1:200 Index Unit: m Index Type: Measured
Depth Creation Date: 10-Jan-2013 17:32:14

Channel Processing Parameters

Parameter	Description	Tool	Value	Unit
BHK	Drilling Fluid Potassium Concentration	Borehole	0	%
BHT	Bottom Hole Temperature	Borehole	6	degC
BS	Bit Size	DNMSESSION	Depth Zoned	in
DEPTH_SEL	Depth Selection Parameter	DNMSESSION	Driller's Depth	
DFD	Drilling Fluid Density	Borehole	1.038	g/cm3
DFT	Drilling Fluid Type	Borehole	Water	
GGRD	Geothermal Gradient	Borehole	18.23	degC/km
GRSE_RM	Generalized Mud Resistivity Selection for Recorded Mode	Borehole	REMS	
GTSE_RT	Generalized Temperature Selection for Realtime Mode	Borehole	GTEM_LINEST(RT)	
MST	Mud Sample Temperature	Borehole	20.3	degC
RES_BD_IMG_SEL	GVR Output Resistivity Image Selection, Deep Button	RAB8	Compensated Uphole	
RMS	Resistivity of Mud Sample	Borehole	0.23	ohm.m
SHT	Surface Hole Temperature	Borehole	2	degC
TD	Total Measured Depth	Borehole	3124.48	m
TEMP_SEL_RAB	RAB Temperature Selection	RAB8	Tool	

Depth Zone Parameters

Parameter	Value	Start (m)	Stop (m)
BS	0	2700	2704
BS	12.25	2704	3124.47

All depth are actual.

Tool Control Parameters

Parameter	Description	Tool	Value	Unit
OFFBTM_TH	Threshold for deciding whether the bit is off bottom	DNMSESSION	0.6	m

Run1

Integration Summary

Output Channel(s)	Output Description	Input Parameter	Output Value	Unit
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Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	Include Parallel Data
Run1	Drilling	Down	2684.50 m	3124.48 m	28-Dec-2012 5:23:14 AM	29-Dec-2012 11:42:40 PM	

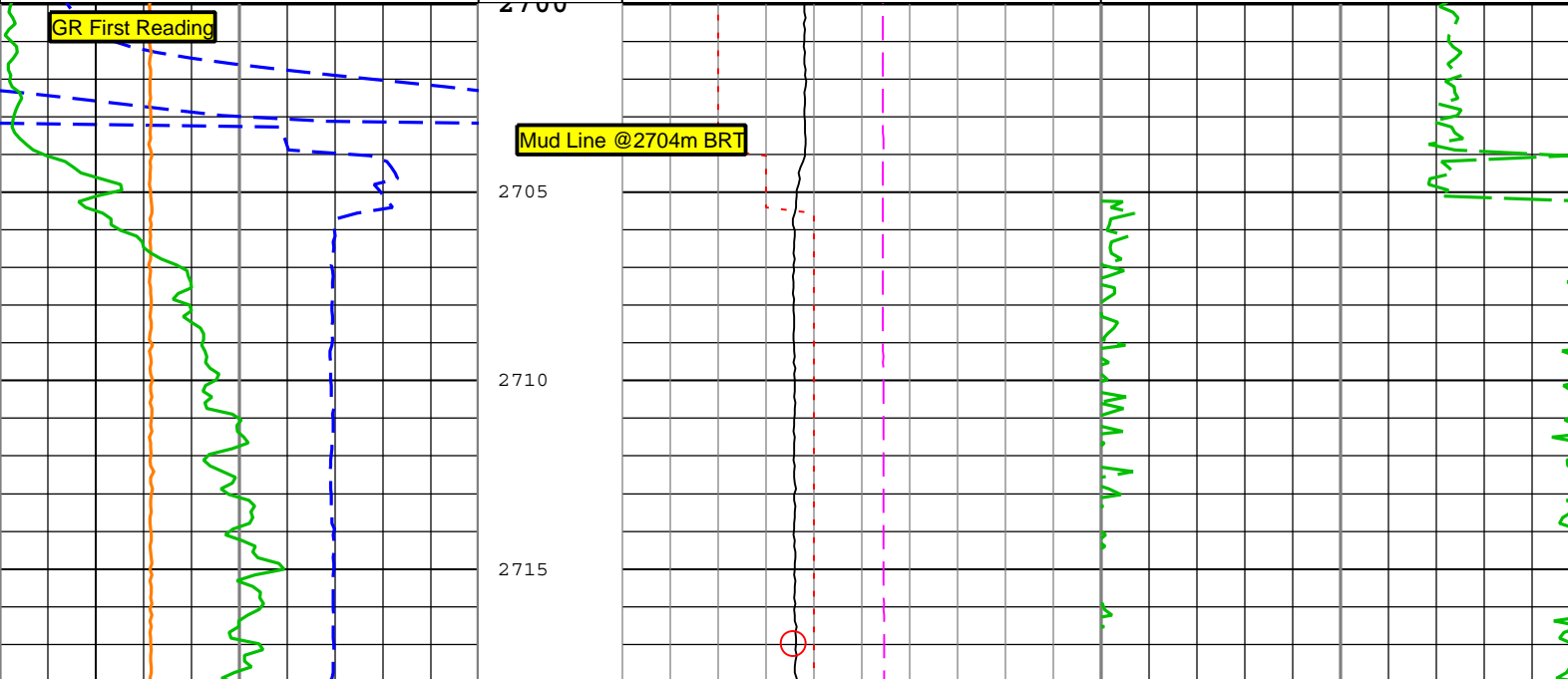
All depths are referenced to toolstring zero

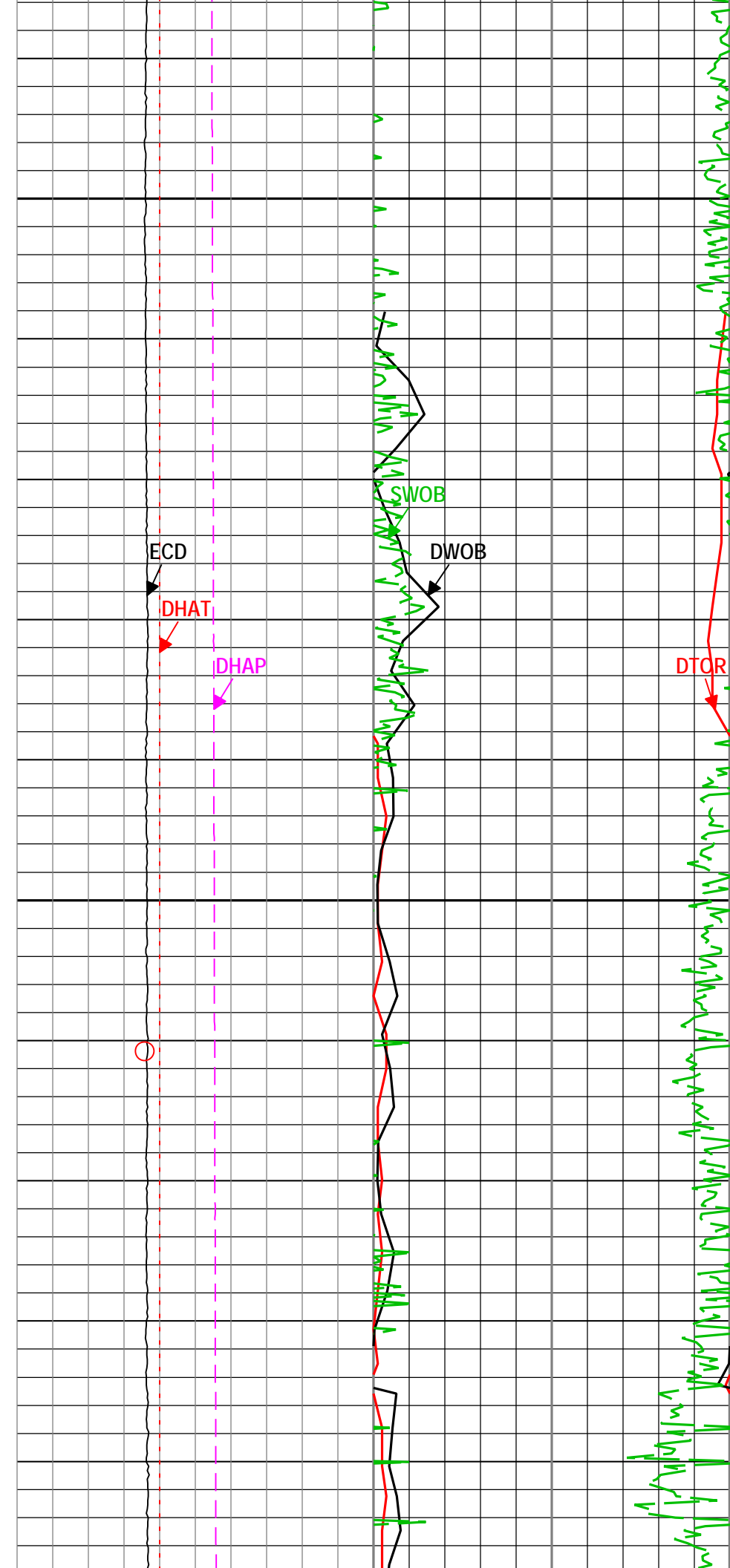
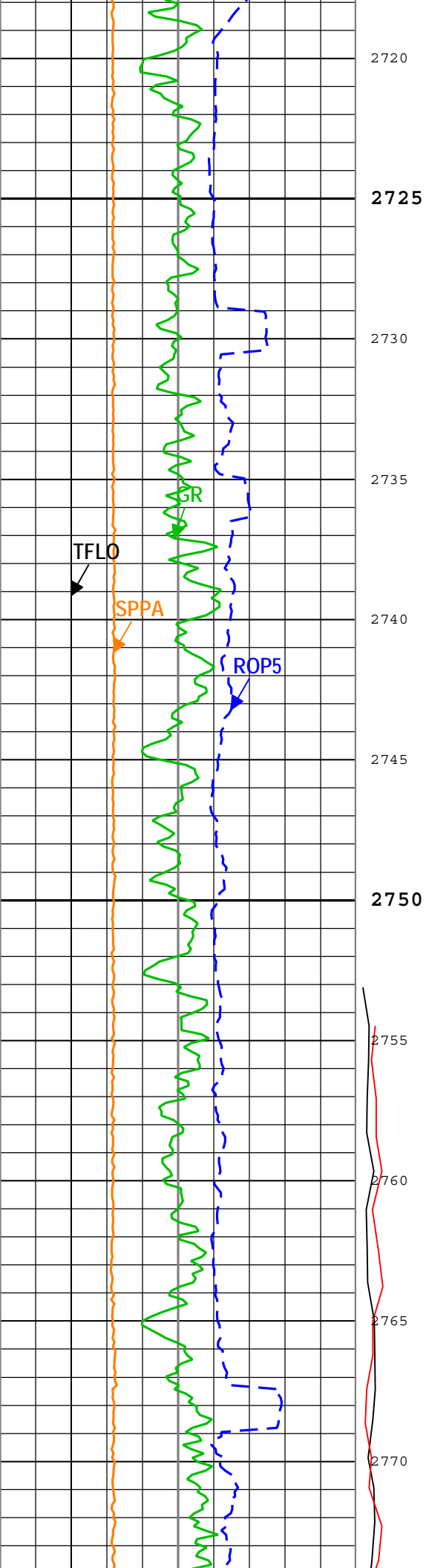
Log

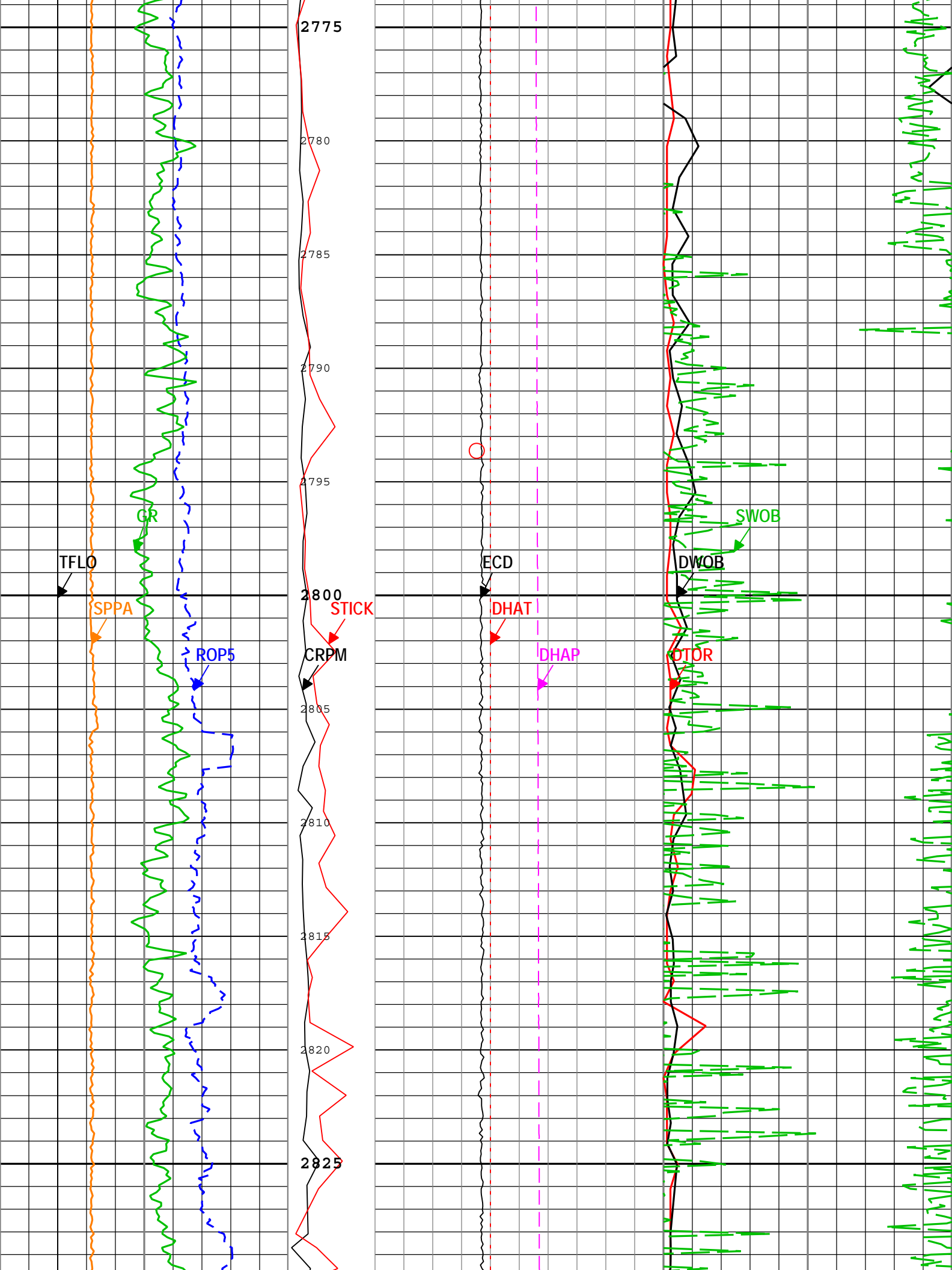
Run1: Drilling

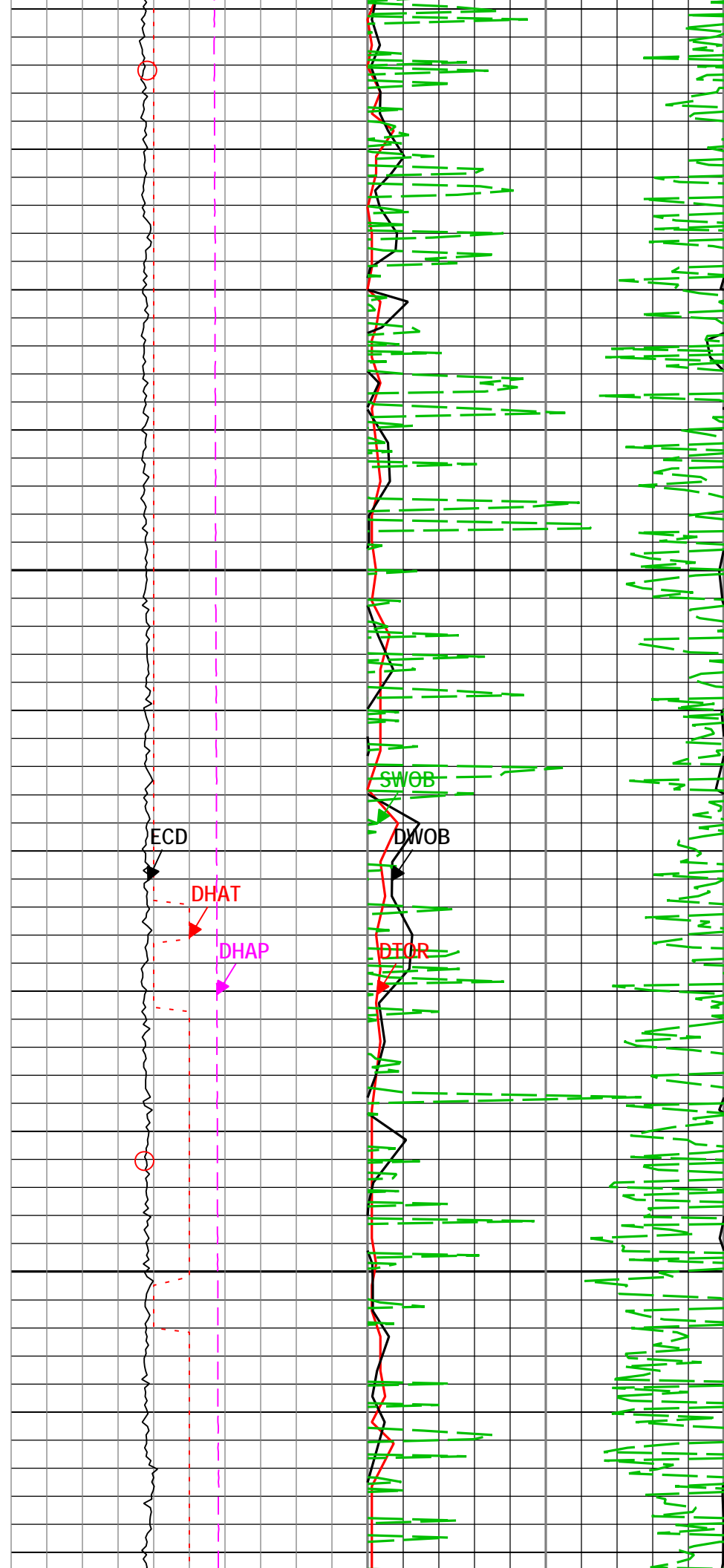
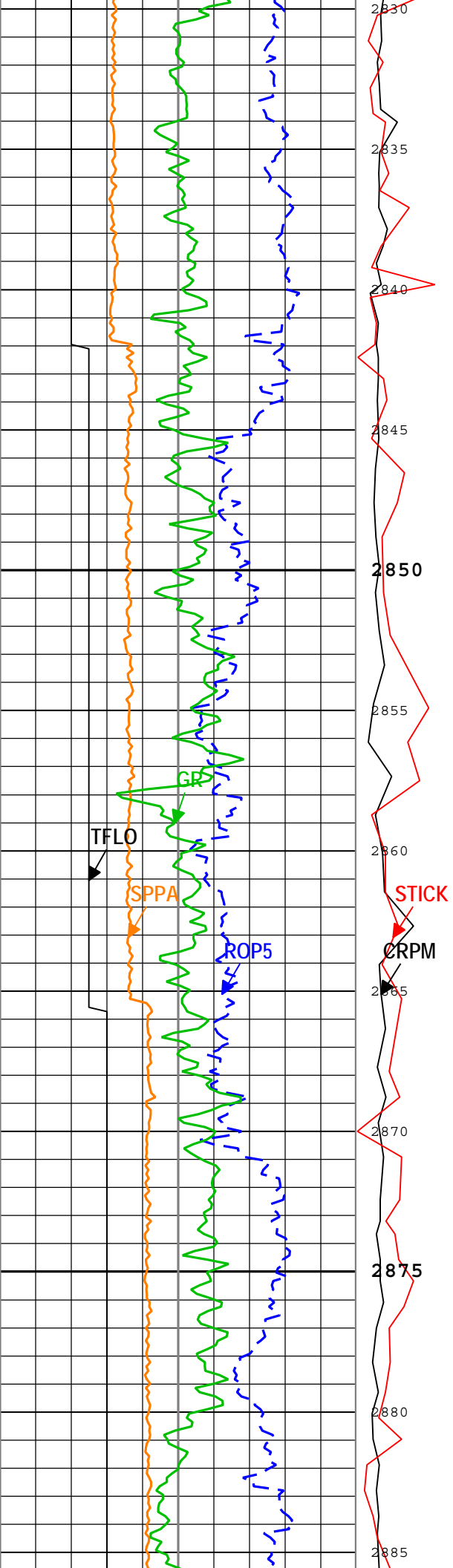
Description: Format: Log (DML Depth RM) Index Scale: 1:200 Index Unit: m Index Type: Measured Depth Creation Date: 10-Jan-2013 17:32:22

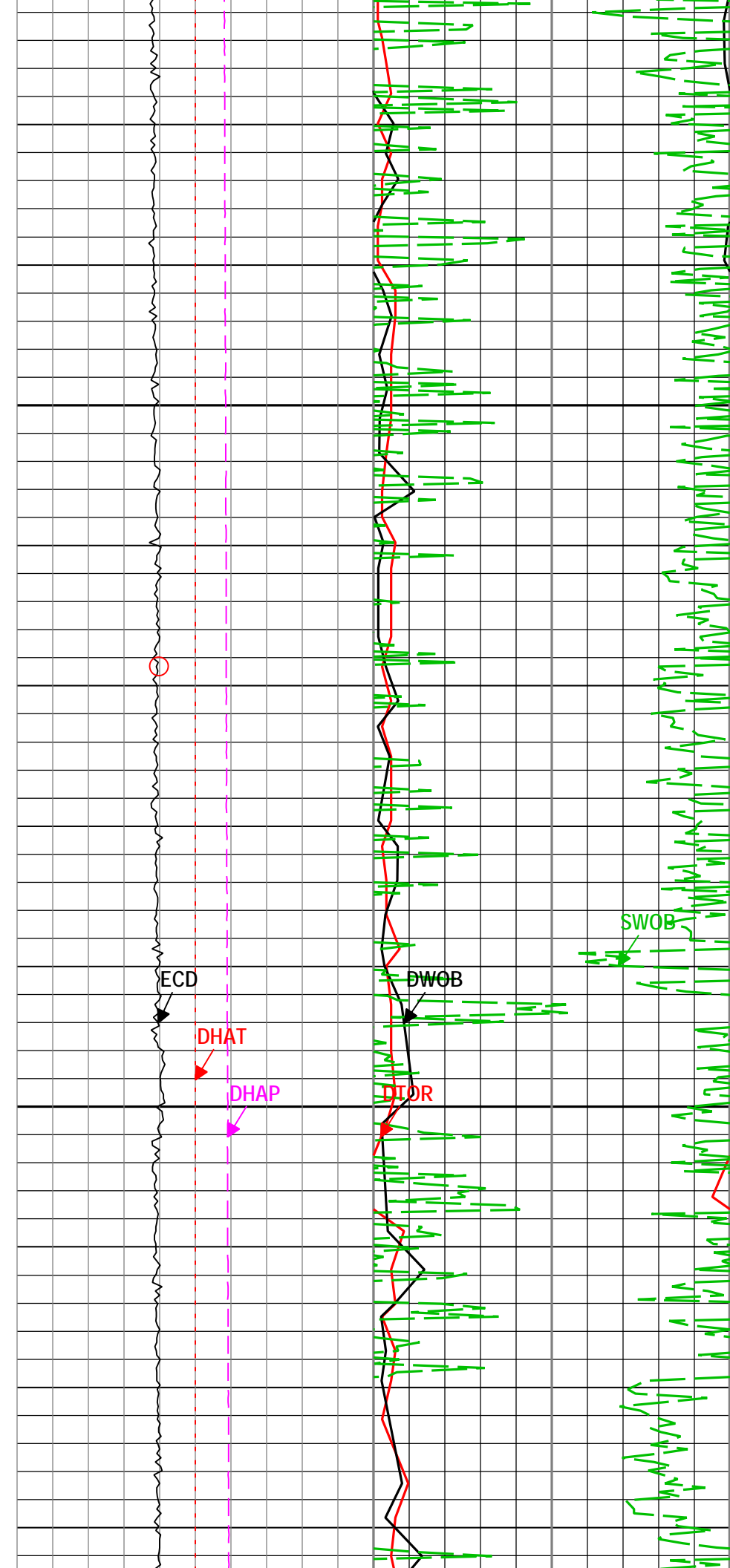
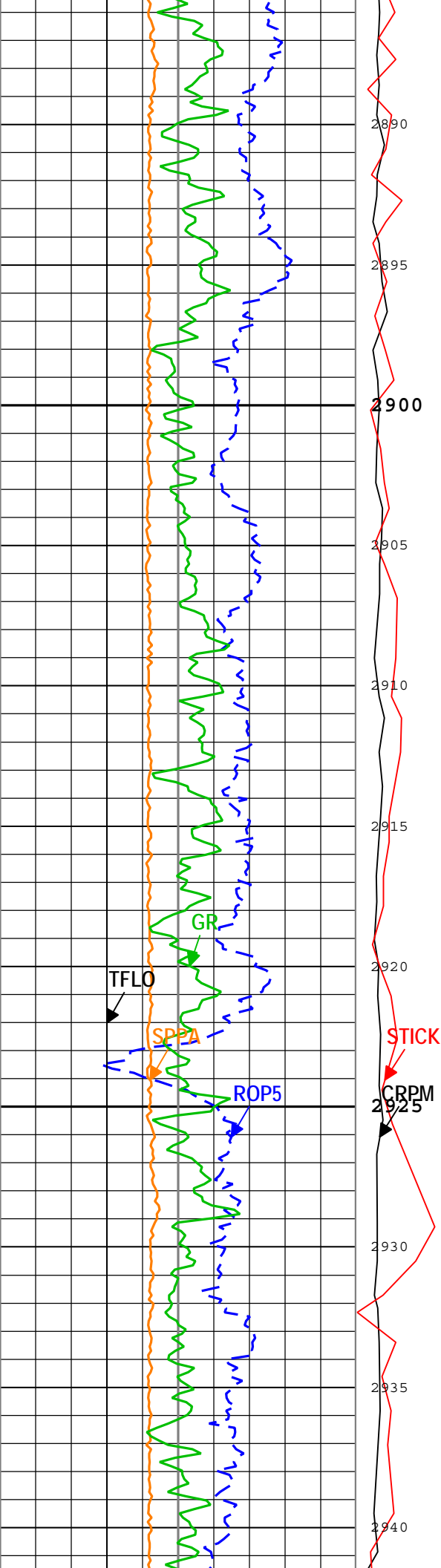
Rate of penetration averaged over the last 5 ft (1.5 m) (ROP5) RT	Collar Rotational Speed (CRPM) TELE825-IW OB RT	Downhole Annulus Pressure (DHAP) ARC8 RM	Downhole Torque (MWD) (DTOR) TELE825-IWOB RT
100 m/h	0 c/min 400	0 kPa 50000	0 kN.m 10
Standpipe Pressure (SPPA) RT	Stick Slip Indicator (STICK) TELE825-IW OB RT	Downhole Annulus Temperature (DHAT) ARC8 RM	Downhole Weight on Bit (DWOB) TELE825-IWOB RT
0 kPa 35000	1	0 degC 10	0 kN 200
Total flow rate of all active pumps (TFLO) RT	Equivalent Circulating Density (ECD) ARC8 RM	Equivalent Static Density (ESD) ARC8 RT	Surface Weight On Bit (SWOB) RT
500 gal/min 1500	0	1 g/cm3 1.1	0 kN 200
Gamma Ray (GR) RAB8 RM			
0 gAPI 150			

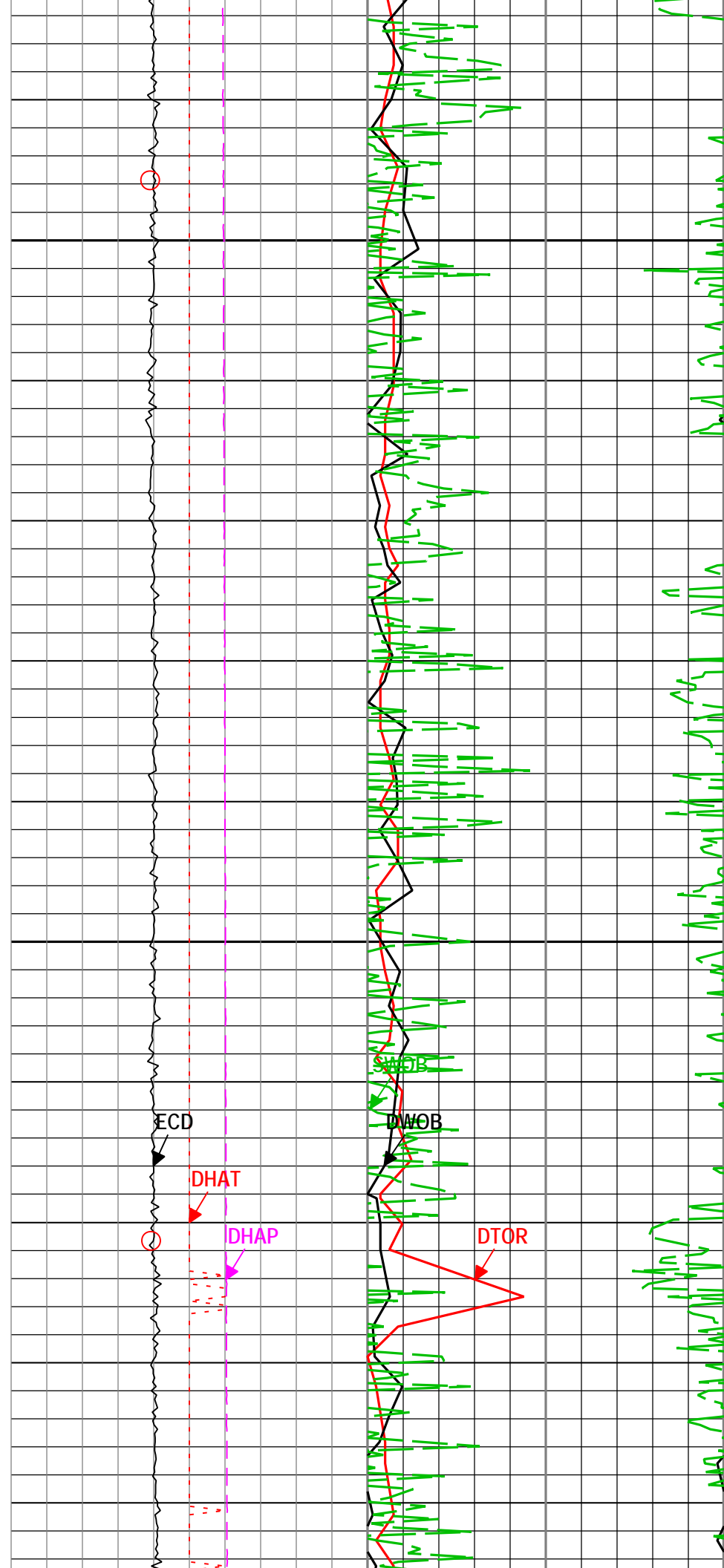
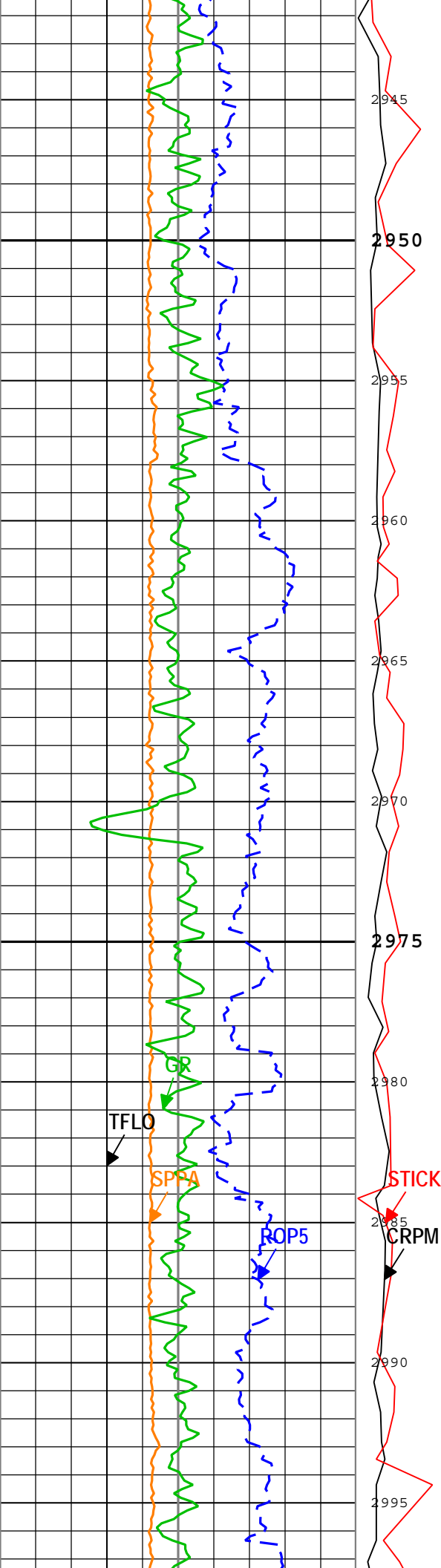


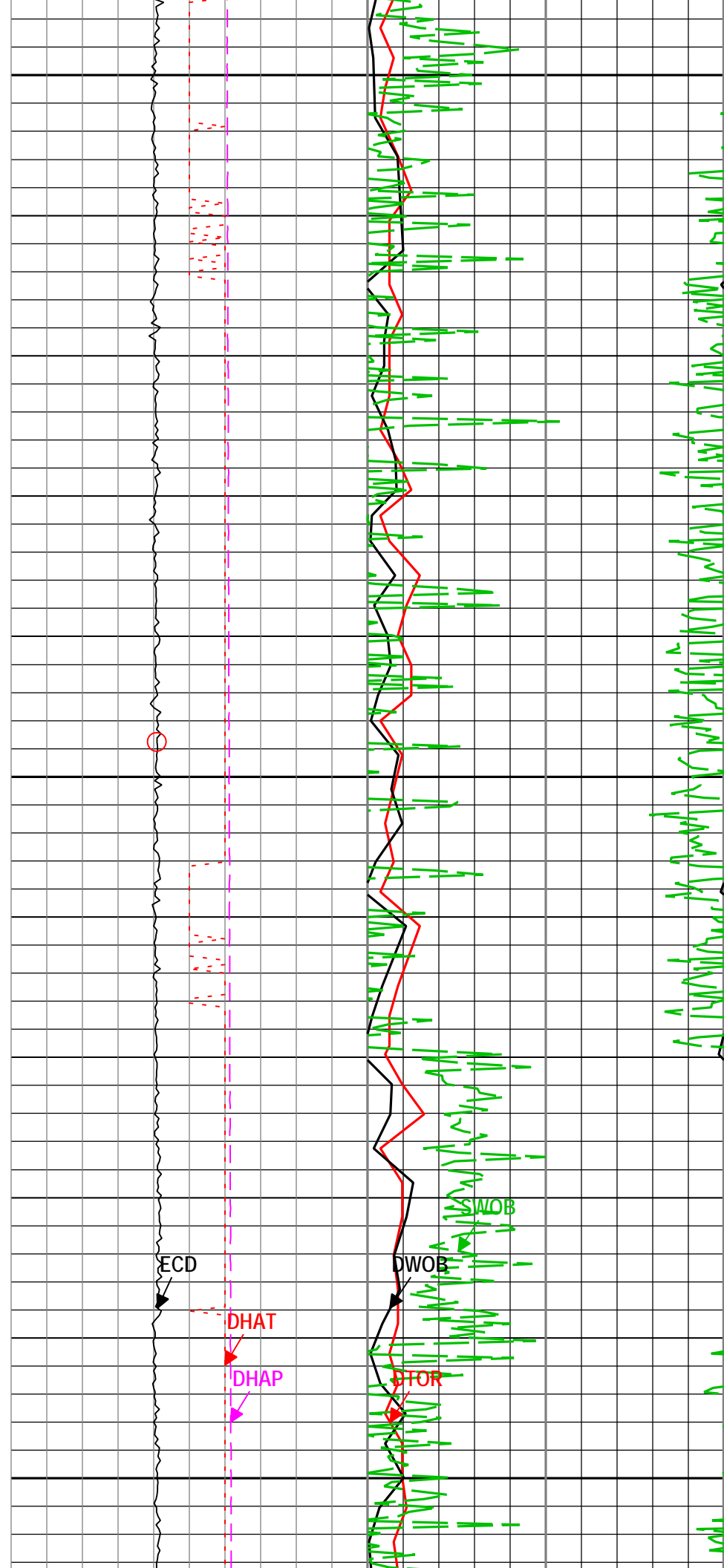
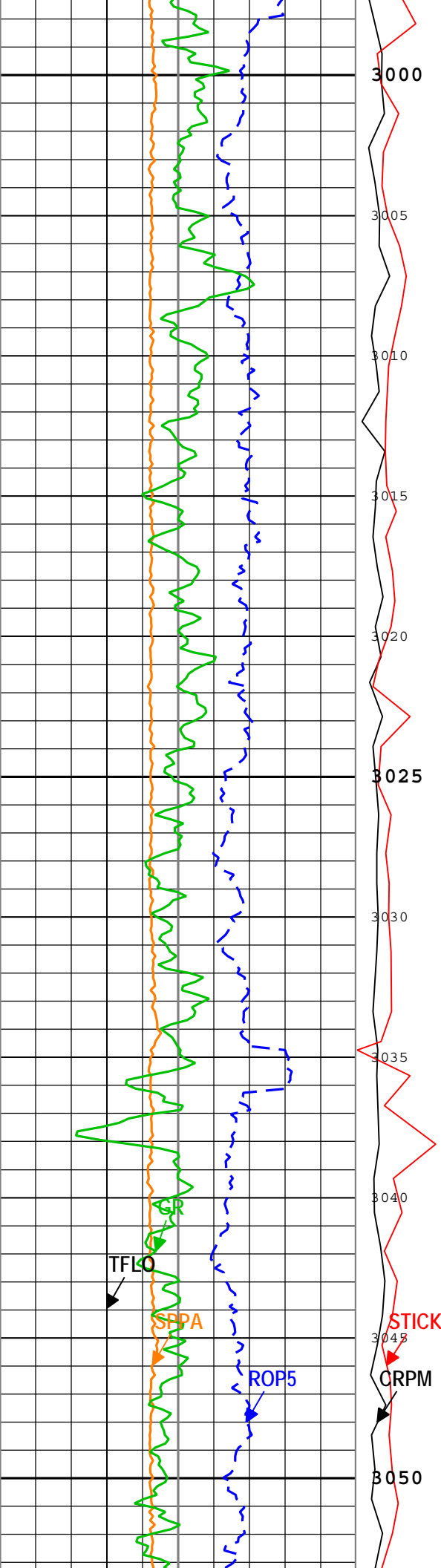


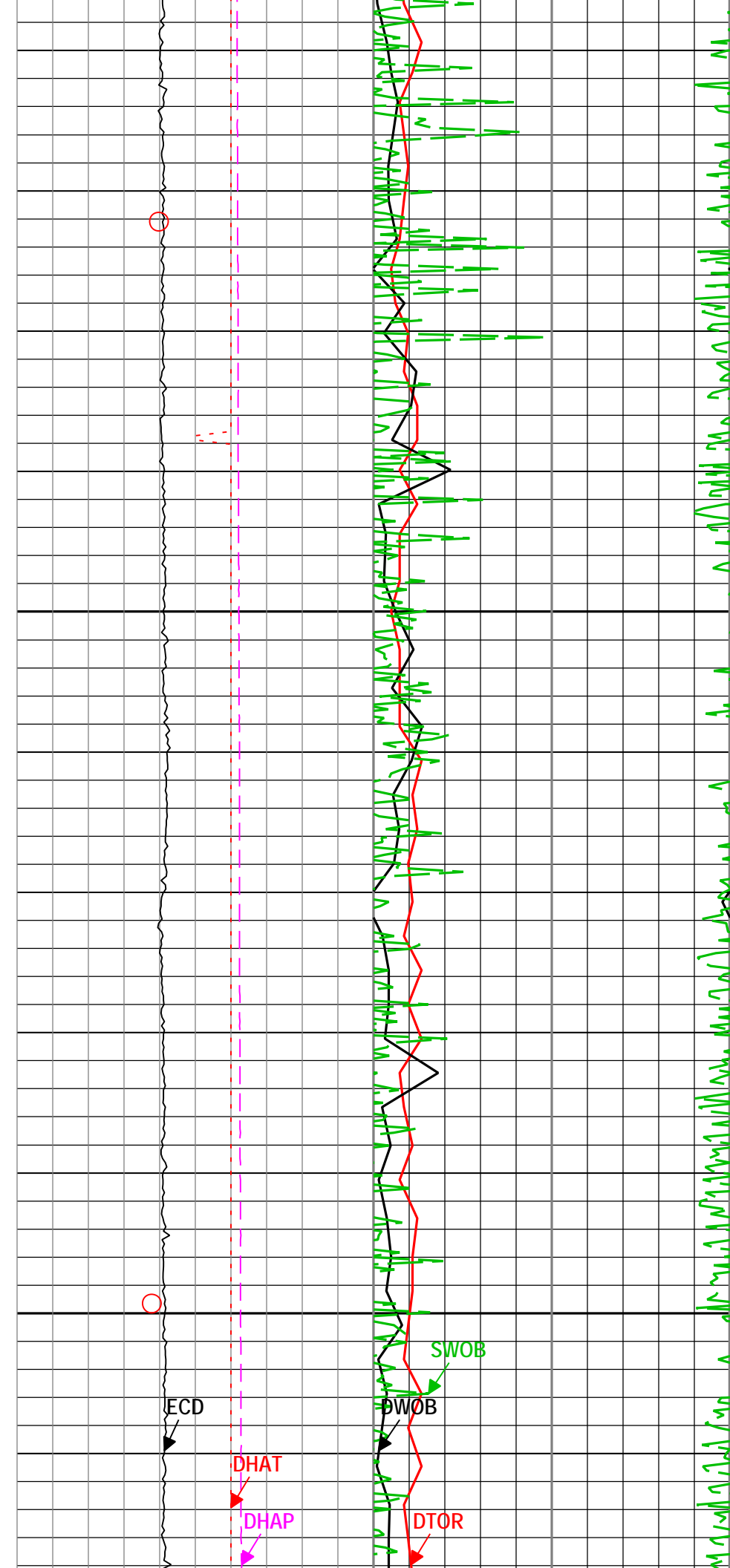
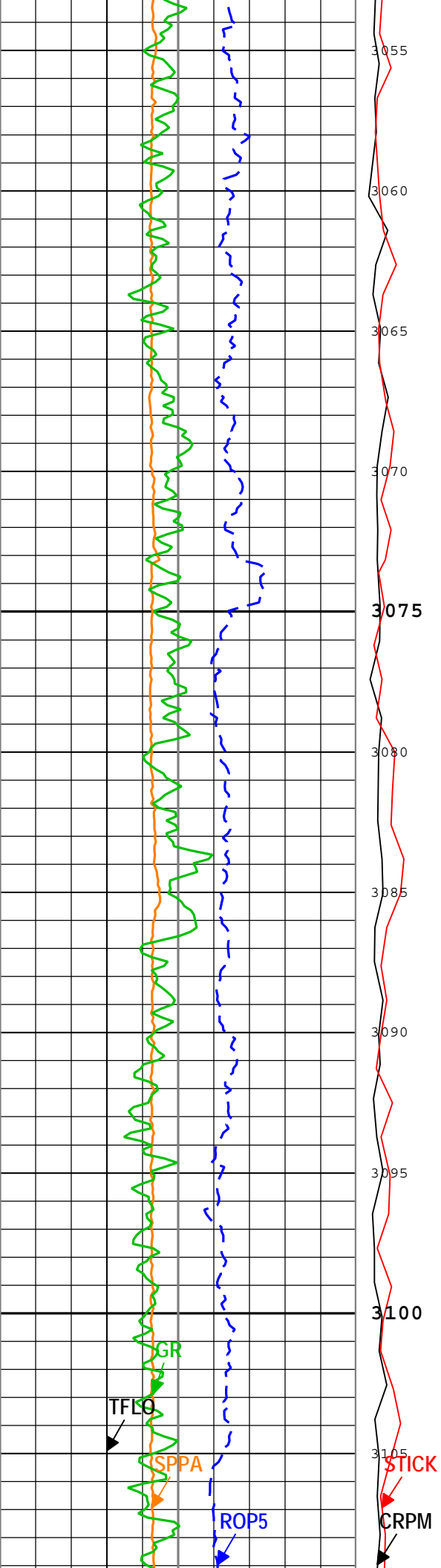


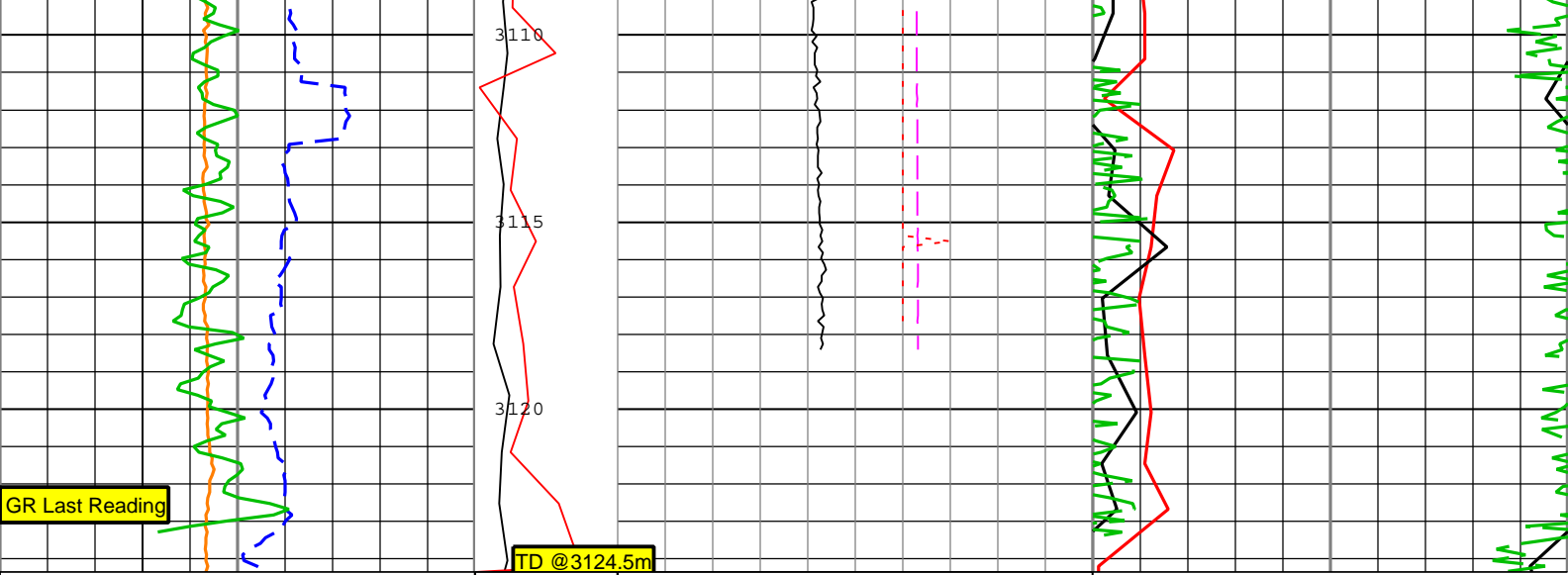












Rate of penetration averaged over the last 5 ft (1.5 m) (ROP5) RT 100 m/h 0	Collar Rotational Speed (CRPM) TELE825-IW OB RT 0 c/min 400	Downhole Annulus Pressure (DHAP) ARC8 RM 0 kPa 50000	Downhole Torque (MWD) (DTOR) TELE825-IWOB RT 0 kN.m 10
Standpipe Pressure (SPPA) RT 0 kPa 35000	Stick Slip Indicator (STICK) TELE825-IW OB RT 0 c/min 400	Downhole Annulus Temperature (DHAT) ARC8 RM 0 degC 10	Downhole Weight on Bit (DWOB) TELE825-IWOB RT 0 kN 200
Total flow rate of all active pumps (TFLO) RT 500 gal/min 1500		Equivalent Circulating Density (ECD) ARC8 RM 1 g/cm3 1.1	Surface Weight On Bit (SWOB) RT 0 kN 200
Gamma Ray (GR) RAB8 RM 0 gAPI 150		Equivalent Static Density (ESD) ARC8 RT 1 g/cm3 1.1	

Description: Format: Log (DML Depth RM) Index Scale: 1:200 Index Unit: m Index Type: Measured Depth Creation Date: 10-Jan-2013 17:32:22

Calibration Report

RAB8 (GeoVision Resistivity 825) Calibration - Run Run1

Primary Equipment :
Electronics Chassis
RBEC
865

M21V - Resistivity

Master (Time Frame File): 04:11:41 23-Nov-2012

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
⚠ Monitor 2 at T1 Calibration Coefficient		Master	1.00000	0.90000	1.02224	1.20000	<div style="border: 1px solid black; width: 100%; height: 15px; background: linear-gradient(to right, black 20%, white 20% 40%, white 40% 60%, black 60% 80%, black 80% 100%);"></div>

M22V - Resistivity

Master (Time Frame File): 04:11:41 23-Nov-2012

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
⚠ Monitor 2 at T2 Calibration Coefficient		Master	1.00000	0.90000	0.99342	1.20000	<div style="border: 1px solid black; width: 100%; height: 15px; background: linear-gradient(to right, black 20%, white 20% 40%, white 40% 60%, black 60% 80%, black 80% 100%);"></div>

M01V - Resistivity

Master (Time Frame File): 04:11:41 23-Nov-2012

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
⚠ Monitor 0 at T1 Calibration Coefficient		Master	1.00000	0.90000	1.05380	1.20000	<div style="border: 1px solid black; width: 100%; height: 15px; background: linear-gradient(to right, black 20%, white 20% 40%, white 40% 60%, black 60% 80%, black 80% 100%);"></div>

M02V - Resistivity

Master (Time Frame File): 04:11:41 23-Nov-2012

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
⚠ Monitor 0 at T2 Calibration Coefficient		Master	1.00000	0.90000	1.04467	1.20000	<div style="border: 1px solid black; width: 100%; height: 15px; background: linear-gradient(to right, black 20%, white 20% 40%, white 40% 60%, black 60% 80%, black 80% 100%);"></div>

R1V - Resistivity

Master (Time Frame File): 04:11:41 23-Nov-2012

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
⚠ Ring at T1 Calibration Coefficient		Master	0.01000	0.00950	0.01096	0.01250	<div style="border: 1px solid black; width: 100%; height: 15px; background: linear-gradient(to right, black 20%, white 20% 40%, white 40% 60%, black 60% 80%, black 80% 100%);"></div>

R2V - Resistivity

Master (Time Frame File): 04:11:41 23-Nov-2012

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
⚠ Ring at T2 Calibration Coefficient		Master	0.01000	0.00950	0.01097	0.01250	

BDM1 - Resistivity

Master (Time Frame File): 04:11:41 23-Nov-2012

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
⚠ Button Deep at T1 Calibration Coefficient		Master	0.00067	0.00057	0.00066	0.00077	

BDM2 - Resistivity

Master (Time Frame File): 04:11:41 23-Nov-2012

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
⚠ Button Deep at T2 Calibration Coefficient		Master	0.00067	0.00057	0.00066	0.00077	

BMM1 - Resistivity

Master (Time Frame File): 04:11:41 23-Nov-2012

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
⚠ Button Medium at T1 Calibration Coefficient		Master	0.00067	0.00057	0.00069	0.00077	

BMM2 - Resistivity

Master (Time Frame File): 04:11:41 23-Nov-2012

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
⚠ Button Medium at T2 Calibration Coefficient		Master	0.00067	0.00057	0.00069	0.00077	

BSM1 - Resistivity

Master (Time Frame File): 04:11:41 23-Nov-2012

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
⚠ Button Shallow at T1 Calibration Coefficient		Master	0.00067	0.00057	0.00067	0.00077	

BSM2 - Resistivity

Master (Time Frame File): 04:11:41 23-Nov-2012

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
⚠ Button Shallow at T2 Calibration Coefficient		Master	0.00067	0.00057	0.00067	0.00077	

PGR - Gamma Ray: Blanket

Master (Time Frame File): 02:46:22 23-Nov-2012

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
⚠ Gamma Ray API Conversion Factor		Master	8.5500	6.5000	10.2700	10.6000	

Company: JAMSTEC
Well: C0022A
Field: Nankai Trough - Kumano Basin
Rig Name: Chikyu
Prefecture: Wakayama
Country: Japan



geoVISION - APWD

Schlumberger

Gamma Ray - Resistivity - Image - APWD

12.25in Recorded Mode Log. Measured Depth 1:200