

# geoVISION - APWD

Gamma Ray - Resistivity - Image - APWD  
 12.25in Recorded Mode Log. True Vertical Depth  
 Sub Sea 1:200



Company: JAMSTEC

Well: C0021A

Field: Nankai Trough - Kumano Basin

Rig Name: Chikyu

Prefecture: Wakayama

Country: Japan

Latitude: 33° 10' 2.892" N

Custom: 12JAP0021

Longitude: 136° 39' 50.724" E

Rig Name: Chikyu

Block: Philippines Sea

Rig Type: Drill Vessel

FL1: X = 656 797.7158m

FL2: Y = 3 671 089.2502m

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



Ground Level: 2940.50 m

Acquisition Dates: 26-Dec-2012 - 27-Dec-2012

Other Services:

Log Interval: 2965.02(m) -- 3263.47(m)

DWOB, DTOR

Index Types: SSTVD

Direction and Inclination

Index Scales: 1:200

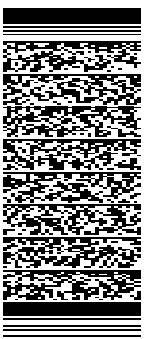
Drilling Mechanics

Depth Source: Driller's Depth

Depth Sensor: DES

Print Type: Final

Spud Date: 26-Dec-2012



## Disclaimer

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 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.

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11.3 Log ( DML Depth RM )

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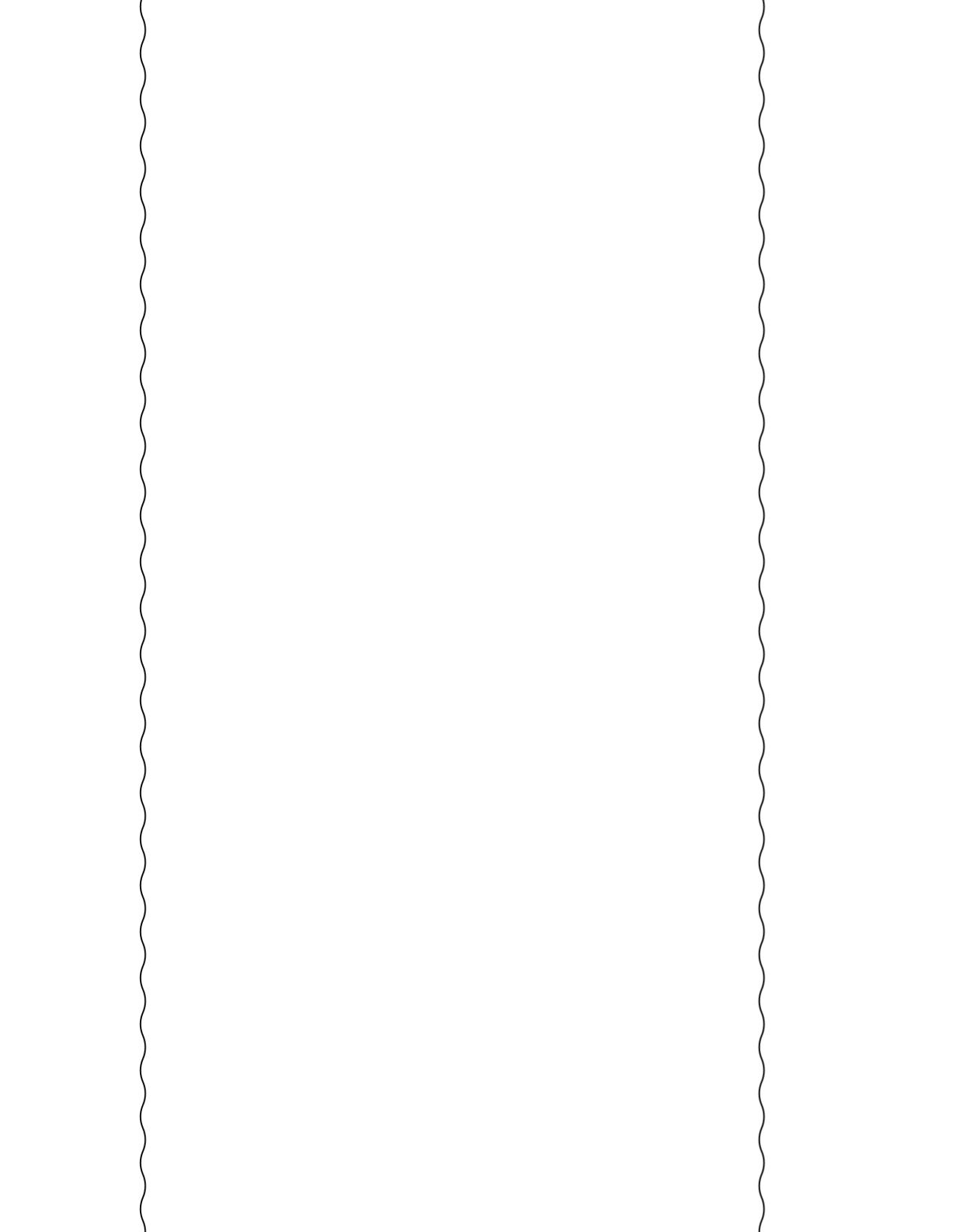
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## Well Sketch

**Driller Depth**

**2969.00 m**



3263.47 m

Open Hole 12.25in

### Borehole Size/Casing Record

Bit					
Bit Size ( in )	12.25				
Top Driller ( m )	2969				
Bottom Driller ( m )	3263.47				

### Operational Run Summary

Parameter ( unit )	Run 1				
Date Log Started	26-Dec-2012				
Time Log Started	20:05:06				
Date Log Finished	27-Dec-2012				
Time Log Finished	16:58:36				
Bit Size ( in )	12.250				
Bit Start Depth ( m )	2969.00				
Bit Stop Depth ( m )	3263.47				
Top Log Interval ( m )	2969.00				
Bottom Log Interval ( m )	3263.21				
Max Hole Deviation ( deg )	0.26				
Azimuth of Max Deviation ( deg )	342.36				
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	12JAP0021				

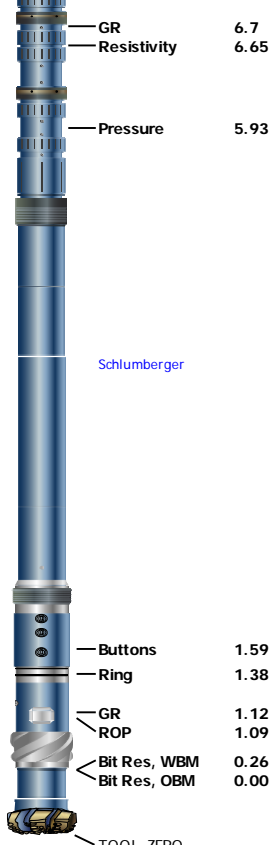
### Borehole Fluids

Parameter( unit )	Run 1				
Fluid Type	Water				
Fluid Name	Sea Water				
Max Recorded Temperatures ( degC )	5				
Source of Sample	Active Tank				
Salinity ( ppm )	30470.42				
Density ( g/cm3 )	1.04				

Funnel Viscosity ( s )						
Fluid Loss ( cm3 )						
PH	10.7					
Source RMF						
RMC	Pressed					
RM @ Meas Temp ( ohm.m@degC )	0.22 @ 20.3					
RMF @ Meas Temp ( ohm.m@degC )	0.15 @ 20					
RMC @ Meas Temp ( ohm.m@degC )						
RM @ BHT ( ohm.m@degC )	0.35 @ 5					
RMF @ BHT ( ohm.m@degC )						
RMC @ BHT ( ohm.m@degC )	NaN @ 5					
Total Solid ( % )						
High Gravity Solids ( % )						

## Remarks and Equipment Summary

Run1: Toolstring	Run1: Remarks																					
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;"><b>Equip name</b> TELE825-IWOB:G 0159</td> <td style="width: 10%;"><b>Length</b> 18.99</td> <td style="width: 5%;"></td> <td style="width: 15%;"><b>MP name</b> Schlumberger</td> <td style="width: 5%;"><b>Offset</b></td> </tr> <tr> <td colspan="5" style="text-align: center;"> </td> </tr> <tr> <td colspan="5" style="text-align: center;"> <b>ARC8:2791-SRPC</b>    10.08    Schlumberger         </td> </tr> <tr> <td colspan="5" style="text-align: center;"> <b>ROP</b>    7.76         </td> </tr> </table>	<b>Equip name</b> TELE825-IWOB:G 0159	<b>Length</b> 18.99		<b>MP name</b> Schlumberger	<b>Offset</b>						<b>ARC8:2791-SRPC</b> 10.08    Schlumberger					<b>ROP</b> 7.76					<p>Data presented is Recorded Mode data which was acquired while ream down and 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: 7.24 hrs</p> <p>Pumping Time: 10.38 hrs</p> <p>Warning in calibration list is due to MaxWell bug.</p>	
<b>Equip name</b> TELE825-IWOB:G 0159	<b>Length</b> 18.99		<b>MP name</b> Schlumberger	<b>Offset</b>																		
<b>ARC8:2791-SRPC</b> 10.08    Schlumberger																						
<b>ROP</b> 7.76																						



## 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 :	0.91 deg		

### Rig Location

Latitude :	33° 10' 2.892" N	Longitude :	136° 39' 50.724" 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 :	26-Dec-2012
Computed Location B :	45884.85 nT +/- 300.00nT	Used Location B :	45884.85 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 :	46.66 deg +/- 0.45deg	Used Magnetic Dip :	46.66 deg +/- 0.45deg
Computed Magnetic Dec :	-6.70 deg	Used Magnetic Dec :	-6.70 deg
Computed Total Correction :	-7.61 deg	Used Total Correction :	-7.61 deg

### Survey Quality Index

0 : Long Survey passed all criteria	2 : Long Survey failed mag 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                      11 : Secondary Tie-In Point

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	2969.00	0.00	0.00	2969.00	2969.00	0.00	0.00	0.00	0.00	90.00	0.00	Other	9	0	11
3	2977.21	0.26	342.36	8.21	2977.21	0.02	0.02	-0.01	0.02	342.36	0.96	TeleScope	3	0	0
4	3015.34	0.14	259.64	38.12	3015.34	0.09	0.09	-0.08	0.12	319.62	0.22	TeleScope	2	0	0
5	3053.85	0.09	306.88	38.51	3053.85	0.10	0.10	-0.15	0.18	304.25	0.08	TeleScope	0	0	0

6	3092.05	0.15	280.85	38.21	3092.05	0.13	0.13	-0.23	0.26	300.07	0.07	TeleScope	0	0	0
7	3130.20	0.12	325.36	38.15	3130.20	0.17	0.17	-0.30	0.34	300.06	0.09	TeleScope	0	0	0
8	3168.62	0.09	292.95	38.42	3168.62	0.22	0.22	-0.35	0.41	301.93	0.05	TeleScope	3	0	0
9	3206.71	0.08	298.27	38.10	3206.71	0.24	0.24	-0.40	0.46	301.17	0.01	TeleScope	0	0	0

## Well Composite

### Integration Summary

Output Channel(s)	Output Description	Input Parameter	Output Value	Unit
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### Composite Summary

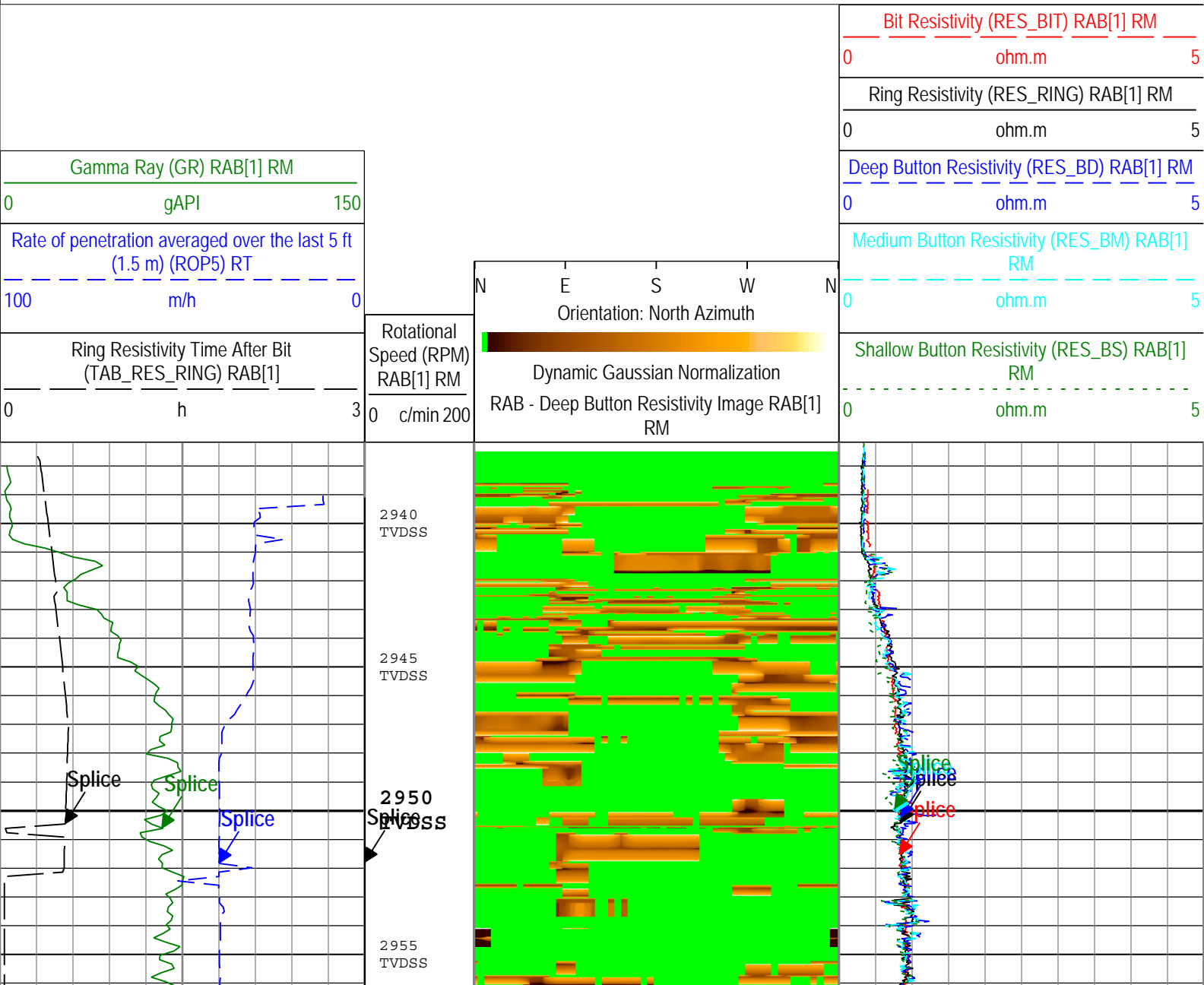
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	Include Parallel Data
Run1	Ream Down 2	Down	2967.48 m	2980.69 m	26-Dec-2012 11:22:08 PM	26-Dec-2012 11:46:15 PM	
Run1	Drilling	Down	2965.02 m	3263.47 m	26-Dec-2012 11:03:41 PM	27-Dec-2012 4:58:36 PM	

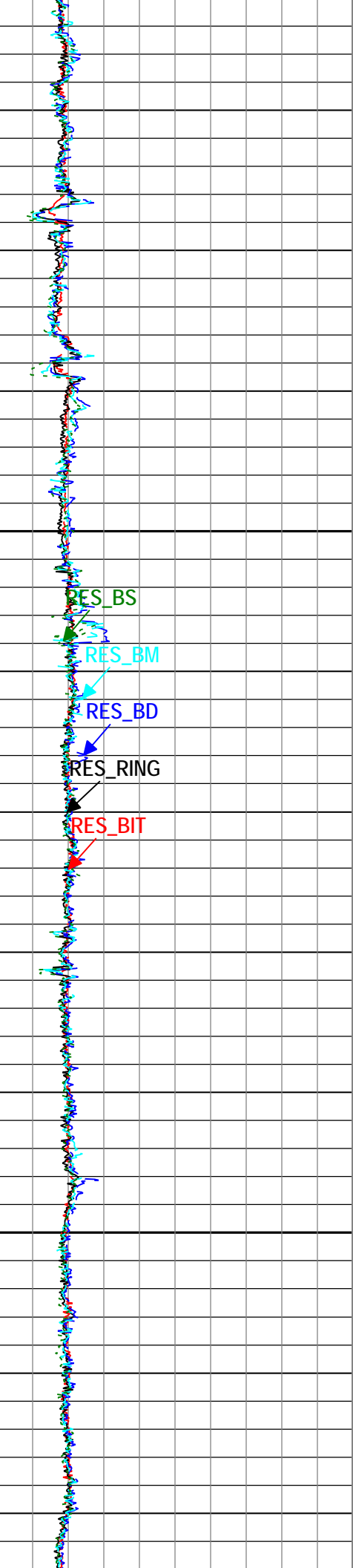
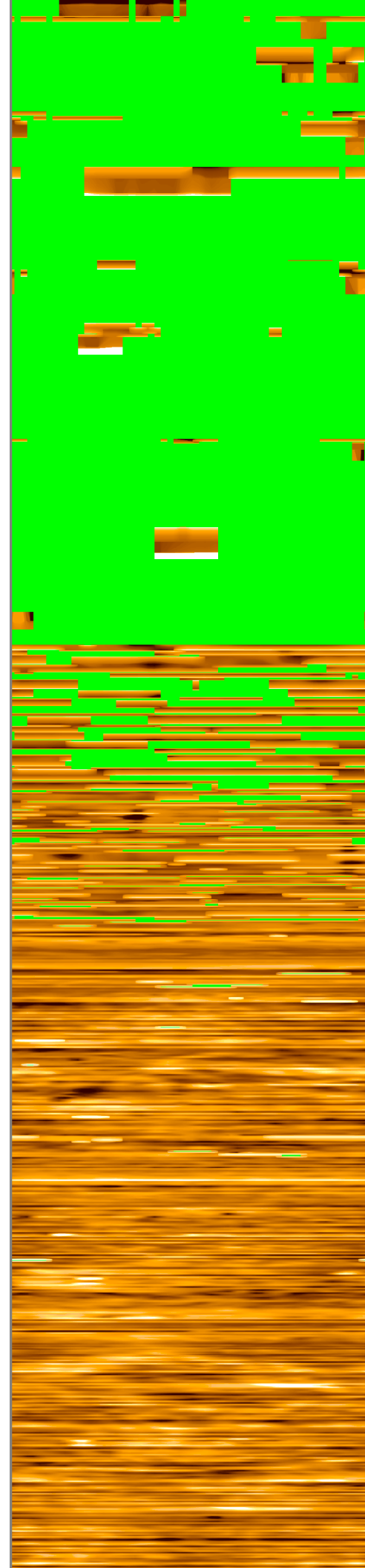
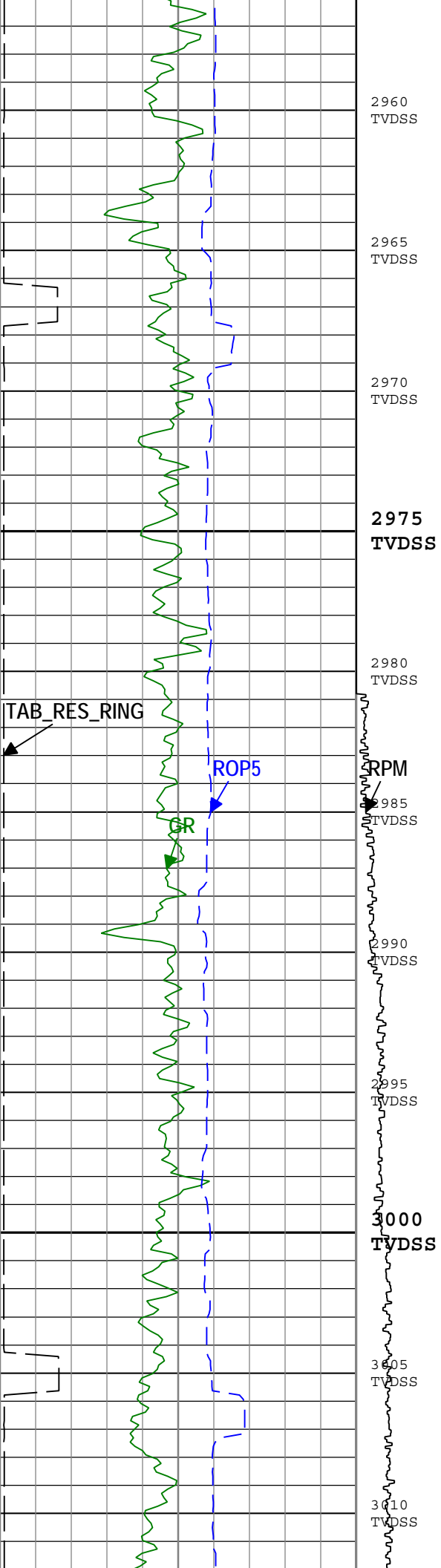
All depths are referenced to toolstring zero

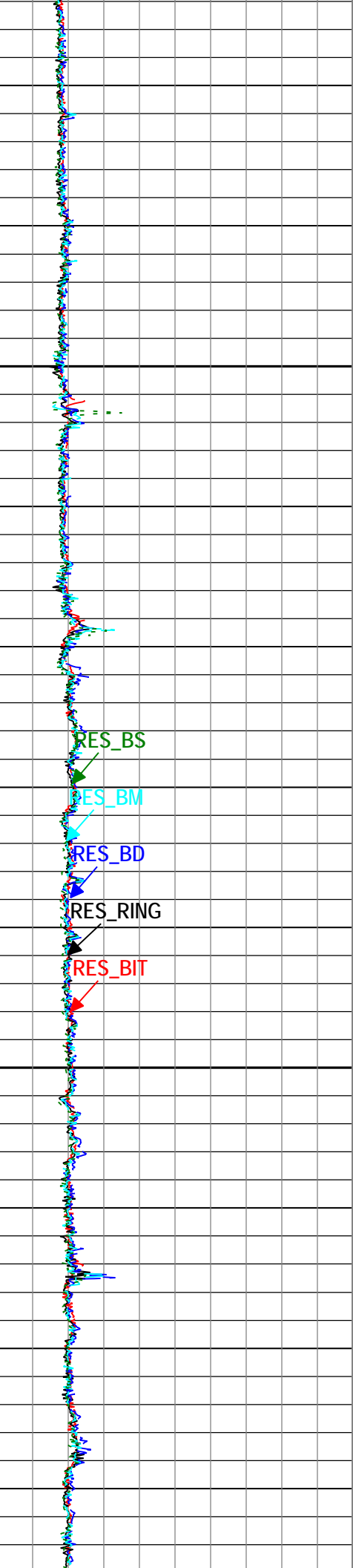
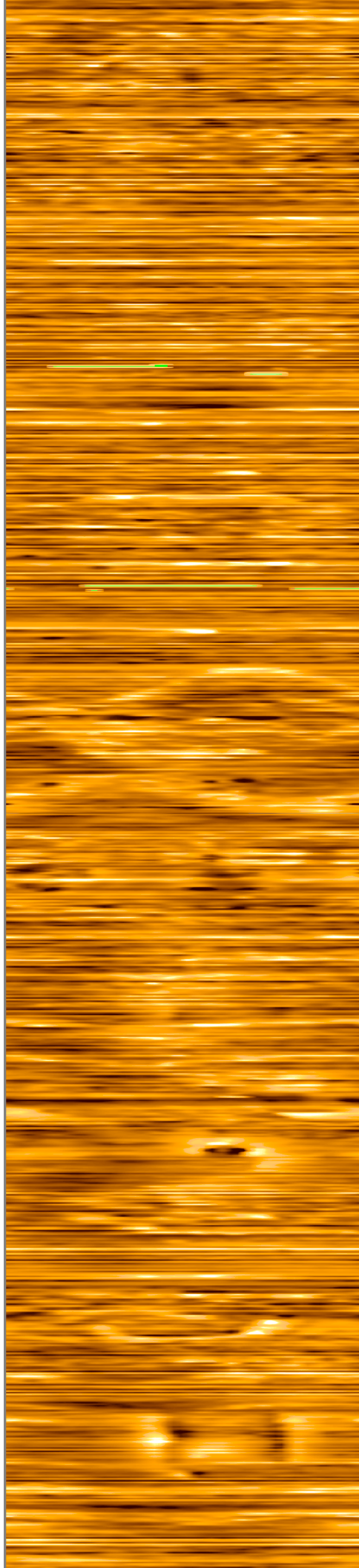
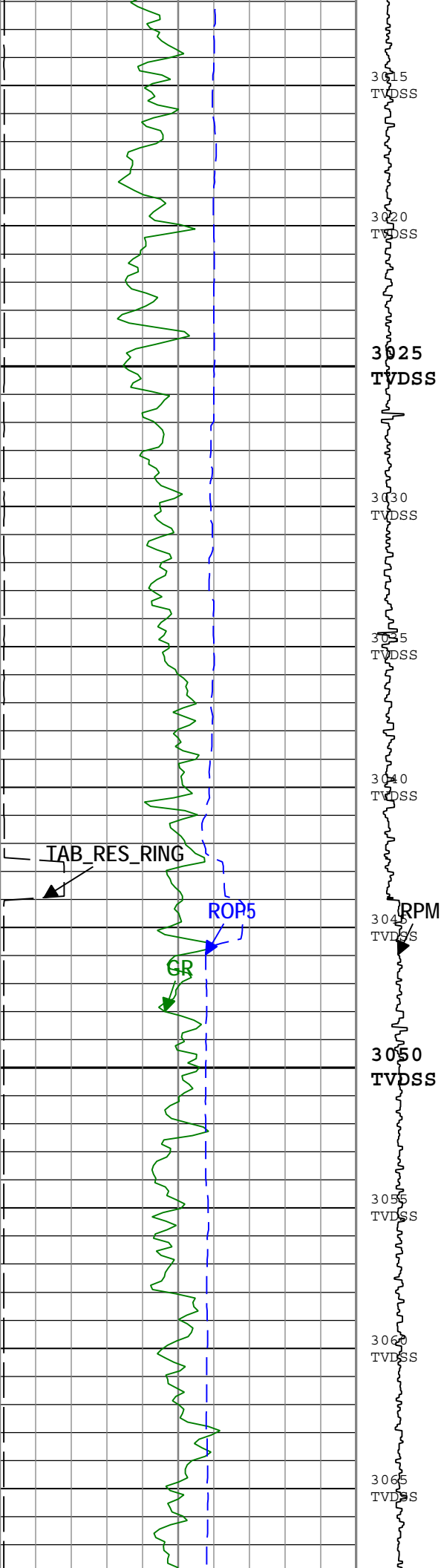
### Log

### Well Composite

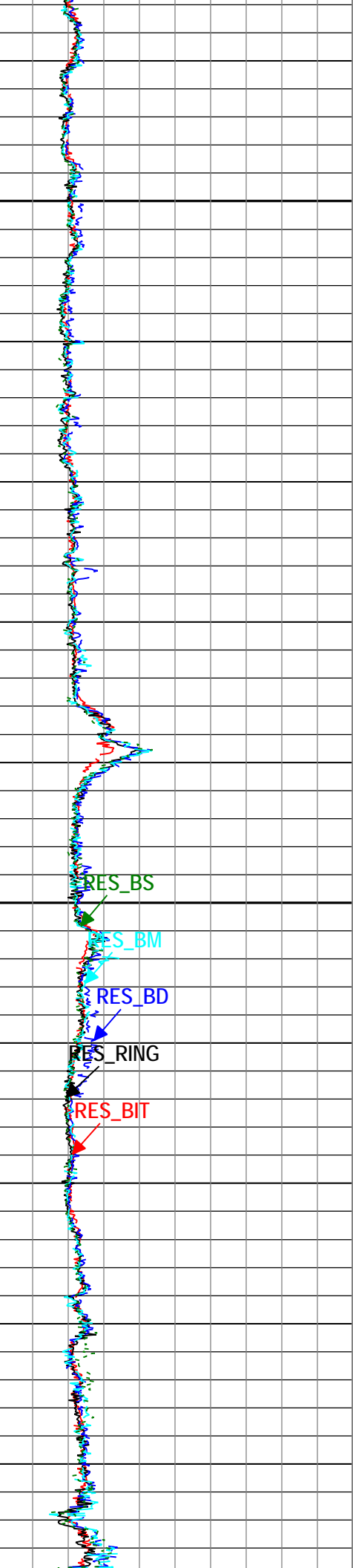
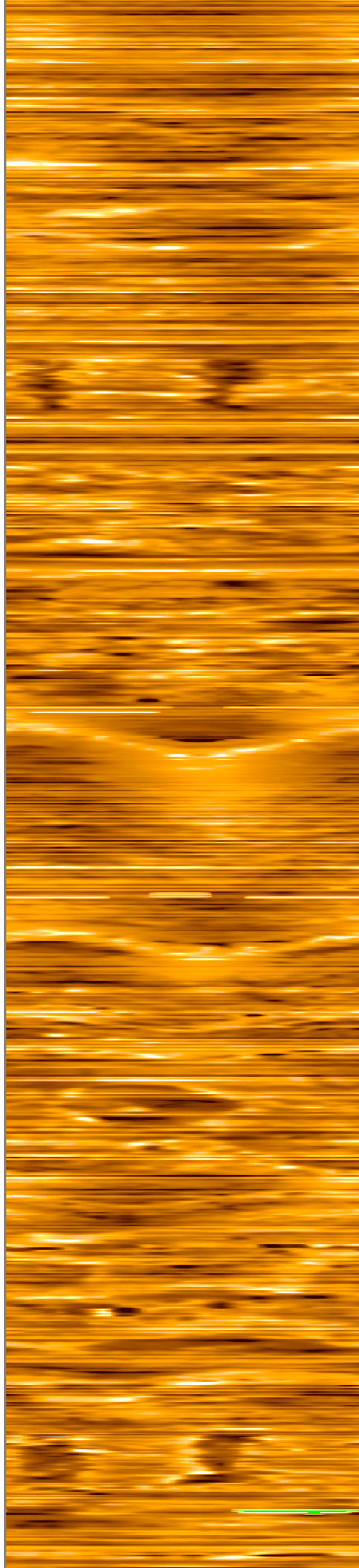
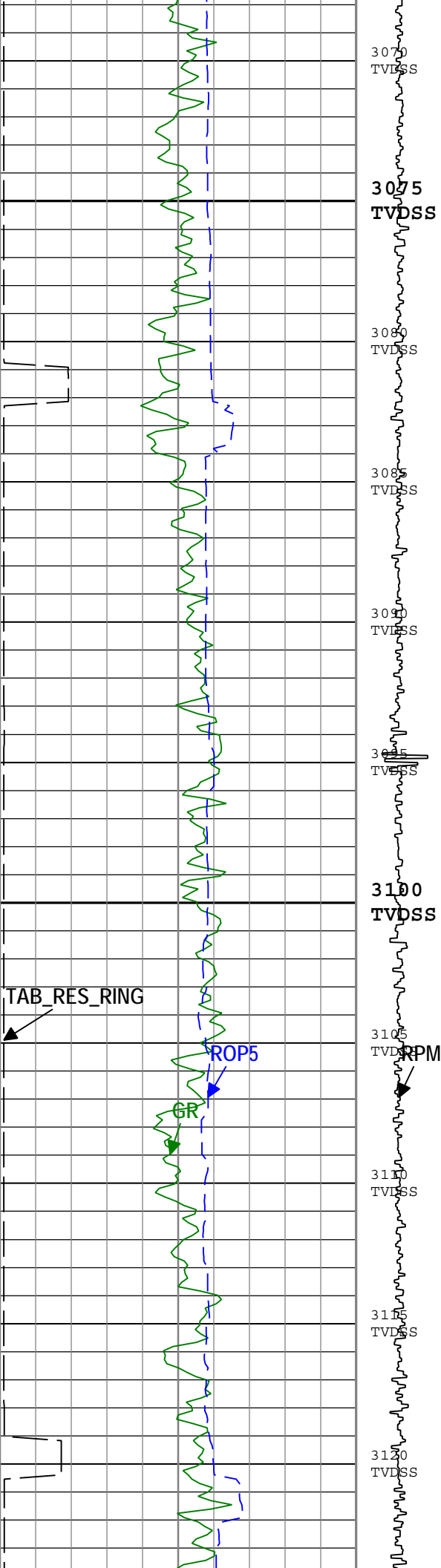
Description: GVR Resistivity, Deep Button Image Format: Log ( GVR Image-APWD Depth RM\_NoTick ) Index Scale: 1:200 Index Unit: m Index Type: SSTVD Creation Date: 10-Jan-2013 17:26:33

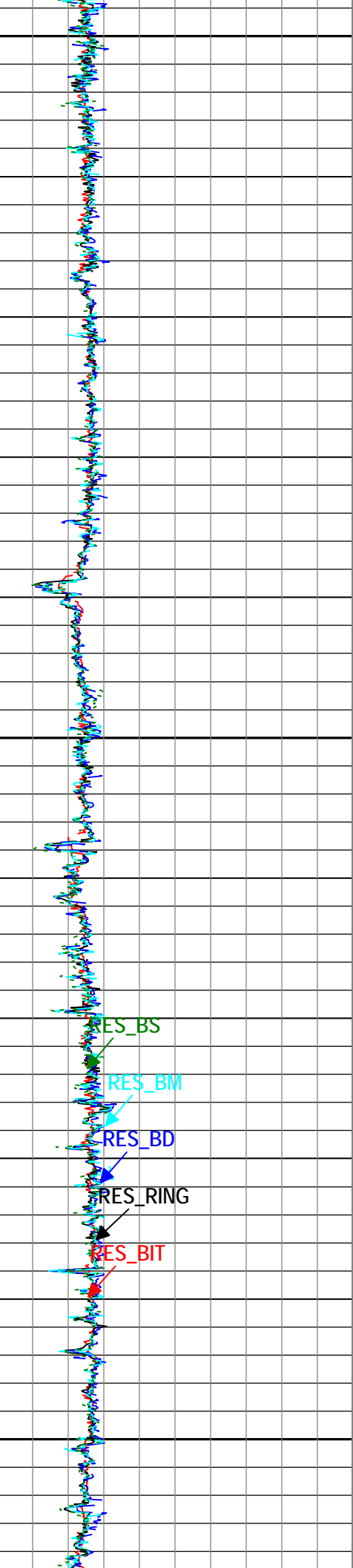
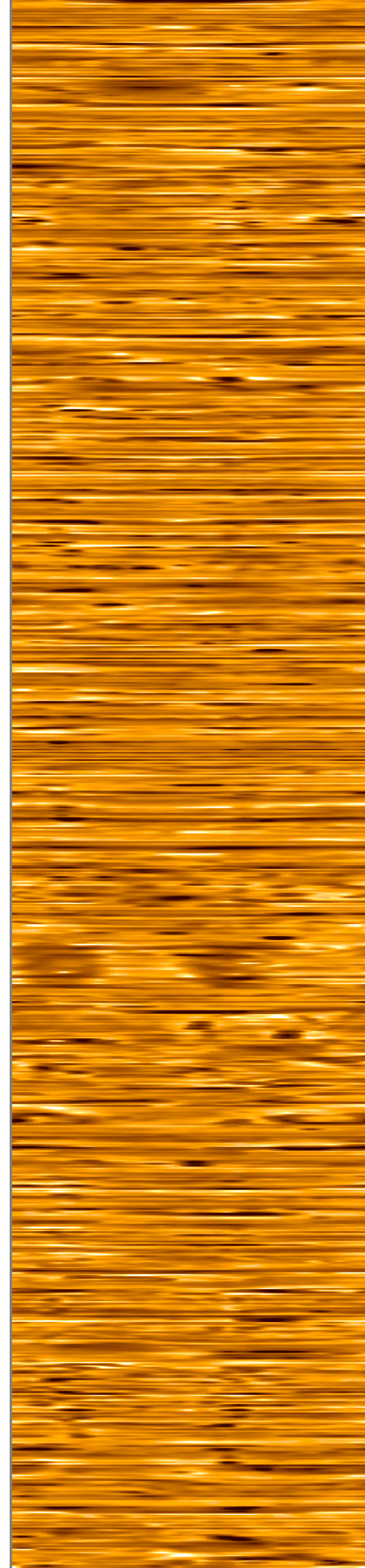
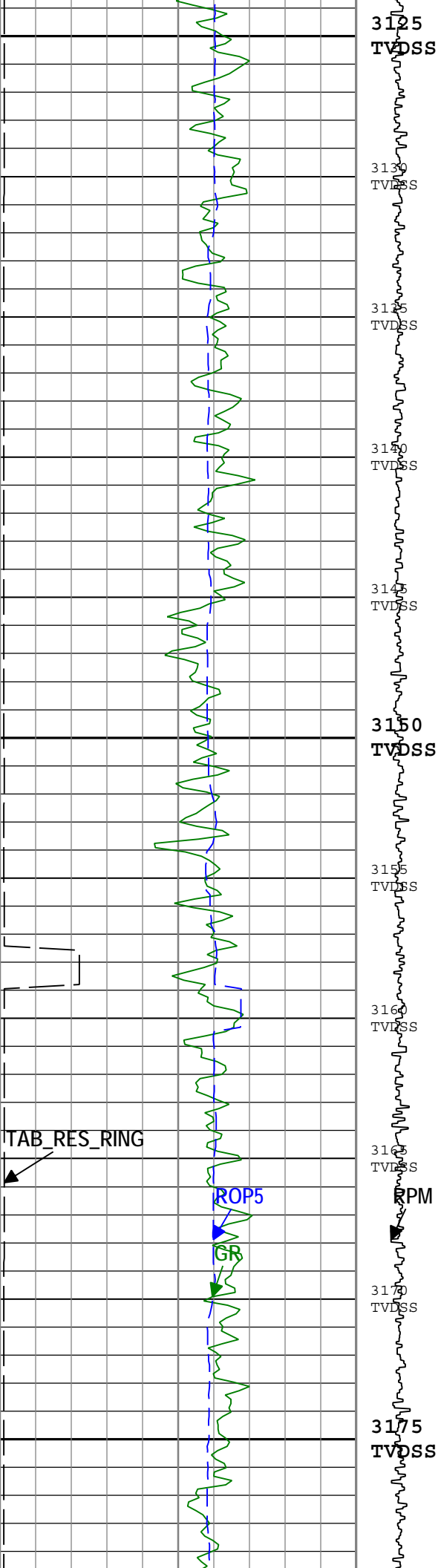


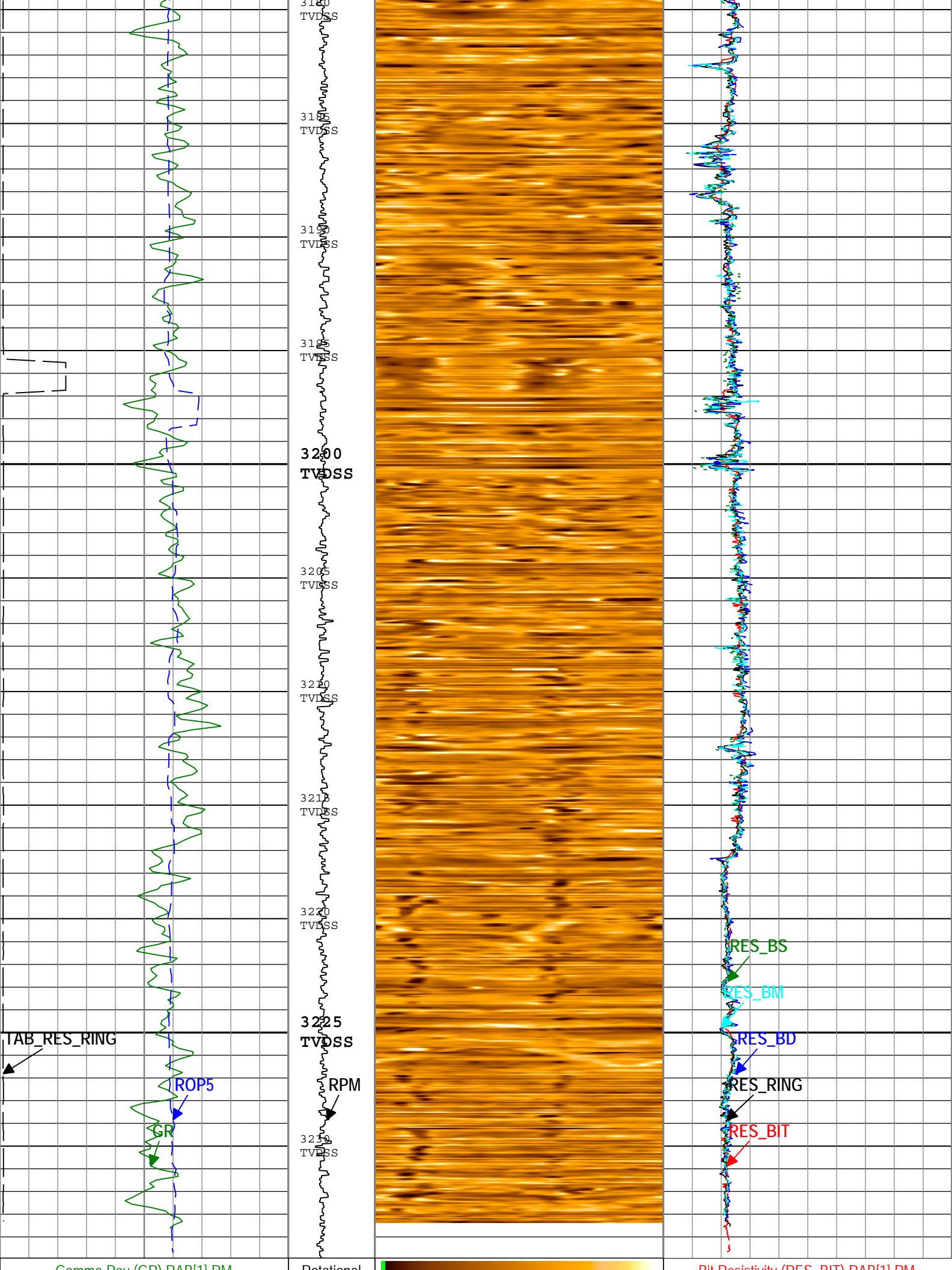












31800  
TV DSS

31850  
TV DSS

31900  
TV DSS

31950  
TV DSS

32000  
TV DSS

32050  
TV DSS

32100  
TV DSS

32150  
TV DSS

32200  
TV DSS

32250  
TV DSS

32300  
TV DSS

TAB\_RES\_RING

ROP5

GR

RPM

RES\_BS

RES\_BM

RES\_BD

RES\_RING

RES\_BIT

Gamma Ray (GR) DAPI1 DM

Rotational

Bit Resistivity (RES\_BIT) DAPI1 DM

Gamma Ray (GR) RAB[1] RM	0	gAPI	150
Rate of penetration averaged over the last 5 ft (1.5 m) (ROP5) RT	0	m/h	100
Ring Resistivity Time After Bit (TAB_RES_RING) RAB[1]	0	h	3

Rotational Speed (RPM) RAB[1] RM	0	c/min	200
Dynamic Gaussian Normalization RAB - Deep Button Resistivity Image RAB[1] RM			
Orientation: North Azimuth			
N	E	S	W

Bit Resistivity (RES_BIT) RAB[1] RM	0	ohm.m	5
Ring Resistivity (RES_RING) RAB[1] RM	0	ohm.m	5
Deep Button Resistivity (RES_BD) RAB[1] RM	0	ohm.m	5
Medium Button Resistivity (RES_BM) RAB[1] RM	0	ohm.m	5
Shallow Button Resistivity (RES_BS) RAB[1] RM	0	ohm.m	5

Description: GVR Resistivity, Deep Button Image Format: Log ( GVR Image-APWD Depth RM\_NoTick ) Index Scale: 1:200 Index Unit: m Index Type: SSTVD Creation Date: 10-Jan-2013 17:26:33

## Channel Processing Parameters

### Run1: Parameters

Parameter	Description	Tool	Value	Unit
BHK	Drilling Fluid Potassium Concentration	Borehole	0	%
BHT	Bottom Hole Temperature	Borehole	5	degC
DEPTH_SEL	Depth Selection Parameter	DNMSESSION	Driller's Depth	
DFD	Drilling Fluid Density	Borehole	1.04	g/cm3
DFT	Drilling Fluid Type	Borehole	Water	
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	0.22	ohm.m
SHT	Surface Hole Temperature	Borehole	1.5	degC
TD	Total Measured Depth	Borehole	3263.5	m

## Tool Control Parameters

### Run1: Parameters

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

## Well Composite

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## Integration Summary

Output Channel(s)	Output Description	Input Parameter	Output Value	Unit
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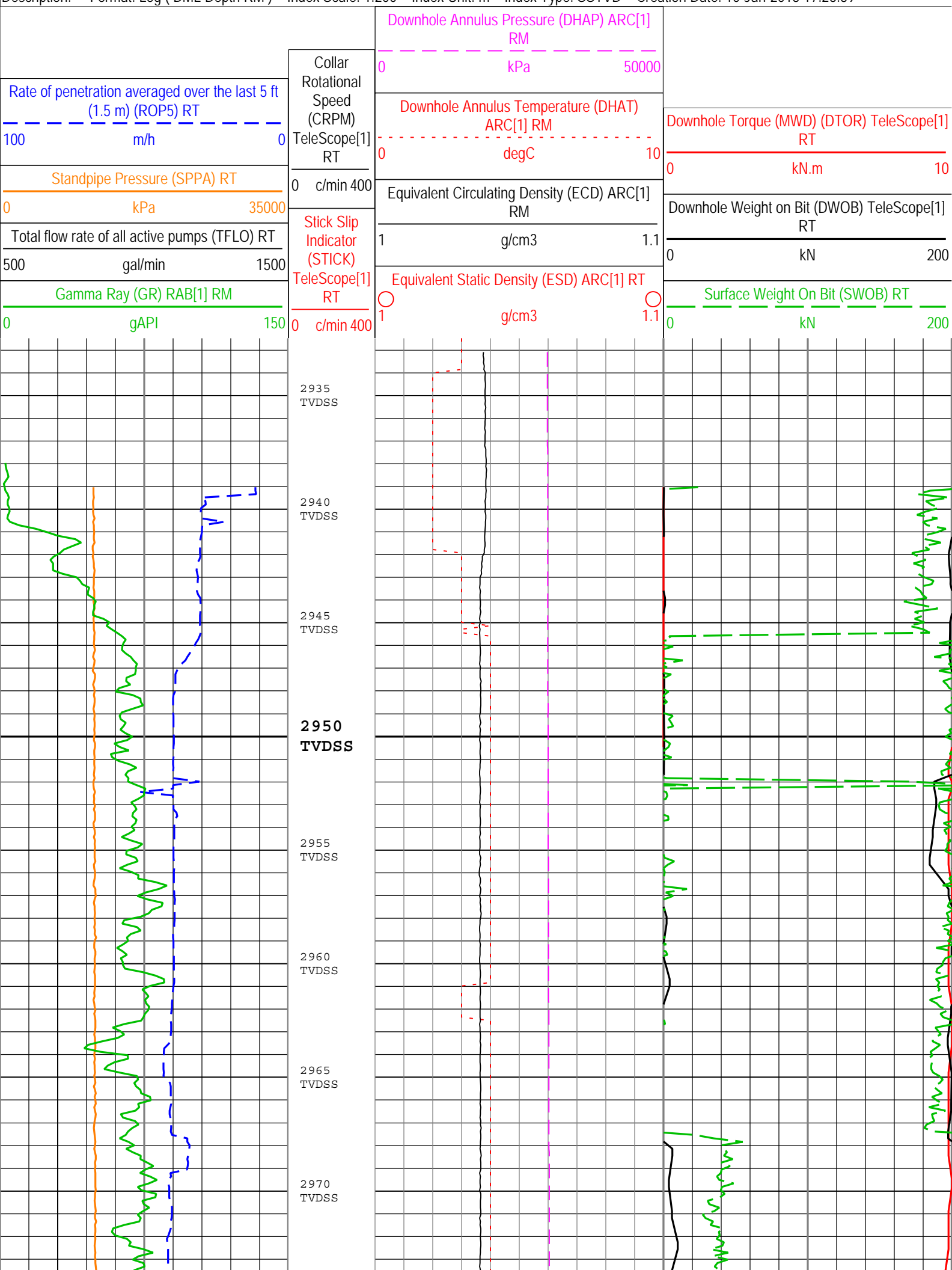
## Composite Summary

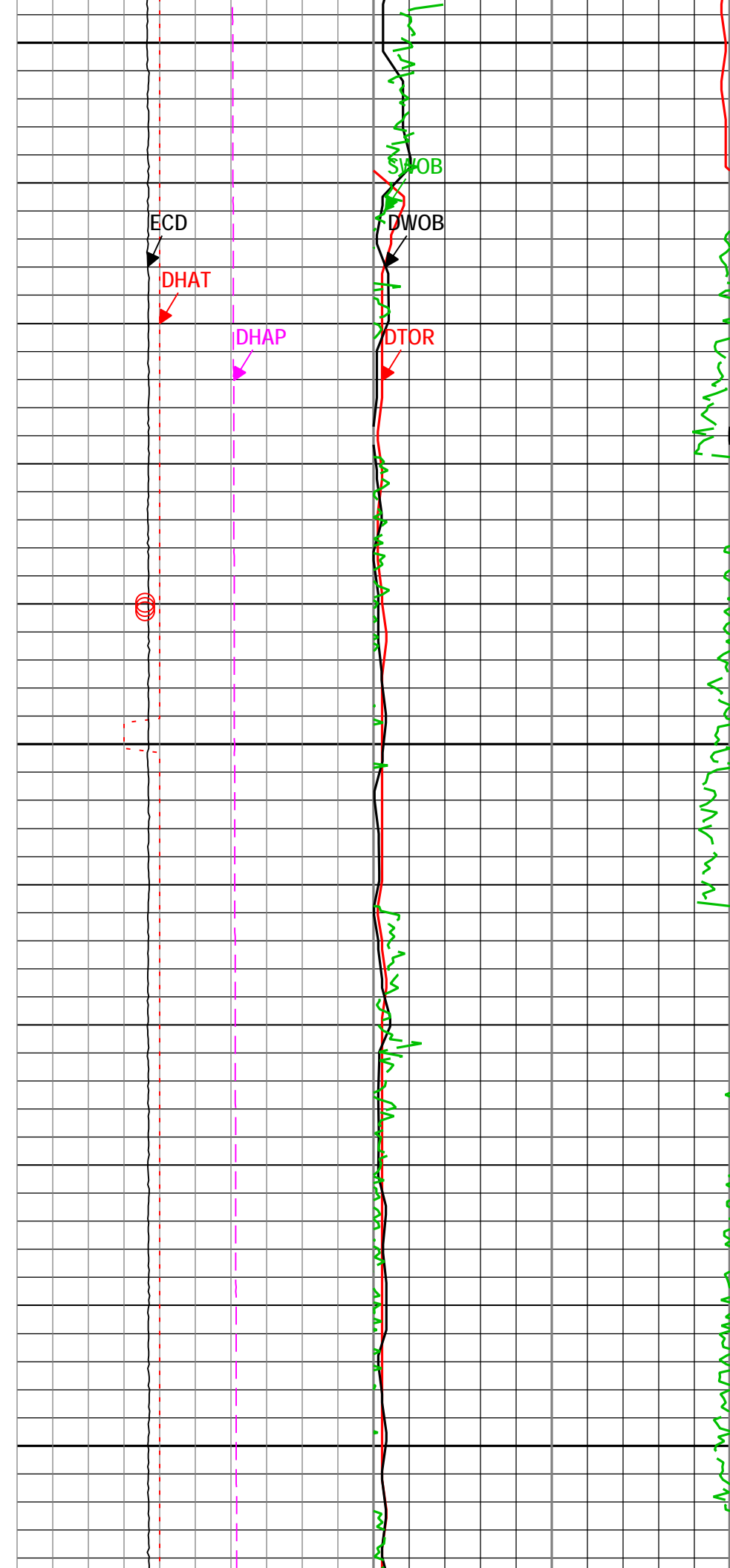
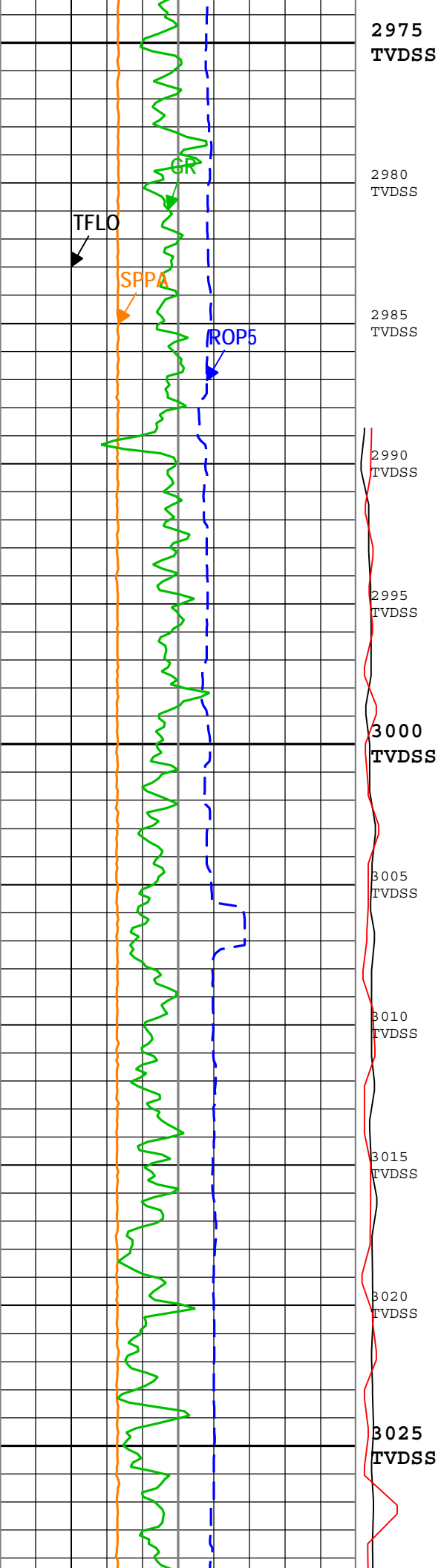
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	Include Parallel Data
Run1	Ream Down 2	Down	2967.48 m	2980.69 m	26-Dec-2012 11:22:08 PM	26-Dec-2012 11:46:15 PM	
Run1	Drilling	Down	2965.02 m	3263.47 m	26-Dec-2012 11:03:41 PM	27-Dec-2012 4:58:36 PM	

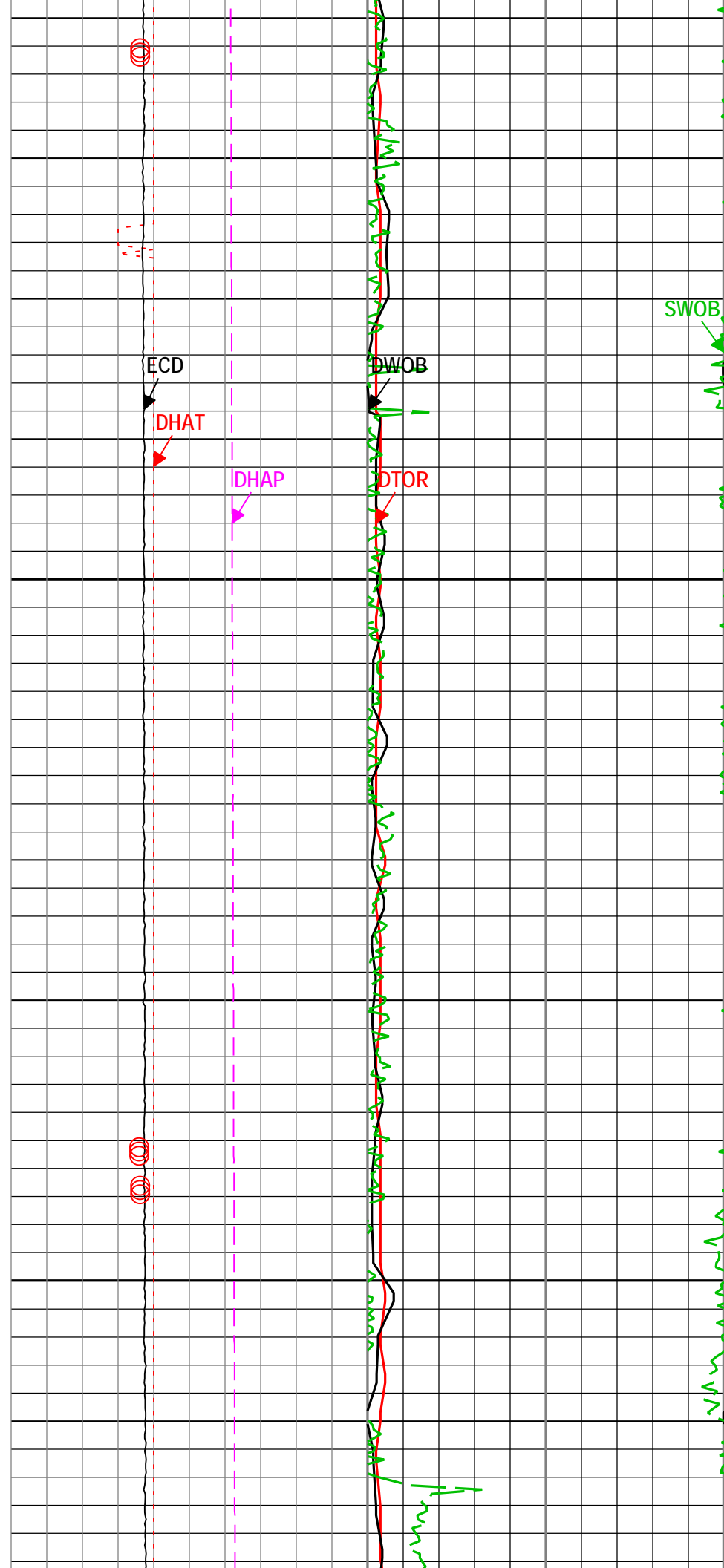
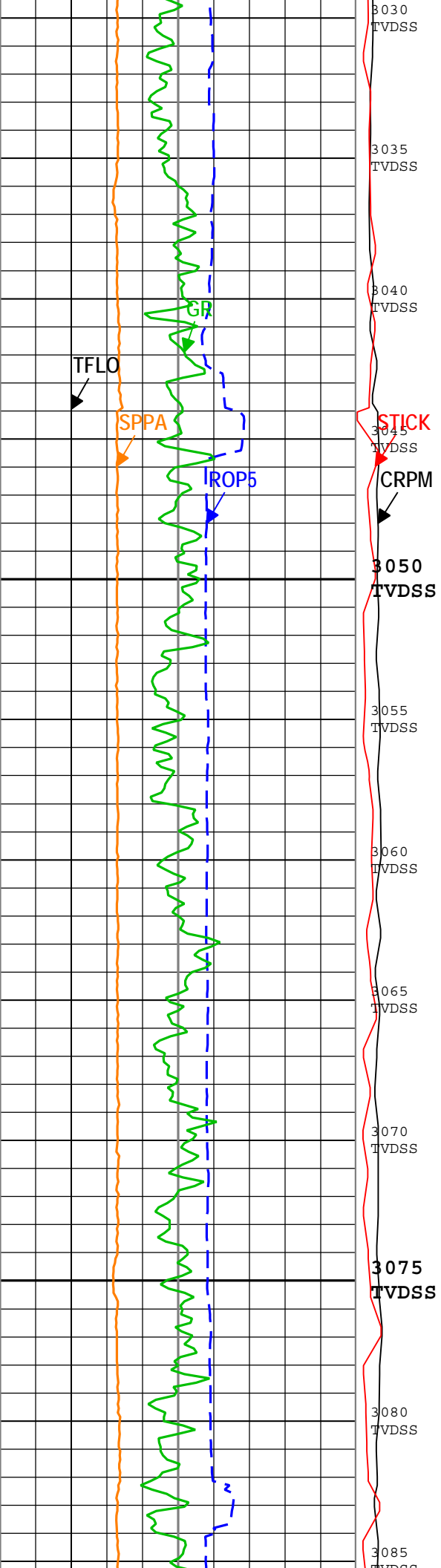
All depths are referenced to toolstring zero

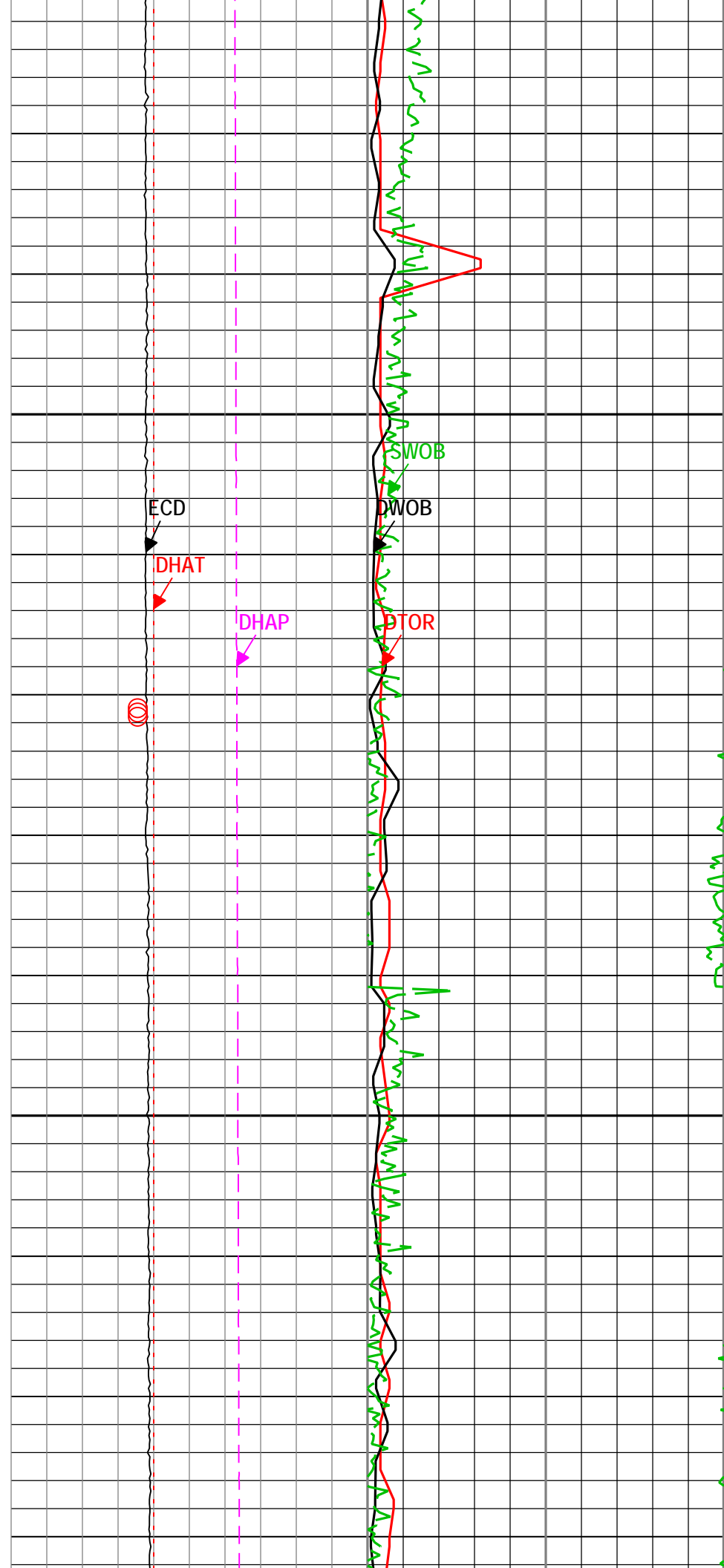
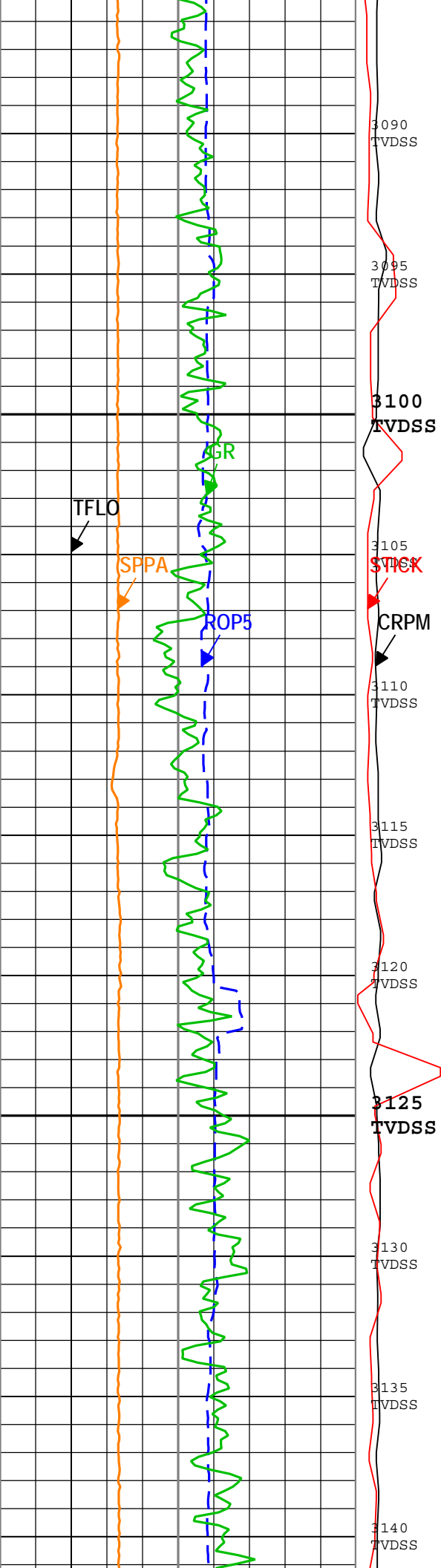
## Log

Well Composite

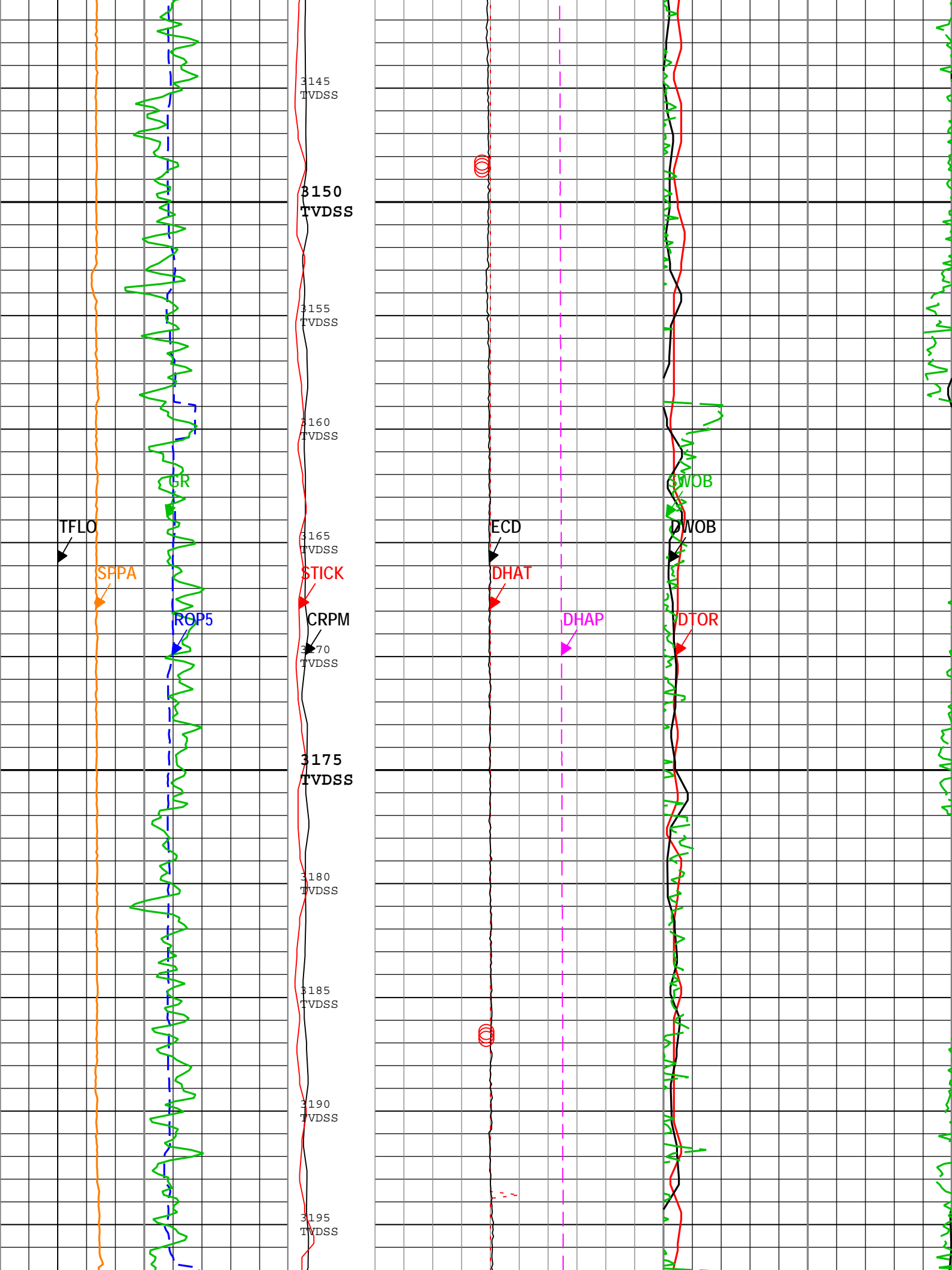


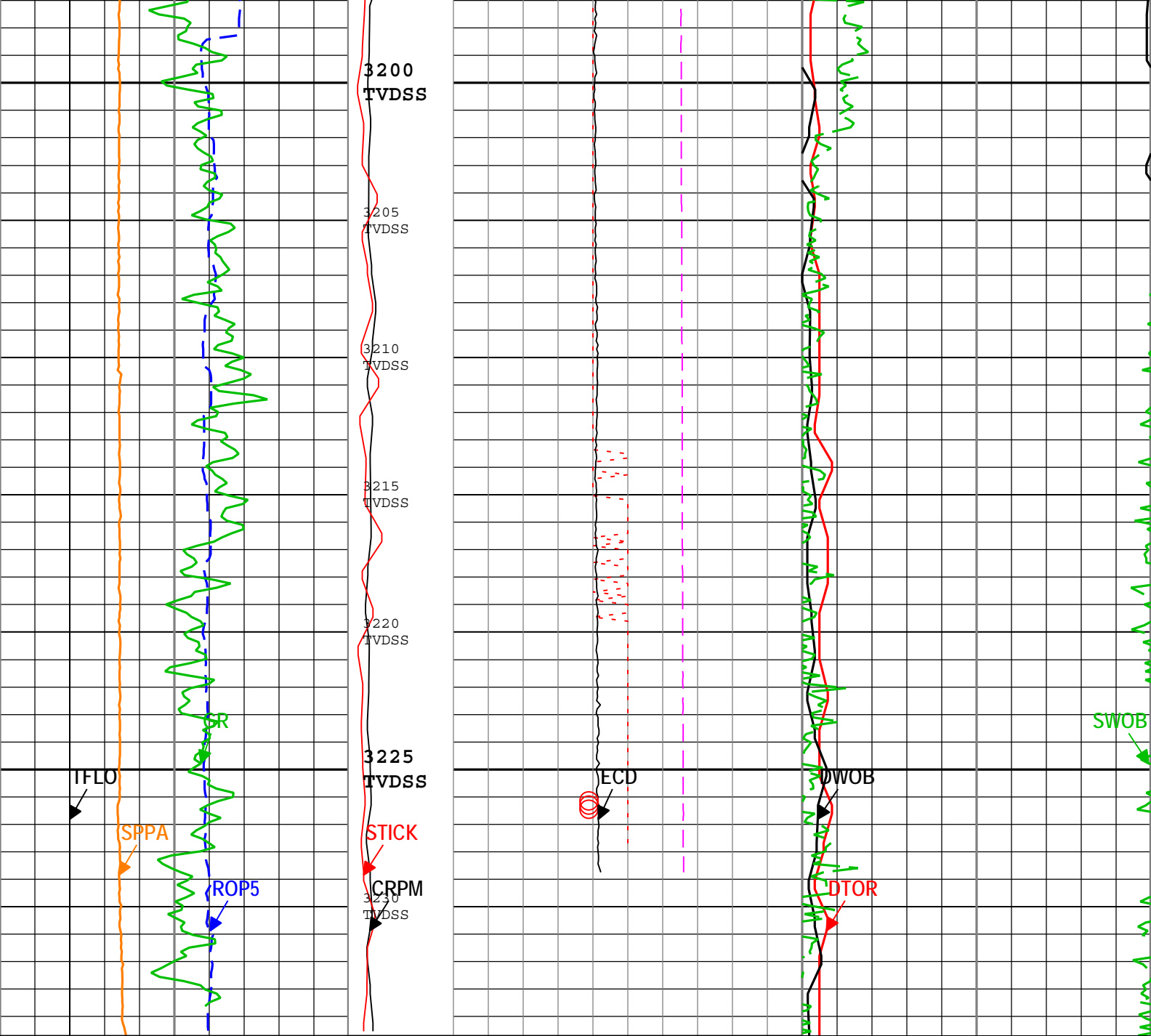












Rate of penetration averaged over the last 5 ft (1.5 m) (ROP5) RT 0 100 m/h 0	Collar Rotational Speed (CRPM) TeleScope[1] RT 0 c/min 400	Downhole Annulus Pressure (DHAP) ARC[1] RM 0 50000 kPa	Downhole Torque (MWD) (DTOR) TeleScope[1] RT 0 10 kN.m
Standpipe Pressure (SPPA) RT 0 35000 kPa	Stick Slip Indicator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

Description: Format: Log ( DML Depth RM ) Index Scale: 1:200 Index Unit: m Index Type: SSTVD Creation Date: 10-Jan-2013 17:26:39

**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	

**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	

**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	

**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	

**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	

**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	

Well: C0021A  
Field: Nankai Trough - Kumano Basin  
Rig Name: Chikyu  
Prefecture: Wakayama  
Country: Japan



geoVISION - APWD

Gamma Ray - Resistivity - Image - APWD

12.25in Recorded Mode Log. True Vertical Depth Sub Sea 1:200