

geoVISION - APWD

Gamma Ray - Resistivity - Image - APWD
 12.25in Recorded Mode Log. True Vertical Depth
 Sub Sea 1:500



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: 1:500

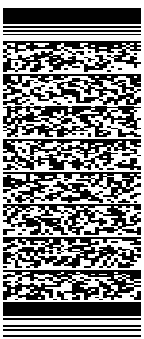
Drilling Mechanics

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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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				

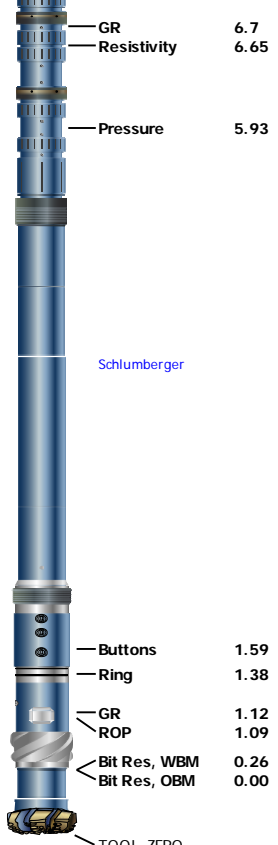
Borehole Fluids

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%;">Equip name TELE825-IWOB:G 0159</td> <td style="width: 10%;">Length 18.99</td> <td style="width: 5%;"></td> <td style="width: 15%;">MP name Schlumberger</td> <td style="width: 5%;">Offset</td> </tr> <tr> <td colspan="5" style="text-align: center;"> </td> </tr> <tr> <td colspan="5" style="text-align: center;"> ARC8:2791-SRPC 10.08 Schlumberger </td> </tr> <tr> <td colspan="5" style="text-align: center;"> ROP 7.76 </td> </tr> </table>	Equip name TELE825-IWOB:G 0159	Length 18.99		MP name Schlumberger	Offset						ARC8:2791-SRPC 10.08 Schlumberger					ROP 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>	
Equip name TELE825-IWOB:G 0159	Length 18.99		MP name Schlumberger	Offset																		
ARC8:2791-SRPC 10.08 Schlumberger																						
ROP 7.76																						



RAB8:42825/413 4.17
47

Schlumberger

Bit: 12 1/4":A162 0.3
762

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 :	0.91 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

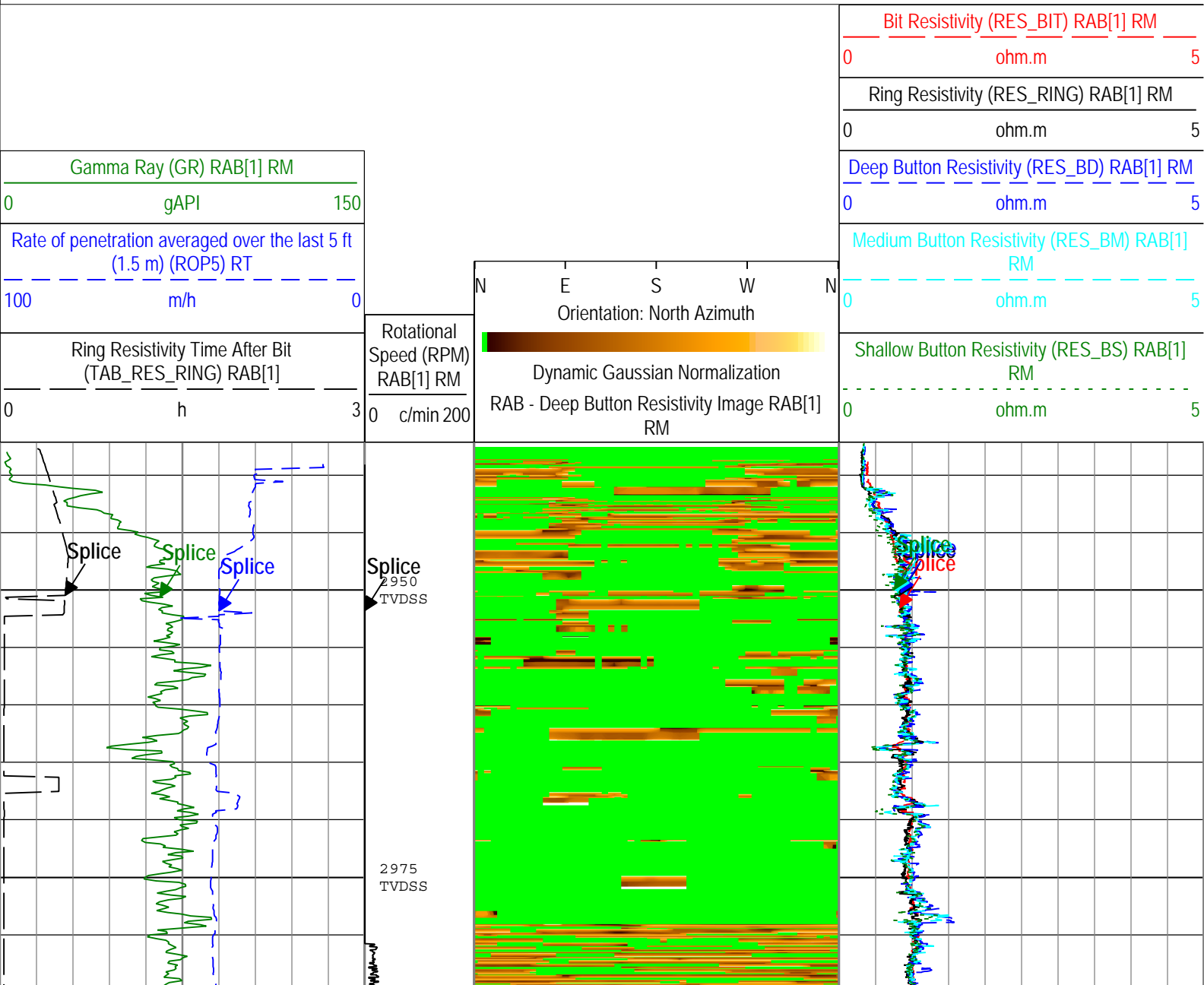
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	Include Parallel Data
Run1	Ream Down 2	Down	2967.48 m	2980.69 m	26-Dec-2012 11:22:08 PM	26-Dec-2012 11:46:15 PM	
Run1	Drilling	Down	2965.02 m	3263.47 m	26-Dec-2012 11:03:41 PM	27-Dec-2012 4:58:36 PM	

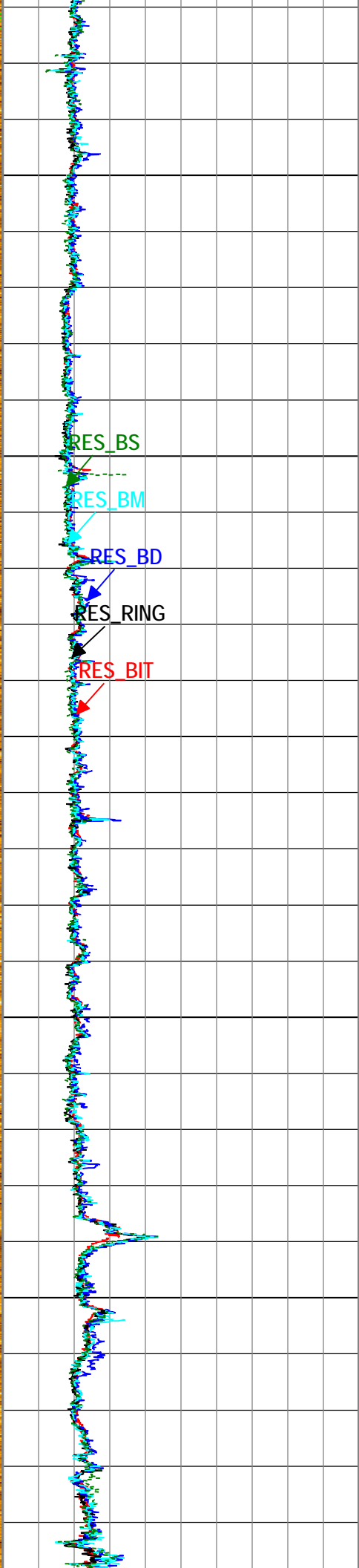
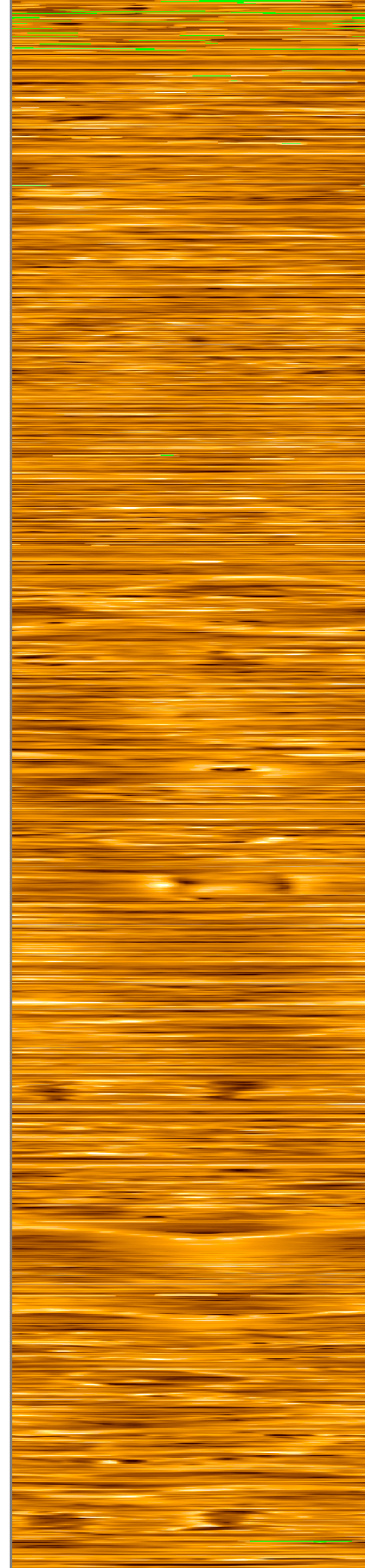
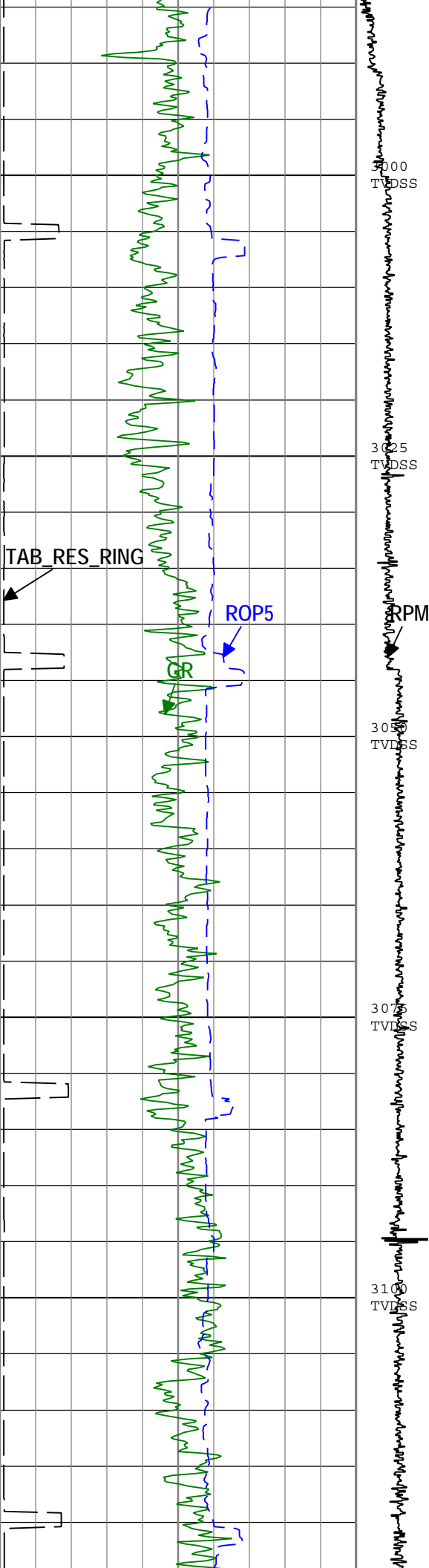
All depths are referenced to toolstring zero

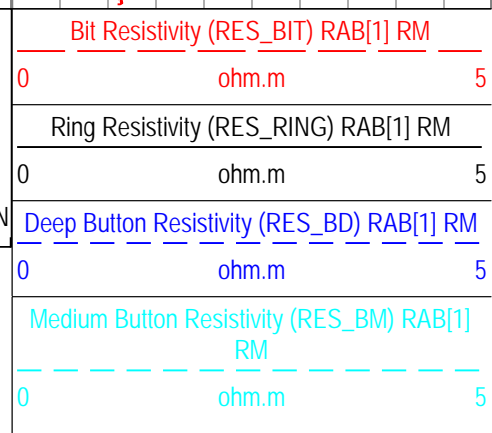
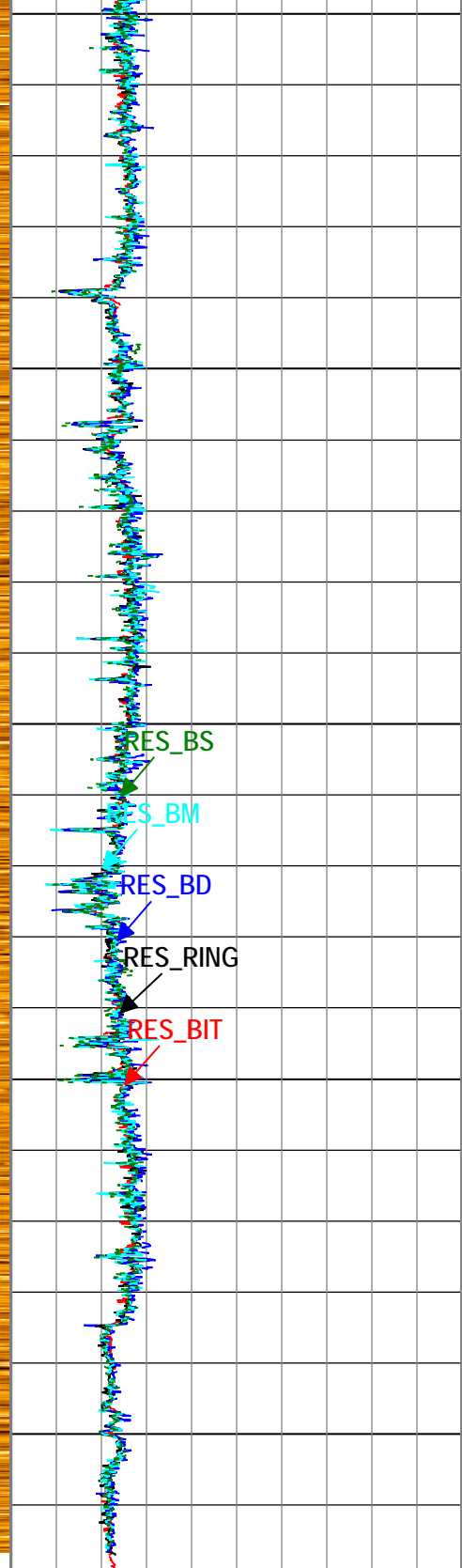
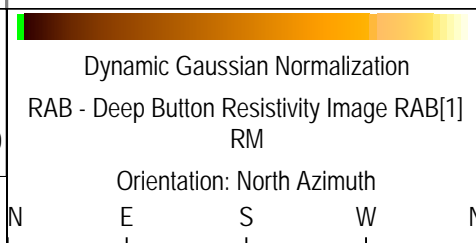
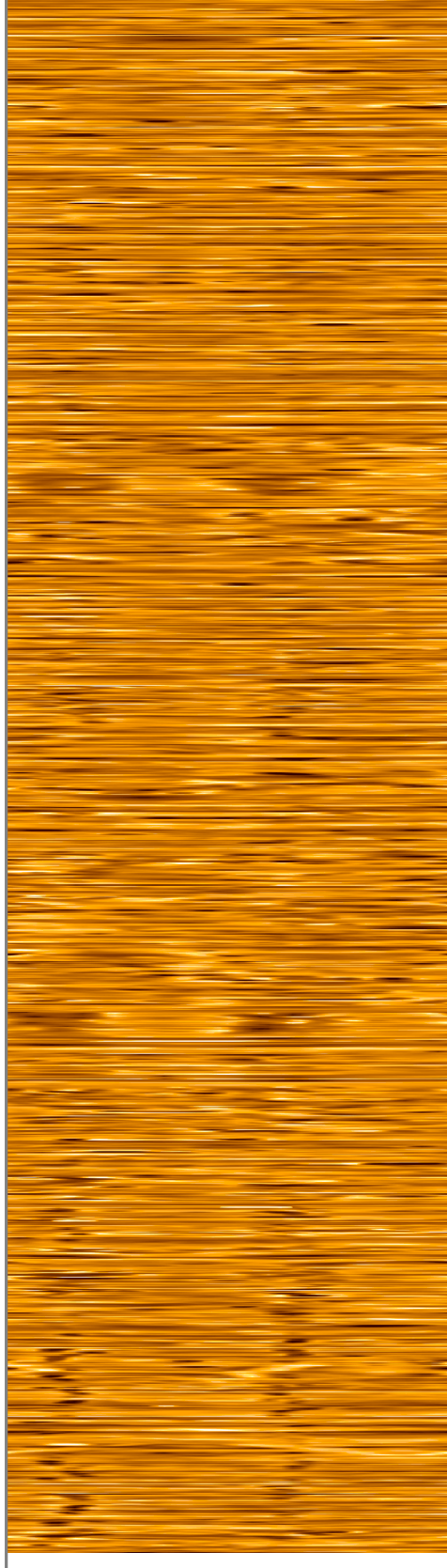
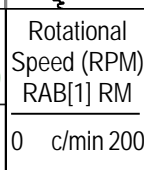
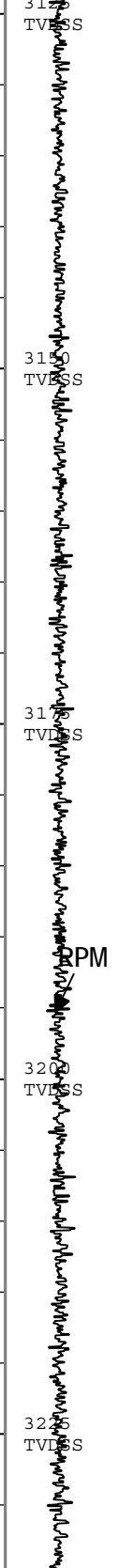
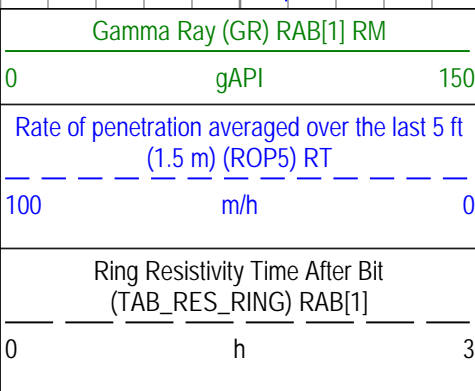
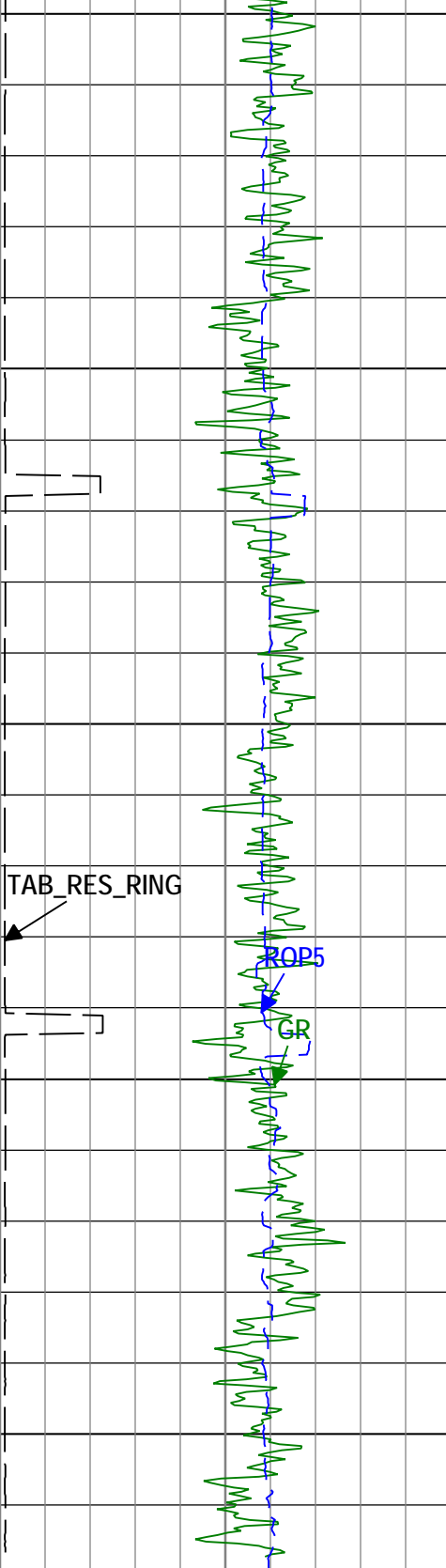
Log

Well Composite

Description: GVR Resistivity, Deep Button Image Format: Log (GVR Image-APWD Depth RM_NoTick) Index Scale: 1:500 Index Unit: m Index Type: SSTVD Creation Date: 10-Jan-2013 17:28:36







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: 1:500 Index Unit: m Index Type: SSTVD Creation Date: 10-Jan-2013 17:28:37

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

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	

Integration Summary

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

Composite Summary

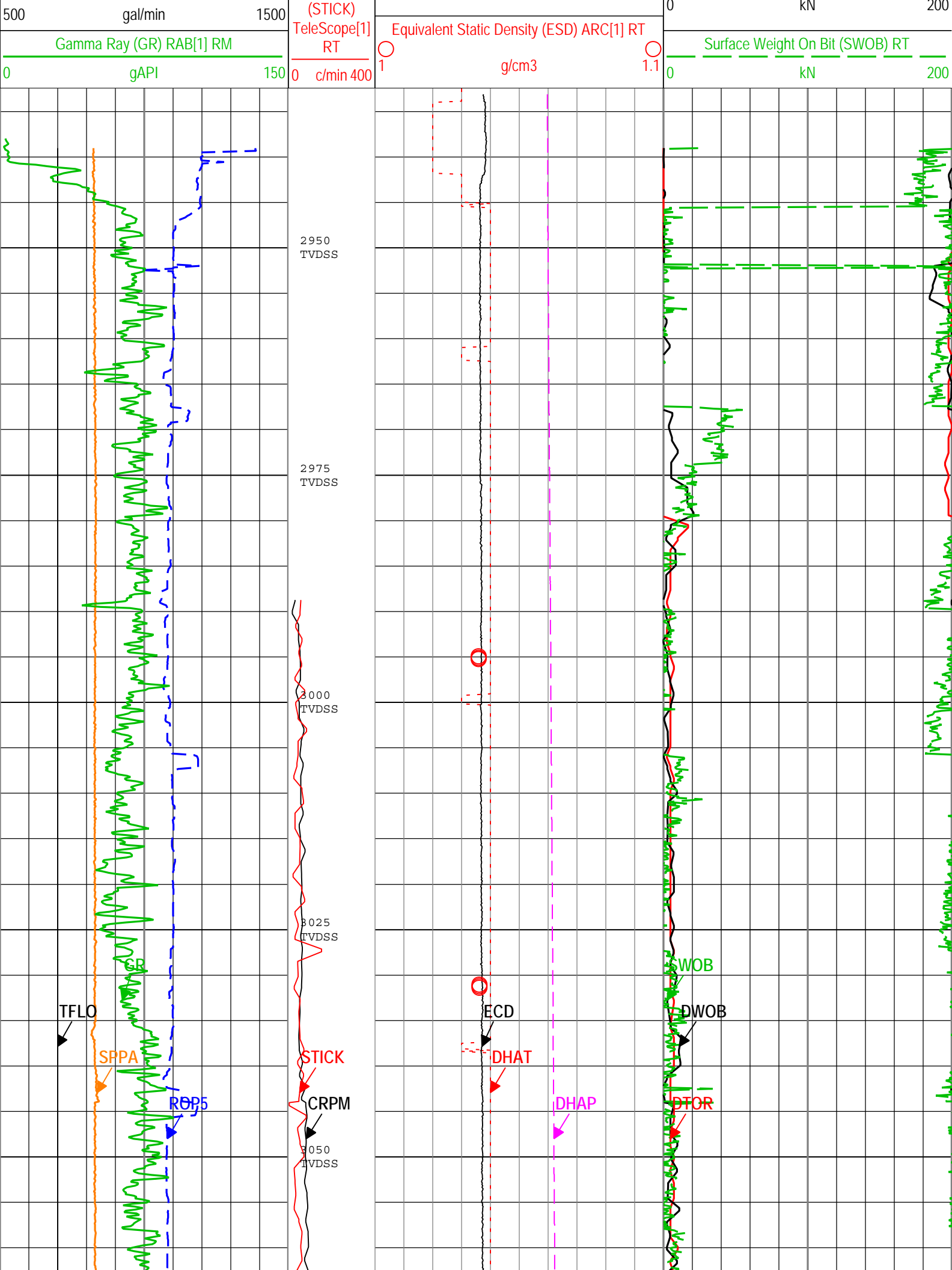
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	Include Parallel Data
Run1	Ream Down 2	Down	2967.48 m	2980.69 m	26-Dec-2012 11:22:08 PM	26-Dec-2012 11:46:15 PM	
Run1	Drilling	Down	2965.02 m	3263.47 m	26-Dec-2012 11:03:41 PM	27-Dec-2012 4:58:36 PM	

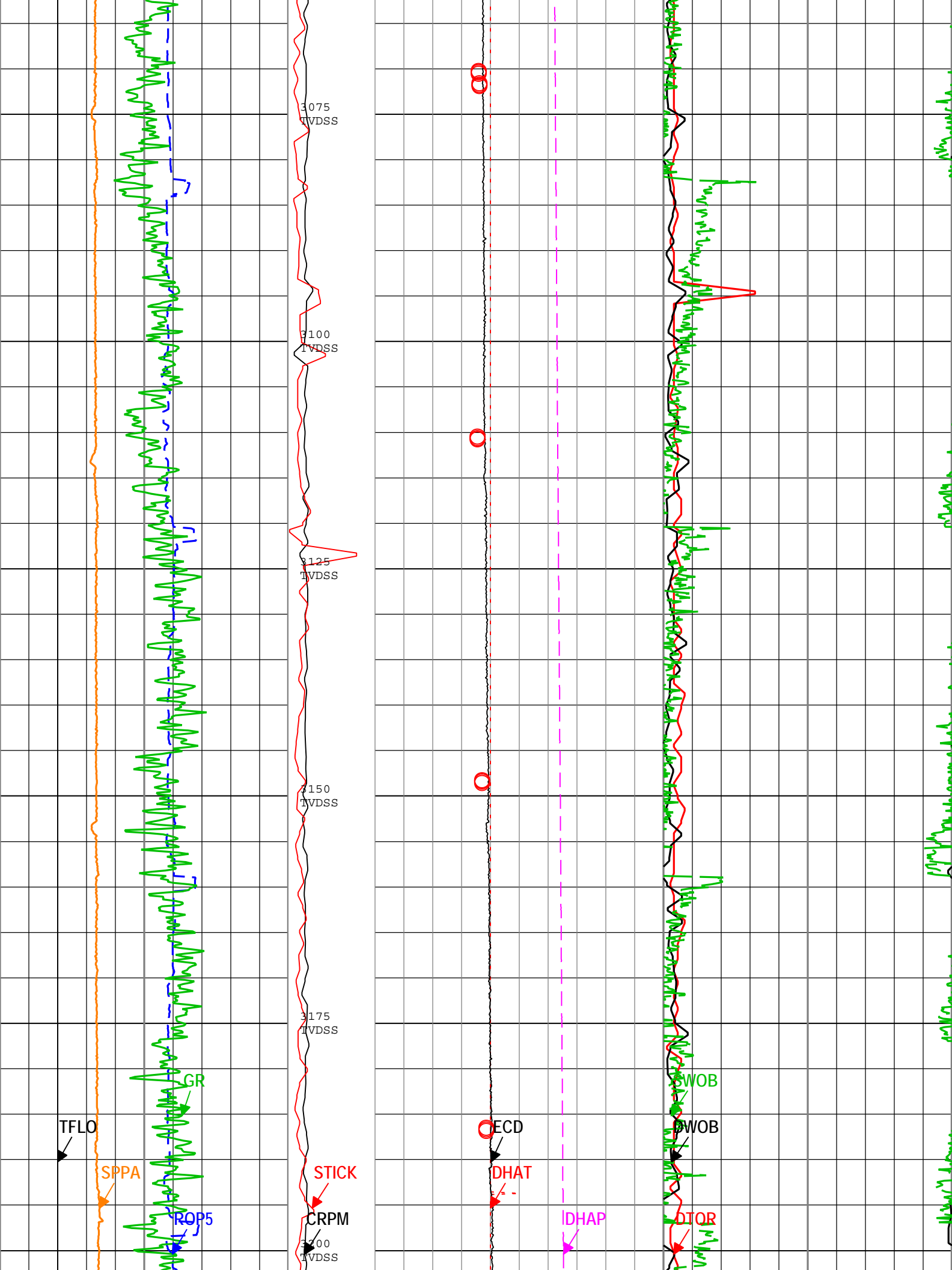
All depths are referenced to toolstring zero

Log

Description: Format: Log (DML Depth RM) Index Scale: 1:500 Index Unit: m Index Type: SSTVD Creation Date: 10-Jan-2013 17:28:41

Rate of penetration averaged over the last 5 ft (1.5 m) (ROP5) RT	Collar Rotational Speed (CRPM) TeleScope[1] RT	Downhole Annulus Pressure (DHAP) ARC[1] RM	0 kPa 50000	Downhole Torque (MWD) (DTOR) TeleScope[1] RT	0 kN.m 10
		Downhole Annulus Temperature (DHAT) ARC[1] RM	0 degC 10		Downhole Weight on Bit (DWOB) TeleScope[1] RT
Standpipe Pressure (SPPA) RT	0 c/min 400	Equivalent Circulating Density (ECD) ARC[1] RM	0 kPa 35000		
Total flow rate of all active pumps (TFLO) RT	Stick Slip Indicator		1 g/cm3 1.1		





3075
TVDSS

3100
TVDSS

3125
TVDSS

3150
TVDSS

3175
TVDSS

3200
TVDSS

TFLO

SPPA

ROP5

STICK

CRPM

ECD

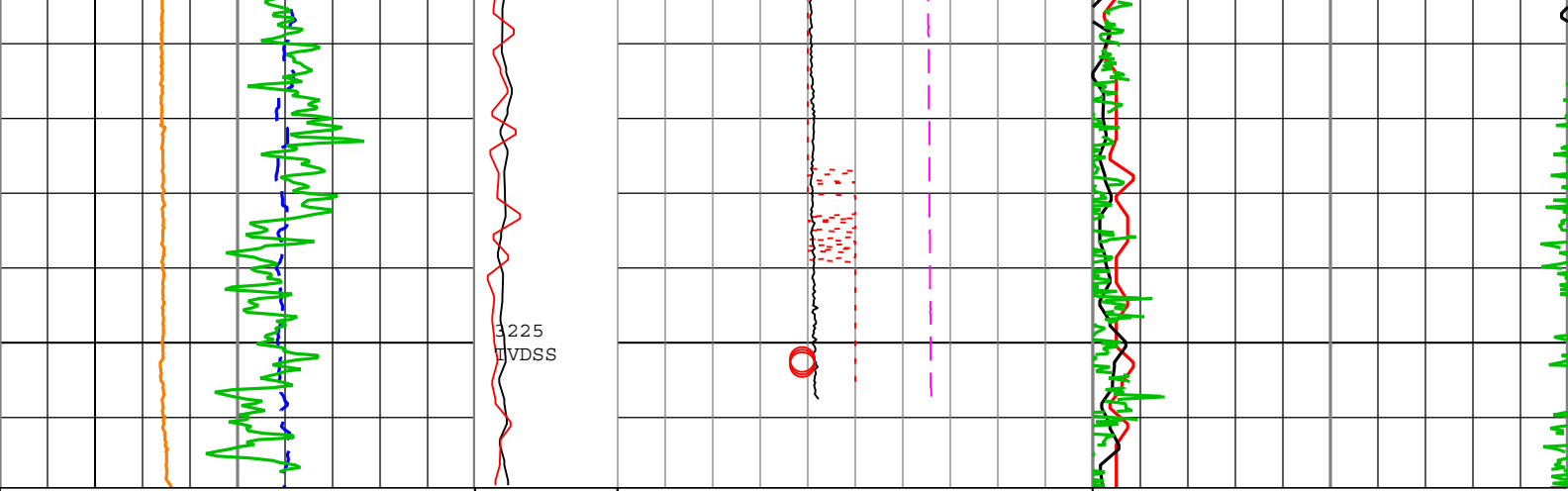
DHAT

IDHAP

SWOB

SWOB

DIOR



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

Description: Format: Log (DML Depth RM) Index Scale: 1:500 Index Unit: m Index Type: SSTVD Creation Date: 10-Jan-2013 17:28:41

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	

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	

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: C0021A

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. True Vertical Depth Sub Sea 1:500