



Weatherford

Resistivity Gamma Ray Log

1:200

Main Pass

COMPANY IODP Expedition 347 Baltic Sea
 WELL BSB-9/Hole 63A
 FIELD Sweden
 PROVINCE/COUNTY Sweden
 COUNTRY/STATE Sweden
 LOCATION

Latitude 58 37.340 N
 Longitude 18 15.250 E
 Other Services
 Spectral Gamma Ray
 Compensated Sonic
 Imager 8-Arm Caliper

Permanent Datum M.S.L., Elevation 437.2 metres
 Log Measured From GL
 Drilling Measured From GL

Elevations:
 KB metres 440.00
 DF metres 440.00
 GL metres 0.00

Date	11-OCT-2013
Run Number	1
Service Order	50004126
Depth Driller	115.00 metres
Depth Logger	108.50 metres
First Reading	108.50 metres
Last Reading	18.65 metres
Casing Driller	18.65 metres
Casing Logger	18.65 metres
Bit Size	8.500 inches
Hole Fluid Type	Sea Water
Density / Viscosity	
PH / Fluid Loss	
Sample Source	
Rm @ Measured Temp	
Rmf @ Measured Temp	
Rmc @ Measured Temp	
Source Rmf / Rmc	
Rm @ BHT	
Time Since Circulation	0.5 hrs
Max Recorded Temp	
Equipment / Base	16104
Recorded By	C.Sedlatschek
Witnessed By	A.Fehr

REMARKS

1. Well Manager Version 13.07.1135 used.
2. All logs correlated to drill bit depth at 18.65m.
3. Depth Offset for Resistivity Log DO=+1.0m.
4. Depth Offset for Spectral Gamma Ray and Sonic Log DO=+1.0m.
5. No Depth Offset applied to Imager Log.

BOREHOLE RECORD

Last Edited: 11-OCT-2013 05:14

Bit Size inches	Depth From metres	Depth To metres
8.500	0.00	115.00

CASING RECORD

Type	Size inches	Depth From metres	Shoe Depth metres	Weight pounds/ft
	5.500	0.00	18.65	23.00

All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions in our price schedule.

Timing Marks
every 60.0 sec

←

Gamma Ray
API
0 100 200
200 300 400

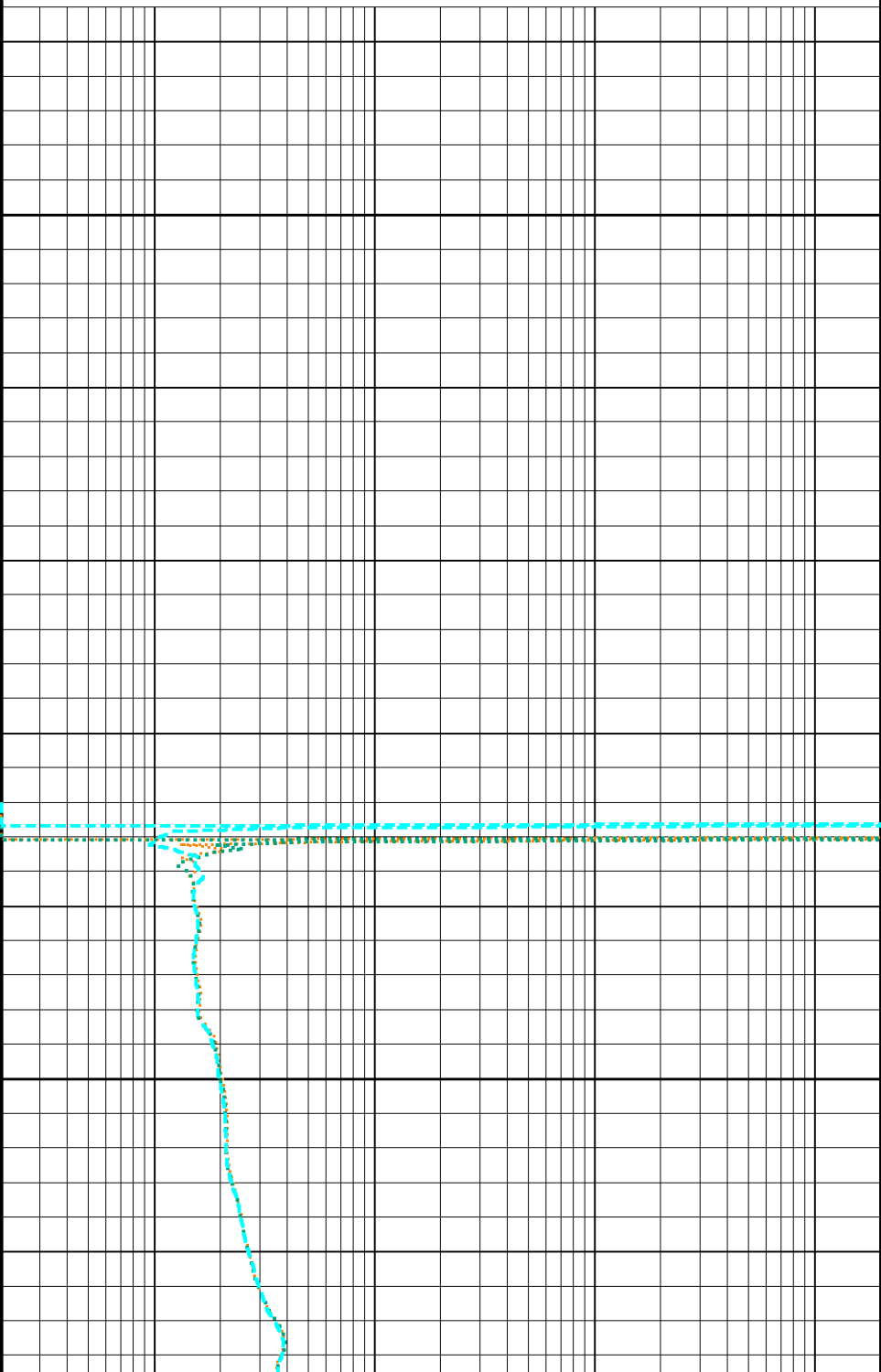
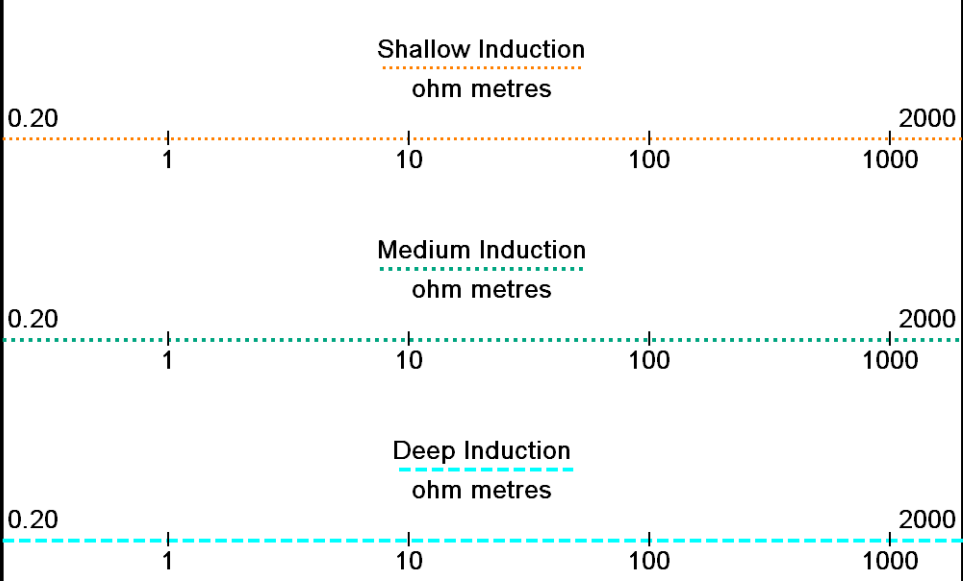
Depth
in
Metres

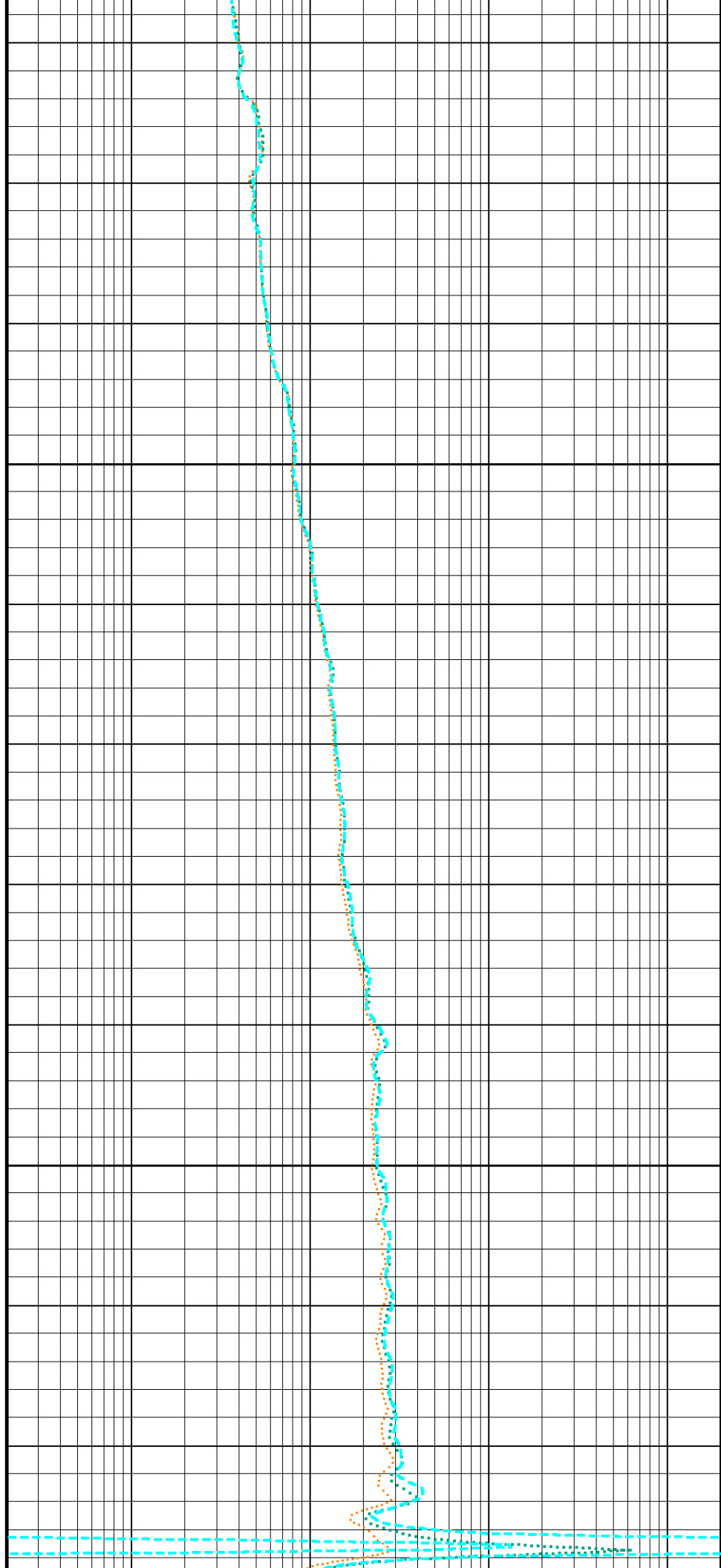
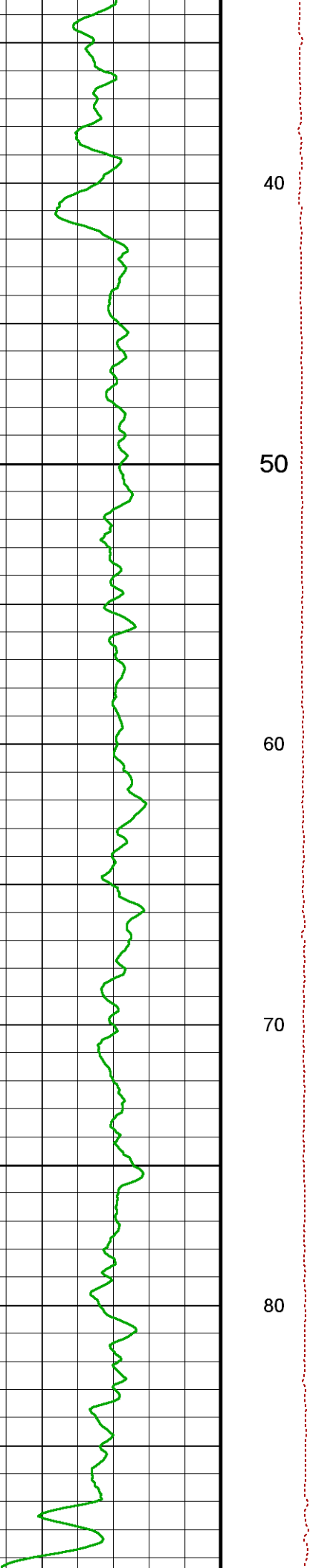
SMTU
0 1000

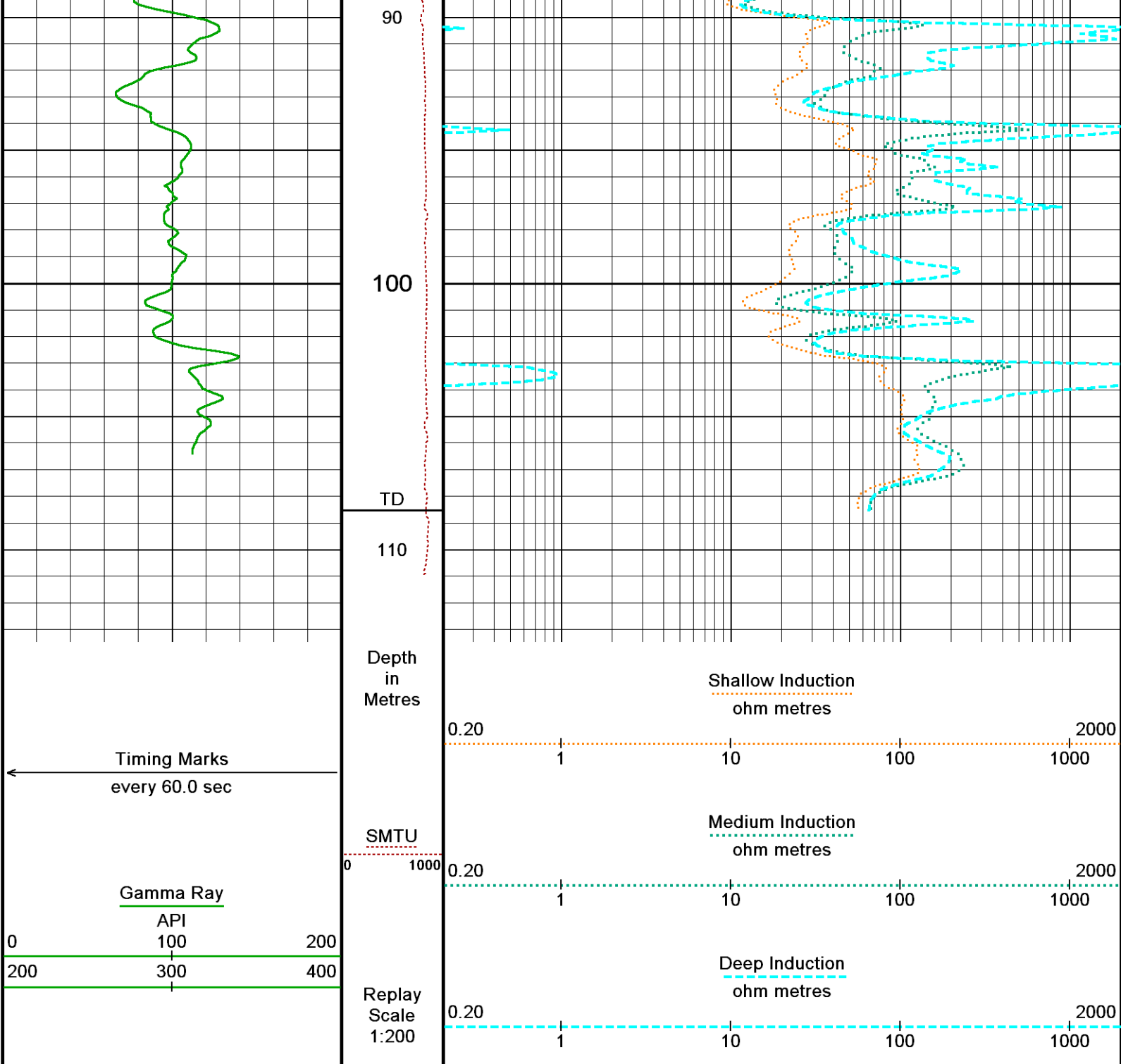
Replay
Scale
1:200

Casing
Shoe:
20

30

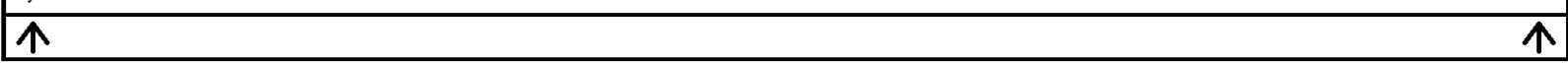






Depth Based Data - Maximum Sampling Increment 10.0cm
 Filename: C:\Well Manager\mai461mcg387_spliced.dta
 System Versions: Plotted with 13.07.1135

Plotted on 11-OCT-2013 05:26
 Recorded on 10-OCT-2013 22:48



BEFORE SURVEY CALIBRATION

C:\Well Manager\mai461mcg387_BSB_9_Main_Pass_Up.dta

General Constants All 000

Last Edited on 01-OCT-2013,00:16

General Parameters

Mud Resistivity	3.210	ohm-metres
Mud Resistivity Temperature	20.000	degrees C
Water Level	0.000	metres
Borehole Fluid Processing	Wet Hole	

Hole/Annular Volume and Differential Caliper Parameters

LIVOL Method 8 Arm GMI

HVOL Method	8 Arm CMI	
HVOL Caliper 1	N/A	
HVOL Caliper 2	N/A	
Annular Volume Diameter	7.000	inches
Caliper for Differential Caliper	None	

Rwa Parameters		
Porosity used	N/A	
Resistivity used	N/A	
RWA Constant A	N/A	
RWA Constant M	N/A	
SW/APOR Tool Source	0.000	

Gamma Calibration MCG-D.J 387

Field Calibration on 28-AUG-2013 14:21

	Measured	Calibrated (API)
Background	176	122
Calibrator (Gross)	1239	857
Calibrator (Net)	1063	735

Gamma Constants MCG-D.J 387

Last Edited on 12-SEP-2013,01:55

Gamma Calibrator Number	097	
Mud Density	1.00	gm/cc
Caliper Source for Processing	Bit Size	
Tool Position	Eccentred	
Concentration of KCl		kppm
K Mud Type	Chloride	
K Mud Concentration	0.00	%

Induction Calibration MAI-C.A 461

Base Calibration on 28-AUG-2013 12:43

Field Check on 28-AUG-2013 12:46

Base Calibration					
Test Loop Calibration					
Channel	Low	Measured High	Calibrated (mmho/m)	Low	High
1	16.9	458.4		9.3	967.1
2	5.9	364.5		7.6	822.1
3	3.5	248.7		5.3	566.5
4	1.8	128.8		2.6	279.5

Array Temperature	34.7	Deg C
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Channel	Base Check (mmho/m)		Field Check (mmho/m)	
	Low	High	Low	High
1			-3.6	2114.0
2			14.9	1979.6
3			14.7	1704.6
4			10.4	1148.6
Deep			8.0	1094.4
Medium			23.5	2267.9
Shallow			23.3	2948.6

Array Temperature	35.8	Deg C
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Induction Constants MAI-C.A 461

Last Edited on 06-OCT-2013,05:31

Induction Model	VECTAR	
Caliper for Borehole Corr.	Constant Value	
Hole Size for Borehole Correction	8.500	inches
Tool Centred	No	
Stand-off Type	Pineapple	
Stand-off	0.49	inches
Number of Fins on Stand-off	5.0000	
Stand-off Fin Angle	72.00	degrees
Stand-off Fin Width	1.3878	inches
Borehole Corr. Rm Source	Constant Value	
Temp. for Rm Corr.	N/A	
Squasher Start	0.0020	mhos/metre
Squasher Offset	0.0000	mhos/metre

Borehole Normalisation			
DRM1	0.0000	DRC1	0.0000
DRM2	0.0000	DRC2	0.0000

MRM1	0.0000	MRC1	0.0000
MRM2	0.0000	MRC2	0.0000
SRM1	0.0000	SRC1	0.0000
SRM2	0.0000	SRC2	0.0000

Calibration Site Corrections

Channel 1	0.00	mmhos/metre
Channel 2	0.00	mmhos/metre
Channel 3	0.00	mmhos/metre
Channel 4	0.00	mmhos/metre

Apparent Porosity and Water Saturation Constants

Archie Constant (A)	1.00	
Cementation Exponent (M)	2.00	
Saturation Exponent (N)	2.00	
Saturation of Water for Apor	100.00	percent
Resistivity of Water for Apor and Sw	0.05	ohm-m
Resistivity of Mud Filtrate for Sw	0.00	ohm-m
Source for Rt	0.00	
Source for Rxo	0.00	

DOWNHOLE EQUIPMENT

C:\Well Manager\mai461mcg387_BSB_9_Main_Pass_Up.dta

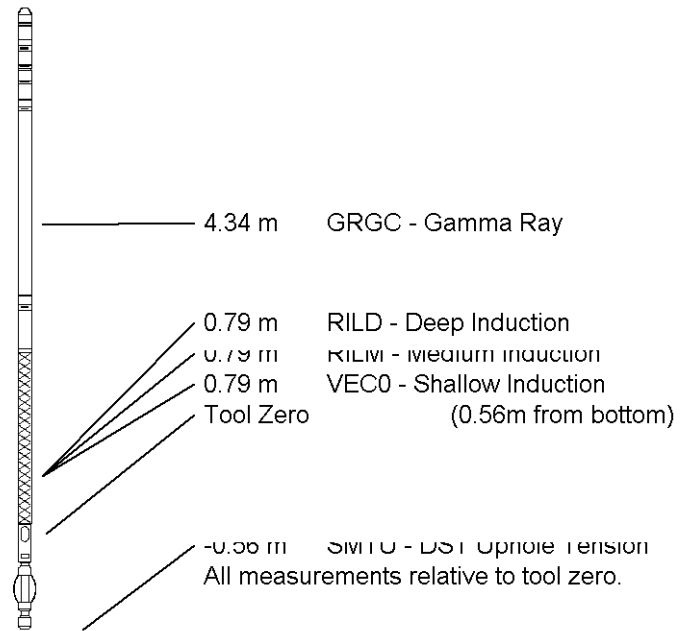
CBH-C, Cablehead, 11 pin
 CBH-CA 171 LG: 0.73 m WT: 24.3 lb OD: 57 mm

11C-11B MTA-K.A Compact Tool Adaptor
 MTA-K.A 130 LG: 0.47 m WT: 13.2 lb OD: 57 mm

Compact Comms Gamma
 MCG-D.J 387 LG: 2.65 m WT: 63.9 lb OD: 57 mm

Compact Induction
 MAI-C.A 461 LG: 3.82 m WT: 48.5 lb OD: 57 mm

Total Length: 7.66 m Weight: 149.9 lb



COMPANY	IODP Expedition 347 Baltic Sea		
WELL	BSB-9/Hole 63A		
FIELD	Sweden		
PROVINCE/COUNTY	Sweden		
COUNTRY/STATE	Sweden		

Elevation Kelly Bushing	440.00	metres	First Reading	108.50	metres
Elevation Drill Floor	440.00	metres	Depth Driller	115.00	metres
Elevation Ground Level	0.00	metres	Depth Logger	108.50	metres



Resistivity Gamma Ray Log

1:200

Main Pass

Weatherford®

