



Weatherford

Resistivity Gamma Ray Log

1:200

Main Pass

COMPANY IODP Expedition 347 Baltic Sea
 WELL BSB-5/Hole 64D
 FIELD Sweden
 PROVINCE/COUNTY Sweden
 COUNTRY/STATE Sweden
 LOCATION

Latitude 55 43.267 N
 Longitude 15 13.585 E

Other Services
 Spectral Gamma Ray

Permanent Datum M.S.L., Elevation 59.78 metres
 Log Measured From GL
 Drilling Measured From GL

Elevations: metres
 KB 62.68
 DF 62.68
 GL 0.00

Date	23-OCT-2013	
Run Number	1	
Service Order	50004126	
Depth Driller	41.00	metres
Depth Logger	31.50	metres
First Reading	31.00	metres
Last Reading	9.00	metres
Casing Driller	9.00	metres
Casing Logger	9.00	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 9.0m.
3. Depth Offset for Resistivity Log DO = 0.0m.
4. Depth Offset for Spectral Gamma Ray Log DO = +4.0m.

BOREHOLE RECORD

Last Edited: 23-OCT-2013 06:27

Bit Size inches	Depth From metres	Depth To metres
8.500	0.00	41.00

CASING RECORD

Type	Size inches	Depth From metres	Shoe Depth metres	Weight pounds/ft
	5.500	0.00	9.00	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

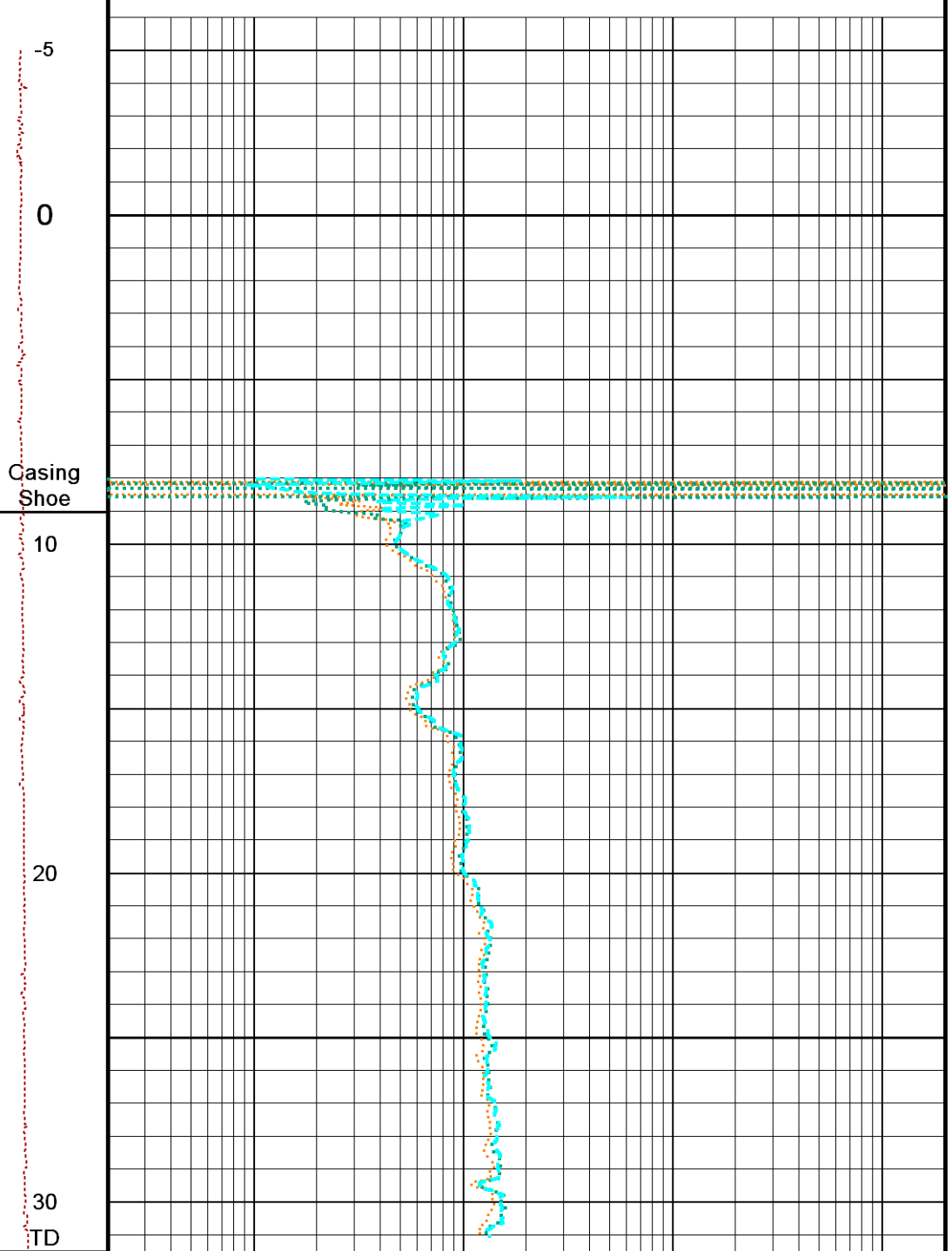
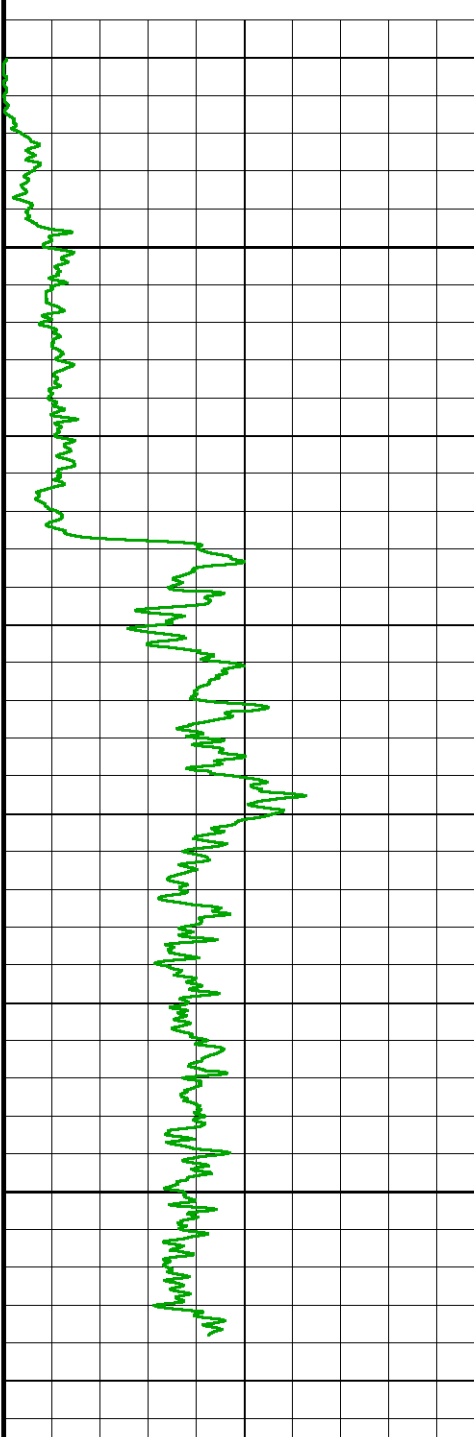
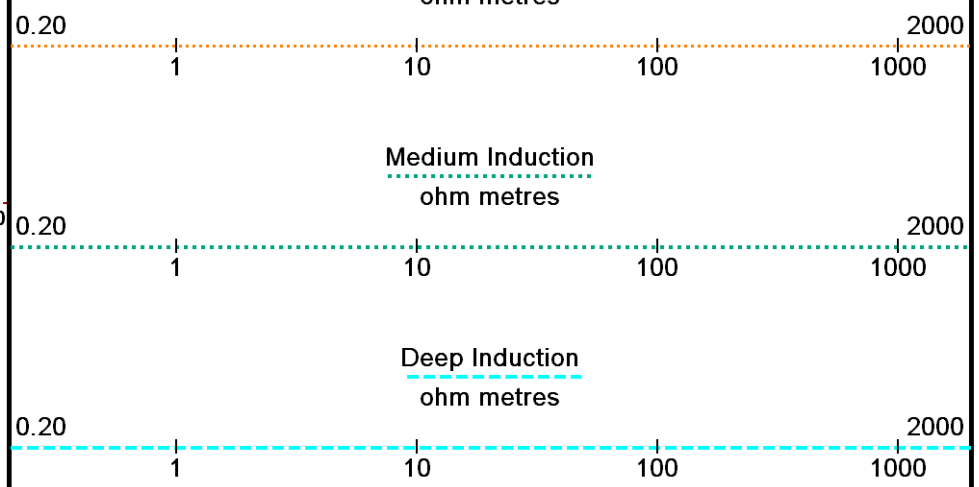
Casing
Shoe

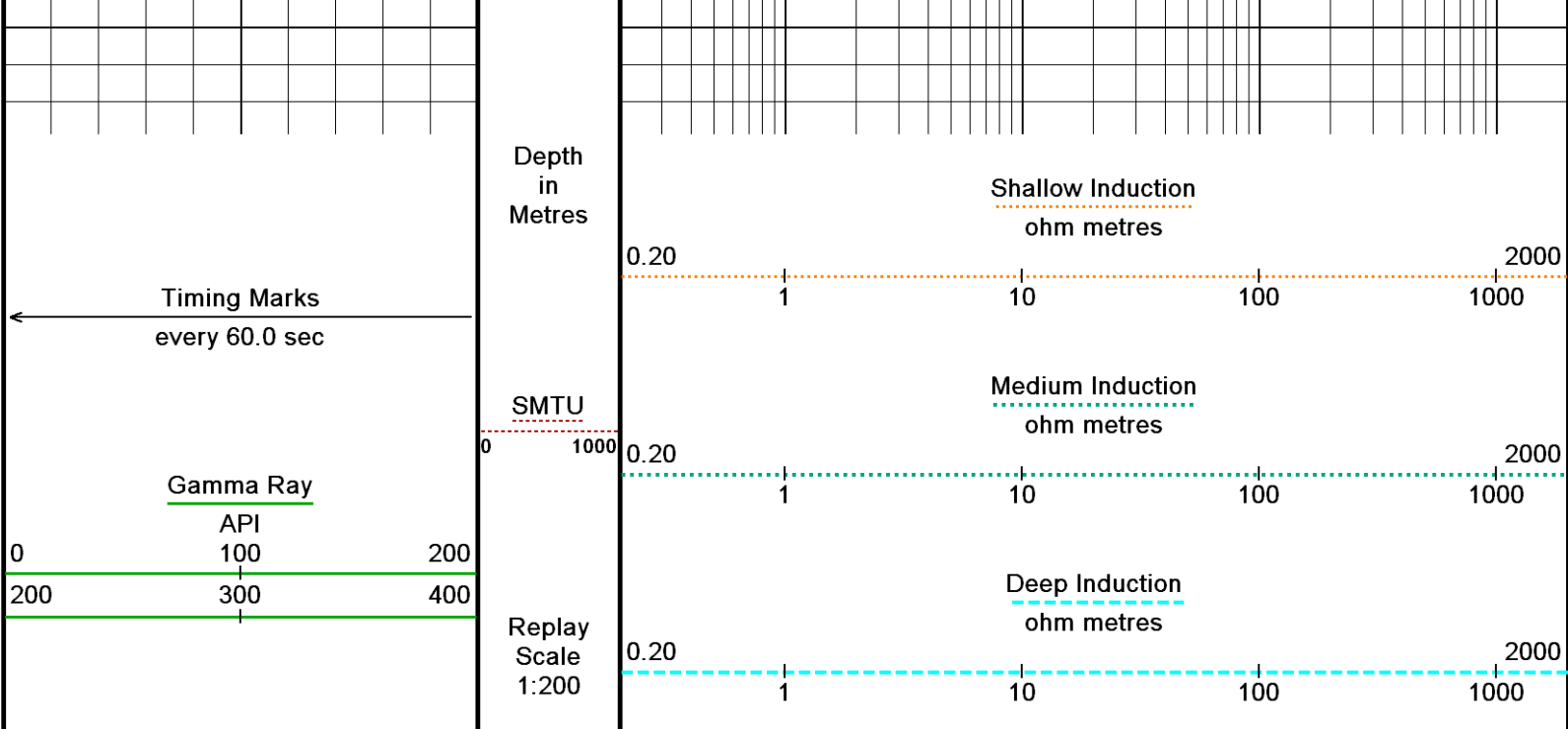
30
TD

Shallow Induction
ohm metres

Medium Induction
ohm metres

Deep Induction
ohm metres





Depth Based Data - Maximum Sampling Increment 2.5cm
 Plotted on 23-OCT-2013 07:36
 Filename: C:\Well Manager\mai461mcg387_splice3.dta
 Recorded on 23-OCT-2013 04:12
 System Versions: Plotted with 13.07.1135



BEFORE SURVEY CALIBRATION

C:\Well Manager\mai461mcg387_BSB_5_Main_Pass.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

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	Measured		Calibrated (mmho/m)	
	Low	High	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

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

Induction Constants MAI-C.A 461

Last Edited on 10-OCT-2013,22:34

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

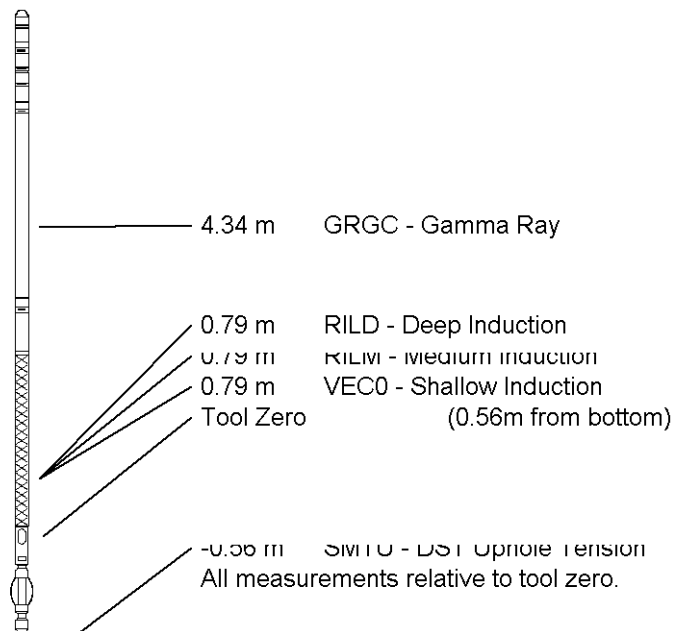
CBH-C, Cablehead, 11 pin
 CBH-CA 171 LG: 0.73 m WT: 24.3 lb OD: 57 mm

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-5/Hole 64D
FIELD	Sweden
PROVINCE/COUNTY	Sweden
COUNTRY/STATE	Sweden

Elevation Kelly Bushing	62.68	metres	First Reading	31.00	metres
Elevation Drill Floor	62.68	metres	Depth Driller	41.00	metres
Elevation Ground Level	0.00	metres	Depth Logger	31.50	metres



Weatherford[®]

Resistivity Gamma Ray Log

1:200

Main Pass