



**Weatherford**

**8-Arm Caliper Imager**  
**1:200**  
**Main Pass**

COMPANY IODP Exploration 347 Baltic Sea  
 WELL BSB-3/Hole 59E  
 FIELD Denmark  
 PROVINCE/COUNTY Denmark  
 COUNTRY/STATE Denmark  
 LOCATION

Other Services  
 Spectral Gamma Ray  
 Resistivity  
 Compensated Sonic

Latitude 55 00.299 N  
 Longitude 10 06.507 E  
 Permanent Datum M.S.L., Elevation 36.27 metres  
 Log Measured From GL  
 Drilling Measured From GL

Elevations:  
 KB 39.17 metres  
 DF 39.17 metres  
 GL 39.17 metres

Date	31-OCT-2013	
Run Number	2	
Service Order	50004126	
Depth Driller	100.80	metres
Depth Logger	60.00	metres
First Reading	55.00	metres
Last Reading	20.00	metres
Casing Driller	15.00	metres
Casing Logger	15.00	metres
Bit Size	8.500	inches
Hole Fluid Type	Sea Water	
Density / Viscosity		
PH / Fluid Loss		
Sample Source		
Rmf @ Measured Temp		
Rmf @ Measured Temp		
Rmc @ Measured Temp		
Source Rmf / Rmc		
Rm @ BHT		
Time Since Circulation		
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 recorded in High Resolution.
3. No repeat passes per client request.
4. All Main Passes correlated to to drill bit depth.
5. Depth correction for Main Pass Resistivity DO = +1.0m.
6. Depth correction for Main Pass SGS and Compensated Sonic DO = +2.0m.

### BOREHOLE RECORD

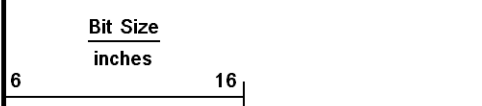
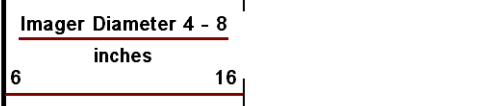
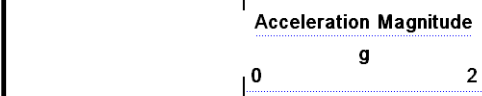
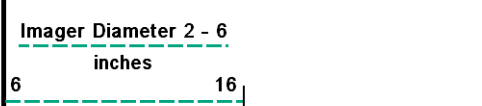
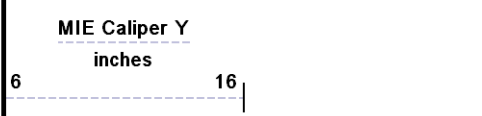
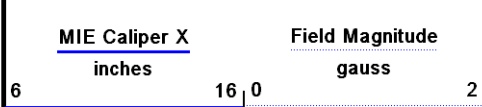
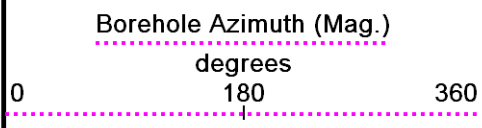
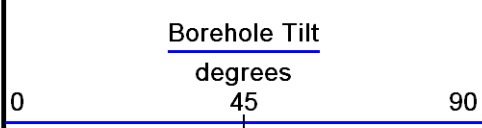
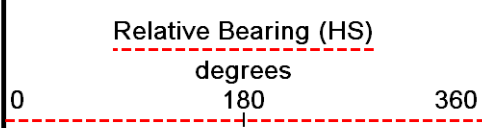
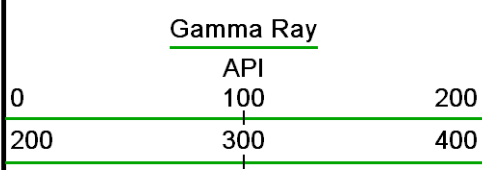
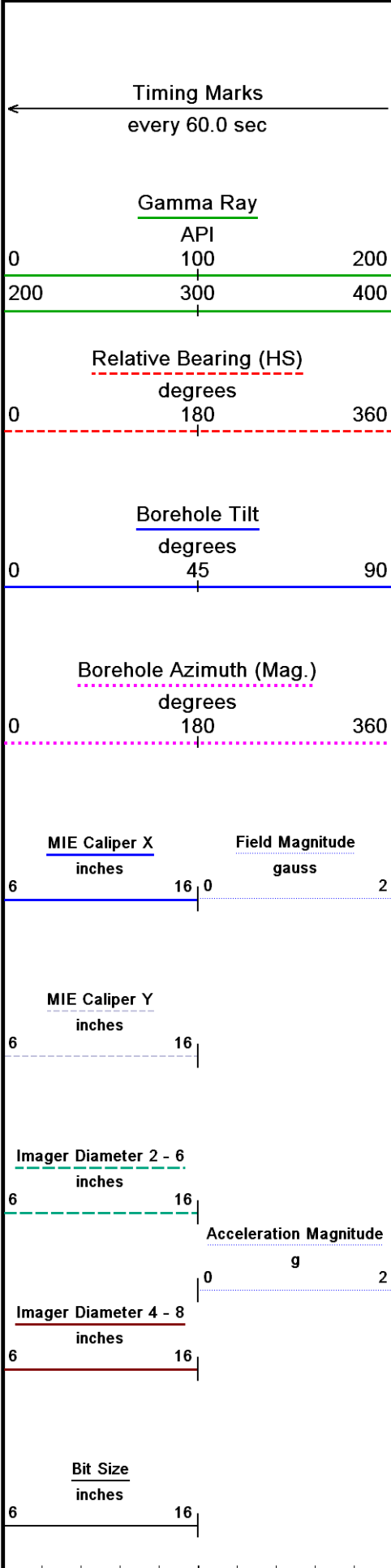
Last Edited: 31-OCT-2013 16:55

Bit Size inches	Depth From metres	Depth To metres
8.500	0.00	100.80

### CASING RECORD

Type	Size inches	Depth From metres	Shoe Depth metres	Weight pounds/ft
	5.500	0.00	15.00	23.00

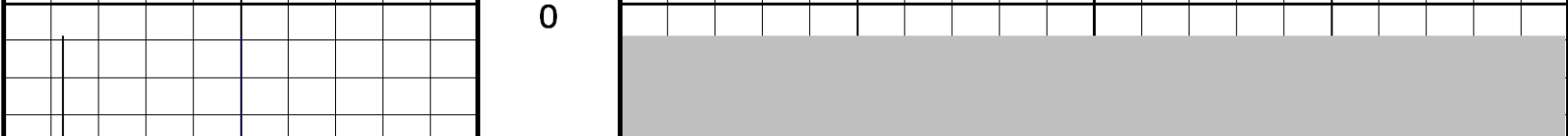
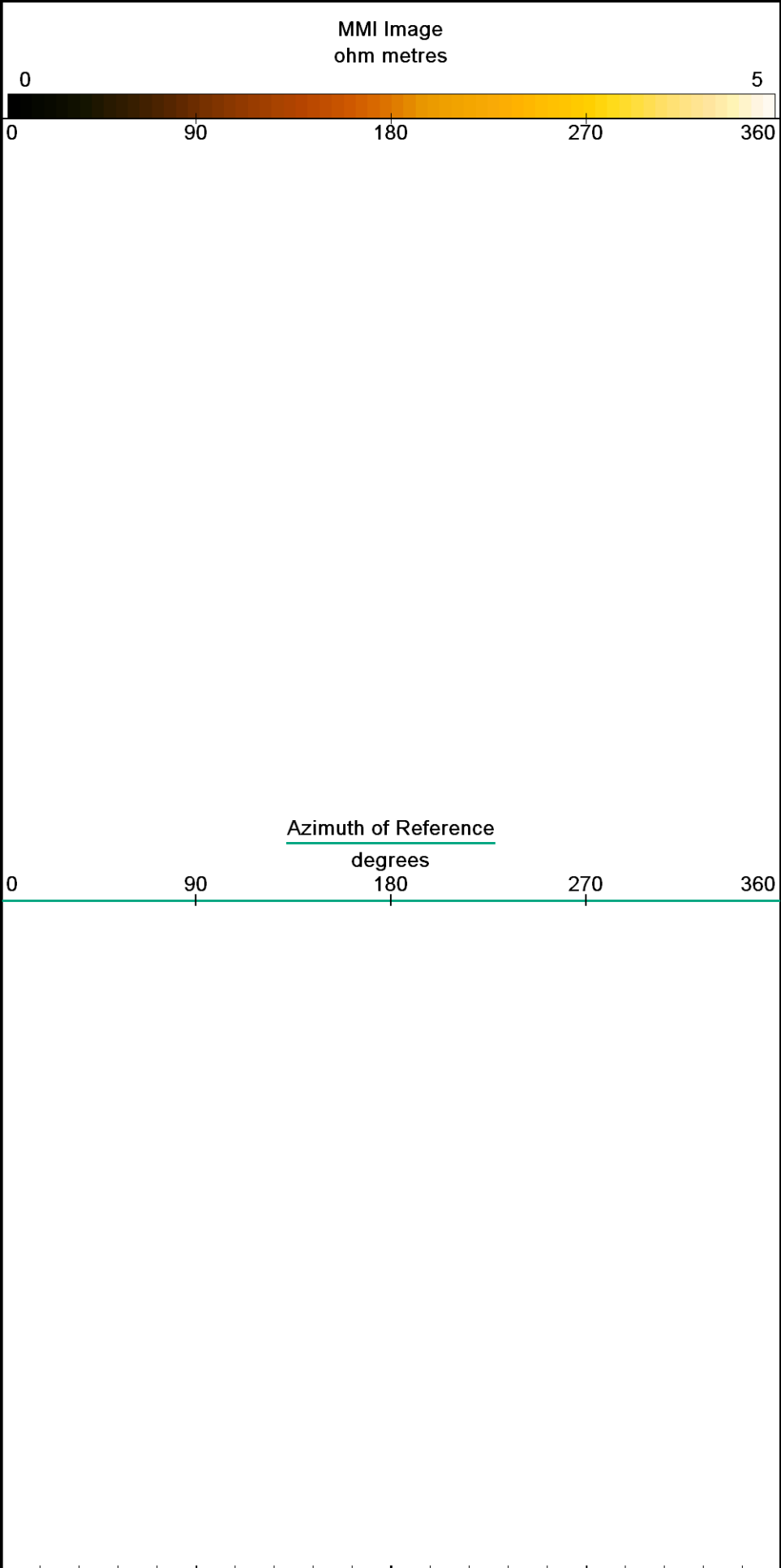
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs, 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.

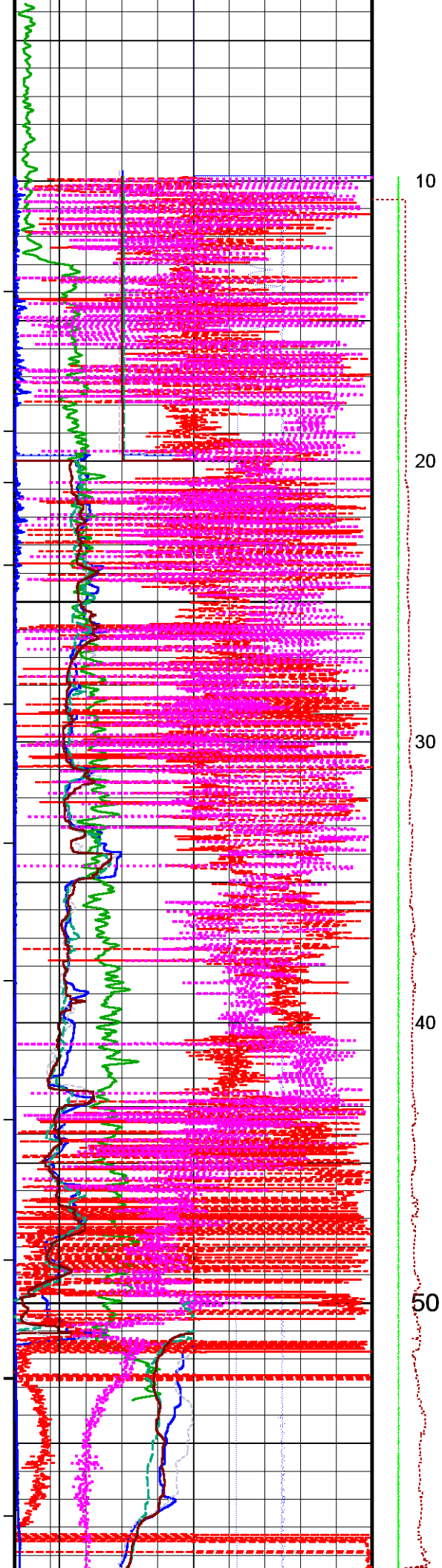


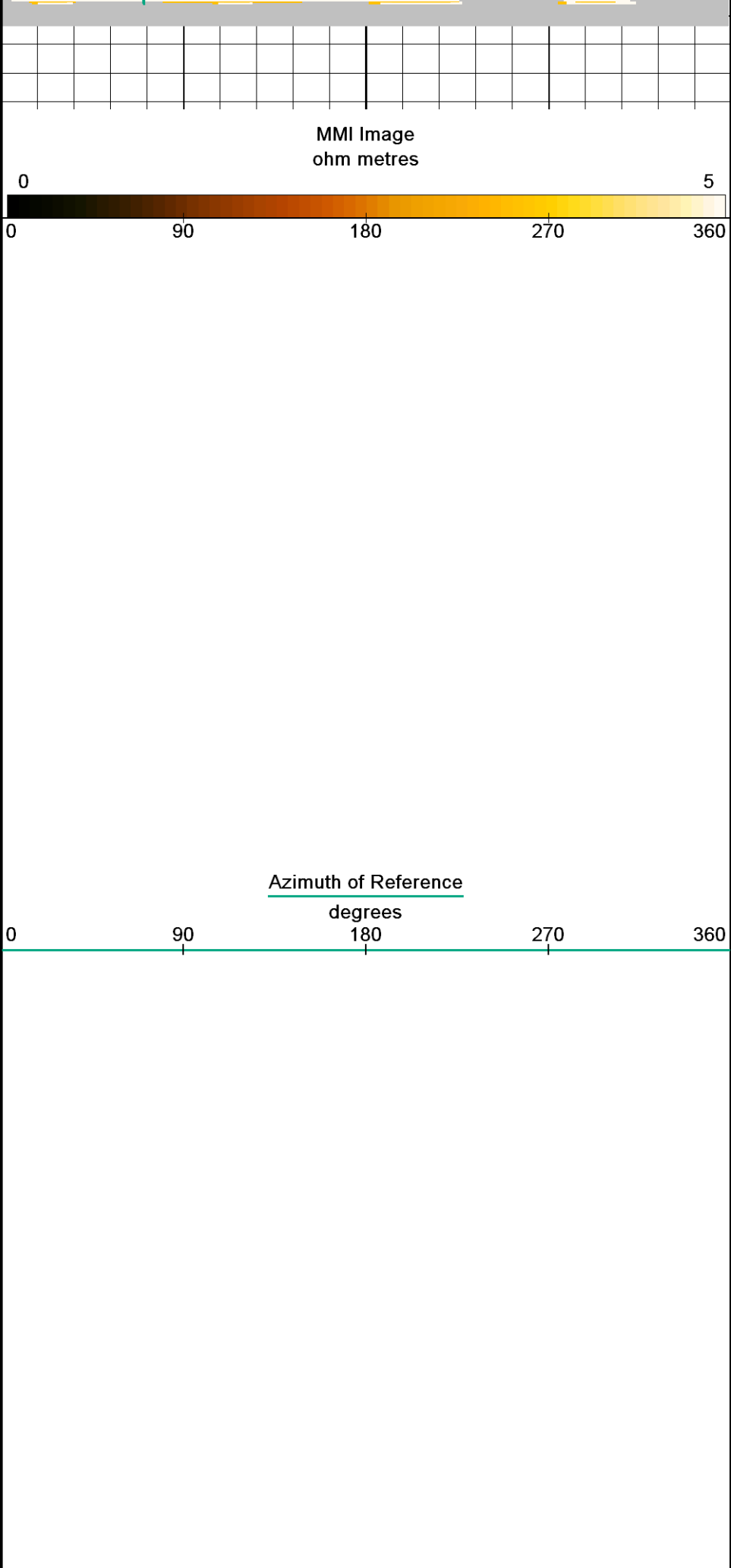
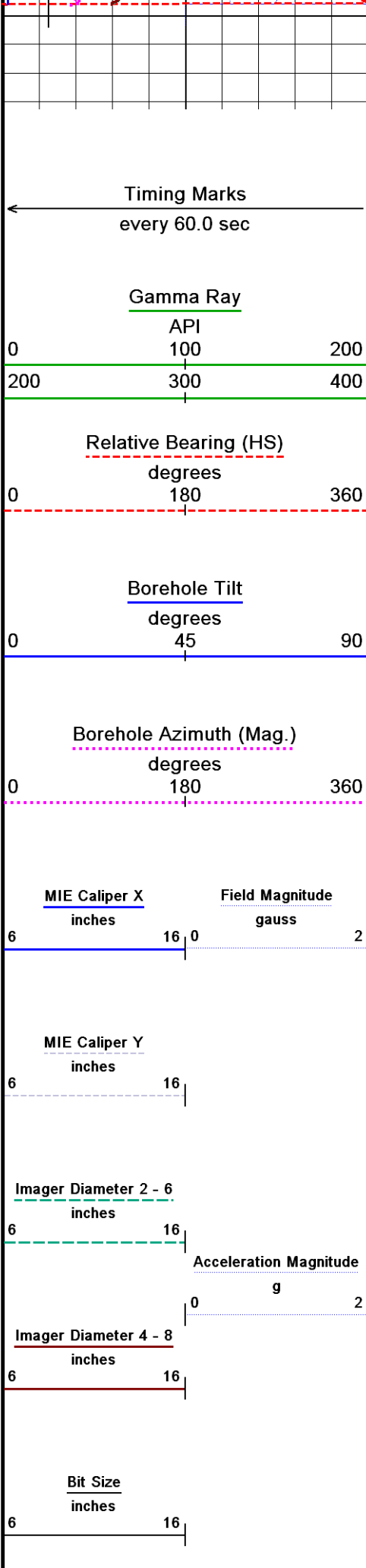
Depth in Metres

Replay Scale 1:200

0









### BEFORE SURVEY CALIBRATION

C:\Well Manager\mim238\_kalman\_speed\_correction\_bsb\_3\_59e.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	%

Caliper Calibration MIE-A.J 238

Base Calibration on 03-OCT-2013 04:34

Field Calibration on 03-OCT-2013 04:36

**Base Calibration**

Reading No	pads 1-5 Meas.	pads 3-7 Meas.	Calibrator Size (in)		
1	24622	25826	4.00		
2	34022	35207	5.97		
3	43043	44501	7.97		
4	51454	52355	9.86		
5	0	0	0.00		

Reading No	Pad 2 Meas.	Pad 4 Meas.	Pad 6 Meas.	Pad 8 Meas.	Calibrator Size (in)
1	23421	23841	22974	23149	4.00
2	31275	31649	30872	31071	5.97
3	39765	39349	38804	40063	7.97
4	47752	46020	47292	50451	9.86
5	0	0	0	0	0.00

**Field Calibration**

Measured	Measured	Actual
Pads 1-5 Caliper(in)	Pads 3-7 Caliper(in)	Caliper(in)
8.09	8.01	7.97

Measured	Measured	Measured	Measured	Actual
Pad 2 Caliper(in)	Pad 4 Caliper(in)	Pad 6 Caliper(in)	Pad 8 Caliper(in)	Caliper(in)
2.22	4.24	4.22	2.24	7.97

Caliper Constants MIE-A.J 238 Last Edited on 04-SEP-2013,15:29

Caliper Difference for BRKT 0.120 inches

Accelerometer Parameters MIE-A.J 238

Date Of Last Accelerometer Calibration 8-DEC-2011,09:59

	X Accelerometer	Y Accelerometer	Z Accelerometer
Slope	-1.112831	-1.099829	-1.106838
Offset	0.006602	-0.001700	0.007965

Accelerometer Constants MIE-A.J 238 Last Edited on 08-SEP-2013,10:59

Accelerometer Calibrator Number 000

Accelerometer Temperature Characterisation

X Accelerometer

Serial Number	1043			
Calibration Date	25-Apr-2011			
	B0	B1	B2	B3
Bias(g)	0.00000e+000	1.87896e-007	-2.20144e-008	2.14922e-010
	SF0	SF1	SF2	SF3
Scale Factor(mA/g)	3.00000e+000	2.71246e-004	1.73794e-007	1.63418e-009

Y Accelerometer

Serial Number	920			
Calibration Date	12-Nov-2010			
	B0	B1	B2	B3
Bias(g)	0.00000e+000	8.60269e-006	-3.24354e-009	7.63473e-011
	SF0	SF1	SF2	SF3
Scale Factor(mA/g)	3.00000e+000	2.62626e-004	3.93255e-007	6.99125e-010

Z Accelerometer

Serial Number	1003			
Calibration Date	10-Feb-2011			
	B0	B1	B2	B3
Bias(g)	0.00000e+000	1.42425e-005	-1.64266e-008	2.06911e-010
	SF0	SF1	SF2	SF3
Scale Factor(mA/g)	3.00000e+000	2.69048e-004	2.49542e-007	7.48043e-010

Magnetometer Parameters MIE-A.J 238

Date Of Last Magnetometer Calibration 17-OCT-2012,12:45

	X Magnetometer	Y Magnetometer	Z Magnetometer
Slope	-1.000000	-1.001595	-0.994746
Offset	0.015422	-0.015061	0.005819

Magnetometer Constants MIE-A.J 238 Last Edited on

Magnetometer Calibrator Number 000

Navigation Constants MIE-A.J 238 Last Edited on 30-OCT-2013,07:43

Magnetic Declination 2.10 degrees East

Imager Pad Check MIE-A.J 238 Field Check on

Pad 1	Pad Not Tested	Pad 5	Pad Not Tested
Pad 2	Pad Not Tested	Pad 6	Pad Not Tested
Pad 3	Pad Not Tested	Pad 7	Pad Not Tested
Pad 4	Pad Not Tested	Pad 8	Pad Not Tested

Compact Micro Imager Constants MIE-A.J 238 Last Edited on 30-OCT-2013,07:43

Sonde Configuration Imager Mode

Arm-Pad Kit Slim Pads with KIE-CA (12.25 in)

Arm-Pad Kit Serial Number

Centre Pad 1 Rotational Offset 0.00 degrees

Image/Borehole Ovality Reference Azimuth of Pad 1

Non Active Buttons Omit

Search Angle 0.00 degrees

Correlation Interval 1.00 metres

Correlation Interval	1.00	metres
Correlation Step	0.50	metres
Current Offset	0.0000	mAmp
Squasher Start	0.0500	mAmp
Image Processing	Enabled	

## DOWNHOLE EQUIPMENT

C:\Well Manager\lcmi238mcg387\_BSB\_3\_59E\_Main\_Pass.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 MMI Memory Section  
 MIM-A.J 238 LG: 1.42 m WT: 26.5 lb OD: 57 mm

Compact MMI Electrode Section  
 MIE-A.J 238 LG: 4.25 m WT: 99.2 lb OD: 61 mm

Compact Hole Finder  
 HFS 1 LG: 0.24 m WT: 2.2 lb OD: 57 mm

Total Length: 9.75 m Weight: 229.3 lb



6.19 m GRGC - Gamma Ray

- 0.22 m IECY - MIE Caliper Y
- 0.22 m IECX - MIE Caliper X
- 0.00 m IMZA - Z Accelerometer
- Tool Zero (0.80m from bottom)
- 0.00 m IAP1 - Azimuth of Reference
- 0.00 m IAZI - Borehole Azimuth (Mag.)
- 0.00 m ITLT - Borehole Tilt
- 0.00 m IRHS - Relative Bearing (HS)
- 0.00 m IACF - Acceleration Magnitude
- 0.00 m IMGF - Field Magnitude
- 0.00 m DI48 - Imager Diameter 4 - 8
- 0.00 m IMGR - MMI Image
- 0.00 m DI26 - Imager Diameter 2 - 6

-0.79 m SMTU - DST Uphole Tension  
 All measurements relative to tool zero.

COMPANY	IODP Exploration 347 Baltic Sea		
WELL	BSB-3/Hole 59E		
FIELD	Denmark		
PROVINCE/COUNTY	Denmark		
COUNTRY/STATE	Denmark		

Elevation Kelly Bushing	39.17	metres	First Reading	55.00	metres
Elevation Drill Floor	39.17	metres	Depth Driller	100.80	metres
Elevation Ground Level	39.17	metres	Depth Logger	60.00	metres



8-Arm Caliper Imager

1:200

Main Pass

**Weatherford**<sup>®</sup>

