



Weatherford

Spectral Gamma Ray Log

1:200

Main Pass

COMPANY IODP Expedition 347 Baltic Sea
 WELL BSB-11/Hole 62D
 FIELD Sweden
 PROVINCE/COUNTY Sweden
 COUNTRY/STATE Sweden
 LOCATION

Latitude 62 57.343 N Other Services
 Longitude 17 47.717 E Resistivity

Permanent Datum M.S.L., Elevation 68.1 metres
 Log Measured From GL
 Drilling Measured From GL

Elevations: metres
 KB 71.20
 DF 71.20
 GL 0.00

Date	06-OCT-2013	
Run Number	1	
Service Order	50004126	
Depth Driller	22.00	metres
Depth Logger	9.50	metres
First Reading	9.50	metres
Last Reading	2.00	metres
Casing Driller	2.00	metres
Casing Logger	2.00	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	BKH
Recorded By	C.Sedlatschek	
Witnessed By	A.Fehr	

REMARKS

1. Well Manager Version 13.07.1135.
2. All logs depth corrected to casing shoe.
3. Depth correction for Spectral Gamma Ray log DO=3.2 m.
4. Depth correction for Resistivity log DO=2.2m.

BOREHOLE RECORD

Last Edited: 07-OCT-2013 03:05

Bit Size inches	Depth From metres	Depth To metres
8.500	0.00	22.00

CASING RECORD

Type	Size inches	Depth From metres	Shoe Depth metres	Weight pounds/ft
	5.500	0.00	2.00	23.00

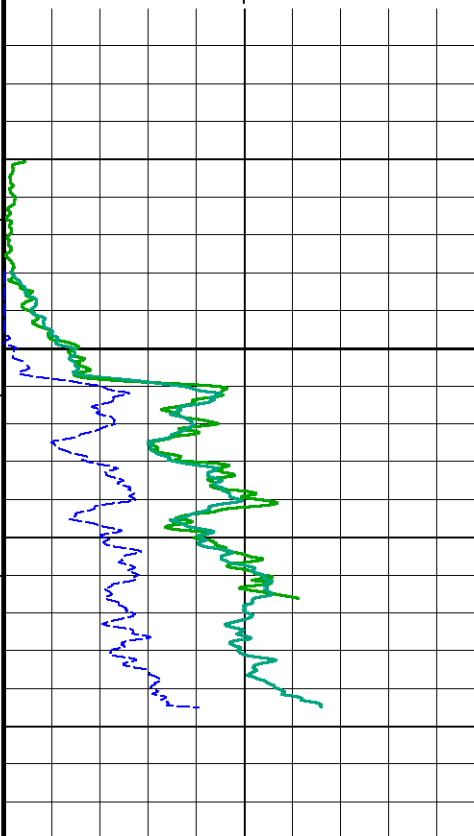
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs,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

SGS Gamma Ray
API
0 100 200
200 300 400

Uranium Stripped Gamma
API
0 100 200
200 300 400



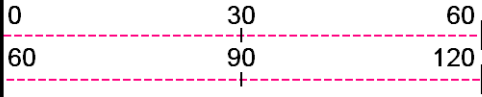
Depth
in
Metres

SMTU

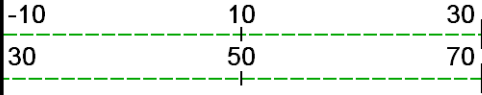
Replay
Scale
1:200



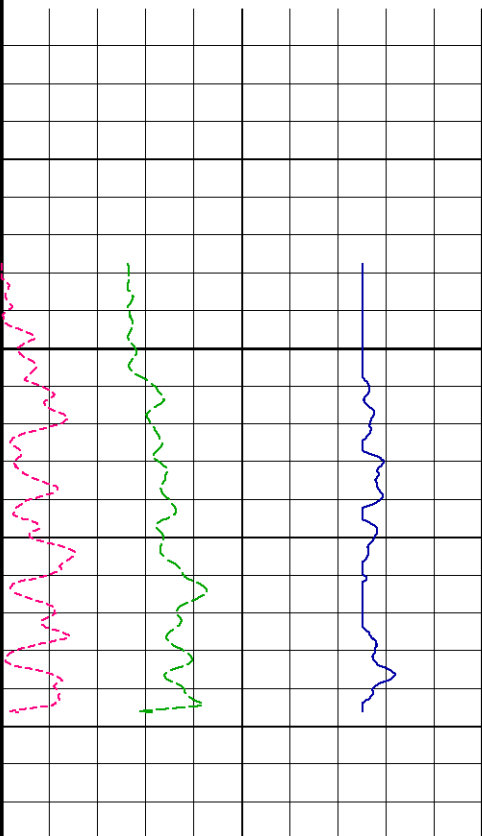
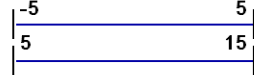
Thorium Gamma
parts/million



Uranium Gamma
parts/million



Potassium Gamma
percent



Timing Marks
every 60.0 sec

Gamma Ray
API
0 100 200
200 300 400

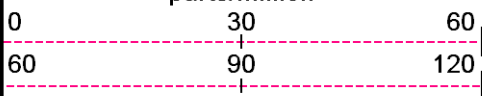
SGS Gamma Ray
API

Depth
in
Metres

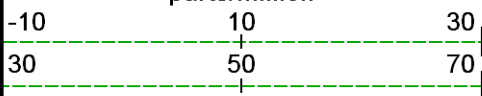
SMTU

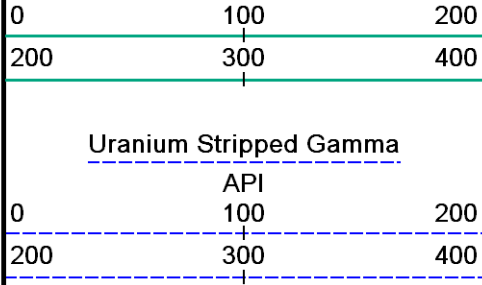
0 1000

Thorium Gamma
parts/million

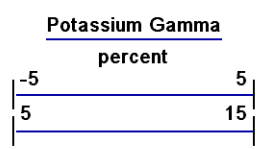


Uranium Gamma
parts/million





Replay
Scale
1:200



Depth Based Data - Maximum Sampling Increment 2.5cm
 Plotted on 07-OCT-2013 03:30
 Filename: C:\Well Manager\sgs113mcg387_Main_Pass_High_Res_1.dta
 Recorded on 06-OCT-2013 11:31
 System Versions: Logged with 13.07.1135 Plotted with 13.07.1135



BEFORE SURVEY CALIBRATION

C:\Well Manager\sgs113mcg387_Main_Pass_High_Res_1.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 %

Spectral Gamma Calibration SGS-E.J 113 Base Calibration on 03-MAR-2010 09:23
Field Calibration on 03-MAR-2010 08:20

Base Calibration
Potassium Calibrator

	Gate 1	Gate 2	Gate 3	Gate 4	Gate 5
Background	77.9	23.5	2.4	0.9	1.5
Calibrator (Gross)	203.9	108.4	25.0	0.9	1.5
Calibrator (Net)	126.0	84.9	22.6	-0.1	0.1

Concentrations	K %	U ppm	Th ppm
	5.8	0.0	0.0

Uranium Calibrator

	Gate 1	Gate 2	Gate 3	Gate 4	Gate 5
Background	77.9	23.5	2.4	0.9	1.5
Calibrator (Gross)	480.0	165.5	14.6	8.6	4.2
Calibrator (Net)	402.1	142.0	12.1	7.6	2.7

Concentrations	K % 0.0	U ppm 9.8	Th ppm 0.0
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Thorium Calibrator

	Gate 1	Gate 2	Gate 3	Gate 4	Gate 5
Background	77.9	23.5	2.4	0.9	1.5
Calibrator (Gross)	394.9	141.9	11.2	6.6	15.0
Calibrator (Net)	317.0	118.4	8.8	5.7	13.6

Concentrations	K % 0.0	U ppm 0.0	Th ppm 44.3
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Mixture Calibrator

	Gate 1	Gate 2	Gate 3	Gate 4	Gate 5
Background	77.9	23.5	2.4	0.9	1.5
Calibrator (Gross)	916.7	366.5	46.0	14.3	18.5
Calibrator (Net)	838.8	343.0	43.6	13.4	17.0

Field Calibration

Gamma Ray

	Measured	Calibrated (API)
Background	111	22
Calibrator (Gross)	1366	272
Calibrator (Net)	1256	250

Mixture Calibrator

	Gate 1	Gate 2	Gate 3	Gate 4	Gate 5
Background	77.9	23.5	2.4	0.9	1.5
Calibrator (Gross)	916.7	366.5	46.0	14.3	18.5
Calibrator (Net)	838.8	343.0	43.6	13.4	17.0

Spectral Gamma Constants SGS-E.J 113

Last Edited on 08-SEP-2013,08:26

Background Calibrator Number	000
Mixture Calibrator Number	000
Potassium Calibrator Number	000
Uranium Calibrator Number	000
Thorium Calibrator Number	000
Mud Density	1.13 gm/cc
Caliper Source for Processing	Bit Size
Tool Position	Eccentred
Concentration of KCl	kppm
K Mud Type	Chloride
K Mud Concentration	6.72 %

DOWNHOLE EQUIPMENT

C:\Well Manager\sgs113mcg387_Main_Pass_High_Res_1.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

Spectral Gamma Ray Sub
 SGS-E.J 113 LG: 2.37 m WT: 105.8 lb OD: 90 mm



2.88 m GRGC - Gamma Ray

0.00 m GCGR - Uranium Stripped Gamma

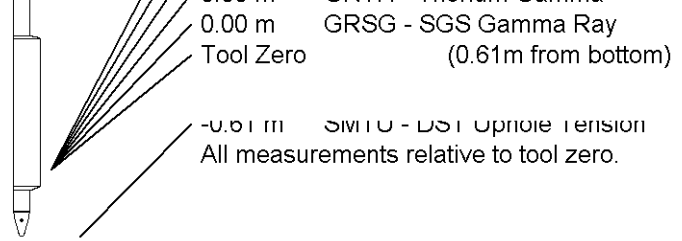
0.00 m GRPC - Potassium Gamma

0.00 m GRUR - Uranium Gamma

0.00 m GRTH - Thorium Gamma


Compact Pressure Bung
 HFS 2 LG: 0.04 m WT: 4.4 lb OD: 57 mm

Total Length: 6.26 m Weight: 211.6 lb



COMPANY	IODP Expedition 347 Baltic Sea
WELL	BSB-11/Hole 62D
FIELD	Sweden
PROVINCE/COUNTY	Sweden
COUNTRY/STATE	Sweden

Elevation Kelly Bushing	71.20	metres	First Reading	9.50	metres
Elevation Drill Floor	71.20	metres	Depth Driller	22.00	metres
Elevation Ground Level	0.00	metres	Depth Logger	9.50	metres



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1:200

Main Pass