

**Company:** Lamont Doherty  
**Well:** Expedition 336, Site U1382A  
**Field:** North Pond  
**Rig:** JOIDES Resolution **Country:** USA

## FMS (Formation Micro-Resistivity Scanner)

Rig: JOIDES Resolution		Latitude: N 22° 45.3531'		Elev.: K.B. 11.00 m	
Field: North Pond		Longitude: W 46° 4.8911'		G.L. -4494.00 m	
Location: Latitude: N 22° 45.3531'		Longitude: W 46° 4.8911'		D.F. 11.00 m	
Well: Expedition 336, Site U1382A		Permanent Datum: _____		Mean Sea Level _____	
Company: Lamont Doherty		Log Measured From: _____		Drill Floor _____	
		Drilling Measured From: _____		Drill Floor _____	
Ocean: Atlantic		Max. Well Deviation 0 deg		Longitude W 46° 4.8911'	
				Latitude N 22° 45.3531'	

Logging Date	9-Oct-2011			
Run Number	2			
Depth Driller	204 m			
Schlumberger Depth	204.6 m			
Bottom Log Interval	204.6 m			
Top Log Interval	102.8 m			
Casing Driller Size @ Depth	10.750 in @ 102 m			
Casing Schlumberger	98.3 m			
Bit Size	9.875 in			
Type Fluid In Hole	Seawater			
Density	1.05 g/cm3			
Fluid Loss	PH			
Source Of Sample	N/A			
RM @ Measured Temperature	@		@	@
RMF @ Measured Temperature	@		@	@
RMC @ Measured Temperature	@		@	@
Source RMF	RMC			
RM @ MRT	RMC @ MRT			
Maximum Recorded Temperatures	15 degC @ 15		@ 15	@
Circulation Stopped	8-Oct-2011		4:00	
Logger On Bottom	17-Nov-2010		17:00	
Unit Number	625003		Houston	
Recorded By	C. Fuman			
Witnessed By	L. Anderson			

Logging Date					Run 1	Run 2	R
Run Number							
Depth Driller							
Schlumberger Depth							
Bottom Log Interval							
Top Log Interval							
Casing Driller Size @ Depth				@			
Casing Schlumberger							
Bit Size							
Type Fluid In Hole							
Density							
Fluid Loss							
Source Of Sample							
RM @ Measured Temperature				@			
RMF @ Measured Temperature				@			
RMC @ Measured Temperature				@			
Source RMF							
RM @ MRT				@		@	
Maximum Recorded Temperatures							
Circulation Stopped							
Logger On Bottom							
Unit Number							
Recorded By							
Witnessed By							

**DISCLAIMER**

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**OTHER SERVICES1**

- OS1: HNGS
- OS2: HRLA
- OS3: HLDS
- OS4: DEBI-T

**REMARKS: RUN NUMBER 1**

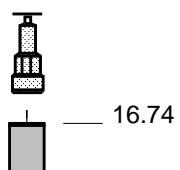
Hole 1382A was drilled for the purpose of placing a CORK and collecting RCB cores.  
 10-3/4 in. Casing was placed from sea bed (4494mbrf) to 4596mbrf with open hole down to TB at 4704mbrf.  
 The second run tool string included only the FMS and the HNGS in order to collect GR data as deep as possible.  
 A downlog was recorded from above sea bed to TD. TD was tagged at a depth of 204.6mbsf.  
 The first up pass was conducted with the calipers open and EMEX power applied until a depth of 108mbsf.  
 EMEX was switched off at 108mbsf to prevent tool damage; calipers remained open to identify casing at 98.3mbsf.  
 The second up pass was conducted in a similar manner with EMEX up to 102.8mbsf.  
 The calipers were closed after a successful caliper check in casing (C1=9.8in., C2=10in.; CSG ID=9.875in.)  
 Tool encountered difficulty re-entering drill pipe -- the FMS was not able to pass through the logging bit easily.  
 After approximately two hours of applying overpull up to 3000 lbs above tool weight, the Pad 1 caliper arm was eventually damaged and forced closed, allowing the tool to enter pipe and return to surface.  
 Caliper was found to be reading normally throughout logging, including expanding to fully open in the rathole and then reading proper casing ID upon entering casing; damage occurred during attempt to pull through the logging bit during the second upward pass. Depths above the bit during the second up pass may be affected by cable stretch caused by overpull getting through the bit.

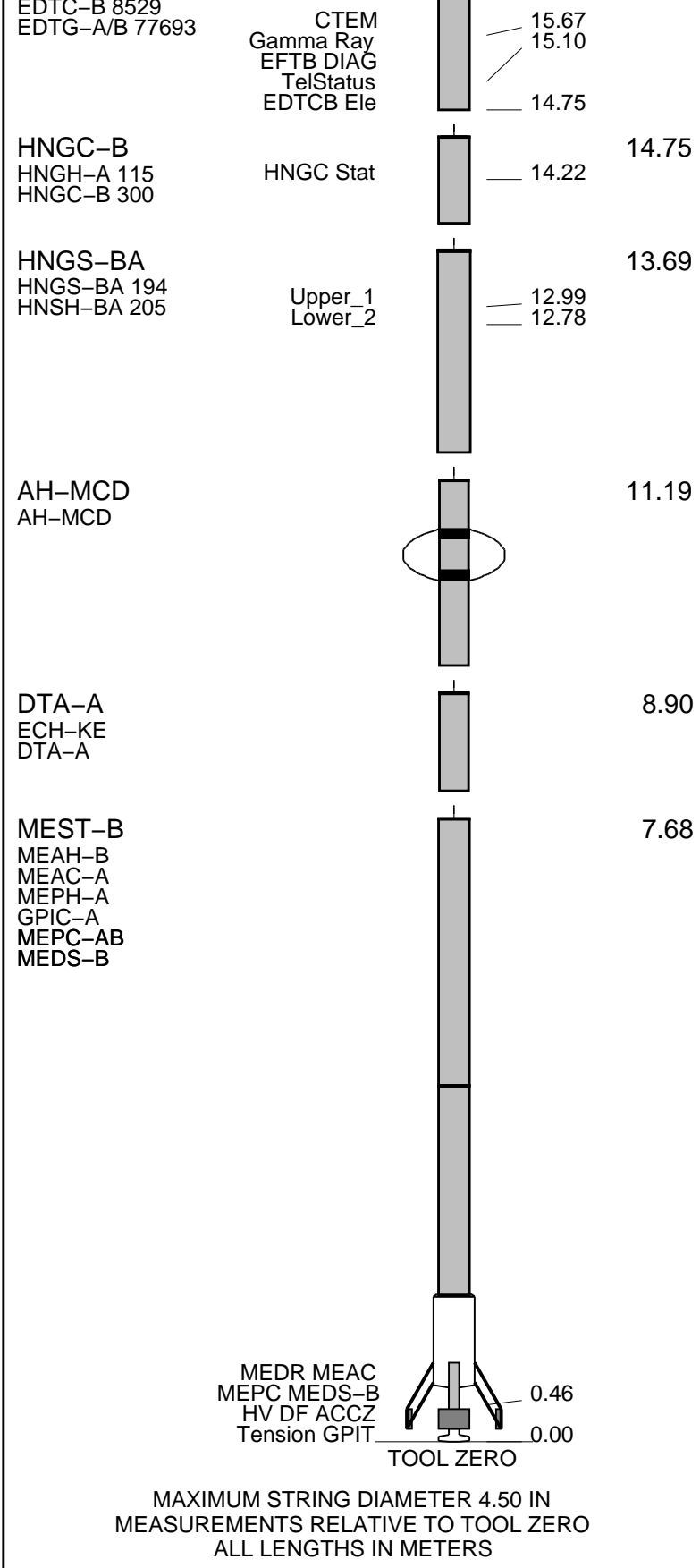
RUN 1			RUN 2		
SERVICE ORDER #: PROGRAM VERSION: 19C0-187 FLUID LEVEL:			SERVICE ORDER #: PROGRAM VERSION: FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

**EQUIPMENT DESCRIPTION**

RUN 1	RUN 2
<b>SURFACE EQUIPMENT</b>	
GSR-U 616008 WITM (EDTS)-A	

DOWNHOLE EQUIPMENT	
LEH-QT LEH-QT	17.63
MDSB_EDTC Mud Tempe	16.74
EDTC-B EDTH-B 8528	16.74





Production String	(in)	(m)	Well Schematic	(m)	(in)	Casing String
	OP	ID		MD	MD	

Kelly Bushing Elevation

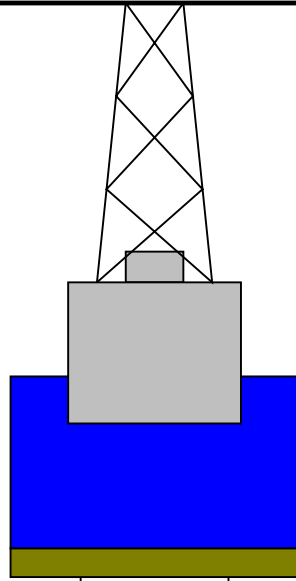
Derrick Floor Elevation

Mean Sea Level

0.0

0.0

11.0



4494.0

Sea Bed

4558.0

Bit Depth

4596.0

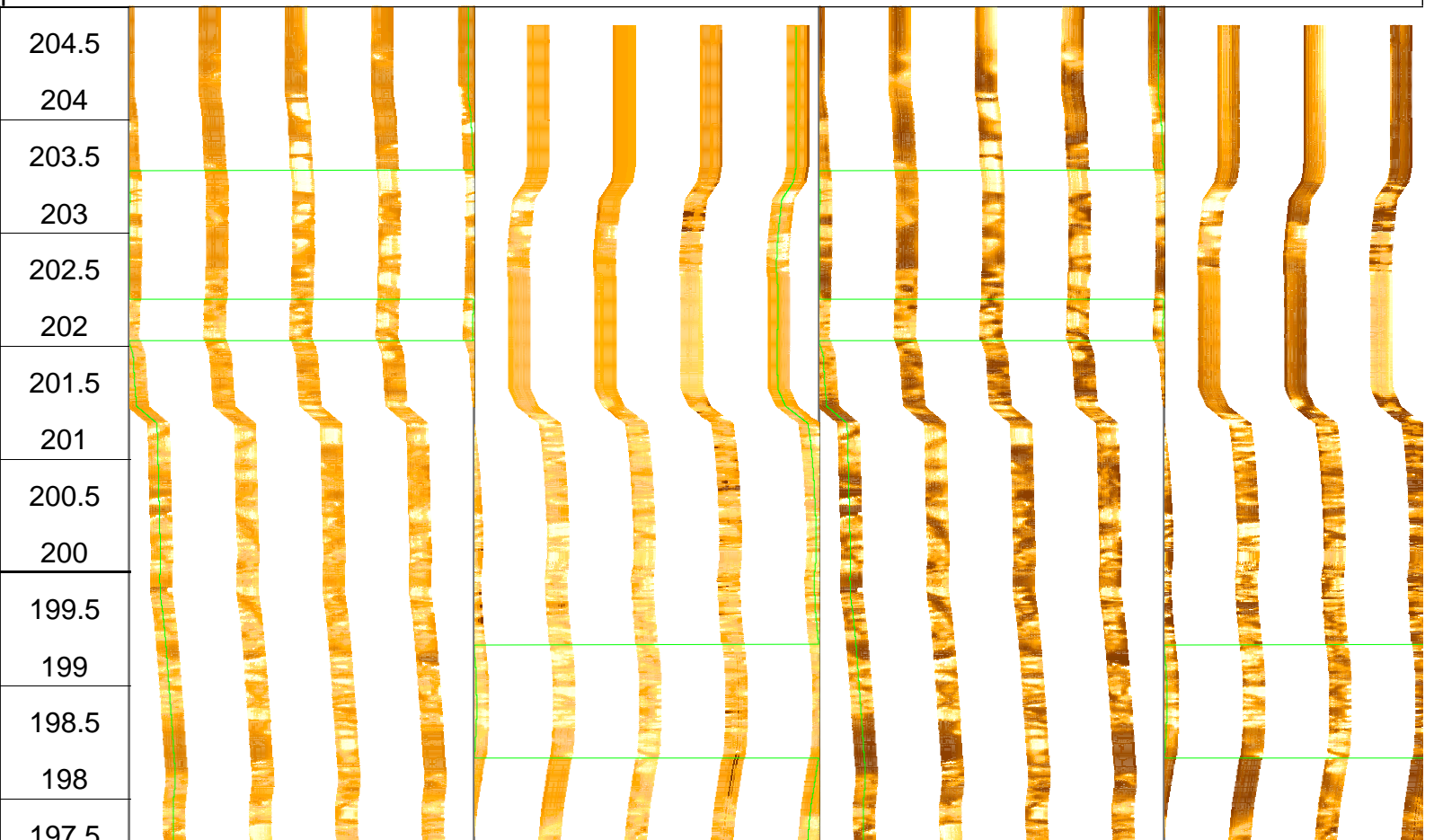
10.750

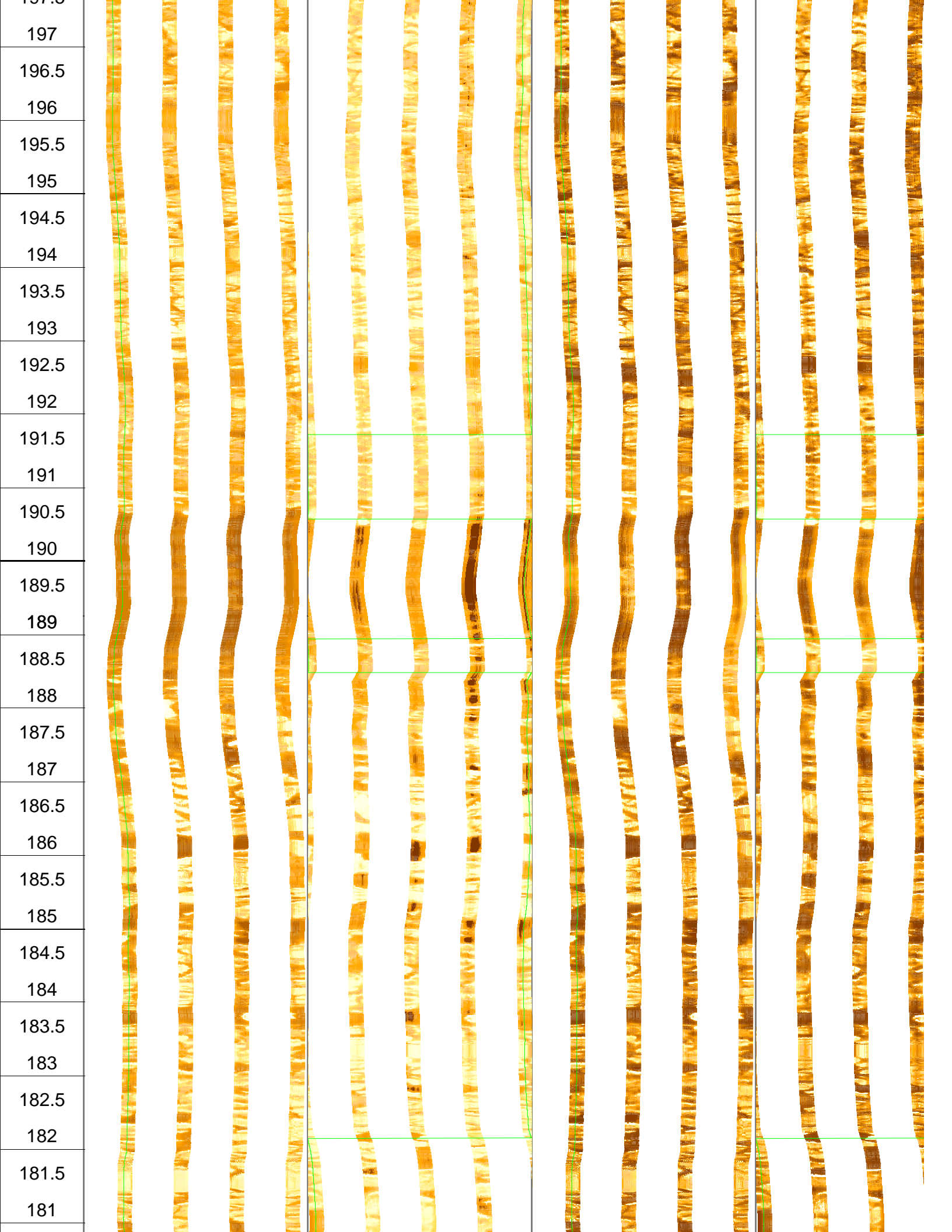
Casing Shoe

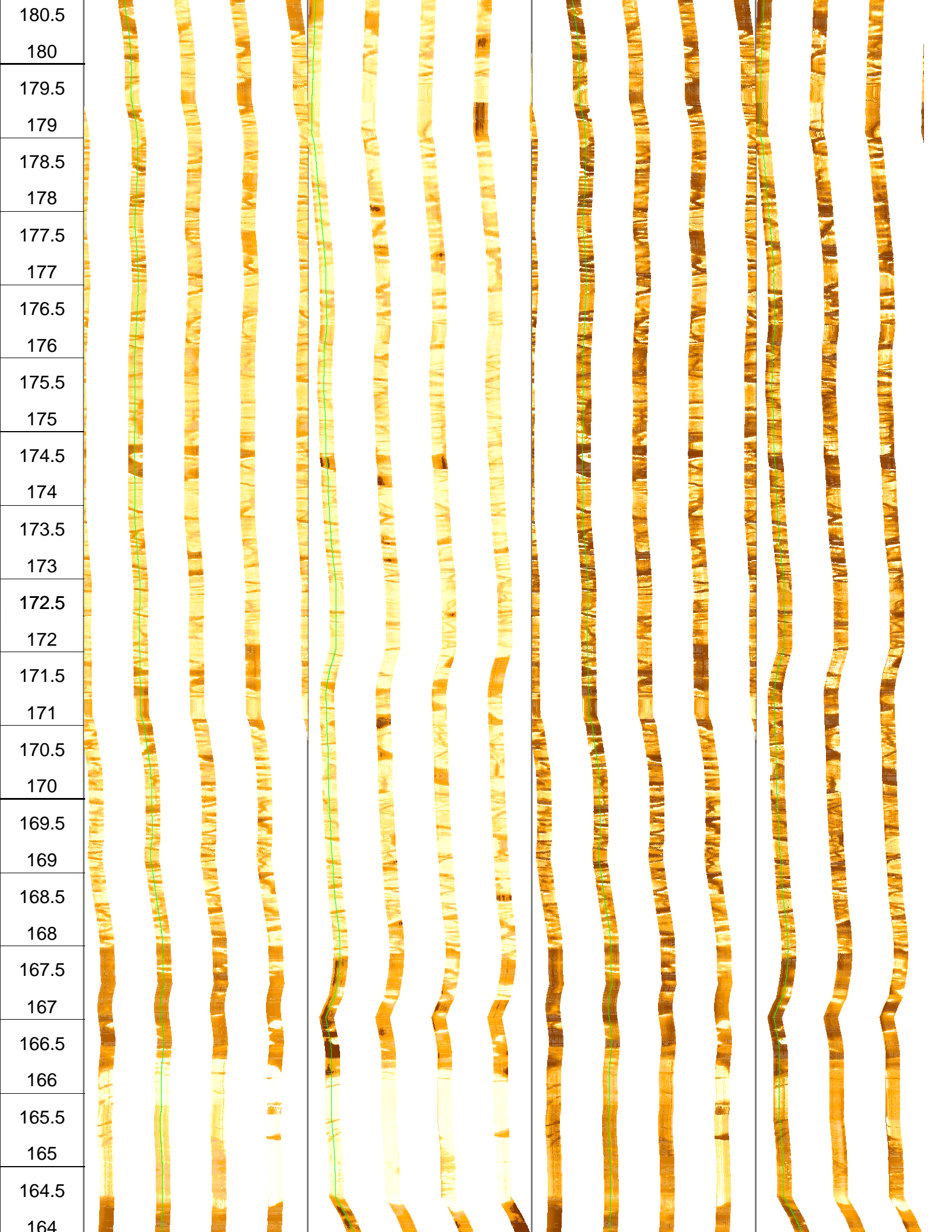
4704.0

9.875

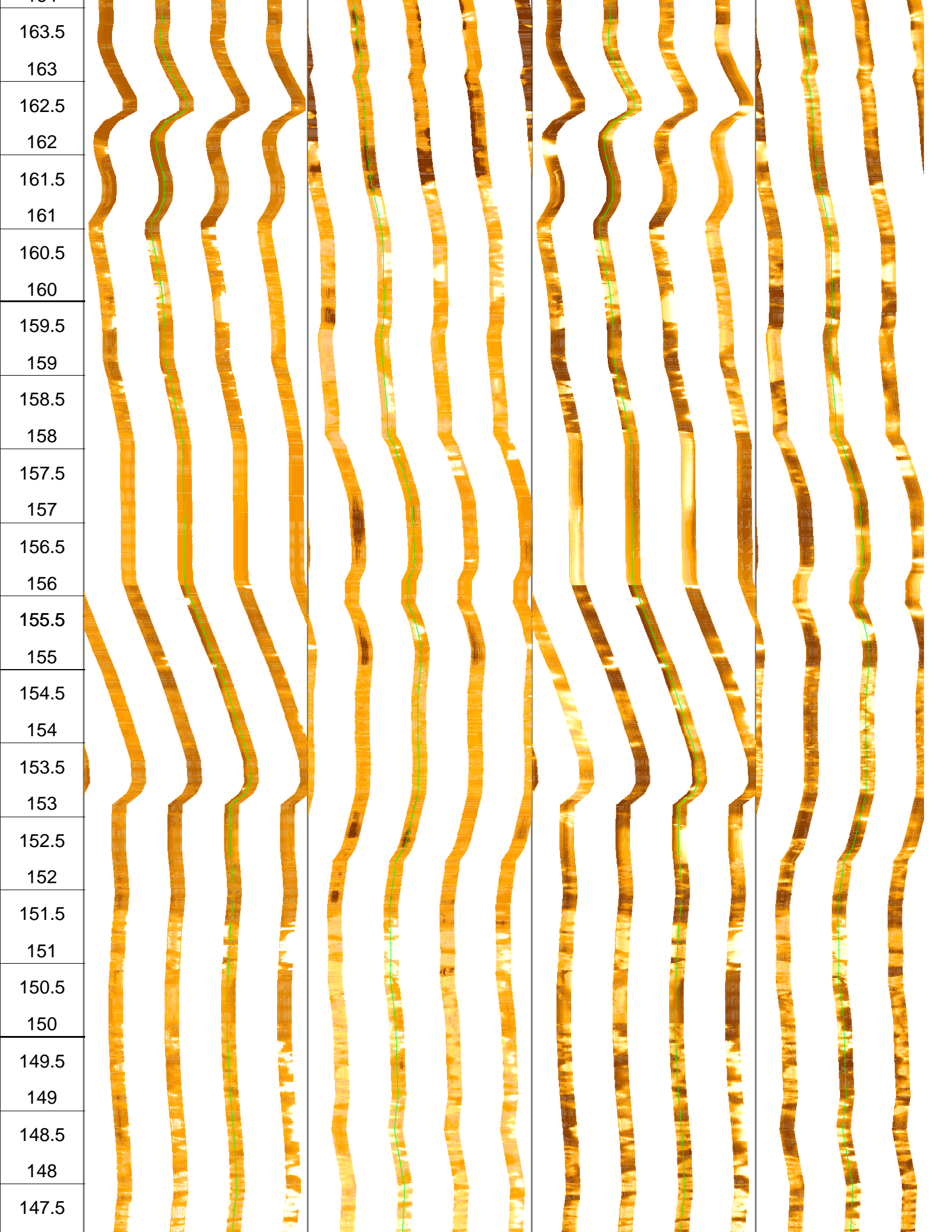
Total Depth - Driller



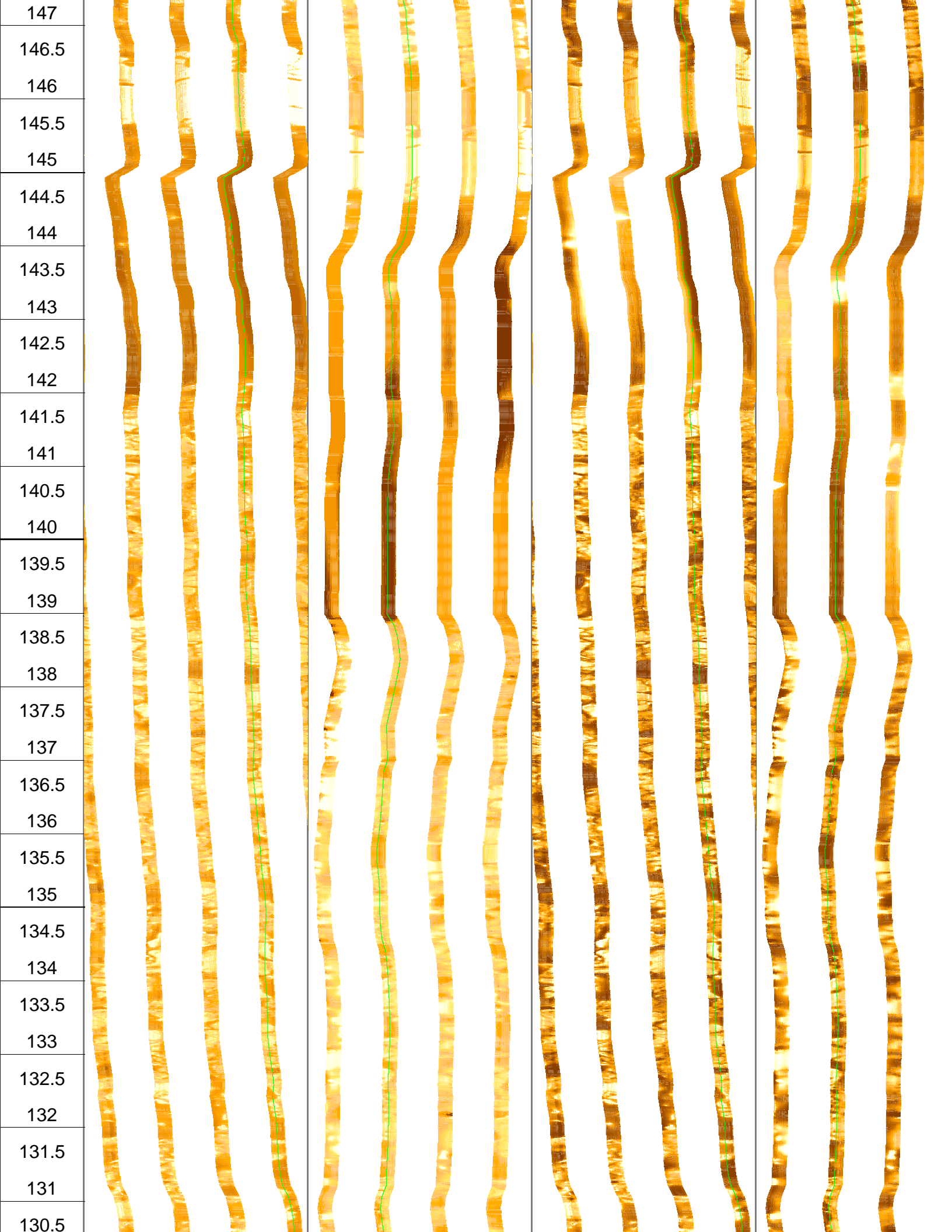


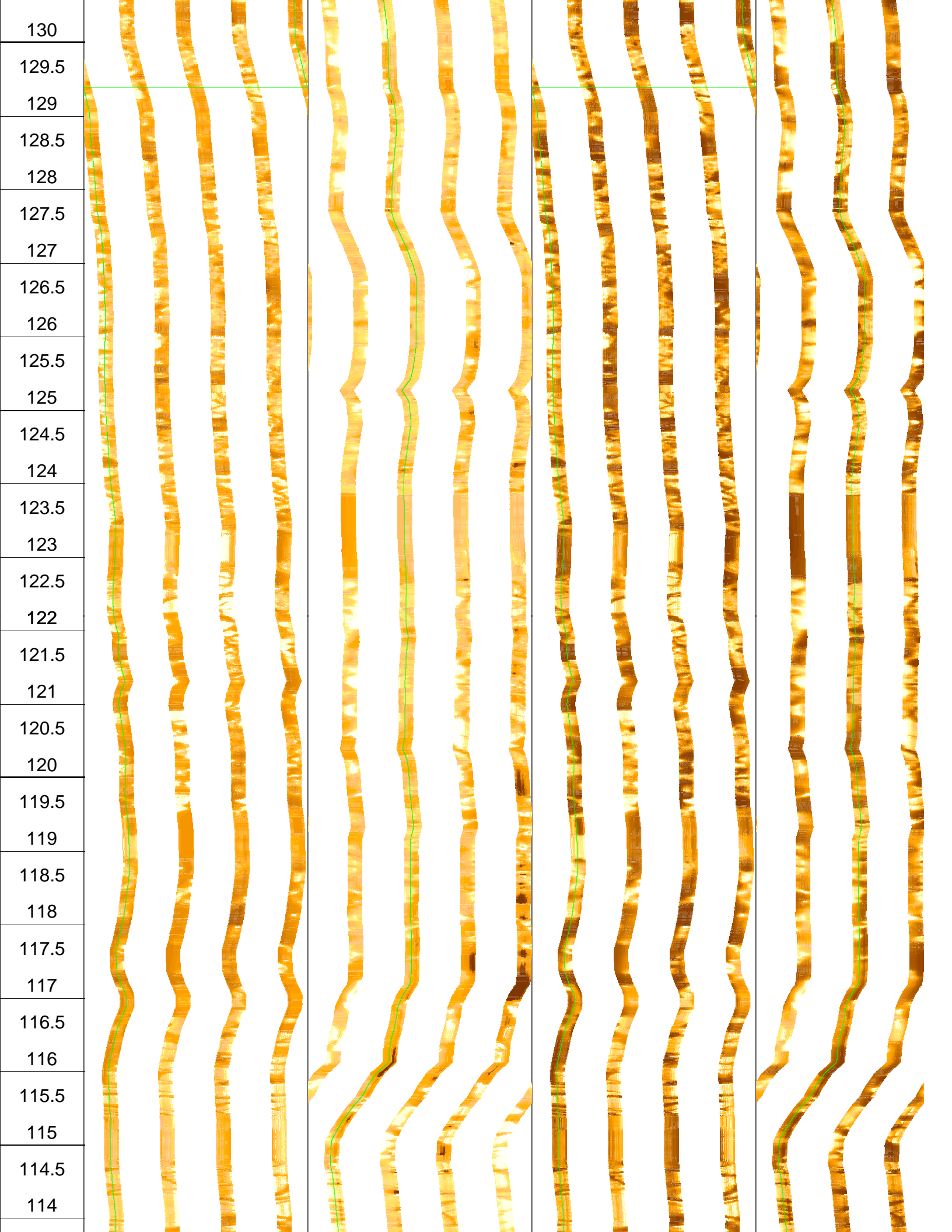


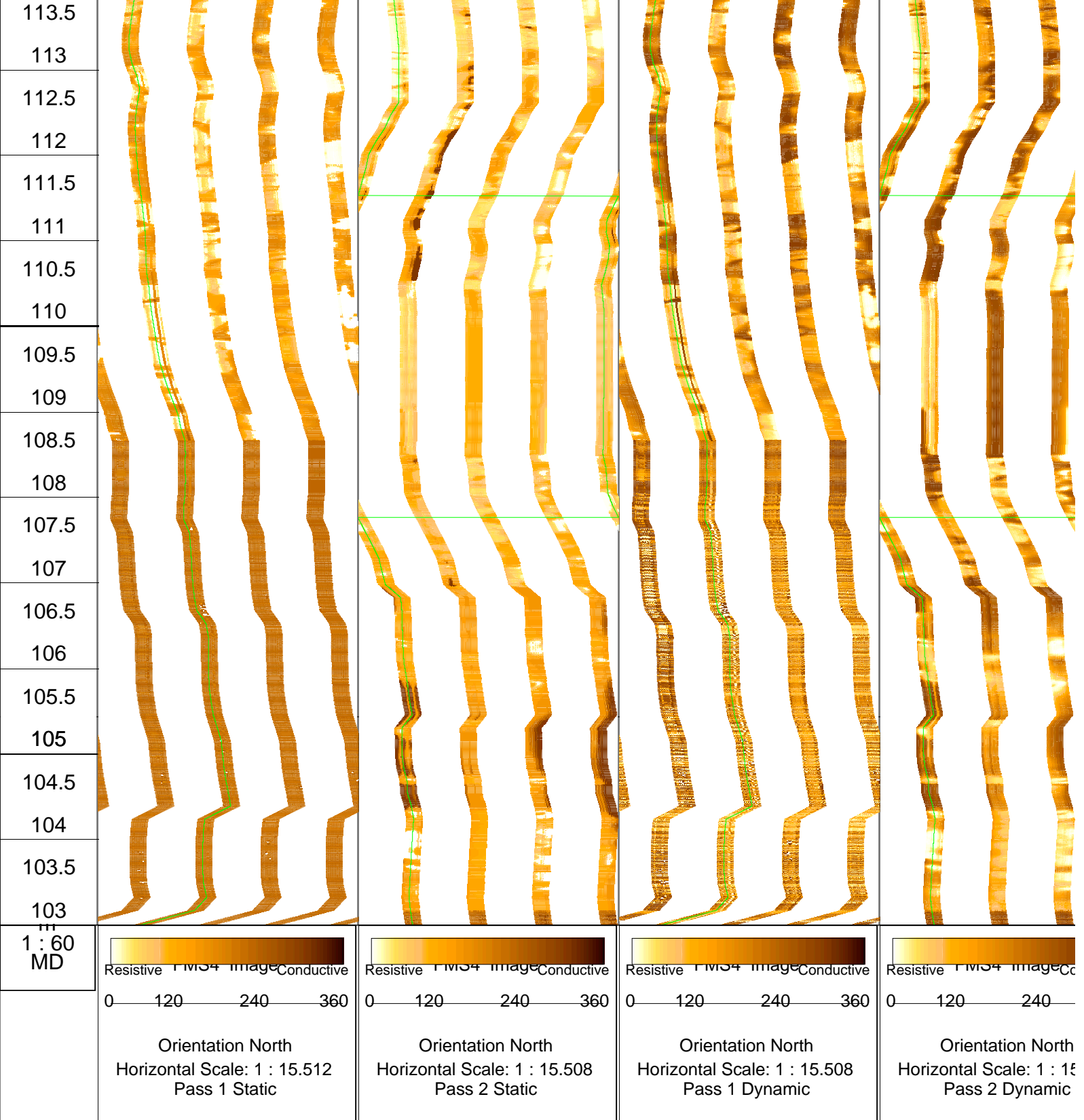
180.5  
180  
179.5  
179  
178.5  
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177.5  
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175.5  
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174.5  
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165.5  
165  
164.5  
164











**Schlumberger**

## Calibrations

MAXIS Field Log

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
<b>Micro Electrical Scanner – B (Slim) Wellsite Calibration – Caliper Calibration</b>							
Before: 2–Oct–2011 14:36							
Caliper 1 Zero Measurement	12.00	N/A	12.84	N/A	N/A	N/A	IN
Caliper 2 Zero Measurement	12.00	N/A	12.62	N/A	N/A	N/A	IN
Caliper 1 Plus Measurement	15.14	N/A	15.86	N/A	N/A	N/A	IN
Caliper 2 Plus Measurement	15.14	N/A	15.60	N/A	N/A	N/A	IN
<b>Micro Electrical Scanner – B (Slim) Wellsite Calibration – CROUZET ACCELEROMETER</b>							
PROM HAS BEEN READ CORRECTLY							
Before: 9–Oct–2011 15:17							
TEMPERATURE REFERENCE :	N/A	N/A	20	N/A	N/A	N/A	DEGC
YEAR OF CALIBRATION :	N/A	N/A	99	N/A	N/A	N/A	
MONTH OF CALIBRATION :	N/A	N/A	3	N/A	N/A	N/A	
SERIAL NUMBER :	N/A	N/A	743	N/A	N/A	N/A	
<b>Micro Electrical Scanner – B (Slim) Wellsite Calibration – CROUZET MAGNETOMETER</b>							
PROM HAS BEEN READ CORRECTLY							
Before: 9–Oct–2011 15:17							
TEMPERATURE REFERENCE :	N/A	N/A	23	N/A	N/A	N/A	DEGC
YEAR OF CALIBRATION :	N/A	N/A	3	N/A	N/A	N/A	
MONTH OF CALIBRATION :	N/A	N/A	9	N/A	N/A	N/A	
SERIAL NUMBER :	N/A	N/A	507	N/A	N/A	N/A	
<b>Hostile Natural Gamma Ray Sonde Wellsite Calibration – Detector 1 Check</b>							
Master: 15–Sep–2011 14:01 Before: 2–Oct–2011 14:33							
Na 511 Peak Loc	40.00	39.54	39.63	N/A	N/A	1.000	
Na 511 Peak Res	15.50	16.51	16.05	N/A	N/A	2.000	%
High Voltage	1150	1190	1196	N/A	N/A	N/A	V
Na 1785 Peak Loc	142.6	141.9	142.3	N/A	N/A	7.000	
Na 1785 Peak Res	8.500	8.871	9.317	N/A	N/A	2.000	%
Temperature	15.50	35.19	34.33	N/A	N/A	N/A	DEGC
Na Count Rate	45.00	22.03	21.35	N/A	N/A	8.000	CPS
<b>Hostile Natural Gamma Ray Sonde Wellsite Calibration – Detector 2 Check</b>							
Master: 15–Sep–2011 14:01 Before: 2–Oct–2011 14:33							
Na 511 Peak Loc	40.00	39.52	39.55	N/A	N/A	1.000	
Na 511 Peak Res	15.50	16.45	17.55	N/A	N/A	2.000	%
High Voltage	1150	1121	1118	N/A	N/A	N/A	V
Na 1785 Peak Loc	142.6	142.5	141.9	N/A	N/A	7.000	
Na 1785 Peak Res	8.500	8.764	8.990	N/A	N/A	2.000	%
Temperature	15.50	35.72	34.41	N/A	N/A	N/A	DEGC
Na Count Rate	45.00	22.83	22.32	N/A	N/A	8.000	CPS
<b>Hostile Natural Gamma Ray Sonde Wellsite Calibration – Ratio Of Detector 1 To Detector 2</b>							
Master: 15–Sep–2011 14:01 Before: 2–Oct–2011 14:33							
Coincidence Count Rate Ratio	1.000	0.9670	0.9574	N/A	N/A	0.05000	
<b>Enhanced DTS Cartridge Wellsite Calibration – EDTC Accelerometer Calibration</b>							
Before: 9–Oct–2011 15:20							
EDTC Z–Axis Acceleration	9.810	N/A	9.727	N/A	N/A	N/A	M/S2
<b>Enhanced DTS Cartridge Wellsite Calibration – Detector Calibration</b>							
Before: 2–Oct–2011 11:53							
Gamma Ray (Jig – Bkg)	162.1	N/A	162.1	N/A	N/A	14.74	GAPI
Gamma Ray (Calibrated)	165.0	N/A	165.0	N/A	N/A	15.00	GAPI

Micro Electrical Scanner – B (Slim) / Equipment Identification

Primary Equipment:

MEST Sonde – B	MEDS – B
MEST Preamplifier Cartridge – AB	MEPC – AB
GPIT Cartridge – A	GPIC – A
MEST Acquisition Cartridge – A	MEAC – A

Auxiliary Equipment:

MEST–B Preamplifier Cartridge Housing	MEPH – A
MEST Acquisition Cartridge Housing (Slim)	MEAH – B

Hostile Natural Gamma Ray Sonde / Equipment Identification

Primary Equipment:

Auxiliary Equipment:  
 HNGS Sonde Housing  
 Gamma Source Radioactive

HNSH - BA  
 GSR - U  
 205  
 616008

Hostile Natural Gamma Ray Sonde Wellsite Calibration								
Detector 1 Check								
Phase	Na 511 Peak Loc	Value	Phase	Na 511 Peak Res %	Value	Phase	High Voltage V	Value
Master		39.54	Master		16.51	Master		1190
Before		39.63	Before		16.05	Before		1196
	37.50 (Minimum) 40.00 (Nominal) 43.50 (Maximum)			12.00 (Minimum) 15.50 (Nominal) 19.00 (Maximum)			900.0 (Minimum) 1150 (Nominal) 1600 (Maximum)	
Phase	Na 1785 Peak Loc	Value	Phase	Na 1785 Peak Res %	Value	Phase	Temperature DEGC	Value
Master		141.9	Master		8.871	Master		35.19
Before		142.3	Before		9.317	Before		34.33
	135.0 (Minimum) 142.6 (Nominal) 150.3 (Maximum)			7.000 (Minimum) 8.500 (Nominal) 11.00 (Maximum)			-28.89 (Minimum) 15.50 (Nominal) 60.00 (Maximum)	
Phase	Na Count Rate CPS	Value						
Master		22.03						
Before		21.35						
	10.00 (Minimum) 45.00 (Nominal) 100.0 (Maximum)							
Master: 15-Sep-2011 14:01			Before: 2-Oct-2011 14:33					


Hostile Natural Gamma Ray Sonde Wellsite Calibration								
Detector 2 Check								
Phase	Na 511 Peak Loc	Value	Phase	Na 511 Peak Res %	Value	Phase	High Voltage V	Value
Master		39.52	Master		16.45	Master		1121
Before		39.55	Before		17.55	Before		1118
	37.50 (Minimum) 40.00 (Nominal) 43.50 (Maximum)			12.00 (Minimum) 15.50 (Nominal) 19.00 (Maximum)			900.0 (Minimum) 1150 (Nominal) 1600 (Maximum)	
Phase	Na 1785 Peak Loc	Value	Phase	Na 1785 Peak Res %	Value	Phase	Temperature DEGC	Value
Master		142.5	Master		8.764	Master		35.72
Before		141.9	Before		8.990	Before		34.41
	135.0 (Minimum) 142.6 (Nominal) 150.3 (Maximum)			7.000 (Minimum) 8.500 (Nominal) 11.00 (Maximum)			-28.89 (Minimum) 15.50 (Nominal) 60.00 (Maximum)	
Phase	Na Count Rate CPS	Value						
Master		22.83						
Before		22.32						
	10.00 (Minimum) 45.00 (Nominal) 100.0 (Maximum)							
Master: 15-Sep-2011 14:01			Before: 2-Oct-2011 14:33					

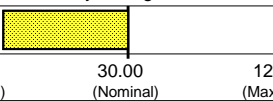


Hostile Natural Gamma Ray Sonde Wellsite Calibration		
Ratio Of Detector 1 To Detector 2		
Phase	Coincidence Count Rate Ratio	Value
Master		0.9670
Before		0.9574
	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)	
Master: 15-Sep-2011 14:01		
Before: 2-Oct-2011 14:33		

Hostile Natural Gamma Ray Cartridge - B / Equipment Identification		
Primary Equipment: HNGC Cartridge	HNGC - B	300
Auxiliary Equipment: HNGC Housing	HNGH - A	115

Enhanced DTS Cartridge / Equipment Identification

Primary Equipment:		
EDTC Gamma Ray Detector	EDTG – A/B	77693
Enhanced DTS Cartridge	EDTC – B	8529
Auxiliary Equipment:		
EDTC Housing	EDTH – B	8528

Enhanced DTS Cartridge Wellsite Calibration		
EDTC Accelerometer Calibration		
Phase	EDTC Z-Axis Acceleration M/S2	Value
Before		9.727
	9.610 (Minimum)      9.810 (Nominal)      10.01 (Maximum)	
Before: 9-Oct-2011 15:20		

Enhanced DTS Cartridge Wellsite Calibration									
Detector Calibration									
Phase	Gamma Ray Background GAPI	Value	Phase	Gamma Ray (Jig – Bkg) GAPI	Value	Phase	Gamma Ray (Calibrated) GAPI	Value	
Before		6.159	Before		162.1	Before		165.0	
	0 (Minimum)      30.00 (Nominal)      120.0 (Maximum)			147.4 (Minimum)      162.1 (Nominal)      176.9 (Maximum)			150.0 (Minimum)      165.0 (Nominal)      180.0 (Maximum)		
Before: 2-Oct-2011 11:53									

Company: **Lamont Doherty**



Well: **Expedition 336, Site U1382A**

Field: **North Pond**

Rig: **JOIDES Resolution**

Country: **USA**

FMS  
(Formation Micro-Resistivity Scanner)