

# MicroScope HD Resistivity Image

Gamma Ray - Resistivity - HD Resistivity Image

Recorded Mode Log, Measured Depth 1:200



Company: JAMSTEC

Well: C0002S

Field: C0002

Rig Name: D/V Chikyu

State: Wakayama

Country: Japan

Latitude: 33° 18' 3.042" N

Longitude: 136° 38' 12.174" E

Block: UWID: D/V Chikyu

FL: Pacific Ocean

FL1: X=652382.39

FL2: Y=3685843.62

Log Measured From: - Drill Floor: 28.50 m

Permanent Datum: - Mean Sea Level

Ground Level: 1939.00 m

Acquisition Dates: 05-Feb-2019 -- 08-Feb-2019

Log Interval: 4788.92(m)MD - 4888.19(m)MD

Index Types: Measured Depth

Index Scales: 1:200

Depth Source: Driller's Depth

Depth Sensor: DES

Print Type: Final

Spud Date: 26-Oct-2018

Other Services:

Direction and Inclination

seismic/SION

Vortex + Xceed

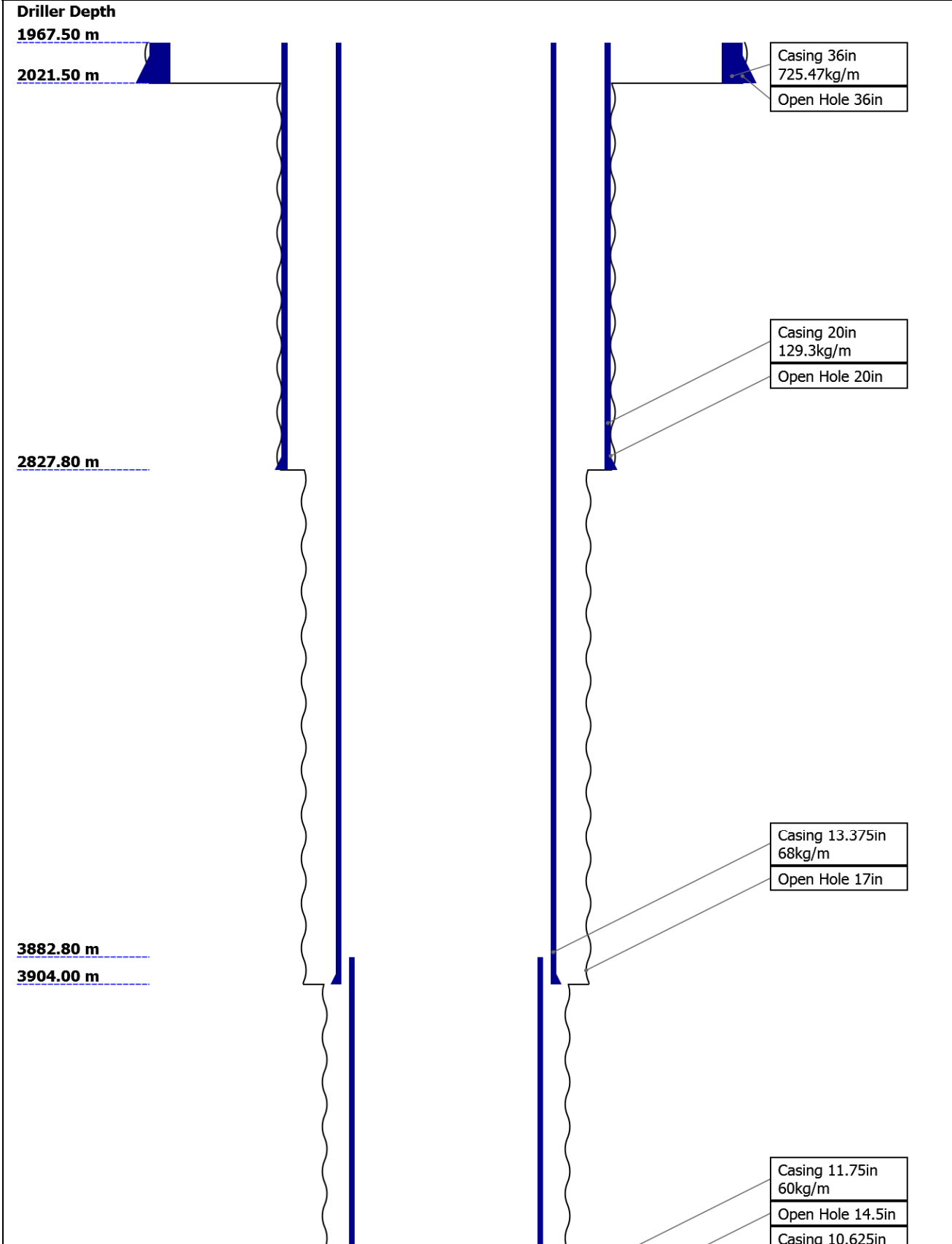
## Disclaimer

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Well Sketch



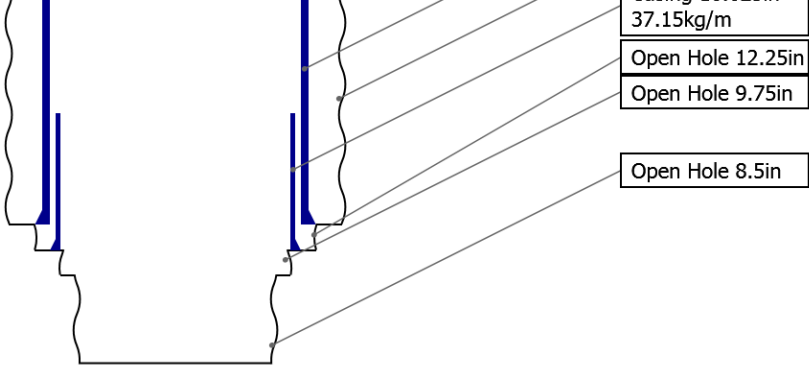
4603.50 m

4756.41 m

4770.22 m

4788.23 m

4901.00 m



Borehole Size/Casing Record

Bit						
Bit Size ( in )	36	20	17	14.5	12.25	9.75
Top Driller ( m )	1967.5	2021.5	2827.8	3904	4756.41	4770.22
Bottom Driller ( m )	2021.5	2827.8	3904	4756.41	4770.22	4788.23
Casing						
Size ( in )	36	20	13.375	11.75	10.625	
Weight ( kg/m )	725.47	129.3	68	60	37.15	
Inner Diameter ( in )	33.429	19.188	12.734	11.104	10.186	
Grade	N/A	N/A	N/A	N/A	N/A	
Top Driller ( m )	1967.5	1967.5	1967.5	3882.8	4603.5	
Bottom Driller ( m )	2021.5	2827.8	3904	4756.41	4770.22	
Bit						
Bit Size ( in )	8.5					
Top Driller ( m )	4788.23					
Bottom Driller ( m )	4901					
Casing						
Size						
Weight						
Inner Diameter						
Grade						
Top Driller						
Bottom Driller						

Operational Run Summary


Parameter ( unit )	Run 2					
Date Log Started	05-Feb-2019					
Time Log Started	08:18:26					
Date Log Finished	08-Feb-2019					
Time Log Finished	23:31:48					
Bit Size ( in )	8.500					
Bit Start Depth ( m )	4788.92					
Bit Stop Depth ( m )	4901.00					
Top Log Interval ( m )	4788.92					

Bottom Log Interval ( m )	4888.19					
Max Hole Deviation ( deg )	2.89					
Azimuth of Max Deviation ( deg )	257.63					
Logging Unit Number	OLU-MB8054					
Logging Unit Location	Zone2					
Recorded By	SMoriyama/Zhou Cai					
Witnessed By	Y.Sanada/Y.Kido					
Service Order Number	18JAP0007					

## Borehole Fluids

Parameter( unit )	Run 2					
Fluid Type	Water					
Max Recorded Temperatures ( degC )	37					
Source of Sample	Active Tank					
Salinity ( ppm )	114670.1					
Density ( g/cm3 )	1.38					
Funnel Viscosity ( s )	59					
Fluid Loss ( cm3 )	6.7					
PH	10.8					
Source RMF	Pressed					
RMC	Pressed					
RM @ Meas Temp ( ohm.m@degC )	0.07 @ 21.2					
RMF @ Meas Temp ( ohm.m@degC )	0.05 @ 21.5					
RMC @ Meas Temp ( ohm.m@degC )	0.07 @ 21.4					
RM @ BHT ( ohm.m@degC )	0.06 @ 30					
RMF @ BHT ( ohm.m@degC )	0.04 @ 30					
RMC @ BHT ( ohm.m@degC )	0.06 @ 30					
Total Solid ( % )	18					
High Gravity Solids ( % )						

## Remarks and Equipment Summary

Run 2: Toolstring				Run 2: Remarks	
<div> <div> <div>Equip name</div> <div>X/O: 6 3/4"[2]:74</div> <div>ET002-6/02</div> </div> <div> <div>Length</div> <div>58.69</div> </div> <div> <div>MP name</div> <div>Schlumberger</div> </div> <div> <div>Offset</div> <div></div> </div> </div> <div> <div>seismicVISION675</div> <div>:42835</div> </div> <div> <div>58.2</div> </div> <div> <div>Schlumberger</div> </div> <div>  </div> <div> <div>Seismic</div> <div>55.89</div> </div> <div> <div>ROP</div> <div>54.97</div> </div>	Depth Reference is driller's depth measured from Rotary Table.				
	Data presented is Recorded Mode data which was acquired while drilling.				
	MicroScope record rate is depending on RPM.APWD record rate is 10s.				
	arcVISION GR is environmentally corrected for bit size, mud weight, and potassium content in the mud (1.47% in Run3).				
	Reason of POOH: BHA failure				
	Drilling Time: 47.40 hrs				
	Pumping Time: 57.34 hrs				
	Connection in Lower CLink was twisted off and the lower part than this was left in hole.				

SONICSCOPE6:H03 53.74  
42

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ROP 50.84

Delta-T 49.63



TELE675-IWOB:B1 43.79  
755

Schlumberger



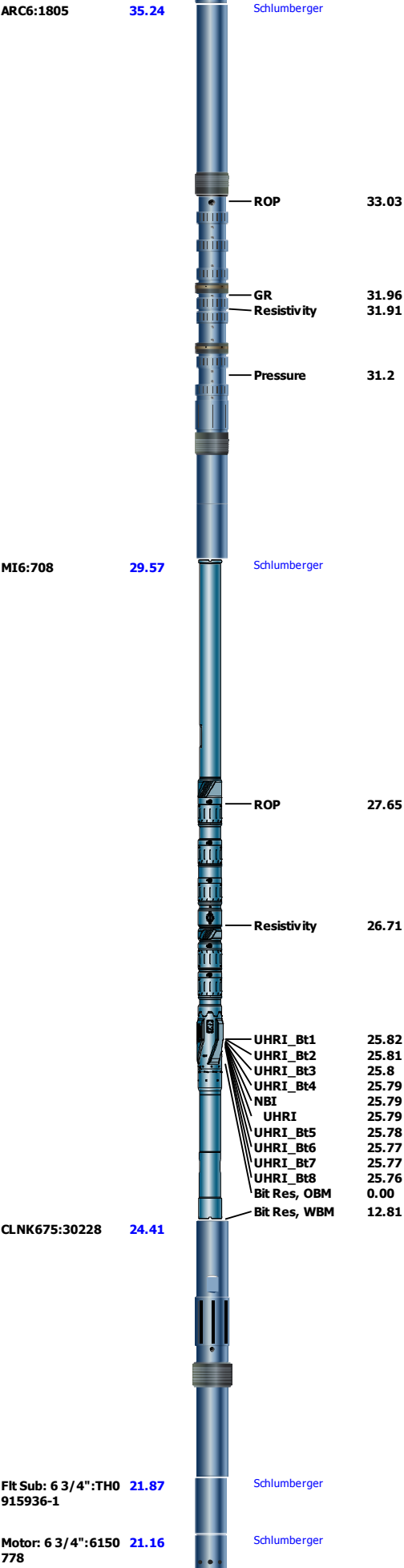
D&I 39.44

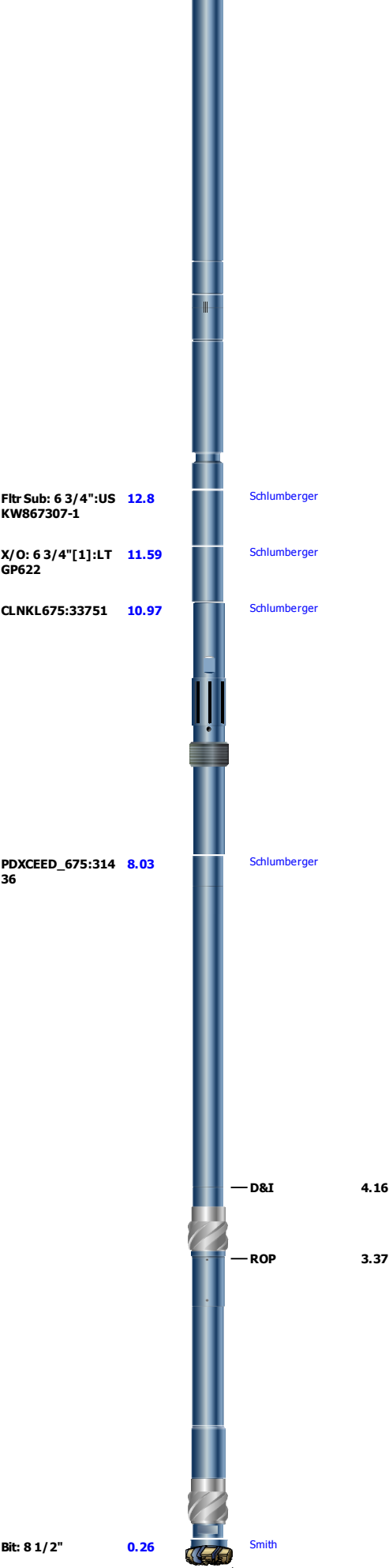


ROP 37.09



IWOB 36.07





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D&I

ROP

Smith

TOOL\_ZERO

Lengths are in m

Maximum Outer Diameter = 8.500 in

Line: Sensor Location, Value: Gating Offset

All measurements are relative to TOOL\_ZERO

# Survey Record

## Survey Calculation

Method :	Minimum Radius of Curvature	DLS Method :	Lubinski
North Reference :	Grid North	Total Correction Formula :	Magnetic Dec - Grid Convergence
Grid Convergence :	0.90 deg		

## Rig Location

Latitude :	33° 18' 3.042" N	Longitude :	136° 38' 12.174" E
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## Tie In Point

Measured Depth:	4772.00 m	Inclination:	1.23 deg	Azimuth:	122.08 deg
True Vertical Depth:	4770.21 m	North Displacement:	3.67 m	East Displacement:	47.20 m
N/-S VSec Origin:	3.67 m	E/-W VSec Origin:	47.20 m	Vertical Section Azimuth:	160.00 deg

## D&I Inits Computed and Values Used - Run 2

Geomagnetic Model :	HDGM 2018	Geomagnetic Date :	05-Feb-2019
Computed Location B :	46172.51 nT +/- 300.00nT	Used Location B :	46172.51 nT +/- 300.00nT
Computed Location G :	998.92 mgn +/- 2.50mgn	Used Location G :	998.92 mgn +/- 2.50mgn
Computed Magnetic Dip :	47.03 deg +/- 0.45deg	Used Magnetic Dip :	47.03 deg +/- 0.45deg
Computed Magnetic Dec :	-7.17 deg	Used Magnetic Dec :	-7.17 deg
Computed Total Correction :	-8.07 deg	Used Total Correction :	-8.07 deg

## Survey Quality Index

9 : Manual 28 : Tie-In Point

## Survey Correction Index

0 : No correction

## Survey Description Index

0 : Not Flagged Survey 7 : Projection to Bit

Seq	MD (m)	Incl (deg)	Azim (deg)	Course (m)	TVD (m)	V Sec (m)	N/ -S (m)	E/ -W (m)	Closure (m)	at Azim (deg)	DLS deg/30m	Tool Type	QI	CI	DI
1	4772.00	1.23	122.08	----	4770.21	0.00	3.67	47.20	47.34	85.55	0.00	TIP	28	0	0
2	4786.06	1.13	256.75	14.06	4784.27	0.10	3.56	47.19	47.33	85.69	4.65	SingleShot	9	0	0
3	4794.51	0.80	37.26	8.45	4792.72	0.06	3.59	47.15	47.28	85.65	6.46	SingleShot	9	0	0
4	4804.29	0.81	29.65	9.78	4802.50	-0.02	3.70	47.22	47.37	85.52	0.33	SingleShot	9	0	0
5	4809.68	1.10	31.96	5.39	4807.89	-0.08	3.78	47.27	47.42	85.43	1.63	SingleShot	9	0	0
6	4820.42	1.32	52.44	10.74	4818.62	-0.18	3.94	47.42	47.59	85.25	1.35	SingleShot	9	0	0
7	4829.98	1.42	56.81	9.56	4828.18	-0.24	4.07	47.61	47.78	85.11	0.45	SingleShot	9	0	0
8	4839.14	0.58	348.19	9.16	4837.34	-0.31	4.18	47.69	47.88	84.99	4.34	SingleShot	9	0	0
9	4846.61	1.57	281.65	7.47	4844.81	-0.40	4.24	47.59	47.77	84.91	5.79	SingleShot	9	0	0
10	4859.60	2.89	257.63	12.99	4857.79	-0.54	4.20	47.09	47.28	84.90	3.67	SingleShot	9	0	0
11	4901.00	2.89	257.63	41.40	4899.14	-0.82	3.76	45.05	45.21	85.23	0.00	Other	9	0	7

## Run 2

## Run2\_LWD Log

## Software Version

Acquisition System	Version
Maxwell 2018 SP2	8.2.104493.3100
Application Patch	DnM_TestKit-PD-DHS31-2018-2_8.2.104864

## Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	Include Parallel Data
Run 2	Drilling	Down	59.99 m	4900.93 m	05-Feb-2019 8:18:26 AM	08-Feb-2019 11:31:48 PM	No

All depths are referenced to toolstring zero

## Log

Company:JAMSTEC Well:C0002S

Run 2: Drilling:S005

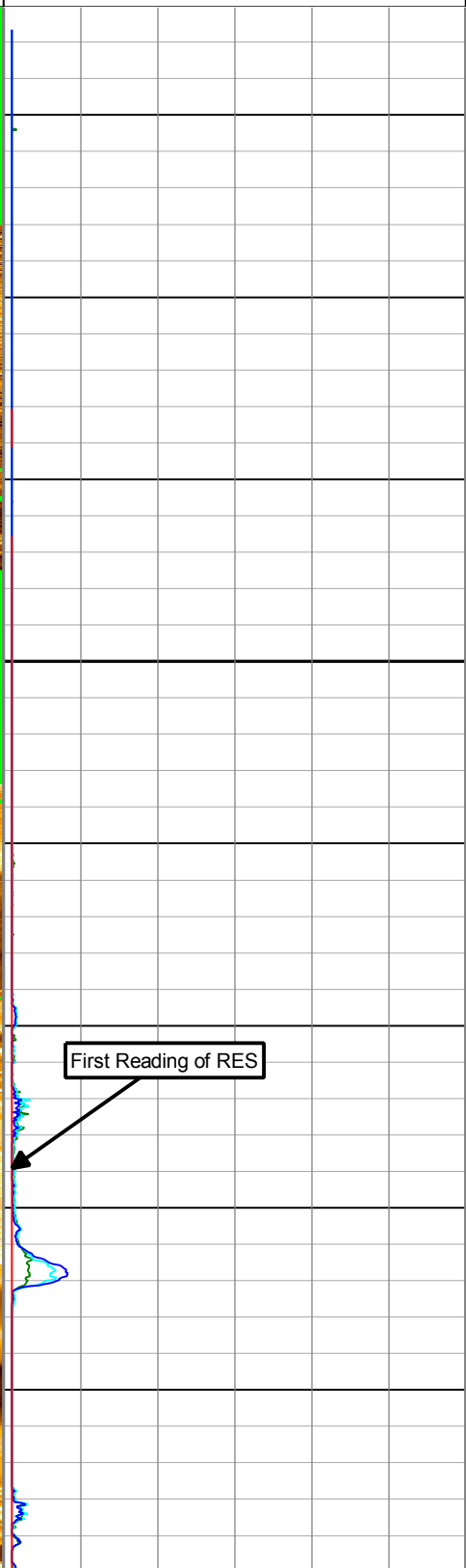
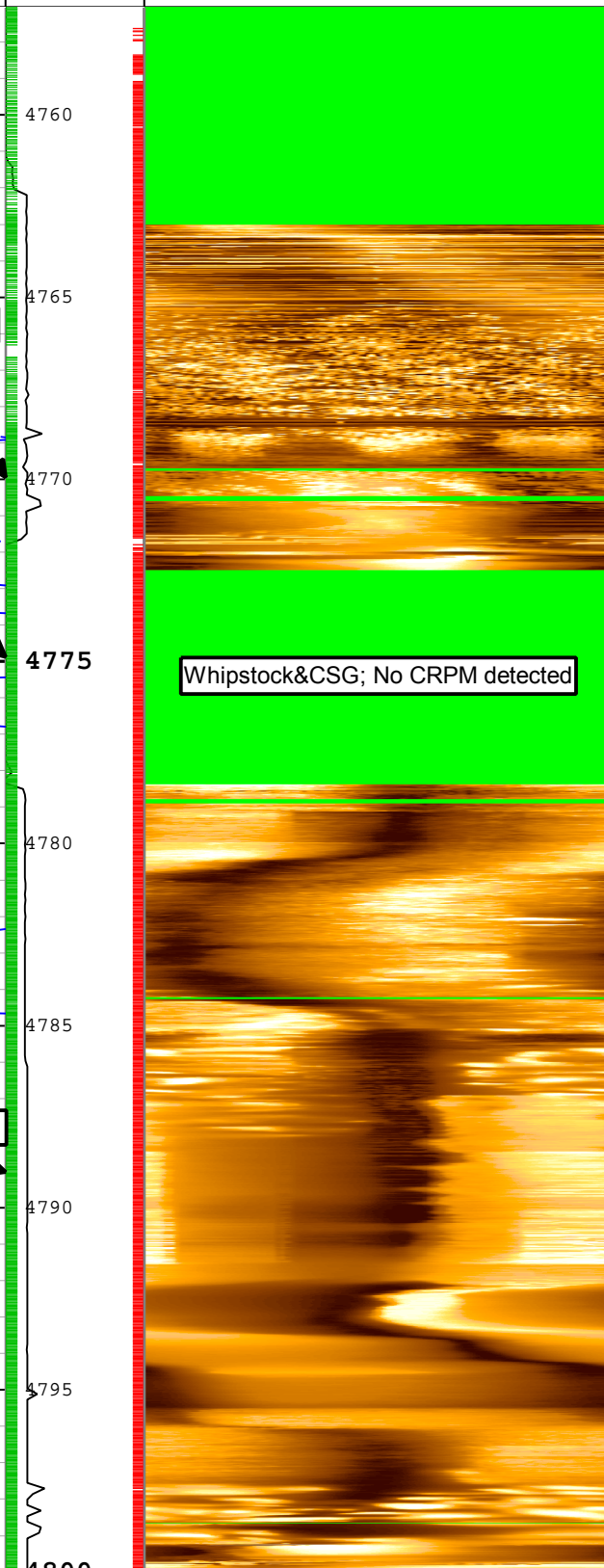
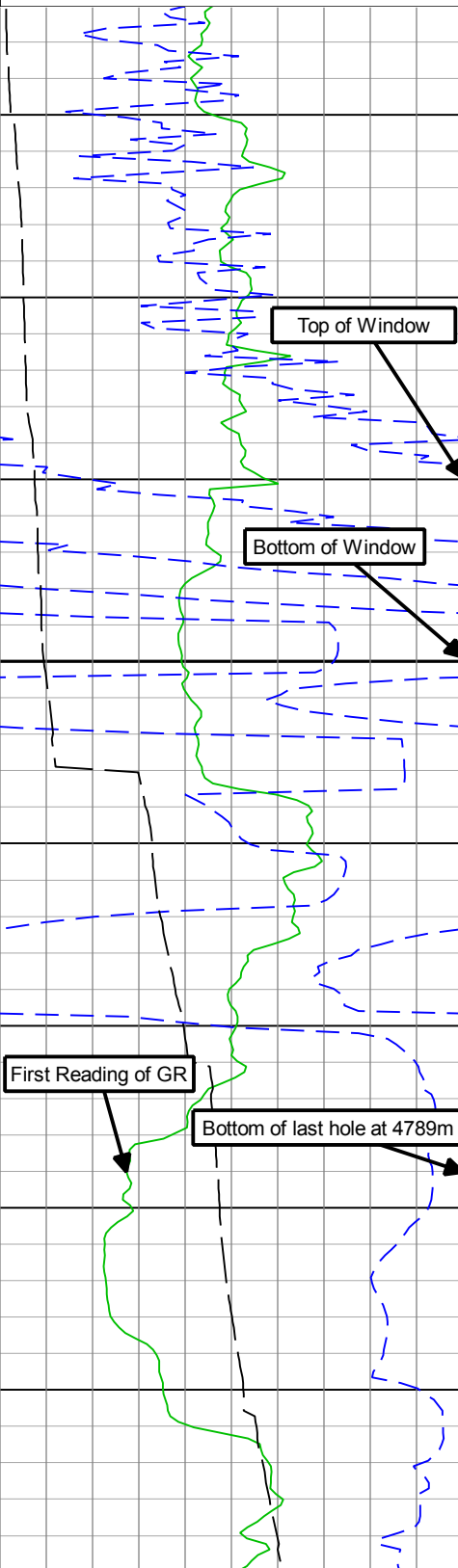
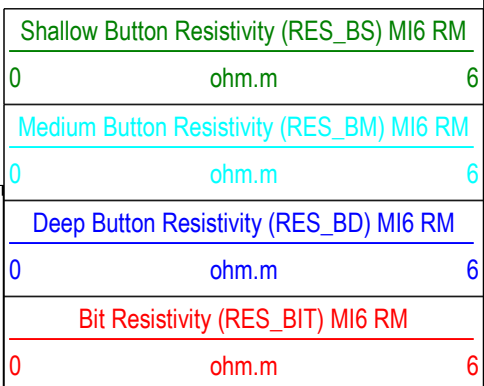
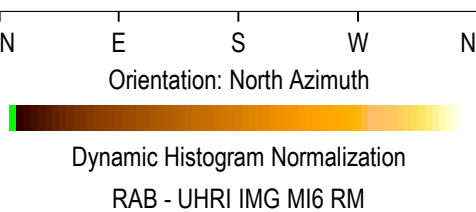
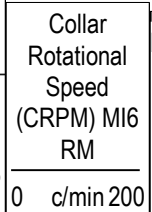
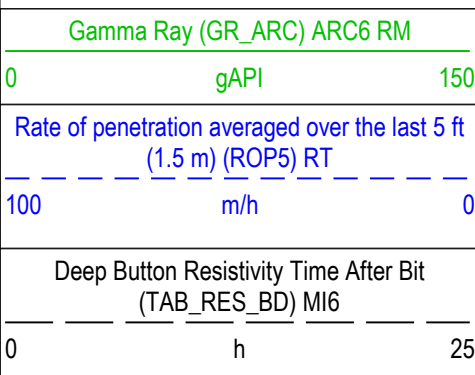
Description: MI6 Resistivity RT Format: Log ( UHRI\_RM ) Index Scale: 1:200 Index Unit: m Index Type: Measured Depth Creation Date: 01-Mar-2019

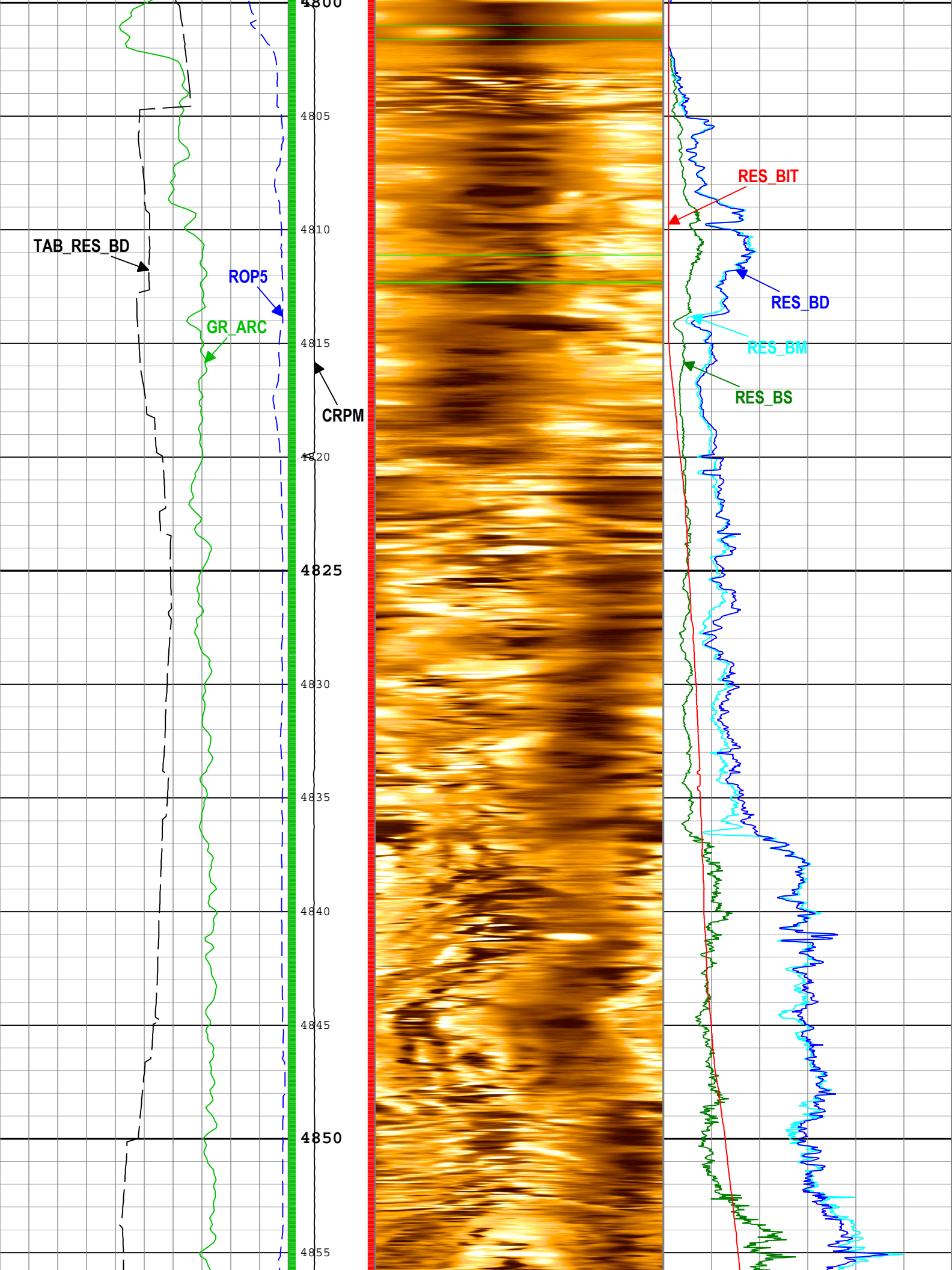
13:51:54

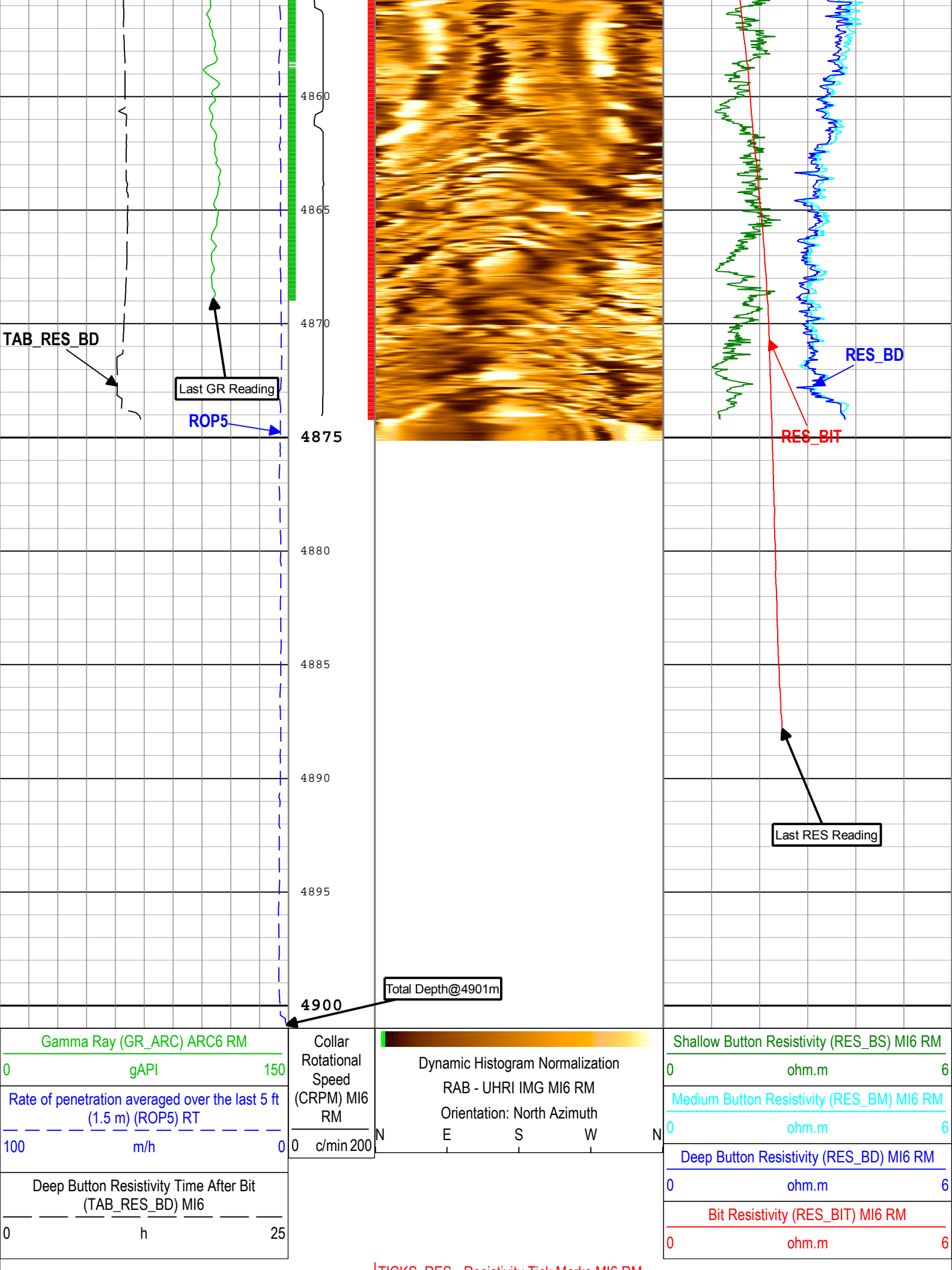


TICK\_ARC\_GR - Gamma Ray Tick Marks ARC6 RM

TICKS\_RES - Resistivity Tick Marks MI6 RM







Description: MI6 Resistivity RT    Format: Log ( UHRI\_RM )    Index Scale: 1:200    Index Unit: m    Index Type: Measured Depth    Creation Date: 01-Mar-2019 13:51:54

## Channel Processing Parameters

### Run 2: Parameters

Parameter	Description	Tool	Value	Unit
BHK	Drilling Fluid Potassium Concentration	Borehole	1.47	%
BHT	Bottom Hole Temperature	Borehole	30	degC
BS	Bit Size	DNMSESSION	Depth Zoned	in
DEPTH_SEL	Depth Selection Parameter	DNMSESSION	Driller's Depth	
DFD	Drilling Fluid Density	Borehole	1.38	g/cm3
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
GCSE_RM	Generalized Caliper Selection for DnM recorded mode	Borehole	BS	
GGRD	Geothermal Gradient	Borehole	18.23	degC/km
GRSE_RM	Generalized Mud Resistivity Selection for Recorded Mode	Borehole	REMS(RM)	
GTSE_RM	Generalized Temperature Selection for Recorded Mode	Borehole	GTEM_GRDSURF	
JOBID	Job Identification	DNMSESSION	18JAP0007S-3	
MST	Mud Sample Temperature	Borehole	21.2	degC
RMS	Resistivity of Mud Sample	Borehole	0.07	ohm.m
SHT	Surface Hole Temperature	Borehole	20	degC
UHRI_IMG_T	UHRI Image Type	MI6	UHRI Raw	

### Depth Zone Parameters

Parameter	Value	Start ( m )	Stop ( m )
BS	12.25	4757.04	4770.22
BS	9.75	4770.22	4788.23
BS	8.5	4788.23	4901

All depth are actual.

## Tool Control Parameters

### Run 2: Parameters

Parameter	Description	Tool	Value	Unit
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## Calibration Report

### ARC6 (Array Resistivity Compensated 675) Calibration - Run 2

Primary Equipment :    Elec. Chassis HP with AIM Receiver    AREA    126

### RESAIRCAL - Resistivity: Air

Master (Time Frame File):    09:57:26 15-Nov-2018

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Attenuation T1 at 2 MHz	dB	Master	8.500	6.500	8.275	10.500	
Attenuation T2 at 2 MHz	dB	Master	6.500	4.500	6.730	8.500	
Attenuation T3 at 2 MHz	dB	Master	4.500	2.500	4.874	6.500	
Attenuation T4 at 2 MHz	dB	Master	4.600	2.600	4.625	6.600	
Attenuation T5 at 2 MHz	dB	Master	3.600	1.600	3.419	5.600	
Phase Shift T1 at 2 MHz	deg	Master	0.100	-3.900	1.048	4.100	
Phase Shift T2 at 2 MHz	deg	Master	0.100	-3.900	-1.065	4.100	
Phase Shift T3 at 2 MHz	deg	Master	0.100	-3.900	0.993	4.100	
Phase Shift T4 at 2 MHz	deg	Master	0.100	-3.900	-1.095	4.100	
Phase Shift T5 at 2 MHz	deg	Master	0.100	-3.900	1.001	4.100	
Attenuation T1 at 400 KHz	dB	Master	8.500	6.500	8.324	10.500	
Attenuation T2 at 400 KHz	dB	Master	6.500	4.500	6.691	8.500	

Attenuation T3 at 400 KHz	dB	Master	4.500	2.500	4.919	6.500	<div><div></div><div></div><div></div><div></div><div></div></div>
Attenuation T4 at 400 KHz	dB	Master	4.600	2.600	4.580	6.600	<div><div></div><div></div><div></div><div></div><div></div></div>
Attenuation T5 at 400 KHz	dB	Master	3.600	1.600	3.477	5.600	<div><div></div><div></div><div></div><div></div><div></div></div>
Phase Shift T1 at 400 KHz	deg	Master	0.100	-3.900	0.501	4.100	<div><div></div><div></div><div></div><div></div><div></div></div>
Phase Shift T2 at 400 KHz	deg	Master	0.100	-3.900	-0.470	4.100	<div><div></div><div></div><div></div><div></div><div></div></div>
Phase Shift T3 at 400 KHz	deg	Master	0.100	-3.900	0.493	4.100	<div><div></div><div></div><div></div><div></div><div></div></div>
Phase Shift T4 at 400 KHz	deg	Master	0.100	-3.900	-0.501	4.100	<div><div></div><div></div><div></div><div></div><div></div></div>
Phase Shift T5 at 400 KHz	deg	Master	0.100	-3.900	0.480	4.100	<div><div></div><div></div><div></div><div></div><div></div></div>

## GRGAIN - Gamma Ray: Blanket

Master (Time Frame File): 15:06:52 14-Nov-2018

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	<div><div></div><div></div><div></div><div></div><div></div></div>
Gamma Ray Calibration Gain		Master	1.000	0.580	1.081	1.250	<div><div></div><div></div><div></div><div></div><div></div></div>

**Company:** JAMSTEC

**Well:** C0002S

**Field:** C0002

**Rig Name:** D/V Chikyu

**State:** Wakayama

**Country:** Japan



**Schlumberger**

**MicroScope HD Resistivity Image**

Gamma Ray - Resistivity - HD Resistivity Image

Recorded Mode Log, Measured Depth 1:200