

# VISION Resistivity

## Gamma Ray - Resistivity

Recorded Mode log, Measured Depth 1:500



Company: JAMSTEC

Well: C0002Q

Field: C0002

Rig Name: D/V Chiky

Prefecture: Wakayama

Country: Japan

Latitude: 33° 18' 3.042" N

Longitude: 136° 38' 12.174" E

Block:

FL: Pacific Ocean

FL1: X = 652,382.39 m

FL2: Y = 3,685,834.62 m

UWID:

Rig Name:

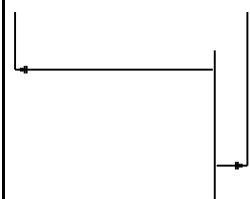
Rig Type:

D/V Chiky

Drill ship

Log Measured From: - Drill Floor: 28.50 m  
Permanent Datum: - Mean Sea Level

Ground Level: 1939.00 m



Acquisition Dates: 11-Dec-2018 -- 13-Dec-2018

Log Interval: 4879.60(m)MD -- 4922.82(m)MD

Index Types: Measured Depth

Index Scales: 1:500

Depth Source: Driller's Depth

Depth Sensor: DES

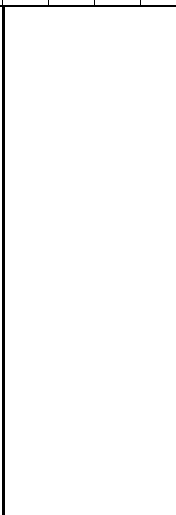
Print Type: Final

Spud Date: 26-Oct-2018

Other Services:

Direction and Inclination

APWD



## Disclaimer

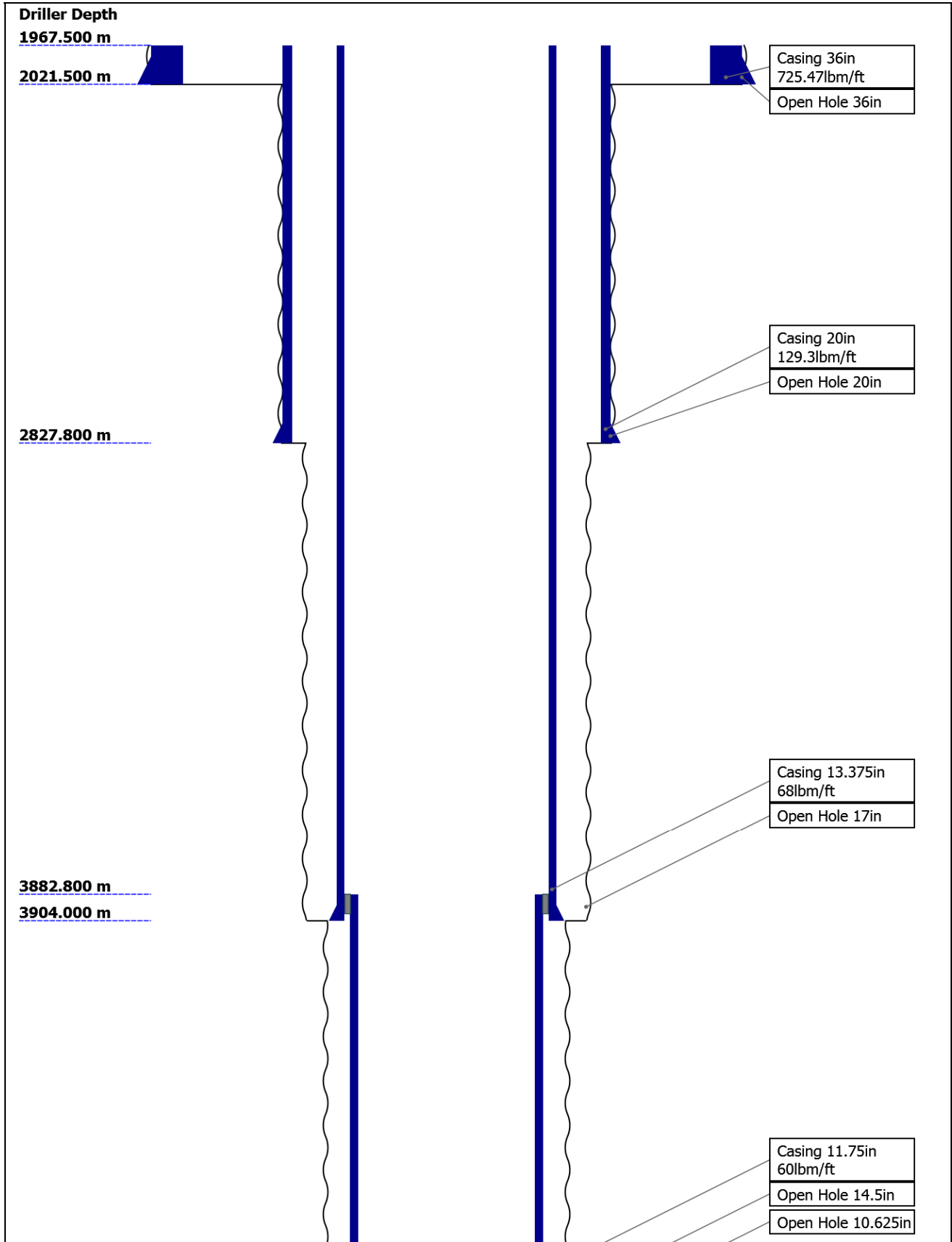
THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE AND RELIANCE UPON THE RECORDED-DATA; AND (c) CUSTOMER'S FULL AND SOLE RESPONSIBILITY FOR ANY INFERENCE DRAWN OR DECISION MADE IN CONNECTION WITH THE USE OF THIS RECORDED-DATA.

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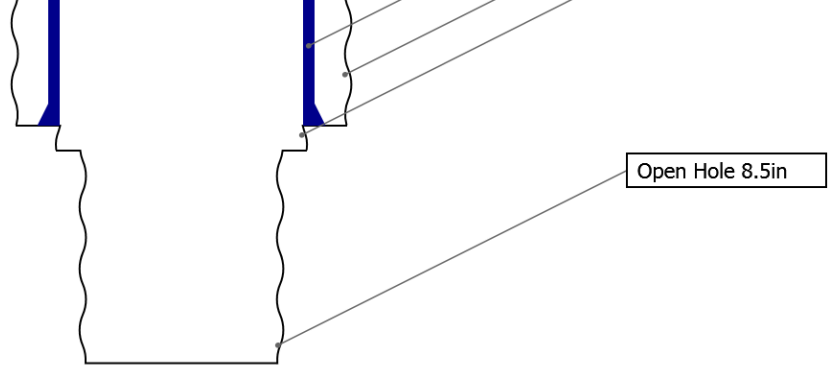
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## Well Sketch



4854.800 m  
4867.000 m

5230.000 m



## Borehole Size/Casing Record

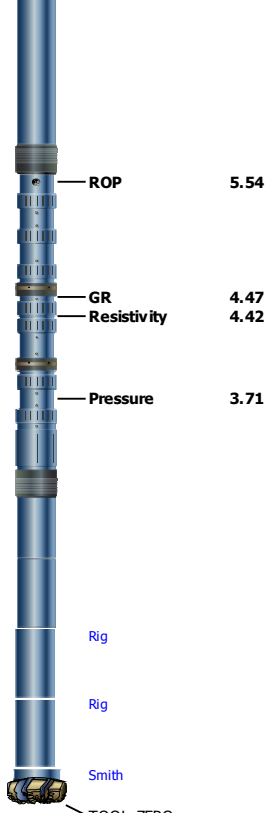
Bit						
Bit Size ( in )	36	20	17	14.5	10.625	8.5
Top Driller ( m )	1967.5	2021.5	2827.8	3904	4854.8	4867
Bottom Driller ( m )	2021.5	2827.8	3904	4854.8	4867	5230
Casing						
Size ( in )	36	20	13.375	11.75		
Weight ( lbm/ft )	725.47	129.3	68	60		
Inner Diameter ( in )	32.099	18.779	12.415	10.772		
Grade	X56	X56	N/A	N/A		
Top Driller ( m )	1967.5	1967.5	1967.5	3882.8		
Bottom Driller ( m )	2021.5	2827.8	3904	4854.8		

## Operational Run Summary

Parameter ( unit )	Run 5				
Date Log Started	09-Dec-2018				
Time Log Started	14:11:00				
Date Log Finished	14-Dec-2018				
Time Log Finished	21:06:57				
Bit Size ( in )	8.500				
Bit Start Depth ( m )	0.00				
Bit Stop Depth ( m )	0.00				
Top Log Interval ( m )	4879.60				
Bottom Log Interval ( m )	4922.82				
Max Hole Deviation ( deg )	1.64				
Azimuth of Max Deviation ( deg )	90.69				
Logging Unit Number	OLU-MB 8054				
Logging Unit Location	Zone2				
Recorded By	SMurakami/KBian				
Witnessed By	YSanada/YKido				
Service Order Number	18JAP0007				

## Borehole Fluids





X/O: 6 3/4"[2]:35 2.00  
3-01-021-0000

X/O: 6 3/4"[1]:02 0.91  
-005-0000

Bit: 8 1/2":QF3391 0.29

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

### Tie In Point

Measured Depth: 4853.87 m Inclination: 1.64 deg Azimuth: 90.69 deg  
True Vertical Depth: 4852.02 m North Displacement: -0.27 m East Displacement: 49.95 m  
N-S VSec Origin: 0.00 m E-W VSec Origin: 0.00 m Vertical Section Azimuth: 90.28 deg

### D&I Inits Computed and Values Used - Run 5

Geomagnetic Model : HDGM 2018 Geomagnetic Date : 17-Nov-2018  
Computed Location B : 46164.86 nT +/- 300.00nT Used Location B : 46164.86 nT +/- 300.00nT  
Computed Location G : 998.92 mgn +/- 2.50mgn Used Location G : 998.92 mgn +/- 2.50mgn  
Computed Magnetic Dip : 47.02 deg +/- 0.45deg Used Magnetic Dip : 47.02 deg +/- 0.45deg  
Computed Magnetic Dec : -7.16 deg Used Magnetic Dec : -7.16 deg  
Computed Total Correction : -8.06 deg Used Total Correction : -8.06 deg

### Survey Quality Index

2 : Long Survey failed mag criteria 28 : Tie-In Point

### Survey Correction Index

0 : No correction

### Survey Description Index

0 : Not Flagged Survey

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	4853.87	1.64	90.69	----	4852.02	49.95	-0.27	49.95	49.95	90.31	0.00	TIP	28	0	0
2	4870.63	3.61	138.88	16.76	4868.77	50.54	-0.67	50.54	50.54	90.76	5.00	TeleScope	2	0	0
3	4882.77	3.16	140.86	12.13	4880.88	51.00	-1.22	51.00	51.01	91.37	1.14	TeleScope	2	0	0
4	4897.67	0.64	145.72	14.91	4895.77	51.31	-1.60	51.30	51.33	91.79	5.07	TeleScope	2	0	0
5	4908.67	0.96	50.36	11.00	4906.77	51.42	-1.60	51.41	51.44	91.78	3.28	TeleScope	2	0	0

# Run 5

## Run 5\_LWD Log

### Software Version

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

### Composite Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	Include Parallel Data
Run 5	Ream Down 1	Down	4883.86 m	4927.37 m	11-Dec-2018 3:04:00 PM	13-Dec-2018 11:51:00 AM	Yes

All depths are referenced to toolstring zero

### Log

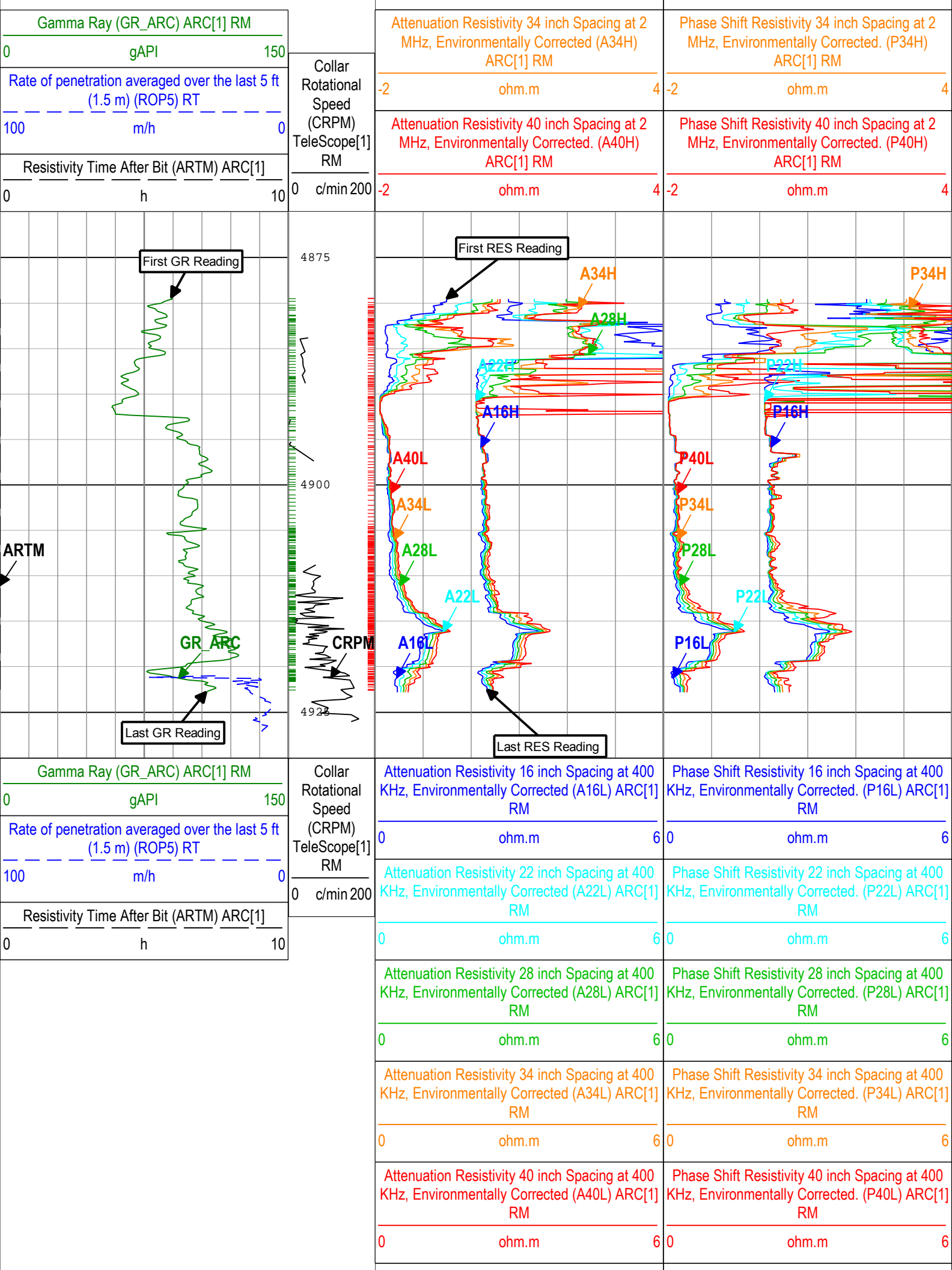
Company: JAMSTEC Well: C0002Q  
Run 5: S121

Description: ARC Blended Resistivity 2-Log Format: Log ( VISION Resistivity MD ) Index Scale: 1:500 Index Unit: m Index Type: Measured Depth  
Creation Date: 28-Feb-2019 17:59:28

├ TICK\_ARC\_GR - Gamma Ray Tick Marks ARC[1] RM

└ TICK\_ARC\_RES - Resistivity Tick Marks ARC[1] RM

Attenuation Resistivity 16 inch Spacing at 400 KHz, Environmentally Corrected (A16L) ARC[1] RM	Phase Shift Resistivity 16 inch Spacing at 400 KHz, Environmentally Corrected. (P16L) ARC[1] RM
0 ohm.m 6	0 ohm.m 6
Attenuation Resistivity 22 inch Spacing at 400 KHz, Environmentally Corrected (A22L) ARC[1] RM	Phase Shift Resistivity 22 inch Spacing at 400 KHz, Environmentally Corrected. (P22L) ARC[1] RM
0 ohm.m 6	0 ohm.m 6
Attenuation Resistivity 28 inch Spacing at 400 KHz, Environmentally Corrected (A28L) ARC[1] RM	Phase Shift Resistivity 28 inch Spacing at 400 KHz, Environmentally Corrected. (P28L) ARC[1] RM
0 ohm.m 6	0 ohm.m 6
Attenuation Resistivity 34 inch Spacing at 400 KHz, Environmentally Corrected (A34L) ARC[1] RM	Phase Shift Resistivity 34 inch Spacing at 400 KHz, Environmentally Corrected. (P34L) ARC[1] RM
0 ohm.m 6	0 ohm.m 6
Attenuation Resistivity 40 inch Spacing at 400 KHz, Environmentally Corrected (A40L) ARC[1] RM	Phase Shift Resistivity 40 inch Spacing at 400 KHz, Environmentally Corrected. (P40L) ARC[1] RM
0 ohm.m 6	0 ohm.m 6
Attenuation Resistivity 16 inch Spacing at 2 MHz, Environmentally Corrected (A16H) ARC[1] RM	Phase Shift Resistivity 16 inch Spacing at 2 MHz, Environmentally Corrected. (P16H) ARC[1] RM
-2 ohm.m 4	-2 ohm.m 4
Attenuation Resistivity 22 inch Spacing at 2 MHz, Environmentally Corrected (A22H) ARC[1] RM	Phase Shift Resistivity 22 inch Spacing at 2 MHz, Environmentally Corrected. (P22H) ARC[1] RM
-2 ohm.m 4	-2 ohm.m 4
Attenuation Resistivity 28 inch Spacing at 2 MHz, Environmentally Corrected (A28H) ARC[1] RM	Phase Shift Resistivity 28 inch Spacing at 2 MHz, Environmentally Corrected. (P28H) ARC[1] RM
-2 ohm.m 4	-2 ohm.m 4



Attenuation Resistivity 16 inch Spacing at 2 MHz, Environmentally Corrected (A16H) ARC[1] RM	Phase Shift Resistivity 16 inch Spacing at 2 MHz, Environmentally Corrected. (P16H) ARC[1] RM
-2 ohm.m 4	-2 ohm.m 4
Attenuation Resistivity 22 inch Spacing at 2 MHz, Environmentally Corrected (A22H) ARC[1] RM	Phase Shift Resistivity 22 inch Spacing at 2 MHz, Environmentally Corrected. (P22H) ARC[1] RM
-2 ohm.m 4	-2 ohm.m 4
Attenuation Resistivity 28 inch Spacing at 2 MHz, Environmentally Corrected (A28H) ARC[1] RM	Phase Shift Resistivity 28 inch Spacing at 2 MHz, Environmentally Corrected. (P28H) ARC[1] RM
-2 ohm.m 4	-2 ohm.m 4
Attenuation Resistivity 34 inch Spacing at 2 MHz, Environmentally Corrected (A34H) ARC[1] RM	Phase Shift Resistivity 34 inch Spacing at 2 MHz, Environmentally Corrected. (P34H) ARC[1] RM
-2 ohm.m 4	-2 ohm.m 4
Attenuation Resistivity 40 inch Spacing at 2 MHz, Environmentally Corrected. (A40H) ARC[1] RM	Phase Shift Resistivity 40 inch Spacing at 2 MHz, Environmentally Corrected. (P40H) ARC[1] RM
-2 ohm.m 4	-2 ohm.m 4

└TICK\_ARC\_RES - Resistivity Tick Marks ARC[1] RM

└TICK\_ARC\_GR - Gamma Ray Tick Marks ARC[1] RM

Description: ARC Blended Resistivity 2-Log Format: Log ( VISION Resistivity MD ) Index Scale: 1:500 Index Unit: m Index Type: Measured Depth  
Creation Date: 28-Feb-2019 17:59:28

## Channel Processing Parameters

### Run 5: Parameters

Parameter	Description	Tool	Value	Unit
ABNT	Abnormal Transmitter Indicator	ARC6	NO_TX_FAILED	
BH_COMPUTE	Borehole Effect Computation Option	ARC6	No	
BHK	Drilling Fluid Potassium Concentration	Borehole	1.53	%
BHT	Bottom Hole Temperature	Borehole	50	degC
BS	Bit Size	DNMSESSION	8.5	in
DEPTH_SEL	Depth Selection Parameter	DNMSESSION	Driller's Depth	
DFD	Drilling Fluid Density	Borehole	1.37	g/cm3
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
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	
HIGH_BLEND	High Resistivity Threshold for Blending	ARC6	2	ohm.m
INVAS_COMPUTE	Invasion Computation Option	ARC6	No	
LOW_BLEND	Low Resistivity Threshold for Blending	ARC6	1	ohm.m
MST	Mud Sample Temperature	Borehole	21.1	degC
MULTIEFFECT_COMPUTE	Multi-effect Computation Option	ARC6	No	
RMS	Resistivity of Mud Sample	Borehole	0.06	ohm.m
SHT	Surface Hole Temperature	Borehole	20	degC
ATMP_ARC	ARC Temperature Selection	ARC6	Annular	
UNIFORM_COMPUTE	Uniform Rock Computation Option	ARC6	No	

## Tool Control Parameters

### Run 5: Parameters



Parameter	Description	Tool	Value	Unit
OFFBTM_TH	Threshold for deciding whether the bit is off bottom	DNMSESSION	0.4	m

## Run 5

## Run 5\_DML

### Software Version

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

### Composite Summary

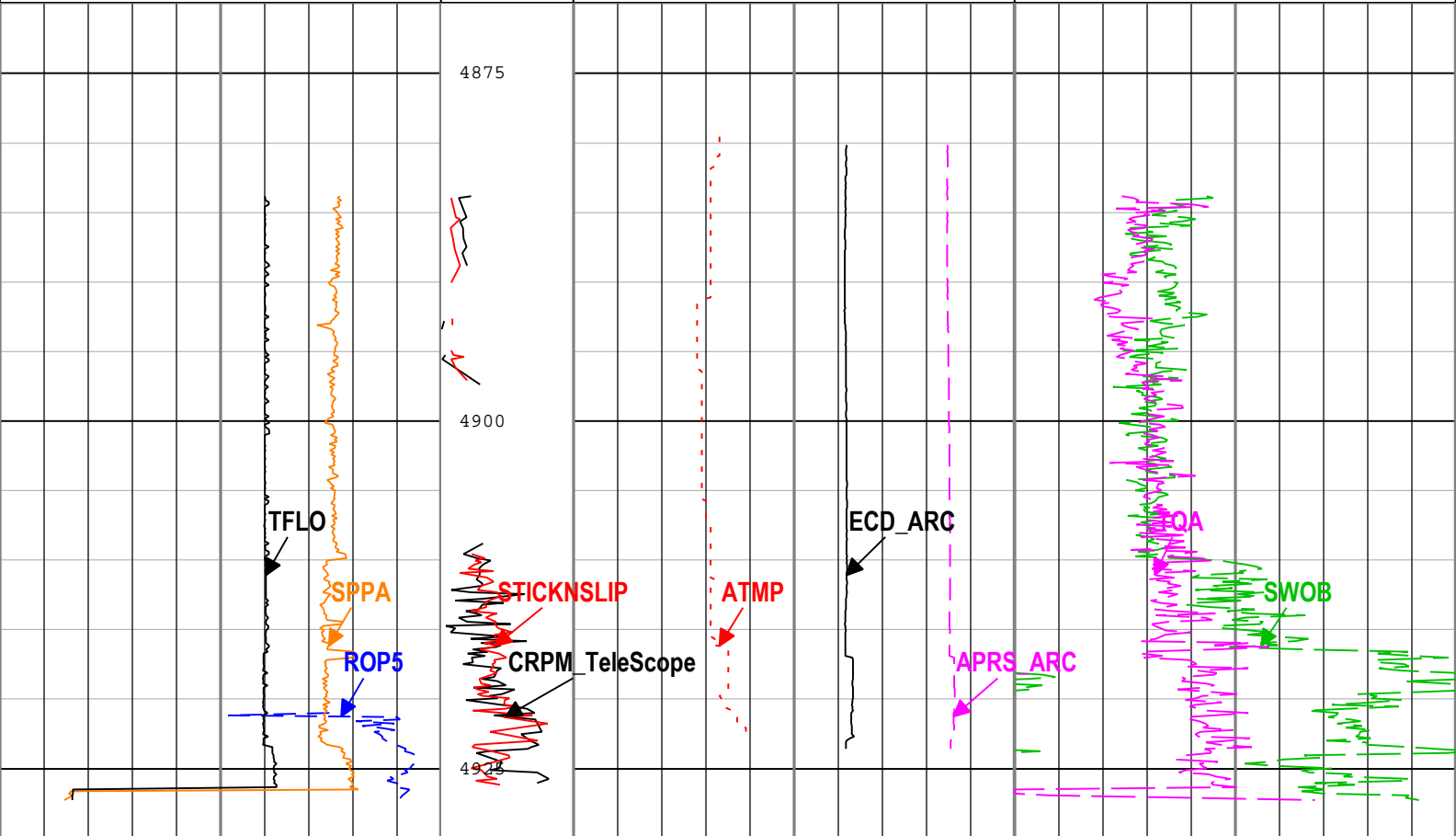
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	Include Parallel Data
Run 5	Ream Down 1	Down	4883.86 m	4927.37 m	11-Dec-2018 3:04:00 PM	13-Dec-2018 11:51:00 AM	Yes

All depths are referenced to toolstring zero

<b>Log</b>	Company: JAMSTEC    Well: C0002Q Run 5: S121
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Description: Format: Log ( Drilling Mechanics Log 675 RM MD )    Index Scale: 1:500    Index Unit: m    Index Type: Measured Depth    Creation Date: 28-Feb-2019 17:59:30

	CRPM_TeleScope	Downhole Annulus Pressure (APRS_ARC) ARC[1] RM	
Rate of penetration averaged over the last 5 ft (1.5 m) (ROP5) RT	0 c/min 200	0 MPa 80	
100 m/h 0	Stick Slip Indicator (STICKNSLIP)	Downhole Annulus Temperature (ATMP) ARC[1] RM	
Standpipe Pressure (SPPA) RT	0	0 degC 100	Surface Weight On Bit (SWOB) RT
0 MPa 30	TeleScope[1] RM	Equivalent Circulating Density (ECD_ARC) ARC[1] RM	-300 kN 300
Total flow rate of all active pumps (TFLO) RT	0 c/min 400	0.8 g/cm3 1.8	Surface Torque (TQA) RT
0 gal/min 1000			0 kN.m 50



Rate of penetration averaged over the last 5 ft (1.5 m) (ROP5) RT 100 m/h 0	CRPM_Tele Scope 0 c/min 200	Downhole Annulus Pressure (APRS_ARC) ARC[1] RM 0 MPa 80	Surface Weight On Bit (SWOB) RT -300 kN 300
Standpipe Pressure (SPPA) RT 0 MPa 30	Stick Slip Indicator (STICKNSLI P) TeleScope[1] RM 0 c/min 400	Downhole Annulus Temperature (ATMP) ARC[1] RM 0 degC 100	Surface Torque (TQA) RT 0 kN.m 50
Total flow rate of all active pumps (TFLO) RT 0 gal/min 1000		Equivalent Circulating Density (ECD_ARC) ARC[1] RM 0.8 g/cm3 1.8	

Description: Format: Log ( Drilling Mechanics Log 675 RM MD ) Index Scale: 1:500 Index Unit: m Index Type: Measured Depth Creation Date: 28-Feb-2019 17:59:30

## Channel Processing Parameters

### Run 5: Parameters

Parameter	Description	Tool	Value	Unit
DEPTH_SEL	Depth Selection Parameter	DNMSESSION	Driller's Depth	
FLEV	Depth of Drilling Fluid Level to LMF (Log Measured From)	Borehole	3	m
RHO_SEAWATER	Density of the Sea Water	Borehole	1.022	g/cm3
SF_FLAG	Mud Return to Sea Floor (No Riser)?	Borehole	No	

## Tool Control Parameters

### Run 5: Parameters

Parameter	Description	Tool	Value	Unit
OFFBTM_TH	Threshold for deciding whether the bit is off bottom	DNMSESSION	0.4	m

## Calibration Report

### ARC6 (Array Resistivity Compensated 675) Calibration - Run 5

Primary Equipment : Elec. Chassis HP with AIM Receiver AREA 570

### RESAIRCAL - Resistivity: Air

Master (Time Frame File): 02:39:59 24-Oct-2018

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Attenuation T1 at 2 MHz	dB	Master	8.500	6.500	8.784	10.500	
Attenuation T2 at 2 MHz	dB	Master	6.500	4.500	6.175	8.500	
Attenuation T3 at 2 MHz	dB	Master	4.500	2.500	5.413	6.500	
Attenuation T4 at 2 MHz	dB	Master	4.600	2.600	4.086	6.600	
Attenuation T5 at 2 MHz	dB	Master	3.600	1.600	3.965	5.600	
Phase Shift T1 at 2 MHz	deg	Master	0.100	-3.900	0.207	4.100	
Phase Shift T2 at 2 MHz	deg	Master	0.100	-3.900	-0.155	4.100	
Phase Shift T3 at 2 MHz	deg	Master	0.100	-3.900	0.147	4.100	
Phase Shift T4 at 2 MHz	deg	Master	0.100	-3.900	-0.186	4.100	
Phase Shift T5 at 2 MHz	deg	Master	0.100	-3.900	0.129	4.100	
Attenuation T1 at 400 KHz	dB	Master	8.500	6.500	8.782	10.500	
Attenuation T2 at 400 KHz	dB	Master	6.500	4.500	6.189	8.500	
Attenuation T3 at 400 KHz	dB	Master	4.500	2.500	5.402	6.500	
Attenuation T4 at 400 KHz	dB	Master	4.600	2.600	4.090	6.600	
Attenuation T5 at 400 KHz	dB	Master	3.600	1.600	3.966	5.600	
Phase Shift T1 at 400 KHz	deg	Master	0.100	-3.900	1.065	4.100	
Phase Shift T2 at 400 KHz	deg	Master	0.100	-3.900	-1.152	4.100	
Phase Shift T3 at 400 KHz	deg	Master	0.100	-3.900	1.103	4.100	
Phase Shift T4 at 400 KHz	deg	Master	0.100	-3.900	-1.162	4.100	
Phase Shift T5 at 400 KHz	deg	Master	0.100	-3.900	1.075	4.100	

## GRGAIN - Gamma Ray: Blanket

Master (Time Frame File): 18:47:37 24-Oct-2018

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit		
Gamma Ray Calibration Gain		Master	1.000	0.580	1.155	1.250		

**Company:** JAMSTEC  
**Well:** C0002Q  
**Field:** C0002  
**Rig Name:** D/V Chikyu  
**Prefecture:** Wakayama  
**Country:** Japan



**VISION Resistivity**  
**Gamma Ray - Resistivity**

Recorded Mode log, Measured Depth 1:500