Chikyu DAILY MORNING REPORT

Mission No. : CK18-04 **Exp. No. :** Exp 358 **Report No. :** 89

Site Name C0002 **Hole Name** C0002R **Lat.** 33° 18.0507'N **Long.** 136° 38.2029'E Seabed Depth : 1,967.5 mBRT RT-MSL : 28.5 m **Report Date :** 4/Jan/2019

Depth : @24:00 5,052.0 mBRT 3084.5 mbsf Progress : 7.5 m Drilling/Coring/Underreaming Hrs. : 20.75 hrs Last BOP PT: 2018/12/14 Next BOP PT: 2019/01/04

Depth : @06:00 5,052.0 mBRT 3084.5 mbsf LAST CASING : 11-3/4" x 2,922.50 mbsf(4,890.0 mBRT) Last BOP FT: 2018/12/29 Next BOP FT: 2019/01/05

Summary of Operation on 3-Jan : Drill 8-1/2"hole to 5,052mBRT. Bottoms up. Backream from 5,052mBRT to 4,748mBRT. Ream down from 4,748mBRT to 4,839mBRT. Last Glycol 35gal Inj. 2019/01/01

Present Operation @ 06:00 on 04-Jan : Reaming down at 4,840-4,842mBRT.

mBRT: meter below rotary table
mbsf: meter below sea floor

Time Breakdown (00:00 - 24:00 on 03-Jan)

From	To	Hrs	Code	Depth(mBRT)	Detail of Operation
0:00	2:30	2:30	DRL	5,052.0	Continue to drill 8-1/2" kick off hole from 5,044.5mBRT to 5,052mBRT.
					Rotating from 5,044.5mBRT to 5,052mBRT. WOB 100-140kN, 480gpm x 19MPa, 40-50rpm x 12-16kNm, 3.0m/hr.
					Take survey: 5,031.07mBRT, Inc. 0.85°, Azi. 223.25°. Confirm inclination below 1°.
2:30	5:00	2:30	C&C	5,052.0	Circulate 1x bottom up at 480gpm down the string and 900gpm down choke, kill and boost lines.
					Reciprocate the string at 15rpm x 12-15kNm during circulation.
					Pump 10m3 BAROLIFT sweeps at 3:00 and 4:00.
					Cuttings return volume: 7cm/5min at beginning of the circulation, then drop to 3m/5min gradually.
5:00	13:30	8:30	W&R	5,052.0	Backream from 5,052mBRT to 4,748mBRT.
					(5:00-8:30) Backream from 5,052mBRT to 4,837mBRT.
					Parameters: 20-45rpm x 12-30kNm, 490gpm x 17-19MPa, boost riser via choke/kill/boost lines at 900gpm.
					Observe minor torque and pressure spike by <30kNm and by 2MPa at several depths from 4,982m to 4,853mBRT. Reciprocate the string few times and these torques/pressures back to normal.
					At 4,900mBRT, torque increased 13→30kN and the string stalled out. Establish rotation again and reciprocate the string twice - OK.
					Pump 10m3 BAROLIFT sweeps at 08:15.
					Boost riser via choke/kill/boost lines at 900gpm.
					Change bottom shaker screens from API120 to API170.
					(08:30-12:30) Ream 4,838-4,850mBRT to clear obstruction at 4,838-4,843mBRT.
					Attempt to ream down from 4,837mBRT for cleaning up suspected Tuff section at 4,840-4,850mBRT, unable to pass 4,838mBRT due to pressure spike by 4MPa. Ream down multiple times with varying parameters. Bit passes 4,843mBRT with GTF high side and lowering the string.
					Parameters: 5-50rpm x 11-30kNm, 150-500gpm x 4-17MPa
					After passing 4,843mBRT down, the string able to lower without pressure spike. Reciprocate the string at 4,846-4,850mBRT 3 times to clear 4,838-4,843mBRT by 8-1/4" stabilizer (8-10m above bit).
					Reciprocate the string at 4,838-4,850mBRT 4 times until no pressure spike observed - OK.
					(12:30-13:30) Backream from 4,838mBRT to 4,748mBRT.
					Observe no obstructions while stabilizers and bit passing through the window without rotation.
					Observe continuous cuttings volume 2-3cm/5min since 8:00. Boost riser via boost line at 450gpm.
13:30	14:15	0:45	RS	5,052.0	Troubleshoot HPS and hydraulic elevator.
					Unable to operate HPS motor and break connection because DCIS display shows 0.00kNm, but actual HPS torque remains 0.00001kNm.
					Replace elevator door locking cylinder due to oil leak.
					Boost riser at 450gpm.
14:15	24:00	9:45	W&R	5,052.0	Ream down from 4,748mBRT to 4,820mBRT.
					(14:15-14:45) Wash down w/150gpm x 3.7MPa from 4,748mBRT to 4,787mBRT.
					Observe no obstructions while stabilizers and bit passing through the window.
					(14:45-17:30) Ream down from 4,787mBRT to 4,823.5mBRT.
					Parameters: WOB 80-200kN, 10-15-20-25-30-45rpm x 11-20kNm, 50-150gpm x 6-13MPa.
					Observe taking weight of 150kN at 4,804mBRT and attempt to pass through with varying rotation speed and pump rate, but fail to pass bit at 4,804mBRT
					Once pick up string above 4,799mBRT, try to pass again, but unable to pass through 4,802mBRT.
					Bit can pass through until 4,823.5mBRT by taking weight max 200kN w/o CMC.
					Observe high WOB and high torque between 4,804 and 4,814mBRT.
					(17:30-18:15) Ream up and down between 4,804 and 4,823.5mBRT.
					Ream up from 4,823.5mBRT to 4,810mBRT. 50rpm x 10-16kNm, 350gpm x 10.5MPa. Observe reaming parameters stable.
					Ream down from 4,810mBRT to 4,820mBRT. 50rpm x 10-15kNm, 350gpm x 10.3MPa. Observe reaming parameters stable.
					Ream up from 4,820mBRT to 4,804mBRT. 50rpm x 10-16kNm, 350gpm x 10.6MPa. Observe reaming parameters stable.
					(18:15-19:00) Ream down from 4,804mBRT to 4,823.5mBRT.
					Parameters: WOB 50-150kN, 30-50rpm x 11-20kNm, 350gpm x 10-12.5MPa.
					Start to ream down again from 4,804mBRT, but observe taking weight of 150kN at 4,809mBRT.
					Attempt to pass through 4,809mBRT with varying rotation speed and pump rate. Finally, run back to 4,823.5mBRT.
					(19:00-23:15) Pick up string to 4,790mBRT to confirm bit can pass and ream down from 4,790mBRT to 4,820mBRT.
					Parameters: WOB 50-150kN, 10-20-30-50-55-60-70-75-85-90rpm x 10-24kNm, 100-150-350-450gpm x 4-5-13-18MPa.
					Observe taking weight of 200kN at 4,809mBRT and attempt to pass through with varying rotation speed and pump rate, but fail to pass bit at 4,809mBRT
					Attempt to slide string with TF high side two times, but observe taking weight of 200kN while lower the bit.
					Repeat pick up string and attempt reaming down more than 10times.
					Bit can pass through 4,809mBRT with 180kN WOB, 33rpm x 10-22kNm, 350gpm x 13.8MPa.
					(23:15-24:00) Wipe string between 4,820mBRT and 4,813mBRT (From 4,811mBRT to 4,804mBRT by 8-1/4"stablizer).
					Parameters: 60-70-90rpm x 11-15kNm, 350gpm x 10.5MPa.
					Max. ROP: 3.68 m/hr at 5,046.5mBRT, min. ROP: 3.11 m/hr at 5,050mBRT.
					No losses in last 24 hours.
					Ditch magnet: 3.0kg (Total 89.5kg for Kick off hole)

Survey data (Depth: Telescope sensor depth)

Depth (mBRT)	Inc (deg)	Azi (deg)
5,031.07	0.85	223.25

Sensor position from bit: D+I sensor 18m

Time Breakdown (00:00 - 06:00 on 04-Jan) * The data on 00:00 - 06:00 is unofficial.

From	To	Hrs.	Code	Depth(mBRT)	Detail of Operation
0:00	6:00	6:00	W&R	5,052.0	Ream down from 4,820mBRT to 4,843mBRT.
					(00:00-05:30) Attempt to pass 4,840-4,842mBRT with varying parameters without success.
					Unable to pass 4,840-4,842mBRT due to pressure spike and by 4MPa. Attempt to ream down multiple times with varying parameters without success.
					Parameters: WOB 0-180kN, 5-60rpm x 11-23kNm, 150-450gpm x 4-15MPa.
					Attempt to face GTF to high side and lower the string down, but unable to pass due to high drag.
					Concurrently discuss forward plan with onshore support team. Decision make to keep reaming down further meters.
					(05:30-06:00) Continue to reaming down to pass 4,840-4,842mBRT with increased parameters.
					Parameters: WOB 100-150kN, 30-50rpm x 13-20kNm, 350-400gpm x 12-16MPa.

Bit Record @24:00

Bit No.	Size (in)	MFR	Type	IADC Code	S/No.	Nozzles	Depth (mBRT) From	Depth (mBRT) To	Meter-age	Hrs.	WOB (kN) Min.	WOB (kN) Max.	rpm Min.	rpm Max.	Total Rev. (krev)	ROP (m/hr)	Dull Condition Inner	Outer	Dull	Loc.	B	G	O.D.	RP
7	8.5	Smith	XR+N	117	RJ8199	3x 16/32"	4,963.0	5,052.0	89.0	57.17	100	200	40	90	520.75	1.6								

BHA Record @24:00

#19	8-1/2" KO BHA	8-1/2" Bit x A675XP PDM with 1.50° bent x 8-1/4" Stab (SLB) x Float Sub w/ Non-ported float valve (SLB) x 6-3/4" Pony NMDC x XO #1 x Telescope 675 x XO #2 x 6-3/4" NMDC x 6-3/4" DC (3 stds) x 6-1/2" Jar x 6-3/4" DC (2 jts) x XO #3 x 5.68" HWDP (3 stds) x XO #4 x 5-1/2" DP S-140 (25 stds) x XO #5 x 5-1/2" DP S-150 (63 stds) x XO #6 x 6-5/8" DP Z-140 (23 stds) x 6-5/8" DP UD-165

Hook Wt. (knt) @24:00 4,839.0 mBRT

Hook Load	2,898
BHA	180
Below HWDP	250
below Jar	125
HPS & Traveling block	615
Hook + RRT	-
Hook block	-

Jar Rotating time 24 S/N: 1760-5031

Today	14.03	Total	124.55 hrs

Cutting skip @24:00

Empty	Full	Total
28	1	29

ROV @24:00

Status	Diving
Last Dive	2019/01/01
Injection Skid	Dive w/135 gal skid

Mud Properties @24:00

Mud Type	Time	Depth (mBRT)	MW	VIS	PV	YV	6rpm	Gel St. (10")	Gel St. (10')	API	Cake	pH	Pf	Cl-	Sand	Oil	Solid	MBC	Temp In	Temp Out	K+	n	K	LGS	FIT 20/40 (mm) 0 min	5min
KNPP	1:30	5,050	1.39	67	25	30	12	10	19	7.4	1.1	9.7	0.1	117,000	0.20		18.0	2.00	12	9	22,000	0.48	2.36	4.80	-	-
KNPP	19:00	4,809	1.39	66	25	30	12	10	20	7.2	1.1	9.5	0.1	117,000	0.20		18.0	2.00	12	9	22,000	0.45	2.92	4.80	-	-

Mud Pumps : 14-P-220 5.00 gallon/stroke @97%

No.	Liner Size	SPM	GPM	Press. (MPa)	Ann. Vel. (m/min) 6.75"DC	5.5"DP
1	6"	49	245	19.0	52	41
2	6"	49	245			
3	6"(Booster)	90	450			

Geologic Information @24:00

From	To	Lithology of cuttings
5,030	5,050	Silty-claystone: 65-80 %, Claystone: 20-30 %, Tuff: tr %, Sandstone: tr -5 %

Shale Shaker @24:00 Centrifuge:0 hrs

No.1	30, 170	No.4	30, 170	No.1	off
No.2	30, 170	No.5	30, 170	No.2	off
No.3	30, 170	No.6	30, 170	No.3	off

Materials Stock on Board @24:00

Item	Unit	Stock	Used	Received
Fresh Water	m3	289.5	95.7	95.7
Potable Water	m3	315.5	4.5	0.0
Drill Water	m3	1,404.0	17.0	0.0
Fuel	m3	4,909.0	49.9	0.0
Lube, Oil	Ltrs	85,800	0.0	0.0
Heli Fuel	Ltrs	0.0	0.0	0.0
Cement "GWC"	ton	186.0	0.0	0.0
Cement "G"	ton	97.0	0.0	0.0

Boat Information @24:00

Boat Name	Status	Time @Chikyu Departed	Arrived
#8 Meiji-maru	Chikyu		
Akatsuki	Shingu		
Shincho-maru	Chikyu		

Personnel @24:00

CDEX	9
MQJ Crew	101
MWJ	16
Scientist	10
Telnite	2
Oceaneering	6
SLB Cementing	1
SLB WL	0
Geoservices	6
M-I SWACO	4
SLB Underreamer	2
SLB LWD	2
SLB Seismic	0
AFGlobal	2
ENVENTURE	0
SLB DD	2
Franks	0
HAL UR	1
Total	164

Mud volume@24:00

Mud Volume (m3)	
KNPP mud (1.39)	382
KNPP (Fracseal)	80
KNPP (BAROLIFT)	53
KNP mud (1.25)	53
KNP mud (1.13)	118
STOPLOSS(1.37)	54
Slug mud	17
total	757

Mud Materials on Board @24:00hrs (unit: kg)

Item	Received	Used	Stock
Barite (Bulk)			454,500
Caustic Soda			1,200
Lime			200
Soda Ash			950
Caustic Potash			1,000
Tel-Polymer DX / L / H			3,520/1,500/0
XCD-Polymer			975
Lignate NC			4,500
Clean Lube W			0
Tel Clean W			6,400
Astex-S			0
Deformer 30C		16	192
Tell DD			3,200
Bi-Carbonate			1,000
Citric Acid			2,275
Tan Cal M / F / FF			1,020 / 210 / 510
Telnite GXL			684
Treat-HS			9,200
Mud Seal P			130
Tel Plug C / M / F			500 / 500 / 500
Tel Stop P / G			500 / 260
Barolift (lbs)		30	1,965
Driscal D			0
Tel Flow P			0
Poro Seal			0
Steel Seal 50 (lbs)			2,250
KCl			8,000
NaCl			19,000
Fracseal (lbs)			12,000
Stopseal (lbs)			0
Bentonate(Bulk)			46,000

Heli Information @24:00

Flt. No.	Time Arrived	Time Departed	Passenger Are.	Passenger Dept.
1				
2				
3				
4				

Safety (HSE) and other information

Incident	Last Incident	No. LTA
LTA		
HUNS cards	43	

Remarks

Marine Information @24:00

Heave (m)	0.4
Pitch (deg)	0.2
Roll (deg)	0.1
Vessel Heading (deg)	355
Riser Tension (kN)	9750.0
V.D. Load (ton)	13938
Max Draught (m)	9.0
Thruster (kW)	1150

Weather Information

Time	Weather	Temp. (degC) Air	SW	Barometer (hPa)	Wind Speed (m/s)	Dir. (deg)	Gust (m/s)	Wave Height (m)	Dir. (deg)	Period (s)	Current Speed(knt)	Dir. (deg)	Visibility (km)
24:00	bc	9.0	18.5	1030.1	6.2	354	7.3	1.2	230	5.1	1.5	175	22.0

Today's Schedule: Ream down to bottom. Pump out of hole 8-1/2" kick off BHA.

Reported by : T. Yokoyama / A. Suzuki
Approved by : T. Ikawa / K. Takase