

IODP EXP 358 Daily Geomechanics Report

Report #055a 20190103 Supplement

RTG Team

RTG Supervisor(s)	David Castillo / Thomas Finkbeiner / Demian Saffer
RTG Watch Lead (00:00-12:00)	Emily Wisbey
RTG Watch Lead (12:00-24:00)	Toby Colson

Well Status

Site Name:	C0002	Hole Name:	R
Water Depth:	1,939.0 m	RT-MSL:	28.5 m
0600h Depth:	5,052.0 mBRT (5049.0) (mTVD)	Section TD:	5,667.5 mBRT (5,664.5) (mTVD)
Section #:	0	CSG Depth/Size:	4757.0 mBRT 11-3/4 inches
Static MW:	1.39 sg	Current ECD:	(1.41) sg
FIT/LOT/ XLOT:	1.46sg FIT @ 4,757mBRT.		
Current formation/ lithology:	Shale		
Sensor Offsets from the Bit:	TeleScope 675: (Direction + Inclination: 18.00 m)		
Other BHA Offsets from the Bit:	8-1/2" Mill Tool Bit: 0~0.24 m Motor with 1.5 deg bend: 0.24~8.09 m 8.125" Stabilizer: 8.09~9.76 m 2 x 6-3/4" Non-Magnetic Drill Collar + TeleScope 675: 10.54~32.21 m 9 x 6-3/4" Drill Collar: 32.21~116.80 m 6-1/2" Hydraulic Jar: 116.80~126.73 m 2 x 6-3/4" Drill Collar: 127.73~145.39 m 12 x 5.68" Heavy Weight Drill Pipe: 146.19~257.14 m Top of BHA: 258.14 m		
Current Operations:	Continued with wiper trip,reaming and working difficult section.		

Geomechanics Alert

GREEN	Green = Projected model remains accurate White = Unanticipated deviation from model which <i>should not</i> affect drilling Yellow = Unanticipated deviation from model which <i>may</i> affect drilling Red = Imminent requirement to stop drilling
Basis for Alert Level + Recommendations	1.39 sg remains recommended MW for Section 1. Observation suggests hole cleaning remains a key factor in current wellbore condition.

Principal Findings/Recommendations

The interval between the C2R window and the observed tuff formation intervals poses the greatest risk for inducing wellbore instabilities in C2R. A combination of the high doglegs, the weak tuff layer(s) near 4,840 +/- 15 mBRT and the limited separation from the offset well may increase the risk of time-dependent rock failure and mechanical interactions with the drill-pipe.

To protect the interval between the C2R window and the observed tuff formation intervals, RTG recommends to minimize any operations which could further disturb this interval (reaming / drilling).

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Underreaming to 12-1/4" section sooner rather than later with the FracSeal (discontinue using graphite SteelSeal) in the mud system may help to re-seal freshly exposed cracks or flaws in the shale/siltstone bedding units as well as the tuff layer(s).

However we would like CDEX to consider performing a wiper trip to below this interval with the LWD BHA (less stiff and smaller gauge than motor BHA) prior to activating the underreamer. This would enable RTG to assess the stability of the borehole and utilize resistivity to interpret the borehole size, information which could be invaluable when returning to underream.