

IODP EXP 358 Daily Geomechanics Report

Report #033 20181213

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:	Q
Water Depth:	1,939.0 m	RT-MSL:	28.5 m
Current Depth:	4928 mBRT (4926) (mTVD)	Section TD:	5,667.5 mBRT (5,664.5) (mTVD)
Section #:	1	CSG Depth/Size:	(4855.0) 11-3/4 mBRT
Static MW:	1.37 sg	Current ECD:	1.41 sg
FIT/LOT/ XLOT:	FIT maximum pressure = 1.45 sg, Possible "LOP" = 1.43 sg @4855 mBRT		
Current formation/ lithology:	Shale		
Sensor Offsets from the Bit:	arcVISION 675: (APWD: 3.71 m, Resistivity: 4.42 m, GR: 4.47 m) TeleScope 675: (Direction + Inclination: 11.94 m)		
Other BHA Offsets from the Bit	8-1/4" Stabilizer: 17.50~19.09 m 8-1/4" x 12-1/4" Z-reamer: 28.51~29.86 m 8-1/8" Stabilizer: 40.04~41.70 m 3 x 8-1/2" Drill Collar: 137.07~164.42 m 10-5/8" Stabilizer: 164.42~165.39 m 6 x 8-1/2" Drill Collar + Jar: 165.3~229.99 m Top of BHA: 343.46 m		
Current Operations:	Decision made to mill out new window and side track. POOH to top of window circulated bottoms up. Completed BOP pressure test.		

Geomechanics Alert

GREEN	<p>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</p>
Basis for Alert Level + Recommendations	<p>Hole condition remains stable with minor fresh and reworked cuttings continuing to be circulated out of the hole. 1.37 sg remains recommended MW for Section 1.</p>

Principal Findings

N/A.

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Observations Summary

Use this space to discuss any observations while drilling, running casing etc.

Fracture Gradient	N/A
Pore Pressure	No significant gas peaks or other indications of overpressure observed.
Wellbore Breakout	N/A
Tensile Failure	N/A
Drilling Parameters	
Figure 1 Torque, ECD and LWD correlation	
Other	N/A

Analysis

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Drilling Experience Analysis

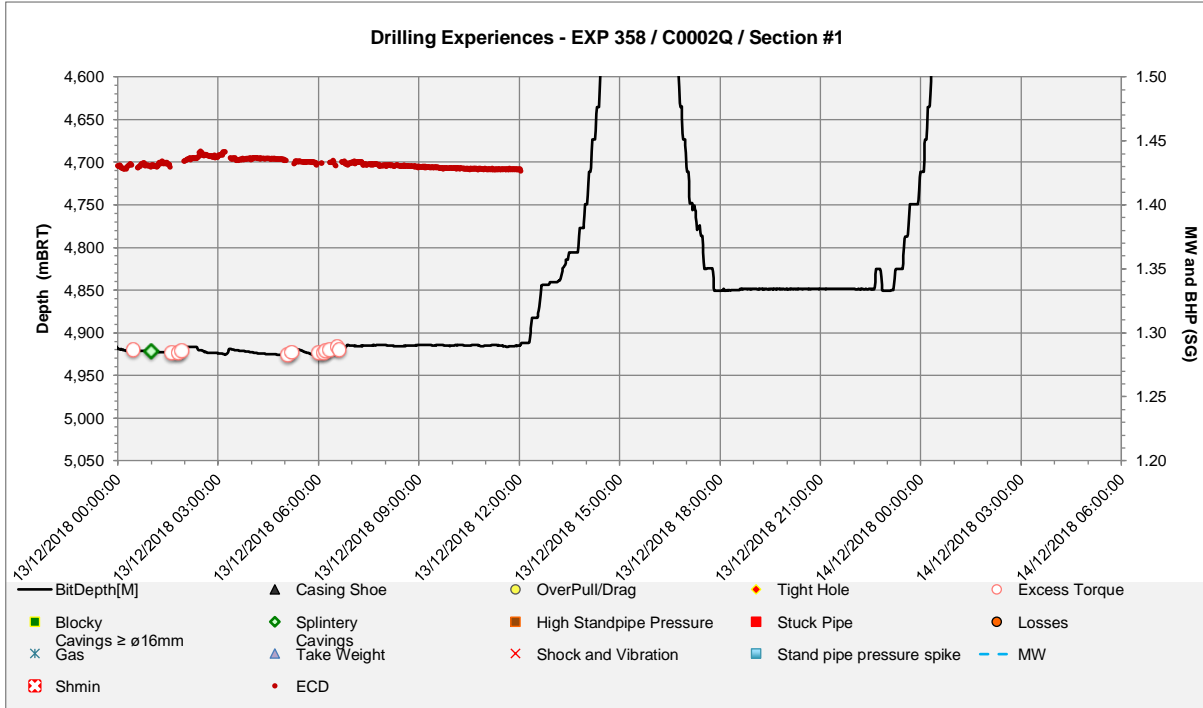


Figure 2 Drilling Experiences over the last 24hrs

Decision made to POOH to re-sidetrack. Whilst circulating bottoms up some minor fresh cuttings continuing to be seen across the shakers with approximately 50% being reworked and rounded cuttings and small blocky cavings.

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Cuttings Analysis

Silty claystone is dominant, with traces of cement.

Cuttings volume over the shakers remained constant while circulating bottoms up.

Cavings Analysis

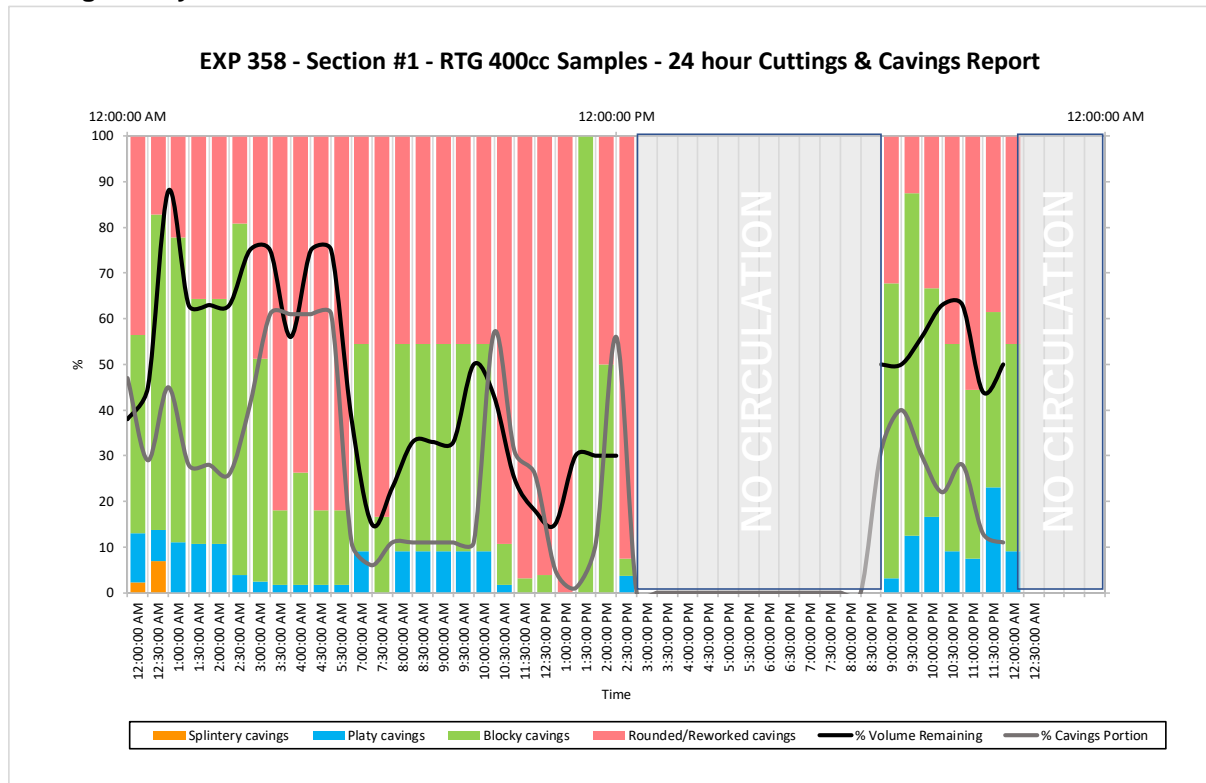


Figure 3 Analysis of cuttings/cavings > ϕ 4mm (taken from 400cc RTG Samples) over last 24hrs

The amount of cuttings/cavings > ϕ 4mm per unit volume was high at ~70% decreasing to 30% after picking up at ~4:30 AM from 4,926mBRT (depth of high ECD) to 4,915mBRT and circulating bottoms up prior to POOH.

Roughly accounting for lag-time, there was a short-lived spike of blocky cavings and increase in % Cavings Portion between 1:30 and 2:30 PM when the bit had passed through the enlarged hole section outside the window. The cavings material that emerged after 9:00 PM could have originated from the same section outside the window after resuming circulation.

The samples were dominated by drilled / mechanical cuttings with no cavings indicating either anisotropic or isotropic breakout has occurred.

The presence of fresh platy cavings continued, likely the result of mechanical damage to the formation from reaming / wiping over the same interval for long durations.

LWD Data Analysis

N/A

SFIB Analysis

N/A

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Geomechanical Model Review

No change in the latest stress model.

