IODP EXP 358 Daily Geomechanics Report

Report #088 20190205

RTG Team

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

Well Status

Site Name:	C0002		**Hole Name:**	S	
Water Depth:	1,939.0	m	**RT-MSL:**	28.5	m
0600h Hole Depth:	4,788.5 (4,786.5)	mBRT (mTVD)	**Section TD:**	6,000.0 (5,998.0)	mBRT (mTVD)
Section #:	0		**CSG Depth/Size:**	4,769~4775 11-3/4" ESET	mBRT inches
Static MW:	1.38	sg	**Current ECD:**	-	sg
FIT/LOT/ XLOT:	N/A *Note: 1.46sg FIT @ 4,757mBRT*				
Current formation/ lithology:	Shale				
Sensor Offsets from the Bit:	Xceed 675 (D+I: 4.159 m) MicroScope 675 (Resistivity: 26.710 m) ARC-6 (APWD: 31.197 m, Resistivity: 31.909 m, GR: 31.960 m) TeleScope 675 (IWOB: 36.072 m, D+I: 39.437 m) SonicScope 675 (Sonic: 49.627 m) seismicVISION 675 (Hydrophone: 55.890 m)				
Other BHA Offsets from the Bit:	8-1/2" PDC Bit (AxeBlade XZ716): 0~0.258 m Xceed675 8-3/8"Stabilizers: 0.258~8.027 m Lower C-Link 675: 8.027~10.971 m 675ERT7850 Motor: 12.797~21.163 m Upper C-Link 675: 21.871~24.413 m MicroScope 675: 24.413~29.572 m ARC-6: 29.572~35.243 m TeleScope 675: 35.243~43.795 m SonicScope 675: 43.795~53.745 m seismicVISION 675: 53.745~58.199 m 6.75" Collars + XOs: 59.112~198.355 m Drilling Jar: 198.355~208.090 m 6.75" Collars + XOs: 208.090~227.546 m				
Current Operations:	Continued POOH 8-1/2" Kick-off LWD BHA. Made up 8-1/2" LWD BHA w/ RSS + vorteX motor. Commenced RIH to 4760 mBRT. Carried out LWD function test at around 500 mBRT. Bit depth 3758 mBRT as of 06:00 Feb.6.				

Geomechanics Alert

GREEN	Green = Projected model remains accurate White = Unanticipated deviation from model which *should not* affect drilling Yellow = Unanticipated deviation from model which *may* affect drilling Red = Imminent requirement to stop drilling
Basis for Alert Level + Recommendations	C2S can initially be drilled with a **1.35 SG** MW using only FracSeal as the mud additive. While C2S is within 2-4 m horizontally from the C2P hole, an extra amount of FracSeal should be blended with the mud to seal the existing open cracks/beds/fractures as quickly and efficiently as possible. The extra FracSeal would help maximise stability in the fragile hole section near the C2S window and keep it stable during drilling, POOH with LWD BHA, and RIH/POOH with coring BHA operations. If we find earth stress gradients increases with depth (and UCS does not increase as quickly), RTG may recommend increasing the MW slightly (e.g.,

	+0.01 SG increments) with Watch Leaders and Supervisors closely monitoring. This process could be repeated based on real-time learnings. Any subsequent increase in MW in C2S would not pose a serious risk of drilling fluid invasion in the shallower sections if FracSeal was applied generously. **1.35 SG** MW would increase ROP and perhaps deepen section TD if needed.

Principal Findings

N/A

Observations Summary

Fracture Gradient	N/A
Pore Pressure	N/A
Wellbore Breakout	N/A
Tensile Failure	N/A
Drilling Parameters	N/A
Other	MW is being reduced, but still 1.38 sg.

Analysis

Drilling Experience Analysis
N/A

Cuttings and Cavings Analysis
N/A

LWD Data Analysis
N/A

SFIB Analysis
N/A

Geomechanical Model Review

No change in the current stress model.

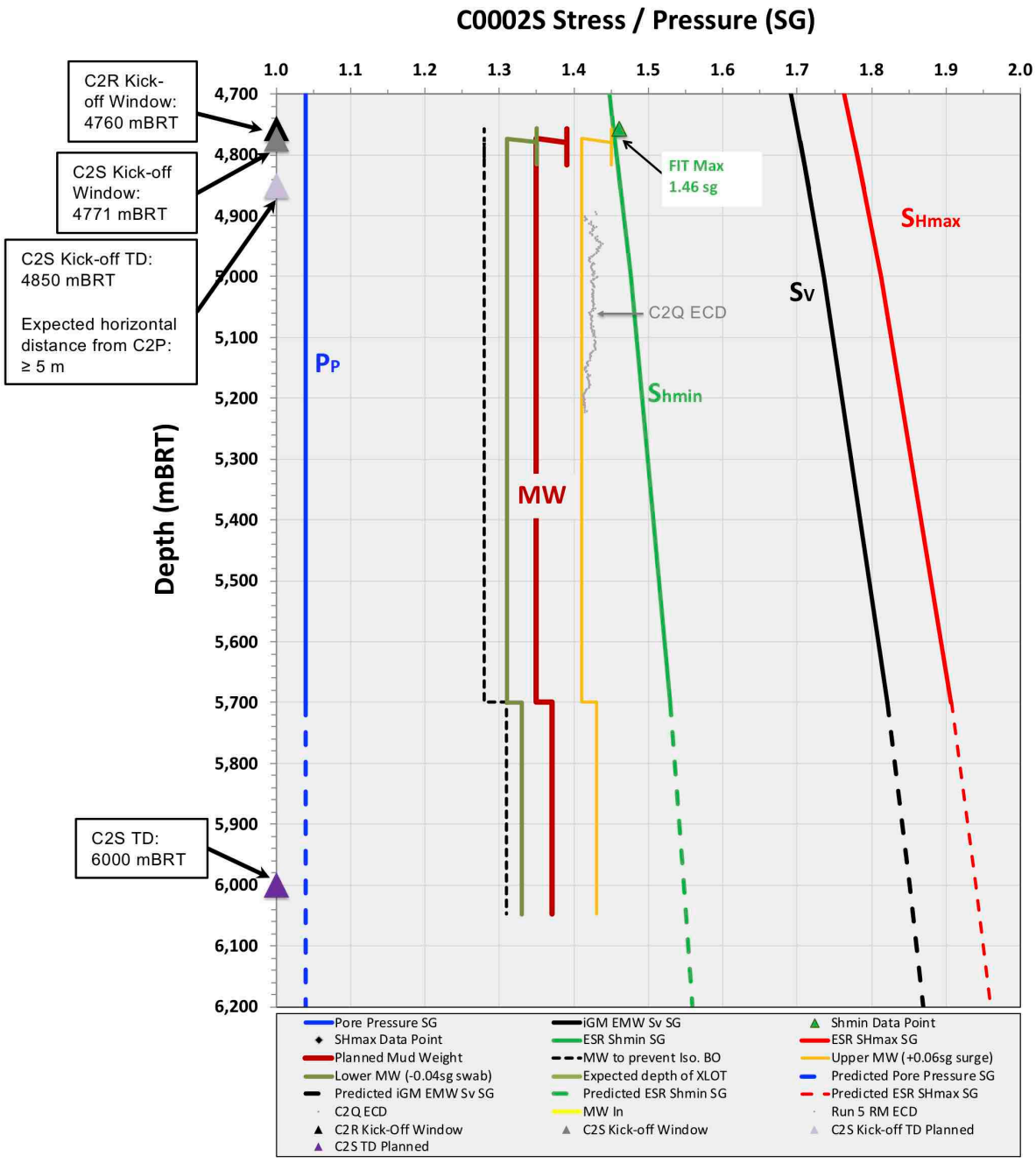

Figure 1 Current stress model for C2S