IODP EXP 358 Daily Geomechanics Report

Report #094 20190211

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:	4,901.4 (4,899.4)	mBRT (mTVD)	**Section TD:**	6,000.0 (5,998.0)	mBRT (mTVD)
Section #:	1		**CSG Depth/Size:**	4,769~4,775 11-3/4" ESET	mBRT inches
Static MW:	1.35	sg	**Current ECD:**	-	sg
FIT/LOT/ XLOT:	N/A *Note: 1.46sg FIT @ 4,757mBRT*				
Current formation/ lithology:	Shale				
Sensor Offsets from the Bit:	N/A				
Current Operations:	Recovered Overshot fishing BHA on surface but no evidence of tagging the fish on Overshot. Decision made to sidetrack off cement plug. RIH with Diverter Assembly to 4,806 mBRT. Encountered a tight zone between 4807-4810 mBRT and no success in passing. Decided to POOH to change the cementing assembly.				

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	**1.35 sg** remains recommended MW for C2S; however, RTG also recognizes that it is reasonable to reduce MW to **1.33 sg** and still maintaining hole integrity. This reduction in MW will likely improve ROP. Earth stress gradients may rapidly increase with depth (with UCS not increasing as rapidly). If this occurs, 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.

Principal Findings

N/A

Observations Summary

Fracture Gradient	N/A
Pore Pressure	No indication suggesting abnormal pressure has been observed.

Wellbore Breakout	Minor isotropic and/or anisotropic breakouts were identified below 4835 mBRT.
Tensile Failure	N/A
Drilling Parameters	N/A
Other	N/A

Analysis

Drilling Experience Analysis

- No adverse condition was observed down to 4806 mBRT while RIH with Diverter Assembly.
- Took weight and torque at 4810 mBRT.
- Encountered a tight zone between 4807-4810 mBRT, about 6 m deeper than that experienced during LWD Run 2.
- No success in clearing.

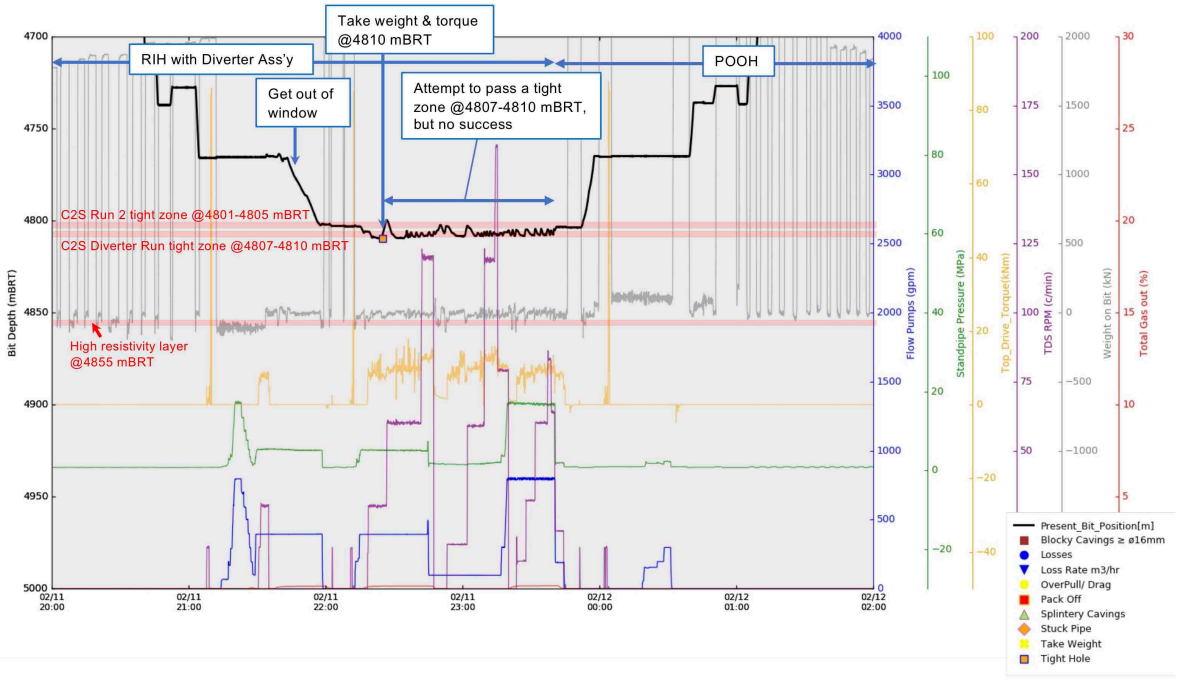

Figure 1 Drilling Experiences from 20:00 Feb.11 to 02:00 Feb.12.

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.

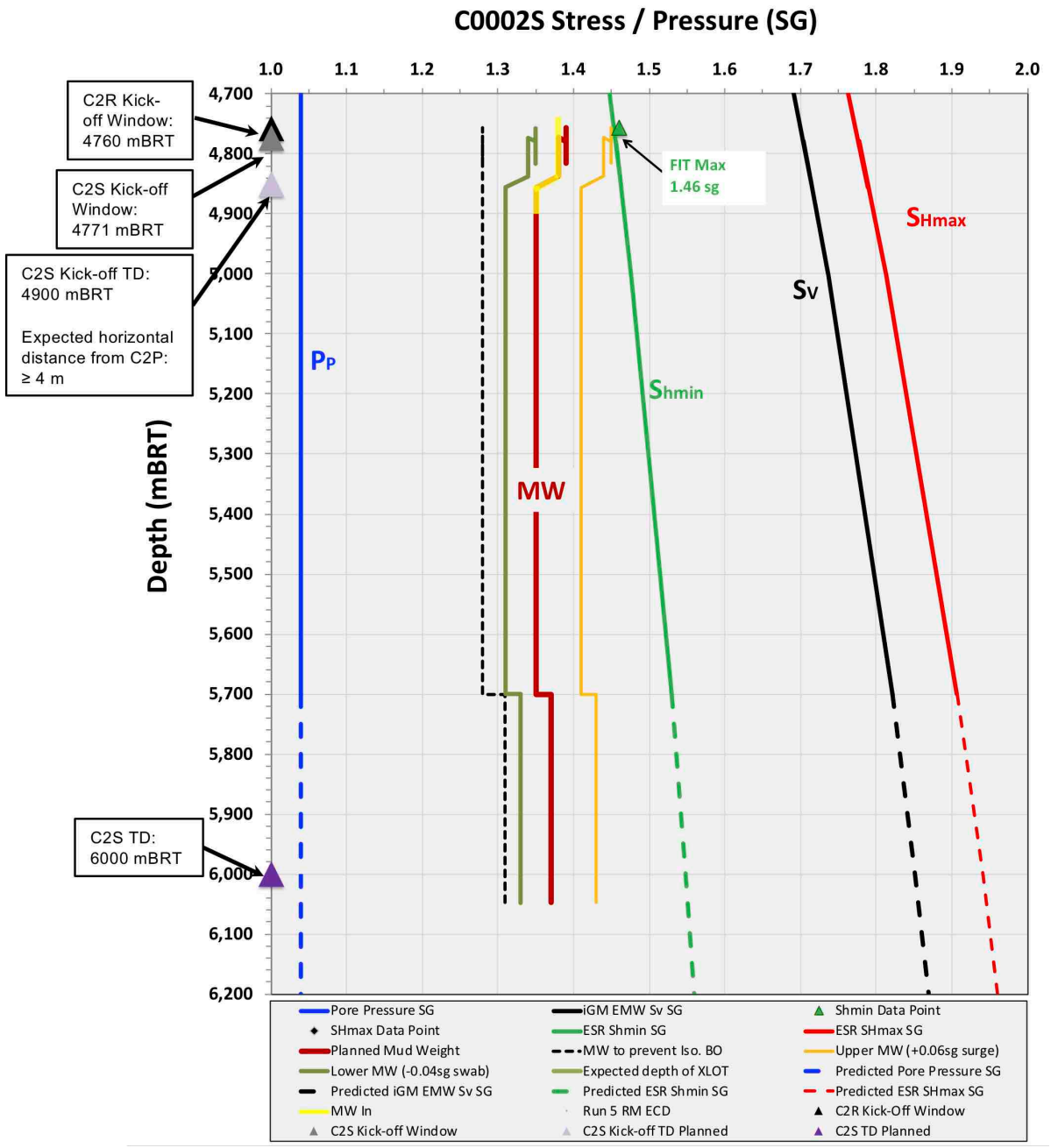

Figure 2 Current stress model for C2S