

RNS Final Report

Enerplus Resources

Prince Albert 7-66-3-10-6C

Scott Lashbrook, Reservoir Navigation Engineer

Todd Wilcox, Reservoir Navigation Engineer

Jonathan.Lashbrook@BakerHughes.com

Todd.Wilcox@BakerHughes.com

January 30, 2020

Copyright 2019 Baker Hughes Company LLC. All rights reserved. The information contained in this document is company confidential and proprietary property of Baker Hughes and its affiliates. It is to be used only for the benefit of Baker Hughes and may not be distributed, transmitted, reproduced, altered, or used for any purpose without the express written consent of Baker Hughes.

Well Information and TSD Plot

Customer: Enerplus Resources

Well: Prince Albert 7-66-3-10-6C

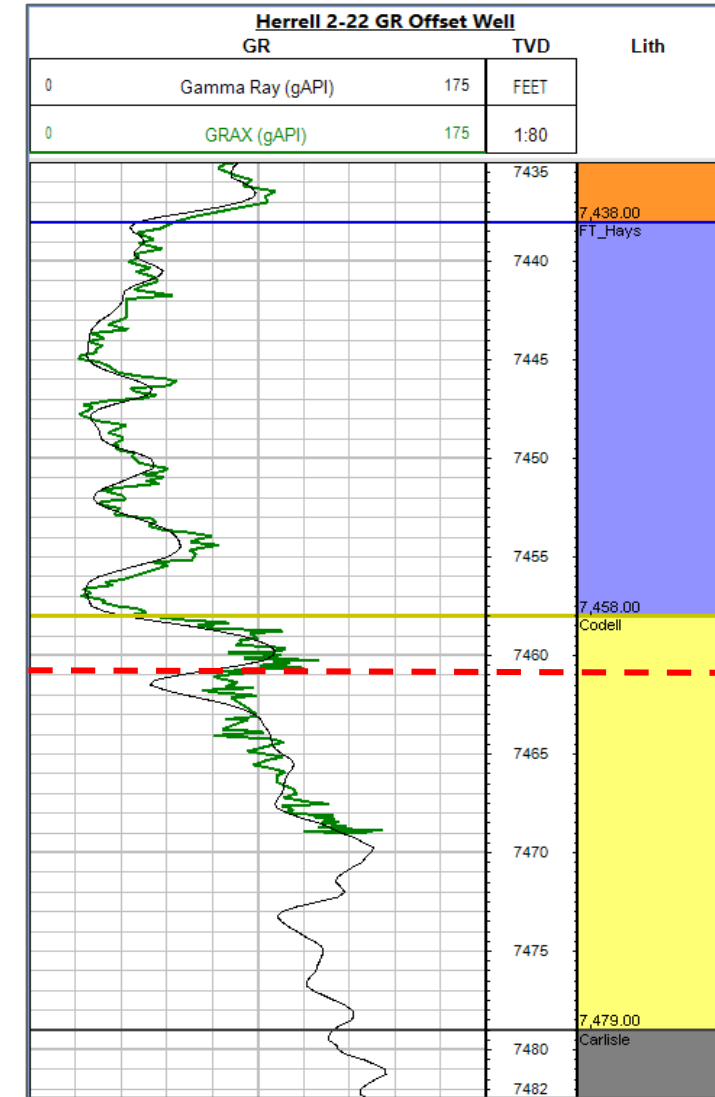
Rig: Cyclone 37

Formation: Codell

Location: Weld County, Colorado

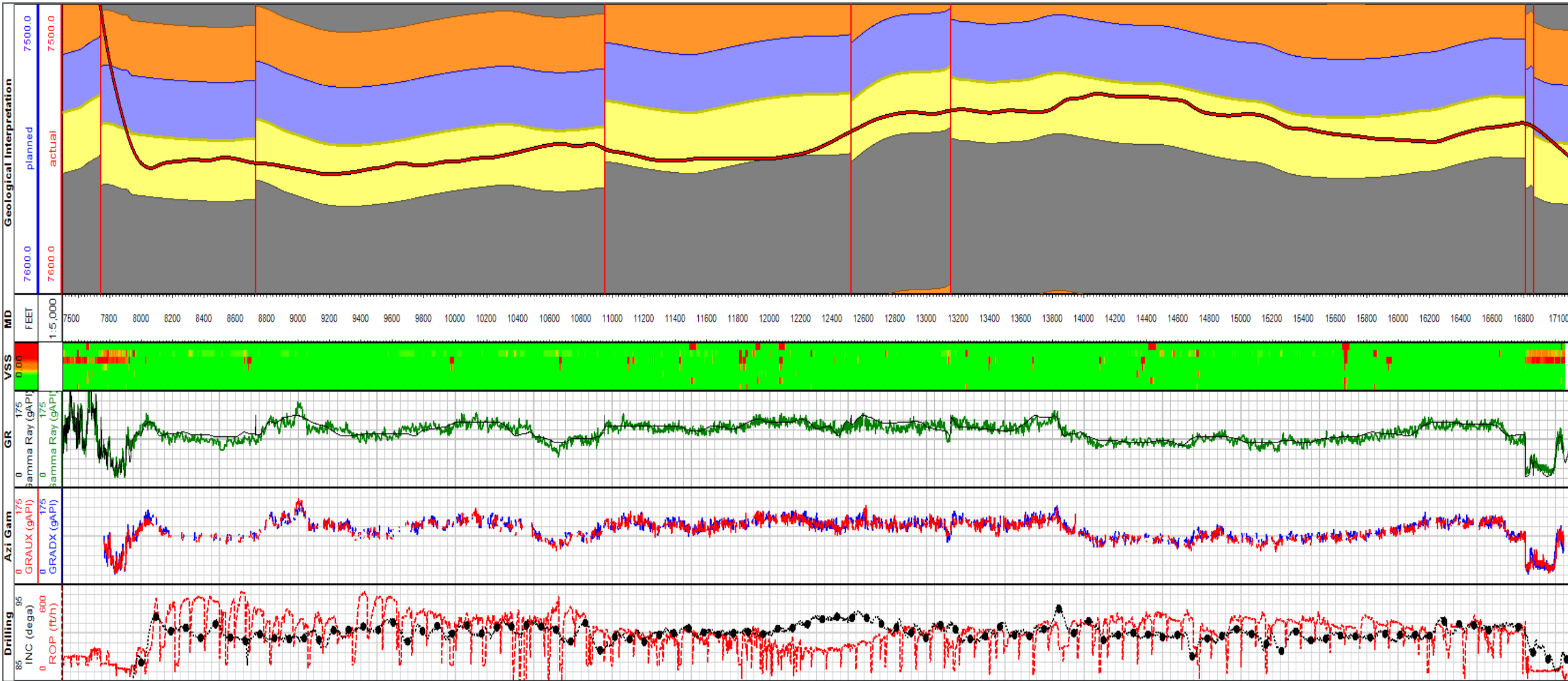
Final Stratigraphic Position

~2.7 ft. below the Codell Top

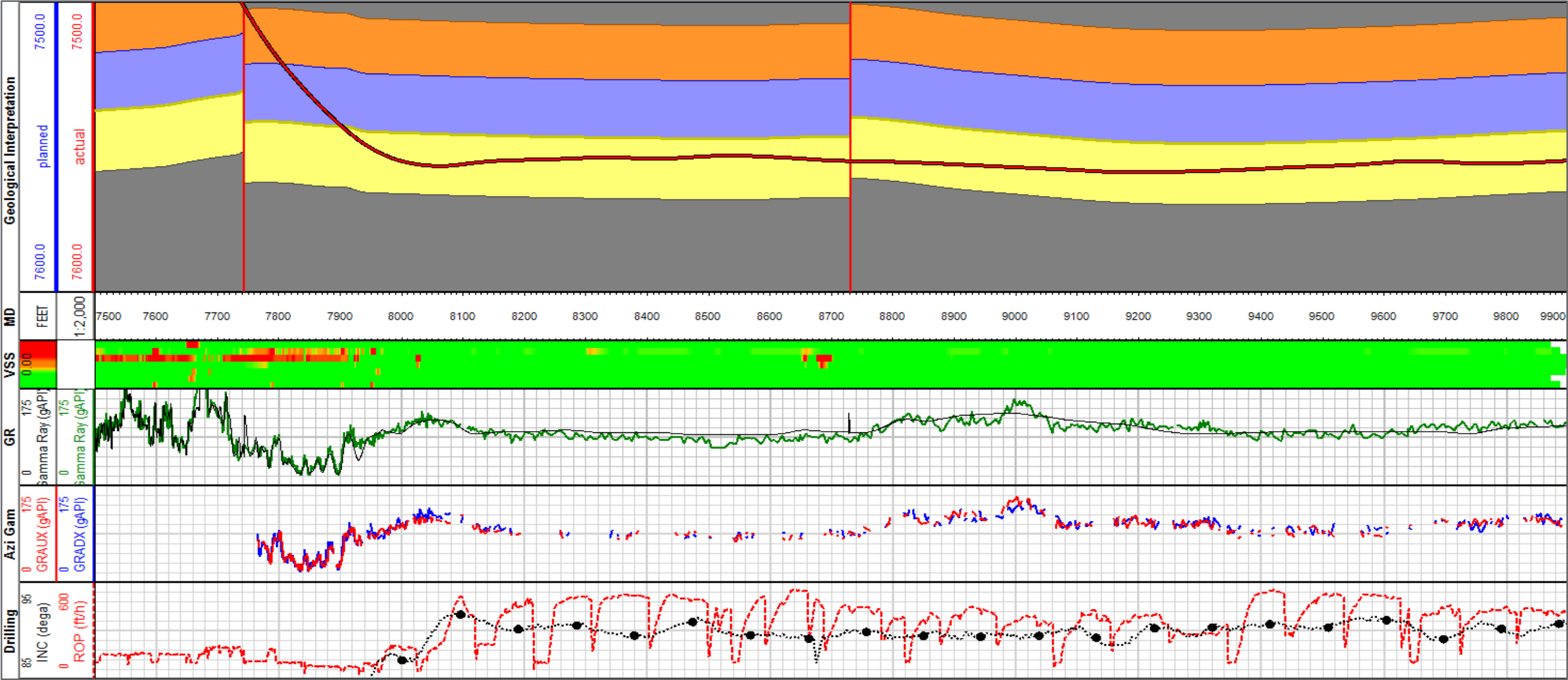


Position at Well TD

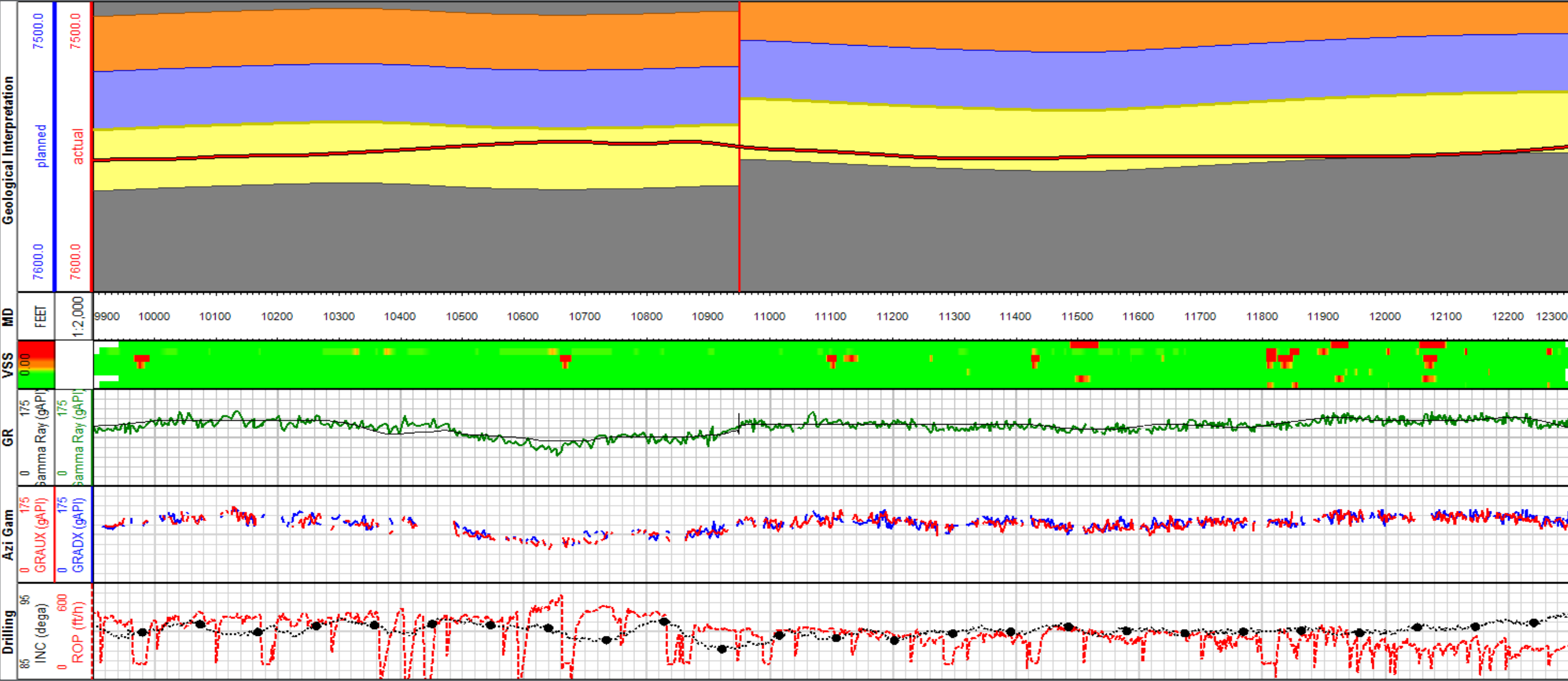
Prince Albert 7-66-3-10-6C Post-Well Interpretation



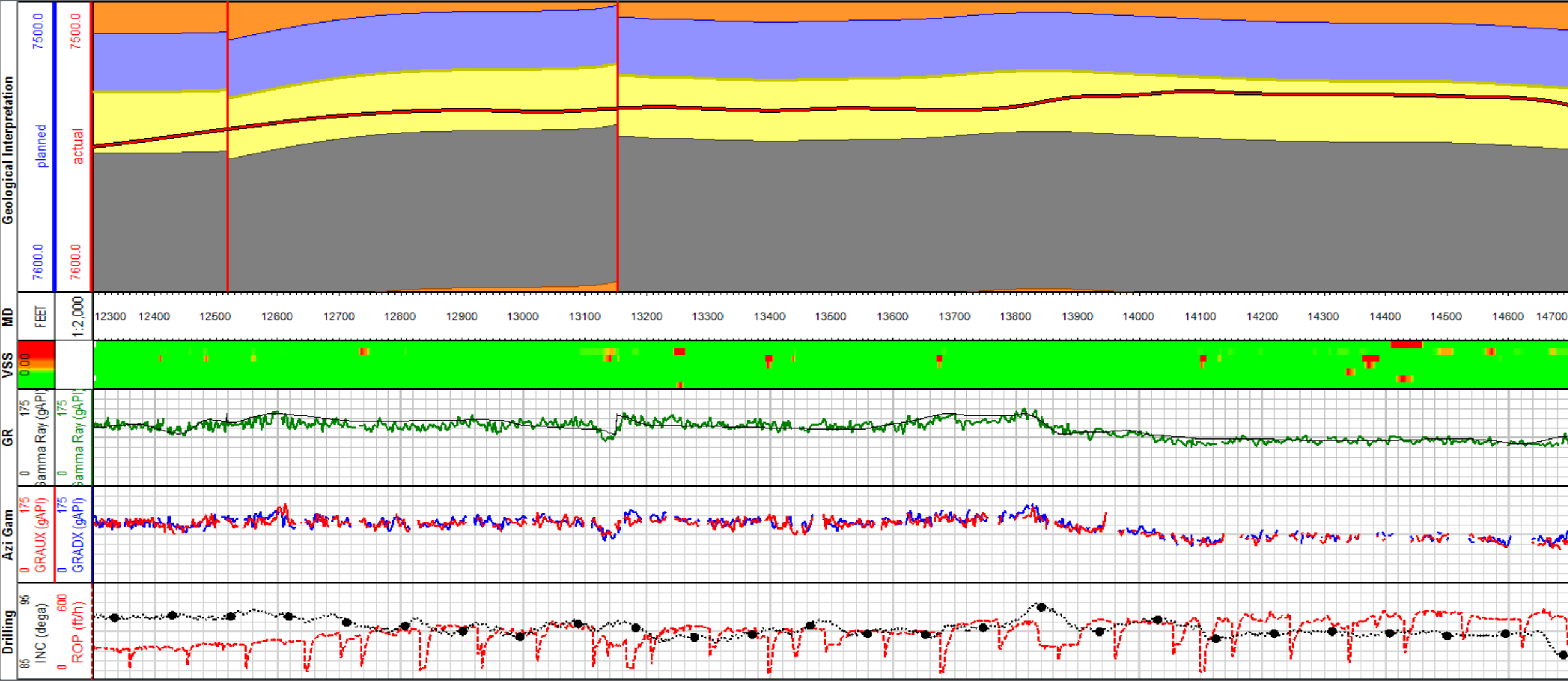
RNS Interpretation 7,500 – 9,900 ft. MD



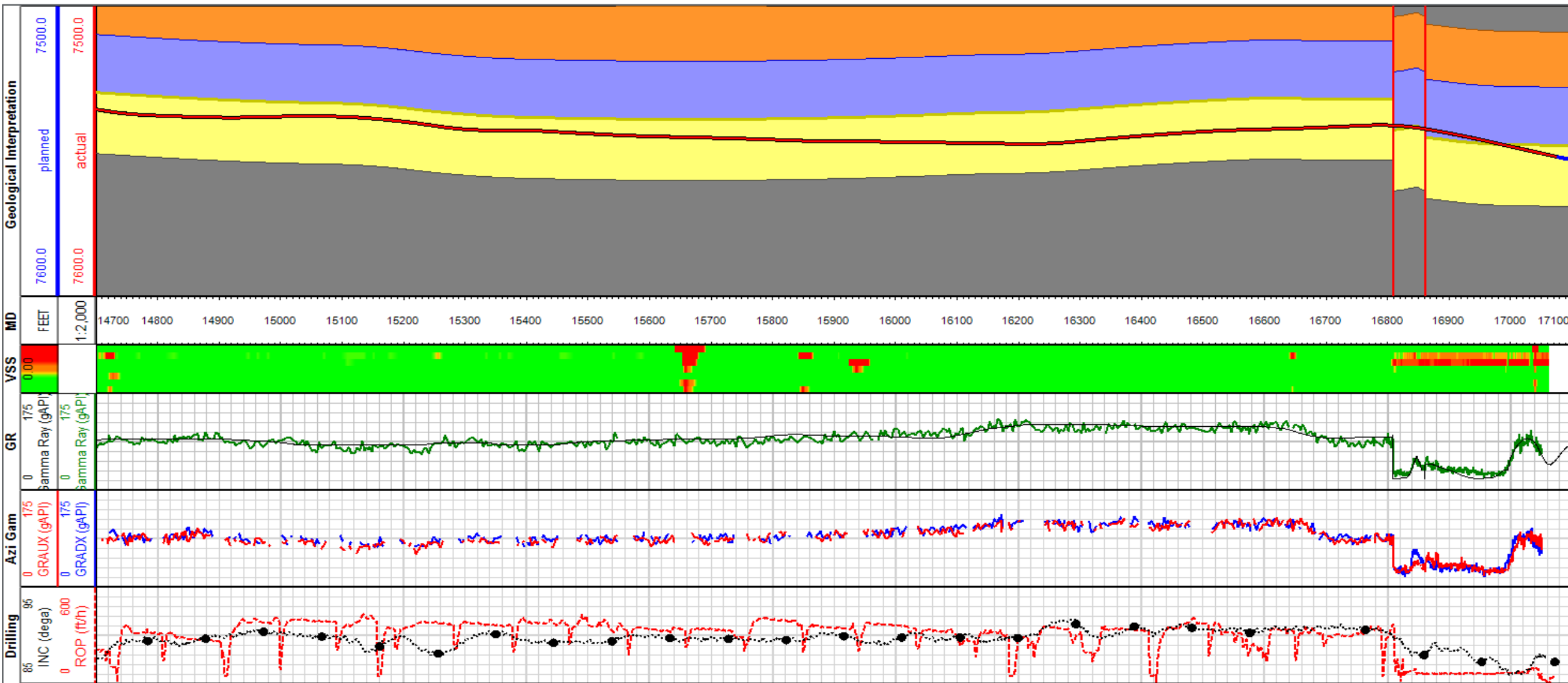
RNS Interpretation 9,900 – 12,300 ft. MD



RNS Interpretation 12,300 – 14,700 ft. MD



RNS Interpretation 14,700 – 17,072 ft. MD (TD)



RNS Well Summary

Percent in Formation

Footage drilled since entering the Codell: 9,168 ft. (7,904 ft. MD – 17,072 ft. MD)

Footage and percentage of lateral drilled in the Codell: 8,977 ft. or 97.9%

Footage and percentage of lateral drilled in the Ft. Hays: 191 ft. or 2.1%

Steering Changes and Remarks

Reservoir Navigation Services (RNS) were utilized for steering recommendations during the curve and lateral portion of the well. All steering decisions were made and communicated to the rig by Enerplus Resources Geology or Baker Hughes RNS.

The curve was steered following Plan Rev-C.0. The landing point was raised 6' to 7557' TVD. The well was landed 11' below the Codell top. Target inclination after landing was 90.5°.

The wellbore crossed a fault at 8,730 ft. MD. It was interpreted as a 7 ft. UT fault. After the fault, the wellbore moved up-section over the silty layer in the Codell. This confirmed our position and formation dip.

The wellbore gradually moved up section towards the top of the Codell. The target inclination was lowered at 9,650 ft. MD to stop up-section movement. Drilling performance decreased shortly after lowering the target inclination. It was interpreted that the wellbore crossed a 9 ft. UT fault at 10,950 ft. MD that placed the wellbore in the lower Codell. The target inclination was increased to 91.5° to move up-section away from the Codell base.

At approximately 12,600 ft. MD, down section movement was observed in the azimuthal gamma while still targeting 91.5° but no repeat in structure was observed. It was interpreted that the wellbore crossed a 3 ft. DT fault at 12,518 ft. MD. Formation dip after the fault increased to 92.5° and returned to the expected dip of about 90° as we drilled away from the fault.

RNS Well Summary Continued

Steering Changes and Remarks

The wellbore crossed a 4 ft. DT fault at 13,152 ft. MD. Our position was confirmed after moving up-section into the upper half of the Codell at ~13,800 ft. MD.

At 16,809 ft. MD, the wellbore crossed a 10.6 ft. DT fault placing the wellbore in the Ft. Hays. Inclination was decreased to move down section into the Codell. After the fault, formation dip decreased to 88°. The target inclination was decreased to 86.5°

At 16,861 ft. MD, the wellbore crossed a 2.7 ft. DT fault. After the fault, formation dip increased to 89° and down section movement was observed as the wellbore entered the Codell.

TD was called at 17,072 ft. MD with a final position of 2.7 ft. below the Codell top.

Baker Hughes 