



WS D1 12

Dedicated Subsalt Imaging Reprocessing towards a Better Understanding of Seismic Signal Difference in Seismic Substacks

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Summary

Abstract

In the West African ultra deep-offshore, complex subsalt reservoirs remain a challenge for seismic imaging and reservoir characterization. Advanced imaging technology is the key to better understanding seismic signals.

This paper presents an integrated approach using well data, seismic interpretation data and reprocessing techniques to update the seismic offsets. A first subsalt development well was drilled based on general knowledge of the area and far-offset seismic substack. This well has shown good results that are not observed in the far-offset. The differences in seismic substacks (far vs. near) incurred a Reverse Time Migration (RTM) remigration study in order to obtain a more accurate comprehension of the area.

This remigration generates an updated of 3D RTM gathers. When the remigrate images and a Norsar modeling study are correlated together; both data show good coherency in expected seismic signals on gathers from near to far offset. When the dips stay mild, near offset stacks deliver a reliable image. Far stacks are generally less reliable except when steep dips are expected. The results of the remigration study helped locating future development wells with greater confidence.

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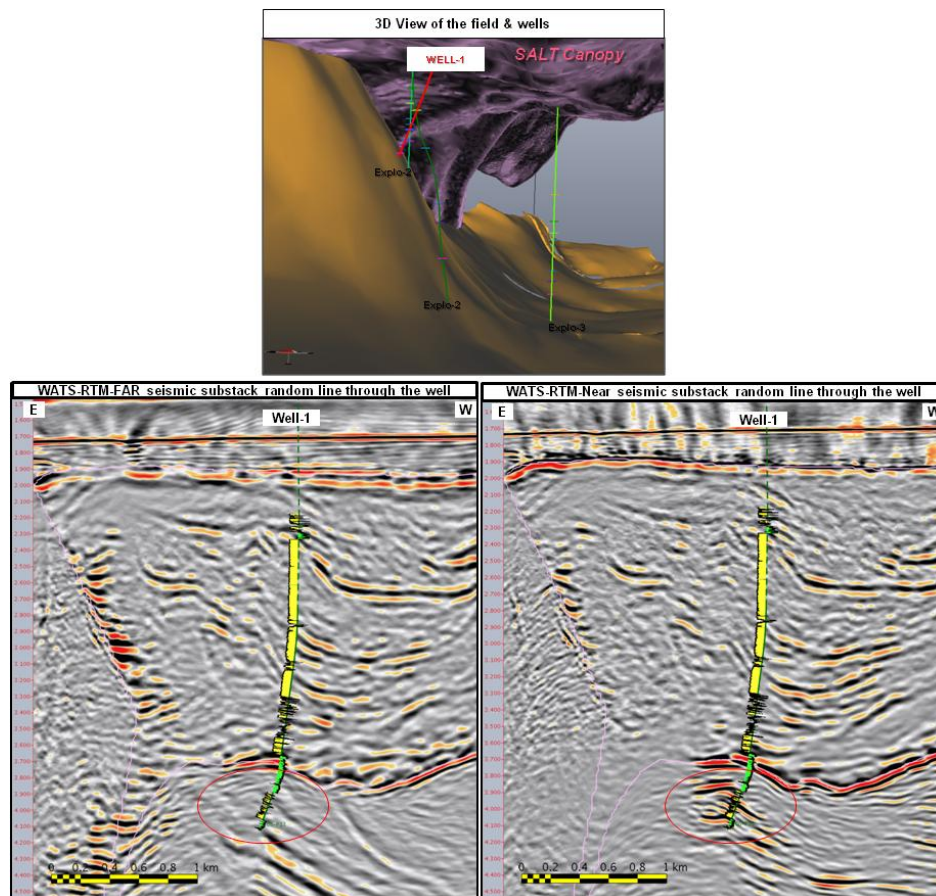


Figure 1 Difference of seismic signal between near and far seismic substack and Well-1 results.