

WS02_03

Towards QI for Site Investigation in Orsted

K.H. Karkov^{1*}, S. Hviid¹

¹ ORSTED

Summary

A recently concluded Ørsted R&D project successfully demonstrated the possibility of extracting quantitative information on soil composition from 2D UHRS data by leveraging the acoustic inversion method.

Our contribution to the workshop will include an introduction to Site Investigation in Ørsted, a presentation and discussion of our identified key challenges related to acquisition, processing, calibration, interpretation and integration as well as our perceived status on these.

Examples from recent advances will be presented providing the status on commercial scale QI for site investigation purposes in Ørsted.

Introduction:

A recently concluded Orsted R&D project brought industry experts from the Oil and Gas industry together with geophysical and geotechnical engineers from Orsted’s Wind Power business unit with the aim of investigating how much information could be extracted from 2D UHRS data. The project participants successfully demonstrated the possibility of extracting quantitative information on soil composition from 2D UHRS data by leveraging the acoustic inversion method (Figure 1).

The challenge has subsequently been to identify the key enablers when maturing quantitative interpretation (QI) from an isolated R&D project to larger scale asset projects currently in development.

A series of key technical challenges have been identified within the processes of acquisition, processing, calibration, interpretation and integration. Spanning these processes, the two largest challenges are related to establishing a robust dataset suitable for pre-stack analyses and the recording of reliable and continuous in-situ data for calibration purposes respectively. Our perceived status on these will be presented.

Finally, examples from recent advances will be disseminated providing a status on commercial scale QI for site investigation purposes in Orsted.

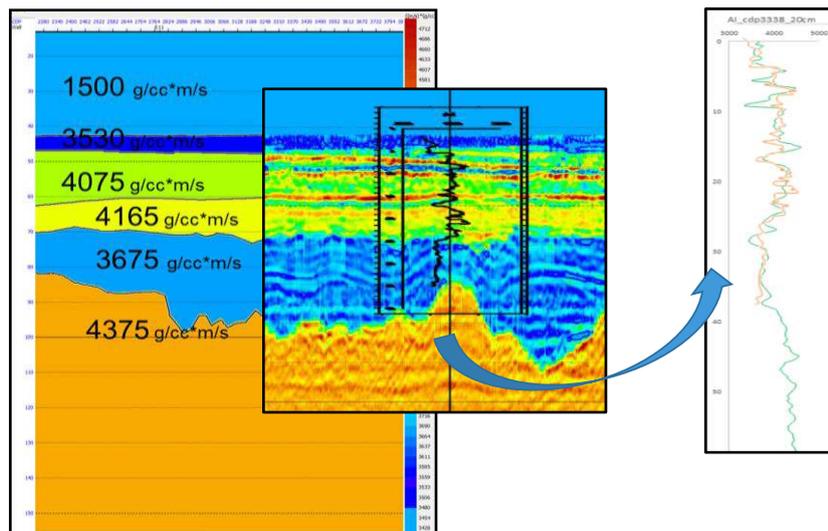


Figure 1: Example of acoustic impedance (AI) inversion result from Orsted R&D project.