

Challenges of Shallow Marine Seismic Reflection Surveys

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Abstract

Marine seismic reflection surveys have long been used for mapping the water-bottom sediments and underlying geology. DMT Geosciences Ltd. (DMT) has completed multiple shallow marine seismic reflection (SMSR) surveys within Northern Alberta. Conducting these surveys involves logistical challenges pertaining to data acquisition that are not relevant during deeper marine reflection surveys in larger open water bodies.

The challenges encountered for SMSR surveys stem from the dynamic environment of shallow and flowing water. This study will discuss how DMT's SMSR program has evolved. Through case studies, we will showcase how we have adapted our program to the specifics of the survey environment. The discussion will include DMT's experience with differing source and receiver configurations.