



Technological Advances in Geophysical Surveying for Dredging

Midwest Chapter Meeting
18 March 2021



How to Define the Subsurface

A Comprehensive Understanding of the Subsurface



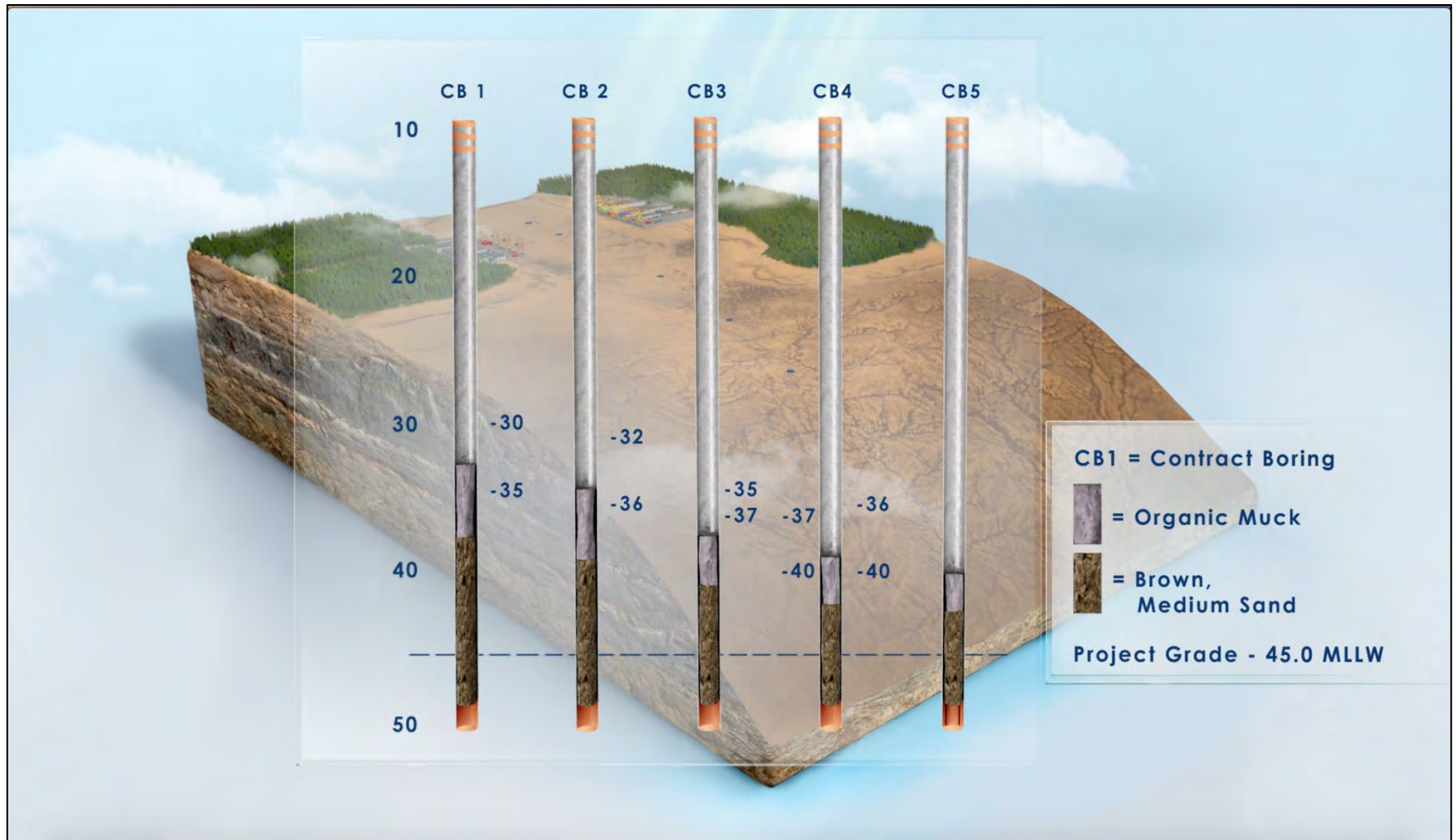
Identifying the Subsurface 30 ft Below Bottom Surface and Locating the Interface of Contaminated Sediments



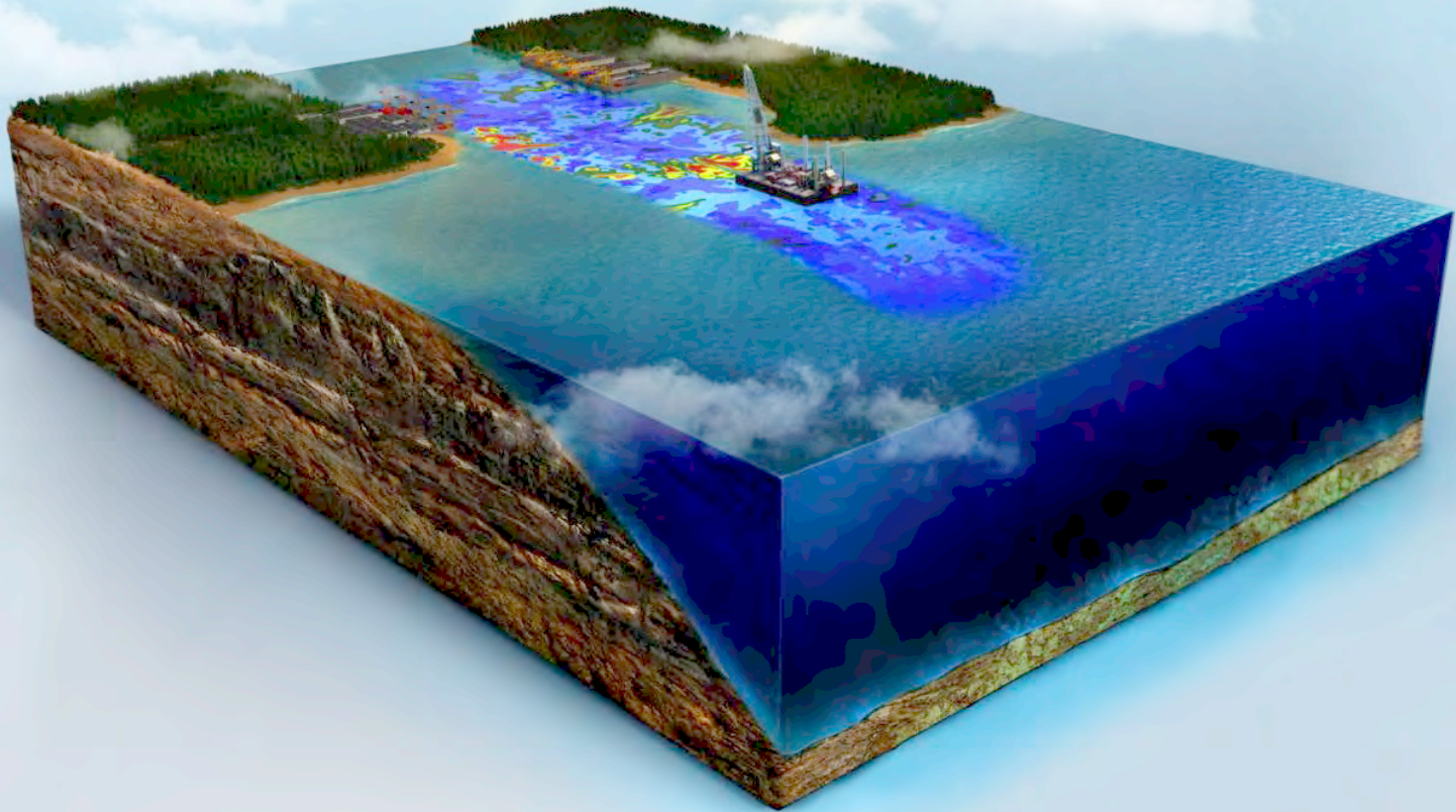
Dredge Planning Utilizing Core Borings vs Geophysical Data



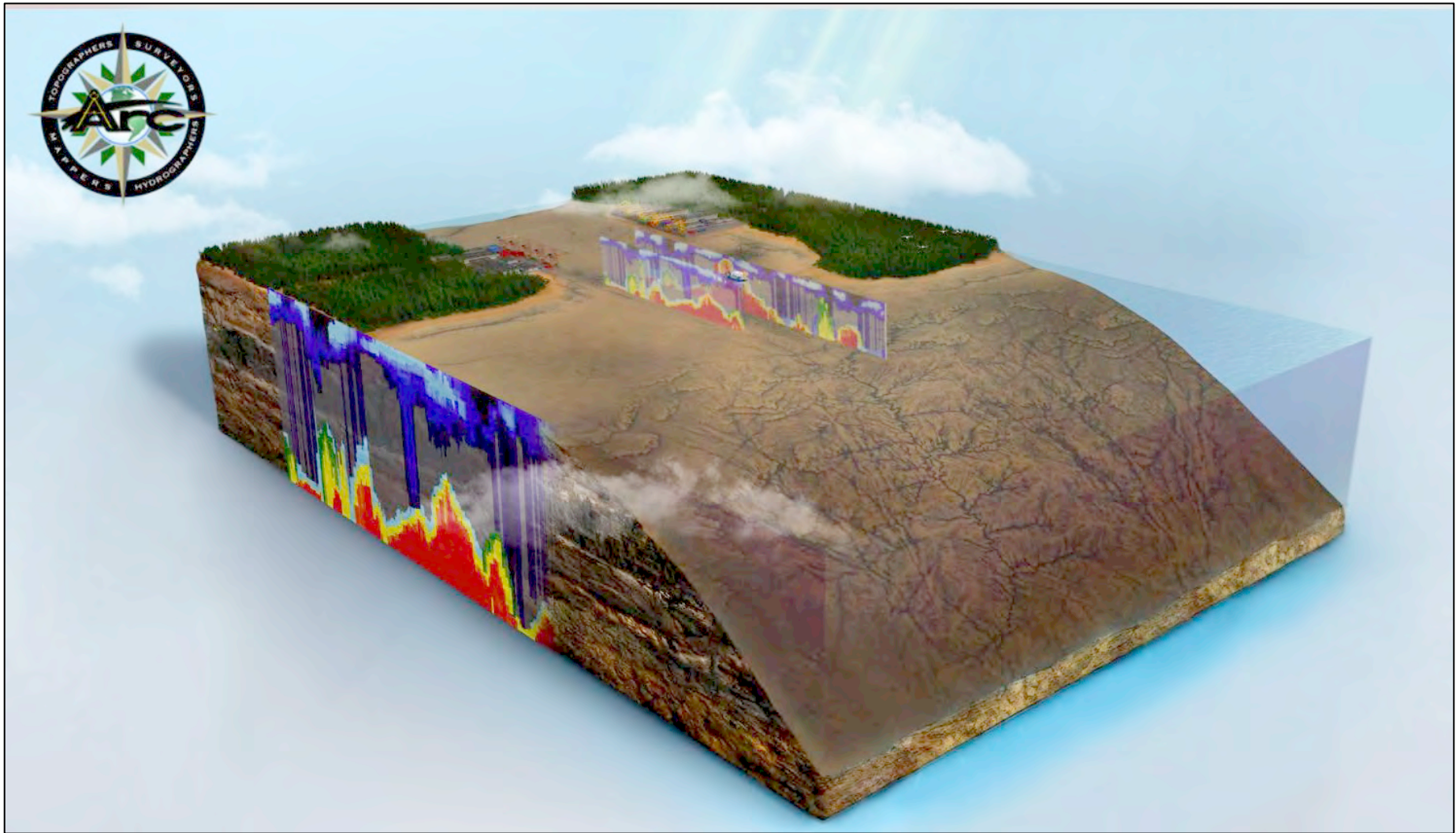
A Project Without A Geophysical Survey



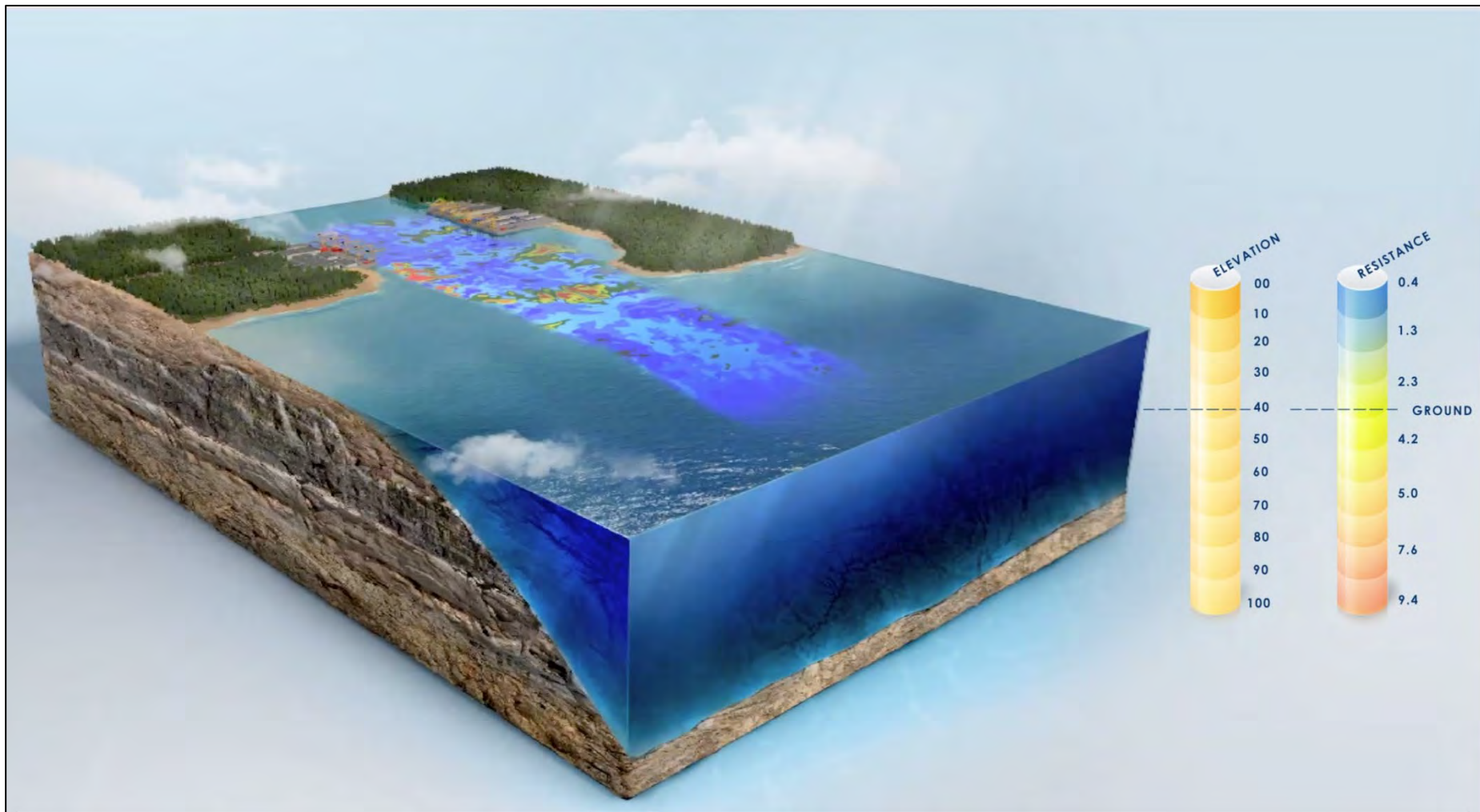
Dredge Encounters Rock Between Core Borings



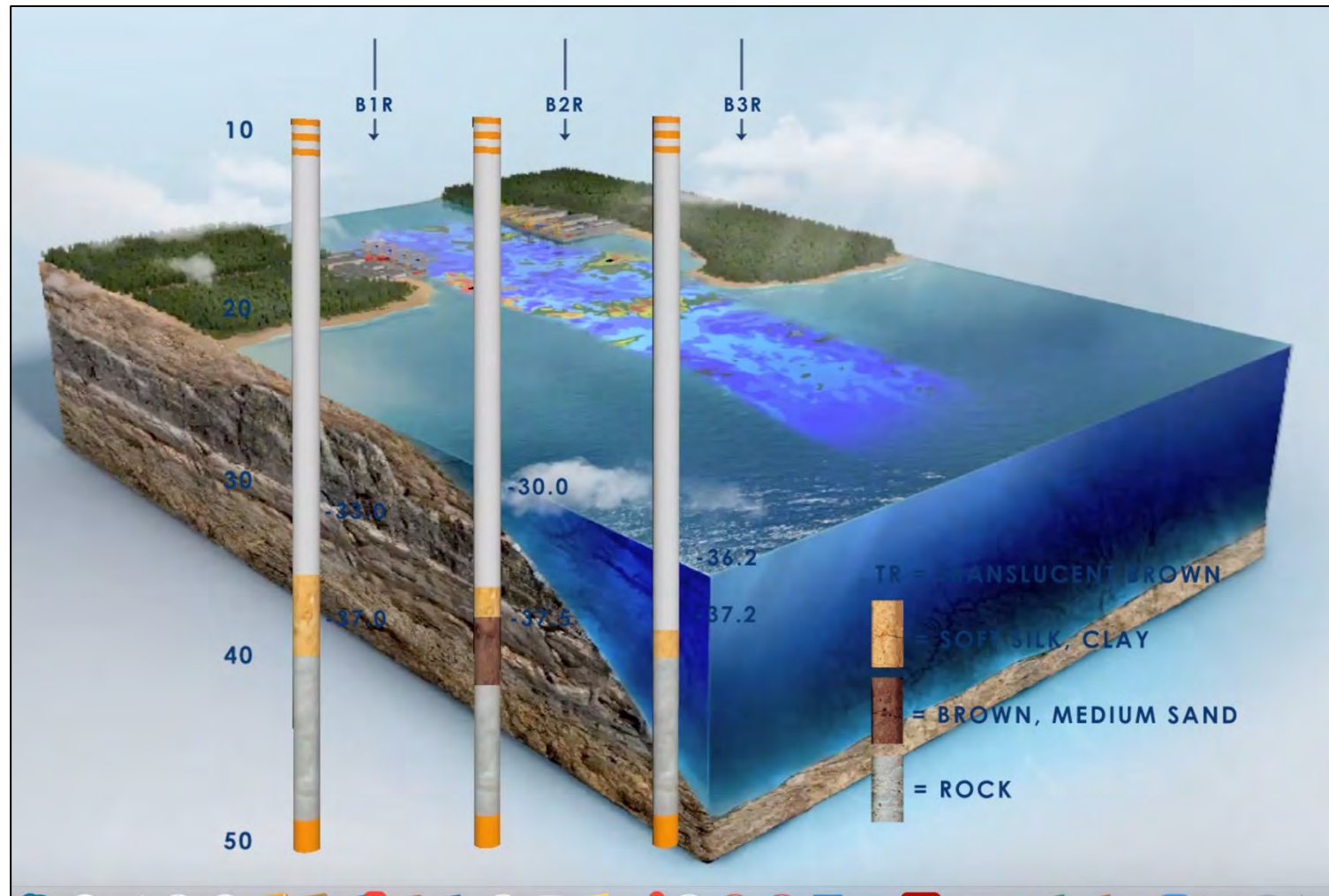
Arc Performs a Geophysical Survey



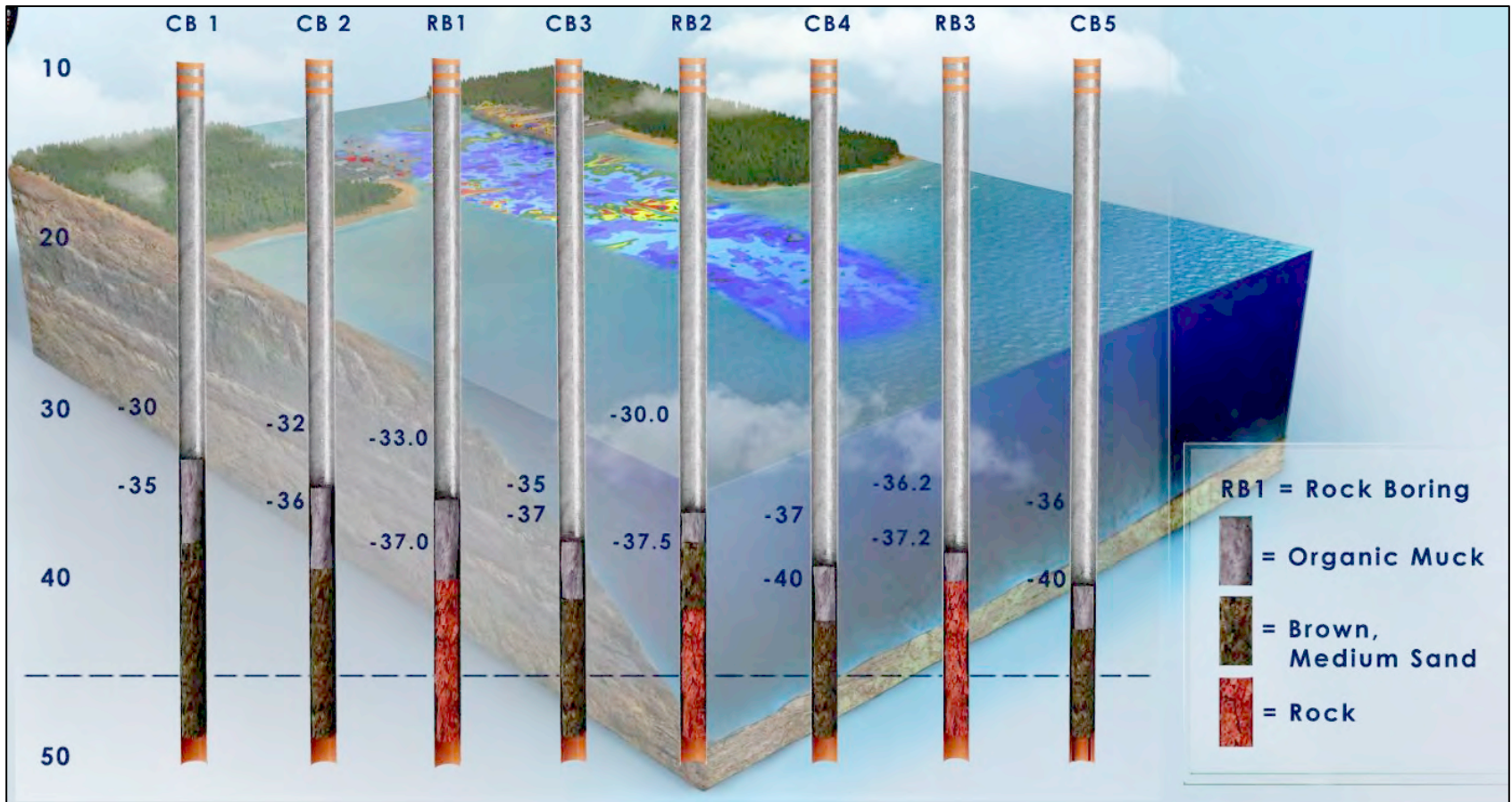
Bathymetric and Geophysical Data Acquired Simultaneously



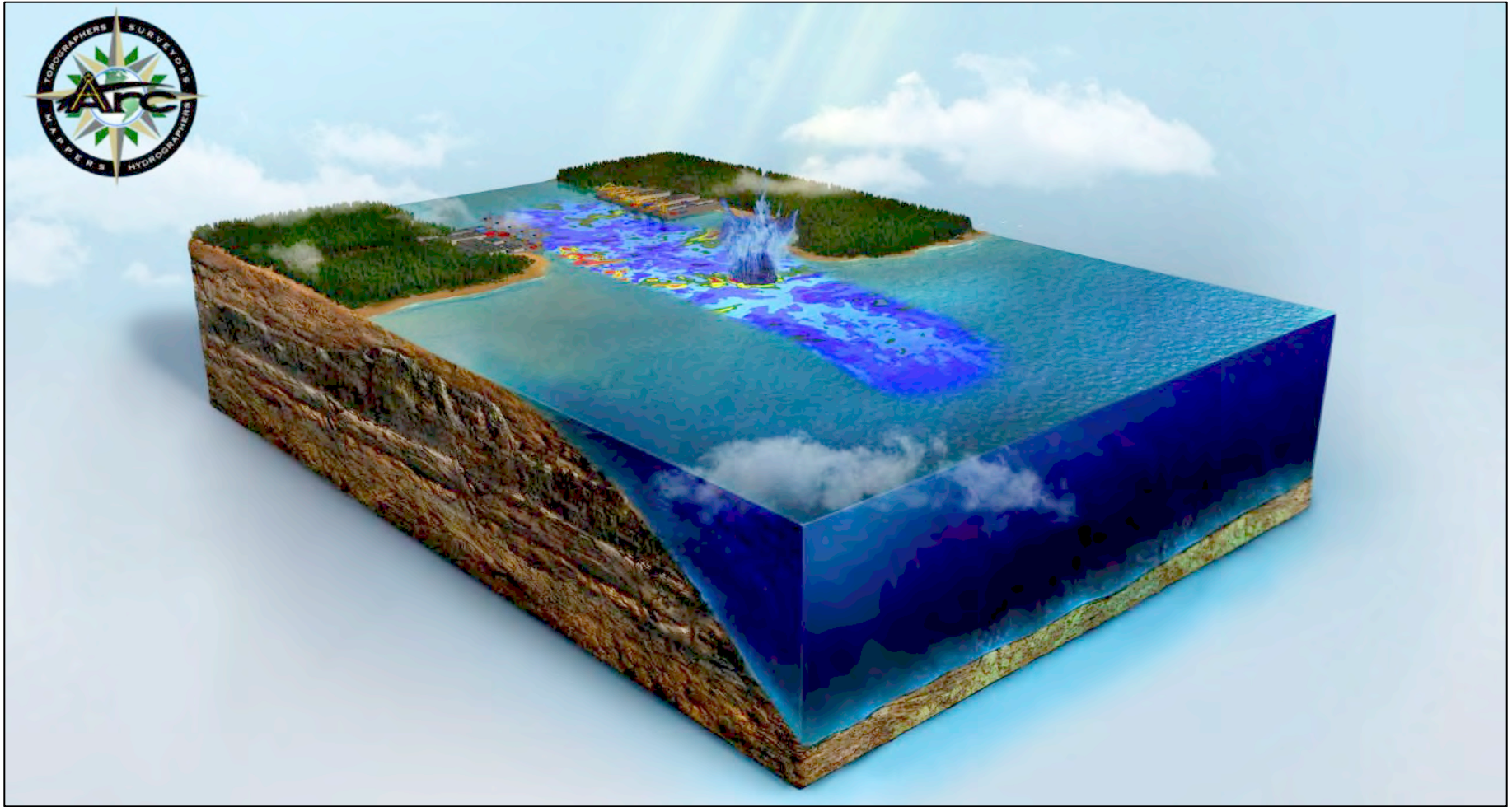
Borings Acquired in High Resistivity Areas Describe Rock



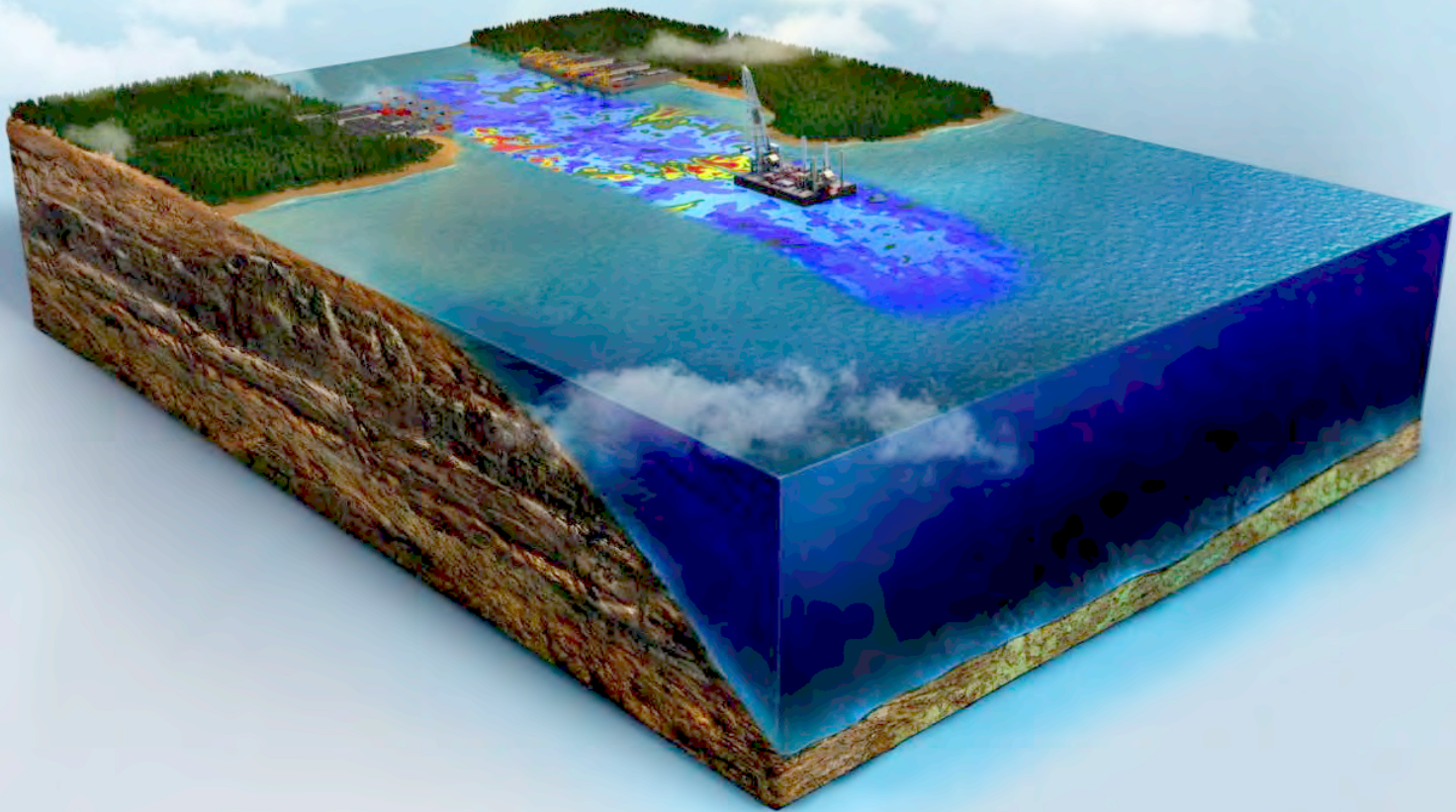
Five Contract Borings and Three Investigative Borings

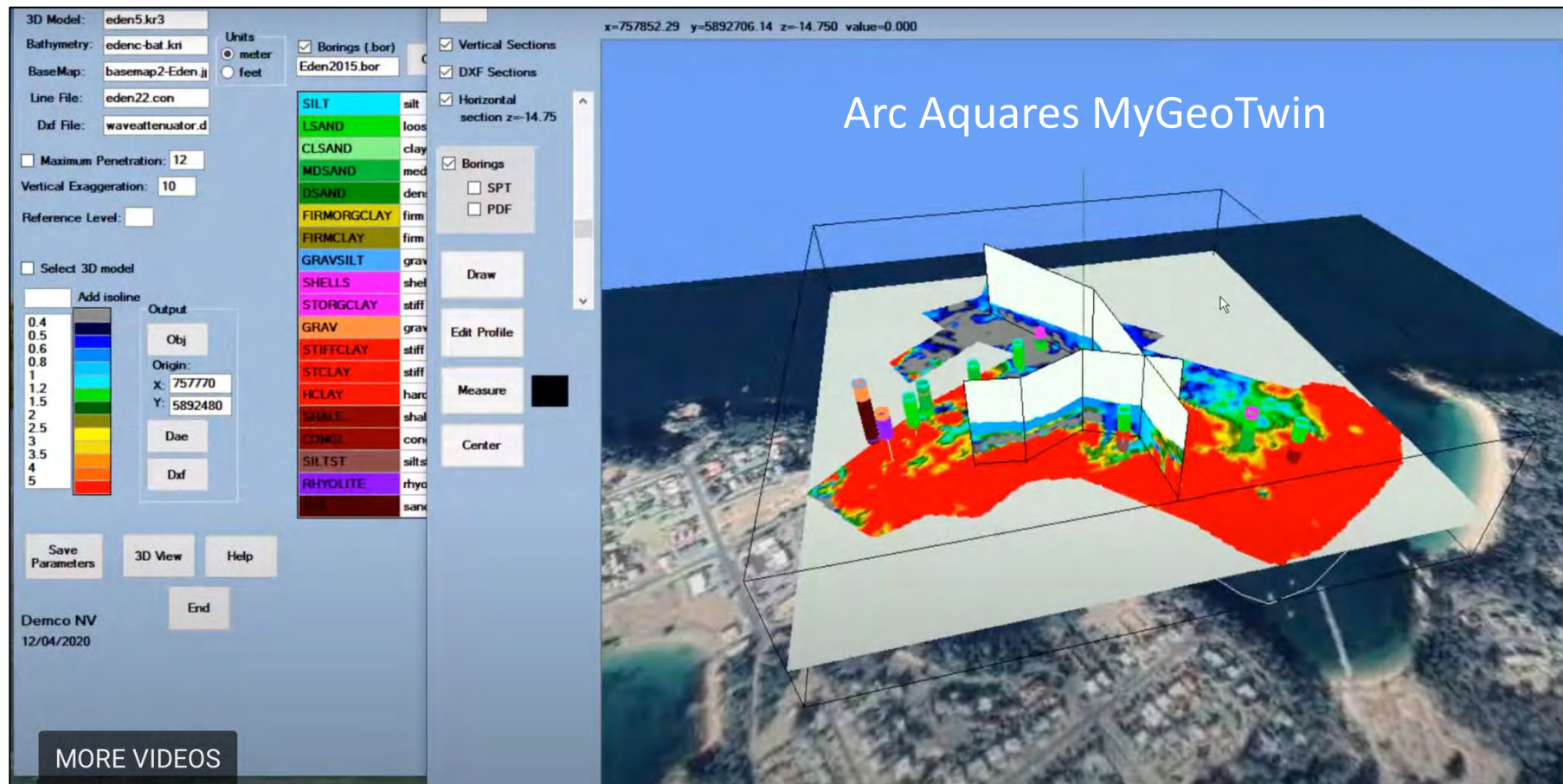


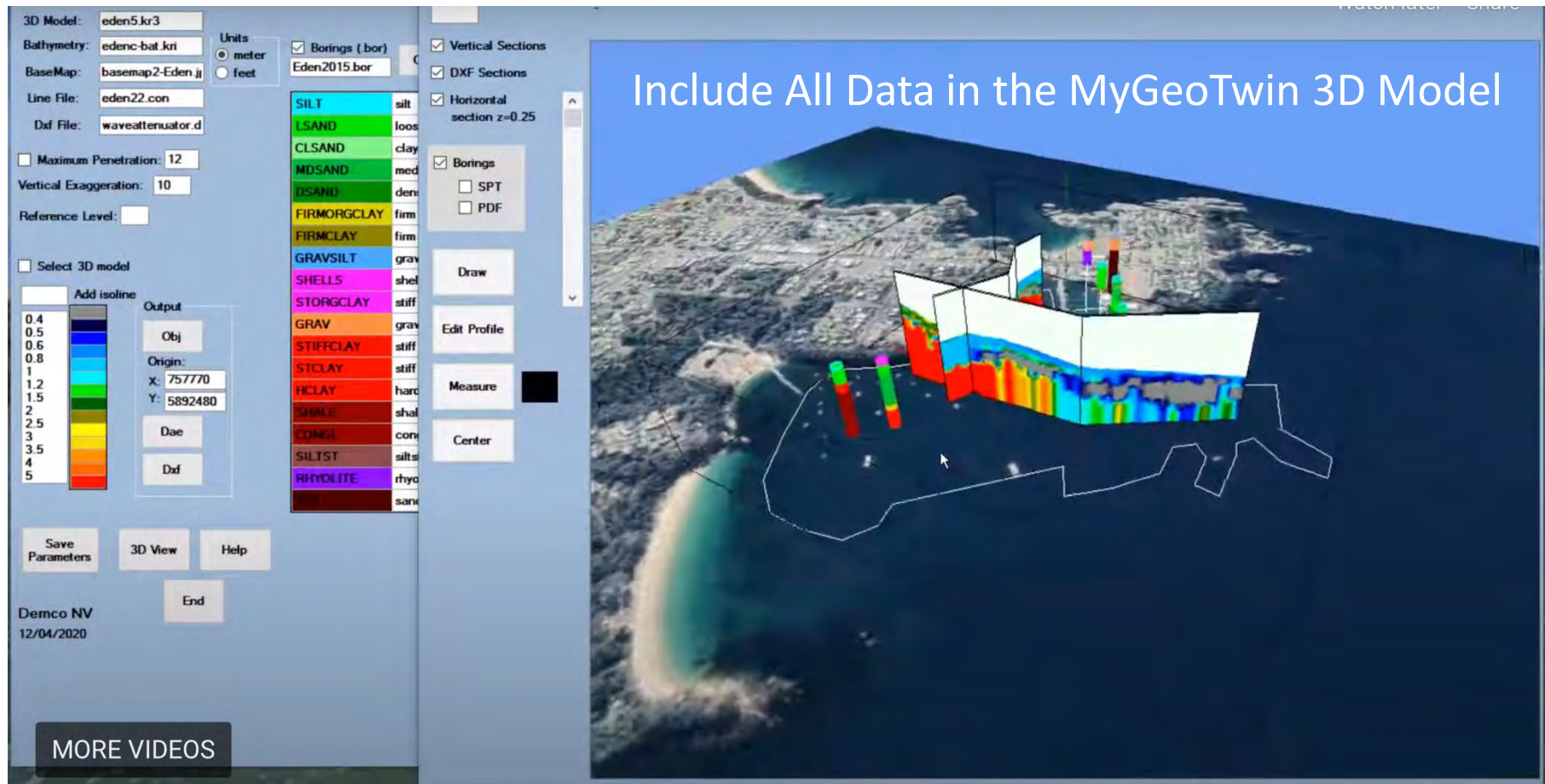
When You Must Drill and Blast Know Exactly Where it's Necessary



An Aquares Geophysical Survey Will Describe Post Blast Rock Fragmentation



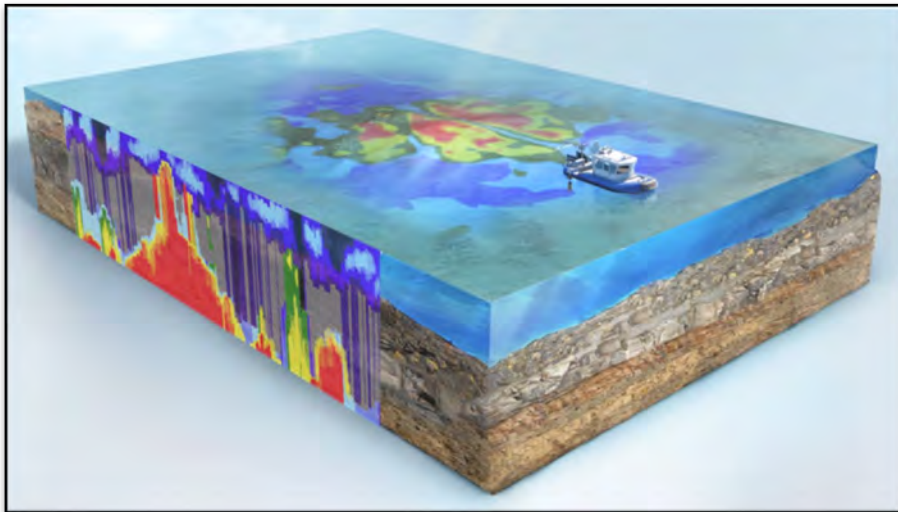
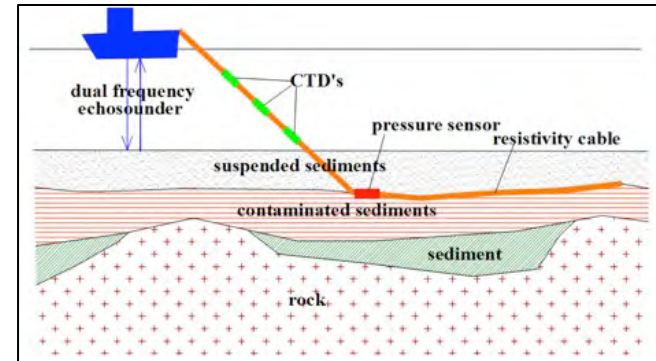




Closing Summary

Arc Aquares geophysical surveys are science-based technology that is unequaled by any other subsurface geophysical system in existence (We have tried them all). The Aquares system, in use worldwide, has been designed to accurately identify the subsurface and is not affected by gaseous sediments, is not harmful to aquatic vegetation or to marine life.

After over 30 years of dredging and on-the-job surveying experience, continually attempting to describe the subsurface, Arc Surveying & Mapping, Inc. is proud to have acquired the US rights to Demco NV's Aquares system and anticipates that a better understanding of the subsurface will increase production and decrease changed and/or differing site conditions.



- Perform a geophysical survey prior to design or dredging
- Choose borings locations based on the Integrated Arc Digital Ground Model (IDGM)
- Reduce the number of borings required to identify geotechnical classifications. (Jackup barge borings are expensive)
- Import all data including core borings, probes, sub-bottom profiles, side-scan sonar images, project limits, etc. into the MyGeoTwin model. Export data in .dxf and xyz format.
- In MyGeoTwin view geophysical and geotechnical data in horizontal and vertical cross sections (View a working model at this link <https://youtu.be/SXsvMaZ2YzU>)



Thank you for viewing this presentation – we anticipated it was informative.

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