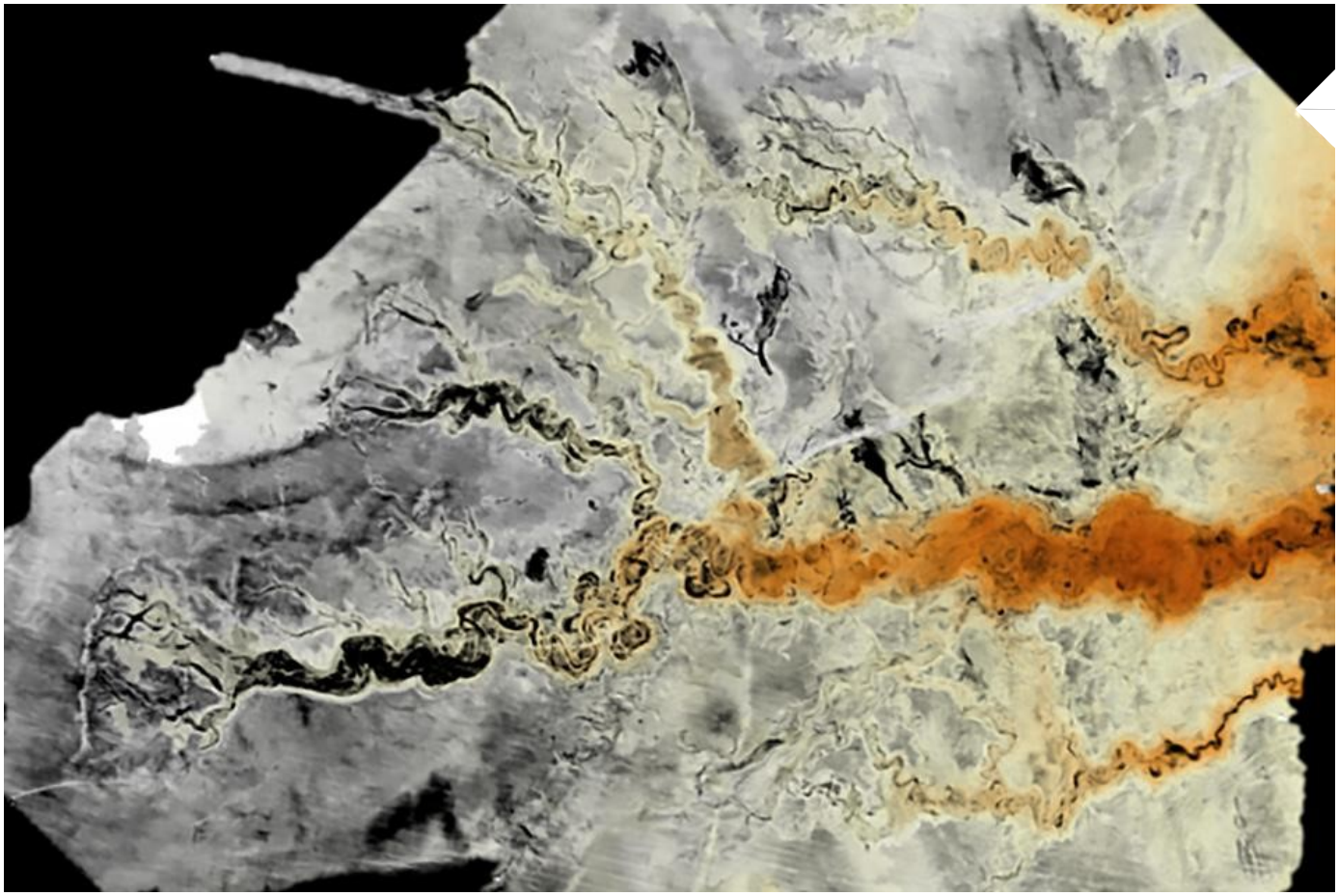

Challenges to Deepwater Reservoir Characterization

October 2021 | Barry Friedman, Explorer Correspondent

It is no secret that deepwater depositional systems hold some of the largest petroleum reservoirs on Earth. To get those reserves out safely, effectively and economically from such depths – and the International Energy Agency defines "deepwater" as a water depth of more than 400 meters – requires technology, expertise, and a little bit of luck.

The challenges associated with doing that – determining the presence, distribution and quality of those reserves – is the work of the Quantitative Clastics Laboratory at the Bureau of Economic Geology at the University of Texas at Austin.

"The opportunities abound and understanding the subsurface is more important than ever," said Jacob A. Covault, a senior research scientist at QCL.

He said the work of the lab is to get as broad a perspective of what's in the arena of deepwater reservoir

characterization from a geology and geophysical standpoint. QCL develops predictive models, training and software for stratigraphic characterization and correlation in the subsurface.

“In conventional reservoirs, especially deepwater major capital projects, reservoir quality and connectivity/compartmentalization are the key uncertainties. Our bread and butter, the science of sed-strat (sedimentology and stratigraphy) directly addresses these uncertainties,” he said.

Deepwater Applications Onshore

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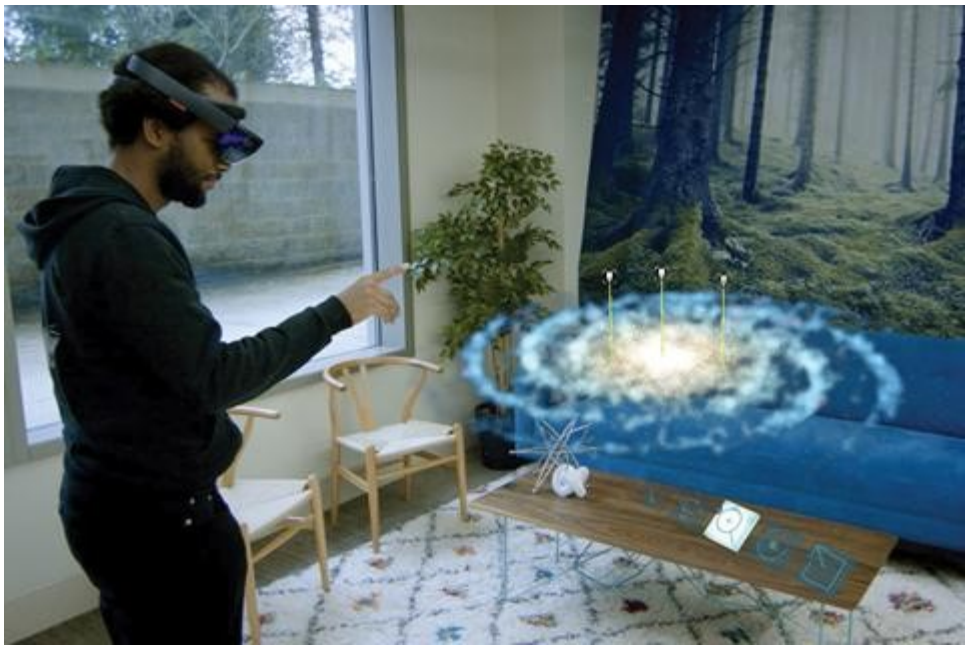
RMS amplitude and thickness map of New Zealand channel network. Data courtesy of New Zealand Petroleum and Minerals Online Database

Extended reading



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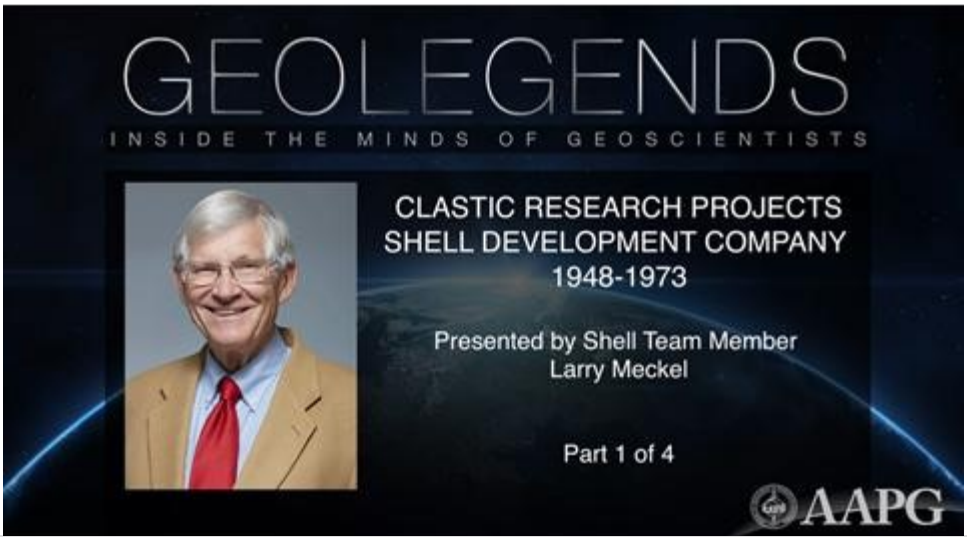

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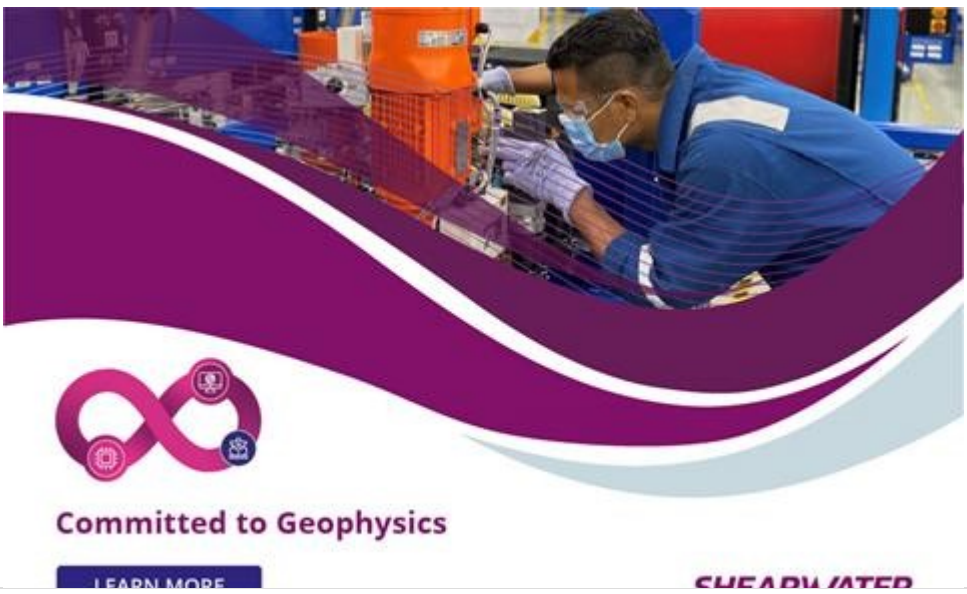

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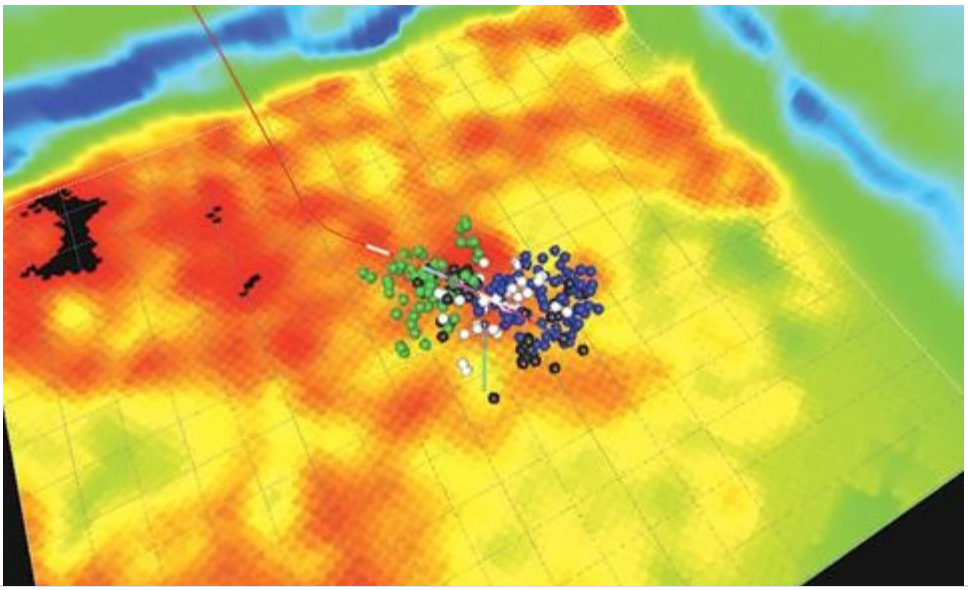

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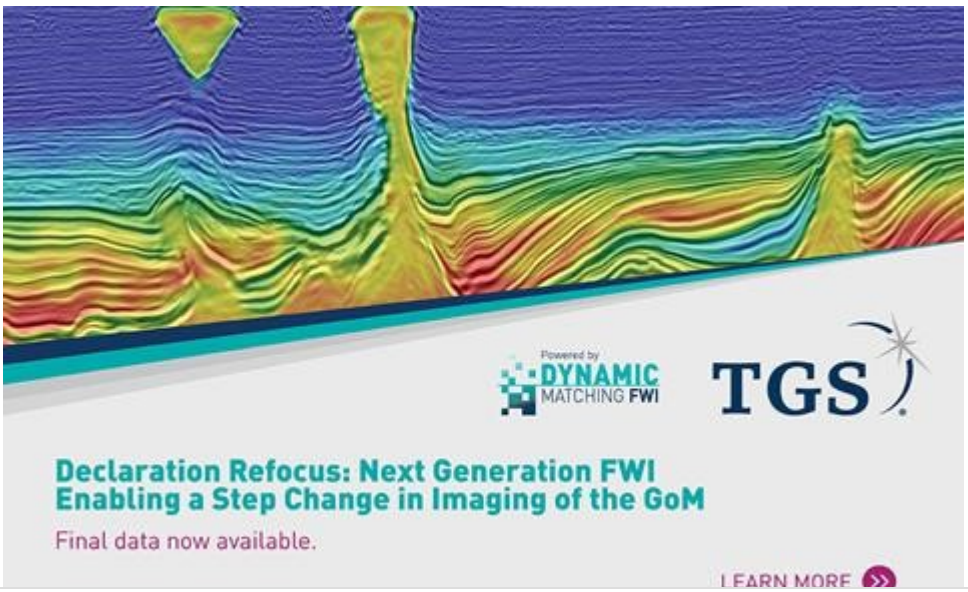

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