



Science behind the image

Faroe-Shetland Basin Multi-Client CSEM programme: Sub-Basalt Resistivity Mapping

OHM will carry out multi-client electromagnetic surveys West of Britain in summer 2007. The surveys will build upon OHM scientist's research into CSEM and MT sub-basalt imaging, since the late 1990s, and draw from OHM's unique operational experience of Sub-Basalt surveys West of Shetland, from Autumn 2006.



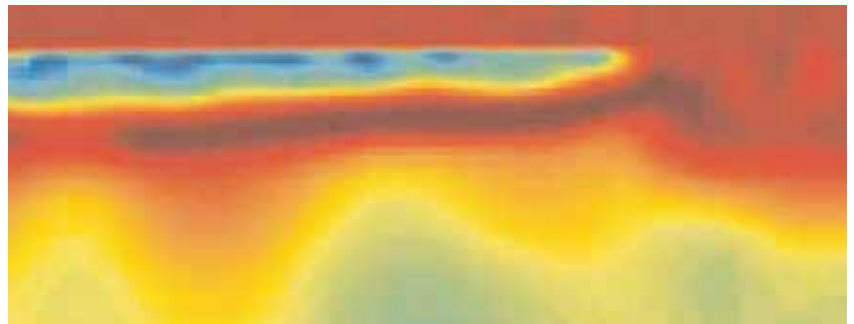
Map courtesy: Deloitte

Red lines – proposed survey lines. Green line – approx basalt limit

The purpose of the surveys is to delineate the base of the massive basalt flows that run from the UK West of Shetland acreage, north west into Faroes acreage. In addition to mapping the base of the basalt, the surveys will also target the depth of the basement.

The surveys will jointly utilise Controlled Source Electromagnetic Imaging and Marine Magnetotellurics, exploiting OHM's proprietary Joint CSEM and MT inversion tool: JEM, part of the OHMVision software package.

The planned line locations are along existing seismic lines to enable joint seismic and EM interpretation. The lines are also positioned to target wells where available.

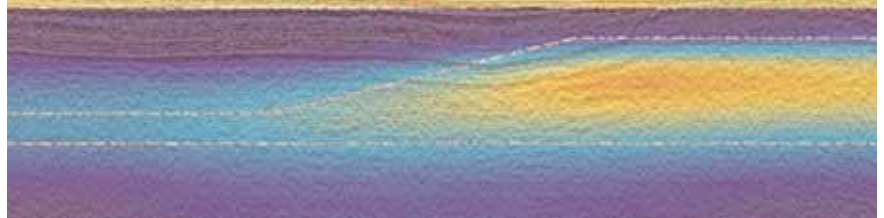


Example 2.5D JEM resistivity section. The resistive basalt (blue) is shown thickening from right to left. Directly beneath the basalt are conductive sediments (red) underlain by a variable basement

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Science behind the image



Example modeled co-rendered resistivity and seismic section – with base basalt and basement delineated.

Standard Deliverables:

- > Resistivity cross section with the base basalt and basement delineated:
 - Joint CSEM and MT inversion
 - Results delivered in SEG Y and ASCII format
- > Co-rendered resistivity and seismic sections (where licensee has access to relevant seismic lines)
- > Navigation chart and data disc
- > OHM Modelling of lines
- > Final acquisition and processing report

Survey equipment

The surveys will be carried out by the **OHM Express**; the world's first specifically designed CSEM survey vessel. Especially suited to West of Shetland operations; a large stable base from which to operate, offering hold-to-subsea mechanical receiver deployments, and advanced source deployment operations



OHM transmitter (DASI IV)



OHM Express



OHM EFMAL MKIII receiver

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