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A small reflection seismic experiment on Faroe Islands during summer 2003

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The sub-basalt imaging is still hindered by a lack of knowledge about how the seismic waves are propagating through layered basalt flows. The SeiFaBa project (2002-2005), founded by the Sindri group, is investigating the seismic response of layered basalt flows.

As a part of the SeiFaBa project a comprehensive onshore-offshore seismic experiment was carried out around Glyvursnes, Faroe Islands, in the summer 2003. A 700 m deep borehole on Glyvursnes provides direct comparison between the seismic response and the basalt successions.

The onshore acquisition comprised five layouts of 120 vertical geophones using 250g dynamite charges at 3 m depth as source.

The onshore-offshore acquisitions comprised two layouts of a 96 channel moored streamer in combination with three layouts of 80 land stations using airguns as source offshore and dynamite as source onshore.

The streamer was 600 m with a group interval of 6.25 m. The land stations had 3-component geophones at every 4th position while the others were vertical geophones. Furthermore the signal was recorded in the borehole at 400 m depth by a 3-component geophone.

Stacked sections will be shown togheter with synthetics and full waveform modelling.