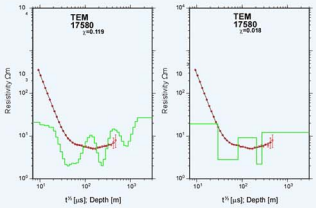
SUBSURFACE GEOTHERMAL
FLOW PATTERNS DERIVED FROM

TEM soundings

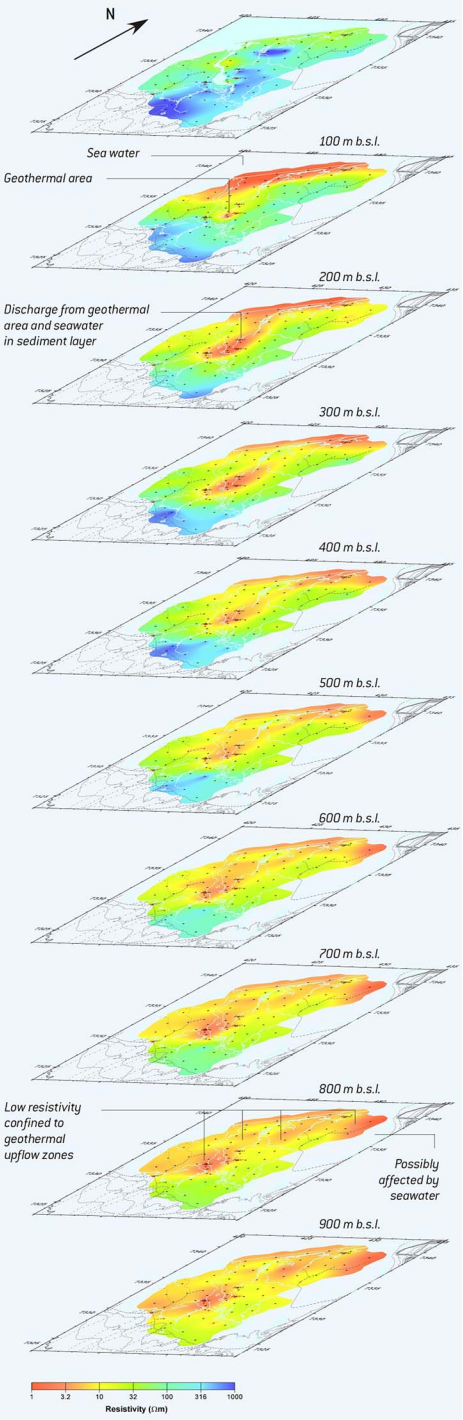
Ragna Karlsdóttir, Knútur Árnason and Hjálmar Eysteinsson. ÍSOR, Iceland GeoSurvey, Grensásvegur 9, 108 Reykjavík, Iceland, rk@isor.is

Resistivity methods have been used for decades in geothermal exploration in Iceland. The most extensively used method is the TEM (Transient-ElectroMagnetic) method that has proven effective in delineating high temperature fields in the uppermost 1 km of the geothermal field. Recent improvements in interpretation methods open up the possibility to look closer into the details of the temperature distribution and flow pattern within a geothermal system. A 1D Occam inversion is used. The program will invert for resistivity in a given number of layers.

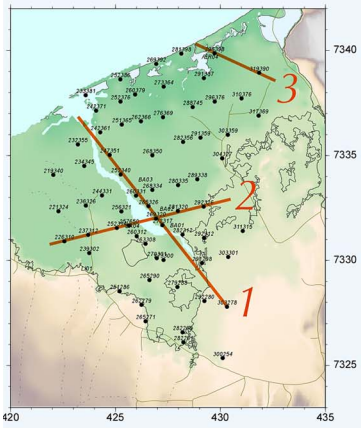
A number of 20-30 layers are selected for the depth range of 1000-1500 metres. This will give the modelling a liberty of "continuous" change in resistivity with depth showing a more detailed picture of the resistivity structure.



Resistivity maps



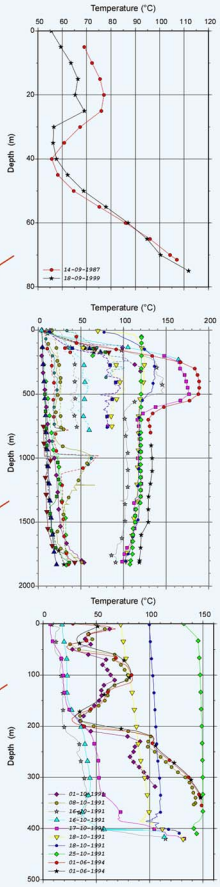
Öxarfjörður

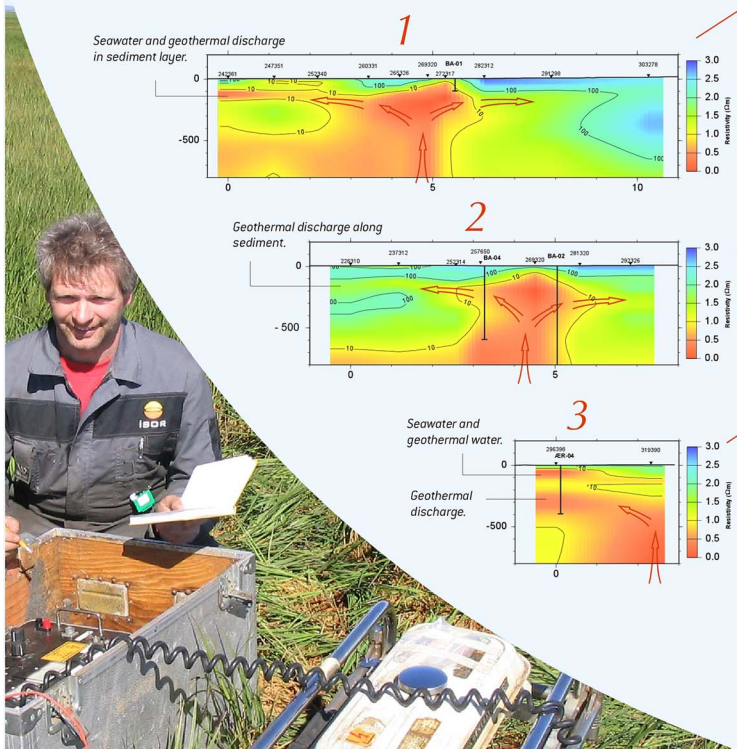


The Öxarfjörður, geothermal field is embedded in sedimentary costal environments.

The results from the TEM survey show the following:

- ***Upflow of geothermal water along N-S fissures.***
- ***Warm discharge zones, along sediments at 200-400 metres depth.***
- ***Seawater flowing along sediments at 200-400 metres depth from the coast.***





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