

OUR REFERENCES

More than 40 years of experience in the fields of ...

Geothermal and Groundwater Studies

- Vienna Basin
- Styrian Basin
- Molasse Basin
- Alpine Basins
- Upper Rhine Graben
- North German Basin
- Taoudeni Basin

Nuclear Waste Storage

- Switzerland
- Germany

Reservoir Studies

- Sirte Basin
- Murzuq Basin
- Pannonian Basin

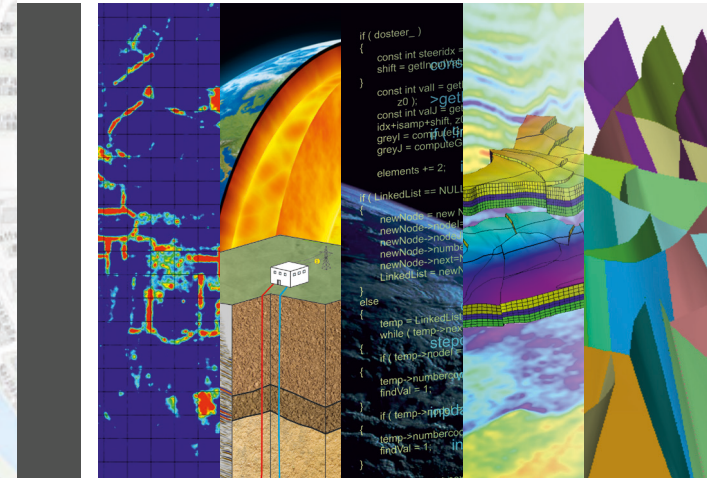
Software Development

- FracTex
- GeoScan

Engineering Geophysics and Resource Exploration

More than 250 projects in Austria, Germany, Switzerland, Italy, Slovenia, Spain, Bhutan and Burkina Faso.

LOCATION



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GEOPHYSICAL SERVICES
RESEARCH & DEVELOPEMENT



For further Information and contact details please visit our website.



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IN-DEPTH EXPERTISE

OUR SERVICE

GEO THERMICS

Geothermal resources can be used for generation of electrical energy and heating from wells up to 5000m deep, or for heating using heat exchangers in shallow wells. It is necessary to use geophysical interpretations to plan well paths for deep geo-thermal projects and to develop reliable geological models.

- o Acquisition of 2D seismic reflection profiles
- o Seismic processing and reprocessing
- o Horizon and fault interpretation
- o Calculation of seismic attributes
- o Well path planning
- o Reservoir geophysical studies
- o Structural modeling for thermal-hydraulic simulations
- o Fracture modeling

GROUNDWATER EXPLORATION

According to Austrian Standard B2400, the terms deep groundwater and multi-aquifer formation are defined as follows: Deep groundwater is groundwater in the deeper layers of the earth's crust, which has an extensive overburden of overlying layers, a long hydrological residence time, and usually special physical-chemical properties. Deep groundwater is usually confined or artesian. A multi-aquifer formation is defined as an aquifer that is separated from overlying and/or underlying aquifers by comparatively low-permeability layers. Groundwater aquifers may differ from each other in terms of pressure level and/or mineralization. The first groundwater level is the aquifer closest to the ground surface. Depending on the problem, a combination of the following methods is helpful.

- o Seismic Reflection*
 - o Seismic Refraction*
 - o Electrical Resistivity Tomography*
- *Acquisition, Processing, and Interpretation

RESOURCE EXPLORATION

In our geopolitical dependency, the exploration of raw materials is becoming increasingly important again. This includes on the one hand energy resources such as coal, oil and gas, and on the other hand especially mineral raw materials such as industrial minerals, metals as well as industrial rocks and minerals (construction raw materials). During a geophysical supported exploration of raw material

deposits, several questions often have to be clarified. The depth of the top and bottom of the raw material deposits as well as the spatial distribution and thus a quantitative estimation are in the focus of most projects.

- o Seismic Reflection*
 - o Seismic Refraction*
 - o Electrical Resistivity Tomography*
- *Acquisition, Processing, and Interpretation

REPOSITORY EXPLORATION NUCLEAR WASTE STORAGE

Radioactive waste must be isolated from the human habitat for an extensive period until its radioactivity has decayed to a harmless level. For this purpose, various countries are seeking suitable locations for deep geological repositories in which the waste is enclosed in a tight and stable rock formation at a depth of several hundred meters. Geophysical methods, such as those employed by Geo5 on projects in Switzerland and Germany, are used to determine these locations. The method of choice is Seismic Reflection which consists of the following steps:

- o Seismic processing and reprocessing
- o Horizon and fault interpretation
- o Calculation of seismic attributes
- o Well path planning
- o Reservoir geophysical studies
- o Structural modeling for thermal-hydraulic simulations
- o Fracture modeling

GEOTECHNICS ENGINEERING GEOPHYSICS

The geotechnical objectives of applied geophysics often focus on construction projects, cavity investigations and mass movements. For construction projects above and below ground, a wide variety of soil and rock mechanics issues need to be clarified. The depth of overlying bedrock, the presence and spatial location of geological faults are examples of such issues. Mostly the following methods are used:

- o Multichannel Analysis of Surface Waves (MASW)*
 - o Seismic Refraction*
 - o Electrical Resistivity Tomography*
 - o Sub-Bottom Profiling (Interpretation)
- *Acquisition, Processing, and Interpretation

SOFTWARE DEVELOPMENT

Certain problems in applied geophysics, among others a progressive digitization of "old" data, require customized software applications. Geo5 has been developing such solutions for many years. New software applications for seismic attribute generation and geobody extraction can greatly improve the interpretation of hydrocarbon and geothermal studies.

- o GLCM attribute plug-in for OpendTect (dGB Earth Sciences)
- o Development of new seismic attributes
- o Plug-in development for Petrel and OpendTect
- o Software applications for digitization
- o Seismic digitalization: from TIFF to SGY

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