



SUPPORT OF ARTIFICIAL GEOTHERMIC AND NON-CONVENTIONAL HYDROCARBON RESEARCH

The University of Miskolc offers innovative processes and services which focus on the sustainable and effective exploitation and protection of domestic underground (regulated by mining concession) reservoir systems as natural resources.

COMPETENCIES

The professional potential of the University is based on the decades-long, diversified international and domestic industrial experience, which is of decisive importance for the outstanding quality implementation of research, exploration and operation tasks related to underground reservoirs. For the project we can offer an effective support to the following activities:



SERVICES

PREPARATION: INVESTIGATION OF THEORETICAL AND PRACTICAL FEASIBILITY

- Complex cost-effectiveness and risk analysis – investigation of social and economical benefits and risk factors with special attention to Research, Development and Innovation and profit oriented issues, including the full innovation chain
- Technical support for the selection of the location, evaluations, drilling point selection, geological model verification
- In case of EGS (Enhanced Geothermal System) projects, development of a thermal model, heat transport modeling, rock mechanical and rheological studies

ACCOMPLISHMENT: IMPLEMENTATION, LOCAL CONTROL

- Preparation of decisions
- Full on-site professional control during construction
- Ensuring laboratory background (core analysis program; basic rock parameters: porosity, conventional and extreme low permeability, compressibility, wettability, acoustic, displacement, capillary pressure and pore volume distribution measurements)

POST-EVALUATION

- Comprehensive documentation activities
- Professional and consultation activities related to existing and operating projects
- Performance evaluation and development



TOOLS

- Nano-K – measurement of extreme low permeability
- PermeaMaster – measurement of gas permeability
- LiquiPerm – rock fluid compatibility
- Quantachrome 1200e – measurement of helium porosity
- Pascal 140, Pascal 440 – measurement of mercury injection porosity and pore size distribution
- CorExport Western Atlas – measurement of pore volume compressibility



REFERENCES

- During our activity we have built close partnerships with the leading companies of the domestic and international petroleum industry (MOL Nyrt., O&GD Kft., MMBF Zrt., HHE Kft., Schlumberger Ltd., OMV Petrom Ltd., Halliburton Ltd., ENI SpA, Fishbones AS)
- <http://pulse.afki.hu/hu/>, PULSE GINOP project, Development of enhanced engineering methods with the aim at utilization of subterranean energy resources
- <http://www.afki.hu/geocore.html>, GEOCORE geological knowledge center