

Features of reservoir rock and pore water in Szolnok Formation

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Petrographic study on jacuprangite from Kerinasi volcano, Tanzania

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Borehole logging measurements applied to hydraulic conductivity estimation

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Petrographic study on upper mantle xenoliths from a new locality of Mindszentkál (Bakony – Balaton Highland Volcanic Field)

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Mineralogical and textural study of manganese oxides layers on the footwall, Úrkút (Hungary)

Máté Zs. Leskó, **Boglárka A. Topa**

Department of Mineralogy, Eötvös University, Budapest

An attempt to estimate and validate permeability based on Stoneley-waves, case study of a thermal well

Lénárd Pál, **András Prohászka**

Geo-Log Geophysical & Environmental Ltd.

14⁰⁰-15⁰⁰ LUNCH BREAK

15⁰⁰-16⁵⁵ 3RD SESSION

15⁰⁰

Thermochronology of the Recsk Igneous Complex, NE-Hungary

T

Róbert Arrató¹, **István Dunkl**², **Ágnes Takács**¹, **Géza Szebényi**³

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How certain are we about uncertainty?

15¹⁵

István Nemes

MOL Plc.

15³⁰

Fractured reservoir characterization using borehole images

A

Ágnes Böger, **Ákos Hajdu**

MOL Plc., E&P IFA GGDM

15⁴⁵

Petrographic and geochemical investigation of the pyroclastics from Bondoró volcanic centre (western Pannonian Basin, Hungary)

T

Zoltán Taracsák

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16⁰⁰

Wedge analyses on the strength of fracture orientation and filling patterns in the Mórággy Granite Formation

A

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16¹⁵

Method of abandoned underground mine site characterisation and risk assessment of Hungary

T

Attila Jánkfalvi

Geological and Geophysical Institute of Hungary

16³⁰

DISCUSSION

16⁵⁵-17¹⁰

COFFEE BREAK



MAGYAR GEOFIZIKUSOK EGYESÜLETE

MAGYARHONI FÖLDTANI TÁRSULAT

**XLV.
Ifjú Szakemberek Ankétja**

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aperture, fracture porosity and permeability, and the analysis of maximum and minimum horizontal stresses. We compared our results with data from other measurement and observations (core porosity, core permeability, mud loss, hydrodynamic investigations).

[1] Kuchuk, F., Biryukov, D. (2013): Pressure Transient Tests and Flow Regimes in Fractured Reservoirs characterization. SPE Annual Technical Conference and Exhibition 2013, p. 24.

Petrographic and geochemical investigation of the pyroclastics from Bondoró volcanic centre (western Pannonian Basin, Hungary)

Zoltán Taracsák

Department of Petrology and Geochemistry, Eötvös Loránd University;
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Theoretical

Bondoró is one of the youngest and most complex eruptive centres of the Bakony-Balaton Highland Volcanic Field. It consists of different eruptive units: phreatomagmatic eruptions built up a tuff ring which was filled by basaltic lava afterwards. Finally, magmatic explosive eruptions (and related lava flows) occurred and a scoria cone was formed. This complex volcanic structure and the discordance in the succession suggest that Bondoró is a polycyclic monogenetic volcanic centre. Former studies of the lava rocks and bombs revealed that the Bondoró alkaline basaltic magma is unique among the Pannonian Basin basalts: it contains a vast amount of xenocrysts and xenoliths. This xenocryst enrichment caused high concentration of refractory elements, therefore the whole-rock composition does not represent the original magma composition.

My research focuses on the oldest products of the volcanic centre, i.e., the tuff ring sequences. Detailed petrographic investigations confirmed that the juvenile basalt fragments of these pyroclastics also contain abundant xenocrysts and xenoliths, thus their whole-rock compositions are modified as well.

To find out the original composition of the basaltic magma, sideromelane glass shards of the pyroclastics were carefully analysed which represent the quenched, fractionated melt produced by phreatomagmatic eruptions. Detailed investigation of these glass shards is often the only possible tool to reveal the parental magma composition in the case of pyroclastics. The glass shards were analysed based on their colour, crystal content and chemical

composition. Four different minerals were observed: olivine, clinopyroxene, plagioclase and Fe-Ti-oxides. The glasses have phonotephritic-tephriphonolitic compositions.

For the major element geochemical modelling, the amounts of the different phases together with their compositions were determined and mass balance calculations were carried out to approximate the composition of the parental magma. The calculated parental magma compositions are tephritic/basanitic and phonotephritic which together with the measured glass compositions fit in the alkaline fractionation trend.

Wedge analyses on the strength of fracture orientation and filling patterns in the Mórággy Granite Formation

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Applied

Nowadays the most eager environmental geological task is the safe and long term storage of the radioactive waste of nuclear power plants. In Hungary the National Radioactive Waste Repository (NRWR), which is responsible for storing the low and medium level nuclear waste started its activity in 2012 in Bátapáti. The Mórággy Granite Formation hosts the excavations of NRWR. The input datasets of modelling of the unstable wedges was defined in this research which are necessary for the planning phase of the enlargement of the NRWR.

The falling of unstable roof wedges is one of the most emphatic threats during underground excavations. To avoid this tunnel support system need to be scaled properly to these wedges. Rocscience Unwedge software was used to model wedges. The most important input data for this is the fracture orientation, which defines the possible wedge geometry and subordinately the quality of filling material, which characterize shear resistance.

Defining the major orientation of fractures in the Mórággy Granite Formation is a very sensitive task. To create representative datasets the research did not comprehend the whole investigated area, just only