Ore Deposits of Bor Mineral District, Serbia – Sofia University SEG
Student Chapter field trip – 2018

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During 22–25th of October, 2018 the Sofia University SEG Student Chapter has organized a field trip to the Bor Mineral District, Serbia. The aim was to introduce the students with the Cu-Au deposits and mining history of this region. Our field trip leader was prof. K. Bogdanov from Sofia University, Department of Mineralogy, Petrology and Economic Geology.

All the five ore deposits that we visited in the Bor Mineral District are part of ABTS magmatic and metallogenic belt, located along the eastern margin of the Timok magmatic complex (TMC). They include porphyry copper, HS Cu-Au epithermal and sediment hosted gold deposits (Banjesevic, 2010).

During the first day we visited the Borsko Jezero prospect (Mundoro Capital Inc.) which is located at 2 km west of Bor mine. Large epithermal gold and Cu-Au porphyry bodies of Borsko Jezero are hosted by pyroclastic rocks of the TMC. We had the opportunity to visit the core storage and examine the host-rock alterations and the ore geology.

Our next stop was at “Avala Resources Ltd.” to the unique for the TMC sediment-hosted Au deposits Bigar Hill, Kraku Pešter, Korkan and Korkan East. All of them could be attached to the Carlin-type gold deposits. We examined the core from Bigar Hill deposit and observed the unique association of gold mineralization with the Upper Cretaceous limestones, marls and sandstones.

On the second field trip day we visited Veliki Kri velj (RTB Bor) Cu-Au porphyry deposit (Fig. 1, 3) in which andesitic rocks host deeper parts of Cu porphyry mineralization. Going to the paleosurface we traced the transition from stockwork to HS enargite and covellite rich massive sulphides (Janković, 1980). The recorded Cu average grades vary between 0.32–0.15% and around 0.7 g/t Au.

During the next day we visited Majdanpek (RTB Bor), one of the oldest porphyry copper deposit in the world (Fig. 2) with mining history for nearly 7000 years. We were on the South pit of the deposit with estimated resources around 1 000 Mt with grades of 0.4% Cu, 0.4% Mo and 0.25 g/t Au. The Cu ore mineralization is related to andesitic dykes which are intruded in metamorphic rocks and limestones along the Timok fault zone.

The last fourth day of our field trip we visited Chukaru Peki project (Freeport-McMoran and Reservoir Minerals), it is located within the central zone of...
the TMC. The mineralization identified at the Cukaru Peki deposit belongs to the epithermal and Cu-Au porphyry types traced to more than 2300 m depth. During our visit in the core storage we observed covellite rich core and the geological staff introduced us with the sampling and core-logging procedures that have been carried out during the exploration.

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References