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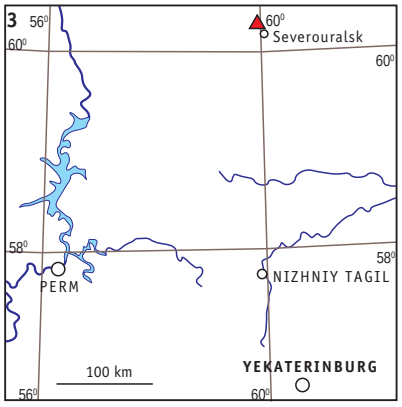
A KARST CAVITY WITH CALCITE DRUSES IN THE "KRASNAYA SHAPOCHKA" MINE

Mikhail V. Tsyganko, Alexander N. Khalevin,
Northern Ural Paramilitary Mine Rescue Troop, Emergency Situation Ministry of RF, Severouralsk,
zigankom@mail.ru
Eugene A. Tsurikhin,
Ural Branch of Federal State Unitary Enterprise State Engineering Center of Fishery, Yekaterinburg



3. Geographic Location of the "Krasnaya Shapochka" Mine.

All specimens: "Krasnaya Shapochka" Mine, Severouralsk Bauxite Mine, North Uralian Bauxite Basin, Sverdlovskaya Oblast, North Urals, Russia.

Photo: Michael B. Leybov if others not mentioned

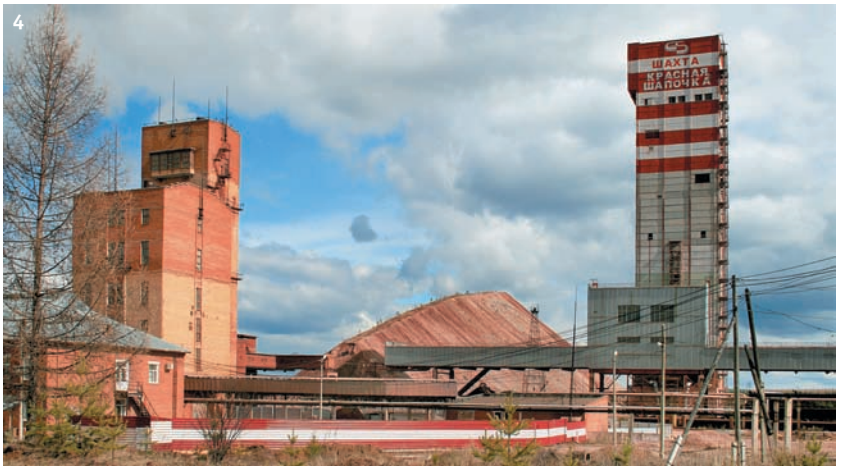
2. Mikhail V. Tsyganko in the karst cavity at -500 m level with **calcite** *in situ*, "Krasnaya Shapochka" (former 14-14bis) Mine. Photo: Eugene A. Tsurikhin, 2013.

3. The karst cavity at -500 m level with **calcite** *in situ*, "Krasnaya Shapochka" (former 14-14bis) Mine. Photo: Eugene A. Tsurikhin, 2013.

Not only the inhabitants of Severouralsk[1], but mineral amateurs far beyond the Urals have known about a large karst cavity with a spectacular calcite druse in the "Krasnaya Shapochka" (Little Red Riding-hood) bauxite mine. Magnificent hand specimens decorate many museum and private mineral collections.

This cavity was opened in 1983 in driving a tunnel leading to a slope of a mono-rope chair lift at level 500 m of the former mine 14-14bis (now the "Krasnaya Shapochka" mine). The cavity is hosted in Lower Devonian limestone at a depth of 700 m below the surface (the elevation of the mine above sea level is 210 m) at a great distance from the orebody and closer to its footwall. The most extensive part of the cavity was opened. When a visitor comes to the cavity from the mine he could see a hall about 5 m in height from roof to rock-fall; the greatest depth of the hall is 20.5 m and the width is 11.9 m. The floor of this hall was partly flooded. It is apparent that the cavity was not completely flooded before dewatering as indicated by a clear boundary of the old water plane on the cavity walls. The walls and bottom are filled with brown mud below this boundary, whereas above it, everything is clean. The calcite crystals in the lower part are complete overgrown by iron minerals and clay coats the latter, whereas only subtle ferruginization is observed in the upper part. The boundary between these zones is sharp.

A long karst passage, which is called a meander in speleological terminology, begins in the far left part of the hall if viewed from the entrance. The passage is north-west trending; the accessible part does not exceed 20 m in length, the mean width is 1.5 m and



4. "Krasnaya Shapochka" Mine. Photo: Mikhail V. Tsyganko, 2017.

[1] Severouralsk is a town in Sverdlovsk Oblast, Russia, located on the Vagran River (Ob's basin), 512 kilometers (318 mi) north of Yekaterinburg, the administrative center of the Sverdlovsk Oblast. (https://en.wikipedia.org/wiki/Severouralsk)