THE HYDROGENIC PLATINUM DEPOSITS OF SECONDARY ENRICHMENT IN WEATHERING CRUSTS OF THE GIL'BERA DEEP-SEATED FAULT ZONE

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The hydrogenic platinum (Pt) deposits are two types of platinoids mineralization among 5 types revealed in 1990-s. All these 5 types are situated in the Gil'bera deep seated fault in an unusual position in cracked and crushed alcaline hybrid syenites and monzonites. The dispersed <1-5 mkm in size, primary Pt mineralization, in our opinion, is of hydrothermal or pneumatolitic origin. In weathering crusts leaching of Pt by acid helated atmospheric precipitations, downward migration of Pt, neutralization of acid waters in eluvium of broken alcaline native rocks and precipitation of Pt and other platinoids with forming of their particles to 1-5 mm take place. Two types of these hydrogenic deposits are revealed: 1) cloack-form at a depth of 1-3 m; 2) pocket-form in tectonic zones of cracked, crushed and weathered native rocks. By preliminary data cloack-form Pt deposits are situated at a depth of 1-3 m and have a very uneven distribution. They were exploited by tens thousands of old pits and carriers up to 120x100 m in size. The cloack-form Pt deposits may be 60-100 m deep judging from one bore hole. These old minings were used in 19th – the beginning of 20th century by Chinese, Mongolians, Japanese and Americans (Canadians). The best investigated cloack-form hydrogenic Pt deposits are situated on the invisible to the eye boarder of loose covers and native rocks eluvium or with native rocks themselves. The thickness of the cloack-form horizon enriched by Pt is at the first count 0,2-0,5 m. Content of Pt in cloak-form deposits reach 100-500 ppb and Pd 5-60 ppb on the local background <1ppb for Pt and <0,2 ppb for Pd. It is characteristic a forming of monoelemental localities of Pt, Ir, Os, Rh, Pd, Au, Ag with Pb or without it.