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**Title: METALLOGENY OF HG, SB AND AU-HG DEPOSITS IN THE
PACIFIC ACTIVE CONTINENTAL MARGINS**

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Abstract: The global Pacific Ocean Metallogenic Belt (GPOMB) is favorable for the development of ore-forming systems of various ore deposit types. The origin of mercury deposits was first described by J. Becker (1988). In addition, Smirnov (1946) recognized the global metallogenic framework of both the western and eastern margins of the Pacific Ocean.

The Circum Pacific metallogenic map of Hg, Sb, Sb-Hg and Au-Hg deposits (at a scale 1:10 M, this study), shows regularities of localization of these deposits in time and space. Mesozoic-Cenozoic Hg, Sb, Sb-Hg, and Au-Hg deposits occur in various geodynamic settings along the active western and eastern Pacific continental margins, including: (1) ensialic island-arcs (Hg hot-spring); (2) accretionary wedge or subduction zones complexes (silica-carbonate-Hg, Au-Hg); (3) overlying continental-margin volcanic belts (volcanic hosted Hg); and (4) back-arc rifting areas and reactivated platform sequences (jasperoid limestone-hosted Hg, Sb, Au-Hg). In addition, small Hg and Au-Hg deposits occur in ensialic island-arc systems in the western Pacific Ocean (Japan, Oceania, New Zealand). Also the important Au-Hg province of SE China occurs in the GPOMB, including the large Sb-Hg (Van Shan) and Au-Hg Carlin-type deposits related to Mesozoic rifting of the South China Craton during upwelling of the Emeishan mantle plume (Hu Rui Zhong et al., 2002, Borisenko et al., 2005, 2006).

The epithermal Hg and Au-Hg deposits of the Verkhoyansk-Kolyma, Okhotsk-Chukotka and Primorie orogenic belts in Eastern Russia formed during the Late Jurassic to Early

Cretaceous. The deposits occur along the eastern margin of the Asian continent and are interpreted as forming along an active transform continental margin. The Cenozoic Hg deposits occur along active Andean and Californian type continental margins behind accretionary wedge or subduction zone complexes in overlying continental volcanic belts (Rytuba, 2002). The mercury deposits of the Russian Far East occur in a similar geodynamic setting.

A large quantity of Hg and especially Au-Hg deposits in the Basin and Range Province of the Western USA occur mainly in a back-arc tectonic setting over the rifted North America paleocontinental margin (Emsbo et al., 2006). The important ore-magmatic systems with porphyry-Cu-Mo and Au-Hg epithermal deposits formed from about 45-35, 20-15 , and 9-5 Ma. The intensity and duration is the result of consecutive mantle plumes together with associated magmatism and ore-formation (Oppliger et al., 1997; Ressel and Henry, 2006).