

LITHOCAPS, ± AU-CU AND/OR ADJACENT EPITHERMAL VEINS, AND TRANSITION TO PORPHYRY CU-(AU) DEPOSITS: EXPLORATION GUIDES

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JEFFREY W. HEDENQUIST

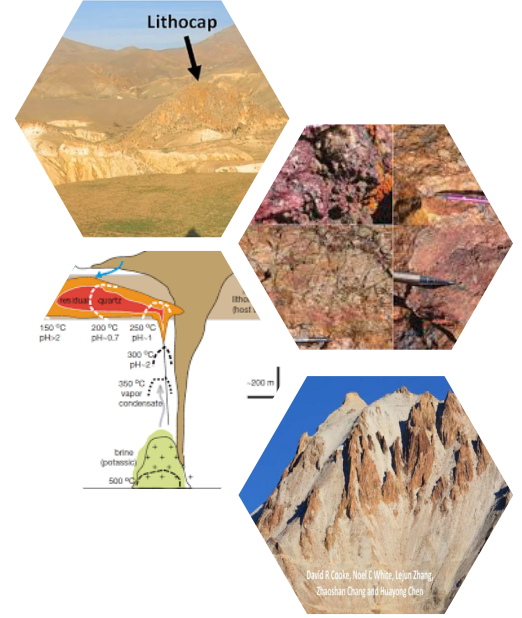
Süre : 7 saat (8:30 - 16:30)

Kontenjan : Maksimum 40 katılımcı

Kurs Materyali : Sunum Pdf'leri, Mevzuat veri setleri, kaynak listesi

Gereksinimler : Yalnızca not almak gerekebilir (Yazılım kurulumu gerekmez)

Sertifika : Katılım sertifikası verilecektir



Başvurmak için lütfen tıklayınız

Lithocaps are permeable lithologic horizons that are altered to residual quartz with zoned halos of quartz-alunite and aluminosilicate minerals; they are formed by acidic condensates of magmatic volatiles derived from underlying intrusions. Lithocap alteration forms near the surface at the same time as potassic alteration of underlying porphyry deposits, due to the linked vapor and hypersaline liquid, respectively. Lithocaps are barren in metals on formation, but some are subsequently mineralized with Cu (as high sulfidation-state sulfides, such as enargite) and Au. Epithermal veins may form on the margin of lithocaps, whether or not the lithocap is mineralized.

Several mineralized lithocaps are associated with deeper porphyry Cu-Au deposits, including Lepanto and Far Southeast, Philippines (1 Mt Cu, 105 t Au and 5 Mt Cu, 600 t Au, respectively), Bor and Borska Reka in Serbia (6.7 Mt Cu, 312 t Au and 3.7 Mt Cu, 142 t Au), and Tujuh Bukit and Tumpangpitu, Indonesia (65 t Au, oxidized, and 8.6 Mt Cu, 855 t Au). Smaller examples of lithocaps related to porphyry deposits are present in the Biga region of Turkey. At Onto, Indonesia, the high sulfidation-state sulfides of the lithocap overprint earlier formed porphyry stockwork veins (15.4 Mt Cu, 848 t Au), although the upper ~300 m of the lithocap is essentially barren. The recently discovered high-grade overprint of high sulfidation-state minerals on stockwork of the Filo del Sol porphyry deposit (13 Mt Cu, 960 t Au, M+I), on the border of Argentina and Chile, shares mineralogical similarities with Onto. Barren lithocaps can be underlain by porphyry deposits of the same age, including those at depth in the Escondida district, Chile, and the Cocañez lithocap supradjacent to the Perol deposit, Peru. The Guinaoang quartz-alunite lithocap, 5 km from Lepanto, is a barren zone over a deeper porphyry deposit, and likewise, the lithocap that outcrops above the Rosia Poieni porphyry deposit, Romania, contains <50 ppb Au. The Valeriano lithocap, Chile – initially tested for supergene-oxidized gold, with a small, low-grade resource – is underlain by one of the largest and highest grade porphyry Cu-Au deposits recently discovered (2 Bt at 0.88 to 0.75 wt% Cu equiv.). The overprint of deeper porphyry deposits by lithocap-related mineralization, contributes to high grades.

This 1-day course will discuss the formation of lithocaps and their characteristics, plus mineralization in some cases (caused by ascent of fluid related to the white mica-chlorite overprint of intrusions at depth). Variable relationships of lithocaps to underlying intrusions and porphyry Cu±Au deposits, and the mineralogical transition at the base of lithocaps to the tops of porphyry mineralization, will be examined, stressing features to assist exploration and assessment.