THE GOLD - RICH PORPHYRY TYPE MINERALISATION AT NEMESIS PROSPECT, NORTHERN CHILE.

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The Maricunga belt is located in the Andes of northern Chile, 26-28º S. It consists of Miocene volcanic rocks hosting epithermal Au-Ag and gold-rich porphyry deposits. The Nemesis prospect, located south of the 28º S, consists of Au-(Cu) mineralisation hosted by dioritic and dacitic porphyries. The distribution of mineralisation is controlled by a stockwork of quartz, quartz-magnetite, quartz-k-feldspar veinlets. The higher contents of Au and Cu determined in the deposit are 2 ppm and 0.3% respectively. The hydrothermal alteration, related with mineralisation, includes a central zone with potassic altered rocks surrounded by an external halo of rocks afected by propilitic alteration. Both zones are overprinted by fillic alteration.Fluid inclusion data show homogenization temperatures between 450-500 ºC and salinities in the range 45-55 % NaCl eq., for quartz veinlets of the potassic alteration zone. A K-Ar age of the altered host rock indicates 16.7 Ma, similar to the gold rich porphyry bearing event in the Maricunga belt (16-12 Ma).The ore mineralogy, dominated by pyrite and chalcopyrite, fluid inclusion data, hydrothermal alteration and relationships with porphyry bodies, interpreted as volcanic domes, are compatible with the features of the gold rich porphyry systems described in the Maricunga belt.