POLYMETALLIC MINERALIZATIONS IN THE LAGO FONTANA REGION, PATAGONIAN RANGES, ARGENTINA

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The important polymetallic (Pb, Zn, Cu, Ag, Au) mineralizations of the Lago Fontana region (45° S), Patagonian Ranges (Ferrocarrilera and Cerro Bayo) are hosted by hydrothermally altered volcanic rocks. The Ferrocarrilera pinch and swell veins outcrop along 1,000 m in a fault zone in Lower Cretaceous andesites with phyllic and propylitic alteration. Quartz, sphalerite, galena, pyrite and chalcopyrite were formed in low salinity fluids about 180-250°C (fluid inclusions and microanalysis of chlorites) with mixed magmatic and meteoric contribution (S-O-Pb isotopes). Free gold occurs in sphalerite and quartz. The Cerro Bayo quartz veins have pyrite, chalcopyrite and galena, and occur, along with a sinter, in Upper Jurassic tuffs and ignimbrite, intensely altered to illite-chlorite. Gold anomalies are associated with jarosite. Rb/Sr dating of hydrotermal minerals from both deposits yields about 115-125 Ma. Field relations, ages and Pb isotopes relate the mineralizations to granites of Cerro Victoria Formation (117 ? 2 Ma). Both deposits are considered to be cogenetic, corresponding to two differents erosion levels, and thus may be the product of shallow fluids in a Lower Cretaceous volcanic arc environment.