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Arsenian pyrite-bearing altered volcanics dredged SE of Cheshire Seamount Woodlark Basin, Papua New Guinea.

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Altered volcanics dredge SE of Cheshire Seamount Woodlark Basin are essentailly polymictic and monomictic crackle, mosiac and chaotic breccias with atleast 30%clast being <2mm in diameter. The volcanics are dacitic to rhyolitic in comopsition with 48.25-75.79wt% SiO_2. Mineralogical and geochemical investigation of the breccias reveal a wide variety of alterations: silicification, chloritization, albitization and clay mineral alteration. Needle-like cystals of zeolite grow on quartz crystals pointing to hydrothermal alteration at very low temperatures. Amongst the breccias is a sulphide-rich variety which is characterized by framboidal, collomorphic and massive pyrite. It has as much as 5530ppm AS,
9ppm Hg, 110ppm Mo, 270ppm Zn, and 125ppb Au. This suggest that sulphidation lead to the precipitation of gold from a Hg-bearing fluid. EMPA analysis of pyrite from this variety indicates the presence of arsenian pyrite. On a multielement varietion diagram it shows very high U concentration with respect to the other samples. Normalized REE plots show a negative Eu anomaly but for the sulphide sample which shows a slightly positive Eu anomaly. Volcanics are enriched in LREE with an almost flat HREE pettern.
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