

**Kitsault Lake volcanic exhalative Sr(-Zn) occurrence,  
northwest British Columbia**

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An unusual volcanic exhalative Sr(-Zn) occurrence is present in the upper part of the Lower Jurassic Hazelton Group in the Kitsault Lake area of northwest British Columbia. Celestite, sphalerite, pyrite with minor amounts of barite, strontianite, galena, arsenopyrite, greenockite and trace amounts of orpiment occur in association with dark carbonaceous, pebbly mudstone (diamictite) interbedded with andesitic tuff-breccia. The sulphate minerals are bedded with sulphides disseminated both in the sulphate and diamictite units. Pyrite also occurs in deformed colloform layers, framboids, wispy veins and clasts in the diamictite.

A felsic lapilli tuff unit, about 100 to 200m(?) stratigraphically below the exhalative Sr(-Zn) occurrence, has yielded a U-Pb zircon age of  $193.5 \pm 0.4$  Ma. The stratigraphic setting is analogous to that of the important Eskay Creek deposit about 120 km to the northwest.

Most celestite deposits occur in evaporite-redbed environments. The authors are unaware of any other documented occurrence of volcanic exhalative celestite. This bedded sulphate unit could be a distal volcanic exhalative product in a basin adjacent to a paleotopographically higher exhalative hydrothermal centre.

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