Alteration and Mineralization at the Red Chris Cu-Au Porphyry Deposit, northwestern British Columbia

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Regional Geology

- Unit: Hornblende - Gabbroic rocks of the Red Chris deposit
- Late-Tertiary volcanic and subvolcanic domes and ridges.
- Regionally and individually prominent in the Red Chris deposit

Alteration

- Hornblende and grey-white secondary biotite/chlorite: Least altered
- K-feldspar alteration of groundmass. Mafic alteration

Mineralization

- Felsics 'greasy green' in colour.
- Moderate to strong illite alteration.
- Intense illite alteration

Ore Zones and Mineralization

- Copper mineralization occurs as disseminated and fracture controlled bornite and chalcopyrite with hematite, anhydrite, and chalcopyrite. (Collins et al., 2004)
- Illite overprint. Mafics and felsics: Moderate to strong illite alteration
- Illite and kaolinite: Illite and kaolinite

Introductions

- The Red Chris deposit is located in British Columbia. The geologic history is dominated by subduction and collision of oceanic terranes.
- Characterized by the presence of subduction-related mafic-ultramafic intrusions.
- Mineralized zones are often accompanied by hydrous alteration.

Observations

- All observations are based on detailed drill logging and petrographic work, including thin sections and SEM

Mineralization

- Illite alteration overprinting mafic alteration of groundmass. Illite alteration of groundmass.
- Illite and kaolinite

Interpretations

- Short Wave Infrared Spectroscopy - "TeraSpec"
- Analysis of over 100 samples
- Sample collection and analysis

Acknowledgments

- Imperial Metals Corporation.

References