

Volcanic-Associated Massive Sulphide Deposits

"The *Cadillac* of ore deposits"

Cu Pb Zn Au Ag (Co Cd)









PALEOZOIC (Devonian ?)

GNEISS



Mafic to intermediate gneiss. Biotite epidote hornblende mafic gneiss. Resistant, black to greenish black rock. Commonly migmatitic in northern areas. Medium grained, granular. Locally contains pyrite-, garnet- and diopside-rich boudins and lenses. Medium grained, granular, light grey weathering biotite q-f gneiss is present in southern portions of unit.

METASEDIMENTARY ROCKS



Mixed metasedimentary rocks of the Khtada Lake area. Not mapped in this study. See Hollister (1977, 1982) for description.



Quartzite Unit of Gareau (1997). Not mapped in this study. May be correlative with unit 2.



Quartzite and Quartz Schist: Quartzite is a light grey, resistant rock, >95% quartz. Fine grained to very fined grained. Laminations of muscovite with trace to minor pyrite. Interlayered with garnet biotite quartz schist in the southern map area

METAVOLCANIC ROCKS



Felsic Volcanic Rocks: Pyritic quartz biotite muscovite schist to semi-schist ± garnet. Fissile and recessive. Commonly associated with quartz-rich metasediments within metavolcanic unit. Prominent gossanous exposures can be traced across terrain.

Garnet biotite quartz schist to phyllite and muscovite quartzite interlayered on the 5-to-10 metre scale with mafic and felsic metavolcanic rocks.



Intermediate Volcanic Rocks: Hornblende biotite quartz feldspar semi-schist ± epidote. Dark grey to black medium grained rock. Resistant. Hornblende biotite rich partings on cm-spacing.



Mafic Volcanic Rocks: Hornblende biotite plagioclase schist ± pyrite ± garnet; dark black to rusty red recessive and commonly fissile, rare discontinuous carbonate lenses, homogeneous on outcrop scale, locally displays relict volcaniclastic tecture.

INTRUSIVE ROCKS

TERTIARY - 56.8 6 0.1 Ma (Late Paleocene)



Quottoon Pluton: hornblende ± biotite tonalite to quartz diorite with abundant screens of gneiss and common rafts of metasedimentary rock. Medium to coarse grained. Strongly foliated throughout and locally lineated along western margin.

CRETACEOUS - 93.5 ± 1 Ma (early Late Cretaceous)



Ecstall Pluton: Epidote hornblende biotite metadiorite (**Bd**) to metaquartzdiorite (**Bqd**) and granodiorite, with minor biotite hornblende quartz diorite. Medium to coarse grained. Moderately foliated. Up to 5% fine to medium grained epidote is a characteristic feature.

DEVONIAN - 385 ± 4 Ma (Middle Devonian)



Big Falls Orthogneiss. Biotite hornblende meta-tonalite/trondhjemite ± garnet ± epidote. Light grey, fine to medium grained. Texture varies from plagioclase augen gneiss to fine grained plagioclase porphyritic gneiss to mylonite. Probably co-magmatic with the volcanic rocks of unit 1