

Felsic Extrusive VAMS Cu-Pb-Zn-Ag-Au

Province:

Potential:

Certainty:

Index (out of 10):

Critical Elements (Assessment Criteria)	Identified	Not Identified, but likely	Unlikely	Weighting
Setting <ul style="list-style-type: none"> • Back-arc extensional basins, ensialic extensional volcanic basins (Archaean and Proterozoic) • Calc-alkaline submarine volcanics (bimodal or polymodal) dominated by rhyolite and sediments. • Archaean greenstone belts 				
Source (fluid, metal, energy) <ul style="list-style-type: none"> • Fluid: seawater; subvolcanic intrusives. • Metal: seawater; footwall volcanics (mafic for copper); subvolcanic intrusives • Energy: subvolcanic intrusives; deep and/or shallow ultramafic sills, rhyolite domes or plugs 				
Fluid pathway <ul style="list-style-type: none"> • Syn-volcanic faults • Relatively more permeable epiclastic or autoclastic breccia 				
Trap (any of the following) (predominantly structural) <ul style="list-style-type: none"> • Structural: resurgent and collapse calderas • Chemical: interaction with seawater 				
Signs of mineralising process (any of the following, but if occurrences have been identified the level of certainty increases)				

<ul style="list-style-type: none"> • Wall rock alteration (any of the following): <ul style="list-style-type: none"> • Regional chloritic±sericitic alteration (Phanerozoic deposits) • In Precambrian deposits metamorphism transforms alteration zones: chloritic into an assemblage of hornblende, biotite, cordierite and anthophyllite and if carbonate was present, into tremolite-actinolite, garnet, epidote and Ca-pyroxene; sericitic into sillimanite-quartz-feldspar assemblage • Semiconformable zones (few hundreds of metres thick and several kilometres long) of alkali depletion and variably carbonatized rocks could indicate 'reservoir zones'. • Geochemical <ul style="list-style-type: none"> • Na depletion and Mg enrichment halos • Geophysical (not quite important) • Known occurrences 				
<p>Preservation</p> <ul style="list-style-type: none"> • Age: Not important but younger systems have higher chances of being preserved • Cover of epiclastic units, basalts soon after the formation could be important for preservation 				