

Mafic Extrusive VAMS Cu-Zn-Ag-Au (Cyprus style)

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"> • Normal oceanic ridges • Mature backarc extensional basins • Spreading/extensional basins in supra-subduction zones (forearc, immature backarc) • Terranes of Obducted ophiolites 	From Cambrian – Early Silurian onwards the zone developed as a fore arc slope and basin and as an accretionary prism. Basalt, andesite, chert, limestone (Wisemams Arms Formation); Chert, jasper, Mn-cherts, basalt, dolerite, pillow lavas (Woolomin Group; Bobs Creek Formation; Nangarhrah Formation; Myra beds; Watonga Formation)			
Source (fluid, metal, energy) <ul style="list-style-type: none"> • Fluid: seawater; mafic-ultramafic magmatic system • Metal: seawater; footwall volcanics (mafic for copper); subvolcanic intrusives • Energy: mafic-ultramafic magmatic chamber; subvolcanic intrusives (plagio-granites, sometimes rhyolite) 				
Fluid pathway <ul style="list-style-type: none"> • Large faults, parallel to axis of the fossil ridge, controlling the rift system 				
Trap (any of the following) (predominantly structural) <ul style="list-style-type: none"> • Structural: Small scale normal faults and second order rift systems 				

<ul style="list-style-type: none"> • Chemical: interaction with seawater 				
<p>Signs of mineralising process (any of the following, but if occurrences have been identified the level of certainty increases)</p> <ul style="list-style-type: none"> • Wall rock alteration (any of the following): <ul style="list-style-type: none"> • Alteration facies from top to bottom (Clay; Zeolite; Zeolite-lower greenschist; Prehnite-pumpellyite to lower greenschist; Upper greenschist-lower amphibolite; amphibolite). Zoning of stable minerals (top to bottom): Clay-Zeolite-Smectite-chlorite-epidote-hornblende • Geochemical <ul style="list-style-type: none"> • Jasper-quartz-magnetite rich and/or Mn rich pelagic/hydrothermal sediments. • General loss of Ca and Na and introduction of Mg in the peripheral part of alteration zones • An ochre zone (Mn-poor, Fe-rich containing goethite, maghemite, quartz, jarosite produced by submarine oxidative leaching) caps the ore body • Geophysical (not quite important): Electrical (E.M.; I.P.; Resistivity). • Known occurrences 				
<p>Preservation</p> <ul style="list-style-type: none"> • Age: Not important but younger systems have higher chances of being preserved. Older ophiolite complexes are deformed (obducted) • Cover of epiclastic units, basalts soon after the formation could be important for preservation 				