# Orogenic Lode Gold

**Geoprovince:**

**Potential:** **Certainty:**

| **Critical Elements (Assessment Criteria)** | **Identified** | **Likely** | **Unlikely** |
|---|---|---|---|
| Setting<br>• Continental margin accretionary (oceanic-continental) and collisional (continent-continent) orogens<br>• Archaean granite-greenstone terrain<br>• Terrains of turbiditic (meta)sedimentary rocks | | | |
| Source (fluid, metal, energy)<br>• Deformation, metamorphic, and magmatic (orogenic) processes (often related to Phanerozoic convergent plate margins. | | | |
| Fluid pathway<br>• Major regional structures often along terrane boundaries (second or third order, most commonly transcrustal compressional structures) | | | |
| Trap (any of the following)<br>• Structural: brittle faults, ductile shear zones, fracture network, breccia zones, fold hinges<br>• Physico-chemical: iron-rich host rock (important for desulphidation reaction); host rocks rich in carbonaceous material | | | |
| Signs of mineralising process (any of the following, but if occurrences have been identified the level of certainty increases)<br>• Wall rock alteration (more important for Archaean greenstone deposits; any of the following)<br>  • Carbonate (ankerite, dolomite, or calcite)<br>  • Alkali metasomatism (sericitization; fuchsite; potassic (biotite and/or potash feldspar) albitization)<br>  • chloritization<br>  • sulphidation (more prominent in BIF and Fe-rich host rocks)<br>• Geochemical anomalies<br>• Known occurrences of orogenic lode gold or of associated deposit types | | | |
| • Preservation<br>  • Greenstone deposits are of Archaean age, other lode deposits could be of any age<br>  • Orogenic history of the terrane (tectonic and metamorphic history)<br>  • Geomorphic history (type and depth of regolith) | | | |