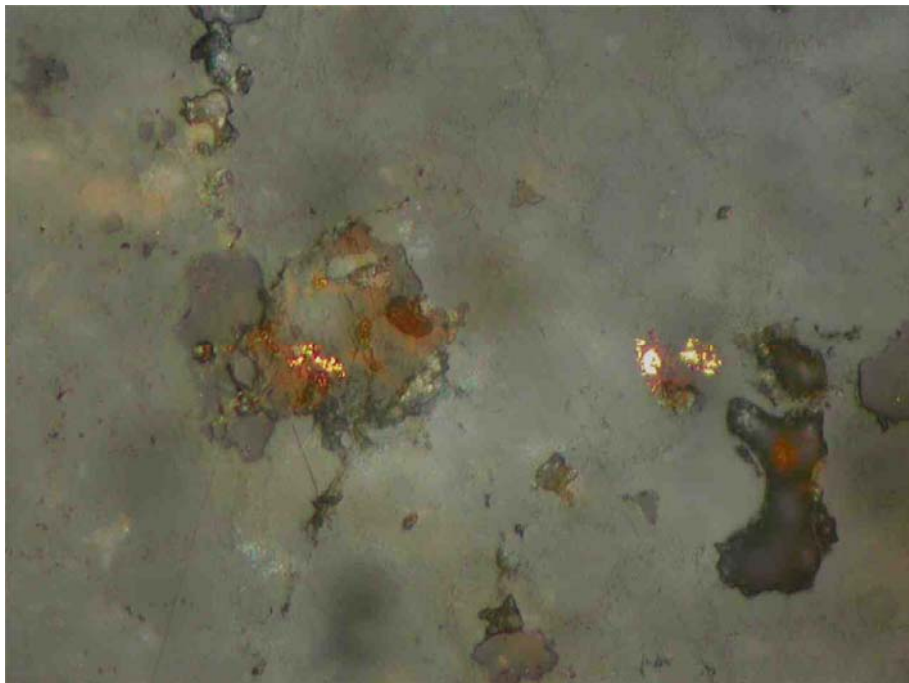


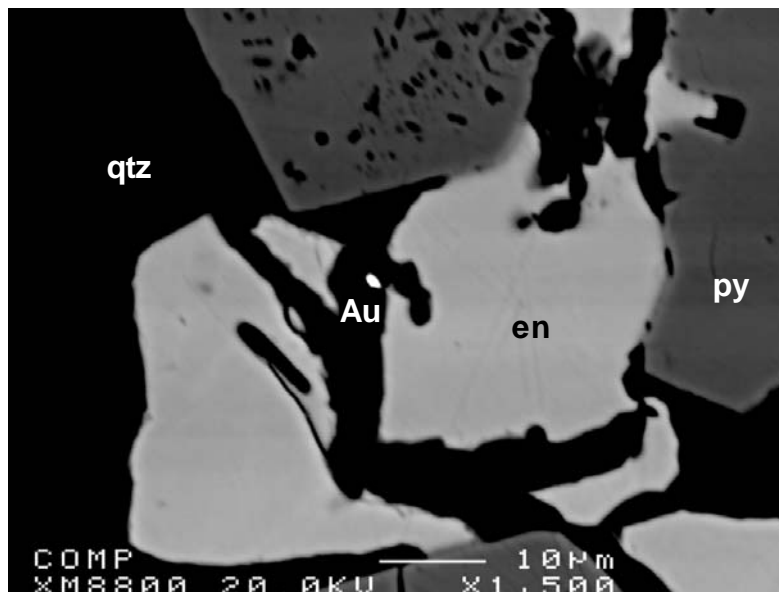
## Petrology Study - Miwah Drill Core

Twenty-two quarter split Miwah drill core sample off-cuts were dispatched to universities in Australia and Canada for petrological studies. A variety of rock types from drill holes EMD003, 018, 019, 022 and 024 from Miwah Bluff, EMD008, 011, 012A 016 and 026 from Block M, and EMD005 and 006 from South Miwah Bluff were sent for analysis. The results from both universities indicated the following;

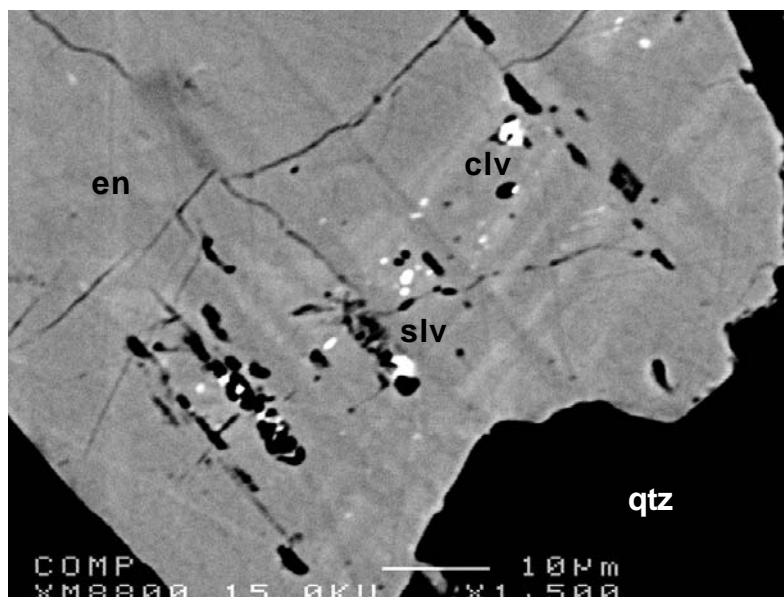
1. The main lithology is porphyritic andesite with some primary fragmental features (volcanic breccia). There is a minor component with small phenocrysts of quartz pointing towards dacite composition.
2. The presence of hornblende suggests the magma was hydrous with good implications for the subsequent hydrothermal magmatic fluid evolution events.
3. The alteration minerals suggest an acid fluid with low to moderate temperatures with mineral assemblages grading from propylitic to argillic to advanced argillic to silicification. The following are mineral assemblages of each type;
  - a. Propylitic: illite or illite-sericite, kaolinite and/or smectite type, quartz, carbonate, pyrite and leucoxene (fine rutile) and minor albite and chlorite.
  - b. Argillic: illite-sericite and quartz with local kaolinite, pyrite and leucoxene.
  - c. Advanced Argillic: abundant fine (locally medium) grained inequigranular quartz and aggregates of prismatic alunite, kaolinitic clay and trace rutile.
  - d. Silicification: scattered dissolution cavities and voids (lined by quartz crystals and rare barite) gradational into advanced argillic alteration with incoming significant alunite. Other voids are filled with enargite, pyrite and rare covellite.
4. Native gold grains were found in EMD024 at 208.1 metres in a vein of alunite / jarosite (grey) / goethite (orange-brown). The FOV is 0.2 mm across.



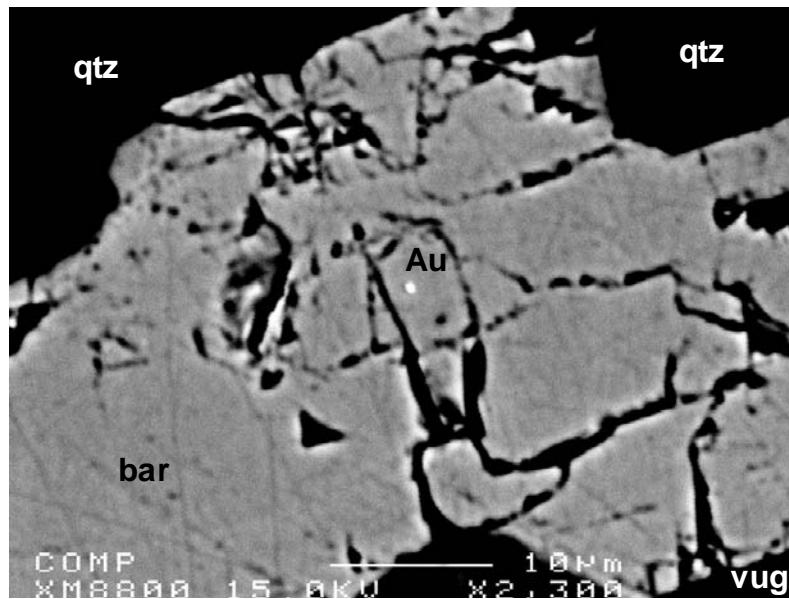
5. Studies suggest the main stage minerals are pyrite, enargite, tellurides and native gold with late stage enrichment by native gold and additional supergene enrichment. The electron microscope image is from EMD003 at 35.1 metres.



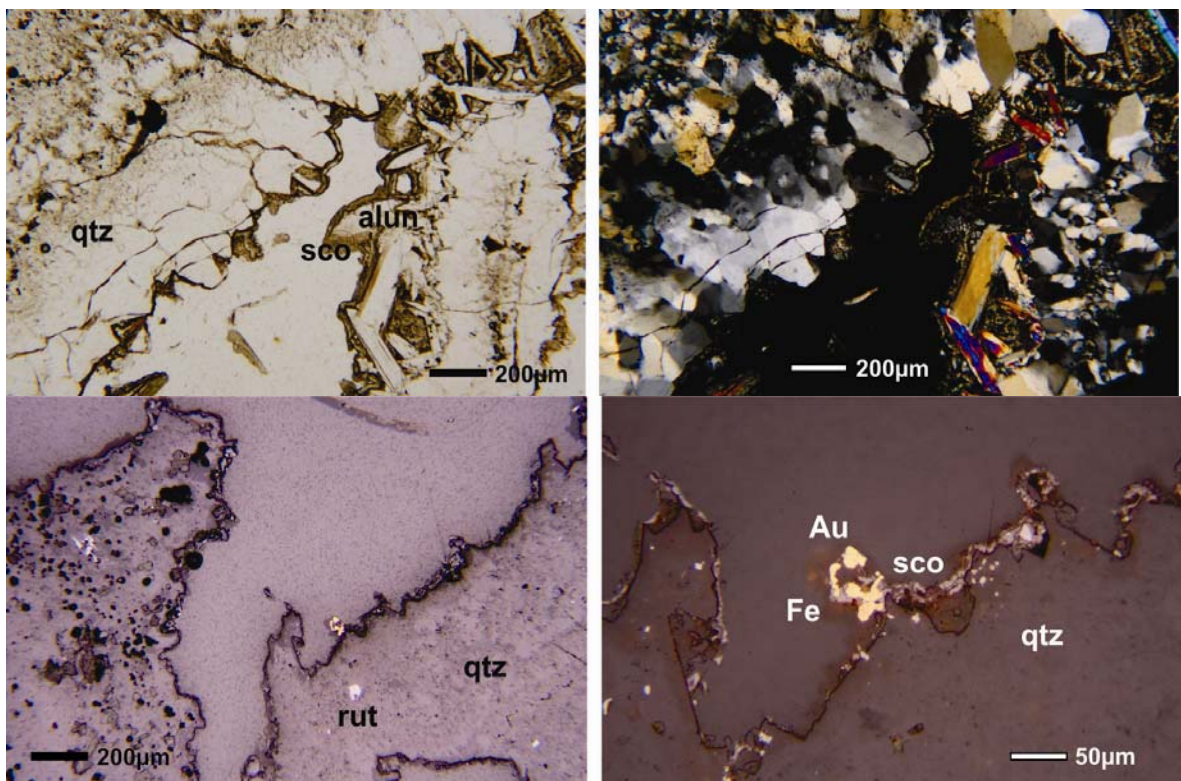
6. Other Au / Ag minerals associated with enargite are Au/Ag tellurides (EMD024 at 208 metres). Enargite crystal with sylvanite (slv) and calaverite (clv).



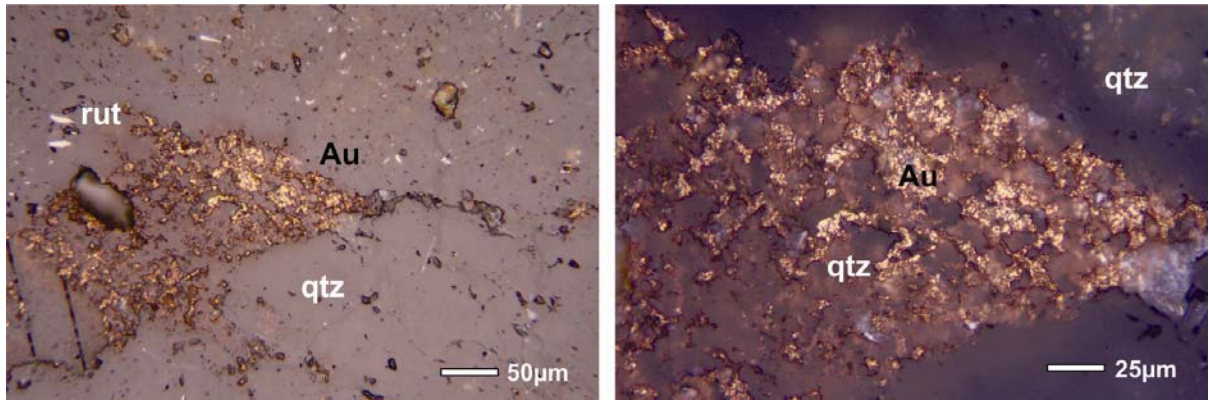
7. Late stage vugh infill with barite and native gold (EMD018 at 88.5 metres)



8. Late stage alunite – scorodite infill of fracture / void with native gold (EMD024 at 208 metres).



9. Late stage / supergene enrichment – South Miwah Bluff.



The petrological studies suggest the Miwah gold deposit metallurgy is complex but not detrimentally so. Several phases of gold mineralization have been postulated with native gold, and gold and silver tellurides / selenides associated with each phase. The main stage sulphide mineralization also contains grains of native gold and solid solution tellurides associated with the enargite minerals. This would suggest that the gold is not likely refractory.

The other late stage gold mineralization and oxide supergene enrichment phases appear straightforward in terms of metallurgy with cyanide amenable fine grained gold.

These findings would correlate with previous Colony-Pacific simple metallurgical test work carried out during 1997 on six composite drill core samples which returned cyanide gold recovery in the 63% – 84% range. Incidentally the 83% Au recovery was for 27% oxidized material and 63% Au recovery was for 17% oxidized material.