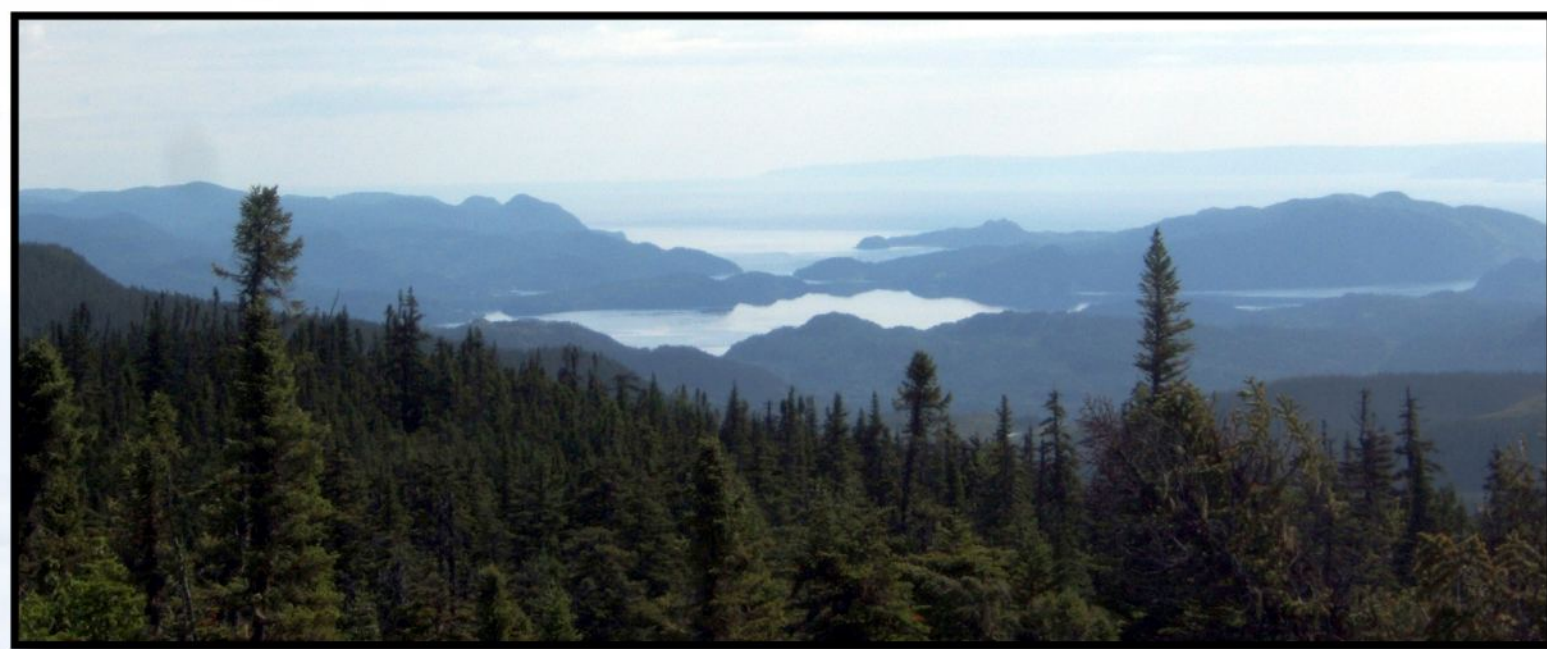


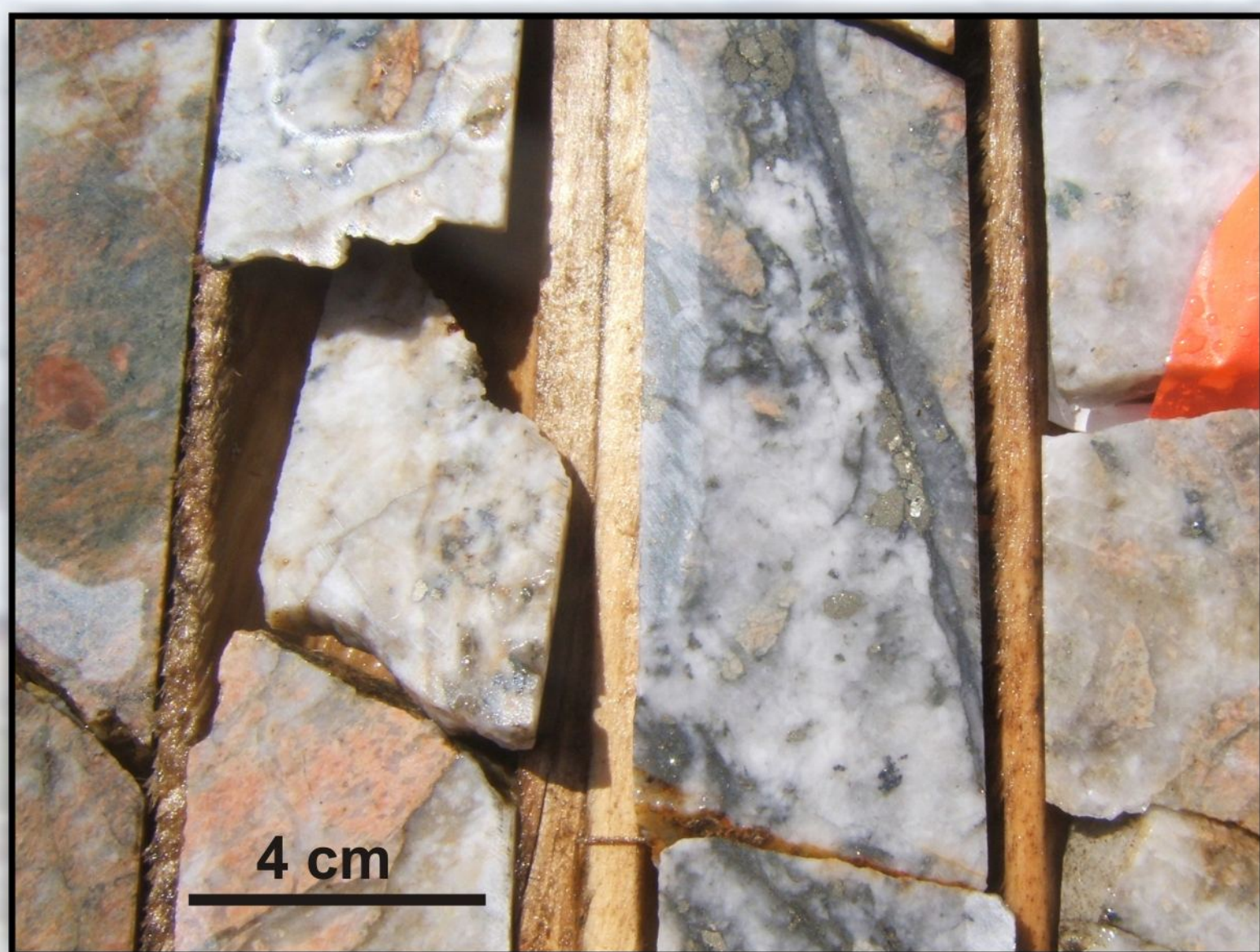
# PROJECTS RELATED TO PRECIOUS METALS (Au, Ag)

Gold mineralization in Newfoundland is widespread, but most abundant in central Newfoundland, where it is dominantly of epigenetic (mesothermal) type. Late Precambrian gold mineralization occurs within the Avalon Zone, where it is generally

considered to be of epithermal character. There are few gold showings known in Labrador, and only two have been drilled; the apparent absence of gold in the “Big Land” is a paradox awaiting resolution!



Spectacular views across Sops Arm from the Viking Prospect



Auriferous quartz veins cutting foliated Precambrian granite. Veins also include galena and chalcocopyrite

## Metallogenic Studies of Gold Mineralization in Newfoundland

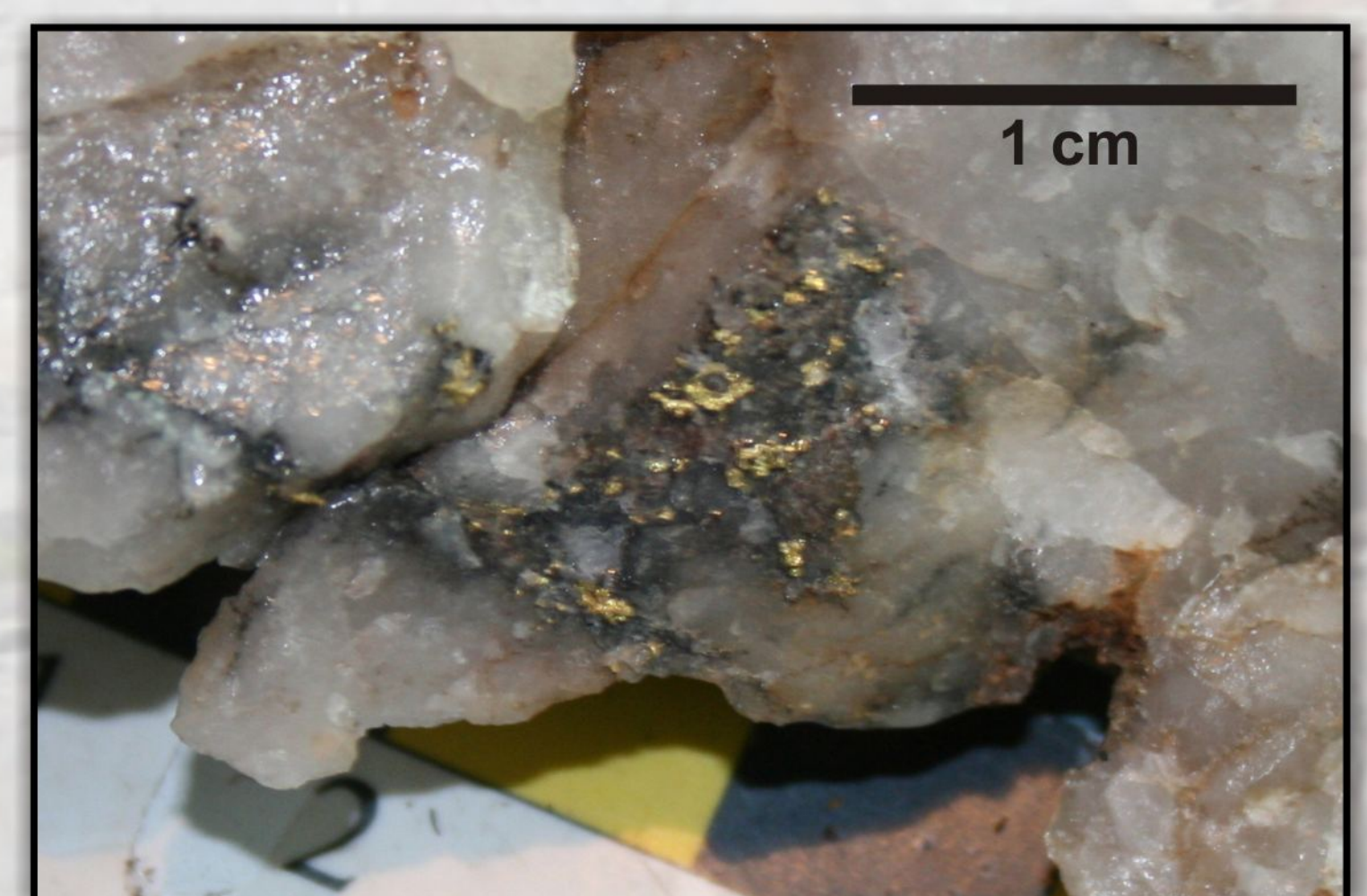
Research work in 2009 was distributed right across the island, including parts of the Avalon, Dunnage and Humber zones. As the saying goes, “gold is where you find it!”

In western Newfoundland, ongoing work by Northern Abitibi and Altius has produced the most encouraging new exploration results for 2009. The Viking prospect consists of a complex quartz-vein array developed in Precambrian granitoid rocks and mafic intrusive rocks. Free gold is abundant, and accompanied by base-metal sulphides. Mineralization resembles auriferous veins in nearby Silurian rocks of the Sops Arm Group, and these are now attracting renewed attention.

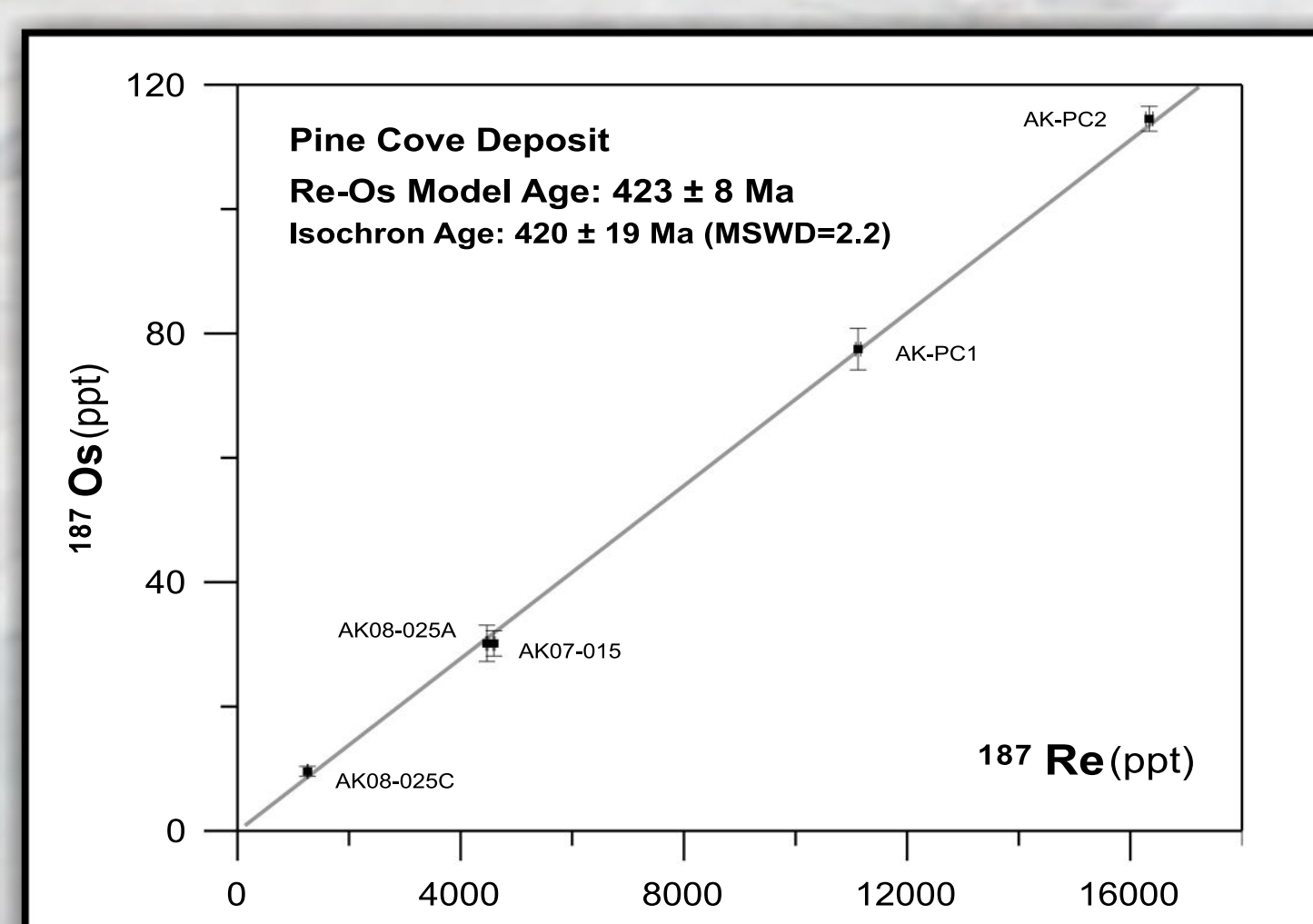
In central Newfoundland, work continued on the Golden Promise prospect, including mineral chemistry, VNIR spectroscopy and fluid-inclusion studies. New field studies were initiated at the Huxter Lane project in south-central Newfoundland, which represents a possible bulk-tonnage target. Work was also initiated on epithermal-type gold mineralization in the Bonavista Bay and Burin Peninsula areas, where there are new prospecting discoveries. In today’s climate of high gold prices, these underexplored areas in eastern Newfoundland are attracting renewed attention.

## The Labrador Gold Paradox and the Potential of the Big Land

The Canadian Shield is one of the most auriferous pieces of real estate anywhere in the world, but Labrador contains just a handful of gold occurrences. This obvious paradox likely reflects the difficulty of grass-roots prospecting in this remote environment. Gold is present in paragneiss near Voisey’s Bay, and in Archean rocks west of Hopedale, where it was discovered during nickel exploration. The Aucoin prospect in the latter area is a typical mesothermal quartz-vein array associated with iron-carbonate alteration, base-metal sulphides and locally spectacular free gold. It exemplifies a style of mineralization well-known in Archean cratons across Canada. A focused study of Aucoin may form part of a future assessment of gold potential in the Big Land of Labrador.



Free gold in quartz at the Aucoin Prospect, Labrador



## Direct Dating of Gold Mineralization

A pilot project to investigate the potential for direct dating of gold deposits using the Re-Os technique on sulphides has given interesting preliminary results. Pyrite separates from the Stog’er Tight and Pine Cove deposits on the Baie Verte Peninsula yield precise model ages of  $410 \pm 9$  and  $423 \pm 8$  Ma, indicating latest Silurian or earliest Devonian mineralization. We hope to apply the method elsewhere, to better understand the links between gold, orogenic events and regional structures.