PROJECTS RELATED TO OTHER COMMODITIES

In 2010, other projects included work on uranium mineralization in various parts of Newfoundland, a compilation project on vanadium (commonly associated with magmatic iron-oxide deposits, but also with uranium), and continued work on porphyry-style molybdenum deposits in southern Newfoundland.

Uranium Mineralization in Newfoundland

Although the primary focus of uranium exploration in recent years was in Labrador, there has also been activity in Newfoundland. During previous exploration cycles, Carboniferous sedimentary rocks of western Newfoundland (notably the Deer Lake Basin) were found to host high-grade mineralization in boulders, but their source locations remain unknown. In view of the limited geological information on new uranium occurrences in Newfoundland, a project to better document these was initiated in 2010.

Uranium mineralization in Newfoundland is very diverse in character, and hosted by rocks ranging in age from Mesoproterozoic to Carboniferous. In Precambrian basement rocks of western Newfoundland, fracture- and shear-hosted mineralization is the dominant style. In some cases, notably in late Precambrian peralkaline suites, U is spatially associated with significant REE mineralization. Silurian peralkaline volcanic and intrusive rocks also contain U mineralization, with the best results coming from the Turners Ridge and Wisker Valley areas, where drilling was completed in 2008. Younger Paleozoic granitoid suites, including the Devonian St. Lawrence granite, also contain locally high-grade mineralization. The youngest host rocks to U mineralization in Newfoundland are late Devonian to Carboniferous clastic sedimentary rocks in the Deer Lake Basin, and also in the Boxey area of Fortune Bay. This style of mineralization may have affinities to sandstone-hosted uranium deposits such as those of Kazakhstan or Niger, which are increasingly important resources on a global scale. Volcanic-hosted uranium mineralization in Silurian rocks also represents a potential target model for Newfoundland.

A Preliminary Assessment of Vanadium Potential in Newfoundland and Labrador

Vanadium (V) is a little-known commodity used mostly as an alloying agent in the steel industry, and mostly produced as a byproduct of other commodities, notably Fe, Ti and Cr. Vanadium is attracting new exploration interest due to growing applications in so-called “green technology”. These include use in vanadium-redox batteries, which may be critical for storage of renewable energy, such as wind power. Commodity price increases have led to interest in deposits previously considered subeconomic. Presently, the only defined vanadium resource is at the Moran Lake C-zone uranium project in Labrador.

There are only three primary entries in the MODS database for vanadium, but it is associated with many iron occurrences, and also with uranium deposits in Labrador. An initial assessment of data on vanadium was completed in 2010, and suggests that there may be potential for vanadium (± Ti, Cr, Fe) resources associated with Precambrian mafic intrusions in Labrador, and Paleozoic mafic intrusions in Newfoundland. There is presently some exploration activity in the latter (e.g., Four Corners project). Future activities will include analysis of numerous oxide-rich zones discovered during the Voisey’s Bay exploration rush, few of which were assessed for vanadium.