PROJECTS RELATED TO ZINC

Newfoundland Labrador
Natural Resources

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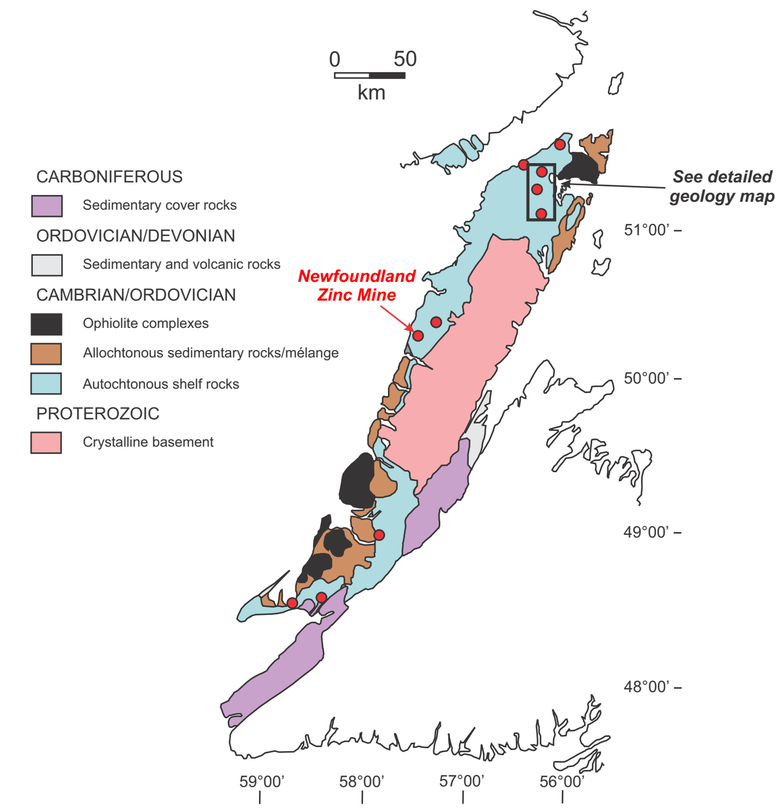
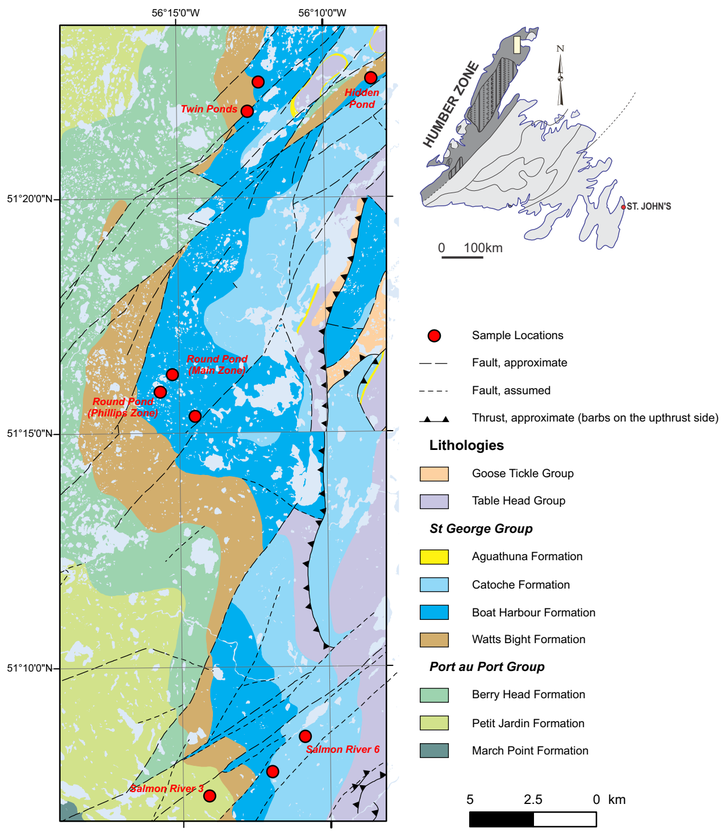
In 2016, a project was initiated investigating the genesis of carbonate-hosted Zn (± Pb) occurrences in western Newfoundland. Previous exploration activity from the 1950s to 1990s led to the discovery of numerous Zn occurrences. However, with the exception of the former Newfoundland Zinc Mine near Daniel's Harbour (~7 Mt @ 7.8% Zn mined between 1975 and 1990), none of these occurrences have been considered economic. This makes western Newfoundland somewhat unusual, as similar Mississippi Valley-Type deposits elsewhere in the world typically form extensive districts consisting of several, to as many as 400, individual deposits. This project aims to develop a genetic model for Zn-Pb mineralization in western Newfoundland and to determine the future exploration potential of this region.

Fieldwork in 2016 was conducted throughout western Newfoundland, and included visits to the former Newfoundland Zinc Mine at Daniel's Harbour, as well as to other prospects on the Great Northern Peninsula, and in the Stephenville and Corner Brook areas.



Generalized geology of western Newfoundland, showing location of main Zn (± Pb) prospects

Zinc mineralization on the Great Northern Peninsula



Detailed geology of the Round Pond/Main Brook area showing location of deposits discussed in text (after Knight et al., 1982, 1986)

Field work in 2016 was limited to mapping and sampling of a number of prospects on the Great Northern Peninsula, including the Round Pond deposit (non NI-43-101 compliant resource of 400 000 tons at 2% Zn, Narex, 1983), and significant showings located at Twin Ponds and Salmon River 6. In addition, archived drillcore in the Pasadena core-storage facility was re-logged and sampled. Samples are being prepared for laboratory analyses including whole-rock geochemistry, electron microprobe and sulphur isotopes. These data form part of an ongoing B.Sc. Hons. project by Robert King at Memorial University and will be used to aid future exploration for similar deposits.

Results will be published in 2017 and include a *Current Research* article on zinc mineralization on the Great Northern Peninsula.

Main trench at Round Pond deposit

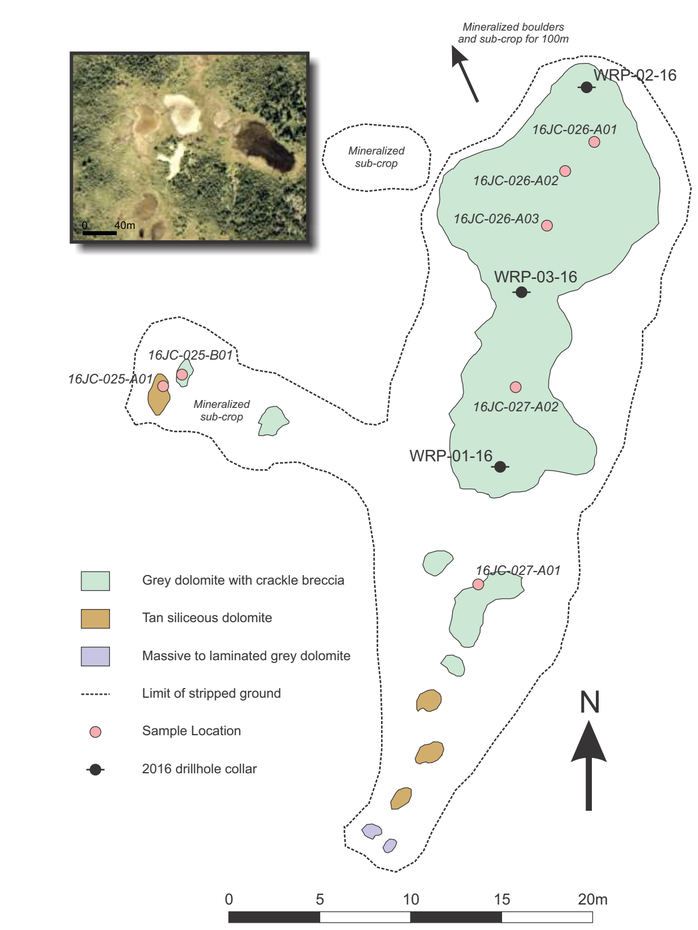
Trench at Twin Ponds prospect

Collapse breccia at Round Pond deposit, with fragments of dolostone cemented by sphalerite and dolomite

Mineralized boulder from Salmon River 6 prospect, displaying red sphalerite associated with calcite, and later yellow sphalerite associated with black quartz

Trench at Salmon River 6 prospect

Mineralized boulder from former Newfoundland Zinc Mine, Daniel's Harbour, with layers of brown sphalerite and weakly mineralized pseudobreccia



Sketch map of the main trench at the Round Pond deposit, showing sample locations and locations of shallow drillholes