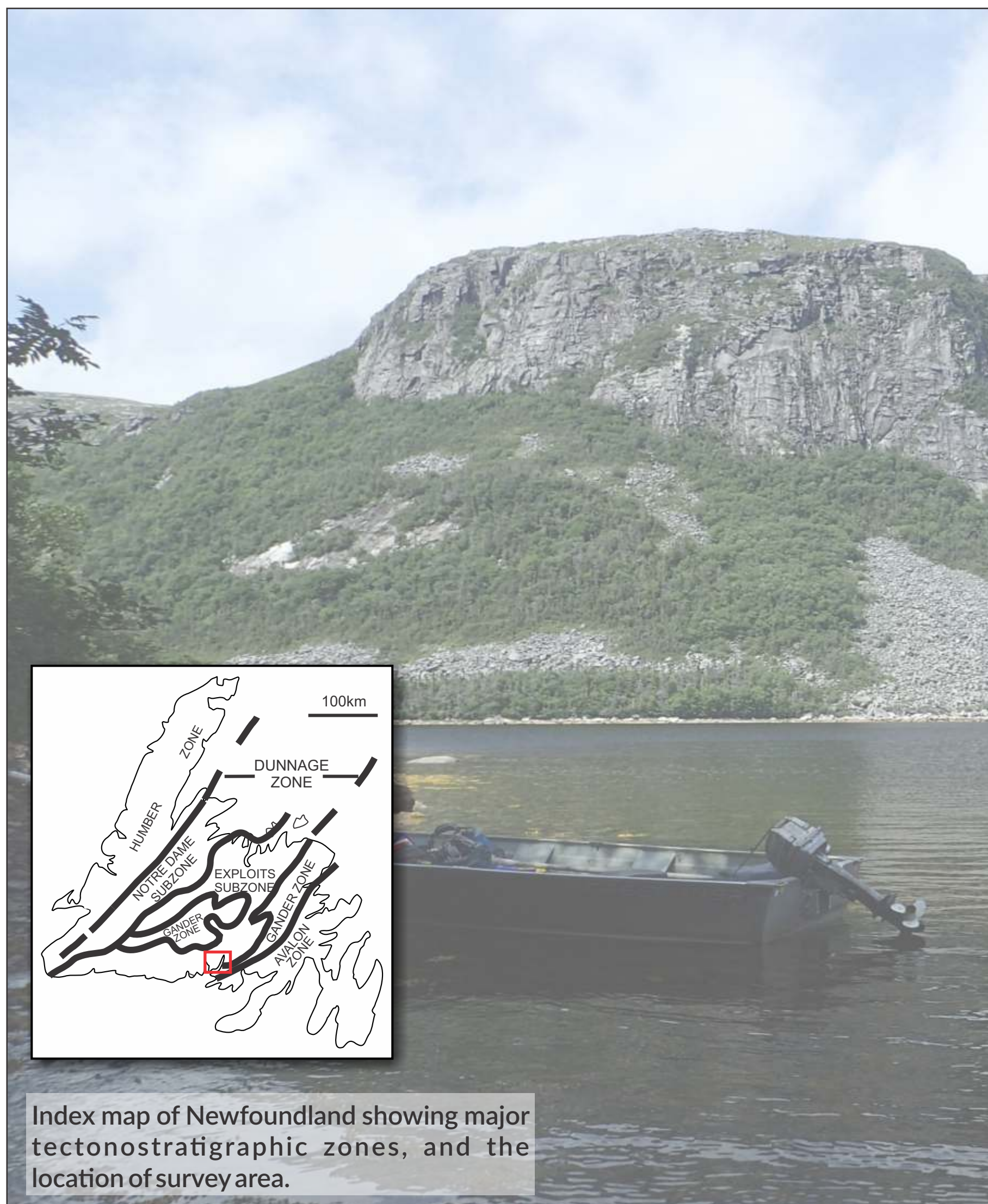


GEOLOGY OF THE ST. ALBAN'S MAP AREA (NTS 01M/13): PRELIMINARY GEOCHEMISTRY AND GEOCHRONOLOGY

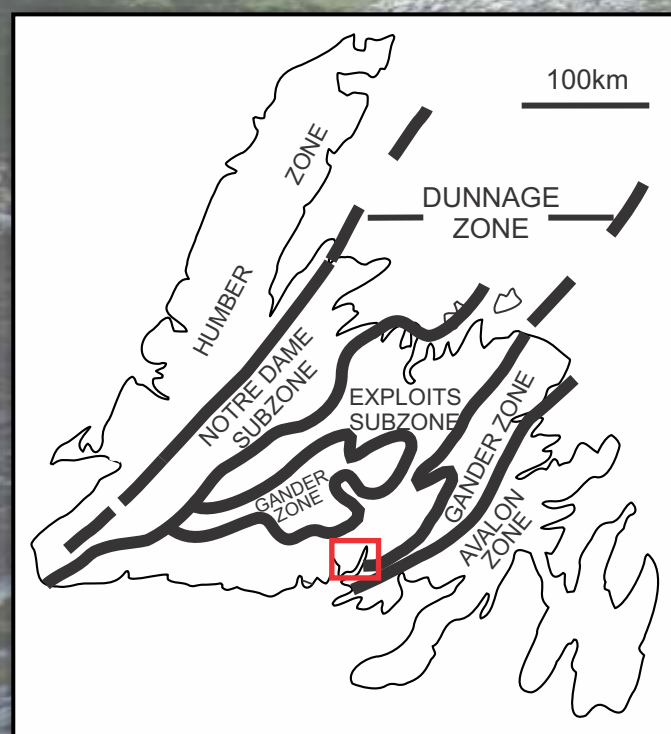
ANNE WESTHUES



Regional mapping, at 1:50,000 scale, of the St. Alban's map area, south coast of Newfoundland was completed in 2017. Several assays from known and previously unknown mineralized zones in the St. Alban's area yielded elevated As, Sb, Au and base-metal contents. Common mineralization minerals (besides pyrite and pyrrhotite) include arsenopyrite, galena, chalcopyrite, molybdenite and stibnite.

The geochemistry was released in open file format in July 2018. This Open File release consists of whole-rock geochemistry data from 152 samples from Baie d'Espoir Group, Gaultois Granite, Northwest Brook Complex and North Bay Granite intrusions and Little Passage Gneiss around St. Alban's on the south coast of Newfoundland. These samples were collected as part of a bedrock mapping study during the summers of 2016 and 2017 from outcrops within the St. Alban's map area. Samples for whole-rock geochemistry were collected from representative sedimentary, igneous and metamorphic rocks. Assay samples were collected from mineralized rocks, sulphide-bearing structurally controlled quartz veins and surrounding altered host rocks

Background image shows North Bay Granite Suite stock, Pomley Cove, Lampidoes Passage



Index map of Newfoundland showing major tectonostratigraphic zones, and the location of survey area.



Equigranular granite of the North Bay Granite Suite intrudes metasandstone of the Salmon River Dam Formation, shore of Jeddore Lake (locally known as Long Pond) reservoir.



Megacrystic granodiorite of the North Bay Granite Suite forms a ridge northwest of Salmon River Dam that coincides with a geomagnetic anomaly, likely related to higher contents of magnetite.



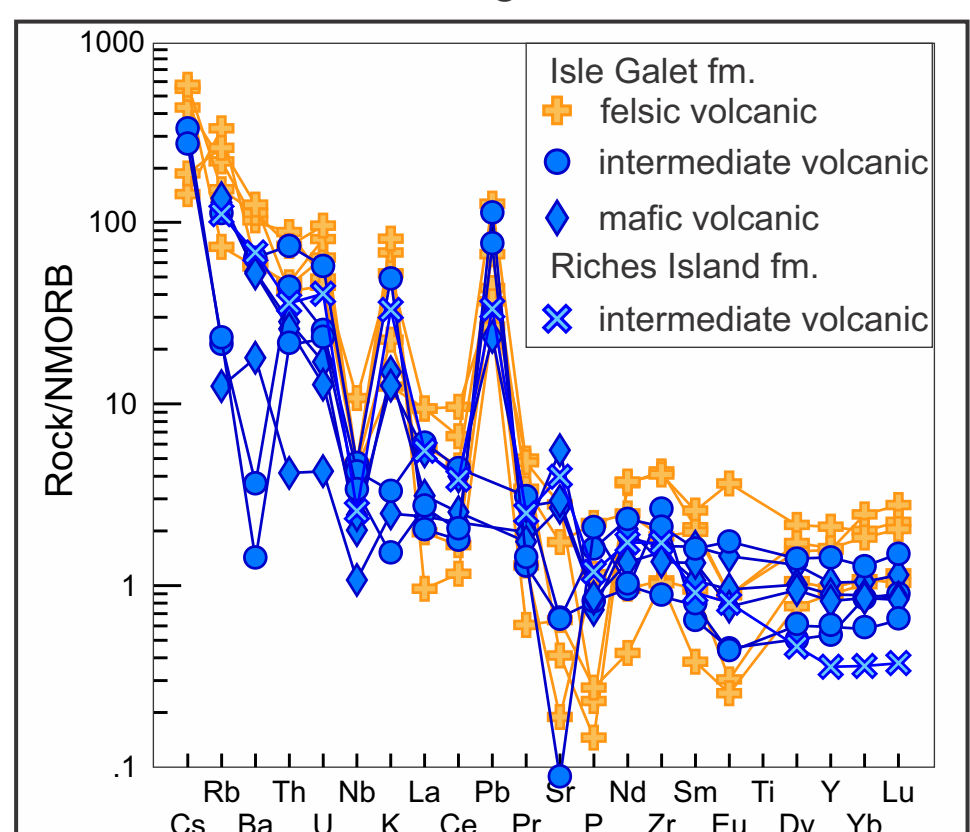
Staurolite-mica schist of Riches Island Formation, close to contact with North Bay Granite Suite, Lampidoes Passage.



Galena-rich silicified vein within metasandstone of the Riches Island Formation, Lampidoes Passage. Inset shows crosscut through vein.



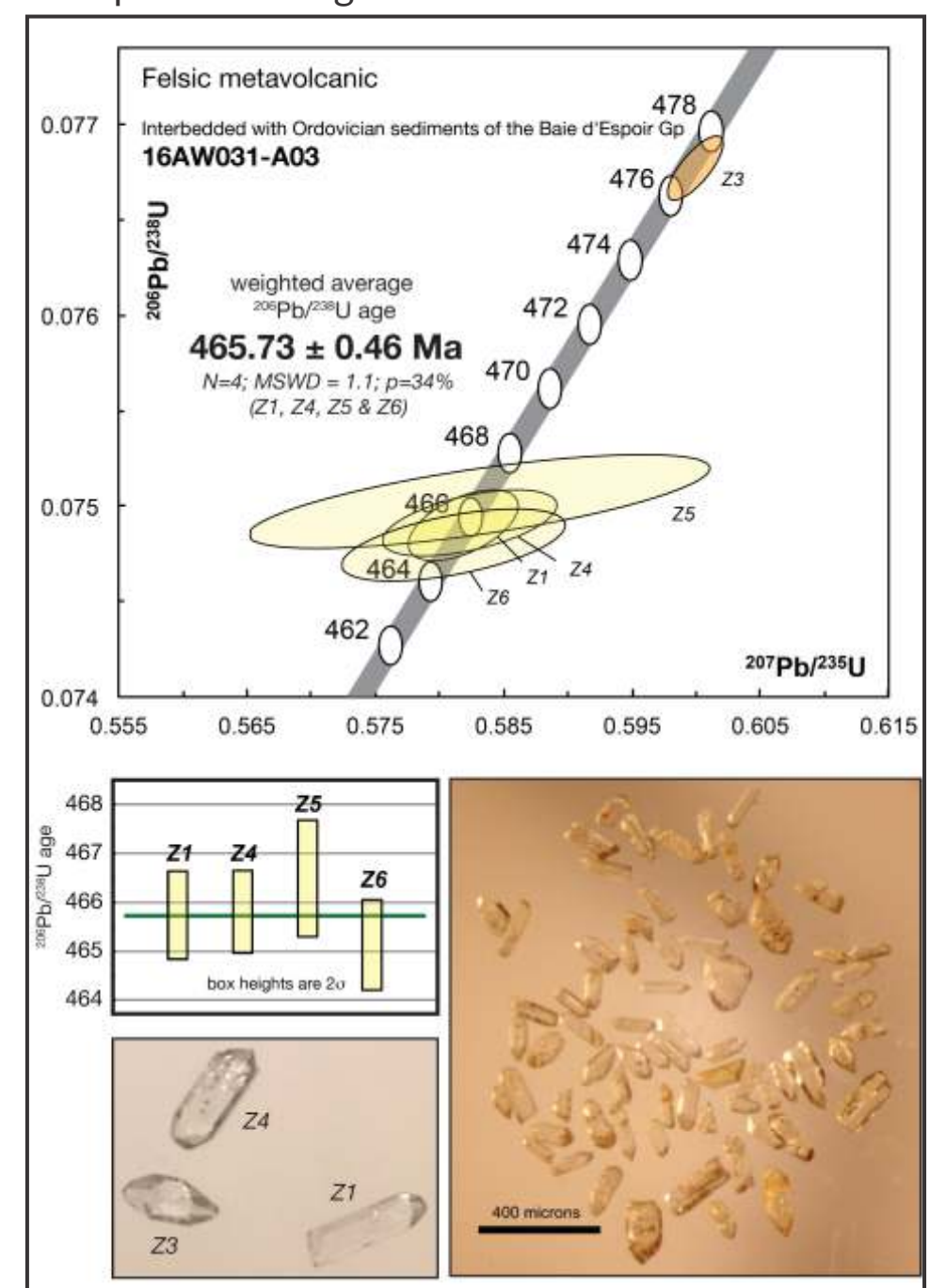
Aplite dyke intruding metasandstone of the Riches Island Formation with molybdenite (see insert, scale card is 8 cm wide), Northwest Cove.



Multi-element variation diagram normalized to N-MORB for metavolcanic rocks of the Isle Galet and Riches Island formations. Pattern shows distribution typical of subduction related arc magmas with negative Nb and positive Pb (most samples) anomalies.



Metavolcanic rhyolite of the Isle Galet Formation that was sampled for geochronological U-Pb zircon analyses (see results to the right), with foliation and small isoclinal folds.



U-Pb zircon geochronological results of the metavolcanic rhyolite, Isle Galet Formation, shown left (data from M. Hamilton, University of Toronto). The Darrivillian age of this sample is slightly younger, but overlaps, within error, with the Dapingian age (468 ± 2 Ma) of the Twillick Brook member of the St. Joseph's Cove Formation.

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