

SEAL LAKE AREA, CENTRAL LABRADOR

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Field work in the Seal Lake area during July and August 2008 consisted of 1:50 000 scale bedrock mapping of the southern parts of NTS map areas 13K/5 and 13K/6.

The area is underlain by rocks of the Mesoproterozoic Seal Lake Group and comprises a series of sub-greenschist facies sedimentary rocks including locally ripple and cross-laminated, shallow marine, red sandstones and siltstones, fine-grained, basaltic volcanic flows and extensive coarse-grained gabbro sills and finer-grained gabbro dykes.

Structural features consist of a dominant east-northeast trending regional S1 foliation associated with F1 folds, variably plunging minor folds and mineral lineations developed in the supracrustal rocks, and northeast trending faults. Kinematic features of these faults indicate a dominantly north-directed shear sense.

Mineralization in the area is hosted primarily by quartz-carbonate veins associated with fractures and shears proximal to mafic volcanic-slate contacts and consists of native copper seams and "nuggets" up to 30 centimeters in diameter (Plate 1), as well as chalcocite-bornite-malachite aggregates. Other occurrences include slate-hosted native copper and chalcopyrite-bornite-malachite within gabbro sill and dyke margins.



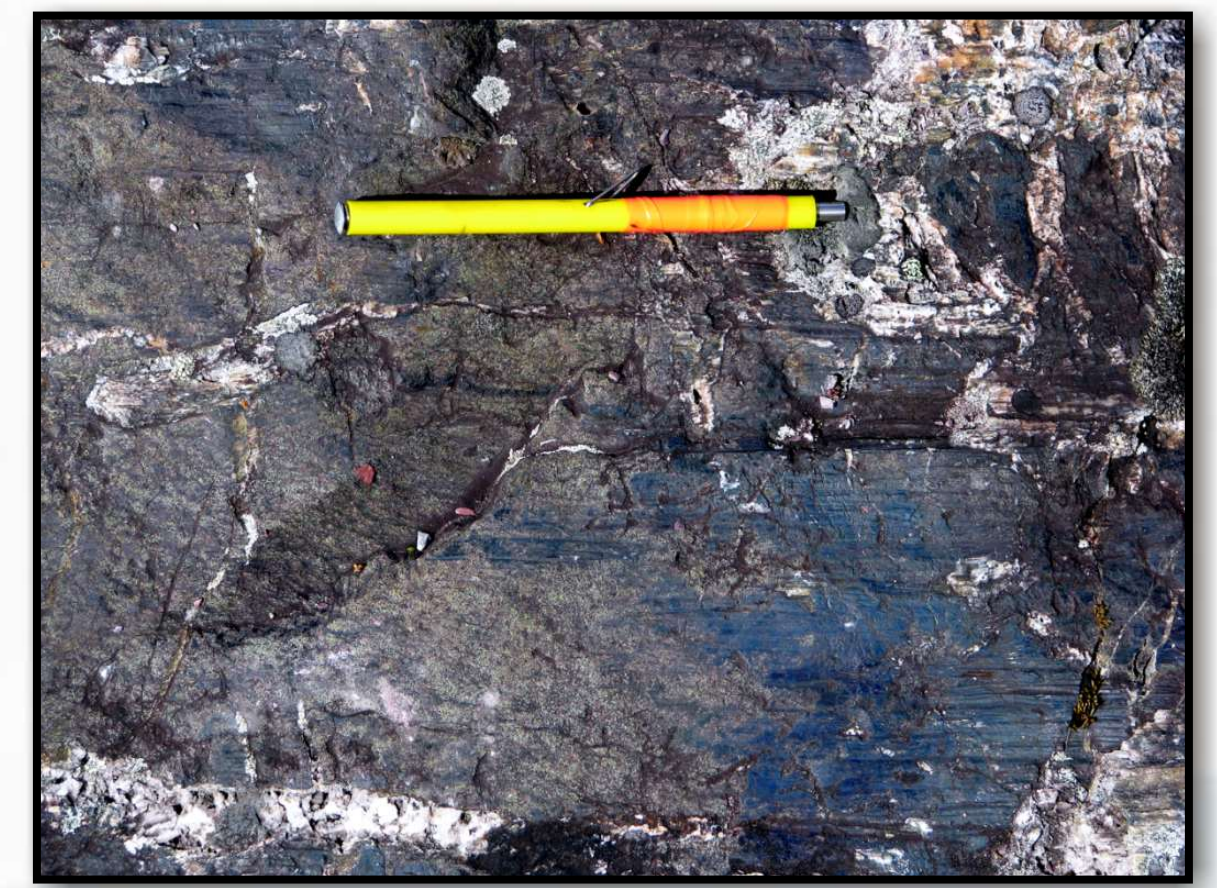
East-west trending gabbro sill, south side of eastern Seal Lake. Height of steep cliff face from top of talus slope is approximately 50 meters.



Steep ridges of mafic volcanic flows capped by gabbro sills. Valley is underlain by red slate unit. Height of ridge in foreground is approximately 80 meters. South side of eastern Seal Lake.



Native copper + malachite seam hosted by sheared quartz + carbonate vein within mafic volcanic. Near contact with red slate unit. Knife is 8 centimeters long. (MODS occurrence 13K/05/Cu020)



Bornite mineralization hosted by glacially striated mafic volcanic unit. Pen is 10 centimeters long. South side of eastern Seal Lake (MODS occurrence 13K/05/Cu052).



Coarse-grained, ophitic-textured gabbro sill. North side of eastern Seal Lake. (Station VN08-070)



Malachite-azurite-bornite-chalcopyrite hosted by quartz-carbonate lens within fine-grained gabbro sill margin. Hammer is 35 centimeters long. (MODS occurrence 13K/05/003)



Shallow-dipping, fine-grained gabbro sill overlying massive quartzite unit. Contact is at hammer head. Hammer is 50 centimeters long. South side of eastern Seal Lake. (Station VN08-146)



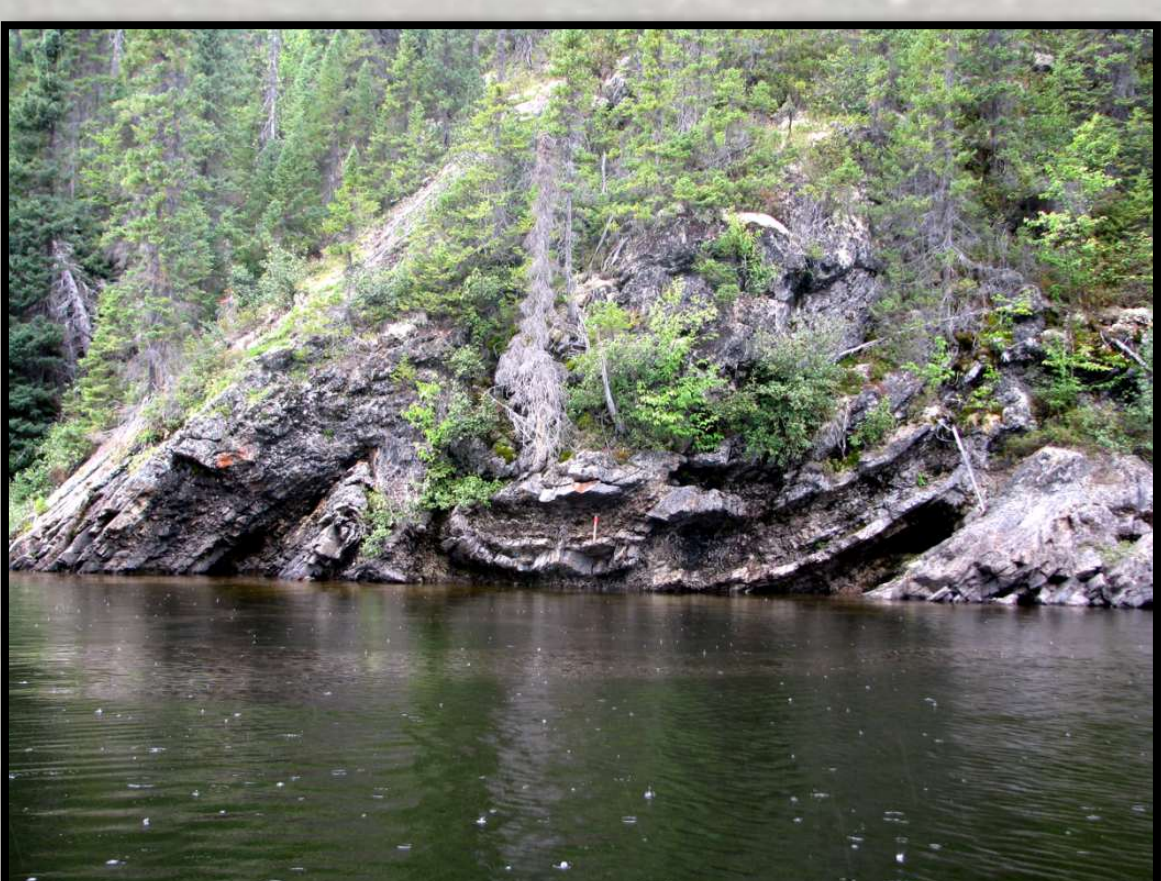
Chalcopyrite-bornite-malachite hosted within quartz + carbonate vein, cutting fine-grained gabbro sill. (MODS occurrence 13K/05/Cu003)



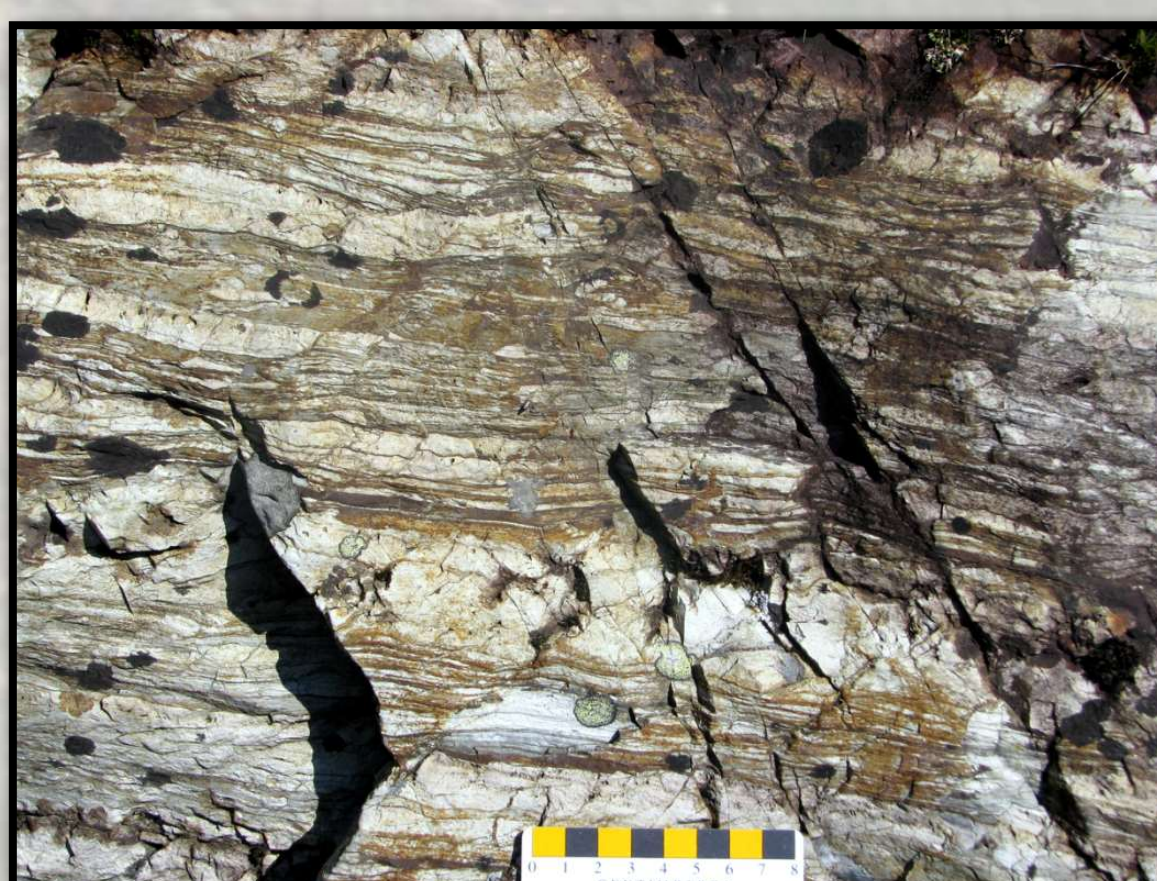
Minor F1 folds in interbedded fine-grained sandstone and red slate. Naskaupi River. (Station VN08-295)



Strongly altered and recrystallized, quartz-rich sediment within fault zone, north side of eastern Seal Lake. Note dextral slip along quartz vein in center-right of photo. (Station VN08-086)



F1 fold in interbedded siltstone-sandstone unit, Naskaupi River. (Station VN08-287)



Relatively undeformed, interbedded sandstone (white) and siltstone (brown) unit. Naskaupi River (Station VN08-287)



Well preserved mud cracks in fine-grained siltstone - mudstone unit. Cracks are filled with fine-grained quartz and carbonate. Eastern Seal Lake shoreline. (Station VN08-108).