## PROJECTS RELATED TO URANIUM



Natural Resources

## **Greg Sparkes**

## **Studies within the Central Mineral Belt of Labrador**

Work related to this project in 2016 primarily focused on finalizing a regional report on uranium mineralization in the Central Mineral Belt (CMB); in addition, geochemical data generated during the multi-year project is being prepared for an Open File release. The report summarizes the current interpretations regarding the nature and timing for the various styles of uranium mineralization developed throughout the region, and provides a comprehensive summary of the main occurrences within the CMB. On-going deposit level studies, such as that being conducted on the Michelin deposit, continue to produce new information. Here, mapping conducted in 2015 focused on providing a better understanding of the timing and areal distribution of the alteration related to the development of uranium mineralization. Results will form the basis of a report in *Current Research* 2017.



LEGEND

Intrusions

Michael Gabbro: Coarse- to medium-grained pyroxeneolivine gabbro, some hornblende-biotite gabbro and diorite

Mafic and intermediate dykes of various compositions

Coarse-grained hornblende monzonite to granodiorite

Medium- to fine-grained grey and white quartz monzonite

Burnt Lake granite: Grey, equigranular, medium- to fine-

Medium-grained, well foliated granite and quartz monzonite

Medium- to coarse-grained, well foliated biotite granodiorite;

Medium to coarse-grained hornblende diorite; granodiorite

and ages (pre- to postkinematic)

and leucogranite (Monkey Hill Granite)

grained quartz monzonite to granite

(Walker Lake granite)

minor diorite

The Michelin deposit represents the most significant example of albitite-hosted uranium mineralization within the Central Mineral Belt. In other districts elsewhere in the world, such deposits are typically developed in regional-scale structures, which can be traced for several tens of kilometres. These structures usually have an overriding control on the development of uranium mineralization and the related alteration. However, the recognition of such structures within the area of the Michelin deposit is complicated due to poor outcrop exposure and postmineral deformation.

Ongoing geochronological studies at Michelin aim to further constrain the timing of uranium mineralization and the associated alteration by targeting key stratigraphic units within the deposit. These data, coupled with outcrop sampling in the area of the deposit will allow for a better temporal and spatial understanding of the mineralizing system.



Intensily altered felsic metavolcanic rock of the Aillik Group, *ca.* 2 km from the Michelin deposit.



Fluvioglacial and glacial gravels and sand

## **Aillik Group**



Mafic to intermediate tuff and tuffaceous sandstone, volcanic breccia



Monolithologic and polylithologic rhyolite breccia



Porphyritic to non-porphyritic welded and non-welded rhyolite ash flow tuff, ash fall tuff, minor subaqueous tuff and tuffaceous sandstone

Massive porphyritic and nonporphyritic rhyolite; rhyolite dykes



Volcaniclastic siltstone, sandstone and felsic volcanic breccia

Well-bedded green, grey and pink tuffaceous sandstone and siltstone





Regional geology and select uranium occurrences within the immediate area of the Michelin deposit.



Sheared mafic dyke intruding felsic metavolcanic rocks of the Aillik Group.



Magnetite-bearing breccia veins developed perpendicular to the direction of the main penetrative fabric.