



APGO Education Foundation Releases Bedford Mills GeoHike on GeoscienceINFO.com

July 23, 2025, Toronto, Ontario: The APGO Education Foundation (“APGOEF”) and the Geological Sciences and Geological Engineering Department at Queen’s University are pleased to announce the release of the **Bedford Mills GeoHike**, located along the Rideau Trail, approximately 45 kilometres north of Kingston (see Figure 1). This virtual walking tour follows seven (7) stops along the Rideau Trail and highlights the local geology and geological processes. To see all our GeoHikes in the Kingston area, visit our [Kingston Hub](#). This is the first in a series of GeoHikes planned along the Rideau Trail which extends for 387km between Kingston and Ottawa. All our GeoHikes can be viewed on [our GeoHikes page](#).



Figure 1. Map showing the location of the Bedford Mills GeoHike (yellow star), north of Kingston.

Located on the Frontenac Arch, the rocks at Bedford Mills tell an old and complex geological story. Just over one billion years ago, a large continental plate collided into the landmass that is now North America, causing the land to buckle upwards forming a massive mountain chain called the Grenville Mountains, that extended from Newfoundland to Mexico. This mountain range rivaled today’s Himalayan Mountains in height and formed large deposits of igneous and metamorphic rock throughout the region. As you walk along the Bedford Mills GeoHike, you will encounter the igneous rock alkali feldspar granite (see Figure 2). Ubiquitous in this area, this rosy coloured granite formed as part of a large pluton, which cooled slowly



underground. Continuing on your hike, you will encounter quartzite and gneiss, two metamorphic rocks that formed under intense heat and pressures. Keep your eyes peeled for some impressive triple contacts where all three rock units meet (see Figure 3). The Bedford Mills area can be a challenging hike along some difficult terrain. This virtual tour allows you to experience the geology in this area if this trek is inaccessible to you.



Figure 2. Pink alkali feldspar granite exposure at Stop #1 of the Bedford Mills GeoHike.



Figure 3. Contact between gneiss (left), alkali feldspar granite (middle), and quartzite (right) at Stop #3 of the Bedford Mills GeoHike.

The Bedford Mills GeoHike was developed by the GeoscienceINFO team led by Manager Dr. Deana Schwarz, P.Geo., and the Geological Sciences and Geological Engineering department at Queen's University, led by Dr. Daniel Layton-Matthews, and geology students Olivia Winslow, Chloe Brunton, and Vivian Wacheski. It is part of a growing series of geoscience-based hiking tours released across Ontario that aims to enhance public knowledge of geoscience using a hands-on and virtually accessible approach. We plan to release more GeoHikes in 2025 and subsequent years, throughout Ontario.

GeoHikes are 1-3-hour non-intensive hiking tours on maintained trails in Ontario that highlight local geology and describe their geological and environmental significance. GeoHikes can be used as guides while walking the trail in person, or as a virtual alternative at home or in the classroom. Visiting sites in person is a great way to learn but virtual tours are also an exciting way to expand one's knowledge when in-person access is not possible. Through the use of ESRI's innovative ArcGIS-StoryMap™ application and the integrated features, GeoHikes provide the user with an immersive experience. GeoHikes typically include:

- 360-degree photos and/or drone videos to provide a detailed overview of each site.
- LiDAR-based virtual 3D models that show locations of key features such as fossils, important structures and other geological features at the buildings or rock outcrops.
- Slide bars to show multiple images or overlays of important features or geologic information.
- Descriptions of geological features.
- Audio descriptions of written content.



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About the APGO Education Foundation

The APGO Education Foundation is a registered charitable organization under the Canada Not-for-profit Corporations Act, registration number 84604 5052 RR0001. The purpose of the charity is to advance the education of the public in the area of geoscience – see <https://apgoef.ca>. [GeoscienceINFO.com](https://apgoef.ca), developed by the Foundation, is an innovative one-stop spot for the public to gather information about the earth beneath their feet. This website provides interesting information on all facets of geoscience. A particularly exciting feature of [GeoscienceINFO.com](https://apgoef.ca) is the highlighting of virtual field trips in different areas in Ontario. This enables viewers to experience and learn about the geology of an area in person or while traversing it digitally in ESRI ArcGIS Online™ and StoryMaps™.

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