First Announcement
63rd Annual Institute on Lake Superior Geology

Co-Chairs
Anthony Pace and Ann Wilson
Ontario Geological Survey
Ted Bornhorst
Michigan Technological University

Please complete the Google Form through this link or by copying and pasting the address below:

https://docs.google.com/a/mtu.edu/forms/d/e/1FAIpQLSdM7XWfvZe8Hi-dhXjH-w1bFf49cnMiYrgLDnUyCb6Rq3JWA/viewform

The Institute on Lake Superior Geology will be held from Monday May 8th to Friday May 12th, 2017 in Wawa, Ontario. The meeting consists of two days of technical sessions on Wednesday May 10th and 11th at the Michipicoten Memorial Community Centre. Six field trips are offered to attendees as described below with three before the technical sessions on May 8th, 9th and three after the technical sessions on May 12th.

The Second Announcement in mid-January will provide additional details about accommodations and submission of abstracts for oral and poster presentations at the technical sessions. The Third Announcement in late February will initiate registration for the meeting.

The co-chairs hope you will be able to attend the 63rd ILSG and will consider presenting for the technical sessions.

Your indicated interest in attending the technical sessions, participating in a field trip, and presenting a paper helps the co-chairs with planning of the meeting. Your response is appreciated to provide information for planning of the meeting.

Direct questions to Margaret Hanson: mjhanson@mtu.edu

Description of field trips

Pre Technical Sessions Field Trips

**Trip 1:**
**Archean and Proterozoic Geology of the Marathon-Hemlo Area (Monday May 8th and Tuesday May 9th, 2017)**

This two day field trip will provide participants with an overview of the geology of the Mesoproterozoic Coldwell alkaline complex and the eastern portion of the Neoarchean Schreiber-Hemlo greenstone belt. The first day of the trip will consist of a west to east transect through the Coldwell Alkaline Complex, which is the largest alkaline
complex in North America. The complex consists of 3 syenitic intrusive centres which, from west to east comprise the silica-oversaturated Centre 3, the silica-undersaturated Centre 2, and the silica-saturated Centre 1. These syenitic intrusive centres are partially surrounded by the earlier, but quite evolved Border Gabbro phase which is host to the Marathon Cu-Pd-Pt deposit and several extensive zones of Fe-Ti oxides±apatite. The end of the first day will include a visit to the Marathon Cu-Pd-Pt deposit. The second day of the trip will begin near Heron Bay where we will view greenschist facies metamorphic grade Neoarchean supracrustal rocks. The trip will then proceed eastward toward the world-renowned Hemlo gold camp where the bulk of the day will be spent looking at the strongly deformed and higher metamorphic grade rocks exposed along Highway 17 adjacent to the Williams Gold Mine property. These roadside exposures include the up-dip projections of two gold-mineralized horizons.

**Trip 2:**

**More Unusual Diamond-bearing Rocks of the Wawa Area (Tuesday May 9th, 2017)**

This field trip will be an addendum to the original field trip that we ran in 2006. This field trip will focus on exposures of a series of foliated lamprophyre dikes and associated heterolithic breccias outcropping in Lalibert, Leclaire, Menzies and Musquash townships. The field trip guide represents a summary of information available at the time of writing and should not be considered the final analysis of these rock types. Much more research is required on these rocks. Active exploration and research is still underway on the properties included in this field guide. Given the limitations of time, the field trip will visit only some of the more accessible properties. Bear in mind that when visiting active exploration or mine properties, permission must be granted by the property owner. We will be spending time at the Leadbetter Diamond Property as well as a variety of accessible diamond outcrops along the highway. Access to many of the original outcrops has been lost due to exploration inactivity in the last few years.

**Trip 3:**

**Geology of the Wawa Gold Project (Tuesday May 9th, 2017)**

This trip will provide an introduction to the geology and gold mineralization associated with Red Pine Exploration Inc.’s Wawa Gold Project, in Wawa, Ontario. The Wawa Gold Project property is situated in the central portion of the Archean Michipicoten Greenstone Belt and has hosted numerous gold mines with historic production of over 120 000 ounces of gold. To date the largest gold deposit on the property is the Surluga Deposit where the company has released a 43-101 compliant resource of 1,088,000 ounces of gold at 1.71 g/t. A large part of the property is underlain by the Archean Jubilee Stock, a high-level subvolcanic intrusion of variable composition. The structural setting on the property is complex and is characterized by numerous fractures and faults with mineralization spatially associated with major shear zones in particular the Jubilee Shear zone. The trip will examine newly exposed outcrops of the Jubilee stock exhibiting intense alteration and deformation as a result of major shearing on the property. The field trip will also consist of an overview presentation and inspection of diamond drill core.

**Post Technical Sessions Field Trips**

**Trip 4:**

**Geology of the Island Gold Mine (Friday May 12th, 2017)**

The Island Gold Mine is a producing gold mine operated by Richmont Mines Inc. It is located within the Goudreau-Lochalsh gold district of the Archean Michipicoten Greenstone Belt approximately 15 km from the town of Dubreuilville, Ontario. The mine has been in commercial production since 2007 and has since produced over 300 000 ounces of gold. Gold mineralization in the Goudreau-Lochalsh district is localized within 2 regionally extensive, subparallel deformation zones referred to as the Goudreau Lake Deformation Zone (GLDZ) and the Cradle Lakes Deformation Zone (CLDZ). Most of the known gold deposits are located within the GLDZ, a 4 km wide by 30 km long, east-northeast striking zone. The GLDZ is composed of numerous systematically oriented, discrete brittle, brittle-ductile and ductile shear zones. This trip will provide participants with the
opportunity to observe the deformational effects of the GLDZ on the mine property along with inspecting high grade gold mineralization from recent diamond drilling on the property.

**Trip 5: Geology of the Renabie Area (Friday May 12th, 2017)**

This 1-day field trip will provide participants with an overview of the geology of the Renabie gold mine and surrounding area. The Renabie Mine is located within the Missinaibi Lake batholith at the northeast margin of the Michipicoten greenstone belt in the Wawa Subprovince. The day will begin at the Renabie Mine, where several stripped outcrops can be observed, showcasing the complex mineralization history hosted within the composite intrusive complex. During the second part of the day, the trip will proceed further west to look at some of the supracrustal rocks of the Michipicoten greenstone belt; these include felsic to ultramafic volcanic rocks as well as sedimentary rocks. The trip will conclude at the Pileggi outcrop, a gold occurrence hosted within quartz veins in the Michipicoten greenstone belt.

**Trip 6: Kapuskasing Structural Zone and Borden Lake Gold Deposit (Friday May 12th, 2017).**

The Kapuskasing Structural Zone comprises northeast-striking, northwest-dipping belts of paragneiss, mafic gneiss, gneissic and xenolithic tonalite and rocks of the Shawmere anorthosite complex. Depending on the exploration, taking place at Borden Lake, we may get a half-day field trip or a core-viewing. With the discovery of the Borden Lake deposit, the structure is attracting attention as an underexplored region that has not revealed all its secrets. The field trip will present the nature of this crustal anomaly, and how it can be explained. Participants will need to drive to Chapleau the evening before in order to take advantage of as much of a day trip as possible. Hotel rooms will be arranged by the organizing committee.