



Philippe Belley (pbelley@eos.ubc.ca)  
Dept. of Earth, Ocean, and Atmospheric Sciences,  
6339 Stores Road, Vancouver, BC V6T 1Z4

*Proposal for Research in Baffin Island, Nunavut:*

**Origin of blue spinel occurrences in Southern Baffin Island, Nunavut: Implications for local gemstone potential**

**Researchers:** Philippe Belley (Ph.D. student), Lee Groat (Supervisor)

**Affiliation:** University of British Columbia, Vancouver, BC

**Project location:** Rocks of interest to our research are located in several regions along the coast of Baffin Island: Waddell Bay, Kimmirut (5 locations), Glencoe Island, MacDonald Island. Exact locations are shown in Appendix 1.

**Timeframe:** Field work will take place from August 6 to 20, 2016.

**Project Description:**

Our goal is to understand the geological conditions which led to the formation of the mineral spinel, a semi-precious gemstone, at eight localities on Baffin Island. These localities contain large blue and bluish-purple spinels, some of which can produce small gems. Our findings will be fundamental to exploration for gem deposits in Southern Baffin Island.

The localities near Kimmirut will be reached by foot or boat from the town of Kimmirut. Waddell Bay, Glencoe Island, and MacDonald Island will be reached by boat or helicopter. We will camp in tents at the research sites. Nothing will be left on site after our work.

**Methodology:**

Rock samples of interest to our research will be picked up (when loose), or extracted with hand tools. Small power tools may be used to extract small amounts of rock ( $< 1 \text{ m}^3$ ) where hand tools are ineffective. The quantity of samples taken from each site, expected to range from 1 kg to 20 kg, depends on the complexity of the rock.

**Data & Reporting:**

Data and results from our study will be published as a research paper in a peer-reviewed journal. The resulting paper(s) will be sent to individual participants, communities, and relevant organizations. We also plan to present our results at the Nunavut Mining Symposium.

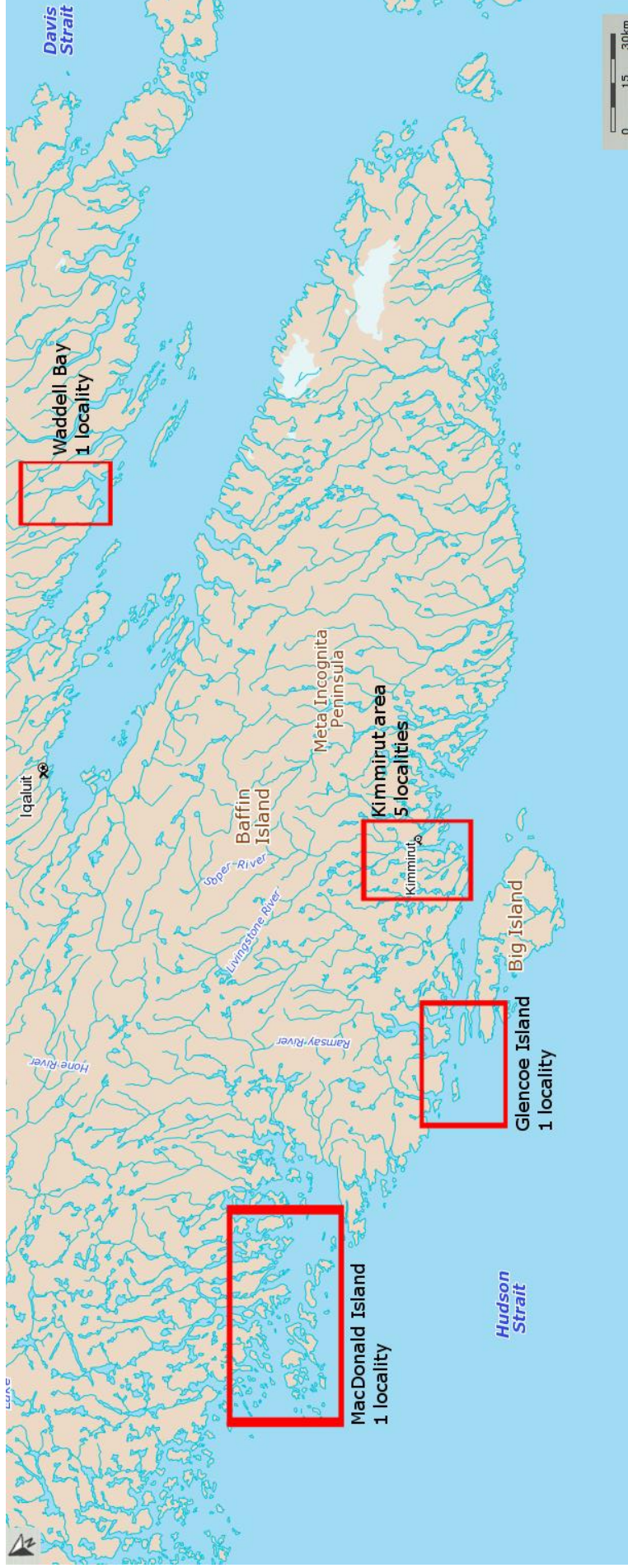
[illegible]

			<b>Ownership</b>	<b>IOL Parcel #</b>	<b>NTS</b>
<b>1</b>	MacDonald Island	160 km N60W of Kimmirut	Crown		35P/09 & 10
<b>2</b>	Glencoe Island	85 km N70W of Kimmirut	Inuit Owned Land	LH-12	25M/3
<b>3</b>	Qila	Kimmirut area	Municipal Land-Kimmirut, TGX mineral rights		25K/13
<b>4</b>	Trailside	Kimmirut area	Municipal Land-Kimmirut, TGX mineral rights		25K/13
<b>5</b>	SE Soper Lake	Kimmirut area	Inuit Owned Land, Territorial Park, TGX mineral rights, Municipal-Kimmirut	LH-18, Park	25K/13
<b>6</b>	Soper Falls	Kimmirut area	Inuit Owned Land, Territorial Park	LH-18, Park	25K/13
<b>7</b>	Soper River	Kimmirut area	Inuit Owned Land, near Territorial Park boundary	LH-05 near Park	25K/13
<b>8</b>	Waddell Bay	90 km S60E of Iqaluit	Inuit Owned Land	IQ-17	25O/06 & 07

**Table 1.** Location and surface/mineral rights of study areas for the spinel research project.

**Table 2.** Location (latitude and longitude) of research sites.

<b>Locality</b>	<b>Lat./long.</b>
<b>Macdonald Island</b>	N63.69845 W72.47447
<b>Glencoe Island</b>	N63.08041 W71.46496
<b>Qila</b>	N62.81938 W69.87844
<b>Trailside</b>	N62.84549 W69.90001
<b>SE Soper Lake</b>	N62.86565 W69.87020
<b>Soper Falls</b>	N62.89244 W69.84075
<b>Soper River</b>	N63.01267 W69.72608
<b>Waddell Bay</b>	N63.41842 W66.96841

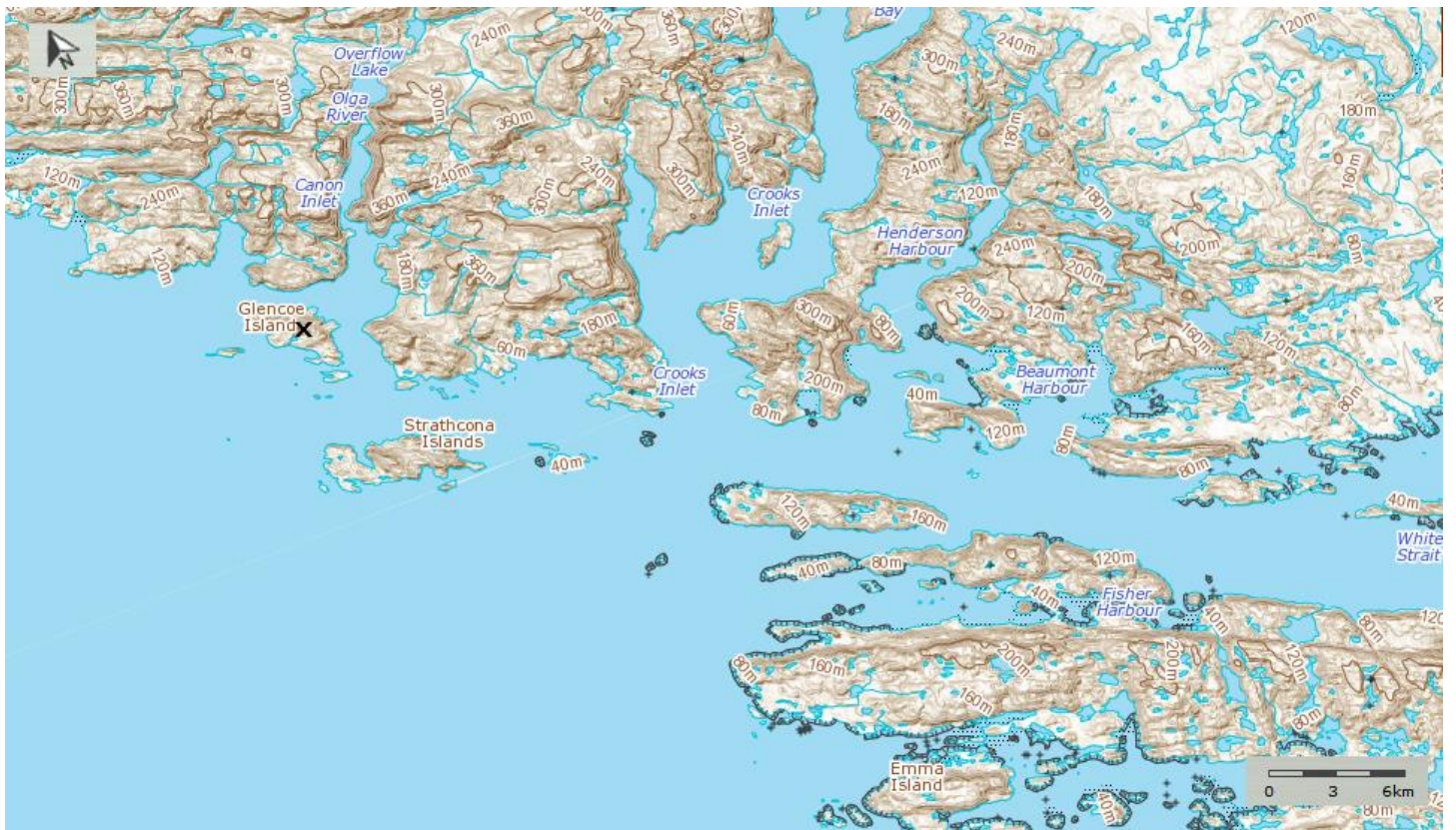


**Appendix 1-A.** General map of the different research sites. The locations of Appendices 1-B to 1-E are outlined in red boxes.



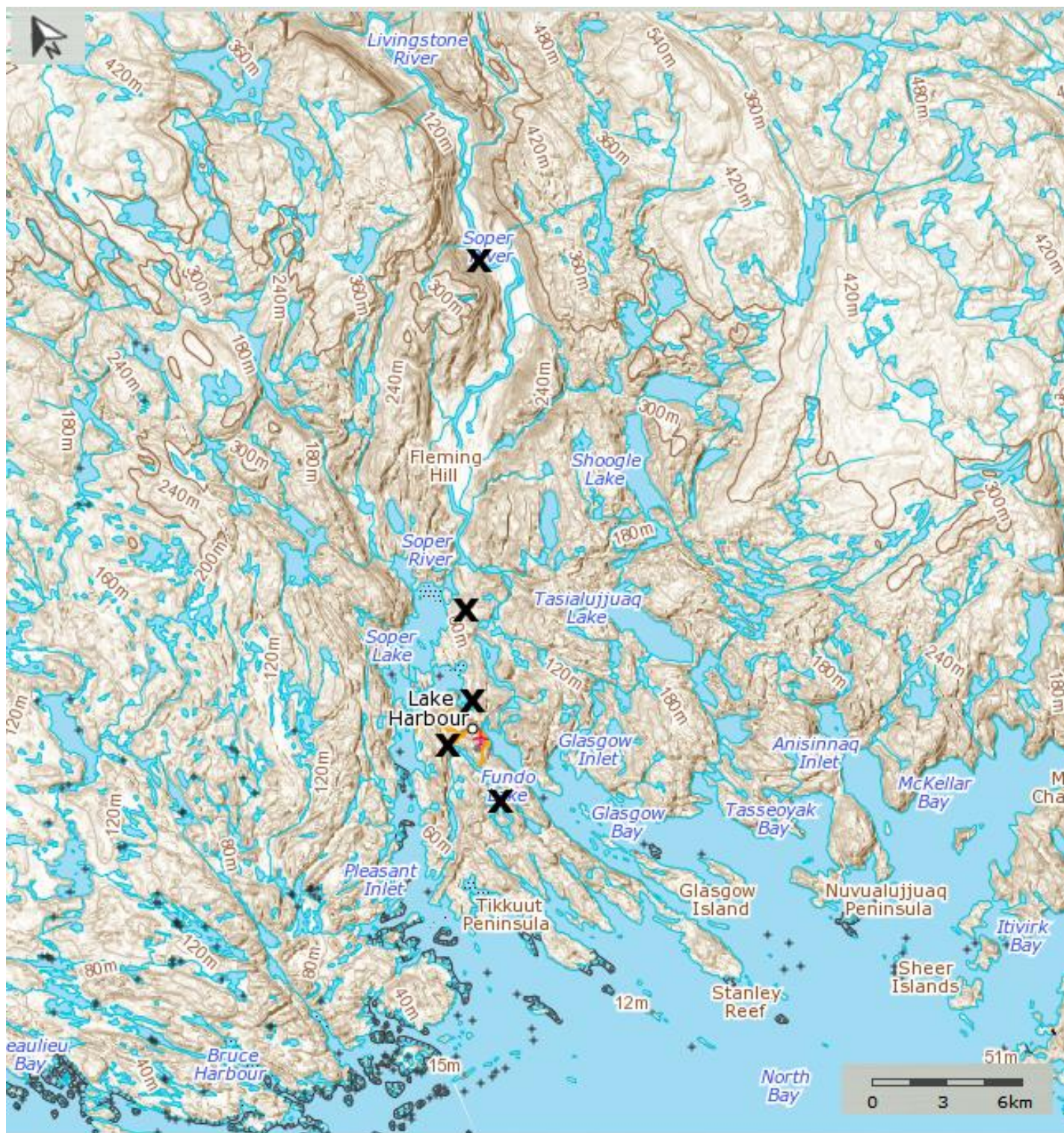


**Appendix 1-B.** Location of the MacDonal Island research site, marked “X”.



**Appendix 1-C.** Location of the Glencoe Island research site, marked “X”.





**Appendix 1-D.** Location of the Qila, Trailside, Soper Lake, Soper Falls, and Soper River research sites, marked with “X”.





**Appendix 1-E.** Location of the Waddell Bay research site, marked with “X”.