

Nunavut Research Institute Non-Technical Summary Report
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Project: Chert Sourcing and Palaeo-Eskimo Lithic Technology: An Archaeometric Approach to Understanding Technological Organization.

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In 2014, Drs. Brooke Milne (CEOS, University of Manitoba) and Robert Park (Anthropology, University of Waterloo) executed a short archaeological field season at the LdFa-1 site near Mingo Lake, Southern Baffin Island. Due to unforeseen logistical complications associated with accessing the original site planned for investigation – LbDt-1 on the Hone River – Milne’s permit was amended to shift the project’s focus to LdFa-1. Much to the team’s disappointment, LdFa-1 also could not be reliably or repeatedly accessed via Twin Otter. Therefore, research efforts for 2014 were restricted to a single day (i.e. 8 hours on the ground).

On July 14, 2014, Milne and Park, along with Dr. Ian Ferguson (Geological Sciences, University of Manitoba) and David Landry (PhD Candidate, CEOS, University of Manitoba) endeavored to land at the LbDt-1 site, a large quarry and toolstone extraction site identified in 2013, to document its layout using a terrestrial LiDAR system, and various geophysical instruments. One of the main goals was to also collect additional raw chert samples for testing using a recently developed technique of ICP-MS trace element analysis. The team flew over the site for nearly 90 minutes but a suitable landing spot could not be identified. Therefore, the project’s objectives for the 2014 had to be changed.

On July 15, 2014, the research team flew to LdFa-1 and, after many attempts, finally landed near the site. Milne and Park knew there were no outcrops similar to the one identified at LbDt-1 given the results of the 2013 in this area. Therefore, efforts were focused instead on recovering archaeological samples of chert toolstone for analysis. Two 50 x 50 cm test pits were excavated in Area 1 of the site – a confirmed inland Late Dorset deposit. Chert debitage and abundant faunal remains were recovered as well as several formal tools including a harpoon head, several barbed implements presumably for fishing, and an implement handle. A burin-like tool was also identified.

While our originally proposed research objectives could not be met as planned due to unforeseen issues relating to site access, the results of these limited test excavations will make a notable contribution to our provenance research and provide further insights into toolstone exploitation and use strategies at the LdFa-1 site. Analysis of the materials collected in 2014 is presently underway, as are plans to geochemically characterize the new chert samples.



Figure 1. Overhead view of the upper component at the LbDt-1 site, Hone River, NU. The limestone outcrop containing *in situ* nodules of chert is visible (photo: B. Milne).



Figure 2. *In situ* Dorset harpoon head excavated from Area 1, LdFa-1 site, Mingo Lake, southern Baffin Island (photo: R. Park).